CEBM006204

Shop Manual

HD1500-5

DUMP TRUCK

SERIAL NUMBERS **A30039 - A30048**

KOMATSU®

MidWestTech | Komatsu HD1500-5 Dump Truck Service Manual | Publication CEBM006204

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

TABLE OF CONTENTS

SUBJECT . . . . . **SECTION**

GENERAL INFORMATION . . . . . A

STRUCTURES . . . . . B

ENGINE C

ELECTRICAL SYSTEM AND POWERTRAIN MANAGEMENT CONTROL SYSTEM . . . . . D

TRANSMISSION AND TORQUE CONVERTER . . . . . F

DRIVE AXLE, SPINDLES AND WHEELS . . . . . G

SUSPENSIONS . . . . . H

BRAKE SYSTEM . . . . . J

HYDRAULIC SYSTEM L

OPTIONS AND SPECIAL TOOLS . . . . . M

OPERATOR CAB . . . . . N

LUBRICATION AND SERVICE . . . . . P

SYSTEM SCHEMATICS . . . . . R

MidWestTech | Komatsu HD1500-5 Dump Truck Service Manual | Publication CEBM006204 Order the manual at mid-west-tech.com >

SECTION A
GENERAL INFORMATION
INDEX

MAJOR COMPONENTS & SPECIFICATIONS A2

SAFETY AND OPERATION A3

WARNINGS AND CAUTIONS. A4

STANDARD TABLES. A5

STORAGE PROCEDURES. A7

MidWestTech | Komatsu HD1500-5 Dump Truck Service Manual | Publication CEBM006204 Order the manual at mid-west-tech.com >

ATC FAULT CODE TROUBLESHOOTING

b001 : BATTERY VOLTAGE LOW

Check whether the voltage level between the starter switch "BR" terminal and chassis is 20 V or more.

Yes. Check harness.

No. Check alternator.

b002 : SOLENOID VOLTAGE FAILURE

Turn key on and check whether voltage level between ATC2, P-12 and ATC2, P-21 is between 20 and 30 V.

Yes.Turn key off, return to the first step, and check again. If the result is the same as before, change T/M controller.

No. Check harness.

b003 : NEUTRAL SAFETY ON

Check whether shift lever position is Neutral.

Yes. Turn key on check whether voltage level between ATC5B, P-3 and chassis is 1 V or less.

Yes. Change T/M controller.

No. Check harness.

No. Change shift lever to Neutral position.

b005 : CLUTCH ENGAGED DOUBLE

Check whether T/M controller also still detects b03x (x = 1 through 9).

Yes. Carry out the b03x troubleshooting.

No. Change T/M controller.

b006 : T/M CUT RELAY FAILURE

Turn key off and replace the T/M cut relay.

Check whether T/M controller still detects b006.

Yes. Turn key off and disconnect ATC1 and ATC2A from T/M controller.Check whether the resistance between ATC1, P-9 and ATC2, P-1, and ATC1, P-9 and ATC2, P-12 is between 100 and 500W.

Yes. Change T/M controller.

No. Check harness.

No. The fault is recovered.

b007 : BATTERY VOLTAGE LOW (12 V)

Turn key off and disconnect ATC2 from T/M controller.Check whether the resistance between ATC2, P-14 (harness side) and chassis is 1 Megohm or more.

Yes. Connect ATC2, and turn key on. Check whether T/M controller still detects b007.

Yes. Turn key off, return to the first step, and check again. If the result is the same as before, change T/M controller.

No. The fault is recovered.

No. Disconnect connector at transmission range selector lever. Check whether resistance above returns to normal.

Yes. Change transmission range selector.

No. Check harness.

MidWestTech | Komatsu HD1500-5 Dump Truck Service Manual | Publication CEBM006204 Order the manual at mid-west-tech.com >

RCM HARNESS CIRCUITS CONNECTOR RCM2		
Pin No.	Function	Type
1	Reserved	
2	Reserved	
3	RS422 transmit (+)	Serial output
4	RS422 transmit (-)	Serial input
5	Reserved	
6	Throttle modification	PWM output
7	Reserved	
8	Reserved	
9	Reserved	
10	RS422 receive (+)	Serial input
11	Shield	Ground
12	RS422 transmit (-)	Serial output
13	Reserved	
14	Reserved	
15	Reserved	
16	Shield	Ground
17	Reserved	
18	Reserved	

RCM HARNESS CIRCUITS CONNECTOR RCM3		
Pin No.	Function	Type
1	Emergency brake sense	Digital input
2	Emergency/auto apply sense	
3	Reserved	
4	Reserved	
5	Auto retard command	PWM input
6	Reserved	
7	RR brake pressure sense	Analog input
8	LR brake pressure sense	Analog input
9	Ret. lever pot. (high end)	
10	Reserved	
11	Reserved	
12	Reserved	
13	Brake pedal sense	Analog input
14	Slippery road sense	Digital output
15	Reserved	
16	Shield	Ground
17	Ground	Ground
18	Alternator R terminal	Analog input
19	Reserved	
20	+18 volt sensor power supply	DC voltage output
21	+18 volt sensor power supply	DC voltage output
22	Ret. lever pot. (low end)	
23	Reserved	
24	Reserved	
25	Brake accumulator pressure	Digital input
26	Brake lock sense	Digital input
27	Backplane +24 volt supply	DC voltage input
28	Reserved	
29	Traction control	Digital input
30	Reserved	
31	Brake diff. pressure sense	Digital input
32	Shield	Ground
33	Shield	Ground
34	Ret. lever potentiometer wiper	
35	Shield	Ground
36	Reserved	

