CEBM006902

Shop Manual

930E-2

DUMP TRUCK

SERIAL NUMBERS **A30181 thru A30223**
w/ MTU / DDC4000 Engine

KOMATSU®

MidWestTech | Komatsu 930E- 2 Dump Truck Service Manual | Publication CEBM006902

Order the manual at mid-west-tech.com >

TABLE OF CONTENTS

SUBJECT	SECTION
GENERAL INFORMATION	A
STRUCTURES	B
ENGINE SYSTEMS	C
ELECTRIC SYSTEM (24 VDC. NON-PROPULSION)	D
ELECTRIC PROPULSION AND CONTROL	E
DRIVE AXLE, SPINDLES AND WHEELS	G
HYDRAIR® II SUSPENSIONS	H
BRAKE CIRCUIT	J
HYDRAULIC SYSTEM	L
OPTIONS AND SPECIAL TOOLS	M
OPERATOR'S CAB	N
LUBRICATION AND SERVICE	P
ALPHABETICAL INDEX	Q
SYSTEM SCHEMATICS	R

MidWestTech | Komatsu 930E- 2 Dump Truck Service Manual | Publication CEBM006902 Order the manual at mid-west-tech.com >

SECTION A

GENERAL INFORMATION

INDEX

MAJOR COMPONENTS & SPECIFICATIONS A2-1

GENERAL SAFETY AND TRUCK OPERATION A3-1

WARNINGS AND CAUTIONS. A4-1

STANDARD TABLES. A5-1

STORAGE PROCEDURES A7-1

MidWestTech | Komatsu 930E- 2 Dump Truck Service Manual | Publication CEBM006902 Order the manual at mid-west-tech.com >

23. After the brake assembly is properly positioned on the adapter and the four capscrews are snug, remove the alignment studs.

    Remove socket head capscrews (34) securing seal retainer (37) to brake assembly (18).

    Install the remaining brake adapter/brake assembly mounting capscrews (20) and hardened flatwashers (21). Tighten the capscrews to **1995 ± 100 ft. lbs. (2705 ± 136 N.m)**.

24. Install bearing retainer pin (40) in groove in spindle. Align and slide outer bearing cone (7) over pin. Lubricate the bearing with clean hydraulic oil.

25. Install shim pack (8), retainer (13), capscrews (11), and washers (12). Tighten the capscrews alternately in several successive increments while rotating the hub. Final torque is **750 ± 75 ft. lbs. (1017 ± 100 N.m)**.

26. Install a new O-ring (41) on cover (5). Install the cover, capscrews, and washers. Tighten the capscrews to standard torque.

Seal Assembly Gap Check

After the assembly of the wheel and brake is complete, the gap between seal carrier (3, Figure 3-7) and the brake assembly back plate (6) must be measured and adjusted if necessary.

The ideal gap is 0.433 in (11.0 mm). If necessary, the gap must be adjusted, using shims as required to maintain a **minimum** gap of 0.423 in (10.75 mm) to 0.443 in (11.25 mm) **maximum**.

27. Measure seal gap as follows:

    a. Measure gap, dimension "A", Figure 3-7 at three, equally spaced places and record the results.

    b. Add the three dimensions and divide the result by 3 to obtain the average gap width

28. If average gap width is not between the minimum and maximum allowable range, loosen the seal retainer capscrews (4, Figure 3-6) and add shims (5) as required to **reduce** the gap or remove shims to **increase** the gap. **The quantity and thickness of shims at each of the six locations must be equal.**

29. Re-tighten seal retainer capscrews to standard torque and measure gap as described in Step 28. If necessary, repeat Step 29 until the proper gap is maintained.

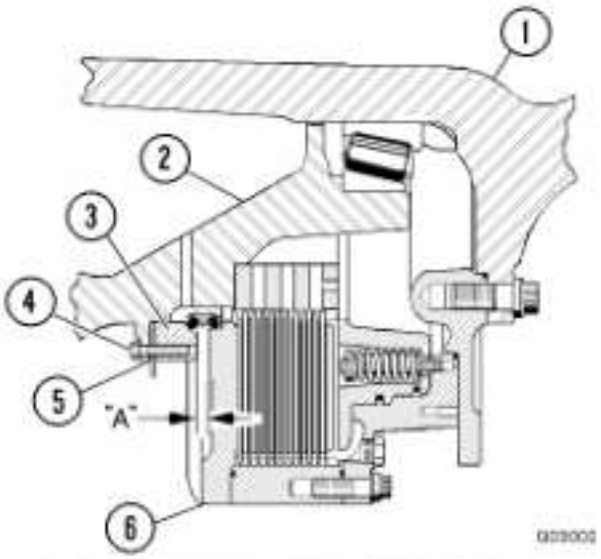


FIGURE 3-7. MEASURING SEAL GAP

1. Spindle
2. Wheel Hub
3. Seal Carrier
4. Capscrews
5. Shims
6. Brake Back Plate

30. Install speed sensor(s) (16, Figure 3-6) in support bracket(s) (17). Adjust sensor gap as follows:

    a. Rotate hub to position the top of a gear tooth directly under the sensor tip.

    b. Insert a 0.060 in (1.5 mm) feeler gauge between sensor tip and gear tooth. Loosen and adjust sensor clearance.

    c. Lock the sensor in place.

    d. Rotate hub 180° and verify clearance remains within 0.040 in (1.0 mm) minimum to 0.080 in (2.0 mm) maximum.

31. Install speed sensor cables.

32. Install hub and spindle assembly on suspension per instructions in Installation.

MidWestTech | Komatsu 930E- 2 Dump Truck Service Manual | Publication CEBM006902 Order the manual at mid-west-tech.com >

HYDRAULIC SYSTEM

The following is a general description of the model 930E hydraulic system. Additional information concerning individual component description and operation can be found under the different system circuits such as the hoist circuit, steering circuit, and hydraulic brake circuit.

