CEBM016204

Shop Manual

830E-AC

DUMP TRUCK

SERIAL NUMBERS **A30001 - A30035**

KOMATSU®

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SHORT ISOLATED CAPACITOR TERMINALS

⚠WARNING

Hazardous voltages may be present in this equipment even if the engine and Capacitor Charge lights are off.

Use measurement and protective equipment rated for 2000 VDC minimum to verify that no voltage is present before touching any terminal.

Verify functionality of the measurement equipment using site-approved procedures both before and after performing control group measurements.

Failure to observe these precautions may result in death or serious personal injury.

Any capacitor that is isolated from the DC link and confirmed discharged must have its terminals electrically shorted together to prevent static charge build up. Use bare wire to jumper all four terminals on the capacitor. See Figure 3-11. Proceed to troubleshoot and repair the control group to restore it to original functionality.

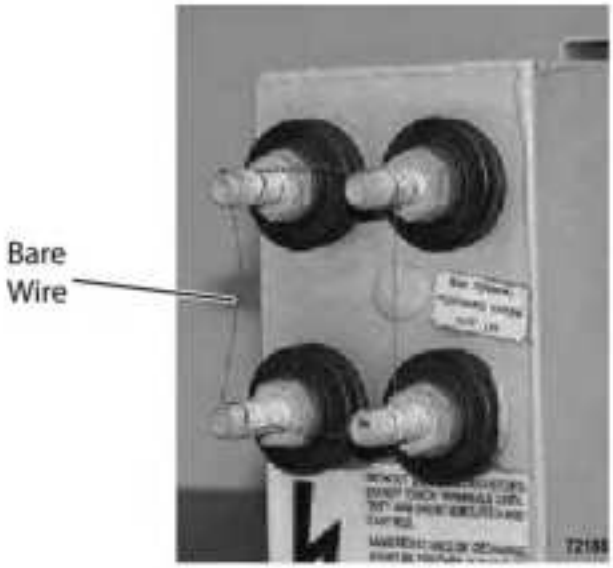


FIGURE 3-11. JUMPER ALL TERMINALS ON ISOLATED CAPACITOR

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Table 3: Chassis Fault Codes (continued)					
KOMTRAX Fault Code	KOMTRAX Fault Description	Source	Sent via OrbComm	Snapshot Trigger	Model Notes
#A198	Hoist Pressure 1 Sensor High	IM			830E-AC
#A199	Hoist Pressure 2 Sensor High	IM			830E-AC
#A200	Steering Pressure Sensor High	IM			830E-AC
#A201	Brake Pressure Sensor High	IM			830E-AC
#A202	Hoist Pressure 1 Sensor Low	IM			830E-AC
#A203	Hoist Pressure 2 Sensor Low	IM			830E-AC
#A204	Steering Pressure Sensor Low	IM			830E-AC
#A205	Steering Pressure Sensor Low	IM			830E-AC
#A206	Ambient Temperature Sensor High	IM			830E-AC
#A207	Ambient Temperature Sensor Low	IM			830E-AC
#A212	Bad Truck Speed Signal	IM/GE	X		830E-AC
#A213	Park Brake Not Set When Expected	IM/GE	X		830E-AC
#A214	Park Brake Not Released When Expected	IM/GE	X		830E-AC
#A216	Brake Auto Apply Circuit Fail	IM/GE	X		830E-AC
#A230	Park Brake Request While Moving	IM			830E-AC
#A240	IM Key Switch Power Lost	IM			830E-AC
#A250	Low Battery Voltage - Engine Off	IM			830E-AC
#A257	Payload CAN/RPC Not Connected	IM			830E-AC
#A260	Park Brake Failure - On While Moving	IM			830E-AC
#A271	Shifter Not In Gear	IM			830E-AC
#A351	Output Overload 1E	IM			830E-AC
#A353	Output Overload 1J	IM			830E-AC
#A354	Output Overload 1K	IM			830E-AC
#A356	Output Overload 1M	IM			830E-AC
#A360	Output Overload 1S	IM			830E-AC
#A362	Output Overload 1U	IM			830E-AC
#A364	Output Overload 1Y	IM			830E-AC
#A365	Output Overload 1Z	IM			830E-AC