MidWestTech | Komatsu HD1500-5 Dump Truck Service Manual | Publication CEBM006204 Order the manual at mid-west-tech.com >

Testing and Adjustment

1. Shut down engine, bleed down steering accumulators before opening circuit to take measurements, make repairs or to install or remove a gauge.
2. Disconnect return to tank line (3, Figure 6-1) from bleeddown manifold.
3. Start engine and run at low idle.
4. With oil at normal operating temperature, check leakage; maximum allowable leakage is 32.8 ml (1 oz.) per minute.

⚠WARNING

Never shut off key switch to activate accumulator bleeddown with steering return lines open. Return lines will contain accumulator oil flow during the bleeddown cycle.

5. If leakage is excessive, reconnect return line at bleeddown manifold valve.
6. Turn key switch to the "Off" position and allow at least 90 seconds for the accumulators to bleed down.
7. Remove the bleeddown solenoid valve (10) and the 228 kg/cm^2 (3250 psi) relief valve(4). Replace O-rings on both valves and reinstall.
8. Repeat test procedure.
9. If leakage is still excessive, replace both the bleeddown solenoid valve and the 228 kg/cm^2 (3250 psi) relief valve.

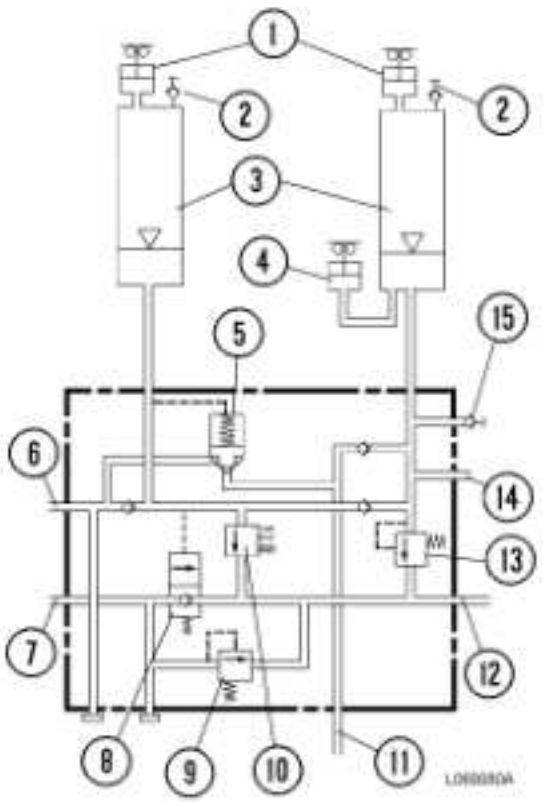


FIGURE 6-2. BLEEDDOWN VALVE SCHEMATIC

1. Accumulator Precharge Pressure Switch: [60 kg/cm^2 (850 psi)]
2. Nitrogen Charging Valve
3. Accumulators
4. Steering Pressure Switch: [130 kg/cm^2 (1850 psi)]
5. Differential Valve
6. Outlet to Flow Amplifier
7. Return from Flow Amplifier
8. Piloted Check Valve
9. Relief Valve: [35.2 kg/cm^2 (500 psi)]
10. Accumulator Bleeddown Solenoid
11. Supply to Brake System
12. Return to Tank
13. Relief Valve: [228 kg/cm^2 (3250 psi)]
14. Supply from Steering Pump
15. Pressure Test Port

MidWestTech | Komatsu HD1500-5 Dump Truck Service Manual | Publication CEBM006204 Order the manual at mid-west-tech.com >

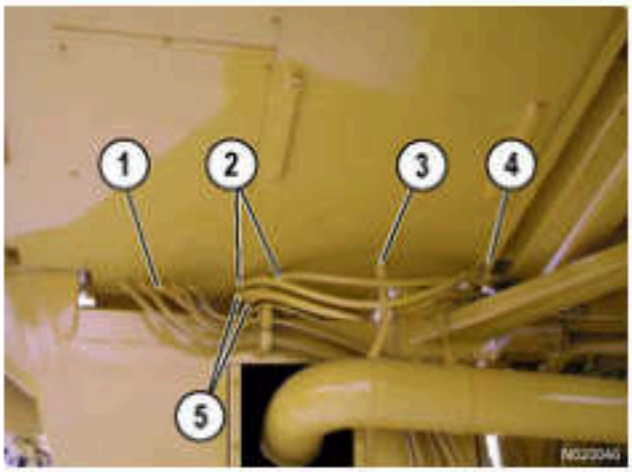


FIGURE 2-4. CAB HYDRAULIC AND HVAC

1. Hydraulic Hoses
2. Heater Hoses
3. HVAC Drain
4. Clamp
5. A/C Hoses

9. Disconnect two heater hoses (2, Figure 2-4) from the fittings underneath the cab. Remove clamp (4) securing the hoses to the bottom of the cab.
10. Disconnect five hydraulic hoses (1).
11. Disconnect two air conditioner hoses (5).
12. Cap all hoses and fittings to prevent contamination.

