CONTROL DATA® MULTIPLE DISK DRIVE

BM101-A/B BM103-A/B

THEORY OF OPERATION DIAGRAMS MAINTENANCE AIDS WIRE LISTS



REVISION RECORD						
REVISION	DESCRIPTION					
01	Preliminary Edition.					
(9-1-69)						
A	Manual released.					
(1-1-70)						
В	Engineering Change Order PE21171 incorporating the following:					
(5-15-70)	FCO PEll090/ECO PEll090 affecting pages 4-21, 4-23, 9-5 thru 9-96.					
	FCO PEll099/ECO PEll099 affecting pages v, vi, vii, 5-26, 7-30, 7-31, 7-42, 7-42.1, 7-43,					
	9-5 thru 9-96.					
	FCO PElll18A/ECO PElll18A affecting pages v, 4-30, 9-5 thru 9-96.					
	ECO PEll148A affecting pages 9-5 thru 9-96.					
	ECO PEll148B affecting pages 5-25, 5-26.					
	FCO PEll195/ECO PEll195 affecting pages 5-18, 5-23, 5-42, 9-5 thru 9-96.					
	FCO PEll286/ECO PEll286 affecting pages 5-17, 5-18, 5-23.					
	FCO PEll290/ECO PEll290B affecting pages 5-16, 5-17, 5-21, 5-24.					
	ECO PEll332 affecting pages 5-17, 9-5 thru 9-96.					
	FCO PE11426/FCO PE11427/ECO PE21036 affecting pages 5-23, 5-37.					
	FCO PEll446/ECO PEll446 affecting pages 9-5 thru 9-96.					
	ECO PEll451 affecting pages 9-5 thru 9-96.					
	ECO PEll451A affecting pages 9-5 thru 9-96.					
	FCO PEll492/ECO PEll446 affecting pages 5-15, 9-5 thru 9-96.					
	FCO PE21475/FCO PE21476/ECO PE21047 affecting pages 5-23, 5-41, 9-5 thru 9-96.					
	FCO PE21103/ECO PE21103 affecting pages 5-19, 5-20, 5-23, 5-36.					
	FCO PE21122/ECO PE21122 affecting pages 5-28.					
	ECO PE21168 affecting page 5-15.					
	ECO PE21269 affecting pages 9-5 thru 9-96.					
	Editorial Changes affecting pages 5-2, 5-26.1, 5-26.2, 5-26.3, 5-26.4, 5-26.5.					
С	Engineering Change Order PE21585 incorporating the following:					
(9-28-70)	ECO PE21296 affecting pages vii, 9-50, thru 9-50.11.					
	ECO PE21362 affecting pages vii, 9-26.1 thru 9-26.21, 9-66, 9-67.					
	ECO PE21537 affecting pages 9-82, 9-85, 9-87, 9-88, 9-91, 9-92, 9-94.					
	Editorial Changes affecting pages 5-1, 5-2, 9-50.12.					
D	Engineering Change Order PE21295 incorporating the following:					
(1-4-71)	ECO PE21253 affecting pages 9-26.1 thru 9-26.22, 9-50.1, 9-50.2.					
	FCO PE21367/ECO PE21367 affecting pages 5-18, 5-23, 5-42.					
	ECO PE21504 affecting pages 5-19, 5-21, 5-23.					
	ECO PE21572 affecting page 5-41.					
	ECO PE21594 affecting pages 9-50.11.					
ublication No. 41249000						

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or use Comment Sheet in the back of this manual.

REVISION RECORD (CONT'D) REVISION DESCRIPTION							
REVISION							
	FCO PE21647/ECO PE21647 affecting pages 5-17, 5-20, 7-49, 9-26.1 thru 9-26.22.						
	FCO PE21803/ECO PE21647B affecting pages 5-17, 9-26.1 thru 9-26.22.						
	ECO PE21665 affecting pages 9-82.						
	ECO PE21667 affecting pages 9-82 thru 9-95.						
	FCO PE21717/ECO PE21717 affecting pages 5-26.1, 9-82 thru 9-95.						
	Editorial changes affecting page 9-96.						
E	Engineering Change Order PE24097 incorporating the following: Engineering Change Orders:						
(3-18-71)	PE21421, PE21886, PE21933B affecting pages 4-23, 5-24.1, 5-24.2, 5-26.4 thru 5-26.8, 9-66,						
	9-67, 9-96 thru 9-109. Editorial Changes affecting pages v, vii, 5-23, 5-29, 5-30, 9-110.						
F	Engineering Change Order PE24285 incorporating the following,						
(9-20-71)	Engineering Change Orders; PE24130, PE24155D, PE24159. Field Change Orders; PE24028,						
	PE24155A, PE24156A, PE24157, affecting pages; v, vii, 5-20, 5-24, 5-24, 1, 5-26.7 thru						
	5-26, 12, 9-110 thru 9-125.						
G	Engineering Change Order PE24344 incorporating the following: Engineering Change Orders;						
(11-18-71)	PE21717A, PE21933B. Editorial changes. Affecting pages: vii, 4-7, 4-14.1, 4-14.2, 4-15, 4-16						
(11-10-71)							
	4-16.1, 4-16.2, 4-17, 4-18, 4-19, 4-26, 5-5, 5-12, Comment Sheet.						
H (2 12 72)	Update manual to incorporate Engineering Change Orders PE24392, PE24402, PE24429. This						
(3-13-72)	update affects pages 5-22, 5-25, 9-9, 9-14, Comment Sheet.						
J	Update manual to incorporate Engineering Change Order PE24213A. This update affects pages vi						
(6-30-72)	ix, 5-16, 5-17, 5-20, 5-22, 5-23. The following pages are added; 5-51, 7-79, 7-80, 7-81, 7-82						
	9-26.23 thru 9-26.49 and 9-50.12 thru 9-50.25.						
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PREFACE

All available customer engineering installation, operation, and maintenance information for the CONTROL DATA BM101 and BM103 Multiple Disk Drive is in three manuals:

> General Description, Operation, Installation and Checkout, Publication No. 41248900

Maintenance

Publication No. 41249000 Theory of Operation, Diagrams,

Maintenance Aids, Wire List

Publication No. 41243700 Illustrated Parts List

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Information for these sections is included in BM101 and BM103 Multiple Disk Drive
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SECTION 1 GENERAL DESCRIPTION

SECTION 2
OPERATION

SECTION 3
INSTALLATION AND CHECKOUT

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SECTION 4

THEORY OF OPERATION

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THEORY OF OPERATION

Theory of operation for the MDD is divided into three parts. The first part considers the MDD in terms of the functions it performs and the signals exchanged with the controller. The second part relates the major assemblies of the MDD to the previously discussed functions. The last part deals with the disk pack which is physically not a part of the MDD, but figures functionally in all MDD operations.

FUNCTIONS

Overall capabilities of the MDD are best described by examining the functional blocks of activity performed by a deck of the MDD. The functions are as follows:

First Seek

Direct (Forward or Reverse) Seek

Return to Zero Seek (RTZS)

Read/Write/Erase

Each of these functions is further described by flow charts and timing diagrams in Section 5 of this manual.

The above functions are performed by each deck of the MDD. Normal operation is such that a controller will generally be directing the functional activities of more than one deck. Figure 4-1 shows the method of selecting and gating input/output data to a particular deck. Figure 4-2 details the sequence of events that establishes the link and gating. The signals that are then exchanged are described in Table 4-1 and are shown relative to a point of origin on Figure 4-3.

FIRST SEEK

This function involves the activities that a deck must perform before it can effectively respond to a read, a write, or a seek command from the controller. This function consists mainly of power supply relay sequencing and status checking by the deck logic.

As a result, no actual selection of the deck is required and very little MDD/controller signal exchange occurs. Successful progression of the function assumes that power supply circuit breakers for the deck are on, power supply DC/OFF switch for the deck is set to DC, power supply fuses are operational, related filter box panel UNIT POWER circuit breaker is on, START indicators for deck are lighted, disk pack is installed on spindle of deck, and the sector sensor is engaging the disk pack sector disk.

Initiation of the function occurs when the controller makes sequence power available to the power supply for the deck. Sequence power causes the power supply relay K01 (K101 for lower deck) to energize and the power supply performs a Power-On sequence (refer to Power Supply under Assemblies in this section for a detailed description).

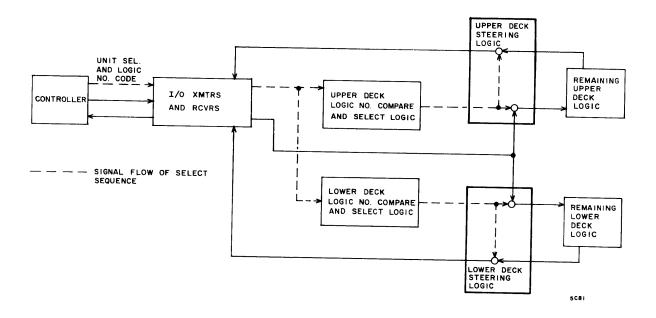


Figure 4-1. Input/Output Signal Gating - 2X Cabinet

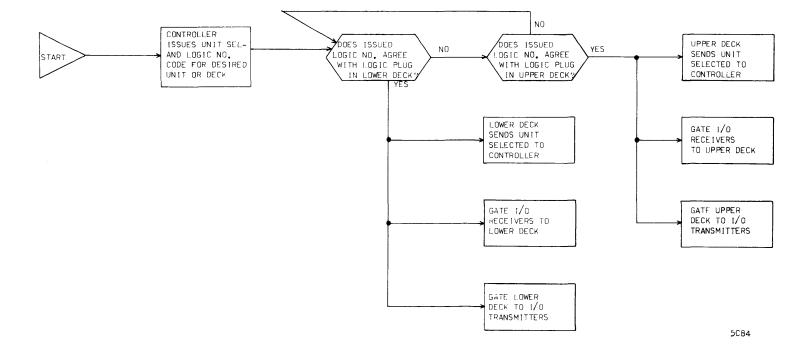


Figure 4-2. Select and Reserve Sequence

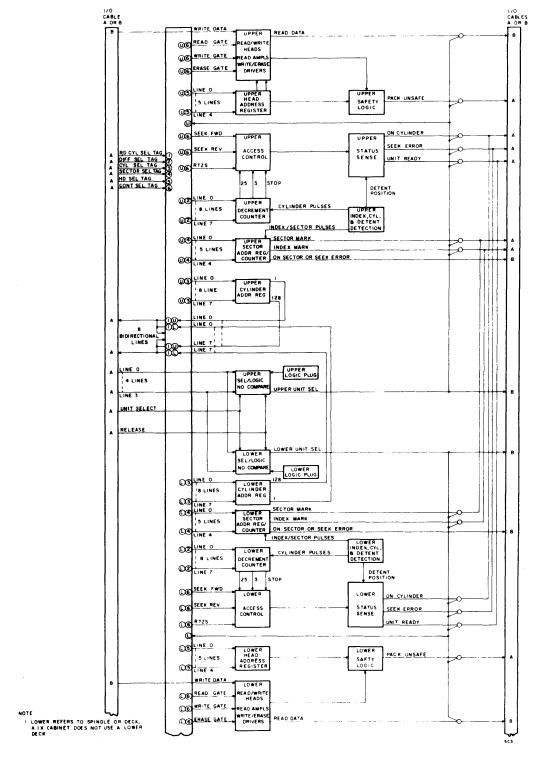


Figure 4-3. Block Diagram - 2X Cabinet

TABLE 4-1. INPUT/OUTPUT LINES

SIG	NAL				FUNCTION	
Bidirectional Lines Address and Control		Information carried by the bidirectional lines is coupled by six select (tag) signals. The influencing tag signal must be known before information on a bidirectional line can be interpreted. The six tag signals are defined below under Input Lines. The information coupled by each tag signal is as follows:				
Address/ Control bus	Read Cylinder Difference Sel Cylinder Selec	ect, or	Sector Select	Head Select	Control Select	
Bit 0	1		1	1	Write Gate - A "1" input on this line enables the write drivers.	
Bit 1	2		2	2	Read Gate - A ''1'' input on this line enables the digital read data line.	
Bit 2	4		4	4	Seek Forward - A "1" input on this line initiates forward carriage movement.	
Bit 3	8		8	8	Not Used	
Bit 4	16		16	16	Erase Gate - A "1" input on this line enables the erase driver to pass current through the head erase coil.	
Bit 5	32		Not Used	Not Used	Seek Reverse - A "1" input on this line initiates reverse carriage movement.	

TABLE 4-1. INPUT/OUTPUT LINES (Cont'd)

SIGNAL		FUNCTION					
Address/ Control bus	Read Cylinder Select, Difference Select, or Cylinder Select		Sector Select	Head Select	Control Select		
Bit 6	64		Not Used	Not Used	Return to Zero - A "1" input on this line initiates carriage movement to cylinder 00.		
Bit 7	128		Not Used	Not Used	Not Used		
Input Lines Read Cylinder Select Difference Select		lines mitte rent A "1 cont cont	A "1" input on this line enables the address and control lines transmitter of the selected deck. Information transmitted to the control unit through these lines is the current cylinder address. A "1" input on this line indicates that the address and control lines contain the difference address from the control unit. This address is the difference between the control unit's current cylinder request and the selected deck's present cylinder location.				
Cylinder Select		A "1" input on this line indicates that the address and control lines contain the control unit's current cylinder request.					
Sector Select			A "1" input on this line enables the address and control lines to couple the sector information to the selected deck.				
Head Select			A "1" input on this line indicates that the address and control lines contain the head select information.				

TABLE 4-1. INPUT/OUTPUT LINES (Cont'd)

SIGNAL	FUNCTION				
Control Select	A "1" input on this line indicates that the address and control lines contain control information.				
*Unit Select	This signal is preceded by a Logic Number transmission. A "1" input on this line initiates the select sequence (assuming the unit is ready) in the unit whose logic number corresponds to the number currently on the four Logic Number lines. If the unit is ready, it returns a Unit Ready and a Unit Selected signal. If not ready, the unit returns a "O" on the Unit Ready line.				
*Logic Number lines (4)	A transmission on these lines is accompanied by a Unit Select signal. The unit with the logic number corresponding to the digital number transmitted on these four lines initiates a select sequence (assuming the unit is ready and available) when the Unit Select signal is transmitted. If the unit is ready and available, it returns a Unit Ready and a Unit Selected signal. If not ready, the unit returns a "0" on the Unit Ready line.				
Release	A "1" input on this line clears the Reserve and Compare Enable flip-flops in the selected unit.				
Write Data	Carries information to be written from the control unit to the selected deck.				
Output Lines					
Read Data	Carries digital information read from a disk to the control unit.				

TABLE 4-1. INPUT/OUTPUT LINES (Cont'd)

SIGNAL	FUNCTION				
On Cylinder	Indicates that the positioning mechanism of the selected deck has stopped and the read/write heads have reached the addressed cylinder.				
Sector Mark	Carries sector reference marks from the selected disk pack to the control unit.				
Seek Error	A "1" output indicates that the selected deck was unable to complete a seek operation to the point of an On Cylinder signal to the control unit. A Return to Zero command sent to the unit indicating a seek error clears the Seek Error condition, returns the heads to cylinder 00, and enables an On Cylinder signal to be sent to the control unit.				
Unit Selected	This signal is a response to the receipt of a Unit Select and a Logic Number signal combination. A "1" output indicates that the unit is available. A "0" signal indicates that the unit is not ready (see Unit Ready signal). The control unit checks that a Unit Selected signal is not received from more than one unit at a time.				
Index	Provides a track reference mark from the selected deck to the control unit. This mark occurs once for each revolution of the disk pack.				
Pack Unsafe	A "1" output indicates that the selected deck has one or more fault conditions. Write and erase currents are inhibited by the presence of any of the conditions. The conditions include:				
	 More than one head selected. Read and write gates up at the same time. 				

TABLE 4-1. INPUT/OUTPUT LINES (Cont'd)

SIGNAL	FUNCTION				
Pack Unsafe (Cont'd)	3. Read and erase gates up at the same time.				
	4. Erase and no write driver on.				
	5. Erase and both write drivers on.				
	6. One or both write drivers on and no erase driver on.				
	7. Read, write, or erase gate on and not On Cylinder.				
	8. Low voltage situation that could cause a loss in control of write and erase currents.				
*Unit Ready	This signal is a response to the receipt of a Unit Select and a Logic Number signal combination. A "1" output is present if both of the following conditions are satisfied:				
	 Disk pack installed, spindle motor up to speed, heads loaded. 				
	2. Related Logic Chassis Maintenance panel ON LINE/OFF LINE switch set to ON LINE.				
*On Sector or Seek Error	Indicates that the unit has completed (On Sector) or is unable to complete (Seek Error) the previously addressed seek. This is an interupt line transmitted with or without the unit being selected. On Sector is gated by the Compare Enable flip-flop and the On Cylinder signal. On Sector signal is a static "1" for duration of sector preceding addressed sector and a static "1" level for a Seek Error. The pulses occur once per revolution of the disk pack until a Selected Read Gate or a Release is received.				

 $[\]ast$ This signal is not gated by the Unit Selected signal.

Power is applied to the brush and spindle drive motors during the Power-On sequence. Application of power to the brush motor starts a 60-second (approximately) disk cleaning cycle. When the disk pack speed reaches 2000 rpm, the power supply relay K05 (K105 for lower deck) energizes to provide sequence power to the next deck. Actuator solenoid power also becomes available, causing the detent pawl to disengage and the actuator to access forward at 2 ips to the hydraulic home position.

Transfer of the brush switch contacts at the end of the brush cycle sets the Forward Latch (FF). This causes the actuator to perform a forward fast access that mechanically loads and latches the read/write heads. The transferring contacts of the heads loaded switch sets the RTZS FF which clears the Forward Latch. The actuator responds by performing a reverse fast access to the hydraulic home position. A 300-ms delay (started when the RTZS FF was set) circuit clears the RTZS FF which in turn sets the Forward Latch, Intermediate, and Slow FF's. This causes the actuator to access forward at 2 ips until the logic senses the leading edge of the first track (track 00) pulse. The track pulse sets the Detent FF and releases the detent pawl. The output of the detent transducer is now observed and 5 ms after the pawl engages the detent gear, the deck sends an On Cylinder signal to the controller. (A seek Error signal would have been sent instead if a 600-ms delay, starting when the heads loaded switch transferred, had timed out.) The deck is now ready to perform a Read, a Write, or a seek (Direct or RTZS) operation. Such an operation must be preceded by the selecting sequence covered previously (Figures 4-1 and 4-2).

DIRECT (FORWARD/REVERSE) SEEK

The Direct Seek function involves those operations that must be performed to move the read/write heads from their current track or cylinder location to the one specified by the controller. This function must be preceded by the selecting sequence (Figure 4-1 and 4-2) unless the deck is already selected. Assume that the desired deck just completed a First Seek and is awaiting further instruction at track 00. Assume further that the controller wishes to do a Read or a Write operation at track 88. When the controller determines that the deck is selected and ready, it issues a Cylinder Select signal. This signal gates the content of the deck Cylinder Address register (00) to the controller via the bidirectional lines (content of the register always preset to 00 during

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a First Seek or RTZS). The controller then calculates the difference between the decks current and desired location and sends a Difference select that gates the seek length (88 tracks) into the decrement counter of the deck (again via the bidirectional lines). The controller now uses a Cylinder Select and the bidirectional lines to gate the address of the desired cylinder (88) into the deck Cylinder Address register. This is followed by a Sector Select that enters the sector address into the deck Sector Address register. Next the controller sends a Head Select signal that gates the number corresponding to the desired read/write head into the Head register. The last address and control exchange involves the Control Select signal that gates a "1" to the deck on bit 2 (Seek Forward) of the bidirectional lines.

The Seek Forward pulse causes an Any Seek pulse. (A Seek Reverse pulse would also cause the Any Seek, but in addition would have cleared the Forward Latch.) Any Seek transfers the content of rank I of the decrement counter (88) to rank II and clears the Detent FF. The hydraulic actuator responds by applying pressure to the detent pawl. As soon as the detent pawl clears the detent gear, forward motion begins. As each track is crossed, the cylinder transducer generates a track pulse. The trailing edge of each of these pulses decreases the content of the decrement counter by one. Motion velocity is controlled according to the content of the decrement counter, and since this content is in excess of 26, the actuator performs a forward fast access. Fast access (26 ips) continues until the decrement counter content equals 25 tracks remaining. At this time the counter output decoding logic sets the Intermediate FF, and the hydraulic actuator continues the access in the forward intermediate mode (7 ips). When the decrement counter content indicates three tracks to go, the Slow FF sets. This causes the actuator to reduce speed to 2 ips and continue the access at a forward slow rate. When the tracks remaining have been reduced to one, the output of the cylinder transducer detection logic is gated such that the leading edge of the next track pulse sets the Detent FF. This causes the hydraulic actuator to release the spring-loaded pawl. (If this were a Reverse Seek, the Forward Latch would set as a result of the Detent FF setting. Setting the Forward Latch would cause carriage motion to change direction and allow the detent pawl to engage the gear in the same manner as for a Forward Seek.)

 ${
m Five}$ ms after the detent transducer indicates that the detent pawl has engaged the detent gear, the deck sends an On Cylinder signal to the controller. (If the period during which the pawl was disengaged from the detent gear had exceeded 600 ms, a

Seek Error signal would have replaced the On Cylinder signal.) The deck is now ready to perform a Read, a Write, or a Seek (Direct or RTZS) operation.

RETURN TO ZERO SEEK (RTZS)

The RTZS functions allow a controller to return the read/write heads to track 00 when a Seek Error signal occurs. This function must be preceded by the selecting sequence (Figures 4-1 and 4-2) unless the deck is already selected. The controller responds to a Seek Error signal from a deck by sending a Control Select tag that gates a "1" on bit 6 (RTZS pulse) of the bidirectional lines to the afflicted deck.

The RTZS pulse sets the RTZS FF and causes an Any Seek pulse. The Any Seek pulse clears the Detent FF causing the hydraulic actuator to apply hydraulic pressure to the detent actuator. The pressure overrides the force of the pawl spring and the carriage is free to be moved. The set output of the RTZS FF causes the following events:

Clears decrement counter

Clears Cylinder Address register

Clears Forward Latch

Initiates a 300-ms delay circuit

Establishes a tracks-to-go greater than 26 signal (T>26)

With the Forward Latch cleared and a T>26 situation, the actuator enters into a fast reverse access toward the rear stop (cushioned hydraulically). When the 300-ms delay times out, the RTZS FF clears and the T>26 signal drops. The clear output of the RTZS FF sets the Forward Latch, Intermediate, and Slow FF's. The hydraulic actuator responds to this activity with a slow forward (2 ips) access. As soon as the leading edge of the first track pulse occurs, the Detent FF sets and the actuator removes pressure to the spring-loaded detent pawl. Five ms after the detent transducer indicates that the detent pawl has engaged the detent gear, the deck sends an On Cylinder signal to the controller. (If the period during which the pawl was disengaged from the detent gear had exceeded 600 ms, a Seek Error signal would have replaced the On Cylinder signal.) The deck is now ready to perform a Read, a Write, or a Seek (Direct or RTZS) operation.

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READ/WRITE/ERASE

An On Cylinder signal indicates to the controller that the selected MDD deck has completed a seek operation and is awaiting further instruction. If, however, the controller initiated a seek operation in one deck and then in the interim selected another deck, the first deck would make its status known via the On Sector interrupt signal. In the latter case, the controller would be required to precede a Read or a Write operation with the selecting sequence (Figures 4-1 and 4-2). The following paragraphs cover the sequence of events involved in a Read or a Write operation.

A Write operation actually begins before the hydraulic actuator positions the heads to the desired track; the controller Sector Select tag gates the address of the desired sector into the Sector Address register and the Head Select tag gates the identifying number of the head to be used into the Head Address register. When the On Cylinder signal occurs (received by the controller only if deck is selected), the compare logic in the Latency Overlap section of the logic is enabled. This logic compares the static content of the Sector Address register with the cycling content of the sector counter (accumulates sector transducer pulse count, recycling to zero once each revolution. Content of counter exceeds, by one, the number of the last sector pulse to pass; leading edge of sector pulse 3 increases counter content to four.). When the contents of the sector counter and the Sector Address register are equal, the deck sends an On Sector interrupt signal. If the controller has selected another deck meanwhile, this deck will continue to send one On Sector pulse during each revolution of the disk pack until such time as it is selected again. In any case, the leading edge of the first Sector Mark (available to controller whenever a deck is selected) following the On Sector pulse causes the controller to respond with a Control Select tag that gates the Read Gate signal (bit 1 of bidirectional lines) to the deck. Read Gate disables the compare logic and enables the read circuit logic to function with the previously selected head. The selected head reads the record to the controller via the Read Data line. (Refer to Section 2 of this manual for detailed information relative to the read/write format.) When the controller is satisfied that the address of the desired record is being read, it drops the Read Gate and enables the Write Gate and Erase Gate (bits 0 and 4 of the bidirectional lines) with the Control Select tag. This disables the read circuit and enables the write circuit, and data from the controller is written via the Write Data line onto the disk pack record. The Erase Gate signal enables erase current to the erase coil during the Write operation to ensure a clear writing surface.

A Read operation is performed in much the same manner as the Write operation. The difference is that the Write Gate and Erase Gate signals are never enabled (Read Gate stays on throughout the entire record).

ASSEMBLIES

POWER SUPPLY

Each MDD cabinet has a self-contained power supply accessible via the rear door and located behind the swingout logic chassis. The power supply provides a fixed output voltage of +40Y volts for use by the solenoids on the deck assemblies. It also provides adjustable output voltages of +40 vdc (to read/write logic), ±20 vdc (to logic), and +6 vdc (to logic). Each voltage is duplicated within the power supply, so that the voltage can be distributed separately to the upper deck and the lower deck or to row A and row B of the logic chassis.

Basic on/off power control and monitoring is provided at the front panel of the assembly. The front panel is hinged so that access can be gained to adjust or perform maintenance. The assembly is cooled by fans located on the top surface of the chassis.

AD/DC Distribution (Figure 4-4)

Input power is applied through the closed contacts of the MAIN POWER circuit breaker (on filter box panel) to the primary of transformer T01. The presence of the primary input power at the power supply is indicated by the power supply MAIN BREAKER indicator.

The input power is applied directly to the cooling fans in the power supply and the logic chassis. Input power will also be applied to the blower in the lower part of the cabinet, but only when the power supply BLOWER circuit breaker is set to ON. All other distribution of ac power is delayed until during the power-on sequence (described in a later paragraph).

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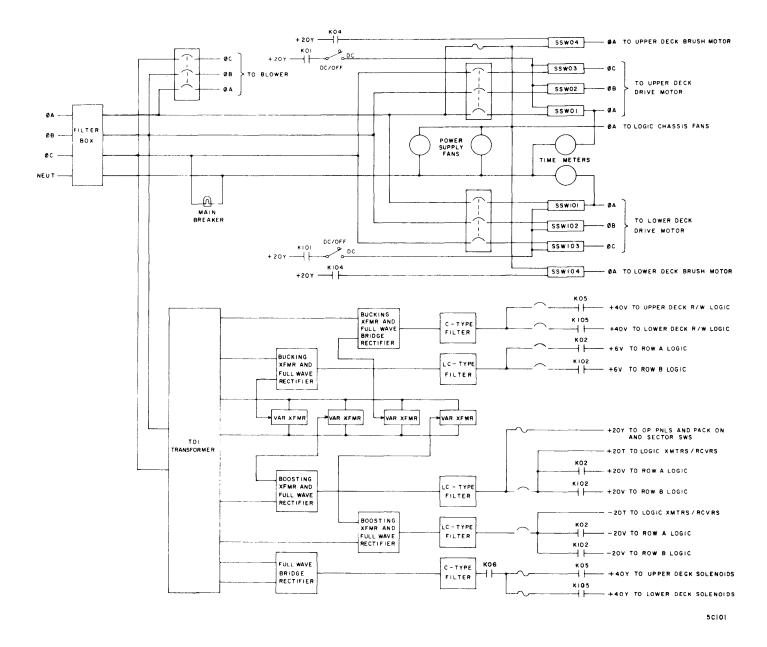


Figure 4-4. Power Supply - AC/DC Distribution Series Code 05 And Below

	·	

+ 20Y -

Figure 4-4.1. Power Supply - AC/DC Distribution Series Code 06 And Above

The dc power distribution begins with the application of main input power to the primary of T01. Voltages developed across the secondary windings are applied to five rectifier/filter circuits. Each of these circuits develops a separate dc voltage. Through the use of variable transformers, four of the five voltages are adjustable (+40Y solenoid power is not adjustable). The +20Y voltage is immediately available when T01 is energized. This voltage is distributed to the operator panels and the pack on and sector in-place switches. The voltage is required to determine the status of these elements during a power on sequence. Distribution of the other dc voltages is controlled by circuit breakers and/or relay contacts.

Power-On Sequence

Power application to a deck is sequenced up by relays in the power supply (Figure 4-5). Sequencing is required to prevent damage to read/write heads and/or disk packs.

A normal on line, power-on sequence begins when switch S501 on the operator panel is pressed (actuating power supply panel START switch will also start the sequence). The progression of the sequence assumes that all power supply circuit breakers are on, that all power supply fuses are operational, that the power supply DC/OFF switch is set to DC, that a disk pack is installed, that the deck drawer is closed, and that sequence voltage to relay K01 is available.

NOTE

Although steps 1 through 3 occur prior to actuating S501, they should be considered a part of the power on sequence.

- 1. When filter box MAIN POWER circuit breaker was set to ON, +20Y voltage became available, and K06 was energized, (Figure 4-4).
- 2. When controller issued sequence voltage, K01 energized via pick line (Figure 4-5). The +20Y voltage was applied to solid-state switches SSW01, SSW02, and SSW03 (Figure 4-4). This enabled the solid-state switches to conduct their respective phase of ac power. The upper deck drive motor and time meter started.

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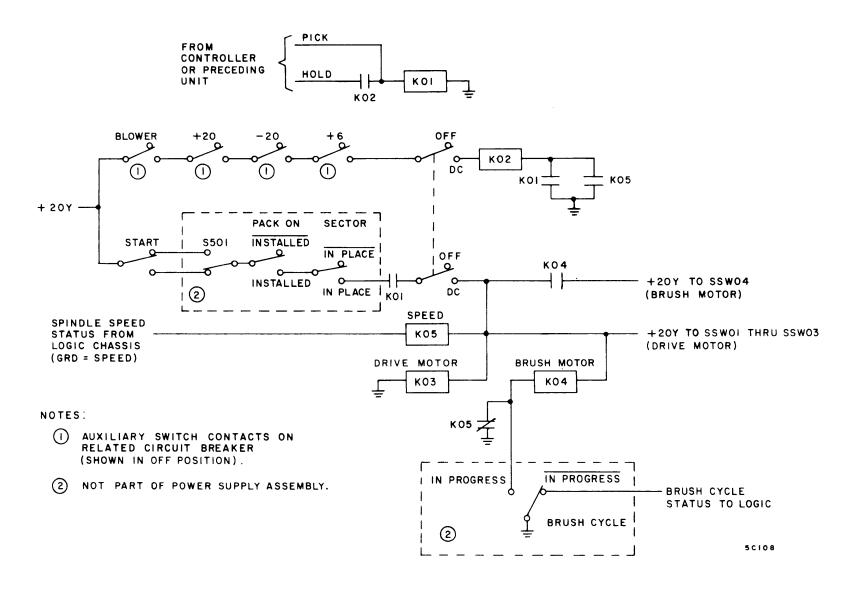


Figure 4-5. Power Supply - Sequencing (Upper Deck Only) Series Code 05 And Below

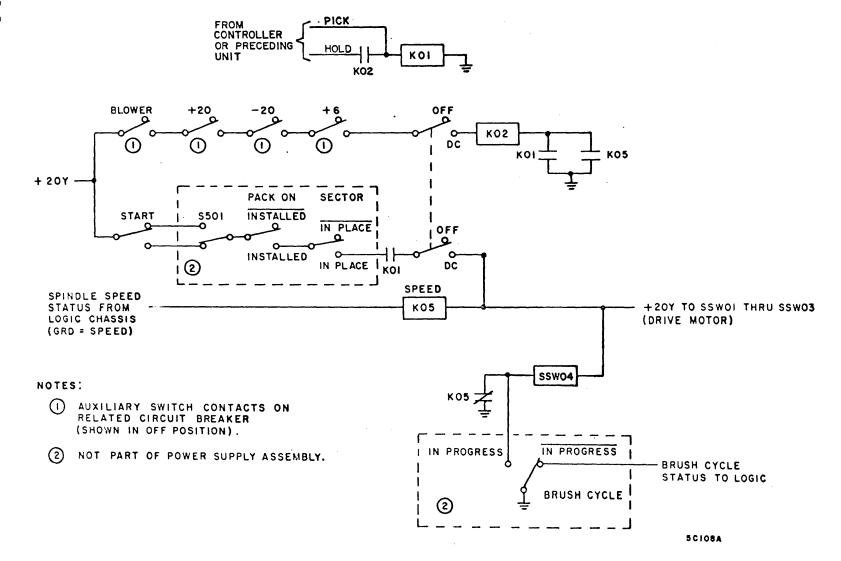


Figure 4-5.1. Power Supply - Sequencing (Upper Deck Only) Series Code 06 And Above

- 3. With circuit breakers on and DC/OFF switch set to DC, the closing contacts of K02 caused the following:
 - a. Distributed +6, +20, and -20, and -20 vdc to the A row of the logic chassis.
 - b. Applied holding current to armature of relay K01.

NOTE

For units Series Code 05 and below use steps 4 thru 9, for units Series Code 06 and above use steps 10 thru 13.

- 4. Press operator panel switch S501 (or actuate power supply START switch).
- The +20Y voltage energizes K03 (K05 does not energize because spindle speed is zero).
- 6. The +20Y voltage also energizes relay K04. Closing contacts of K04 cause +20Y voltage to be applied to SSW04. The solid-state switch conducts ac power and the brush motor starts. Brush cycle switch transfers to the in-progress position.
- 7. When the logic chassis detection circuit determines that the spindle speed is adequate, K05 energizes. The contacts of K05 cause the following:
 - a. The +40 voltage is distributed to the read/write logic on the upper deck (Figure 4-4).
 - b. The +40Y voltage is distributed to the solenoids on the upper deck (Figure 4-4).
 - c. One of the grounds to K04 is removed, but K04 does not de-energize since the brush cycle is still in progress.
- 8. As the disk pack cleaning brushes return from sweeping the disk surfaces, the brush cycle switch is mechanically transferred and de-energizes K04. This removes the enabling +20Y voltage to SSW04, and ac power to the brush motor is dropped.
- 9. Completion of the brush cycle allows the start of the First Seek (load heads) function. Upon completion of the First Seek operation the deck is ready to respond to commands from the controller.

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- 10. Press operator panel switch S501 (or actuate power supply START switch). This will initiate operation of the brush cycle by enabling the +20Y voltage to SSW04 thru the normally closed contacts of K05. This allows ac power to the brush motor. Brush cycle switch transfers to the in-progress position.
- 11. When the logic chassis detection circuit determines that the spindle is up to speed, K05 energizes. The contacts of K05 cause the following:
 - a. The +40 voltage is distributed to the Read/Write logic on upper deck (Figure 4-4.1).
 - b. The +40Y voltage is distributed to the solenoids on the upper deck (Figure 4-4.1) thru K06.
 - c. One of the grounds to SSW04 is removed but brush cycle remains in progress due to brush cycle switch.
- 12. As the disk pack cleaning brushes return from sweeping the disk surfaces, the brush cycle switch is mechanically transfered and removes the ground from SSW04. The ac power to the brush motor is then dropped.
- 13. Completion of the brush cycle allows the start of the First Seek (load heads) function. Upon completion of the First Seek operation the deck is ready to respond to commands from the controller.

Power-Off Sequence

A power-off sequence begins when the operator panel switch S501 is pressed. The sequence is as follows:

1. Press S501 (actuating power supply panel START switch will also initiate the sequence).

NOTE

For units Series Code 05 and below use step 2 (Figure 4-5) For units Series Code 06 and above use step 3 (Figure 4-5.1)

- 2. Relays K03, K04, and K05 de-energize. Contacts cause the following:
 - a. K05 contacts disable +40 volts to read/write logic.
 - b. K05 contacts disable +40Y voltage to hydraulic actuator solenoids and head latch solenoid. Read/write heads unload and the reverse biased (hydraulically) carriage moves in reverse to retracted stop at 2 ips (see Hydraulic Operations, Section 4 of this manual).

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- c. K05 contacts also provide a path to ground for relay K04 in preparation for next power-on sequence.
- d. The application of the +20, -20, and +6 voltages to logic chassis will continue until the occurrence of one of the following: K01 drops because sequence voltage was removed at controller, or K02 drops because of either the actuation of a power supply switch or breaker (DC/OFF, +20, -20, +6, BLOWER) or removal of cabinet input power.
- 3. Relay K05 de-energizes. Contacts cause the following:
 - a. +40 volts to Read/Write logic is disabled.
 - b. +40Y voltage to hydraulic actuator solenoids and head latch solenoid is disabled. Read/Write heads unload and the reverse biased (hydraulically) carriage moves in reverse to retracted stop at 2 ips (see Hydraulic Operations, Section 4 of this manual).
 - c. Provide a path to ground for SSW04 in preparation for the next poweron sequence.
 - d. The application of the +20, -20, and +6 voltages to logic chassis will continue until the occurrence of one of the following: K01 drops because sequence voltage was removed at controller, or K02 drops because of either the actuation of a power supply switch or breaker (DC/OFF, +20, -20, +6, BLOWER) or removal of cabinet input power.

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LOGIC CHASSIS

The logic chassis assembly consists of a logic card section, a maintenance panel, and an input/output connector panel. The assembly is accessible through the rear door and is located at the top of the cabinet. The assembly is mounted on hinges to allow access to the power supply assembly. Three fans are mounted along the lower surface of the assembly. These fans are energized whenever the filter box circuit breaker is on, and they provide cooling air to the logic card section. The back cover of the entire assembly can be removed (four half-turn fasteners) to gain access to components and wiring.

The logic card section contains the bulk of the SPL logic cards used in the cabinet (four cards are located on each deck assembly). The vertically mounted cards are installed in two rows (A top row and B bottom row) at numerically identified locations. Refer to Section 5 of this manual for a description of the logical functions performed by the cards. Section 9 contains a tabulation of the wiring connections in the chassis.

The maintenance panel contains a set of test point jacks, switches, and an indicator for each deck in the cabinet. These components function primarily to isolate the occurrence of a fault on the related deck. Specific information on each control or indicator of this panel is provided in the Operation section for this equipment (see Preface of this manual for publication number).

Connectors located on the input/output connector panel are involved only with signals exchanged between a deck and the controller. Refer to Table 4-1 for a description of these signals. The Installation and Checkout section for this equipment covers cabling and I/O connector pin assignments (see Preface of this manual for publication number).

DECK ASSEMBLY

The deck assemblies (Figure 4-6) are responsible for the dynamic operations of an MDD: driving the disk packs, and loading and positioning the read/write heads. The deck assembly consists of a deck plate on which are mounted a drive motor assembly, a spindle assembly, a hydraulic pump, a carriage and carriage mount, three transducers, a disk cleaner assembly, and a hydraulic actuator.

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The deck assembly mounts in the MDD cabinet on a drawer mechanism. The drawer may be extended out the front of the cabinet to load a disk pack, or extended out the rear of the cabinet for maintenance purposes.

Drive Motor Assembly

The drive motor drives the spindle assembly and the hydraulic pump. The motor is an induction type, 3/4-hp unit. The motor is secured to a mounting plate which bolts to the underside of the deck plate. Power is transferred via a flat, smooth-surfaced belt that threads over the pulleys of the spindle, hydraulic pump, and drive motor. A spring-loaded idler pulley maintains a constant tension on the belt.

The temperature of the motor is monitored by a thermal protection switch. To restore operation after an over-temperature condition, the red, 1/4-inch button on the top end of the motor must be manually reset (pressed).

Spindle Assembly

The spindle assembly is the physical interface between an MDD deck and a disk pack. The conical surface of the spindle cone (Figure 4-7) mates directly with the coneshaped opening in the center of the disk pack.

Starting in the spindle cone and running through the center of the spindle assembly is the vertically free-floating lockshaft. The upper end of the lockshaft contains internal threads that engage the external threads of a stud projecting from the disk pack. When the disk pack cannister cover handle is rotated clockwise, the spring-loaded lockshaft is pulled upward and the disk pack is pulled down. As a result, the conical surfaces of the disk pack and the spindle cone are engaged by a force of approximately 200 pounds. A clutch mechanism protects the lockshaft from damage that could occur from over tightening the disk pack. When the disk pack is fully engaged, a release mechanism in the canister handle frees the canister from the disk pack.

A notched lock wheel secures to the bottom surface of the drive pulley. The notches of the wheel are engaged by the tip of the spindle lock pawl (Figure 4-6) when the deck drawer is open. This locks the spindle, making it easier to install or remove a disk pack. Opening the drawer of an operating deck will cause a loud ratcheting

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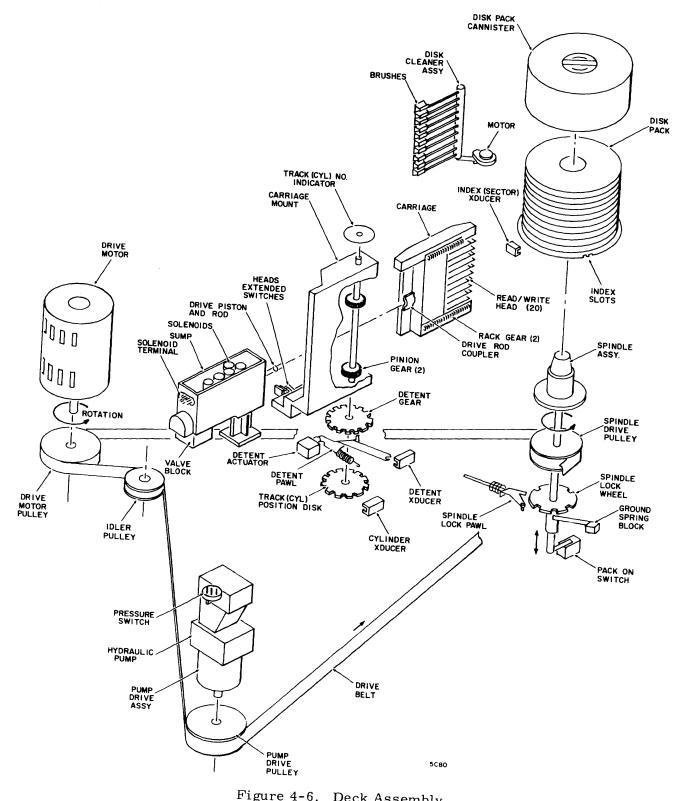


Figure 4-6. Deck Assembly

(refer to Figure 2-2). Closing the drawer will cancel the override. The spindle drive pulley is driven by a flat belt linking it to the drive motor pulley.

The Pack-On switch and ground spring are mounted at the lower end of the spindle assembly. The ground spring block is mounted so that it is always in contact with the ground sleeve. The Pack-On switch contacts transfer in response to the vertical movement of the lockshaft. When the shaft is up (disk pack mounted), the contacts are closed. When a pack is not installed, the shaft moves downward to deflect the switch actuator and transfer the contacts.

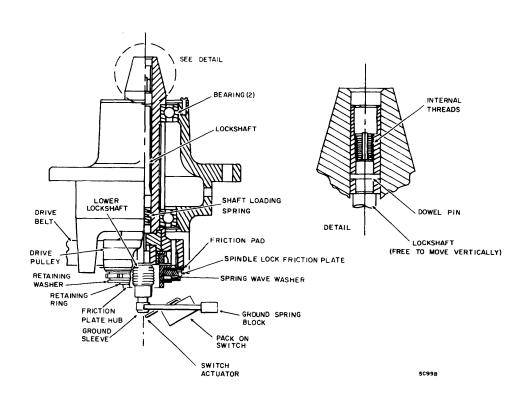


Figure 4-7. Spindle Assembly

Hydraulic Pump

The hydraulic pump is a positive-displacement type device capable of delivering 0.67 gpm at a nominal pressure of 200 psi.

The pump is located on the top of and at the rear of the deck assembly. The pump is seated on the pump drive assembly which functions to extend and couple the pump shaft through the deck to the pump drive pulley. A flat belt driven by the drive motor turns the pump.

The input and output hydraulic connections at the pump both originate at the hydraulic actuator. The hydraulic fluid pump and all pressure control valves are located in the hydraulic actuator.

A pressure sensing switch is installed on the pump output line. The switch transfers at a nominal output of 10 psi (approximately 50 rpm) and is used in conjunction with an operator panel indicator (see Section 2).

Carriage and Carriage Mount

The carriage and carriage mount (Figure 4-8) combine to form the vehicle that supports the read/write heads. Movement of the carriage, within the carriage mount, is controlled by the hydraulic actuator.

The carriage consists of an upper rail and a lower rail, separated by the receiver and the coupler plate. The rails contain bearing surfaces that interface with the various bearings and rollers of the carriage mount. Each rail has a rack gear that meshes with a pinion gear on the detent gear shaft (mounted vertically in carriage mount). The detent gear and the track position disk are mounted on the lower end of this same shaft. The ball tip of the hydraulic actuator drive rod is connected to the carriage by the drive rod coupler. When the hydraulic actuator extends or retracts the carriage, the detent gear shaft (and detent gear and track position disk) rotates.

The cylinder transducer senses the passing of the slots and lands of the rotating track position disk. From the center of one slot to the center of an adjacent land is recognized as a movement of one track. The transducer output causes the difference (decrement) counter content to decrease by one each time a track is crossed. When the logic determines that the next track to be crossed is the addressed track, it signals the detent solenoid to release the detent pawl. The spring-loaded pawl is drawn into the teeth of the detent gear and locks the carriage at the desired track. The detent transducer senses the pawl and gear engagement and signals the logic.

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A track indicator (top of detent gear shaft) provides a visual indication of the current track location of the read/write heads.

A head loading mechanism mounts between the receiver and the coupler plate. Operation of this mechanism and the heads loaded switches is covered in the following paragraph.

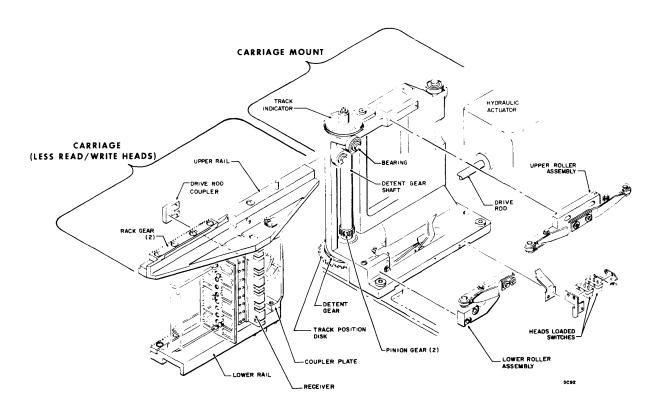


Figure 4-8. Carriage/Carriage Mount

Head Loading

The read/write heads must be loaded to the disk surfaces before exchanging data with the controller. The heads must be released from this position (unloaded) and driven clear of the disk pack when power is removed to the deck or the disk pack velocity falls below a predetermined rpm. The carriage components involved in these operations are identified in Figure 4-9.

Head loading amounts to applying spring pressure to the back of the read/write head so the aerodynamically shaped head face approaches the related disk surface. When the cushion of air that exists on the surface of the spinning disk is encountered, it resists the further approach by the head. Spring pressure is designed to just equal the opposing cushion pressure (function of disk pack rpm) at the required height. As a result, the head flies. However, if the spring pressure exceeds the cushion pressure (as would happen if the disk pack lost enough speed), the head will stop flying and contact the disk surface. This could cause damage to the head as well as the disk surface.

To prevent damage to the heads and/or the disk pack during automatic operation, loading occurs only after the disk pack is up to speed and the heads are over the disk surfaces. For the same reason, the heads unload automatically and are retracted if the disk pack rpm drops out of tolerance. During manual operations, heads should never be loaded on a disk pack that is not rotating, nor should heads be loaded without a disk pack being installed on the spindle. (The Maintenance section for this equipment provides instructions on how to disable the head loading mechanism.) Head loading is a part of the First Seek function. As power to the deck is sequenced up, the drive motor starts, a brush cycle (approximately 60 seconds) is initiated, and the hydraulic pump begins operation. When the disk pack rpm reaches 2000, the extend solenoid (and head latch magnet) energizes and the carriage moves from the retracted position to the hydraulic home position. Upon completion of the brush cycle (brushes clear of disk pack), the hydraulic actuator forward solenoid energizes and the carriage moves forward toward the spindle and the forward mechanical stop. Head loading occurs during this forward motion.

The cam follower (part of carriage) moves along the head loading cam (part of carriage mount). When the follower encounters the up-ramp of the cam, the linkage rod assembly moves upward (Figure 4-9, part C). This causes each of the ten torsion rods to rotate which forces the 20 read/write heads toward the proper disk surface. The spring force of the torsion rod is opposed by the air layer on the disk surface and an equilibrium is attained with the heads flying over the disks.

As the carriage nears the spindle, the head load pawl enters the notch in the linkage and transfers the heads extended switch. The head latch magnet holds the pawl in the latched position until power (to magnet) is removed. Forward carriage motion continues until the cam follower contacts the head load cam latch. This contact frees the

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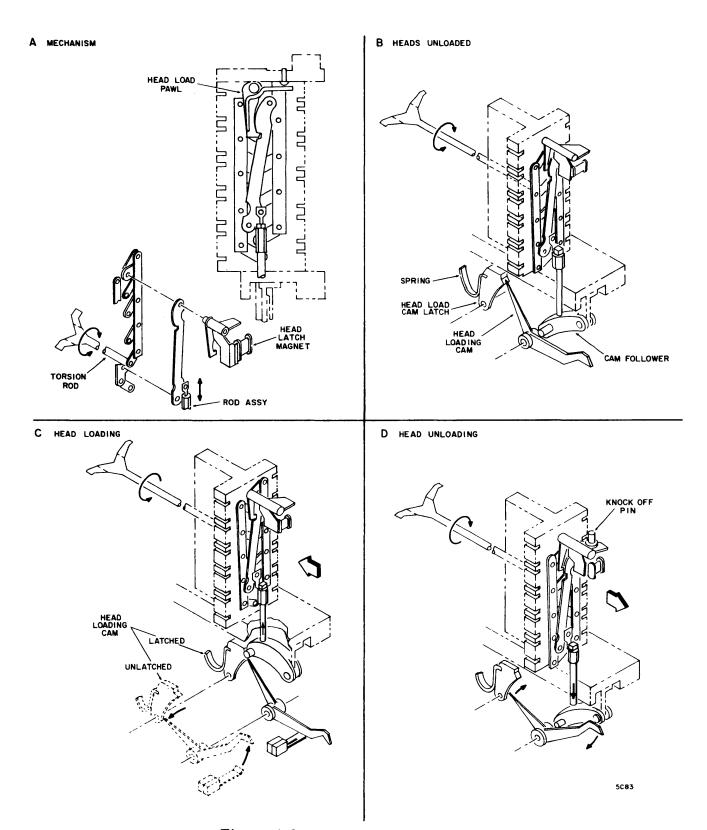


Figure 4-9. Head Loading Mechanism

end of the cam and it rotates downward to transfer the heads loaded switches. This transfer signals the logic that loading is complete and causes the carriage to be retracted and positioned to track 00. The heads remain loaded and latched until power is removed, the index (sector) transducer is displaced from sector disk of disk pack, or disk pack rpm drops below tolerance.

Head unloading (Figure 4-9, part D), occurs when solenoid power is removed to the head latch magnet. The head load pawl pulls out of the linkage notch, the torsion rods rotate to relieve the pressure to the back of the read/write heads, and the heads unload or move away from their respective disk surfaces. With solenoid power absent, the reverse biased (hydraulically) actuator moves the carriage toward the retracted mechanical stop. As the carriage moves in reverse, the linkage rod assembly pressing down on the cam follower pivots the head loading cam so that the tip (of cam) engages the head load cam latch. This relatching occurs as the carriage moves from hydraulic home to the retracted stop.

If the linkage malfunctions and fails to unload the heads, the upper roller assembly (Figure 4-8) contacts the knock off pin (Figure 4-9, part D). This contact forces the knock off pin downward to forcibly rotate the head load pawl clear of the head latch magnet pole face, the thereby unload the heads. The knock off pin is contacted by the roller somewhere between tracks -7 and -12.

Head/Arm Assemblies

Twenty head/arm assemblies are mounted on the carriage of each deck. A head/arm assembly consists of a read/write and erase coil package (head assembly) mounted at the end of a supporting arm structure.

The head assembly (Figure 4-10), which includes a cable and plug, is mounted on a gimbal ring which in turn is mounted on a floating arm. This method of mounting allows the head assembly to move (independent of the arm) tangentially and radially relative to a data track on the disk surface. Such motion is required to compensate for irregularities in the disk surface.

The arm structure consists of a floating arm secured to a heavier fixed arm. The end of the fixed arm opposite the head installs in the carriage receiver. The floating arm is the mounting point for the head and is necessarily flexible so that it can respond to

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the force applied (on load button) by the torsion rod/spring during head loading. Each tip of the Y-shaped torsion spring loads a head, moving one head up and one head down.

The freedom and mobility of the head are necessary elements to being able to function with interchangeable disk packs. During head loading the 10 torsion rods rotate in unison to flex the 20 heads toward the air cushion of the spinning disk surfaces. The force applied by the torsion spring causes the heads to fly or float on the air cushion. Vertical motion by a disk surface (due to warpage or imperfection) is countered by a move in the opposite direction by the gimballed head and/or the floating arm. As a result, flight height remains nearly constant.

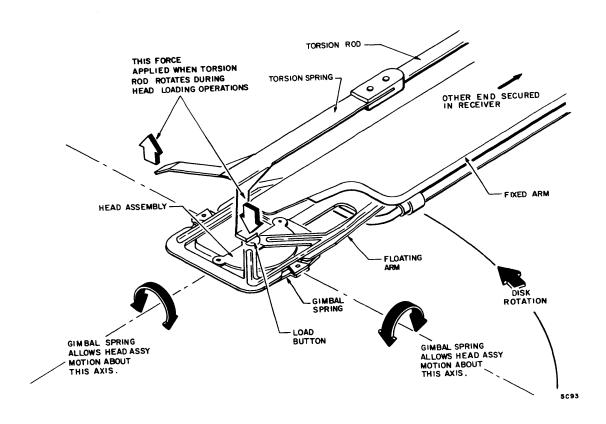


Figure 4-10. Head/Arm Assembly Motion

Transducers

Three transducers are used on each MDD deck: detent transducer, cylinder transducer, and index (sector) transducer. A transducer is a potted assembly consisting

of a primary coil and two secondary coils (Figure 4-11). The secondary and primary coils are separated by a notched and movable metal plate. The primary of the transducer is excited by a 187-kHz oscillator. When a notch (air gap) is between the secondary and primary windings, the output of the transducer secondary is maximum. The secondary output is minimum when the metal plate is between the windings. The secondary outputs drive a preamplifier card.

The related preamplifier card plugs into the transducer. The preamplifier output is processed in the logic chassis. The only adjustment required of this assembly amounts to repositioning the transducer relative to the slotted metal plate.

Detent Transducer

The detent transducer senses the location of the slot in the detent flag. When the detent pawl engages the gear, the slot is nearer to the bottom secondary coil (Figure 4-12). This causes the amplifier output to go negative. The preamplifier card filtering removes part of the 187-kHz signal. The detection circuit converts the negative signal to a "0".

If the detent pawl is disengaged from the gear, the flag slot moves nearer to the upper coil. This causes a positive amplifier output which is detected as a "1".

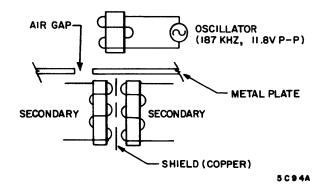


Figure 4-11. Transducer

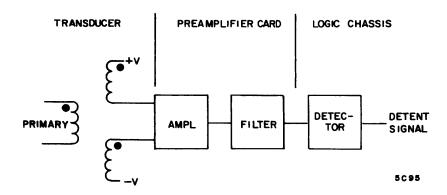


Figure 4-12. Detent Detection

Cylinder Transducer

The cylinder transducer senses slots in the edge of the rotating track position disk. The cylinder detection circuit (Figure 4-13) converts the analog output of the transducer to "1's" and "0's".

The slotted edge of the track position disk separates the primary of the transducer from the secondaries. As the disk rotates, the notches allow varying levels of coupling between the primary and the secondaries. Figure 4-14 shows rotational positions of the track position disk and the resulting cylinder detection. As the notch passes over secondary A, maximum coupling of the primary is possible and the output of secondary A is maximum. Since secondary B is covered by a land, coupling to the primary is minimum as is the output.

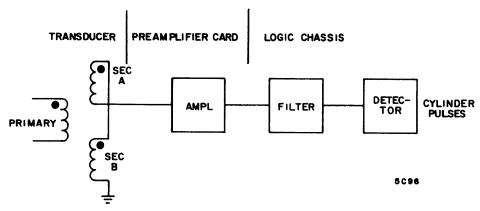


Figure 4-13. Cylinder Detection

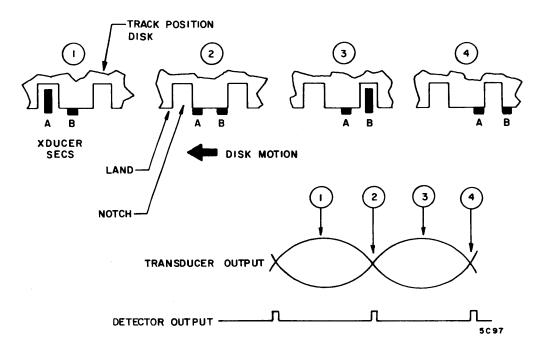


Figure 4-14. Cylinder Position Detection

As the disk rotates, both secondaries become covered by a land. Since the outputs are equal, the transducer output is a null.

Further rotation of the disk uncovers secondary B allowing maximum coupling and raising output B to the maximum. Since secondary A is now covered by a land, output A is a minimum.

Disk rotation continues until both secondaries are centered on a notch, but covered by a land. The outputs are again equal, so a null occurs in the output.

Each notch and each land nulls the transducer output. The detection circuit generates a pulse for each null in the transducer output.

Index (Sector) Transducer

This transducer senses notches in the edge of the sector disk (large disk at bottom of each disk pack).

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Each notch on the sector disk causes a differential input to the preamplifier card amplifier (Figure 4-15). The detector generates a $55-\mu \sec$ "1" pulse in response to each notch. These pulses are further processed by the MDD logic to determine if the disk pack speed is sufficient for continued operation.

All disk packs have two closely spaced notches called index. These notches indicate the beginning of a revolution of the disk pack. Some disk packs have, in addition to index, other notches equally spaced about the circumference of the sector disk. These notches are related to data organization on the disk pack.

Disk Cleaner Assembly

The disk cleaner assembly sweeps the disk pack recording surfaces free of any foreign materials. The sweep cycle occurs just before the read/write heads are loaded during the First Seek sequence.

The assembly consists of a motor, 10-comb-mounted brushes, a reset switch, motor to comb linkage, and a mounting base. The base mounts on the deck assembly and the brushes are pivot mounted on the base. Pivoting of the brushes is controlled by the motor, the linkage, and the switch. The motor is energized during the power on sequence and starts a 60-second (approximately) cycle. As the cycle proceeds, the brushes sweep toward the spindle until the linkage causes a reversal in direction. As the brushes return to the original position (clear of disk pack) the reset switch is encountered and transfers. This de-energized the Brush Motor relay and disables the motor.

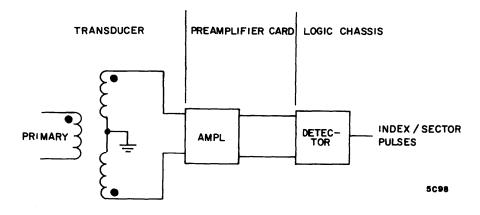


Figure 4-15. Index/Sector Detection

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The brushes are mounted using a ball-slot detent mechanism. If power is dropped or lost during the brush cycle, the operator can override the detent and rotate the brushes clear of the disk pack so that the disk pack can be removed from the spindle. The brush cycle during the next Power-on sequence will be an incomplete cycle as the brushes automatically reset themselves. Subsequent cycles will be normal.

Hydraulic Actuator

The hydraulic actuator drives and locks the carriage mounted read/write heads to any one of 203 discrete positions or cylinders of data. Activity of the hydraulic actuator is regulated by five solenoid-controlled valves that direct the routing of hydraulic fluid. The solenoids are controlled from the MDD logic chassis. Hydraulic fluid at a pressure of approximately 200 psi is provided by the hydraulic pump.

The hydraulic actuator (Figure 4-16) consists of a piston and sump block in or on which are mounted a valve block, two hydraulic fluid filters, an extend piston, a drive piston, and five solenoid and valve combinations.

Valve Block

The valve block contains all valves and most of the related fluid passages of the unit. The block mounts directly under the sump chamber of the piston and sump block.

Filters

The two fluid filters are located in the sump portion of the piston and sump block. The primary filter is a large-particle screen in the pump suction outlet. The secondary filter removes smaller particles from a bypass flow originating when the slow solenoid is energized.

A third filter removes smaller particles and is located in the pump output pipe between the pump and the hydraulic actuator.

Extend Piston

The extend piston is located in the rear cylinder of two concentrically bored cylinders of the piston and sump block. This piston is hydraulically positioned to either the extend or the retracted position by the status of the extend solenoid. Whenever power

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is applied to the deck, the extend solenoid is energized and the related valve is closed. Hydraulic pressure on the larger rear face of the piston drives it forward to a positive stop. This is the extended position, and the piston remains in this position until power to the deck is dropped. In the extended position the forward face of the extend piston functions as a hydraulically cushioned stop for the drive piston and also establishes the hydraulic home position for the carriage. When deck power is removed, the extend solenoid de-energizes, the spring-loaded valve opens, and the piston moves to the retracted position. As a result, the effective operating chamber for the drive piston is extended to the rear of the carriage and the carriage is retracted to a position where the heads are clear of the disk pack surfaces.

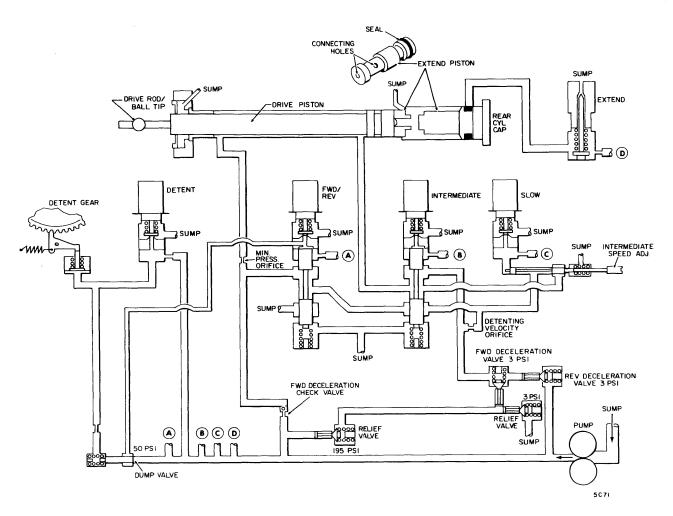


Figure 4-16. Hydraulic Actuator - Power Off

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Drive Piston

The drive piston operates in the smaller forward cylinder of the piston and sump block. This piston connects, via the ball tip, to the movable carriage (mounting point of the read/write heads). The drive piston is constantly biased in the reverse direction by hydraulic pressure applied via the forward deceleration check valve and the minimum pressure orifice. Piston direction and rate of motion are controlled by three solenoids and valves.

Solenoids and Valves

The hydraulic actuator uses five solenoid and valve combinations. The function of the extend solenoid and valve was discussed previously.

The detent solenoid and valve controls the routing of hydraulic pressure to the detent actuator (not physically a part of the hydraulic actuator). When hydraulic pressure is available and the detent solenoid is de-energized, the pressure is applied to the detent actuator to pivot the detent pawl out of the detent gear. When the detent solenoid is energized, the related valve opens to vent pressure to the sump, and the detent pawl spring pulls the pawl into the gear.

Three solenoids and valves direct the routing of hydraulic fluid to the drive piston. All solenoid activity is controlled by signals originating in the logic chassis. The solenoids are located in the sump chamber of the hydraulic actuator and the control valves are located in the valve block. Electrical connections are via a solenoid terminal at the rear of the actuator. Each solenoid operates with at least one related valve. This valve is open when the solenoid is energized, and closed (spring-loaded) when the solenoid is de-energized. The forward/reverse, intermediate, and slow solenoids each control an additional spring-loaded spool. When the related solenoid is de-energized, system pressure from the hydraulic pump overrides the spring force and repositions the spool toward the spring.

Hydraulic Operations

The following paragraphs describe the configuration of the hydraulic actuator during the various operational phases.

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Power Off (Figure 4-16)

No power, electrical or hydraulic, is available to the deck during this phase. As a result, all spring-loaded valves or devices are positioned according to spring loading. The extend and drive pistons are in the retracted position. This positioning occurs during removal of power to the extend solenoid during the preceding power shut down. When the extend solenoid de-energizes, pressure to the rear of the extend solenoid is vented to the sump. Pressure still exists in actuator, even though the pump rpm is decreasing. The reverse biased drive piston under the influence of this pressure moves in reverse, pushing the extend piston ahead of it, to the retracted position.

Hydraulic Home (Figure 4-17)

Hydraulic home is the physical location established when the extend piston moves to the extend position. The actuator moves to hydraulic home at the beginning of each First Seek operation. It is the starting point for the forward motion required to load and latch the read/write heads. The sequence of events for this phase is as follows:

- 1. Hydraulic pump delivers pressure increasing toward 200 psi.
- 2. Increasing pressure and de-energized solenoids cause forward/reverse and intermediate spools to move downward and slow spool to move to right.
- 3. De-energized extend solenoid vents pressure to sump. Extend piston stays in retracted position (Figure 4-16).
- 4. When pump pressure reaches approximately 200 psi, detent actuator pivots pawl out of detent gear and relief valves begin controlling pressure.
- 5. When disk pack exceeds required speed, power is applied to extend solenoid. Vent to sump is blocked, pressure moves extend piston (and drive piston) to left, and heads move into disk pack to hydraulic home position.

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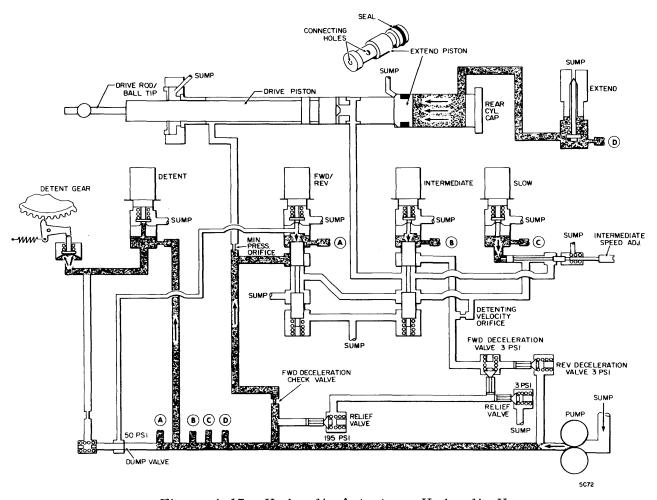


Figure 4-17. Hydraulic Actuator - Hydraulic Home

Detent (Figure 4-18)

The detent phase occurs at the end of each seek operation. The operation consists of removing pressure to the detent actuator so that the detent pawl spring pivots the pawl to engage the detent gear and lock the carriage to a track. The sequence of events for this phase is as follows:

1. During a First Seek or a RTZS operation, the detent solenoid energizes when the leading edge of the first track pulse is sensed as the carriage moves forward from hydraulic home (after the heads have loaded during First Seek). During a forward Direct Seek operation, the detent solenoid energizes when the leading edge of the first track pulse is sensed after the decrement counter indicates less than 2 tracks to go to the desired track. The forward/reverse solenoid remains energized.

During a reverse Direct Seek operation, the detent solenoid energizes when the leading edge of the first track pulse is sensed after the decrement counter indicates less than 2 tracks to go to the desired track. This causes the forward/reverse solenoid to energize. Changing the direction of carriage motion at this point allows the detent pawl to engage the gear in the same manner as for a forward seek.

- 2. Energized detent solenoid vents pressure to sump. Loss of pressure in detent actuator causes spring to pivot detent pawl into detent gear.
- 3. The 50 psi dump valve opens to vent system pressure to sump (via forward/reverse solenoid valve). This causes system pressure to drop to 50 psi and thereby prevents excessive heating of hydraulic fluid.
- 4. Slow solenoid remains energized.

Forward Operations

The length of the seek determines the forward operations to be used. If the seek is in excess of 26 tracks when the forward/reverse solenoid is energized, the read/write heads move toward the center of the disk pack in the forward fast mode (26 ips). This rate of access continues until the logic determines that there are less than 26 tracks to go to reach the desired track. When this determination is made, the logic energizes the intermediate solenoid which causes the access to continue in the forward intermediate mode (7 ips). When the heads are less than four tracks from the desired track, the logic energizes the slow solenoid. This reduces the access rate to 2 ips (forward slow mode), which continues until the detent pawl engages the detent gear and stops the heads at the desired track. If the desired track is less than 26 tracks but more than 3 tracks from the current location, the intermediate solenoid is energized immediately. In this case the seek would consist of a forward intermediate mode, followed by a forward slow mode, and detent.

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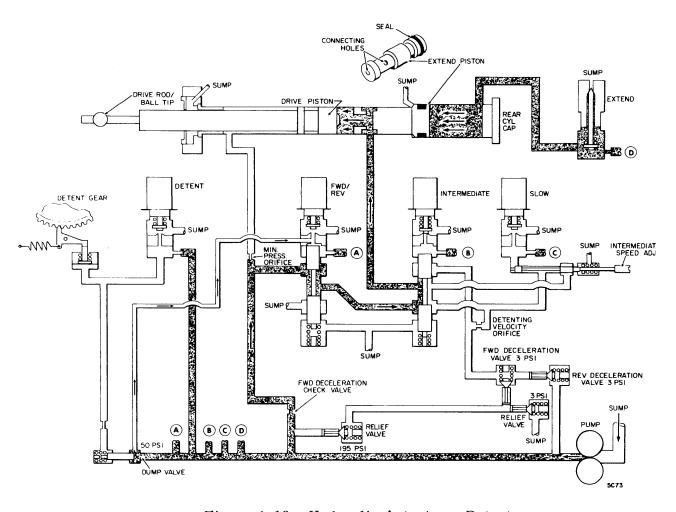


Figure 4-18. Hydraulic Actuator - Detent

For a seek of three tracks or less, both the slow and intermediate solenoids would energize immediately. The seek would consist of a forward slow mode followed by detent.

Forward motion is stopped by detenting, but there is a back-up method in the form of a mechanical stop.

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Forward Fast Mode (Figure 4-19): The sequence of events for this mode is as follows:

- 1. With extend solenoid energized and detent solenoid de-energized, the forward/reverse solenoid energizes.
- 2. Open forward/reverse valve vents pressure to sump. Resulting pressure drop causes upward movement of spring-loaded forward/reverse spool.

NOTE

Pressures at left and right faces of drive piston are equal. Drive piston moves to left because area of face is greater

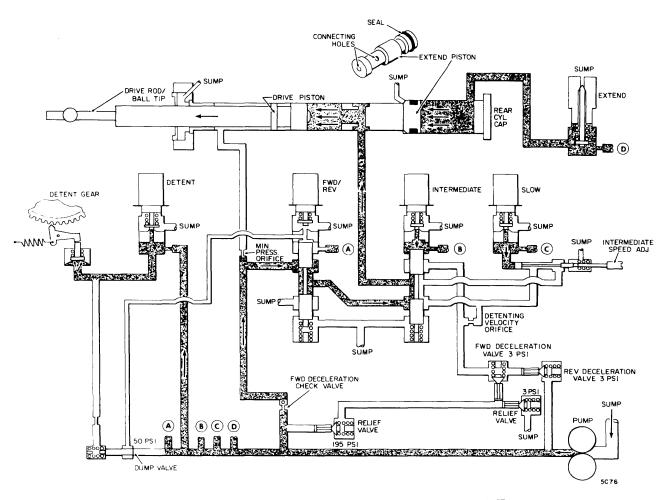


Figure 4-19. Hydraulic Actuator - Forward Fast

3. Hydraulic fluid flows through hole in extend piston causing drive piston to move left (forward) at 26 ips.

Forward Intermediate Mode (Figure 4-20): The sequence of events for this mode is as follows:

- 1. With extend solenoid energized and detent solenoid de-energized, forward/reverse and intermediate solenoids energize.
- 2. Open forward/reverse and intermediate valves vent pressure to sump. Resulting pressure drop causes upward movement of spring-loaded forward/reverse and intermediate spools.
- 3. Hydraulic fluid flows past forward/reverse spool and around intermediate spool. It then branches into parallel paths through detenting velocity orifice and slow spool, rejoining at and passing the intermediate spool. From here it passes through hole in extend piston causing the drive piston to move left at 7 ips.

Forward Slow Mode (Figure 4-21): The sequence of events for this mode is as follows:

- 1. With extend solenoid energized and detent solenoid de-energized, forward/reverse, intermediate, and slow solenoids energize.
- 2. Open forward/reverse, intermediate, and slow valves vent pressure to sump. Resulting pressure drop causes upward movement of spring-loaded forward/reverse and intermediate spools and slow spool moves to left.
- 3. Hydraulic fluid flows past forward/reverse spool and around intermediate spool. It then flows through detenting velocity orifice, past intermediate spool and out forward face of extend piston to rear of drive piston.
- 4. Drive piston moves left at 2 ips.

Reverse Operations

As with forward operations, the length of the seek determines the mode(s) required to complete the seek.

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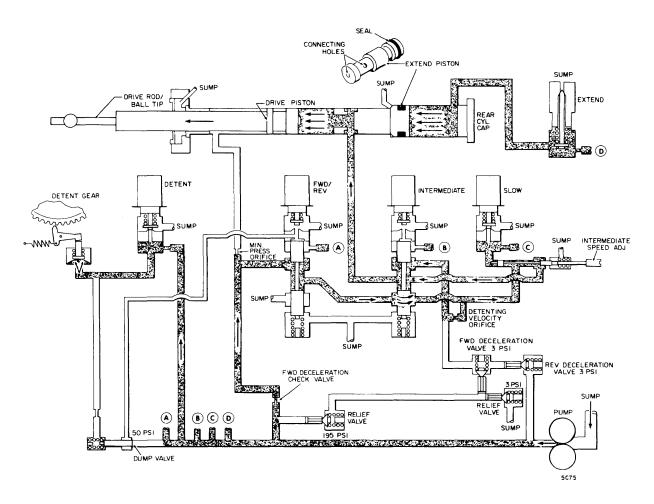


Figure 4-20. Hydraulic Actuator - Forward Intermediate

Reverse motion is stopped by switching to forward motion and then detenting or by the drive piston encountering the hydraulic cushion on the front face of the extend piston.

Reverse Fast Mode (Figure 4-22): The sequence of events for this mode is as follows:

- 1. With extend solenoid energized and detent solenoid de-energized, forward/reverse solenoid de-energizes.
- 2. Closed forward/reverse and intermediate valves cause line pressure to move related spools downward.

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- 3. Hydraulic fluid at rear face (right end) of drive piston flows past intermediate spool and returns to sump at lower end of forward/reverse spool.
- 4. Hydraulic fluid flows through minimum pressure orifice to left face of drive piston and piston moves right at 26 ips.

Reverse Intermediate Mode (Figure 4-23): The sequence of events for this mode is as follows:

 With extend solenoid energized and detent solenoid de-energized, forward/reverse solenoid de-energizes and intermediate solenoid energizes.

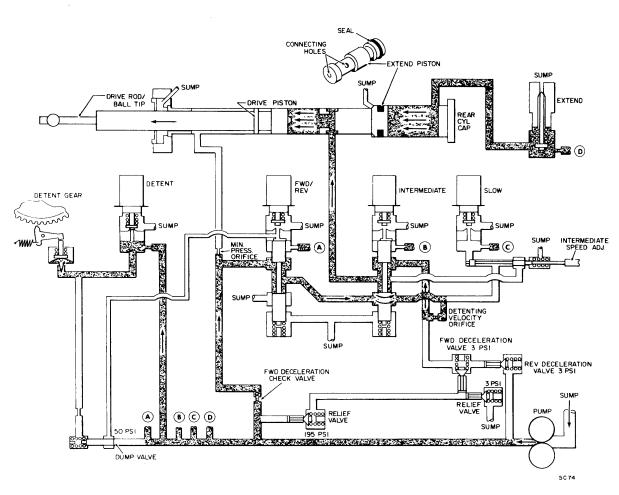


Figure 4-21. Hydraulic Actuator - Forward Slow

- 2. Closed forward/reverse valve causes line pressure to move related spool downward. Intermediate spool rises.
- 3. Hydraulic fluid at rear face of drive piston flows past intermediate spool and branches into two parallel paths past slow spool and through detenting velocity orifice. The paths rejoin to pass around the intermediate spool and vent to sump at forward/reverse spool.
- 4. Hydraulic fluid flows through minimum pressure orifice to left face of drive piston and piston moves right at 7 ips.

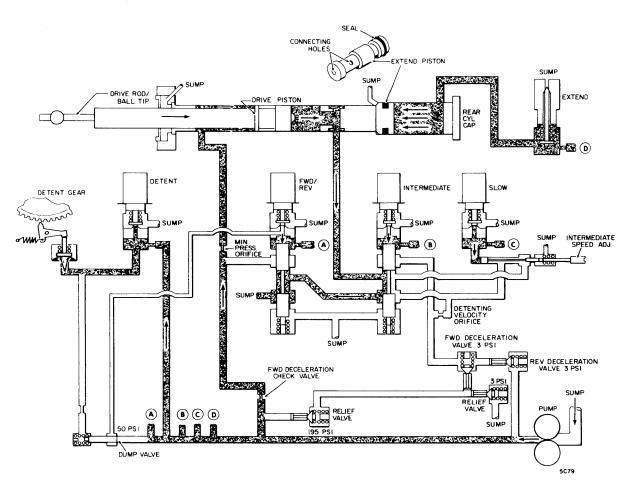


Figure 4-22. Hydraulic Actuator - Reverse Fast

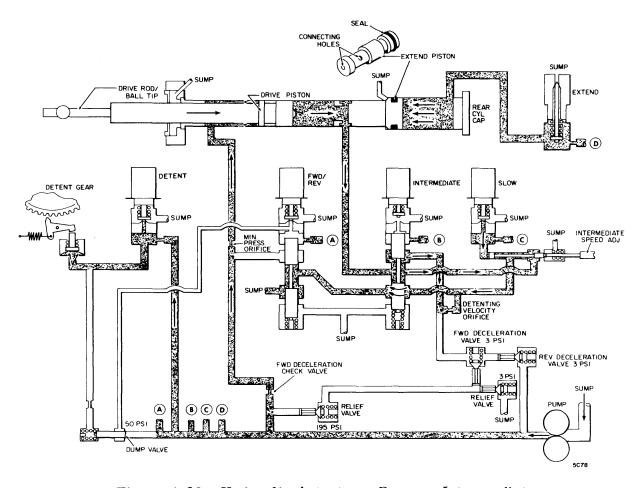


Figure 4-23. Hydraulic Actuator - Reverse Intermediate

Reverse Slow Mode (Figure 4-24): The sequence of events for this mode is as follows:

- With extend solenoid energized and detent solenoid de-energized, forward/ reverse solenoid de-energizes and slow and intermediate solenoids energize.
- 2. Closed forward/reverse valve causes line pressure to move related spool downward. Open intermediate valve causes related spool to rise. Open slow valve causes slow spool to move to left.

- 3. Hydraulic fluid at rear face of drive piston flows past intermediate spool, through detenting velocity orifice, over intermediate spool, and vents to sump past forward/reverse spool.
- 4. Hydraulic fluid flows through minimum pressure orifice to left face of drive piston and piston moves right at 2 ips.

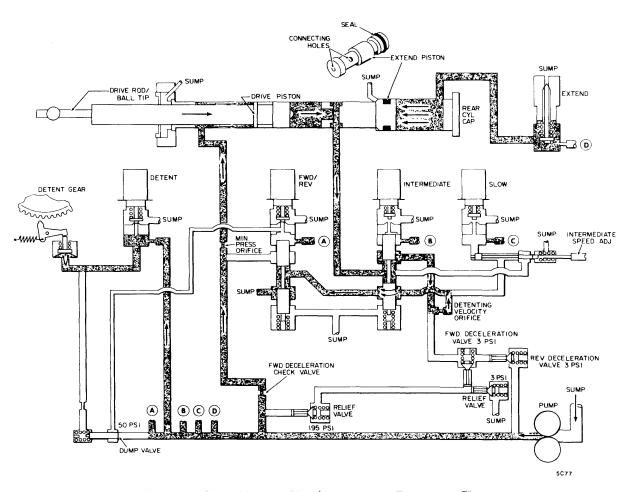


Figure 4-24. Hydraulic Actuator - Reverse Slow

FRAME

The frame assembly consists generally of the structural members, drawer mechanisms, and panels of the cabinet. Two additional subassemblies are, by virtue of their location, considered a part of the frame: blower system and filter box.

Blower System

The blower system (Figure 4-25) provides positive pressure at the center of a disk pack mounted on the spindle of a deck assembly. The presence of this elevated pressure at the center of the disk surfaces results in an outward dispersion of air over each disk surface. This air flow greatly reduces possible contamination and damage of the disks and the read/write heads.

The system consists of a motor driven impeller that forces air through an absolute filter (glass and asbestos) and related ducts upward to the spindles present in the cabinet. Much of the ducting is extendable to allow the deck drawers to be extended out the front and rear of the cabinet. Power to the blower drive motor is controlled by the power supply BLOWER circuit breaker.

Filter Box

The filter box controls power to the cabinet in which it is located. The box is located in the bottom of the cabinet and is accessible by opening the cabinet rear door. It contains a circuit breaker (UNIT POWER) that controls application of main input power to the cabinet power supply. The power supply MAIN POWER indicator monitors the status of the circuit breaker. Frequency filters for the input power lines are mounted inside the box.

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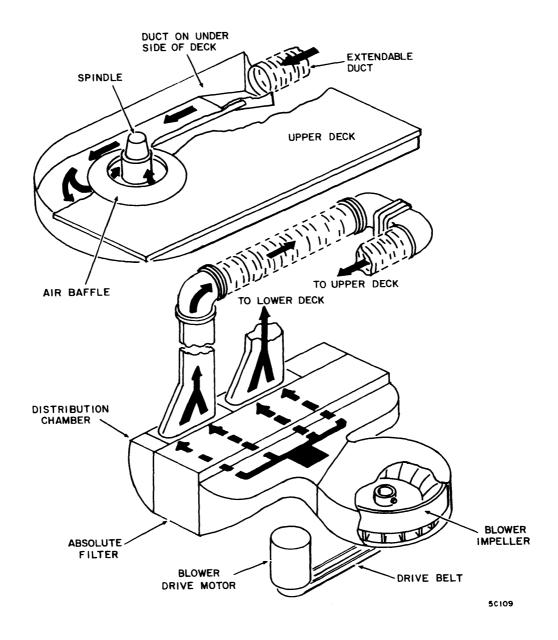


Figure 4-25. Blower System

DISK PACK

The disk pack is the recording medium for the MDD. The disk pack consists of eleven 14-inch, magnetic oxide coated disks center-mounted on a hub. The recording surface of each disk is coated with a layer (0.0002 inch) of magnetic iron oxide and related binders and adhesives.

The 203 recording tracks are located in a 2-inch band near the outer edge of the disk. Track 202 has a diameter of approximately 9 inches, while the diameter of track 00 is about 13 inches. The tracks are spaced 0.010 inch apart.

The top and bottom disk surfaces are covered by protective non-recording disks. The bottom protective disk is called the sector disk. This disk contains notches that are sensed by the index transducer. The pulse outputs of the transducer are used to determine disk pack rpm and to detect organizational segments of the disk pack.

The lower hub of the disk pack contains a replaceable filter. This filter removes particles from the air supplied by the blower. Keeping positive air pressure at the center of the disks reduces the possibility of dust caused damage.

The disk pack has a two-piece container assembly. The bottom cover can be removed simply by grasping and rotating the center hub. The top cover is designed so that it can be removed only by installing the disk pack on the deck spindle assembly. The disk pack can be removed from the spindle only by using the top cover (see Section 2). This design protects the disk pack from physical damage and greatly reduces the possibility of contamination of the disk pack recording surfaces.

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SECTION 5

DIAGRAMS

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DIAGRAMS

INTRODUCTION

This section contains diagrams that logically describe the MDD in terms of the functions which the unit performs. Figure 5-1 through 5-11 are flow charts, simplified circuits, and timing diagrams that describe the First Seek function, the Power Off sequence, the Direct Seek (forward and reverse) function, the Return to Zero function, and the Read/Write operations. Figure 5-12 shows the cabinet ground scheme.

The logic diagrams for the unit are provided on pages 5-14 through 5-23. The MDD signal distribution drawing is located on page 5-24, and the unit power supply schematic is found on pages 5-25 through 5-26.3. Schematic diagrams for the transducer preamplifier cards and the SPL cards are found at the end of the section.

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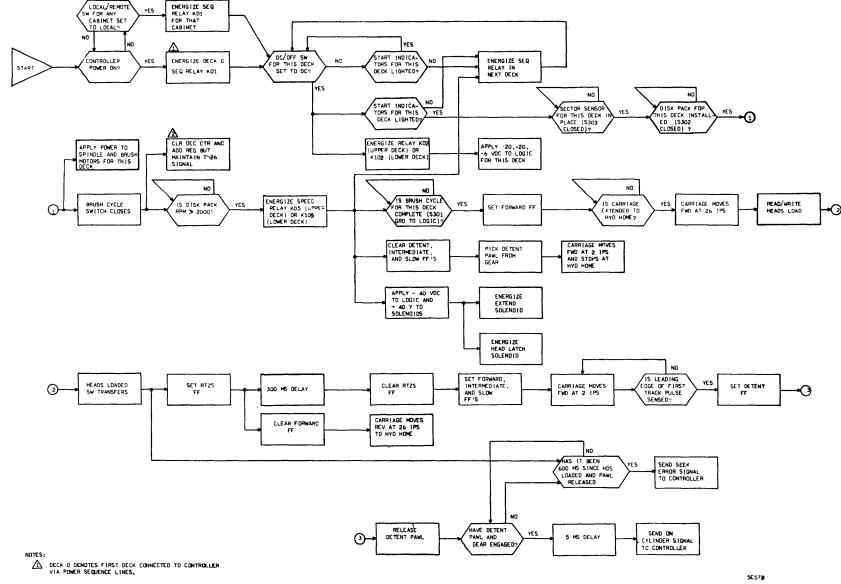


Figure 5-1. Power On/First Seek Sequence

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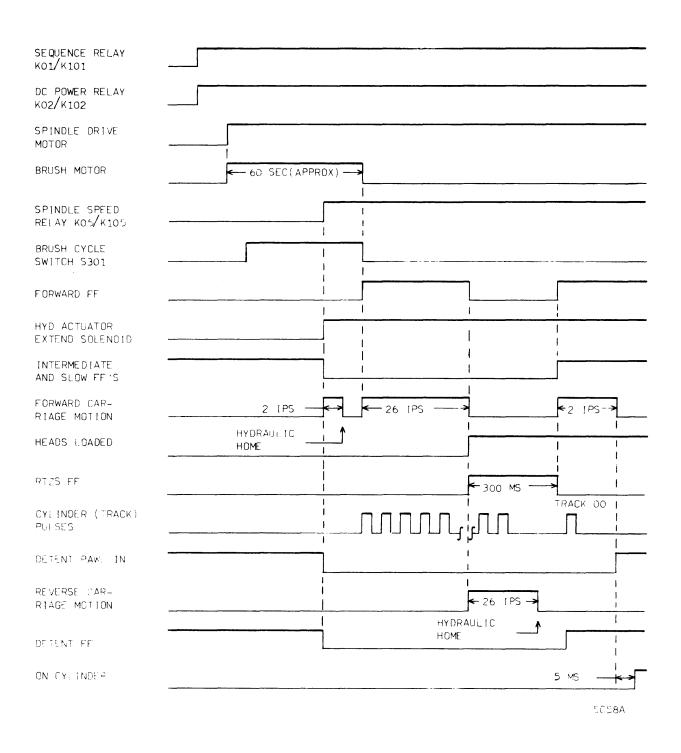


Figure 5-2. Power On/First Seek Timing

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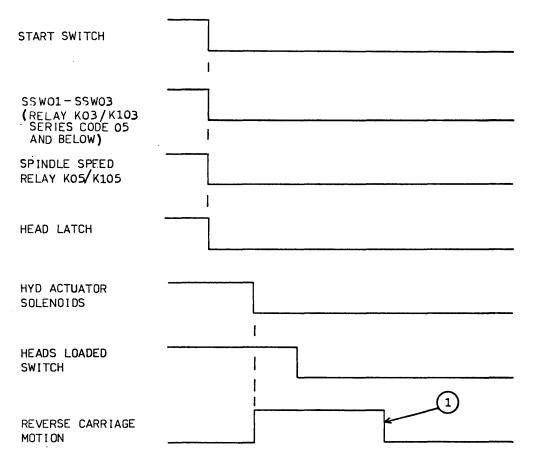
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Figure 5-3. Deck or System Power Off Sequence



NOTE:

CARRIAGE ENCOUNTERS REVERSE POSITIVE STOP. RESIDUAL HYDRAULIC PRESSURE HOLDS CARRIAGE IN THIS POSITION. DETENT PAWL SPRING OVERRIDES FADING PRESSURE TO PULL PAWL INTO DETENT GEAR.

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Figure 5-4. Power-Off Timing

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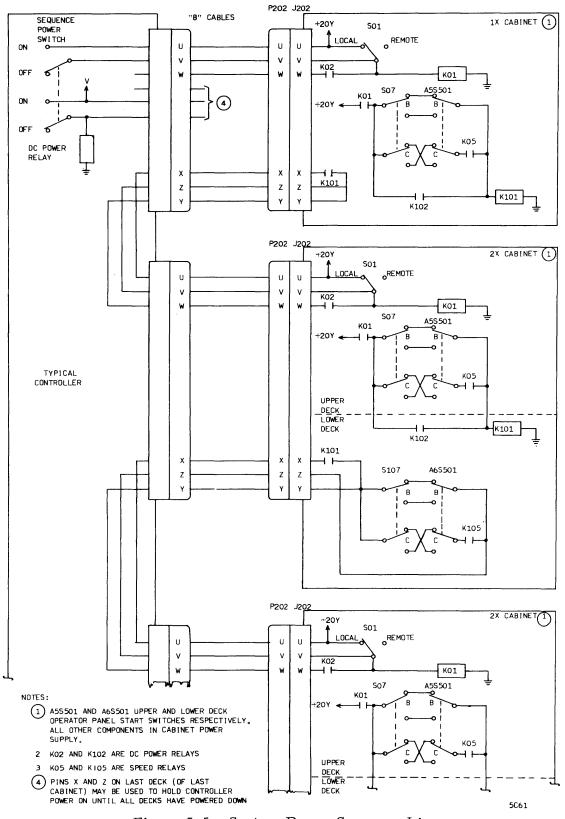


Figure 5-5. System Power Sequence Lines

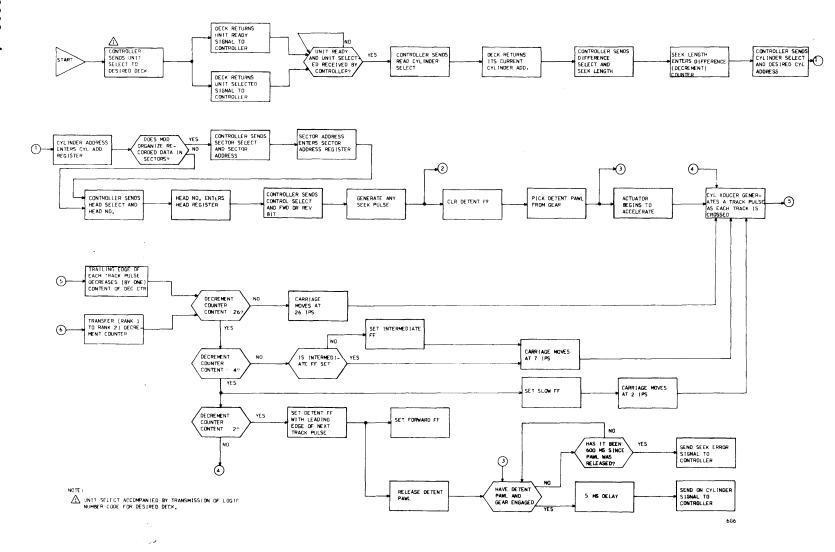


Figure 5-6. Direct Seek Sequence

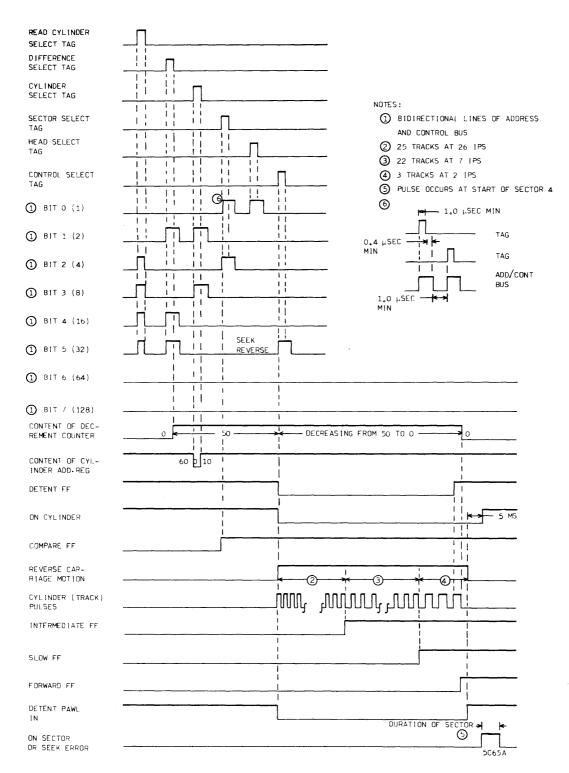


Figure 5-7. Direct Seek Timing

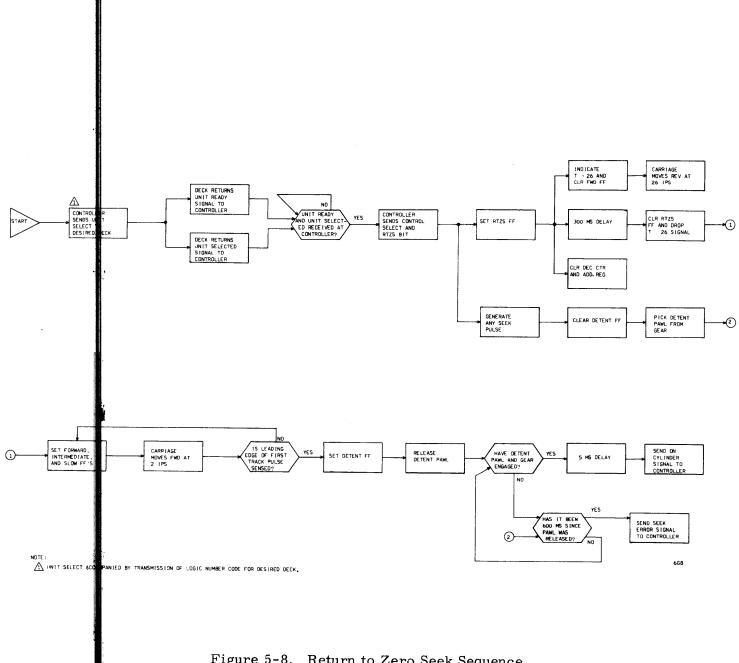


Figure 5-8. Return to Zero Seek Sequence

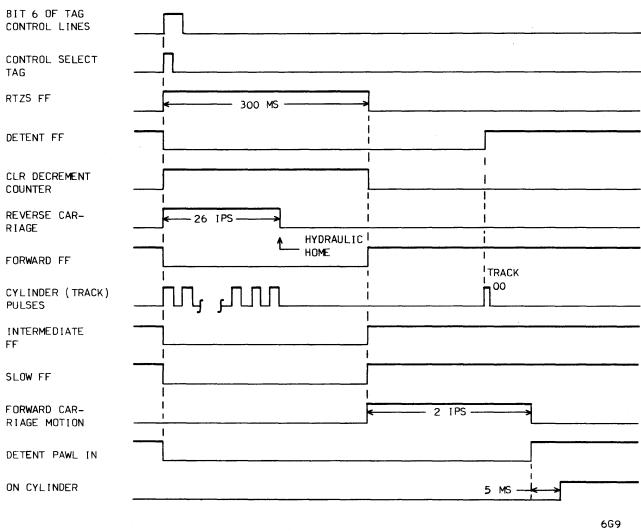


Figure 5-9. Return to Zero Seek Timing

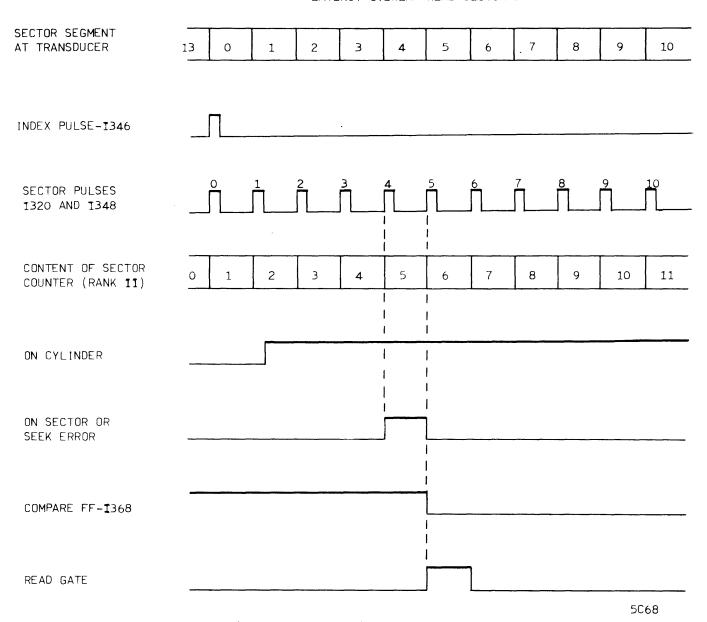
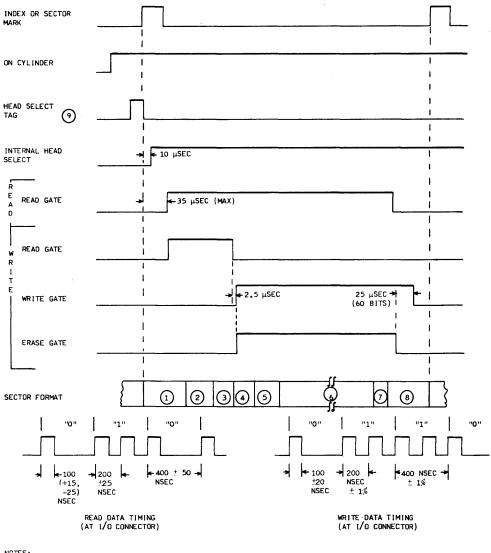


Figure 5-10. Latency Overlap Timing

5-11



NOTES:

- 1 TOLERANCE GAP 1 120 BITS ACCOMODATES PHYSICAL READ/WRITE TO ERASE GAP DISTANCE AND ALLOWS HEAD SWITCHING AND READ AMPLIFIER STABILIZATION TIME.
- 2) SYNC PATTERN 1 112 BITS INDICATES BEGINNING OF ADDRESS AREA, CONTROLLER MUST INITIATE SYNC BYTE (OR BIT) SEARCH MIDWAY THROUGH THIS PATTERN (REQUIRED TO ENSURE THAT HEAD IS READING A KNOWN PATTERN EVEN UNDER WORST-CASE CONDITIONS OF HEAD SKEW, RPM, AND INDEX TOLERANCES DUE TO DISK PACK INTERCHANGE).
- 3 ADDRESS 36 BITS (TYPICAL) TWELVE-BIT UPPER ADDRESS, 12-BIT LOWER ADDRESS, AND 12-BIT CHECKWORD.
- (4) HEAD GAP 120 BITS ACCOMMODATES PHYSICAL READ/WRITE TO ERASE GAP DISTANCE.
- SYNC PATTERN 2 72 BITS INDICATES BEGINNING OF DATA FIELD.
- DATA FIELD 3864 BITS PLUS 12 BIT CHECKWORD.
- POST AMBLE 1 BIT -A PAO TO ENSURE THAT LAST BIT OF DATA IS NOT DESTROYED OR DISTORTED.
- 8 TOLERANCE GAP 2 127 BITS COMPENSATES FOR WORST-CASE CONDITIONS OF SPINDLE SPEED AND OSCILLATOR TOLERANCES.
- 9 HEAD SELECT TAG LINE SHOWN OCCURRING AT LATEST ACCEPTABLE TIME RELATIVE TO INDEX OR SECTOR MARK: NOT TO BE CONSIDERED A TYPICAL RELATIONSHIP.