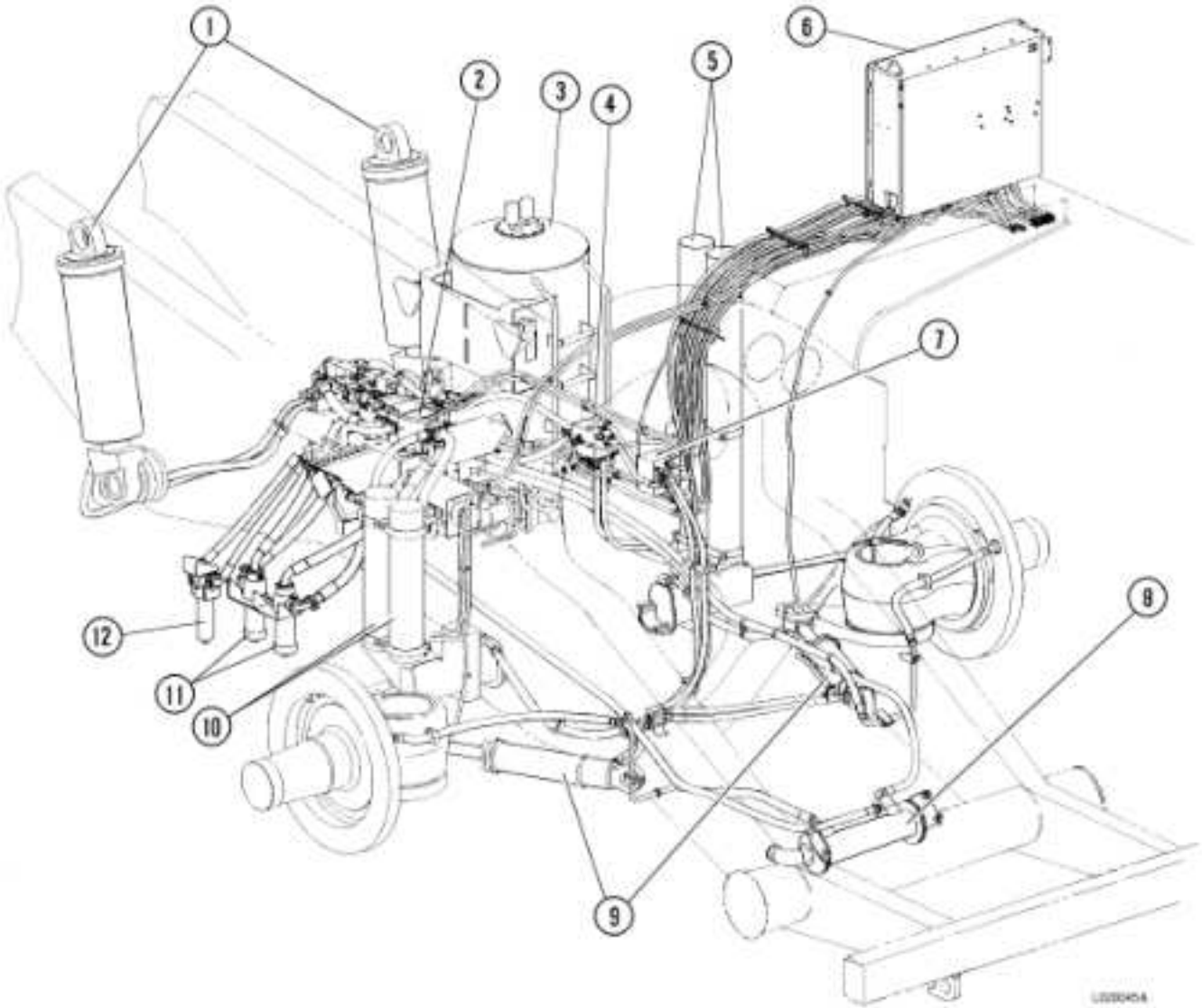


FIGURE 2-1. HYDRAULIC SYSTEM COMPONENTS AND PIPING

1. Hoist Cylinders
2. Hoist Valve
3. Hydraulic Tank
4. Bleeddown Manifold
5. Steering Accumulators
6. Hydraulic Components Cabinet
7. Flow Amplifier Valve
8. Heat Exchanger (Brake System Cooling)
9. Steering Cylinders
10. Brake System Auxiliary Accumulators
11. Hoist Circuit Filters
12. Steering Circuit Filter

MidWestTech | Komatsu 930E- 2 Dump Truck Service Manual | Publication CEBM006902 Order the manual at mid-west-tech.com >

POSSIBLE CAUSES	SUGGESTED CORRECTIVE ACTION
TROUBLE: Steering wheel oscillates or turns by itself	
Lines connected to wrong ports	Check line routing and connections.
Parts assembled wrong. steering control unit improperly timed.	Reassemble correctly and time control valve.
TROUBLE: Steered wheels turn in opposite direction when operator turns steering wheel	
Lines connected to wrong cylinder ports	Inspect and correct line connections.

(STEERING PUMP)

TROUBLE: No pump output	
Air trapped inside steering pump	Bleed air from pump and/or system.
Broken pump drive shaft	Inspect hoist and steering pump, replace drive shaft.
Excessive circuit leakage	Check for external leaks, internal system pressure loss.
No oil to pump inlet	Check hydraulic tank oil level. Make certain pump inlet shut-off valve is open.
TROUBLE: Low pump output	
Low pump pressure	Check unloader valve operation and adjust pressure if necessary. Check compensator adjustment pressure. Check system relief valves.
Internal pump wear	Repair or replace steering pump.
Restricted inlet	Make certain shut-off valve is open. Check suction hose. Clean tank strainers.
Insufficient oil supply	Check hydraulic tank oil level. Make certain shut-off valve is open.
High pressure filter restricted	Replace filter element.

MidWestTech | Komatsu 930E- 2 Dump Truck Service Manual | Publication CEBM006902 Order the manual at mid-west-tech.com >