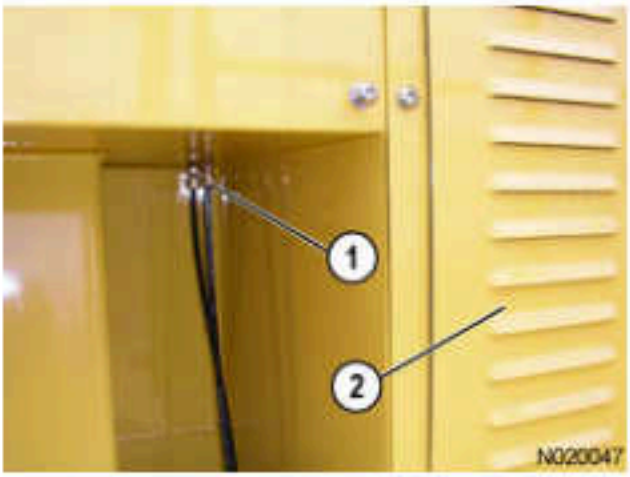


FIGURE 2-5. VACUUM HOSES

1. Vacuum Hoses
2. Filter Cover

13. Remove the access cover from the exterior of the RH side of the cab. Disconnect two vacuum hoses (1, Figure 2-5) from the front of the cab.

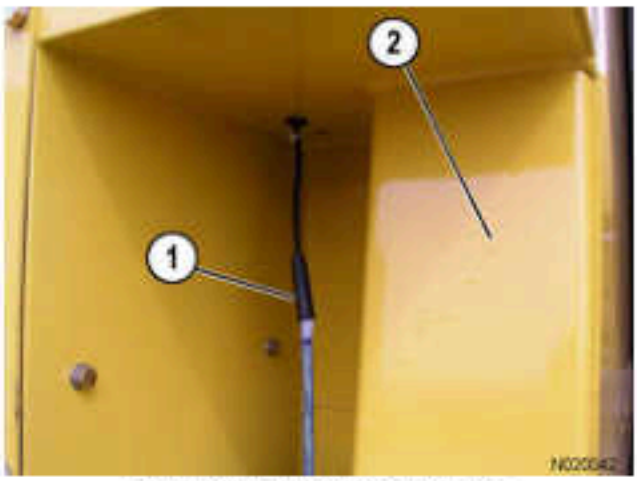


FIGURE 2-6. RADIO ANTENNA

1. Radio Antenna
2. LH Front ROPS Beam

14. Remove the access cover from the exterior of the LH side of the cab. Disconnect radio antenna (1, Figure 2-6).

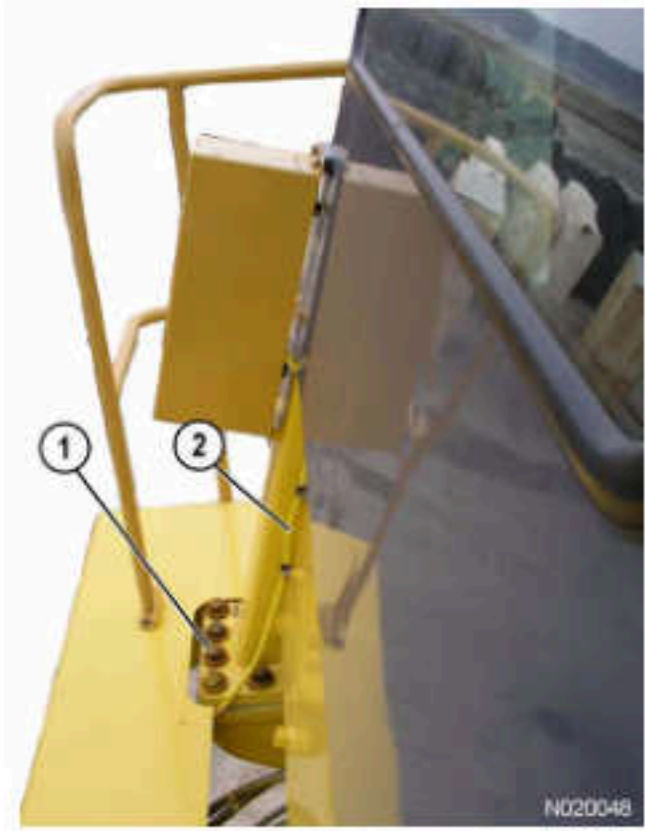


FIGURE 2-7. CAB MOUNT

1. Cap Screw
2. Harness

MidWestTech | Komatsu HD1500-5 Dump Truck Service Manual | Publication CEBM006204 Order the manual at mid-west-tech.com >

Formulas -

Top View: (A + B) / 2 = 3 mm max.

Side View: (C - D) / 2 = 3 mm max.