Figure 5-11. Typical Sector Format Read/Write Timing

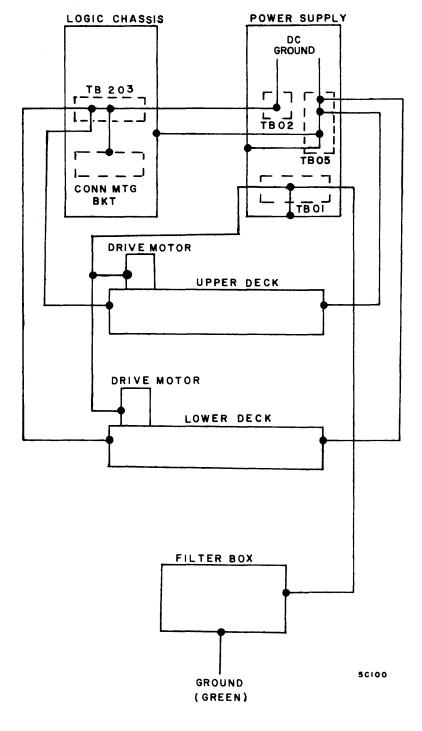
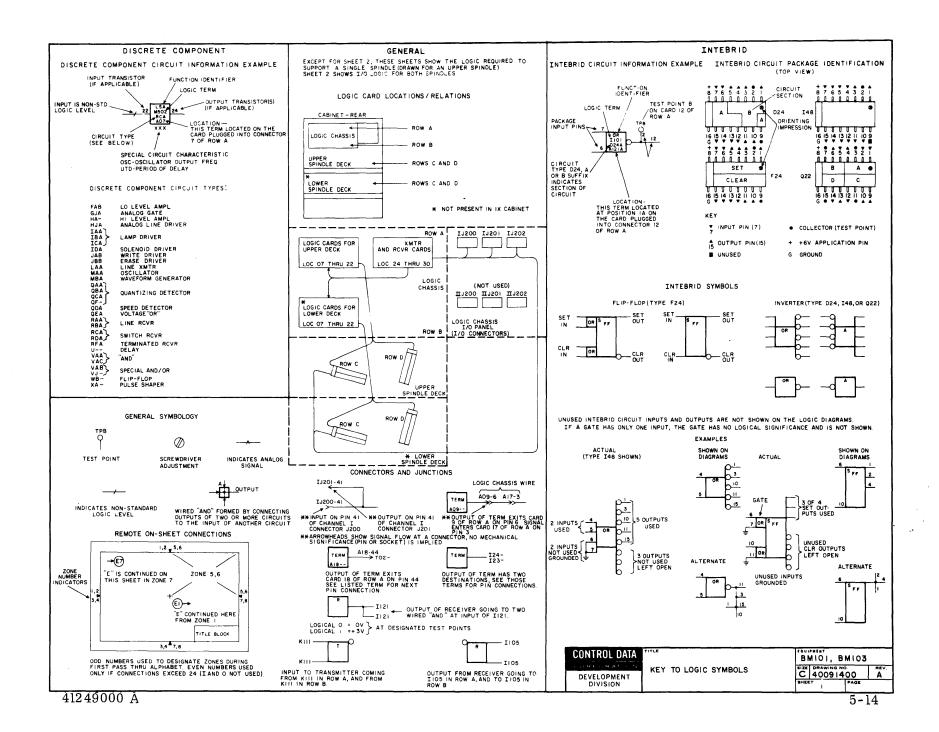
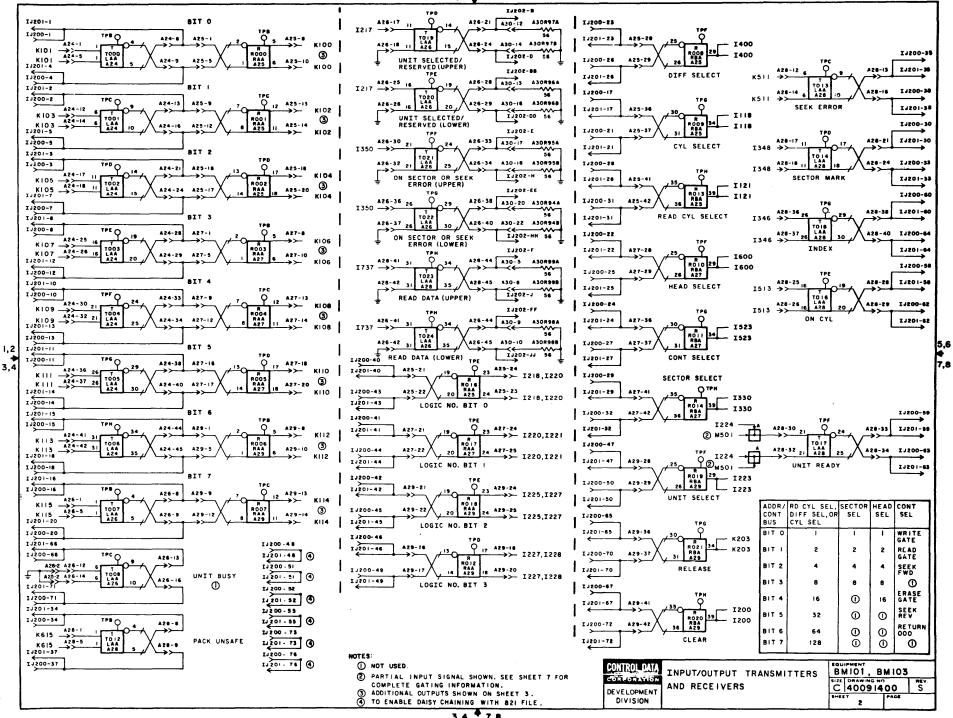


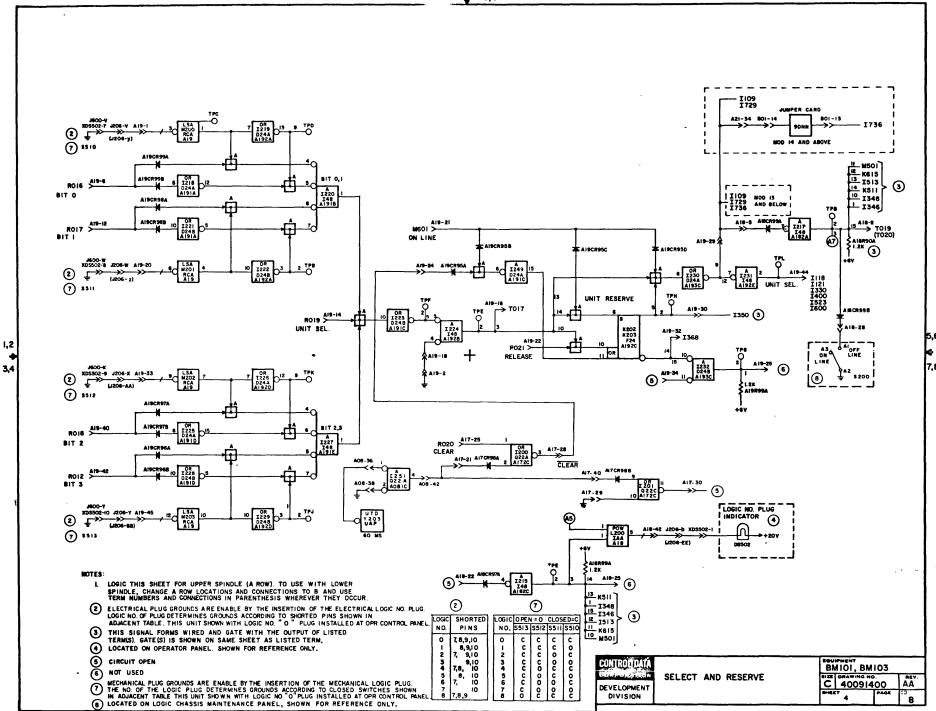
Figure 5-12. Ground Scheme

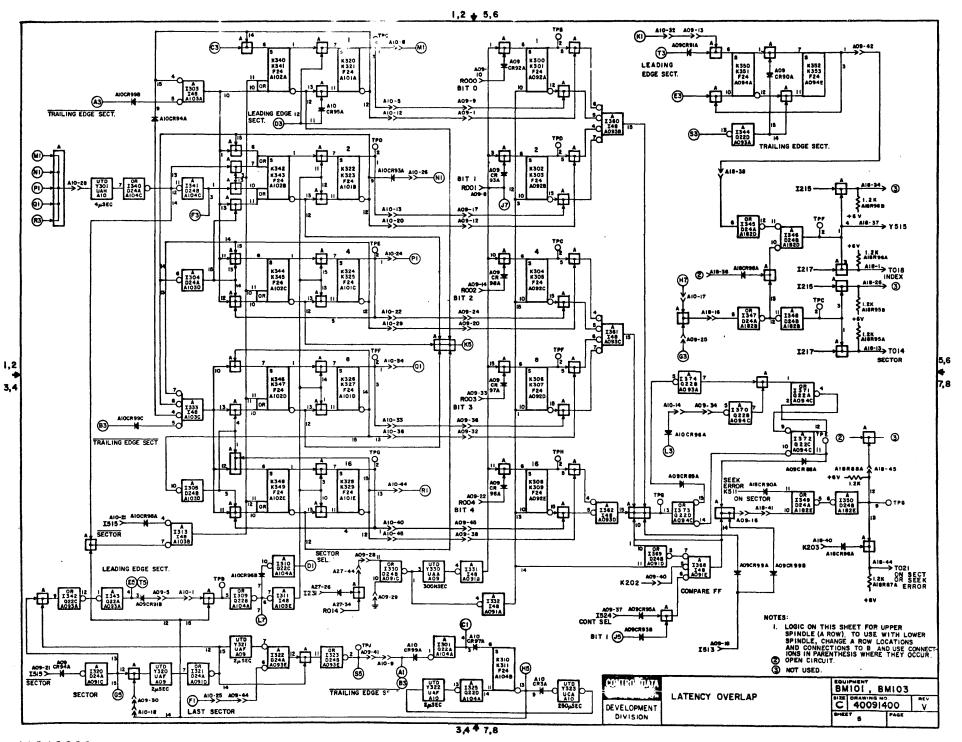
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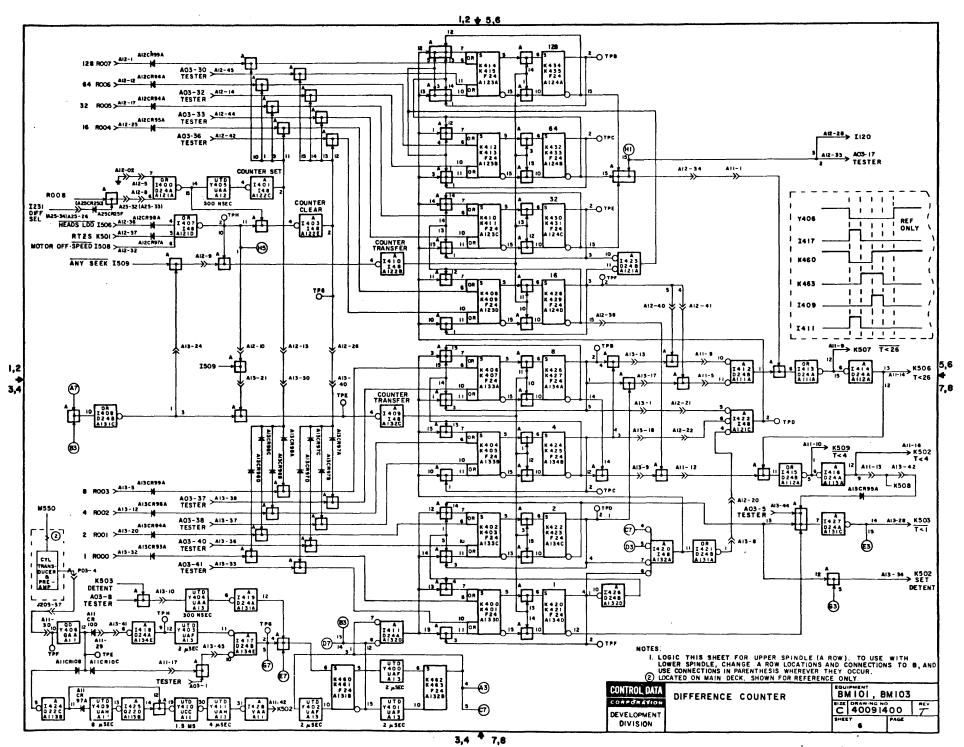


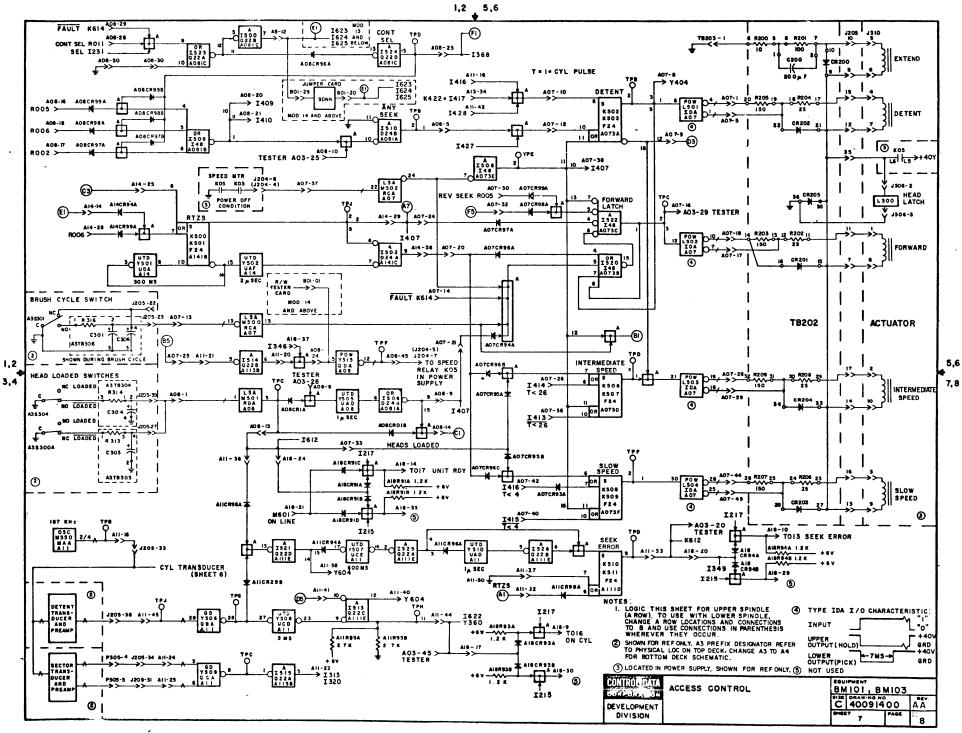


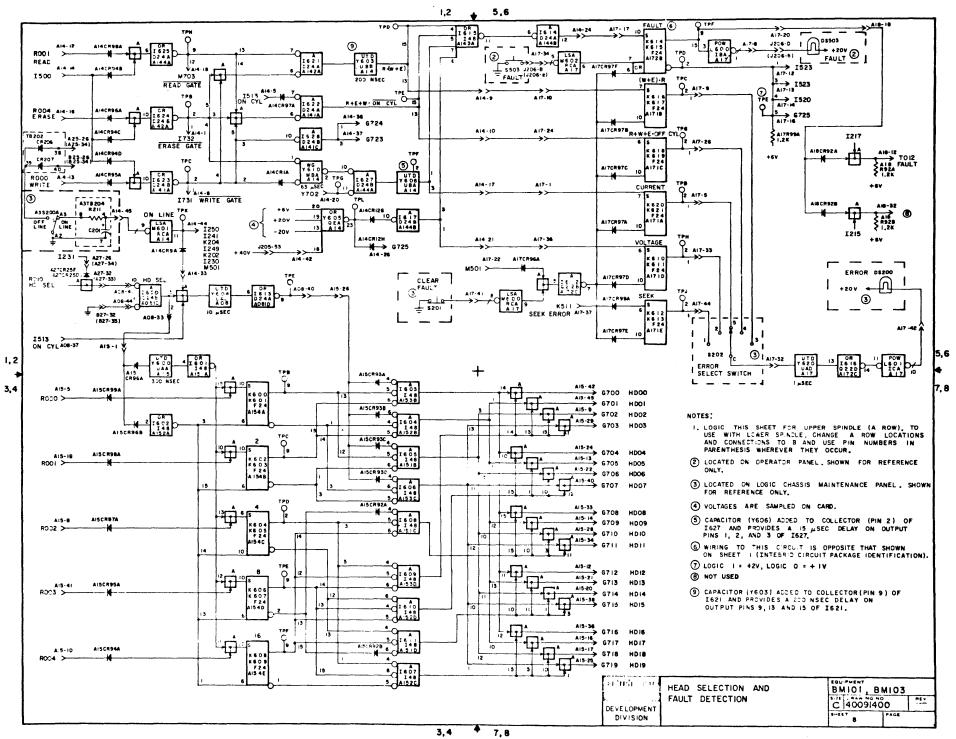
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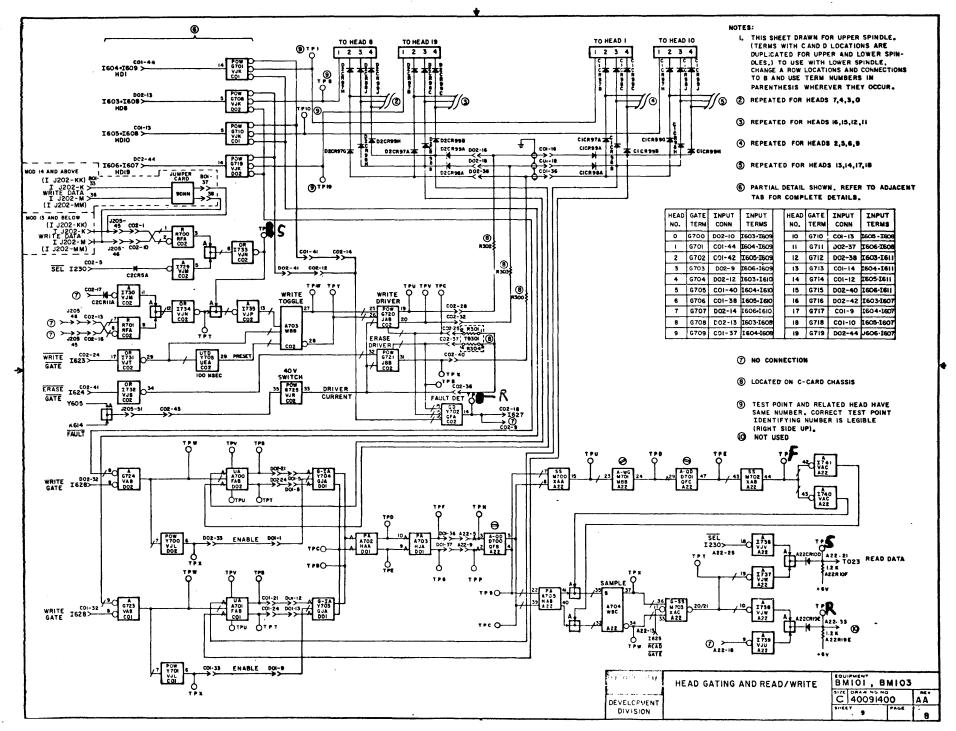


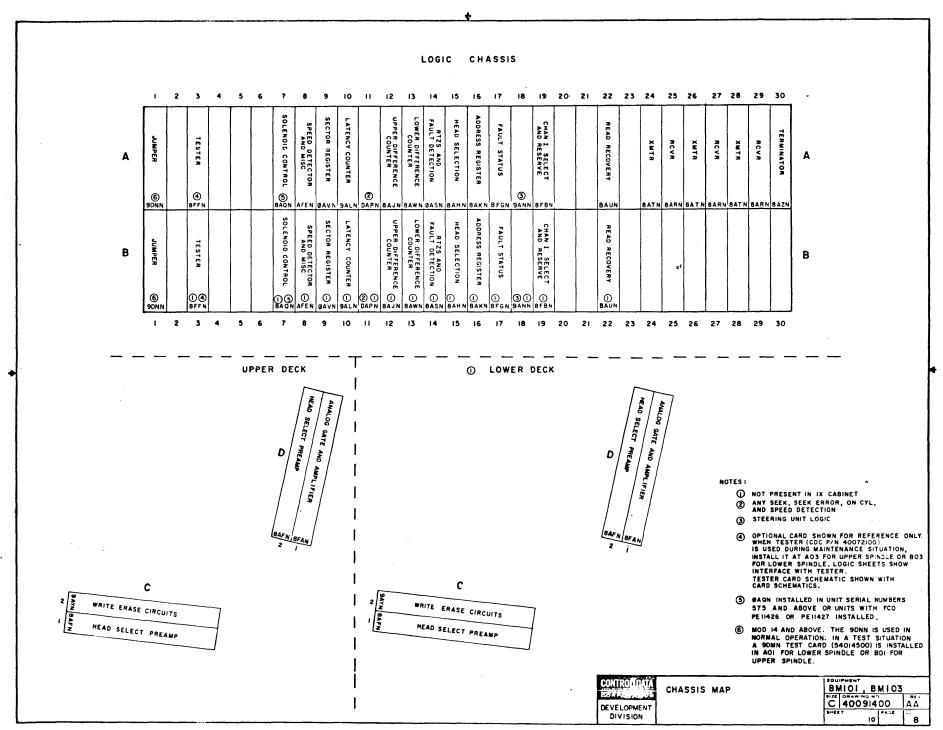


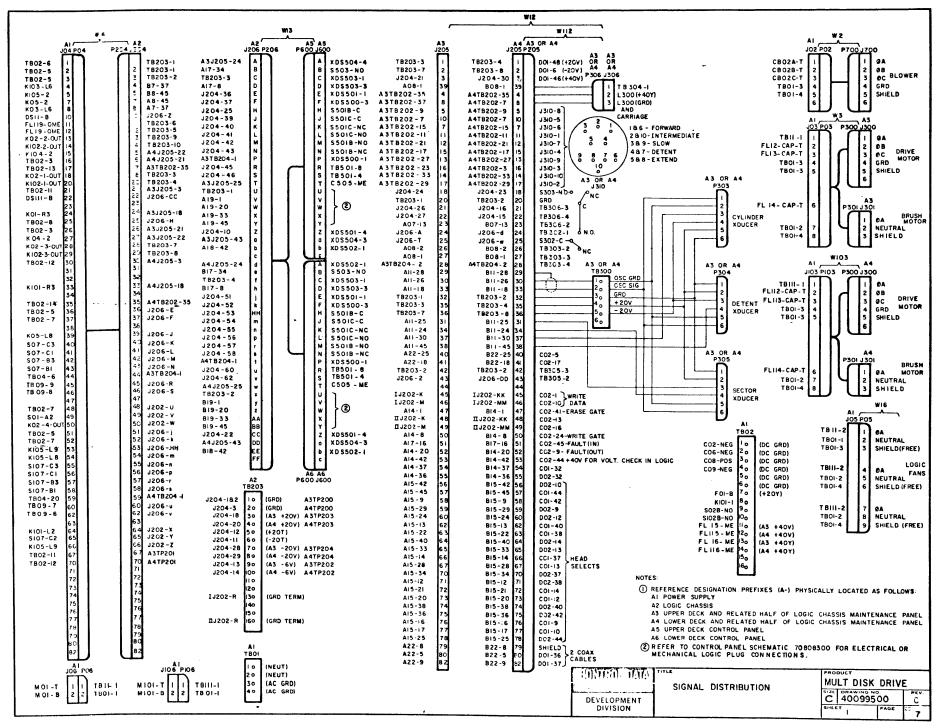




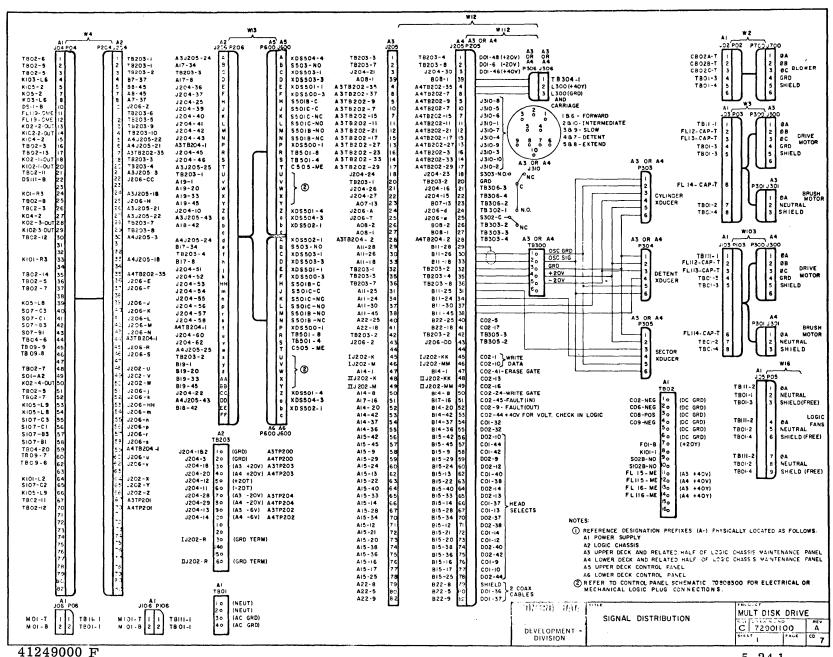


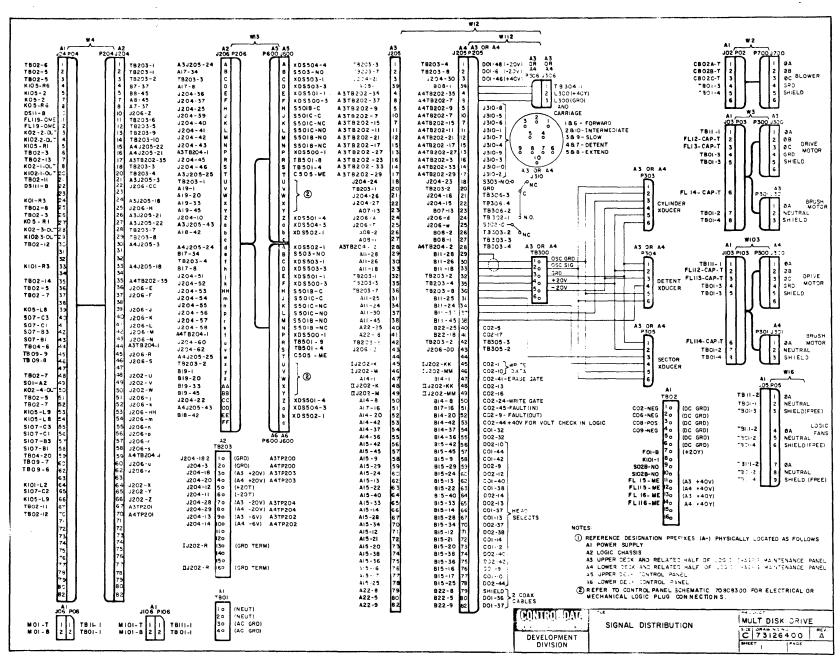


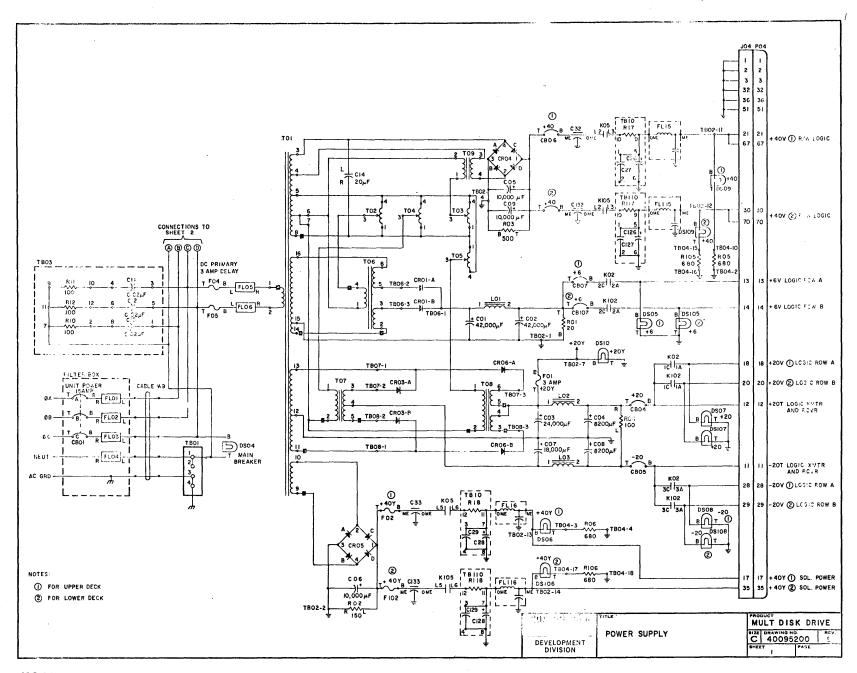


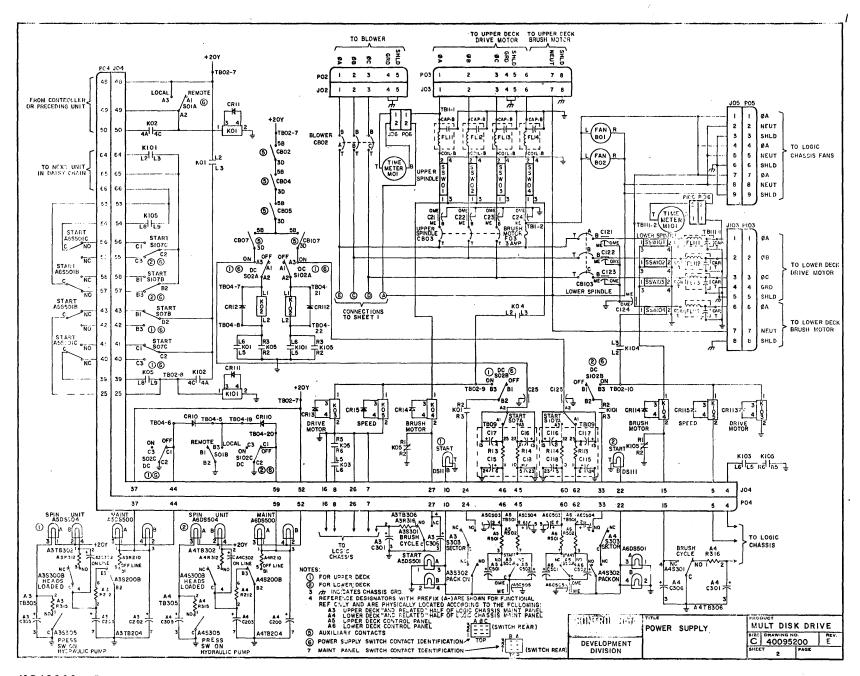


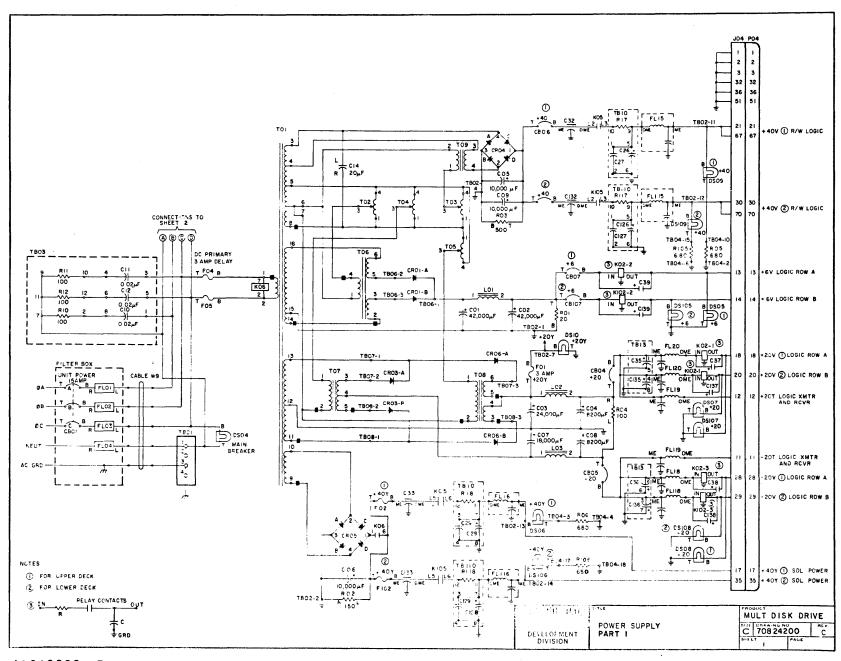
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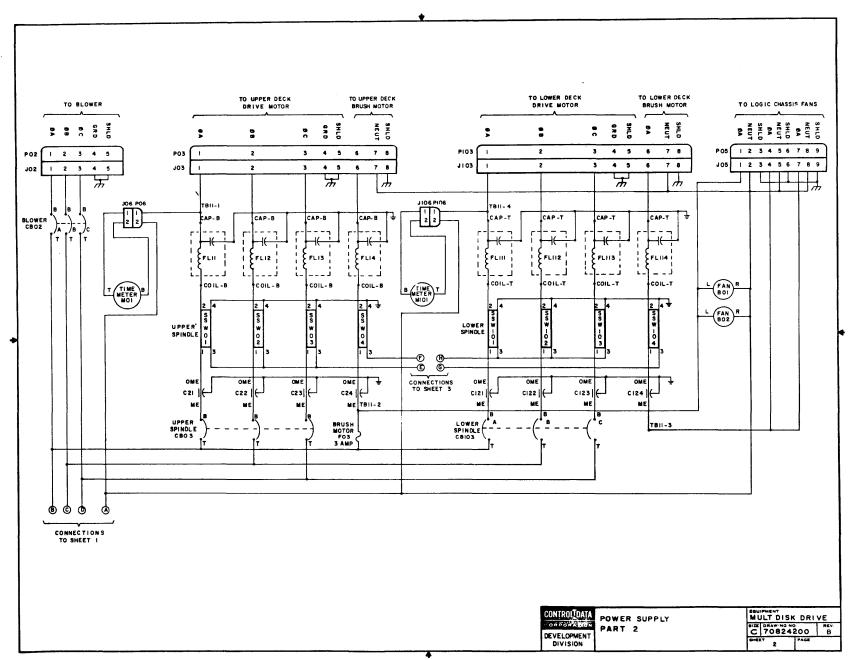


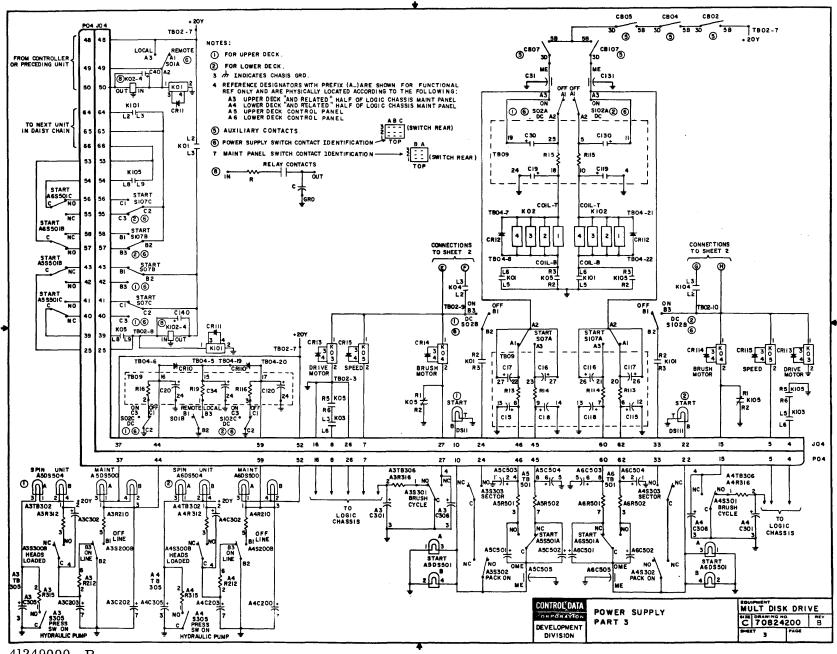


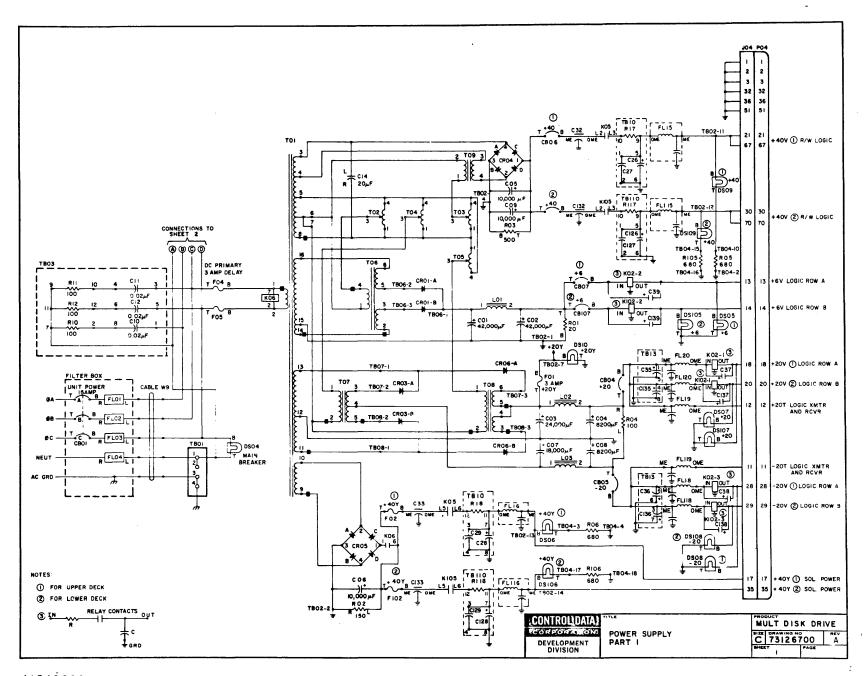


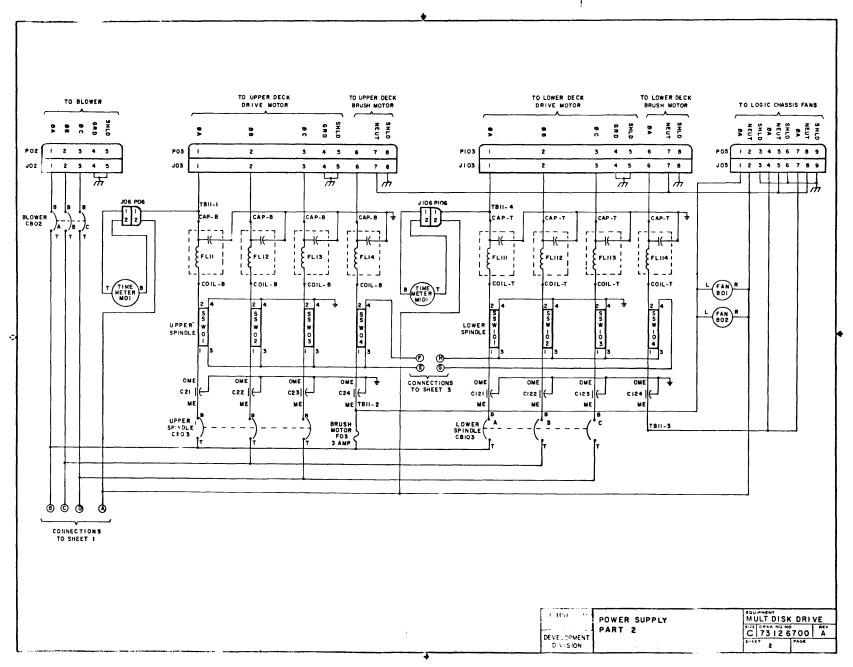


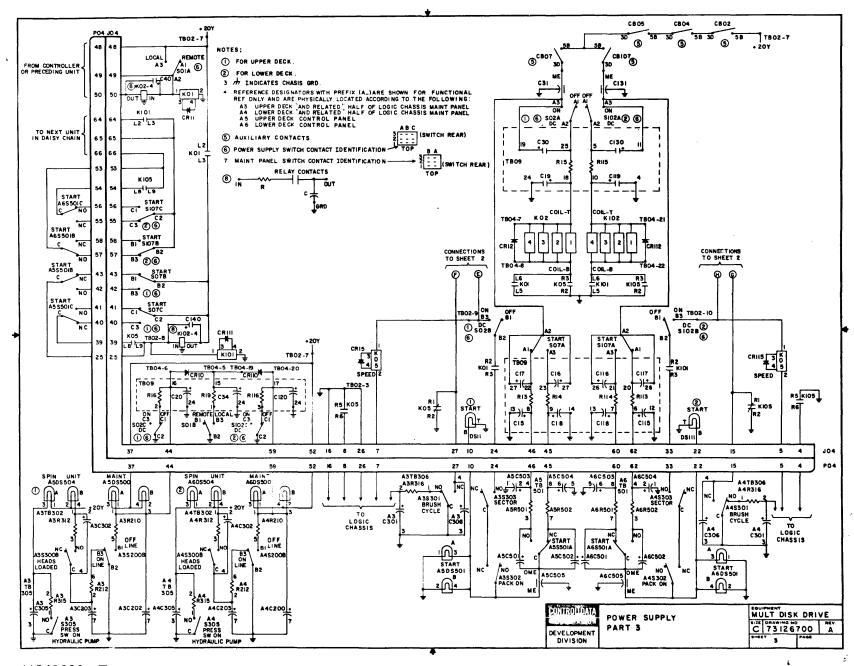


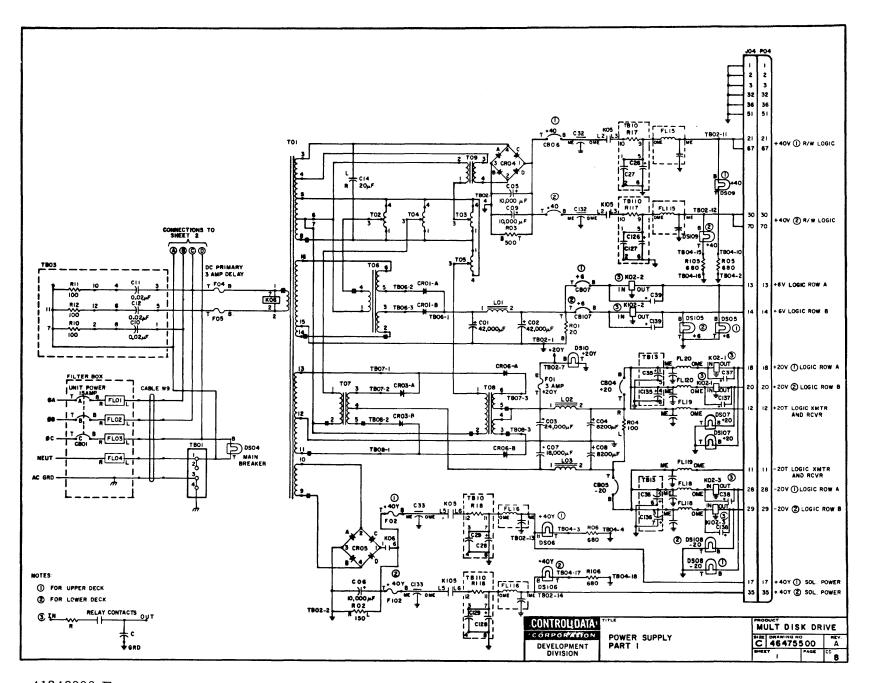


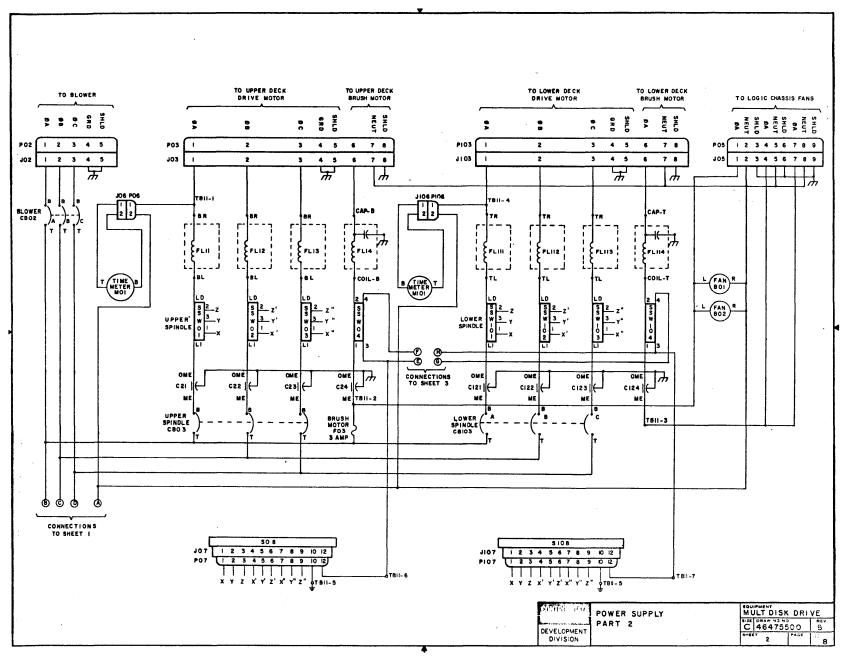


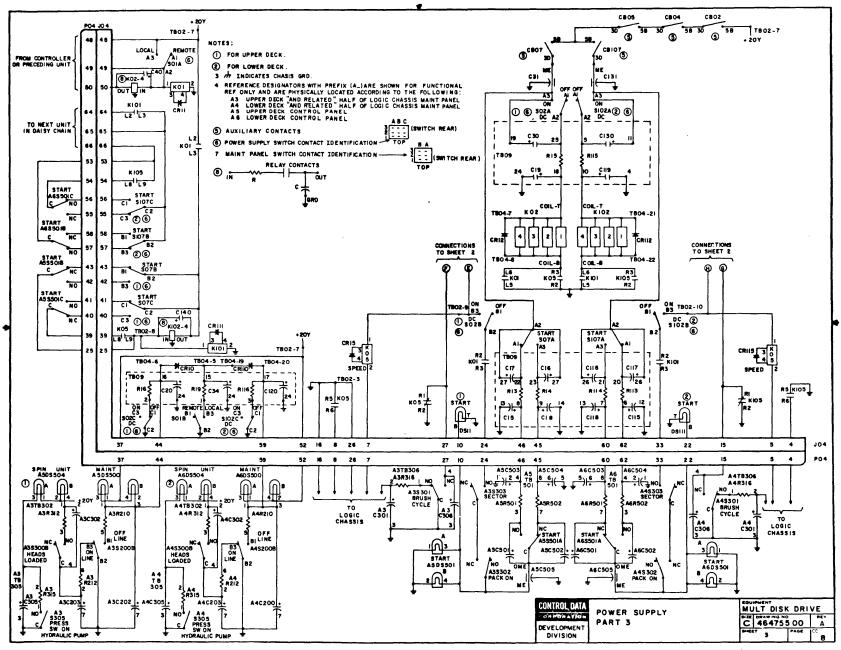




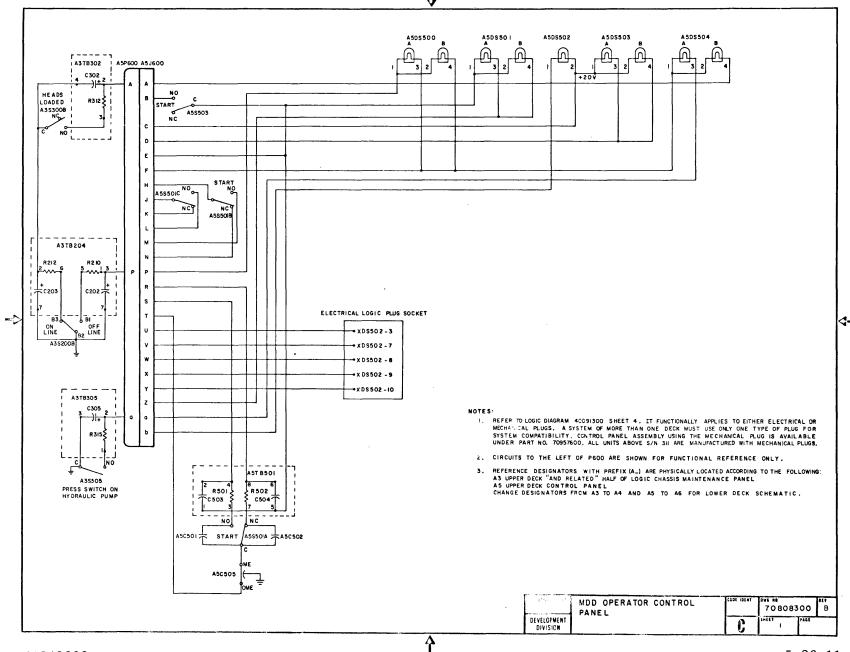


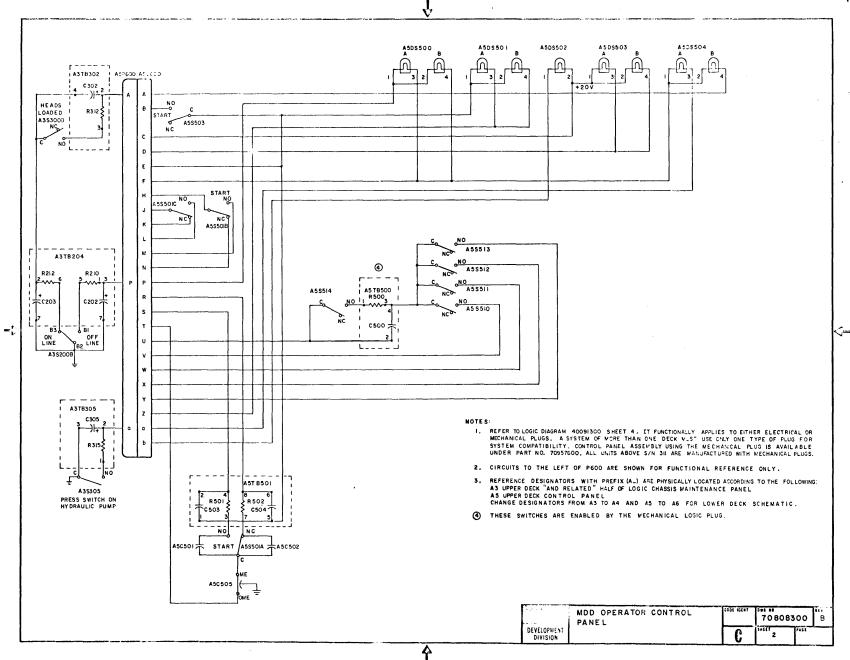


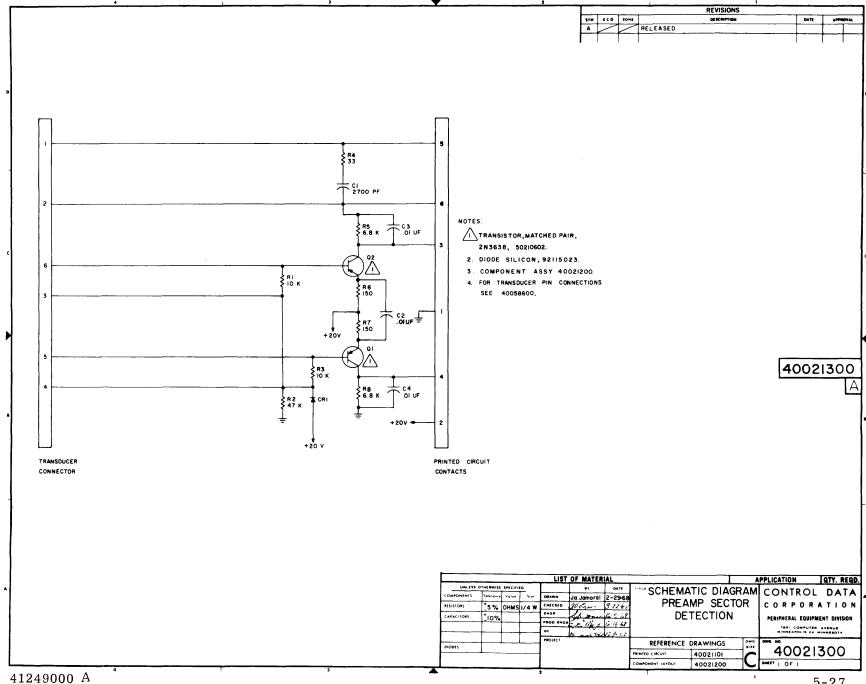


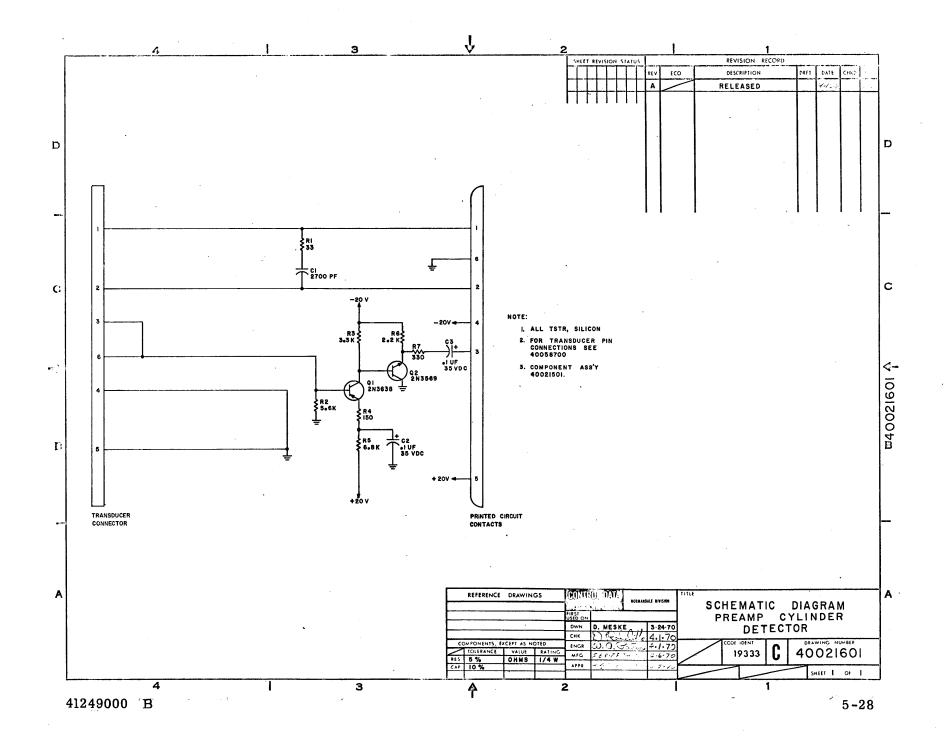


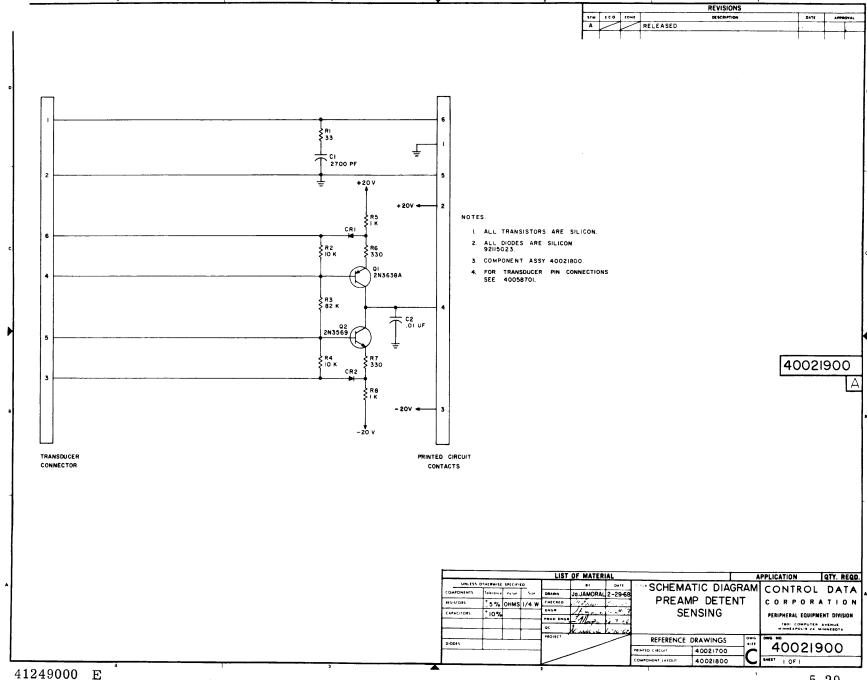
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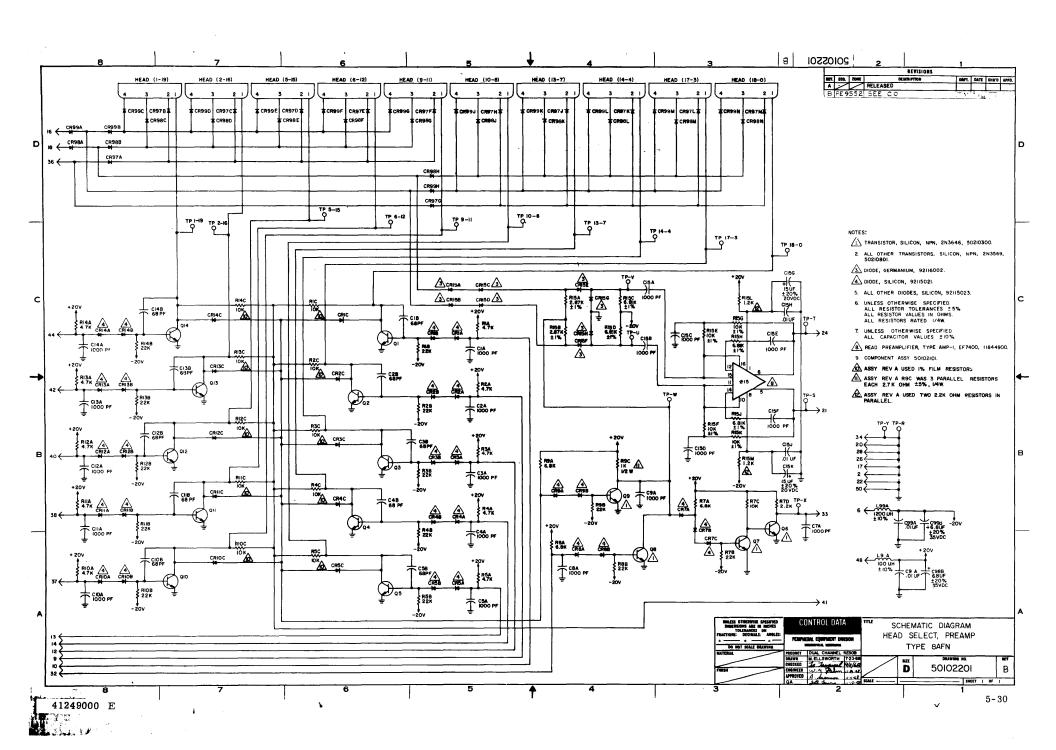


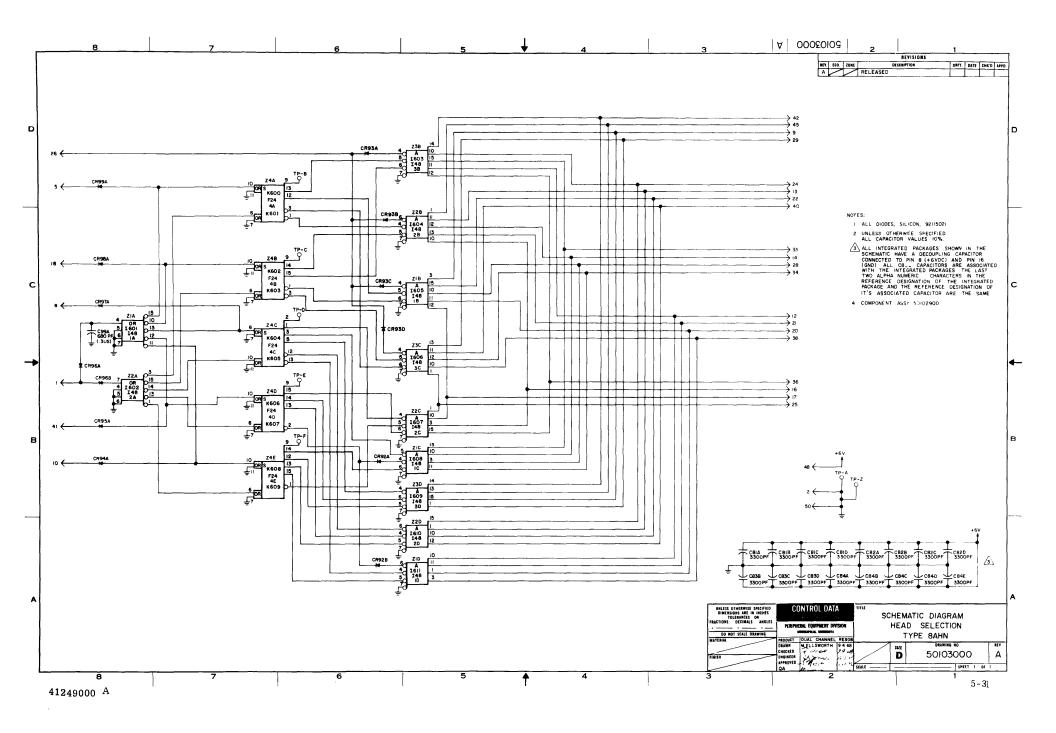


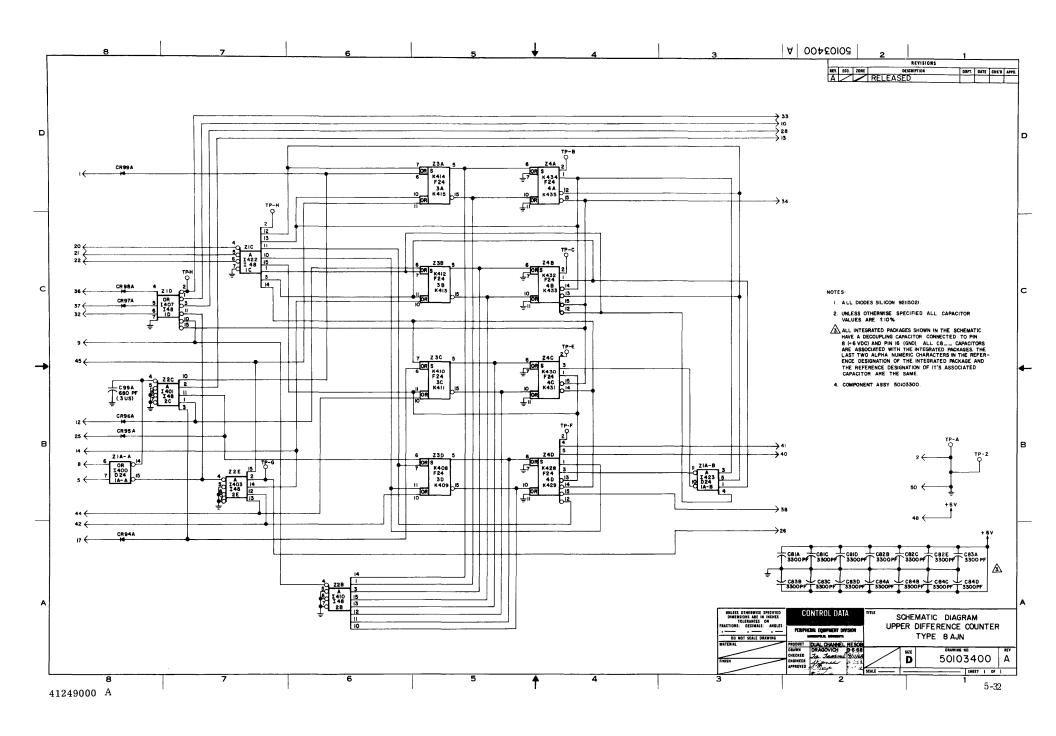


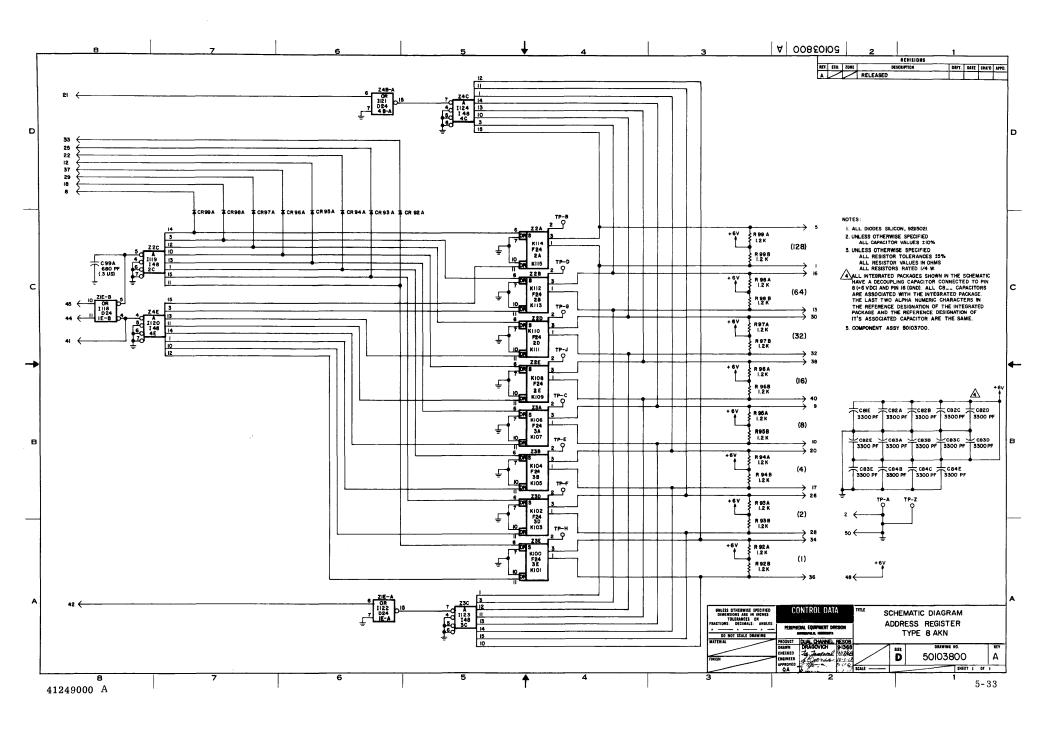


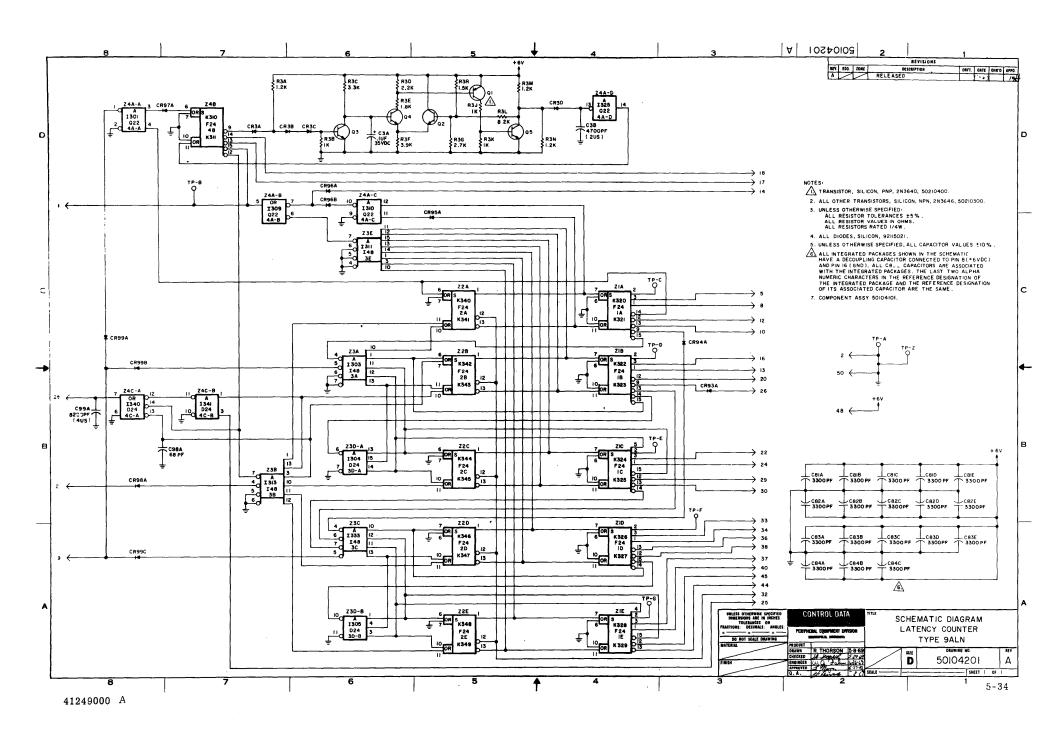


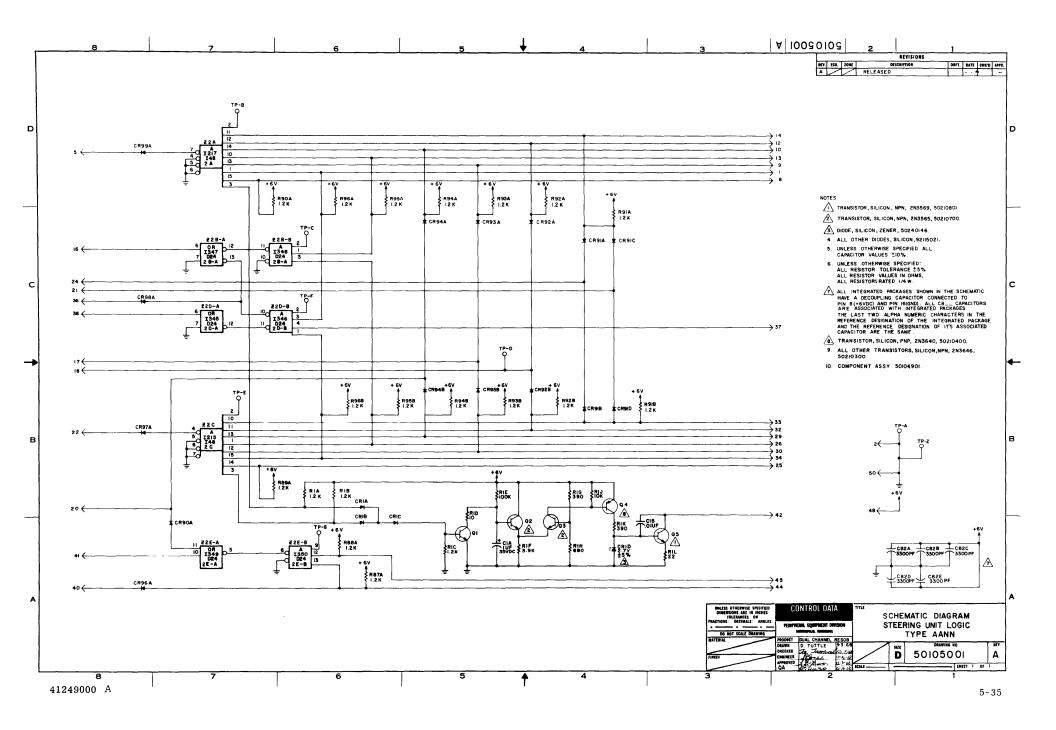


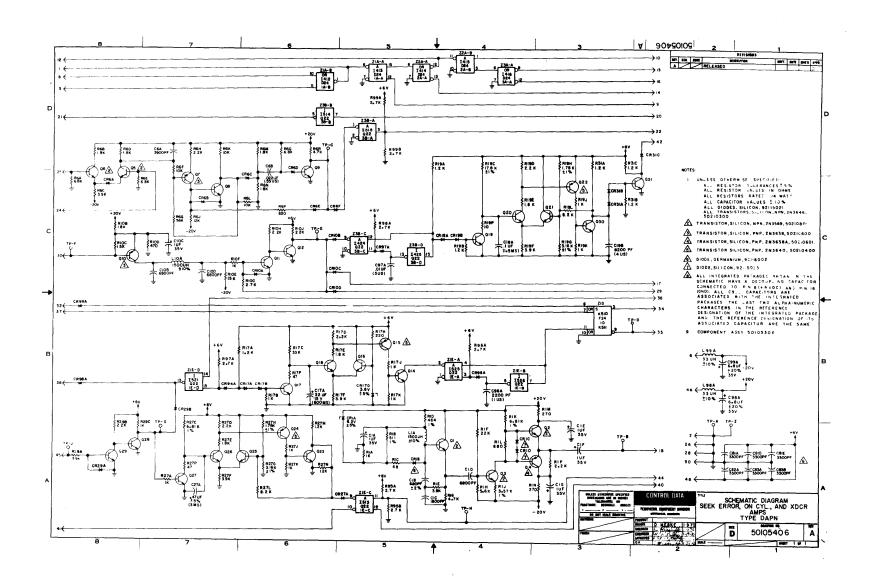


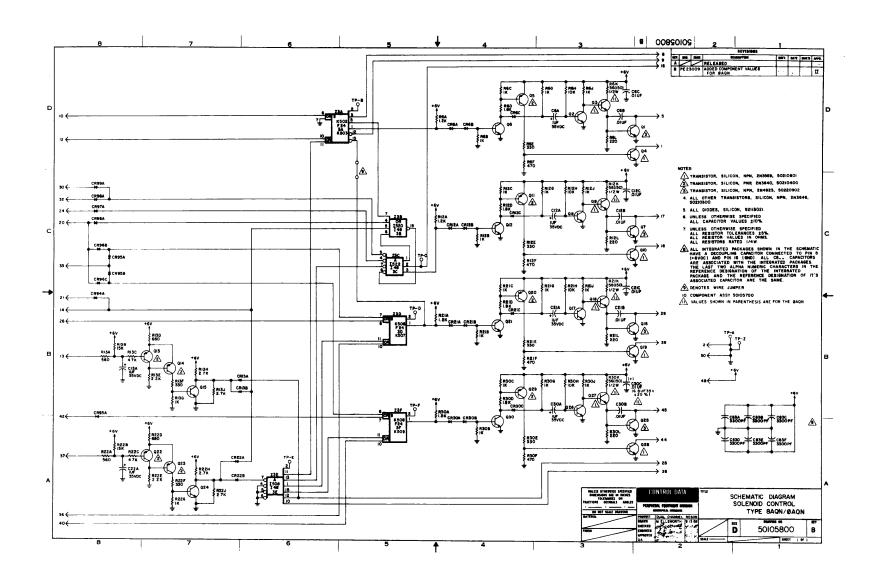


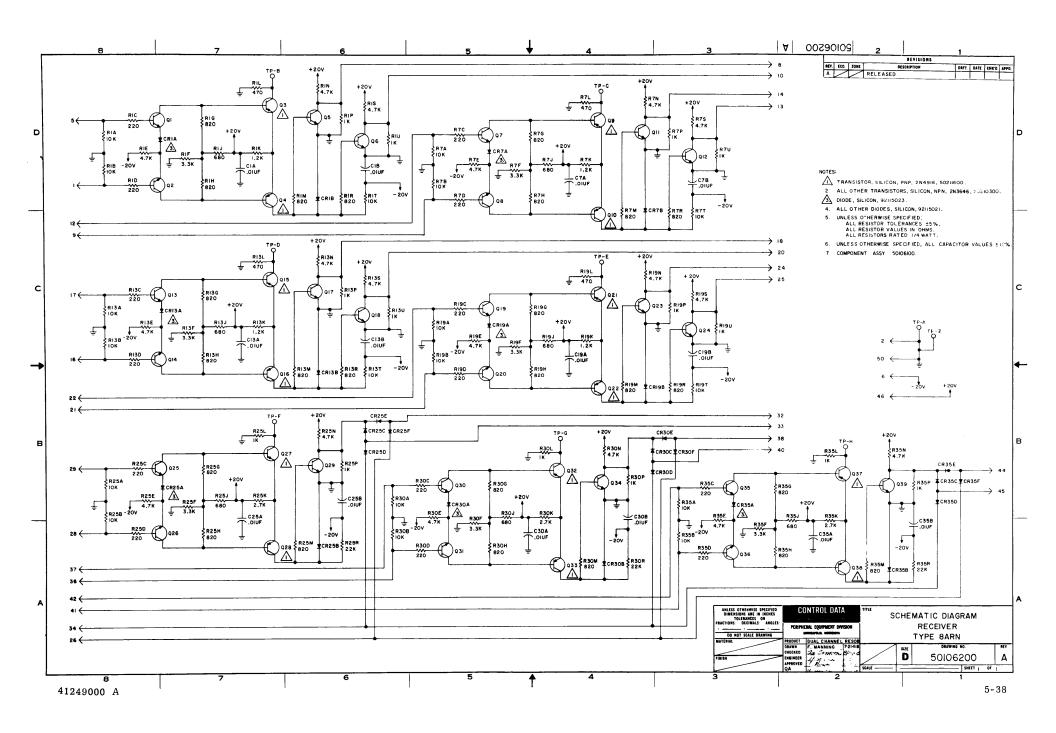


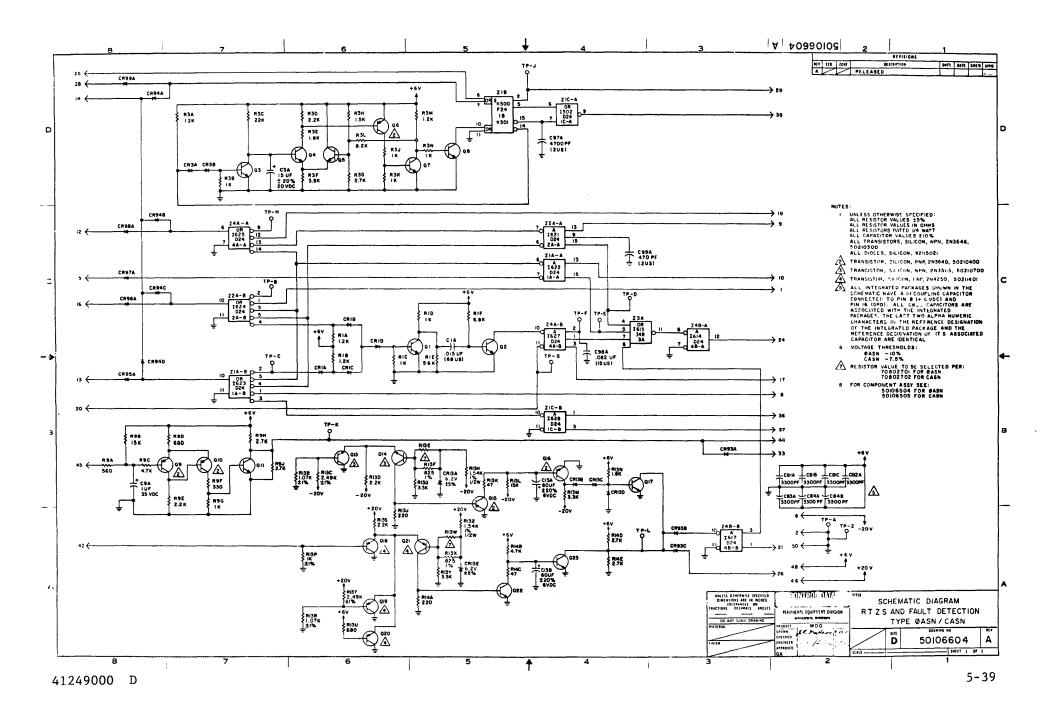


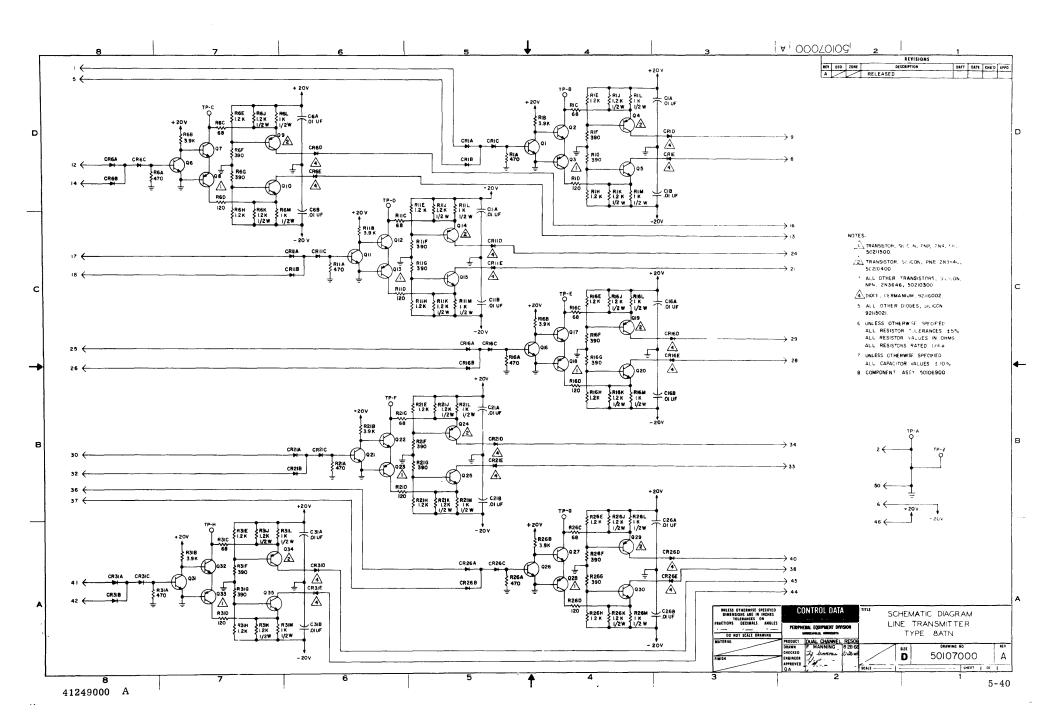


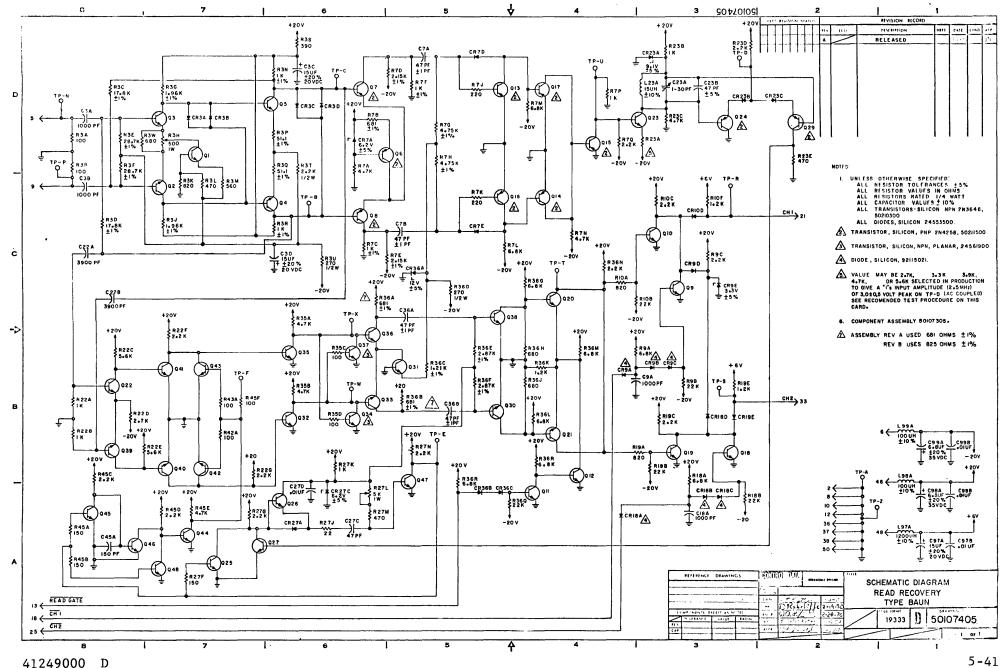


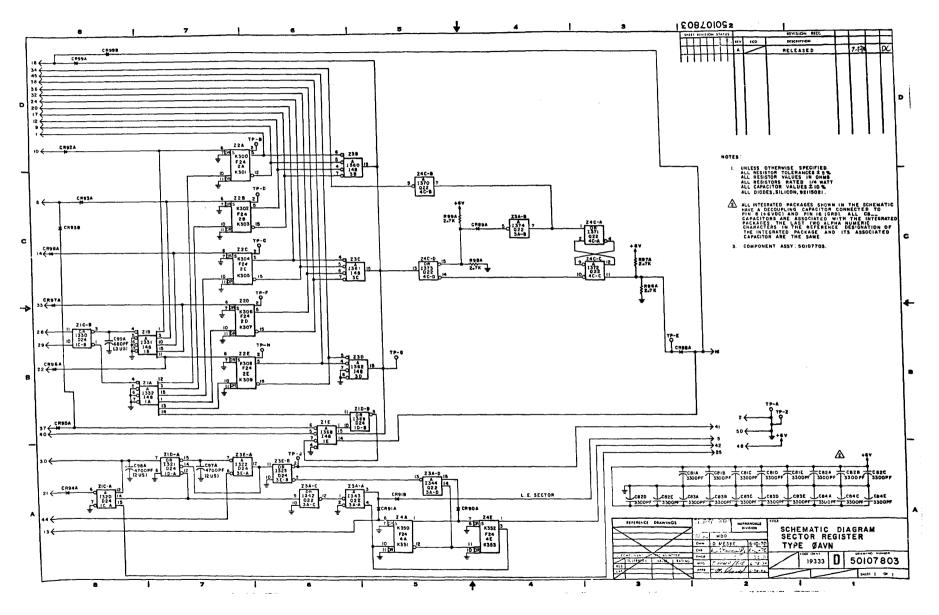


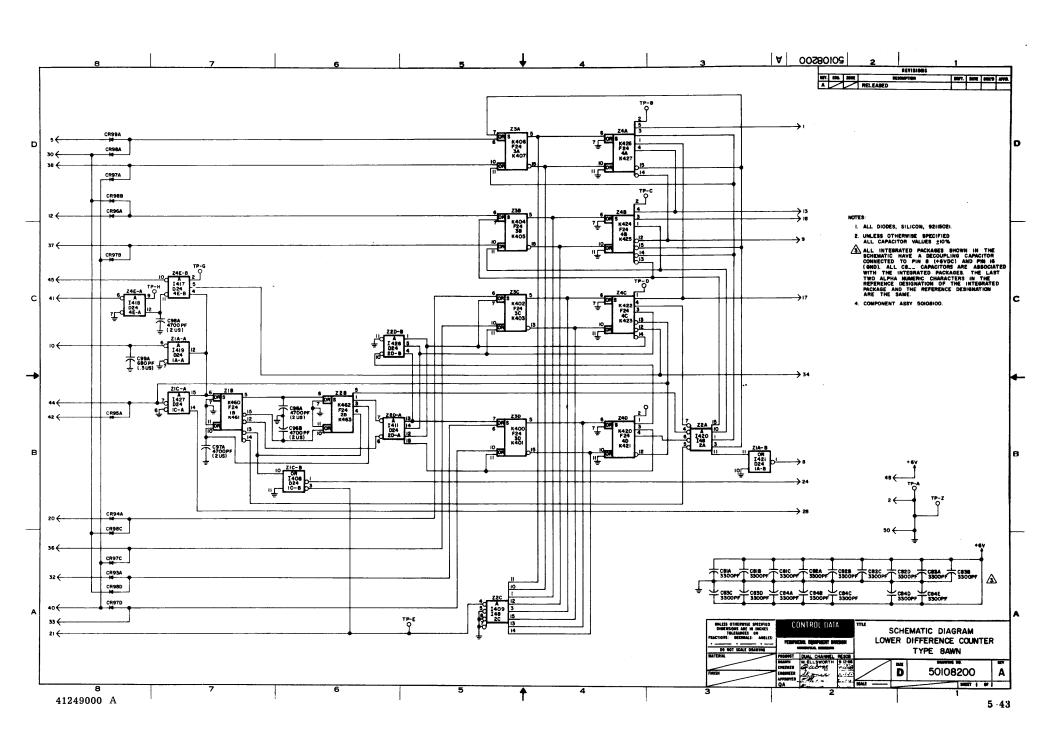


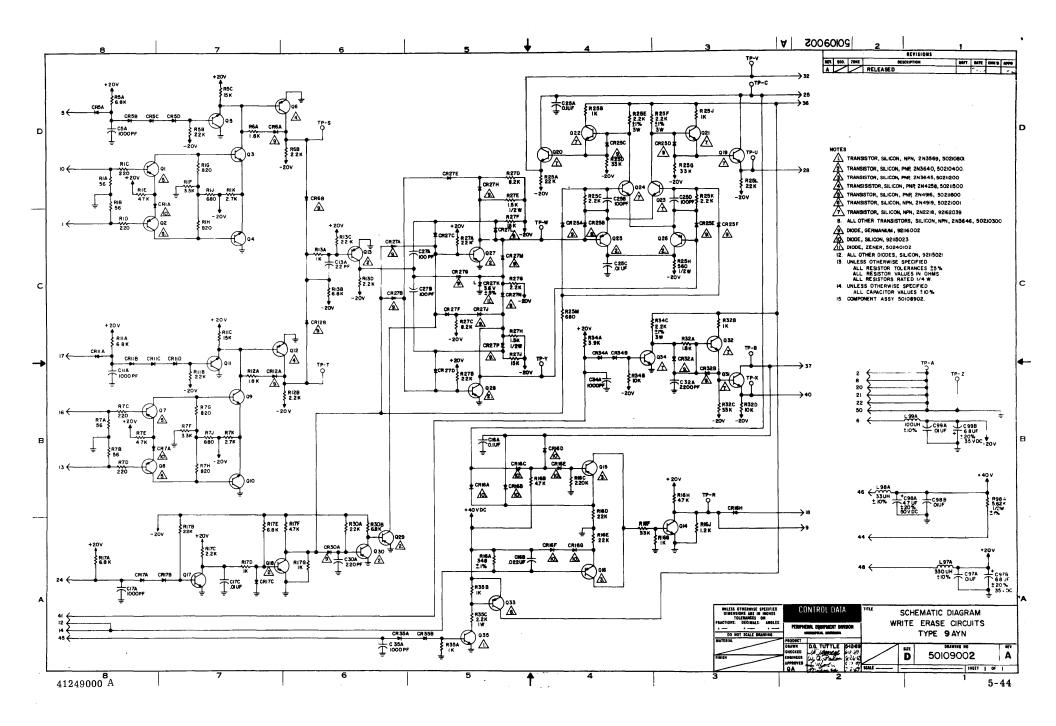


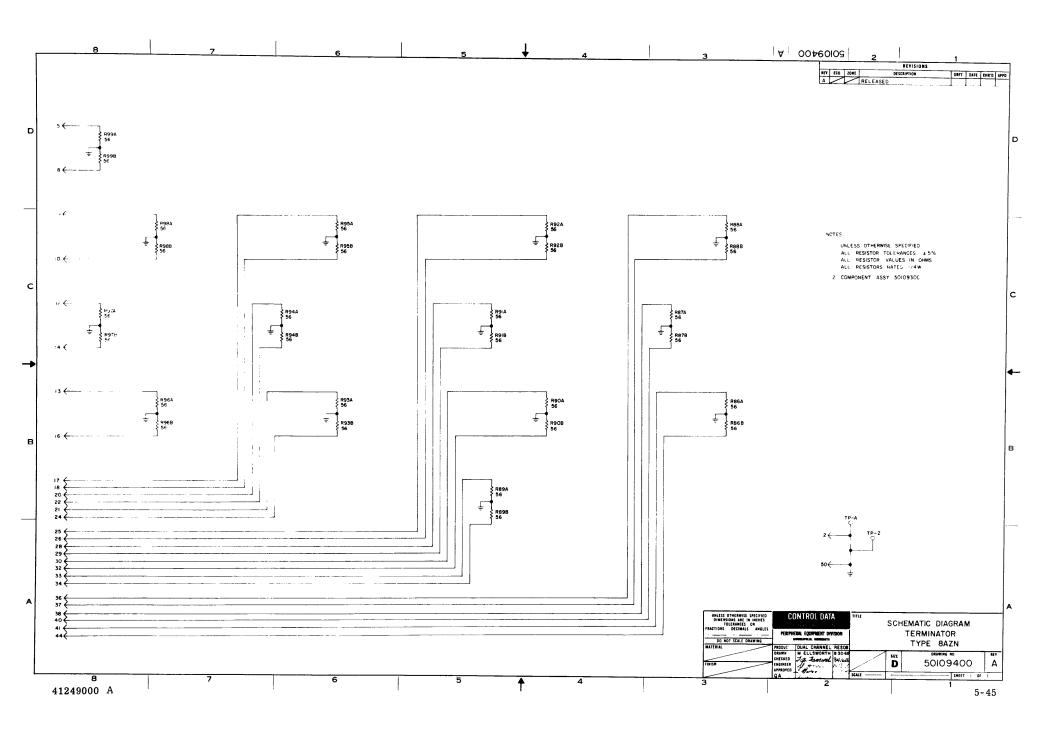


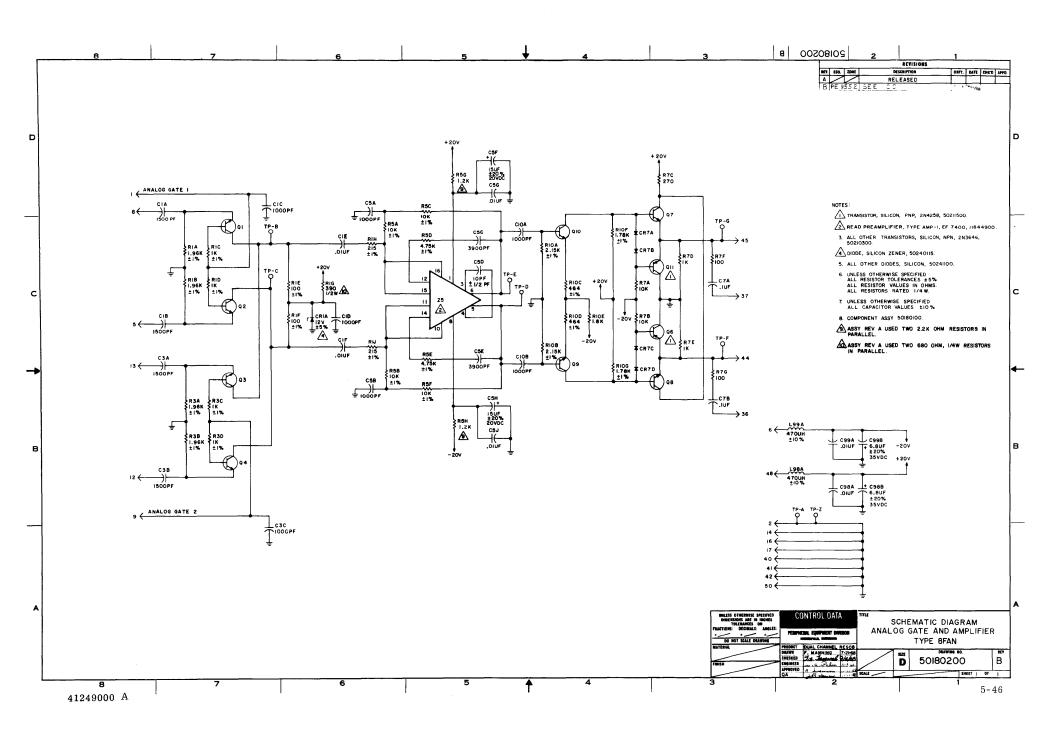


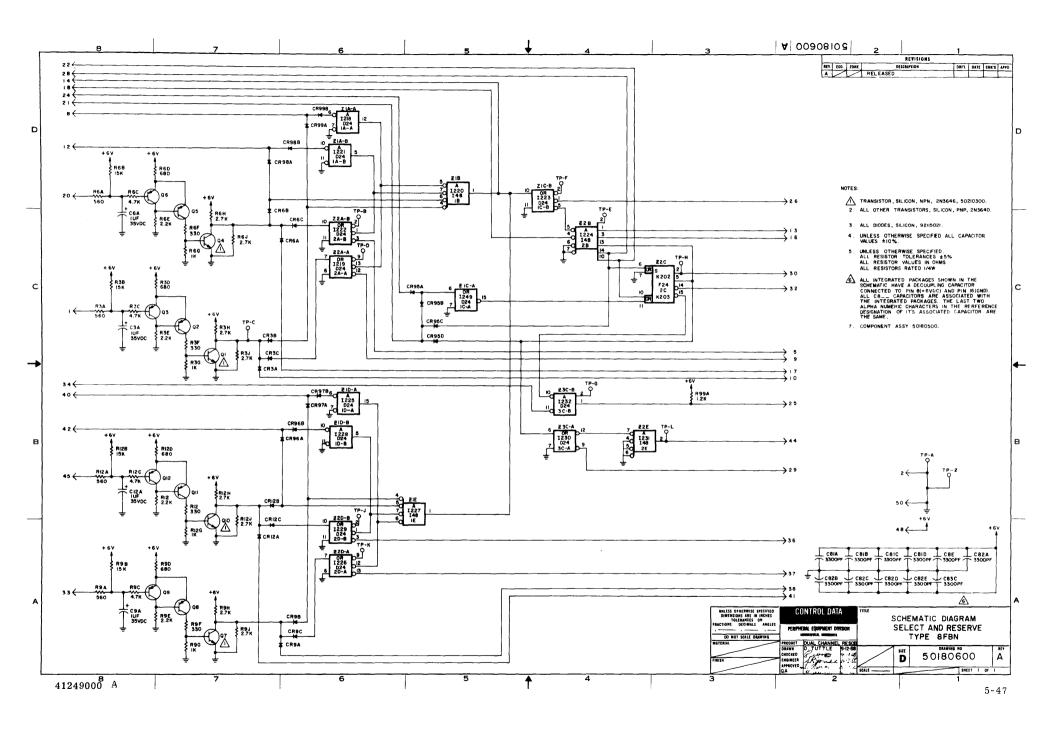


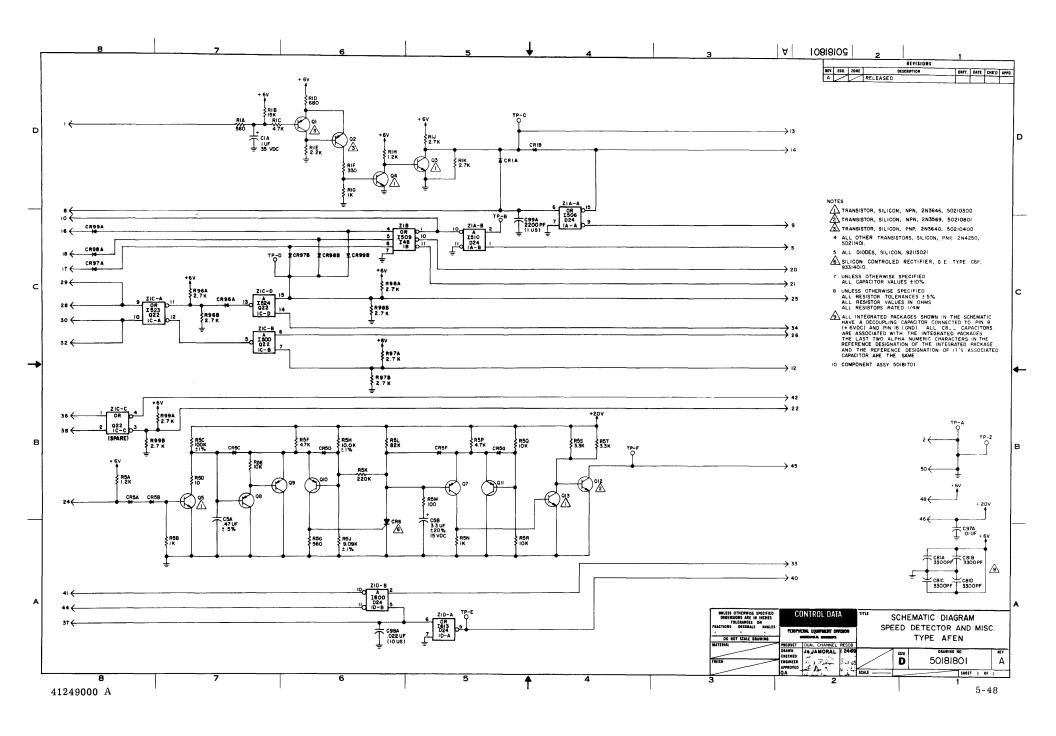


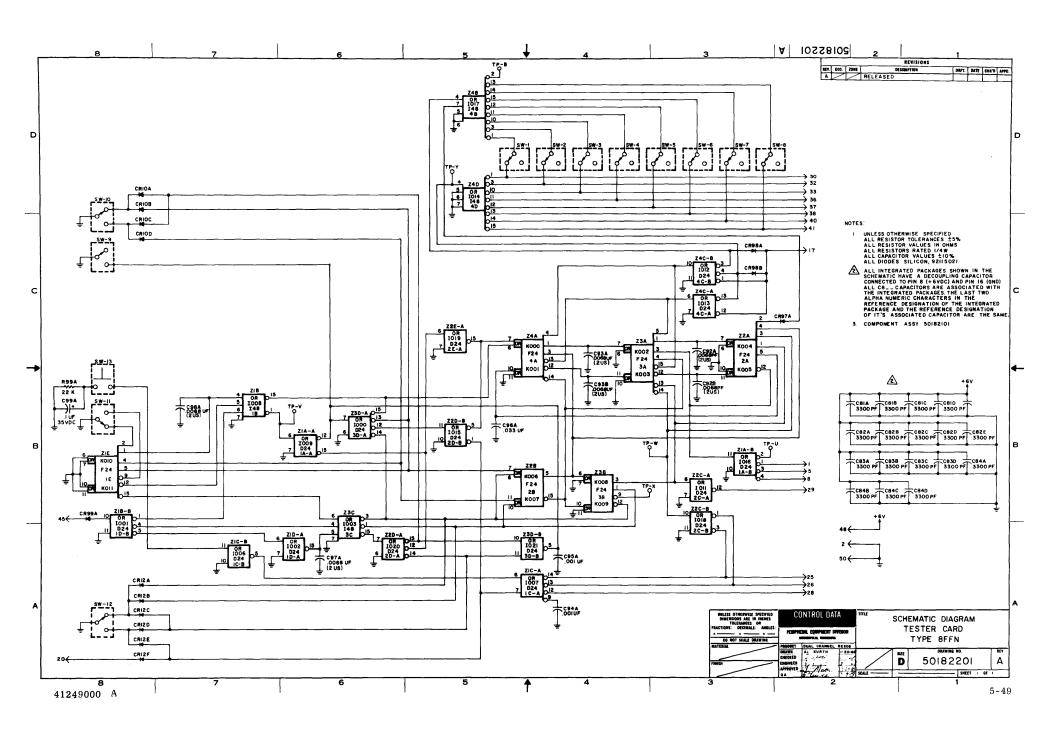


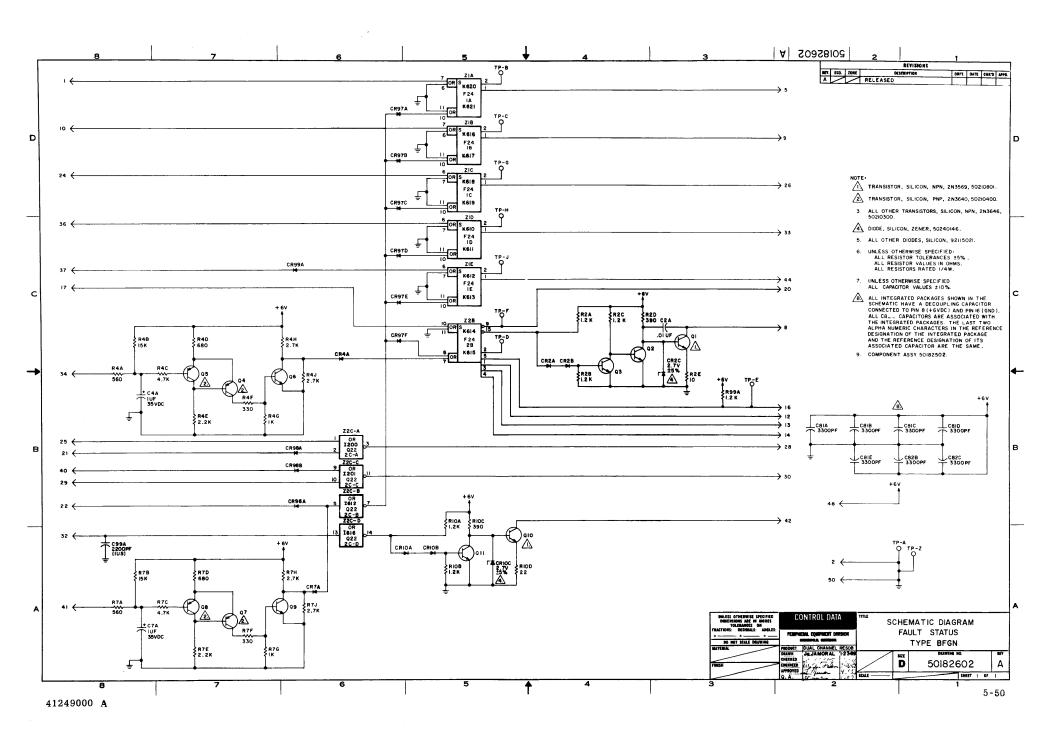


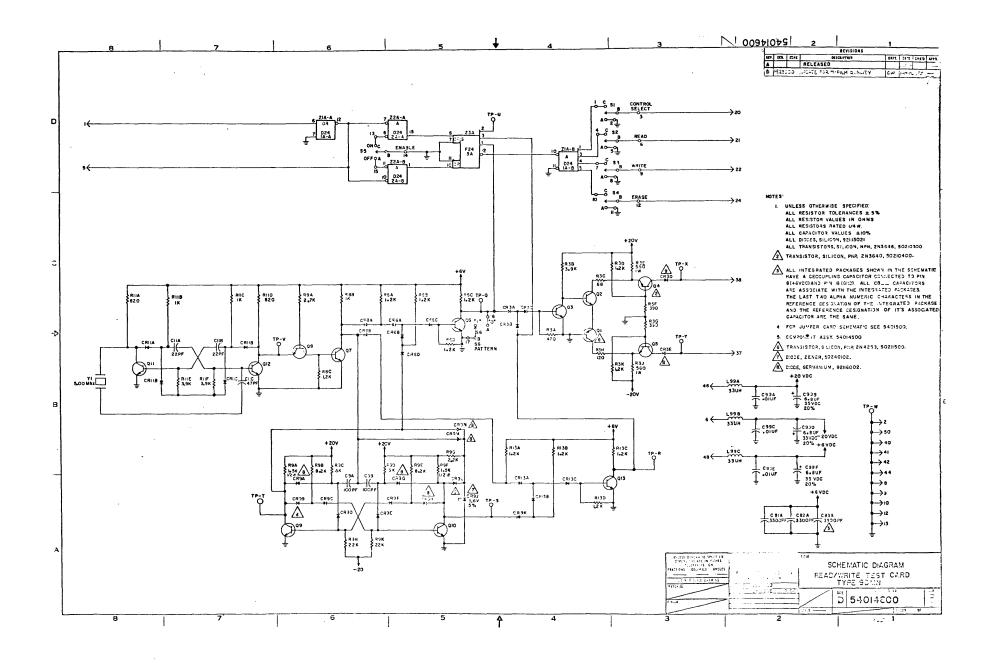












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SECTION 6

MAINTENANCE

Information for this section is included in BM101 and BM103 Multiple Disk Drive
Pub. No. 41248900

SECTION 7

MAINTENANCE AIDS

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MAINTENANCE AIDS

GENERAL

Section 7 contains information on logic circuits, the criteria used in determining the further usability of read/write heads and disk packs, and the tester card used in the Maintenance section.

SPL LOGIC

The logic used in this device is generally termed SPL (Silicon Peripheral Logic). It consists of two styles of circuits: discrete component and Intebrid. Discrete component circuits contain individually identifiable resistors, capacitors, transistors, etc. An Intebrid circuit is a chip containing an integrated circuit(s).

PHYSICAL DESCRIPTION

All components of the SPL cards are mounted on one side of a printed circuit board (Figure 7-1) which is 6 inches wide and 4-3/4 inches high.

The cards are pluggable and are restricted in vertical and horizontal movement by card guide spacers when inserted into the panel connectors. A card puller (PN 84146900) which grips the upper and lower edges of the card is used for removing the cards. No special tools are required to insert a card.

Numerical designators (1 through 99) are etched on the non-component side of the board to identify each transistor. A 4-character alphanumeric designator is etched on the non-component side of the board to identify the card type. A matrix code (alphanumeric) also appears on this side. Non-amplifying components such as Intebrid chips, resistors, capacitors, diodes, etc., are not marked.

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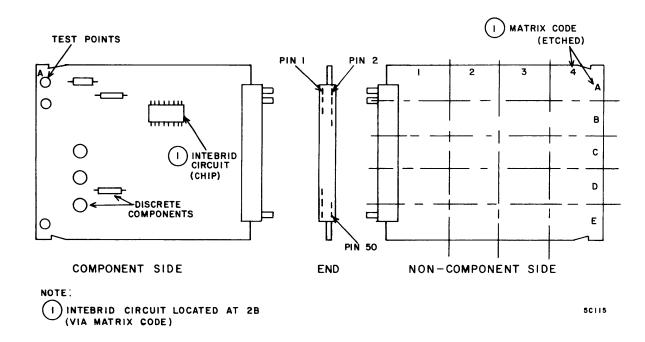


Figure 7-1. SPL Card

Pin Assignments

The module connector consists of a 37-pin male blade connector mounted along the 4-3/4 inch board dimension on the component side of the board.

Connector pins are numbered from the top starting with pin 1 and continuing through pin 50 on the bottom. Thirteen pin positions are omitted. These are 3, 7, 11, 15, 19, 23, 27, 31, 35, 39, 43, 47, and 49.

Six pins of the 37-pin connector are reserved as follows:

Pin 2 Ground

Pin 4 -6v

Pin 6 -20v

Pin 46 +20v

Pin 48 +6v

Pin 50 Ground

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Test Points

Test points are located near the edge of the module opposite the connector and in other strategic places on the component side of the board. Test points are assigned alphabetically starting with A on the top, outer edge. In most cases, test points A and Z are available for ground reference.

USE OF RELATIVE LEVEL INDICATORS

The relative level indicator is a small circle located at the origin or termination of a signal line, and tangent to a logic symbol. The presence or absence of this indicator tells the conditions that are necessary to satisfy the function of the logic symbol. The presence of the circle indicates a 0 logic level on that line is needed to satisfy the function. The absence of the circle represents a logical 1 needed to satisfy the function.

AND FUNCTION

The relative level indicator used with an AND logic function may be interpreted in this way: Only under the stated input conditions will the stated output condition occur. Under all other input conditions, the stated output will not occur. For example, Figure 7-2 indicates that only when A and B are 0 logic level (indicated by the circle on their respective inputs) will the output of C be a logical 0 (indicated by the circle on the output line). Under all other input conditions, output C will be a logical 1.

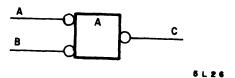


Figure 7-2. AND Function

OR FUNCTION

The relative level indicator used with an OR logic function may be considered as follows: If one or the other, or both of the stated inputs are present, then the stated output will occur. Only when both of the stated inputs are not present will the stated output be changed. For example, Figure 7-3 indicates that if either A is a logical 0 (represented by the circle on its input) or B is a logical 1 (represented by no circle on its input), or both A is a logical 0 and B is a logical 1, then output C will be a logical 0. Only when A is not a logical 0 and B is not a logical 1, will C not be a logical 0.

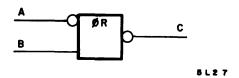


Figure 7-3. OR Function

A complete truth table for use with relative level indicators is given in Figure 7-4.

INFORMATION CONTAINED WITHIN LOGIC SYMBOLS

Discrete Component Circuits

Figure 7-5 shows a schematic (as shown on card schematic diagram) and the logical representation (as shown on logic diagrams) for the same discrete component circuit. Four lines of information are contained within the logic symbol. The top line is the function identifier and designates the broad logic function of that particular symbol. In this case, PA represents a high level amplifier, the logic function performed by the circuit. The third line, also an alphabetic code, designates the circuit type being used (HAB). The circuit type is a subdivision of the function identifier (a specific high level amplifier). By using the circuit type designator, detailed information on that particular circuit can be derived in the following paragraphs (see Discrete Component Circuit Descriptions).

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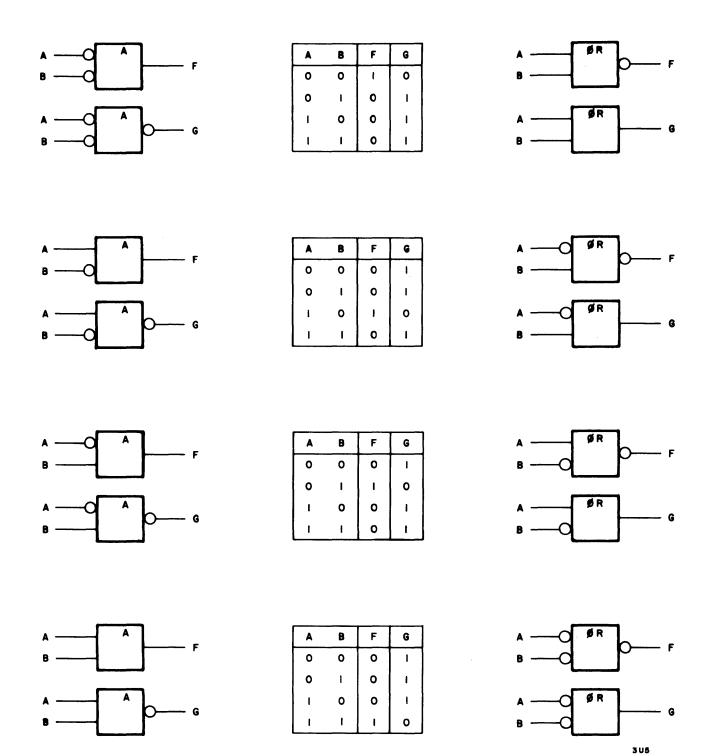


Figure 7-4. Truth Table

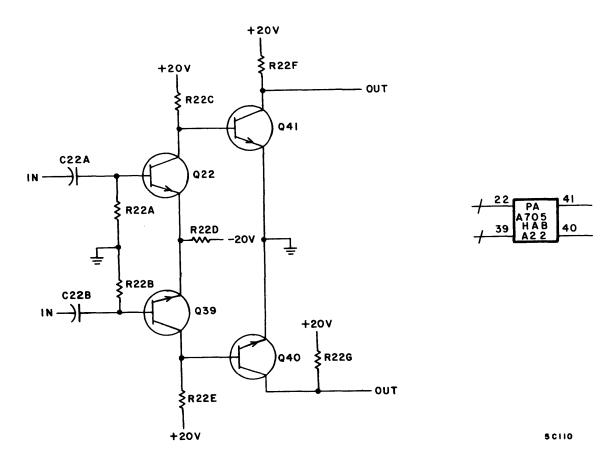


Figure 7-5. Discrete Component Circuit

The second line within the symbol is used to differentiate that particular symbol from similar symbols that appear in the logic diagram. It is called the logic term and consists of a one-letter prefix and an assigned identification number (in this case, A705).

The numbers on the input lines to the symbol indicate which transistor is driven by that input line. For example, the upper input has a number 22 on its line, showing that it drives transistor number 22 (ie., Q22 on the card schematic diagram).

The output lines also have numbers associated with them. These numbers indicate which transistor directly feeds the output line. For example, the lower output line has a number 40 above it, indicating that the output from transistor number 40 (Q40 on the

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card schematic diagram) drives the lower output line. For other circuits additional transistor numbers may appear below the logic symbol. These numbers refer to internal transistors that are not directly connected to any input or output line, but are a part of the circuit.

Intebrid Circuits

Figure 7-6 shows the schematic version (as shown on card schematic diagram) and the logical representation (as shown on logic diagrams) for the same Intebrid circuit. The first and second lines of information inside both blocks are the same, and have the same meaning as for the discrete component circuit.

Line three identifies the Intebrid circuit type (D24), and on the logic symbol additionally identifies the section (B) of the circuit chip. (Refer to the Key to Logic Symbols sheet of the logic diagrams for detailed coverage of Intebrid circuit types being used and the number of sections in each chip.)

The fourth information line in the block is for location information. On the schematic version, 1C identifies the matrix block (Figure 7-1) in which the chip is located and B identifies the section of the chip. The fourth line of the logic identifies the card matrix location and it also identifies the logic chassis row (A) and the mating connector in the row (13).

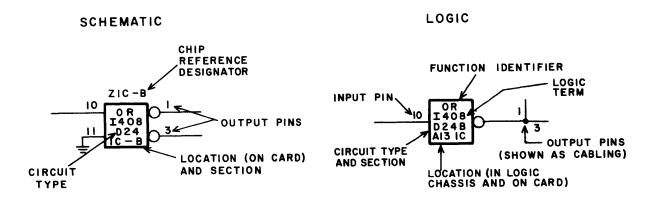


Figure 7-6. Intebrid Circuit

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Pin information for the schematic and logic versions are similar with two exceptions. The logic version does not show unused chip pins, whereas the schematic version shows all unused pins connected to ground. Secondly, the schematic version shows a separate origin for each chip output pin, while the logic version may show a single origin and identify each pin as the line branches to its destination. This scheme is termed cabling and conserves space and preserves appearance.

WIRED FUNCTIONS

The logical representation for wired functions is shown in Figure 7-7. These functions are used where circuits have the capability of being combined as an AND function by having the outputs connected. This is simply a physical connection and no electrical or electronic components are involved. However, the logical interpretation of the wired function is consistent with the AND truth table in Figure 7-4. Arrowheads are used to depict logic flow into the gate. The gate output has no arrowhead.