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42. Remove the EJ3057 harness from the left front suspension junction box, TB42-A and TB42-B.
43. Wait at least 1 minute, then remove the EJ3057 harness from the left rear connections in the rear junction box, TB61-B and TB61-C.
44. Wait at least 1 minute, then remove the EJ3057 harness from the right-rear connections in the rear junction box, TB61-A and TB61-C.
45. Wait at least 1 minute, then remove the EJ3057 harness from the right front connections in the right-front junction box, TB61-B and TB61-C.
46. Wait at least 1 minute.
47. From the main menu of the PC software, press the "Connect to Payload Meter" button.
48. From the Connection Menu select "Display Active Alarms". Confirm that the four alarms displayed occurred in the proper order:

    Left-front suspension low

    Left-rear suspension low

    Right-rear suspension low

    Right-front suspension low

49. Close all screens and disconnect the laptop from the PLMIII system.

PLMIII CHECKOUT PROCEDURE CONFIRMATION

Flashburn Programming

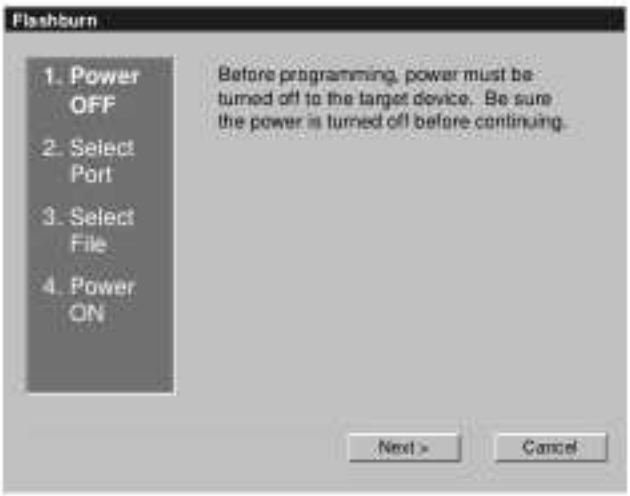
Before beginning, make sure that you have the .kms file required to program the product and you know where to find it on your computer.

Programming will reset all the truck configuration information.

NOTE: Before starting this procedure, record the Payload Meter configuration information.

This information can be found using the Payload Data Manager software. After programming, it will be necessary to restore this information in the payload meter configuration.

1. Turn off power to the payload meter by turning the key switch OFF.
2. Start the Flashburn software installed on the laptop.



3. Confirm that the payload meter power is OFF and press "NEXT".

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5. Remove the rotor from the rotor shaft.

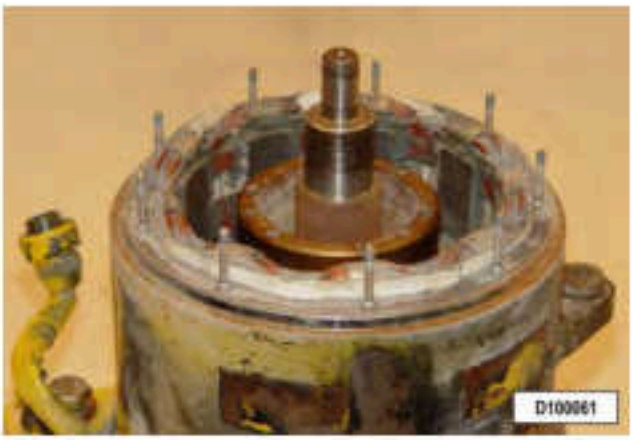


FIGURE 10-50.

Drive End Housing Removal

⚠ IMPORTANT ⚠

Ensure the single mark has been scribed between drive end housing (20) and shell (58). This mark will be used during the assembly process to correctly align the two parts.

1. Position the support stand so the large diameter hole is facing up.



FIGURE 10-51.

2. Place the alternator in the support stand with the drive end facing up.



FIGURE 10-52.