Example -

Measurements: A = 3 mm B = 7 mm

C = 20 mm D = 6 mm

Top view formula: (3 + 7) / 2 = 5 mm

The quotient of 5 mm in this example is 2 mm over the allowable maximum of 3 mm. Loosen the cap screws at the front transmission mounts and remove the locking plates. Use a hoist to move the transmission 2 to 5 mm towards the center of the truck. Moving the transmission 2 to 5 mm would result in a quotient of 3 mm or less, meeting the specification.

NOTE: Keep the shafts parallel when adjusting the position of the transmission.

Side view formula: (20 - 6) / 2 = 7 mm

The quotient of 7 mm in this example is 4 mm over the allowable maximum of 3 mm. Use a hoist to lift the transmission enough to install shims (2, Figure 5-8) below mounting pins (1). A general guideline to follow is to divide the difference by two. This is the number of shims to install. Since the difference in this example is 4 mm, install two shims at each front mount.

NOTE: DO NOT install additional shims at the rear mounts. Adjust the transmission height by shimming the front mounts, only.

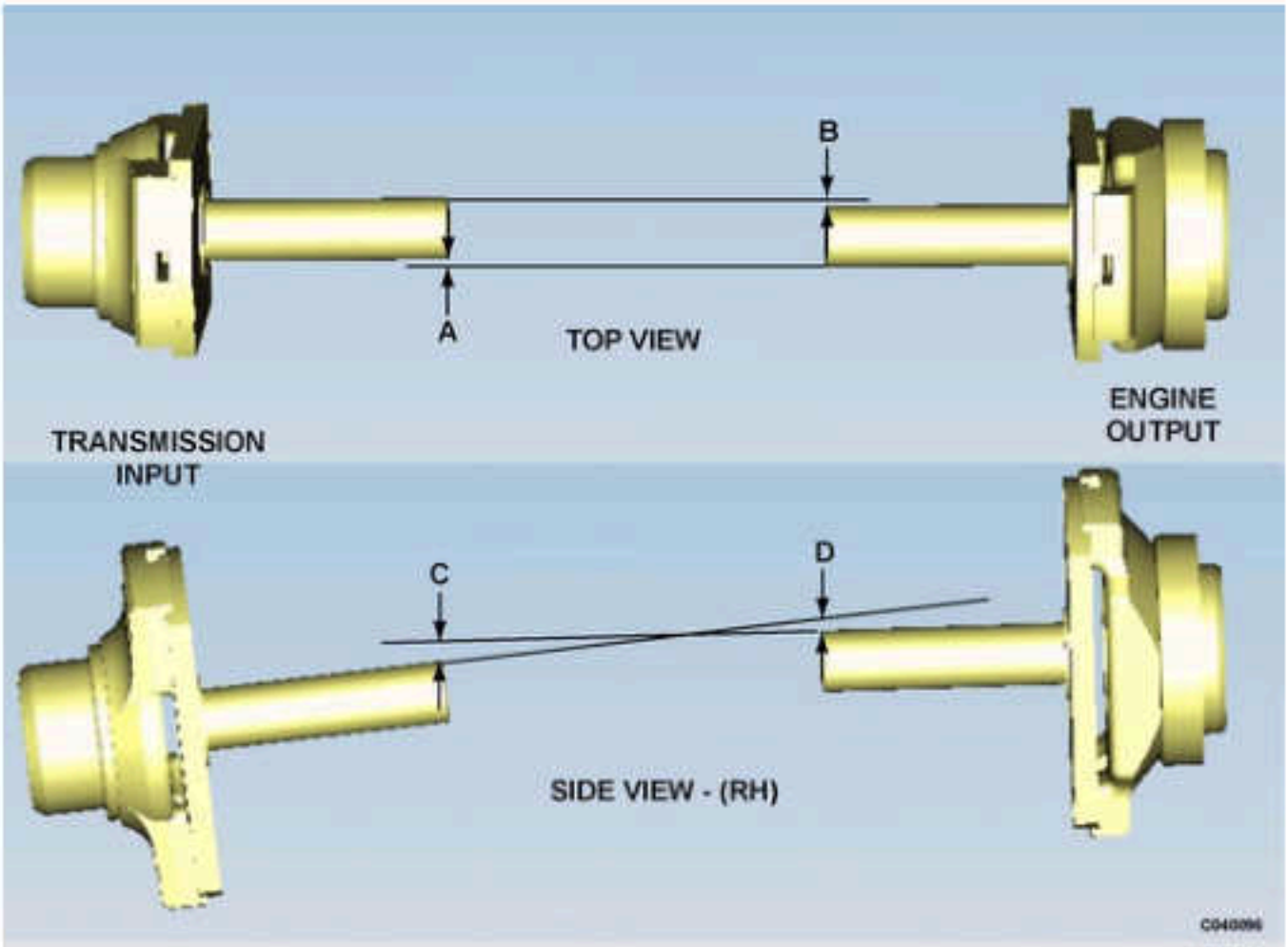


FIGURE 5-7. MEASURING DRIVE LINE ANGLES

MidWestTech | Komatsu HD1500-5 Dump Truck Service Manual | Publication CEBM006204 Order the manual at mid-west-tech.com >