COMPONENT	SHEET	LOC
11CR - 3.3K RESISTOR	03	E13
12CR - 3.3K RESISTOR	03	E13
A/C COMPRESSOR CLUTCH	10	A17
A3PV - ALT OUT 3 PHASE VOLT MEASURE	02	D7
ACCELERATOR PEDAL	08	B2
AF - ALTERNATOR FIELD (INPUT)	02	B5
AFSE - ALT FLD STATIC EXCITER	02	C2
AFSE - ALT FLD STATIC EXCITER	07	D5
AFVLT - ALT FIELD VOLTAGE MEASURE MODULE	02	B3
AID	07	E3
AID	08	C4
AID	09	B1
AID	09	B6
AID	09	C12
AID	09	C14
AID	09	C3
AID	09	D10
AID	09	D11
AID	09	D16
AID	09	D9
AID	10	A2
AID	10	B2
AID	10	C2
AID	10	D6
AID	10	F11
AIR - SEAT SYSTEM	10	D16
ALARM HORN	09	B3
ALT - ALTERNATOR STATOR (OUTPUT)	02	B6
ALT - ALTERNATOR AMBIENT TEMP SENSOR	08	A5
ALT SPD SNSR - ENGINE SPD SENSOR IN ALT	06	B5
AUXILIARY BATTERY CHARGE CONNECTOR	07	B9
AUXILIARY BLOWER MOTOR	03	B11
AUX-BLOWER COMM.	08	D4
AUXILIARY FAN 1	03	B11
AXCAP - AUXILIARY INVERTER CAPACITORS	03	A6
AXFU1 - AUXILIARY INVRTER INPUT FUSE	03	A2
AXFU2 - AUXILIARY INVERTER INPUT FUSE	03	B2
AXIND - AUXILIARY INVERTER INDUCTOR	03	A4
AXINV - AUXILIARY INVERTER	03	B8
AXINV - AUXILIARY INVERTER RECTIFIER	03	B3
AXSNB - AUX SNUBBER RESISTOR	03	A1
BAROMETRIC PRESSURE SENSOR	08	B10
BATFU - ELECTRIC CABINET 24V FUSE	07	C2
BATTERY BOX	02	C12
BATTERY CHARGING ALTERNATOR	07	B6
BATTERY, CONTROL	02	C3
BATTERY, CONTROL	07	A8
BATTERY, CONTROL	07	D1
BATTERY, CONTROL	10	G13
BATTERY, CONTROL, VOLTAGE MEASURE	08	B8
BATTERY, CRANKING	07	B8
BATTERY, CRANKING	10	F13
BATTERY, CRANKINK, VOLTAGE MEASURE	08	B9
BATTERY SEPARATE RELAY	07	A6
BATTERY SEPARATE RELAY	10	G12
BD1 - BATT. HOLD UP CKT. BLOCKING DIODE	07	C5
BFC - BATT. FILTER CAP. VOLT RESERVOIR	07	C6
BLFP - PSC BATTERY SUPPLY FILTER PANEL	07	C6
BM1 - GRID BLOW MTR 1 CURR MEAS. MOD	06	B11
BM2 - GRID BLOW MTR 2 CURR MEAS. MOD	06	B12
BRAKE LOCK SOLENOID	10	D2
BRAKE WARNING DELAY TIMER	10	C1
BRAKE WARNING RELAY	10	D2
BUZZER, BRAKE WARNING	09	C13
CB 00 - 12 VOLT SUPPLY (BATTERY BOX)	10	E14
CB 1 - FAN CLUTCH POWER	06	B2
CB 2 - ECM MAIN POWER	06	B2
CB 3 - ECM MAIN POWER	06	B3
CB 4 - ECM REC. POWER	06	B3
CB 5 - ECM REC. POWER	06	B3
CB 06 - ENGINE SERVICE LIGHTS	10	C14
CB 07 - LINCOLN LUBE CONTROL TIMER & SOL	10	D5
CB 08 - HOIST LIMIT SOLENOID	10	B1
CB 13 - CLEARANCE LIGHTS RB1	10	B11
CB 13 - CLEARANCE LIGHTS RB1	10	E8
CB 14 - TURN SIGNAL LIGHTS RB1	10	B12
CB 14 - TURN SIGNAL LIGHTS RB1	10	E9
CB 15 - TAIL LIGHTS RB1	07	F4
CB 15 - TAIL LIGHTS RB1	10	E9
CB 16 - RETARD LIGHTS RB3	09	A15
CB 16 - RETARD LIGHTS RB3	10	G9
CB 17 - MANUAL BACKUP LIGHTS RB3	09	C16
CB 17 - MANUAL BACKUP LIGHTS RB3	10	G9
CB 18 - STOP LIGHTS (RB3)	07	E4
CB 18 - STOP LIGHTS (RB3)	10	G9
CB 19 - BACKUP LIGHTS AND HORN (RB3)	09	C16
CB 19 - BACKUP LIGHTS AND HORN (RB3)	10	G9
CB 20 - PRK BRK FAIL REL (RB4)& ENG WARN IND	09	B3
CB 20 - PRK BRK FAIL REL (RB4)& ENG WARN IND	10	G11
CB 21 - STEER BLEED TIMER, HORN REL (RB4)	10	E2
CB 21 - STEER BLEED TIMER, HORN REL (RB4)	10	G11
CB 22 -		
CB 22 -		
CB 23 - HEADLIGHTS, LEFT LOW BEAM (RB5)	10	C7
CB 23 - HEADLIGHTS, LEFT LOW BEAM (RB5)	10	E11
CB 24 - HEADLIGHTS, RIGHT LOW BEAM (RB5)	10	C7
CB 24 - HEADLIGHTS, RIGHT LOW BEAM (RB5)	10	E11
CB 25 - HEADLIGHTS, LEFT HIGH BEAM (RB5)	10	B7
CB 25 - HEADLIGHTS, LEFT HIGH BEAM (RB5)	10	E11
CB 26 - HEADLIGHTS, RIGHT HIGH BEAM (RB5)	10	B7
CB 26 - HEADLIGHTS, RIGHT HIGH BEAM (RB5)	10	E11
CB 27 - HDLGHT SW, LIGHT REL COILS (RB5)	07	F7
CB 27 - HDLGHT SW, LIGHT REL COILS (RB5)	10	E11
CB 28 - PAYLOAD METER LIGHTS (RB2)	10	F9
CB 28 - PAYLOAD METER LIGHTS (RB2)	10	G5
CB 29 - PAYLOAD METER SUPPLY (RB2)	10	F5
CB 29 - PAYLOAD METER SUPPLY (RB2)	10	F9
CB 30 - FOG, LADDER, DECK LIGHTS (CAB)	10	E13
CB 30 - HAZARD SWITCH	10	A14
CB 31 - CAB HEATER (CAB)	10	C15
CB 32 - AID & INDICATOR LIGHTS (CAB)	07	E1
CB 32 - AID & INDICATOR LIGHTS (CAB)	09	A1