3. Remove cover plate (7) by removing six Torx screws (6) using a number T20 Torx bit.

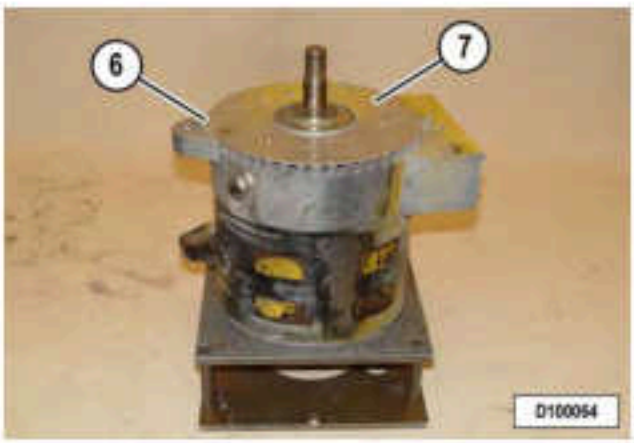


FIGURE 10-53.

6. Screw 7. Cover Plate

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CAPACITOR CHARGE LIGHTS

Observe both capacitor charge lights (CCL1, CCL2). CCL1 is on the outside of the contactor box. CCL2 is on the switch panel inside the low voltage area. The lights will stay illuminated as long as the voltage on the DC link is greater than 50 VDC. Refer to Figure 3-6.

⚠WARNING

Hazardous voltages may be present in this equipment even if the engine and capacitor charge lights are off.

Use measurement and protective equipment rated for 2000 VDC minimum to verify that no voltage is present before touching any terminal.

⚠WARNING

Verify functionality of the measurement equipment using site-approved procedures both before and after performing control group measurements.

Failure to observe these precautions may result in death or serious personal injury.

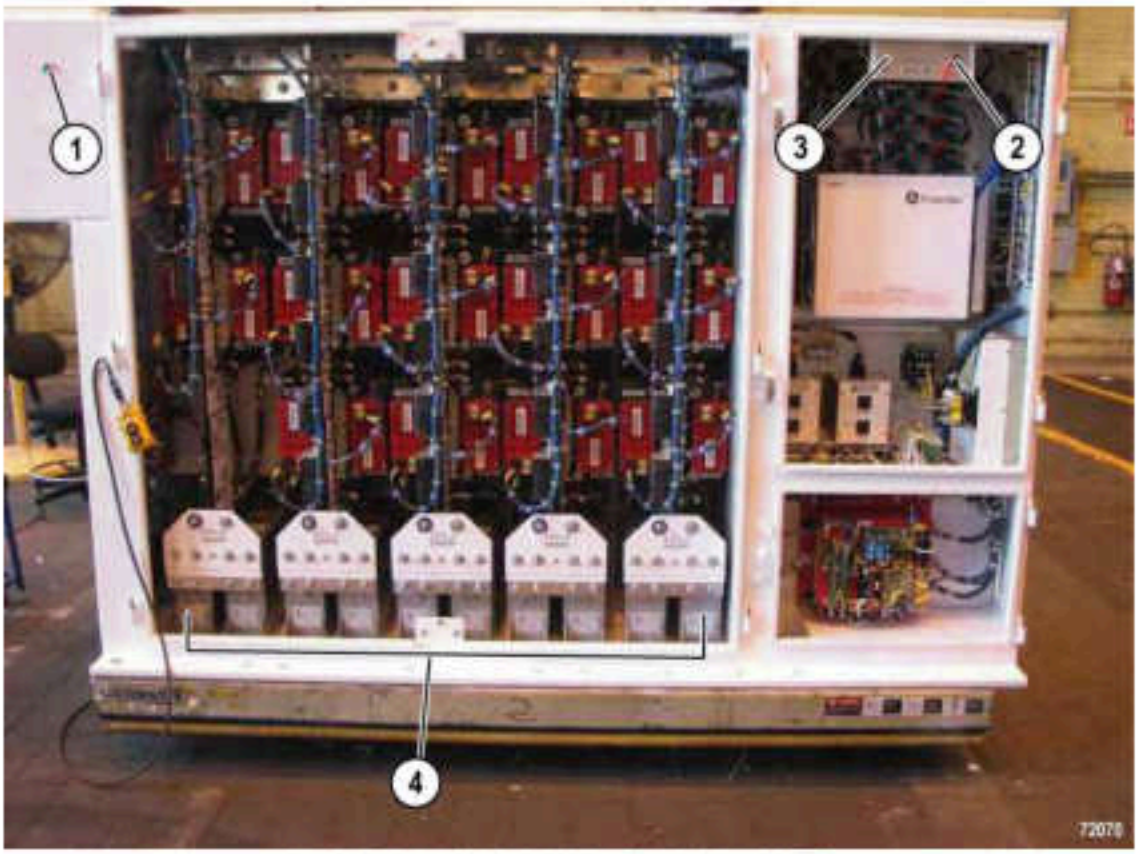


FIGURE 3-6. CAPACITOR CHARGE LIGHTS

1. Exterior Capacitor Charge Light (CCL2)
2. Interior Capacitor Charge Light (CCL1)
3. Information Display Panel
4. DC Link Capacitors