CKT#	DESCRIPTION	SHT/ZONE
0	CHASSIS GROUND	2-A4, 3-A5, 4-A5 6-A7, 7-A4, 8-A4 9-A4, 10-A4, 12-A4 13-A4, 14-A4, 15-A7 16-A6, 17-A5, 18-D2 18-A5, 19-A2, 20-B7, 21-A3, ZZ-A2
1	BATTERY DIRECT POWER (+24V)	1-A1, 5-A5, 9-A5 10-A1, 12-A5, 16-A1 20-B6, 21-A1
2	BATTERY DIRECT POWER (+12V)	1-A2, 20-B6, 21-A2
3	CONTROL POWER (+24V)	2-B3
4	CONTROL POWER (+12V)	2-B3
11	BATT. DISCONNECT POWER (+24V)	2-A5, 13-A2, 15-A1 16-A1, 17-A1
11CL	RELAY BOARD 1	16-B5
11D	LIGHT CONTROL POWER	15-B2
11DL	RELAY BOARD 5	15-A5
11DR	RELAY BOARD 5	15-B5
11F	RELAY BOARD 1	16-B5
11H	HORN SIGNAL	17-B2
11HL	RELAY BOARD 5	15-B5
11HR	RELAY BOARD 5	15-C5
11PS	PRE-LUBE	2-B5
11S	SAFETY SWITCH "ON"	2-B2
11T	RELAY BOARD 1	16-A4
11Z	RELAY BOARD 1	16-C4
12	CONTROL POWER (+24V)	2-D5, 5-A5, 6-A4, 9-A5, 10-A1, 11-A6, 13-A2, 14-A1, 17-A1, 18-A1, 19-A4
12H	HOIST LIMIT PROX. SW.	10-D1
12PC	SERVICE TOOL COM PORT 12VDC	11-D7
12V	CONTROL POWER (+12V)	2-C4, 19-A1
13	KEYSWITCH "ON" (ACC)	2-C1 , 3-D4, 4-C4
13A	SWITCHED BATT POWER (+24V)	14-A1
14R	ALTERNATOR "R" SIGNAL	2-C6, 4-A7, 14-C3
14R1	ALTERNATOR "R" OUTPUT	2-C6
15	KEYSWITCH "ON" (BR)	2-B3
201	VB	4-A3
202	TX OUT	4-A3
203	TX IN	4-A3
204	SCK	4-A3
205	LOAD	4-A3
206	COMMON	4-A3
207	RESET	4-A3
21	KEYSWITCH "START" (C)	2-C2
21PS	START SIGNAL (AFTER PRE-LUBE)	2-B6
21PSW	ENGINE OIL PRESS SW.	2-A5
21PT	PRE-LUBE TIMER START	2-C3
21S	KEYSWITCH "START"	2-C2
22C	FAN CLUTCH CNTRL INPUT I T Z	18-C6
22DI	FAN CLUTCH GND FULL ON	18-C7
24DI	ALTERNATE DROOP	8-A6
24EI	ALTERNATE TORQUE	8-A6
24F1	1ST GEAR RANGE FILL SIGNAL	6-D2
24F2	2ND GEAR RANGE FILL SIGNAL	6-D2
24F3	3RD GEAR RANGE FILL SIGNAL	6-D2
24FH	HIGH GEAR RANGE FILL SIGNAL	6-C2
24FL	LOW GEAR RANGE FILL SIGNAL	6-D2
24FLU	L/C FILL SIGNAL	6-C2
24FM	MEDIUM GEAR RANGE FILL SIG.	6-C2
24FR	REVERSE GEAR RANGE FILL SIG.	6-D2
24GI	+5VDC SUPPLY	8-D2
2S	BATTERY DIRECT POWER SUPPLY	5-A7
2SA	PRE-LUBE STARTER START SIG.	2-B6
2SB	STARTER START SIGNAL	2-B6
2SC1	CONTROL POWER SUPPLY (+24V)	5-A7
2SC2	CONTROL POWER SUPPLY (+24V)	5-A7
2SD	DRIVE SIGNAL (-)	6-C5
2SF1	F1 START SELECT SW. TOP LT.	7-C2
2SF2	F1 START SELECT SW BOTTOM LT.	7-D2
2SH1	HIGHEST GEAR SELECT SIG. #1	7-A3
2SH2	HIGHEST GEAR SELECT SIG. #2	7-A3
2SL	LOW GEAR RANGE (-)	6-C5
2SL2	SHIFT LIMIT SW. BOTTOM LT.	7-D3
2SL3	SHIFT LIMIT SW. TOP LT.	7-D3
2SLH	LIMP HOME JUMPER	7-B2
2SLMT	SHIFT LIMIT SIGNAL	7-D2
2SN	NEUTRAL SIGNAL (-)	2-C3, 6-B7, 14-A3
2SN1	NEUTRAL SIGNAL (-)	14-B2
2SP	SOLENOID POWER SUPPLY (+24V)	5-B7
2SR	REVERSE SIGNAL (-)	6-A5
2SSP	SHIFTER SENSOR POWER (+12V)	6-B5
2ST	T/M CUT SOLENOID RELAY SIG.	3-A4, 5-B5, 7-A3, 14-B1
2STC	T/M SOLENOID CUT SIGNAL	5-B7
2ST2	MODE CHANGE #1 SW. TOP LT.	3-B6
2ST3	MODE CHANGE #1 SW. BOTTOM LT.	3-C6
2ST4	MODE CHANGE #2 SW. TOP LT.	3-C7
2ST5	MODE CHANGE #2 SW. BOTTOM LT.	3-C7
2SW	SHIFT WAIT SIGNAL	6-D7
2S3	3RD GEAR RANGE SIGNAL (-)	6-C5
2S4	4th GEAR RANGE SIGNAL (-)	6-C5
2S5	5th GEAR RANGE SIGNAL (-)	6-C5