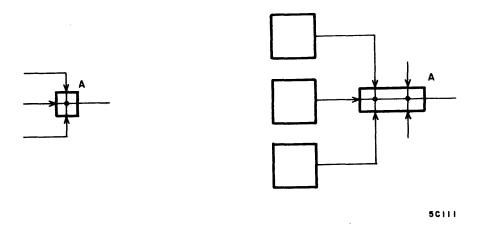


Figure 7-7. Wired Functions

STANDARD/NON-STANDARD LOGIC LEVEL INDICATOR

The input to a logic function at a voltage other than the standard logic level is represented by a slash across the non-standard level line. Absence of the slash (or absence of an A, see below) indicates a standard logic level on that line. Figure 7-5 illustrates the use of this symbol.

When the input signal to a logic function is an analog signal, the input line will have an A across it.

INTEBRID CIRCUIT DESCRIPTIONS

Detailed functional descriptions and schematic diagrams for Intebrid circuits are provided in CDC Pub. No. 60201000.

DISCRETE COMPONENT CIRCUIT DESCRIPTIONS

Figures 7-8 through 7-51 are the schematic diagrams for the discrete component circuits used in this device. A verbal description supports each circuit diagram.

The order of presentation is in accordance with the 3-letter alphabetical circuit type designator.

Low Level Amplifier - FAB

The FAB circuit (Figure 7-8) is a low level amplifier that amplifies the analog read signal from the head. Input B is a gate input.

When input B is +20v, diodes CRNA, CRNB, CRNC, CRND, CRNE and CRNF are forward biased. The voltage between CRNC and CRNE and between CRND and CRNF is clamped at approximately +2.0v. With all diodes forward biased, the read signal can pass to the amplifier.

When input B is ground, diodes CRNG and CRNH clamp the voltage at +0.6v. This reverse biases the input diodes. No read signal can enter.

The preamplifier is a three stage amplifier using an emitter follower output stage for low output impedance. The integrated preamplifier has discrete component ac and de feedback.

AC feedback is provided by CNE and RNH in the top half and CNF and RNJ in the lower half of the circuit. The signal is brought back to the emitters of the input stage to increase input impedance.

DC feedback is provided by RNG, RNE and CNC (to ground) in the upper half and RNK, RNF and CND (to ground) in the lower half of the circuit. This feedback helps to stabilize the output.

Capacitors CNG, CNH and CNJ, and CNK filter noise from the +20v and -20v power supplies, respectively. The electrolytic capacitors filter low frequency noise. The paper capacitors filter high frequency noise.

Open loop gain in the amplifier is approximately 180. Closed loop gain in the amplifier is approximately 30.

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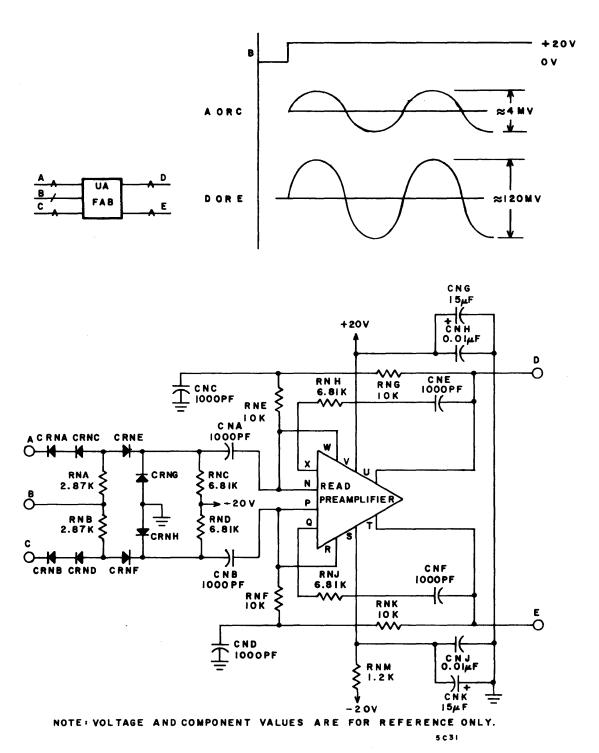


Figure 7-8. Low Level Amplifier - FAB

Gated Intermediate Level Amplifier - GJA

The GJA circuit (Figure 7-9) is an analog gate that is controlled by input B. When input B is +20v, both transistors are on. All analog signals pass through the circuit. Capacitors CNA and CNB ensure that only analog signals are passed. CNC filters noise spikes from the gating signal. Dc power for the transistors is supplied by the circuit in the next stage.

When input B is +0.2v, both transistors are off. No signals pass through the circuit.

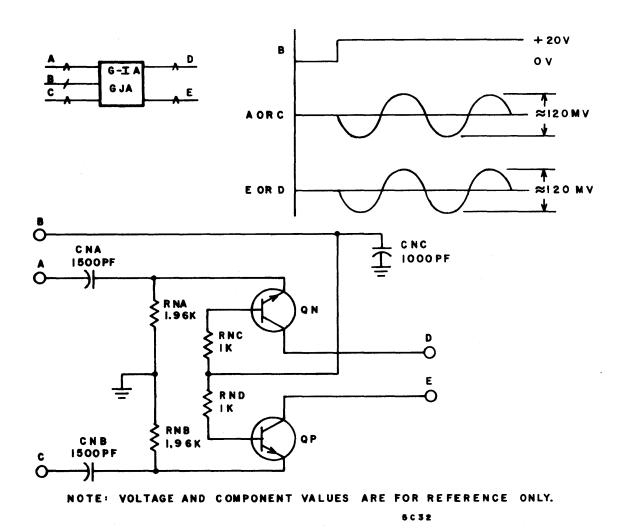


Figure 7-9. Gated Intermediate Level Amplifier - GJA

High Level Amplifier - HAA

The HAA circuit (Figure 7-10) is gated by an analog gate circuit (GJA) and provides the load and biasing for that circuit.

The preamplifier, ac feedback and dc feedback are identical to the FAB circuit. Capacitor CND is added to the output of the second stage to decouple high frequency noise.

High Level Amplifier - HAB

Input to the HAB circuit (Figure 7-11) is a balanced square wave. Output is also a balanced square wave that follows the input.

When input A is positive, B is at 0v. Transistor QN is on and QP is off. The base of QQ falls to near ground. Transistor QQ is off. Output C rises to approximately +0.7v. With QP off, QR turns on. Output D falls to ground.

When input B is positive, A is at ground. Transistor QN is off, QP is on, QQ is on and QR is off. Output C is at ground. Output B rises to +0.7v.

High Level Amplifier - HJA

The HJA circuit (Figure 7-12) increases the input signal power to transmit over a coaxial cable. The input is a differential signal of approximately 3.6v peak to peak.

The input signal across A and B is divided between resistors RNA and RNB. Transistors QN and QP are forward biased with a gain of 3. The -20v through resistor RNH and diodes CRNA and CRNB and through resistor RNJ and diodes CRNC and CRND forward biases QQ and QT, respectively. Transistors QQ and QT are in a common collector configuration to provide a current gain.

Transistors QR and QS are emitter followers that draw very little current from QQ and QT. They provide low impedance for discharging CNC and CND, thus reducing delay time when crossing the zero volt point.

Output voltage is approximately the same as input voltage. Output current is 20 ma maximum.

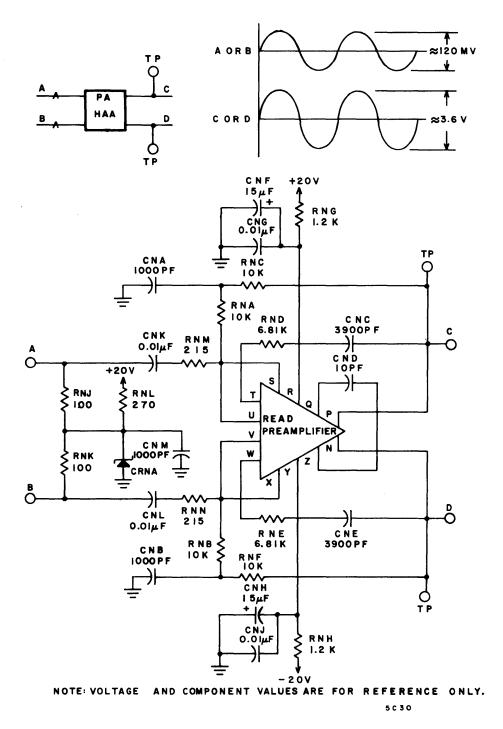


Figure 7-10. High Level Amplifier - HAA

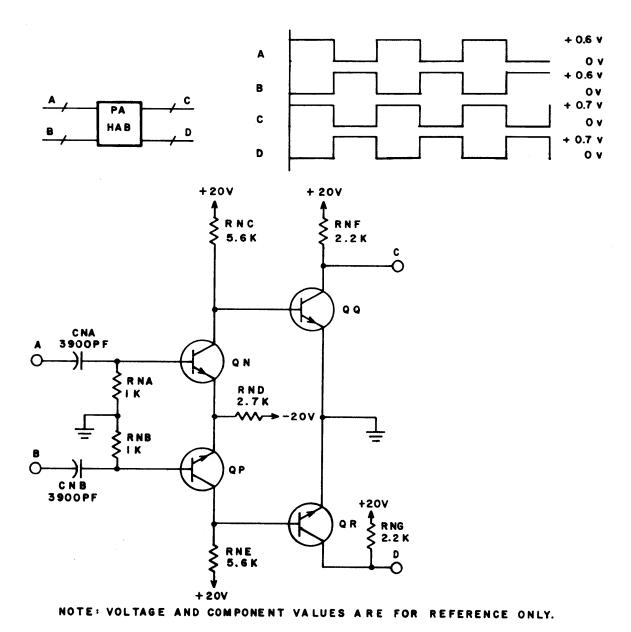


Figure 7-11. High Level Amplifier - HAB

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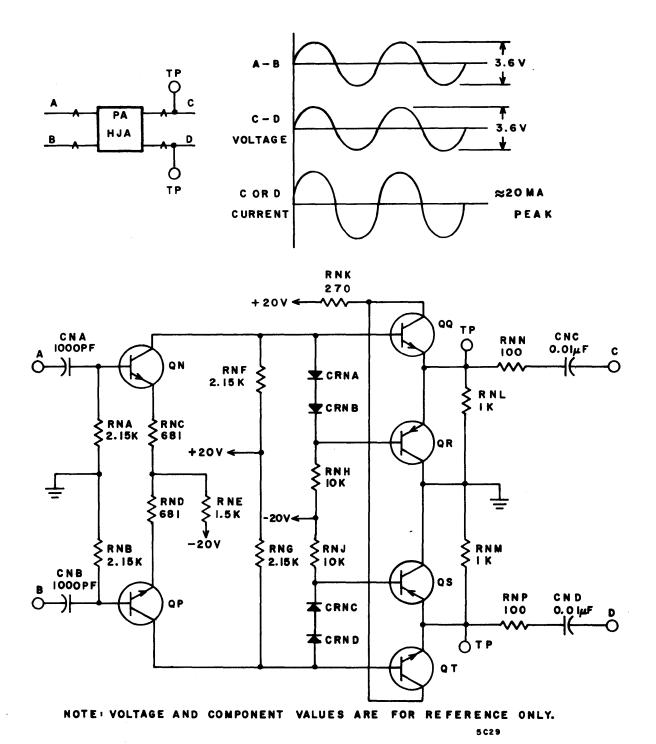
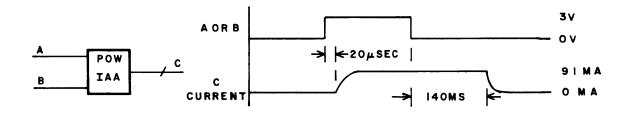


Figure 7-12. High Level Amplifier - HJA

Lamp Driver - IAA

The IAA Circuit (Figure 7-13) sinks a current of 91 ma to drive a lamp. Capacitor CNB slows down switching time of QS and provides a ramp output to prolong the life of the lamp. A "1" input at either A or B or both lights the lamp. Only when both A and B are "0" is the lamp extinguished.



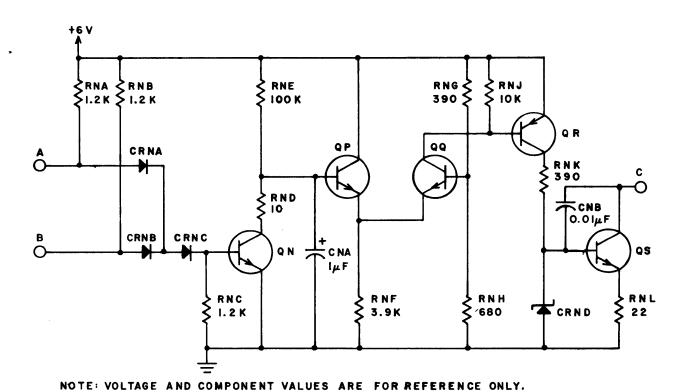


Figure 7-13. Lamp Driver - IAA

A "1" at either or both inputs turns QN on. CNA discharges through RND and QN. The base of QP goes to ground. Transistor QP is off, so the base of QQ (3.8v) is more positive than its emitter. Transistor QQ is on, causing current to flow through RNJ. The voltage drop across RNJ (approximately 0.7v) turns QR on. Transistor QS turns on. Zener diode CRND clamps the voltage across RNL at 2.0v, which is a current of 91 ma.

A "0" at both inputs turns QN off. CNA charges through RNE until QP turns on. With QP on, QQ, QR and QS are off. No current flows in the lamp.

Lamp Driver - IBA

The IBA circuit (Figure 7-14) sinks a constant load current of 200 ma. Capacitor CNA ramps the output to prolong the life of the lamp connected to output B.

A "1" on input A turns QP on. The base of QN is at ground. Transistor QN is off. The base of QR is clamped at +2.7v by Zener diode CRNC. Transistor QR is on. A 2-volt drop across RNE assures a 200-ma current.

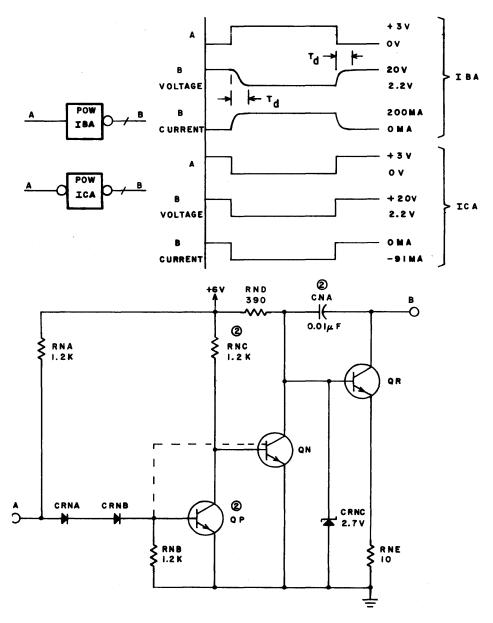
A "0" on input A turns QP off. The collector clamps at +0.7v when QN turns on. The base of QR goes to ground. Transistor QR is off. No current flows.

Lamp Driver - ICA

The ICA circuit (Figure 7-14) functions as a switch supplying current to a lamp at output B. When input A receives a "0" (ground) signal, the lamp turns on. When input A receives a "1" (+3v) signal, the lamp turns off.

Output B is connected through a lamp to a voltage supply, typically +20v. When input A receives a "0" signal, transistor QN turns off. This allows the +6v supply to forward bias transistor QR through resistor RND. Transistor QR turns on, conducting current from the voltage supply, through the lamp and RNE to ground. The lamp lights.

When input A receives a "1" signal, QN turns on. Transistor QN conducts current away from the base of QR, removing the forward bias. Transistor QR stops conducting. The lamp goes out.



NOTES:

- I. VOLTAGE AND COMPONENT VALUES ARE FOR REFERENCE ONLY.
- ② COMPONENT AND CONNECTING WIRES NOT USED ON ICA. DOTTED LINE SHOWS QN BASE CONNECTION FOR ICA, ENTIRE CIRCUIT (LESS DOTTED LINE) FOR IBA.

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Figure 7-14. Lamp Driver - IBA, ICA

The voltage drop across RNE when QR conducts is directly proportional to the load current. At a load current of 200 ma, the voltage across RNE is 2 volts. The base of QR cannot go more positive than +2.7v because of Zener diode CRNC. Therefore, QR starts losing its forward bias when the load current reaches 200 ma (2 volts across RNE). Transistor QR is thereby protected against a short circuit.

Low Speed Driver - IDA

The IDA circuit (Figure 7-15) acts as a switch. Outputs B and C are connected through external resistors and a common load (typically a solenoid) to an external voltage supply. A "1" at input A causes current to flow through the external load. A "0" at input A shuts off the current flow.

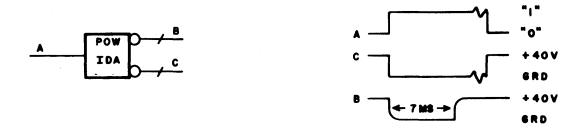
A "0" at input A turns off transistor QN. The emitter and base of QP are both at +6v. Transistor QP is, therefore, not conducting, which keeps QT from conducting. The left side of capacitor CNA charges to +6v, while the right side is held at approximately +0.7v by resistor RNH and the base-emitter voltage drop across QQ. Transistor QQ is held on by the current through RNH, driving the base of QR to ground. Transistor QR is off. The base of QS is at ground and is off. No current flows through the external load.

A "1" at input A turns on transistor QN. The base of QP goes to ground, turning QP on. This allows the +6v supply to flow through RNE to the base of QT, turning it on. Then, 200 ma of current flows through the external load and QT to ground.

When the collector of QN goes to ground, the left side of CNA also goes to ground. This back biases the base-emitter junction of QQ by approximately 5.3v (the original voltage across CNA). Transistor QQ turns off, allowing the base of QR to go positive. Transistor QR turns on and drives the base of QS positive. Transistor QS turns on and allows an additional 850 ma of current through the external load and QS to ground.

The base of QQ then rises toward +6v through the charging action of resistor RNH on CNA. When the base of QQ reaches +0.7v, QQ turns on and QR turns off. This stops the current flowing through QS by driving the base of QS to ground. The 850 ma of current through QS lasts approximately 7 ms.

CNB limits the rise and fall time of the 850-ma current pulse.



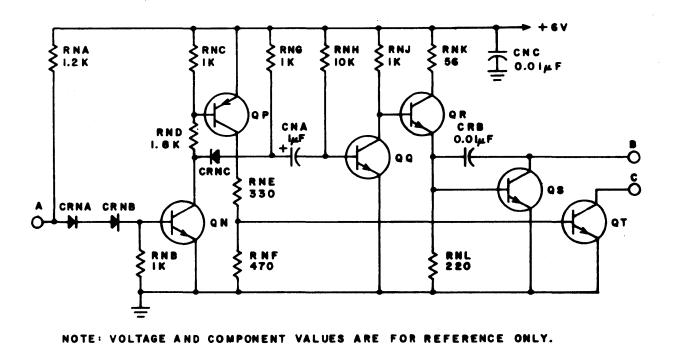


Figure 7-15. Low Speed Driver - IDA

5 C I 9

Write Driver - JAB

The JAB circuit (Figure 7-16) provides current to the write heads so that data may be recorded. Outputs E and F are connected to opposite ends of the write head, which is center tapped to ground. When input A is positive, current flows through output E to its half of the write head. When input B is positive, current flows through output F to its half of the write head. When A is positive and the unit is writing, B is negative. When A is negative and the unit is writing, B is positive. Therefore, only one half of the write head may be activated at any one instant while the unit is writing.

With a positive charge on input A transistor QN is off. The base of QR is positive and the emitter of QS is positive. The negative voltage at B turns transistor QT on. This drives the emitter of QR negative. Transistor QR conducts, driving the base of QQ to about -2v. Transistor QQ is an emitter follower, so the emitter of QQ is also near -2v. The -2v on the base of QP turns QP off. No current flows through output F (-20v through resistor RNA only reverse biases an external diode). With QT on, the base of QS goes slightly negative. Transistor QS is off, allowing the base of QU to go to +40v. Transistor QU is an emitter follower, so the emitter of QU also goes to about +40v. The +40v on the base of QV turns QV on. Current now flows from a +40v supply connected to output G through transistor QV and its half of the write head to ground. A resistor lies between output E and the write head to limit the current flow in the write head.

When input A goes negative and B goes positive, QN and QS are on and QR and QT are off. On the bases of QQ and QU are currents of +40v and -2v, respectively. The emitter of QQ goes to about +40v. The emitter of QU goes to about -2v. Transistor QV is off. No current flows through output E. Transistor QP is on. Current flows from the +40v source connected to output G through QP and its half of the write head to ground.

Input D supplies a negative voltage when the unit is writing to reverse bias diodes CRNA and CRNF. If the unit is not writing, D is grounded and both inputs A and B go negative. This turns on QR and QS. Transistors QP and QV are, therefore, off and no current flows through the write head.

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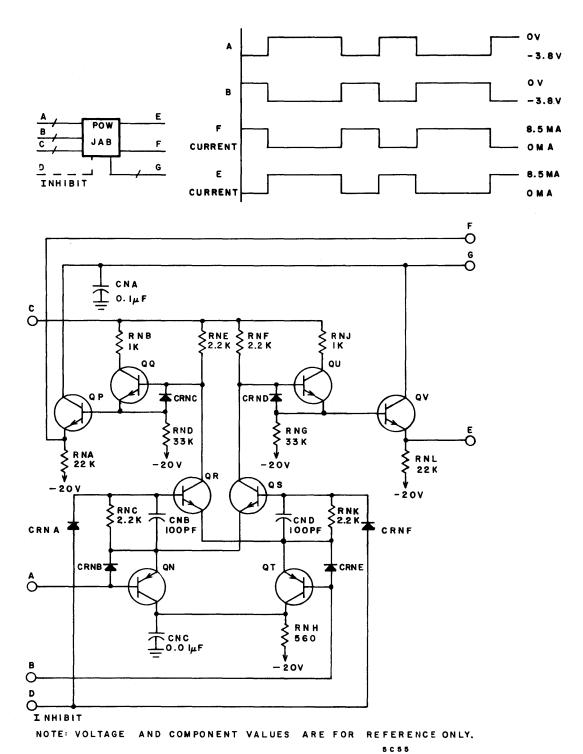


Figure 7-16. Write Driver - JAB

Erase Driver - JBB

The JBB circuit controls the current driving the erase heads. When input E (Figure 7-17) is a high voltage, output H provides current to erase heads.

When input E goes to a high voltage, capacitor CPA charges, causing a 10- μ sec delay before transistors QR and QP turn on completely. Output G is connected to a ± 40 v supply in a fault detect circuit. When QR is on, current flows from G through QR to the erase head connected to output H. The ramp output protects the information on neighboring tracks from being destroyed.

When E drops to 0v, CPA discharges through RPA. After 10 μ sec, QP and QR are off. Output H is at 0v.

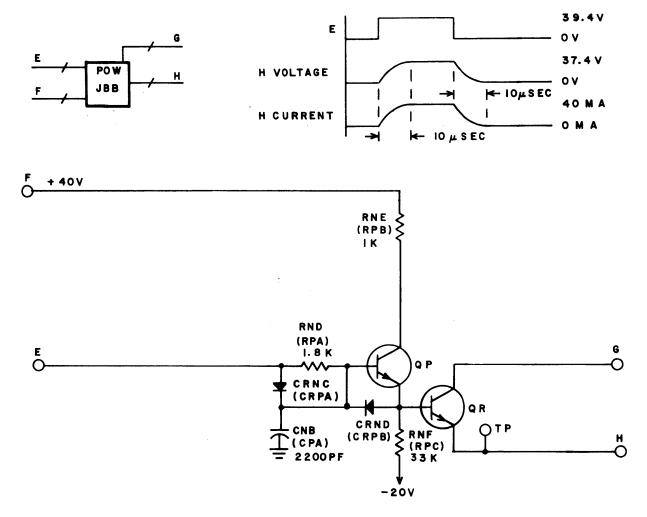
Line Transmitter - LAA

The LAA circuit (Figure 7-18) provides a positive voltage output at C and a negative voltage output at D when either A or B or both are a "1" input. When A and B are both "0", the output is determined by the external load circuit connected to C and D.

If both A and B are "0", QN is off. The base of QP goes positive and QP conducts. This causes the emitter of QQ to be more positive than its grounded base. Transistor QQ conducts. The collector voltages for QP and QQ will be approximately +0.9v and +0.2v, respectively. The difference in collector voltage is due to the positive charge on the base of QP and the grounded base of QQ. RNC is smaller than RND to compensate for this voltage difference. The emitters of QR and QS will be at +2.4v and -4.0v, respectively. The base of QR is held at about +4.9v by RNF and RNE. The base of QS is held at about -4.9v by RNG and RNH. Both QR and QS are off. The voltage at C and D is, therefore, dependent on any external voltage supply that may be present.

If either or both of the inputs go to "1", QN turns on. Current flows away from the base of QP turning QP off. Transistor QQ is, therefore, off. Transistors QR and QS are then forward biased and conduct about 25.0 ma of current. CRND and CRNE are forward biased and the output at C goes positive, while the output at D goes negative. The voltage of either output is determined by the current flow through the external load, but must be kept under 4.9v.

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NOTES:

I VOLTAGE AND COMPONENT VALUES ARE FOR REFERENCE ONLY.

Figure 7-17. Erase Driver - JBB

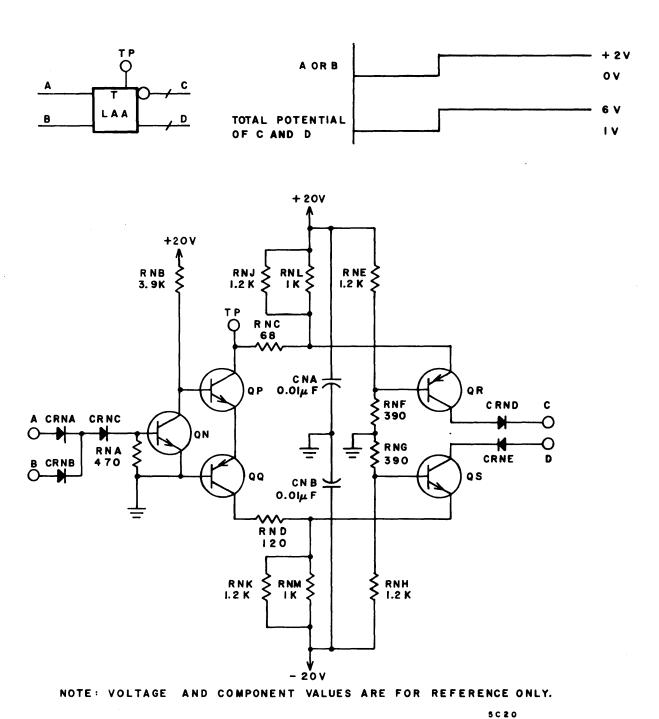


Figure 7-18. Line Transmitter - LAA

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Oscillator - MAA

The MAA circuit (Figure 7-19) produces an amplified, oscillating signal at a prescribed frequency. The circuit description is divided into three parts: the D.C. conditions throughout the circuit; the oscillator section of the circuit; and the amplifier circuit.

D.C. Conditions

CRNA, RNA, RNB and RND hold the base of QN at approximately +17 volts. CRNB is reverse biased by 3 volts and does not conduct. The emitter of QN is held at about +16v, producing a collector current in QN of about 16 ma.

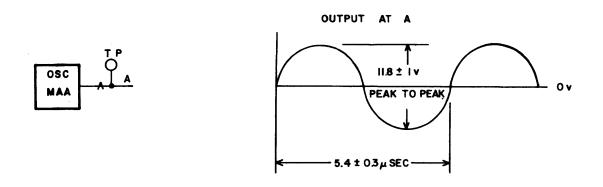
The base-emitter voltage drop across QR holds the base of QR near +0.7v. The current through RNH is then 5.1 ma. With the base current of QR at a low level, the 5.1 ma must flow through RNJ. The voltage at the junction of the emitters of QP and QS must then be about +10v. To maintain this +10v, the collector voltage of QR must be near +10v. The collector current of QR is, therefore, 5.55 ma.

Oscillator

Transistor QN acts as an emitter follower yielding a high current gain with nearly no voltage loss. CNB, CNC, and LNA form a resonant network. Near the resonant frequency, the signal voltage at the junction of LNA and CNB can be much greater than the voltage through RNE in the feed-back portion of the circuit. The gain around the loop formed by QN, RNE, CNB and LNA is greater than 1. The system, therefore, oscillates. When the signal at the base of QN exceeds 6v peak to peak, QN approaches saturation, thereby limiting the amplitude of the oscillation.

Amplifier

Transistor QR is a common emitter amplifier. The output of QR is directly connected to the bases of QP and QS. Transistors QP and QS are emitter followers that provide a low impedance output. Capacitor CNF isolates dc voltages from the load.



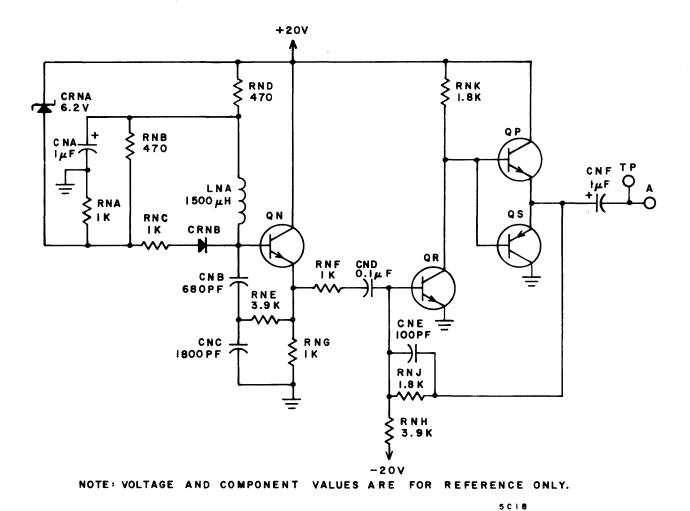


Figure 7-19. Oscillator - MAA

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Waveform Generator - MBA

The MBA circuit (Figure 7-20) is a waveform generator whose output at C is normally at "0" when both inputs A and B are at a "0". When either or both of the inputs go to a "1", a "1" pulse is created at output C for a predetermined length of time.

When both inputs are at "0" (ground), transistor QN is turned off. Transistor QP is forward biased by the +6v source through RNF. Transistor QP then conducts current from output C directly to ground. The output is a "0". During this period the left side of CNA goes to about +5v, while the right side is held at +0.7v by the base-emitter voltage drop across QP.

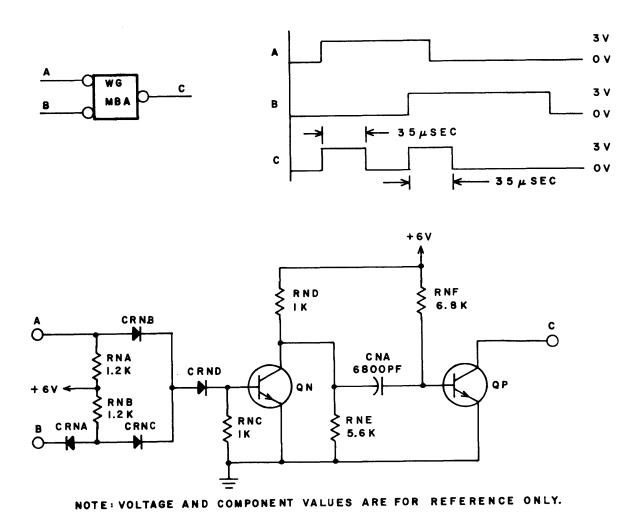


Figure 7-20. Waveform Generator - MBA

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When either or both of the inputs experience a "1", QN turns on. Transistor QN then conducts current away from the left end of CNA, driving it to approximately ground. The voltage across CNA cannot change immediately, so that base of QP goes to about -4.3v, turning QP off. With QP not conducting the output goes to a "1" (voltage is supplied by the circuit driven by MBA). CNA now charges through RNF until the base of QP reaches approximately +0.6v. Transistor QP then begins to turn on and the output falls back to "0". The pulse width in this case is about 35 usec.

When both inputs return to "0", QN is again turned off. The left side of CNA goes toward +5v through the voltage divider formed by RND and RNE. The right side of CNA is again held at +0.7v by the base-emitter voltage drop across QP.

Adjustable Waveform Generator - MBC

The MBC circuit (Figure 7-19) is a tuned amplifier which is rung by the negative clock and data pulses present at input A.

The tank circuit connected to the collector of QN is tuned (and is adjustable) to twice the frequency of the input data pulses (each data pulse falls between two clock pulses; absence of a data pulse is interpreted as a zero). The high Q of the circuit provides a fly wheel effect and yields a sinusoidal signal that is almost totally free of peak shift.

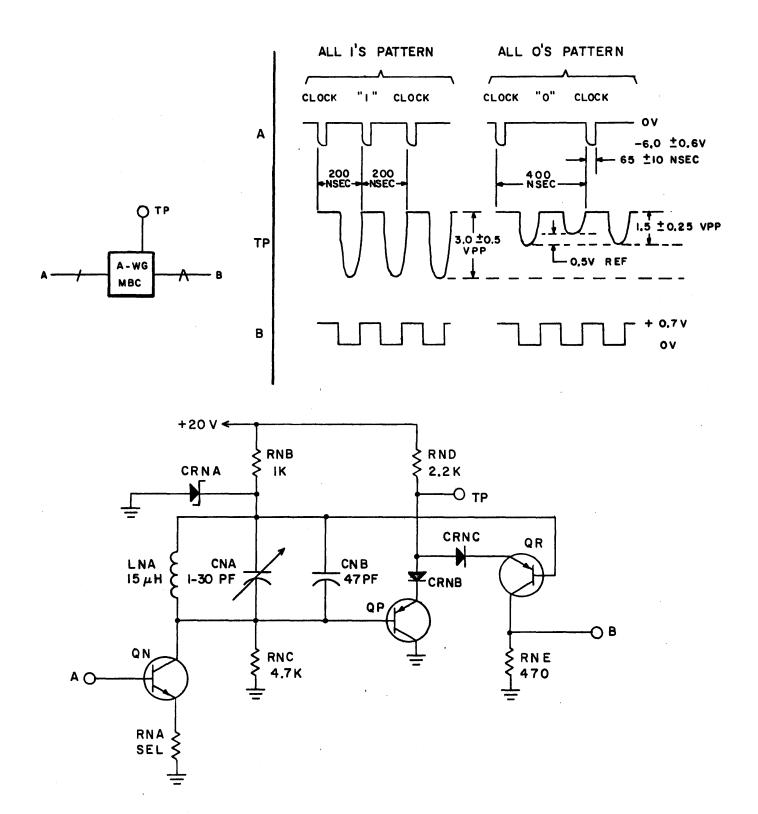
Transistors QP and QR form a zero-crossing detector, emitter follower circuit that provides high impedance so as not to distort the sine wave. The circuit clips the positive half of each sinusoidal excursion so that the signal at the TP is a half-wave rectified sine wave.

The transistor in the output load (next circuit) functions to clamp this rectified signal and to provide what is nearly a square wave output at B.

Quantizing Detector - QAA

The input at A to the QAA circuit (Figure 7-22) is an AC signal. When input A is positive, output B is a "0" or ground. When input A is a null, output B is a "1".

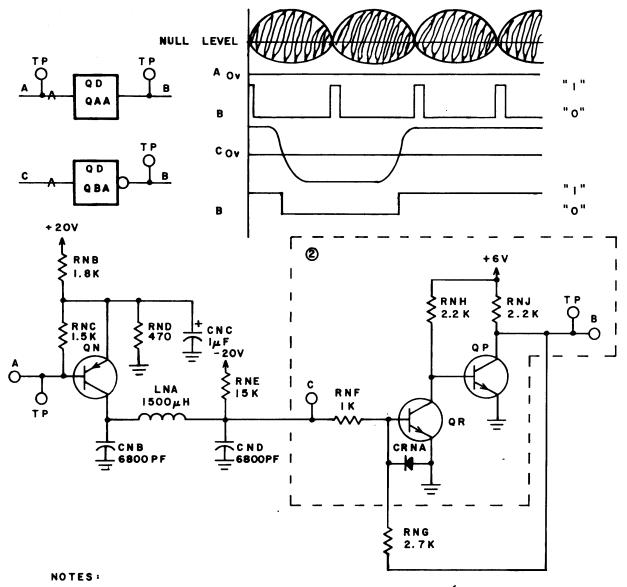
When input A is positive, transistor QN is off. The base of QR goes toward -20v, but is held at about -0.7 volts by CRNA. Transistor QR is, therefore, off. This allows the base of QP to go positive. Transistor QP turns on, leaving output B at ground.



NOTE: VOLTAGE AND COMPONENT VALUES ARE FOR REFERENCE ONLY.

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Figure 7-21. Adjustable Waveform Generator - MBC



- I. VOLTAGE AND COMPONENT VALUES ARE FOR REFERENCE ONLY.
- $\ensuremath{\text{\for QBA}}$ QAA USES ENTIRE SCHEMATIC. DOTTED LINE ENCLOSES SCHEMATIC FOR QBA. $$_{\rm 5\,C\,I\,6}$$

Figure 7-22. Quantizing Detector - QAA, QBA

When the signal on input A drops to a null, QN turns on, applying a positive charge across CNB. CNB, LNA and CND filter the signal to remove any variations in the envelop on the input signal (waveform A). When CND charges to a positive voltage, QR turns on. This drives the base of QP to ground. QP turns off, allowing current to flow from the +6v source through RNJ to output B. A "1" (+3v) appears at B.

Quantizing Detector - QBA

The QBA circuit (Figure 7-22) gives a "0" output at B when input C is negative. When input C is positive, output B will be a "1".

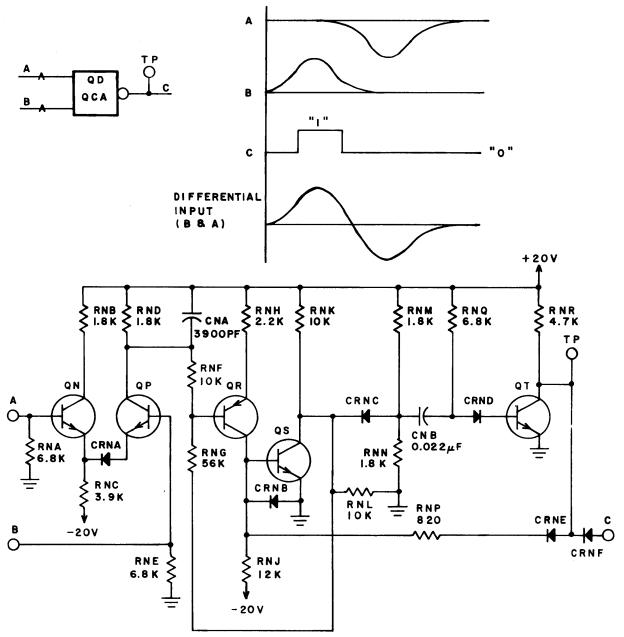
With a negative input at C, the base of QR is negative. The negative voltage is limited to about -0.7v by CRNA. Transistor QR turns off, driving the base of QP positive. Transistor QP, therefore, conducts current from the +6v source through RNJ to ground. Output B is at ground, or a "0".

With a positive signal at input C, the base of QR is positive. Transistor QR conducts current from the +6v supply through RNH to ground. The base of QP is, therefore, at ground and QP is off. A voltage of +3v is therefore felt at output B (a "1").

Quantizing Detector - QCA

Inputs A and B of the QCA circuit (Figure 7-23) are connected to the outputs of a sector transducer preamplifier. Each time a sector is detected by the transducer, a $55-\mu$ sec "1" (+3v) pulse appears at output C. The input at A and B is an analog signal. The output at C is a standard logic signal.

With a 0-volt differential input across A and B, diode CRNA holds transistor QP off, while transistor QN is on. The collector of QP is at about +19v. Transistor QR is, therefore, off. The base-emitter junction of QS is reversed biased through resistor RNJ. Transistor QS is off. Transistor QT is turned on by the forward bias supplied through resistor RNQ and diode CRND. With QT on, diode CRNF is forward biased and conducts current from output C through QT to ground. The output is near ground, or a "0".



NOTE: VOLTAGE AND COMPONENT VALUES ARE FOR REFERENCE ONLY.

5 C 2 2

Figure 7-23. Quantizing Detector - QCA

When a sector mark appears, the differential voltage across inputs A and B rises with B more positive than A. Transistor QP turns on and its collector voltage falls to about +11v. The drop in voltage is felt at the base of QR. Transistor QR turns on, raising the voltage on the base of QS. Transistor QS turns on. Transistors QS and QT comprise a single shot circuit whose pulse width is determined by resistor RNQ and capacitor CNB. Transistor QT turns off, reverse biasing diode CRNF. Output C rises to a "1" level. After 55 μ sec, CNB charges sufficiently to turn on transistor QT. Diode CRNF is again forward biased and the output returns to a "0". Resistor RNP provides feedback to keep QS on while QT is off.

Speed Detector - QDA

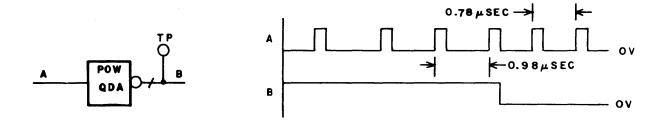
The QDA circuit (Figure 7-24) monitors sector pulses to determine whether the spindle is at a predetermined speed. If the spindle is below speed, no output is present. When the spindle reaches the desired speed, an output current activates the speed relay which signals the controller that the unit is up to speed.

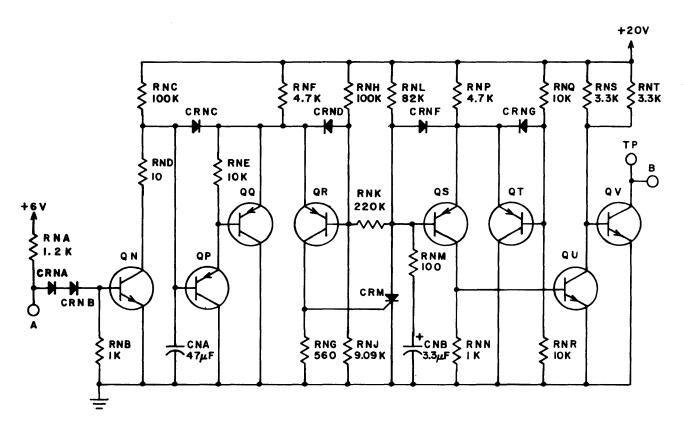
Each time a sector is sensed, a short "1" pulse is applied at input A. Transistor QN conducts and completely discharges capacitor CNA through RND to ground. When the pulse is removed, CNA charges through RNC. When the base of QP reaches the voltage at the base of QR, QP and QQ turn off. Transistor QR conducts current to silicon controlled rectifier CRM, turning it on. CRM draws current from the base of QS driving it to ground, and from the base of QR through RNK. The base of QR falls to about 9.03 volts. OR then turns on firmly and prevents "runt spikes" on the signal to CRM. Once CRM is turned on, CNB begins discharging through RNM and CRM. CRM remains on until the discharge current from CNB falls below the holding current of CRM (typically 1 ma). With the base of QS near ground, QS conducts. Transistor QT turns off, QU is on, and QV is off. No output signal is felt at B.

If the spindle is below speed, pulses arrive at the input at a low repetition rate. CNA repeatedly discharges and recharges to the point where QP and QQ are turned off. The output of QR is a series of positive pulses with a pulse width determined by

$$T = T_I - T_C$$

where T_I is the time between input pulses and T_C is the time for CNA to change to the point where QP is turned off. The pulses repeatedly trigger CRM. CRM holds the voltage at the base of QS below the point where QS can turn off. Since QS is constantly on, QV is constantly off. No output is felt at B.





NOTE: VOLTAGE AND COMPONENT VALUES ARE FOR REFERENCE ONLY.

5 C 9

Figure 7-24. Speed Detector - QDA

When the spindle reaches the required speed, the pulses at input A have the same period as T_C . The pulse width out of QR becomes T_I - T_C = 0. Transistor QR never emits a pulse. With no pulses out of QR, CRM never turns on. This permits CNB to charge to the point where QS is constantly off. The higher voltage at the base of QS is fed back to the base of QR through RNK to raise the voltage required across CNA to turn off QP. This feedback prevents rapid fluctuation of the output when the spindle is near the required speed. With QS constantly off, QU is off and QV is on. Current flowing through QV activates the speed relay connected to B, and signals the controller that the unit is up to speed.

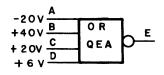
Or - QEA

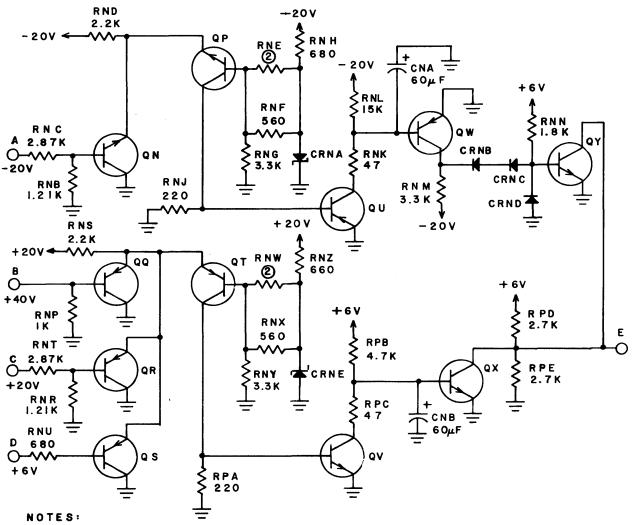
The QEA circuit (Figure 7-25) detects any decrease in voltage supply greater than 15%. A fault condition will occur if:

- 1. -20 supply decreases below -17.0v
- 2. +40v supply decreases below +34.0v
- 3. +20v supply decreases below +17.0v
- 4. +6v supply decreases below +5.1v

If all positive supplies are normal, QQ, QR and QS are off. Their emitters are held at +5.8v by Zener diode CRNE and the value of RNW (determined by testing to give a precise collector voltage). Current is pulled through QT, causing a voltage drop across resistor RPA. This voltage drop turns QV on. Transistor QX turns off. If any of the voltage supplies drop below 15% of their operating values, the respective transistor turns on. Transistor QT will then be off. Transistor QV turns off. Transistor QX turns on, driving the output to ground.

The negative voltage segment of the circuit is similar to the positive section. A decrease in the -20v supply below 15% will turn QN on. Transistor QP turns off, causing QU to turn off. Transistor QW turns on causing a voltage drop across RNM which turns QY on. The output drops to ground.





- I: VOLTAGE AND COMPONENT VALUES ARE FOR REFERENCE ONLY 5 C 5 3
- (2) RESISTOR VALUE TO BE SELECTED.

Figure 7-25. Or - QEA

Quantizing Detector - QFA

The QFA circuit (Figure 7-26) detects a fault in the write and erase drivers or in the head select circuit. If there is an open in the head, either of the drivers is non-functional, or more than one head is selected, a fault signal occurs.

Inputs A and B are connected to the write and erase driver circuits and enter across a voltage bridge to the base of QP. Normally, both inputs are approximately 32v. All diodes are forward biased. Voltage on the base of QP is 32v and the emitter is at 31.4v due to a reverse bias 0.6v base-emitter voltage across QP. Transistor QP is off. All input current goes to ground through RND.

If input A is higher than input B by 1.4v, CRNB and CRNC are forward biased. CRNA and CRND are reverse biased. The voltage on the base of QP becomes that of input B. The emitter of QP is 0.7v higher than the base due to a 0.7v drop across CRNB. Transistor QP is on.

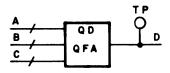
If input B is higher than input A by 1.4v, CRNA and CRND are forward biased. CRNB and CRNC are reverse biased. The base of QP is at the voltage of input A. The emitter of QP is 0.7v higher than the base. Transistor QP is on.

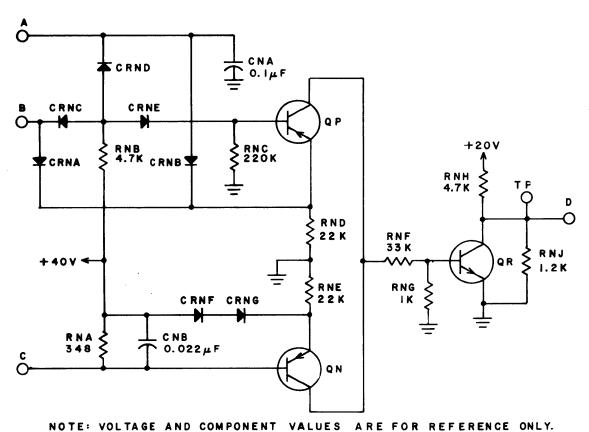
Input C is connected to the head select circuits. If more than one head is selected, the drop in effective resistance (due to external resistors in parallel) results in an increase in current through RNA. This increases the voltage drop across RNA, turning QN on.

If either QN or QP is on, QR turns on. Output D goes to ground to signify a fault condition.

Quantizing Detector - QFB

The QFB circuit (Figure 7-27) is used to amplify and shape an incoming wave. The input at A and B is a differential sine wave. The output at C and D is an amplified and clipped version of the input wave.





5 C 2 7

Figure 7-26. Quantizing Detector - QFA

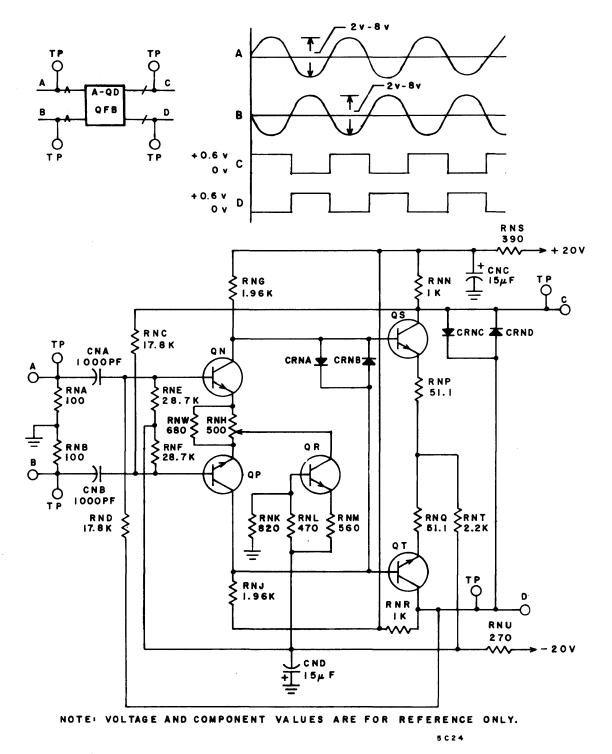


Figure 7-27. Quantizing Detector - QFB

Transistor QR is the current source for the differential amplifier stage consisting of QN and QP. Capacitors CNA and CNB filter out dc and low frequency noise and pass the input wave which alternately turns on QN and QP. The output at the collectors of QN and QP are clipped by diodes CRNA and CRNB to approximate a square wave. This square wave is fed to the bases of QS and QT for another stage of differential amplification. The square wave output at the collectors of QS and QT is again clipped by diodes CRNC and CRND. The output at C and D is a clipped, square wave between 0v and +0.6v corresponding to the rise and fall of the sine wave at inputs A and B, respectively.

Quantizing Detector - QFF

The QFF circuit (Figure 7-26) produces a positive pulse output in response to a positive input pulse. The width of the output pulse is independent of the input and is adjustable.

Assume a condition where QN is on. With the collector of QN at ground, QP turns off and CNC begins charging (through RNL to ground via QN and QS) toward Vcc volts. The duration of the charging period is controlled by the time constant RNL x CNC. When the base of QQ reaches 0.7 volts, QQ turns on, QS turns off, and the output goes to ground.

With the circuit in the condition of the preceding paragraph, a no-signal state will have the following effect: Ground level at base of QN turns it off. Since QS is also off, current is drawn through the base of QP and turns it on. Current now flows through QP charging CNC in the opposite direction (from preceding paragraph) to about -5.3 volts (Zener diodes CRNC voltage minus the 0.7 base-emitter voltage of QQ). As the current increases and decreases (during charging period) through QP, the remaining current still flows through RNL thereby keeping QQ on.

When a clock or data pulse is applied to the base of QN it turns on. With the QN collector at ground, QP turns off and a -5.3v base-emitter voltage appears across QQ, turning it off. Capacitor CNC again charges through the variable resistor RNL until QQ turns on.

When the circuit has been adjusted so that the width of the output pulse exceeds that of the input pulse, QS stays on (after the input drops) to hold the base of QP at ground.

Capacitor CND is a filter capacitor to provide a constant voltage across CRNC.

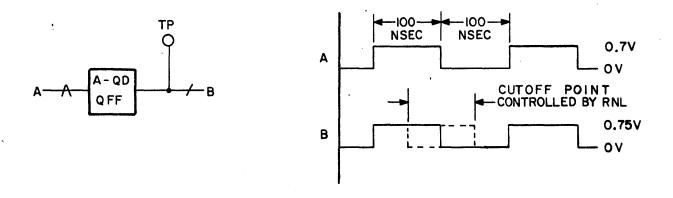
Line Receiver - RAA

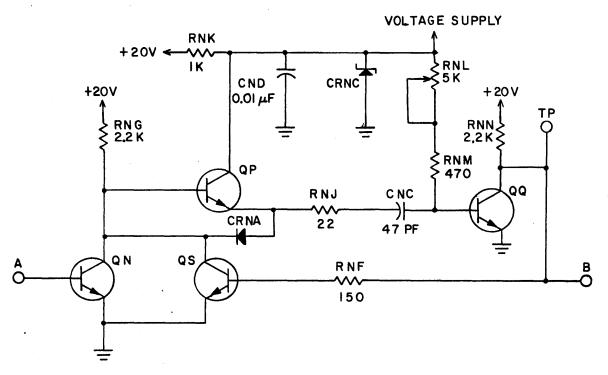
The line receiver circuit, RAA, (Figure 7-29) provides a "1" output at C and D when the difference in input voltage (A minus B) is greater than +0.6v. Under any other input conditions, the output will be a "0".

Diode CRNA is used to maintain the threshold level at +0.6v. Without CRNA the threshold would be about +0.1v. That is, if input B were just 0.1v less positive than input A, the circuit would switch to an output of "1".

Resistor RNE supplies the emitters of QN and QP with a constant current of about 4.25 ma. If the current in one transistor increases, the current in the other transistor must decrease by an equal amount. If input B is more positive than input A (A minus B is negative), QP will be turned on and QN will be turned off. If the difference "A minus B" is only slightly negative, QP will conduct more than QN, but both will be on.

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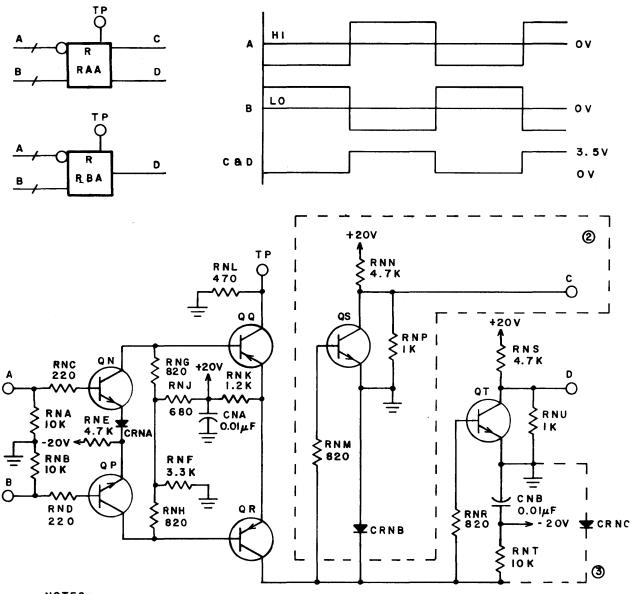




NOTE: VOLTAGE AND COMPONENT VALUES
ARE FOR REFERENCE ONLY

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Figure 7-28. Quantizing Detector - QFF



- NOTES:
 - I. VOLTAGE AND COMPONENT VALUES ARE FOR REFERENCE ONLY.
 - 2 PORTION WITHIN DOTTED LINE IS USED FOR RAA ONLY.
 - 3 CRNC USED ON RBA ONLY.

5 C10

Figure 7-29. Line Receiver - RAA

The base of QR, therefore, becomes more negative than the base of QQ. Transistor QR turns on, driving its collector and the bases of QS and QT positive. Transistors QS and QT turn on, conducting current from the +20v supply through RNN and RNS, respectively, to ground. The output at C and D is near 0v or a "0".

If input A is at least +0.6v more positive than input B (A minus B is greater than or equal to +0.6v), QN turns on and QP turns off. The base of QQ is then more negative than the base of QR. Transistor QQ turns on conducting current from the +20v supply, through RNK and RNL to ground. Transistors QS and QT are turned off as there is no current to their bases. Current is then allowed to flow from the +20v supply, through the load resistors to outputs C and D. The value of the output voltage is tempered by the resistors RNP and RNU to ground, and is held at a "1" level. The output is a "1".

Line Receiver - RBA

The operation of the RBA circuit (Figure 7-29) is identical to the RAA circuit, except that output C and its related circuitry are omitted. Output D remains intact (with the addition of diode CRNC) and functions the same as output D in the RAA circuit. For a detailed discussion of the RBA circuit, refer to the discussion of the RAA circuit.

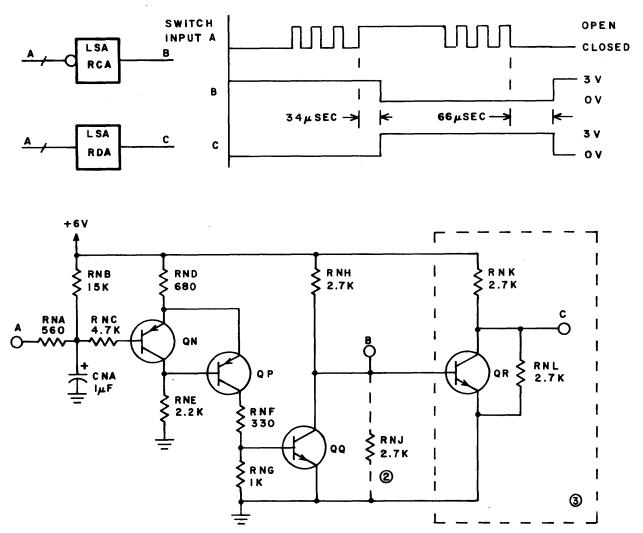
Switch Receiver - RDA

Switch Receiver RDA (Figure 7-30) produces a "1" (+3v) output at C when the grounded switch connected to input A is open. When the switch is closed a "0" (0v) is felt at output C.

A switch to ground is connected to input A. When this switch is open, capacitor CNA approaches +6v and QN is shut off. Transistor QP is, therefore, on and conducts current to the base of QQ through resistor RNF. Transistor QQ turns on, driving the base of QR to ground. Transistor QR is off, which allows current to flow from the +6v supply through RNK to output C. The output is a positive voltage, or a "1".

When the switch is closed, the voltage across CNA rapidly increases through RNA and the switch to ground because of the short time constant of RNA and CNA. Any contact bounce on the switch will increase the discharge time. As the voltage across CNA decreases, QN begins to turn on. As QN conducts current to the base of QP, the forward bias on QP is decreased and QP begins to turn off. As QR turns off, the

current through RND decreases due to the higher lead resistance (RNE) of QN compared with QP (RNF). The current drop through RND causes a decrease in the voltage drop across RND. The bias on QN is, therefore, increased. The cycle goes rapidly to completion. Transistor QP is shut off. With QP off, the base of QQ is near ground, causing QQ to shut off. This allows the +6v supply to flow through RNH to the base of QR. Transistor QR, therefore, conducts current away from output C and the output is near ground or "0".



- NOTES:
 - I. VOLTAGE AND COMPONENT VALUES ARE FOR REFERENCE ONLY.
 - 2 DOTTED CONNECTION AND RESISTOR RNJ ARE FOR RCA ONLY.
 - (3) CIRCUIT WITHIN BROKEN LINE BOX IS ADDED FOR RDA ONLY.

5 C I I

Figure 7-30. Switch Receiver - RDA, RCA

When the switch is opened again, CNA charges slowly to +6v due to the long time constant of RNB and CNA. Any contact bounce on the switch will hold CNA well below the switching level of QN until the bouncing ceases. As the voltage across CNA increases, QN begins to turn off. Transistor QP begins to conduct current away from the emitter of QN. Transistor QP turns on rapidly because of this positive feedback. The output then returns to "1".

Switch Receiver - RCA

The operation of the RCA circuit is similar to the RDA circuit, except that transistor QR is omitted and the output is taken directly from the collector of QQ at B (Figure 7-30). The output is, therefore, opposite from the output of the RDA circuit under the same switch condition. When the switch is open, the output at B is a "0". When the switch is closed, the output at B is a "1". For a detailed discussion of this circuit refer to the RDA circuit description.

Line Receiver - RFA

The RFA circuit (Figure 7-31) provides a non-standard "0" output at C when input A is at least 0.6v more negative than input B. Diode CRNA holds the threshold at 0.6v. Under all other input conditions the output will be a non-standard "1".

If the differential input (A-B) is greater than 0.6v, transistor QP turns on and QN turns off. This drives the base of transistor QR more positive than the base of QQ. Transistor QR conducts current from the -20v supply, through RNK to ground. The output at C is near 0v.

If the differential input (A-B) is less than 0.6v, QN turns on and QP turns off. The base of QQ goes more positive than the base of QR. Transistor QQ conducts and a negative voltage is felt at output C.

Since a "1" is defined in MDD logic as the most positive voltage, the 0v output in the first case is interpreted as a non-standard level "1". The negative voltage output in the second case is, therefore, a non-standard level "0".

The receiver is self-terminated with 56 ohms to ground on each line.

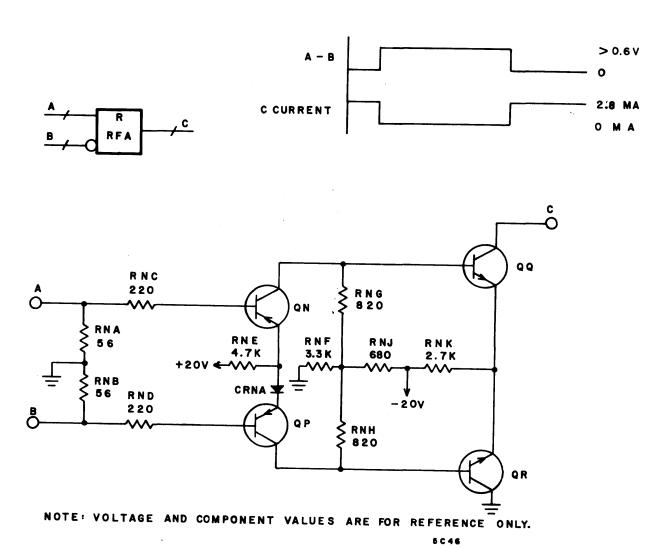


Figure 7-31. Line Receiver - RFA

Delay - UA-, UBA

The capacitive delay circuit (Figure 7-32) delays a "1" input at A for a specified period of time before providing a "1" output at B. The delay time for a "0" pulse is negligible. The delay circuit consists of a capacitor connected to ground.

Assume that a "0" (ground) enters at A. If the capacitor is discharged, it remains discharged. The output is an immediate "0". If the capacitor is charged when the "0" signal enters, it discharges almost instantaneously. The "0" appears at output B with no noticeable delay.

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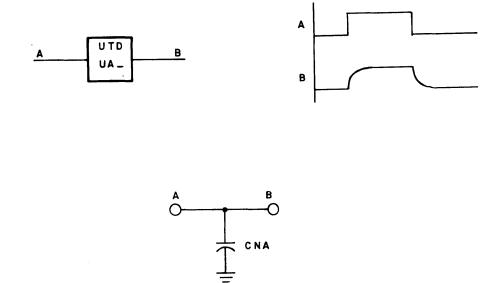


Figure 7-32. Delay - UA-, UBA

If a "1" (+3.0v) enters at A, and the capacitor is discharged, the capacitor must first charge to a minimum "1" voltage (typically +0.7v) before the "1" appears at output B. The time necessary to charge the capacitor to this minimum voltage is the delay time of the circuit. The charge time is dependent on the value of the capacitor, the value of an external resistor between the source voltage and the delay circuit, and the minimum voltage required to produce a "1" response.

Delay times for capacitive delays used in the MDD unit are as follows:

Delay	Time
UAA	$0.3~\mu\mathrm{sec}$
UAB	$0.4~\mu\mathrm{sec}$
UAC	$0.2~\mu\mathrm{sec}$
UAD	1 μsec
UAE	$500~\mu\mathrm{sec}$
UAF	$2~\mu{ m sec}$
UAG	$0.1~\mu\mathrm{sec}$
UAL	10 μsec
UAM	8 µsec
UAN	5 µsec
UBA	15 μ sec
UAP	60 msec

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Delay Circuit - UCA

The UCA circuit (Figure 7-33) provides a delayed "0" output signal at B a set time after a "0" is felt at input A. A "1" signal is not delayed.

The operation of the UCA circuit is similar to the UDA circuit except the final transistor QU (Figure 7-33) is omitted for the UCA circuit. This allows a "0" output when transistor QT (Figure 7-33) conducts, and a "1" output when QT is turned off. For a detailed discussion of this circuit, refer to the UDA circuit.

The time delay is still dependent upon the values of RNC and CNA. The delay for a UCA circuit will be slightly less than the delay for an identical UDA circuit due to the extra time taken for transistor QU to turn on in the UDA circuit.

Delay Circuit - UCB

The UCB circuit is identical in operation to the UCA circuit (Figure 7-33). The values of RNC and CNA are changed to produce a different time delay.

Delay Circuit - UCC

The UCC circuit is identical in operation to the UCA circuit (Figure 7-33). The values of CNA and several resistors are changed. In addition, a 10-ohm resistor is added in series with the collector of QN to increase the discharge time of CNA when QN is turned on.

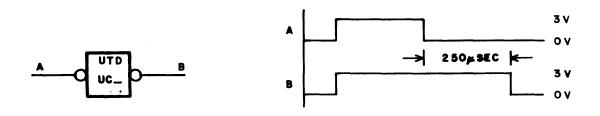
Delay Circuit - UCD

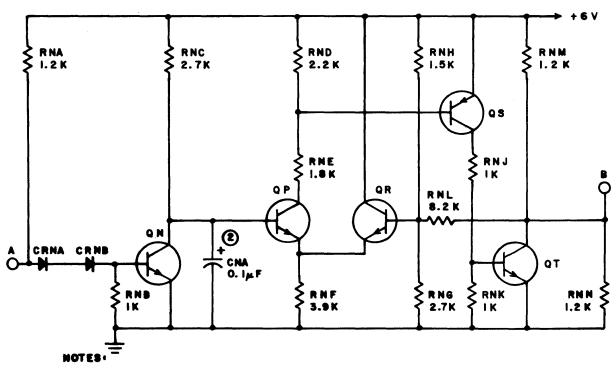
The UCD circuit is identical in operation to the UCA circuit (Figure 7-33). The values of CNA and several resistors are changed. In addition, resistors RNA and RNB and their connections are omitted, CRNA and CRNB are replaced by a 1K resistor, and a 47-ohm resistor is added in series with the collector of QN to increase the discharge time of CNA.

Delay Circuit - UCE

The UCE circuit is identical in operation to the UCA circuit (Figure 7-33). The values of CNA, RNC and RNH are changed. In addition, a 47-ohm resistor is added in series with the collector of QN to increase the discharge time of CNA. The feedback to the base of QR through RNL is omitted. Resistor RNG is replaced by a 3.6v Zener diode to limit the voltage on the base of QR to +3.6v.

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L VOLTAGE AND COMPONENT VALUES ARE FOR REFERENCE ONLY.

(2) CHA IS AN ELECTROLYTIC CAPACITOR FOR UCA AND UCE CIRCUITS ONLY.

5 C 8

Figure 7-33. Delay Circuit - UCA, UCB, UCC, UCD, UCE

Delay - UDA

The UDA circuit (Figure 7-34) provides a "1" output at B a set length of time after a "0" enters at input A. There is no delay for a "1" input signal. The output is an immediate "0".

When a "1" appears at input A, QN conducts current from the +6v supply, through RNC to ground. The base of QP, therefore, approaches ground. The base of QR is held at approximately +3.8v by the voltage dividing action of RNG and RNJ. The emitters of QP and QR are, therefore, held at approximately +3 volts. QP is off. The base and emitter of QS remain at +6 volts, so QS is off. The base and emitter of QT are both at ground. Transistor QT is off. The collector of QT goes to approximately +2.4v due to the voltage dividing network formed by RNM, RNN and the base-emitter voltage drop across QU. Transistor QU is turned on and the output is held near ground, or a "0".

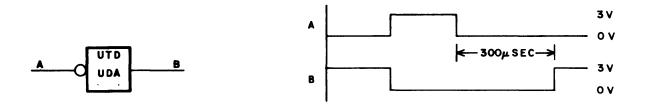
When a "0" (ground) appears at input A, QN turns off. This allows capacitor CNA to begin charging from the +6v supply through RNC. When the voltage at the base of QP reaches approximately +3.8v, QP starts to conduct, drawing current away from the base of QS. Transistor QS starts to turn on, forward biasing the base of QT. Transistor QT starts conducting. As the collector of QT approaches ground, the voltage on the base of QR is drawn off through RNH. This decreases the voltage on the emitters of QR and QP and drives QP to saturation. With QP saturated, QS and QT are also driven toward saturation. When QT conducts, the base of QN goes toward ground. Transistor QU is cut off and the output voltage rises to a "1" level.

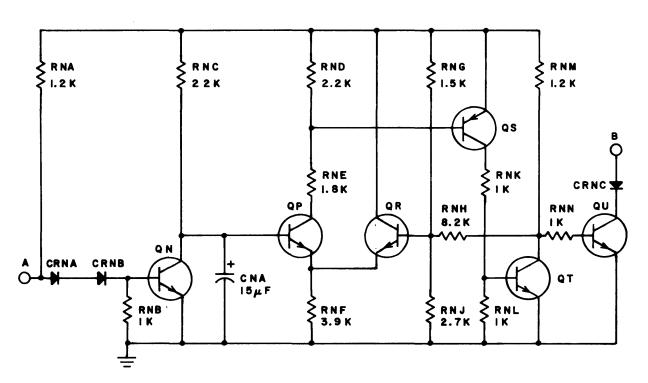
The time delay is determined by the values of RNC and CNA.

Delay - UDB

The operation of the UDB circuit is identical to that of the UDA except the size of capacitor CNA (Figure 7-34) differs to cause a delay of 115 ± 25 ms.

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NOTE: VOLTAGE AND COMPONENT VALUES ARE FOR REFERENCE ONLY.

5 C 7

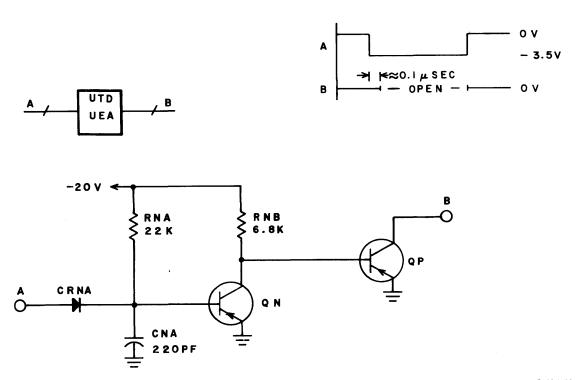
Figure 7-34. Delay - UDA, UDB

Undirectional Time Delay - UEA

The UEA circuit (Figure 7-35) provides a 0.1- μ sec delay between the time that a -3.5v signal appears at A and the time that transistor QP turns off. Output at B is either ground or an open circuit.

When input A is near ground, QN is off. Transistor QP is on. The output is ground.

When input A goes to -3.5v, capacitor CNA begins charging. After 0.1 μ sec the base of QN is sufficiently negative to turn QN on. Transistor QP turns off. The output is an open circuit.



NOTE: VOLTAGE AND COMPONENT VALUES ARE FOR REFERENCE ONLY.
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Figure 7-35. Undirectional Time Delay - UEA

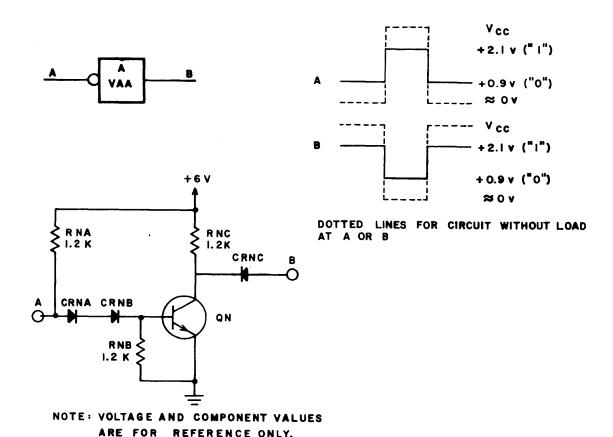
And - VAA

The VAA circuit (Figure 7-36) consists of a single NPN transistor. When all inputs connected to A are at a "1" level, the output at B will be a "0". Any "0" appearing at A will result in a "1" output at B.

When the input to A is a "0", A is held at about +0.9v. This input is not sufficient to forward bias diodes CRNA and CRNB or transistor QN. Transistor QN is off. The output at B is a "1".

When the input to A is a "1", A rises to about +2.1v. This voltage forward biases CRNA, CRNB and QN. Transistor QN turns on, conducting current away from B to ground. Output B is left at about +0.9v, or a "0".

Diodes CRNA and CRNB provide noise immunity up to 1.4v. Resistor RNB connected to ground turns off QN when the positive voltage is removed from A.



5c21
Figure 7-36. And - VAA

And - VAB

The VAB circuit (Figure 7-37) consists of two silicon peripheral logic inverters whose outputs share a common load resistor, RNE. When both inputs A and B are "0" (ground), the output at C will be a "1" (+3v). If either or both of the inputs are a "1", the output at C will be a "0". This is an AND gate for zeroes, or a NAND function.

When both A and B are at ground, QN and QP are off. The output at C is supplied from the +20v source through RNE. The output is a positive voltage, representing a non-logical "1". If input A experiences a positive voltage while B is at ground, QP turns on and conducts current from the +20v supply through RNE to ground. The "0" on B has no effect, as all the supply voltage is tapped to ground. The output at C is ground, or a "0". The situation is similar if A is "0" and B is "1". The output is "0". If both A and B have positive voltage applied to them, QN and QP both conduct. The output is "0".

Capacitors CNA and CNB provide a one's delay on input B and output C, respectively. They also maintain a noise barrier to isolate the circuit from stray pulses on the lines.

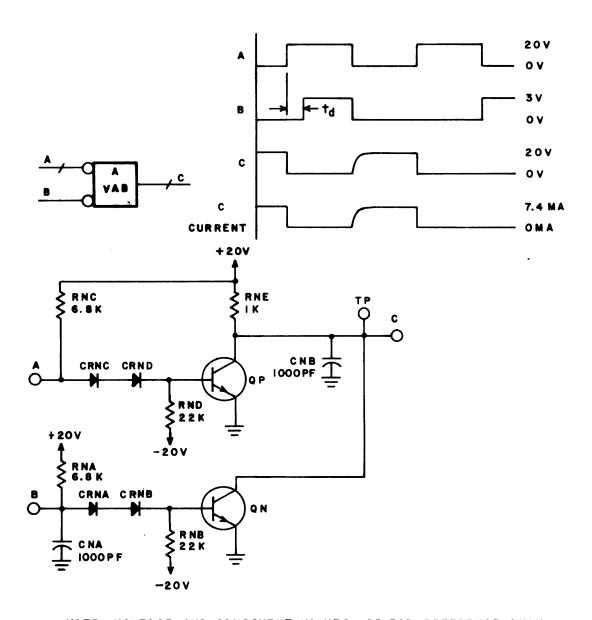
And/Or (Single Input) - VAC, VJW

The single input AND/OR or silicon peripheral logic (SPL) inverter (Figure 7-38) provides an inversion from input A to output B: A "1" on A produces a "0" on B, or a "0" on A produces a "1" on B. The inverter's output may be connected to the output of other inverters to form NAND functions or NOR functions.

The SPL inverter is a single NPN silicon transistor connected as a common emitter amplifier. When A is a "0" (between 0v and +0.3v) the transistor is off. This allows current to flow from the +20v supply, through RNB to output B. The output is a "1". When input A is a "1" (between +0.7v and +3.0v) the transistor turns on. The transistor conducts current from the +20v source, through RNB to ground. This leaves output B near ground, or a "0".

Since the base-emitter threshold for a silicon transistor is approximately +0.7v, the circuit ignores up to 0.5v of transient noise.

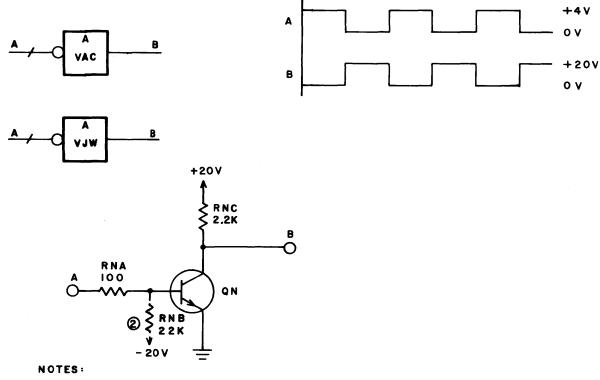
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NOTE: VOLTAGE AND COMPONENT VALUES ARE FOR REFERENCE ONLY.

5 C 14

Figure 7-37. And - VAB



- 1. VOLTAGE AND COMPONENT VALUES ARE FOR REFERENCE ONLY.
- ② DOTTED LINE TO -20V AND RESISTOR RNB FOR VJW ONLY.

Figure 7-38. And/Or (Single Input) - VAC, VJW

If the circuit drives just one other transistor, the output may be connected directly to the base of the driven transistor. For a fan-out of 2 or more, a base isolation resistor is required for each driven transistor. This resistor ensures that the base drive provided to each of the driven transistors will be nearly independent of differences in base-emitter voltages. For a fan-out of 2 the collector load resistor must be reduced by one-half its value for driving one transistor to provide for the additional voltage drop across the isolation resistors.

Switching time for an inverter with a fan-out of 1 is typically 15 nsec.

Power Driver - VJK

The VJK circuit (Figure 7-39) is similar to the VJS circuit with the addition of capacitor CNB and two outputs. CNB slows the switching time of QN and provides a ramp output. Output B connects to the center tap of the head. Output C contains a 10K resistor and is connected to a voltage supply in a fault detect circuit. If two heads are selected the effective resistance falls to 5K (two 10K resistors in parallel). The increase in current causes a Fault signal. Output D contains a diode that isolates each Write Gate.

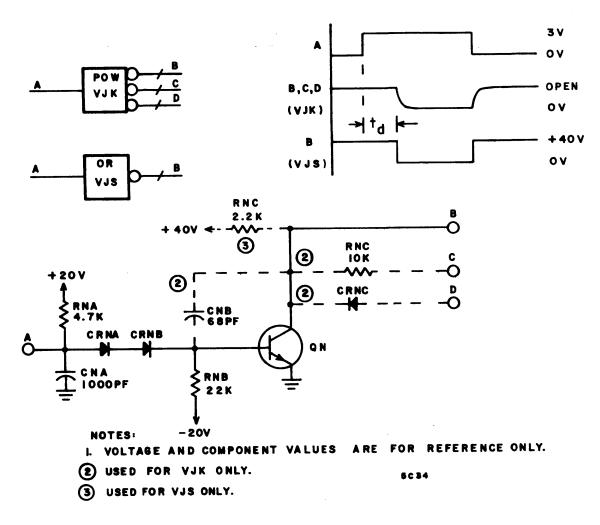


Figure 7-39. Power Driver - VJK

Power Driver - VJL

The VJL circuit (Figure 7-40) is a gate used to bias an analog gate.

If $\pm 20v$ appears at A, QN turns on. The base of QP goes to ground. Transistor QP is off. Capacitor CNA charges through RND to $\pm 20v$. Output at B is a ramp to $\pm 20v$.

A +0.2v signal at A turns QN off. When QP turns on, the collector voltage of QN clamps at +0.7v. CNA discharges rapidly through QP. Output B drops to ground.

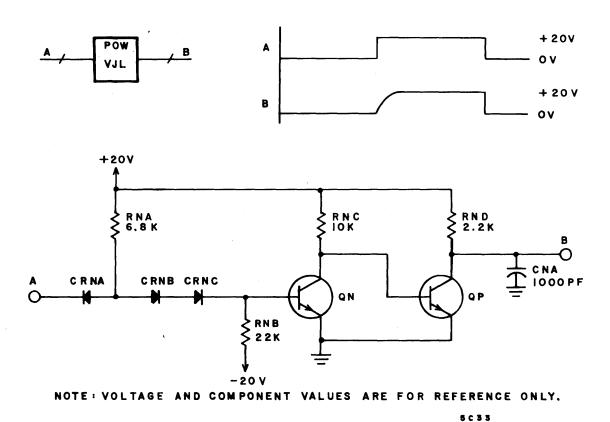


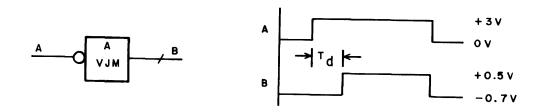
Figure 7-40. Power Driver - VJL

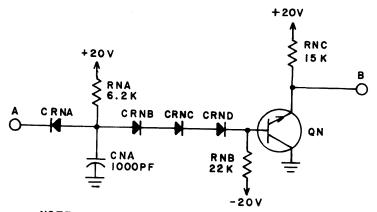
And - VJM

The VJM circuit (Figure 7-41) gates a particular receiver into operation. A "0" input at A results in an "open" enable signal to the receiver. A "1" input at A disables the receiver.

A "0" (0v) input forward biases diode CRNA. The +20v supply current is drawn through RNA and CRNA, leaving the base of QN reverse biased. Transistor QN is off. Output is held at -0.7v by the next stage.

A "1" input turns QN on. The output goes to ground. No receiver signal can pass into the receiver.





NOTE: VOLTAGE AND COMPONENT VALUES ARE FOR REFERENCE ONLY.

Figure 7-41. And - VJM

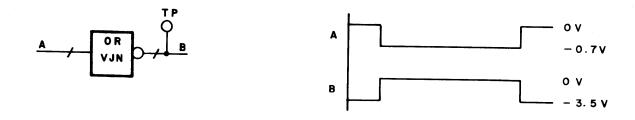
Or - VJN

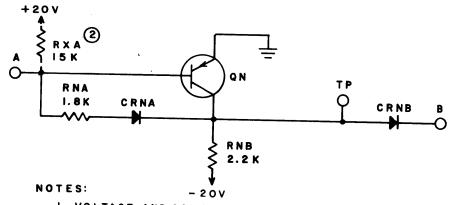
The VJN circuit (Figure 7-42) is a NAND circuit that inverts the input signal. Input A is connected to the output of a receiver and to a gating circuit. If the Write gate is off, the base of QN is grounded. The circuit is disabled.

When the write gate is on, QN turns on and the receiver inputs a "0". Transistor QN turns on further and goes into saturation. Output voltage at B is approximately -0.2v.

When the receiver inputs a "1", QN comes out of saturation. Output at B is approximately -3.5v.

Whenever the write gate is on, QN is on to some degree. Only when the write gate is off is the base of QN at ground and QN off.





- I. VOLTAGE AND COMPONENT VALUES ARE FOR REFERENCE ONLY.
- 2 RESISTOR AND POWER SUPPLY EXTERNAL TO VJN.

Figure 7-42. Or - VJN

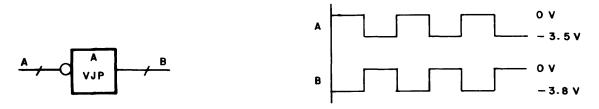
And - VJP

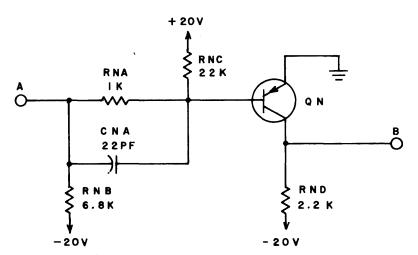
The VJP circuit (Figure 7-43) is normally used as the input circuit to a toggle flip-flop. It ties two receiver outputs to a single-ended output. Capacitor CNA is used to reduce the input impedance for faster switching.

When input A is near ground the base of QN is at approximately +0.9v. Transistor QN is off. Output at B approaches -20v, but is clamped at -3.8v by a Zener diode in the following circuit.

When input A is -3.5v, QN turns on. Output drops to approximately -0.2v.

Input to A is short (100 nsec), negative, data pulses. Output B is also short pulses.





NOTE: VOLTAGE AND COMPONENT VALUES ARE FOR REFERENCE ONLY.

Figure 7-43. And - VJP

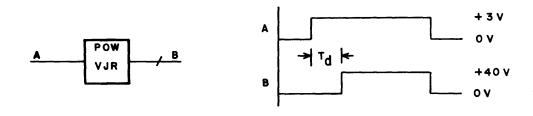
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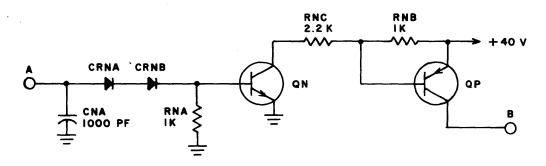
Power Driver - VJR

The VJR circuit (Figure 7-44) is a $\pm 40v$ switch. A "1" on input A produces $\pm 40v$ at output B. A "0" on input A stops current flow.

A "1" input turns QN on. Transistor QN conducts current from the $\pm 40v$ supply, causing a voltage drop across resistor RNB. This voltage drop turns on QP. Output B is at $\pm 40v$.

A "0" input turns QN off. Since current no longer flows, the emitter and base of QP are at equal voltage. Transistor QP is off. Output B goes to ground.





NOTE:

VOLTAGE AND COMPONENT VALUES ARE FOR REFERENCE ONLY.

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Figure 7-44. Power Driver - VJR

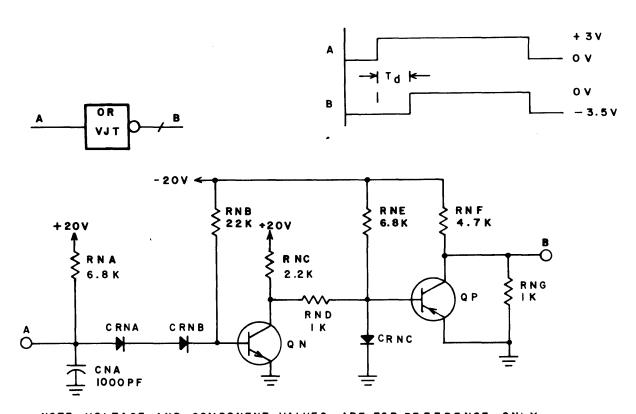
Or - VJS

The VJS circuit (Figure 7-39) is a standard inverter with a capacitor delay at the input. A "1" at input A pulls the output at B to ground. A "0" produces a ± 40 v output.

Or - VJT

The VJT Circuit (Figure 7-45) is a gate to the WBB toggle flip-flop. A "1" input at A produces a ground at B, which keeps the flip-flop off. A "0" input at A produces a -3.5v output at B, which releases the flip-flop and presets it in a given state.

When a "0" is applied to input A, the base of QN goes to ground. Transistor QN is off. The base of QP is clamped at +0.6v by diode CRNC. Transistor QP is off. Output B is -3.5v derived from the voltage dividing network of RNF and RNG.



NOTE: VOLTAGE AND COMPONENT VALUES ARE FOR REFERENCE ONLY.

Figure 7-45. Or - VJT

When A goes to a "1", capacitor CNA charges. After a delay, the base of QN is positive enough to turn QN on. The base of QP goes negative through resistor RNE. Transistor QP turns on. The output at B drops to ground.

And - VJU, VJV

The VJU and VJV circuits (Figure 7-46) are functionally identical. They consist of a standard inverter circuit with a capacitive filter input. The capacitor also presents a delay.

A "1" on input A reverse biases diode CRNA. Capacitor CNA charges through RNA until it is clamped at about 3 diode voltages (approximately 2.1v). QN turns on. Output B falls to ground.

If input A is a "0", CNA discharges through CRNA. Transistor QN turns off. Output B rises to a "1" level due to the clamping by a Zener diode.

And/Or - VJW

Refer to circuit description for circuit type VAC.

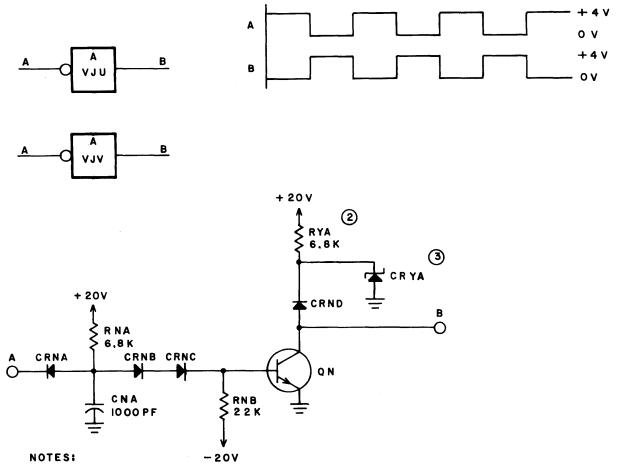
Flip-Flop - WBB

The WBB circuit (Figure 7-47) is a toggle flip-flop with gate and data inputs.

Input B holds both transistors off by grounding the bases when the circuit is off. When a write operation is to be performed, the base of QP is released while QN is still grounded by input C. This sets an initial condition for the flip-flop: QP is on, QN is off.

After the flip-flop is pre-set it is toggled through input A by a series of negative data pulses. The leading edge of the negative data pulse begins charging capacitor CNB. Diode CRND becomes forward biased. QP is on. Output E is at ground. A voltage of -3.6v across Zener diode CRNK keeps CRNN reverse biased. CRNK and CRNM clamp the output of QN at -3.8v.

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- I. VOLTAGE AND COMPONENT VALUES ARE FOR REFERENCE ONLY.
- (2) RESISTOR EXTERNAL TO VJV. RYA BECOMES RNC FOR VJU.
- 3 DIODE EXTERNAL TO VJV, BECOMES CRNE FOR VJU. 5 C 3 9

Figure 7-46. And - VJU, VJV

The trailing edge of the data pulse results in a positive pulse to the base of QP. Transistor QP turns off. Output E goes toward -4v. Both sides of CNA are at ground. Therefore, CRNC and CRNF are forward biased by the -20v source through RNC. The base of QN goes negative. Transistor QN turns on and Output D drops to ground. Diodes CRNM and CRNJ are now reverse biased. Since the collector of QP is more negative than the voltage across Zener diode CRNK (-3.6v), CRNN is forward biased. This clamps the voltage at output E at approximately -3.8v.

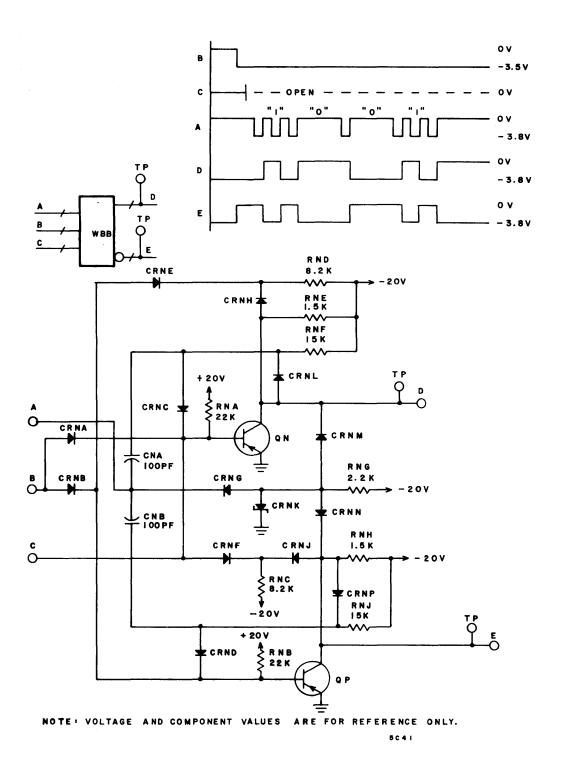


Figure 7-47. Flip-Flop - WBB

The leading edge of the next negative pulse charges CNA and discharges CNB since both sides of CNB are at about -3.8v. The flip-flop will toggle on the ground-going edge of the pulse in the same manner as described for the first pulse.

Toggle Flip-Flop - WBC

Inputs to A and B of the WBC flip-flop (Figure 7-48) are either a positive pulse or ground. If A has positive pulse, then B is at ground. If A is at ground then B has a positive pulse. If input A receives a positive pulse, output C will be at ground and output D will be a constant positive voltage. A positive pulse at B will toggle the flip-flop. C will then be a positive voltage and D will be at ground.

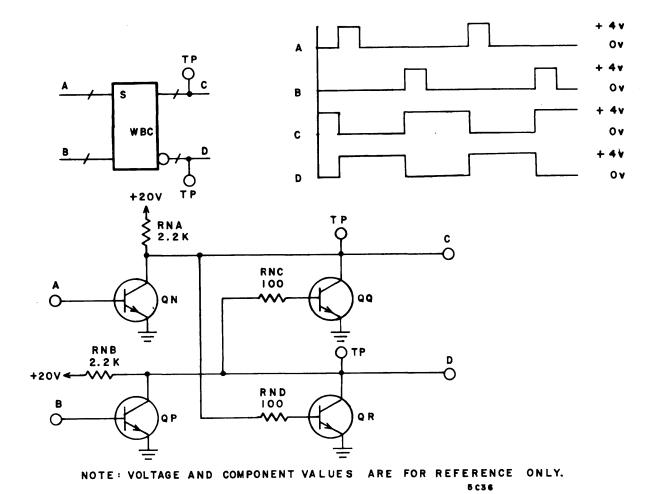


Figure 7-48. Toggle Flip-Flop - WBC

A positive pulse to input A turns on transistor QN, which drives the base of QR to ground. Transistor QR is turned off. Input B is at ground and QP is off. The base of QQ is, therefore, positive and QQ turns on. This latches the base of QR at ground and puts a ground on output C. With QP off and QR latched off, current flows from the +20v source through RNB to output D.

When a positive pulse is felt at B, QP turns on. This drives the base of QQ to ground, turning QQ off. Input A is at ground and QN is off. The base of QR is, therefore, positive. Transistor QR conducts, latching the base of QQ at ground and driving output D to ground. With QN and QQ off, output C is positive.

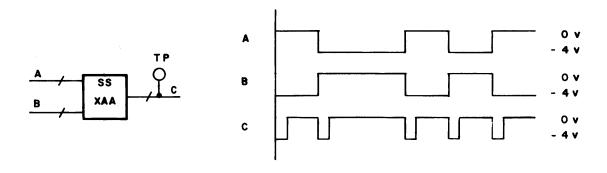
Pulse Shaper - XAA

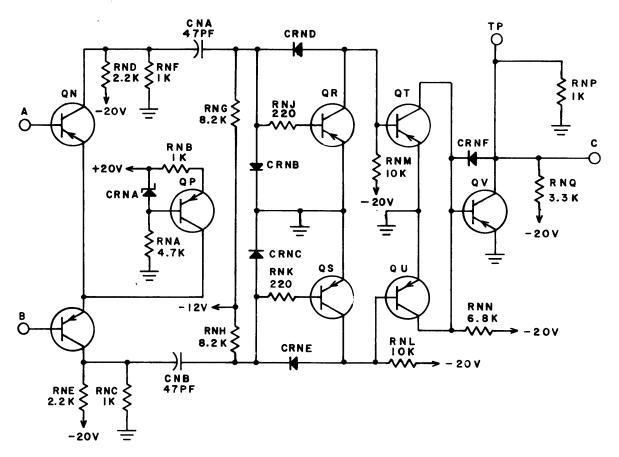
The input to A and B (Figure 7-49) of the XAA circuit is a 0.7v balanced square wave centered around a positive voltage. Each time the inputs change polarity a short negative pulse is formed at output C.

The square wave input is sufficient to alternately turn QN and QQ on and off. A current of about 5.6 ma is alternately switched between QN and QQ. When input A is more positive than input B, QN turns off. The voltage at the collector of QN is about -20v. The voltage at the junction of RNG and RNJ is -1.6v. When the inputs switch, QN turns on. The collector of QN rises to about -8.7v. CNA forms a positive pulse to the base of QR. The positive pulse turns QR off, QT on and QV off for the duration of the pulse. The amplitude of the pulse is limited by CRNB. Charging time for CNA is about 100 nsec. When the inputs switch again, QQ turns on and QN turns off. CNB forms a positive pulse which turns QV off again for the duration of the pulse. The output at C is ground until QV is turned off. During the short time that QV is off, a negative pulse appears at output C.

Diodes CRND and CRNE prevent saturation of QR and QS. As the collectors of QR and QS approach ground, the negative voltage at the left ends of RNJ and RNK is limited to the sum of the voltage drops across QR and CRND or QS and CRNE, respectively. Diode CRNF prevents QV from saturating.

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NOTE: VOLTAGE AND COMPONENT VALUES ARE FOR REFERENCE ONLY.

Figure 7-49. Pulse Shaper - XAA

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Pulse Shaper - XAB

The input at A of the XAB circuit (Figure 7-50) is a balanced square wave between 0v and +4v. The output at B is normally positive, but drops to ground for a short time at the leading edge of the ground portion of the input wave.

During the positive portion of the input wave, transistors QN and QP are on. This leaves the bases of QQ and QR near ground. Transistors QQ and QR are off. The output at B is a positive voltage supplied through resistor RNE.

When the input wave goes to ground, transistors QN and QP turn off. With QP off, the base-emitter junction of QR is forward biased. Transistor QR conducts and the output at B drops to near ground. With QN off, capacitor CNA charges toward +20v. When the charge on CNA reaches a level sufficient to turn on QQ, the base of QR again drops to ground. Transistor QR turns off. The output at B returns to the positive level.

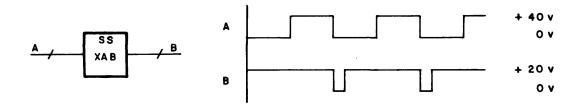
Pulse Shaper - XAC

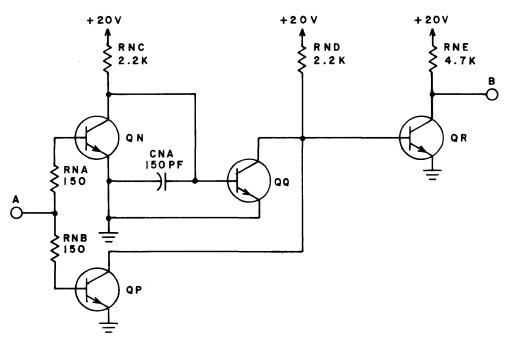
The XAC circuit (Figure 7-51) produces a 100-nsec ground pulse at output C when the inputs at A and B change state. The output is normally positive. Input A is connected to the set side of a flip-flop and input B is connected to the clear side.

When the flip-flop is clear, the base of QR is positive. Transistor QR conducts 10 ma of current from the -20v supply through RND, RNC, QS, QR and RNB. The collector of QN is at +20v and the collector of QR is near +13v. Transistors QT and QU are on and QV and QW are off.

When the flip-flop sets, QR turns off and QN turns on. The collector of QN goes to +13v, which drives the base of QT to about -6v. This turns QT off, driving the base of QV positive. QV turns on and the output at C goes to ground. Capacitor CNA charges through RNE with a time constant of 135 nsec. After 100 nsec the voltage at the base of QT has risen to +0.7v and QT turns on. This drives the base of QV to ground. QV turns off and the output at C returns to a positive level.

When the flip-flop clears again, a 100-nsec ground pulse is formed at C by QR, CNB, QU and QW.

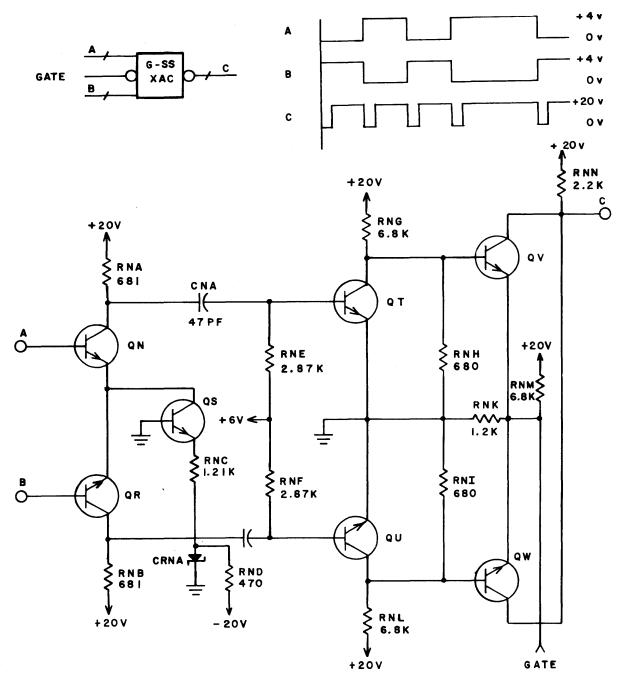




NOTE: VOLTAGE AND COMPONENT VALUES ARE FOR REFERENCE ONLY. 6038

Figure 7-50. Pulse Shaper - XAB

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NOTE: VOLTAGE AND COMPONENT VALUES ARE FOR REFERENCE ONLY.

Figure 7-51. Pulse Shaper - NAC

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HEAD AND DISK PACK REPLACEMENT CRITERIA

HEAD REPLACEMENT CRITERIA

Heads of the MDD have been designed so that they should not need replacement if given proper preventive maintenance and care. If a head requires replacement refer to the Preface of this manual for the publication containing the Maintenance section. Refer to that section for Head/Arm Replacement procedure. A head is defective and needs replacing if any of the following conditions exist:

- 1. Consistent oxide buildup on head, indicating repeated head/disk impact.
- 2. Appreciable oxide buildup located primarily on the edge of the ferrite insert, indicating a warped head.
- 3. Oxide or wear over 1/2 of the head face surface.
- 4. A head which is scratched over 1/2 of the head face surface.
- 5. Concentric scratches on disk surface. Inspect the head for imbedded particles.
- 6. Audible ping indicating that the head is hitting the disk surface.

DISK PACK REPLACEMENT CRITERIA

The disk pack is designed to last the lifetime of the equipment. Replacement of the disk pack is required only if excessive runout (see Disk Pack Runout Check) is encountered or physical damage to the pack results in the loss of recording ability.

A disk pack is defective and needs replacement if any of the following conditions exist:

- 1. Damage to the disk pack resulting in a bent or broken disk. If a disk is bent perform Disk Pack Runout Check procedure.
- 2. Gouged or scored disk surface causing the loss of stored data.
- 3. Imbedded particles in a disk surface that cannot be removed by cleaning and are causing damage to the heads.

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Disk Pack Runout Check

This procedure determines whether a bent disk pack may remain in use. If the disk pack fails to meet the requirements of the procedure, it should be returned to the manufacturer for reconditioning.

- 1. Extend the upper deck drawer forward.
- 2. Release four half-turn fasteners securing right-hand shroud side cover. Set the side cover aside.
- 3. Install the disk pack to be checked on the spindle of the upper deck.
- 4. Grasp the pack cleaning brushes, override the shaft detent mechanism, and rotate the brushes into the disk pack.
- 5. Place the disk pack runout gage (P/N 84357600) base against the underside of the upper deck shield and set the switch on the base of the gage to ON (Figure 7-52).
- 6. Turn the bezel of the dial indicator to indicate zero. Orient the dial indicator so that the plastic tip is not only contacting a disk surface but is deflected for an indication of approximately 0.020 inch. Tighten dial indicator in this position. Turn the bezel to set the dial indicator to zero.

NOTE

A mirror is required to observe dial indicator when some disk surfaces are checked.

- 7. Manually and slowly rotate the disk pack one full revolution while carefully observing the dial indicator. The sum of the deviations (to either side of zero) should not exceed 0.012 inch.
- 8. If a total deflection of 0.012 inch is encountered in step 7, recheck the indication. The total deflection must occur in a disk circumference of 4 inches or more.
- 9. Repeat steps 6 through 8 for the 19 remaining disk surfaces.
- 10. Rotate the pack cleaning brushes clear of the disk surfaces.
- 11. Remove the disk pack and the disk pack runout gage.
- 12. Install the shroud side cover.

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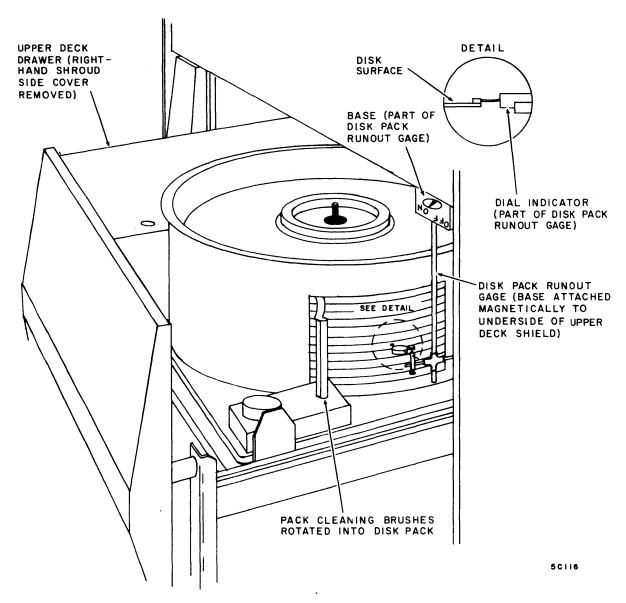


Figure 7-52. Disk Pack Runout Check

TESTER CARD

The Tester Card (P/N 40072100) is a special tool used extensively in the maintenance procedures of Section 6. As an aid in using the card, the schematic diagram (8FFN) is provided in Section 5 and Figure 7-53 is the logical portrayal of the same card.

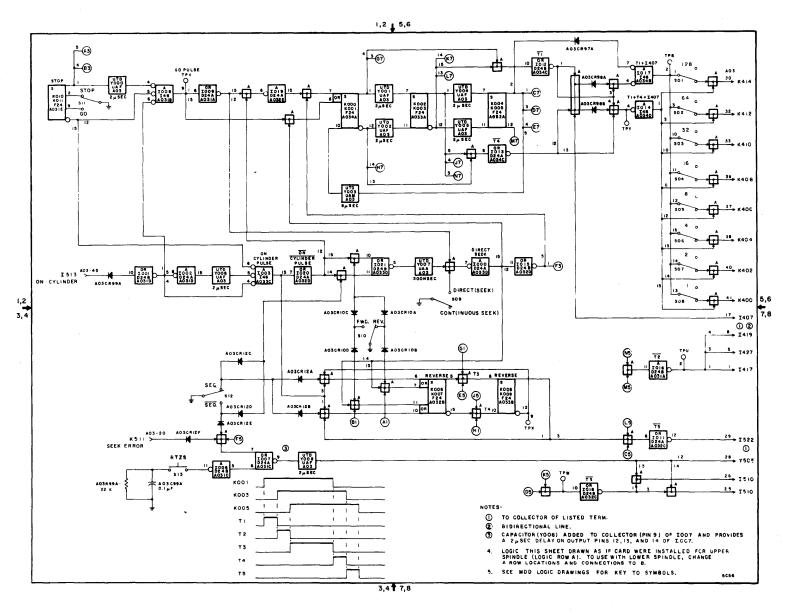


Figure 7-53. Logical Presentation of Tester Card

READ/WRITE TESTER CARD

The read/write tester card (p/n 54014500) is used during maintenance procedures that require reading or writing on a disk pack. The card is also used in troubleshooting procedures involving the fault detection circuit logic.

As an aid in using the card, the schematic diagram (9DMN) is provided in Section 5. The card is logically represented in Figure 7-54. Instructions for use of the card follow.

INSTALLATION AND REMOVAL

- 1. Stop spindle motor for deck to be tested.
- 2. Set associated ON LINE/OFF LINE switch to OFF LINE.
- 3. Set associated power supply DC/OFF switch to OFF.
- 4. Remove 9DNN card from logic chassis location B01 (for upper deck) or A01 (for lower deck). Install read/write tester card (p/n 54014500) in vacated location.
- 5. Set tester card ENABLE switch to OFF.
- 6. Set associated power supply DC/OFF switch to DC.
- 7. Start spindle motor. Deck will load heads and stop at track 00.
- 8. Ground test point on card at C01 or D02 that corresponds to the number of the head to be used in the read or write operation (selects head).
- 9. Position heads to track location specified by maintenance procedure.
- 10. Perform read or write operation specified by maintenance procedure according to following applicable paragraph.
- 11. When maintenance procedure is complete, stop spindle motor.
- 12. Set associated DC/OFF switch to OFF. Disconnect any oscilloscope connections.
- 13. Remove read/write tester card from logic chassis location A01 or B01 and install 9DNN card in vacated location.
- 14. Remove head selection jumper on card Col or Do2.
- 15. Set associated DC/OFF switch to DC.