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COMPONENT	SHEET
ACCELERATOR PEDAL	27
AID MODULE	11,12,13,14
AID SONALERT (CAB OVERHEAD)	11
ALTERNATOR AMB. TEMP.	09
ANTENNA, RADIO	21
BATTERY CHARGING ALT.	26
BATTERY CONTROL	09
BATTERY CRANKING	09
BATTERY ISOLATION DIODES	26
BATTERY SYSTEM	26
BRAKE SONALERT	14
CB-50A. 12V POWER	10,26
CB-70A. 24/12V CONVERTER	10,26
CB 11 - BACK-UP HORN & LTS (RB3)	10
CB 13 - CLEARANCE LIGHTS (RB1)	22
CB 14 - TURN SIGNAL FLASHER	22
CB 15 - TAIL LIGHTS (RB1)	22
CB 16 - RETARD LIGHTS (RB3)	10,19
CB 17 - MANUAL BACK-UP LTS (RB3)	19
CB 18 - STOP LIGHTS (RB3)	10,12
CB 19 - BACKUP LTS & HORN (RB3)	19
CB 20 - ENGINE CONTROL PWR.(RB4)	10,26,27
CB 21 - SERV. LTS, HRN. SOL. (RB4)	10
CB 22 - ENGINE RUN RELAY	10,27
CB 23 - HDLIGHTS LFT LO BEAM (RB5)	10,23
CB 24 - HDLIGHTS RT LO BEAM (RB5)	10,23
CB 25 - HDLIGHTS LFT HI BEAM (RB5)	10,23
CB 26 - HDLIGHTS RT HI BEAM (RB5)	10,23
CB 27 - HDLIGHTS & DASH LTS (RB5)	10,23
CIGARETTE LIGHTER	21
CONVERTER 24/12V	10,26
DASH LIGHT RHEOSTAT	24
DBI - DIODES D5,D7,D10,D11	12,20
DBI - DIODES D21,D22,D23	11
DBI - P12 (20 OHM)	09
DBI - OB	27
DBI- 1.5K RESISTOR	27
DBI- 47K RESISTOR	27
DBI- 1K RESISTOR	27
DIAGNOSTIC #3 (QUANTUM) OPER CAB	27
DIAGNOSTIC #4 (CENSE) OPER CAB	27
DID PANEL	09
DIODE, B1D- BODY UP ISOLATION	12
DIODE, D1- NO PROP/RET LIGHT	13
DIODE, D2- NO PROPULSION LIGHT	13
DIODE, D3- PROP. SYS CAUTION LT	13
DIODE, D4- BRAKE HYD TEMP HI LT	14
DIODE, D-4- LINC. LUBE	25
DIODE, D11- LINC LUBE LO PRESS LT	15
DIODE, D12- SPARE L5 LIGHT	13
DIODE, D14- HOIST LIMIT SOLENOID	15
DIODE, D15- STEER. ACCUM BLEED DN	18
DIODE, D25- FORWARD HORN #1	18
DIODE, D27- BRAKE LOCK SWITCH	18
DIODE, D31- PROP. SYS TEMP CAUT LT	13
DIODE, D32- PROP. SYS CAUTION LT	13
DIODE, D33- HI HYD. OIL TEMP LT	14
DIODE, D34- LO HYD. TANK LEVEL LT	14
DIODE, D35- LOW FUEL LIGHT	14
DIODE, D36- BODY UP LIGHT	12
DIODE, D37- CHECK ENGINE LIGHT	12
DIODE, D38- LINC LUBE	15
DIODE, D40- STARTER FAILURE LIGHT	13
DIODE, D81- NO PROPULSION LIGHT	13
DIODE, D82- NO PROP/RET LIGHT	13
DIODE, DA2- BRAKE LOCK SOLENOID	11
DIODE, DA3- PARK BRAKE SOLENOID	26
DIODE, DA4- PARK BRAKE SOLENOID	26
DIODE, DA6- SERV. BRAKE PRESS SW.	12
DIODE, EWPD- ENGINE WARN. PULL UP	12
DIODE, LLD1- LINC. LUBE	15
DIODE, PPD1- PARK BRAKE SWITCH 1	26,32
DIODE, PPD2- PARK BRAKE SWITCH 2	26,32
DIODE, SFD-1- STARTER FAILURE 1	13
DIODE, SFD-2- STARTER FAILURE 2	13
DIODE, SFD-3- STARTER FAILURE 3	13
DIODE, SFD-4- STARTER FAILURE 4	13
DIODE, SFD-5- STARTER FAILURE 5	13
DIODE, S1D- SONALERT ISOLATION	14
DIODE, S1D-1- STARTER ISOLATION	26
DIODE, WHLD - WINDSHLD RELAY HI	31
DIODE, WRLD - WINFSHLD RELAY LO	31
DIODE, WSD - WIPER CONTROL	31
ENGINE ECU - FAN CLUTCH SIGNAL	17
ENGINE ECU - CUMMINS	7
ENGINE INTERFACE MODULE	27