CKT#	DESCRIPTION	SHT/ZONE
27B	BATT DIRECT PWR SUPPLY (+24V)	9-C6
28A1	ETHER START CONTROL	2-A5
30	T/M CONTROLLER GROUND - ATC	2-D5, 5-A7 14-B3, 9-A6
31	WARNING LT & BUZZ PWR (+24V)	3-A1, 4-D4
31B	DIMMER POWER CIRCUIT	5-D5
31C	COOLANT TEMPERATURE	5-B4
31F	FUEL LEVEL SIGNAL	7-B2
31M	THROTTLE MODIFICATION SIG.	8-B2
31S1	ENGINE SPEED SIGNAL	7-B5
31S2	ENGINE SPEED SIGNAL	7-B5
31SA	AUTOMATIC IDLE SELECT SIGNAL	3-A7
31SB	AUTO. IDLE SEL. SW. BOTTOM LT.	3-A6
31SC	AUTO. IDLE SEL. SW. TOP LT.	3-A6
31TRQ	TORQUE OUTPUT	8-C6
32L	T/M OIL LEVEL SIGNAL	7-A2
32P1	TORQUE CONVER INLET PRESS (+)	5-A4
32P2	TORQUE CONVER OUTLET PRESS (+)	5-A4
32S1	T/M INPUT SHAFT SPEED SIG (+)	7-A5
32S2	T/M OUTPUT SHAFT SPEED SIG (+)	7-B5
32S3	T/M MID-SHAFT SPEED SIG (+)	7-A5, 14-B3
32SP	SENSOR POWER (+24V)	5-A1
32T1	T/M LUBE INLET TEMP	5-C4
32T2	VALVE INLET OIL TEMP	5-C4
33AP1	BRAKE ACCUMULATOR PRESSURE	9-B2
33AP2	BRAKE ACCUMULATOR PRESSURE	9-B2
33AP3	BRAKE ACCUMULATOR PRESSURE	9-B3
33AP4	BRAKE ACCUMULATOR PRESSUR	9-B3
33B1	SENSOR POWER (+18V)	12-D2
33B2	LEFT REAR BRAKE PRESSURE	12-C2
33B3	SENSOR POWER (+18V)	12-C2
33B4	RIGHT REAR BRAKE PRESSURE	12-C2
33F	STEERING SYSTEM PRESSURE	9-B2
33G1	STEERING SYSTEM PRESSURE	9-C3
33LF	LEFT FRT BRAKE DISK WEAR SIG	10-A6
33LR	LEFT REAR BRAKE DISK WEAR SIG	10-A6
33RF	RT FRT BRAKE DISK WEAR SIG	10-A6
33RR	RT REAR BRAKE DISK WEAR SIG	10-A6
33T1	RETARDER COOL OIL TEMP-RIGHT	5-C4
33T2	RETARDER COOL OIL TEMP-LEFT	5-C4
33T3	TORQUE CONVERTER OIL TEMP	5-B4
33T4	FRT BRAKE COOL OIL TEMP	5-D4
34L	BATTERY LEVEL SIGNAL	10-B6
35B	BODY FLOAT SIGNAL	7-B2, 14-D4
35C1	AUTO CRUISE CANCEL	10-C2
35C2	AUTO CRUISE SET/DOWN	10-C2
35C3	AUTO CRUISE RESUME/UP	10-C2
35C4	AUTO CRUISE ON/OFF	10-D2
35E1	MAXIMUM SPEED SET UP SIGNAL	10-B2
35E2	MAXIMUM SPEED SET DOWN SIG	10-B2
35E3	MAXIMUM SPEED SET LOADED SIG	10-B2
35E4	MAXIMUM SPEED SET EMPTY SIG	10-C2
35ES	MAXIMUM SPEED SET SIGNAL	10-C2
35L1	USER SUPPLIED PC	11-A5
35L2	PC INTERFACE	11-D2
35L3	PC INTERFACE	11-D2
35L4	PC INTERFACE	11-D2
35L5	USER SUPPLIED PC	11-A5
35S1	RGT FRT WHL SPEED +18V SUPPLY	12-C7
35S2	RGT FRT WHEEL SPEED SIG	12-C7
35S3	RGT FRT WHEEL SPEED GROUND	12-C7
35S4	LFT FRT WHL SPEED +18V SUPPLY	12-C7
35S5	LFT FRT WHEEL SPEED SIG	12-C7
35S6	LFT FRT WHEEL SPEED GROUND	12-C7
35S7	RGT REAR WHL SPEED +18V SUPPLY	12-C7
35S8	RGT REAR WHEEL SPEED SIG	12-C7
35S9	RGT REAR WHEEL SPEED GROUND	12-C7
35S10	LFT REAR WHL SPEED +18V SUPPLY	12-D7
35S11	LFT REAR WHEEL SPEED SIG	12-D7
35S12	LFT REAR WHEEL SPEED GROUND	12-D7
35TM	THROTTLE MODIFICATION	8-B6
37F1	OIL FILTER RESTRICTION SIG	10-B6
37F2	OIL FILTER RESTRICTION SIG	10-B6
37F3	T/M OIL FILTER RESTRICT SIG	7-C2
37F4	OIL FILTER RESTRICTION SIG	10-B6
37F5	OIL FILTER RESTRICTION SIG	10-C6
37G1	FRT BRAKE COOL FILTER RESTRI	10-B7
37G3	TRANS FILTER RESTRICT SW. #1	7-C4
37G4	RETARDER BRAKE COOL FILTER	10-C7
37G5	RETARDER BRAKE COOL FILTER	10-C7
37H	HYDRAULIC OIL LEVEL SIGNAL	10-C6
38	OVERHEAD DISPLAY PWR SUPPLY	4-C7
38L	LATERAL INCLINATION SIGNAL	7-C2
39A	GREEN PLM LIGHT CONTROL	14-D3
39AA	GREEN PLM LT POWER SUPPLY	14-D3
39B	AMBER PLM LIGHT CONTROL	14-C3
39BA	AMBER PLM LT POWER SUPPLY	14-D3
39C	RED PLM LIGHT CONTROL	14-C3
39CA	RED PLM LT POWER SUPPLY	14-C3
39F	SENSOR POWER SUPPLY (+18V)	14-A6
39FA	RIGHT REAR SUSPENSION PRESS	14-B6
39FB	LEFT REAR SUSPENSION PRESS	14-B6
39FC	RIGHT FRONT SUSPENSION PRESS	14-B6
39FD	LEFT FRONT SUSPENSION PRESS	14-A6
39FE	INCLINOMETER	14-C6
39G	SW"HD BATT PWR SUPPLY (+24V)	14-A2
39J	SW"HD BATT PWR SUPPLY (+24V)	14-B2
39JA	PLM LIGHT POWER SUPPLY	14-B2