COMPONENT	SHEET	LOC
CB 36 - CIGARETTE LIGHTER (CAB)	10	F15
CB 37 - WINDSHIELD WIPER (CAB)	10	C15
CB 38 - GAUGES (CAB)	10	D15
CB 40A - 12 VOLT COMPUTER PLUG (CAB)	10	F15
CB 40B - RADIO (CAB)	10	E15
CB 41A - LEFT WINDOW MOTOR (CAB)	10	E15
CB 41B - RIGHT WINDOW MOTOR (CAB)	10	F15
CB 42 - SEAT AIR PUMP (CAB)	10	D15
CB 43 - START REQUEST (CAB)	07	A2
CCL1 - CAPACITOR CHARGED LIGHT	02	A11
CCL2 - CAPACITOR CHARGED LIGHT	02	C11
CCLR1 - CAPACITOR CHARGED LIGHT RESISTOR	02	A10
CCLR2 - CAPACITOR CHARGED LIGHT RESISTOR	02	C10
CIF11 - CAPACITOR, INVERTER 1	02	F9
CIF12 - CAPACITOR, INVERTER 1	02	F11
CIF13 - CAPACITOR, INVERTER 1	02	F11
CIF14 - CAPACITOR, INVERTER 1	02	F13
CIF15 - CAPACITOR, INVERTER 1	02	F13
CIF16 - CAPACITOR, INVERTER 1	02	F15
CIF21 - CAPACITOR, INVERTER 2	02	E1
CIF22 - CAPACITOR, INVERTER 2	02	E3
CIF23 - CAPACITOR, INVERTER 2	02	E3
CIF24 - CAPACITOR, INVERTER 2	02	F5
CIF25 - CAPACITOR, INVERTER 2	02	F5
CIF26 - CAPACITOR, INVERTER 2	02	F7
CIGARETTE LIGHTER	10	F16
CM1 - CHOPPER MODULE 1	02	C13
CM1 - CHOPPER MODULE 1 GATE DRIVER	04	A17
CM1 - CHOPPER MODULE 1 GATE DRIVER	04	D16
CM1A - CURRENT MEASURE PHASE A LEFT MTR	02	E12
CM1A - CURRENT MEASURE PHASE A LEFT MTR	05	A7
CM1B - CURRENT MEASURE PHASE B LEFT MTR	02	E14
CM1B - CURRENT MEASURE PHASE B LEFT MTR	05	A9
CM2 - CHOPPER MODULE 2	02	C15
CM2 - CHOPPER MODULE 2 GATE DRIVER	04	A6
CM2A - CURRENT MEASURE PHASE A RIGHT MTR	02	E4
CM2A - CURRENT MEASURE PHASE A RIGHT MTR	05	C7
CM2B - CURRENT MEASURE PHASE B RIGHT MTR	02	E6
CM2B - CURRENT MEASURE PHASE B RIGHT MTR	05	C9
CMAF - CURRENT MEASURE ALT FIELD	02	C4
CMAF - CURRENT MEASURE ALT FIELD	06	B13
CMTA - CURRENT MEASURE TERTIARY ALT	02	A4
CMTA - CURRENT MEASURE TERTIARY ALT	06	B14
CONTACTOR, 5 MINUTE IDLE SHUTDOWN DELAY	10	D14
COOLANT LEVEL SWITCH	06	F4
CPR - CONTROL POWER REL COIL - ELEC CAB	07	B5
CPR - CONTROL POWER REL CONTACTS ELEC CAB	07	C4
CPRD - CONTROL POWER RELAY DIODES	07	B4
CPSP - CAPACITOR PRESSURE SENSING PANEL	03	F6
CT - CURRENT TRANSFORMER (BATT BOOST)	02	B1
DB1 - 20 OHM	06	C1
DB1 - DIODES D5,D7,D10,D11	09	C10
DB1 - DIODES D21,D22,D23	10	C2
DB1 - P7 (.27K P5-1 TO P5-2 RESISTOR)	06	E7
DB1 - P7 (.27K P5-1 TO P5-2 RESISTOR)	08	A5
DB1 - P8 (P5-3 TO P5-4 DIODE)	09	B5
DB1 - P12 (20 OHM)	08	D15
DB1 - R4 (2K RESISTOR)	09	C10
DDC - ECM ENGINE BOX	06	EF/1-2
DDC - ECM MAIN (B3)	09	A6
DDC - ENGINE EC	05	E12
DDEC - ECM RETARD ENG. SPEED DEFAULT	09	B16
DDECIII - ECM MAIN	09	B10
DIAGNOSTIC CONNECTOR - DDC ENGINE	05	F17
DIAGNOSTIC CONNECTOR - PSC	05	E17
DIAGNOSTIC CONNECTOR - TCI	05	E17
DIAGNOSTIC INFORMATION DISPLAY PANEL (DID)	08	D7
DIT1A - LEFT MTR PHASE A INVERTER CHOKE	02	E10
DIT1B - LEFT MTR PHASE B INVERTER CHOKE	02	E12
DIT1C - LEFT MTR PHASE C INVERTER CHOKE	02	E14
DIT2A - RIGHT MTR PHASE A INVERTER CHOKE	02	E2
DIT2B - RIGHT MTR PHASE B INVERTER CHOKE	02	E4
DIT2C - RIGHT MTR PHASE C INVERTER CHOKE	02	E6
DSTM - PAYLOAD DATA STORAGE TRIGGER MOD	10	E5
ENGINE ELECTRIC STARTERS 1 & 2	07	A/B10
ENGINE OIL PRESSURE GAUGE	06	F8
ENGINE OIL PRESSURE SENSOR	06	F1
ENGINE TEMPERATURE GAUGE	06	F7
ENGINE TEMPERATURE SENSOR	06	F1
ERS - ENGINE RUN SWITCH	07	A7
FAN 2 - (MAIN INV)	03	C11
FDP - FAULT DETECTION PANEL (DIODE)	02	C4
FDT - FAULT DETECTION TRANSFORMER	02	C4
FP - FILTER PANEL	02	B6
FRAME RAIL MOUNTED CONN. (DETR. DIE. ENG)	07	A13
FREQUENCY SPEED MODULE	06	E1
FRONT L.H. OIL HTR (DETROIT DIE. ENG)	07	B15
FRONT R.H. OIL HTR (DETROIT DIE. ENG)	07	A15
FUEL GAUGE	10	D6
FUTURE OEM EQUIP. (SPEED SET)	09	D/7-8
FUTURE OEM EQUIP. (RT/LT TURN)	09	C/4-5
GAUGE, DRIVE SYSTEM TEMPERATURE	08	A15
GAUGE, FUEL	10	D6
GAUGE, HYDRAULIC FLUID TEMPERATURE	08	A16
GDFU1 - GATE DRIVER POWER SUPPLY FUSE	04	F12
GDFU2 - GATE DRIVER POWER SUPPLY FUSE	04	F12
GDPC1 - GATE DRIVER POWER CONVERTER 1	04	E16
GDPC2 - GATE DRIVER POWER CONVERTER 2	04	F1
GDPS - GATE DRIVER POWER SUPPLY	02	C3
GDPS - GATE DRIVER POWER SUPPLY	04	F12
GDPS - GATE DRIVER POWER SUPPLY	07	D3
GF - ALT FIELD CONTACTOR COIL	07	C12
GF - ALT FIELD CONTACTOR CUTOUT SW.	07	B13
GF - ALT FLD CONTACTOR POSITION SENSOR	07	C13
GFCO - GEN. FIELD CUT OFF SWITCH	07	B13
GFIP - GROUND FAULT INTERUPT PANEL	02	B12
GFM - AFSE GATE FIRING MODULE	02	C2
GFRBR - GFR FEEDBACK LOAD RESISTORS	07	C11
GFR - ALT FLD RELAY COIL	07	C12
GFR - ALT FLD RELAY CONTACTS	02	B3