COMPONENT	SHEET
FUSE - 400 AMP PRE LUBE PUMP	26
FUSE-FB1-1 15A, A/C HTR BLOW MTR	10,17
FUSE-FB1-2 10A, WINDSHLD WASH/WIPE	10,21
FUSE-FB1-3 5A, FUEL, TEMP GA. VOLTM	10,16
FUSE-FB1-4 10A, CAB KEY POWER	10,25
FUSE-FB1-5 10A, HOIST SOLENOID	10,15
FUSE-FB1-6 15A, TURN/CLEAR LIGHTS	10,22
FUSE-FB1-7 10A, ENGINE OPTIONS	10,16
FUSE-FB1-8 10A, AID & INDIC. LTS	10,11
FUSE-FB1-9 10A, ENG START FAIL.	10
FUSE-FB1-10 10A, ENG.SHUTTERS	10
FUSE-FB1-11 10A, DOME LIGHT SW.	10
FUSE-FB1-13 5A, GAUGE VOLTAGE	10
FUSE-FB1-14 5A, PEDAL VOLTAGE	10
FUSE-FB1-15 5A, ENGINE INTERFACE	10
FUSE-FB1-23 15A, CAB DRIVE SYS. PWR	10,20
FUSE-FB1-24 10A, AUTO LUBE TIMER	10,15
FUSE-FB2-1 15A, DMDE,FOG,LADDER LTS	10
FUSE-FB2-2 15A, SERVICE LIGHTS	10,23
FUSE-FB2-13 10A, L. FRT WHEEL SPS	10
FUSE-FB2-14 10A, R. FRT WHEEL SPS	10
FUSE-FB2-17 10A, 12V POWER PLUGS	10,21
FUSE-FB2-18 15A, R.H. WINDOW	10,21
FUSE-FB2-19 15A, L.H. WINDOW	10,21
FUSE-FB2-12 10A, ENG LOAD CNTRL PWR	10
FUSE-FB4-1 10A, PARK BRAKE SOL.	32
FUSE-FB4-3 10A, DIRECT SEL. SW.	32
GAUGE, BRAKE HYD. TEMPERATURE	16,32
GAUGE, DRIVE SYSTEM	16
GAUGE, FUEL	16,32
GAUGE, OIL PRESSURE	16
GAUGE, WATER TEMPERATURE	16
GOIC- OPERATOR DISPLAY	29
HEATER A/C SYSTEM	17
HORN BUTTON	18
HORN FORWARD #1	18
HORN - LEFT REAR BACKUP	19
HORN - RIGHT REAR BACKUP	19
HOURMETER	16
INDICATOR, CIRCUIT BREAKER TRIPPED	11
INDICATOR, ELECTRIC SYS FAULT	11
INDICATOR, ENGINE MAINT.	13
INDICATOR, HYDRAULIC FILTER	11
INDICATOR, HIGH HYD OIL TEMP	11
INDICATOR, LINK ENERGIZED	09
INDICATOR, LINK VOLTAGE	14
INDICATOR, LOW ACCUM PRECHARGE	11
INDICATOR, LOW BRAKE PRESSURE	11
INDICATOR, LOW FUEL	11,32
INDICATOR, LOW HYDRAULIC TK LEVEL	11
INDICATOR, LOW RETARD LEVEL	14
INDICATOR, LOW STEERING PRESSURE	11
INDICATOR, MANUAL BACK UP	13
INDICATOR, PARK BRAKE	12,32
INDICATOR, PROPULSION SYS AT REST	14
INDICATOR, PROPULSION SYS CAUTION	13
INDICATOR, PROPULSION SYS NO PROPEL	13
INDICATOR, PROPUL. SYS NO PROP/RET	13
INDICATOR, PROPUL. SYS NOT READY	14
INDICATOR, PROPUL. SYS REDUCED PWR	14
INDICATOR, RETARD	12
INDICATOR, SERVICE BRAKE	12
INDICATOR, SPARE	14
INDICATOR, SPARE L5	13
INDICATOR, VHMS SNAP SHOT	29
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JUNCTION BLOCK 4 (JB4)	26
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JUNCTION BLOCK 4B (JB4B)	21
JUNCTION BLOCK 4C (JB4C)	14
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JUNCTION BLOCK 6B (JB6B)	21
JUNCTION BLOCK 8A (JB8A)	14
KONTROL POWER RELAY	08,10
LEFT DECK PAYLOAD LIGHTS	28
LEFT SCOREBOARD	28
LIGHT, 5 MIN. IDLE TIMER INDICAT.	25
LIGHT, AIR RESTRICTION GAUGE	24
LIGHT, BATT. CHG. SYS. FAILURE	32
LIGHT, BODY UP	12
LIGHT, BRAKE HYD. TEMP. HIGH	14
LIGHT, BRAKE HYD. TEMP. GAUGE	24
LIGHT, CHECK ENGINE	12
LIGHT, ENGINE START FAILURE	32
LIGHT, ENGINE STOP SWITCH	24
LIGHT, IM WARNING	32