CKT#	DESCRIPTION	SHT/ZONE
310	WARNING BUZZER	3-D6
320	SENSOR GROUND	5-A1, 6-A7, 8-A5
390	SENSOR GROUND	14-A7
41	HEADLIGHT CONTROL	15-B2
41C	LIGHT POWER (+24V)	4-A7, 16-A3
41D	MDN DIMMER SW. BOTTOM LT.	4-C7
41H	HIGH BEAM CONTROL	15-B4
41HA	RT LOW MTD HI BEAM HDLT	15-C7
41HB	LEFT LOW MTD HI BEAM HDLT	15-B7
41HL	LFT HI BEAM HEADLIGHT POWER	15-B6
41LA	RT LOW MTD LO BEAM HDLT	15-B7
41LB	LFT LO MTD LO BEAM HDLT	15-A7
41LL	LFT LO BEAM HEADLIGHT POWER	15-A6
41T	CLEAR. LT. CONTROL TOP LT.	15-B3
41T5	CLEAR. LT. CONTROL BOTTOM LT	15-B3, 16-A3
419	ENGINE CHECK WRN LAMP	17-A6
42	FOG LIGHT SWITCH	15-D5, 17-B5
42A	LEFT ENGINE SERV LT SW.	17-C7
42A1	MDN DIMMER SW. TOP LT.	4-C7
42B	LEFT ENGINE SERV LT SW.	17-C7
42EL	RIGHT ENGINE SERV LT SW.	17-D7
43	HYDR CAB, BUDDY SEAT	17-C4
44	BRAKE LIGHT	13-A4
44A	BRAKE LIGHTS	13-A3
44B1	BRAKE LIGHT SIGNAL	13-A2
44D	CENTER BRAKE LIGHT	13-B4
44R1	RETARD LIGHT SIGNAL	13-A2
45L	LEFT TURN SIGNAL	16-B3
45LL	LEFT TURN LIGHT POWER	16-B4
45R	RIGHT TURN SIGNAL	16-B3
45RL	RIGHT TURN SIGNAL POWER	16-C4
46	HAZARD SWITCH POWER SUPPLY	16-B2
46A	TURN SIGNAL DIODE	16-B2
46H	HAZARD LIGHT SIGNAL	16-B2
47	BACK-UP SIGNAL	6-A6
47A	BACK-UP SIGNAL SUPPLY (+)	6-A5
47B	DECK MOUNTED BACK-UP LIGHT (+)	6-B5
47B1	BACKUP LIGHT SW TOP LT	6-B5
47B2	BACKUP LIGHT SW BOTTOM LT.	6-B5
47D	DECK MTD BACK-UP LT SUPPLY	6-B6
48	GROUND LEVEL LADDER LT SW.	17-B7
48A	GROUND LEVEL LADDER LT.SW.	17-B7
48B	GROUND LEVEL LADDER LT.SW.	17-B7
48F	FOG LIGHT SW. BOTTOM LT.	15-D6
48F1	FOG LIGHT SW. TOP LT.	15-C6
49	DISPLAY LIGHT POWER SUPPLY	4-A5
49B	PARKING BRAKE WARNING LIGHT	3-D1, 4-D5
49Z	SHIFT / LOAD	4-B3
503	PARALLEL / SERIAL DATA IN	4-B3
439	SWITCHED BATTERY POWER (+24V)	11-A3
50	CONTROLLER GROUND	2-D4, 4-A1, 8-A7 9-A7, 10-A3, 11-A3 12-A7, 14-A4
509	ENGINE PROTECTION LAMP	17-A6
51A1	STEERING ACCUMULATOR PRESS	9-A2
51A2	STEERING ACCUMULATOR PRESS	9-A2
51B1	STEERING ACCUMULATOR PRESS	9-A3
51B2	STEERING ACCUMULATOR PRESS	9-A3
51P	+12V SENSOR POWER SUPPLY	9-B6
51S	ACCUM BLEED DOWN SOL. POWER	17-B3
51SR	STEERING SPEED SIGNAL	9-B6
52AR	AUTO RETARD COMMAND	12-A2
52BC	BRAKE COMMAND	12-A2
52BL	BRAKE LOCK SOLENOID POWER	13-D2
52BP	ACCUMULATOR BRAKE PRESSURE	12-A2
52BP2	ACCUMULATOR BRAKE PRESSURE	12-B3
52BS	BRAKE SIGNAL	13-B2
52C1	FRT BRAKE COOL SIGNAL (+)	8-A3
52C2	REAR BRAKE COOL SIGNAL (+)	8-B3
52C3	FRT BRAKE COOL VALVE POWER	8-A3
52C4	REAR BRAKE COOL VALVE POWER	8-B3
52DP	BRAKE DIFFER. PRESS SENSE	12-C2
52EB	EMER. BRAKE SOLENOID POWER	13-C2
52EP	EMER. BRAKE/AUTO APPLY SENSE	12-A2 52EP2
EMER.	BRAKE DIODE 12-B3	
52L1	PARK BRAKE SWITCH BOTTOM LT.	13-C6
52L2	BRAKE LOCK SWITCH TOP LT.	13-D6
52L3	BRAKE LOCK SW. BOTTOM LT.	13-D6
52L4	PARK BRAKE SWITCH TOP LT.	13-C6
52P	BRAKE COOLING SOLENOID	8-A3, 12-A5, 13-C3, 16-C1
52PB	PARK BRAKE SOLENOID POWER	13-C6
52PBS	PARK BRAKE PRESSURE	9-B2
52PBS2	PARK BRAKE PRESSURE	9-B3
52PS	BRAKE PEDAL SENSE	12-C2
52R1	RETARD LEVER POT.-HIGH END	12-D2
52R2	RETARD LEVER POT.-WIPER	12-D2
52R3	RETARD LEVER POT.-LOW END	12-D2
52S1	SLIPPERY ROAD SIGNAL	13-C2
52S2	FRONT BRAKE CUT SOL POPWER	13-C5
52S3	FRONT BRAKE CUT SIGNAL	13-B2
52S4	FRONT BRAKE CUT SOL POWER	13-C4
52S5	FRT BRAKE CUT/SLIP ROAD SIG	13-C3
52S6	FRONT BRAKE CUT SOLENOID	13-B6
52T1	TRACTION CONTROL	13-D2
52T2	SLIPPERY ROAD SW. TOP LT.	13-B2
52T3	TRACTION CONTROL TOP LT.	13-D3
52T4	TRACTION CONTROL BOTTOM LT.	13-D3
52T5	SLIPPERY ROAD SW. BOTTOM LT.	13-C2