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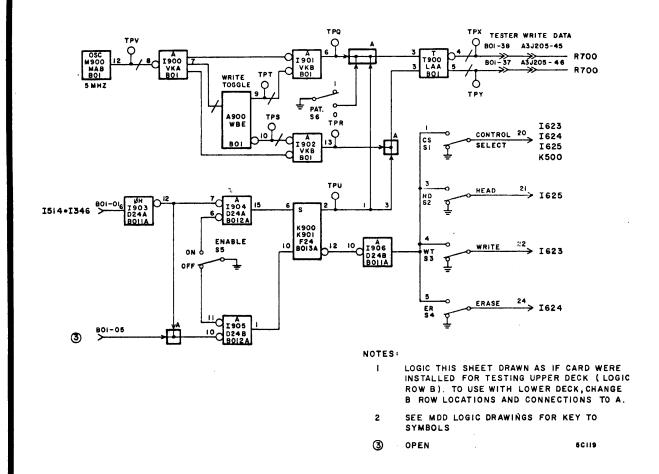


Figure 7-54. Logical Presentation of Read/Write Tester Card

WRITE

The following procedure commands an MDD deck to write a series of all "1's" or "0's" (as selected) on a disk pack.

1. Set switches on card installed at B01 (upper deck) or A01 (lower deck) as follows:

NOTE

A fault condition may occur if card switches are manipulated without first setting ENABLE switch of OFF position.

ENABLE switch to OFF
CS (Control Select) switch toggle up
RD (Read) switch toggle down
WT (Write) switch toggle up
ER (Erase) switch toggle up
PAT (Pattern) switch to 1 or 0 as desired

- 2. When it is desired to write the selected pattern, set tester card ENABLE switch to ON. Disk pack is written on in first revolution.
- 3. Return tester card ENABLE switch to OFF.
- 4. Proceed with maintenance procedure. Return to step 11 of Read/Write Tester Card Installation and Removal procedure when maintenance procedure is completed.

READ

The following procedure commands and MDD deck to read data from the disk pack track at which the heads are currently located.

1. Set switches on card installed at B01 (upper deck) or A01 (lower deck) as follows:

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NOTE

A fault condition may occur if card switches are manipulated without first setting ENABLE switch to OFF position.

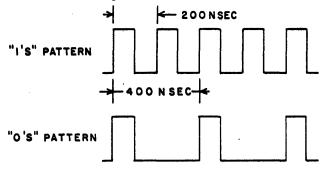
ENABLE switch to OFF CS (Control Select) switch toggle up RD (Read) switch toggle up WT (Write) switch toggle down ER (Erase) switch toggle down

2. When it is desired to read, set tester card ENABLE switch to ON. Deck will perform read operation until ENABLE switch is set to OFF.

NOTE

All Section 6 maintenance procedures requiring that data be read from the disk pack, specify the required oscilloscope connections for that test or adjustment. Do not deviate. If, however, unspecified troubleshooting is being performed, the read operation may be observed at test point H (Read Data) of the card located at A28 (upper deck) or A26 (lower deck). Observed data will be in accordance with Figure 7-55.

3. Proceed with maintenance procedure. Return to step 11 of Read/Write Tester Card Installation and Removal procedure when maintenance is completed.



OSCILLOSCOPE (SUGGESTED):

VERT - I V/CM HOR - O. I & SEC/CM SYNC - INTERNAL

Figure 7-55. Read Data Trace

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SECTION 8

PARTS DATA

Information for this section is included in BM101 and BM103 Multiple Disk Drive Pub. No. 41243700

가는 사람들이 되는 것이 되었다. 그 사람들이 되었다면 하는 것이 되었다면 하는 그 사람들은 사람들은 것이 되었다면 하는	가 있는 것이 있는 것이라는 것이라면 하는 것이 되었다. 그렇게 되었다. 같이요. 나는 사람이 작성을 하는 것이 되지 않아 나를 보았다. 나를 보았다.
하는 것이 되어 있는데 시청합니다. 역사 전에는 보고 있는데, 그리고 사용하게 하는데, 사용하는데 이 바로 가능하게 하였다. 	
. 이 경영 시간 등록 등록 하는데 한다면 그 것이다. 이 그런 그리고 하는 것 같아 되었다. 그리고 하는 것이다. 그리고 있는 바람은 지난 10 분들은 하는데 이 그 것이다. 그 그리고 있는데 하는데 되었다. 하는 중에 되었다. 그렇게 되었다.	
게 되는 것으로 발표를 가는 것이다. 그런 사람들이 되는 것으로 가는 것으로 가는 것이다. 	하는 경우 시간 수준이 있다는 그 전에서 전환되었다. 이번 모양하는 것이다. 사람들은 사람들은 경우 전기를 되었다. 그는 사람들은 사람들이 되었다.
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도 보통하다 전략 보다는 것 같아. 하는 것 같아 보다는 것 같아. 그렇게 되는 것 같아 되었다. 그는 그 말을 하는 것 같은 것 같아. 그 것 같아. 그렇게 되는 것 같아. 그리고 말을 때를 가입다.	
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· 첫 등 일 하는 항상 이 경기 보고 있는 사람들이 되는 그 것을 하셨다.	몫하다 하고 보고 있다. 그런 이 생생이 없다. (1)
. 경우 등 사용하는 경우 기계를 받는 것이 되었다. 그런 그런 사용하는 것이 되었다. 그런 그런 것은 것이 되었다. 보다 물론이 나무한 다른 것은 것이 되었다. 그런 물론이 되었다. 그런 것은 것이 되었다. 그런 것은 것이 되었다.	이 보고함, 고리워들 학생으로 보고 화를 받았다.
있는 사용하게 되었다. 그 전에 가장 하는 것도 하는 사용에 가장 보호되는 것이 되었다. 하는 가장 함께 다음 하는 사용에는 사용을 하는 것을 하는 것이 되었다. 그 사용에 가장 보고 있는 것을 하는 것이 있다. 전 사용이	
하는 보고 있다. 이 경기를 보고 있는 것이 이렇게 되었다. 그 보고 있는 것이 되었다. 현실 보고 있는 것이 되었다. 그 것이 없는 것이 없는 것이 없는 것이 없는 것이 없는 것이 없는 것이 없는 사람들은 사람들이 있는 사람들이 가장을 보았다. 그리고 있는 것이 있는 것이 없는 것이 없	
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마다 많이 하고 있다. 생생하는 생생이는 이 그 전에 이 생각을 하게 하는데 이 가능이 있는데 하셨다. 생물 생생님 그런 아이들 아니라 아이들 사람들이 모르는데 하는데 나를 하는데 되었다.	
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이 경험을 받는 하는데 모르는데 나를 모양한 하는데 사람이 없는데 그래?	
그리다 내가 얼마나 하는 사람들이 되었다는 사람이 얼마나 나를 다 했다.	
된 이 등록 위에 하는 경기로 발하는 경기 등록 등록 등로 보고 있다. 그런 그는 사람들은 사람들이 되는 것 같아. 나무는 이 성급을 하고 있을 것을 보고 있다. 그 그리고 말했다. 물론은 이 없는 하고 있는 그리고 있다.	
사용하다 마음을 가게 되었다. 사용하는 사용하는 사용하는 사용하는 것이 되었다. 	
물 수는 말을 하는 것 같아. 그는 말을 하는 것 같아 나는 것이 없는 것이 없는 것이 없는 것이다.	
	4. "我们是我们的,我们就是一个人的,我们就是一个人的,我们就是一个人的,我们就是一个人的。"
사람들은 생각 그들의 경기를 가장 되었습니다. 아이들은 발표로 보고 있는 것으로 되었습니다. 	
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SECTION 9

WIRE LISTS

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		고리를 지금 사람들을 되었다.	

WIRE LISTS

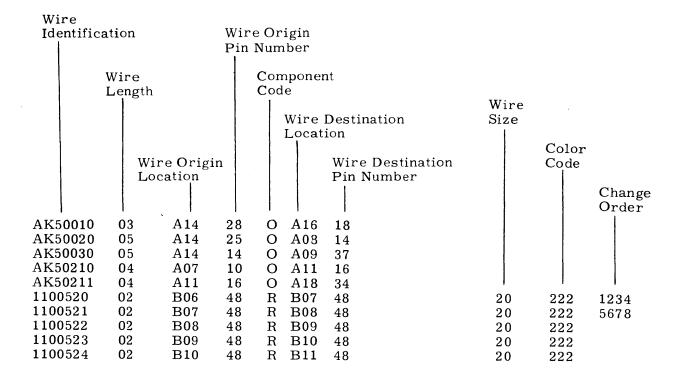
DESCRIPTION OF WIRE LISTS

The two types of wire lists are:

- 1. The line printer format which shows logic wiring.
- 2. The corporate (typed) form which shows non-logic wiring.

LOGIC WIRE LISTS

The following is an example of the logic wire lists with an identification, and an explanation of the columns.



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Wire Identification

If the identifier begins with a letter, the wire provides an input to a logic term; first letter identifies the logic row of the term, second letter and the first three digits identify the logic term receiving the input via this wire. If the identifier begins with a numeral, the wire is not directly providing an input to a logic term and is generally classified as a miscellaneous jumper. A sequential advance in the second to the last digit indicates additional inputs to the same term.

AK50010 - single input OR to K500 AK50020 - single input OR to K500

A sequential advance in the last digit indicates the interconnections of an AND input.

Wire Length

This column gives the wire length in inches.

Wire Origin Location

This column locates the origin of the wire on the logic chassis. Wires having a common signal at two or more locations are interconnected in series. In the sample, the fourth and fifth wires shown have a common signal. The Wire Destination Location of the first wire becomes the Wire Origin Location of the second so that the series string is from A07 pin 10 to A11 pin 16 to A13 pin 34. Note that the first four characters of the Wire Identification terms are the same for the three wires and that the sequencing is from 10 to 11 in the last two characters.

Wire Origin Pin Number

This column identifies the origin pin or terminal of the wire.

Component Code

This column identifies the components that are located in the Wire Origin Location and the Wire Destination Location columns. The code letters are identified as follows:

- O When both ends terminate at a logic card
- R When one end terminates at a miscellaneous component (switch, resistor, etc.)
- X When one end terminates at a jack (or connector pin)

Wire Desitnation Location

This column locates the destination of the wire on the logic chassis.

Wire Destination Pin Number

This column identifies the destination pin or terminal of the wire.

Wire Size

This column identifies the size (AWG) of the wire.

Color Code

Solid colored wires are identified by repeating (3 times) the code number in this column. Multicolored wires are identified by a number having two or three digits. Each digit of the number identifies one of the colors. The code numbers are identified as follows:

0 - Black 2 - Red 4 - Yellow 6 - Blue 8 - Gray S - Shield 1 - Brown 3 - Orange 5 - Green 7 - Violet 9 - White

Change Order

This column identifies the engineering, field, or publications change order that affected and/or altered that wire.

NON-LOGIC LISTS

COMPU		OL DA	ATITLE		WII	RE L	ISTING				W L SHEET	DOCUMENT NO.	REV.
CONDUCTOR IDENT.	FIND NO.	GAUGE (REF.)	COLOR (REF.)	LENGTH (APPROX)	ORIGIN		ACCESS FIND NO.	DESTINATIO	N	ACCES FIND	SS 40.	REMARKS	
20	29	24	993	03	X12	03		X12	09				
21	29	1	993	03	X13	03		X13	09				
22	29		993	03	X14	03	•	X14 .	09		$oldsymbol{ol}}}}}}}}}}}}}}}}}$		
23	29		993	03	X15	03		X15	09				
24	29		993	03	X16	03		X16	09				

Wire lists other than logic are on a standard corporate form. The remaining columns of the form contain information NOT normally applicable to field usage and therefore are not explained.

The other columns indicate:

Gauge (Ref)

- Size of conductor (AWG)

Color (Ref)

- Color information

Length (Approx) - Length of conductor in inches

Origin

- Origin point of conductor

Destination

- Destination point of conductor

Remarks

- Useful comments

In multi-digit color codes, the first digit denotes base color and the remaining digits denote tracer colors. The color codes for the non-logic lists are the same as those for logic wiring.

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ING WG	+	Įω		91	<u>. بد</u>	¥	121	4			ND/		Ľ	.06	IC	WI	KE	LI	51	LOGIC C	HA5515	LW		/01	81190	00	
2000	+	_	=	_	=	+	_	十	60	1	100101		ł	11 0										SME	E1 .		
	#		=	=	=	t	_	1	19.	333	3		Ľ	WL.	TC) 5	K	DRI	VE						•' 1	OF 1	
			:	SHE	ET	REY	/1 S	101	4 5	TAT	rus										REVISI	ION REC	ORD				
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\sqcup	L	_	L	L	┸	L	L	L	Ļ	ļ.	1	丄	L	L	L	L	L	L	C	PE IIZBG	DELETED			65		1-5-70	
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\vdash	L	1	L	Ļ	Ļ	L	L	┖	Ļ	L	↓_	↓_	Ш	_	L	L	L	L	E	RE 11446				4	_	3-12-10	<u>au</u>
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Ц.	L	4	Ļ	Ļ	╀	Ļ	1	Ļ	Ļ	Ļ	1	┺	Ц.	_	L	L	L	L									
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NOTE	<u>.</u>		1_	_	_	-			ـــ	_		<u> </u>	_	Ц	ш	Щ.			L	<u> </u>						<u> </u>	Щ
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																							- 1	DE	TACH	ED'LIST	5

- Mariastal g	227		CODE IDENT	·			-	DOCUMENT NO	
Mark 1990	(2002)	NORMANDELE DIVISION	19333	SHEET	1 OF	1	DN	70811900	rev F
M	OTES:								
	1.	FOR MECH ASSY AND PL SEE 4	100 16000,						
		FOR CARD PLACEMENT LIST AN SEE SUB-FINAL ASSY 4006804 40068242, 40068342 (ZX).	D LOGIC SCH 12, 40068142	EMATIC (1x) OR					
	1	INSTALL A SOLID BLACK JUMP NO. 76, FROM PIN 2 AND PIN COMMECTOR, NUMBER ADI THRU THRU B29, TO THE CLOSEST H COMMECTOR MOUNTING BAR FOR	:50 OF ÉACH :A29 AND BO' OLE IN THE						
	4.	THESE WIRES ARE PRESENT IN UNIT ONLY. (LOGIC CHASSIS	A DUAL CHAP 40016000).	I NEL					
	5.	THESE WIRES ARE PRESENT IN (LOGIC CHASSIS 40016001).	A SINGLE CH	IANNEL U	IIT O	NLY,			

LW70811900	LOG	IC CHA	21824			REVISION F	PAGE	1
AI10010	04	A21	13 0	A25	08	LOGIC CHASSIS		
AI10011	02	A21	13 0	A21	18	LUGIC CHASSIS		NOTES
AI10020	08	A21	12 0	B25	08	LOGIC CHASSIS		
AI10110	04	A21	16 0	A25	13	LOGIC CHASSIS		
AI10111	02	A21	16 0	A21	17	LUGIC CHASSIS		NOTES
A110120	08	A21	08 0	B25	13	LUGIC CHASSIS	· · · · · · · · · · · · · · · · · · ·	
A110210	04	A21	10 0	A25	18	LUGIC CHASSIS		
AI10211	02	A21	10 ()	A21	22	LOGIC CHASSIS		NOTES
AI10220	09	A21	05 0	B25	18	LOGIC CHASSIS		
A110310	05	A21	14 0	A27	08	LOGIC CHASSIS		
AI10311	02	A21	14 0	A21	21	LOGIC CHASSIS		NOTES
A110320	08	A21	09 0	B27	08	LOGIC CHASSIS		
AI10410	05	A21	33 0	A27	13	LOGIC CHASSIS		
AI10411	02	A21	33 0	A21	41	LOGIC CHASSIS		NOTES
AI10420	08	A21	32 0	827	13	LOGIC CHASSIS		
A110510	05	A21	30 ()	A27	18	LOGIC CHASSIS		
AI10511	02	A21	30 O	A21	42	LUGIC CHASSIS		NOTE
AI10520	07	A21	40 0	B27	18	LOGIC CHASSIS		
AI10610	06	A21	29 0	A29	08	LOGIC CHASSIS		
AI10611	02	A21	29 0	A21	44	LOGIC CHASSIS		NOTES
AI10620	07	A21	38 0	B29	80	LOGIC CHASSIS		
AI10710	06	A21	36 0	A29	13	LOGIC CHASSIS		
AI10711	02	421	36 O	A21	45	LOGIC CHASSIS		NOTE:
AT10720	0.8	421	37 ()	B29	13	LOGIC CHASSIS		
AI10810	()4	A21	01 0	A20	25	LOGIC CHASSIS		
A110910	02	A21	34 ()	A19	29	LUGIC CHASSIS		
AI11810	09	A16_	44 ()	B25	38	LOGIC CHASSIS		- TIES # 15 6
AI11811	05	A16	44 ()	A15	02	LOGIC CHASSIS		NOTES
AI11820	06	A16	45 ()	A25	38	LOGIC CHASSIS		
AI12010	04	A16	41 ()	A12	28.	LOGIC CHASSIS	•	
AI12110	06	A16	21 <u>0</u> 42 ()	A25 B25	44	LOGIC CHASSIS		
AI12210	09	A16			44	LOGIC CHASSIS		NOTE
AI12211 AI20010	04 05	A16 A17	42 () 21 ()	A16 A12	02	LUGIC CHASSIS		NOTES
A120010 A120020	08	A17	21 U 25 O	A12 A29	36 44	LOGIC CHASSIS		
A120020	11	A17	29 0	B29	44	LOGIC CHASSIS		
A120110 A120111	02	A17	29 0	A17	02	LOGIC CHASSIS		NOTES
4120120	02	417.	40 0	A17	21	LOGIC CHASSIS		11286
AI21510	03	A18	22 0	A20	25	LOGIC CHASSIS		11200
A121710	04	A18	05 0	A19	29	LUGIC CHASSIS		
AI21810	05	A19	08 0	A25	24	LOGIC CHASSIS		
A122110	06	A19	12 0	A27	24	LOGIC CHASSIS		
AI22310	07	A19	14 0	A29	32	LOGIC CHASSIS		
A122410	03	419	18 0	A20	32	LOGIC CHASSIS		
AI22411	02	A19	18 0	A19	02	LOGIC CHASSIS	•	NOTES
4122510	07	Δ19	40 0	A29	24	LOGIC CHASSIS		
A122810	07	A19	42 0	A29	18	LOGIC CHASSIS		
AI23010	03	A19	21 0	A18	21	LOGIC CHASSIS	 	
A123210	02	A19	34 0	A20	26	LOGIC CHASSIS		
A123310	09	A20	0.80	825	24	LOGIC CHASSIS		
AI23410	02	A20	05 0	A19	09	LOGIC CHASSIS		
A123420	02	A20	01 0	A19	10	LOGIC CHASSIS		
AI23430	02	A20	09 N	A19	05	LOGIC CHASSIS		
AI23440	02	A20	12 0	A19	17	LOGIC CHASSIS		
AI23510	10	A20	10 0	B27	24	LOGIC CHASSIS		

LW70811900	LOG	IC CH	ASSIS			REVISION F	PAGE	2
AI23610	10	A20	22 ()	B29	32	LUGIC CHASSIS		
A123710	02	A 2.0	21 0	A19	30	LUGIC CHASSIS		
AI23810	10	A20	13 0	B29	24	LUGIC CHASSIS		
A123910	04	A20	17 0	A19	37	LOGIC CHASSIS		
AI23920	04	A20	20 0	A19	38	LOGIC CHASSIS		
A123930	04	A20	14 0	A19	36	LOGIC CHASSIS		
AI23940 AI24010	<u>04</u> 	A20	16 0 18 0	A19 B29.	41 18	LOGIC CHASSIS		
A124010 A124110	09	A20	29 0	629. Al9	21	LOGIC CHASSIS		
A124110	03	A20	37 (1	A19	26	LOGIC CHASSIS		
A124510	04	A20	45 0	A19	13	LOGIC CHASSIS		
AI24910	03	A19	24 ()	A17	28	LOGIC CHASSIS		11286
AI25010	04	A20	41 0	A17	30	LOGIC CHASSIS		11200
A I 30110	05	A10	09 0	A09	41	LOGIC CHASSIS		
AI30910	02	A10	01 0	A09	05	LUGIC CHASSIS		
AI31310	02	A10	21 0	A11	22	LOGIC CHASSIS		
AI32010	02	A09	21 0	A10	21	LOGIC CHASSIS		
A132210	03	A09	44 ()	A10	25	LUGIC CHASSIS		
AI33010	11	A09	28 0	A27	44	LOGIC CHASSIS		
A133020	12	A09	29 0	B27	44	LOGIC CHASSIS		
AI33021	03	A09	29 0	A09	02	LOGIC CHASSIS		NOTE5
A134510	06	A18	38 0	A09	42	LOGIC CHASSIS		
AI34710	06	A18	16 0	A10	17	LOGIC CHASSIS		
A134711	03	A10	17 0	A09	25	LOGIC CHASSIS		
AI34910	07	A18	41 0	A09	16_	LOGIC CHASSIS		
ÄI36010 AI36020	02 02	A 09" A 09	01 () 09 ()	A10 A10	12	LOGIC CHASSIS		
A136030	02	A09	12 0	A10	05 20	LOGIC CHASSIS LOGIC CHASSIS		
AI36040	02	A09	17 0	A10	13	LOGIC CHASSIS		
A136110	-02	A09	20 0	A10	29	LOGIC CHASSIS		
AI36120	02	A09	24 0	A10	22	LOGIC CHASSIS		
AI36130	02	A 09	32 0	A10	36	LOGIC CHASSIS		
AI36140	02	A09	36 D	A10	33	LOGIC CHASSIS		
AI36210	03	A09	38.0	A10	45	LOGIC CHASSIS		
AI36220	02	A09	45 0	A10	40	LOGIC CHASSIS		
AI36230	04	A09	34 ()	A10	14	LOGIC CHASSIS		
AI36810	06	A09	40 O	A19	32	LOGIC CHASSIS		11286
A136811	02	A19	32 ()	A20	38	LOGIC CHASSIS		11286
À136820	03	A09	37 0	80A	25	LOGIC CHASSIS		
A140010	11	A12	05 0	B25	32	LOGIC CHASSIS		
A[40011	02	A12	05 ()	A12	02	LOGIC CHASSIS		NOTE5
A140020	80	A12	08.0	A25	32	LOGIC CHASSIS		
AI40710	05	A12	36 0	A08	09	LOGIC CHASSIS		
A140720	03	A12	37 ()	A14	29	LOGIC CHASSIS		
A140730 A140910	04	A12	32 0	A07	38	LOGIC CHASSIS		
A140910 A140911	03	A13 A12	21 () 10 ()	A12	10	LUGIC CHASSIS		
A141010	$-\frac{04}{05}$	A12 A12	<u> </u>	80A 80A	20	LOGIC CHASSIS		
AI41010	03	A12	09 0	AU8 A13	21 24	LOGIC CHASSIS LOGIC CHASSIS		
A141210	04	A11	08.0	A12	40	LOGIC CHASSIS		
AI41211	04	A12	40 0	A13	13	LOGIC CHASSIS		
AI41220	05	A11	05 ()	A12	41	LOGIC CHASSIS		
AI41221	04	A12	41 0	A13	17	LOGIC CHASSIS		
AI41310	04	A11	01 ()	A12	34	LOGIC CHASSIS		
AI41510	04	A11	12 0	A12	38	LUGIC CHASSIS		

LW70811900	LOG	IC CH	ASSIS			REVISIO	ON F	PAGE	3
AI41511	04	A12	38 0	A13	09	LOGIC	CHASSIS		
A141710	04	A13	45 0	411	17		CHASSIS		
4141810	03	A13	41 0	A11	29		CHASSIS		
142210	~03~	712	20 0		08		CHASSIS		
1142220	04	Λ12	21 0	Λ13	01		CHASSIS		
142230	02	^12	~ 22 U	^13	18		CHASSIS		
1142710	04	A13	42 0	A11	13		CHASSIS		
4150910	04	A08	16 0	A12	17		CHASSIS	· · · · · · · · · · · · · · · · · · ·	
4150920	04	80A	18 0	A12	12		CHASSIS		
4150930	02	A08	17 0	A09	14		CHASSIS		
AI51310	05	A11	41 0	A07	09		CHASSIS		
151410	04	A11	21 0	A07	25		CHASSIS		
4152010	06	A07	20 0	A14	38		CHASSIS		
152020	07	A07	14 0	A17	14		CHASSIS		
4152030	02	A07	21 0	A08	09		CHASSIS		
152110	04	A11	36 ()	AUB	13		CHASSIS		
4152210	04	A07	24 0	A11	32		CHASSIS		
152220	02	A07	32 0	A08	25		CHASSIS	•	
4152230	03	A07	30 N	A08	16		CHASSIS		
152310	06	A08	29 0	A17	12		CHASSIS	· 	
A152320	11	80A	28 0	A27	38		CHASSIS		
4152330	13	A08	30 0	B27	38		CHASSIS		
4152331	03	A08	30 D	AUS	50		CHASSIS		NOTE5
152340	07	A08	32 0	A17	13		CHASSIS		140162
4160010	11	A08	41 0	A27	32		CHASSIS		
160020	12	A08	44 0	B27	32		CHASSIS		
160021	05	A08	44 0	A07	02		CHASSIS		NOTE5
160210	06	A15	01 0	408	33		CHASSIS		140165
4160610	05	A15	26 U	A08	40		CHASSIS		
1161210	-05	A17	22 0	A11	36		CHASSIS		
4162210	05	A14	05 0	All	44		CHASSIS		
162310	02	Δ14	13 0	A15	0.5		CHASSIS		
1162410	02	A14	16 0	A15	10		CHASSIS		
162510	02	A14	12 0	A15	18		CHASSIS		
4163810	06	A09	40 0	A17	30				NOTE5
K10010	04	A16	33 ()	A21	18		CHASSIS CHASSIS		NUTES
AK10210	04	A16	25 0	A21	17		CHASSIS		
4K10410	04	A16	22 0	A21	22		CHASSIS		
K10410	05	A16	12 O	A21	21				
K10810	03_ 04	A16	37 ()	A21	41		CHASSIS		
K11010	04	A16	29 0	A21	42				
K11210	05	A16	18 0	A21	44		CHASSIS CHASSIS		
K11410	06	A16	08 0	A21	45				
K20210	03	A19	28 0				CHASSIS		
4K20210	07	A19	22 ()	~A20~~ A29	44		CHASSIS		
K20510	_07_ _09_	A19 A20	40 0	B29	38		CHASSIS		
K30010	04	A09	10 0	A13	38		CHASSIS		
K30210	04 04	A09	08 0	A13	32		CHASSIS		
K30410	03	A09	14 0	A13	20 12		CHASSIS		
K30610	05	- A09	33 0				CHASSIS		
4K30810	04	A09			05		CHASSIS		
K35010	03	A09	22 0	A12	25		CHASSIS		
K40010	03	A13	13 0	A10	32		CHASSIS		
K40210			32 0	A14	13		CHASSIS		
4K40410	02	A13	20 0	A14	12		CHASSIS		
41/404I0	02	A13	12 0	A15	80	LUGIC	CHASSIS		

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AK40610	05	A13	05 ()	A15	41	LOGIC CHASSIS		
AK40620	03	A13	30 ()	A12	13	LOGIC CHASSIS		
AK40710	03	A13	40 O	A12	26	LOGIC CHASSIS		
AK40810	03	A12	25 0	A14	16	LOGIC CHASSIS		
AK41010	()4	A12	17 0	A16	29	LOGIC CHASSIS		
AK41210	04	A12	12 0	A14	28	LUGIC CHASSIS		
AK41410	04	A12	01 ()	A16	- 08	LUGIC CHASSIS		
AK50010	03	Δ14	28 ()	A16	1.8	LUGIC CHASSIS		
AK 50020	05	۸14	25 0	AUR	14	LUGIC CHASSIS		
AK50030	06	A14	14 0	80A	12	LOGIC CHASSIS		
AK50210	()4	A07	10 0	All	16	LOGIC CHASSIS		
AK50211	04	A11	16 0	A13	34	LOGIC CHASSIS	•	
AK50212	04_	A13	34 0	All	4.2	LOGIC CHASSIS		21103
AK50310	02	A07	12 0	AU8	05	LOGIC CHASSIS		
AK50311	05	_80A	05 ()	A13	28	LOGIC CHASSIS	· · · · · · · · · · · · · · · · · · ·	
AK50610	04	A07	26 ()	A11	14	LOGIC CHASSIS		
AK50620	04	A07	33 0	A08	13	LOGIC CHASSIS		
AK50710	05	A07	36 0	A11	09	LOGIC CHASSIS		
AK50810	05	A07	42 0	A11	13	LOGIC CHASSIS		
AK50910	05	A07	40 0	A11	10	LOGIC CHASSIS		
AK51110	02	A11	32 0	A12	37	LOGIC CHASSIS		
AK51120	04	A11	37 ()	A11	50	LOGIC CHASSIS		21103
AK 60010	04	A15	05 0	A16	33	LOGIC CHASSIS		
AK60210	02	A15	18 0	Al6	25	LOGIC CHASSIS		
AK60410	_ 03	Λ15	08 0	A16	22	LOGIC CHASSIS		
AK60610	()4	A15	41 ()	A16	12	LUGIC CHASSIS		
ΛK 608 I 0	04	ALS	10 (1)	A16	37	LOGIC CHASSIS		
AK61010	()4	۸1 <i>۲</i>	36 (1	A 1 4	21	LOGIC CHASSIS		
AK61210	<u> 05</u>	A1/	37 0	All	33	LUGIC CHASSIS		
AK61410	04	A17	17 ()	A14	24	LOGIC CHASSIS		
AK61810 AK62010	$\frac{04}{04}$	A17	24 O 01 O	A14 A14	$-\frac{10}{17}$	LOGIC CHASSIS LOGIC CHASSIS		
AT 00010	07	A24	01 0	Alo	34	LOGIC CHASSIS		
AT00010	$-\frac{07}{11}$	A24	05 0	B16	34	LOGIC CHASSIS		
AT00110	06	A24	12 0	A16	26	LOGIC CHASSIS		
AT00110	$\frac{00}{10}$	A24	14 0	B16	26	LOGIC CHASSIS	·	
AT00120	06	A24	17 0	A16	20	LOGIC CHASSIS		
AT00210	-09	A24.	$\frac{180}{180}$	B16	20	LOGIC CHASSIS		
AT 00220	06	A24	25 0	A16	09	LOGIC CHASSIS		
AT00310	08	A24	26 0	816	09	LOGIC CHASSIS		
AT00410	06	A24	30 0	Alb	38	LOGIC CHASSIS		
AT00420	-09	A24	32 0	816	38	LOGIC CHASSIS		
AT00510	06	A24	36 O	Al6	30	LOGIC CHASSIS		
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ATU0620	08	A24	42 0	В16	16	LOGIC CHASSIS		
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AT00720	10	A26	05 0	B16	05	LOGIC CHASSIS		
AT00810	05	A26	12 0	A20	28	LOGIC CHASSIS		
AT00811	03	A26	12 0	A26	0.2	LOGIC CHASSIS		NOTES
AT00820	10	A26	14 ()	B20	28	LOGIC CHASSIS	•	
AT00821	04	A26	14 0	A25	02	LUGIC CHASSIS	· · · · · · · · · · · · · · · · · · ·	NOTE 5
AT01210	07	A28	01 0	A18	12	LOGIC CHASSIS		
AT01220	10	A28	05 ()	818	12	LUGIC CHASSIS		
AT01310	07	A28	12 0	A18	10	LOGIC CHASSIS		

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AT01320	09	A28	14 ()	818	10	LOGIC CHASSIS		
AT01410	07	A28	17 0	Al8	13	LUGIC CHASSIS		
AT01420	09	A28	18 - 0	818	13	LOGIC CHASSIS		
AT01610	07	A28	25 Ú	A18	0.9	LUGIC CHASSIS	•	
AT01620	09	A28	26 ()	818	(19	LOGIC CHASSIS	•	
AT01710	07	8.5 A	30 0	A19	16	LUGIC CHASSIS		
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AT01720	0.8	Δ28	32 0	1319	16	LOGIC CHASSIS		
AT01721	02	819	16 U	81.8	14	LOGIC CHASSIS		
AT01810	07	A28	36 0	A18	01	LUGIC CHASSIS		
AT01820	08	A28	37 U	B18	01	LOGIC CHASSIS		
AT01910	06	A26	17 ()	418	08	LUGIC CHASSIS		
AT01920	02	A26	18 0	A26	26	LOGIC CHASSIS		
AT02010	08 _	A26	25 U	818	60	LOGIC CHASSIS		
AT02020	02	A26	26 O	A26	32	LOGIC CHASSIS		
AT02110	06	A26	30 0	A18	44	LOGIC CHASSIS		
AT02120	02	A26	32 ()	A26	37	LOGIC CHASSIS	·	
AT02210	09	A26	36 ()	B18	44	LOGIC CHASSIS		
AT02220	02	A26	37 0	A26	42	LOGIC CHASSIS		
4T02310	02	A28	42 U	A28	50	LOGIC CHASSIS		
AT02310	05	A28	41 ()	A22	33	LOGIC CHASSIS		
4102410	80	A26	41 ()	B22	33	LOGIC CHASSIS		
ATU2420	02	A26	42 0	A26	50	LOGIC CHASSIS		
Y30110	02	A10	28 U	A10	26	LOGIC CHASSIS		
AY30111	02	A10	26 D	A10	24	LOGIC CHASSIS		
AY30115	04	A10	24 0	A10	08	LOGIC CHASSIS		
AY30113	02	A10	28 0	A10	34	LOGIC CHASSIS		
AY30114	03	A10	34 ()	A10	44	LOGIC CHASSIS		
AY32010	03	A09	30 O	A10	18	LOGIC CHASSIS		
4Y36010	04	Α09	18 0	All	44	LOGIC CHASSIS		
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AY60110	03	Δ17	10 0	A14	09	LUGIC CHASSIS		
AY60410	04	80A	37 0	A11	40	LOGIC CHASSIS		11332
4Y5U411	03	All	40 0	A14	33	LOGIC CHASSIS	,	11332
BI10010	80	B21	13 0	A25	10	LUGIC CHASSIS		
3110011	02	B21	, 13 0	B21	18	LOGIC CHASSIS		NOTE 5
B110020	04	B21	12 0	825	10	LOGIC CHASSIS		
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8110120	04	821	08 0	825	14	LOGIC CHASSIS		
B110210	- 08	B21	10 0	A25	20	LOGIC CHASSIS		K1 (5 - 12 - 12 - 12 - 12 - 12 - 12 - 12 - 1
3110211	02	B21	10 0	821	22	LOGIC CHASSIS		NOTE5
8110220	04	B21	05 ()	B25	20	LUGIC CHASSIS		
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B110311	02	B21	14 ()	B21	21	LOGIC CHASSIS		NOTE5
3110320	05	B21	09 0	B27	10	LOGIC CHASSIS		
BI10410	10	B21	33 ()	A27	14	LOGIC CHASSIS	· · · · · · · · · · · · · · · · · · ·	- <u> </u>
BI10411	02	B21	33 0	B21	41	LOGIC CHASSIS		NOTE5
BI10420	05	B21	32 ()	B27	14	LUGIC CHASSIS		
B110510	0.9	821	30 0	A27	20	LOGIC CHASSIS		NOTES
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BI10520	05	B21	·40 ()	827	20	LUGIC CHASSIS		
BI10610	10	821	29 0	A29	10	LOGIC CHASSIS		

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B110620	06	B21	38 0	B29	10	LOGIC CHASSIS		
B110710	10	821	36 ()	A29	14	LOGIC CHASSIS		- 11255
B110711	02	B21	36 ()	821	45	LUGIC CHASSIS		NOTES
BI10720 BI10810	06_	B21	37 0	B29	14	LOGIC CHASSIS	<u> </u>	
B110810	04	B21 B21	01 () 34 ()	B20 B19	25 29	LOGIC CHASSIS LOGIC CHASSIS		
BT11810	09	B16	'44" () -	B25	4()	LOGIC CHASSIS		······································
BI11811	05	816	44 0	B15	02	LOGIC CHASSIS		NOTES
B111820	10	B16	45 Ŭ	A25	40	LOGIC CHASSIS		
BI12010	04	B16	41 0	B12	28	LOGIC CHASSIS		
B112110	08	В16	21 0	A25	45	LOGIC CHASSIS		
BI12210	07	B16	42 ()	B25	45	LOGIC CHASSIS		
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BI20010	04	B17	21 0	B12	36	LOGIC CHASSIS	,	
B120020	09	В17	25 0	A29	45	LOGIC CHASSIS		
B120110	_08_	617	29 0	B29	45	LOGIC CHASSIS		
BI20111 BI20120	03	B17 B17	29 () 40 ()	B17 B17	02 21	LOGIC CHASSIS	•	NOTE5
B121510	03	818	22 0	B20	25	LOGIC CHASSIS		11286
BI21710	04	B18	05 0	B19	29	LOGIC CHASSIS		
B121810	-07	B19	$\frac{080}{0}$	A25	$-\frac{1}{25}$	LOGIC CHASSIS		
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BI22310	08	B19	14 0	A29	33	LOGIC CHASSIS		
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B122510	10	B19	40 ()	A29	25	LOGIC CHASSIS		
B122810	11	B <u>1</u> , 9	42 U	A29	20	LUGIC CHASSIS		
B123010	. 02	B19	21 ()	818	21	LOGIC CHASSIS		
B123210	02	B19	34 11	B20	26	LOGIC CHASSIS		
BI23310	05	B20	0.8 ()	B25	25	LOGIC CHASSIS		
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BI23420 BI23430	02	B20	$\frac{01}{000} = 0$	B19	10	LOGIC CHASSIS		······································
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B123510	06	B20 B20	12 0	B19 B27	17 25	LOGIC CHASSIS		
BI23610	07	B20	22 0	B29	33	LOGIC CHASSIS		
B123710	02	B20	$\frac{220}{210}$	B19	30	LOGIC CHASSIS		
BI23810	07	B20	13 0	B29	25	LOGIC CHASSIS		
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BI23930	04	B20	14 0	819	36	LOGIC CHASSIS		
BI23940	04	B20	16 0	B19	41	LOGIC CHASSIS		
BI24010	07	B20	18 0	B29	20	LOGIC CHASSIS	·····	
BI24110	02	B20	29 D	B19	21	LOGIC CHASSIS		
BI24310	03	B20	37 0	в19	26	LOGIC CHASSIS		
BI24410	04	B20	45 ()	B19	13	LOGIC CHASSIS		
BI24910 BI25010	03	B19	24 ()	B17	28	LOGIC CHASSIS		11286
B130110	03 04	B20 B10	41 O 09 O	B17	30	LOGIC CHASSIS		
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BI32010	02	B09	21 0	B10	21	LOGIC CHASSIS		
BI32210	03	B09	44 0	810	25	LOGIC CHASSIS		
BI33010	12	B09	28 0	A27	45	LOGIC CHASSIS		

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8133020	11	809	29 0	B27	45	LOGIC CHASSIS		
3133021	03	B09	29 ()	B09	02	LOGIC CHASSIS		NOTE5
8134510	06	B18	38 O	B09	42	LOGIC CHASSIS		
3134710	06	B18	16 0	B10	17	LOGIC CHASSIS		
BI34711	03	B10	17 0	B09	25	LOGIC CHASSIS		
3134910	07	818	41 0	B09	16	LOGIC CHASSIS		
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3136020	02	B09	09 0	В10	05	LOGIC CHASSIS		
8136030	02	809	12 0	810	20	LOGIC CHASSIS		
3136040	02	B09	17 0	B10	13	LUGIC CHASSIS		
BI36110	03	809	20 D	810	29	LOGIC CHASSIS		
₹136120	02	B09	24 U	в10	22	LOGIC CHASSIS		
BI36130	02	809	32 0	810	36	LOGIC CHASSIS		
3136140	02	B09	36 O	810	33	LOGIC CHASSIS		
BI36210	02	809	38 O	B10	45	LUGIC CHASSIS		
8136220	02	809	45 ()	B10	40	LUGIC CHASSIS		
BI36230	04	B09	34 ()	B10	14	LOGIC CHASSIS		
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BI36811	02	B19	32 0	B20	38	LOGIC CHASSIS		11286
8136820	03	B09	37 O	808	25	LOGIC CHASSIS		
8140010	09	812	05 ()	B25	33	LOGIC CHASSIS		
BI40011	02	B12	05 0	B12	02	LOGIC CHASSIS		NOTE5
BI40020	09	B12	0.80	A25	33	LOGIC CHASSIS		
B140710	05	B12	36 ()	808	09	LOGIC CHASSIS		
BI40720	03	B12	37 0	814	29	LOGIC CHASSIS		
B140730 - "	04	B12	32 0	B07	38	LUGIC CHASSIS	· - +	
8140910	03	B13	21 ()	B12	10	LOGIC CHASSIS		
3140911	04	B12	10 0	B08	20	LOGIC CHASSIS	•	
BI41010	05	812	09 0	B08	21	LOGIC CHASSIS		
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8141210	05	B11	08 0	812	4()	LOGIC CHASSIS		
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8141220	05	811	05 ()	B12	41	LOGIC CHASSIS		
8141221	Ö 4	B12	41 0	813	17	LOGIC CHASSIS		
B141310	04	811	01 ()	812	34	LOGIC CHASSIS		
3141510	04	B11	12 0	812	38	LOGIC CHASSIS		
BI41511	04	B12	38 O	B13	09	LOGIC CHASSIS		
3141710	04	813	45 0	" в1Т	17	LOGIC CHASSIS		
BI41810	03	B13`	41 0	811	29	LOGIC CHASSIS		
3142210	03	B12	20 0	B13	08	LOGIC CHASSIS		
B142220	04	B12	21 0	813	01	LOGIC CHASSIS		
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BI42710	04	B13	42 ()	B11	13	LOGIC CHASSIS		
3150910	04	808	16 0	В12	17	LOGIC CHASSIS		
BI50920	04	808	18 0	B12	12	LOGIC CHASSIS		
3150930	02	808	17 (1	809	14	LUGIC CHASSIS		
8151310	05	B11	41 0	807	09	LOGIC CHASSIS		
3151410	04	В11	21 0	B07	25	LOGIC CHASSIS	· · · · · · · · · · · · · · · · · · ·	
BI52010	06	807	20 0	B14	38	LOGIC CHASSIS		
3152020	07	B07	14 0	817	14	LOGIC CHASSIS		
BI52030	03	B07	21 0	808	09	LOGIC CHASSIS		
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BI52210	04	B07	24 0	B11	32	LOGIC CHASSIS		
3152220	03	B07	32 0	808	25	LOGIC CHASSIS		
8152230	03	B07	30 0	B08	16	LOGIC CHASSIS		
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BI52310	06	808	29 ()	B17	12	LOGIC CHASSIS		
BI52320	12	808	28 ()	A27	40	LUGIC CHASSIS		
BI52330	11	B08	30 0	B27	40	LOGIC CHASSIS		
8152331	03	B08	30 O	808	50	LOGIC CHASSIS		NOTES
BI52340	07	808	32 0	B17	13	LOGIC CHASSIS		
B160010	12	B08	41 ()	A27	33	LOGIC CHASSIS		
B160020	11	808	44 ()	B27	33	LOGIC CHASSIS		
B160021	05	808	44 ()	B07	02	LUGIC CHASSIS		NOTES
B160210	06	815	01 ()	808_	33	LUGIC CHASSIS		
BI60610	05	815	26 0	808	40	LOGIC CHASSIS		
8161210	05	B17	22 0	811	36	LOGIC CHASSIS		
B162210	05	B14	05 0	B11	44	LOGIC CHASSIS		
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BI62410	02	814	16 0	В15	10	LOGIC CHASSIS		
BI62510	02	B14	12 0	B15	18	LOGIC CHASSIS		
BI63810	06	B09	40 0	В17	30	LOGIC CHASSIS		NOTE 5
BK10010	04	.B16	33 ()	B21	18	LOGIC CHASSIS		
BK10210	04	B16	25 0	821	17	LOGIC CHASSIS		
BK10410	04	B16	22 0	B21	22	LOGIC CHASSIS		
BK10610	05	B16	12 ()	B21	21	LOGIC CHASSIS		
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BK11210	05	B16_	18 0	B21	44	LOGIC CHASSIS		
BK11410	06	B16	08-0	B21	45	LOGIC CHASSIS		
BK20210	03_	B19	- 28_U	B20_	44	LOGIC CHASSIS	· · · · · · · · · · · · · · · · · · ·	
BK20310	08	B19	22 0	A29	40	LOGIC CHASSIS		
BK20510	06	B20	40 0	_B29_	40	LUGIC CHASSIS		
BK30010	04	B09	10 0	B13	32	LOGIC CHASSIS		
BK30210	04	B09	08 0	B13	20	LOGIC CHASSIS		
BK30410	03	В09	14 ()	в13	12	LOGIC CHASSIS		
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BK40010	03	B13	32 ()	B14	13	LOGIC CHASSIS		
BK40210	02	B13	20 0	B14	.12	LOGIC CHASSIS		
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BK40610 BK40620	05	B13	05 0	B15	41	LUGIC CHASSIS		
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BK40810		B12	25 ()	B14	16	LOGIC CHASSIS		
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BK50210	04	B07	10 0	B11	16	LOGIC CHASSIS		
BK50211	04	B11	16 0	B13	34	LOGIC CHASSIS		
BK50212	()4	B13	34 0	B11	34 42	LUGIC CHASSIS		21103
BK50310	02	B07	12 0	308	05	LOGIC CHASSIS		21103
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BK50710	05	B07	36 0	B11	09	LOGIC CHASSIS		
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BK50910	05	B07	40 O	811	10	LOGIC CHASSIS		
BK51110	02	811	32 ()	812	37	LOGIC CHASSIS		
BK51120	03	B11	37 0	B11	50	LOGIC CHASSIS		211.03
BK60010	04	B15	05 0	316	33	LUGIC CHASSIS		
BK60210	02	B15	18 0	B16	25	LOGIC CHASSIS		
BK60410	03	B15	08.0	B16	22	LOGIC CHASSIS		
BK60610	04	815	41 0	816	12	LOGIC CHASSIS		
BK60810	04	B15	10 0	316	37	LOGIC CHASSIS		
BK61010	03	B17	36 O	B14	21	LOGIC CHASSIS		
BK61210	05	В17	37 n	811	33	LOGIC CHASSIS		
BK61410	04	B17	17 0	B14	24	LOGIC CHASSIS		
BK61810	04	B17	24 U	B14	10	LUGIC CHASSIS		
BK62010	04	B17	01 0	B14	17	LOGIC CHASSIS		
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BT00020	07	B24	05 O	816	36	LOGIC CHASSIS		
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BT00210	09	B24	17 ()	A16	17	LUGIC CHASSIS		
BT00220	06	B24	18 0	B16	17	LOGIC CHASSIS		
BT00310	10	B24	25 U	A16	10	LUGIC CHASSIS		
BT00320	06	B24	26 O	· B16	10	LOGIC CHASSIS		
BT00410	08	B24	30 0	A16	40	LOGIC CHASSIS		
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BT00520	06	B24	37 O	816	32	LOGIC CHASSIS		
BT00610	11	B24	41 ()	A16	13	LUGIC CHASSIS		
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BT00811	03	B26	12 0	B26	02	LOGIC CHASSIS		NOTE5
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BT00821	04	B26	14 0	B25	02	LOGIC CHASSIS		NOTE5
BT01210	80	B28	01.0	A18	32	LOGIC CHASSIS		
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BT01420	07	828	18 0	B18	26	LOGIC CHASSIS		
BT01610 BT01620	10	B28	25 0	A18	30	LOGIC CHASSIS	•	
	07	828	26 O	818	30	LOGIC CHASSIS		
BT01710	10	B28	30 0	A20	24	LOGIC CHASSIS		
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BT01721	06	B28	32 0	B20	24	LUGIC CHASSIS		
BT01810	03	B20.	24 0	B18	33	LOGIC CHASSIS		
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BT02010	02	B26	18 0	B26	26	LOGIC CHASSIS		
BT02010 BT02020	06	B26	25 0	B18	25	LOGIC CHASSIS		
BT02110	02	B26	26 0	B26	32	LOGIC CHASSIS		
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BT02111	02	A20	33 0	A18	45	LOGIC CHASSIS		
BT02120	02 05	B26	32 O	B26	37	LOGIC CHASSIS		
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BT02220 = ===	02	B26	37 0	B26	42	LOGIC	CHASSIS		
BT02310	10	B28	41 ()	A22	21	LOGIC	CHASSIS		
BT02320	02	828	42 0	B28	50	COGIC	CHASSIS		
BT02410	05	B26	41 0	B22.	21		CHASSIS		
BT02420	02	B26	42 0	B26	50	LOGIC	CHASSIS		
BY30110	02	810	28 0	B10	26	LOGIC	CHASSIS		
8 Y3 0111	02	B10	26 0	B1()	24	LOGIC	CHASSIS		
BY30112	04	B10	24 ()	810	08	LOGIC	CHASSIS		
BY30113	02	B10	28 O	В10	34	LOGIC	CHASSIS		
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BY32010	03	B09	30 ()	B10	18	LOGIC	CHASSIS		
BY36010	04	B09	18 - 0	811	44		CHASSIS		
BY40410	05	ิ เชาว	10 0	B07	08	LOGIC	CHASSIS		
BY51510	03	B08	24 0	B11	20		CHASSIS		
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0602110	IIJ20023 X	B25	28	LOGIC CHASSIS	000	
0602210	IIJ20026 X	825	29	LOGIC CHASSIS	444	
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0602410	IIJ20027 X	B27	37	LOGIC CHASSIS	444	
0602510	X 85005LI	BZ5	41	LUGIC CHASSIS	000	
0602610	HJ20031 X	B25	42	LOGIC CHASSIS	444	
0602710	IIJ20029 X	B27	41	LUGIC CHASSIS	000	
0602810	IIJ20032 X	B27	42	LOGIC CHASSIS	444	
0602910	IIJ20030 X	B28	21	LOGIC CHASSIS	000	
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0603210	TIJ20034 X IIJ20037 X	В28 В28	80	LOGIC CHASSIS	000	
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0603410	IIJ20039 X	B28	16	LOGIC CHASSIS	444	
0603510	11J20038 X	B25	21	LOGIC CHASSIS	000	
0603610	IIJ20040 X	B25	22	LOGIC CHASSIS	444	
0603710	IIJ20043 X	B27	21	LOGIC CHASSIS	000	
0603810	IIJ20044 X	B27	22	LOGIC CHASSIS	444	
0603910	I I J 20042 X	B29	21	LOGIC CHASSIS	000	
0604010	IIJ20045 X	B29	22	LOGIC CHASSIS	444	
0604110	IIJ20046 X	B29	16	LOGIC CHASSIS	000	
0604210	IIJ20049 X	B29	17	LOGIC CHASSIS	444	

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0604310	IIJ20047 X	829	28	LOGIC CHASSIS	000	
0604410	IIJ20050 X	B29	29	LUGIC CHASSIS	444	
0604510	IIJ20058 X	B28	28	LOGIC CHASSIS	000	
0604610	IIJ20062 X	328	29	LOGIC CHASSIS	444	
0604710	IIJ20059 X	B28	33	LOGIC CHASSIS	000	
0604810	IIJ20063 X	B28	34	LOGIC CHASSIS	444	
0604910	IIJ20060 X	828	38	LOGIC CHASSIS	000	
0605010	IIJ20064 X	B28	40	LUGIC CHASSIS	444	
0605110	IIJ20065 X	829	36	LOGIC CHASSIS	000	
0605210	IIJ20070 X	B29	37	LOGIC CHASSIS	444	
0605310	IIJ20066 X	B26	13	LOGIC CHASSIS	000	
0605410	IIJ20071 X	в26	16	LOGIC CHASSIS	444	
0605510	IIJ20067 X	829	41	LUGIC CHASSIS	000	
0605610	IIJ20072 X	B29	42	LOGIC CHASSIS	444	
0605710	IIJ20048 X	IIJ20	0148	LOGIC CHASSIS	000	11446
0605810	IIJ20051 X	IIJ20		LOGIC CHASSIS	444	11446
0605910	IIJ20052 X	IIJ20		LOGIC CHASSIS	000	11446
0606010	IIJ20055 X	IIJ20		LOGIC CHASSIS	444	11446
0606110	IIJ20073 X	IIJ20		LOGIC CHASSIS	000	11446
0606210	IIJ20076 X	IIJ20		LOGIC CHASSIS	444	11446
0700110	IIJ20101 X	B24	08	LOGIC CHASSIS	000	
0700210	IIJ20104 X	B24	09	LOGIC CHASSIS	444	
0700310	IIJ20102 X	824	13	LOGIC CHASSIS	000	
0700410	IIJ20105 X	B24	16	LUGIC CHASSIS	444	
0700510	IIJ20103 X	B24	21	LOGIC CHASSIS	000	÷
0700610	IIJ20107 X	B24	24	LOGIC CHASSIS	444	
0700710	IIJ20108 X	B24	28	LOGIC CHASSIS	000	
0700810	IIJ20112 X	B24	29	LUGIC CHASSIS	444	
0700910	IIJ20110 X	B24	33	LOGIC CHASSIS	000	
0701010	IIJ20113 X	324	34	LOGIC CHASSIS	444	
0701110	IIJ20111 X	B24	38	LOGIC CHASSIS	000	
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0701310	IIJ20115 X	B24	44	LOGIC CHASSIS	000	
0701410	IIJ20118 X	B24	45	LOGIC CHASSIS	444	
0701510	IIJ20116 X	B26	08	LUGIC CHASSIS	000	
0701610	IIJ20120 X	B26	09	LOGIC CHASSIS	444	
0701710	IIJ20117 X	B25	36	LOGIC CHASSIS	000	
0701810	11J20121 X	B25	37	LOGIC CHASSIS	444	
0701910	IIJ20122 X	B27	28	LUGIC CHASSIS	000	
0702010	11J20125 X	B27	29	LOGIC CHASSIS	444	
0702110	IIJ20123 X	B25	28	LOGIC CHASSIS	000	
0702210	IIJ20126 X	B25	29	LOGIC CHASSIS	444	
0702310	IIJ20126 X	B27	36	LOGIC CHASSIS	000	
0702410	11J20127 X	B27	37	LOGIC CHASSIS	444	
0702510	IIJ20121 X	B25	41	LOGIC CHASSIS	000	
0702610	11J20128 X	B25	42		444	
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0703310	IIJ20137 X			LOGIC CHASSIS		
0703310	11J20138 X	B28	13	LOGIC CHASSIS	000	
0703410		B28	16	LOGIC CHASSIS	444	
0103210	IIJ20140 X	B25	21	LOGIC CHASSIS	000	

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0703610		IIJ2	0143 X	B25	22	LOGIC CHASSIS	444
0703710	****		0141·X	327	21	LOGIC CHASSIS	000
0703810			0144 X	827	22	LOGIC CHASSIS	444
0703910			0142 X	B29	21	LOGIC CHASSIS	000
0704010		IIJ2	0145 X	B29	22	LOGIC CHASSIS	444
0704110			0146 X	829	16	LOGIC CHASSIS	000
0704210			0149 X	B29	17	LOGIC CHASSIS	444
0704310			0147 X	329	28	LOGIC CHASSIS	000
0704410			0150 X	B29	29	LOGIC CHASSIS	444
0704510			0158 X	B28	28	LOGIC CHASSIS	000
0704610			0162 X	B28	29	LOGIC CHASSIS	444
0704710			0159 X	B28	33	LOGIC CHASSIS	000
0704810			0163 X	828	34	LOGIC CHASSIS	444
0704910			0160 X	B28	38	LOGIC CHASSIS	000
0705010			0164 X	B28	40	LOGIC CHASSIS	444
0705110			0165 X.	829	36	LUGIC CHASSIS	000
0705210			0170 X	B29_	37	LOGIC CHASSIS	444
0705310			0166 X	н26	13	LOGIC CHASSIS	000
0705410			0171 X	B26	16	LOGIC CHASSIS	444
0705510			0167 X	329	41	LOGIC CHASSIS	000
0705610			0172 X	<u>B29</u>	42	LOGIC CHASSIS	444
0800110			02 B X	826	21	LOGIC CHASSIS	000
0800210			02 D X	B26_	24	LOGIC CHASSIS	444
0800310			02BB X	B26	28	LOGIC CHASSIS	000
0800410			02DD X	B26	29	LOGIC CHASSIS	444
0800510			02 E X	B26	33	LOGIC CHASSIS	000
0800610			02 H X	B26	34	LOGIC CHASSIS	444
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0901510	05	A03	28 0	80A	80	LOGIC CHASSIS	
0901610	07	A03	08 0	A13	10	LUGIC CHASSIS	
0901710	07	A03	05 O	A13	44	LOGIC CHASSIS	
0901810	80	A03	01 0	A13	45	LOGIC CHASSIS	
1000110	05	B03	45 · O	B09	18	LOGIC CHASSIS	
1000210	06	В03	20 0	311	33	LOGIC CHASSIS	
1000310	06	B03	30 0	B12	45	LOGIC CHASSIS	
1000410	07	803	32 0	в12	14	LOGIC CHASSIS	
1000510	06	B03	33 0	B12	44	LUGIC CHASSIS	

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1000610	06	803	36 O	B12.	42	LOGIC CHASSIS	
1000710	07	B03	37 ()	B13	38	LUGIC CHASSIS	
1000810	07	B03	38 0	B13	37	LOGIC CHASSIS	
1000910	07	- в 03	$\frac{-300}{400}$	B13	36	LOGIC CHASSIS	
1001010	07	B03	41 0	B13	33	LOGIC CHASSIS	
1001110	07	B03	$\frac{170}{170}$	B12	33	LOGIC CHASSIS	
1001210	04	B03	29 0	B07	16	LOGIC CHASSIS	
1001310	04	B03	25 0	- 808	10	LOGIC CHASSIS	
1001510	05	303	28 0,	B08	08	LOGIC CHASSIS	
1001510	07	B03	08 0	813	10	LOGIC CHASSIS	
1001710	07	B03	05 0	B13	44	LOGIC CHASSIS	
1001710	08	B03	-010	B13	45	LOGIC CHASSIS	
1100010	02	A01	06 R	A02	06	LOGIC CHASSIS	20 666
1100011	02	A02	06 R	A03	06	LOGIC CHASSIS	20 666
1100012	02	A03	06 R	A04	06	LOGIC CHASSIS	20 666
1100012	-02	A04	06 R	A05	06	LOGIC CHASSIS	20 666
1100020	02	A06	06 R	A07	06	LOGIC CHASSIS	20 666
1100020	02	A07	06 R	A08	06	LOGIC CHASSIS	20 666
1100021	02	A08	06 R	A09	06	LOGIC CHASSIS	20 666
1100022	02	A09	06 R	A10	06	LOGIC CHASSIS	20 666
1100024	02	A10	06 R	A11	06	LOGIC CHASSIS	20 666
1100030	02	A12	06 R	$\frac{A11}{A13}$	06	LOGIC CHASSIS	20 666
1100031	02	A13	06 R	A14	06	LOGIC CHASSIS	20 666
1100032	02	A14	06 R	A15	-06	LOGIC CHASSIS	20 666
1100032	02	A15	06 R	A16	06	LOGIC CHASSIS	20 666
1100033	02	A16	06 R	A17	06	LOGIC CHASSIS	20 666
1100040	02	A18	06 R	A17	06	LOGIC CHASSIS	20 666
1100040	02	A19	06 R	420	06	LOGIC CHASSIS	20 666
1100041	02	A20	06 R	A21	06	LOGIC CHASSIS	20 666
1100042	02	A21	06 R	A22	06	LOGIC CHASSIS	20 666
1100045	02	A21	06 R	A23	06		
1100050	02	A24	06 R	A25 A25	06	LOGIC CHASSIS	20 666
1100050		A24				LUGIC CHASSIS	20 666
1100051	02 02	A27	06 R	A26	06	LOGIC CHASSIS	20 666
1100061		A21		A28	06	LOGIC CHASSIS	20 666
1100081	02		06 R	A29	06	LOGIC CHASSIS	20 666
1100110	02 02	A01 A02	46 [.] R 46 R	A02 A03	46 46	LOGIC CHASSIS LOGIC CHASSIS	20 222 20 222
1100112		A02	46 R	A04	46	LOGIC CHASSIS	20 222
1100112	02	A04	46 R	A05	46	LOGIC CHASSIS	20 222
1100113	02	Α06	46 R		- 46	LOGIC CHASSIS	20 222
1100120	02	A07	46 R	A07 A08	46	LOGIC CHASSIS	
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1100123	02	A00	46 R	A10	46	LUGIC CHASSIS	20 222
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1100124		A10	46 R	All	46	LOGIC CHASSIS	20 222
1100130	02	A12	46 R	A13	46	LOGIC CHASSIS	20 222
1100131	02	A13	46 R	A14	46	LOGIC CHASSIS	20 222
	02	A14	46 R	A15	46	LOGIC CHASSIS	20 222
1100133	02	A15	46 R	A16	46	LOGIC CHASSIS	20 222
1100134	02	A16	46 K	A17	46 z.z.=	LOGIC CHASSIS	20 222
1100140 1100141	02	A18	46 R	A19	46	LOGIC CHASSIS	20 222
	02	A19	46 R	A20	46	LOGIC CHASSIS	20 222
1100142	02	A20	46 R	A21	46	LOGIC CHASSIS	20 222
1100143	02	A21	46 R	A22	46	LOGIC CHASSIS	20 222
1100144	02	A22	46 R	A23	46	LOGIC CHASSIS	20 222
1100150	02	A24	46 R	A25	46	LOGIC CHASSIS	20 222

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1100151	02	A25	46 R	A26	46	LOGIC CHASSIS	20 222
1100160	02	A27	46 R	A28	46	LOGIC CHASSIS	20 222
1100161	02	85A	46 R	A29	46	LOGIC CHASSIS	20 222
1100210	02	A01	48 R	A02	48	LOGIC CHASSIS	20 222
1100211	02	A02	48 K	A03	48	LOGIC CHASSIS	20 222
1100212	02	A03	48 R	A04	48	LOGIC CHASSIS	20 222
1100213	02	A04	48 R	A05	48	LOGIC CHASSIS	20 222
1100220	02	A06	48 R	A07	48	LOGIC CHASSIS	20 222
1100221	02	Δ07	48 R	80A	48	LOGIC CHASSIS	20 222
1100222	02	80A	48 K	AU9	48	LOGIC CHASSIS	20 222
1100223	02	A09	48 R	A10	48	LOGIC CHASSIS	20 222
1100230	02	412	48 R	A13	48	LOGIC CHASSIS	20 222
1100231	02	A13	48 R	A14	48	LOGIC CHASSIS	20 222
1100232	02	A14	48 R	A15	48	LOGIC CHASSIS	20 222
1100233	02	_Al5_	48 R	A16	48	LOGIC CHASSIS	20 222
1100234	02	A16	48 K	A17	48	LOGIC CHASSIS	20 222
1100235	02	<u> </u>	48 R	<u> A12</u>	<u>48</u>	LUGIC CHASSIS	20 222
1100240	02	A18	48 R	A19	48	LOGIC CHASSIS	20 222
1100241	02	A19	48 R	A20	48	LOGIC CHASSIS	20 222
100242	02	A20	48 R	A21	48	LOGIC CHASSIS	20 222
1100243	02	A21	48 R	A22	48	LOGIC CHASSIS	20 222
1100244	02	A22	48 R	A23	48	LUGIC CHASSIS	20 222
1100310	02	B01	06 R	B02	06	LOGIC CHASSIS	20 666
1100311	02	в02	06 R	B03	06	LOGIC CHASSIS	. 20 666
1100312	02	В03	06 R	B04	06	LOGIC CHASSIS	20 666
1100313	02	B()4	06 R	805	06	LOGIC CHASSIS	20 666
1100320	02	806	06 R	BO /	06	LOGIC CHASSIS	20 666
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1100323	02	B09	06 R	810	06	LOGIC CHASSIS	20 666
1100324	02	B10	06 R	811	06	LOGIC CHASSIS	20 666
1100330	07	812	06 R	13.1.5	06	1,06/10 GHASSES	20 666
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1100332	02	814	06 R	B15	06	LOGIC CHASSIS	20 666
1100333	02	B15	06 R	<u>B16</u>	06	LUGIC CHASSIS	20 666
1100334	02	в16	06 R	B1/	06	LUGIC CHASSIS	20 666
1100340	02	B18	06 R	H19	06	LOGIC CHASSIS	20 666
1100341	02	819	06 R	B20	06	LOGIC CHASSIS	20 666
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100410	02	B01	46 R	B02	46	LOGIC CHASSIS	20 222
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100422	02	B08	46 R	в09	46	LOGIC CHASSIS	20 222
1100423	02	B09	46 R	810	46	LOGIC CHASSIS	20 222
1100424	02	810	46 R	311	46	LOGIC CHASSIS	20 222
1100430	02	B12	46 R	B13	46	LOGIC CHASSIS	20 222

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100431	02	813	46 R	B14	46	LOGIC CHASSIS	20 222	
100432	02	B14	46 R	B15	46	LOGIC CHASSIS	20 222	
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100434	02	В16	46 R	в17	46	LOGIC CHASSIS	20 222	
100440	02	B18	46 R	B19	46	LOGIC CHASSIS	20 222	
100441	02	В19	46 R	B20	46	LUGIC CHASSIS	20 222	
100442	02	B20	46 R	B21	46	LOGIC CHASSIS	20 222	
100443	02	B21	46 R	B22	46	LOGIC CHASSIS	20 222	
100444	02	B22	46 K	823	46	LOGIC CHASSIS	20 222	
100450	02	824	46 R	825	46	LOGIC CHASSIS	20 222	
100451	02	B25	46 R	B26	46	LOGIC CHASSIS	20 222	
100460	02	B27	46 R	B28	46	LOGIC CHASSIS	20 222	
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NORMANDALE DIVISION	19333	SHEET	2	LW	72 99 2 70 0	REV B
NOTES:			٠.			
I. FOR MECH ASSY & PL SEE	<u> </u>					

- 7299400,72994001.
- 2. FOR CP & SCHEMATIC SEE SUB-FINAL ASSY 40068042, 40068142 (1X) OR 40068242, 40068342 (2X).
- 3. INSTALL A SOLID BLACK JUMPER WIRE, FN 76, FROM PIN 2 AND PIN 50 OF EACH CONNECTOR, NUMBER ACI THRU A29 AND BOI THRU B29, TO THE CLOSEST HOLE IN THE CONNECTOR MOUNTING BAR FOR GROUNDING.
- 4. THESE WIRES ARE PRESENT IN A DUAL CHANNEL UNIT ONLY. (LOGIC CHASSIS 72994000).
- 5. THESE WIRES ARE PRESENT IN A SINGLE CHANNEL UNIT ONLY. (LOGIC CHASSIS 72994001).

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162410	05	A14 15		A15 10	LOGIC CHASSIS!		
162510	92	A14 12		A15 18	LOGIC CHASSIS!		
163810 K10010	06 04	A09 40 A16 33		A17 30	LOGIC CHASSIS		NOTE 5
K10010	04	A16 25		A21 18 A21 17	LOGIC CHASSIS!	THE CALL STREET, STREE	
K10410	04	A16 23		A21 22	LOGIC CHASSIS!		
K10610	-05	A1612		A21 22	LOGIC CHASSIS!		
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IDENT NO	LGTH	ORIG	IN-	SORT	DEST	N	TITLE			SIZE	COLOR	ECO	
AK10810	04	A16	37	0	A21	41	LOGIC	CHASSISE					
AK11010	04	A16	29	0	A21	42	LOGIC	CHASSIST					
AK11210	οŚ	A16	18	ō	ÁZÍ	44	LOGIC	CHASSISE					
AK11410	06	A16	08	ŏ	AZI	45		CHASSISI					
K20210	οã	A19	28	ŏ	A20	44		CHASSIST					
4K20310	ŏ 7	Ai9	- 25	- 5	A29	— 3 -		CHASSIST					
AK20510	ŏĠ	A20	40	ŏ	829	38		CHASSIS					
4K30010	04	A09	10	0	A13	32-		CHASSIST					
AK30210	04	A09	08	ŏ	Älä	ŽÕ		CHASSIS					
AK30410	ő š	A09	14	Ö	A13	12		CHASSIST					
AK30610	ŏ5	A09	33	ŏ	ĀĪЗ	05		CHASSISE					
AK30810	04	A09	22	- ō	AIŽ	25		CHASSIST					
AK35010	03	A09	13	ŏ	Alo	32		CHASSIST					
K40010	<u>03</u>	A13	32	0	A14	13	LOGIC	CHASSIST					
4K40Z10	őŽ	A13	20	ŏ	Â14	12	LOGIC	CHASSIST					
4K40410	<u>02</u>	AI3	12	ŏ	Ais	08	LOGIC	CHASSIST					
AK40610	05	A13	05	ŏ	A15	41		CHASSIS					
4K40620		Ala	30	- 5	A12	13		CHASSIST					
4K40710	οŠ	A13	40	ō	A12	26		CHASSIST					
K40810	03	AIZ	25	- ŏ	A14	- <u>ī ē</u> -		CHASSIST					· · · · · · · · · · · · · · · · · · ·
4K41010	04	A12	17	ŏ	Â16	29		CHASSISE					
K41210	04	A12	12	- ŏ	A14	28		CHASSIST					
AK41410	0 Å	A12	01	ŏ	A16	08		CHASSISI					
AK50010	~ 03	A14	~ 28	ŏ	A16	18		CHASSIS!					
AK50020	ō Ś	A14	25	Ö	ÀÖÄ	14		CHASSIST					
K50030	0.6	A14	14	0	AOB	īź-		CHASSIST					
AK50210	04	A07	Ĩ0	0	Á11	16	LOGIC	CHASSISI					
4K5U211	04	All	16	0	A13	34	LOGIC	CHASSIST					
4K50212	04	A13	34	0	ÁĨĨ	42	LOGIC	CHASSISE					
AK50310	02 05	A07	12	0	A08	05	LOGIC	CHASSIST					
4K50311	οŚ	AQ8	05	0	A13	28	LOGIC	CHASSISI					
4K50610	04	A07	26	0	A11	14	LOGIC	CHASSISI					
K50620	0.4	A07	33	0	AÜB	13	LOGIC	CHASSISE					
K50710	ō\$	A07	36	— O	A11	09	LOGIC	CHASSIST					
AK50810	05 05	Ã07	42	0	Ali	13	LOGIC	CHASSIS					_
AK50910	05	A07	40		A11-	10	LOGIC	CHASSIS					
K51110	02	A11	32	0	Å12	37		CHASSIS					
K51120	04	A11	37	0	A11	50		CHASSIST					
K60010	04	A15	05	0	A16	33		CHASSIS					
4K60210	02	A15	18	0	A16	25		CHASSISE					
K60410	03	A15	08	0	A16	22		CHASSISE					
AK60610	04	A15	41	0	A16	12		CHASSIST					
4K603 10	04	A15	10	0	A16	37		CHASSISE					
K61010	04	A17	36	0	A14	21		CHASSIST					
AK61210	05	A17	37	0	A11	33		CHASSISE					
AK61410	C 🐓	A17	17	0	A14	24		CHASSIS					
AK61810	0∳	A17	24	Ō	A14	10		CHASSIST					
AK62010	04	A17	01	0	A14	17		CHASSIST	-				- MALE
4T00010	07	A24	01	0	A16	34		CHASSISE					
ATODOZO	11	A24	05	- 0	816	34	· ··· LOGIC	CHASSIST					

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DIVISION 0	Pėo čeboi	KI Fāi-Oİ		ρÉ	P (3	313 308 03144			Luge	2 5 1360
IDENT NO	LGTH	ORIGI	N- SORT	DESTIN		TITLE	SIZE	COLOR	ECO	
AT00110	06	A24	12 0		26	LOGIC CHASSIS!				
AT00120	10	A24	14 0		26	LOGIC CHASSIST				
AT00210	0 6	A24	17 0		20	LOGIC CHASSISE				
AT00220	0.6	A24	18 0		50	LOGIC CHASSIST				
AT00310	06	A24	25 0		09	LOGIC CHASSIS!				
OSEOOTA	08	A24	26 0		09	LOGIC CHASSIS				
AT00410	06	A24	30 0		38	LOGIC CHASSISE	·			
AT00420	- 6	A24	32 0		38	LOGIC CHASSIS				
AT00510	06	A24	36 0		30	LOGIC CHASSISE				
AT00520	09	A24	37 0		30	LOGIC CHASSIS!				
AT00610	07	A24 A24	41 0		16 16	LOGIC CHASSIST				
AT00620 AT00710	07	A26	01 0		05	LOGIC CHASSISI				
AT00720	19	A26	05 0		05	LOGIC CHASSIST				
ÁT00810	05	A26	12 0		28	LOGIC CHASSISI				
AT00811	03	A26	iz o		02	LOGIC CHASSIST			NOTE	5:
ATOU820	10	Ã26	14 0		28	LOGIC CHASSISI			**************************************	-
AT00821	54	A26	-14 o		02	LOGIC CHASSIST			NOTE	5
ATO1210	07	A28	01 0	Ã18	12	LOGIC CHASSISI			***	
AT01220	10	85V	05 0	918	12	LOGIC CHASSIST				
ĀT01310	07	A28	12 0	A18	10	LOGIC CHASSISE				
AT01320	09	À28	14 0		10	LOGIC CHASSISE				
AT01410	07	A28	17 0		13	LOGIC CHASSIS!				
AT01420	09	A28	18 0		13	LOGIC CHASSIST			The state of the s	
AT01610	07	A28	25 0		09	LOGIC CHASSISE				
AT01620	09	A28	56 0		09	LOGIC CHASSIST				
AT01710	07	A28	30 0		16	LOGIC CHASSIST				
AT01711	02	A19 A28	16 0 32 0	-	14	LOGIC CHASSIST				
AT01720	02	B19	16 0		16 14 ·····	LOGIC CHASSIST				
AT01721 AT01810	07	A28	36 0		01	LOGIC CHASSISI				
AT01820	08	A28	37 0 —		01	LOGIC CHASSIST				
ĀT01910	06	A26	17 0		08	LOGIC CHASSIST				
AT01920	ŏž	A26	i8 o		26	LOGIC CHASSIST				
ATOZO10	08	A26	25 0		08	LOGIC CHASSIST				
ATOZOZO	0.5	A26	26 0		š2	LOGIC CHASSIST				
AT02110	06	A26	30 0	A18	44	LOGIC CHASSIST				
05150TA	02	A26	32 0		37	LOGIC CHASSIST				
AT02210	0.9	A26	36 0		44	LOGIC CHASSIS!				
AT02220	02	A26	37 0		42	LOGIC CHASSIST		· · · · · · · · · · · · · · · · · · ·		
AT02310	02	A28	42 0		50	LOGIC CHASSIST				
01ES0TA	05	A28	41 0		33	LOGIC CHASSIST				
AT02410	08	A26 A26	41 0		33 50	LOGIC CHASSISE				
AT02420 AY30110	02	A20 A10	42 0 28 0		26	LOGIC CHASSIST				
ÂY30111	02	Alo	26 0		24	LOGIC CHASSISI				
AY30112	04	Ālo	24 0		08	LOGIC CHASSIST				
ÂY30113	- ož	A10	280		34	LOGIC CHASSIST				
ÃY30114	03	Alo	34 0		44	LOGIC CHASSIST				
0102EYA	03	A09	30 0		18	LOGIC CHASSIST				
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ENT NO	ГĞТЙ	ORIGIN	SORT	DESTI		TITLE	SIZE	COLOR	ECO
740410	04	A09 18	0	A11 A07	44 08	LOGIC CHASSIS!			
(51510	05 03	A13 10 A08 24	0	Áli	20	LOGIC CHASSIST			
51511	66	A11 20	ŏ	AIS	37	LOGIC CHASSIST			
60110	03	A17 10	Ö	ÄÌÄ	09	LOGIC CHASSIST			
60410	ŏă	- Â08 37		Aii	- 4 ó -	LOGIC CHASSIST			
60411	οá	A11 40	ŏ	A14	33	LOGIC CHASSIST			
10010	08	821 13	- 5	A25	10	LOGIC CHASSIST			
10011	οŽ	821 13	0	821	18	LOGIC CHASSIST			NOTE 5.
10020	04	821 12	0	825	10	LOGIC CHASSIS!			
10110	0 8	821 16	0	A25	14	LOGIC CHASSIS!			
10111	02	B21 16	0	821	17	LOGIC CHASSIS!			NOTE: 5:
10120	0 4	821 08	0	825	14	LOGIC CHASSIS			
10210	08	821 10	0	A25	20	LOGIC CHASSIS!			
10511	02	821 10		821	55	LOGIC CHASSIS			NOTE 5
10550	04	821 05	0	825	50	LOGIC CHASSIS!			
10310	09	B21 14	0	A27	10	LOGIC CHASSIST			
10311	02 05	B21 14	0	821	21	LOGIC CHASSIS!			NOTE 5
10320		821 09 821 33	0	827	10	LOGIC CHASSISI			
10410	10	B21 33	0	A27 B21	14 41	LOGIC CHASSIS! Logic Chassis!			NOTE 5
10420	05	821 32	0	B27	14	LOGIC CHASSISE			NOIE 3
10510	09	B21 30	Ö	A27	50	LOGIC CHASSISI			
10511	- ··· ož · · -··	821 30	6	821	42	LOGIC CHASSISI			NOTE 5
10520	őŠ	621 40	ŏ	827	20	LOGIC CHASSISE			MOTE 5.
10610	10	B21 29	6	A29	10	LOGIC CHASSIST			
10611	02	821 29	ŏ	821	44	LOGIC CHASSISE			NOTE 5
10620	06	821 38	- ŏ	829	10	LOGIC CHASSIST			
10710	10	B21 36	Ó	A29	14	LOGIC CHASSIST			
10711	ő Z	B21 36	0	821	45	LOGIC CHASSIST	*****		NOTES
10720	0 6	B21 37	0	829	14	LOGIC CHASSIST			
10810	04	B21 01	0	820	25	LOGIC CHASSIST			
10910	02	821 34	0	819	29	LOGIC CHASSISI			
11810	09	B16 44	0	825	40	LOGIC CHASSIS			
11811	05	816 44	0	815	02	LOGIC CHASSIST			NOTE 5:
11820	10	B16 45	- 0	A25	40	LOGIC CHASSIS			
12010	04	816 41	0	812	28	LOGIC CHASSIS!	· · ·		
12110	08 07	816 21 816 42	0	A25 825	45 45	LOGIC CHASSIST			
12211	- 04	B16 42		816	02	LOGIC CHASSISE			NOTE 5
20010	0 7	317 21	ŏ	808	42	LOGIC CHASSIST			WATE 2
20020	09	B17 25		A29	45	LOGIC CHASSIST			
20110	0 Š	817 29	ŏ	629	45	LOGIC CHASSIST			
20111	วั3	B17 29	ŏ	817	<u>0</u> 2	LOGIC CHASSIST			NOTE 5
20120	οŽ	817 40	. 0	517	šį	LOGIC CHASSISE			TRIE 🐔
21510	03	B18 22	ŏ ·	2 0	25	LOGIC CHASSIST			
21710	04	B18 05	Ö	B 19	29	LOGIC CHASSIST			
21810	07	вія ов		A25	25	LOGIC CHASSIST			
22110	08	B19 12	Ö	A27	25	LOGIC CHASSIST			
22310	08	819 14	0	A29-	33	LOGIC CHASSIST			

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DENT- NO	- LĢTH	ORIGIN	SORT	DESTIN	TITLE	SIZE COLOR	ۂ <u>Q</u>
122410	03	819 18	0	820 32			
122411	- <u>02</u>	919 18	0	919 02			NOTE 5
122510	10	B19 40 B19 42	0	A29 25			
122810	02	B19 42 B19 21	0 -	318 21	LOGIC CHASSIS!		
123210	02 2	819 34	_ ŏ	B20 26			
123310	65	B20 08	ŏ	825 25			
123410	02	820 05	0	819 09	LOGIC CHASSIST		
123420	ćŽ	B20 01	0	, 819 10			
123430	02	B20 09	0	B19 05			
123440	02	820 12 820 10		819 17 827 25			
123510 123610	07	B20 10	Ö	B29 33			
123710	02	B20 21	ŏ	B19 30			
123810	ŏ7	820 13	ŏ	829 25			
123910	04	B20 17		819 37	LOGIC CHASSIST		
123920	04	B20 20	0	B19 38			
123930	04	B20 14	Ö	B19 36			
123940	04	820 16 820 18	0	819 41 829 20			
124010 124110	02	820 29	0	B19 21			
124310	<u> </u>	B20 37		B19 26			
124410	0.4	820 45	ō	B19 13			
124910		819 24	0	Bj7 28			
125010	0 3	B20 41	0	B17 30			
125110	0,5	B08 38	0	B09 50			
130110	04	B10 09 B10 01	0	809 41 809 05		<u>,</u>	
131310	οż	B10 21	ŏ				
132010	čž	B09 21	ŏ	811 22 810 21	LOGIC CHASSIST		
132210	03	B09 44	0	610 25			
133010	12	B09 28	Ò	A27 45			
133020	11	B09 29	0	B27 45			NOTE -
133021 134510	ე ჭ ე Ġ	809 29 818 38	0	B09 02 B09 42			NOTE 5
134710	05	818 16	- K	809 42 810 17	LOGIC CHASSIST		
134711	อ์รั	B10 17	ŏ	B09 25			•
134910	· 57 -	818 41	Ö	809 16	LOGIC CHASSIST	· · · · · · · · · · · · · · · · · · ·	
136010	02	809 01	0	B10 12			
136020	32	809 09	0	B10 03			
136030 136040	0.2	809 12 809 17	0	810 20 810 13			
136110	03	B09 20	Ö	B10 29			
136120	- JŽ	B09 - 24	- ŏ	810 22			
136130	οŻ	809 32	Ö	#10 36	LOGIC CHASSIST		
3136140 "	02	809 36	0	B10 33			The second secon
136210	2	809 38	0	B10 45			
136220	32 04	B09 45 B09 34	0	B10 40			
136230 136810	07	B09 40	0	610 14 819 32			
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DENT NO	LGTH	ORIGIN	SORT	DESTIN	TITLE	SIZE COLOR	ECO	
136811	02	819 32	0	820 38	LOGIC CHASSISE			
136820	03	809 37	ō	808 25	LOGIC CHASSIST			
140010	09	B12 05	0	B25 33	LOGIC CHASSIST		NOTE	
140011	02	B12 05	0	812 02	LOGIC CHASSIST	-	NOTE	5:
140020	09	812 08	0	A25 33	LOGIC CHASSIS			
140710	05	812 36	0	808 09	LOGIC CHASSIS			
140720 140730	03	812 37 812 32	0	814 29 807 38	LOGIC CHASSIS!			
	03		0	812 10	LOGIC CHASSIS!			
140910 140911	0.5	813 21 B12 10	-6	308 20	LOGIC CHASSIS			
140911 141010	0 \$	B12 09	0	808 21	LOGIC CHASSIS!			
141010	03	B12 09	ŏ	B13 24	LOGIC CHASSIS!			
141210	0.5 0.5	B11 08	ŏ	812 40	LOGIC CHASSIS!			
141211	04	B12 40	0	813 13	LOGIC CHASSIS!			
141220	0\$	811 05	Ö	812 4Î	LOGIC CHASSISE			
141221	04	B12 41	0	813 17	LOGIC CHASSIST			
141310	0 4	B11 01	ŏ	B12 34	LOGIC CHASSIST			
141510	0 4	B11 12	ŏ	812 38	LOGIC CHASSIST			
141511	0 4	812 38	ō	813 09	LOGIC CHASSIS!			
141710	04	813 45	ŏ	811 17	LOGIC CHASSIST			
141810	0 3 .	B13 41	ŏ	B11 29	LOGIC CHASSISE			
142210	03	B12 20	0	B13 08	LOGIC CHASSIST			
142220	04	B12 21	o ´	B13 01	LOGIC CHASSIST			
142230	02	915 55	0	B13 18	LOGIC CHASSIST			*· · · · · · · · · · · · · · · · · · ·
142710	04	B13 42	0	611 13	LOGIC CHASSISI			
150910	04	B0B 16	0	812 17	LOGIC CHASSIST			
150920	04	808 18	0	812 12	LOGIC CHASSIST			
150930	02	808 17	0	809 14	LOGIC CHASSIST			
151310	05	B11 41	0	307 09	LOGIC CHASSIS			
151410	04	B11 21	0	B07 25	LOGIC CHASSIST			
152010	06	B07 20	0	B14 38	LOGIC CHASSIS!			
152020	07	B ₀ 7 14 8 ₀ 7 21	0	617 14	LOGIC CHASSISI			
152030	03		0	808 09	LOGIC CHASSISE			
152110	04	B11 36	0	B ₀ 8 13	LOGIC CHASSIST			
152210	04	807 24	. 0	811 32	LOGIC CHASSIS!			
152220	03	B07 32	0	BUB 25	LOGIC CHAS IS			
152230 152310	03 06	807 30 808 29	0	308 16 B17 12	LOGIC CHASSIS!			
	12 12	808 29	0	BÍ7 12 A27 40	LOGIC CHASSISE	-		
[52320			~					
(523 3 0 (523 3 1	11	B08 30 B08 30	0	B27 40 808 50	LOGIC CHASSIST		NOTE	. E(
152340	07	B08 30 B08 32		808 50 817 13	LOGIC CHASSISE		MAÍE	·
152340 [600] 0	12	B08 41	ŏ	A27 33	LOGIC CHASSISE			
60020	11	808 44	- 6	B27 33	LOGIC CHASSIST			
60020	05	B08 44	Ö		LOGIC CHASSISE		NOTE	: e ,
160510	06	815 01	Ö .	807 02 808 33	LOGIC CHASSIST		i i i	· 7.
60610	05		0	B08 40	LOGIC CHASSIST			
61210	05	815 26 817 22	6	B11 36	LOGIC CHASSIST			
162510	05	B14 05	ŏ	811 44	LOGIC CHASSIST			
162310	02	814 13	ŏ	B15 05	LOGIC CHASSIST			
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IDENT NO	LGTH -	ORIG1	N	SORT	DEST	IN	TITLE	SIZE COLOR	ECO	
d162410	02	814	16	0	815	10	LOGIC CHASSISE	* a -		
9162510	Ś	814	15	- 0	915	18-	LOGIC CHASSIST			
B163810	06	B09	40	Ō	617	30	LOGIC CHASSIST		NOTE	5:
BK10010	7	B16	33	0	621	18	LOGIC CHASSIST			
BK16210	0 - 4	816	25	0	821	17	LOGIC CHASSIS!			
BK10410	04	816	- 55		851	55 -	LOGIC CHASSIS			
BK10610	05	816	12	0	821	21	LOGIC CHASSIS!			
BK10810	74	816	37	0	821	41	LOGIC CHASSIS!			
9K11010	0∳	816	29	0	, , , p21	42	LOGIC CHASSIS!			
BK11210	0\$	B16	_18	0	821	44	LOGIC CHASSIST			
BK11410	06	B16	08	0	821	45	LOGIC CHASSIS!			
3K50510	03	819	28	0	820	44	LOGIC CHASSIST			
BK20310	0.8	819	22	0	A29	40	LOGIC CHASSIS!			
BK20510	06 04	820	40	0	829	40 32	LOGIC CHASSIS			
BK30010		809	10	0	813		LOGIC CHASSIS!			
BK30510	04	809	08	0	813	50	LOGIC CHASSIST			
BK30410	03 05	B09 B09	14 33	0	813 813	12 05	LOGIC CHASSISI			
BK30610	04	B09	22	0	812	25	LOGIC CHASSIS!			
BK30810	03	809	13	- 0	512	32	LOGIC CHASSIS!			
BK40010	03	813	32	0	814	13	LOGIC CHASSIS!			
BK40210	02	813	- 20		814	12	LOGIC CHASSIST			
BK40410	05	813	12	0	815	08	LOGIC CHASSIS!			
BK40610	0\$	813	- 05	-0	815	41	LOGIC CHASSIST			
BK40620	03	813	30	ŏ	812	13	LOGIC CHASSIS!			
BK40710	- 03 	813	40	ŏ	812	25	LOGIC CHASSIST			
BK40810	őŠ	812	žŠ	ŏ	814	16	LOGIC CHASSIS!			
BK41010	04	812	- 1 7-	- ŏ	616	- 29	LOGIC CHASSIST			
BK41210	04	812	12	ŏ	814	28	LOGIC CHASSISE		•	
BK41410		Biz	ōī -	··· ŏ	B16	- 68	LOGIC CHASSIST			
BK50010	03	814	28	ō	616	18	LOGIC CHASSISE			
3K50020	05	B14	25	ō	608	14	LOGIC CHASSIST			
BK50030	06	814	14	Ō	808	ĨŽ	LOGIC CHASSIS			
BK50210	04	B07	10	0	BÌÏ	16	LOGIC CHASSIST			
BK50211	0∳	811	16	0	813	34	LOGIC CHASSIS!			
BK50212	04	813	34	0	811	42	LOGIC CHASSIST	The second secon		
BK50310	οŽ	807	12	0	808	05	LOGIC CHASSIS!			
BK50311	05	808	05	o	B13	58	LOGIC CHASSIST			
BK50610	04	B07	26	0	811	14	LOGIC CHASSISE			
BK50620	04	807	33	0	B08	13	LOGIC CHASSIS!			
BK50710	05	B07	36	0	811	09	LOGIC CHASSISE			
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CONTROL DATA CORPORA Division 0520 Repor		LW72992700 LOGIC CHASSIST DEPT 5315 JOB 05791	REVISION A DATE 11/13/70 PAGE 15 P 7506			
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DENT NO LOTH	ORIGIN SORT	DESTIN TITLE	SIZE COLOR ECO			
1403910	IJ201 42 X	A29 21 LOGIC CHASSIS	000			
1404010	1J201 45 X	A29 22 LOGIC CHASSIST	444			
404110	IJ201 46 X	A29 16 LOGIC CHASSIST A29 17 LOGIC CHASSIST	000 444			
404210	1J201 49 X	Á29 28 LOGIC CHASSISÍ	000			
0404310 0404410	IJ201 47 X IJ201 50 X	A29 29 LOGIC CHASSIST	444			
)404510	IJ201 50 X	A28 28 LOGIC CHASSIST	000			
404610	1J201 62 X	AZ8 29 LOGIC CHASSIST	444.			
404710	IJ201 59 X	A28 33 LOGIC CHASSISI	000			
404810	IJ201 63 X	A28 34 LOGIC CHASSISI	444			
404910	IJ201 60 X	A28 38 LOGIC CHASSIST	000			
405010	IJ201 64 X	A28 40 LOGIC CHASSIST	444-			
405110	IJ201 65 X	A29 36 LOGIC CHASSISI	000			
405210	1J201 70 X	A29 37 LOGIC CHASSIST	444			
405310	IJ201 66 X	A26 13 LOGIC CHASSIST	000			
405410	IJ201 71 X	AZ6 16 LOGIC CHASSIST	444:			
405510	IJ201 67 X	A29 41 LOGIC CHASSIST	000			
405610	IJ201 72 X		444			
500110	1J202 B X	A26 21 LOGIC CHASSIS[A26 24 LOGIC CHASSIST	000			
500210 0500310		AZÓ ZÃ LOGIC CHASSIST	000			
500410	17505 DD X	A26 29 LOGIC CHASSIST	444			
0500510	IJ202 E X	AZE 33 LOGIC CHASSISE	000			
500610	13505 H X	AZO 34 LOGIC CHASSIST	444.			
500710	IJ202 EE X	A26 38 LOGIC CHASSISI	000			
500810	1J202 HH X	A26 40 LOGIC CHASSIST	444			
500910	IJ202 F X	A28 44 LOGIC CHASSIST	000			
501010	1J202 J X	A28 45 LOGIC CHASSIST	444			
501110	IJ202 FF X	AZ6 44 LOGIC CHASSISE	000			
501210	17505 J7 X	AZ6 45 LOGIC CHASSIST	444			
600110	IIJ20001 X	B25 01 LOGIC CHASSIS	000			
0600510	11J20004 X	B25 05 LOGIC CHASSIST	444			
600310	IIJ20002 X	B25 09 LOGIC CHASSIST	000			
600410	11J20005 X	B25 16 LOGIC CHASSIST				
600510	11J20007 X	825 17 LOGIC CHASSIST	000			
0600710	11J20008 X	B27 01 LOGIC CHASSISE	000			
600810	11320002 X	D27 05 LOGIC CHASSIST	444			
600910	11J20010 X	B27 09 LOGIC CHASSIST	000			
601010	11J20013 X	827 12 LOGIC CHASSIST	44			
601110	IIJ20011 X	827 16 LOGIC CHASSISE	000			
601210	IIJ20014 X	B27 17 LOGIC CHASSISI				
601310	IIJ20015 X	B29 01 LOGIC CHASSIST	000			
601410	X 81002CII	B29 05 LOGIC CHASSIST	444			
601510	IIJ20016 X	H29 09 LOGIC CHASSISE	ÖÖÖ			
601610	IIJ20020 X	B29 12 LOGIC CHASSIS				
601710	IIJ20017 X	D25 36 LOGIC CHASSISE	000			
601810	IIJ20021 X	B25 37 LOGIC CHASSIST	444			
601910	IIJ20022 X	B27 28 LOGIC CHASSISE	0,00			
602010	11J20025 X	D27 29 LOGIC CHASSIST	444			
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ONTROL DATA CORPORA					OGIC CHASSISE	REVISIO	N A	DATE 11/13/70	
VIVISION 0550 REPOR	LST-01		DEP.	5315	JOB 05791		PAGE 16 P 7506		
DENT NO LGTH	ORIGIN	SORT	DESTIN	TIT	LE	SIZE	COLOR	ECO	
602110	11J20023	x	B25 26	B LOG	IC CHASSIS!		000		
602210	11320026		825 2	9 LOG	IC CHASSISE		444-		
602310	11J20024	X	827 30		IC CHASSIST		000		
602410	IIJ20027	X	B27 3	7 Log	IC CHASSIST		444		
602510	IIJ20028	X	825 4	i LOG	IC CHASSIST		000		
602610	11J20031	X	825 4	2 LOG	IC CHASSIS!		444		
602710	11J20029	X	B27 4	1 LOG	IC CHASSISE		000		
602810	11320032	X	B27 47	Z LOG	TC CHASSIST		444		
0602910	IIJ20030	X	. B28 2	i LOG	IC CHASSIST		000		
603010	IIJ20033	x	B28 2	4 LOG	IC CHASSIST		444.		
603110	IIJ20034	X	628 0		IC CHASSISE		000		
603210	11J20037	X	B28 0'	9 Log	IC CHASSIS!		444		
603310	IIJ20035	X	828 13		IC CHASSIST		000		
0603410	11J20038	X	328 1	6 LOG	IC CHASSIS!		444		
603510	IIJ20040	X	825 2	1 LOG	IC CHASSIST		000		
603610	IIJ20043	X	B25 2	2 Log	IC CHASSIST		444-		
603710	IIJ20041	X	827 2	i Log	IC CHASSIST		000		
603810	IIJ20044	X	B27 2		IC CHASSIST		444		
603910	S4005LI	X	829 2	i Log	IC CHASSIST		000		
604010	IIJ20045	X	B29 2	2 Log	IC CHASSIST		444		
604110	IIJ20046	X	B29 10	6 LOG	IC CHASSIST		ÕOO		
604210	11J20049	X	B29 1		IC CHASSIST		444		
604310	IIJ20047		829 21	Ė LOG	IC CHASSISE		000		
604410	IIJ20050	X	B29 2	9 Log	IC CHASSIST		444		
604510	IIJ20058	X	828 21	É LÕG	IC CHASSIST		000		
604610	IIJ20062	X	828 2	9 LOG	IC CHASSIST		444		
604710	IIJ20059	X	₿28 3:	3 L06	IC CHASSIST		000		
604810	IIJ20063	X	828 3	4 Log	IC CHASSIST		444		
604910	IIJ20060	X	828 3		IC CHASSIS!		000		
0605010	IIJ20064	X	528 4	0 Log	IC CHASSISI		444		
0605110	IIJ200 ₆₅	X	829 3		SIC CHASSISI		000		
605210	11J20070	X	829 3		IC CHASSIST		444		
605310	11J20066	X	B26 1		IC CHASSIS!		000		
605410	IIJ20071	X	B26 1		IC CHASSIST		444		
605510	IIJ20067	X	B29 4		IC CHASSISE		0 O O		
605610	IIJ20072	X	629 4		IC CHASSIST		444		
605710	11J20048	X	IIJ2014		IC CHASSIST		000		
605810	11J20051	Х	1175012	LOG	IC CHASSISE		- 444	-	
605 ⁹ 10	11J20052	X	1102015	<u> </u>	IC CHASSIST		000		
606010	11750022	X	1102015	5 <u>"</u> [06	IC CHASSIST		444		
606110	IIJ20073	X	11J2017		IC CHASSIST		000		
606210	IIJ20076	X	IIJ2017		IC CHASSIS!		444	The state of the s	
706110	11750101	X	B24 0	B LOG	IC CHASSIST		000		
700210	IIJ20104	X	B24 0		IC CHASSIST		444		
700310	11750105	X	B24 1		IC CHASSIS!		000		
700410	IIJ20105	X	824 1		IC CHASSIST		444		
700510	11750103	X	824 2		IC CHASSISE		000		
700610	IIJ20107	X X	824 2		IC CHASSIS		444		
700710	11320108	X	824 2		IC CHASSIS!		000		
700810	11J20112	X	B24 2	9	IC CHASSIST		444		

CONTROL DATA CORPORA	ONTROL DATA CORPORATION IVISION 0520 REPORT LST=01			72992 Ept 5	700 LOGIC CHASSISE	REVISION A	DATE 11/13/70 PAGE 17 P 7506
STATSTOW ASSA WELOW	1 Fainn		D ₁	ÇP I	552 30B 05144		•
DENT NO LOTH	ORIGIN	SORT	DESTI		TITLE	SIZE COLOR	ECO
7700910	11750110	X	824	33	LOGIC CHASSISE	000	
701010	11J20113	X	924	34	LOGIC CHASSISE	444	
701110	11750111	X	B24	38	LOGIC CHASSIST	000	
701210	11J20114	X	824	40	LOGIC CHASSIST	444	
701310	IIJ20115	X	B24	44	LOGIC CHASSIS	900	
701410	IIJ20118	X	824	45	LOGIC CHASSIST	444	
701510	11J20116	X	826	08	LOGIC CHASSIST	000	
701610	IIJ20120	X	825	09 36	LOGIC CHASSIST	444	
701710	IIJ20117	X	825	37	LOGIC CHASSIST	444	
701810	11J20121 11J20121	Č	B27	28	LOGIC CHASSISE	000	
0701910 0702010	11320122	X	527	29	LOGIC CHASSIST	444	
)702010)702110	IIJ20123	â	825	28	LOGIC CHASSISE	000	
7702210	11750156		825	-29	LOGIC CHASSIST	444	
702310	IIJ20124	â	B27	36	LOGIC CHASSIST	600	
702410	11320127	ŷ-	827	37	LOGIC CHASSIST	444	
702510	IIJ20128	Ŷ	825	41	LOGIC CHASSISE	000	
702610	11120131		825	42	LOGIC CHASSIST	444	
702710	IIJ20129	â	827	41	LOGIC CHASSIST	000	
702810	11J20132		B27	42	LOGIC CHASSIST	444	
702910	IIJ20130	x	828	źĨ	LOGIC CHASSISI	000	
703010	IIJ20133	X	828	24	LOGIC CHASSIS!	444	
703110	IIJ20134	X	628	οâ	LOGIC CHASSIS!	000	
703210	IIJ20137	X	828	09	LOGIC CHASSIST	444	
0703310	IIJ20135	X	828	13	LOGIC CHASSISE	000	
703410	IIJ20138	X	828	16	LOGIC CHASSIST	444	
703510	IIJ20140	X	825	21	LOGIC CHASSISE	000	
703610	IIJ20143	X	825	22	LOGIC CHASSIST	444	
0703710	IIJ20141	_ X	827	21	LOGIC CHASSIS!	000	
703810	IIJ20144	X	627	55	LOGIC CHASSIST	444	
703910	IIJ20142	X	829	21	LOGIC CHASSIST	000	
704010	IIJ20145	X	B29	22	LOGIC CHASSIST	444	
704110	IIJ20146	X	829 829	16 17	LOGIC CHASSIST	000	
704210	IIJ20149	Š	829	28		444	
0704310	IIJ20147	^_	B29	_	LOGIC CHASSIS	000	
0704410 0704510	IIJ20150 IIJ20158	\$	828	29	LOGIC CHASSIS!	- 444 000	
0704610	11320162		628	29	LOGIC CHASSISI	444	
0704610 0704710	11320159	â	628	33	LOGIC CHASSISE	000	
704810	IIJ20163	ÿ	B28	34	LOGIC CHASSIST	444	
0704910	11320160	â	828	38	LOGIC CHASSISE	500	
705010	IIJ20164		828	40	LOGIC CHASSISE	444	
705110	IIJ20165	â	829	36	LOGIC CHASSIST	000	
0705210	11320170	- ``	B29	37	LOGIC CHASSIST	444	
0705310	11J20166	X	826	13	LOGIC CHASSISE	000	
705410	IIJ20171		. g5 ⁶	16	LOGIC CHASSIST	444	
705510	IIJ20167	X	829	41	LOGIC CHASSISE	000	
0705610	IIJ20172	X	B29	42	LOGIC CHASSIST	444	
800110	11J202 B	X	826	21	LOGIC CHASSISE	000	
800210	11J202 D		326	24	LOGIC CHASSIST	444	

CONTROL DATA CORPORA	TION				700 LOGIC CHASSISE	REVISIO	DN A	DATE 11/13/70
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IDENT NO LGTH	ORIGIN	SORT	DEST	IN	TITLE	SIZE	COLOR	ECO
0800310	IIJ20288	x	826	28	LOGIC CHASSISE	=	000	·
0800410	IIJ252DD	X	826	29	LOGIC CHASSIST		444	
Ú800510	IIJ202 E	X	826	33.	LOGIC CHASSISI		000	
0800610	IIJ202 H	X	826	34	LOGIC CHASSIST		444	
0800710	IIJ202EE	X	826	38	LOGIC CHASSIS!		000	
0800810	IIJ202HH	X	826	40	LOGIC CHASSIST		444	
0800910	IIJ202 F	X	858	44	LOGIC CHASSISI		000	
0801010	IIJ202 J IIJ202FF	X	828 826	45 44	LOGIC CHASSIST		000	
0801110 0801210	IIJ202JJ	X	, B26	45	LOGIC CHASSIST		444	
0900110 05	A03 45	ô	A09	18	LOGIC CHASSIST		477	
0900210 06	A03 20	0	- Ali	33	LOGIC CHASSIST			
900310 06	A03 30	ŏ	A12	45	LOGIC CHASSIST			
900410 07	A03 32	ŏ	A12	14	LOGIC CHASSIST	<u> </u>		
900510 06	A03 33	Ŏ	À12	44	LOGIC CHASSIS!			
0900610 06	A03 36	0	AIZ	42	LOGIC CHASSIST			
Ù90U710 OĪ	Ã03 37	0	A13	38	LOGIC CHASSIS!			
0900810 07	A03 38	0	A13	37	LOGIC CHASSIS!			
0900910 07	A03 40	0	A13	36	LOGIC CHASSIS!			
901010 07	A03 41	0	A13	33	LOGIC CHASSIS!			
0901110 07	A03 17	0	A12	33	LOGIC CHASSISI			
0901210 04 0901310 04	A03 29 A03 25	0	A07 A08	16	LOGIC CHASSIST			
0901310 0 4	A03 28	0	A08	10	LOGIC CHASSIST			
901610 07	Ã03 08	ŏ	A13	10	LOGIC CHASSIST			
901710 07	A03 05	0	A13	44	LOGIC CHASSIST			
901810 08	Ã03 01	ŏ	A13	45	LOGIC CHASSISI			
1000110 05	B03 45	0	B09	18	LOGIC CHASSIST			
1000210 06	B03 20	0	511	33	LOGIC CHASSISE			
1000310 06	B03 30	0	B12	45	LOGIC CHASSIST			
1000410 07	B03 32	0	812	14	LOGIC CHASSISI			
1000510 06 1000610 06	803 33 803 36	0	B12	44	LOGIC CHASSIST			
1000710 07	B03 37	0	813	38	LOGIC CHASSIST			
1000710 07	B03 38	0	813	37	LOGIC CHASSIST			
000910 07	803 40	- ŏ	В13	36	LOGIC CHASSIST			
1001010 07	B03 41	ŏ	813	33	LOGIC CHASSIST			
1001110 07	B03 17	0	815	33	LOGIC CHASSIST	** ****		
001210 04	B03 29	0	307	16	LOGIC CHASSIST			
001310 04	B03 25	0	B08	10	LOGIC CHASSIST			
001510 05	803 28	0	808	08	LOGIC CHASSIST			
001610 07	803 08		813	10	LOGIC CHASSIS			
001710 07	B03 05	0	813	44	LOGIC CHASSIST			
1001810 08	803 01 A01 06	0	- B13	45	LOGIC CHASSIST	34		
100010 02		R	402	06	LOGIC CHASSIST	20	666	
1100011 02 1100012 02	A02 06 06		A03 A04	06 06	LOGIC CHASSISE	50	666	
1100013 02	A04 06	- R	A05	0 6	LOGIC CHASSISE	20	666 566	
1100013 02	A06 06	R	A07	06	LOGIC CHASSIS	20	66 6	
1100021 02	A07 05	- R	ÃÓB	06	LOGIC CHASSIST	20	656	
income nú	· · · · · · · · · · · · · · · · · · ·	• • • • • • • • • • • • • • • • • • • •	202	0.0	MAARA AHURANAA	~ v	999	