COMPONENT	SHEET
LIGHT, OVERRIDE SWITCH	24
LIGHT, RETARD SPEED CONTROL SWITCH	24
LIGHT, DASH #1	24
LIGHT, DASH #2	24
LIGHT, DASH #3	24
LIGHT, DECK #1	18
LIGHT, DECK #2	18
LIGHT, DIAGONAL LADDER #1	18
LIGHT, DIAGONAL LADDER #2	18
LIGHT, DIGITAL SPEEDOMOTER	24
LIGHT, DIGITAL TACH	24
LIGHT, DOME 1,2 & 3	10
LIGHT, DRIVE SYSTEM TEMP. GAUGE	24
LIGHT, ENGINE STOP	12,13
LIGHT, FOG	10
LIGHT, FUEL GAUGE	24
LIGHT, HI BEAM INDICATING	23
LIGHT, HYDRAULIC CABINET RIGHT	18
LIGHT, HYDRAULIC CABINET LEFT	18
LIGHT, LEFT DECK BACK UP	19
LIGHT, LEFT ENGINE SERVICE #1	18
LIGHT, LEFT ENGINE SERVICE #2	18
LIGHT, LEFT FOG	23
LIGHT, LEFT FRONT TURN/CLEARANCE	22
LIGHT, LFT HAND HI-MTD LO BM HDLT	23
LIGHT, LFT HAND HI-MTD HI BM HDLT	23
LIGHT, LEFT HIGH BEAM	23
LIGHT, LEFT LOW BEAM HEADLIGHT	23
LIGHT, LEFT PLATFORM	18
LIGHT, LEFT REAR BACK UP	19
LIGHT, LEFT REAR RETARD	19
LIGHT, LEFT REAR TURN/CLEARANCE	22
LIGHT, LEFT TAIL/STOP	12
LIGHT, LEFT TURN INDICATING	22
LIGHT, LINCOLN LUBE LOW PRESSURE	15
LIGHT, OIL PRESSURE GAUGE	24
LIGHT, OPERATOR CAB RETARD	19
LIGHT, RETARD SPEED CONTROL	13
LIGHT, RIGHT DECK BACK UP	19
LIGHT, RIGHT ENGINE SERVICE #1	18
LIGHT, RIGHT ENGINE SERVICE #2	18
LIGHT, RIGHT FOG	23
LIGHT, RIGHT FRONT TURN/CLEAR	22
LIGHT, RGT HAND HI-MTD LO BM HDLT	23
LIGHT, RGT HAND HI-MTD HI BM HDLT	23
LIGHT, RIGHT HIGH BEAM	23
LIGHT, RIGHT LOW BEAM HEADLIGHT	23
LIGHT, RIGHT PLATFORM	18
LIGHT, RIGHT REAR BACK UP	19
LIGHT, RIGHT REAR RETARD	19
LIGHT, RIGHT REAR TURN/CLEARANCE	22
LIGHT, RIGHT TAIL/STOP	12
LIGHT, RIGHT TURN INDICATING	22
LIGHT, SERVICE BRAKE (CAB ROOF)	12
LIGHT, STARTER FAILURE	13
LIGHT, VOLTMETER GAUGE	24
LIGHT, WATER TEMPERATURE GAUGE	24
LINCOLN LUBE DELAY MODULE	15
MODULAR MINING COMMUNICATION PORT	09
MODULAR MINING HUB	29
MOTOR AIR FLOW DIFFERTIAL PRESSURE	09
MOTOR LEFT WINDOW	21
MOTOR RIGHT WINDOW	21
PAYLOAD METER 3 CONTROL MODULE	28
PROPULSION ALTERNATOR	16
POWER PLUGS, 12V	21
PUMP, PRE-LUBE HI FLOW	26
RADIO	21
RB1 K1 RELAY (LEFT TURN SIGNAL)	22
RB1 K2 RELAY (RIGHT TURN SIGNAL)	22
RB1 K3 RELAY (CLEARANCE LIGHT)	22
RB1 K4 RELAY (FLASHER)	22
RB2 K1 RELAY (PK BRAKE PRESS SW)	27
RB3 K1 RELAY (MANUAL BACKUP LTS)	19
RB3 K2 RELAY (STOP LIGHT)	12
RB3 K3 RELAY (RETARD LIGHT)	19
RB4 K2 RELAY CRANK INTERLOCK)	26
RB4 K3 RELAY (HORN)	18
RB4 K4 RELAY (BODY UP)	12
RB5 K1 RELAY (LEFT LOW BEAM HDLT)	23
RB5 K2 RELAY (RIGHT LOW BEAM HDLT)	23
RB5 K3 RELAY (LFT HI BEAM HDLT)	23
RB5 K4 RELAY (RIGHT HI BEAM HDLT)	23
RB6 K1 RELAY (BACK UP HORN)	19
RB6 K2 RELAY (ENGINE INTERLOCK)	27