COMPONENT	SHEET	LOC
GFR - ALT FLD RELAY CONTACTS	07	C3
GGFR - ALT FLD RELAY POSITION SENSOR	07	C11
GNDB1 - GROUND BLOCK 1	02	C12
GNDB1 - GROUND BLOCK 1	07	D4
GNDB2 - GROUND BLOCK 2	03	B2
GNDB3 - GROUND BLOCK 3	04	F14
GNDB4 - GROUND BLOCK 4	02	B16
GNDB5 - GROUND BLOCK 5	02	C16
GRADE SENSOR	08	A8
GRR - GROUND REFERENCE RESISTOR PANEL	02	B12
HEATER BLOWER MOTOR	10	B6
HEATER HOT WATER SOLENOID	10	B15
HOIST LIMIT SOLENOID	10	B3
HORN	10	E4
HORNS, BACKUP	09	C17
HOURMETER	06	D4
HYDRAULIC FLUID LEVEL SENSOR	10	B1
HYDRAULIC FLUID TEMPERATURE SENSOR	08	A6
INDICATING LIGHTS DIM MODULE	07	E1
INDICATOR, CIRCUIT BREAKER TRIPPED	10	F12
INDICATOR, ENGINE CAUTION (AMBER)	09	C12
INDICATOR, ENGINE WARNING (RED)	09	C12
INDICATOR, HYDRAULIC FILTER RESTRICTED	10	A3
INDICATOR, HYDRAULIC FLUID OVERTEMP	09	C13
INDICATOR, LEFT TURN SIGNAL	10	A13
INDICATOR, LINK ENERGIZED	08	D8
INDICATOR, LINK ENERGIZED	09	C13
INDICATOR, LOW ACCUMULATOR PRECHARGE	10	B3
INDICATOR, LOW BRAKE PRESSURE	10	C3
INDICATOR, LOW FUEL LEVEL	10	D7
INDICATOR, LOW HYDRAULIC LEVEL	10	B3
INDICATOR, LOW STEERING PRESSURE	10	C3
INDICATOR, MANUAL BACKUP LIGHTS	09	D16
INDICATOR, NO PROPULSION	09	C8
INDICATOR, NO RETARD	09	C9
INDICATOR, PARK BRAKE ON	09	A1
INDICATOR, PROPULSION SYSTEM OVERTEMP	09	C10
INDICATOR, PSC NOT READY	09	C12
INDICATOR, PSC SYSTEM WARNING	09	C10
INDICATOR, REDUCED PROPULSION	09	C12
INDICATOR, RETARD	09	C11
INDICATOR, RETARD CONTINUOUS LEVEL	09	C11
INDICATOR, RIGHT TURN SIGNAL	10	A13
INDICATOR, SERVICE BRAKES ON	07	E2
KONTROL POWER RELAY ITERFACE CABINET	07	D1
LDBX1 - LOAD BOX AMPERAGE MEASURE	02	D9
LDBX1 - LOAD BOX AMPERAGE MEASURE	06	B17
LED, CONTROL POWER	07	C9
LED, NO ACCELERATION FAULT	07	C8
LED, REST	07	C7
LED, SYSTEM READY (RUN)	07	C8
LED, TEST	07	C7
LEDP - LED PANEL END OF ELECTRIC CAB	07	C7
LEFT HOT START HEATER (DET. DIE. ENG.)	07	A15
LEFT THERMOSTAT (DETROIT DIESEL ENGINE)	07	A16
LIGHT, 5 MIN. IDLE TIMER ON	10	D11
LIGHT, BACKUP	09	D17
LIGHT, BODY-UP	09	B6
LIGHT, CLEARANCE/TURN, LEFT	10	A8
LIGHT, CLEARANCE/TURN, RIGHT	10	B8
LIGHT, DECK, LEFT	10	A6
LIGHT, DECK, RIGHT	10	B6
LIGHT, ENGINE SERVICE	10	C6
LIGHT, FOG	10	B6
LIGHT, HEADLIGHTS BUMPER	10	B10
LIGHT, HEADLIGHTS GRILLE	10	C10
LIGHT, LADDER	10	A6
LIGHT, PAYLOAD METER, LEFT	10	E7
LIGHT, PAYLOAD METER, RIGHT	10	G7
LIGHT, RETARD, CAB TOP	09	A17
LIGHT, RETARD, REAR	09	A/B-17
LIGHT, RETARD SPEED ON	08	C5
LIGHT, STOP, CAB TOP	07	G1
LIGHT, STOP, REAR	07	F1
LIGHT, STOP, REAR, RESISTOR/DIODES	07	F3
LIGHTS, CABINET SERVICE	07	B/C-2
LINCOLN LUBE PRESSURE SWITCH	10	D6
LINCOLN LUBE SOLENOIDS 1 & 2	10	D7
LINCOLN LUBE TIMER	10	D5
LINK1 - DC LINK AMPERAGE MESURE	02	D10
LINK1 - DC LINK AMPERAGE MEASURE	06	B15
LINKV - DC LINK VOLTAGE MEASURE	02	B10
MODULAR MINING COMMUNICATION PORT	08	D6
MOTOR COOLING AIRFLOW SENSOR	08	A7
P305	08	E2
P329 - CNI	06	B7
P329 - CNI	06	D4
P329 - CNI	06	D8
P329 - CNI	07	E5
P329 - CNI	02	D16
P329 - CNI	02	F8
P329 - CNI	04	D17
P367 - CNENG	03	F8
P367 - CNENG	06	A3
P367 - CNENG	06	A7
P367 - CNENG	06	E4
P367 - CNENG	07	A2
P367 - CNENG	07	E2
P367 - CNENG	05	E12
P371 - CNTCI	05	E9
P399 - CNAUX	03	C3
P399 - CNAUX	08	D4
PANEL LIGHT DIMMER A	07	F2
PARK BRAKE SOLENOID	09	A2
PAYLOAD METER 2	09	A7
PAYLOAD METER 2	10	F2
PAYLOAD METER AMBER LIGHT RELAY	10	E5
PAYLOAD METER DATA STORAGE TRIGGER MOD	10	E5
PAYLOAD METER GREEN LIGHT RELAY	10	F5
PAYLOAD METER LIGHTS RELAY	10	F5
PAYLOAD METER RED LIGHT RELAY	10	E5