ONTROL DATA CORPORATION IVISION-0520 REPORT LST=01		- Address States		92700 LOG	IC CHASSISE	REVISIO	DN A	DATE 11/13/70 PAGE 19 P 7506		
TATOTON O	and Greek	i mai-or			P='. !	72.5	Sin Apive			, 454 62 1 1444
DENT NO	LGTH	ORIGIN	1SO	RT DES	STIN	TITLE		SIZE	COLOR	ECO
100022	02	A08	06 R	AO ^c			CHASSISE	20	666	· - .
100023	02	<u> 409</u>	06 R	AII		LOGIC	CHASSIST	ŠO	666	
100030	οŚ	A12	06 R	A1			CHASSISI	\$0	666	
100031	02	A13	06 R	Al			CHASSISI	20	666	
100032	οŻ	A14	06 R	A15			CHASSIS	20	666	***************************************
100033	0.5	A15	C6 R	Ald			CHASSIS	20	666	
100034	02	A16	06 R	Á1			CHASSIS	20	66 6	
100035	02 02	A11 A18	06 R	A12 A1			CHASSISI CHASSISI	20	66 6	_
100040	02	ÄIS	06 R	ÄZ			CHASSIST	20	666	
100042	02	A20	06 R	ÄZ			CHASSIS	50	56 6	
100043	- 95	ĀZI	06 R	ÁŽ			CHASSIST	20	666	
100044	őŽ	ĀŽŽ	06 R	ÃŽ			CHASSISE	20	666	
100050	02	A24	06 R	A2:			CHASSIS	20	666	
100051	02	A25	06 R	A26			CHASSIS	20	666	
100060	02	A27	06 R	A24			CHASSIST	20	666	
100061	٥Ż	A28	06 R	Ã2°			CHASSIS	\$0	666	
100110	οŞ	AOI	46 R	AO			CHASSIST	Şō	555	
100111	02	A02	46 R	A0:			CHASSIS	20	555	
100112	02	A03	46 R	Ã0			CHASSIS	20	555	
100113	02	A04	46 R	AO!			CHASSIS	50	222	
100120	0 Ž	A05 A07	46 R	AO AO			CHASSIS!	20 20	555 555	
100121	02	A08	46 R	AO'	- : :		CHASSIST	20	222	
100123	02	Ã09	46 R	Á1			CHASSIS	50	222	
100130	OŞ.	A12	46 R	Äi			CHASSIST	20	525	
100131	02	A13	46 R	Al	-		CHASSISI	20	222	
100132	<u>ō</u> ż	A14	46 R	A1			CHASSIST	20	222	· · · · · · · · · · · · · · · · · · ·
100133	0 Ž	Á15	46 R	Äle	6 46	LOGIC	CHASSIST	ŽÕ	222	
100134	02	A16	46 R	A1	7 46		CHASSIS	20	222	
100135	٥Ş	A11	46 R	Ą1			CHASSISE	20	22 2	
100140	0.5	A18	46 R	ΑI			CHASSISI	20	555	
100141	02	A19	46 R	A21			CHASSIS	20	222	
100142	S	054	46 R	A2			CHASSIST	50	555	
100143	02	A21 A22	46 R	A2:			CHASSIS!	20	222	
100144	02	A24	46 R	A2:			CHASSIST CHASSIST	20	555	
100150 100151	- 02	A25	40 R	12A			CHASSIST	20 20	555	
100160	02	A27	46 R	ÄŽ			CHASSIS!	20	55 5	
100161	- ŏž	A28	46 R	Ã2			CHASSIST	20	222	
100210	02	A01	48 R	AO			CHASSISE	20	222	
100211	02	A02	48 R	AO			CHASSIST	20	555	
100212	οż	E O A	48 R	AO	4 48		CHASSIS	20	222	
100213	05	A D 4	48 R		48	LOGIC	CHASSIST	20	525	
100220	02	A06	48 R	Ã0			CHASSISI	20	525	
100551	0\$	A07	48 R	A0			CHASSIST	50	555	
100222	02	AOB	48 R	Ao'			CHASSIS	ŠO	222	
100223	05.	A09	48 R	Al			CHASSIST	20	555	
100230	02	A12	48 R	A1:			CHASSIS	20	222	
100231	0 Š	A13	48 R	Ă1	4 48	LOGI	CHASSIST	ŚQ	222	
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STATZION (PEO VELOW	i rai-oi		në Pi p	aia Sop Gaiai			PHOE 50 P 1908	
DENT NO	LGTH	ORIGIN	SORT	DESTIN	TITLE	SIZE	COLOR	ECO	
100232	02	A14 46		A15 48	LOGIC CHASSISE	20	222	· ·	
100233	92	A15 46		A16 48	LOGIC CHASSISI	20	222		
100234	οŻ	A16 48		A17 48	LOGIC CHASSIST	20	222		
100235	ōŽ	A11 48		A12 48	LOGIC CHASSIST	20	222		
100243	02	A21 48		Å22 48	LOGIC CHASSIS!	20	222		
100244	02	A22 48		A23 48	LOGIC CHASSIST	20	222		
100240	οŽ	Ā18 46		Å19 48	LOGIC CHASSIS!	20	222		
100241	02	A19 48		A20 48	LOGIC CHASSIS!	20	222		
100242	02	A20 48		A21 48	LOGIC CHASSIS!	20	222		•
100310	02	B01 06		B02 06	LOGIC CHASSIST	20	666		
100311	οĝ	B02 06		B03 06	LOGIC CHASSIS!	20	666		
100312	02	B03 06		804 06	LOGIC CHASSIST	20	666		
100313	0Ž	BQ4 06		505 06	LOGIC CHASSIS!	20	666		
100320	02	B06 06		807 06	LOGIC CHASSIST	20	666		
100321	οŻ	B07 06		B08 06	LOGIC CHASSIS!	20	566		
100322	02	B08 06		B09 06	LOGIC CHASSISE	20	666		
100323	02	B 09 08		B10 06	LOGIC CHASSIS!	20	66 6		
100330	02	B12 06		813 06	LOGIC CHASSIST	20	666		
100331	οż	B13 06		B14 06	LOGIC CHASSIS	20	66 6		
100332	ري	B14 06		615 06	LOGIC CHASSIST	20	656		
100333	<u>0</u> 2	B15 06		816 06	LOGIC CHASSISE	20	66 6		
100334	02	B16 06		B17 06	LOGIC CHASSIST	50	666		
100335	02	811 06		812 06	LOGIC CHASSISE	20	666		
100340	05	B18 06		B19 06	LOGIC CHASSIST	20	666		
100341	02	B19 06		B20 06	LOGIC CHASSIST	50	666		
100342	02	B20 06		B21 06	LOGIC CHASSIST	20	666		
100343	02	821 06 822 06		822 06 823 06	LOGIC CHASSIS!	20	666		<u> </u>
			* * *		LOGIC CHASSIST		666		
100350	02	824 06 825 06		B25 06 826 06	LOGIC CHASSIST	20	666	· · · · · · · · · · · · · · · · · · ·	
100351						20	666		
100360	02 02			828 06 829 06	LOGIC CHASSISI	20	666		
100361	02	B28 06 B01 46		b02 46	LOGIC CHASSIST	20	666		
100411	02	B02 46		603 46	LOGIC CHASSIST	20	555		
100412	02	B03 46		604 46	LOGIC CHASSIST	20	55 5		
100413	02	B04 48		B05 46	LOGIC CHASSISI	50	55 5		
100420	02	B06 46		B07 46	LOGIC CHASSIST	20 20	555		
100421	02	B07 46		B08 46	LOGIC CHASSIST	20	555		
100422	őŽ	B08 46		809 46	LOGIC CHASSISI	20	222		
100423	02	B09 46		B10 46	LOGIC CHASSIST		555		
100430	02	B12 46		B13 46	LOGIC CHASSISI	20	555		
100431	<u>02</u>	B13 46		B14 46	LOGIC CHASSISI	20	555		
100432	őŽ	B14 46		915 46	LOGIC CHASSISI	20	225		
100433	őż	815 46		816 46	LOGIC CHASSIST	20	555		
100434	őŽ	816 46		B17 46	LOGIC CHASSISE	20	555		
100435	02	811 46	- R	812 46	LOGIC CHASSIST	20	555		
100440	ο̈́Z	818 46	R	619 46	LOGIC CHASSIST	20	555		
100441	_ 02	B19 46	· · · R · · · · · ·	B20 46	LOGIC CHASSIST	20	555	- Alban Mari - Mari programme (n. 111 m. 111	
100442	02	B20 46	R	821 46	LOGIC CHASSIST	žŏ	555		
100443	őŽ	821 46		822 46	LOGIC CHASSIST		555		

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ONTROL DA	TA CORPORA	TION				W72992 DÉPT 5		IC CHASSISE	REVISI	ON A	DATE 11/13/70 PAGE 21 P 7506
INISION	520 REPOR	1rāi-ai				nëbi b	, , ,	Sine naiAf			145t FF L 1460
IDENT-NO-	LGTH	ORIG	I N	SORT	DEST		TITLE			COLOR	Eco
100444	02	855	46	R	£23	46		CHASSISE	20	555	
100450	<u>02</u>	824	46	- R	325	46		CHASSIST	20 20	555	
100451	02	825 827	46 46	R	826 828	46 46		CHASSIST CHASSIST	20	555	
100460	05 05	828	46	R	829	46		CHASSISI	20	555	
100510	05	801	48	R	902	- 48		CHASSIST	<u>20</u>	555	
100511	őŽ	802	48	Ř	B03	48		CHASSIST	ŽÕ	222	
100512	σż	803	48	R	804	48		CHASSISE	20	555	
100513	οŻ	804	48	R	605	48		CHASSIS	ģ0	555	
100520	οż	806	48	R	807	48		CHASSISE	50	555	
100521	0.2	B07	48	R	808	48		CHASSIST	20	555	
100522	02	B08	48	R R	809 810	48		CHASSISI CHASSISI	20 20	222	
100523	05	B12	48	R	813	48	LOGIC	CHASSIS	50	555	
100531	02	813	48	Ŕ	814	48		CHASSISE	20	555	
100532	02	B14	48	Ř	Bis	48		CHASSIST	20	222	
100533	οŽ	815	48	R	816	48		CHASSIS	20	555	
100534	02	B16	48	R	817	48		CHASSISI	20	555	
100535	02	811	48	R	B12	48		CHASSISI	20	222	
100540	0.5	B18	48	R	B19	48 48	Logic	CHASSIST CHASSIST	20 20	555 555	
1100541 1100542	02	819 820	48 48	R	B21	48		CHASSIST	20	222	
1100542	0Ž	B21	48	K B	822	48		CHASSIS	50	\$55 525	
100544	őŽ	822	48		B23	48	LOGIC	CHASSIST	20	222	
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MDD LOGIC CHASSIS LOGIC WIRE LIST

NOTES:

- 1. FOR MECH ASSY & PL SEE 72994004, 72994005.
- 2. FOR CP & SCHEMATIC SEE SUB-FINAL ASSY 40068042, 40068142 (1X) OR 40068242, 40068342(2X).
- 3. INSTALL A SOLID BLACK JUMPER WIRE, FN 75, FROM PIN 2 AND FON 5D OF EACH CONNECTOR, NUMBER A) THRU APP AND BOL THRU B29, TO THE CLOSEST HOLE IN THE CONNECTOR MOUNTING BAR FOR GROUNDING JUMPER FROM:

A29-02 TO A30-02 A29-50 TO A30-50 B29-02 TO B30-02 B29-50 TO B30-50

WITH FN 76

- 4. THESE WIRES ARE PRESENT IN A DUAL CHANNEL UNIT ONLY. {LOGIC CHASSIS 72994004}.
- 5. THESE WIRES ARE PRESENT IN A SINGLE CHANNEL UNIT ONLY. {LOGIC CHASSIS 72994005}.
- F. CONNECT EN 103 AZ ZHOMN BELOM:

TB203-13 TO B12-50 TB203-16 T& B10-50

AI21810

05

A19

08 0

A25

24

LOGIC CHASSIS

ID NO	LENGTH	ORIGIN	S _i .	DESTINATION	TITLE	SIZE/COLOR	EC0
A122110	0 06	A19 12	0	A27 24	LOGIC CHASSIS		
A122310	0 07	A19 14	0	A29 32	LOGIC CHASSIS		
A122410	0 03	A19 18	0	A20 32	LOGIC CHASSIS		
A122411	1 02		0	A19 02	LOGIC CHASSIS		NOTE 5
A122510		A19 4n	0	A29 24	LOGIC CHASSIS		
AISS81(-	0	A29 18	LOGIC CHASSIS		
A153010		A19 21	0	A18 21	LOGIC CHASSIS		
A153510		A19 34	0	A20 26	LOGIC CHASSIS	•	
A123310			0	B ₂ 5 24	LOGIC CHASSIS		
AI23410		A20 05		A19 09	LOGIC CHASSIS		
A123420		A20 01	0	A19 10	LOGIC CHASSIS	•	
A123430		A20 09		A19 05	LOGIC CHASSIS		
A123440	_	A20 12		A19 17	LOGIC CHASSIS		
AI23510	-	A20 10	0	B27 24	LOGIC CHASSIS		
A123610		A20 22	0	B29 32	LOGIC CHASSIS		
AI23710		1S 0SA	0	A19 30	LOGIC CHASSIS	•	
AIZZAL		A20 13	0	B29 24	LOGIC CHASSIS	•	
A123910		A20 17	0	A19 37	LOGIC CHASSIS		
A123920		A20 20	0	A19 38	LOGIC CHASSIS		
A123930			0	A19 36	LOGIC CHASSIS		
AI23940		A20 16 A20 18	0	A19 41 B29 18	LOGIC CHASSIS		
A124110		A20 29		A19 21	LOGIC CHASSIS		
A124110			ŏ	A19 26	LOGIC CHASSIS		
A124410			ŏ	A19 13	LOGIC CHASSIS		
A124910			ŏ	A17 28	LOGIC CHASSIS		
A12501			ō	A17 30	LOGIC CHASSIS		
A12511(A08 38	Ŏ	A ₀ 9 5 ₀	LOGIC CHASSIS		
AI30110			0	A09 41	LOGIC CHASSIS		
AI30910		A10 01	Ō	An9 05	LOGIC CHASSIS		
A131310		A10 21	0	A11 22	LOGIC CHASSIS		
A132010		A09 21	0	A10 21	LOGIC CHASSIS		
A132210		A09 44	0	A10 25	LOGIC CHASSIS		
A133010		A09 28	0	A27 44	LOGIC CHASSIS		
A133020			0	B ₂ 7 44	LOGIC CHASSIS		
A133021		A09 29	0	A09 02	LOGIC CHASSIS		NOTE 5
A134510			0	An9 42	LOGIC CHASSIS		
A134710		A18 16	0	A10 17	LOGIC CHASSIS		
AI3471		A10 17		A ₀ 9 25	LOGIC CHASSIS		
AI34910		A18 41		A09 16	LOGIC CHASSIS		•
AI36010	02	A09 01	0	A10 12	LOGIC CHASSIS		

	ID NO	LENGTH	ORIGIN	s	DESTI	NATION	TITLE	SIZE/COLOR	ECO
<u> </u>	A13602	0 02	A09 0	90	A10	05	LOGIC CHASSIS		
2	A13603			2 O	A10	20	LOGIC CHASSIS		
6	A13604		A09 1	7 0	A10	13	LOGIC CHASSIS		
26	AI3611			0 0	Alo	. 29	LOGIC CHASSIS		
0,	A13612			4 0	A10	22	LOGIC CHASSIS		
	AI3613		A09 3		A10	36	LOGIC CHASSIS		
	A13614			6 0	A10	33	LOGIC CHASSIS		
	A13621			8 0	A10	45	LOGIC CHASSIS		
	A13622		A09 4	50	A10	40	LOGIC CHASSIS		
	A13623		A09 3	4 0	A10	14	LOGIC CHASSIS		
	A13681	0 06	A09 4	ńΟ	A19	32	LOGIC CHASSIS		
	A13681		A19 3	2 0	A20	38	LOGIC CHASSIS		
	A13682			7 0	An8	25	LOGIC CHASSIS		
	A14001			5 0	B25	32	LOGIC CHASSIS		
	A14001			5 0	A12	02	LOGIC CHASSIS		NOTE 5
	A14002			8 0	A25	32	LOGIC CHASSIS		
	A14071			6 0	80A	09	LOGIC CHASSIS		
	A14072			70	A14	29	LOGIC CHASSIS		
	A14073			S 0	A07	38 ⁻	LOGIC CHASSIS		
	A14091	0 03		1 0	A12	10	LOGIC CHASSIS		
	A14091			0 0	80A	20	LOGIC CHASSIS		
	A14101			90	80A	21	LOGIC CHASSIS		
	A14101			9 0	A13	24	LOGIC CHASSIS		
	A14121			8 0	A12	40	LOGIC CHASSIS		
	A14121			<u>ဂ်</u> ဝ	A13	13	LOGIC CHASSIS		
	A14122			5 0	A12	41	LOGIC CHASSIS		
	A14122			1 0	A13	17	LOGIC CHASSIS		
	AI4131		A11 0		A12	34	LOGIC CHASSIS		
	A14151		A11 1	S 0	A12	38	LOGIC CHASSIS		
	A14151			8 0	A13	09	LOGIC CHASSIS		
	A14171			5 0	A11	17	LOGIC CHASSIS		
	A14181			1 0	A11	29	LOGIC CHASSIS		
	A14221			ů O	A13	80	LOGIC CHASSIS		
	A14222		AlS 2		A13	01	LOGIC CHASSIS		
	A14223		A12 2	5 0	Aj3	18	LOGIC CHASSIS		
41249000	A14271			2 0	All	13	LOGIC CHASSIS		
24	A15091			6 0	A12	17	LOGIC CHASSIS		
:90	A15092			8 0	A12	12	LOGIC CHASSIS		
00	A15093			7 0	A09	14	LOGIC CHASSIS		
	AI5131			1 0	A07 A07	09 25	LOGIC CHASSIS		
J	AI5141	U U 4	411 6	1 0	MU /	23	LOGIC CHASSIS		

ID NO	LENGTH	ORIGIN	s	DESTINATIO	N TITLE	SIZE/COLOR	EC0
A15201	06	A07 20	0 '	A14 38	LOGIC CHASSIS		
A15202			0	A17 14	LOGIC CHASSIS		
A15203			_	A08 09	LOGIC CHASSIS		
AI5211			0	An8 13	LOGIC CHASSIS		
A152210			0	A11 32	LOGIC CHASSIS		
A15222	-	A07 32	0	A08 25	LOGIC CHASSIS		
A15223		A07 30	0	A08 16	LOGIC CHASSIS		
A15231	06	A08 29	0 /	A17 12	LOGIC CHASSIS		
A15232		A08 28	0	A27 38	LOGIC CHASSIS		
A15233		A08 30	0	827 38	LOGIC CHASSIS		
A15233		A08 30	0	A08 50	LOGIC CHASSIS		NOTE 5
A15234		A08 32	0	A17 13	LOGIC CHASSIS		
A16001		A08 41	0	A27 32	LOGIC CHASSIS		
A160020		A08 44	0	B27 32	LOGIC CHASSIS		_
A16002		A08 44	0	A07 . 02	LOGIC CHASSIS		NOTE 5
A16021	0 06	A15 01	0	A08 33	LOGIC CHASSIS		
A16061	0 05	A15 26	0	A08 40	LOGIC CHASSIS		
A16121	0 05	A17 22	0	A11 36	LOGIC CHASSIS		
A16221	0 05	A14 05	0	A11 44	LOGIC CHASSIS		
A16231		A14 13	0	BO1 55	LOGIC CHASSIS		
A16241) [[A14 16	0	BO1 24	LOGIC CHASSIS		
A16251	0 11	A14 12	0	BO1 21	LOGIC CHASSIS		
AK1001	0 04		0	A21 18	LOGIC CHASSIS		
VK1US1	0 4	A16 25	0	A21 17	LOGIC CHASSIS		
AK1041	0 04		0	A21 22	LOGIC CHASSIS		
AK1061	05		0	A21 21	LOGIC CHASSIS		
AK1081	0 4		0	A21 41	LOGIC CHASSIS		
AK1101			0	A21 42	LOGIC CHASSIS	•	
AK1151			0	A21 44	LOGIC CHASSIS		
AK1141			0	A21 45	LOGIC CHASSIS		
AK2021			0	A20 44	LOGIC CHASSIS		
AK2031			0	A29 38	LOGIC CHASSIS		
AK2051		A20 40		B ₂ 9 38	LOGIC CHASSIS		
AK3001		A09 10		A13 32	LOGIC CHASSIS		
AK3021		A09 08		A13 20	LOGIC CHASSIS		
AK3041			0	A13 12	LOGIC CHASSIS		
AK3061			0	A13 05	LOGIC CHASSIS		
AK3081			0	A12 25	LOGIC CHASSIS		
AK3501		A09 13	0	A10 32	LOGIC CHASSIS		
AK4001		A13 32		A15 05	LOGIC CHASSIS		
AK4021	0 04	A13 20	0	A15 18	LOGIC CHASSIS		

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ဖ	ID NO	LENGTH	ORIGIN	S	DESTINA	AIIUN	IIILE	•	SIZE/COLOR	EC0
9-2	***				4.5	- 0	10010	01110070		
26.	AK4041			15 0				CHASSIS		
2 8	AK4061			05 0	-			CHASSIS		
σ.	AK4062			3 ₀ 0				CHASSIS		
	AK40710			4n 0				CHASSIS		
	AK4081			25 0				CHASSIS		
	AK4101			17 0	2			CHASSIS		
	AK4121			15 0				CHASSIS		
	AK4141			01 0				CHASSIS		
	AK5001	0 03		28 0				CHASSIS		
	AK5002			25 0				CHASSIS		
	AK50030			14 0	•			CHASSIS		
	AK5021			100				CHASSIS		
	AK5021			16 0				CHASSIS		
	AK50212			34 0				CHASSIS		
	AK5031			15 0				CHASSIS		
	AK5n31			05 0				CHASSIS		
	AK50610			26 0				CHASSIS		
	AK50620			33 0				CHASSIS		
	AK5071			36 0				CHASSIS		
	AK5081			42 0				CHASSIS		
	AK50910	05		40 0				CHASSIS		
	AK51110			35 0				CHASSIS		
	AK5112	0 4		37 0		-		CHASSIS		
	AK60010	0 4		ns 0				CHASSIS		
	AK60210	0 02	A15	18 0				CHASSIS		
	AK60410			0 80				CHASSIS		
	AK6061	0 4	A15 4	41 0	A16 1	12	LOGIC	CHASSIS		
	AK6081	0 0 4		100	A16 3	37	LOGIC	CHASSIS		
	AK61010	0 04	A17 :	36 0	A14 2	21	LOGIC	CHASSIS		
	AK61210	0 05	A17 :	37 0	A11 3	33	LOGIC-	CHASSIS		
	AK61410	0 04	A17	17 0	A14 2	24 1	LOGIC	CHASSIS		
	AK6181		A17 2	24 0	A14 1	10	LOGIC	CHASSIS		
	AK6201			01 0			LOGIC	CHASSIS		
4	AT00010			01 0				CHASSIS		
12	AT00020			05 0				CHASSIS		
41249000	ATON11			12 0				CHASSIS		
Ō0	AT0012			14 0				CHASSIS		
ŏ	AT0021			17 0				CHASSIS		
J	AT0022			18 0				CHASSIS		
•	AT0031			25 0				CHASSIS		
	AT0032			26 0				CHASSIS		
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ID NO	LENGTH	ORIGIN	S	DESTINATION	TITLE	SIZE/COLOR	EC0
AT00410	06	A24 3	0	A16 38	LOGIC CHASSIS		
AT00420			0	B ₁₆ 38	LOGIC CHASSIS		
AT0051			5 0	A16 30	LOGIC CHASSIS		
AT00520			7 0	B16 30	LOGIC CHASSIS		
AT0061			0	A16 16	LOGIC CHASSIS		
AT00620			2 0	B ₁₆ 16	LOGIC CHASSIS		
AT00710		A26 0		A16 05	LOGIC CHASSIS		
AT0072	10		5 0	B16 05	LOGIC CHASSIS		
AT00810	05		5 0	A20 28	LOGIC CHASSIS		
AT0081	03	A26 1:		A26 02	LOGIC CHASSIS		NOTE 5
SROOTA		A26 1		B20 28	LOGIC CHASSIS		
ATOORE			4 0	A25 02	LOGIC CHASSIS		NOTE 5
AT01210			10	A18 12	LOGIC CHASSIS		
AT01220			5 0	B18 12	LOGIC CHASSIS		
AT01310			9 0	A18 10	LOGIC CHASSIS		
AT01320			4 0	B18 10	LOGIC CHASSIS		
AT01410			7 0	A18 13	LOGIC CHASSIS		
AT01420		A28 1		B ₁ 8 13	LOGIC CHASSIS		
AT01610			5 0	A18 09	LOGIC CHASSIS		
AT01620			5 0	B18 09	LOGIC CHASSIS		
AT01710			0 0	A19 16	LOGIC CHASSIS		
AT01711			5 0	A ₁ 8 14 B ₁ 9 16	LOGIC CHASSIS		
AT01720 AT01721		B19 1		B ₁ 9 16 B ₁ 8 14	LOGIC CHASSIS		
AT01810			5 0	A18 01	LOGIC CHASSIS		
AT0182			7 0		LOGIC CHASSIS		
AT01910			7 0	A18 08	LOGIC CHASSIS		
AT01920		A26 1		A26 26	LOGIC CHASSIS		
AT02010			5 0	B18 08	LOGIC CHASSIS		
AT02020		A26 2		A26 32	LOGIC CHASSIS		
AT02110			0	A18 44	LOGIC CHASSIS		
AT02120			0	A26 37	LOGIC CHASSIS		
ATOSSI			5 0	818 44	LOGIC CHASSIS		
AT02220		A26 3	7 0	A26 42	LOGIC CHASSIS		
AT02310	02	A28 4;		A28 50	LOGIC CHASSIS		
AT02310	05	A28 4		ASS 33	LOGIC CHASSIS		
AT02410		A26 4		B22 33	LOGIC CHASSIS		
AT02420		A26 4		A26 50	LOGIC CHASSIS		
AY30110		A10 2		A10 26	LOGIC CHASSIS		
AY30111			5 0	A10 24	LOGIC CHASSIS		
AY30112	04	A10 2	0	A10 08	LOGIC CHASSIS		

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LOGIC CHASSIS

ID NO	LENGTH	ORIGIN	S,	DESTINAT	TION '	TITLE	÷	SIZE/COLOR	EC0	
BI12210	07	B16 42	0	B25 45			CHASSIS			_
B11551;		B16 42		B16 02			CHASSIS		NOTE	5
B120010			0.	B08 42			CHASSIS			
B120020		B17 25		A29 45			CHASSIS			
8120110		B17 29					CHASSIS		WATE	_
812011		B17 29		B17 02	-		CHASSIS'		NOTE	5
BI20120		B17 40		B17 21	-		CHASSIS			
B151510		818 22	0	B20 25			CHASSIS.			
BI21710		818 05		B19 29			CHASSIS			
B121810	07	B19 08		A25 25			CHASSIS			
B155110		B19 12		A27 25			CHASSIS			
B155316		B19 14		A29 33			CHASSIS			
B122410		B19 18		B20 32	_		CHASSIS		NOTE	c .
B122411		B19 18		B19 02			CHASSIS		NOIE	D .
B122510		B19 40		A29 25			CHASSIS			
B15581(B19 42		A29 20			CHASSIS			
B15301		B19 21		B ₁ 8 21	-		CHASSIS			
B153510		B19 34		B20 26			CHASSIS			
B153310		820 08		B25 29			CHASSIS			
B123410		B20 05		B19 09			CHASSIS			
B123420		B20 01		B19 10			CHASSIS			
BI23430		B20 09		B19 05			CHASSIS			
8123440		B20 12		B19 17			CHASSIS CHASSIS			
BI23510		B20 10		B27 25 B29 33			CHASSIS			
B123610		B20 22 B20 21		B19 30			CHASSIS			
		B20 13		B29 25			CHASSIS			
B123910		B20 17	0	B ₁ 9 37	-		CHASSIS			
BI23920		BS0 50		B19 38			CHASSIS			
BI2393		B20 14		B ₁ 9 36			CHASSIS			
BI2394		B20 16		B19 41			CHASSIS			
BI2401		B20 18		B29 20	-		CHASSIS			
BI24110		B20 29		B19 21			CHASSIS			
BI24110		B20 37		B19 26			CHASSIS			
BI24410		B20 45		B ₁ 9 13			CHASSIS			
BI24910		819 24	Ō	B ₁ 7 28			CHASSIS			
BI2501		B20 41		B ₁ 7 30			CHASSIS			
BI25110		B08 38		809 50			CHASSIS			
BI30110		B10 09		B ₀ 9 41			CHASSIS			
BI30910	02	B10 01		B09 05			CHASSIS			
BI3131		B10 21		B ₁₁ 22			CHASSIS			
212121	, ,,	~10 CI	•	-11 -22	. '		0.17.0010			

	ID NO	LENGTH	ORIGIN	S	DESTINATION	TITLE	SIZE/COLOR	EC0
	BI3201	0 02	B09 2	0	B10 21	LOGIC CHASSIS		
9-	B13221			0	B10 25	LOGIC CHASSIS		
26.	BI3301	0 12		3 0	A27 45	LOGIC CHASSIS		
. 32	BI3302	0 . 11		0	B27 45	LOGIC CHASSIS		
8	B13302			0	B09 02	LOGIC CHASSIS		NOTE 5
	BI3451			3 0	B ₀ 9, 42	LOGIC CHASSIS		
	BI3471			0	B10 17	LOGIC CHASSIS		
	BI3471			0	Bn9 25	LOGIC CHASSIS		
	BI3491		B18 41		Bn9 16	LOGIC CHASSIS		
	BI3601		B09 01		B10 12	LOGIC CHASSIS		
	B13602		B09 09	0	B10 05	LOGIC CHASSIS		
	BI3603			0	B10 20	LOGIC CHASSIS		
	BI3604		B09 17		B10 13	LOGIC CHASSIS		•
	BI3611		B09 2		B10 29	LOGIC CHASSIS		
	BI3612		B09 24		B10 22	LOGIC CHASSIS		
	BI3613		B09 32		B10 36	LOGIC CHASSIS		
	BI3614		809 36		B10 33	LOGIC CHASSIS		
	BI3621		B09 38		B10 45	LOGIC CHASSIS		
•	BI3622			5 0	B10 40	LOGIC CHASSIS		
	BI3623			0	B10 14 B19 32	LOGIC CHASSIS		
	BI3681			2 0	B20 38	LOGIC CHASSIS		
	813682			7 0	B ₀ 8 25	LOGIC CHASSIS		
	BI4001			5 0	B25 33	LOGIC CHASSIS		
	BI4001		B12 05	5 0	B12 02	LOGIC CHASSIS		NOTE 5
	BI4002			3 0	A25 33	LOGIC CHASSIS		,
	BI4071			ō	B ₀ 8 09	LOGIC CHASSIS		
	B14072			0	Bj4 29	LOGIC CHASSIS		
	BI4073			0	Bn7 38	LOGIC CHASSIS		
	BI4091		813 2		B12 10	LOGIC CHASSIS		
	BI4191		B12 1		B ₀ B 2 ₀	LOGIC CHASSIS		
	B14101			Ó	B ₀ 8 21	LOGIC CHASSIS		
	BI4101			0	B13 24	LOGIC CHASSIS		
	B14121			3 0	B12 40	LOGIC CHASSIS		
	BI4121			0	B13 13	LOGIC CHASSIS		
4	B14122		B11 05		B12 41	LOGIC CHASSIS		
41249000	BI4122		B12 41		B13 17	LOGIC CHASSIS		
49	BI4131		B11 01		B12 34	LOGIC CHASSIS		
000	BI4151	0 04	B11 12	0	B12 38	LOGIC CHASSIS		
ŏ	BI4151		B12 38	3 0	B ₁ 3 09	LOGIC CHASSIS		
_	BI4171	0 04	B13 45	5 0	B11 17	LOGIC CHASSIS		

9-26.33

ID NO LENGTH	ORIGIN S	DESTINATION	TITLE	SIZE/COLOR	EC0
BI41810 - 03	B13 41 0	B ₁ 1 29	LOGIC CHASSIS		
BI42210 03	B12 27 0		LOGIC CHASSIS		
B142220 04	812 21 0		LOGIC CHASSIS		
B142230 02	812 22 0		LOGIC CHASSIS		
BI42710 04	B13 42 0		LOGIC CHASSIS		
BI50910 04	B08 16 0		LOGIC CHASSIS		
BI50920 04	B08 18 C		LOGIC CHASSIS		
BI50930 02	B08 17 C	B ₀ 9 14	LOGIC CHASSIS		
BI51310 05	B11 41 C		LOGIC CHASSIS		
BI51410 04	B11 21 0		LOGIC CHASSIS		
BI52010 06	B07 2n 0	B14 38	LOGIC CHASSIS		
8152020 07	B07 14 0	B ₁ 7 14	LOGIC CHASSIS		
8152030 03	B07 21 0) B ₀ 8 09	LOGIC CHASSIS		
BI52110 04	811 36 0		LOGIC CHASSIS		
BI52210 04	B07 24 0	B11 32	LOGIC CHASSIS		
BI52220 03	B07 32 0	Bn8 25	LOGIC CHASSIS		
BI52230 03	B07 30 C	B ₀ 8 16	LOGIC CHASSIS		
BI52310 06	B08 29 0	B ₁ 7 12	LOGIC CHASSIS		
BI52320 12	808 28 0		LOGIC CHASSIS		
BI52330 11	808 3ņ C		LOGIC CHASSIS		
BI52331 03	B08 30 C) B ₀ 8 5 ₀	LOGIC CHASSIS		NOTE 5
BI52340 07	B08 32 0		LOGIC CHASSIS		
BI60010 12	B08 41 0		LOGIC CHASSIS		
B160020 11	8n8 44 C		LOGIC CHASSIS		
BI60021 05	B08 44 C		LOGIC CHASSIS		NOTE 5
BI60210 06	B15 01 C		LOGIC CHASSIS		
8I69610 05	B15 26 C		LOGIC CHASSIS		
8161210 05	817 22 9		LOGIC CHASSIS		
B162210 05	814 05 0	- · · · · · · · · · · · · · · · · · · ·	LOGIC CHASSIS		
8162310 11	B14 13 9		LOGIC CHASSIS		
BI62410 II	B14 16 C		LOGIC CHASSIS		
BI62510 II	B14 12 C		LOGIC CHASSIS		
BK10010 04	B16 33 C		LOGIC CHASSIS		
BK10210 04	B16 25 C		LOGIC CHASSIS		
BK10410 04	B16 25 C		LOGIC CHASSIS		
BK10610 . 05	B16 12 C		LOGIC CHASSIS		
BK10810 04	B16 37 C		LOGIC CHASSIS		
BK11010 04	B16 29 9		LOGIC CHASSIS		
BK11210 05	B16 18 C		LOGIC CHASSIS		
BK11410 · 06	B16 08 C		LOGIC CHASSIS		
BK20210 03	B19 28 C) B20 44	LOGIC CHASSIS		

ID NO	LENGTH	ORIGIN	l	S	DESTIN	ATION	TITLE	
BK20310	08	B19	22	o .	A29	40	LOGIC	CHASSIS
BK20510	06	820	40	0	B29	40	LOGIC	CHASSIS
BK30010	0 4	B09	10	0	B13	32	LOGIC	CHASSIS
BK30210	04	B09	80	0	B13	20	LOGIC	CHASSIS
BK30410	03	B09	14	0	B13	12		CHASSIS
BK30610		B09	33	0	B13 ·	05		CHASSIS
BK30810		B09	55	0	B12	25		CHASSIS
BK35010	03	B09	13	0	810	32	LOGIC	CHASSIS
BK40010		B13	35	0	B15	05	LOGIC	CHASSIS
BK40210	• •	B13	50	0	B15	18		CHASSIS
BK40410		813	12	0	B15	08		CHASSIS
BK40610		B13	05	0	B15	41	LOGIC	CHASSIS
BK40620		B13	30	0	812	13	LOGIC	CHASSIS
BK40710		813	40	0	B12	26	LOGIC	CHASSIS
BK40810		B12	25	0	B15 /	10	LOGIC	CHASSIS
BK41010		B12	17	0	B16	29	LOGIC	CHASSIS
BK41210		B12	12	0	B14	28 .	LOGIC	CHASSIS
BK41410		B14	58 01	0	B16	08 18 .	LOGIC	
BK50010		814	25	0	B16 B08	14	LOGIC	CHASSIS
BK50030		B14	14	ŏ	AOI	20	LOGIC	CHASSIS
BK50210		B07	10	Ö	B11	16	LOGIC	CHASSIS
BK50211	04	B11	16	ŏ	B13	34	LOGIC	CHASSIS
BK59212		B13	34	0	B11	42	LOGIC	CHASSIS
BK50310		B07	12	0	Bn8	05	LOGIC	CHASSIS
BK50311		B08	05	0	B13	28	LOGIC	CHASSIS
BK50610	04	B07	26	0	B11	14	LOGIC	CHASSIS
BK50620	04	B07	33	0	B08	13	LOGIC	CHASSIS
BK50710	05	807	36	0	B11	09	LOGIC	CHASSIS
BK50810		B07	42	0	B11	13	LOGIC	CHASSIS
BK5n910		B07	40	0	811	10	LOGIC	CHASSIS
BK51110		811	32	0	B12	37	LOGIC	CHASSIS
BK51120		811	37	0	B11	5 0	LOGIC	CHASSIS
BK60010		815	05	0	B16	33	LOGIC	CHASSIS
BK69219		B15	18	0	B16	25	LOGIC	CHASSIS
BK60410		R15	0.8	0	B16	25	LOGIC	CHASSIS
BK60610		815	4)	0	816	12	LOGIC	CHASSIS
BK60810		B15	10	0	B16	37	LOGIC	CHASSIS
BK61010		817	36	0	B14	21	Logic	CHASSIS
BK61210		817	37	0	B11	33	LOGIC	CHASSIS
BK61410	04	817	17	0	B14	24	LOGIC	CHASSIS

ID NO	LENGTH	ORIGIN	S	DESTINA	TION	TITLE		SIZE/COLOR	EC0
BK6181	0 04	B17 24	0.	B14 1	0	LOGIC	CHASSIS		
BK6201		B17 0Î		B14 1			CHASSIS		
BT0001		824 01	0	A16 3			CHASSIS		
BT0002		824 05	0	B16 3	5	LOGIC	CHASSIS		
BT00110		B24 12	0	A16 2	3	LOGIC	CHASSIS		
BT0012		B24 14	0	B16 2	3	LOGIC	CHASSIS		
BT0021		824 17		A16 1	7 .:.		CHASSIS		
BT0022	06	B24 18	0.	B16 1	7		CHASSIS		
BT0031	10	B24 25		A16 1			CHASSIS		
BT0032		824 26		B16 1			CHASSIS		
BT0041		B24 3n		A16 4			CHASSIS		
BT0042		824 32		B16 4			CHASSIS		
BT0051		B24 36		A16 3			CHASSIS		
BT0052		824 37	0	B16 3			CHASSIS		
BT00610		R24 41		A16 1:			CHASSIS		
BT0062		B24 42		B16 13			CHASSIS		
BT00710		B26 01	0	A16 0			CHASSIS		
BT0072		B26 05		B16 01			CHASSIS		
BT0081	-	826 12 826 12		A19 29 B26 07			CHASSIS		NOTE 5
BT0082		B26 14		B19 2			CHASSIS		
BT0082		B26 14		B25 0			CHASSIS		NOTE 5
BT0121		B28 01		A18 3			CHASSIS		.,,,,,
BT0122		B28 05		B18 3			CHASSIS		
BT0131		B28 12		A 18 2			CHASSIS		
BT0132		B28 14		B18 2			CHASSIS		
BT0141		B28 17		A18 2		LOGIC	CHASSIS		
BT0142		B28 18	0	B18 2	5	LOGIC	CHASSIS		
BT0161	0 10	R28 25	0	A18 3	0	LOGIC	CHASSIS		
BT0162	0 7	B28 26	0	B18 3	0	LOGIC	CHASSIS		
BT0171	0 10	B28 3 ₀	0	A20 2	4		CHASSIS		
BT0171	1 . 04	A20 24		A18 3:			CHASSIS		
BT0172		B28 35		B50 5			CHASSIS		
BT0172		B20 24		B18 3:			CHASSIS		
BTOIRI		B28 36		A18 3			CHASSIS		
BT0182		B28 37		B18 3			CHASSIS		
BT0191		B26 17		A18 2			CHASSIS		
BT0192		B26 18		B26 20			CHASSIS		
BT0201		B26 25		B18 25			CHASSIS		
BT0202		B26 26	0	B26 3			CHASSIS		
BT0211	0 09	B26 30	J	A20 3:	3	LUGIC	CHASSIS		

ID NO LENG	3ТН	ORIGI	٧	S	DESTI	NOITAN	TITLE
BTOSILL	02	05A	33	0 .	A18	45	LOGIC CHASSIS
BT02120	02	B26	32	0	B26	37	LOGIC CHASSIS
BT02210	05	B26	36	0	B20	33	LOGIC CHASSIS
BT02211	02	B20	33	0	B18	45	LOGIC CHASSIS
BT02220	02	826	37	0	B26 '	42	LOGIC CHASSIS
BT02310	10	828	41	0	V55	21	LOGIC CHASSIS
BT02320	02	828	42	0	828	50	LOGIC CHASSIS
BT02410	05	826	41	0	855	21	LOGIC CHASSIS
BT02420	02	B26	42	0	B26	50	LOGIC CHASSIS
BY30110	0.5	B10	28	0	B10	26	LOGIC CHASSIS
BY30111	02	B10	26	0	B10 .	24	LOGIC CHASSIS
BY30112	04	B10	24	0	B10	. 80	LOGIC CHASSIS
BY30113	0.5	B10	28 34	0	B10	34	LOGIC CHASSIS
BY30114 BY32010	03 20	B10 -	30	0	B10 B10	44 18	LOGIC CHASSIS
BY36010	03	809	18	0	B11	44	LOGIC CHASSIS
BY40410	05	813	10	Ö	B07	08	LOGIC CHASSIS
BY51510	03	B08	24	Õ	B11	20	LOGIC CHASSIS
BY51511	06	811	20	ŏ	B18	37	LOGIC CHASSIS
BY60110	03	817	10	0	B14-	09	LOGIC CHASSIS
BY60410	03	B08	37	0	B11	40	LOGIC CHASSIS
BY60411	03	B11	40	0	B14	33	LOGIC CHASSIS
0100110	05	A18	21	0	114	44	LOGIC CHASSIS
0100210	0.2	A18	24	0	A17	22	LOGIC CHASSIS
0100310	02	A18	18	0	A17	20	LOGIC CHASSIS
0100410	03	A18	20	0	A17	37	LOGIC CHASSIS
0100510	04	A18	17	0	A14	05	LOGIC CHASSIS
0100610	03	A18	40	0	A19	30	LOGIC CHASSIS
0100710	05	818	21	0	B14	44	LOGIC CHASSIS
0100810	0.2	818	24	0	B17	22	LOGIC CHASSIS
0100910	0.2	B18	18	0	B17	20	LOGIC CHASSIS
0101010	03	818	2 n	0	B17	37	LOGIC CHASSIS
0101110	04	B18	17	0	B14	05	LOGIC CHASSIS
0101510	03 02	818 A25	40	0	B19 A24	30	LOGIC CHASSIS
0200110 0200210	0S 0S	A25	01	0	A24 A24	08 09	LOGIC CHASSIS
0200210	02 02	A25	09	ŏ	A24	13	LOGIC CHASSIS
0200410	02	A25	12	Ö	A24	16	LOGIC CHASSIS
0200510	05	A25	16	Ŏ	A24	21	LOGIC CHASSIS
0500910	02	A25	17	Ō	A24	24	LOGIC CHASSIS
0200710	05	A25	26	0	A19	44	LOGIC CHASSIS
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2.5 110	25	V.1.	1 1	-	ŲLU.			
020081	0 09	A25	34	0	· B19	44		CHASSIS
020091		A26	ΖÏ	0	A30	. 12	LOGIC	CHASSIS
020101		A26	24	0	A30	14	LOGIC	CHASSIS
020111			28	0	A30	13	LOGIC	CHASSIS
020121		A26	29	0	A30	16	LOGIC	CHASSIS
020131		A26	33	0	A30	17	LOGIC	CHASSIS
020141	0 04	A26	34	0	0EA	18	LOGIC	CHASSIS
020151	0 05	6 A26	38	0	A30	20		CHASSIS
020161	0 05		4 ō	0	A30	22		CHASSIS
020171	0 05		44	0	A30	09		CHASSIS
020181			45	0	A30	10		CHASSIS
050131			26	0	Aj9	44		CHASSIS
050501			34		819	44		CHASSIS
050511			01	0	A24	28		CHASSIS
050551			05	0	A24	29		CHASSIS
050531			09	0	A24	33		CHASSIS
020241			12	0	A24	34		CHASSIS
020251			16	0	A24.	38		CHASSIS
020261			17	0	A24	40	LOGIC	•
020271			44	0	A30	05		CHASSIS
020281			45	0	A30	08		CHASSIS
020291		_	01	0	A24	44		CHASSIS
020301			05	0	A24	45		CHASSIS
020311		-	09	0	A26	80	LOGIC	
020321			15	0	A26	09	LOGIC	
020331			01	0	B24	80	LOGIC	
020341			05	0	B24	09	LOGIC	-
020351			09	0	B24	13	LOGIC	
020361			12	0	824	16 21	LOGIC	-
020371 020381		-	17	0	B24 B24	24	LOGIC	
			26	o		36	LOGIC	
020391			34	0	A20 B20	36 36	LOGIC	
020401	_		01	Ö	824	28	LOGIC	-
020421			05	Ö	B24	29	LOGIC	CHASSIS
020421			09	Ö	824	33	LOGIC	
020431			12	0	B24	34	LOGIC	CHASSIS
020441			16	Ö	B24	38	LOGIC	
020451			17	ŏ	B24	40	LOGIC	CHASSIS
020471	-		26	ŏ	A20	36	LOGIC	-
020481			34	ŏ	820	36	LOGIC	CHASSIS
	- 0-		• •	-	- 20			J.,,,,,,,,

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LOGIC CHASSIS

LOGIC CHASSIS

A29

A25

IJ200 20 X

IJ200 17 X

0301610

0301710

ID	NO	LENGTH	ORIGIA	1	S	DESTI	NATION	TITLE	
030	181	0	17500	21	χ,	A25	37	LOGIC	CHASSIS
030	191	0	IJ200	22	X	75A	28	LOGIC	CHASSIS
	1050		I7500	25	X	A27	29	LOGIC	CHASSIS
	1150		I7500	23	X	A25	28	LOGIC	•
	122(IJZ00	26	X	A25	29	LOGIC	CHASSIS
	185(IJZ00	24	X	A27	36		CHASSIS
	145(17500	27	X	A27	37		CHASSIS
	1251		I7500	28	X	A25	41	LOGIC	_
	1920		17500	31	X	A25	42		CHASSIS
	175		17500	29	X	A27	41	LOGIC	
	S8T		IJZ00	35	X	A27	42	LOGIC	CHASSIS
	1650		IJ200	30	X	A28	21		CHASSIS
	301		17500	33	X	A28		LOGIC	CHASSIS
	311		17500	34	X	A28	08	Logic	CHASSIS
	321		I 7500	37	X	85V	09.	LOGIC	
	331		17500	35	X	A28	13		CHASSIS
	341		17500	38	X	85V	16		CHASSIS
	351		INSOO	40	X	A25	21	LOGIC	
	361		17500	43	X	A25	55	LOGIC	
	371		INSUO	41	X	A27	21	LOGIC	CHASSIS CHASSIS
	185		00SLI	44 42	X X	A27	22 21	LOGIC	
	391		17500	45	X	A29 A29	22	LOGIC	CHASSIS
)401)411		13500	46	x	A29	16	LOGIC	CHASSIS
)421		13200	49	x	A29	17	LOGIC	
)431		17500	47	x	A29	28	LOGIC	
)441		17500	50	X	A29	29	LOGIC	CHASSIS
	1451		1J200	58	X	858	28	LOGIC	CHASSIS
	1461		10200	62	X	A28	29	LOGIC	CHASSIS
	471		17500	59	X	A28	33	LOGIC	
	3481		1J200	63	X	A28	34	LOGIC	CHASSIS
	1491		IJ200	60	X	A28	38	LOGIC	CHASSIS
	501		17500	64	X	A28	40	LOGIC	CHASSIS
	511		17500	65	X	A29	36	LOGIC	CHASSIS
	521		1J200	70	X	A29	37	LOGIC	
	531		IJ200	66	X	A26	13	LOGIC	CHASSIS
	541		1J200	71	X	A26	16	LOGIC	
	551		IJ200	67	X	A29	41	LOGIC	CHASSIS
	561		17500	72	X	A29	42	LOGIC	CHASSIS
	571		IJ200	48	X	IJ201	48	LOGIC	CHASSIS
	581		17500	51	X	IJ201	51	LOGIC	CHASSIS

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ID NO LENGTH	ORIGIN S	DESTINATION	TITLE	SIZE/COLOR	EC0
0305910	IJ200 52 X	1J201 52	LOGIC CHASSIS		
0306010	IJ200 55 X	IJ201 55	LOGIC CHASSIS		
0306110	IJ200 73 X	IJ201 73	LOGIC CHASSIS		
0306210	1J200 76 X	IJ201 76	LOGIC CHASSIS		
0400110	IJ201 01 X	A24 08	LOGIC CHASSIS		
0400210	IJ201 04 X	A24 09	LOGIC CHASSIS		
0400310	IJ201 02 X	A24 13	LOGIC CHASSIS		
0400410	IJ201 05 X	A24 16	LOGIC CHASSIS		
0400510	IJ201 03 X	A24 21	LOGIC CHASSIS		
0400610	IJ201 07 X	A24 24	LOGIC CHASSIS		
0400710	IJ201 08 X	A24 28	LOGIC CHASSIS		
0400810	IJ201 15 X	A24 29	LOGIC CHASSIS		
0400910	17501 10 X	A24 33	LOGIC CHASSIS		
0401010	IJ201 13 X	A24 34	LOGIC CHASSIS		
0401110	INS01 11 X	A24 38	LOGIC CHASSIS		
0401210	IJ201 14 X	A24 40	LOGIC CHASSIS		
0401310	IJ201 15 X	A24 44	LOGIC CHASSIS		
0401410	IJ201 18 X	A24 45	LOGIC CHASSIS		
0401510	17501 10 X	A26 08	LOGIC CHASSIS		
0401610	I 02 102 I	A26 09	LOGIC CHASSIS		
0401710	IJ201 17 X	A25 36	LOGIC CHASSIS		
0401810	I7501 51 X	A25 37	LOGIC CHASSIS		
0401910	INSUI SS X	A27 28	LOGIC CHASSIS		
0402010	IJ201 25 X	A27 29	LOGIC CHASSIS		
0402110	I7501 53 X	A25 28	LOGIC CHASSIS		
0402210	IJ201 26 X	A25 29	LOGIC CHASSIS		
0402310	IJ201 24 X	A27 36	LOGIC CHASSIS		
0402410	IJ201 27 X	A27 37	LOGIC CHASSIS		
0402510	IJ201 28 X	A25 41	LOGIC CHASSIS		
0402610	IJ201 31 X	A25 42	LOGIC CHASSIS		
0402710	IJ201 29 X	A27 41	LOGIC CHASSIS		
0402810	IJ201 32 X	A27 42	LOGIC CHASSIS		
0402910	IJ201 30 X	A28 21	LOGIC CHASSIS		
0403010	IJ201 33 X	A28 24	LOGIC CHASSIS		
0403110	IJ201 34 X	A28 08	LOGIC CHASSIS		
0403210	IJ201 37 X	A28 09	LOGIC CHASSIS		
0403310	IJ201 35 X	A28 13	LOGIC CHASSIS		
0403410	IJ201 38 X	A28 16	LOGIC CHASSIS		
0403510	IJ201 40 X	A25 21	LOGIC CHASSIS		
0403610	IJ201 43 X	A25 22	LOGIC CHASSIS		
0403710	IJ201 41 X	A27 21	LOGIC CHASSIS		

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ID NO CENOTA	01110211	DEGLENAL TON	
0403R10	IJ201 44 X	^ A27 22	LOGIC CHASSIS
0403910		A29 21	LOGIC CHASSIS
	1J201 45 X	A29 22	LOGIC CHASSIS
0404010 0404110	1J201 46 X	A29 16	LOGIC CHASSIS
	IJ201 40 X	A29 17	LOGIC CHASSIS
0404210 0404310	1J201 49 X	A29 28	LOGIC CHASSIS
0404410	IJ201 50 X	A29 29 .	LOGIC CHASSIS
0404510	1J201 58 X	A28 28	LOGIC CHASSIS
0404610	1J201 62 X	A28 29	LOGIC CHASSIS
0404710	IJ201 59 X	A28 33	LOGIC CHASSIS
0404710	IJ201 63 X	A28 34	LOGIC CHASSIS
0404910	IJ201 60 X	A28 38	LOGIC CHASSIS
0405010	IJ201 64 X	A28 40	LOGIC CHASSIS
0405110	IJ201 65 X	A29 36	LOGIC CHASSIS
0405210	IJ201 70 X	A29 37	LOGIC CHASSIS
0405310	IJ201 66 X	A26 13	LOGIC CHASSIS
0405410	IJ201 71 X	A26 16	LOGIC CHASSIS
0405510	IJ201 67 X	A29 41	LOGIC CHASSIS
0405610	IJ201 72 X	A29 42	LOGIC CHASSIS
0500110	INSUS B X	A26 21	LOGIC CHASSIS
0500210	IJ202 D X	A26 24	LOGIC CHASSIS
0500310	IJ202 BB X	A26 28	LOGIC CHASSIS
0500410	X QQ SOSLI	A26 29	LOGIC CHASSIS
0500510	INSUS E X	A26 33	LOGIC CHASSIS
0500610	IJ202 H X	A26 34	LOGIC CHASSIS
0500710	IJ202 EE X	A26 38	LOGIC CHASSIS
0500810	IJ202 HH X	A26 40	LOGIC CHASSIS
0500910	1J202 F X	A28 44	LOGIC CHASSIS
0501010	INSUS 7 X	A28 45	LOGIC CHASSIS
0501110	IJ202 FF X	A26 44	LOGIC CHASSIS
0501210	INSUS NY X	A26 45	LOGIC CHASSIS
0600110	IIJ20001 X	B25 01	LOGIC CHASSIS
0600210	IIJ20004 X	B25 05	LOGIC CHASSIS
0600310	X SU002FII	B25 09	LOGIC CHASSIS
0600410	IIJ20005 X	B25 12	LOGIC CHASSIS
0600510	X E000SLII	B25 16	LOGIC CHASSIS
0600610	IIJ20007 X	B25 17	LOGIC CHASSIS
0600710	X 80005 X	B27 01	LOGIC CHASSIS
0600810	IIJ20012 X	B27 05	LOGIC CHASSIS
0600910	IIJ20010 X	B27 09	LOGIC CHASSIS
0601010	IIJ20013 X	B27 12	LOGIC CHASSIS
001010	1.020010 "		

9 -	ID NO	LENGTH	ORIGIN	S	DESTI	NOITAN	TITLE		SIZE/COLOR	EC0
.26.	0601110)	IIJ20011	Х	B27	16	LOGIC	CHASSIS		
	0601210		11J20014		B27	17		CHASSIS		
42	0601310		11J20015		B29	01		CHASSIS		
	0601410		11750018		B29	05		CHASSIS		
	0601510		11J20016		829	09		CHASSIS		
	0601610		11750050		B29 ·	12		CHASSIS		
	0601710		IIJ20017		B25	36		CHASSIS		
	0601810		11J20021		B25	37		CHASSIS		
	0601910		11750055		B27	28	LOGIC	CHASSIS		
	0602010		IIJ20025		B27	29 🕖	LOGIC	CHASSIS		
	0602110)	IIJ20023	X	B25 '	28	LOGIC	CHASSIS		
	0605510)	11J20026		B25	29		CHASSIS		
	0605310		11J20024		B27	36		CHASSIS		
	0602410)	11J20027		B27	37		CHASSIS		
	0602510	1	11J20028		B25	41		CHASSIS		
	0605610		IIJ20031		B25	42 .		CHASSIS		
	0602710		1175005a		B27	41		CHASSIS		
	0605810		IIJ20035		B27	42		CHASSIS		
	0602910		0E002LII		828	21		CHASSIS		
	0603010		II750033		B28	24		CHASSIS		
	0603110		11J20034		B28	08		CHASSIS		
	0603510		IIJ20037		B28	09		CHASSIS		
	0603310		IIJ20035		828	13		CHASSIS		
	0603410		BEOOSLI		B28 '	16		CHASSIS		
	0603510		IIJ20040		B25	21		CHASSIS		
	0603610		IIJ20043		B25	22		CHASSIS		
	0603710		IIJ20041		B27	21		CHASSIS		
	0603A10		IIJ20044		B27	22		CHASSIS		
	0603910		IIJ20042		B29	21		CHASSIS		
	0604010		IIJ20045		829	55		CHASSIS		
	0604110		IIJ20046		B29	16		CHASSIS		
	0604210		IIJ20049		B29	17		CHASSIS		
	0604310		IIJ20047		B29	28		CHASSIS		
41	0604410		IIJ20050		B29	29		CHASSIS		
24	0604510		IIJ20058		B28	28		CHASSIS		
41249000	0604610		IIJ20062		B28	29		CHASSIS		
Ō0	0604710		IIJ20059		B28	33		CHASSIS		
	0604810 0604910		IIJ20063		B28 B28	34 38		CHASSIS CHASSIS		
-	0605010		11J20064		B58	40		CHASSIS		
	0605110		11J20065		B29	36		CHASSIS		
	2002110	•	11050003	^	UZ7	30	FOOT	CUNDOID		

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ID NO LENGTH	ORIGIN	S	DESTINATION	TITLE
0605210	IIJ20070	X	B29 37	LOGIC CHASSIS
0605310	11J20066	X	B26 13	LOGIC CHASSIS
0605410	IIJ20071	X	B26 16	LOGIC CHASSIS
0605510	11J20067	X	829 41	LOGIC CHASSIS
0605610	IIJ20072	X	B29 42 .	LOGIC CHASSIS
0605710	IIJ20048	X	IIJ20148	LOGIC CHASSIS
0605810	11J20051	X	IIJ20151	LOGIC CHASSIS
0605910	11J20052	X	IIJ20152	LOGIC CHASSIS
0606010 .	IIJ20055	X	IIJ20155	LOGIC CHASSIS.
0606110	IIJ20073	X	IIJ20173	LOGIC CHASSIS
0606210	IIJ20076	X	IIJ20176	LOGIC CHASSIS
0700119	11750101	X	B24 08	LOGIC CHASSIS
0700210	IIJ20104	X	B24 09	LOGIC CHASSIS
0700310	11750105	X	B24 13	LOGIC CHASSIS
0700410	IIJ20105	X	B24 16	LOGIC CHASSIS
0700510	IIJ20103	X	B24 21	LOGIC CHASSIS
0700610	IIJ20107	X	B24 24	LOGIC CHASSIS
0700710	IIJ20108	X	B24 28	LOGIC CHASSIS
0700810	IIJ20112	X	B24 29	LOGIC CHASSIS
0700910	IIJ20110	X	B24 33	LOGIC CHASSIS
0701010	IIJ20113	X	B24 34	LOGIC CHASSIS
0701110	IIJ20111	X X	B24 38 B24 40	LOGIC CHASSIS
0701210 0701310	IIJ20114 IIJ20115	X	B24 40 B24 44	LOGIC CHASSIS
0701310	11750118	X	B24 45	LOGIC CHASSIS
0701510	11J20116	x	B26 08	LOGIC CHASSIS
0701610	IIJ20120	X	B26 09	LOGIC CHASSIS
0701710	IIJ20117	X	B25 36	LOGIC CHASSIS
0701810	IIJ20121	X	825 37	LOGIC CHASSIS
0701910	11750155	v	B27 28	LOGIC CHASSIS
0702010	IIJ20125	X	B27 29	LOGIC CHASSIS
0702110	11750153	X		LOGIC CHASSIS
0702210	11J20126	X	B25 29	LOGIC CHASSIS
0702310	IIJ20124	X	B27 36	LOGIC CHASSIS
0702410	IIJ20127	X	B27 37	LOGIC CHASSIS
0702510	IIJ20128	X	B25 41	LOGIC CHASSIS
0702610	IIJ20131	X	B25 42	LOGIC CHASSIS
0702710	11J20129	X	B27 41	LOGIC CHASSIS
0702810	IIJ20132	ΧĖ	B27 42	LOGIC CHASSIS
0702910	0E10SLII	X	B28 21	LOGIC CHASSIS
0703010	11J20133	X	B28 24	LOGIC CHASSIS

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	ID NO	LENGTH	ORIGIN	S	DEST	INATION	TITLE	
9-		_						
26	070311		IIJ20134			08		CHASSIS
6.	070321		IIJ20137		B28	09		CHASSIS
44	070331		IIJ20135		B28	13		CHASSIS
	070341	0	IIJ20138		828	16		CHASSIS
	070351	0	11J20140		B25	21		CHASSIS
	070361	0 .	IIJ20143		B25	. 22		CHASSIS
	070371	0	IIJ20141	X	B27	21	LOGIC	CHASSIS,
	070381	O	IIJ20144	X	B27	22	LOGIC	CHASSIS
	070391	0	IIJ20142	X	B29	21	LOGIC	CHASSIS
	070401	0	IIJ20145	X	B29	22	LOGIC	CHASSIS
	070411	0	IIJ20146	X	829	16	LOGIC	CHASSIS
	070421	0.	IIJ20149	X.	B29	. 17	LOGIC	CHASSIS
	070431	0 .	IIJ20147	. X	B29	28	LOGIC	CHASSIS
	070441	0	IIJ20150	.Χ	B29	29	LOGIC	CHASSIS
	070451	0	IIJ20158	X	B28	28	LOGIC	CHASSIS
	070461	0	IIJ20162	X	B28	29	LOGIC	CHASSIS
	070471	0	IIJ20159	X	B28	33	LOGIC	CHASSIS
	070481	0	IIJ20163	X	B28	34	LOGIC	CHASSIS
	070491	0 .	II750160	X	B28	38	LOGIC	CHASSIS
	070501	0	IIJ20164	X	BS8	40	LOGIC	CHASSIS
	070511	0	IIJ20165	X	829	36	LOGIC	CHASSIS
	070521	0	IIJ20170	X	B29	37	LOGIC	CHASSIS
	070531	0	IIJ20166	X	B26	13	LOGIC	CHASSIS
	070541	U	IIJ20171	X	826	16	LOGIC	CHASSIS
	070551		IIJ20167		B29	41		CHASSIS
	070561	0	IIJ20172		B29	42		CHASSIS
	080011		IIJ202 B		826	21		CHASSIS
	000000		** 1200 D		000	2.		DILACCIC

X G SOSLII

IIJ202BB X

X DDSOSUII

IIJ202 E X

IIJ202 H X

IIJ202EE X

X HHS0SLII

IIJ202 F X

IIJ202 J X

IIJ202FF X

X LLSOSLII

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DESTINATION TITLE

LOGIC CHASSIS

LOGIC CHASSIS

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SIZE/COLOR ECO

ID NO L	ENGTH	ORIG	[N	S	DESTI	NATION	TITLE	
1100032	. 02	A14	06	R	A15	06	LOGIC	CHASSIS
1100033	0.5	A15	. 06	R	A16	06	LOGIC	CHASSIS
1100034	02	A16	06	R	A17	06	LOGIC	CHASSIS
1100035	02	A11	06	R	SIA	06	LOGIC	CHASSIS
1100040	02	A18	06	R	A19	06		CHASSIS
1100041	02	A19	06	R	A20	06	LOGIC	CHASSIS
1100042	02	0SA	06	R	A21	06	LOGIC	CHASSIS
1100043	02	A21	06	R	ASS	06	LOGIC	CHASSIS
1100044	02	A22	06	R	ESA	06	LOGIC	CHASSIS
1100050	02	A24	. 06	R	A25	06	LOGIC	CHASSIS
1100051	0.5	A25	06	R	A26	06	LOGIC	CHASSIS
1100060	0.5	A27	06	R	85V	06	LOGIC	CHASSIS
1100061	02	85A	06	R	A29	06	LOGIC	CHASSIS
1100110		B02	46	R	AOI	46	LOGIC	CHASSIS
1100111	02	20A	46	R	An3	46	LOGIC	CHASSIS
1100112	02	EOA	46	R	A 0 4	46	LOGIC	CHASSIS
1100113	02	A04	46	R	A05	46	LOGIC	CHASSIS
1100120	02	A06	46	R	A07	46		CHASSIS
1100121	02	A07	46	R	80A	46	LOGIC	CHASSIS
1100122	02	80A	. 46	R	A 0 9	46	LOGIC	CHASSIS
1100123	0.2	A09	46	R	A10	46	LOGIC	CHASSIS
1100130	02	A12	46	R R	A13	46 46	LOGIC	CHASSIS
1100131	0.5	A13 A14	46 46	R	A14	46	LOGIC	CHASSIS
1100132	20 20	A15	46	R	A15 A16	46	LOGIC	CHASSIS
1100133 1100134	02	A16	46	R	A 1 7	46	LOGIC	
1100134	02	All	46	R	A) Z	46	LOGIC	CHASSIS
1100140	02	A18	46	R	A19	46	LOGIC	CHASSIS
1100140	02	A19	46	R	V50	46	LOGIC	CHASSIS
1100142	05	A20	46	R	A21	46	LOGIC	CHASSIS
1100143	05	A21	46	R	Y55	46	LOGIC	CHASSIS
1100144	0.5	A22	46	R	A23	46	LOGIC	CHASSIS
1100150	05	A24	46	R	A 25	46	LOGIC	CHASSIS
1100151	02	A25	46	R	A26	46	LOGIC	CHASSIS
1100160	02	A27	46	R	A28	46	LOGIC	CHASSIS
1100161	0.5	85A	46	R	A29	46	LOGIC	CHASSIS
1100210	07	802	48	R	AOL	48	LOGIC	CHASSIS
1100211	οż	A02	48	R	A03	48	LOGIC	CHASSIS
1100212	02	EOA	48	R	A04	48	LOGIC	CHASSIS
1100213	0.5	A 0 4	48	R	A05	48	LOGIC	CHASSIS
1100220	20	A06	48	R	A07	48	LOGIC	CHASSIS

ID NO	LENGTH	ORIGIN	1	S	DESTIN	NATION	TITLE	
110022	1 02	A 0 7	48	R ·	An B	48	LOGIC	CHASSIS
110022		An 8	48	R	An9	48	LOGIC	CHASSIS
110022		409	48	R	Aio	48	LOGIC	CHASSIS
110023		A12	48	R	Aī3	48	LOGIC	CHASSIS
110023		A13	48	R	Aj4	48	LOGIC	CHASSIS
110023	2 02	A14	48	R	Aj5	48	LOGIC	CHASSIS
110023		A15	48	R	Aj6	48	LOGIC	CHASSIS
1100234	4 02	A16	48	R	Aj7	48	LOGIC	CHASSIS
110023		A11	48	R	AjZ	48	LOGIC	CHASSIS
110024		A21	48	R		48	LOGIC	CHASSIS
1100244		A22	48	R	A23	48	LOGIC	CHASSIS
1100240		A18	48	R	A19	48	LOGIC	CHASSIS
110024		A19	48	R	A20	48	LOGIC	CHASSIS
1100242		A20 .	48	R	AZI	48	LOGIC	CHASSIS
1100310		SOA	06	R	Bol	06	LOGIC	CHASSIS
110031		B02	06	R	B03	06	LOGIC	CHASSIS
110031		803	06	R	B04	06	LOGIC	CHASSIS
110031		B04	06	R	B05	06	LOGIC	CHASSIS
1100320		806	06	R	•	06	LOGIC	CHASSIS
110032		807	06	R R	B08	06	LOGIC	CHASSIS CHASSIS
110032		B08 B0 9	06 06	R	B ₀ 9 B ₁ 0	06 06	LOGIC	CHASSIS
1100323 110033		812	06	R	B13	06	LOGIC	CHASSIS
110033		813	06	R	B14	06	LOGIC	CHASSIS
110033		814	06	R	B15	06	LOGIC	CHASSIS
110033		815	06	R	B16	06	LOGIC	CHASSIS
1100334		B16	06	R	B ₁ 7	06	LOGIC	CHASSIS
110033		RII	06	R	B12	06	LOGIC	CHASSIS
1100340		818	06	R	B19	06	LOGIC	CHASSIS
110034		B19	0.6	R	B20	06	LOGIC	CHASSIS
1100348		B20	06	R	B21	06	LOGIC	CHASSIS
110034		821	06	R	B22	06	LOGIC	CHASSIS
110034	4 02	822	06	R	B23	06	LOGIC	CHASSIS
1100350		824	06	R	825	06	LOGIC	CHASSIS
110035	J 05	825	06	R	B26	06	LOGIC	CHASSIS
1100360	0 05	B27	06	R	B28	06	LOGIC	CHASSIS
110036		828	06	R	B29	06	LOGIC	CHASSIS
1100410		SOA	46	R	Bol	46	LOGIC	CHASSIS
110041		B02	46	R	B03	46	LOGIC	CHASSIS
110041		B03	46	R	B04	46	LOGIC	CHASSIS
110041	3 02	804	46	R	B ₀ 5	46	LOGIC	CHASSIS

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ID NO LEN	IGTH	ORIG	IN	S	DEST	INATION	TITLE		
1100420	0.5	Bŋ6	46	R	· Bo7	46	LOGIC	CHASSIS	
1100421	02	B07	46	R	B08	46	LOGIC	CHASSIS	
1100422	0.5	B08	46	R	Bn9	46	LOGIC	CHASSIS	
1100423	: 02	B 0 9	46	R	B10	46	LOGIC		
1100430	02	B12	46	R	B13	46	LOGIC	CHASSIS	
1100431	02.	B13	46	R	B14 ·	46 .	LOGIC	_	
1100432	02	814	46	R	B15	46	LOGIC		
1100433	02	B15	46	R		46.	LOGIC		
1100434	02	B16	46	R.		46	LOGIC	CHASSIS	
1100435	0.2	811	46	R	BIZ	46	LOGIC		
1100440	02	818	46	R ·	•	46	LOGIC	_	
1100441	0.5	B19	46	R	B20	46	LOGIC		
1100442	0.2	B20	46		851	46	LOGIC		
1100443	0.5	BSI	46	R	855	46.	LOGIC		
1100444	0.5	822	46	R	B23	46	LOGIC		
1100450	0.2	B24	46	R ·	B25	46	LOGIC	-	
1100451	0.5	B25	46	R	B26	46	LOGIC	-	
1100460	0.2	B27	46	R	B28	46	LOGIC	7	
1100461	0.5	B28	46	R	B29	46	LOGIC		
1100510	70	A02	48	R	Bo1	48	LOGIC		
1100511	02	B02	48	R	B03	48	LOGIC		
1100512	. 02	Bn3	48	R	Bn4	48	LOGIC		
1100513	02	B04	48	R	B ₀ 5	48	LOGIC		
1100520	02	B06	48	R	Bo7	48	LOGIC		
1100521	. 02	B07	48	R	Bn8	48	LOGIC		
1100522	02	808	48	R	Bo9	48	LOGIC		
1100523	20	Bŋ9	4.8	R	B10	48	LOGIC	-	
1100530	0.5	812	48	R	B13	48	LOGIC		
1100531	0.5	B13	48	R	B14	48	LOGIC		
1100532	0.2	814	48	R	B ₁ 5	48	LOGIC	-	
1100533	0.2	815	48	R	B16	48	LOGIC	CHASSIS	
1100534	0.5	B16	48	R	B ₁ 7	48	LOGIC		
1100535	20	B11	48	R	BlS	48	LOGIC	CHASSIS	
1100540	02	B18	48	R	B19	48	LOGIC		
1100541	02	B19	48	R	B20	48	LOGIC		
1100542	02	B20	48	R	B21	48	LOGIC		
1100543	02	B21	48	R	B22	48		CHASSIS	
1100544	02	B22	48	R	B23	48	FOR IC	CHASSIS	

ID NO	LENGTH	ORIGIN	Z	DESTINATION	TITLE
0207310	11	B01 28	0	80 POA	LOGIC CHASSIS
0207410	10	BOJ 5P	0	01 POA	LOGIC CHASSIS
0207510	10	BO1 25	0	SS POA	LOGIC CHASSIS
0502610	10	BO1 29	0	AOA 12	LOGIC CHASSIS
0207710	10	AO1 28	0	BO9 08	LOGIC CHASSIS
0207810	80	YOJ 5P	0	B09 10	LOGIC CHASSIS
0207 910	10	AO1 25	0	B09 22	LOGIC CHASSIS
0208 010	70	PS 10A	0	BO8 12	LOGIC CHASSIS
0208110	80	B01 01	0	408 24	LOGIC CHASSIS
0208210	10	A01 01	0	BO8 24	LOGIC CHASSIS
020831 0		BO1 37	Χ	A3J2O5 45	LOGIC CHASSIS
0208410		B01 38	Χ	A3J2O5 4L	LOGIC CHASSIS
02085 10		BO1 33	Χ	11505 K	LOGIC CHASSIS
0208P 10		BOJ 36	Χ	17505 W	LOGIC CHASSIS
0208 710		AO1 37	Χ	A4J2O5 4 5	LOGIC CHASSIS
02088 10		A01 38	Χ	A4J2O5 46	LOGIC CHASSIS
01 P&050		A01 33	Χ	11505 KK	LOGIC CHASSIS
020901 0	_	401 3P	Χ	175 0 5 WW	LOGIC CHASSIS
050 P050	16	AO1 14	0	B21 34	LOGIC CHAZZIZ
0209030	13	BO1 14	0	A21 34	LOGIC CHASSIS
0209 040	13	A22 25	0	BO1 13	LOGIC CHASSIS
0209050	16	B22 25	0	AD1 13	LOGIC CHASSIS
02090 60	10	AOA 18	0	BO1 12	LOGIC CHASSIS
0209070	70 :	BO8 18	0	AD1 12	LOGIC CHASSIS

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CONT	ROL DATA	PRODUCT		T - LOGIC		HARNE	SS AS	SY		WL.		4001760	00	F
MINNEAP	LIS. MINNESOTA	N	ULTIP	LE DISK D	RIVE					SHEE	T	OF 22	<u> </u>	
RI	EVISION STATUS OF	SHEETS					R	EVISION	5					
			REV.	ECO		DES	RIPTION			C	RFT.	DATE	CHKD.	APPO.
			A		RELEASE	D						1127.65		ML
			В	PM4660	SEE C	20					DB	2-18-69	97	2269
			С	PM 55 78	SEE CC)					sv	7-10-69		7-18
			D	PM5578A	SEECO)						7-10-69		7-18
			E	PE 11118						:	ΩS	9-17-69	97	9-18-9
			F	PEIII184	SEEC	0							<u> </u>	
			<u> </u>										1	
Li.L														
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\Box													<u> </u>	
NOTES:														
1.	A HEXAGON I THAT THE CO SAME NUMBER TERMINAL. TERMINAL FI	NDUCTOR IS IN THE HE THE NUMBER	UNE (OF SEVERAL) GOING IN	(ALL WI	TH THI A M E	Ξ	2.	FOR M			AND PL	SEE	
COPIES		,,,				87	SD	10-10	CHKD.	C.M	10	ENGR	705	117:34
то	لــلـــــــــــــــــــــــــــــــــــ						1 30	10-10		U. /4	17	/A-51	1 2	17/3

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MINNEAP	ous.	M:N	NESOTA									SHEET	2 OF	
CONDUCTOR	FINI NO.		GAUGE (REF.)	COLOR (REF)	LENGTH (APPROX)	ORIGI		ACCESS. FIND NO.	DESTINATIO		ACCESS FIND NO		REMARKS	
1	11		20	4		J204	42	13	J206	M	19			
2	1					J206	N	19	J204	43	13			
3	Ī		A	1		J204	45	13	J206	R	19		•	
4			•			J206	s	19	J204	46	13			
5	П	T				J204	48	9 ①	IJ202	U	13			
6	П	I				∏J202	U	13	J204	48	①			
7						J204	51	13	J206	j	19			-
8						J206	k	19	J204	52	13			
9		i				J204	53	13	J206	нн	19	Ţ		
10						J206	<u>m</u>	19	J204	54	13			
11	П					J204	55	13	J206	n	19			
12		1				J206	P	19	J204	56	13			
13						J204	57	13	J206	r	19			
14						J206	S	19	J204	58	13			
15		1				J204	60	13	J206	ū	19			
16		T				J206	~	19	J204	62	13			
17			¥	V		J204	64	9 ②	IJ202	х	13			
18	Y		7	1		□J202	х	13	J204	64	2			
19	11	īĪ	20	4		J204	65	9 (3)	IJ202	Y	13			

व्यवस्म	Ri	li -	DATA)	TITL		w	IRE LI	STING				WL	DOCUMENT NO. 40017600	F
MINNEAPO	ous	MH	NEBOTA				***					SHEET	3 OF	
CONDUCTOR IDENT.	FIR		GAUGE (REF.)	COLOR (REF.)	LENGTH (APPROX)	ORIGIN		ACCESS. FIND NO.	DESTINA	TION	ACCES:		REMARKS	
20	1	1	20	4		IIJ202	γ.	13	J204	65	3			
21			1	1		J204	66	9 🚯	IJ202	2	13			
22	1		1	1		IIJ202	ż	13	J204	66	④		•	
23						J204	16	13	A4J205	21	19			
24						A3J205	18	19	J204	24	13			
25	П			П		J204	26	13	A3J205	21	19			
26						A4J205	18	19	J204	33	13			
27						J204	36	13	J206	E	19			
28				Π		J206	F	19	J204	37	13			
29						J204	39	13	J206	J	19			
30						J206	K	19	J204	40	13			
31						J204	41	13	J206	L	19			
32	П					J206	T	19	A3J205	25	19			
33						A3J205	32	19	ТВ203	1	32 (5			
34	П					TB203	3	32	A3J205	35	19			
35						A3J205	36	19	ТВ203	7	15 €	6		
36				V		TB203	8	32	A4J205	36	19			
37			_			A4J205	35	19	ТВ203	4	32			
38	1	1	20	4		TB203	2	326	A4J205	32	19	1		

शासन	स्रो:	DAV:	TIT	LE	wı	RE L	STING				WL	DOCUMENT NO. 40017600	F.
MINNEAPO	DLIS. M	INNESC	TA								SHEET	4 OF	
CONDUCTOR IDENT.	FIND NO.	GAUGE (REF.		R LENGTH	ORIGIN		ACCESS FIND NO.	DESTINAT	ION	ACCESS FIND NO		REMARKS	
39	11	20	4		A4J205	25.	19	J206	ξ!	19			
40	. 1	1	1		A3TB202	35	217	A3TB202	33	21(8)		
41	1	1	1		A3TB202	33	8 >	A3TB202	27	21 (9	>		
42			\Box		A3TB202	27	(9)	A3TB202	21	21 (
43					A3TB202	21	0	A3TB202	15	21 (
44					A3TB202	15	1)	A3TB202	9	27			
45			I		A4TB202	35	21 🕡	A4TB202	33	21 (3		
46		\prod			A4TB202	33	13	A4TB202	27	21 (
47					A4TB202	27	(3)	A4TB202	21	21 🤃			
48		П			A4TB202	21	13	A4TB202	15	21 (3		
49		Π			A4TB202	15	10	A4TB202	9	27			
50					TB203	3	15 🛈	A23	46	29,30	ס		
51	П	\Box			A17	46	29,30	TB203	3	0			
52			\Box		TB203	3	15 (13)	A11	46	29,30			
53					B23	46	29,30	TB203	4	15 69			
54	П	\Box	\top		TB203	4	13	B17	46	29,30			
55					B11	46	29,30	TB203	4	1560			
56	1	T	7		TB203	5	32	A29	46	29.30	1		
57	11	20	4		B29	46	Y	TB203	5	32	1		

anti	रात.	J VIV V	TITLE	!	١	WIRE L	ISTING				WL	DOCUMENT NO. 40017600	F
MINNEAPO	DUS, M	INNESOTA		,							SHEET	OF	
CONDUCTOR IDENT.	FIND NO.	GAUGE (REF.)	COLOR (REF.)	LENGTH (APPROX)	ORIG	IIN	ACCESS. FIND NO.	DESTIN	ATION	ACCES: FIND N		REMARKS	
58	11	20	4		TB203	5 .	32	A26	46	29,3	<u> </u>		
59			1		B26	46	29,30	TB203	5	32			
60	•	A			TB203	6	32	A29	6	29,3) ·	•	
61					B29	6	29,30	TB203	6	32			
62	П				TB203	6	32	A26	6	29,3	0		
63					B26	6	29,30	TB203	6	32			
64					TB203	7	15 20	A23	6	29,30			
65					A17	6	29,30	TB203	7	15 @			
66					TB203	7	2)	A11	6	29,30			
67 .					B23	6	29,30	TB203	8	15 2	>		
68	\coprod				TB203	8	15.49	B17	6	29, 30			
69					B11	6	29,30	TB203	8	(3)			
70					TB203	9	15 23	A23	48	29,30)		
71	Ш				A17	48	29,30	TB203	9	32			
72	Ш	\coprod			TB203	9	15 24	A10	48	29.30	1		
73	Ш				B23	48	29,30	TB203	10	15 2			
74	1				TB203	10	15 20	B17	48	29.30)		
75	7	L'	'		B1 0	48	29,30	TB203	10	32			
76	11	20	4		TB203	13	15 27	IJ202	R	13			

INNEAPO							STING			ŀ	SHEET	6 OF	<u> </u>
ONDUCTOR	FIND NO.	GAUGE (REF.)	COLO		ORIGIN		ACCESS. FIND NO.	DESTINAT	ION	ACCESS FIND NO		REMARKS	
77	11	20	4		IIJ202	R·	13	TB203	16	15 28			
78	1	1	1		A3TB202	36	27	A3TB202	6	21 29	,		
79			1		A3TB202	6	6 9	TB203	1	15 60		•	
80			11		TB203	1	<u></u>	A4TB202	6	21 🛐			
81					A4TB202	6	3)	A4TB202	36	27	1		
82			11		TB203	4	6	B05	46	29,30			
83	T	П	\sqcap		B05	48	29,30	TB203	10	23	T		
84					TB203	3	18	A05	46	29,30			
85	T				A05	48	29,30	TB203	9	2			
86			\Box		A05	6	29,30	TB203	7	6			
87	-		-		TB203	8	32	B05	6	29,30			
88	1				A26	48	29,30	TB203	9	32			
89	11	20	. 4		TB203	10	32	B26	48	29,30			
90	12	24	4		A3TB204	1	22	J204	44	14		•	
91	1		1		J204	49	13 62	IJ202	v	14			
92	1	1			II J202	V	li i	J204	49	3			
93	I			,	J204	50	£	IJ202		14			
94	T	T	Y		IIJ202	W	4	J204	50	€3			
95	12	24	4		J204	59	14	A4TB204	1	22	T	•	
1249	r	0 Е											/ 9 - 2

11105	(23):	11:17		TITL	Ē	W	IRE L	ISTING				WL	DOCUMENT NO. 40017600	F
MINNEAPO	OLIS, M	NNESC	TA								Ì	SHEET	7 OF	<u> </u>
CONDUCTOR	FIND NO.	GAUGE (REF.		COLOR (REF.)	LENGTH (APPROX)	ORIGIN		ACCESS FIND NO.		ion	ACCES!		REMARKS	
96	12	24		4		A3TP201		22	J204	67	14			
97	1			1		J204	70	14	A4TP201	_	22			
98		• 1		1_		A3J205	39	20	A8	1	23,2	4	•	
99		•				A7	13	23,24	A3J205	23	20			
100					j	J204	4	14	87	37	16,1	7		
101						88	45	16,17	J204	5	14			
102						J204	7	14	A8	45	16,1	7		
103	Ш		\rfloor			A7	37	16, 17	J204	8	14			
104						J204	10	14	J206	Z	20			
105						J206	CC	20	J204	22	14			
106						J204	15	14 '	A4J205	22	20			
107						J206	Н	20	J204	25	14			
108			$oldsymbol{\mathbb{I}}$			J204	27	14	A3J205	22	20			
109						A3J205	26	20	A8	2	16,17	,		
110						A 8	1	16,17	A3J205	27	20			
111						A3J205	28	20	A3TB204	2	22			
112	¥	¥	I			A11	30	16,17	A3J205	37	20			
113			\int	7		A3J205	38	20	A11	45	16, 17	,		
114	12	24	T	4		A14	1	16,17	A3J205	47	20			

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MINNEAPO	OLIS, M	INNES	OTA									SHEET	8 of	
CONDUCTOR IDENT.	FIND NO.	GAU!		COLOR (REF.)	LENGTH (APPROX)	ORIGIN		ACCESS. FIND NO.	DESTINATI	ON	ACCES!		REMARKS	
115	12		24	4		A3J205	50	20	A14	8	16,	17		
116				1		A17	16	16,17	A3J205	51	20			
117	•	1		4		A3J205	52	20	A14	20	16,17			
118						A14	42	16,17	A3J205	53	20			
119						A3J205	54	20	A14	37	16,17	,		
120						A14	36	16,17	A3J205	55	20			
121						A3J205	56	20	A15	42	16,17	,		
122						A15	45	16,17	A3J205	57	20			
123						A3J205	58	20	A15	9	16,17			
124						A15	29	16,17	A3J205	59	20			
125						A3J205	60	20	A15	24	16,17	'		
126						A15	13	16,17	A3J205	62	20			
127						A3J205	63	20	A15	22	16,17	,		
128						A15	40	16,17	A3J205	64	20			
129						A3J205	65	20	A15	33	16,17			
130						A15	14	16,17	A3J205	66	20			
131	*	با			j	A3J205	67	20	A15	28	16, 17			
132				1		A15	34	16,17	A3J205	70	20			
133	12		24	4		A3J205	71	20	A15	12	16,17		•	

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MINNEAPO	DUS, MI	NNESOTA			*****		-				SHEET	9 OF	
CONDUCTOR	FIND NO.	GAUGE (REF.)	COLOR (REF.)	LENGTH (APPROX)	ORIGIA		ACCESS FIND NO	DESTINATI	ION	ACCESS FIND N		REMARKS	
134	12	24	4		A15	21	16,17	A3J205	72	20			
135	1				A3J205	73	20	A15	20	16,1	7		
136					A15	38	16, 17	A3J205	74	20		•	
137					A3J205	75	20	A15	36	16,1	7		
138					A15	16	16,17	A3J205	76	20			
139					A3J205	77	20	A15	17	16,1	7		
140				ji	A15	25	16, 17	A3J205	78	20			
141					A4J205	39	20	38	1	16,1	7		
142					B7	13	16,17	A4J205	23	20			
143					A4J205	24	20	J206	ď	20			
144					A4J205	26	20	В8	2	16,17	7		
145					В8	1	16,17	A4J205	27	20			
146					A4J205	28	20	A4TB204	2	22			
147					B11	30	16, 17	A4J205	37	20			
148					A4J205	38	20	B11	45	16,17	,		
149					B14	1	16,17	A4J205	47	20			
150					A4J205	50	20	B14	8	16, 17	,		
151 、		T	7		B17	16	16,17	A4J205	51	20		,	
152	12	24	4		A4J205	52	20	B14	20	16,17	,		

: 	<u>.</u>	1699			w	IRE LI	STING				WL	40017600	F
CONDUCTOR	T	GAUGE (REF.)	COLOR (REF.)	LENGTH (APPROX)	OR!GIN		ACCESS.	DESTINAT	ION	ACCES!		REMARKS	
153	12	24	4		B14	42-	16,17	A4J205	53	20			
154	1	1	1		A4J205	54	20	B14	37	16,1	7		
155		1	1		B14	36	16,17	A4J205	55	20			
156					A4J205	56	20	B15	42	16,1	7		
157					B15	45	16,17	A4J205	57	20			
158					A4J205	58	20	B15	9	16,1	7		
159					B15	29	16,17	A4J205	59	20			
160					A4J205	60	20	B15	24	16,1	7		
161			·		B15	<u>ا</u> ئ	16,17	A4J205	62	20			
162					A4J205	63	20	B15	22	16,1	7		
163					B15	40	16,17	A4J205	64	20			
164					A4J205	65	20	B15	33	16, 1	7		
165					B15	14	16,17	A4J205	66	20			
166	П				A4J205	67	20	B15	28	16, 1	7		
167					B15	34	16,17	A4J205	70	20			
168					A4J205	71	20	B15	12	16, 1	7		
169					B15	21	16, 17	A4J205	72	20			
170	V	<u> </u>			A4J205	73	20	B15	20	16,1	7		
171	12	24	4		815	38	16,17	A4J205	74	20		•	

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MINNEAPO	DUS, M	NNESOTA									SHEET	11 ^{0F}	
CONDUCTOR IDEN T.	FIND NO.	GAUGE (REF.)	COLOR (REF.)	LENGTH (APPROX)	ORIGIN		ACCESS. FIND NO.	DESTINATIO	N	ACCES: FIND N		REMARKS	٠.
172	12	24	4		A4J205	75	20	B15	36	16, 17	7		
173		1			B15	16	16,17	A4J205	76	20			
174	1	1	1		A4J205	77	20	B15	17	16,17	7	•	
175					B15	25	16,17	A4J205	78	20			
176					J206	8	20	A17	34	16,17	,		
177					A17	08	16,17	J206	D	20			
178					J206	С		TB203	3	32 (34)		
179					TB203	1	32 (3)	J206	U	20	<u> </u>		
180					J206	٧	20	A19	1	16, 17	,		
181					A19	20	16,17	J206	w	_20			
182	$\Box \Box$				J206	X	20	A19	33	16,17	,		
183					A19	45	16,17	J206	Υ	20			
184					J206	Р	20	A3TB204	3	22			
185	\sqcap				A4TB204	3	22	J206	ŧ	20			
186					J206	ħ	20	B17		16,17	7		
187					B17		16,17	J206	ē	20			
188					J206	7	20	тв203	4	32 (36	>		
189	T	T	T		TB203	2	32 📆	J206	×	20			
190	12	24	4		J206	ÿ	20	B19	1	16,17	,		

MINNEAPO		NINI	TITLE		WI	RE LI	STING				WL SHEET	DOCUMENT NO. 40017600	F.
CONDUCTOR IDENT.	FIND NO.	GAUGE (REF.)	COLOR (REF.)	LENGTH (APPROX)	ORIGIN		ACCESS. FIND NO.	DESTINATION	ON	ACCES:		REMARKS	
191	12	24	4		B19	20	16,17	J206	Z	20	T -		
192					J206	ДД	20	B19	33	16, 17			
193	1	4	1	,	В19	45	16,17	J206	88	20			
194					A3TB202	7	21,68	A3TB202	2	27	1		
195					A3TB202	5	W	A3TB202	1	27			
196					A3TB202	30	27	A3TB202	31	27			
197					A3TB202	24	27	A3TB202	25	27	T	•	
198					A3TB202	18	27	A3TB202	19	27			
199					A3TB202	12	27	A3TB202	13	27			
200					A3TB202	34	27	A3TB202	31	27			
201					A3TB202	28	27	A3TB202	25	27			
202					A3TB202	22	27	A3TB202	19	27			
203					A3TB202	16	27	A3TB202	14	27			
204			\prod		A3TB202	5	39	A3TB202	8	27			
205					· A3TB202	7	•	A3TB202	10	27			
206					A4TB202	7	21.49	A4TB202	2	27			
207					A4TB202	5	21 39	K.	1	27			
208	Y				A4TB202	30	27	A4TB202	31	27			
209	12	24	4		A4TB202	24	27	A4TB202	25	27	T		

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MINNEAPO	DLIS. M	INNESO	A								SHEET	13 of	
CONDUCTOR IDENT.	FIND NO.	GAUGE (REF.)	COLOR (REF.)	LENGTH (APPROX)			ACCESS. FIND NO.	DESTINATI	ON	ACCES:		REMARKS	٠.
210	12	24	4		A4TB202	18	27	A4TB202	19	27			
211					A4TB202	12	27	A4TB202	13	27	7		
212	1				A4TB202	34	27	A4TB202	31	27		•	
213					A4TB202	28	27	A4TB202	25	27			
214					A4TB202	22	27	A4TB202	19	27			
215		11			A4TB202	16	27	A4TB202	14	27			
216					A4TB202	5	39	A4TB202	8	27			
217					A4TB202	7	(3)	A4TB202	10	27			
218					TB203	1	(3)	A3TP200	T	22			
219					A3TP203	_	22	TB203	3	0			
220					TB203	2	6	A4TP200	_	22			
221					A4TP203		22	TB203	4	33			
222	\perp				TB203	7	Ø	A3TP204	_	22			
223					A3TP202		22	TB203	9	②			
224					TB203	8	(2)	A4TP204	-	22			
225					A4TP202		22	TB203	10	23			
226			Y		TB203	13	15 🕢	IJ202	N	14			
227	1		'		IJ200	80	20	TB203	13	B2 ()			
228	12	24	4		TB203	13	(C)	IJ201	80	20			

अग्रह	(99).	NAM.	TITLE		wi	RE LI	STING				WL	DOCUMENT NO. 40017600	F
MINNEAPO	DLIS, MI	NNESOTA	<u> </u>				,— <u> </u>				SHEET	14 OF	
CONDUCTOR	FIND NO.	GAUGE (REF.)	COLOR (REF.)	LENGTH (APPROX)	ORIGIN		ACCESS FIND NO	DESTINATIO)N	ACCESS FIND N		REMARKS	
229	12	24	4		A3 0	2 ·	16,17	TB203	13	32 🏈	•		
230	1	1	1		TB203	13	0	A30	50	16,1	7		
231					IIJ202	N	14	тв203	16	29		•	
232	П		,		TB203	16	32 🕢	□J200	80	20			
233					□ J201	80	20	TB203	16	•			
234	П				TB203	16	32 🚯	830	2	16,1	7		
235					B30	50	16,17	TB203	16	0			
236					TB203	1	(3)	A3TB204	7	22			
237					A3TB204	4	22	1 A14	45	16,1	7 .		
238	П				814	45	16,17	A4TB204	4	22			
239	П				A4TB204	7_	22	TB203	2	3			
240					A3TB202	36	27	A3TB202	37	27			
241	Π.				A4TB202	36	27	A4TB202	37	27			
242					A22	2'5	16,17	A3J205	40	20			
243					^A3J205	41	20	A22	18	6,17			
244					B22	25	16,17	A4J205	40	20			
245					A4J205	41	20	B22	18	16,1	7		
246	7		1		A3J205	24	20	J206	A	20			
247	12	24	4		A4S202	3	22	B17	9	16,1	7		

MINNEAP		NAM!			wı	IRE LI	STING				WL	DOCUMENT NO. 40017600	F
CONDUCTOR		GAUGE (REF.)	COLOR (REF.)	LENGTH (APPROX)	ORIGIN	* :	ACCESS. FIND NO.	DESTINAT	'ION	ACCES FIND N	s.	REMARKS	
248	12	24	4		A3S202	2 -	22	A17	33	16,1			
249	A		. ,		A3S202	3	1	A17	9				
250	7	1	1		A3S202	4		A17	26			•	
251					A3S202	5		A17	5				
252					A45202	С		B17	32				
253	Y	Y	_		A4S202	1	7	B17	44	1			
254	12	24	4		A4S202	2	22	B17	33	16,1	7		
255	10	16	4		A3J205	1	18	TB203	3	15			
256					TB203	7	15	A3J205	2	18			
257	1	1	1		A3J205	3	18	J204	21	9			
258					A3J205	20	18	TB203	1	34,5)		
259					TB203	1	5	J204	1	9	•		
260					204	2	9	TB203	1	15			
261					TB203	2	15	J204	3	9			
262					J204	11	9	TB203	6	15			
263					TB203	5	15	J204	12	9			
264	_				J204	13	9	TB203	9	15			
265	V	7	T		TB203	10	15	J204	14	9			
266	10	16	4	H	J204	17	9	A3TB202	35	21			

ant	170	11.	W.	TITL		wı	RE LI	STING				WL	40017600	F
MINNEAP	ous	MIN	NESOTA			•						SHEET	16 OF	
CONDUCTOR	R FIN		GAUGE (REF.)	COLOR (REF.)	LENGTH (APPROX)	ORIGIN		ACCESS. FIND NO.	DESTINATI	ON	ACCES FIND N		REMARKS	
267	10	1	16	4		TB203	3 -	15	J204	18	9			
268	1.					J204	20	9	тв203	14	15	1		
269	1					TB203	7	15	J204	28	9			
270	11					J204	29	9	TB203	В	15			
271	11	7				A4J205	3	18	J204	30	9	1		
272	\top					J204	35	9	A4TB202	35	21	1		
273	TT	T				TB203	4	15	A4J205	1	18			
274						A4J205	20	18	ТВ203	2	15	1		
275	П					TB203	1	15	TOP BUSS B	AR	23,2	4		
276						MIDDLE BUSS BAR	<u> </u>	23,24	TB203	2	(2) 3	4		
277			7	1		TB203	2	63	BOTTOM BUSS BAR		23,2	4		
278	10		16	4		TB203	8	15	A4J205	2	18			
279	12		24	4		A3S201 .	1	16	A17	41	16,1	7		
280	A		1			A4S201	1	16	B17	41	A			
281	T		1	1		A30S200	В	27	A17	42				
282	П		Ţ			A4DS200	В	27	B17	42				
283	T		T	T		A3S202	С	22	A17	32	I		•	
284	12		24	4		A3S202	1	22	A17	44	16,1	7		

स्तरल	રેશિ:	MAN.	TITLE		wı	RE LI	STING				WL	40017600	F
VILINEAPO	OLIS, MI	NNESOTA									SHEET	17 OF	
ONDUCTOR	FIND NO.	GAUGE (REF.)	COLOR (REF.)	LENGTH (APPROX)	ORIGIN		ACCESS. FIND NO.	DESTINAT	ION	ACCESS FIND NO		REMARKS	
285	25	24								ļ			
285A			0		A3J205	4	20	A3TB202	35	7			
2858			4		A3J205	8	20	A3TB202	37	27			
286	25	24											
286A			0		A3TB202	9	27	A3J205	5	20			
286B			4		A3TB202	7	27	A3J205	10	20			
287	25	24						j					
287A			0		A3J205	7	20	A3TB202	15	27			
287 B			4	<u> </u>	A3J205	11	20	A3TB202	11	27	<u> </u>		
288	25	24											
288A			0		A3TB202	21	27	A3J205	12	20			
288B			4		A3TB202	17	27	A3J205	15	20			
289	25	24								<u> </u>			
289A			0		A3J205	13	20	A3TB202	27	27			
2898			4		A3J205	16	20	A3TB202	23	27			
290	25	24											
29 0 A			0		A3TB202	33	27	A3J205	14	20			
29 0 B			4		A3TB202	29	_27	A3J205	17	20			·

		N. A. S. J.	TITLE		WII	RE LI	ISTING			L	WL	DOCUMENT NO. 40017600	F
MINNEAPO	DUS, M	NNESOTA	1	· · · · · · · · · · · · · · · · · · ·		ينوسيفن	3				SHEET	18 ^{OF}	
CONDUCTOR IDENT.	FIND NO.	GAUGE (REF.)	COLOR (REF.)	LENGTH (APPROX)	ORIGIN	,	ACCESS. FIND NO.	DESTINATIO	ON .	ACCESS. FIND NO.		REMARKS	
291	25	24		ĹĹ						<u> </u>			
291A			0		A3J205	31	20	A11	25	16,17			
291B			4		A3J205	34	20	A11	24	16,17			
292	25	24								<u> </u>			
292A			0	i	IJ202	ĸ	14	A3J205	45	20			
292B			4		IJ202	м	14	A3J205	46	20			
293	25	24											
293A			0		A3J205	48	20	□ J202	K	14			
293B			4		A3J205	49	20	II7505	М	14			
294	25	24									١.		
29 4 A			0		A4J205	4	20	A4TB202	35	(3)			
294B			4		A4J205	8	20	A4TB202	37	27			
295	25	24		ll			1 1		1				
295A			0		A4TB202	9	27	A4J205	5	20			
295B			4		A4TB202	7	27,	A4J205	10	20			
296	25	24											
296A			0		A4J205	7	20	A4TB202	15	27			
296B	<u> </u>		4		A4J205	11	20	A4TB202	11	27			
1				ľ						j		•	

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41249000 B

MINNEAPO			TITLE		wı	RE LI	STING				WL SHEET	DOCUMENT NO. 40017600	F
CONDUCTOR		GAUGE (REF.)	COLOR (REF.)	LENGTH (APPROX)	ORIGIN		ACCESS. FIND NO.	DESTINATIO)N	ACCES:	s.	REMARKS	
297	25	24											
297A			0		A4TB202	21	27	A4J205	12	20			
297B			4		A4TB202	17	27	A4J205	15	20			
298	25	24											
298A			0		A4J205	13	20	A4TB202	27	27			
298B			4		A4J205	16	20	A4TB202	23	27			
299	25	24							<u> </u>	l			
299A			0		A4TB202	33	27	A4J205	14	20			
299 B			4		A4TB202	29	27	A4J205	_17	20			
300	25	24									1		
300A			0		A4J205	31	20	B11	25	16,1	7		
30 0 B			4		A4J205	34	20	811	24	16,1	7		
301	25	24							<u> </u>				
301A			0		IJ202	KK	14	A4J205	45	20			
301B			4		IJ202	ММ	14	A4J205	46	20			
302	25	24											
302A			0		A4J205	48	20	IIJ202	KK	14			
302B			4		A4J205	49	20	IIJ202	ММ	14			
	<u> </u>		<u> </u>				!			<u> </u>			

ตกงกั			TITLE		wi	RE LI	ISTING				WL SHEET	DOCUMENT NO. 40017600	F
MINNEAP	M.SLIC	INNESOTA	1	1		-	1			1	SHEET	20 UF	
CONDUCTOR IDENT.	FIND NO.	GAUGE (REF.)	COLOR (REF.)	LENGTH (APPROX)	ORIGIN		ACCESS FIND NO	DESTINATIO) N	ACCES FIND N		REMARKS	
303	25	24				<u> </u>							
303A			0		Α7	1	16,17	A3TB202	20	27			
303B			٠.4		A7	5	16,17	A3TB202	18	27	·	•	
304	25	24										•	
304A			0		A3TB202	14	27	Α7	18	16,1	7		
304B			4		A3TB202	12	27	Α7	17	16,1	7		
305	25	24										_	
305A			0		Α7	28	16,17	A3TB202	32	27			
305B		İ	4		A7	29	16,17	A3TB202	30	27			
306	25	24										,	
306A			0		A3TB202	26	27	A7	44	16,1	7		
3 0 6B			4		A3TB202	24	27	A7	45	16,1			
307	25	24											
307A			0		B7	1	16,17	A4TB202	20	27			
307B			4		B7	5	16,17	A4TB202	18	27			
308	25	24											
308A			0		A4TB202	14	27	B7	18	16,1	7		
308B			4		A4TB202	12	27	B7	17	16,1	7		
1			·									•	

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MINNEAPO					wı	RE LI	ISTING				DOCUMENT NO. REV. 40017600 F
CONDUCTOR	FIND NO.	GAUGE (REF.)	COLOR (REF.)	LENGTH (APPROX)	ORIGIN		ACCESS FIND NO	DESTINATI	DN	ACCESS. FIND NO.	REMARKS
309	25	24									
309A			٥		B7	28	16, 17	_A4TB202	32	27	
309B			4		B7	29	16, 17	A4TB202	30	27	•
310	25	24									
310A	<u></u>		0		A4TB202	26	27	B7	44	16,17	
310B			4		A4TB202	24	27	87	45	16,17	
311	12	24	4		A45202	4	22	B17	26	16,17	
312	12	24	4		J206	ь	20	A18	42	16,17	
313	12	24	4		J206	EE	20	B18	42	16,17	
315	28	20				<u> </u>	<u>j</u>		<u></u>		
315A			SHILLD		A3.1205	29	19	_A11	28	29,31	
315B			0		A3J205	30	19	A11	26	29,30	
315C			2		A3J205	33	19	A11	18	29,30	
316	28	20_				J]		 		
316A	<u> </u>		SHIELD		Δ4,J205	29	19	B11	28	29.31	
316B			0		A4J205	30	19	B11	26	29,30	
316C			2		A4J205	3.3	19	811	18	29,30	
			<u> </u>			1		ļ	-	1	
	l										

ann	स्ता	DAM	TITLE		w	IRE LI	STING			,	WL		UMENT NO.	F
MINNEAPO	DLIS, M	INNESOTA									SHEET	22 OF	22	
CONDUCTOR IDENT.	FIND NO.	GAUGE (REF.)	SOLOR (REF.)	LENGTH (APPROX.)	ORIGI	N	ACCESS FIND NO.	DESTINAT	ION	ACCESS FIND NO			REMARKS	
320	33	24												
320A			SHIELD		A3J205	79	19 🚱	A22	8	16,1	,			
3208			9		A3J205	80	20	A22	5	16,1	, ·		•	
321	33	24												
321A			SHIELE		A22	8	16,17	A3J205	79	03				
321B			9		A22	9	16,17	A3J205	82	20				
322	33	24												
322A			SHIELE		A4J205	79	19 🚯	B22	8	16,1	7			
322B			9		A4J205	80	20	B22	5	16,17	,			
3 23	33	24												
323A			SHIELD		B22	8	16,17	A4J205	79	13				
32 38			9		822	9	16,17	A4J205	82	20				
324	11	20	4		A29	48	29,30	TB203	9	32				
325	11	20	4		TB203	10	32	B29	48	29,30				
326	12	24	4		A3J205	42	20	TB203	2	•				
327			Å		A4J205	42	4	TB203	2	€ 35	5			
328					A3J205	43		J206	a	20				
329	Y	T			A4J205	43	20	J206	DD	20				
330	12	24	4		A45202	05	22	B17	5	16,1	,		•	

GOZIAKOT DVAN	TITLE WIR	E LIS	T - LOGIC	CHASSIS HARNESS ASSY	WL		DOCUMENT		RFV.
INNEAPOLIS, MINNESOT	M	ULTIP	LE DISK D	PRIVE	SHEE	T 1	OF 23	 I	
REVISION STATUS	OF SHEETS	1	Warred Act - Made reco	REVISIONS					A STREET, STRE
		REV.	ECO	DESCRIPTION	DI	RFT.	DATE	CHKD.	APPD.
		A		RELEASED	-		1127.65		184
		13	1214.16 6.0	SEE CO	1	DВ	2-18-69	77	206
		C.	PM 5578	SEE CO	(5 V	7-10-69	29C4	7-18
		D	PM 5578A	SEECO	G	٧٠	7-10-69	20 CH	7-18
		E	PE 11118	SEE CO	1)s	9.17.69	97	9-18-9
		F	11118 A	DWG NO WAS 40017600			12-17-69		
		G	PE11451	ADDED NOTE 3 & CHG WL	I	20	3/31/20	97	JI.
		Н	PE11444	CHG WL 320 A / 322 A	7	DC	3/31/20	97	工
		J	PE11290	ADDED 331 ~ 338	I	2	3/3//70	97	I-R
+		1	PEH451A	CHG NOTE 3 / WL)C	3/31/70	97	工
++++-	-+	 -							
NOTES:		L	A STATE OF THE PARTY OF						
							N 707		
COPIES	T			DATE			TACHED		15
TO	j			BY SD 10-10 CHKD	C.M.	14/11	68 ENGR	760	

MINNEAP		MM	TITLE		W	IRE L	ISTING			.	WL SHEET	70715000	RE'
CONDUCTOR IDENT.	FIND NO.	GAUGE (REF.)	COLOR (REF.)	LENGTH LAPPROXJ	ORIGII		ACCESS. FIND NO.	DESTINATIO		ACCESS		REMARKS	
1	11	20	4		J204	42-	13	J206	М	19			
2					J206	N	19	J204	43	13			
3	4	1	A		J204	45	13	J206	R	19			
4			1.		J206	s	19	J204	46	13	1		
5				Í	J204	48	9 ①	IJ202	U	13			
6				į,	IIJ202	U	13	J204	48	0			
_ 7					J204	51	13	J206	j	19			
8				, , , , , , , , , , , , , , , , , , ,	J206	k	19	J204	52	13	1		
9					J204	53	13	J206	нн	19			
10					J206	m	19	J204	54	13			
11					J204	55	13	J206	\overline{n}	19			
12					J206	Þ	19	J204	56	13			
13					J204	57	13	. J206	r	19			
14					J206	Š	19	J204	58	13			
15					J204	60	13	J206	ū	19			
16					J206	₹	19	J204	62	13			
17			Y		J204	64	9 (2)	IJ202	X	13			:
18	1]	∏J202	X	13	J204	64	2			
19	11	20	4	Ä	J204	65	9 (3)	IJ202	Y	13	·		

(C) (C) (T)			TITLE		W	IRE LI	ISTING	Personal Public Associates and Constitution of			WL SHEET	DOCUMENT NO. 70715000	REV.
CONDUCTOR		1	COLOR (REF.)	LENGTH (APPROX)	CRIGIT		ACCESS.			ACCESS		REMARKS	
20	11	20	4		IIJ202	ΙΥ .	13	J204	65	3			
21	,		1		J204	66	9 4	IJ202	2	13	 		
22	1	A	1		II1202	#	13	J204	66	④		•	
23					J204	16	13	A4J205	21	19			
24					A3J205	18	19	J204	24	13			
25					J204	26	13	A3J205	21	19			
26					A4J205	18	19	J204	33	13			
27					J204	36	13	J206	E	19			
28					J206	F	19	J204	37	13			
29					J204	39	13	J206	J	19			
30					J206	K	19	J204	40	13			
31					J204	41	13	J206	L	19			
32	\coprod				J206	Т	19	A3J205	25	19			
33					A3J205	32	19	TB203	1	32 (5			
34					TB203	3	32	A3J205	35	19			
35					A3J205	36	19	TB203	7	15 4	3		
36	4	W.	V		ТВ203	8	32	A4J205	36	19			
37 '	7		4		A4J205	35	19	TB203	4	32			
38	11	20	4		TB203	2	326	A4J205	32	19			

(रेवाशकी	Yali	3).EA./	TITLE								DOCUMENT NO.	REV.
i.		A) 2 M 3 4 (WI	RE LI	STING			WI	70715000	K
MINNEAPO	DLIS, M	INNESOTA								SHEE	T 4 OF	
CONDUCTOR IDENT.	FIND NO.	GAUGE (REF.)	COLOR (REF.)	LENGTH (APPROX)	ORIGIN		ACCESS. FIND NO.	DESTINATION		ACCESS. FIND NO.	REMARKS	
39	11	20	4		A4J205	25.	19	J206	w	19		
40	_ \				A3TB202	35	21(7)	A3TB202	33	21 (8)		
41	Â	A	^		A3T8202	33	(8)	A3TB202	27	21③		
42					A3TB202	27	(9)	A3TB202	21	21 10		
43					A3TB202	21	10	A3TB202	15	21 (1)		
44					A3TB202	15	11)	A3TB202	9	27		
45					A4TB202	35	21(2)	A4TB202	33	21 (3)		
46					A4TB202	33	(3)	A4TB202	27	21 (4)		
47					A4TB202	27	14	A4TB202	21	21 😘		
48					A4TB202	21	13	A4TB202	15	21 🜀		
49					A4TB202	15	16	A4TB202	9	27		
50					TB203	3	15 🕡	A23	46	29,30		
51					A17	46	29,30	ТВ203	3	17		
52					TB203	3	15 🔞	A11	46	29,30		
53					B23	46	29,30	TB203	4	15 (19)		
·54					TB203	4	①	B17	46	29,30		
55			7		B11	46	29,30	ТВ203	4	1560		
56	Y	1	1		TB203	5	32	A29	46	29.30		
57	11	20	.4		B29	46	29,30	TB203	5_	32	•	

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41249000 B

CONT.	٠		TITLE		\	NIRE L	ISTING	italiani ang manakan at Elivan		W	DOCUMENT NO. REV. 70715000 K EET5 OF
CONDUCTOR	T	GAUGE (REF.)	COLOR (REF.)	LENGTH (APPROX)	ORIG	IN	ACCESS.	DESTIN		ACCESS.	REMARKS
58	11	20	4		TB203	5	132	A26	46	29,30	
59			\ A		626	46	29,30	TB203	5	32	
60	A	A			TB203	6	32	A29	6	29,30	•
61					B29	6	29,30	TB203	6	32	
62				'	TB203	6	32	A26	6	29,30	
63					B26	6	29,30	T8203	6	32	
64					TB203	7	15 60	A23	6	29,30	
65					A17	6	29,30	T3203	7	15 ②	
66 ·					ТВ203	7	(3)	A11	6	29,30	
67					823	6	29,30	TB203	8	15 23	
68					T5203	8	15.3	817	6	29,30	
69					B11	6	29,30	TB203	8	(9)	
70					TB203	9	15 (2)	A23	48	29,30	
71					A17	48	29,30	TB203	9	32	
72					TB203	9	15 (2)	A10	48	29.30	
73					B2 3	48	29,30	1	10	15 23	
74		V	<u> </u>		TB203	10	15 €€	B17	48	29,30	
75	1	<u>'</u>			810	48	29,30	TB203	10	32	
76	11	20	4		TB203	13	15 🕖	TJ202	R	13	