COMPONENT	SHEET
RB6 K3 RELAY (START RELAY)	26
RB6 K6 RELAY (PARK BRAKE)	26
RB6 K7 RELAY (TCI-70X)	20
RB6 K8 RELAY (TCI-100X)	20
RB7 K1 RELAY (STARTER #2 RELAY))	13
RB7 K2 RELAY (STARTER FAIL. #1)	13
RB7 K3 RELAY (STARTER FAIL. #2)	13
RB7 K4 RELAY (STARTER #1 RELAY)	13
RB7 K5 RELAY (LINC LUBE SOLENOID)	15
RB7 K6 RELAY (STARTER FAIL. REL #2)	13
RB7 K7 RELAY (STARTER FAIL. REL #1)	13
RB7 K8 RELAY (LINC LUBE TIMER)	15
RB8 RELAY (STARTER FAILURE REL. #3)	13
RB9 ELAY (STARTER FAILURE REL. #4)	13
RD1- RESISTOR/DIODE MODULE	12
RD2- RESISTOR/DIODE MODULE	12
RELAY, 5 MIN. IDLE TIMER	10,25
RELAY, 12V POWER	10,21
RELAY 1 (PLM3 GREEN LIGHTS)	28
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SENSOR #5- HYDRAULIC TANK TEMP	09
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COMPONENT	SHEET
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SUSPENSION PRESSURE, RF	28
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SWITCH, BODY UP	12,28
SWITCH, BRAKE LOCK	11,28
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