COMPONENT	SHEET	LOC
PM1A+ - PHASE MODULE GATE DRIVER	04	A12
PM1A+ - PHASE MODULE GATE DRIVER	04	D11
PM1A+ - PHASE MODULE PHASE A+ LEFT MTR	02	D10
PM1A- - PHASE MODULE GATE DRIVER	04	A13
PM1A- - PHASE MODULE GATE DRIVER	04	D12
PM1A- - PHASE MODULE PHASE A- LEFT MTR	02	F10
PM1B+ - PHASE MODULE GATE DRIVER	04	A13
PM1B+ - PHASE MODULE GATE DRIVER	04	D13
PM1B+ - PHASE MODULE PHASE B+ LEFT MTR	02	D12
PM1B- - PHASE MODULE GATE DRIVER	04	A14
PM1B- - PHASE MODULE GATE DRIVER	04	D14
PM1B- - PHASE MODULE PHASE B- LEFT MTR	02	F12
PM1C+ - PHASE MODULE GATE DRIVER	04	A15
PM1C+ - PHASE MODULE GATE DRIVER	04	D15
PM1C+ - PHASE MODULE PHASE C+ LEFT MTR	02	D14
PM1C- - PHASE MODULE GATE DRIVER	04	A16
PM1C- - PHASE MODULE GATE DRIVER	04	D15
PM1C- - PHASE MODULE PHASE C- LEFT MTR	02	F14
PM2A+ - PHASE MODULE GATE DRIVER	04	A2
PM2A+ - PHASE MODULE GATE DRIVER	04	D1
PM2A+ - PHASE MODULE PHASE A+ RIGHT MTR	02	D2
PM2A- - PHASE MODULE GATE DRIVER	04	A2
PM2A- - PHASE MODULE GATE DRIVER	04	D2
PM2A- - PHASE MODULE PHASE A- RIGHT MTR	02	F2
PM2B+ - PHASE MODULE GATE DRIVER	04	A3
PM2B+ - PHASE MODULE GATE DRIVER	04	D2
PM2B+ - PHASE MODULE PHASE B+ RIGHT MTR	02	D4
PM2B- - PHASE MODULE GATE DRIVER	04	A4
PM2B- - PHASE MODULE GATE DRIVER	04	D3
PM2B- - PHASE MODULE PHASE B- RIGHT MTR	02	F4
PM2C+ - PHASE MODULE GATE DRIVER	04	A5
PM2C+ - PHASE MODULE GATE DRIVER	04	D4
PM2C+ - PHASE MODULE PHASE C+ RIGHT MTR	02	D6
PM2C- - PHASE MODULE GATE DRIVER	04	A6
PM2C- - PHASE MODULE GATE DRIVER	04	D5
PM2C- - PHASE MODULE PHASE C- RIGHT MTR	02	F6
PSC 104 CARD SLOT 5	02	C3
PSC 104 CARD SLOT 5	02	C5
PSC 104 CARD SLOT 5	03	D1
PSC 104 CARD SLOT 5	04	C5
PSC 104 CARD SLOT 5	04	F10
PSC 104 CARD SLOT 5	04	G2
PSC 104 CARD SLOT 5	07	D9
PSC 104 CARD SLOT 5	07	F9
PSC 127 CARD SLOT 2	04	C15
PSC 127 CARD SLOT 2	05	F3
PSC 134 CARD SLOT 10	02	D15
PSC 134 CARD SLOT 10	04	C8
PSC 134 CARD SLOT 10	05	C2
PSC 134 CARD SLOT 12	02	F7
PSC 134 CARD SLOT 12	04	F7
PSC 134 CARD SLOT 12	05	D2
PSC 138 CARD SLOT 09	04	D13
PSC 138 CARD SLOT 11	04	D2
PSC 143 CARD SLOT 6	02	A3
PSC 143 CARD SLOT 6	02	B11
PSC 143 CARD SLOT 6	02	B13
PSC 143 CARD SLOT 6	02	B5
PSC 143 CARD SLOT 6	02	D3
PSC 143 CARD SLOT 6	02	D8
PSC 143 CARD SLOT 6	03	E1
PSC 143 CARD SLOT 6	04	B8
PSC 143 CARD SLOT 6	06	D14
PSC 143 CARD SLOT 6	06	F9
PSC 147 CARD SLOT 3	05	G10
PSC FIBER OPTIC CARD	04	B14
PSC FIBER OPTIC CARD	04	C3
R1 - BATTERY BOOST RESISTOR	02	B3
R1 - BATTERY BOOST RESISTOR	07	C4
R240 - (A) FUEL INJECTION SIGNAL	09	A6
R305	08	E2
R329 - CNI	06	B7
R329 - CNI	06	D4
R329 - CNI	06	D8
R329 - CNI	07	E5
R329 - CNI	02	F8
R329 - CNI	02	D16
R367 - CNENG	03	F8
R367 - CNENG	05	E12
R367 - CNENG	06	A4
R367 - CNENG	06	A7
R367 - CNENG	06	E4
R367 - CNENG	07	A2
R367 - CNENG	07	E2
R371 - CNTCI	05	E9
R399 - CNAUX	03	C3
RADIO	10	D17
RADIO RELAY - IN OVERHEAD PANEL	10	D16
RB1 K1 RELAY (LEFT TURN SIGNAL)	10	A9
RB1 K2 RELAY (RIGHT TURN SIGNAL)	10	B9
RB1 K3 RELAY (CLEARANCE LIGHT)	07	F4
RB1 K4 RELAY (FLASHER)	10	A11
RB2 K1 RELAY (PAYLOAD GREEN LIGHTS)	10	F5
RB2 K2 RELAY (PAYLOAD AMBER LIGHTS)	10	E5
RB2 K3 RELAY (PAYLOAD RED LIGHTS)	10	E5
RB2 K4 RELAY (PAYLOAD LIGHTS)	10	F5
RB3 K1 RELAY (MANUAL BACKUP LIGHTS)	09	D16
RB3 K2 RELAY (STOP LIGHT)	07	F4
RB3 K3 RELAY (RETARD LIGHT)	09	A15
RB4 K1 RELAY (PARK BRAKE FAILURE)	09	B2
RB4 K2 RELAY (CRANK INTERLOCK)	07	A6
RB4 K3 RELAY (HORN)	10	E2
RB4 K4 RELAY (BODY UP)	09	B6
RB5 K1 RELAY (LEFT LOW BEAM HEADLIGHT)	10	D8
RB5 K2 RELAY (RIGHT LOW BEAM HEADLIGHT)	10	C8
RB5 K3 RELAY (LEFT HIGH BEAM HEADLIGHT)	10	C8
RB5 K4 RELAY (RIGHT HIGH BEAM HEADLIGHT)	10	B8
RB6 K1 RELAY (BACK UP HORN)	09	C15
RB6 K2 RELAY (ENGINE INTERLOCK)	09	A14
RB6 K4 RELAY (BACK UP LIGHTS)	09	B15
RB6 K8 RELAY (PSC TRUCK 70% LOAD)	09	A8