	(C) NO		.	11.	TIT	LE			STING				WL SHEET	70715000 6 of	K
`.[CONDUCTOR IDENT.	FINI		GAUGE (REF.)	COLOR (REF.				ACCESS. FIND NO.	l'		ACCES:		REMARKS	
\cdot	77	11		20	4		II'J202	R·	13	TB203	16	15 &	-		
	78	-4					A3T8202	36	27	A3TB202		21 69			
	79	1		4	Î		A3TB202	6	②	TB203	1	15 (30		•	
	80						TB203	1	(3)	A4TB202	6	21 (3			
	81				`		A4TB202	6	31	A4TB202	36	27			
1	82	_	1				TB203	4	(5)	B05	46	29,30)		
1	83	\perp	_				BO5	48	29,30	T8203	10	23			
ļ	84						TB203	3	18	A05	46	29,30			
L	85						AO5	48	29,30	тв203	9	23			
	86		_				AO5	6	29,30	TB203	7	6			
	87		1		V		TB203	8	32	B05	6	29,30			
L	88	_'	\perp	, 			A26	48	29,30	. TB20 3	9	32			
	89	11	L	20	4		TB203	10	32	B26	48	29,30			
	90	12		24	4		A3TB204	1	22	J204	44	14			
	91			_ 1 _			J204	49	13 53	IJ202	V	14	T	· · · · · · · · · · · · · · · · · · ·	
	92	î		A			II J202		14		49	(32)	1		
	93	-					J204		13 (3)		w	14			
1	94	1		Υ	Y		IIJ202	W		J204	50	63			
1	95	12		24	4		J204	59	14	A4TB204	1	22	T :		

CHI)NT			TITLE				STING			WL	70715000	REV.
CONDUCTOR	FIND NO.	GAUGE (REF.)	COLOR (PEF.)	LENGTH (APPROX)	ORIGIN		ACCESS. FIND NO.	DESTINATI	ļ	ACCESS. FIND NO.	REMARKS	
96	12	24	4		A3TP201		22	J204	67	14	,	
97					J204	70	14	A4TP201		22		
98	A	4	A		A3J205	39	20	A8	1	23,24		
99					Α7	13	23,24	A3J205	23	20		
100					J204	4	14	В7	37	16,17		
101					B8	45	16,17	J204	5	14		
102					J204	7	14	8	45	16,17		
103					Α7	37	16,17	J204	8	14		
104					J204	10	14_	J206		_20		
105					J206	cc	20	J204	22	14		
106					J204	15	14	A4J205	22	20		
107					J206	Н	20	J204	25	14		
108					J204	27	14	A3J205	22	20		
109					A3J205	26	20	8A	2	16,17		
110					8A	1	16,17	A3J205	27	20		
111					A3J205	28	20	A3TB204	2	22		
112	V		1		A11	30	16,17	A3J205	37	20		
113		1			A3J205	38	20	A11	45	16,17		
114	12	24	4		A14	1	16,17	A3J205	47	20		

MINNEAPO			TETLE			_	STING		L	WL SHEET	70715000 8 of	KEV	
CONDUCTOR	FIND NO.	GAUGE (REF.)	COLOR (REF.)	LENGTH (APPROX)	ORIGIN		ACCESS. FIND NO.		ON	ACCESS FIND NO		REMARKS	
115	12	· 24	4		A3J205	50	20	A14	8	16,1	7		
116			1		A17	16	16,17	A3J205	51	20			
117	A	A	1		A3J205	52	20	A14	20	16,17			
118					Δ14	42	16,17	A3J205	53	20			
119	П				A3J205	54	20	A14	37	16,17			
120					A14	36	16,17	A3J205	55	20			
121					A3J205	56	20	A15	42	16,17			
122					A15	45	16,17	A3J205	57	20			
123					A3J205	58	20	A15	9	16,17			
124					A15	29	16,17	A3J205	59	20			
125					A3J205	60	20	A15	24	16,17			
126					A15	13	16,17	A3J205	62	20			
127					A3J205	63	20	A15	22	16,17			
128					A15	40	16,17	A3J205	64	20			
129					A3J205	65	20	A15	33	16,17			
130					A15	14	16,17	A3J205	66	20			
131	4	V	W		A3J205	67	20	A15	28	16, 17			
132	-		1		A15	34	:	A3J205	70				
133	12	24	4	l	A3J205	71	20	A15	12	16,17			•

MINNEAPO	٠.		TITLE				STING			W	DOCUMENT NO. REV. 70715000 K
CONDUCTOR IDENT.	FIND NO.	GATIGE (REF.)	COLOR (REF.)	LENGTH (APPROX)	ORIGIN		ACCESS. FIND NO.	DESTINATI		ACCESS. FIND NO.	REMARKS .
134	12	24	4		A15	21.	16,17	A3J205	72	20	
135	_ A	1	1		A3J205	73	20	A15	20	16,17	
136		^			A15	38	16, 17	A3J205	74	20	
137					A3J205	75	20	Δ15	36	16,17	
138					A15	16	16,17	A3J205	76	20	·
139					A3J205	77	20	Δ15	17	16,17	
140					A15	25	16,17	A3J205	78	20	
141					A4J205	39	20	В8	1	16,17	
142					B7	1.3	16,17	A4J205	23	20	
143					A4J205	24	20	J206	d	20	
144	T				A4J205	26	20	B8	2	16,17	
145					В8	1	16,17	A4J205	27	20	
146					A4J205	28	20	A4TB204	2.	22	
147					811	30	16,17	A4J205	37	20	
148					A4J205	.38	20	B11	45	16,17	
149					B14	1	16,17	A4J205	47	20	
150	¥_				A4J205	50	20	B14	8	16,17	
151	<u>'</u>	1 ~	7		B17	16	16,17	A4J205	51	20	
152	12	24	4 '		A4J205	52	20	B14	20	16,17	

CONT			TITLI	2		RE LI		WL 70715000 K			
CONDUCTOR	FIND NO.	GAUGE (REF.)	COLOR (REF.)	LENGTH (APPROX)	ORIGIN		ACCESS.	DESTINAT		ACCESS. FIND NO.	
153	12	24	4		814	42-	16,17	A4J205	53	20	
154	4	1	1		A4J205	54	20	B14	37	16,17	
155	*	1	1		814	36	16,17	A4J205	55	20	•
156					A4J205	56	20	B15	42	16,17	
157					B15	45	16,17	A4J205	57	20	
158					A4J205	58	20	B15	9	16,17	
159					B15	29	16,17	A4J205	59	20	
160					A4J205	60		B15 ·	24	16,17	
161					B15	13	16,17	A4J205	62	_20 _	
162					A4J205	63	20	B15	22	16,17	,
163					B15	40	16,17	A4J205	64	20	
164					A4J205	65	20	815	33	16,17	,
165					B15	14	16,17	A4J205	66	20	,
166					A4J205	67	20	815	28	16, 17	
167					B15	34	16,17	A4J205	70	20	
168					A4J205	71	20	B15	12	16,17	
169	J				B15	21	16,17	A4J205	72	20	
170	1	7	Y		A4J205	73	20	B15	20	16,17	
171	12	24	4		B15	38	16,17	A4J205	74	20	·

	NNEAPC				1	Т	TTLE		WII		STING				WL SHEET	DOCUMENT NO. 70715000 110F	K K
	NOUCTOR DENT.	FIN		GAUGE (REF.)		COL (RE		LENGTH (APPROX)	ORIGIN		ACCESS. FIND NO.)N	ACCES FIND N		REMARKS	
$\cdot \square$	172	12	2	. 24	1	4	4		A4J205	75	20	815	36	16,1	7		
Г	173								B15	16	16,17	A4J205	76	20			
	174	1	•	4		-	A		A4J205	77	20	B15	17	16,1	7	•	
	175								B15	25	16,17	A4J205	78	20			
	176								J206	В	20	A17	34	16,1	7		
	177								A17	08	16,17	J206	D	20			
	178								J206	С	20	TB203	3	32 3	a		
	179								TB203	1	32 (3)	J206	U	20	ļ		
	180								J206	V	20	A19	1	16,1	7		
	181						_		A 19	20	16,17	J206	W	20			
	182								J206	X	20	A19	33	16,1	7		
	183								A19	45	16,17		Υ	_20			
L	184						L		J206	Р	20	A3TB204	3	22			· .
	185								A4 TB204	3	22	J206	t	20			
	186								J206	ħ	20	B17		16,1	7		
L	187				\rfloor		_		B17		16,17	J206	ē	20			
L	188	L,	,				_		J206	Ŧ	20	1		32 (3	<u>}</u>		
L	189	'	_	<u> </u>	1		7		TB203		32 37	J206	X	20			
L	190	12	2	24	١	.4	<u> </u>		J206	y	20	B19	1	16,1	7		

Cion	113	(i):	:37:01	/ <u>i</u> \	TIT	LE								WL	DOCUMENT NO.	REV.
-]				WI	RE LI	STING			[****	70715000	_K
MINNEAF	POL	IS, M	INNES	ОТА				A Section of the section of the	7100-1715	-	2017 A. T. VIII CONTROL			SHEET	12 OF	
CONDUCTO)R I	IND NO.	GAUG (REF		COLO		LENGTH (APPROX)			ACCESS. FIND NO.	1		ACCES!		REMARKS	
191		12		24	4			B19	20	16,17	J206	z	20			
192			L.					J206	AA	20	B19	33	16,17			
193		1	1 4	7	A			B19	45	16,17	J206	BB	20			
194	T							A3TB202	7	21,48	A3TB202	2	27			
195	T							A3TB202	5	21 (38)		1	27			
196								A3TB202	30	27	A3TB202	31	27			
197								A3TB202	24	27	A3TB202	25	27			
198	Ι							A3TB202	18	27	A3TB202	19	27			
199								A3TB202	12	27	A3TB202	13	27			
200								_A3TB202	34	27	A3TB202	31	27			
201								A3TB202	28	27	A3TB202	25	27			
202								A3TB202	22	27	A3TB202	19	27			
203								A3TB202	16	27	A3TB202	14	27			
204								A3TB202	5	(3∂)	A3TB202	8	27			
205	$oxed{\int}$							A3TB202	7	48	A3TB202	10	27			
206	Ι							A4TB202	7	21.49	A4TB202	2	27			
207					V			A4TB202	5	21 (39)	A4TB202	1	27			
208		7		1				A4TB202	30	27	A4TB202	31	27		· ·	
209	1	12		24	4			A4TB202	24	. 27	A4TB202	25	27]		

1,1	ICIO)(TI				```		TITLE				STING	WL SHEET	70715000 13 of	REV.				
،[و	CONDUCTOR		ND IO.	GAL (RI	JGE EF.)		OLOR REF.)		LENGTH (APPROX)	ORIGIN	k enemak	ACCESS. FIND NO.	DESTINATIO		ACCES		REMARKS	
\cdot [210	1	2		24	4	ļ		A4TB202	18	27	A4TB202	19	27				
. [211								A4TB202	12	27	A4TB202	13	27				
	212	'			1				A4TB202	34	27	A4TB202	31	27				
	213	L							A4TB202	28	27	A4TB202	25	27				
٠[214	L							A4TB202	22	27	A4TB202	19	27				
	215	L	L						A4TB202	16	27	A4TB202	14	27				
	216						L		A4TB202	5	3 9	A4TB202	8	27				
	217								A4TB202	7	(19)	A4TB202	10	27				
L	218	L.							TB203	1	(5)	A3TP200	_	22				
	219								A3TP203	-	22	TB203	3	€3		·		
E	220								TB203	2	6	A4TP200	_	22				
	221								A4TP203		22	TB203	4	39				
	222	_							TB203	7	Ø	A3TP204		22				
	223,								A3TP202		22	TB203	9	②				
	224	L					L		TB203	8	63	A4TP204		22				
	225								A4TP202		22	TB203	10	23				
	226	L,	,	_,	<u>, </u>		<u></u>		TB203	13	15 🕖	IJ202	N	14				
	227	_	1		1		<u> </u>	ļ	IJ200	80	20	TB203	13	B2 40				
L	228	1	2		24	4			TB203	13	€	IJ201	80	20	1			

Cignar	en.	3),151/7/	TITL		WI	RE L		WL	DOCUMENT NO. 70715000	REV.			
MINNEAP	OLIS, M	INNESOTA	A		A POTENCIAL						SHEET	14 OF	Carron investor
CONDUCTOR	FIND NO.	GAUGE (REF.)	COLOR (REF.)	LENGTH (APPROX)			ACCESS.		ON	ACCES!		REMARKS	,
229	12	24	4		A30	2 -	16,17	TB203	13	32 4)		
230	À	A			TB203	13	4)	A30	50	16,1	7		
231	4	4	1		IIJ202	N	14	TB203	16	(28)			
232					TB203	16	32 42	11J200	80	20			
233					IIJ201	80	20	TB203	16	42			
234					TB203	16	32 43	B30	2	16,1	7		
235					B30	50	16,17	TB203	16	43			
236					TB203	1	(3)	A3TB204	7	22			
237					A3TB204	4	22	A14	45	16,1	7		
238					B14	45	16,17	A4-TB204	4	22			
239					A4TB204	7	22	TB203	2	3			
240					A3TB202	36	27	A3TB202	37	27			
241					A4TB202	36	27	A4TB202	37	27			
242					A22	25	16,17	A3J205	40	20			
243					A3J205	, 41	20	A22	18	16,17			
244					B22	25	16,17	A4J205	40	20			
245					A4J205	41	20	B22	18	16,1	7		
246	1	Y	1	•	A3J205	24	20	J206	Α	20			
247	12	24	4		A45202	3	22	B17	9	16,1	7	3.00	

(राश्चरत	Rent	DYN DY	TITLE		wı	RE LIS	STING			L	WL	DOCUMENT NO.	REV.
MINNEAPO	DLIS, MI	NNESOTA	<u> </u>	7		المتالية		y 11 anii ahaa maalaha	in the second		SHEET	15 OF	
CONDUCTOR IDENT.	FIND NO.	GAUGE (REF.)	COLOR (REF.)	LENGTH (APPROX)	ORIGIN		ACCESS. FIND NO.	DESTINAT	ION	ACCESS FIND NO		REMARKS	
248	12	24	4		A3S202	2 ·	22	A17	33	16,17	/		
249				ļ	A3S202	3		A17	9				
250	4	1	A		A3\$202	4	1	A17	26	1 T		•	
251					A3S202	5		A17	5				
252		W			A4S202	С		B17	32	4			
253	γ	Y			A4S202	1	7	B17	44	7			
254	12	24	4		A4S202	2	22	B17	33	16,17	,		
255	10	16	4		A3J205	1	18	TB203	3	15			
256					TB203	7	15	A3J205	2	18			
257	4	A			A3J205	3	18	J204	21	9			
258					A3J205	20	18	TB203	1	34,50)		
259					TB203	1	_50_	J204	1	9			
260					J204	2	9	TB203	1	15			
261					TB203	2	15	J204	3	9			
262					J204	11	9	тв203	6	15			
263					TB203	5	15	J204	12	9			
264					J204	13	9	тв203	9	15			
265	7	1	7		TB203	10	15	J204	14	9			
266	10	16	4		J204	17	9	A3TB202	35	21			

(()))\T		I) TO	TITLE				STING			DOCUMENT NO. R WL 70715000 SHEET 16 OF
CONDUCTOR	FIND NO.	GAUGE (REF.)	COLOR (REF.)	LENGTH (APPROX.)	ORIGIN	erara i.i.	ACCESS. FIND NO.	. DESTINATI		ACCESS. REMARKS
267	10	16	4		TB203	3 ·	15	J204	18	9 '
268	1				J204	20	9	тв203	4	15
269	4	A			TB203	7	15	J204	28	9
270	П				J204	29	9	TB203	8	15
271					A4J205	3	18	J204	30	9
272					J204	35	9	A4TB202	35	21
273					TB203	4	15	A4J205	1	18
274					A4J205	20	18	TB203	2	15
275					TB203	1	15	TOP BUSS B	AR —	23,24
276	1				MIDDLE BUSS BAR	_	23,24	TB203	2	(E) 34
277	7	Y	Y		TB203	2	$\langle \cdot \rangle$	BOTTOM BUSS BAR] —	23,24
278	10	16	4		TB203	8_	15	A4J205	2	18
279	12	24	4		A3S201	1	16	A17	41	16, 17
280	1		1		A45201	1	16	B17	41	A
281	1	1	4		A30S200	В	27	A17	42	
282					A4DS200	В	27	B1 7	42	
283	Y	γ	Y		A35202	С	22	A17	32	Y
284	12	24	4		A3S202	1	22	A17	44	16,17
										i i

FIND				WI		STING				WL SHEET	70715000 17 of	К
NO.	GAUGE (REF.)	COLOR (REF.)	LENGTH (APPROX)			ACCESS. FIND NO.	H		ACCES		REMARKS	
25	24				-				Ĭ			
		0		A3J205	4	20	A3TB202	35	⑦			
		4		A3J205	8	20	A3TB202	37	27		•	
25	24								4			
		0		A3TB202	9	27	A3J205	5	20			
		4		A3TB202	7	27	A3J205	10	20			
25	24											
		0		A3J205	7	20	A3TB202	15	27			
		4	j	A3J205	11	20	A3TB202	11	27			
25	24											
		0		A3TB202	21	27	A3J205	12	20			
		4		A3TB202	17	27	A3J205	15	20			
25	24											
		0		A3J205	13	20	A3TB202	27	27			
		-4		A3J205	16	20	A3TB202	23	27			
25	24											
		0		A3TB202	33	27	A3J205	14	20			
		4		A3TB202	_29	27	A3J205	17	20			
	25	25 24 25 24 25 24 25 24 25 24	25	25	25	25	25	25	25	25	25	25

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		*/			WI	RE L	ISTING				WL	70715000	K
MINNEAPO	LIS, MI	NNESOTA			The section of the	oran a rus rus-		AND DESIGNATION			SHEET	18 OF	
CONFLICTOR	FIND NO.	GAUGE (RFF.)	COLOR (REF.)	LENGTH (APPROX)	ORIGIN		ACCESS.	DESTINATION		ACCES		REMARKS	
291	25	24		<u> </u>						1			
291A			0		A3J205	31	20	A11	25	16,1	7 .		
2918			4		A3J205	34	20	A11	24	16,1	7	•	
292	25	24								li			
292A			0_		IJ202	K	14	A3J205	45	20			
292B			4		IJ202	М	14	A3J205	46	20			
293	25	24											
293A			0		A3J205	48	20	IIJ202	K	14			
293B			4		A3J205	49	20	<u>П</u> J202	М	14			
294	25	24									<u> </u>		
29 4 A			0		A4J205	4	20	A4TB202	35	(3)			
2948			4		A4J205	8	20	A4TB202	37	27			
295	25	24					<u> </u>			 			
, 295A			0		A4TB202	9	27	A4J205	5	20			
295B			4		A4TB202	7	27	A4J205	10	20			
296	25	24		Ĥ									
296A			0		A4J205	7	20	A4TB202	15	27			
296B			4	j	A4J205	11	20	A4TB202	11	27			
							8				Γ.		

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			l		VV I	HE LI	STING			L		70715000	K
MINNEAPO	DLIS, MI	NNESOTA	, and the contract of	Yahunawa		revisent.					SHEET	19 OF	
CONDUCTOR IDENT.	FIND NO.	GAUGE (REF.)	COLOR (REF.)	LENGTH (APPROX)		,	ACCESS. FIND NO.	DESTINATIO		ACCESS. FIND NO.		REMARKS	
297	25	24											
297A		<u> </u>	. 0	l	A4TB202	21	27	A4J205	12	20	<u> </u>		
297B			4		A4TB202	17	27	A4J205	15	20			
298	25	24											
298A			0		A4J205	13	20	A4TB202	27	27			
298B			4		A4J205	16	20	A4TB202	23	27			
299	25	24			,								
299A			0		A4TB202	33	27	A4J205	14	20			
299B			4		A4TB202	29	27	A4J205	17	20			
300	25	24											
300A		<u> </u>	0		A4J205	31	20	B11	25	16,17	<u>'</u>		
300B			4		A4J205	34	20	B11	24	16,17	'		
301	25	24											
301A			0		TJ202	KK	14	A4J205	45	20			
301B			4		IJ202	ММ	14	A4J205	46	20			
302	25	24											
302A			0		A4J205	48	20	IIJ202	KK	14			
302B			4		A4J205	49	20	ПJ202	ММ	14			

MINNEAPO		107	TITLE				ISTING			W	DOCUMENT NO. REV. 70715000 K
CONDUCTOR IDENT.	FIND NO.	GAUGE (REF.)	COLOR (REF.)	LENGTH (APPROX)	ORIGIN		ACCESS. FIND NO.	DESTINATION		ACCESS.	REMARKS
303	25	24			·				T		
303A			0		A7	1	16,17	A3TB202	20	27	
303B			4		Α7	5	16,17	A3TB202	18	27	
304	25	24 .									•
304A			0		A3TB202	14	27	, A7	18	16,17	
304B			4		A3TB202	12	27	A7	17	16,17	
305	25	24 .		<u> </u>							
3 05A			0		A7	28	16,17	A3TB202	32	27	
305B			4		A7	29	16,17	A3TB202	30	27	
306	25	24					1				
306A			0		A3TB202	26	27	A7	44	16,17	
306B			4		A3TB202	24	27	A7	45	16,17	
307	25	24					ii				
307A			0		B7	1	16,17	A4TB202	20	27	
307B			4		87	5	16,17	A4TB202	18	27	
308	25	24									
308A			0		A4TB202	14	27	B7	18	16,17	. ;
308B			4		A4TB202	12	27	B7	17	16,17	
٠,											

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	,	. 11.			WI	RE L	ISTING			į	VV L	70715000	K.
MINNEAL	11 171. MI	PINEBUTA									SHEET	210F	
CONDUCTOR IDENT.	FIND NO.	GAUGE (RLF.)	COLOR (REF.)	LENGTH (APPROX)	ORIGIN		ACCESS. FIND NO.	DESTINATI		ACCES FIND N		REMARKS	
309	25	24	`			<u> </u>							
200A_			· 0		B7	28	16,17	A4TB202	32	27			
309B			4		В7	29	16,17	A4TB202	30	27			
310	25	24				<u> </u>	ļ			 		····	
310A			00		A4TB202	26	27	B7	44	16.1			
3108			4		A4TB202	24	∠7	B7	45	16,1	7		
311	12	24	4		A4S202	4	22	B17	26	16,1	7		
312	12	24	4		J206	Б	20	A18	42	16,1	7		
313	.12	24	4		J206	EE	20	B18	42	16,1	7		
315	28	20					<u> </u>						
315A			SHIELD		A3J205	29	19	_A11		29,3			
315B			0		A3J205	30	19	A11	26	29,30)		
315C			2		A3J205	33	19	A11	18	29,30			
316	28	20											
316A			SHIELD		A4J205	29	19	B11	28	29,3	Ц		
316B			0		A4J205	30	19	B11	26	29,30			
316C	<u></u> .		2		A4J205	33	19	B11	18	29,30	<u> </u>		
			 -		-	<u> </u>	ļ		 	<u> </u>	<u> </u>	·	
										<u> </u>	<u> </u>		

CONT	Pal	N. T.A.	TITLE									DOCUMENT NO.	REV.
	11011	A.			w	IRE L	ISTING			[WL	70715000	K
MINNEAP	DLIS. M	NNESOTA			Table 100 100 100 100 100 100 100 100 100 10						SHEET	22 OF 23 . 3	
CONDUCTOR	FIND NO.	GAUGE (REF.)	COLOR (REF.)	LENGTH (APPROX)			ACCESS. FIND NO.	DESTINAT		ACCESS. FIND NO		REMARKS	
320	33	24								e H			
320A			SHIELL		A3J205	79	19 44	A22	10				
320B			9		A3J205	80	12,20	A22	5	16,217		•,	
321	33	24											
321A			SHIELD		A22	8	36, 37 16, 17	A3J205	79	34 37			
321B			9		A22	9	16,17	A3J205	82	20,12			
322	33	24											
322A	i		SHIELD		A4J205	79	36,37	B22	. 10	36,37			
322B			9		A4J205	80	12,20	B22	5	16,17			
323	33	24				1							
323A			SHIELD		B22	8	16,37	A4J205	79	36 37			
323B			9		B22	9	16,17	A4J205	82	20,12	Y		
324	11	20	4		A29	48	29,30	TB203	9	32			
325	11	20	4		TB203	10	32	B29	48	29,30			
326	12	24	4		A3J205	42	20	TB203	2	①			
327	A	1	1		A4J205	42	4	TB203	2	€ 35	 	***************************************	
328	1	1	. 1		A3J205	43	V	J206	a	20			:
329	7	7	4		A4J205	43	20	J206	DD	20		•	
330	12	24	.4		A45202	05	22	B17	5	16,17			· · · ·

Marin n	AVA	NORMAN	DALE OP	erations		CODE IDE 19333	SI	HEET 23 OF	27	WL	70715000	REV.
ONDUCTOR	FIND NO.	GAUGE (REF.)	COLOR (REF.)	LENGTH (APPROX)	ORIG	IN	ACCESS FIND NO.	DESTINA	TION	ACCESS FIND NO	REMARKS	
331	12	24	4		A3TB202	39	21 (53)	A3S200	A1	22		
332	<u> </u>	A	Å		A3TB202	3 9	(53)	A18	28	16,17		
333					A3TB202	38	27	A2.5	26	16,17		
334					A3TB202	40	27	B25	26	16,17		
335	\perp				A4TB202	39	21 (54)	A45200	A1	22		
336		$\sqcup \bot$			A4TB202	39	<u>\(54\)</u>	B18	28	16,17		
337	1	1	1		A4T8202	38	27	A25	34	16,17		
338	12	24	4		A4T9202	40	27	B25	34	16,17		
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			<u> </u>	<u> </u>	L		L	L		1	l	********
CONTROL ((c	WIRING orrecti	ons)		CODE ID		HEET		WL	DOCUMENT NO.	dev.
CONDUCTOR	FIND NO.	GAUGE (REF.)	COLOR (REF.)	LENGTH	ORIO	IN.	ACCESS	DESTINA	TIOU.	ACCESS FIND NO	REMARKS	

	AIA	(Ga	WIRING orrectio	ns)	ľ	ODE IDE	S	неет			WL	DOCUMENT MO.	NEA.
ONDUCTOR	FIND NO.	GAUGE (REF.)		LENGTH (APPROX)			ACCESS		DESTINATIO	N	ACCESS FIND NO		
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	F 7		•.		PH	obuc		JLTIP	LE DISK D	RIVE	SHE	ET 1			
MINNE				NESOTA			-	-E NO #		REVISIONS	-			********	
	RE	VISIO	ON S	STATUS O	FSHE	ETS			T			DRET	DATE	CHKD.	APPD
	1_	1						REV.	ECO	DESCRIPTION RELEASED		JUN T	1120.61	CHAD.	
	-	\sqcup	_			44-		A				np.	2.18.62	77	2062
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	-	 						<u>C</u>		SEE CO				wc#	
	4-	1-1	-	++						SEECO		122.	9.17.59		9.18-9
_ _	1_	1				+		E		SEE CO			12-17-69		
	-	-				+-+		d		ADDED NOTE 3 & CHG WI.			3/31/20	97	II.
	╁-	-								CHG WL 320 A # 322 A			3/31/20	97	<u> </u>
_		-				+		<u>H</u>		ADDED 331 - 338			5/31/20	97	I-R
_	4-	-	_					1		CHG NOTE 3 / WL		DC	3/31/70	97	
	+-	1				+++		<u> </u>		DWG NO. WAS 7071500		30	6/26/20		
	+	4-	-	-+-+		+-+		<u> </u>	1121206	DOG-106. 6343 76 713667		1	0120110	1.	
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	A TI SA TI	ME N ERMIN	HE CO MBE L.	IN THE A ONDUCTOR R IN THE THE NUM IND NO.	IS ON HEXAC BER IN	E OF 1 CON) GC FRONT	EVERA DING II	(ALL I	ITH THE	CRIME FIND NO 12 TO THE CONDUCTOR AND FIN TO THE SHIFELD USING FIND NO 15. THEN TERM JUMPERS USING FIND NO'S INDICATED IN ACCE COLUMN. FIND NOIS & ACCESS FIN'S SHALL BE COND. ON FILLEY DOARD FL 70616100 FOR COMD IMPERT 340 TRNU 349.	DMATE BOT	o. [[]	DN 729 ETACHED	7//C	00 TS
COPI		Γ	T	\top	Γ					- BY SD 10-10 CH	1KD. C.	M. 19	ILLE ENGR	7605	i

c(0)\f:	:fek:	YAVAN	TITLE		W.i	RE LI	STING	Y CO SEE SEE - V. V. SEE VIT - SEE SEE SEE SEE SEE SEE SEE SEE SEE S	all groups after Spectra		WL	DOCUMENT NO.	A A
MINNEAP	ous.M	NNESOTA	1	· · · · · · · · · · · · · · · · · · ·	[ไม่ไม่ทางนะสมหาราก เ	1. mark 27.4	- we the report of	January Construction	u Grazi	احسسار	SHEET	2 OF	
CONDUCTOR	FIND NO.	GAUGE (REF.)	COLOR (REF.)	LENGTH (APPROX)	081318		ACCESS. FIND NO	DESTINATIO	4	ACCESS FIND NO		REMARKS	
1	11	20	4		J204	42-	13	J206	М	19			
2	1				J206	N	19	J204	4Ĵ	13			
3	^	44	A		J204	45	13	J206	R	19		•	
4	1				J206	S	19	J204	46	13			
5			1	1	J204	41!	9 (1)	<u>1</u> J20 2	IJ	13			
6					∏J202	U	13	J204	48	(1)			
7					J204	51	13	J206	ű	19			
8					J206	k	19	J204	52	13			
9					J204	53	13	J206	нн	19			
10					J206	m	19	J204	54	13			
11					J204	55	13	J206	ñ	19			
12					J206	5	19	J204	_56	13			
13					J204	57	13	J206	ř	19			,
14					J206	5	19	.1204	58	13			
15					J204	60	13	J206	Į	19			
16					J206	v	19	J204	62	13			
17		V	A		J204	64	9 (2)	17505	Х	13			
18	Y				□J202	X	13		64	2			
19	11	20	4		J204	65	9 (3)	IJ202	Υ	13			

		Diani	TITH		W	IRE LI	STING	•			WL	72971100	N
CONDUCTOR		GAUGE (REF.)	COLOR (REF.)	LENGTH (APPROX)	ORIGIN		ACCESS.	DESTINA		ACCESS		REMARKS	
20	11	20	4		ПJ202	γ.	13	J204	65	3	1		
21	—	 	1		J204	66	9 4	TJ202	2	13	1		
22	1	1	1-4-		IIJ202	ž	13	J204	66	④	1		
23	Π				J204	16	13	A4J205	21	19			
24					A3J205	18	19	J204	24	13			
25					J204	26	13	A3J205	21	19			
26	\prod				A4J205	18	19	J204	33	13			
27					J204	36	13	J206	E	19			
28					J206	F	19	J204	37	13			
29					J204	39	13	J206	J	19			
30	П		П		J206	K	19	J204	40	13			
31					J204	41	13	J206	L	19			
32	П				J206	Т	19	A3J205	25	19			
33					A3J205	32	19	TB203		32 (5	χ		
34					TB203	3	32	A3J205	35	19			
35					A3J205	36	19	TB203	7	15 €	6		
36					TB203	8	32	A4J205	36	19			
37					A4J205	35	19	TB203	4	32			
38	11	20	4.		TB203	2	326	A4J205	32	19	1		

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CONDUCTOR		OAUGE (REF.)	COLOR (REF.)	LENGTH (APPROX)		-T	ACCESS	Minimum and	F-15	ACCES		· · · · · · · · · · · · · · · · · · ·	
			 	(APPROX)	ORIGIN	T	FIND NO.	DESTINAT	ION	FIND N	°	REMARKS	
39	11	20	4		A4J205	25	19	J206	w	19			
40	-4-	-4-	-		_A3TB202	35	21(7)	A3TB202	33	21 (8	Σ		
41		<u> </u>		ļi	_A3TB202	33	(8)	A3TB202	27	219)		
42			<u>L</u>		_A3TU202	27	(9)	A3TB202	_21	21 (0	_	
43	_l_				A3TB202	21	(0)	A3TB202	15	21 (
44					A3TB202	15	(1)	A3TB202	9	27	-		
45					A4TB202	35	21 (2)	A4TB202	33	21 (3		
46					A4TB202	33	(3)	A4TB202	27	21 (
47				İ	A4TB202	27	€	A4TB202	21	21 (
48					A4TB202	21	13	A4TB202	15	21 (
49					A4TB202	15	16	A4TB202	9	27			
50					TB203	3	15 📆	A23	46	29,3	0		
51					A17	46	29,30	TB203	3	0			
52	\Box				TB203	3	15 🔞	A10	46	29,30		_	
53					B23	46	29.30	TB203	4	15 0			
-54					TB203	4	19	B17	-	29,30	~		
55					B10	46	29,30	TB203	4	1560	1,0		
56	T	Y	T		TB203	5	32	A29	46	29.30		· .	
57	11	20	4		B29	46	29,30	TB203	5	32			

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1	(TO)		٠.			T	ITLE		\	WIRE L	.ISTING			LAZI TO THE TOTAL TO	nev. N
	CONDUCTOR	,	IND NO.	GA	UGE REF.)	COL		LENGTH (APPROX)	ORIG	IIN	ACCESS. FIND NO.	DESTINA	ATION	ACCESS, FIND NO. REMARKS	
	58	1	1	20)	4			TB203	5 .	32	A26	46	29,30	
i	59	Ī							B26	46	29,30	TB203	5	32	
	60	1		1					TB203	6	32	A29	6	29,30	
	61	I		П					B29	6	29,30	TB203	6	32	
	62			П					TB203	6	32	A26	6	29,30	
	63								B26	6	29,30	TB203	6	32	
	64								TB203	7	15 20	A23	6	29,30	
	65	L							A17	6	29,30	TB203	7	15 ②	
	66 ·	L		Ц					TB203	77	(2)	A10	6	29, 30	
	67	L		Ц					B23	6	29,30	тв203	8	34 23	
	68	L	_	Ц					TB203	8	15.49	B17	6	29,30	
	69	L	_	Ш					B10	6		TB203	8	6 9	
	70	L		Ц					TB203	9	15 (23)	A23	48	29,30	
	71	L	<u></u>	Ц					A17	48	29.30	TB203	9	_32	
	72	L	L	Ц					TB203	9	15 24	A10	48	29.30	
	73	L	_	Ц		L_			B23	48	29,30	TB203	10	15 💱	
	74	J		Ы			_		TB203	10	15 20	B17	48	29,30	
	75	Ľ	_	L.		'			B1 0	48	#- <u></u> -!	TB203	10	32 .	
	76	1	1	20)	4	•		TB203	13	15 🕖	IJ202	R	13	

MINNEAPO		o _i	TITLE		WII	RE LI	STING				WL SHEET	72971100	REV.
CONDUCTOR	FIND NO.	GAUGE (REF.)	COLOR (REF.)	LENGTH (APPROX)	ORIGIN		ACCESS. FIND NO.	DESTINAT	ION	ACCESS		RE MARKS	
77	11	20	4		11J202	R·	13	TB203	16	15 🔁)		
78	1	1	1		A3TB202	36	27	A3TB202	6	21 29			
79	T		1		A3TB202	6	Ø	TB203		15 30	T	. •	
80					TB203	1	(3)	A4TB202	6	21 3			
81					A4TB202	6	31	A4TB202	36	27			
82					T8203	4	(51)	B05		29,30			
83					B05	48	29,30	18203	10	60			
84					TB203	3	18	A05	46	29,30			
85					A05	48	29,30	тв203	9	2			
86					A05	6	29,30	TB203	7	€			
87			Y		TB203	8	(22)	B05	6	29,30			
88	'		<u>'</u>		A26	48		TB203	9	(23)_			
89	11	20	4		TB203	10	23	B26	48	29 ,30		····	
90	12	24	4		A3TB204	1	22	J204	44	14			
91			1		J204	49	13 33	IJ202	Y	14			
92	_Ţ_	<u> </u>	LŢ_		IIJ202	V	14_	J204	49	<u>63</u>	 		
93					J204	50	13 (3)	IJ202		14	<u> </u>		
94		1	<u> </u>		□J202		14	J204	50	63			
95	12	24	4		J204	.59	14	A4TB204	1.1	22	<u> </u>		

(com	ηž)	~ <u>`</u> !:	57/6/4/7		TITLE								DOCUMENT NO.	REV.
16,61	' 4 %	V) L	WJ20721	1			· wii	RE LI	STING			WL	72971100	A
MINNEAP	OLI	S, M	NNESO	rA.								SHEET	7 OF	
CONDUCTOR		IND NO.	GAUGE (REF.)		COLOR (REF.)	LENGTH (APPROX)	ORIGIN	1	ACCESS. FIND NO.	DESTINATI		ACCESS. FIND NO.	REMARKS	
96	1	2	24		4		A3TP201		22	J204	67	14		
97	Τ	1			1		J204	70	14	A4TP201	_	22		
98	Τ		A		4		A3J205	39	20	A8	1	23,24		
99	1			1			Α7	13	23,24	A3J205	23	20		
100	T	Τ					J204	4	14	B7	37	16,17		
101							В8	45	16,17	J204	5	14		
102							J204	7	14	A8	45	16,17		
103	T	Т					Α7	37	16,17	J204	8	14		
104							J204	10	14	J206	£	20		
105	T						J206	cc	20	J204	22	14		
106	1	Т					J204	15	14	A4J205	22	20		
107		T					J206	Н	20	J204	25	14		
108		T					J204	27	14	A3J205	22	20		
109							A3J205	26	20	- 8A	2	16,17		
110	T	T					A8	1	16,17	A3J205	27	20		
111							A3J205	28	20	A3TB204	2	22		
112		V	V		V		A11	30	16,17	A3J205	37	20		
113		_			7		A3J205	38	20	A11	45	16,17		
114		12	24		4		A14	1	16,17	A3J205	47	20		

CIOINT)\innesot		E	Wi	RE LI	STING				WL 72971100 A
CONDUCTOR	FIND NO.	GAUGE (REF.)	COLOR (REF.)	LENGTH (APPROX)	ORIGIN	CALL PL	ACCESS. FIND NO.	DESTINATI		ACCESS. FIND NO.	
115	12	· 24	4		A3J205	50	20	A14	8	16,17	7
116					A17	16	16,17	A3J205	51	20	
117	A	4	A		A3J205	52	20	A14	20	16,17	
118					A14	42	16,17	A3J205	53	20	
119					A3J205	54	20	A14	37	16,17	
120					A14	36	16,17	A3J205	55	20	•
121					A3J205	56	20	A15	42	16,17	
122					A15	45	16,17	A3J205	57	20	
123					A3J205	58	20	A15	9	16,17	
124					A15	29	16,17	A3J205	59	20	
125					A3J205	60	20	A15	24	16,17	
126					A15	13	16,17	A3J205	62	20	
127					A3J205	63	20	A15	22	16,17	
128					A15	40	16,17	A3J205	64	20	
129					A3J205	65			33	16,17	
1'30					A15	14	16,17	A3J205	66	20	
131	V	V	W		A3J205	67		,	28	16,17	
132			7		A15	34		A3J205	70		
133	12	24	4		A3J205	. 71	20	A15	12	16,17	

([])		, 13	TIT	E			ISTING				WL SHEET	DOCUMENT NO. 72971100	REV.
CONDUCTOR	FIND NO.	GAUGE (REF.)	COLOR (REF.)		ORIGIN		ACCESS. FIND NO.		ION	ACCES:		REMARKS	
134	12	24	4		A15	21-	16,17	A3J205	72	20			
135	1		1		A3J205	73	20	A15	20	16,1	7		
136		^	4		A15	38	16,17	A3J205	74	20			
137					A3J205	75	20	A15	36	16,1	7		
138					A15	16	16,17	A3J205	76	20			
139					A3J205	77	20	A15	17	16,1	7		
140					A15	25	16,17	A3J205	78	20			
141					A4J205	39	20	B8	1	16,1	7		
142					B7	13	16,17	A4J205	23	20			
143					A4J205	24	20	J206	d	20			
144	П				A4J205	26	20	B8	2	16,17	7		
145					В8	1	16,17	A4J205	27	20			
146					A4J205	28	20	A4TB204	2.	22			
147					B11	30	16,17	A4J205	37	20			
148			-		A4J205	38	20	B11	45	16, 17	·		
149					B14	1_	16,17	A4J205	47	20			
150	V				A4J205	50	20	B14	8	16, 17			
151		Υ-	Y		B17	16	16,17	A4J205	51	20			
152	12	24	4		A4J205	52	20	B14	20	16, 17	,		

ন্ত্ৰ না			TITLE	:	w	RE LI	ISTING		-		WL	72971100	A A
CONDUCTOR		GAUGE (REF.)	COLOR (REF.)	LENGTH (APPROX)	ORIGIN		ACCESS.	DESTINAT		ACCESS	s.	REMARKS	·
153	12	24	4	(APPROX)	B14	42-	16,17		53	20		RE MARKS	*
154	12	. 24	-	 	A4J205	54	20	B14	37	16,1	7		
155	A	 _ 	 		B14		16,17		55	20			
156	\vdash		++-		A4J205	56	20	B15	42	16,1	,		
157	11		 		B15		16,17		57	20	1		
158					A4J205	58	20	B15	9	16,1	7		
159					B15	29	16,17	A4J205	59	20			
160					A4J205	60	20	B15	24	16,1	7		
161					815	اد 1	16,17	A4J205	62	20			
162					A4J205	63	20	B15	22	16,1	7		
163					815	40	16,17	A4J205	64	20			
164					A4J205	65	20	B15	33	16,1	7		
165					B15	14	16,17	A4J205	66	20			
166					A4J205	67	20	B15	28	16,1	7		
167					B15	34	16,17	A4J205	70	20			
168					A4J205	71	20	B15	12	16,1	/		
169				!	B15	21	16,17	A4J205	72	20			
170	1		1		A4J205	73	20	B15	20	16,17			
171	12	24	4		B15	38	16, 17	A4J205	74	20			

(111)			, 18		TITLE				STING				WL SHEET	DOCUMENT NO. 72971100	A
CONDUCTOR IDEN T.	FIN		GAUGE (REF.)	CC	CF.)	LENGTH (APPROX)	ORIGIN	12.4 B	ACCESS. FIND NO.	DESTINATIO		ACCES!		REMARKS	
172	1.	2	24		4		A4J205	75	20	B15	36	16,1	7		
173					1		815	16	16,17	A4J205	76	20			
174	1	1	4	Γ	4		A4J205	77	20	B15	17	16,17	7		
175				Γ			B15	25	16,17	A4J205	78	20			
176							J206	В	20	417	34	16,17	,		
177							A17	08	16,17	J206	D	20			
178							J206	С	20	Td203	3	346	<u> </u>		
179							TB203	1	32 (3)	J206	U	20			
180			\bot	L	L		J206.		20	A19	1	16,17			
181				L			A19	20	16,17	J206	W	20			
182							J206	X	20	A19	33	16,17	<u> </u>		
183							A19	45	16,17	J206	Υ	_20			
184							J206	Р	20	ASTB204	3	22			
185							A4TB204	3	22	J206	ŧ	20			
186							J206	ħ	20	817		16,17	'		
187							B17		16,17	J206	ē	20	<u> </u>		
188	_	,		_		į	J206	Ŧ	20	TB203		3486	<u> </u>		
189	'		<u> </u>		7		TB203		3437	J206	×	20	J		
190	12	2	24	L.	4		J206	ÿ	20	619	1	16,17			

MINNEAP		. 5	TITLE		WI	RE L.I	STING			L	VL 7297/100 A
CONDUCTOR	FIND NO.	GAUGE (REF.)	COLOR (REF.)	LENGTH (APPROX)	ORIGIN	CHRAZEL	ACCESS. FIND NO.			ACCESS. FIND NO.	REMARKS .
191	12	24	4		В19	20	16,17	J206	Z	20	
192					J206	AA	20	B19	33	16,17	
193	4	A	43		В19	45	16,17	J206	BB	20	•
194					A3TB202	7	21,48	A3TB202	2	27	
195					A3TB202	5	21 (38)		1	27	
196					A3TB202	30	27	A3TB202	31	27	
197					A3TB202	24	27	A3TB202	25	27	
198					A3TB202	18	27	43TB202	19	27	
199					A3TB202	12	27	A3TB202	13	27_	
200	<u> </u>				A3TH202	34	27	A3TB202	31	27	
201					A3TB202	28	27	A3TB202	25	27	
202					A3TB202	22	27	A3TB202	19	27	
203	Ш.				A3TB202	16	27	A3TB202	14	27	
204				į	A3TB202	5	€	A3TB202	8	27	
205					A3TB202	7	40)	A3TB202	10	27	
206					A4TB202	7	21.49	A4TB202	2	27	
207	-				A4TB202	5	21 (39)	A4TB202	1	27	
208	1	1	'	Į.	A4TB202	30	27	A4TB202	31	27	
209	12	24	4		A4TB202	24	27	A4TB202	25	27	·

	(())		,			T	ITLE		WI	RE LI	STING				WL	DOCUMENT NO. 72971100	REV.
4	CONDUCTOR		ND O.	GAU (RE		COL (RE		LENGTH (APPROX)	ORIGIN		ACCESS. FIND NO.	DESTINATION	ON:	ACCES:		REMARKS	
•	210	1	2		24	4			A4TB202	18	27	A4TB202	19	27			
	211		L			$oxed{L}_{-}$	A		A4TB202	12	27	A4TB202	13	27			
•	212	-	1	4	٠.				A4TB202	34	27	A4TB202	31	27			
	213								A4TB202	28	27	A4TB202	25	27			
	214								A4TB202	22	27	A4TB202	19	27			
	215								A4TB202	16	27	A4TB202	14	27			
	216								A4TB202	5	(3)	A4TB202	8	27			
	217								A4TB202	7	(9)	A4TB202	10	27			
	218								TB203	1	(5)	A3TP200		22			
	219							•	A3TP203	_	22	AII	46	16,17	7		
	220								TB203	2	6	A4TP200	_	22			
	221								A4TP203	_	22	BII	46	16,17	7		
	222								AII	6	16,17	A3TP204		22			
	223.								A3TP202	1	22	All	48	16,17	/		
	224								BII	6	16,17	A4TP204	_	22			
	. 225								A4TP202	_	22	BII	48	16,17	7		
	226	L,			,				TB203	13	15 🕢	IJ202	N	14			
	227		Y	'				, ,	1J200	80	20	TB203	13	32 (1)			
	228	1.	2		24	4			TB203	13	€0	IJ201	80	20			

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MINNEAPO	OLIS, M	INNESOTA	1						TA THAT	SHEE	T 14 OF
CONDUCTOR	FIND NO.	GAUGE (REF.)	COLOR (REF.)	LENGTH (APPROX)	ORIGIN		ACCESS.		ON .	ACCESS. FIND NO.	REMARKS
229	12	24	4		A30	2 ·	16,17	TB203	13	32 🚯	
230	· A				ТВ203	13	4)	A30	50	16,17	
231	4	1			IIJ202	N	14	TB203	16	23	•
232					TB203	16	32 (2)	IJ200	80	20	
233					□J201	80	20	TB203	16	€2	
234					TB203	16	32 (43)	B30	2	16,17	
235					В30	50	16, 17	TB203	16	€3	
236					TB203	1	3	A3TB204	7	22	
237					A3TB204	4	22	A14	45	16,17	
238					B14	45	16, 17	A4TB204	4	22	
239					A4TB204		22	TB203	2	③	
240					A3TB202	36	27	A3TB202	37	27	
241					A4TB202	36	27	A4TB202	37	27	
242					A22	25	16, 17	A3J205	40	20	
243					A3J205	41	20	A22	18	16,17	
244					B22	25	16, 17	A4J205	40	20	
245			W		A4J205	41	20	B22	18	16,17	
246	7	Y	7		A3J205	24	20	J206	A	20	
247	12	24	4		A45202	3	22	B17	9	16,17	

"(())\"	· .		TITLE		WI	RE LIS	STING				VL 7297/100 A
CONDUCTOR		GAUGE (REF.)	COLOR (REF.)	LENGTH (APPROX)	ORIGIN	W fin	ACCESS. FIND NO.	DESTINATI		ACCESS. FIND NO.	REMARKS
248	12	24	4		A3S2O2	2 -	22	A17	33	16,17	
249	٨				A3S2O2	3	1	A17	9		
250	A	4	A		A3S2O2	4		A17	26	1	•
251					A3S202	5		A17	5		
252	197				A4S202	С		B17	32	W	
253	γ	7			A4S202	1	7	B17	44	1	
254	12	24	4		A4S202	2	22	817	33	16,17	
255	10	16	4		A3J205	1	18	TB203	3	15	·
256	L				тв203	7	15	A3J205	2	18	
257	4	A	•		A3J205	3	18	J204	21	9	
258					A3J205	20	18	TB203	1	34,50	
259					TB203	1	5 0	J20 4	1	9	
260					J204	2	9	ТВ203	1	34 (52)	
261					TB203	2	15	J204	3	9	
262					J204	11	9	TB203	6	15	
263					TB203	5	15	J204	12	9	
264	W	W_		ļ!	J204	13	9	тв203	9	15	
265	Y	7	1		ТВ203	10	15	J204	14	9	
266	10	16	4		J204	17	9	A3TB202	35	21	

((I))	·	()	TITLI				STING			WL 729711 00 A
CONDUCTOR	FIND NO.	GAUGE (REF.)	COLOR (REF.)	LENGTH (APPROX)	ORIGIN	****	ACCESS.	DESTINAT		ACCESS. FIND NO. REMARKS
267	10	16	4		TB203	3 .	(34)	J204	18	9
268					J204	20		ТВ203	4	(36)
269	4	4	1		TB203	7	15	J204	28	9 .
270					J204	29	9	ТВ203	8	15
271	\sqcap				A4J205	3	18	J204	30	9
272	П				J204	35	9	A4TB202	35	21
273	\sqcap		П		TB203	4	15	A4J205	1	18
274					A4J205	20	18	TB203	2	(37)
275	П				TB203	1	(52)	TOP BUSS B	AR —	23,24
276					MIDDLE BUSS BAR	_		TB203	2	(52) 34
277	7	₩	A		TB203	2	(52)	BOTTOM BUSS BAR	1=	23,24
278	10	16	4		TB203	8	15	A4J205	2	18
279	12	24	4		A3S201	1	16	A17	41	16,17
280	4	1	1		A4S201	1	16	B17	41	A
281		1	4		A30S200	В	27	A17	42	
282					A4DS200	В	27	B17	42	·
283	Y	Y	Y		A3S202	С	22	A17	32	Y
284	12	24	4		A35202	1	22	A17	44	16,17
FORM AA IG	69		<u> </u>							

(crops)	1;{0)!	MANA)	TITLE		WI	RE LI	STING				WL	72971100	REV.
	7	INNESOTA		 		-	i)			1	SHEET	17 OF	
CONDUCTO	R FIND NO.	GAUGE (REF.)	COLOR (REF.)	(APPROX)	ORIGIN		ACCESS. FIND NO.	DESTINAT	ION	ACCESS		REMARKS	
285	25	24				-				Ĭ			
285A			0		A3J205	4	20	A3TB202	35	⑦			
2858			4		A3J205	8	20	A3TB202	37	27		•	
286	25	24											
286A			0		A3TB202	9	27	A3J205	5	20			
2868			4		A3TB202	7	27	A3J205	10	20			
287	25	24											
287A			0		A3J205	7	20	A3TB202	15	27			
287B			4		A3J205	11	20	A3TB202	11	27			
288	25	24											
288A			0		A3TB202	21	27	A3J205	12	20			
288B			4		A3TB202	17	27	A3J205	15	20			
289	25	24											
289A			0		A3J205	13	20	A3TB202	27	27			
2898			4		A3J205	16	20	A3TB202	23	27			
290 .	25	24											
290A			0		A3TB202	33	27	A3J205	14	20			
290B			4		A3TB2Q2	29	27	A3J205	17	20			
	1		<u> </u>				<u></u> i	<u> </u>	_!	Я	<u></u>		

	ICIONATION NEMPO			TITLE		WII	RE LI	STING				WL SHEET	72971100	A.
•	CONDUCTOR	FIND NO.	GAUGE (REF.)	COLOR (REF.)	LENGTH (APPROX)	ORIGIN		ACCESS.	DESTINATIO		ACCES		REMARKS	
	291	25	24											
	291A			· 0		A3J205	31	20	A11	25	16,1	7 .		
	291B			4		A3J205	34	20	A11	24	16,1	7	•	
	292	25	24								Ĭ			
	292A			. 0		IJ202	ĸ	14	A3J205	45	20			
	292 B			4	ļ	IJ202	М	14	A3J205	46	20			
	293	25	24								<u></u>			
ı	293A			0		A3J205	48	20	IIJ202	K	14			
-	293B	<u>.</u>		4	L	A3J205	49	20	111205	М	14	_		
	294	25	24									<u> </u>		
	294A			0		A4J205	4	20	A4TB202	35	(3)			
١	294B			4		A4J205	8	20	A4TB202	37	27			
ļ	295	25	24								ļ			
	; 295A			0		A4TB202	9	27	A4J205	5	20		-	
	2958			4		A4TB202	7	27	A4J205	10	20			
	296	25	24											
	296A			0	L	A4J205	7	20	A4TB202	15	27			
	296B	:		4		A4J205	11	20	A4TB202 -	11	27			
	FORM AA 161		L	<u> </u>				<u> </u>			1			

MINNEAPO			TITLE		WI	RE LI	STING			L	WL	72971100	
CONDUCTOR	-	GAUGE (REF.)	COLOR (REF.)	LENGTH (APPROX)	ORIGIN	. A. S. S. S. S.	ACCESS. FIND NO.	DESTINATIO		ACCESS.		REMARKS	
297	25	24											
297A			. 0		A4TB202	21	27	A4J205	12	20			
2978			4		A4TB202	17	27	A4J205	15	20		•	
298	25	24											
298A			0		A4J205	13	20	A4TB202	27	27			
2988			4		A4J205	16	20	A4TB202	23	27			
299	25	. 24											
299A			0		A4TB202	33	27	A4J205	14	20			
299B	<u></u>	<u></u>	4		A4TB202	29	27	A4J205	17	20_			
300	25	24				<u></u>							
300A			0		A4J205	31	20	B11	25	16,17	/		
300B			4		A4J205	34	20	811	24	16,17	<u>'</u>		
301	25	24		1					<u> . </u>		ļ		
301A			0		IJ202	KK	14	A4J205	45	20		•	
301B			4		IJ202	ММ	14	A4J205	46	20			
302	25	24				<u> </u>							
302A			0		A4J205	48	20	ⅢJ2 02	KK	14			
302B			4		A4J205	49	20	IIJ202	MM	14			
			•										

(TOTAL)		141	TITLE		w	iRE L	ISTING				VL 7297/100 A
CONDUCTOR	FIND NO.	GAUGE (REF.)	COLOR (REF.)	LENGTH (APPROX)	ORIGIN		ACCESS. FIND NO.	DESTINATION		ACCESS.	REMARKS
303	25	24			·						
303A	 		0		Α7	1	16,17	A3TB202	20	27	
303B			4		Α7	5	16,17	A3TB202	18	27	•
304	25	24									•
304A			0,		A3TB202	14	27	, A7	18	16,17	
304B			4		A3TB202	12	27	_A7	17	16,17	
305	25	24									
305A			0		A7	28	16,17	A3TB202	32	27	
305B			4		A7	29	16, 17	A3TB202	30	27	
306	25	24					į				
306A			0		A3TB202	26	27	A7	44	16,17	
306B			4		A3TB202	24	27	A7	45	16,17	
307	25	24									
307A			0_		В7	1	16,17	A4TB202	20	27	
307B			4		B7	5	16,17	A4TB202	18	27	
308	25	24									
308A		. !	0		A4TB202	14	27	B7	18	16,17	
308B			4		A4TB202	12	27	B7	17	16,17	

MINNEAPO	· 	, 15	TITLE			RE L	ISTING				WL 7297/100 A	7
CONDUCTOR	FIND NO.	GAUGE (REF.)	COLOR (REF.)	LENGTH (APPROX)	ORIGIN		ACCESS. FIND NO.	DESTINATION		ACCESS. FIND NO		
309	25	24				<u> </u>						4
3094			0		B7	28	16,17	A4TB202	32	27		_
309B			4		B7	29	16,17	A4TB202	30	27	•	╝.
310	25	24				<u> </u>						
310A			0		A4TB202	26	27	B7	44	16,17	,	_
3108			4		A4TB202	24	<u>27</u>	B7	45	16,17		_
311	12	24	4		A45202	4	22	B17	26	16,17	,	
312	12	24	4		J206	Ь	20	A18	42	16,17		
313	.12	24	4		J 206	EE	20	B18	42	16,17	7	
315	28	20				Ĺ	1					
315A			SHIELD		A3J205	29	19	_A11	28.	29,31		
315B			0		A3J205	30	19	A11		29,30		_
315C			2		A3J205	33	19	A11	18	29,30)	
316	28	20										_
316A			SHIELD		A4J205	29	19	B11	28	29,31		_
3168			0		A4J205	30	19	B11	26	29,30)	4
316C			2		A4J205	33	19	B11	18	29,30		
												4
			<u>'</u>								<u> </u>	

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MINNEAPO	DLIS, MI	NNESOTA									SHEET	22 OF 23 . 3	
CONDUCTOR IDENT.	FIND NO.	GAUGE (REF.)	COLOR (REF.)	LENGTH (APPROX)	ORIGI		ACCESS. FIND NO.	DESTINAT	ION	ACCESS FIND NO		REMARKS	
320	33	24											
320A			SHIELD		A3J205	79	36,37 19 44	A22	10	36,3 16,1	7		
320B			9		A3J205	80	20ر2ا	A22	5	16,1	7 ·	• •	
321	33	24											
321A			SHIELD		A22	8	36, 37 16, 17	A3J205	79	344	7		
321B			9		A22	9	16,17	A3J205	82	20,1			
322	33	24											
322A			SHIELD		A4J205	79	36,37	822	.10	36,37	;		
322B			9		A4J205	80	12,20	B22	5	16,1	7		
323	33	24									1		
323A			SHIELD		B22	8	36,37 16,17	A4J205	79	36(3)	7		
323B			9		B22	9	16,17	A4J205	82	20,12			
324	11	20	4		A29	48	29,30	TB203	9	32			
325	11	20	4		TB203	10	32	B29	48	29,30			
326	12	24	4		A3J205	42	20	TB203	2	(7)			
327	1	1	1		A4J205	42	4	TB203	2	€ 3.	5		
328	1	1	1		A3J205	43		J206	a	20	1	12	:
329	7	7	7		A4J205	43	20	J206	DD	20			· · · · · · · · · · · · · · · · · · ·
330	12	24	4		A4S202	05	22	B17	5	16,17	7		

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ONDUCTOR IDENT.	FIND NO.		GAUG (REF			IENGTH (APPROX)		ORIGIN		ACC FIND	ESS NO		DESTINATIO	0N	FIND		REMARKS	·····
331	12	T	24		4		A3TB	202	39	21 ((53)	A3S	200	A1	22			
332	1	T	À	T	_ _		A3TB	202	39	(5)	<u>}</u>	A1	8 `	28	16,1	7		
333		T	T				A3TB	202	38	27	7	A2	5	26	16,1	7		
334		T					АЗТВ	202	40	27	,	B2	5	26	16,1	7		
335		T					A4TB	202	39	21	<u> </u>	M4S	200	` A1	22			
336							#4TB	202	39	G	•}	B1	8	28	16,1	7		
337	•		1		1		#4TB	202	38	2	7	A2	5	34	16,1	7		
338	12		24		4		A4TB	202	40	2	7	B2	5	34	16,1	7		
339		1								<u> </u>				—	 	_		
340	7 4	쉌	50		4	7	182	05	1	5	4	TB	503	10	l.	<u>A</u>		
343	1	4	_		1	7	<u> </u>	Ī	5	! —'	_			- 9	-′	Ŀ		
342	\sqcup	4	4		Н—	7	<u> </u>	├	3	╀	_			- 6	\vdash	\vdash		
343	\sqcup	4	4		Н-	7	-	-	- 4	╀	-				╁┈	-		
344	\vdash	4	4	_		1 7	├-	├	5	╀		-		 	+	_		
345	1+	4	+		₩-	1	├-		<u> </u>	╁	-	 		5	╁	-		
346	\vdash	4	+			+-	├	├	17	╁╴				3	+	-		
347	╁	-	\pm		H	1.5	╁	1-	-	十	-	 		1 2	+-;	,		
348					1	75	 , ,	205	70	15	A	TB	203	1;	┪;	4		
347	7-4	22	-50	·	•	+==	1			Ť	<u></u>				1			
CONTROL			-	(c	WIRT	NG ions)			COPE it	ENT	s	HEET			W	VL.	DOCUMENT NO.	RIV.
CONDUCTO	R FIA		GAI (RI	UGE	COLO (REF.)	1 "		ORICA	ıN		CCESS		DESTINAT			CESS D NO	1	,

CONTROLL		. (Ca	WIRING rrectio	na)	- 1	CODE ID		HEET		WL	DOCUMENT NO	REV.
ONDUCTOR	FIND NO	GAUGE (REP.)		LENGTH (APPROX)	ORIC	in .	ACCESS	DESTINATIO	N	ACCESS FIND NO	REMARKS	
									 			
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CHKD	DAP		ere ere				E LIS							
ENG		AUS 4-11-72	NORMANDALE		LOGIC	CHAS	SIS H	ARNESS A	SSY	WL	735	69000		0
MFG			DIVISION	FIRST I	JSED ON					 				
APPR			CODE IDENT 19333			!!! T T D		SK DRIVE		/		SHEET	1 OF	24
	1		19333	L				2K DKIVE						
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REV	EC0_		RIPTION	DRFT	DATE	APP	REV	EC0	DES	CRIPTIO	N	DRFT	DATE	APP
A -	PE 24042 PE 23000	DWG SIMILA CREATED B' MASTER FR		_PPM		IR			[] 					
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CONDUCTOR	FIND NO.	GAUGE (REF.)	COLOR (REF.)	LENGTH (APPROX)	ORIGIN		ACCESS.			ACCESS		REMARKS	
1	11	20	4		J204	42-	13	J206	М	19			
2	1				J206	N	19	J204	43	13			
3		1	A		J204	45	13	J206	R	19		•	
4					J206	s	19	J204	46	13			
5	\prod				J204	48	9 ①	IJ202	U	13			
6					∏J202	U	13	J204	48	①			
7					J204	51	13	J206	j	19	1.		
8					J206	k	19	J204	52	13			
9					J204	53	13	J206	нн	19			
10					J206	m	19	J204	54	13			
11					J204	55	13	J206	n	į 19			
12					J206	P	19	J204	56	13			
13					J204	57	13	J206	F	19			
14					J206	<u>-</u>	19	J204	58	13			
15					J204	60	13	J206	ū	19			
16					J206	~	19	J204	62	13			
17		V	Y		J204	64	9 (2)	IJ202	X	13			
18	T				□ J202	х	13	J204	64	2			
19	11	20	4		J20 4	65	9 (3)	IJ202	Y	13			

(1)(1)	· · ·		ب « ز	TIT	LE	WI	RE LI	STING			1	WL SHEET	73569000	1	εv. Α
CONDUCTOR	FIN		GAUGE (REF.)	COLOF				ACCESS. FIND NO.		TION	ACCESS FIND N		REMARK	s ·	
20	1	1	20	4		IIJ202	γ .	13	J204	65	3				
21			4			J204	66	9 4	IJ202	2	13	1			ヿ
22			1	1		IIJ202	Z	13	J204	66	④	1	•		 \exists
23						J204	16	13	A4J205	21	19	1			 ٦
24						A3J205	18	19	J204	24	13				
25						J204	26	13	A3J205	21	19				\neg
26						A4J205	18	19	J204	33	13				
27						J204	36	13	J206	E	19				 \neg
28						J206	F	19	J204	37	13				
29						J204	39	13	J206	J	19				
30						J206	K	19	J204	40	13				 \neg
31						J204	41	13	J206	L	19				
32						J206	Т	19	A3J205	25	19				
33						A3J205	32	19	TB203	1	32 (5	X			
34						TB203	3	32	A3J205	35	19				 \neg
35	\prod					A3J205	36	19	TB203	7	15 4	3			\neg
36						TB203	8	32	A4J205	36	19				 \Box
37	L		1			A4J205	35	19	TB203	4	32	1			
38	11		20	4		TB203	2	326	A4J205	32	19	1		-	 ٦

MINNEAP			TITLE		WI	RE LI	STING			L	DOCUMENT NO. CD REV. 73569000 0 A SHEET 4 OF
CONDUCTOR	FIND NO.	GAUGE (REF.)	COLOR (REF.)	LENGTH (APPROX)	ORIGIN		ACCESS. FIND NO.		ON	ACCESS. FIND NO.	REMARKS
39	11	20	4		A4J205	25	19	J206	4	19	
40					A3TB202	35	21(7)	A3TB202	33	21 (8)	
41	1	1			A3TB202	33	8	A3TB202	27	21 ②	•
42					A3TB202	27	(9)	A3TB202	21	21 🔞	
43					A3TB202	21	10	A3TB202	15	21 (1)	
44					A3TB202	15	10	A3TB202	9	27	
45			1_1_		A4TB202	35	21 (2)	A4TB202	33	21 (3	
46					A4TB202	33	13	A4TB202	27	21 14	
47					A4TB202	27	14	A4TB202	21	21 (3	
48					A4TB202	21	13	A4TB202	15	21 6	
49					A4TB202	15		A4TB202	9	27	
50					TB203	3	15 📆	A23	46	29,30	
51					A17	46	29,30	TB203	3	17	
52					TB203	3	15 🔞	A10	46	29,30	
53					B23	46	29,30	TB20 3	4	15 (19	
-54					TB203	4	(19)	B17	46	29,30	
55					B10	46	29,30	TB203	4	1561)	
56	1	1	1		TB203	5	32	- A29	46	29,30	
57	11	20	4		B29	46	29,30	TB203	5	32	

(I))(II)	·	_ ^	TITU	3	\	WIRE L	LISTING			WI	73569000 0
CONDUCTOR	FIND NO.	GAUGE (REF.)	COLOR (REF.)	LENGTH (APPROX)	ORIG	in .	ACCESS. FIND NO.	N.	ATION	ACCESS. FIND NO.	RE MARKS
58	11	20	4		TB203	5	32	A26	46	29,30	
59			1		B26	46	29,30		5	32	•
60	•	1	1		TB203	6	32	A29	6	29,30	. •
61					B29	6	29,30	TB203	6	32	
62		1			TB203	6	32	A26	6	29,30	
63					B26	6	29,30	TB203	6	32	
64					TB203	7	15 20	A23	6	29,30	
65					A17	6	29,30	TB203	7	15 ②	
66 .					TB203	7	(2)	A10	6	29,30	
67					B23	6	29,30	TB203	8	3423	
68					ТВ203	8	15.49	B17	6	29,30	
69	П			,	B10	6	29,30	TB203	8	49	
70					тв203	9	15 23	A23	48	29,30	
71					A17	48	29,30	,	9	32	
72					TB203	9	15 24		48	29.30	,
73					B23	48	29,30		10	15 23	
74		4			TB203	10	15 26		48	29,30	
75			.		B1 0	48	29,30		10	32	•
76	11	20	4		TB203	13	15 ②	IJ202	R	13	

(***			TITLE										1 27
anve	R (0).	3)2023		•	wı	RE LI	STING				WL	73569000	A REV.
MINNEAP	OUS, M	INNESOTA									SHEET	6 OF	
CONDUCTOR	FIND NO.	GAUGE (REF.)	COLOR (REF.)	LENGTH (APPROX)	ORIGIN		ACCESS. FIND NO.	DESTINAT	TION	ACCES!	s. Q.	REMARKS	
77	11	20	4		11J202	R-	13	TB203	16	15 28	•		
78					A3TB202	36	27	A3TB202		21 6			
79			1		A3TB202	6	29	TB20 3		15 (30			
80					TB203	1	3	A4TB202		21 🕄			
81					A4TB202	6	3	A4TB202	36	27			
82	Ш				TB203	4	(5)	B05	46	29,30)		
83					B05	48	29,30	TB203	10	23			
84					TB203	3	18	A05	46	29,30)		
85					A05	48	29,30	TB203	9	2			
86					A05		29,30		7	46			
87	V		Y		TB203	8	(22)	B05	6	29,30			
88	'		<u>'</u>		A26	48	29,30	TB203	9	23			
89	11	20	4		TB203	10		B26	48	29,30			
90	12	24	4		A3TB204	1	22	J204	44	14			
91			1		J204	49	13 32	1J202	v	14			
92					IIJ202	٧	14	J204	49	(3)			
93					J204	50	13 33		W	1 14			
94	1	<u> </u>	1		□J202	w			50	€3			
95	12	24	4		J204	59	14	A4TE204	1	22	1		

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MINNEAPO				TITLE		WI		STING				WL SHEET	DOCUME 7356901 7 OF		0	REV.
CONDUCTOR	FIND NO.	GAU(COLOR (REF.)	LENGTH (APPROX)	ORIGIN		ACCESS. FIND NO.			ACCESS.		REMA	ARKS		
96 ·	12	1	24	4		A3TP201	-	22	J204	67	14					
97						J204	70	14	A4TP201	_	22					
98	A	1	١	1		A3J205	39	20	A8	1	23,24			•		
99						A7	13	23,24	A3J205	23	20					
100	\prod					J204	4	14	В7	37	16,17	7				
101						88	45	16,17	J204	5	14					
102						J204	7	14	. A8	45	16,17	7				
103						A7	37	16,17	J204	8	14					
104						J204	10	14	J206	Z	20					
105						J206	cc	20	J204	22	14					
106						J204	15	14	A4J205	22	_20					
107						J206	Н	20] J204	25	14					
108	П					J204	27	14	A3J205	22	20					
109	П					A3J205	26	20	8A	2	16, 17	7				
110						A8	1	16,17	A3J205	27	20					
111						A3J205	28	20	A3TB204	2	22					
112	Y	\[_			A11	30	16,17	A3J205	37	20					
113				Y		A3J205	38	20	A11	45	16,17	7				
114	12		24	4		A14	1	16,17	A3J205	47	20	·				

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MINNEAP	OLIS. M	NNESOTA	1								SHEET	8 OF		
CONDUCTOR	FIND NO.	GAUGE (REF.)	COLOR (REF.)	LENGTH (APPROX)	ORIGIN		ACCESS. FIND NO.	DESTINATI	ON	ACCESS FIND NO		REMARKS		
115	12	24	4		A3J205	50	20	A14	8	16,1	7			
116					A17			A3J205	_	20				
117	A	A	A		A3J205		20		20	16,17	, .			
118					A14	42	16,17	A3J205	53	20				
119					A3J205	54	20	A14	37	16,17	,			
120					A14	36	16,17	A3J205	55	20	1			$\neg \neg$
121					A3J205		20		42	16,17				\neg
122				Ş	A15			A3J205		20				$\neg \neg$
123					A3J205	58	20	A15	9	16,17				\neg
124					A15	29	16,17	A3J205	59	20				
125					A3J205	60	20	A15	24	16,17				\neg
126					A15	13	16,17	A3J205	62	20				\neg
127					A3J205	63	20	A15	22	16,17				
128					A15	40	16,17	A3J205	64	20				
129					A3J205	65	20	A15	33	16,17				
130				Į.	A15	14	16,17	A3J205	66	20				\neg
131	¥	*		#	A3J205	67	20	A15	1	16,17				
132	<u>'</u>		1	į.	A15			A3J205		20				\dashv
133	12	24	4		A3J205	71	20	A15	12	16,17				

MINNEAPO		: "	TITLE		wı	RE LI	STING				WL SHEET	735690 9 OF	000	1 [RE
CONDUCTOR	FIND NO.	GAUGE (REF.)	COLOR (REF.)	LENGTH (APPROX)	ORIGIN		ACCESS. FIND NO.	DESTINATI		ACCESS.		RE	MARKS		,
134	12	24	4		A15	21-	16,17	A3J205	72	20					
135					A3J205	73	20	A15	20	16,17					
136			_		A15	38	16,17	A3J205	74	20			•		
137					A3J205	75	20	A15	36	16,17					
138					A15	16	16,17	A3J205	76	20					
139					A3J205	77	20	A15	17	16,17					
140					A15	25	16,17	A3J205	78	20	<u> </u>				
141					A4J205	39	20	B8	1	16,17					
142					В7	13	16,17	A4J205	23	20	<u> </u>				
143					A4J205	24	20	J206	d	20					
144					A4J205	26	20	B8	2	16,17					
145					B8	1_	16,17	A4J205	27	20					
146					A4J205	28	20	A4TB204	2	22					
147					B11	30	16,17	A4J205	37	20					
148					A4J205	38	20	B11	45	16,17				•	,
149					B14	1	16,17	A4J205	47	20					
150	1				A4J205	50	20	B14	8	16,17					
151	1	1	1	:	B17	16	16,17	A4J205	51	20					
152	12	24	4		A4J205	52	20	B14	20	16,17					

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<u> </u>		• •				••••		• • • • • • • • • • • • • • • • • • • •			ļ				
MINNEAPO	ous.	Mi	NESOTA	1	7			J ·		1270.22075	لــــــــــــــــــــــــــــــــــــــ	SHEET	10 OF		
CONDUCTOR IDENT.	FIN		GAUGE (REF.)	COLOR (REF.)	LENGTH (APPROX)	ORIGIN		ACCESS. FIND NO.	DESTINATI	ON	ACCES FIND N		REMARKS		.]
153	12		24	4		B14	42-	16,17	A4J205	53	20				
154	1		1	1		A4J205	54	20	B14	37	16,1	7			
155	1		1	1		B14	36	16,17	A4J205	55	20				
156						A4J205	56	20	B15	42	16,1	7			
157		ĺ				B15	45	16,17	A4J205	57	20				
158	\Box					A4J205	58	20	B15	9	16,1	7			
159						B15	29	16,17	A4J205	59	20				
160						A4J205	60	20	B15	24	16,1	7	·		
161						B15	13	16,17	A4J205	62	20				
162						A4J205	63	20	B15	22	16,1	7			
163						B15	40	16,17	A4J205	64	20				
164						A4J205	65	20	B15	33	16,1	7			
165						B15	14	16,17	A4J205	66	20			<u>.</u>	
166						A4J205	67	20	B15	28	16,1	7			
167						B15	34	16,17	A4J205	70	20				
168						A4J205	71	20	B15	12	16,1	7			
169						B15	21	16,17	A4J205	72					
170		'	1	1		A4J205	73	20	B15	20	16,1	7			
171	12		24	4		B15	38	16,17	A4J205	74	20	1			

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MINNEAPO				TITL		WIF	RE LI	STING				WL	73569000	0	
CONDUCTOR IDENT.	T	, [GAUGE (REF.)	COLOR (REF.)	LENGTH (APPROX)	ORIGIN		ACCESS. FIND NO.	DESTINATIO		ACCES:	s.	REMARKS		
172	12	T	24	4		A4J205	75	20	B15	36	16,1	7			
173	1	1	1			B15	16	16,17	A4J205		20				
174	4	T	4	4		A4J205	77	20	B15	17	16,1	7	•		
175		1				B15	25	16,17	A4J205	78	20				
176						J206	В	20	A17	34	16,1	7			
177	\Box					A17	08	16,17	J206	D	20				
178						J206	C_	20	TB203	3	34 34	a			
179						TB203	1	32 (3)	J206	U	20				
180						J206	٧	20	A19	1	16,17	7			
181						A19	20	16,17	J206	W	20				
182						J206	X	20	A19	33	16,17	7			
183	Ш					A19	45	16,17		Y	20				
184						J206	P	20	A3TB204	3	22				
185	П	T				A4TB204	3	22	J206	ŧ	20				
186						J206	h	20	B17 .		16,1	7			
187		\mathbb{I}				B17		16,17	J206	ē	20		-		
188						J206	Ŧ	20	TB203	4	34 3	3			
189	1			Y		TB203	2	34 37	J206	x	20				
190	12		24	4		J206	<u>y</u>	20	В19	1_1	16,1	7]

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MINNEAPO	DUS, M	NNESOTA	1	,			·				SHEET	12 OF		
CONDUCTOR IDENT.	FIND NO.	GAUGE (REF.)	COLOR (REF.)	LENGTH (APPROX)	ORIGIN		ACCESS. FIND NO.	DESTINATI	ON	ACCESS FIND NO		REMAR	ĸs	
191	12	24	4		B19	20	16,17	J206 .	Z	20				
192	1		1		J206	AA	20	B19	33	16,17				
193	1	A	A		B19	45	16,17	J206	BB	20				
194					A3TB202	7	21,48	A3TB202	2	27				
195					A3TB202	5	21 38	A3TB202	1	27	T			
196					A3TB202	30	27	A3TB202	31	27				
197					A3TB202	24	27	A3TB202	25	27				
198	Ш				A3TB202	18	27	A3TB202	19	27				
199					A3TB202	12	27	A3TB202	13	27				
200					A3TB202	34	27	A3TB202	31	27				
201					A3TB202	28	27	A3TB202	25	27				
202					A3TB202	22	27	A3TB202	19	27				
203					A3TB202	16	27	A3TB202	14	27				
204					A3TB202	.5	339	A3TB202	8	27				
205					A3TB202	7	48	A3TB202	10	27				
206					A4TB202	7	21.43	A4TB202	2	27				
207			+		A4TB202			A4TB202	1	27				
208	7				A4TB202	30		A4TB202	31	27				
209	12	24	4		A4TB202	24	27	A4TB202	25	27	T -			

() () (H)				TITL	E	WIF	RE LI	STING			L	WL SHEET	73569 000	0	REV.
CONDUCTOR		, G	AUGE REF.)	COLOR (REF.)	LENGTH (APPROX)	ORIGIN	Atar	ACCESS.	DESTINATI	ON	ACCESS		RE MARKS		
210	12		24	4		A4TB202	18	27	A4TB202	19	27				
211	1			1		A4TB202	12	27	A4TB202	13	27				
212	1		1	1		A4TB202	34	27	A4TB202	31	27				
213	\sqcap	T	1			A4TB202	28	27	A4TB202	25	27				
214	Ħ	T				A4TB202	22	27	A4TB202	19	27				
215	\sqcap	I				A4TB202	16	27	A4TB202	14	27				
216	П					A4TB202	5	39	A4TB202	8 -	27	<u> </u>			
217	П					A4TB202	7	49	A4TB202	10	27	1			
218						TB203	1	(5)	A3TP200		22				
219	П					A3TP203		22	All .	46	16,17	<u> </u>			
220		T			3	TB203	2	6	A4TP200		22	<u> </u>			
221	П	T				A4TP203		22	BII	46	16,17				
222	\prod					All	6	16,17	A3TP204		22				
223	\prod					A3TP202	_	22	AII .	48	16,17				
224						ВП	6	16,17	A4TP204	_	22				
.225	\Box	T				A4TP202		22	. BII	48	16,17		·		
226		,	1	-		TB203	13	15 🕏	IJ202	N	14				
227	1		1			1J200	80	20	TB203	13	32 (1)				
228	12	T	24	4		TB203	13	€0	IJ201	80	20				
วกร	ह्य	l. :) Viesti	TIT	LE	W	IRE L	ISTING				WL	73569000	0 0	REV

วกร	શ્રી.	्र अस्त्रा	TITLE		WII	RE LI	STING				WL	73569000	0 0	REV.
MINNEAPO	DLIS, MI	NNESOTA	1	1			· · · ·		7: 7: 7: 7: 7: 7: 7: 7: 7: 7: 7: 7: 7: 7	<u>, </u>	SHEET	14 OF		
CONDUCTOR	FIND NO.	GAUGE (REF.)	COLOR (REF.)	LENGTH (APPROX)	ORIGIN		ACCESS.)N	ACCES		REMARKS		
229	12	24	4		A30	2 ·	16,17	TB203	13	32 4	3			
230	1				TB203	13	41	A30	50	16,1	7			
231	4		1		IIJ202	N	14	T8203	16	23		•		
232	П				TB203	16	32 42	ПJ200	80	20				
233					□ J201	80	20	TB203	16	€2				
234					TB203	16	32 43	B30	2	16,1	7			
235					в30	50	16,17	TB203	16	43				
236					TB203	1	(3)	A3TB204	7	22				
237					A3TB204	4	22	A14	45	16, 1	7			
238					B14	45	16,17	A4TB204	4.	22				
239	П				A4TB204	7_		TB203	2	3)	-			
240					A3TB202	36	27	A3TB202	37	27				
241					A4TB202	36	27	A4TB202	37	27				
242					A22	25	16,17	A3J205	40	20		-		
243					A3J205	,41	20	A22	18	16,17				
244	П				B22	25	16,17	A4J205	40	20				
245					A4J205	41	20	B22	18	16,1	7		_	
246	7	1	1		A3J205	24	20	J206		20				
247	12	24	4		A4S202	3	22	817	9	16, 1	7			

((1))			TITLE	<u> </u>	WI	RE LI	STING		,		VL 73569000 0 A HEET 15 OF
CONDUCTOR IDEN T.	FIND NO.	GAUGE (REF.)	COLOR (REF.)	LENGTH (APPROX)	ORIGIN		ACCESS. FIND NO.	DESTINAT	ION	ACCESS.	REMARKS
248	12	24	4		A3S202	2 ·	22	A17	33	16,17	
249				,	A3S202	3		A17	9		
250	A	1	1		A3S202	4		A17	26		•
251					A3S202	5		A17	5		
252					A4S202	С		B17	32	1	
253	7	1			A4S202	1		B17	44		
254	12	24	4		A4S202	2	22	B17	33	16,17	
255	10	16	4		A3J205	1	18	TB203	3	15	
256					TB203	7	15	A3J205	2	18	
257	4	•			A3J205	3	18	J204	21	9	
258					A3J205	20	18	TB203	1	34,50	
259					TB203	1	_50	J204	1	9	
260					J204	2	9	тв203	1	34,52	
261					TB203	2	15	J204	3	9	
262	Π				J204	11	9	TB203	6	15	
263					TB203	5	15	J20 4	12	9	·
264	1				J204	13	9	TB2 03	9	15	
265	1	Y	1		TB203	10	15	J20 4	14	9	
266	10	16	4		J204	17	9	A3TB202	35	21	·

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CONDUCTOR	FIND NO.	GAUGE (REF.)	COLOR (REF.)	LENGTH (APPROX)			ACCESS.			ACCES!	s.	REMARKS		
267	10	16	4		TB203	3 -	3	1	18	9	1	ALMANNO		
268					J204	20	9	TB203	4	(36)	 			
269	4	1	1		TB203	7	15	J204	28	9		•		
270			П		J204	29	9	тв203	8	15				
271					A4J205	3	18	J204	30	9	1			
272					J204	35	9	A4TB202	35	21	1			
2 73					TB203	4	15	A4J205		18				
274					A4J205	20	18	TB203	2	37	1			
275					TB203	1	52	TOP BUSS B	AR —	23.2	4			
276					MIDDLE BUSS BAR	_	23,24		2	(53) 3				
277	1	Y	Y		TB203	2	(52)	BOTTOM BUSS BAR	1-	23,2				
278	10	16	4		TB203	8	15	A4J205	2	18				
279	12	24	4		A3S201	1	16	A17	41	16,1	7			
280			1		A4S201	1	16	817	41	1				
281	IT	A	1		A3DS200	В	27	A17	42	T				$\neg \neg$
282		117			A4DS200	В	27	B17	42					$\neg \neg$
283	1	1	V	į į	A3S202	C	22	A17	32	1				
284	12	24	4		A3S202			A17		16,1				
									ا	Í				

MINNEAP		NAVA NNESOTA	TITLE		WI	RE LI	STING				WL SHEET	73569000	
CONDUCTOR	FIND NO.	GAUGE (REF.)	COLOR (REF.)	LENGTH (APPROX)	ORIGIN		ACCESS. FIND NO.	8		ACCES FIND N		REMARKS	
285	25	24				-		4					
285A			0		A3J205	4	20	A3TB202	35	7			
285B			4		A3J205	8	20	A3TB202	37	27			
286	25	24											
286A			0		A3TB202	9	27	A3J205	5	20			
286B			4		A3TB202	7	27	A3J205	10	20			
287	25	24								<u> </u>			
287A			0		A3J205	7	20	A3TB202	15	27			
287 B			4		A3J205	11	20	A3TB202	11	27			
288	25	24						1					
288A			0		A3TB202	21	27	A3J205	12	20			
288B			4		A3TB202	17	27	A3J205	15	20			
289	25	24											
289A			0		A3J205	13	20	A3TB202	27	27			
2898			4		A3J205	16	20	A3TB202	23	27			
290	25	24					1						
290A			0		A3TB202	33	27	A3J205	14	20			
290B			4		A3TB202	29	27	A3J205	17	20	<u> </u>		
		<u> </u>					<u> </u>		_				

CONTROL	MA	NOR	MANDAL	E DIVIS	SION	1933		SHEET 18	В	WL	73569000	CD REV.
CONDUCTOR IDENT.	FIND NO.	GAUGE (REF.)		LENGTH (APPROX)	ORIG	IN	ACCESS		ATION	ACCESS FIND NO.	REMARKS	
291	25	24										
291A			0		A3J20	5 31	20	A11	25	16,17		
291B			4		A3J20	5 34	20	A11	24	16,17	×	
292	25	24				_	ļ					
292A			0		B01	37	29,30	A3J205	45	20		
292B			4		B01	38	29,30	A3J205	46	20		
293	25	24										
293A			0		A3J20	5 48	20	IIJ202	К	14		
2938			4		A3J205	5 49	20	IIJ202	М	14		
294	25	24										
294A			0		A4J205	5 4	20	A4 TB20	2 35	(12)		
294B			4		A4J205	8	20	A4 TB20	2 37	27		
295	25	24										
295A			0		A4 TB20	2 9	27	A4J205	5	20		
295B			4		A4TB20	2 7	27	A4J205	10	20		
296	25	24										
296 A			0		A4J205	7	20	A4TB20	2 15	27	-	
296B			4		A4 J205	11	20	A4TB20	2 11	27		
											-	

9-50.20 41249000 J

EONTRO!):11:M	NORI	MANDALE	DIVIS		19333		SHEET 19		WL		AENT NO. 3569000	0	
ONDUCTOR	FIND NO.	GAUGE (REF.)	COLOR (REF.)	LENGTH (APPROX)	ORIGIN		ACCESS	i i	ATION	ACCESS FIND NO		REMARI	(S	
297	25	24												
297A			0		A4TB202	21	27	A4J205	12	20				
29 7B	<u> </u>		4		A4TB202	17	27	A4J205	15	20				
298	25	24						1	$\neg \uparrow \neg$	 				
298A			0		A4J205	13	20	A4TB202	27	27	 			
298B	<u> </u>		4		A4J205	16	20	A4TB202	23	27				
299	25	24												
299A		†	0		A4TB202	33	27	A4J205	14	20	t	-		
2 9 9B			4		A4 TB202	29	27	A4J205	. 17	20				
300	25	24												
300A			0		A4J205	31	20	B11	25	16,17				
300B			4		A4J205	34	20	B11	24	16,17				
301	25	24												
30 1 A			0		A01	37	29,30	A4J205	45	20				
30 1B	<u> </u>	<u> </u>	4		A01	38	29,30	A4J205	46	20				
302	25	24				<u> </u>		<u> </u>						
302A	<u> </u>		0		A4J205	48	20	113202	кк	14				
302B			4		A4J205	49	20	IIJ202	мм	14	<u> </u>	·		
	<u> </u>		ļ			<u> </u>								
L	<u> </u>	<u> </u>	<u> </u>	لـــــا		ــــــــــــــــــــــــــــــــــــــ	<u> </u>			<u> </u>	<u> </u>			
तिशासी	D)	Mest.	TITLE				-			Τ.		DOCUME	NT NO.	20 RE
1014		*/			W	IRE I	LISTIN	G			WL	735690	000	0
MINNEAPO	DLIS. MI	NNESOTA									SHEET	20 OF		
CONDUCTOR		GAUGE	COLOR	LENGTH			ACCES	s.		ACCESS				
303	NO.	(REF.)	(REF.)	(APPROX)	ORIGI	<u> </u>	! FIND N	DESTIN	NATION	E FIND NO	2	REM	ARKS	
303A	23	24	0	 	A7	1	16,1	7 A3TB20	2 20	27	+-			
303B			4	 	A7	5	16,1	_}			 .			
304	25	24	<u> </u>			Ť				1	1-		•	
304A	22		0		A3TB202	14	27	A7	18	16,1	7			
30 4B			4		A3TB202	12	27	A7	17	16,1	7			
305	25	24						4						
305A			. 0		A7	28	16,1	7 A3TB20	02 32	27				
305B			4		A7	29	16,1	7 A3TB20	02 30	27	-			
	1	24	1		 					 	1			
306	25	 				1 20	27	7 . A7	44	16,1	7			
306A	25		0	ļ	A3TB202	-				4	-1			
306A 306B			0 4		A3TB202 A3TB202	-	27	- <u>[</u>	45	16,1	7			
306A 306B 307	25	24	4		A3TB202	24	27				7			
306A 306B 307 307A		24	0		A3TB202 B7	1	16,1	7 A4TB20	02 20	27	7			
306A 306B 307 307A 307B	25		4		A3TB202	24	16,1		02 20	27	7			
306A 306B 307 307A		24	0		A3TB202 B7	1 5	16,1 16,1	7 A4TB20	02 20	27				

MINNEAPO			TITLE		WII	RE LI	STING				DOCUMENT NO. CD REV. 73569000 0 A
CONDUCTOR IDENT.	FIND NO.	GAUGE (REF.)	COLOR (REF.)	LENGTH (APPROX)	ORIGIN		ACCESS. FIND NO.	DESTINATION	ON	ACCESS. FIND NO.	REMARKS
309	25	24	,			-					
309A			0		B7	28	16,17	A4TB202	32	27	
30 9B			4		B7	29	16,17	A4TB202	30	27	
310	25	24									
310A_			0		A4TB202	26	27	В7	44	16,17	
310B			4		A4TB202	24	27	B 7	45	16,17	
311	12	24	4	,	A4S202	4	22	B17	26	16,17	
312	12	24	4		J206	ь	20	A18	42	16,17	
313	.12	24	4		J206	EE	20	818	42	16,17	
315	28	20									
315A			SHIELD		A3J205	29	19	A11	28	29,31	
315B			0		A3J205	30	19	A11	1 1	29,30	
315C			2		A3J205	33	19	A11	18	29,30	
316	28	20									
316A			SHIELD		A4J205	29	19	B11	28	29.31	
316B			0		A4J205		19	B11		29,30	
316C			2		A4J205	33	19	B11	18	29,30	
3,00					•						·
											•
2205		ลาสา	TITLE	-						T	DOCUMENT NO. LO RE
46161	ii(ii)	YEAT!			WI	RE L	ISTING				WL 73569000 0
MINNEAP	OUS, M	NNESOTA									SHEET 22
CONDUCTOR	FIND NO.	GAUGE (REF.)	COLOR (REF.)	LENGTH (APPROX)	ORIGIN		ACCESS.	DESTINAT	ION	ACCESS. FIND NO	
320	33	24				<u> </u>				1	
320A			SHIELL		A3J205		30.37 19 44	A22	10	36,3°	
320 B			9		A3J205	80	12,20	A22	5	16,217	7

	\mathbf{m}	3) 10.11								į.		DOSOMERT IN	77-0	111-11-
	'((B)E	*/28.52\			WI	RE LI	STING				WL	7 3 56 9 000	0	Ā
MINNEAP	OLIS, MI	NNESOTA									SHEET	22		
CONDUCTOR	FIND NO.	GAUGE (REF.)	COLOR (REF.)	LENGTH (APPROX)			ACCESS. FIND NO.	DESTINAT	ICN	ACCES:		REMARKS		
320 ·	33	24												
320A			SHIELL		A3J205	79	30.37 19 44	A22	10	36,3 16,1	7			
320 B			9		A3J205	80	12,20	A22	5	16,21	7 ·	•	\ <u>-</u>	
321	33	24					Í		1					
321A			SHIELL		A22	8	36, 37 16, 17	A3J205	79	3443	7			
321B			9		A22	9	16,17	A3J205	82	20,1	2 .			
322	33	24												
322A			SHIELL		A4J205	79	36,37	B22	10	36,3 16,1	7			
322B		İ	9		A4J205	80	12,20	B22	5	16,1	7			
323	33	24									-			
32 3 A			SHIEL		B22	8	16,17	A4J205	79	3633	7			
32 3 B			9		B22	9	16,17	A4J205	82	20,1	2			
324	11	20	4		A29	48	29,30	TB203	9	32				
325	11	20	4		TB203	10	32	B29	48	29,3	0			
326	12	24	4		A3J205	42	20	TB203	2	€				
327					A4J205	42	4	TB203	2	④ 3	5			
328					A3J205	43	. v	J206	a	20				
329	Y	Y	Y		A4J205	43	20	J206	DD	20				
330	12	24	4		A4S202	05	22	B17	5	16,1	7			

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coxiiki). i	M.	A COLOR	NORMAN	DALE	E OP:	ERATIONS			19333	NĪ	SH	EET	23		W	/L	DOCUMENT 1		c D	REV.
ONDUCTOR	FI	ND O.	GAUGE (REF.)			LENGTH (APPROX)		ORIGII	(•	ESS NO		DESTINATIO)N		CESS D NO.		REMARKS	3	
331	12		24	1	¥		A3TB	202	39	21	(53)	A35	200	A1	2	2				
332	1	1	Å				A3TB	202	39	(5)	•	A1	8	28	16,	17				
333							ASTB	202	38	2	7	A2	5	26	16,	17				
334							A3TB	202	40	2	7	B2	5	26	16,	17				
335							A4TB	202	39	21	<i>5</i> ₽}	A4 S	200	A1	2	2				
336		Ц					A4TB	202	39	Ø	<u>}</u>	B1	8	28	16,	17				
337	Ŀ			1	<u>L</u>		A4TB	202	38	2'	,	A2	5	3/4	16,	17				
338	12		24	1	+		A4TB	202	40	2	7	B2	5	34	16,	17				
339	L	_		<u> </u>						_	_			↓	L					
340	?	<u> </u>	50	4		7	T82	05	1,	5	<u> </u>	TB	503	10	a	<u> </u>				
341	-		1			7	<u> </u>		5	'	<u> </u>			٩ ا	<u> </u>	1_				
342	L	Ш		igoplus		7	_		3	\vdash						-	· · · · · · · · · · · · · · · · · · ·			
343	L		$\vdash\vdash$	Н		7	<u> </u>		4	\vdash		<u> </u>		7	\vdash	_				
344	┞	Ш	$\vdash\vdash$	\mathbb{H}	<u>.</u>	9	 		5	╀		_	-	<u> </u>	-	┞				
345	\vdash		-	H		9		-	6	\vdash		_		5	ļ	<u> </u>				
346	┞	_	\vdash	╁┤		9	-	-	7	-		-		4	╀	-		·		
347	Η.	_	$\vdash \downarrow$	${}_{\rm H}$		9	<u> </u>	_	- 8	۲,		Η,		3	١.	_				
348	,	<u></u>	20	Y		75	ТВ	205	10	5	4	TB	203	5	В	<u>A</u>			·	
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CONTRO	TIT.	7.1		_	,				CODE II	ENT	_				_		DOCUMENT	NO	CD	REV.

(0)\1770 i		NORMAN	DALE 0	PERATIO	INS	19333	S	HEET 24 of 2	24	WL	73569000	CD 0	REV.
CONDUCTOR IDENT.	FIND NO.	GAUGE (REF.)		LENGTH (APPROX)	ORIG	·IN	ACCESS FIND NO.	DESTINATIO)N	ACCESS FIND NO.		RKS	
350	25	24											
350 A			0		B01	33	29,30	IJ202	К	14			
350B			4		-B01	36	29,30	IJ202	М	14			
351	25	24											
351A			0		A01	33	29,30	IJ202	KK	14			
35 1B			4		A01	36	29,30	IJ202	ММ	14			
				<u> </u>			<u></u>						
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Filtral.	DATA :	CODE IDENT	SHEET 1 OF 1	DN	73569000	0	rev.
NOTES:					·	<u> </u>	
	A HEXAGON IN THE ACCESS FIND NO. COI THAT THE CONDUCTOR IS ONE OF SEVERAL SAME NUMBER IN THE HEXAGON) GOING IN TERMINAL. THE NUMBER IN FRONT OF A R TERMINAL FIND NO.	C (ALL WITH THE					
2.	FOR MECH ASSY AND PL SEE 70821200.						
	CRIMP FIND NO 12 TO THE CONDUCTOR AN TO THE SHIELD USING FIND NO 36. THE JUMPERS USING FIND NO'S INDICATED IN COLUMN.	TERMINATE BOTH					
	FIND NO.'S AND ACCESS F/N'S SH ON FILTER BOARD PL 70716100 FO IDENT. <i>340</i> THRU 349.						
					•		
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Oldaron overe	PRODUCT		WIRE	IST -DECK	ASSY				DOCUMENT 40064000	NO.	1
NHEAPOLIS, MINNESOTA	7,00001		MULTI	PLE DISK DR	IVE		3H	EET	1 of 10		
REVISION STATUS OF	SHEETS				RE	VISIONS					
		MEV	ECO		DESCRIPTION			DRFT	DATE	CHED.	APP
		A		RELEASED					1.19.69		74
		В	PM4733	INACTIVE -	SERVICE	USE	ONLY	CC	3-21-69	35CH	
		<u></u>		SUPERSE	DED BY	40099	000				
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	II										
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71 S.W.											
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PIES TO				1 •	M DM	SE-CH CH	∞ C.	MIN	ZAR ENGR	Twe	11-23

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MINNEAPO	DUE AT	INNES	OTA				DECK A	~			·	SHEET	2 OF	
CONDUCTOR IDENT.	FIND NO.	GAUG		COLOR		ORIG	IN	ACCESS FIND NO	DESTINA	TION	ACCESS FIND NO		REWARKS	
1	8	24		4		P205	21	5	\$301	С	30 ,2	5		
2	4	1		4		5301	NO	30, 26	P205	23	5			
_3						P205	22	5	5301	NC	30.2	5		
4		Ш				P305	1	19	TB300	3	18			
5						TB300	3	18	P303	6	19			
6	Ш					P303	5	19	TB300	4	18			
7•						TB300	4	18	P304	2	19			
. 8		Ш				P304	1_	_19_	TB300	3	_18			
9		Ш				TB300	4	_18_	P305	2	19_			
10	Ш	Ш				S3008	NO.	30.26	P205	24	5			
11	Ц_					P205	26	5	S300A	С	30.26	i]
_12						S300A	NC	30, 26	P205	27	5			
13						P205	28	5	S3008	С	30,26	5		
14						C1	33	17,20	D1	9	17,20			
15						TB300	5	18	P303	4	19			
16						.P303	,	_19	P205	37	5			
17						P205	38	5	P304	4	19			
18	8	24	\Box	4		P304	3	19	TB300	5	18			
19			I											

to to a state	503.77			TiTL	Ē	WIRE LISTING DECK ASSY						V L	DOCUMENT NO. 40064000		
CCHOUCTOR ICENT.	Fi:4D NO.	640 1.72		CCLOR (REF.)		SR:G:	SRIGH ACCESS FIND NO.						ACCESS FIND NO. REMARKS		
20	8	24	<u> </u>	4		P306	1_	15	P205	39	5				
21		1				P205	47	_5_	C2	41	17,20				
22	Щ	\sqcup				C2	24	17,20	_P205	50	5				
23	!	1		<u> </u>		P205	51	_5	C2	45	17,20			<u> </u>	
24	11	$\perp \downarrow$				C2	9	17.20	P205	52	5				
25	14-	$\downarrow \downarrow$		-		P205	54	5	_C1	32	17,20		···		
26	11	1-1		4		C1	44	17,20	P205	57	.5				
27	1	11		-		P205	58	5	C1	42	17,20				
28		1-4		\vdash		C1	40	17,20	P203	62	5				
29	11	1				P205	63	5	C1	38	17,20		·····		
30	1	1		<u> </u>		C1	37	17,20	P205	66	5				
31	Ц.	11		<u> </u>		P205	67	_5	C1	13	17,20			·_	
32	 	\perp		!		<u>C1</u>	14	17,20	P205	72	5				
33	Ц.	1-1				P205	73_	_5	C1	12	17,20				
34	! -	-		\vdash		C1	9	17,20	P205	76	5		•		
35_	14-	\perp			¹	P205		5	_C1	10	17,20				
36	-	+			-	.02	-44	17,20	_P205	78	5				
37	1	11	<u> </u>			P205	75	_ 5	DZ	42	17,20				
38	8	2.	4 .	4		02	40	17,20	P2U5	7.4	5			i	

		TATA			W		STING ASSY				WL	DOCUMENT NO. 40064000	B
CONDUCTOR		BAUGE	COLOR	LENGTH		DEGR	ACCESS		ACCES	SHEET	4 OF		
IDENT.	NO.	(REF.)	(REF)	(APPROX)	ORIGI	N	FIND NO	DESTINA	TION	FIND N		REMARKS	
39	8	24	4		P205	71	_ 5	D2	38	17,2	0		
40	1	1.	1		D2	37	17,20	P205	70	5			
41	Ш.				P205	65	5	D2	13	17.2	0		
42	Ц.	 - - - - - - - - - 			D2	14	17,20	P205	64	5			
43	Ш				P205	60	_5	D2	12	17,2	0		
44	-				D2	9	17,20	P205	59	5			
45	Ш				P205	56	5	02	10	17,2	0		
_46					D2	32	17.20	P205	55	5			
47					P205	53	5	02	44	17,2	0		
48 -	8	24			C2	12	17,20	D2	41	17,2	0		
49	9	20_			P205	18	6	S303	NO	18			
50	4				5303	C	18	S302	NC	18			
51	Ц_				S302	С	18	P205	25	6			
52	Ц_				.P205	32	6	TB300	3	18			
53					TB300	4	- 18	P205	35	6			
54	4	<u> </u>			P205	36	6	TB300	5	18			
_55					C2	46	21,22	D2	46	21.2	2		
56	1	1	1		Ď2	48	21,22	C2	48	21,2	2		
57	9	20	4		C2	6	21,22	02	6	21,2	7		

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NINNEAPC	US. M	NESOTA		~	£	SH	EET 5	OF					
CONDUCTOR IDENT.	FIND NO.	GAUGE (REF.)	COLOR (REF)	LENGTH (APPROX)	OFIG	N	ACCESS FIND NO	DESTIN	ATION	ACCESS.		REMARKS	
58	10	16	4		С	GRD	13	D	GRD	13		,	
59					P205	1	7	D1	48	24,25			
60					D 1	46	24,25	P205	3,	7		•	
61					P205	2	7	D1	6	24,25			
62	10	16	4		۵	GRD	13	P205	20	7			
_63	11	24											
63A		i	0		P306	2	15	P205	14	5			
638		<u> </u>	4		P306	1	_15_	P205	8	_5			
64	11	24	<u> </u>			<u> </u>							
64A		<u> </u>	. 0		P205	5	5	J310	8	16,29			
64B			4		P205	10	_5_	J310	5	16,29			
65	11	24				<u> </u>			<u> </u>	l			
65A			0	<u> </u>	J310	7	16,29	P205	12	5			
658			4	L	J310	4-,	16,29	P205	15				
66	11	24								 			
66A			0		P205	7_	_5	J310	6_	16,29			
66 B			4		P205	11	_5	J310	1	16,29			
		·	!	ļ									
CRM AA IS		<u> </u>											_

	ييد ۽ س	neruswa	TITLE		WIRE LISTING DECK ASSY						WL 40064000				
ENTERNT.	F.11.D 1.0	GAUGE (REF.)	COLOR (DEF.)	LENGTA (APPACK)	35.5		400565 F/10 NO	CESTINA	T.C.	ACCES: FIND N		REMARKS			
67	11	24													
67A			0		J310	_10_	16,29	P205	14	5					
67B			4		J 310		16,29	P205	17	5					
68	11	24									4_				
68A		ļ	C		P205	13	5	J310	9	16,29	<u> </u>				
688			4		P205	16	5	J310	3_	16.29	Ц				
69	_11_	24													
69A			0	L	P205	48	5	C2	13	17,20	Ц				
69B			4		P205	49	5	C2	16	17,20					
70	11	24								.	<u> -</u>				
70A			0		C2	1	17,20	P205	45	5	<u> </u>				
708			4		C2	10	17,20	P205	46	5	!				
71	_11_	24		,							<u>i </u>				
71A			0		P205	31	5	P305	3	19					
71B			4		P205	34	5	P305	4	19					
72	11	24													
72A			0		P305	5	19	TB300	1	18	1				
728			4		P305	6	_19	TB300	2	18					

(Hale)	17:1	11:575	TITLE		V.	/IRE LI	STING			,	WL	00CUMENT NO 40064000	I B
AINNEAPO	DLIS, M	NNESOTA				DECK A	SSY			-	SHEET	7 ^{OF}	
CONDUCTOR IDENT.	FIND	GAUGE (REF.)	COLOR (REF)	LENGTH (APPROX)	CRIGI	N	ACCESS FIND NO	DESTINA	TION	ACCESS		REMARKS	
7 3	11	24											
73A			0		TB300	1	18	P304	5	19			
73B_	İ	1	4		T8300	2	18	P304	6	19		•	
74	11	24]			
746		<u> </u>	0_		P303		19	TB3Q0		19_			
748	i	ļ	4		P3U3	1_1_	13	TB300	2	18_	-		
75	12	20								l	ļ -		
75A		i +	SHIELD		A		!	P205	29	6	!		
758		i	0	İ	TB300		18	P205	30	6			
75C			2_		_TB300	2	_18	_P?¢\$	33	6	ļ		
76	31	124	<u> </u>	<u> </u>					_		<u> </u>		
76A			SHIELD		P205	79	6 (1)	\triangle			<u> </u>		
768			9		P205	80	5	<u> 11</u>	36	17.20	ļ		
77	31	24	ļ							l			
77A		<u> </u>	SHIELD		A		 .	P205	79		L		
77B	ļ	ļ	9		D1	37	17,20	P205	82	5	ļ		
78	31	24		<u> </u>						 	ļ		
_78A	<u>. </u>		SHIELI	 	<u> </u>			_C1		17.2C			
78B	1	1	9		D1	12	17,20	CI	21	17,20			

110			TITLE				ISTING				ML	00CUMENT NO. 40064000	B
10.71.2-75	اندار والسا = سالادر		<u>:</u>	,	DECK ASSY						SMEET	8 CF	
epilmietten Diati	€:5 \0.	3486E (725.)	COLCR (SEF)	LENGTH LEPASK	ن د د د		-50555 -5045	DISTAL	7.6%	ACCESS FLAGEN		AEV NA 15	
79	31	24					ll				ļ		
79A	<u> </u>		SHIELD		C1	26	17,20			l	ļ		
79B		<u> </u>	9		C1	24	17,20	D1	13	17,20			
03	31	24	<u> </u>				l			l			
80A	ļ 		SHIELD		02	20	17,20	<u>C1</u>	26	17,20	<u> </u>		
80B	 		9		D2	18	17,20	C1	18	17,20	<u> </u>		
81	31	24				<u> </u>					J		
			SHIELD		C1	17_	17.20	02	17	17,20	<u>. </u>		
818			9		C1	16	17,20	D2	16	17,20	٠ <u>١</u>		
82	31	24				<u> </u>	<u> </u>	~******	-	l	1		
82A			SHIELD		D2	34	17.20	<u>C1</u>	34	17,20	<u></u>		
82 B			9		D2	36	17,20	C1·	36	17,20	<u> </u>		
83	8	24	4		P205	40	5	<u>C2</u>	<u>.</u>	17,20	<u> </u>		
84	В	24	4		P205	41	5	C2	17_	17.20	· · · · · · · · · · · · · · · · · · ·		
85	8	24	4		P2 0 5	42	- 5	S30 5	C	34			
86	8	24	4		P205	43	5	5305	нO	34	!		
87						1					!		
88											i		
89][

CONTROLS	MA		VIRE L	ISTING SSY		CODE IDE		HEET 9		WL	DOCUMENT NO. 40064000 REV
CONDUCTOR IDENT	FIND NO	GAUGE (REF)	1	LENGTH (APPROX)	ORIGAN	7	ACCESS FIND NO	DESTINAT!	010	ACCESS FIND NO	REMARKS
90											
91											
92											
93											
94											
95											
96											•
97											
100	26	24	4	3	C2	40	27,28	R300	2	29	
101	43	20	4	5	C2	37	41,42	TB301	4_	25	
102	26	24	4	3	C2	32	27,28	R303	2	29	
103	38	24	94		C1	41	<u>.</u>	C2	14	<u>-</u>	
104	43	20	4	5	C2	25	41, 42	TB301	2	25	
105	26	24	4	2	C2	28	27, 28	R302	2	29	
106	26	24	4	2	C2	36	27,28	TB301	1	25	
107	26	24	4	5	C1	16	27,28	R302	1	29,39	
108	26	24	4	5	C1	18	27,28	R303	<u> </u>	29,39	
109	26	24	4	5	C1	36	27,28	R300	1	29,39	
110	26	24	4	2	TB301	11	_25	TB301	13	25	
A A 3191	<u> </u>		<u> </u>		<u> </u>			<u></u>		<u> </u>	Princip in us

CONTROLEC	MA	WIRL DECK	LISTIN ASSY	iG		CODE IDE	SI	HEET 10 0	F 10	WL	DOCUMENT NO 40064000	B
CONDUCTOR IDENT	FIND NO	GAUGE (REF.)	ł .	LENGTH (APPROX)	O RIC	. z	ACCESS FIND NO		ATION	ACCESS FIND NO	REMARKS	
111	31	18	2		C2	48	-	CI	48	_		
112	32	18	6		C2	6	-	C1	6	-		
113	31	18	2		C2	46	-	C1	46	_		
114	33	16	0	8	C2	50	34,35	GKD		36		
115	33	16	. 0	8	C1	50	34,35	GKD		36		
116	33	16	0	2	C2	2	34,35	GRD		36		
117	33	16	С	2	C1	2	34,35	GRD		36		
118												
119												
120	23	24	93		D2	24	<u> </u>	01	8		·	
121	23	24	93		D2	21		DI	5			
122	24	24	94		02	ارز		.01				
123	17	18	2		02	48		ט1	48			
124	18	18	6		02	6		D1	6_	<u> </u>		
125	17	18	2		D∠	46		01	46			
126	19	16	0	2	02	50	20,21	GRD		22		
127	19	16	0	2	D1	50	20, 21	GKD		22		
128	19	16	0	8	02	2	20,21	GKD		22		
129	19	16	υ	8	D1	2	20.21	GRD		22		
L											<u> </u>	SPERMED *** ILSA

41249000 B

CONTROL	QATA TUSAN	CODE IDENT	SHEET	WL	POCUMENT NO. 400 64000	
1.	FOR FIND NO. REFERENCED IN CONDUC SEE PL 40017000, DECK CABLE ASSY	TORS 1 THRU	86			
2.	FOR FIND NO. REFERENCED IN CONDU- SEE PL 40015400, RIGHT PRE-AMP C					
3.	FOR FIND NO. REFERENCED IN CONDU		RU 129			
Δ	INDICATES END OF SHIELD IS FLOAT	ING.				
5.	A HEXAGON IN THE ACCESS FIND NO. THAT THE CONDUCTOR IS ONE OF SEV. SAME NUMBER IN THE HEXAGON) GOINTERMINAL. THE NUMBER IN FRONT OF FIND NO.	ERAL C ALL WI G INTO THE S	TH THE AME			
	ė .					

								TIT		JCT	_		WIRE	LIST -DEC	CK ASS	Y			WL		400		NO.	REV.
	IINNE	_				_	4						MULTI	PLE DISK	DRIVE				SHE	ET 1	OF	12		
ſ		RE	VISI	ON :	STA	TUS	OF :	SHE	ETS						e		REVISION	13						
	Ι											REV.	ECO		DES	CRIPTIO	N			DRFT.	DAT	ΓE	CHKD.	APPO.
									L			Α_		KLLEASE							1.19			M4
L						L	L					В	PM4733	DWG. N	0. W	AS 4	40064	000					SCH	
L								_					PM4834			10 =	1LY			55	4-14	4-69	æc#	
L						L	L		L				PM 5578					· ·					<i>३८</i> ∤	
L							L		l				PE 11067							GV	7-31	-69	30 C#	
					٠			L				F.	PEHO67A	CANCE	LLED	EC	0			GV	8-1-6	69	\$€#	
L						_		L	L			G	PM5578D	SEE C	20					DS	9.22	2.69		9-22-9
						_	L	L_				н	PEII451	CHG WL	76A TO	824	8			DC	3/31/	20	97	π
	┙	_						_				J	PEII45'IA	CHG WL 70	68,778	, 788,	798,808,	8IB 1 8	28	PC	3/31/	<i>7</i> 0	97	$I\!\!I$
		L			_	L																		
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	COPIE	3		Ι			J								87	DM	11-86-69	CHKD.	C.A	1. 1/2	2/68	ENGR	742	11-22-68

MINNEAPO						IRE LI	STING SSY			L	WL SHEET	40099000 2 OF	G
CONDUCTOR	FIND NO.	GAUGE (REF.)	COLOR (REF.)	LENGTH (APPROX)	ORIGIN	· · · · · · · · · · · · · · · · · · ·	ACCESS. FIND NO.	DESTINATIO	DN	ACCESS		REMARKS	
1	8	24	4		P205	21 ·	5	TB306	3	36	3		
2	4	1	1		T8306	2	38	P205	23	5	1		
3					P205	22	5	TB306	4	38			
4					P305	1	19	TB300	3	18			
5					TB300	3	18	P303	6	19			
6					P3 03	5	19	TB300	4	18			
7					твзоо	4	18	P304	2	19			
8					P304	1	19	TB300	3	18			
9					T8300	4	18_	P305	2_	_ ور			
10					TB302	1	38	P205	24	5			
11					P205	26	5	TB303	2	38			
12					TB303	3	38	P205	27	5 38			
13					P205	28	5	TB 302	4	38			
14					C1	33	17,20	D1	9	17,20			
15					TB300	5	18	P303	4	19			
16	Ш				.P303	3	_19	P205	37	5	<u> </u>		
17			1		P205	38	5	P304	4	19			
18 .	8	24	4		P304	3	19	TB300	5	18			
19	į	1								l			

15	,	p = 1	TITLE	į	V	VIRE LI	STING				WL	40099000	SEV.
	us, w	nizcota			DECK	ASSY				i	SHEET		
COMPUSITOR	FireC NO.	GAUGE (REF.)	COLOR (REF.)	LENGTH (APPROX)	CRIG	IN	ACCESS FIND NO	DESTINA	TION	ACCESS FIND NO		REMARKS	
20	8	24	4		P306	1	15	P205	39	5			
21	1	1	1		P205	47	_5_	C2	41	17.20			
22					C2	24	17.20	_P205	50	5			
23					P205	51_	5	C2	45	17,20			
24					C2	9	17.20	P205	52	5			
25					P205	54	_5	_C1	32	17,20			
26				<u> </u>	C1	44	17,20	P205	57	5			
27				L	P205	58	5	C1	42	17,20			
28					C1	40	17, 20	P205	62	5			
29					P205	63	5	C1	38	17,20			
30					C1	37	17,20	P205	66	5			
31					P205	67	5	C1	13	17,20			
32					C1	14	17.20	P205	72	5			
33					P205	73	5	C1	12	17,20			
34		П			C1	9	17,20	P205	76	5			
35					P205	77	5	C1	10	17,20			
36		\sqcap			D2	44	17,20	P205	78	5	ī		
37	•	1	1		P205	75	5	D2	42	17,20	o _i		
38	8	24	14		D 2	40	17,20	P205	74	5		,	

MINNEAPO			TITLE		w	IRE LI	STING ASSY			WL	DOCUMENT NO. 40099000	REV
CONDUCTOR IDENT.	FIND NO.	GAUGE (REF.)	COLOR (REF.)	LENGTH (APPROX)	ORIGI	ν .	ACCESS.	DESTINA	TION	ACCESS. FIND NO.	REMARKS	
39	8	24	4		P205	71	5	D2	38	17,20		
40	1		1		D2	.37	17.20	P205	70	5		
41					P205	65	.5	D2	13	17.20	•	
42					D 2	14	17,20	P205	64	5		
43					P205	60	5	D2	12	17,20		
44					D2	9	17,20	P205	59	5		
45					P205	56	5	D2	10	17,20		
46					D2	32	17.20	P205	55	5		
47	7	1			P205	53	5	02	44	17,20		
48	8	24			C2	12	17,20	D2	41	17,20		
49	9	20			P205	18	6	S303	NO	18		
50	A	1			S303	С	18	S302	NC	18		
51					\$302	С	18	P205	25	6		
52					P205	32	6	TB300	3	18		
53	П				TB300	4	18	P205	35	6		
54					P205	36	6	TB300	5	18		
55					C2	46	21.22	D2	46	21.22		
56	•	1	•		D2	48	21,22	i .	48	21,22		
57	9	20	4		C2	6	21,22	D2	6	21,22		
ORM AA 16	69	•	•	*								
ត្តារក <u>ា</u>	स्ता.	DATA	TITL	Ē		IRE LI				WL	DOCUMENT NO. 40099000	REV

MINNEAPO			TITLE			IRE LI					WL SHEET	DOCUMENT NO. 40099000	REV.
CONDUCTOR IDEN T.	FIND NO.	GAUGE (REF.)	COLOR (REF.)	LENGTH (APPROX)	ORIGH	N	ACCESS. FIND NO.	DESTIN	IATION	ACCES: FIND N		REMARKS	
58	10	16	4		С	GRD	13	D	GRD	13			
59	4	1	A		P205	1	7	· D1	48	24,2	5		
60					D1	46	24,25	P205	3	7		•	
61	1	1			P205	2	7	D1	6	24,2	5		
62	10	16	4		0	GRD	13	P205	20	7			
63	11	24								<u> </u>			
63A			0		P306	2	15	P205	4	5			
63B			4		P306	3	15	P205	8	_5_			
64	11	24											
64A			0		P205	5	5	J 310	8	16,29	•		
64B			4		P205	10	5	J310	5	16,29			
65	11	24											
65A			0		J310	7	16,29	P205	12	5			
658			4		J310	4	16, 29	P205	15	5			
6 6	11	24											
66A			٥		P205	7	5	J 3 10	6	16.29			
66B			4		P205	11	5	J310	1	16,29			
FORM AA 10											1		

41249000 B 9-57

annaces Ultili il		OJĘNIĘ:	TITLE	•	. w	IRE LI				_	ML 40099000 J
ONDUCTOR	and the sales	GAUGE (REF.)	COLOR (REF.)	LENGTH (APPROX)	ORIGII	N	ACCESS. FIND NO.	DESTINAT	rion '	ACCESS. FIND NO.	REMARKS
67	11	24									
67A			0		J310	_01	16,29	P205	14	5	
67B			4		J310	2	16.29	P205	17	5	
_68	_11_	24_				,					
68A			0	L	P205	13	5	J310		16,29	
68 B		<u> </u>	4		P205	16	5_	J310	3	16.29	· · · · · · · · · · · · · · · · · · ·
69	11	24				-					
69A		ļ	0		P205	48	5	C2		17,20	
69B		ļ	4	<u> </u>	P205	49	5	C2	16	17,20	
70	11	24		ļI							
70A	ļ	ļ	0	↓	C2	1_	<u>17,20</u>		45	_5	
70B		ļ	4	 	C2	10	17,20	P205	46	_5	
71	11_	24	<u> </u>	├					 -		
71A		 	0		P205	31	5	P305	3	19	· · · · · · · · · · · · · · · · · · ·
71B		ļ	4	 	P205	34	5	P305		19	
72	11_	24.	ļ								
72A		 	0		P305	5	19_	TB30 0	!-	18	
72B	ļ		4		P305	6_	_19	TB300	2_	18	

(CYO) NEW	Ya1!	(AlithYe)	TITLE									DOCUMENT NO.	REY.
16) U) 6 11 1	ekeir	14724421			· w	IRE L	ISTING				WL	40099000	ر
MINNEAPO	LIS. M	NNESOTA				DECK A	NSSY				SHEET	7 OF	
CONDUCTOR	FIND NO,	GAUGE (REF.)	COLOR (REF.)	LENGTH (APPROX)	ORIGI	N	ACCESS. FIND NO.	DESTINA	TION	ACCES:		RE MARKS	,
73	11	24				T -						•	
73A			0		TB300	1	18	P304	5	19			
73B			4		TB300	2	18	P304	6	19		•	
74	11	24											
748			0_		P303	2	19	TB300	1	18			
74B			4		P3U3	1	19	TB300	2	18			
75	12	20											
75A			SHIELD		<u> </u>			P205	29	6			
75B			0		TB300	1	18	P205	30	6			
75C			2		TB300	2	18	P205	33	6			
76	31	24											
76A			SHIELD		P205 '	79	6 (1)	<u> </u>			.		
76B			9		P205	80	5.8	_D1	36	17,20	1		
77 .	31	24								,,,-,			
77A			SHIELD		A			P205	79	3(1)			
778			9		D1	37	17,20	P205	82	5,8			
78	31	24				-				10 2			:
78A			SHIELD		4	4		<u>C1</u>		39,40 17,20	1	<u> </u>	
78B		<u> </u>	9		D1	12	17,20	C1	21	17,8 ₂₀			

erialiyed mareaeo		؛ ند			W	DECK /	STING ASSY			L	WL SHEET	40099000 8 OF	<u>'</u> y_
ONDUCTOR	FIND NO.	GAUGE (REF.)	COLOR (REF.)	LENGTH (APPROX)	ORIGI	N	ACCESS. FIND NO.	DESTINATIO	٧	ACCESS. FIND NO.		REMARKS	
79	31	24					20.40				 -	 	
79A			SHIELD		C1	26	39,40 171,20 8	<u> </u>					
79B			9		C1	24	17,20	D1	13	17,20			
80	31	24	<u></u>				39,40			39,40 17,20			
80A			SHIELD		_D2	20	39,40 17,20	<u>C1</u>	20	17,20			
80B			9	<u> </u>	D2	18	17 <mark>8</mark> 20	C1	18	17 <mark>8</mark> 20			
81	31	24				_	39.40			39,40 17,20	,		
81A			SHIELD		_C1	17	39,40 17,20	D2	_17_	17,20 17,820			
81B		ļ <u>-</u> -	9		<u>C1</u>	16	17,820	D2	16	17,20	-		
82	31	24			<u> </u>		79.40			39,40 17,20	,		
8 2 A		ļ	SHIEL		_D2	34_	79,40 17,20	<u>C1</u>	34	17,20 17,20			
82 B	 -	ļ <u>. </u>	9		D2	36_	17,820	<u>C1</u>	36				
83	_8_	24_	4		P205	40	5_	C2	5_	17,20			
84	8_	24	4		P205	41_	_5	C2	_17_	17.20	4	<u></u>	
85	9	50	4	ļ	P205	42	5	TB305	3	38	-	<u> </u>	
86	9	50	4	ļ	P205	43	5_	TB305	2	38	 		
87		ļ		ļ]		1						
88				ļ			.]]			 			<u>:</u> _
89		1	l				1 1			<u> </u>			

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ONDUCTOR	FIND NO.	GAUGE (REF.)	COLOR (REF.)	LENGTH (APPROX)	ORIGIN		ACCESS	DESTINATIO)N	ACCESS FIND NO.	REMARKS
90											
91											
92											
93									<u> </u>		
94									 `		
95						├			 		
96			<u> </u>			 			 		
97		 	ļ- <u>-</u> -						 		
100	26	24	4	3	C2		27,28	R300	2	29	•
101 102	43 26	20	4	3	C2 C2		41,42 27,28	TB301 R303	2	25 29	
103	38	24	94	<u> </u>	C1	41	-	C2	14	-	
104	43	20	4	5	C2		41, 42		2	25	
105	26	24	4	2	C2		27,28	R302	2.	29	
106	26	24	4	2	C2	36	27, 28	TB301	1	25	
107	26	24	4	5	C1		27,28	R302	1	29,39	
108	26	24	4	5	, C1	18	27,28	R303	1	29,39	
109	26	24	4	5	C1	36	27,28	R300	1	29,39	
110	26	24	4	2	TB301	1	25	TB301	3	25	
		L				<u> </u>		·			

CONTROLE	MA	WIRE DECK	LISTIN ASSY	ıG		CODE IDE		4EET 10		WL	DOCUMENT NO. 40099000	rev G
CONDUCTOR IDENT.	FIND NO.	GAUGE (REF.)	COLOR (REF.)	LENGTH (APPROX)	ORIGI	2	ACCESS FIND NO.	DESTIN	MATION	ACCESS FIND NO	REMARKS	
111	31	18	2		C2	48	-	C1	48	-		
112	32	18	6		C2	6	Ð	C1	6	-		
113	31	18	2		G 2	46	4	C1	46	-		
114	33	16	0	8	C2	50	34,35	GRD		36		
115	33	16	0	8	C1	50	34,35	GKD		36		
116	33	16	0	2	C2	2	34,35	GRD		36		
117	33	16	c .	2	C1	2	34,35	GRD		36		
118												
119												
120	23	24	93		D2	24		D1	8	_		
121	23	24	93		D2	21	-	D1	5	_		
122	24	24	94		D2	33		D1	1_	<u> </u>		
123	17	18	2		D2	48	<u> </u>	D1	48			
124	18	18	6		D2	6		D1	6			
125	17	18	2		02	46		D1.	46			
126	19	16	0	2	D 2	50	20,21	GRD		22		
127	19	16	0	2	D1	50	20, 21	GKD		22		
128	19	16	C	В	D2	2	20,21	GKD		22		
129	19	16	0	В	D1	2	20.21	GKD.		22		
130												

	a=2.3				т	WIRE		DECK ASSY			DOCUMENT NO.	REV.
Ornigor o	ALF:31	NORMA	NDALE C	PERATION		19333	SH	EET 11		WL	40099000	G
ONDUCTOR IDENT	FIND NO	GAUGE (REF.)		LENGTH (APPROX)	ORIG		ACCESS FIND NO.	DESTINATIO	ON	ACCESS FIND NO.	REMARKS	
131												
132												
133												
134	4	20	4	15 "	TB305	- 3	7	S305	С	5,6		
135	4	20	4	15"	TB305	1	7	S305	NO	5,6		
136	4	24	4	4"	TB306	1	7	\$301	NO	5,6		
137	4	24	4	4"	TB306	3	7	\$301	С	5,6		
138	4	24	4	ħω	TB306	4	7	\$301	NC	5,6		
139												
140	4	24	4	1"	TB302	3	4	5300B	NO	5,6		
141	4	24	4	1"	TB302	4	4	S300B	С	5,6		
142	4	24	4	1"	TB303	1	4	\$300A	NC	5,6		
143	4	24	4	1"	твзоз	2	4	\$300A	С	5,6		
144			<u> </u>									
145												
146												
147	2											
147A			5		J306	1	4	ТВ304	1	6		
147B			2		J 306	2.	4	L300		13,6		
147C			6		J 306	3	$\langle 3 \rangle$ 4	L300		13,6		

9-60) 41249000 B

WIRE LISTING DECK ASSY

uNTRO: (i	AŢA	NORMAN	DALE OP	ERATIONS		19333	SF	IEET ^{12 OF} 12		WL	DOCUMENT NO. 40099000	g.
CONDUCTOR IDENT.	FIND NO	GAUGE (REF.)		LENGTH (APPROX)	ORIGI	N	ACCESS	DESTINATIO)N	ACCESS FIND NO	REMARKS	
147D			9		J306	3	3	GRD		7		
148												
149												
150												
151									1			
152									1	†	t	
153	42	24	4	2 *	TB304	3	51	5304	NO	39,40		
154	42	24	4	2**	S304	С	39,40	T8304	4	51		
155	42	24	4	8*	TB304	4	51	GRD		41		· · · · · · · · · · · · · · · · · · ·
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<u></u>	<u> </u>		<u> </u>	<u> </u>	<u> </u>			L	 			
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CODE IDENT

SHEET 1 OF 1

DN DOCUMENT NO. REV. 40099000 G

- FOR FIND NO. REFERENCED IN CONDUCTORS 1 THRU 86 SEE PL 40098900, DECK CABLE ASSY.
- FOR FIND NO. REFERENCED IN CONDUCTORS 100 THRU 117 SEE FL 40099800, RIGHT FRE-AMP CHASSIS ASSY.
- FUR FIND NO. REFERENCED IN CONDUCTORS 120 THRU 129 Sec PL 400999CQ LEFT PRE-AMP CHASSIS ASSY.
- A INDICATES END OF SHIELD IS FLOATING.
- 5. A HEXAGON IN THE ACCESS FIND NO. COLLAN INDICATES THAT THE CUNDUCTUR IS ONE OF SLVERAL (ALL WITH THE SAME NUMBER IN THE HEXAGON) GOING INTO THE SAME TERMINAL. THE NUMBER IN FRONT OF A HEXAGON IS THE TERMINAL FIND NO.
- FOR FIND NO. REFERENCED IN CONDUCTORS 134 THRU 135 SEE PL 70804600, SMITCH SUPPRESSION ASSY; FOR FIND NO. 136 THRU 138 SEE PL 70804601, SWITCH SUPPRESSION ASSY.
- FOR FIND NO. REFERENCED IN CONDUCTORS 140 THRU 141 SEE PL 70959501, COMPONENT ASSY; FOR FIND NO. 142 THRU 143 SEE PL 70959502, COMPONENT ASSY.
- 8. FOR FIND NO. REFERENCED IN CONDUCTORS 147,A,B,C,D SEE PL 41279400 MAGNET ASSY.
- 9. FOR FIND NO. REFERENCED IN CONDUCTORS 153 THRU 155 SEE PL 40014100 HEAD CARRIAGE ASSY.

AA3183

AA 3163

CONT	RO	n i	DATA	TITL	Ε	WIRE LIST	- 17	C FINAL	ASSEMBL'	······································			1	UMENT		REV.
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Α.	6 S FOR	EE FI	PL 40	01690 . ⊀EF	CABLE ERENCED	IN CONDUCTO						1_	<u> </u>			
<u>∧</u> <u>&</u> <u>\$</u>	6 S FOR 12	EE FI SEE	PL 40 ND NO PL 4	01690 REF 00174	D,CABLE ERENCED DO,CABLE	ASSY W9.)RS 10) THRU	W Io M	DATE	ruma Ir	1	9 ^{AT} .	CMC 8		, ante
A A A	6 S FOR 12 IND	EE FI SEE	PL 40 ND NO PL 4	01690 REF 00174	D,CABLE ERENCED DO,CABLE	ASSY W9. IN CONDUCTO ASSY W16.)RS 10) THRU	D. M.	DATE 10-29-68	снко. С	. м.	11/15/68	ENGR	168	₩-15-4
A SOPIES	6 S FOR 12 IND	SEE SEE	PL 40 IND NO I PL 4 ITES E	01690 REF 00174 ND OF	O,CABLE ERENCED DO,CABLE SHIELD	ASSY W9. IN CONDUCTO ASSY W16.)RS 10) THRU	ν (D. M.	PATE 10-29.65	CHKD. C	:. м.				
A MAIN	6 S FOR 12 IND	SEE SEE	PL 40 IND NO I PL 4 ITES E	01690 REF 00174	O,CABLE ERENCED DO,CABLE SHIELD	ASSY W9. IN CONDUCTO ASSY W16. IS FLUATING	ORS 10) THRU	D. М.	0ATE /0-29.65			DC	CUMEN	IT NO.	RE
A SOPIES	6 S FOR 12 IND	SEE SEE	PL 40 IND NO I PL 4 ITES E	01690 REF 00174 ND OF	O,CABLE ERENCED DO,CABLE SHIELD	ASSY W9. IN CONDUCTO ASSY W16. IS FLUATING	RE LI	STING		pare /0-29-68		WL	DC	CUMEN 400644	IT NO.	W-554
A SOPIES TO	6 S FOR 12 IND	SEE	PL 40 IND NO I PL 4 ITES E	01690 . REF 00174 ND OF	O,CABLE ERENCED DO,CABLE SHIELD	ASSY W9. IN CONDUCTO ASSY W16. IS FLUATING	RE LI) THRU		041E / 0-25-68 /		WL	DC	CUMEN 400644	IT NO.	. RE
20 AA H	6 S FOR 12 IND	SEE FI SEE	PL 40 IND NO I PL 4 ITES E	01690 . REF 00174 ND OF	C,CABLE ERENCED OO, CABLE SHIELD	ASSY W9. IN CONDUCTO ASSY W16. IS FLUATING	RE LI	STING		10-29.68		WL	2 OF	CUMEN 400644	IT NO.	RE
DOPIES TO TO TO TO TO TO TO TO TO TO TO TO TO T	FOR 12 IND	SEE FI SEE	PL 40	01690 . REF 00174 ND OF	C,CABLE ERENCED OO, CABLE SHIELD	ASSY W9. IN CONDUCTO ASSY W16. IS FLUATING V/I 1X F	RE LI	STING ASSEMBL	Υ	10-29.68	ACCESS	WL	DC	OCUMEN 400644	IT NO.	RE
COPIES TO STORY OF THE SAN HELDER F.	FOR 12 IND	SEE FI SEE	PL 40 IND NO I PL 4 ITES E	O1690 REF OO174 ND OF	C,CABLE ERENCED OO, CABLE SHIELD	ASSY W9. IN CONDUCTO ASSY W16. IS FLUATING V/I 1X F	RE LI	STING ASSEMBL ACCESS. FIND NO.	Y DESTIN.	10-29-65	ACCESS FIND NO	WL SHEET	2 OF	OCUMEN 400644	IT NO.	Ri
CONDUCTO IDENT. 1	6 S FOR 12 IND	SEE FI SEE	PL 40 IND NO IPL 4 ITES E INNESOT GAUGE (REF.)	O1690 REF OO174 ND OF TITI	C,CABLE ERENCED OO, CABLE SHIELD	ASSY W9. IN CONDUCTO ASSY W16. IS FLUATING VII 1X F ORIGIN FL01	RE LI	STING ASSEMBL ACCESS. FIND NO.	Y DESTIN	10-29.65 TON	ACCESS FIND NO	WL SHEET	DC 2 OF	OCUMEN 400644	IT NO.	Ri
DOPPLES TO TO TO TO TO TO TO TO TO TO TO TO TO T	6 S FOR 12 IND	SEE FI SEE	PL 40 ND NO PL 4 TES E NNESOT GAUGE (REF.) 12	01690 . REF 00174 ND OF	C,CABLE ERENCED OO, CABLE SHIELD	ASSY W9. IN CONDUCTO ASSY W16. IS FLUATING VVI 1X F ORIGIN FL01 FL02	RE LI	STING ASSEMBL ACCESS. FIND NO. 2	Y DESTINATION CB02 CB02	ATION AT	ACCESS FIND NO 2	W L	DC 2 OF 8 A Ø B	PEMAS	IT NO.	Ri
DOPPLES TO AM AM AM AM AM AM AM AM AM AM AM AM AM	FOR 12 IND	SEE FI SEE	PL 40 ND NO PL 4 NTES E NNESOT GAUGE (REF.) 12 12	01690 REF 00174 ND OF	C,CABLE ERENCED OO, CABLE SHIELD	ASSY W9. IN CONDUCTO ASSY W16. IS FLUATING VVI 1X F ORIGIN FL01 FL02 FL03	RE LI	STING ASSEMBL ACCESS. FIND NO. 2 2 2 2	Y DESTINATION CB02 CB02 CB02	ATION AT BT CT	ACCESS FIND NO 2 2	W L	DC 2 OF 8 A Ø B Ø C	PEMAS	IT NO.	Ri
DOPIES TOTAL TENNESSA AA AA AA AA AA AA AA AA AA AA AA AA	FOR THE PROPERTY OF THE PROPER	SEE FI SEE	PL 40 IND NO PL 4 ITES E GAUGE (REF.) 12 12 12	01690 REF 00174 ND 0F	C,CABLE ERENCED OO, CABLE SHIELD	ASSY W9. IN CONDUCTO ASSY W16. IS FLUATING VVI 1X F ORIGIN FL01 FL02 FL03 FL04	RE LI	STING ASSEMBL ACCESS. FIND NO. 2 2 2 2	CB02 CB02 CB02 TB01	ATION AT BT CT	ACCESS FIND NO 2 2 2 3	W L	DC 2 OF 8 A 8 B C NEUTR	OCUMEN 400644 REMAR	IT NO.	Ri
DOPIES TO TO TO TO TO TO TO TO TO TO TO TO TO	FOR FILL 1	SEE FI SEE	PL 4C ND NO NO PL 4 VTES E GAUGE (REF.) 12 12 12 12	01690 REF 00174 ND OF	C,CABLE ERENCED OO, CABLE SHIELD	ASSY W9. IN CONDUCTC ASSY W16. ASSY W16. IS FLUATING VVI 1X F ORIGIN FL01 FL02 FL03 FL04 FILTER BOX	RE LI	STING ASSEMBL ACCESS. FIND NO. 2 2 2 2 2	CB02 CB02 CB02 TB01 TB01	ATION AT BT CT 1	ACCESS FIND NO 2 2 2 3 3	W L	DC 2 OF 8 A 8 B C NEUTR	OCUMEN 400644 REMAR	IT NO.	Ri
DOPIES TO TO TO TO TO TO TO TO TO TO TO TO TO	FOR FILL 1	SEE FI SEE	PL 4C ND NO NO PL 4 VTES E GAUGE (REF.) 12 12 12 12	01690 REF 00174 ND OF	C,CABLE ERENCED OO, CABLE SHIELD	ASSY W9. IN CONDUCTC ASSY W16. ASSY W16. IS FLUATING VVI 1X F ORIGIN FL01 FL02 FL03 FL04 FILTER BOX	RE LI	STING ASSEMBL ACCESS. FIND NO. 2 2 2 2 2	CB02 CB02 CB02 TB01 TB01	ATION AT BT CT 1	ACCESS FIND NO 2 2 2 3 3	W L	DC 2 OF 8 A 8 B C NEUTR	OCUMEN 400644 REMAR	IT NO.	Ri
PRO TO TO TO TO TO TO TO TO TO TO TO TO TO	FOR FILL 1	SEE FI SEE	PL 4C ND NO NO PL 4 VTES E GAUGE (REF.) 12 12 12 12	01690 REF 00174 ND OF	C,CABLE ERENCED OO, CABLE SHIELD	ASSY W9. IN CONDUCTC ASSY W16. ASSY W16. IS FLUATING VVI 1X F ORIGIN FL01 FL02 FL03 FL04 FILTER BOX	RE LI	STING ASSEMBL ACCESS. FIND NO. 2 2 2 2 2	CB02 CB02 CB02 TB01 TB01	ATION AT BT CT 1	ACCESS FIND NO 2 2 2 3 3	W L	DC 2 OF 8 A 8 B C NEUTR	OCUMEN 400644 REMAR	IT NO.	Ri

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B200

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10A

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11A

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12A FORM AA 160

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							STING		•	i.	1		В
INNEAPO	LIS, MI	NNESOTA	 		1X	FINAL	للسر	SHEET	3 of 3				
CONDUCTOR IDENT.	FIND NO.	GAUGE (REF.)	COLOR (REF.)	LENGTH (APPROX)	ORIGI	N	ACCESS. FIND NO.	DESTINA	TION	ACCESS. FIND NO.	<u></u>	REMARKS	
128			0		P05	7	5	B202	1	6,7	2		
12C			2		P05	8	5	B202	2	6,7	A		
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MINNEAPOLIE MIN	WEBOTA	. , .			LE DISK DR	.ve				SHEET 1	OF 3		
REVISION S	TATUS OF	946	T'S					REVISIO	45				
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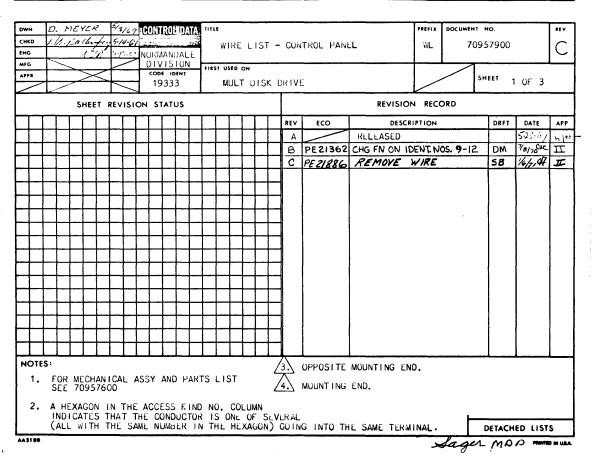
CONTROL E	ATA					CODE IDE		HEET 2		WL	DOCUMENT NO. 40064500	REV.
CONDUCTOR IDENT	FIND NO	GAUGE (REF.)	I	LENGTH (APPROX)	ORIGIN		ACCESS FIND NO.	DESTINAT	IION	ACCESS FIND NO	REMARKS	
1	1	12	4		FL01	L	2	CB02	AT	2	∕1 ø A	
2	1	12	4		FL02	L	2	CB02	BT	2	p B	
3	1	12	4		FL03	٦	2	CB02	СТ	2	øс	
4	1	12	4		FL04	L	2	тво1	1	3	NEUTRAL	
5	1	12	4		FI LTER BO	X FRAME	2	TBO 1	4	3	ACGRD	
6	4	20	4		FILTERBO	x FRAME	5	SH IELD	-	6	1	
7												
8												
9												
10	3	20										
104			SHIELD		P05	3	5,2	<i>§</i> \			₽	
10B			0		P05	1	5	B 200	1	6,7	4	
100			2		P0.5	2	5	B200	2	6,7		
T I	3	20										
IIA			SHIELD		P05	6	5,2	⅓				
118			٥		P05	4	5	8201	1	6,7		
11C			2		P05	5	5	8201	2	6,7		
12	3	20									•	
12A		ł	SHIELD	l	P05	9	5,2	∕ 3\			/ 2\	

CONTROL D	ATA :	Žx FI	NAL AS	SEMBL Y		CODE IDE	SI	HEET 3 OF	3	WL	DOCUMENT NO. 40064500	REV B
CONDUCTOR IDENT	FIND NO	GAUGE (REF)		LENGTH (APPROX)	ORIG	ız.	ACCESS FIND NO	DESTINA	ATION	ACCESS FIND NO.	REMARKS	
128			0		P05	7	5	B202	1	6,7	<u>A</u>	
1 2 C			2		P05	8	5	B202	2	6,7	◬	
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MIN	INEA	POL	JS, P		VES	OT	4	FIV			Ĕ\$(DB									SHE	ET 1	OF	3		
		REV		_	-		_	HEI	ETS			w						R	EVISION	8						
		T	Т			П				Π		REV		ECO				RIPTION				DRFT.	DATE		CHKD.	APPD.
				T						Γ		Α			REL								-22			1111
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GONT!	6 F 2		0		TLE		WII	RE LI	STING				WL SHEET	DOCUMENT NO. 40065200 2 OF 3	B
CONDUCTOR	FIND NO.	GAU(COL (RE		LENGTH (APPROX)	ORIGIN		ACCESS. FIND NO.	DESTINATE	ON	ACCE:		REMARKS	
1	21	2	4	4		11	J 600	Α	24	XDS 504	4	14			
2	1					9	J600	В		S50 3	NO	1			
3						7	J600	С	1	XDS 503	1				
4						6	J600	D	24	XDS 503	3	1			
5						7	XDS501	2	14	S503	С	14			
6						10	XDS504	1	14	XDS502	2	14,2	26		
7						8	J600	Ρ	24	XDS500	1	14			
8						7	J 600	U	A	XDS502	3	14,	26		
9						7	J600	٧		XDS 502	7	A			
10						7	J600	w		XDS502	8				
11						7	J600	Х		XDS502	9				
12						7	J600	¥	1	XDS502	10	14,2	26		
13						10	J600	2	24	XDS501	4	14			
14	1					6	XDS503	2	14	XDS504	2	14			
15	21	2	4			7	J600	Ь	24	XDS502	1	14,2	26		
16	22	2	0			10	J600	E	23	XDS501	1	14			
17	A					7	J600	F	4	XDS 500	3	14			
18	1					11	J600	Н	7	S501B	С	14			
19	22	2	.0	4	ļ	11	J600	J.	23	S501C	С	14			

CONTROL	ATA	NORMAI	NDALE OF	PERATIONS	3	CODE	DENT	Sł	HEET 3 OF 3		WL	DOCUMENT NO. 40065200	REV.
CONDUCTOR IDENT.	FIND NO.	GAUGE (REF.)		LENGTH (APPROX)	ORIG	in		CESS D NO	DESTINATIO	N	ACCESS FIND NO	i e	
20	22	20	4	11	J600	K		23	S501C	NC	14		
21	4	١ ،	4	11	J600	L		4	S501C	NO	1		
22				11	J600	м			S501B	NO			
23				11	J600	N			S501B	NC			
24				11	J600	R			S501A	NC			-147-1-2-2-2-2-2-2-2-2-2-2-2-2-2-2-2-2-2-2-
25		1		11	J600	3			S501A	NO	1		
26	22	20	4	11	J600	т		23	S501A	С	14		
27	24	24	4	11	J600			24	XDS504	3	14		
				<u> </u>			_						
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			RMANDA	LE	i i	ODE IDE	i i	SHI	EET 2		WL	70957900	REV.
CONDUCTOR IDENT.	FIND NO.	GAUGE (REF.)		LENGTH (APPROX)	ORIGIN		ACCES FIND N		DESTINATIO	z	ACCESS FIND NO	REMARKS	
1	35	24	4	11_	J600	Α_	28		XDS504	4	13		
2	4	1	A	10	J600	В	28		S503	NO	13		
3				10	J600	С	28		XDS 503	1	13		
4				9	J600	D	28		XDS 503	3	13		
5				7	XDS501	2	13		S503	С	13		
6	7	1		12	XDS 503	2	13		XDS502	2	13,30	<u> </u>	
7	35	24		12	J600	Р	28	٦	XDS500	1	13		
8	36	20		7	XDS 501-	3 C	13	\Box	C505	OME	13	/3	
9	35	24		12	J600	٧	28		S510	N.0	48,30		
10	4	1		12	J600	w	28		S511	N.0	48,30		
11			1.	7	J600	x_	28		S512	N.0	48,30		
12	П			7	J600	Υ	28		\$513	N,0	48,30		
13				12	J600	Z	28		XDS501	4	13		
14	1	4		6	XDS500	4	13		XDS 504	2	13	`	
15	35	24		7	J600	Б	28		X DS502	1_1_	13,29	1	
16	36	20		14	J600	Ε	27		XDS 501	1	13		
17	1	1		11	J600	F	27		XDS500	3	13		
18			1	15	J600	Н	27		S501B	С	13		
19	V	20	4	15	J600	J	27		S501C	С	13		
20	36	20	4	15	J600	K	27		S501C	NC	13		

CONTROLLO	ĀŢĀ Ĵ	N	ORMAND	ALE		19333		IEET 3		WL	70957		REV.
CONDUCTOR IDENT.	FIND NO.	GAUGE (REF.)	COLOR (REF.)	LENGTH (APPROX)	ORIGI	in .	ACCESS FIND NO.	DESTINATIO	ON .	ACCESS FIND NO.		REMARKS	
21	36	20	4	15	J600	L	. 27	S501C	NO	13			
22	1	A	A	15	J600	М	27	S501B	NO	13			
23				15	J600	N	27	S501B	NC	13			
24				20	J600	R	27	TB501	8	13			
25	•	7		20	J600	S	27	TB501	4	13			
26	36	20		21	J600	Т	27	C505	ME	13	4		
27	35	24		12	J 600	ā	28	XDS504	3	13			
28	A	A		.3	S514	NO	31,,30	TB500	; 4	13			
29				3	S510	С	1	S511	С	$\langle 2 \rangle_{30}$	31	-	
30				3	S511	С	(2)	S512	С	$(3)_{30}$	31		
31				2	S512	C	(3)	S513	С	30,31			
32				3	S510	С	1)30,31	TB500	4	13			
3 3	1	7		10	J600	U	28	S514	С	4 30,	31		
34	35	24		2	S514	С	4	TB500	2	13			
35	36	20		2	S501A	NO	13	TB501	3	13			
36	35	24	Y	3	XDS501	1	13	TB501	1	13			
37	36	20	4	4	S501A	NC	13	TB501	7	13			

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- .							RODU	CT								L_			
MINN	-	-	_		_			MULT	DISK	DRIVE					SHE	ET	1 OF 2		
		_			us o	F SHE	ETS		U				R	EVISIONS					
Т	Т	Т	\Box	\neg	Т	Т			REV.	ECO		DESC	RIPTION			DRFT.		CHKD.	APPD.
+	T	T	$\dagger \dagger$			1	\top		A		RELEASED)					1.16.69		MH
+	\top	+	\Box		_				В.	PM 5548	NOTE I.		CHG	ONLY		Gν	6-25-69	30℃	6-26
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NOT	ES:																		
	1.	FO	R M	ECH	AS	SY .	AND	PL S	SEE 70	806500.									
		_									———			DATE			ATE .	-	DATE
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CONTRO) I fi	ATA.	IRE LI	ST <u>-</u> F II	TER BO	x as sy	CODE IDE		HEET 2 OF	2	WL	DOCUMENT NO. 40065300	REV. B
ONDUCTOR IDENT.	FIND NO.	GAUGE (REF.)		LENGTH (APPROX)	ORIG	ы	ACCESS FIND NO.	DESTINA	ATION	ACCESS FIND NO.	REMARKS	
1	23	12	0	6	CB01	АВ	19	FL01	R	19		
2	24	12	2	6	CBO1	88	19	FL02	R	19		
3	25	12	3	6	CB01	СВ	19	FL03	R	19		
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M.	11:001	OATA)	TITLE		LIST	- POWER S	SUPPLY AS	SSY			WL		DOCUMENT 40019800	NO.	REV
	DOUG A	INNESOTA			IPLE	DISK DRIV					SHE	ET 1	OF 25		
INNEA	-	STATUS OF	THE OWNER OF THE OWNER OWNER OF THE OWNER OW		(VII)	*********			R	EVISIONS		-			
1	1	7 7 7	1	!	REV	ECO		DESCA	RIPTION			DRFT.	DATE	CHKD.	APPD
+		+++-	+		A		RELEAS						1.17.60	1	11 N
+ +		-	· · · · · ·	• • • •		PM4734	SEE CO					TEM	3-10-69	2CH	9.13.
		1 1	•		T c	PM 5243	SEE C	0				GV	6-8-69	97	6-12-0
+++	- † - ; -	111	+ +	-	D	PM5578	SEE	CO				G۷	7-15-69	3CH	7-2
		11		· · ·	E	PEHO66	SEE	CO				GV	7-18-69	204	7-2
17		+++		1 !	F	PE11088	SEE	CO.				GV	8-14-69	204	8-1
++		+++			G	PM55780	SEE CO	>	S/N	311		GV	8-14-69	2004	8-1
1.7	11	+ + +	++		Н	PE 11148	INACTI	VE, SE	RVIC	E USE	ONLY				
+-+	-11				1	3/N575							9.18.69	177	9-24-
	1 !	+++			IJ	11148 A	REACTI					11.1	1/13/20	97	I
11		+++			K	PE 11049	INACTIVE	E, SERV	ICE I	USE ONL	.Y.		2/2/70	97	I
++		+++			1	1				07/6700					
+ +	-+-	+++	++-	11	1	 									
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m	Tan.	17.472	TITLE	•		•						,,	DOCUMEN	T NO.	83
			1			WIR	E LISTING	G			W	L	40019800	0	1 V
			ll.		_	UNER SHENI									

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**************************************	17.00.				, v	/IRE LI	STING				WL	40019800	K
MINNTAPO	LIS, M	INNESOTA			POWER SI		SSY			-	SHEET	2 OF	
CONDUCTOR	FIND NO.	GAUGE (REF.)	COLOR (REF.)	LENGTH (APPROX)	ORIGI		ACCESS.	DESTINA	ATION	ACCESS.		REMARKS	
1	3	16	4		C14	L.	4	T01	3	7(1)			
2	1	A	4		T01	3	1	CR04	4	4,15			
3					CRO4	3	4,15	C05	N	9(2)		•	
4					C05	N	(2)	C09	N	11(3	K		
5					C09	N	3	TB02	4	§ 4			
6					TB02	2	4	C06	N	114)		
7					C06	N	4	R02	R	4,15			
8					RU2	L	4,15	C06	Р	9(5)			
9					C06	₽	(5)	C R05	1	4,15			
10					CR05	4	4,15	T01	9	1			
11					T01	10	1	CR05	2	4,15			
12					CR05	3	_	C 06	N	4			
13					C08	N	6	R04	L	10			
14					R04	R	_10_	C04	_ P	6			,
15					T08	1	4,15	T05	3	4			
16					T05	1 '	4	T01	8	7 6	}		
17	4				T01	8	6	T03	1	4		•	
18	•	7			T 03	3	4	T09	1	4			
. 19	3	16	4		T 09	2	4	T01	6	1			

i (e) Nei	स्था:	NAME	TITL	Ē	V	/IRE L	ISTING	,			WL	DOCUMENT NO. 40019800	8.E
MINNEAPO	DLIS, M	NNESOT	A			WER SU	PLLY AS				SHEET	3 OF	
CNDUCTOR	FIND NO.	GAUGE (REF.)	COLOR (REF.)	LENGTH (APPROX)	ORIG	N	ACCESS.	DESTINA		ACCESS		REMARKS	
20 .	3	16	4		T01	4 ·	1	T09	3	4			
21	4	A		1	T09	4	4	CR04	2	4,15			
22 -				9073	CRO4	1	4,15	C05	Р	9(7	>	. •	
23				İ	C05	Р	7	C09	P	9(8)		
24					C 09	Р	(8)	R03	T	5, 12	·		
25		.			R03	В	5, 15	C 09	N	(3)			
26					C02	N	6	R01	В	5,12	1		
27					R01	T	5.12	C02	P	6			
28				1	T05	4	4	T01	5	7(9))		
29				Į.	T01	5	9	T03	4	4			
30				1	T 02	1	4	T01	8	7 (10)			
31					T01	8	(10)	T04	1	4			
32				Á	T04	3	4	T07	1	4			
33					T07	2	4	T01	7	7(1)			-
34					T 01	7	1	T08	2	4,15		/	
35				115	T 08	3	4	TB08	3	4			
36				1.5	TB07	2	4	T07	3	4,15			
37	1	1	7		T 07	4	4	C07	N	6			
38	3	16	1	1	T07	5	4	T808	2	4			

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IINNEAPO	DLIS, M	NNESOTA			PUNER SU			.4		SH	EET 4 OF .	
ONDUCTOR	FIND NO.	GAUGE (REF.)	COLOR (REF.)	LENGTH (APPROX)			ACCESS.			ACCESS. FIND NO.	REMARKS	
39	3	16	4		TB07	3	4	T 08	6	4		
40	1	A			C14	R	4	T01	8	1		
41					T01	5	7 (12)	T02	4	4	-	
42	3	16			T04	4	4	T01	5	(12)	·	
43	2	14			TB07	1	8	T01	13	7		
44	A	1			T01	12	7	C07	Р	9	·	
45					C07	Р	9	C03	N	9		
46					C03	Р	9	T08	5	8		
47					TB08	1	18	T01	11	i .		
48					T 01	15	7	C01	N	9		
49					C01	N	9 .	C02	N .	9	· .	
50				1	C 02	Р	9	L01	2	8	The state of the s	
51					L01	1	. 8 .	C01	P	9		
52					C04	N	9	COS	Ρ;			
53					C08	Р	9	C07	Р	9		
54	V	9	V		C08	Р	9	_TRG2		8		
55	2	14	4		TB02		8	C02	- N			
56		1				T .	/ ;			-		
57				İ		T .			i -			

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Livo Larg	1115. M	NECESTA		- Communication of the Communi	POWER	SUPPLY ASS	Υ		<u></u> S	SHEET 5 OF
oardor Ident.	FIND NO.	GAUGE (REF.)	COLOR (REF.)	LEMSTH :	ORIG:N	ACCESS. FIND NO.	DESTINATIO		ACCESS. FIND NO.	REMARKS
58								<u> </u>		
59				1	<u> </u>			<u> </u>		
60	-							<u> </u>		
61	•			1						
62		!						<u> </u>		
63				1 1				<u> . ;</u>		
64				<u> </u>	i		:			
65				1 8						
6 6	1							1		
67		<u> </u>	ļ 		<u> </u>		1			
6 8	<u> </u>		1	<u> </u>			: '	<u>L.</u> (
69		<u> </u>			i i	N.	1	1		
70	! -		ļ			1				
71		<u> </u>								
72							<u> </u>	1		
73		<u> </u>		1				ļļ		
74	Ĺ			5			<u> </u>	1		
75			ļ							
76				1	i		•	1 4		

MINNEAPO				TIT			IRE LI		``			WL SHEET	DOCUMENT NO. 40019800	K
ONDUCTOR DENT.	FIND NO.	GAU (RE		COLOR (REF.		ORIGI	N	ACCESS.	DESTINA		ACCES:		REMARKS	
77	4	1	6	4		CB03	AT	8	CB02	AT	9 (1	K		
78	1			1		CB02	AT	\bigcirc	CB103	AT	8	'		
7 9						CB03	AB	8	C21"	ME	5	· <u>/</u>	a	
80						TBII	1	5	J03	1	13			
81					,	J03	2	13	FL12	CAP-B	5			
82						C22	ME	5	CB03	BB	8	1	3	
83					;	CB103	ВТ	8'	CB02	BI	9 🖸	<u>} </u>		
84						CB02	ВТ	3	CB03	вт	8			
85						CB02	AB	8	J 02	1	_13_			
86						J 02	2	13	CB02	88	8	-		
87						CB03	СТ	8_	CB02	СТ	12 4	}		
88						CB02	CT	4	CB103	CT	88	ļ.,		
89					!	CB03	СВ	8	C23	ME	5	13	,	
90						FL13	CAP-B	5	J 03	3	13_			
91						J02	3	13	CB02	СВ	8_	<u> </u>		
92	Ÿ	1	1	Y		CB02	AI	2 (5)	XF03	I	10			
93	4	10	6	4		XF03	В	10	TBII	2	. 5			
94				1				j .						
95	4	1	6	4		C123	ME	5	CB103	СВ	8	13		•

SINF	3(3)	1/25/1	TITL	.Ε		***************************************					۸//	DOCUMENT NO.	35
			4		W	IRE LI	STING			1	WL	40019800	K
MINNEAP	OLIS, I	NINNESOT	_			ER SUP	PLY AS			-	SHEET 7	OF	<u> </u>
CONDUCTOR	FIND NO.	GAUGE (REF.)	COLOR (REF.)		ORIGI	v	ACCESS. FIND NO.	DESTINA		ACCESS.		REMARKS	
96	4	16	4		C B103	BB	8	C122	ME	: - 5_	13		
97	1	1	Å	į į	FL113	CAPT	. 5	J103	3	13			
98					J 103	2	13	FLII2	CAPT	5		•	
99					TBIII		5	J103	1	§ 13			
100				, i	CIZI	ME	5	C8103	AB	8	13		
101				Î	_XF.04	В	10	FL05		8			
102					FL06	L	. 8	XF05	В	10			
103	7	7			XF05	Т	10	CB02	СТ	4			
104	4	16			CB02	вт	9(9)	XF04		10			
105	3	20		ļ þ	TB03	11_	10	TB03	ا و ا	10	i !		
106	4	1		ĺ	TB03		10		7	10_			
107					TB03	1	10	CB02	AT	(5)			
108				ţ	C B02	ВТ	<u>(9)</u>	TB03		10	!		
109				#	TB03		_10	C802	CT	8 (10)			
110				i i	CB 02	CT	ത	DS04	В	10			
111					DS04	T	10	_TB01		11			
112				, L	TB01	1		P106	2	_14_			
113	V	Ÿ	V		P106			ТВІІІ	1.	5			
114	3	20	4	1	FL114	CAPT	5	J103	6	14			

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NEAR	OLIS, M	NNESOTA			PO	ER SL	JPPLY AS	3 Y	-		SHEET	8 ОГ	
NOUCTOR		CAUGE (REF.)		LENGTH (APPROX)	ORIGI	v	AGGESS FIND NO.3	DESTINA	TION	ACCESS FIND NO		REMARKS	
115	3	20	4		J103	7 ·	14	TB01	1 2	11	;		
116				1	T201	2	اللت	J03	7	14			
117					J03	6	14	FL14	CAPS	5			
118_				1 - 1	TBII	2	5	105	11	_1/4	1		
119		,			J 05	2	14	T801	1	11	<u> </u>		
120				1 3	TB01	1	11	_TB03		10	1		
121					J03	8	14	TB01	4	. 11	,		
122				,	T801	4	11	J103	8	14			
123				[J103	55	14	TB01	3	11	1		
124				<u> </u>	TB01	3	11	J05	3	14	į.		
125				ř	J05	4	14	_TB III	2	5			
126					TBIII	2	5 .	J05	7	14			
127					105	8		T801	2	. 11	1		
128				i i	TB01	2	11	_105	5	14			
129					J05	6	14	TB01	4	1.1	i i		
130				5	TB01	4	11_	J05	9				
131				1 3	J103	4	14	T801	3	11			
132	1	· Y	V	i	T801	3	11		5	14			
133	3	20	4	1	J03	4 -	14	TB01	3	11			

المرعب	Noi!	OMW.	TITLE		W	IRE L	ISTING	······		WL	DOCUMENT NO. 40019800	K
Mr. American	DL:S, M	NNESOTA			POW	ER SUP	PLY ASS	Υ	erani	SHEET	9 OF	
CONSUCIOR	FIND NO.	GAUGE (REF.)	COLOR (REF.)	LENGTH (APPROX)		v	ACCESS. FIND NO.	DESTINAT		ACCESS. FIND NO.	REMARKS	
134	3	20	4	}	TB01	1 -	11	ROG	2	14	· · · · · · · · · · · · · · · · · · ·	
135	A	3	Δ		P06		1 4	⊥ BU.		5		
136					J02	4	14	_TE01	3_	11		
137					TB01	4	11	J02	5	14		
138					TB03	2	10	T803	8	10		
139				i	TB03	10	10	T B03	4	10		
140					TB03	6	10	TB03	12	10		
141					B01	L	17.18	TBII	2	5		
142					TBIII	2	5	B02	L	17,18		
143	ij	1	V		B02	R	17,18	TB01	2	11		
144	3	20	4		TB01	2	11	B01	R	17, 18		
145												
146					,		i 3					
147		1		:			: 3					
148					i					H		
149		1										
150		:										
151							3 3					
152	1		1		1	1						

Call	Yes	- Y. 17. C	TITLE									DOCUMENT NO.	8.5
	11.27.	*/4. 'A	ļ		W	IRE LI	STING			1	NL	40019800	K
(ININIT A D)	0115.50	NNESOTA			POWE	R SUPP	LY ASS	Υ		L	SHEET 1() OE	
		CONTRACTOR OF THE PARTY OF THE				aatii ee			ZIIVOS	garanan ku n S		, , , , , , , , , , , , , , , , , , , ,	
IDENT.	NO.	(REF.)	(REF.)	(APPROX)	ORIGII		FIND NO.		TION	ACCESS.		REMARKS	
153	10	16	4		CB07	T.	2	C 02	Р	7(1)			
154	ذَّب	1 4	4	<u> </u>	C02	P.	$\langle 1 \rangle$	CB107	I	2			
155					CB106	Τ ;	2	C 09	P	7(2)		•	
156				ا	C 09	ρ	2	CB06	T	2			
157					C B06	В	2	C32	ME	5,	13	Δ	
158					FL15	ME	5	TB02	11	12	(3	7	
159				į	TB02	11	12	J04	21	13			
160					J 04	20	3_	K102	1A	23			— m
161				1	K102	1C	12,25	CB04	В	13(4)	1		
162				1	CB04	В	4	K02	1C	12,25			
163	П			1	K02	1A	23	J04	18	3			
164				7	J04	17	3	TB02	13	_12			
165				1	FL16	ME	5	TB02	ιз	12	Á	3/	
166					C 33	ME	5	XF02	В	16	6	3	
167					XF02	т	16	C06	Р	76			
168					C 06	Р	(6)	XF102	T	16			
169					XF102	В	16	C133	M.E	5,	/	3	
170	7	7	Ÿ		FLII6	ME	5,	T B02	14	12	Δ	3	
171	10	16	4		TB02	14	12	J 04	35	i 3			

	:3¥;:		TITL	E			·	•			DOCUMENT NO.	FIEW.
		*****	4		V	VIRE L	ISTING			WL	40019300	:
MINNEAR	OLIS, M	NNESOT	- -		POWE	R SUPP	LY ASSY			SHEET	11 OF	
CONDUCTOR	FIND NO.	CAUGE (REF.)	COLOR (REF.)	LENGTH (APPROX)	ORIG	IN	- ACCESS. FIND NO.	DESTINA	TION	ACCESS.	REMARKS	
172	10	16	4		J 04	29	3	K102	3A	23		
173	1 4	4	i.		K102	3C	12,25		В	13(8)		
174					CB0 5	В	(<u></u>	. KQ2	3C	12,25	-	
175					K02	ЗА	35	J04	28	3		
176		<u> </u>			J 04	30_	3	TB02	12	12		
177			1		FLI15	ME	5	TBO2	12	12 1 13		
178					C132	ME	5,	CB106	В	2 /3	Ŋ	
179				ļ	CB107	В	2	K102	2C	12,25		
180	<u> </u>			<u> </u>	K102	2A	21.	J 04	14_	3		
181				į k	J 04	13	3	K02	2A	23		
182				<u> </u>	K02	2C	12,25	CB07	В	2		
183	$\sqcup \bot$			ļ	CB04	r	_2_	C04	Р.	12		
184	- -		-	<u> </u>	C08	N	2	CB05	T	2		
185					CB05	В	<u>₹ ⟨ु</u>	J 04	11	3		
186	$\sqcup \!\!\! \perp$			<u> </u>	J04	3	3	TB02		12		
137	-	<u> </u>	-		TB02	5	12	J04	2\	3		· !
188	<u> </u>				J 04	1	3	TB02	6	12		
189	Y_	_7	Y	ļ	TB02	7	12_	_XEC1	_В	16	* ,	
190	10	16	4		XF01	T	16	C03	Р	12		

33181	(a) (a)	1/10 Tab	TITLE	E	· · · · · · · · · · · · · · · · · · ·						DOCUMENT NO	. [23/
! ()	11.044	*/1./1	<u>:</u>		W	IRE LI	STING			1	WE 46019800	1
MINNEAPO	ous, M	NNESOTA		PC	WER SUPPL	Y ASSY	· ·			-	SHEET 12 OF	
CONSUSTOR	FIND NO.	GAUGE (RCF.)	COLOR (REF.)	LENGTH (APPROX)	ORIGIN		ACCESS.	DESTINAT	ION	ACCESS.		
191	10	16	4	1	T B02	3 ·	12	TB04	2	16		
192	10	16	7		CB04	В	$\Delta \Omega$	104	12	3		
193	21_	20		1	.104	33	_4_	_K101	R3	15.24	•	
104	Δ	1		1	_TB02	7_	14(12)		48	4	·	
195	!			<u> </u>	J04	46	4	TBOD	11	5	1	
106	∐_			<u> </u>	TBC9	5_	-	104	45	4		
197				İ		43	4_4	S07	81	11,25	5	
1º8_	1				S07	83	11.25	JC4	42	4		
199					J04	41	4	507	_cı_	11,25	<u> </u>	
200				į.	S07	<u>C3</u>	11.25	J04	40	4		
2C 1					104	39	4	K05	L8	15,24		
202	<u> </u>	<u> </u>		ļ	K05	K2	15,24	_IBO2	2	-11_		
2::3		!			TB02	2	_11	K105	K2_	15,24		
204					K105	L8_	15,24	J04	54_	. 4		
205	-				JC4	55		\$107	c3	11.25		
206	_ _		_		S107	Cı	11.25	J04	56	4		
207	<u> </u>				J04	57	4	\$107	63	11,25		
208	1	<u> </u>	<u> </u>		S107	81	11, 25		58	4		
209	21	20	4	<u> </u>	J04	65	4 !	S107	C2	12 (47)	25	

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1910	17.1.	Section.	TITLI	E	V	VIRE L	ISTING			,	W١	DOCUMENT NO. 40015800	200 K
MINNEAPO	ous, M	NNESOTA			POLR	SUPFLY	ASSY				SHEET	13 OF	1.,
CONSUSTOR	FIND NO.	GAUGE (REF.)	COLOR (REF.)	LENGTH (APPROX)	ORIG		ACCESS.	DESTINAT		ACCESS.		REMARKS	
210	21	20	4		S107	B2 -	12(18)	S107	C2	47			
211	4	1	Δ		S107	В2	(48)	K101	L3	15.24			
212					K101	L2	.15.24	J04	64	4			
213					J04	62	4	TB109	.11	5			
214					T2109	5	5	J04	60	4			
215					J04	52	14	TB02	7	1 (12)			
216					TB02	7	14	J04	37	5 4			
217					J04	53	ř 4	J04	66	3 (14)	}		
218					J04	66	14	K105	<u> </u>	15.2	4		
219					JC4	51	4	TB02	5	11			
220					TB02	5	11	J04	36	4			
221				1	J04	26	4	TB02	3	<u> 11 </u>	ļ		
222			<u> </u>		TB02	3	11	J04	16	1 4			
223					JC4	24	4	_K01	R3_	15,24	ļ		
224				ļ	K01	R2	15,24	S02	82	25,11	<u> </u>		
225			_ _		S02	B3	25,11	TB02		11	ļ		
226	-				<u> </u>		1			<u> </u>			
227	7	V.	7		KG3	1	15,24	,		11	ļ		
228	21	20	4	1 !	TB02	9	§ 11	K05	1	15,24			

3305	₹03.	3) [5]	TITL	E						1771	DOCUMENT NO.	אַנומ
					W	IRE L	ISTING			MF	40019800	1.6
MINNEAPO	OLIS, AT	NNESOTA			POWER S	JHLLY	ASSY			SHEET	140F	
CNOUCTOR		GAUGE (REF.)	COLOR (REF)	LENGTH (APPROX)	ORIGIN	·	ACCESS.	DESTINATI	ON	ACCESS.	REMARKS	
229	21	20	4	i	K05	R3	15,24	K02	L2	14 (15)		
230	3	4	4		K02		(13)	TB04		16		
231					TB04	8	16	_ K01	L6	15,24		
232					K01	L5	15,24	T802	2	14 (16)		`
233				,	TB02	2	1	_K101	L5	15,24		
234					K101	L6	15,24	K102 .	L2	14 (17)		
235					K102	L2	(17)	TB04	22	16		
_236				<u> </u>	TB04	22	16	K105	R3	15,24		
.237					K105	R5	15,24	TB02	4	14 (18)		
238					TB02	4	(8)	SS%104	4	11		
239				1	SS à 103	4	14 (19)	SSW102	4	14 (20)		
240					SS#102	4	20	SSw101	4_	11		
241				j	SS//103_	4	(D)	TB02	4			
242					TB02	4	11	SSW04	4	11		
243					\$504	3	11	_K04	13	15,24		
244					K0 4	L2	15,24	TBG2	9	11		
245				<u> </u>	TB02	10	11	\$102	B3	11.25		
246		7	4		S102	A2	12 50	TB04	21	16		
247	21	20	4	1	TBC4	7	16	S02	A2	75(19)	•	

Tins	₹(:):	MER.	TITLE	:	10	יחרוי	CTING			,	WL	DOCUMENT NO. 40019800	100
		`			VV	ותב נו	STING			L			<u> </u>
VINNEAP	OLIS, M	NNECOTA	,	·	POL	R SULL	LY ASSY				SHEET	15.0F	
CONDUCTOR IDENT.	FIND NO.	GAUGE (RCF.)	COLOR (REF.)	LENGTH (APPROX)	ORIGI	N.	ACCESS.	DESTINA	TION	ACCESS FIND NO		REMARKS	
248	21	20	4		S02	АЗ.	11,25	CB07	3D	5	<u> </u>		
249	4	4	4		502	A2	42	- K02	L1	11			
250	Ÿ	Ÿ	A		K102	L1	11	S102	A2	<u> </u>	·		
251	21	20	4	<u> </u>	\$102	А3	11,25	Cb 107	3D	5			
252	<u> </u>		<u> </u>			-				<u> </u>			
253	21	20	4	-	TB02	7	12 (27)	CB02	58	5			
254	A	Δ_	A		CB02	30	5	C804	5B	5			
255			- -		C604	30	5 (C B05	58	5	ļ		
256_					_CB05	30_	5	CB107	5B .	i _5	.		
257					DS109	В	8	TB02	12.	-11_	<u> </u>		
258				<u> </u>	TB02	14	11	DS106	В	8	<u> </u>		
259					DSC6	В	8	TB02	13_	5_11_	ļ		
260					T802	11	<u>11 </u>	0509	В	8	ļ		
261					CBG 7	58	5	_CB05	30	5	ļ		
262					TB02	4	11	SS:/03	4	14 62	<u></u>		
263				;	S5.v03	4_	<u></u>	\$\$#02	4	14 (?)	<u>}</u>		
264				ļ	S502	4	3 _	_\$\$%01_	4_	_11_	-		
265	_7_		<u> </u>		SS://01	3	:14 (24)	SS.,02	3	14 (25	}		
266	21	20	4		SS://02	3	(23)	S 5 ₩03	3	14 (20			

::3(:):	16th	1000	TITLE		W	IRE L	ISTING			WL	DOCUMENT NO. 40019800	K
AINNEAP(ous, m	NNESOTA			POWER S	UFFLY	ASSY			3:1EET	16 OF	1/1
CNOUCTOR IDENT.		GAUGE (REF.)	COLOR (REF.)	LENGTH (APPROX)	ORIGI	١	ACCESS.		ION	ACCESS.	REMARKS	
25 7 .	21	20	4		SSW03	3 .	(QG)	K03	12	15 24		
268					KU4	1	15, 24	SS.,01	3	(24)		
269					SSW101	3	14 (27)	SS ₁₁ 102	3	14 (28)	•	
270					SS://102	3	(28)	SS103	3	14 (29)		
271					S5W103	3	$\langle \mathcal{O} \rangle$	K103 .	L3	1524		
2 7 2					K103	L2	15,4	TUC2	10	11		
273				ļ	T B02	10	11_	_K103	1	15,24		
274					K 105	1	15.24	TBU2	10	11		
275					TB02	10	11	K104	L2	115,24		
276		.			K104	1	15,24	SSw101	3	(27)		
277	Ą	V	Ÿ		SSW104	3	11	K104	i	15,24		
278	21	20	4		K101	R2	15,24	5102	B2	11,25	*	
279							<u>;</u>			j		
2สบ	21	20	4		\$07	В2	25/13	KQ1	L3	15.24		
2::1	_1Z_	24			K02	2A_	_11	D S 05	В	8		
282	ر د	:			DS05	T	8	TB02	6	11 (30)		
283		1.			T802	6	<u> 3</u>	DS105	J	i. 8.		
284	7	7	1		DS105	В	8	K102	Ι_2Δ	11		
285	17	24	4		K102	14	111 3	DS107	В	8		

-74) 55-	5 (P)	ne in the	TITL	:								DOCUMENT NO.	P.
		3/2-22			Wi	RE LI	STING				WL	40019800	1
MINNEAPO	DLIS, MI	NNESOTA			FONE	R SUFI	FLY ASS	Υ			SHEET	17 OF	
CONDUCTOR	FIND NO.	GAUGE (REF.)	COLOR (REF.)	LENGTH (APPROX)	ORIGIN		ACCESS.		ATION	ACCESS FIND NO		REMARKS	
286	17	24	4		DS 107	т :	88	TB02	1	<u>ي</u> 11			
287	÷	4	1		TB02	1	3)	DS07		8			
288					DS07	В	8	K02	1A	311		•	
289					K02	ЗА	. 77	D508	В	8			
290					0808	т	8	TB02	6	11 (32)		
291					TBU 2	6	(32)	DS108	Т	8			
292					DS108	В	L 8	K102	3A	11			
293					K102	4C	1 1,25	TB02	8	11 (}		
294					IB02	8	6	K05	L9	9,24			
295					K05	RI	9,	K04	2	24,1	(34)		
296					K04	2	_G_	J04	27	6			
297					J04	25	<u>.</u>	TB02	8	11 3	}		
298					TB02	8_	(3)	K101	1	9,24			
299					K101	2:	24.9	T602	4	11			
300					TB02	1	113	DS10	<u> </u>	8			
301				-	0510	В	8_8_	TBG2	7	2			
302					TB02	7	11 40	S01	АЗ	11,25	5		
303	Y	7	V_		S01	B2	11,25	T602 ·	2	113	7	,	
304	17	24	4		TBC2	2	37	K05	R5	9.24	'		

:::1/	<u></u>	11.	TITLE									DOCUMENT NO.	LREY.
		- 4/ <u>5</u> - 1.51)			w	IRE LI	STING			1	NL	40019000	13
		NNESOTA	.	~~	Pu	artik Sc	FFLY A	55Y		5	SHEET .	180F	
CONDUCTOR	FIND	CAUGE	COLOR (REF.)	LENGTH (APPROX)			ACCESS. FIND NO.	DESTINA	TION	ACCESS. FIND NO.		REMARKS	
305	17	24	4		K05	R 6	9, 4	. KC3	L5	9,24	i		
306	3	į į	A		к03		9,24		8	6			
30 7					J04	7	6 .	K05	2	9,24		•	
308					K01	2	9,24	_TBG2	1	36		-	
309					T B02	1	11(3)		C2	11,25			
310					S102		11,25		20	8			
311	Ì				TB04	20	8	J04	59	6			
312				1	104	49	6	_S01	A2	11 25 (43)	<u>}</u>	-	
313					S01	A2	(13) ;	K02	4C.	25 (3)	}		
314				1	K02	40		_K01		9,24			
15 ئ				}	K01	L2	9,24	TB 02	7				
316					TB02	6	y i i		2	9,24			
317					J04	50	6	K02	4.4	11			
318					K102	4A	11	S07	G2	25 (44)			
319					50 7		(17)			45			
320					502			T604 ·	6	8			
_321					TB04	6	1	J04	44	6			
322	1	Y	Ÿ	j c	J04	22			В				
323	17	24	4		∂S111	Т	8	TBC2	3_	11(4)			

TOWN:	Rin.	HATTA	TITLE		w	IRE LI	STING		`		WL	DOCUMENT NO. 40019800	K
MINNEAPO	OLIS, M	INNESOTA	İ		POWER	SUFFL	Y ASSY				SHEET	1907	- Val
CONDUCTOR	FIND NO.	GAUGE (REF.)	COLOR (REF.)	LENGTH (APPROX)	ORIGIN		ACCESS.		TION	ACCESS. FIND NO.		REMARKS	
324	17	24	4		T602	3.	41	uS11	T	ģ 8			
325	A	A	. A		DS11	₿.			10	6			
326					J04	15	6	K104	2	24,15	42	•	
327				j j	K104 -	2	42	K105		9,24			
328				ļ į	K105	2	9,24	J04	5	6			
329			<u> </u>	1	J04	4	6	K103	L6	9.24		,	
330					K103	1.5	9,24	K105	R6	9,24			
331				ļ	K103	2	9.24	TB02	3	11	ļ		
332				<u> </u>	T802			_S02	C2	11,25			
333				1	0509	LT.	8	T804	11	_8			
4رڌ					TB04	15	8	DS109	T	8			····
335					S01	B3	11.25	_TB04	5	_8_			
336					TBU4	5	8	T804	19	8			
337					T804	17	_a_	DS106		8			
338				4	D306		8	TB04	3	88			
3 39	7	<u> </u>	Ÿ		T502	11		J04	67	6			
340	17	24	4	<u> </u>	J04	70	6	TB02	12	11			
341	21	20	_4_		T804	2	ló 🏻	T804	4	16			
342	21	20	4		TB04	4	16	TBC4	16	16			

- EXPLOYER	¥\$1	級對	TITLE	:	V.	IIRE LI	STING				WL	DOCUMENT NO. 40019800	BEV I
MINNEAPO	LIS. M	NNESOTA				R SUPP	LY ASSY			}	SHEET	20 OF	
CONDUCTOR IDENT.	FIND NO.	GAUGE (REF.)	COLOR (REF.)	LENGTH (APPROX)	ORIGI	N	ACCESS.	DESTINA		ACCESS FIND NO	i.	REMARKS	
343	21	20	4		TB04	16	. 16	T804	18	16			
344	21	20	4		T509	21	5 ,	S07	ΑĠ	25,11			
345	21	20	4		TD 09	25	5	S07	A1	2511		•	
346							1			5			
347	21	20	4		C25	OME	5	CD07	3D	<u>i</u> 5		14	
348	21	20	. 4		T509	13	5	S07	A2	25,11			
349	21	20	4		TB109	21	5	S107	A3	25,11			
350	21	20	4		TB109	25	5	S107	A1	25,11			
351							#(i				l		
352	21	20	4		TB109	13	5	5107	A2	25,11	<u> </u>		
353	21	20	4		C125	OME	5	CB107	30	5		14	
354							1						
355											-		
356				į.			ļ			i. H			/
357							4			4			
358							, ,)			,
359													
360										į			
361			•				ġ d						

11/11/35	((3)	. HER	TITLI	5	wı	RE LI	ISTING		terminal and the second and the second	\	WL	DOCUMENT NO. 40019800	R.G.A.
MINNEAPO	DLIS, I	M WNESOT	A			WER S	UFFLY A	\SSY			SHEET	21 OF	
CONSUCTOR IDENT.	FINE NO.	GAUGE (REF.)	COLOR (REF.)	LENGTH (APPROX)	ORIGIN		ACCESS.	1	ATION	ACCESS. FIND NO.		REMARKS	
562	1	16		12.	T06	1	1	T01	6	57			
363	Λ	12		12	T06	2	3	T01	14_	56			
364		12		11	T06	3_		TB06	3	53			
365		16_		10	T06	4		T02	3	51		·	
366		12		11	Т06	5		T806	2	53			
367		12		12	T06	6		T01	16	56			
368		16		6	L02	1	i i	C03	P	50	¦		
369		16		6	L02	2		C04	P	50			
370	7	16		5	L03	1_1_	<u> </u>	C07	N	50_			
371	1	16		5	L03	2	-	C08	N	50	ļ		
372	52	16	4_	12	C01	P	50	TBC6	1	51			
373	54	14	4	4	T08	5	58	TC8	4_	53			
374	<u> </u>		<u> </u>				<u>.</u>				ļ		
375	_		ļ	ļ!						<u> </u>	 		
375							÷	!		<u>:</u>	<u> </u>		
377	<u> </u>	<u> </u>	ļ				<u> </u>	<u>, </u>		-	-		
378		_			1	 	<u> </u>			i	-		
379	-	-	 	1		<u> </u>	· (;	<u> </u>		}	ļ		
380					ij	<u> </u>				<u> </u>	<u></u>		<u>, </u>

Silfrijal a	li:	NORMA:	DALE D	IVISION	C	19333		SHEET 22		WL	DOCUMENT NO: 40019800	REV
CONDUCTOR IDENT	HIND	GAUGE (REF.)	i	LENGTH (APPROX)	ORIGIN		ACCESS	DESTINATIO	ON	ACCESS FIND NO	REMARKS	
381	67	16_	4	10	FL 05	R	68	T01	1	68		
382	67	16	4	10	FL06	R	68	T01	2	68		
383	67	16	4	10	PANEL BASE	GRD	68	FRONT PANEL	GRD	68	<u>/15\</u>	
384	5	24	4	11	TB09	24	7	FRONT PANEL	GRD	6	<u> </u>	
385	5	24	4	11	TB109	24	7	FRONT PANEL	GRD	6	<u>/15</u>	
386												
387							<u> </u>					
388												
389						<u> </u>						
390						L		<u> </u>	<u> </u>	<u> </u>		
391								<u> </u>	-	<u> </u>		
392				ļ		ļ		ļ	ļ	ļ		
393		ļ	-			ļ	 			 		
.394						 		 				
395			ļ				ļ	 	-	 		
396		 	-	1		 -			 	ļ		
397				 		 	 	<u> </u>	 			
398		 		<u> </u>		 		-	-			
399 400	11	20	4	7	TB09	13	12	C25	ME	12		•
400	11	20		1 ′	1509	1 1 7	12	(2)		<u>;</u>	15	PRINTED IN U.S.

1 (811 1 (8))	EAR :	NOR:	TANDATE	DIVISION		19333		SHEET 23		WL	DOCUMENT NO 40019800	REV
CONDUCTOR IDENT.	FIND NO	GAUGE (REF.)	1	LENGTH (APPROX)	ORIGI	Z	ACCESS ON CNH	5	ATION	ACCESS	REMARKS	
401	11	20	4	4	TB109	13	12	C125	ME	12	<u> IS</u>	
402												
403												
11011			<u> </u>				i		_			
405								1				
406												
407												
408								1				
409										Ì		
410							ĺ					
411								ļ				
412												
413											·	
414												
415	22	16	4	3	C21	OME	18	SSW01	1	19	15 4	
416	22	16	4	3	C22	OME	18	SSW02	1	19	15. 14	
417	22	16	4	3	C23	OME	18	SSW03	1	19	(15) (14)	
418	22	16	4	3	C24	OME	18	SSW04		19	15 4	
419	22	16	4	4	SSW01	2	19	FL11	COIL-B	18	<u>∕</u> 15∖	
420	22	16	4	4	SSW02	2	19	FL12	COIT-8	18	Δŝ	

1(7555a) - 1	1:31:	NORM.	NDALE I	DIVISION		19333		HEET 24		WL	DOCUMENT NO 40019800	REV
ONDUCTOR	1100	CAUCE (FIL)	COLOR	LENGTH APPROXI	Okto.	N	ACCESS TIND NO	DUSTINAL		ACCESS LING NO	FIMARES	
421	22	16	4	4	SSW03	2	19	FI.13	COIL-b	18	Z13\	
422	21	20	4	4	SSW04	2	20	FL14	Cort-B	18	<u> (15)</u>	
423	22	16	4	6	TB11	2	18	C24	ME	18	_i5\	
424	22	16	4	5	FL11	CAP-B	18	T611	1	18	_15_	
425	22	16	Ł	3	TB11	2	18	TB111	2	18	<u> </u>	
426	22	16	4	4	TB111	2	18	C124	ME	18	15 (13)	
427	22	16	4	4	C121	OME	18	SSW101	1	19	(15) (14)	
428	22	16	4	4	C122	OME	18	SSW102	1	19	/15 /4	
429	22	16	4	4	C123	OME	18	SSW103	1	19	(15) (14)	
430	22	16	4	4	C124	OME	18	SSW104	1	19	/15 /A	
431	22	16	4	6	SSW101	2	19	FL111	COIL-T	18	<u> </u>	
432	22	16	4	6	SSW102	2	19	FL112	COILT	18	_15	
433	22	16	4	6	SSW103	2	19	FL113	COIL-T	18	/15	
434	21	20	4	6	SSW104	2	19	FL114	COILT	18	<u>/15</u>	
435	22	16	4	6	FL111	CAP-T	18	TB111	1	18	<u>/15\</u>	
436												
437												
438										` `		
439												
440	15	16	4	5	C32	OME	13	k05	1.2	14,12	15 14	

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CONDUCTOR IDENT.	TIND NO	GAUGE (REF.)	COLOR (REF.)	LENGTH (APPROX)	ORI C	in	ACCESS FIND NO	DESTINATIO	ОИ	ACCESS FIND NO	REMARKS	
441	15	16	4	7	K 05	L3	14,12	TB10	10	13	<u>/is</u>	
442	15	16	4	4	TB10	9	13	FL15	OME	13	11st 14st	
443	15	16	4	5	C33	OME	13	К05	L5	14,12	15 14	
بلبليا	15	16	4	7	TB10	12	13	K 05	1.6	14,12	<u>/15}</u>	
445	15 ·	16	4	4	TB10	11	13	F1.16	OME	13	15 (14.	
446	15	16	4	5	C132	OME	13	K105	12	14,12	15 14	
447	15	16	4	7	TB110	10	13	K105	1.3	14,12		
448	15	16	4	4	TB110	9	13	FL115	OME	13	<u>A</u> A	
1419	15	16	4	5	C133	OME	13	K105	L5	14,12	A5 A	
450	15	16	4	7	K105	1.6	14,12	TB110	12	13	<u>/15</u>	
451	15	16	4	4	TB110	11	13	FL116	OME	13	cis ca	
452	9	24	4	2	TB10	4	6	GRD		8	(15)	
453	9	24	4	2	TB110	4	6	GRD	1	8	(15)	
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			<u> </u>					<u> </u>	-			
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	Marko Part		CODE IDENT	-	I	DOCUMENT NO	REV.	٦
- 1	Comment and the control of the contr		i	ever	I		1 *** .	
- 1		NORMANDALE DIVISION	19333	SHEET 1 05 1	l DN	40019800	1 1/	. 1
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COMPONENTS TOG, LOZ & LOZ USE EXISTING LEADS.

- 2. FOR FIND NO. REFERENCED IN CONDUCTORS 1 THRU 55 SEE PL 40017800; D.C. PANEL HARNESS.
- 3. FOR FIND NO. REFERENCED IN CONDUCTORS 77 THRU 144 SEE PL 4129610Q A.C. HARNESS.
- 4. FOR FIND NO. REFERENCED IN CONDUCTORS 153 THRU 353 SEE PL 41294000; D.C. HARNESS.
- 5. FOR FIND NO. REFERENCED IN CONDUCTORS 362 THRU 373 SEE PL 40011800, 01; MISC.D.C. PANEL WIRING.
- 6. FOR FIND NO. REFERENCED IN CONDUCTORS 381 AND 383 SEE PL 40018600, 01; MISC POWER SUPPLY WIRING.
- 7. A HEXAGON IN THE ACCESS FIND NO. COLUMN INDICATES THAT THE CONDUCTOR IS ONE OF SEVERAL (ALL WITH THE SAME NUMBER IN THE HEXAGON) GOING INTO THE SAME TERMINAL. THE NUMBER IN FRONT OF A HEXAGON IS THE TERMINAL FIND NO.
- 8. FOR FIND NO. REFERENCED IN CONDUCTORS 384 AND 385 SEE PL 70805100; D.C. AND START TERRINAL BOARD ASSY.
- 9. FOR JIND NO. REFERENCED IN CONDUCTORS 400AND 401 SEC PL 70807500; SWITCH SUPPRESSION, POWER SUPPLY.
- 10. FOR FIND NO. REFERENCED IN CONDUCTORS 415 THRU 435 SEE PL 41286300; A.C. PANEL ASSY.
- 11. FOR FIND NO. REFERENCED IN CONDUCTORS 440 THRU 451 SEE PL 70807900; D.C. RELAY PANEL ASSY.
- 12. FOR FIND NO. REFERENCED IN COMDUCTORS 452 THRU 453 SEE PL 70805400-01; D.C. RELAY TERMINAL BOARD ASSY.
- ME STANDS FOR CONNECTION NEAREST THE MOUNTED END.
- OME STANDS FOR CONNECTION I PROSITE THE MOUNTED END.
- NOT IN HARNESS.

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44	_	_	<u> </u>	-	-	4	+	-	4	+	+	4	+	\dashv	-	-	_	_			1				ı		ŀ	l
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ONDUCTOR IDENT	FIND NO.	GAUGE { REF.}	1	LENGTH (APPROX)	ORIC	SIN	ACCESS	DESTIN	ATION	ACCESS FIND NO	REMARKS	
1	3	16	4		C14	L	4	T01	,	7(1)		
2	4	•	1		T01	3	1	CRO4	4	4, 15		
,					CRO4	3	4,15	CO5	N	9.(2)		
4					CO5	N	2	C09	N	11 (3)		
5					C09	N	(3)	TB02	4	4		
6					TB02	2	4	c06	N	11 4		
7					c06	N	4	R02	R	4, 15		
8					ко2	L	4, 15	C06	Р	9 (5)		
9					c06	P	(5)	CRO5	1	4, 15		
10					CR05	4	4, 15	то1	9	1		
11		1	 		T01	10	1	CRO5	2	4, 15		
12					CRO5		4, 15	c e 6	N	4		
13		Щ_			C08	N	6	R04	L	10		
14					RO4	R	10	C04	P	6		
15	_ _	_ _		ļ	TOB	11	1, 15	т05		4		
16			_ _		T05	1	<u>"</u>	TO1	n	7 6		
17					T01	- 13	(i)	тоз		4		
18		- -	_ _		т03	_ -	4	т09		4		
19	1	<u> </u>	1		т09	2	4	T01	6_			
20	3	16	4		T01	4	1	T09		4		

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ONDUCTOR IDENT	FIND	GAUGE (REF.)	COLOR (REF.)	LENGTH (APPROX)	ORIG	IN	ACCESS FIND NO.	DESTINA	ATION	ACCESS FIND NO	REMARKS	
21	3	16	4		T09	4	4	CRO4	2	4, 15		
22	1	1	1		CRO4	1	4, 15	C05	P	9(7)		
23					C05	P	7	C09	P	9 (8)		
24					C09 ^	P	8	R03	т	5, 12		
25					R03	В	5, 15	C09	N	(3)		
26					C02	N	6	RO1	В	5, 12		
27					ROL	т	5, 12	C02	Р	6		
28					T05	4	4	T01	5	7 (9)		
29					T01	5	(9)	T03	4	4		
30					T02	1	4	T01	8	7 (10)	·	
31					T01	8	(10)	T04	1	4		
32					T04	3	4	T07	1	4		
33					T07	2	4	T01	7	7 (11)		
34					T01	7	$\widehat{\mathbf{w}}$	TOR	2	4, 15		
35					т08	3	4	TB08	3	4		
36					TB07	2	4	T07	3	4, 15		
37					Т07	4	41	C07	N	6		
38					T07	5	4	TB08	2	4		
39	1	1			TB07	3	4	т08	6	4		
40	3	16	4		C14	R	4	T01	8] 1		

-10 0000	MA					19333		HEET 4		WL	72994100	PEV A
CONDUCTOR	FIND NO	GAUGE (REF)	COLOR (REF.)	LENGTH (APPROX)	ORIGI	N	ACCESS	DESTIN	ATION	ACCESS FIND NO	REMARKS	
41	3	16	4		T01	5	7 (12)	T02	4	4		
42	3	16	4		TO4	4	4	T01	5	12		
43	2	14			TB07	1	8	TOL	13	7		
ħħ	4	A			T01	12	7	C07	P	9		
45					C07	P	9	C03	N	9		
46					C03	P	9	T08	5	8		
47					тво8	1	8	TOL	11	7		
48					T01	15	7	C01	N	9		
49					CO1	N	9	C02	N	9		
50					C02	P	9	L01	2	8		
51					LOI	1	8	C01	P	9_		
52					C04	N	9	c08	P	9		
53					C08	P	9	C07	P	9		
54	1	7	7		C08	P	9	TB02	3	В		
55	Z	14	4		TB02	1	8	C02	N	9		
56												
57				·								
58												
59												
60												

CONTROL 1	MA					19333	SI	HEET 5		WL	72994100	REV.
ONDUCTOR	FIND	GAUGE (REF.)		LENGTH (APPROX)	ORIG	GIN	ACCESS	DESTINA	TION	ACCESS FIND NO	REMARKS	
61												
62												
63					•							
64												
65												
66												
67												
68												
69												
70												
71												
72										<u> </u>		
73												
74												
75			ļ									
76												
77	4	16	4		свој	AT	8	CR02	TA	9 (1)		
78		1			CB02	AT	1	CB103	AT	8		
79	<u> </u>	1	1		CB03	AB	8	C21	мк	5	Δì	
80	4	16	4		TB11	1_11	15	J03	11	13		

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CONDUCTOR IDENT	HND		UGE Ef)	COLOR (REF)	LENGTH (APPROX)	ORIG	ın	ACCESS FIND NO	DESTIN.	ATION	ACCESS FIND NO	REMARKS	
81	4	1	6	4		J03	2	13	FL12	C AP B	5		
82	4		1	1		C22	ME	5	CB03	ВВ	8	<u>A</u>	
83			Γ			CB103	ВТ	8	CB02	ВТ	9 (3)		
84						CB02	ВТ	(3)	СВОЭ	BŤ	8		
85						CB02	AB	8	JOZ	1	13		
86						J02	2	13	CB02	ВВ	8		
87						CB03	СТ	8	CB02	СТ	12 4		
88						CB02	СТ	4	CB103	СТ	8		
89		T	Π			CB03	СВ	8	C23	ME	5	<u>/13</u>	
90						FL13	CAP B	5	J03	3	13		
91						J02	3	13	CB02	СВ	8		
92	Y		T	Y		CB02	AT	9 (5)	XF03	т	10		
93	4	10	6	4		XF03	В	10	TB11	2	15		
94													
95	4	10	6	4		C123	ME	5	CB103	СВ	8	<u>/13</u>	
96	1		I			CB103	88	8	C122	ME	5	<u>/13</u> \	
97			Γ			FL113	CAP T	5	J103	3	13		
98						J103	2	13	FL112	CAP	5		
99						TB11	4	15	J103	1	13	_	
100	4	,	6	4		C121	МБ	5	CB103	AB	8	A	

CONTROL (UIV.						19333		HEET 7		WL	72994100	REV.
ONDUCTOR IDENT.	FIND NO		GAUGE (REF)	COLO	1	ORIG	in .	ACCESS FIND NO	DESTIN		ACCESS FIND NO	REMARKS	
101	4		16	4		XFO4	В	10	T01	1	22		
102	Å		4	4		T01	2	22	XF05	В	10		
103	Y	Ι	1			XF05	Т	10	CB02	CT	4		
104	4	I	16			CB02	ВТ	9(9)	XFO4	т	10		
105	3		20			TB03	11	23	TB03	9_	10 🐼		
106	4		1			TB03	9	10 (56)	TB03	7_	10 ET		
107						TB03	1	2.3	CB02	AT	(5)		
108		I				CB02	BT	(9)	TB03	3_	23		
109						тво3	5	23	CB02	CT	8 (10		
110		\prod				CB02	СТ	(10)	DS04	В	52		
111						DS04	т	23	TB01	1	11		
112					_	TB01	1	11	P106	2	14		
113					1	P106	1	14	TB11	4	15		
114						FL114	CAP	5	J103	6	14		
115						J103	7	14	TB 01	?	11		
116						TB01	2	11	J03	7	14		
117						J03	6	14	FL14	C AP B	5		
118						TB11	2	15	J05	1	14		
119	7		Ÿ	Ý		J05	2	14	TB01	1	11		
120	3		20	4		TB01	1	11	TB03	7	23(57)		

(3) (1)(1)(1)		,				19333°		HEET 8		WL	72994100	REY
CONDUCTOR IDENT.	FINE	1	GAUGE (REF.)	COLO (REF.)	ORIGIN	1	ACCESS FIND NO	DESTINATI	Юн	ACCESS FIND NO	REMARKS	
121	3		20	4	J03	8	14	TB01	4	11		
122	A		À	A	TB 01	4	11	J103	8	14		
123					J103	5	14	TB01	3	11		
124					 TB01	3	11	J05	3	14		
125					J05	4	14	TB11	3	15		
126		1	\perp		TB11	3	15	J05	7	-14		
127		\perp			J05	8	14	TB01	2	11		
128		_			TB01	2	11	J05	5	14		
129		\perp			J05	6	14	TB01	4	11		
130	Ш			Ш	 TB01	4	11	J05	9	14		
131		_ _	_ _		 J103	4	14	TB01	_ 3	11		
132		_			 TB01	3	11	103	5	14		
133		\perp		L	J03	4	14	TB01	3	11		
134		_		\sqcup	TB01	1	11	P06	2	14		
135				Ш	P06	1	14	TB11	1	15		
136	1				J02	4	14	TB 6 1	3	11		
137	Ш				TB01	4	11	J02	5	14		
138	Ш			Ш	тв03	2	23	TB03	8	23		
139	Y		Y	Y	TBO	10	23	TB03	4	23		
140	3		20	4	TB03	6	23	тв03	12	23		

0 000	JAVA 1					9333	SF	IEET 9		WL	DOCUMENT NO. 72994100	REV.
ONDUCTOR	FIND NO.	GAUGE (REF.)		LENGTH (APPROX)	ORIGIN		ACCESS FIND NO	DESTINATIO	2	ACCESS FIND NO	REMARKS	
141	3	20	4		B01	L	17, 18	TB11	2	15		
142	I		4		TB11	3	15	B02	L	17, 18		
143	V	1	4		B02	R	17, 18	TB01	2	11		
144	3	20	4		TB01	2	11	B01	R	17, 18		
145	4	16	4		TB11	2	15	C24	ME	5	<u> </u>	
146	1	4	4		FL11	CAP B	5	TB11	1	15		
147	1	٧	4		TB11	3	15	C124	МВ	5	<u> </u>	
148	4	16	4		FL111	CAP	5	TB11	4	15		
149												
150												
151												
152												
153	10	16	4		CB07	T	2	C02	Р	7(1)		
154	4	4	4		C02	Р	(1)	CB107	T	2		
155					СВ106	т	2	c0 9	P	7(2)		
156					C09	Р	(2)	св06	т	2		
157					сво6	В	2	C32	ME	5	<u>/13</u> \	
177			1 1	1 1	ł	I 1			1		/13 \	
158					FL15	ME	5	TB02	11	12	/15\	
	ļ,	·	1		FL15 TB02	ME 11	12	J04	21	3	/15\	
158	¥ 10	16	Y							3 23	7137	
158 159		16	4		TB02	11	12 3	J04	21	,	DOCUMENT NO 72994100	REV.
158 159 160	WAYAN			LENGTH (APPROX)	J04	11 20	12 3	J04 K102-I	21 0UT	23	0001MENT NO 72994100	
158 159 160 ((()))(())(())(())(())(())(())(())(())	FIND	GAUGE	cotos		J04	11 20	12 3 NT S	J04 K102-I	21 0UT	3 23 WL	0001MENT NO 72994100	
158 159 160 (((((((((((((((((((((((((((((((((((FIND	GAUGE	cotos		J04	11 20	12 3 NT S ACCESS FIND NO	J04 K102-I	21 0UT	3 23 WL	0001MENT NO 72994100	
158 159 160 (例[]];[]]; CONDUCTOR	FIND	GAUGE	cotos		J04	11 20	12 3 NT S ACCESS FIND NO	J04 K102-I	21 0UT	3 23 WL	0001MENT NO 72994100	
158 159 160 ((()))((())) CONDUCTOR ((DENT) 161 162	FIND	GAUGE (REF.)	COLOR (REF.)		JO4 ORIGIN	11 20 CODE IDI 19333	12 3 NT S ACCESS FIND NO	JO4 K102-I HEET 10 DESTINATIO	21 OUT	23 WL ACCESS FIND NO	0001MENT NO 72994100	
158 159 160 (M)(H)(I)(I)(I)(I)(I)(I)(I)(I)(I)(I)(I)(I)(I)	FIND	GAUGE (REF.)	COLOR (REF.)		TB02 J04 ORIGIN K02-1	11 20 CODE IDI 19333	12 3 INT S ACCESS FIND NO	JO4 K102-I HEET 10 DESTINATIO	21 0UT	ZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZ	0001MENT NO 72994100	
158 159 160 (((())))((())) :	FIND	GAUGE (REF.)	COLOR (REF.)		TB02 J04 ORIGIN K02-1 J04	11 20 ODE IDI 19333	12 3 INT S ACCESS FIND NO	JO4 K102-1 MEET 10 DESTINATION JOL TRO?	21 our	3 23 WL ACCESS FIND NO	DOCUMENT NO 72994100	
158 159 160 (((())) (()) 	FIND	GAUGE (REF.)	COLOR (REF.)		TB02 J04 ORIGIN K02-1 J04 FL16	11 20 CODE IDI 19333 OUT 17 ME	12 3 NT S ACCESS FIND NO - 23 3 5 5 16	JO4 K102-I HEET 10 DESTINATIO JO4 TR02	21 our on 18 13	y 23 WL ACCESS FIND NO	DOCUMENT NO 72994100	
158 159 160 (M) H(I) CONDUCTOR IDENT 161 162 163 164 165 166	FIND	GAUGE (REF.)	COLOR (REF.)		TB02 J04 ORIGIN K02-1 J04 FL16 C33	11 20 CODE IDI 19333 0UT 17 ME MB	12 3 NT S ACCESS FIND NO	JO4 K102-I HEET 10 DESTINATIO JO4 TRO2 TRO2 XFO2	21 OUT 18 13 13 13	3 23 WL ACCESS FIND NO 3 12 12 16	DOCUMENT NO 72994100	
158 159 160 (M) H(I) CONDUCTOR IDENT 161 162 163 164 165 166 166	FIND	GAUGE (REF.)	COLOR (REF.)		TB02 J04 ORIGIN K02-1 J04 FL16 C33 XF02	11 20 CODE IDI 19333 0UT 17 ME MB	12 3 NT S ACCESS FIND NO - 23 3 5 5 16	J04 K102-1 MEET 10 DESTINATION J04 TR02 TR02 XF02 K26	21 OUT 18 13 13 8 6	3 23 WL ACCESS FIND NO 3 12 12 16 5 6	DOCUMENT NO 72994100	
158 159 160 (((())))((())) 161 161 162 163 164 165 166 167	FIND	GAUGE (REF.)	COLOR (REF.)		TB02 J04 ORIGIN K02-1 J04 FL16 C33 XF02 K26	20 CODE ID: 19333 OUT 17 ME MB T G	12 3 NT S ACCESS FIND NO - 23 3 5 5 16 6	J04 K102-1 MEET 10 DESTINATION J04 TR02 TR02 XF02 K06 XF102	21 OUT 18 13 13 B G	3 23 WL ACCESS FIND NO 3 12 12 16 5 6	DOCUMENT NO 72994100 REMARKS	
158 159 160 ((())) (()) 161 162 163 164 165 166 167 168	FIND	GAUGE (REF.)	COLOR (REF.)		TB02 J04 ORIGIN K02-1 J04 FL16 C33 XF02 K36 XF102	20 CODE IDIO 19333 OUT 17 ME MB T G B	12 3 NT S ACCESS FIND NO - - - - - - - - - - - - -	J04 K102-I MEET 10 DESTINATION J04 TR02 TR02 XF02 K36 XF102 C133	21 our 18 13 13 B G T	3 23 WL ACCESS FIND NO 3 12 12 16 5 6 16	DOCUMENT NO 72994100 REMARKS	
158 159 160 (M) H(I) 161 161 162 163 164 165 166 167 168 169	R FIND NO.	GAUGE (REF.)	COLOR (REF.)		TB02 J04 ORIGIN K02-1 J04 FL16 C33 XF02 K36 XF102 FL116	11 20 CODE IDIO 19333 OUT 17 ME MB T G B ME	12 3 NT S ACCESS FIND NO - - - - - - - - - - - - -	J04 K102-I HEET 10 DESTINATIO J04 TR02 TR02 XF02 K26 XF102 C133 TR02	21 our	3 23 WL ACCESS FIND NO 3 12 12 16 5 (6) 16 5	DOCUMENT NO 72994100 REMARKS	
158 159 160 (M)(II(I)) 	R FIND NO	GAUGE (REF.)	COLOR (REF.)		TB02 J04 ORIGIN K02-1 J04 FL16 C33 XF02 K36 XF102 FL116 TB02	11 20 ODE IDI 19333 OUT 17 ME MB T G B ME 14	12 3 NT S ACCESS FIND NO	J04 K102-I HEET 10 DESTINATIO J04 TR02 TR02 XF02 K26 XF102 C133 TR02 J04	21 our 18 13 13 B G T ME	3 23 WL ACCESS FIND NO 3 12 12 16 5 6 16 5	DOCUMENT NO 72994100 REMARKS	
158 159 160 (((())))((())) 161 161 162 163 164 165 166 167 168 169 170 171	R FIND NO	GAUGE (REF.)	COLOR (REF.)		TB02 J04 ORIGIN K02-1 J04 FL16 C33 XF02 K36 XF102 FL116 TB02	11 20 ODE IDI 19333 OUT 17 ME MB T G B ME 14	12 3 NT S ACCESS FIND NO	J04 K102-I HEET 10 DESTINATIO J04 TR02 TR02 XF02 K26 XF102 C133 TR02 J04	21 our 18 13 13 B G T ME	3 23 WL ACCESS FIND NO 3 12 12 16 5 6 16 5	DOCUMENT NO 72994100 REMARKS (17) (13)	
158 159 160 (((())) (()) 161 162 163 164 165 166 167 168 169 170 171 172	FIND NO.	GAUGE (REF.)	COLOR (REF.)		TB02 J04 ORIGIN K02-1 J04 FL16 C33 XF02 K36 XF102 FL116 TB02	11 20 ODE IDI 19333 OUT 17 ME MB T G B ME 14	12 3 NT S ACCESS FIND NO	J04 K102-I HEET 10 DESTINATIO J04 TR02 TR02 XF02 K26 XF102 C133 TR02 J04	21 our 18 13 13 B G T ME	3 23 WL ACCESS FIND NO 3 12 12 16 5 6 16 5	DOCUMENT NO 72994100 REMARKS (17) (13)	
158 159 160 ((())) (()) 161 162 163 164 165 166 167 168 169 170 171 172 173	P FIND NO.	GAUGE (REF.)	COLOR (REF.)		TB02 J04 CRIGIN K02-1 J04 FL16 C33 XF02 K36 XF102 FL116 TB02 J04	11 20 CODE IDIO 19333 OUT 17 ME MB T G B ME 14 29	12 3 NT S ACCESS FIND NO - - - - - - - - - - - - -	J04 K102-I HEET 10 DESTINATIO J04 TR02 TR02 XF02 K26 XF102 C133 TR02 J04 K102-3	21 our 18 13 13 B G T ME 14 35 our	3 23 WL ACCESS FIND NO 3 12 12 16 5 (6) 16 5 12 3 23	DOCUMENT NO 72994100 REMARKS (17) (13)	
158 159 160 160 160 160 161 161 162 163 164 165 166 167 168 169 170 171 172 173 174	FIND NO.	GAUGE (REF.)	COLOR (REF.)		TB02 J04 ORIGIN K02-1 J04 FL16 C33 XF02 K36 XF102 FL116 TB02 J04 K02-3	11 20 CODE IDIO 19333 AUT 17 ME MB T G B ME 14 29 COUT	12 3 NT S ACCESS FIND NO - - - - - - - - - - - - -	J04 K102-I HEET 10 DESTINATIO J04 TR02 TR02 XF02 K26 XF102 C133 TB02 J04 K102-3	21 our 18 13 13 8 6 T ME 14 35 our	3 23 WL ACCESS FIND NO 3 12 16 5 (6) 16 5 12 3 23	DOCUMENT NO 72994100 REMARKS (17) (13)	

K102-2 J04

CB107 K102-2

9-86

180

COMMODI						19333		1EET 11		WL	72994100 REY
CONDUCTOR IDENT	FIND GAUGE COLOR LENGTH NO (REF.) (REF.) (APPROX) C		ORIGI			ACCESS IND NO DESTINATI		ACCESS FIND NO	REMARKS		
181	10	16	4		J04	13	3 '	K02 -2	007	23	
182		•	•		K02-2	IN	14,25	CB07	В	2	
183	Y	Y	Y		CB04	т	2	C04	Р	2	
184	10	16	4		C08	N	2	CB 05	т	2	
185											
186	10	16	4		J04	3	3	TB02	5	12	
187	•	A	1		TB02	5	12	J04	2	3	
188					104	1	3	TRO2	6	12	
189					TB02	7	12	XP01	В	16	
190	Ÿ	1	Y		XFO1	T	16	C03	Р	2	
191	10	16	4		ТВ02	3	12	TB04	2	16	
192		ļ	<u> </u>	·			ļ				
193	21	20	4		J04	33	14	K101	R3	15, 24	
194		1	1	ļ	TB02	7	14 (12)	J04	48	4	
195					J04	46	4	TB09	8	В	
196					TB09	9	8	J04	45	4	
197					J04	43	4	507	B1	11, 25	5
198	\coprod				507	B3	11, 25	J04	42	4	
199	Y	1	Ý		J04	41	4	507	C1	11, 25	5
200	21	20	4		507	c 3	11, 25	104	40	4	

(0)\iii(0)\i	IMA					19333		HEET 12		WL	72994100	₩ A
CONDUCTOR IDENT	HIND	GAUGE (REF.)	1	LENGTH (APPROX)	ORIG	ın	ACCESS FIND NO	DESTINATION		ACCESS FIND NO	l e e e e e e e e e e e e e e e e e e e	
201	21	20	4		J04	39	4	к05	L8	15,24		
202	1	1			KO5	11.2	15, 24	TBO2	2	11		
203					TH02	2	11	K105	112	15, 24		
204					K105	L/3	15, 24	10,1	54	14		
205					104	55	4	5107	c3	11, 25		
206					S107	C1	11, 25	J0/t	56	4	· · · · · · · · · · · · · · · · · · ·	
207					J04	57	4	S107	B 3	11, 25		
208					5107	B1	11, 25	J04	58	4		
209					J04	65	4	S107	CZ	12 47)2	5	
210					5107	B2	12 25 (48)	S107	C2	(1)		
·211 ·					S107	B2	(48)	K101	L3	15, 24		
212					K101	L2	15, 24	J04	64	4		
213				<u> </u>	J04	62	4	TB09	6	8		
214					тво9	7	8	J04	60	4		
215					J04	52	4	TB02	7	(12)		
216					тв02	7	14	J04	37	4		
217	LL				J04	53	4	104	66	3 (14)	i	
218		1			J04	66	(14)	K105	L9	15, 24		
219	Y	7	1		J04	51	4	TB02	5	11		
220	21	20	4	l	TB02	5	11	J04	36	4		

(00X)(X(01)	CONTROL DAIAN				19333			HEET 13		WL	72994100	REV A
CONDUCTOR IDENT.	FIND NO.			ORIG	ACCES		1		ACCESS FIND NO			
221	21	20	4		J04	26	4	TB02	3_	11		
222			A		TB02	3	11	J04	16	4		
223					104	24	4	ко1 з	R3	15, 24		
224	1	1	1		KO1	R2	15, 24	502	B2	11,25		
225	21	20	4		502	В3	11, 25	TB02	9	11		
226												
227	21	20	4		коз	1	15, 24	TB02	9	11		
228	Å	1	1	L	TB02	9	11	K05	1	15, 24		
229					к05	R3	15, 24	K02 - 4	COIL	145(15)		
230		<u> </u>			KO2- 4	COIL	(15)	TB04	8	8		
231					TB04	8	8	ко1	L6	15, 24		
232		,			ко1	L5	15, 24	TBO2	2	14 (16)		
233		·			TB02	2	(16)	K101	L5	15, 24		
23/4					K101	L6	15, 24	K102-4	COIL	14 (17)		
235					K102-4	B	(17/	TB04	22	8		
236					TB04	22	8	K105	R3	15, 24		
237					K105	R5	15, 24	TB02	4	14 (18)		
238	$oxed{oxed}$		<u></u>		TB02	4	(18)	SSW104	4	11_		
239	L	Y	1		SSW103	4	14 (19)	SSW102	4	14 (20)		
240	21	20	4		SSW102	4	(20)	SSW101	4	11		

CONTROL O	MA					19333		1EET 14		WL	72994100	REV
CONDUCTOR FIND		GAUGE (REF.)	COLOR (REF.)	LENGTH (APPROX)	ORIGI	z	ACCESS	DESTINA	ITION	ACCESS FIND NO	REMARKS	
241	21	20	14		SSW103	4	(19)	TB02	lş.	11		
242	•	4	1		TB02	1,	11	SOWON	4	11		
243					59W04	3	11	K04	L3	15, 24		
244					K04	1.2	15.24	TB02	9	11		
245					TB02	10	11	5102	B3	11, 25		
246	Y	1	İ		TB04	21	8	TB09	10	8		
247	21	20	4		TBO4	7	46) 16	7809	/8	8		
248					,		;					
249	21	20	4		T804	7	16,46	KO2~1	COIL	25,11		
250	21	20	4		K102-1	COIL	25,11	T804	21	@ +6		
251												
252			<u> </u>									
253	21	20	4		TB02	7_	12 (21)	CB02	58	5		
254	4	A	•		CB02	30	5	CB04	58	5		
255					CB04	30	5	CB05	58	5		
256					CB05	30	5	CB107	58	5		
257					DS109	В	8	TB02	12	11		
258					TB02	14	11	DS106	В	8	`	
259	1	Ī	1		DS06	В	8	TB02	13	11		
260	21	20	4	1	TB02	11	11	DS09	В	8	1	

(CONTRO) LO	MA					19333		HEET 15		WL	72.994 100	REV
CONDUCTOR IDENT.	1 1 1 1 1		ORIG	IN	ACCESS FIND NO DESTINATION		TION	ACCESS FIND NO				
261	21	20	4		CB07	58	5	CB05	3 D	5		
262	À	Å	Å		TB02	4	11	SSW03	4	14 (22)		
263				1	59 W03	4	(22)	55W02	4	14 (2)		
264					SSW02	4	(23)	SSW01	4	11		
265	Y	Y	1		SSW01	3	14 (24)	SS'402	3	14 25		
266	21	20	4		SSW02	3	(25)	SSW03	3	14 (26)		
267												
268	21	20	4		K04	1	15, 24	SSW01	3	(24)		
269	1	4	1		SSW101	3	14 (27)	SSW102	3	14 (28)		
270					SSW1 02	3	⟨28 ⟩	SSW103	3	14 (29)		
271					S5W03	3	(26)	TB02	9	11		
272					SSW103	3	(29)	TB02	10	11		
273	1				TB02	10	11	K103	1	15, 24		
274					K105	1	15, 24	TB02	10	11		
275					TB02	10	11	K104	L2	15, 24		
276					K104	1	15, 24	SSW101	3	(27)		
277	7	Y	1		SSW104	3	11	K104	L3	15, 24		
278	21	20	4		K101	R2	15, 24	S102	B2	11, 25		
279												
280	21	20	4	1	507	B2	12 25 45	KO1	L3	15) 24		

ONTHE OFFI	Ω(.)						19333	NT SI	SHEET 16			DOCUMENT NO. 72994100	REV.
CONDUCTOR IDENT.	11 N	.)		ORIGIN	ACCE FIND F		1		ACCESS FIND NO	REMARKS			
281	17		24	4		K02-2	OUT	25,11	DS05	8	8		
282	À		À	1		DS05	т	8	TB02	6	11 (30)	
283						TH02	6	(30)	DS105	T	8		
284						DS105	В	A	K102-2	וטס	25,11		
285						K1 02-7	001	-5,11	D::107	11	Α		
286						IX;107	τ	8	THO2	1	11 (11)		
287						TH02	1	(31)	D507	т	В		
288						DS 07	В	8	KO2-/	ουτ	25,11		
289			<u> </u>			KO2-3	ОИТ	25,11	DS08	В	8		
290	L		'	<u> </u>		มรดช	Т	В	TBOZ	6	11 (32)		
291					ļ	TB02	6	(32)	DS108	Ţ	8		
292	Ц		,			DS108	В	8	K102-3	OUT	25,11		
293	Ц		<u> </u>			K102-4	IN	11, 25	TB02	. 6	11 (33)		
294		_	1			TB02	8	(33)	к05	L9	9, 24		
295						K05	R1	9, 24	K04	2	15 24 (34)		
296	Ц					KO4	2	(34)	J04	27	6		
297	Ц					104	25	6	TB02	8	11 (35		
298	Ц	_				TB02	8	(35)	K101	1	9, 24		
299	L	_	<u> </u>	1		K101	2	24, 9	TB02	4	11		
300	17	,	24	4		TB02	1	11 36	DS10	Ţ	8		