COMPONENT	SHEET	LOC
RD - RECTIFIER DIODE PANEL	02	B8
REAR L.H. OIL HTR. (DETROIT DIE. ENG)	07	B15
RELAY, 5-MINUTE DELAY IDLE SHUTDOWN (SEAT)	10	D12
RELAY, 5-MINUTE DELAY SHUTDOWN ON (SEAT)	10	D11
RELAY, BACKUP HORN RB6 K1	09	C15
RELAY, BACKUP LIGHTS RB6 K4	09	B15
RELAY, BATTERY SEPARATE (BATTERY BOX)	07	A6
RELAY, BATTERY SEPARATE (BATTERY BOX)	10	G12
RELAY, BODY UP RB4 K4	09	B6
RELAY, BRAKE WARNING (BRAKE CABINET)	10	D2
RELAY, CAB HEATER INTERNAL	10	A15
RELAY, CLEARANCE LIGHT RB1 K3	07	F4
RELAY, CRANK INTERLOCK	07	A6
RELAY, ENGINE INTERLOCK	09	A14
RELAY, FLASHER RB1 K4	10	A11
RELAY, HORN RB4 K3	10	E2
RELAY, LEFT HIGH BEAM HEADLIGHT RB5 K3	10	C8
RELAY, LEFT LOW BEAM HEADLIGHT RB5 K1	10	D8
RELAY, LEFT TURN SIGNAL RB1 K1	10	A9
RELAY, MANUAL BACK UP LIGHTS RB3 K1	09	D16
RELAY, PARK BRAKE FAILURE RB4 K1	09	B2
RELAY, PAYLOAD AMBER LIGHTS RB2 K2	10	E5
RELAY, PAYLOAD GREEN LIGHTS RB2 K1	10	F5
RELAY, PAYLOAD LIGHTS RB2 K4	10	F5
RELAY, PAYLOAD RED LIGHTS RB2 K3	10	E5
RELAY, PARKBRAKE OFF RELAY RB6-K6	09	B12
RELAY, PSC TRUCK 70% LOAD RB6 K8	09	A8
RELAY, PSC TRUCK FULL LOAD RB6 K7	09	B8
RELAY, RADIO (IN OVERHEAD PANEL)	10	D17
RELAY, RETARD LIGHTS RB3 K3	09	A15
RELAY, RIGHT HIGH BEAM HEADLIGHT RB5 K4	10	B8
RELAY, RIGHT LOW BEAM HEADLIGHT RB5 K2	10	C8
RELAY, RIGHT TURN SIGNAL RB1 K2	10	B9
RELAY, STOP LIGHT RB3 K2	07	F4
RETARD GRID	02	B14
RETARD GRID	02	B16
RETARD GRID	02	C17
RETARD LEVER	06	D6
RETARD LEVER	08	B1
RETARD PEDAL	06	D6
RETARD PEDAL	08	B1
RETARD SPEED CONTROL SET	08	B3
RIGHT HOT START HTR. (DETROIT DIE ENG)	07	A15
RIGHT THERMOSTAT (DETROIT DIESEL ENG)	07	A16
RP1 - RET GRID CONTACTOR COIL	07	C13
RP1 - RET GRID CONTACTOR POSITION SENSOR	07	C14
RP1 - RET GRID CONTACTOR TIPS	02	C17
RP2 - RET GRID CONTACTOR COIL	07	C15
RP2 - RET GRID CONTACTOR POSITION SENSOR	07	C16
RP2 - RET GRID CONTACTOR TIPS	02	C17
RP3 - RET GRID CONTACTOR COIL	07	C16
RP3 - RET GRID CONTACTOR POSITION SENSOR	07	C17
RP3 - RET GRID CONTACTOR TIPS	02	C17
RS1A - RESISTOR, SNUBBER INVERTER 1 PHASE A	02	F10
RS1B - RESISTOR, SNUBBER INVERTER 1 PHASE B	02	F12
RS1C - RESISTOR, SNUBBER INVERTER 1 PHASE C	02	F14
RS2A - RESISTOR, SNUBBER INVERTER 2 PHASE A	02	F2
RS2B - RESISTOR, SNUBBER INVERTER 2 PHASE B	02	F4
RS2C - RESISTOR, SNUBBER INVWRTER 2 PHASE C	02	F6
RSI1 - (RS-232)	04	A11
RSI2 - (RS-232)	04	A1
SENSOR, ALT. AMBIENT TEMPERATURE	08	A5
SENSOR, BAROMETRIC PRESSURE	08	B10
SENSOR, ENGINE TEMPERATURE	06	F1
SENSOR, FUEL LEVEL	10	D4
SENSOR, GRADE	08	A8
SENSOR, HYDRAULIC FLUID LEVEL	10	B1
SENSOR, HYDRAULIC FLUID TEMPERATURE	08	A6
SENSOR, INCLINOMETER	10	F1
SENSOR, LEFT FRONT LOAD	10	F1
SENSOR, LEFT FRONT WHEEL SPEED	08	E1
SENSOR, LEFT REAR LOAD	10	F1
SENSOR, LEFT REAR MOTOR SPEED	02	E16
SENSOR, MOTOR COOLING AIRFLOW	08	A7
SENSOR, RIGHT FRONT LOAD	10	F1
SENSOR, RIGHT FRONT WHEEL SPEED	08	D1
SENSOR, RIGHT REAR LOAD	10	G1
SENSOR, RIGHT REAR MOTOR SPEED	02	E8
SHUTDOWN DELAY CONTACTOR (5 MIN)	10	D14
SHUTDOWN DELAY ON RELAY (5 MIN)	10	D11
SHUTDOWN DELAY RELAY (5 MIN)	10	D12
SHUTDOWN DELAY TIMER (5 MIN)	10	D12
SIM - SPECIAL INTERFACE MODULE	06	A1
SOLENOID, BRAKE LOCK	10	D2
SOLENOID, HEATER HOT WATER	10	B15
SOLENOID, HOIST LIMIT	10	B3
SOLENOID, PARK BRAKE	09	A2
SOLENOID, STEERING BLEEDDOWN	10	E4
SOLENOID START #1	07	A9
SOLENOID START #2	07	A9
SPEED, LEFT FRONT, OUTPUT (FUTURE)	08	A14
SPEED, LEFT FRONT WHEEL SENSOR	08	E1
SPEED, RIGHT FRONT, OUTPUT (FUTURE)	08	A14
SPEED, RIGHT FRONT WHEEL SENSOR	08	D1
SPEEDOMETER	08	G2
SPS - SENSORS POWER SUPPLY (AMP & VOLT)	03	B13
SS1 - SPEED SENSOR LEFT MOTOR	02	E16
SS2 - SPEED SENSOR RIGHT MOTOR	02	E8
STEERING BLEEDDOWN SOLENOID	10	E4
STEERING BLEEDDOWN TIMER RB4	10	E2
SWITCH, A/C, REC/DRIER PRESSURE	06	F3
SWITCH, A/C RECIEVER/DRIER	10	A16
SWITCH, ACCUMULATOR NITROGEN PRECHARGE	10	B1
SWITCH, BATTSW - CNTRL BATT DISCON (BAT BOX)	02	C3
SWITCH, BATTSW - CNTRL BATT DISCON (BAT BOX)	07	D1
SWITCH, BODY UP (FRAME)	09	C4
SWITCH, BRAKE FILTER DIFFERENTIAL	10	A2
SWITCH, BRAKE FRONT/FRONT DIFF. (BRK CAB)	10	D3
SWITCH, BRAKE FRONT/REAR DIFF (FR OF CAB)	10	D3
SWITCH, BRAKE LOCK (INST. PNL)	10	D1
SWITCH, BRAKE LOCK DEGRATION (BRK CAB)	10	D2
SWITCH, BRAKE REAR/REAR DIFF (REAR AXLE)	10	D3