COMRODI	ΔĬ						19333	19333 SHE		EET 17		72994100	REV A
CONDUCTOR IDENT		FIND GAUGE COLOR LENGTH NO (REF.) (REF.) (APPROX) O		ORIGI	ORIGIN		DESTINATION		ACCESS FIND NO	REMARKS			
301	1	7	24	4		DS10	В	8	TB02	7	(21)		
302			4	1		TB02	7	11 49	501	A3	11, 25		
303						501	B2	11, 25	TRO2	2	11 (37)		
304						TB02	2	(37)	к05	R5	9, 24		
305						к05	R6	9, 24	ко3	L5	9, 24		
306						коз	L6	9,24	J04	8	6		
307						J04	7	6	к05	2	9, 24		
308						ко1	2	9, 24	TB02	1	36		
309						TB02	1	11 (38)	5102	C2	11, 25		
310						T804	20	в	TRC9	17	8		
311						TB04	20	8	J04	59	6		
312						J04	49	6	501	A2	11 25 43		
313						501	A2	43	K02-4	IN	11 25		
314						K02-4	IN	(39)	K01	1	9, 24		
315						ко1	L2	9, 24	TB02	7	(40)		
316	L					TBO2	6	11	коз	2	9, 24		
317	L	L				J04	50	6 .	K02-4	OUT	25,11		
318	L					K102-4	OUT	25,11	507	C2	11 (41) 25 (41)		
319	Ľ	Ľ.	1	1		507	C2	(H)	507	B2	<u>43</u>		
320	1	7	24	4		TBO#	6_	1.8	TROD	16	8	l	

<u>((())</u>	M/N					19333	NT SI	HEET 18		WL	DOCUMENT NO. 72994100	REV A
CONDUCTOR FIND IDENT. NO.		GAUGE (REF.)	COLOR (REF.)	LENGTH (APPROX)	ORIG	IN	ACCESS FIND NO	DESTINA	DESTINATION		REMARKS	
321 17		24	4		TBO4	6	8	1011	144	6		
322	٨				J04	22	6	DS111	В	В		
323					DG111	T	8	TB02	3	11 (41)		
324					TB02	3	41	DS11	T	8		
325					DS11	В	8	J04	10	6		
326					J04	15	6	K104	2	15 42 24 42		
327					K104	2	42	K105	R1	9, 24		
328					K105	2	9, 24	10/1	5	6		
329					J04	4	6	K103	L6	9, 24		
330					K103	L5	9, 24	K105	Ŕ6	9 24		
331					K103	2	9, 24	TB02	3	11		
332					TB02	1	(38)	502	C2	11, 25		
333					DS 09	т	8	TB04	1	8		
334					TB04	15	8	DS109	T	8		
335	Ш				TB04	5	8	TB0 9	15	8		
336					TB04	5	8	TB04	19	8		
337					тво4	17	В	DS106	Ť	8		
338					DS06	T	8	TB04	3	8		
339	Y	1	Y		TB02	11	11	J04	67	6		
340	17	24	4	1	104	70	6	TB02	12	11		

00MR010	AA					19333		HEET 19		WL	72994100	REV.
CONDUCTOR IDENT	FIND NO.	GAUGE (REF.)		LENGTH (APPROX)	ORIG	ın	ACCESS FIND NO	DESTIN		ACCESS FIND NO	REMARKS	
341	21	20	4		TB04	2	В	TB04	4	В		
342	21	20	4		TB04	4	8	TB04	16	В		
74.3	21	20	4		TBO's	16	В	TB04	18	8		
<i>y</i> 14												
345												
346												
347	21	20	4		C31	ME	5	CB07	30	5	14	
348												
349												
350												
351												
352												
353	21	20	4		C131	ME	5	CB107	3D	5	14	
354	10	16	4		J04	15	3	FL19	OME	5		
355	10	16	4		J04	1.1	3	FL119	OME	5		
356												
357							,					
358												
359												
360												

COXIII Den	MA					19333	NT SI	HEET 20		WL	72994100 RE	Š
CONDUCTOR IDENT.	FIND NO	GAUGE (REF.)	COLOR (REF.)	LENGTH (APPROX)	ORIC	ın	ACCESS FIND NO	DESTINAT		ACCESS FIND NO	REMARKS	
361												
362	\triangle	16		12	т06	1		Т01	6	57		
363	•	12		12	т06	2	1	T01	14	56		
364		12		11	т06	3		тво6	3	53		
365		16		10	т06	4		T02	3	51		
366		12		11	т06	5		тво6	2	53		
367		12		12	т06	6		T01	16	56		
368		16		6	L02	1		C03	P	50		
369		16		6	L02	2		Co4	Р	50		
370	1	16	ļ	5	L03	1		C07	N	50		
371	1	16		5	L03	2		C08	N	50		
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ONDUCTOR IDENT.	GNI ON	GAUGE (REF.)		LENGTH (APPROX)	ORIGI	N.	ACCESS	DESTINAT	ION	ACCESS FIND NO.	REMARKS	
421	22	16	4	3	59W03	2	19	FL17	COIL	18	/15	
422	21	20	4	3	SSW04	2	20	FL14	COIL	18	15	
423									1			
424												
425						_						
426												
429	22	16	4	2	C121	OME	18	55V101	1	19	13/14	
428		1		2	C122	OME	18	SSW102	1	19	15/14	
429				2	C123)ME	18	SSW103	1	19	13/14	
430	-			2	C124	OME	18	59W104	1	19	13/4	
431	- -			8	95W101	2	19	FL111	coll.	18	/15	
432	1	7	V	8 1	SSW1 02	2	19	FL112	cq) t.	18	15	
433	22	16	4	8	SSW103	2	19	FL113	COIL	18	/13	
434	21	20	4	8	SSW104	2	19	FL114	COLL	18	13	
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(O)(H(O)+		GAUGE	COLOR	LENGTH	C32	19333	NT I	<u> </u>				REV
CONDUCTOR	FIND	GAUGE	COLOR	LENGTH		19333	NT S	HEET 24		WL ACCESS	DOCUMENT NO 72994100	REV
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CONDUCTOR IDENT.	FIND NO	GAUGE (REF.)	COLOR (REF.)	LENGTH (APPROX)	ORIGI KO5	19313 N L3	ACCESS FIND NO	DESTINAL	TION 10	WL ACCESS FIND NO 13	DOCUMENT NO 72994100 REMARKS	REV
CONDUCTOR IDENT.	FIND NO	GAUGE (REF.)	COLOR (REF.)	LENGTH (APPROX)	ORIGI K05 TB10	19313 N L3	ACCESS FIND NO 14, 12	DESTINAL TRIO FL15	TION 10 OME	WL ACCESS FIND NO 13 13	DOCUMENT NO 72994100 REMARKS	REV A
CONDUCTOR IDENT. 441 441 442	FIND NO	GAUGE (REF.)	COLOR (REF.)	LENGTH (APPROX) 7 4	ORIGI K05 TB10	CODE IDE 19313 N L3 9 OMR	ACCESS FIND NO 14, 12 13	DESTINAL TRIO FLIS KOS	10 OME.	WL ACCESS FIND NO 13 13 14, 12	DOCUMENT NO 72994100 REMARKS 133 15 114	REV A
CONDUCTOR IDENT. 441 442 443 444	FIND NO	GAUGE (REF.)	COLOR (REF.)	LENGTH (APPROX) 7 4 5	ORIGI K05 TB10 C31 TB10	CODE IDE 19333 N L3 9 OME 12	ACCESS FIND NO 14, 12 13 13 13	DESTINAL TRIO FL15 K05 K05	10 OME L5 L6	WL ACCESS FIND NO 13 13 14, 12	DOCUMENT NO 72994100 REMARKS 1151 1151 1151 1151	I A
CONDUCTOR IDENT. 441 442 443 4445	FIND NO	GAUGE (REF.)	COLOR (REF.)	LENGTH (APPROX) 7 4 5 7	ORIGI K05 TB10 C33 TB10	CODE IDE 19313 N L3 9 OME 12 11	ACCESS FIND NO 14, 12 13 13 13	DESTINAL TRIO FLI5 KO5 KO5 FLI6	10 OME L5 L6 OME	WL ACCESS FIND NO 13 13 14, 12 14, 12	DOCUMENT NO 72994100 REMARKS 115 15 115 115 115 115 115 11	REV A
CONDUCTOR IDENT. 441 442 443 4445 4445	FIND NO	GAUGE (REF.)	COLOR (REF.)	LENGTH (APPROX) 7 4 5 7 4 1	ORIGI K05 TB10 C33 TB10 TB10	CODE IDE 19313 N L3 9 OME 12 11 OME	ACCESS FIND NO 14, 12 13 13 13 13 13	DESTINAL TR10 FL15 K05 K05 FL16 K105	10 OME L5 L6 OME L2	WL ACCESS FIND NO 13 13 14, 12 14, 12 13 14, 12	DOCUMENT NO 72994100 REMARKS 13 15 15 15 15 15 15 15 15 15	REV A
CONDUCTOR IDENT. 441 441 443 444 445 444	FIND NO.	GAUGE (REF)	COLOR (REF.)	LENGTH (APPROX) 7 4 5 7 4 1 5 7	CRIGI K05 TB10 C33 TB10 TB10 C132 TB110	CODE IDE 19313 N L3 9 OME 12 1f OME 10	ACCESS FIND NO 14, 12 13 13 13 13 13 13	DESTINAL TR10 FL15 K05 K05 FL16 K105 K105	10 OME L5 L6 OME L2 L3	WL ACCESS FIND NO 13 14, 12 14, 12 14, 12 14, 12	DOCUMENT NO 72994100 REMARKS 1151 1151 1151 1151 1151 1151 1151 1151 1151 1151	REV A
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CONDUCTOR IDENT. 441 441 441 4415 446 447 4418	FIND NO.	GAUGE (REF.) 16	COLOR (REF.)	LENGTH (APPROX) 7 4 5 7 4 1 5 7 4 1 5 7 4 1	ORIGI K05 TB10 C33 TB10 TB10 C132 TB110 TB110 C133 K105 TB110	CODE IDE 19373 N L3 9 OME 12 1f OME 10 9 OME 11 11 11 11 11 11 11 11 11 11 11 11 11	ACCESS FIND NO 14, 12 13 13 13 13 13 13 13 13 13 13 13 13 13	DESTINAL TRIO FLI5 K05 K05 FLI6 K105 K105 FLI15 K105	10 OME 15 L6 OME 12 L3 OME 15	WL ACCESS FIND NO 13 14, 12 14, 12 14, 12 13 14, 12 13 14, 12	DOCUMENT NO 72994100 REMARKS 115 115 115 115 115 115 115 1	REV A
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CONDUCTOR IDENT. 441 441 441 4415 4416 4417 4418 4450 450	FIND NO.	GAUGE (REF.) 16	COLOR (REF.)	LENGTH (APPROX) 7 4 5 7 4 1 5 7 4 1 5 7 4 1	ORIGI K05 TB10 C33 TB10 TB10 C132 TB110 TB110 C133 K105 TB110	CODE IDE 19373 N L3 9 OME 12 1f OME 10 9 OME 11 11 11 11 11 11 11 11 11 11 11 11 11	ACCESS FIND NO 14, 12 13 13 13 13 13 13 13 13 13 13 13 13 13	DESTINAL TRIO FL15 K05 K05 FL16 K105 K105 FL115 K105 TR110 FL116	100 OME 15 16 0ME 12 13 0ME 15 12	WL ACCESS FIND NO 13 14, 12 14, 12 14, 12 13 14, 12 13 14, 12	DOCUMENT NO 72994100 REMARKS 115 115 115 115 115 115 115 1	REV
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CONDUCTOR IDENT. 441 442 443 4445 4447 4448 449 450 451	FIND NO. 15 15 15 15 9	GAUGE (REF.) 16 16 16 16 16 24	COLOR (REF.)	LENGTH (APPROX) 7 4 5 7 4 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	CRIGI K05 TB10 C33 TB10 TB10 C132 TB110 TB110 C133 K105 TB110 TB110	CODE IDE 19313 N	ACCESS FIND NO 14, 12 13 13 13 13 13 14, 12 13 6	DESTINAL TRIO FL15 K05 K05 FL16 K105 FL17 K105 FL115 K105 TRII0 FL116 ORD	100 OME 15 16 0ME 12 13 0ME 15 12	WL ACCESS FIND NO 13 14, 12 14, 12 14, 12 17 14, 12 17 18, 12	DOCUMENT NO 72994100 REMARKS 13 15 15 15 15 15 15 15 15 15	REV A
CONDUCTOR IDENT. 4441 4442 4443 4445 4446 4447 4448 4450 451 452 453	FIND NO. 15 15 15 15 9	GAUGE (REF.) 16 16 16 16 16 24	COLOR (REF.)	LENGTH (APPROX) 7 4 5 7 4 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	CRIGI K05 TB10 C33 TB10 TB10 C132 TB110 TB110 C133 K105 TB110 TB110	CODE IDE 19313 N	ACCESS FIND NO 14, 12 13 13 13 13 13 14, 12 13 6	DESTINAL TRIO FL15 K05 K05 FL16 K105 FL17 K105 FL115 K105 TRII0 FL116 ORD	100 OME 15 16 0ME 12 13 0ME 15 12	WL ACCESS FIND NO 13 14, 12 14, 12 14, 12 17 14, 12 17 18, 12	DOCUMENT NO 72994100 REMARKS 13 15 15 15 15 15 15 15 15 15	REV
CONDUCTOR IDENT. 441 441 441 445 446 447 448 449 450 451 452	FIND NO. 15 15 15 15 9	GAUGE (REF.) 16 16 16 16 16 24	COLOR (REF.)	LENGTH (APPROX) 7 4 5 7 4 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	CRIGI K05 TB10 C33 TB10 TB10 C132 TB110 TB110 C133 K105 TB110 TB110	CODE IDE 19313 N	ACCESS FIND NO 14, 12 13 13 13 13 13 14, 12 13 6	DESTINAL TRIO FL15 K05 K05 FL16 K105 FL17 K105 FL115 K105 TRII0 FL116 ORD	100 OME 15 16 0ME 12 13 0ME 15 12	WL ACCESS FIND NO 13 14, 12 14, 12 14, 12 17 14, 12 17 18, 12	DOCUMENT NO 72994100 REMARKS 13 15 15 15 15 15 15 15 15 15	REV
UNITION (1) (1) (1) (1) (1) (1) (1) (1) (1) (1)	FIND NO. 15 15 15 15 9	GAUGE (REF.) 16 16 16 16 16 24	COLOR (REF.)	LENGTH (APPROX) 7 4 5 7 4 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	CRIGI K05 TB10 C33 TB10 TB10 C132 TB110 TB110 C133 K105 TB110 TB110	CODE IDE 19313 N L3 9 OME 12 11 OME 10 9 OME 11 10 4	ACCESS FIND NO 14, 12 13 13 13 13 13 14, 12 13 6	DESTINAL TRIO FL15 K05 K05 FL16 K105 FL17 K105 FL115 K105 TRII0 FL116 ORD	100 OME 15 16 0ME 12 13 0ME 15 12	WL ACCESS FIND NO 13 14, 12 14, 12 14, 12 17 14, 12 17 18, 12	DOCUMENT NO 72994100 REMARKS 13 15 15 15 15 15 15 15 15 15	REV A
CONDUCTOR IDENT. 441 441 443 444 445 446 447 448 449 450 451	FIND NO. 15 15 15 15 9	GAUGE (REF.) 16 16 16 16 16 24	COLOR (REF.)	LENGTH (APPROX) 7 4 5 7 4 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	CRIGI K05 TB10 C33 TB10 TB10 C132 TB110 TB110 C133 K105 TB110 TB110	CODE IDE 19313 N L3 9 OME 12 11 OME 10 9 OME 11 10 4	ACCESS FIND NO 14, 12 13 13 13 13 13 14, 12 13 6	DESTINAL TRIO FL15 K05 K05 FL16 K105 FL17 K105 FL115 K105 TRII0 FL116 ORD	100 OME 15 16 0ME 12 13 0ME 15 12	WL ACCESS FIND NO 13 14, 12 14, 12 14, 12 17 14, 12 17 18, 12	DOCUMENT NO 72994100 REMARKS 13 15 15 15 15 15 15 15 15 15	REV A

CONTROL	13(1)	NORM	ANDALE I	DIVISION		19333	NT	SHEET 05		WL	72994100	REV A
CONDUCTOR	FIND NO.	GAUGE (REF.)	COLOR (REF.)	LENGTH	ORIGI		ACCES	ss	DN	ACCESS FIND NO.	REMARKS	
	1	20	4		TB09	23	6	S07	A3	3		
500		1	1		TB09	27	(S)		A2	1		
501 502			\vdash		TB09	22	6	507	A1			
	+	\vdash	 \ -		TB09	21	6	S107	A3			
503 504		\vdash			TB09	26	(52)	2 S107	A2			
505		$\Box \Box$			TB09	20	6	S107	A1	3		
506					TB09	13	6	FRONT PANEL	GRD	4		
597	7	Y	1		502	A3	3	T B0 9	27	(51)		
508	1	20	4		S102	A3	3	TB09	26	(52)		
510	1	20	14		TB09	2	6	S02	C1	3		
511	1	20	14		ТВ09	3	6	S102	C1	3		
512	1	20	١,,		ТВ09	25	6	502	A2	3		
513	1	20	4	ļ	TB09	5	6	S102	A2	3		
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G074;070	AV	NORM	ANDA	LE DIV		CODE IDE		SHEET 26		WL	DOCUMENT NO. 72994100	REV.
		T					3				DOCUMENT NO. 72994100	
CONDUCTOR IDENT	FIND	MORM GAUGE (REF.)	COLOR (REF.)	LE DIV		1933		55	Он	WL ACCESS FIND NO	DOCUMENT NO 77994100	
CONDUCTOR	FIND	GAUGE	COLOR	LENGTH	ISICH	1933	ACCES	55	DN _	ACCESS	-	
CONDUCTOR IDENT	FIND	GAUGE	COLOR	LENGTH	ISICH	1933	ACCES	O DESTINATIO	DN	ACCESS	-	
CONDUCTOR IDENT	FIND NO	GAUGE {REF.}	COLOR (REF.)	LENGTH (APPROX)	ORIGIN	1933	ACCES	O DESTINATIO	ON	ACCESS FIND NO	-	
CONDUCTOR IDENT 600	FIND NO	GAUGE {REF.}	COLOR (REF.)	LENGTH (APPROX)	ORIGIN	1933	ACCES	O DESTINATIO	DN NC	ACCESS FIND NO	-	
CONDUCTOR IDENT. 600	FIND NO	GAUGE {REF.}	COLOR (REF.)	LENGTH (APPROX)	ORIGIN KO2-1	1933	ACCES	O DESTINATIO	ON	ACCESS FIND NO 4 (1) (2) 4-	-	
CONDUCTOR IDENT.	FIND NO	GAUGE {REF.}	COLOR (REF.)	3.5 4	ORIGIN KO2-1 KO2-2 KO2-3	1933	ACCES	O DESTINATIO	DN	4(1) (2)4 (3)4	-	
CONDUCTOR IDENT 600 601 2 3	FIND NO	GAUGE {REF.}	COLOR (REF.)	3.5 4 4.5	ORIGIN KO2-1 KO2-2 KO2-3 KO2-4	1933	ACCES	O DESTINATIO	DN .	ACCESS FIND NO 4 (1) (2) 4- (3) 4	-	
CONDUCTOR IDENT GOO 60 1 2 3 4 5	FIND NO	GAUGE {REF.}	COLOR (REF.)	3.5 4 4.5 5.6	ORIGIN KOZ-1 KOZ-2 KOZ-3 KOZ-4 KIOZ-1	1933	ACCES	O DESTINATIO	DN NO.	ACCESS FIND NO 4 (1) (2) 4- (3) 4 (3)	-	
CONDUCTOR IDENT. 600 601 22 3 4 55	FIND NO	GAUGE {REF.}	COLOR (REF.)	3.5 4 4.5 5 6.5 7	ORIGIN KO2-1 KO2-2 KO2-3 KO2-4 KIO2-1 KIO2-2	GND	ACCES FIND N	GND	DN .	ACCESS FIND NO 2 4 3 4 3 4 3 (2)	-	
CONDUCTOR IDENT 600 601 3 4 5 6	FIND NO	GAUGE {REF.}	COLOR (REF.)	3.5 4 4.5 5 6.5 7	ORIGIN KO2-1 KO2-2 KO2-3 KO2-4 KIO2-1 KIO2-Z	GND	ACCES FIND N	GND	DN NO	ACCESS FINO NO 4 (1) (2) 4- (3) 4 (3) (1)	-	
CONDUCTOR IDENT. 600 601 2. 3. 4. 5. 6. 7. 8. 0.9.	FIND NO	GAUGE {REF.}	COLOR (REF.)	3.5 4 4.5 5 6.5 7	ORIGIN KO2-1 KO2-2 KO2-3 KO2-4 KIO2-1 KIO2-2 KIO2-3	GND	ACCES FIND N	GND	ME	ACCESS FIND NO 2 4 3 4 3 4 3 (2)	-	
CONDUCTOR IDENT. 600 601 3 4 5 607	FIND NO	GAUGE {REF.}	COLOR (REF.)	3.5 4 4.5 5.6.5 7 7.5 8	ORIGIN KO2-1 KO2-2 KO2-3 KO2-4 KIO2-1 KIO2-2 KIO2-3	GND GND GND	ACCES FIND N	GND GND GND		ACCESS FIND NO 2 4 3 4 3 4 3 (2)	-	
CONDUCTOR IDENT 600 601 22 3 4 5 6 7 8 0 10 11 12	FIND NO	GAUGE {REF.}	COLOR (REF.)	3.5 4 4.5 5.6.5 7 7.5 8	ORIGIN KO2-1 KO2-2 KO2-3 KO2-4 KIO2-1 KIO2-3 KIO2-4 TB 13	GND 5 1 2 3	ACCES FIND N	GND GND GND FL 20		ACCESS FIND NO 2 4 3 4 3 4 3 (2)	-	
CONDUCTOR IDENT. 600 601 12 3 4 5 60 7 8 09 10 11 12	FIND NO	GAUGE {REF.}	COLOR (REF.)	3.5 4 4.5 5. 6.5 7 7.5 8 3	ORIGIN ORIGIN KO2-1 KO2-2 KO2-4 KIO2-1 KIO2-2 KIO2-4 TB I3	GND 5 1 2	ACCES FIND N	GND GND FL 20 FL 18		ACCESS FIND NO 2 4 3 4 3 4 3 (2)	-	
CONDUCTOR IDENT. 600 601 2 3 4 5 6 7 8 0 9 10 11 12 13	FIND NO	GAUGE {REF.}	COLOR (REF.)	3.5 4 4.5 5. 6.5 7 7.5 8 3	ORIGIN ORIGIN KO2-1 KO2-2 KO2-3 KO2-4 KIO2-1 KIO2-4 TB 13 TB13 FL20	GND 5 1 2 3	ACCES FIND N	GND GND FL 20 FL 18 FL 118	ME	ACCESS FIND NO 2 4 3 4 3 4 3 (2)	-	
CONDUCTOR IDENT. 600 601 2 3 4 5 60 7 8 09 10 11 12 13 14	FIND NO	GAUGE {REF.}	COLOR (REF.)	3.5 4 4.5 5.6.5 7.7.5 8 3 5	ORIGIN ORIGIN KO2-1 KO2-2 KO2-4 KIO2-1 KIO2-2 KIO2-4 TB 13 TB 13 FL 20 FL 120	GND 5 1 2 3 4	ACCES FIND N	GND GND FL 20 FL 18 FL 118 FL 120 K02-1	ME ME	4(1) (2) 4- (3) 4 (3) (1) (2) (2) (3)	-	
CONDUCTOR IDENT 600 601 22 3 4 5 60 7 8 09 10 11 12 13 14 15	FIND NO	GAUGE {REF.}	COLOR (REF.)	3.5 4 4.5 5. 6.5 7 7.5 8 3 5	ORIGIN KO2-1 KO2-2 KO2-3 KO2-4 KIO2-1 KIO2-3 KIO2-4 TB 13 TB13 FL 20 FL 120 FL 18	GND 5 1 2 3 4 0ME	ACCES FIND N	GND GND GND FL 20 FL 18 FL 118 FL 120 K02 -1 K102 -1 K02 -3	ME ME	4(1) (2) 4- (3) 4 (3) (1) (2) (2) (3)	-	
CONDUCTOR IDENT 600 601 22 3 4 5 6 7 8 09 10 11 12 13 14 15 16 17	FIND NO	GAUGE (REF.)	4-	3.5 4 4.5 5. 6.5 7 7.5 8 3 5 4 4.5 7.5	ORIGIN KO2-1 KO2-2 KO2-3 KO2-4 KIO2-3 KIO2-4 TB 13 TB 13 FL 20 FL 120 FL 18 FL 118	GND 5 1 2 3 4 OME	ACCES FIND N 2,3	GND GND FL 20 FL 18 FL 118 FL 120 K02-1 K102-1 K102-3	ME IN IN	ACCESS FIND NO 4 (1) (2) 4 (3) 4 (3) (1) (2) (2) (3) (3) (4) (2) (1) (2) (3) (4) (4) (5) (6) (7) (7) (8) (8) (9) (9) (9) (9) (9) (9) (9) (9) (9) (9	REMARKS	
CONDUCTOR IDENT 600 601 22 3 4 5 60 7 8 09 10 11 12 13 14 15	FIND NO	GAUGE {REF.}	COLOR (REF.)	3.5 4 4.5 5. 6.5 7 7.5 8 3 5	ORIGIN KO2-1 KO2-2 KO2-3 KO2-4 KIO2-1 KIO2-3 KIO2-4 TB 13 TB13 FL 20 FL 120 FL 18	GND GND S I 2 3 4 OME OME COIL	ACCES FIND N 2, 3	GND GND FL 20 FL 18 FL118 FL120 K02-1 K102-1 K02-3	ME ME IN IN COIL	ACCESS FIND NO 4 (1) (2) 4 (3) 4 (1) (2) (1) (2) (3) (3)	REMARKS	

20/11:01/ 1).j/ v	normani	ALE DIV	ISION		19333		HEET 27		WL	7295	4100	RE V
CONDUCTOR IDENT	FIND NO	GAUGE (REF.)	COLOR (REF.)	LENGTH (APPROX)	ORIG	IN	ACCESS	DESTINATI	02	ACCESS FIND NO		REMARKS	
620	13	16	4	2	K02-3	colr	⑤	K02-4	coir	15,22	13		
21	•	•	À	2	K102-1	COIL	17	K102-2	COIL	20,22	<u>A</u> 3		
22				2	K102-2		(i)	K102-3	COIL	20.22	13		
23				2	K102-3		7	K102_4	T	15,22	/15		
24				2	K02-1	COIL	15, 22	K02-2	COIL B COIL	20,22	715		
25	$oxed{oxed}$			2	K02-2	COIL B	(8)	K02-3	В	20,22	13		7
26				2	KQ2-3	COIL	<u></u>	K02-4	COIL B	17	13		
27				2	K102-1	COIL	15, 22	K102-2	COIL	20, 2	43		
28	\sqcup		_ _	2	K102-2		0	K102-3	COIL	20, 22			
29				2	K102-3	COIL	Ω	K102-4	COIL	17	AS		
30	14-	 		24	TB13	1		CB04	В	5 (7)			
31	\vdash		 	24	TB13	4		CB04	В	17	ļ		
32	\sqcup	_		24	FL19	ME		CB04	В	13			
33	$\bot \bot$		 	24	TB13	2	<u> </u>	CB05	В	5 🕥			
34	1		1 1	24	TB13	3		CB05	В	①			
635	13	16	4	24	FL119	ME		CB05	В	(3)			
		-	-										
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THEEPL DOCUMENT NO. 72994100 CONTROLOGYO NORMANDALE DIVISION SHEET 1 of 1 DN Α

NOTES:

(L) COMPONENTS TOL-, LOZ & LOJ USE EXISTING LEADS.). HE STANDS FOR CONNECTION NEAREST MOUNTED END.

FOR FIND NO. REFERENCED IN CONDUCTORS & THRU OME STANDS FOR CONNECTION OPPOSITE MOUNTED END.

- FOR FIND NO. REFERENCED IN CONDUCTORS 77 THRU 148 SEE PL 70820900; A.C. HARNESS.
- FOR FIND NO. REFERENCED IN CONDUCTORS 153
 THRU 355 SEE PL 72954700: D.C. HARNESS.
- 5. FOR FIND NO. REFERENCED IN CONDUCTORS 342
 THRU 373 SEE PL 72754700 & D1; MISC. D.C.
 PANEL WIRING.
- FOR FIND NO. REFERENCED IN CONDUCTORS 383
 THRU TALL SEE PL MUDIABIDIA MISC. POWER
 SUPPLY WIRING.
- A HEXAGON IN THE ACCESS FIND NO. COLUMN INDICATES THAT THE CONDUCTOR IS ONE OF SEVERAL (ALL WITH THE SAME NUMBER IN THE HEXAGON) GOING INTO THE SAME TERMINAL. THE NUMBER IN FRONT OF A HEXAGON IS THE TERMINAL FIND NO.
- FOR FIND NO. REFERENCED IN CONDUCTORS 400 THRU 408 SEE PL 70820800-01, FRONT PANEL ASSY.
- FOR FIND NO. REFERENCED IN CONDUCTORS 415 THRU 434 SEE PL 7082010; A.C. PANEL ASSY.
- FOR FIND NO. REFERENCED IN CONDUCTORS 440 THRU 451 SEE PL 70807900; D.C. RELAY PANEL ASSY.
- FOR FIND NO. REFERENCED IN CONDUCTORS 452 THRU 453, SEE PL 70805400; D.C. RELAY TERMINAL BOARD ASSY.

NOT IN HARNESS.

- FOR FIND NO'S REFERENCED IN CONDUCTORS SOO THRU 513 SEE PL 72954600; FRONT PANEL HARNESS
- FOR PIND NO'S REFERENCED IN CONDUCTORS 618 THRU 629 SEE PL 707101011 COMPONENT MTG.ASSY.
- 18. FOR FIND NO'S REFERENCED IN CONDUCTORS LOT THRU L17 & L30 THRU L35 SEE PL 70724600. HG RELAY HARNESS ASSY.

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CONTROLID	ATA.						1933	3 S	HEET 2		WL	73118700	REV A
ONDUCTOR IDENT:	FIN	- 1	GAUGE (REF.)	COLOR (REF.)	LENGTH (APPROX)	ORIC	ein .	ACCESS	DESTIN	ATION	ACCESS FIND NO.	REMARKS	
1	3		16	4		C14	L	4	T01	3	7 (1)		
2			4	1		T01	3	1	CRO4	4	4, 15		
3						CRO4	3	4,15	CO5	N	9.(2)		
4						CO5	N	(2)	C09	N	11 (3)		
5						C09	N	(3)	TB0 2	4	4		
6						TB02	2	4	c06	N	11 4		
7						c06	N	4	R02	R	4, 15		
8						R02	L	4, 15	C06	Р	9 (5)		
9						C06	Р	(5)	CR05	1	4, 15		
10					ļ	CR05	4	4, 15	T01	9	1		
11						то1	10	1	CR05	2	4, 15		
12					<u> </u>	CRO5	3	4, 15	c e 6	N	4		
13		_	_			C08	N	6	RO/4	L	10		
14		\rfloor			<u> </u>	R04	R	10	C04	P	6		
15			\bot			т08	1	4, 15	т05	3	4		
16						T05	1	4	т01	8	7 6		
17						T01	8	6	то3	1	4		
18						т03	3	4	т09	1	4		
19			1	11		т09	2	4	T01	6	1		
20	3		16	4		T01	4	1	T09	3	4		

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CONTROL	AA					19333	NT SI	HEET 3		WL	73118700	REV.
CONDUCTOR IDENT.	FIND NO.	GAUGE (REF.)	ı	LENGTH (APPROX)	ORIG	12	ACCESS FIND NO.	DESTINA	ATION	ACCESS FIND NO.	REMARKS	
21	3_	16	4		т09	4	4	CRO4	2	4, 15		
22	4	A			CR04	.1	4, 15	C05	P	9 (7)		
23				,	C05	P	7	C09	Р	9 (8)		
24					CO 9	P	8	R03	T	5, 12		
25					RO3	В	5, 15	C09	N	(3)		
26					C02	N	6	RO1	В	5, 12		
27					RO1	Т	5, 12	C02	P	6		
28					т05	4	4	T01	5	7 (9)		
29					TO1	5	9	т03	4	4		
30					T02	1	4	T01	8	7 (10)		
31					TO1	8	10	T04	1	4		
32					TO4	3	4	T07	1	4		
33	:				T07	2	4	T01	7	7 (11)		
34					т01	7	11	T08	2	4, 15		
35					TO 8	3	4	TB08	3	4		
36					TB07	2	4	т07	3	4, 15		
37					т07	4	41	C07	N	6		
38					T07	5	4	тво8	2	4		
	Y	I Y	1	ļ	TB07	3	4	т08	6	4		
40	3	16	4		C14	R	4 .	T01	8	1		

CONTROL	ATA)					1933 3		HEET 4		WL	DOCUMENT NO. 73118700	REV.
CONDUCTOR IDENT.	FIND NO.	GAUGE (REF.)	COLOR (REF.)	LENGTH (APPROX)	ORIGI	N	ACCESS	DESTIN	NATION	ACCESS FIND NO.	• REMARKS	
41	3	16	4		то1	5	7 (12)	T02	4	4		
42	3	16	•		T04	4	4	T01	5	12		
43	2	14			TB07	1	8	T01	13	7		
44	4	1			т01	12	7	C07	P	9		
45					C07	Р	9	c03	N	9		
46					C 0 3	P	9	т08	5	8		
47					тв08	1	8	T01	11	7		
48					T01	15	7	C01	N	9		
49					C01	N	9	C02	N	9		
50					C02	P	9	L01	2	8		
51					LO1	1	8	CO1	P	9		
5 2					C04	N	9	C08	P	9		
53					C08	P	9	C07	P	9		
54	1	1	1		C08	P	9	TB02	3	В		
55	z	14	4		TB02	1	8	C02	N	9		
56		<u></u>										
57				<u> </u>								
58												
59												
60							1					

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CONTROL O	AIA)					19333	NT	SHEET	5		WL	DOCUMENT NO. 73118700	REV.
CONDUCTOR IDENT.	FIND NO	GAUGE (REF.)		LENGTH (APPROX)	ORIG	in	ACCESS		DESTINATIO	ON	ACCESS FIND NO.	REMARKS	
61													
62										<u> </u>			
63								$oldsymbol{\perp}$					
64										<u> </u>			
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67							! 	1		↓			
68							<u> </u>	_					
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70								+		—	ļ		
71								+		 	 		
72		 						╁		┿	<u> </u>		
73								┿		 			
74 75			<u> </u>					+		+			
76		ļ	<u> </u>					+		+	l		
	4	16	4		св 0 ј	 . -	 	+-	00	+	. (1)		
77 78	Ť	1	i		CB02	AT AT	8 (1)	CB	103	AT AT	9 (1) 8		
79	-	1	 		CB02	AB	8	C		ME	5	43	
80	4	116	4		TB11	1	15	Jo		1	13		

CONTROLID	AT/							1933		HEET 6		WL	73118700	REV A
ONDUCTOR	FII	ND O.	GAUGE (REF.)	CO (RE		LENGTH (APPROX)	ORIGIN	ı	ACCESS	DESTIN	ATION	ACCESS FIND NO.	REMARKS	
81	4		16		4		J03	2	13	FL12	CAP B	5		
82	4		4		1		C22	ME	5	CB03	BB	8	<u>/13\</u>	
83							CB103	BT	8	CB02	ВТ	9 (3)		
84							CB02	вт	(3)	CB03	BT	8		
85							CB02	AB	8	J02	1	13		
86							J02	2	13	CB02	88	8		
87							CB03	CT	8	CB02	СТ	12 4		
88							CB02	CT	4	CB103	CT	8		
89							CB03	СВ	8	C23	ME	5	<u>/13\</u>	
90							FL13	CAP B'	5	J03	3	13		
91							J02	3	13	CB02	СВ	8		
92	1		1	<u></u>	_		CB02	AT	9 (5)	XF03	T	10		
93		4	16		4		XF03	В	10	TB11	2	15		
94				L										
95		4	16		4		C123	ME	5	CB103	СВ	8	<u> </u>	
96			1		1		CB103	BB	8	C122	ME	5	13	
97							FL113	CAP T	5	J103	3	13		
98							J103	2	13	FL112	CAP T	5		
99	_		+				TB11	4	15	J103	1	13		
100	4	1	16		4		C121	ME	5	CB103	AB	8	13	

CONTROL	A/A					19333		HEET 7		WL	73118700	REV.
CONDUCTOR IDENT.	FIND NO.	GAUGE (REF.)	COLOR (REF.)	LENGTH (APPROX)	ORIG	IN	ACCESS FIND NO.	DESTIN	ATION	ACCESS FIND NO.	, REMARKS	
101	4	16	4		XF04	В	10	T01	1	22		
102	A	4	1		TO1	2	22	XF05	В	10		
103	Y	Y			XF05	т	10	CB02	СТ	4		
104	4	16			CB02	ВТ	9(9)	XFO4	T	10		
105	3	20			TB03	11	23	тво3	9	10 (56)		
106	4				TB03	9	10 (56)	тво 3	7	10 (57)		
107					TB03	1	23	CB02	AT	(5)		
108					CB02	вт	(9)	TB03	3	23		
109					TB03	5	23	CB02	CT	8 (10)		
110					CB02	CT	10	DS04	В	23		
111					DS 04	т	23	TB01	1	11		
112					TB01	1	11	P106	2	14		
113					P106	1	14	TB11	4	15		
114					FL114	CAP	5	J103	6	14		
115					J103	7	14	твоц	2	11		
116					TB01	2	11	J03	7	14		
117					J03	6	14	FL14	CAP B	5		
118					TB11	2	15	J05	1	14		
119	1	Y	1		J05	2	14	TB01	1	11		
120	3	20	4		TB01	1	11 -	TB03	7	23(57)		

CONTROLLO	AVA						CODE IDE 19333		HEET 8		WL	DOCUMENT NO. 73118700	REV.
ONDUCTOR IDENT	FINI		REF.)	COLOR (REF.)	LENGTH (APPROX)	ORIG	in.	ACCESS FIND NO.	DESTIN	IATION	ACCESS FIND NO.	REMARKS	
121	3		20	4		103	8	14	TB01	4	11		
12 2	•		À	A		TB01	4	11	J103	8	14		
123						J103	5	14	TB01	3	11		
124	\perp					TB01	3	11	J05	3	14		
125						J05	4	14	TB11	3	15		
126	\perp	\perp	\perp			TB11	3	15	J05	7	-14		
127						J05	8	14	TB01	2	11		
125						TB01	2	11	J 05	5	14		
129		\perp				J05	6	14	TB01	4	11		
130	\perp					TB01	4	11	J05	9	14		
131	1	\downarrow		11_		J103	4	14	TB01	3	11		
132	\perp	\perp				TBO1	3	11	J03	5	14		
133	\perp	_				J03	4	14	TB01	3	11		
134	\perp	\perp		-	ļ	TB01	1	11	P06	2	14		
135		\perp	\bot	Ц_	<u> </u>	P06	1	14	TB11	1	15		
136		1			<u> </u>	J02	4	14	TB 61	3	11		
137	Ц	_			<u> </u>	TB01	4	11	J02	5	14		
138	Ц	\perp	_			тв03	2	23	TB03	8	23		
139	Y	\perp	Ť	1		TB03	10	23	TB03	4	23		
140	3		20	4	1	TB03	6	23	TB03	12	23		

CONTROLID	ATA)					19333	S	HEET 9		WL	DOCUMENT NO. 73118700	REV.
CONDUCTOR IDENT.	FIND NO.	GAUGE (REF.)	COLOR (REF.)	LENGTH (APPROX)	ORIGI	N	ACCESS FIND NO	DESTINA	ITION	ACCESS FIND NO.	REMARKS	
141	3	20	4		B01	L	17, 18	TB11	2	15		
142	4		Å		TB11	3	15	B02	L	17, 18		
143	7	1	4		B02	R	17, 18	TB01	2	11	-	
144	3	20	4		TBO1	2	11	B01	R	17, 18		
145	4	16	4		TB11	2	15	C24	ME	5	<u> </u>	
146	4	4	4		FL11	CAP B	5	TB11	1	15		
147	V	4	4		TB11	3	15	C124	ME	5	13	
148	4	16	4		FL111	CAP T	5	TB11	4	15		
149												
150												
151												
152												
153	10	16	4		CB07	T	2	C02	P	7 (1)		
154	4	A	4		C 0 2	P	$\langle 1 \rangle$	CB107	т	2		
155					CB106	T	2	C09	P	7 (2)		
156					c o 9	P	(2)	сво6	Т	2		
157					св06	В	2	C32	ME	5	13	
158					FL15	ME	5	TB02	11	12	<u>/13</u>	
159	1	1	Y		TB02	11	12	J04	21	3		
160	10	16	44		J04	20	,	K102-I	OUT	23		

CONTROL ⁴ D	ATA.				***************************************	19333		HEET 10		WL	73118700	REV.
ONDUCTOR	FIND NO.	GAUGE (REF.)	COLOR (REF.)	LENGTH (APPROX)	ORIG	in	ACCESS	DESTINA	MION	ACCESS FIND NO.	REMARKS	
161												
162												
163	10	16	4		KOZ-1	OUT	23	J04	18	3		
164	4	A	A		J04	17	3	TB02	13	12		
165					FL16	ME	5	TB02	13	12	<u>/13</u>	
166					c3 3	ME	5	XFO2	В	16	13	
167					XFO2	т	16	K 76	6	5 6		
168					K06	6	6	XF102	T	16		
169					XF102	В	1 6	C133	ME	5	<u></u>	
170					FL116	ME	5	TB02	14	12	<u>(13)</u>	
171	1	1	Y		TB02	14	12	J04	35	3		
172	10	16	4		104	29	3	K102-3	OUT	23		
173												
174												
175	10	16	4		KO2-3	OUT	23	J04	28	3		
176	Ā	1	A		J04	30	3	TB02	12	12		
177					FL115	ME	5	TB02	12	12	/13\	
178					C1 32	ME	5	CB106	В	2	13	
1799	•	7	Y		CB107	В	2	K102-2	IN	14,25		
180	10	16	4		K102-2	OUT	23.	J04	14	,		

CONTROL	AVA .				C	ODE IDE		1EET 11		WL	DOCUMENT NO. 73118700
CONDUCTOR	fIND NO.	GAUGE (REF.)	COLOR (REF.)	LENGTH (APPROX)	ORIGIN		ACCESS	DESTINA	TION	ACCESS FIND NO.	REMARKS
181	10	16	4		J04	13	3°	K02 - 2	OUT	23	
182	4	•	A		K02-2	in.	14,25	CB07	В	2	
183	Y	•	Y		CB04	т	2	CO4	P	2	
184	10	16	4		co8	N	2	CB05	T	2	
185											
186	10	16	4		J04	3	3	TB02	5	12	
187	A	A	A		TB02	5	12	J04	2	3	•
188					J04	1	3	TB02	6	12	
189					TB02	7	12	XFO1	В	16	
190	7	V	7		XFO1	T	16	C03	P	2	
191	10	16	4		TB02	3	12	тв04	2	16	
19 2	·		<u> </u>		4				1		
193	21	20	4		J04	33	4	K101	R3	15, 24	
194	1		1	ļ	TB02	7	14 (12)	J04	48	4	
195					J04	46	4	тв09	8	8	
196				L	TB09	9	8	J04	45	4	
197	\sqcup			1	J04	43	4	S07	B1	11, 25	
198	\coprod	$\perp \perp$		<u> </u>	507	В3	11, 25	J04	42	4	
199	7	1	1	ļ	J04	41	4	507	C1	11, 25	
200	21	20	4		S07	c 3	11, 25	304	40	4	

CONTRO	ÂΙΔ						19333		HEET 12		WL	73118700	REV.
CONDUCTOR IDENT.	FIN	- 1	GAUGE (REF.)	COLOR (REF.)	LENGTH (APPROX)	ORIG	iin	ACCESS	DESTIN	IATION	ACCESS FIND NO.	REMARKS	
201	21		20	4		J04	39	4	к05	L8	15,24	-	
202	4		4			K05	R2	15, 24	TB02	2	11		
203						TB02	2	11	K105	R2	15, 24		
204						K105	L8	15, 24	J04	54	4		
205						104	55	4	S107	с3	11, 25		
206						S107	C1	11, 25	J04	56	4		
207						J04	57	4	5107	B 3	11, 25		
208						S107	B1	11, 25	J04	58	4		
209						J04	65	4	\$107	C2	12 47 2	25	
210						S107	B2	12 25 (48)	S107	C2	43		
211 '						S107	B2	(48)	К101	L3	15, 24		
212						к101	L2	15, 24	J04	64	4		
213						J 04	62	4	TB09	6	8		
214						TB09	7	8	J04	60	4		
215						104	52	4	TB02	7	12		
216						TB02	7	14	J04	37	4 1		
217						J04	53	4	J04	66	3 (14)		
218						J04	66	(14)	K105	L9	15, 24		
219	Y		1	1		J04	51	4	TB02	5	11		
220	21		20	4		TB02	5	11	J04	36	4		

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CONTROLL	MA					19333		HEET 13		WL	DOCUMENT NO. 73118700	REV A
CONDUCTOR IDENT.	FIND NO.	GAUGE (REF.)	COLOR (REF.)	LENGTH (APPROX)	ORIG	IN	ACCESS FIND NO.	DESTINATI	ЮИ	ACCESS FIND NO.	REMARKS	
221	21	20	4		J04	26	4	тво2	3	11		
222		4	À		TB02	3.	11	J04	16	. 4		
223					J04	24	4	ко1 з	R3	15, 24		
224	1	*	1		KO1	R2	15, 24	S02	B2	11,25		
225	21	20	4		502	В3	11, 25	ТВ02	9	11		
226												
227	ı				6.5	1	10. 30	7		1		
228	21	20	4		TB02	9	11	ко5	1	15, 24		
2 29	Å	1	A		к05	R3	15, 24	K02 - 4	COIL	145(15)		
230					KO2-4	COIL	(15)	TB04	8	8		
231					TB04	8	8	ко1	L6	15, 24		
232					ко1	L5	15, 24	TB02	2	14 (16)		
233					TB02	2	(16)	K101	L5	15, 24		
234					K101		15, 24	K102-4	COIL	14 17		
235					K102-4	B	(17)	TB04	22	8		
236	1	1	<u> </u>		TB04	22	8	K105	R3	15, 24		
237	21	20	4		K105	R5	15, 24	TB02	4	-11		
238	17	24	4		R105	Rl	(1 2)	SSW104	4	11		
239	21	20	4		SSW103	4	14 (19)	SSW102	4	14 (20)		
240	21	20			SSW102	4	20	SSW101	4	11		

ÇONTROFT	ATA.					19333		HEET 14		WL	73118700	REV A
CONDUCTOR IDENT.	FIND NO.	GAUGE (REF.)	COLOR (REF.)	LENGTH (APPROX)	ORIGI	N	ACCESS	DESTINA	NOIT	ACCESS FIND NO.	REMARKS	
241	21	20	4		SSW103	4	(19)	TB02	4	11		
242	17	24	4		KO5	R1	15 24 (34)	SSW04	4	11		
243					M _L r		1	31.		1. "		
244												
245	21	20	4		TB02	10	11	S102	В3	11, 25		
246	21	20	4		T804	21	. 8	TB09	10	8		
247	٦Į	os	4		TB04	7	46) 16	T809	18	· 8		
248							;					
249	21	20	4		T804	7	16,46	K02-1	COIL	25,11		
250	21	20	4		K102-1	COIL	25,11	T804	21	<i>5</i> 00+6		
251												
252												
253	21	20	4		TB02	7	12 (21)	CB02	58	5		
254	A	A	A		CB02	30	5	CB04	58	5		
255					CB04	30	Ś	CB05	58	5		
256					CB05	3D	5	CB107	58	5		
257					DS109	В	8	TB02 .	12	11		
258					TB02	14	11	DS106	В	8		
259	7				DS06	В	8	TB02	13	11		
260	21	20	4		TB02	11	11	DS09	В	8		

CONTROL (AIA					19333		HEET 15		WL	DOCUMENT NO. 73118700	REV.
CONDUCTOR IDENT.	FIND NO.	GAUGE (REF.)	COLOR (REF.)	LENGTH (APPROX)	ORIG	in	ACCESS FIND NO.	DESTINA	TION	ACCESS FIND NO.	REMARKS	
261	21	20	4		CB07	58	5	CB05	3 D	5		
262		1			TB02	4	11	SSW03	4	14 (22)		
263					SSW03	4	(22)	SSW02	4	14 (23		
264					SSW02	4	23	SSW01	4	11		
265	Y	Y	. 1		SSW01	3	14 (24)	SSW02	3	14 25		
266	21	20	4		SSW02	3	(25)	SSW03	3	14 (26		
267												
268	21	20	4		TB02	9	11	SSW01	3	(24)		
269	4	4	A		SSW101	3	14 (27)	SSW102	3	14 (28)		
270					SSW1 02	3	28	SSW103	3	14 (29)		
271	4	1	V		ssw03	3	(26)	SSW04	3	11		
272	21	20	4		ssw103	3	(29)	SSW104	3	11		
27 3												
274	21	20	4		K105	1	15, 24	TB02	10	11		
275			1									
276					TBO2	!10	: 11	SSW101	3	27		
277			,									
2 7 8	21	20	4		K101	R2	15, 24	S1102	B2	11, 25		
279												
280	21	20	4		S07	B2	12 25 45	K01	L3	15; 24		

CONTROL	AIA					19333	ENT	SHEET 16		WL	DOCUMENT NO. 73118700	REV.
CONDUCTOR IDENT.	FIND NO.	GAUGE (REF.)	COLOR (REF.)	LENGTH (APPROX)	ORIG	i Z	ACCESS	1	IATION	ACCESS FIND NO	REMARKS	
281	17	24	4		K02-2	ou:	25,11	DS05	В	8		
282	•	1	1		DS05	T	8	TB02	6	11 (30	>	
283					TB02	6	(30)	DS105	т	8		
284					DS105	В	8	K102-2	OUT	25,11		
285					K102-1	out	25,11	DS107	В	8		
286					DS107	т	8	TB02	i	11 (31)		
287					TB02	1	(31)	DS07	T	8		
288					DS07	В	8	K02-/	ОИТ	25,11		
289					K∩2 −3	ou-	25,11	DS08	В	8		
290					DS08	Т	8	TB02	6	11 (32)		
291					TB02	6	(32)	DS108	T	8		
292					DS108	В	8	K102-3	OUT	25,11		
293	Y		Y	<u> </u>	K102-4	IN	11, 25	TB02	5	11 (33)		
294	17	24	4		TB02	8	(33)	ко5	L9	9, 24		
295						1						
2 96	17	24	4		ко5	Rl	(34)	J04	27	6		
297		1			J04	25	6	TB02	8	11 (35		
298	\prod				TB02	8	(35)	K101	1	9, 24		
299	1	Y			K101	2	24, 9	TB02	4	11		
300	17	24	4		TB02	1	11 (30	DS10	T	8		

CONTRÔ	Jar.					1933 3		HEET 17		WL	DOCUMENT NO. 73118700	REV A
CONDUCTOR IDENT.	FIND NO.	GAUGE (REF.)	COLOR (REF.)	LENGTH (APPROX)	ORIG	IN	ACCESS	DESTINA	TION	ACCESS FIND NO.	REMARKS	
301	17	24	4		DS10	В	8	TB02	7	(21)		
302	1	4	A		TB02	7	11 40	S01	A3	11, 25		
303					S01	B2	11, 25	тв02	2	11 (37)		
304	17	24	4		TB02	2	37	к05	R5	9, 24		
305										. **		•
306	17	24	4		KO5	R6	9,24	J04	8	6		
307	1	_ A			J04	7	6	к05	2	9, 24		
308	\perp				ко1	2	9, 24	TB02	1	39		
309					TB02	1	11 (38)	S102	C2	11, 25		
310					T804	20	8	TB0 9	17	8		
311					TB04	20	8	J04	59	6		
312					J04	49	6	S01	A2	11 25 43		
313					S01	A2	43	ко2-4	14	11 25		· · · · · · · · · · · · · · · · · · ·
314	1				K02-4	IN	(39)	К01	1	9, 24		
315	17	24	4		КО1	L2	9, 24	TB02	7	(40)		
316					,		1	`		,		
317	17	24	4		J04	50	6	K02-4	OUT	25,11		
318	1		1		K102-4	OUT	11ر25	507	C2	11 25 (44)		
319	1	1	<u> </u>		S07	C2	(H)	507	B2	45		
320	17	24	4]	T804	6	1 8	TBOG	16	8		

CONTROLLO	ATA.					19333	NT SI	HEET 18		WL	DOCUMENT NO. 73118700	REV.
CONDUCTOR IDENT.	FIND NO.	GAUGE (REF.)	COLOR (REF.)	LENGTH (APPROX)	ORIGI	И	ACCESS	DESTINA	TION	ACCESS FIND NO.	REMARKS	
321	17	24	4		TB04	6	8	J04	44	6		
322	4.	1	1		J04	22	6	DS111	В	8		
323					DS111	т	8	TB02	3	11 (41)		
324					TB02	3	41	DS11	T	8		
325	Y	Y	Y		DS11	В	8	J04	10	6		
326	17	24	4		J04	15	6	K105	R1	15 (42) 24		
327					1 '		1 .	1.5	1			
328	17	24	4		K105	2	9, 24	J04	5	6		
329	17	24	4		J04	4	6	К103	L6	9, 24		
*330												
331						,	^、'			. 1		
332	17	24	4		TB02	1	(38)	502	C2	11, 25		
333	1	A .	A		DS 09	T	- 8	TB04	1	8		
334					TBO4	15	8	DS1 09	Т	8		
335					TB04	5	8	тво е	15	8		
336					TB04	5	8	TB04	19	8		
33 27				<u> </u>	TB04	17	8	DS106	т	8		
3 38					DS06	Т	8	TB04	3	` 8		
339	1	1	1		TB02	11	11	J04	67	6		
340	17	24	4	1	J04	70	6	TB02	12	11	. ,	

CONTROLEO	AA					19333		HEET 19		WL	73118700 ·	REV.
CONDUCTOR IDENT.	FIND NO.	GAUGE (REF.)	COLOR (REF.)	LENGTH (APPROX)	ORIG	iin	ACCESS FIND NO.	DESTINA	TION	ACCESS FIND NO.	REMARKS	
341	21	20	4		TB04	2	8	TBO4	4	В		
342	21	20	4		TB04	4	ß	TBO4	16	В		
343	21	20	4		TB04	16	8	TBO4	18	8		
344												
345												
346												
347	21	20	4		C31	ME	5	CB07	30	5	14	
348												
349												
350												
351												
352												
353	21	20	4		C131	ME	5	CB107	30	5	14	
354	70	ЪЬ	4		J04	1.2	3	FLl9	OME	5		
355	סנ	16	4		J04	11	3	FL119	OME	5		
356												
357							,					
358												
359												
360												

CONTROLLO	ATA					19333		HEET 20		WL	DOCUMENT NO. 73118700	REV
ONDUCTOR	FIND NO.	GAUGE (REF.)		LENGTH (APPROX)	ORIG	iin	ACCESS FIND NO.	DESTINA	TION	ACCESS FIND NO.	REMARKS	
361												
362	Λ	16		12	т06	1		т01	6	57		
363	1	12		12	т06	2	1	T01	14	56		
364		12		11	т06	3		тв 06	3	53	·	
365		16		10	т06	4		T02	3	51		
366		12		11	т06	5		тво6	2	53		
367		12		12	т06	6		T01	16	56		
368		16		6	L02	1		003	P	50		
369		16		6	L02	2		Co4	P	50		
370	1	16		5	L03	1		C07	N	50		
371	1	16		5	L03	2		c08	N	50		
372	52	16	4	12	C01	P	50	тв06	1	51		
373	54	14	4	4	T08	5	58	т08	4	53		
374		<u> </u>			<u> </u>					<u> </u>		
375		ļ										
376												
377												
3 78												
379												
380		1		<u> </u>		L_	<u> </u>					

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CONTROLL						1933	DENT	SH	1EET 21		WL	DOCUMENT NO. 73118700	REV
CONDUCTOR IDENT.	FIND NO.	GAUGE (REF.)		LENGTH (APPROX)	ORIG	IN	ACCES FIND N		DESTINATIO	7	ACCESS FIND NO	REMARKS	
381													
382													
383	67	16	4	10	PANEL B	ASE GRE	68		FRONT PANEL	GRD	68	As	
384	73	50	4	16	TOL	J.	90		KOP	7	75	43	
385	73	20	4	16	TOL	2	90		KOL	2	75	43	
386	L 7	1.6	ц	12	CDF	Р	89		KDF	ŀ	75	1.5	
387													
388													
389													
390													
391						_							
392	<u></u>						ļ				ļ	•	
393			<u></u>					_					
394								_					
395		<u> </u>						_					
396	<u> </u>						<u> </u>						
397							1	_					
398							1	4					
399			ļ				4	4					
400	40	20	4	7	TB09	19	42	}	C31	OME	75	14 /15	

CONTROLL	AVA					CODE IDE 19333	NT Si	HEET 22		WL	DOCUMENT NO. 73118700	RFV A
ONDUCTOR	FIND NO.	GAUGE (REF.)	COLOR (REF.)	LENGTH (APPROX)	ORIG	iin	ACCESS FIND NO.	DESTINA	TION	ACCESS FIND NO.		
401	40	20	4	6	TB09	11	42	C131	OME		14/15	
402	40	20	4	2	тв09	14	42	тв09	13	<u>(53)</u> 39	13	
403	40	20	4	2	тв09	12	S4) 39	тв09	13	(53)	13	
404	40	50	4	3	твоя	24	42	TBO9	4	42	15	
405	40	50	4	2	TB09	4	42	TB09	15	(4)	43	
406	40	20	4	2.5	TB09	11	42	TBO9	5.P	42	<u>/1</u> s\	
407	40	20	4	3.5	твоя	19	42	T809	27	42	1.5	
408	43	24	4	2.5	TB09	J.	42	201	B3	43,44		
409												
410									•			
411												
412												
413							<u> </u>					
414												
415	22	16	4	2	C21	OME	18	SSW01	1	19	15/14	
416	1	<u> </u>	1	2	C22	OME	18	SSW02	1	19	13/14	
417				2	C23	OME	18	SSW03	1	19	13/14	
418	\coprod			2	C24	OME	18	55W04	1	19	13/14	
419	1	1	1	3	SSW01	2	19	FL11	COIL	18	43	
420	22	16	4	3	SSW02	2	19	FL12	COIL	18	13	

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CONTRO)JO					CODE IDE 19333		HEET 23		WL	DOCUMENT NO. 73118700	REV A
CONDUCTOR IDENT.	FIND NO.	GAUGE (REF.)	COLOR (REF.)	LENGTH (APPROX)	ORIG	IN	ACCESS FIND NO.	DESTINA	ITION	ACCESS FIND NO.	REMARKS	
421	22	16	4	3	55W03	2	19	FL13	COIL	18	15	
422	21	20	4	3	SSWO4	2	20	FL14	CO IL B	18	15	
423												
424												
425												
426												
429	22	16	4	2	C121	ОМЕ	18	SSV101	1	19	15 14	
428	4	4		2	C122	OME	18	SSW102	1	19	15/14	
429				2	C123	ФME	18	SSW103	1	19	15/14	
430				2	C124	OME	18	SSW104	1	19	13/14	
431				8	SSW101	2	19	FL111	COIL	18	15	
432	1	7	1	8 1	SSW102	2	19	FL112	$\omega_{ m TL}$	18	<u> 15</u>	
433	22	16	4	8	SSW103	2	19	FL113	COIL	18	15	
434	21	20	4	8	SSW1 04	2	19	FL114	COIL	18	15	
435												
436												
437												
438												
439										<u> </u>		
440	15	16	4	5	C32	OME	13	к05	1,2	14, 12	13/14	

CONTROLE	ATA,					19333		HEET 24		WL	73118700	RE ,≜
CONDUCTOR IDENT.	FIND NO.	GAUGE (REF.)	COLOR (REF.)	LENGTH (APPROX)	ORIG	IN	ACCESS FIND NO.	DESTINA	TION	ACCESS FIND NO.	REMARKS	
441	15	16	4	7	к05	L3	14, 12	TB10	10	13	15	
442	4	A	4	4	TB10	9	13	FL15	OME	13	13/14	
443				5	C33	OME	13	к05	L5	14, 12	15/14	
HHH	Ш			7	TB10	12	13	к05	L6	14, 12	<u> 15</u>	
445				4 1	TB10	1 <u>1</u>	13: 1	FL16	OME	13	15/14	
446		<u> </u>		5	C132	OME	13	K105	L2	14, 12	15/14	
447				7	TB110	10	13	K105	L3	14, 12		
448				4	TB110	9	13	FL115	OME	13	13/13	
449	Щ			5	C133	OME	13	K105	L5	14, 12	Language - reset	
450	Y	Ÿ	T	7	K105	L6	14, 12	TB110	12	13	43	
451	15	16	4	4	TB110	11	13	FL116	OME	13	13/14	
452	9	24	4	2	TB10	4	6	GRD		8	15	
453	9	24	4	2	TB110	4	6	GRD		8	<u>(13)</u>	
	<u> </u>	ļ		1						<u> </u>		
		 										
		 	 	 								
,			 			+	<u> </u>					
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41249000 E 9-107

CONTROL II	ALA	NORM	ANDALE I	DIVISION		19333	SI	HEET £5		WL	73118700	RE√ A
CONDUCTOR IDENT.	FIND NO.	GAUGE (REF.)	COLOR (REF.)	LENGTH (APPROX)	ORIG	IN	ACCESS FIND NO.	DESTINATIO	N	ACCESS FIND NO	REMARKS	
5 00	1	20	4		TB09	23	6	S07	А3	3		
501	4	1	Å		TB09	27	(5) 2	S07	A2	I		
502					TB0 9	22	6	S07	A1			
503					TB09	21	6	5107	A3			
504					TB0 9	26	(52) 2	S107	A2			
505					TB09	20	6	S107	A1	3		
506					T B0 9	13	6	FRONT PANEL	GRD	4		
597	1	7	Y		502	A3	3	TBC9	27	(51)		
508	1	20	4		S102	A3	3	TB09	26	(52)		
		ļ						! !	<u> </u>			
510	1	20	4		TB09	2	6	S02	C1	3		
511	1	20	4		TB09	3	6	S102	C1	3		
512	1	20	4		TB09	25	6	S02	A2	3		
513	1	20	4		TB09	5	6	S102	A2	3		
		ļ										
		<u> </u>										
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			-					ļ	<u> </u>			
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CONTROLO	ATA)	NORM	ANDA	LE DIV		CODE IDE		HEET 26		WL	73118700	REV.
ONDUCTOR IDENT.	FIND NO.	GAUGE (REF.)	COLOR (REF.)	LENGTH (APPROX)	ORIGIN	1	ACCESS FIND NO	DESTINATIO	ON	ACCESS FIND NO	REMARKS	
600												
601	13	16	4	3.5	K02-1	GND	2,3	GND		4(1)		
1 2	T	1	4	4	KOZ-2	1	Á	1		2)4		
3				4.5	K02-3					3 4		
4				5	K02-4					3		
5				6.5	K105-1					1		
6				7	KIOZ-Z					2		
7				7.5	KIOZ-3	7	V					
8				8	K102-4	GND	2,3	Y		2		
09				3	TB 13	5	<u> </u>	GND		③		
10				5	4	1		FL 20	ME			
11						2		FL 18	1			
12	Щ			1	<u>†</u>	3		FL118	<u> </u>			
13				5	TB13	4		FL120	ME			
14				3	FLZO	OME		KOS-1	IN	2,3		
15	Ш			6	FL 120	1		K105-1				
16	Ш			4.5	FLIB			K02-3	1			
17	$oxed{oxed}$			7.5	FL 118	OWE		K102-3	IM	2,3		
¥ 18	1	1	1	2	KOZ-I	COIL		K02-Z	COLL	20 4		
619	13	16	4	2	K02-2	C위노	(4)	K02-3	copi	²⁰ (5)	(15)	

(हेर्ग्)(मी:स्माः व	AVA	NORMANI	DALE DIV	ISION		19333		HEET 27		WL	73118700	REV
CONDUCTOR IDENT.	FIND NO.	GAUGE (REF.)	COLOR (REF.)	LENGTH (APPROX)	ORIGI	N	ACCESS	DESTINATIO	ON	ACCESS FIND NO.	REMARKS	
620	13	16	4	2	K02-3	cur	③	K02-4	COIL	15,22	15	
21		1	1	2	K102-1	COIL	17	K102-2	COIL T	20,22	<u> 13</u>	
22				2	K102-2	COIL	©	K102-3	COIL	20,22	15	
23				2	K102-3	COIL T	⑦	K102_4	COIL	15,22	15	
24				2	K02-1	COIL	15, 22	K02-2	COIL	20,22	<u> </u>	
25				2	K02-2	COIL B	(8)	K02=3	В	20,22	B	
26				2	K Q 2-3	COIL	0	K02-4	COIL	17	15	
27				2	K102-1	COIL B	15, 22	K102-2	COIL	20, 22	<u>A</u>	
28				2	K102-2	COIL B	①	K102-3	COIL	20, 22	13	
29				2	K102-3	COIL B	1	K102-4	COIL B	17	A3	
30				24	TB13	1		CB04	В	5 (12)		
31				24	TB13	4		CB04	В	(2)		
32				24	FL19	ME	<u> </u>	CB04	В	12		
33				24	TB13	2		CB05	В	5 🛈		
34				24	TB13	3		CB05	В	13		
635	13	16	4	24	FL119	ME		CB05	В	(3)		
	1	İ					J					

CONTROL DATA		CODE IDENT			DOCUMENT NO.	REV.
COLUMB SAM	NORMANDALE DIVISION	19333	SHEET 1 of 1	DN	72118700	Ι Δ Ι
T-0.1		!	İ	l .	73118700	^

NOTES:

2. FOR FIND NO. REFERENCED IN CONDUCTORS 1 THRU 44 OME STANDS FOR CONNECTION OPPOSITE MOUNTED 55 SEE PL 40017800; D.C. PANEL HARNESS.

- 3. FOR FIND NO. REFERENCED IN CONDUCTORS 77 THRU 148 SEE PL 70820900; A.C. HARNESS.
- FOR FIND NO. REFERENCED IN CONDUCTORS 153 THRU 355 SEE PL 72954700; D.C. HARNESS.
- FOR FIND NO. REFERENCED IN CONDUCTORS 362 THRU 373 SEE PL 72954700 & 01: MISC. D.C.
- FOR FIND NO. REFERENCED IN CONDUCTORS 383 THRU 386, SEE PL 40038600; MISC. POWER SUPPLY WIRING.
- A HEXAGON IN THE ACCESS FIND NO. COLUMN INDICATES THAT THE CONDUCTOR IS ONE OF SEVERAL (ALL WITH THE SAME NUMBER IN THE HEXAGON) GOING INTO THE SAME TERMINAL. THE NUMBER IN FRONT OF A HEXAGON IS THE TERMINAL FIND NO.
- FOR FIND NO. REFERENCED IN CONDUCTORS 400 THRU 408 SEE PL 70820800-01, FRONT PANEL ASSY. 8.

FOR FIND NO. REFERENCED IN CONDUCTORS 415 THRU 434 SEE PL 70820100; A.C. PANEL ASSY. 10.

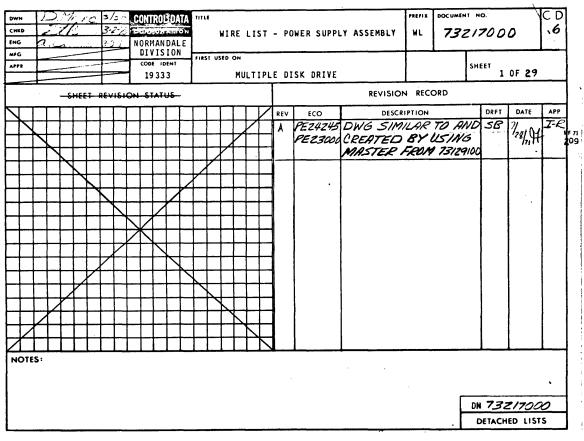
- LL. FOR FIND NO. REFERENCED IN CONDUCTORS 440 THRU 451 SEE PL 70807700; D.C. RELAY PANEL ASSY.
- TOR PIND NO. REFERENCED IN CONDUCTORS 452
 STATEMENT YEAR OF THE TORSES O

LOS GENUNDA TOBA LOS & LOS USE EXISTING LEADS. 13. ME STANDS FOR CONNECTION NEAREST MOUNTED END.

15 NOT IN HARNESS.

- Lb. FOR FIND NO'S REFERENCED IN CONDUCTORS 500 THRU 513 SEE PL 72954600; FRONT PANEL HARNESS
- 17. FOR FIND NO'S REFERENCED IN CONDUCTORS 618
 THRU 629 SEE PL 70710101: COMPONENT MTG.ASSY.
- LB. FOR FIND NO'S REFERENCED IN CONDUCTORS LOT THRU L17 & L30 THRU L35 SEE PL 70724800; HG RELAY HARNESS ASSY.

Belisle Modley Mos



CONTROLED		NORM.	ANDALE	DIVISI	ON	19333		HEET 2	2	WL	73217000 6	REV A
ONDUCTOR IDENT.	FIND NO.	GAUGE (REF.)	COLOR (REF.)	LENGTH (APPROX)	ORIGI	N	ACCESS	DESTINA	ATION	ACCESS FIND NO.	REMARKS	
1	3	16	4		C14	L	4	T01	3	7 (1)		
2	1	1	A		T01	3	$\langle \overline{1} \rangle$	CRO4	4	4,15		
3					CRO4	3	4,15	CO 5	N	9 2		
4					C05	N	(2)	CO 9	N	11(3)		
5	П	T			C09	N	(3)	TB02	4	4		
6					TB02	2	4	C06	N	114		
7					C06	N	4	`R02	R	4		
8					R02	L	4	CO 6	Р	9 (5)		
9					C06	Р	(5)	CRO5	1	1		
10					CRO 5	4	1	T01	9	1		
11		ot			T01	10	1	CRO5	2	1		
12					CRO5	3	1	C06	N	4		
13					C08	N N	6	R04	L	10		
14	\sqcup	$\sqcup \!\!\! \perp$	$\bot \downarrow$		R04	R	10	CO4	Р	6		
15	\sqcup				T08	11	4,15	T05	3	4		
16	\sqcup	$\bot \bot$	11		T05	1	4	TO 1	8	7 6		
17	\vdash	+	11		T01	8	<u>(6)</u>	TO 3	1	4		
18	$\vdash \vdash$	11	11-	ļ	T03	3	4	Т09	1	4		
19	1	┼	1		T09	2	4	T01	6	1		
20	3	16	4	1	T01	4	1	T09 ·	3	4		PRINTED IN U

CONTROLLO	M		NORM	1AN	DALE	DIVIS	ION	1933		SHEET	3	WL	DOCUMENT NO. 73217000	C D REV
CONDUCTOR IDENT.		ND O.	GAUGE (REF.)			LENGTH (APPROX)	ORIG	×	ACCESS		ATION	ACCESS FIND NO.	REMAR	KS .
21	3	3	16	4			Т09	4	4	CRO4	2	4,15		
22	į		A		A		CRO4	1	4,15	C05	Р	9 (7)		
23							C05	Р	$\langle \overline{\jmath} \rangle$	C09	P	9 (8)		
24							C09	P	(8)	R03 ·	Т	5,15		
25							RO3	В	5,15	C09	N	3		
26 ·				L	_		C02	N	6	RO1	В	5,15		
27				_	1		RO1	T	5,15	C02	Р	6		
28	L				$oxed{}$		T05	4	4	T01	5	7 9		
29	L			L	ļ	ļi	T01	5	<u>(9)</u>	T03	4	4		
30	L			L	<u> </u>		T02	1	4	T01	8	7 (10)		
31	L			_	_		T01	8	10	T04	1	4		
32	L	_		1_	1_		T04	3	4	T07	1	4		
33		_		_	1		T07	2	4	T01	7	7 (11)		
34	_	L		1	\downarrow		T01	7	11)	T08	2	4,15		
35	_	L		\perp	1	<u> </u>	T08	3	4	TB08	3	4		
36	L			$oxed{oxed}$			TB07	2	4	T07	3	4,15		
37	L	ot		$oldsymbol{ol}}}}}}}}}}}}}}$	$oldsymbol{\perp}$	ļ	T07	4	4	C07	N	6		
38	L		$\sqcup \!\!\! \perp$	\perp	\perp	ļ	T07	5	4 .	TB08	2	4	·	
39	Ľ	<u> </u>	1	\perp	1	<u> </u>	TB07	3_	4	T08	6	4		
40	3	3	16	4			C14	R	4	T01	8	1	L	

CONTROL	AZA	NORM	ANDALE	DIVISI	ON	19333		HEET 4	1	WL	73217000 6 A
ONDUCTOR	FIND NO.	GAUGE (REF.)	COLOR (REF.)	LENGTH (APPROX)	ORIGI	z	ACCESS FIND NO.	DESTIN	ATION	ACCESS FIND NO.	REMARKS
41	3	16	4		T01	5	7 (12)	T02	4	4	
42	3	16	A		T04	4	4	T01	5	12	
43	2	14			TB07	1	8	T01	13	7	
44	4	4			TO 1	12	7	C07	Р	9	
45					C07	Р	9	CO3	N	9	
46					CO3	Р	9	T08	5	8	
47					TB08	1	8	T01	11	7	
48					T01	15	7	CO 1	N	9	
49					CO 1	N	9	C02	N	9	-
50					C02	Р	9	L01	2	8	
51	Ш				L01	1	8	C01	P	9	
52					CO4	N	9	C08	Р	9	
53					C08	P	9	C07	Р	9	
54	1	1	Y		C08	P	9	TBO2	3	8	
55	2	14	4		TB02	1	8	C02	N	9	
56											
57											·
58		ļ									
59											
60											

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CONTROLL	AIA;	NOR	M AN DAL	E DIVIS	SION	1933		HEET 5		WL	73217000 6 A
CONDUCTOR IDENT.	FIND NO.	GAUGE (REF.)	•	LENGTH (APPROX)	ORIG	in	ACCESS FIND NO	DESTINA	ATION	ACCESS FIND NO	REMARKS
61											
62											
63							†			<u> </u>	
64									_		
65							1				
66											
67											
68					l			ļ			
69											
70											
71											
72											
73											
74											
75											
76											
77	4	16	4		CB03	AT	8	CB02	AT	9 (1)	
78	4	16	4		CB02	AT	1	CB 103	AT	8	
79	4	16	4		CB03	AB	8	C2 1	ME	5	/12
80	4	16	4		TR11		5	.10.3	1	13	

CONTROLED			NOR	MAI	NDAL	E DIVI	SION	CODE IDE		HEET 6		WL	DOCUMENT NO. 732/7000	CD REV.
CONDUCTOR IDENT.		ND O.	GAUGE (REF.)	1	LOR EF.)	LENGTH (APPROX)	ORIG	ıN	ACCESS FIND NO.	DESTIN	ATION	ACCESS FIND NO.	REMARKS	
81	4		16	4			J03	2	13	FL 12	САР В	5		
82	4		A	-	4		C22	ME	5	CB03	ВВ	8		
83							CB103	вт	8	CB02	ВТ	9 (3)		
84							CBO2	ВТ	3	CB03	ВТ	8		
85							CBO2	AB	8	J02	1	13		
86							J02	2	13	CB 0 2	ВВ	8		
87							CBO3	СТ	8	CB02	СТ	12 (4)		
88							CBO2	CT	4	CB 103	СТ	8		
89							CB03	СВ	8	C23	ME	5		
90							FL13	CAPB	5	J03	3	13		
91							J02	3	13	CB02	СВ	8		
92	1		Y	Ŀ	Ý		CBO2	AT	9 (5)	XF03	1.	10		
93	4		16	4			XF03	В	10	TB 11	2	5		
94														
95	4		16	4			C123	ME	5	CB 10 3	СВ	8		
96	7		1				CB103	8 B	8	C122	ME	5		
97							FL113	CAPT	5	J103	3	13		
98							J103	2	13	FL112	CAPT	5		
99	١		1		Y		TB111	1	5	J103	1	13		
100	4		16	4			C121	ME	5	CB 103	АВ	8		

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CONTROLED	ΔL		NORM	AN D	ALE	DIVISI	ON	19333		HEET 7		WL	73217000 6 A
CONDUCTOR IDENT.	FIF	- 1	GAUGE (REF.)			LENGTH (APPROX)	ORIG	IN .	ACCESS	DESTINA	ATION	ACCESS FIND NO.	REMARKS
101	4		16	4			XFO4	В	10	FL05	L	8	
102	4		16	7			FL06	L	8	XF05	В	10	
103	4		16				XF05	т	10	CB02	СТ	4	
104	4		16				CBO2	ВТ	9 (9)	XF04	т	10	
105	3		20				TB03	11	23	TB03	9	10	
106	4		A		Γ		TB03	9	10	TB03	7	10	
107	П						TB03	1	23	CB02	AT	(5)	
108							CBO2	ВТ	9>	TB03	3	23	
109							TB03	5	23	CB02	СТ	8 (10)	
110							CBO2	ст	<u>(10)</u>	DS04	В	23	
111							DS 0 4	Т	23	TB01	1	11	
112							TB01	1	11	P106	2	14	
113							P106	1	14	TB111	1	5	
114							FL114	CAPT	5	J103	6	14	
115	Π				Γ		J103	7	14	TB01	2	11	
116				Τ			TB01	2	11	J03	7	14	
117	Γ			Τ			J03	6	14	FL14	САРВ	5	
118							TB 11	2	5	J05	1	14	
119	,		V	T	1		J05	2	14	TB01	1	11	
120	3		20	4			TB01	1	11	TB03	7	23	

CONTROL D	A			NOR	MAN	IDAL	E DIVIS	ION	19333		SHEE	ET 8		WL	DOCUMENT NO. CD REV 73217000 6 A
CONDUCTOR IDENT:		ND O		UGE EF.)	ı		LENGTH (APPROX)	ORIGI	z	ACCESS		DESTINATI	ОИ	ACCESS FIND NO.	REMARKS
121	3		20		4			J03	8	14	Ţ	B01	4	11	
122	7		,		1			TBOI	4	14]	1103	8	14	
123								J103	5	14	T	B01	3	11	
124					Γ			TBO1	3	11	J	0 5	3	14	
125								J05	4	14	ī	B111	2	5	
126								TB 111	2	5	J	05	7	14	
127								J05	8	14	T	B01	2	11	
128								TB01	2	11	J	05	5	14	
129								J05	6	14	T	B01	4	11	
130								TB01	4	11	J	05	9	14	
131								J103	4	14	Ţ	B01	3	11	
132	L		L					TBO1	3	11	J	03	5	14	
133	L							J03	4	14	Ī	B01	3	11	
134								TB01	1	11	P	06	2	14	
135								P06	1	14	Ţ	B 1 1	1	5	
136								J02	4	14	7	B01	3	11	
137								TB01	4	11	J	02	5	14	
138								TB03	2	23	Ī	B03	8	23	
139	,					1		TB03	10	23	T	B03	4	23	
140	3		20		4			TB03	6	23	I	B03	12	23	

41249000 F

CONTROLL	AVA.	NOR	RMANDAL	E DIVI	SION	19 3 3 3	1 -	HEET	9	WL	DOCUMENT NO. CD REV 73217000 6 A
CONDUCTOR IDENT.	FIND NO.	GAUGE (REF.)	l	LENGTH (APPROX)	ORIG	IN	ACCESS	DESTIN	IATION	ACCESS FIND NO.	REMARKS
141	3	20	4		B0 1	L	17,18	TB11	2	5	
142	1	1	4		TB 111	2	5	B02	L	17,18	
143	1				B02	R	17,18	TB01	2	11	
144	3	20	4		TB01	2	11	801	R	17,18	
145	4	16	4		TB 1 1	2	15	C24	ME	5	12
146	1	1	4		FL11	CAP	5	TB11	1	15	
147	1	1	\		TB 1 1	3	15	C124	ME	5	
148	4	16	4		FL11	CAP	5	TB11	4	15	
149											
150											
151											
152											•
153	10	16	4		CBO7	Ţ	2	C02	P	7 (I)	
154	4	1	A		C02	P	1	CB 10 7	Т	2	
155					CB 106	T	2	CO9	P	7 (2)	
156					C09	Р	2	CB06	Т	2	
157					CBO6	В	2	C32	ME	5	
158					FL 15	ME	5	TB02	11	12	
159	1	Y			TBO2	11	12	J04	21	3	
160	10	16	4		J04	20	3	K102-1	OÚT	23	

CONTROLS	AIA	NOR	MANDAL	E DIVIS	SION	19333		HEET 10		WL	732/7000	CD REV
ONDUCTOR IDENT.	FIND NO.	GAUGE (REF.)	1	LENGTH (APPROX)	ORIG	IN	ACCESS FIND NO.	DESTINA	1001	ACCESS FIND NO.	REMARKS	
161	10	16	4									
162	•	4	4									·
163					K02-1	OUT	23	J04	18	3		
164					J04	17	3	TB02	13	12		
165					FL 16	ME	5	TB02	13	12		
166					C33	ME	5	XFO2	В	16		
167					XFO2	Т	16	K06	6	5 (6)		
168					K06	6	6	XF102	Т	16		
169					XF102	В	16	C133	ME	5_		
170					FL116	ME	5	TB02	14	12		
171	1	1	Y		TB02	14	12	J04	35	3		
172	10	16	4		J04	29	3	K102-3	оит	23		
173	17	24	4		J04	31	6	<i>03</i> 2	ME			
174	17	24	4		J04	32	6	C132	ME			
175	10	16	4		K02-3	OUT	23	J04	28	3		
176	1	1 4		<u> </u>	J04	30	3	TB02	12	12		
177	Щ	$\downarrow \downarrow$			FL115	ME	5	TB02	12	12		
178	\sqcup	igspace	_	<u> </u>	C132	ME	5	CB 106	В	2		
179	1	1	1		CB 107	В	2	K102-2	111	12,30		
180	10	16	4	1	K102-2	OUT	23	J04	14	3		

CONTROLLO	AVA	NORMA	NDALE	DIVISI	ON	19333		HEET 11		WL	73217000 6 A
CONDUCTOR IDENT	FIND NO.	GAUGE (REF.)	COLOR (REF.)	LENGTH (APPROX)	ORIG	IN	ACCESS FIND NO.	DESTINA	ITION	ACCESS FIND NO.	REMARKS
181	10	16	4		J04	13	3	K02-2	OUT	23	
182	4	•	1		K02-2	IN	12,30	CB07	В	2	
183					CBO4	T	2	CO4	Р	2	
184					C08	N	2	CB05	Т	2	
185					FL119	OME	5	J04	11	3	
186					J04	3	3	TB02	5	12	
187					TB02	5	12	J04	2	3	
188					J04	1	3	TB02	6	12	
189					TB02	7	12	XF01	В	16	
190					XF01	T	16	CO3	Р	2	
191	Y	1			TB02	3	12	TB04	2	16	
192	10	16	1		FL 19	OME	5	J04	12	3	
193	21	20	4		J04	33	4	S 102	82	11	
194		 	<u> </u>	<u> </u>	<u></u>						
195	21	20	4	<u> </u>	J04	46	4	FL 17	ME	5	
196	1			<u> </u>	TB15	4	5	TB02	7	12	
197				ļ	J04	43	4	TB09	23	8	
198			$oxed{oxed}$	ļ	J04	56	4	808	2	26, 52	
199	1	1	1				L				
200	21	20	4		K01	2	15,24	C25	ME	5	

CONTROLL	IAV.	100	NORM	ANE	ALE	DIVIS	ION	19333		HEET 12		WL	732/7000	CD REV
ONDUCTOR	FIN		GAUGE (REF.)	1		LENGTH (APPROX)	ORIG	ın	ACCESS	DESTIN	ATION	ACCESS FIND NO.	REMARK	s
201	2 1		20	4			TB09	22	14 (+1)	J04	45	4		
202	À		À	7			K05	R2	15,24	TB02	2	11		
203							TB02	2	11	K105	R2	15,24	-	
204							K01	1	15,24	TB04	7	8		
205							K101	1	15,24	TB04	21	8		
206	Ц						TB09	16	14 (46)	J04	34	4		
207	Ш						J04	23	4	TB09	15	14	6 9	
208	Ц						TB09	21	8	J04	58	4		
209							J04	57	4	S108	2	29/G3		
210														
211	Ш		_ _	L	L	ļ	K101	2	15,24	C125	ME	5		
212	Ш		$oxed{oxed}$	L	L		TB09	20	16 (2)	J04	60	4		
213	Ц			_	<u> </u>	ļ	J04	62	4	FL117	ME	5		
214	Ц	_		1	L	ļ	TB 115	4	5	TB02	7	12		
215	L	_	Ť	L	<u> </u>	ļ	J04	52	4	TB02	7	14		
216	21		20	4		<u> </u>	TB02	7	14	J04	37	4		
217	21	_	20	4			S07	11	28, 29	TB02	1	14 (14)		
218	Ľ			L	1		TB02	1	14)	S 10 7	1	28 ,29		
219	L	<u> </u>	1	1	<u> </u>	-	J04	51	4	TBO2	5	11		
220	21		20	4			TBO2	5	11	J04	36	4		

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CONTROL ⁸ 1	AVA	NORM	IAN DAL E	DIVIS	1	1933		SHEET 13		WL	732/7000	CD REV	
CONDUCTOR IDENT.	FIND NO	GAUGE (REF.)		LENGTH (APPROX)	ORIGIN		ACCESS	1	TION	ACCESS FIND NO	REMARKS		
221	21	20	4		J04	26	4	TB02	3	11	·		
222	21	20	4		TB02	3	11	J04	16	4		-	
223	21	20	4		J04	24	4	502	B 2	11			
224													
225	21	20	4		S02	В3	11	TB02	9	11			
226													
227													
228	21	20	4		TB02	9	11	K05	1	15,24			
229	A	4	A		K02-4C0IL	В	30 14,(15	TB02	2	14 (16)			
230		1	Y		K02-4C0IL	1	(15)	TB04	8	8			
231	21	20	4		K102-4C0I	В	30 14 (17)	TB02	2	16			
2 3 2													
233													
234						<u> </u>							
235	21	20	4		4-COIL	В	(17)	TB04	22	8			
236						<u> </u>							
237	21	20	4		K105	R5	15,24	TB02	4	11			
238	17	24	4		K105	Rl	42	SSW104	4	11			_
239			<u> </u>			<u> </u>		<u> </u>				•	_
240	<u> </u>		<u> </u>]

CONTROLLO	AVA	NOR	MANDALE	DIVIS	1	19333		HEET 14		WL	DOCUMENT NO. CD REV 73217000 6 A
CONDUCTOR IDENT.	FIND NO.	GAUGE (REF.)	1	LENGTH (APPROX)	ORIGIN		ACCESS	DESTINATI	ЮИ	ACCESS FIND NO	REMARKS
241	21	20	4		TBII	5	31	TB02	4	11	
242	17	24	4		K05	Rl	15 (34)	SSW04	4	11	
243							-	<u> </u>	1	1	•
244								1	1		
245	17	24	4		TB02	10	11	S 102	В3	11	
246	1	1	A		TB09	16	46	TB04	21	8	
247					TB04	7	8	TB09	15	8	
248					C31	OME	5	CB07	3 D	5	
249					TB09	15	⑤	K02-1C0IL	Т	11,30	
250	*		T		K102-1C0	I T	11,30	ТВО9	16	8	
251	21	20	4		C131	OME	5	CB107	3 D	5	
252											
253	21	20	4		TB02	7	12 (21)	CB02	5 B	5	
254	A	A	A		CB02	3 D	5	CB04	58	5	
255					CB04	3 D	5	CB05	5B	5	
256					CB05	3 D	5	CB107	58	5	
257					DS 109	В	8	TB02	12	11	
258	П				TB02	1.4	11	DS 106	В	8	
259	T	Y	LY		DS06	В	8	TB02	13	11	
260	21	20	4		TB02	11	11	DS 0 9	В	8	

CONTROLL	AIA	NO RI	MANDALI	E DIVIS	ION	19333		HEET 15	j	WL	DOCUMENT NO. C D REV 73217000 6 A
CONDUCTOR	FIND NO.	GAUGE (REF.)	1	LENGTH (APPROX)	ORIG	in	ACCESS	DESTINA	ATION	ACCESS FIND NO.	REMARKS
261	21	20	4		CB07	5B	5	CB05	3 D	5	
262											
263											
264											
265											
266		,									
267											
268	21	20	4		TB02	9	11	ТВП	6	11	,
269											
270											
271	21_	20	4		TBII	6	П	SSW04	3	11	
272	21	20	4		TBII	7	11	SSW104	3	11	
273											
274	21	20	4		K105	1	15,24	TB02	10	11	
275											
276	21	20	4		TB02	10	11	TBII	7	11	
277											
278											
279											
280											

CONTROL		NORMA	NDALE	DIVISI	NC	CODE IDE		HEET 16		WL	73217000 C D REV 73217000 6 A
ONDUCTOR IDENT.	FIND NO.	GAUGE (REF.)	COLOR (REF.)	LENGTH (APPROX)	ORIG	IN	ACCESS FIND NO.	DESTINA	ITION	ACCESS FIND NO.	REMARKS
281	17	24	4		K02-2	συτ	11,30	DS05	В	8	
282	4	A	A		DS 0 5	Т	8	TB02	6	11 🔞	
283					TB02	6	(30)	DS 105	T	8	
284					DS 105	В	8	K102-2	OUT	11,30	
285					K102-1	OUT	11,30	DS 107	В	8	
286					DS107	Ť	8	TBO2	1	11 (31)	
2877					TB02	1	(1)	DS07	Ť	8	
288					DS07	В	8	K02-1	ОПТ	11,30	
289	į				K02-3	۲۵۵	11,30	DS08	В	8	
290					DS08	Т	8	TB02	6	11 (32)	
2911	Y	1	1	<u> </u>	TB02	6	32	DS 108	Т	8	
292	17	24	4	<u> </u>	DS108	В	8	K102-3	OUT	11,30	
293			<u> </u>								
294			<u> </u>	1							
295		ļ	<u> </u>	ļ			<u> </u>				
296	17	24	4	<u> </u>	K05	Rl	34	J04	27	6	
297	10	16	4	1	CBO4	В	4	TB13	1_	5	
298	10	16	4		CB05	В	8	TB 13	3	5	
299		_	ļ	ļ	ļ		 	<u> </u>]	
300	17	24	4		TB02	1	11	DS 10	T	8	

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CONTROLE	AIA · J	NORM	ANDALE	DIVISI	0 N	19 3 3 3		HEET 17		WL	73217000 6 A
CONDUCTOR IDENT.	FIND NO.	GAUGE (REF.)	COLOR (REF.)	LENGTH (APPROX)	ORIG	z	ACCESS	DESTIN	ATION	ACCESS FIND NO	REMARKS
301	17	24	4		DS 10	В	8	TBO2	7	21)	
302											1
303											
304	17	24	4		TB02	2	11	ко5	R5	9,24	
205											
306	17	24	4		K 05	RA	9,24	J04	8	6	
307	17	24	4		J04	7	6	K05	2	9,24	
208											
209	17	24	4		TB02	1	11 (38)	S 102	C2	11	
310	17	24	4		TB09	18	11	J04	59	6	
311											
312											
313											
314											
315											
316											
317											
318											
319			<u> </u>							<u> </u>	
320	17	24	4		ТВ09	19	11	J04	44	6	

CONTROLED		NOR	MANDAL	E DIVIS	SION	CODE IDE	1 0	HEET 18	1	WL	DOCUMENT NO. CD REV 73217000 6 A
CONDUCTOR IDENT.	FIND NO	GAUGE (REF.)	1	LENGTH (APPROX)	ORIC	in .	ACCESS	DESTINA	ATION	ACCESS FIND NO	1
321											
322	21	20	4		J04	22	6	K101	R1	15,24	
323	1	1	1		K101	R2	15,24	TB02	1	15	
324	¥	V			K01	R2	15,24	TB02	1	15	
325	21	20	•		К01	R1	15,24	J04	10	6	
326	17	24	4		J04	15	6	K104	2	24,15	42 >
327											
328	17	24	4		K105	2	9,24	J04	5	6	
329	17	24	4		J04	4	6	K103	L6	9,24	
330											
331											
332	17	24	4		TB02	1	/38	S02	C2	11	
333	17	24	4		DS09	т_	8	TB04	1	8	
334	17	24	4		TB04	15	8	DS 109		8	
3 3 5		<u> </u>					<u> </u>				
336		ļ									
337	17	24	4		TB04	17	8	DS 106		8	
338	17	24	4	L	DS06	T	8	TB04	3	8	
339	17	24	4		TB02	11	11	J04	67	6	
340	17	24	4		J04	70	6	TB02	12	11	

CONTROL	AVA S	NOR	MANDAL	E DIVIS	ION	19333	٠ .	HEET 19		WL	DOCUMENT NO. 73217000	CD REV.
CONDUCTOR IDENT.	FIND NO.	GAUGE (REF.)	COLOR (REF.)	LENGTH (APPROX)	ORIG	IN	ACCESS FIND NO.	DESTINAT	101	ACCESS FIND NO.	REMARKS	
341	21	20	4		TB04	2	16	TB04	4	16		
342	21	20	4		TB04	4	16	TB04	16	16		
343	21	20	4		TB04	16	16	TB04	18	16		
344	21	20	4		808	2	(52)	TB09	28	11		
345	A	1	4		S108	2	63	TB09	29	11		
346					S07	3	28,29	TB09	22	(+1)		
347					S107	3	28,29	TB09	20	(+2)		
348					T809	13	11	FRONT PNL	GRD	25		
349					TB09	26	11	TB02	2	23 (*3)		
350					TB09	27	11	TB02	2	₹3 >		
351	Ш				808	4	28,29	TB09	9	11	·	
352	Ш				S108	4	28,29	TB09	7	11		
353	1	1			TB09	17	11 (54)	C31	ME	5		
354	21	20	4	<u> </u>	TB09	24	11 (55)	C131	ME	5		
355	21	20	4	ļ <u>.</u>	TB09	17	11 54	502	A3_	11		
356	21	20	4	<u> </u>	TB09	24	11 (55)	S102		11		
357			<u> </u>	<u> </u>				<u> </u>		<u> </u>		
358			<u> </u>	<u> </u>						.		
359			ļ			_		ļ				
360		1	<u></u>	<u> </u>			<u> </u>			<u> </u>		

CONTROLO	AIA ::-	NORM	ANDALE	DIVISI	ON	19333		HEET 20		WL	73217000 6 A
ONDUCTOR	FIND NO.	GAUGE (REF.)		LENGTH (APPROX)	ORIC	ЭIN	ACCESS	DESTINAT	ЮИ	ACCESS FIND NO.	REMARKS
361											
362	1	16		12	T06	1		T01	6	57	
363	4	12		12	T06	2		T01	14	56	
364		12		11	T06	3		TB06	3	53	
365		16		10	T06	4		T02	3	51	
366		12		11	T06	5		TB06	2	53	
367		12		12	T06	6		T01	16	56	
368		16		6	L02	1		CO 3	Р	50	
369		16		6	L02	2 .		C04	P	50	
370	1	16		5	L03	1		C07	N	50	
371	1	16		5	L03	2		C08 .	N_	50	
372	52	16	4	12	CO1	Р	50	TB06	1	51	
373	54	14	4	4	T08	5	58	T08	4	53	
374	<u> </u>	<u> </u>									
375		ļ								<u> </u>	
376	75	20	4	1.6	TOL	т	E8	K 0 b	7	71	15
377	75	20	4	PF.	LOT	2	ь8	KDF	2	7.1	15
378	67	7.6	4	7.5	COP	Р	92	KDP	<u>ı</u>	71	45
379	77			<u> </u>	K04	L3	71,78	K04	L2	71.78	C52 + TO L3
380	77	1		L	K104	L3	71,78	K104	L2	71,78	C152 + TO L3

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CONTROL	AIA .i	NORMA	ANDALE	DIVISI	ON	193		SH	HEET 21		WL	DOCUMENT NO. CD REV. 73217000 6 A
CONDUCTOR IDENT.	FIND NO	GAUGE (REF.)	COLOR (REF.)	LENGTH (APPROX)	ORIG	SIN	ACC FIND		DESTINATIO	N	ACCESS FIND NO.	REMARKS
381												
382												
383	93			12	PANEL B	ASE GR	.D		FRONT PANEL	GRD		
384	77				K01	1	71,	78	K01	2	71,78	C50 + TO K01-1
. 385	77				K101	1	71,	78	K101	2	71,78	C150 + TO K101-1
386	27	20	4	3	J04	5 3	43		TB09	8	41	
387	27	20	4	5	TB09	12	41		TB09	26	42 (-6)	
388	27	20	4	6	TB09	26	(*6)		TB09	30	42 (+7)	
389												
390	27	20	4	6	TB09	30	y (*7)		TB09	27	42 (*8)	
391	27	20	4	3	J04	5 4	43		TB09	6	41	
392	27	20	4	5	ТВ09	27	₹8		TB09	14	4 1	
393	27	20	4	4	TB09	30	41		TB09	25	42 (51)	
394	27	20	4	4	TB09	25	51		TB09	31	41	
395	27	20	4	6	TB09	25	41		TB09	13	41	
396	27	20	4	3	TB09	1	4 1		TB09	3	4 1	
397	27	20	4	3	TB09	2	41		TB09	4	41	
398	27	20	4		TB09	1	41		S02	A2	41	
399	27	20	4		TB09	2	41		S102	A2	41	
400	27	20	4		TB09	10	41		S02	C 1	41	

CONTROL (AVA	NO RM/	ANDALE	DIVISI	ON	19333		HEET 22		WL	DOCUMENT NO. 73217000	CD REV
CONDUCTOR IDENT.	FIND NO.	GAUGE (REF.)	,	LENGTH (APPROX)	ORIG	IN _	ACCESS FIND NO.	DESTIN	ATION	ACCESS FIND NO.	REMARKS	
401	27	20	4		TB09	5	41	\$102	C1	41		
402	27	20	4		C25	OME	25	J04	41	43	13	
403	27	20	4		C125	OME	25	J04	42	43		
404												
405												
406												
407												
408												
409				L:				<u> </u>				
410								<u> </u>				
411												
412												
413			<u> </u>				ļ					
414												
415	22	16	4	2	C21	OME	18	SSW01	LI	19		
416	1	1	1	2	C22	OME	18	SSW02	LI	19		
417				2	C23	OME	18	SSW03	LI	19		
418				2	C24	OME	18	SSW04	1	19		
419	1	V	Y	3	SSW01	LD	19	FL11	L B	18		
4 :20	22	16	4	3	SSW02	LD	19	FL12	L	18		

CONTROLE	AVA	NOR	MANDALI	E DIVIS	ION	CODE IDE	1 -	HEET 23		WL	DOCUMENT NO. CD REV 73217000 6 A
CONDUCTOR IDENT.	FIND NO.	GAUGE (REF.)	COLOR (REF.)	LENGTH (APPROX)	ORIG	in .	ACCESS FIND NO.	DESTINA	tion	ACCESS FIND NO.	REMARKS
421	22	16	4	3	SSW03	LD	19	FL13	ВL	18	
422	21	20	4	3	SSW04	2	20	FL14	COIL	18	
423											
424											
425											
426											
427	22	16	4	2	C121	OME	18	SSW101	Li	19	
428	4	4	4	2	C122	OME	18	SSW102	LI	19	
429				2	C123	OME	18	SSW103	LI	19	
430		İ		2	C124	OME	18	SSW104	1	19	
431		1		8	SSW101	LD	19	FL111	TL	18	
4 3 2	V	Y		8	SSW102	LD	19	FL112	TL	18	
433	22	16	<u> </u>	8	SSW103	LD	19	FL113	TL	18	
434	21	20	4	8	SSW104	2	19	FL114	COIL	18	
435											
436											
437			<u> </u>								
438		<u> </u>	<u> </u>	<u> </u>	<u></u>						
439		ļ	ļ	<u> </u>		_ _					
440	15	16	4	5	C32	OME	13	к05	1.2	14,12	

CONTROL ^L I	****	2	NORM	AND	ALE	DIVISI	ON	19333		HEET 24		WL	DOCUMENT NO. CD REV. 73217000 6 H
CONDUCTOR IDENT	F1 N	-	GAUGE (REF.)		DLOR REF.)	LENGTH (APPROX)	ORIG	ıĸ	ACCESS	DESTINA	ATION	ACCESS FIND NO.	REMARKS
441	15		16	4		7	K05	L3	14,12	TB 10	10	13	
442	4		1		•	4	TB10	9	13	FL 15	OME	13	
443					l	5	C33	OME	13	КО 5	L5	14,12	
444						7	TB 10	12	13	K05	L6	14,12	
445						4	TB 10	11	13	FL 16	OME	13	
4461						5	C132	OME	13	K105	L2	14,12	
447						7	TB 110	10	13	K105	L3	14,12	
448						4	TB110	9	13	FL 115	OME	13	
449						5	C133	OME	13	K105	L5	14,12	
450	¥		<u> </u>			7	K105	L6	14,12	TB110	12	13	
451	15	_	16		<u> </u>	4	TB 110	11	13	FL116	OME	13	
452	7	_	20		<u> </u>		TB 10	4	6		GRD	8	
453	7	4	20	4			TB 110	4	6		GRD	8	
454		4											
455		_											
456	75	4	20	4	_	4	TB 15	4	71	K01	L2	76	
457	1	4	4	_		4	TB15	2	<u> </u>	K01	L3	A	
458	_	4		L.		4	TB115	4		K101	L2		
459		4		_	1	4	TB115	2		K101	L3		
460	75		20	4		5	TB 15	1	71	FL17	OME	76	

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CONTROL	IAIA I	NORM	ANDALE	DIVISI	ON	19333		HEET 25		WL	73217000 CD REV
CONDUCTOR IDENT.	FIND NO.	GAUGE (REF.)		LENGTH (APPROX)	ORIC	an	ACCESS	DESTINA	ATION	ACCESS FIND NO	REMARKS
461	75	20	4	5	TB115	1	71	FL117	OME	76	
462											
463											
464											
465	13	16	4	3.5	K02-1	GND	5,3	GND		4 (]	
466	A	1	1	4	K05~1	GND	2.3	GND		2 4	
467				4.5	K02-3	GND	2,3	GND		(₃) 4	
468				5	K02-4	GND	213	GND		(E)	
469				ь.5	K705-1	GND	213	GND		(I)	
470				7	K705-5	GND	2,3	GND		2	
471	—			7.5	K102-3	GND	2.3	GND		1)	
472	Ц.			8	K7.05-4	GND	2.3	GND		\bigcirc	
473				3	TRLE	5		GND		(3)	
474				5	TRL3	1		FLZO	ME		
475				5	TBl3			FL18	ME		
476				5	TRL3	1		FLLLA	ΜE		
472				5	TBL3	u		FL 12D	ME		
478		$\sqcup \!\!\! \perp$		3	FL20	OME_		KU5-1	IN	5-3	
479	<u> </u>	1	<u> </u>	Ь	FL120	OME		K105-1	TN	5,3	
460	13	7.P	4	4.5	FLla	OME		K05+3	IN	213	

CONTROL ^E O		NORMAN	DALE D	171210	N	19333	NT St	1EET 26		WL	DOCUMENT I	7000	CD REV
ONDUCTOR IDENT.	FIND NO	GAUGE (REF.)	COLOR (REF.)	LENGTH (APPROX)	ORIG	in	ACCESS FIND NO.	DESTINAT	100	ACCESS FIND NO		REMARKS	
48l	13	16	4	7.5	FLlla	OME		K105-3	IN	2,3			
182	A	A	A	24	1873	1.		CB04	В	5 (12)			
1 8 3				24	TB13	ч		C804	В	(13)			
184				24	FLl9	MΕ		CB04	В	(I)			
485				24	TB13	z		CB05	В	5 (13)		•	
486	Y	Ÿ	Y	24	TB13	3		CB05	В	€3			
187	13	1.6	4	24	FLll9	ME		CB05	В	(1.3)			
188												w-w	
189					<u> </u>								
חפו													
191		<u> </u>		ļ					COIL				
192	1.3	144	4	2	KD2-1	COIL	17	K02-2	T	20,22	(4)	15	
193	A	A	A	2	KU5-5	COIL	(ų)	K02-3	COIL	20.22	(<u>S</u>)		
1914				2	K02-3	COIL	<u>(5)</u>	K02-4	COIL	15,22			
95	Ш			2	K102-1	COIL	17	K105-5	COIL	20125	(F)		
196	\sqcup	Ш_		e	KJ05-5	COIL	(P)	K705-3	COIL	50,55	<u> </u>		
197		<u> </u>		2	KJ 05-3	COIL	<u> </u>	K102-4	COIL	15,22			
198	Ш.			2	K02-1	COIL	15,22	K05-5	COIL	20,22			
499	<u> </u>	1	<u> </u>	2	K05 - 5	COIL	\AZ	K02-3	COIL	20,22	<u> </u>		
00	13	16	4	2	k02~3	COIL	9	K02-4	R	17		\(\frac{1}{2}\)	

CONTROLLO	IALA	NORMAN	DALE D	OIZIVI	N	CODE 10E	SI	HEET 27		WL	732	ni no. 217000	CD	A
CONDUCTOR		GAUGE (REF.)		LENGTH (APPROX)	ORIG		ACCESS	DESTINAT		ACCESS FIND NO		REMARK	S	
501	13	16	4	2	K105-1		15,22	K705-5	COIL	20,22	(D)	15		
502	13	16	4	5	K705-5		6	K705-3	COIL B	50,55	1	15		
503	13	lь	4	5	K705-3	COIL B	(1)	KJ:02-4	COIL B	1.7		<u>/1</u> s\		
504											ļ			
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506														
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514			<u> </u>					<u> </u>		1				
51.5										<u> </u>	-			
516														
517					<u> </u>					_				
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519					<u> </u>			ļ	_	<u> </u>				
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ONDUCTOR IDENT:	FIND NO.	GAUGE (REF.)	COLOR (REF.)	LENGTH (APPROX)	ORIG	in	ACCESS FIND NO.	DESTINATIO)N	ACCESS FIND NO.	REMARKS
521											
522											
523											
524											
525	1	20	4	ն5	P07	ľ	3	22 MDJ	1	5	
526	Å	4	A	15	A	2	A	22 MO J	3	1	
527				1.5		3		22 MOJ	2		
528				1,4		4		22 MOS	l.		
529				1,4		5		50W22	3		
530				14		ь		50W2Z	2		
531				70		7		E0w22	J.		
532				70		8		€0⊌22	3		
533				10		9		22 M 3 3	5		
534				10	1	10		TBll	5		
535				7.0	P07	75		TBll	ь		
536				1,5	P107	ı		ZZMJOJ	l.		
537	$oxed{oxed}$			1.5		2		ZZMJOJ	3		
538	Щ	$\bot \bot$		1.5		3		22MIOI	2		
539	1	↓	1	14	*	4	1	20105	ı	1	
540	1	50	1 4	34	P107	5	З́	201H22	3	J 'a	i

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CONDUCTOR IDENT.	FIND NO.	GAUGE (REF.)		LENGTH (APPROX)	ORIC	in .	ACCESS FIND NO.	DESTINATIO	и	ACCESS FIND NO	1
541	ŀ	so	4	1,4	P107	Ь	3	22MJO5	5	ş	
542	A	A	A	70	Å	7	A	22MJO3	ı	A	
543				70		å		22MJ03	3		
544				10		٩		22MJO3	2		
545	Y	<u> </u>		Ь		10	Y	TBll	5		
546	i	50	4	Ь	P107	75	3	TBll	7	S	
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CONDUCTOR	FIND	GAUGE	COLOR	LENGTH			ACCESS.			ACCESS	i.				
IDENT.	NO.	(REF.)	(REF.)	(APPROX)	ORIGIN		FIND NO.	DESTINATION		FIND NO	O NO. REMARKS				
1	6	20		1	A3S200	A2	7	A3S20C	B2	7					
2	11	24	4	3	A3S200	A2	7	A3S201	3	13,14	1				
3	11	24	4	4	A3DS200	T	12	A3TP203	<u>_</u>	7					
4	6	20		1 1	A4S200	A2	7	A4S200	82	7					
5	11	24	4	3	A4S200	A2	7	A4S201	3	13,14					
6	11	24	4	4	A4DS200	T	12	A4TP203	-	7					
7	11	24	4	3	A3TB204	5	7	A3S200	B1	7					
8	11	24	4	3	A4TB204	5	7	A45200	B1	7					
9	11	24	4	3	A3TB204	7	7	A3S200	B2	7					
10	11	24	4	3	A4TB204	7	7	A4S200	B2	?	1				
11	11	24	4	3	A3TB204	8	7	A3S200	A3	7	ī				
12	11	24	4	3	A4T3204	8	7	A4S200	A3	7	1				
13	11	 	4	3	A3TB204	6	7	A3S200	B3	7	-				
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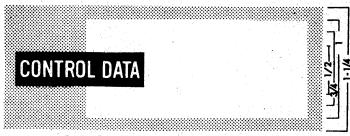
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