COMPONENT	SHEET	LOC
SWITCH, CAB HEATER BLOWER CONTROL	10	B16
SWITCH, CAB THERMOSTAT (CAB HTR)	10	A15
SWITCH, CAPACITOR PRESSURE (ELEC CAB)	03	F3-5
SWITCH, CONTROL BATTERY DISC. (BAT BOX)	07	A7
SWITCH, CONTROL BATTERY DISC. (BAT BOX)	10	F13
SWITCH, COOLANT LEVEL	06	F4
SWITCH, CPS - CONTROL POWER (ELEC CAB)	07	B3
SWITCH, CRANKING BATTERY DISC. (BAT BOX)	07	B7
SWITCH, CRANKING BATTERY DISC. (BAT BOX)	10	F13
SWITCH, DATA STORE (CAB CONSOLE)	09	C1
SWITCH, EMERG ENG SHUTDOWN (CAB CONSOLE)	09	A6
SWITCH, ENGINE LAMP TEST (INTERFACE CAB)	09	D3
SWITCH, ENGINE RUN	07	A7
SWITCH, ENGINE SERVICE LIGHTS (LEFT SIDE)	10	C4
SWITCH, ENGINE SERVICE LIGHTS (RIGHT SIDE)	10	C5
SWITCH, ENGINE START REQUEST (KEY SW)	09	C2
SWITCH, FOG LIGHTS (INST. PNL)	10	B4
SWITCH, GENERATOR FIELD CUT OFF	07	B13
SWITCH, GROUND LEVEL SHUTDOWN (LEFT FRT FR)	07	C1
SWITCH, GROUND LEVEL SHUTDOWN (LEFT FRT FR)	09	A3
SWITCH, HAZARD FLASHER LIGHTS (STEER COL)	10	A14
SWITCH, HEADLIGHT (INST. PNL)	07	F6
SWITCH, HEADLIGHT DIMMER (STEER COL)	10	B7
SWITCH, HEATER/AC CONTROL (CAB HEATER)	10	A16
SWITCH, HOIST FILTER DIFFERENTIAL	10	A1
SWITCH, HOIST LIMIT PROXIMITY (RT REAR FR)	10	B2
SWITCH, HORN BUTTON (STEER COL)	10	E3
SWITCH, INVERTER 1 CUTOUT (ELEC CAB)	07	C9
SWITCH, INVERTER 2 CUTOUT (ELEC CAB)	07	C10
SWITCH, KEY SW. (INST PNL)	07	A1
SWITCH, LADDER LIGHTS (INST PNL)	10	A4
SWITCH, LADDER LIGHTS, GROUND LEVEL	10	A5
SWITCH, LAMP TEST (INST PNL)	09	C3
SWITCH, LINCOLN LUBE PRESSURE (LUBE PUMP)	10	D6
SWITCH, LOW BRAKE SUPPLY PRESSURE (BRK CAB)	10	C1
SWITCH, LOW FUEL LEVEL (FUEL TANK)	10	D4
SWITCH, LOW STEERING PRESS (BLEEDDOWN MANIF)	10	C1
SWITCH, MANUAL BACKUP LIGHTS (INST PNL)	09	D15
SWITCH, OIL PRESSURE CLOSES @ 5 PSI	06	D2
SWITCH, PARK BRAKE (INST PNL)	09	C1
SWITCH, PARK BRAKE REQUEST	07	A2
SWITCH, PARK BRAKE PRESSURE (BRK CAB)	09	A2
SWITCH, RESET REQUEST (CAB CONCOLE)	09	C2
SWITCH, REST REQUEST (INST PNL)	09	C2
SWITCH, RETARD SPEED CONTROL (CAB CON)	08	B4
SWITCH, RETARD SPEED CONTROL (CAB CON)	09	C2
SWITCH, SELECTOR (CAB CONSOLE)	07	A2
SWITCH, SELECTOR (CAB CONSOLE)	09	C1
SWITCH, SERVICE BRAKE APPLIED PRESSURE	07	E3
SWITCH, STEERING FILTER DIFFERENTIAL	10	A1
SWITCH, TURN SIGNAL (STEER COLUMN)	10	A13
SWITCH, WINDSHIELD WIPER (INST PNL)	10	C16
TACHOMETER	06	A11
TB1 - TERMINAL BLOCK 1	03	E9
TB1 - TERMINAL BLOCK 1	07	C5
TB1 - TERMINAL BLOCK 1	07	E1
TB2 - TERMINAL BLOCK 2	03	E11
TB2 - TERMINAL BLOCK 2	07	D5
TB3 - TERMINAL BLOCK 3	03	E14
TB4 - TERMINAL BLOCK 4	03	A16
TB5 - TERMINAL BLOCK 5	03	C16
TB6 - TERMINAL BLOCK 6	03	D16
TB7 - TERMINAL BLOCK 7	03	E16
TCI 104 CARD SLOT 5	07	A4
TCI 104 CARD SLOT 5	07	B6
TCI 104 CARD SLOT 5	08	B5
TCI 104 CARD SLOT 5	08	E8
TCI 104 CARD SLOT 5	09	E1-16
TCI 104 CARD SLOT 5	04	E17
TCI 127 CARD SLOT 2	08	F13
TCI 144 CARD SLOT 3	05	E7
TCI 15V OUTPUT	06	E6
TCI 160 CARD SLOT 4	03	C1
TCI 160 CARD SLOT 4	08	C6-13
TCI 160 CARD SLOT 4	08	F4
TEMPERATURE GAUGE, DRIVE SYSTEM	08	A15
TEMPERATURE GAUGE, HYDRAULIC FLUID	08	A16
TH1 - ALTERNATOR FIELD DISCHARGE RESISTOR	02	B5
TIMER, 5-MINUTE IDLE SHUTDOWN DELAY	10	D12
TIMER, STEERING BLEEDDOWN RB4	10	E2
TRACTION MOTOR 1 - LEFT MOTOR	02	E15
TRACTION MOTOR 2 - RIGHT MOTOR	02	E8
VAM1 - VOLTAGE ATTENUATING MOD LEFT MTR	02	F9-14
VAM1 - VOLTAGE ATTENUATING MOD LEFT MTR	05	A3
VAM2 - VOLTAGE ATTENUATING MOD RIGHT MTR	02	F1-6
VAM2 - VOLTAGE ATTENUATING MOD RIGHT MTR	05	C4
WINDOW, LEFT MOTOR	10	E17
WINDOW, RIGHT MOTOR	10	F17
WINDSHIELD WASHER PUMP	10	C15
WINDSHIELD WIPER MOTOR	10	C15

SIMILAR TO EH0421

THIS PRINT IS PROVIDED ON A RESTRICTED BASIS AND IS NOT TO BE USED IN ANY WAY DETRIMENTAL TO THE INTERESTS OF THE COMPANY

TOL. ON DIM. NOT OTHERWISE SPECIFIED
±.010-3 PLACES
±.06-2 PLACES
±1° -ANGULAR

D GROUP USED ON EJ4227
DASH | DESCRIPTION OF CHANGE | DATE | ECO | BY | CKD

PROCEDURE | ISSUANCE
DRAWN BY J. E. MILLER | DATE 06-30-00 | F | MICROFILM
CHECKED | DATE | USED ON 930E
APPROVED | DATE | SCALE NONE
NAME A/C TRUCK SYS SCHEMATIC | MATERIAL | SHEET 11 OF 13 | EJ4230

KOMATSU Komatsu Mining Systems, Inc. Peoria Operations CAD

Order the manual at mid-west-tech.com >