CKT#	DESCRIPTION	SHT/ZONE
52T6	HAZARD LT. SW. TOP LT.	16-B2
52T7	HAZARD LT. SW. BOTTOM LT.	16-C2
54D	POSITION SENSOR POWER SUPPLY	8-C2
54E	POSITION SENSER RETURN	8-C2
54F	POTENTIOMETER POWER SOURCE	8-B2
54H	THROTTLE	8-B2
55A	MODE CHANGE SIGNAL #1	3-B7
55B	IDLE VALIDATION SIGNAL 2	8-D2
55C	IDLE VALIDATION SIGNAL 3	8-D2
55D	MODE CHANGE SIGNAL #2	3-C7
56F1	FEMA CUTOUT SOLENOID	12-A6
56L1	LEFT REAR PPC VALVE	12-B7
56L2	LEFT REAR PPC VALVE RETURN	12-B7
56R1	RIGHT REAR PPC VALVE	12-B7
56R2	RIGHT REAR PPC VALVE RETURN	12-B7
501	VD (+BV)	4-D3
502	ODDMETER SIGNAL	4-D3
507	PARKING BRAKE WARNING LIGHT	3-D3
508	MAINTENANCE WARNING LIGHT	3-C3
520A	ENGINE WARNING LIGHT	17-A4
556	FM THROTTLE SIGNAL	8-C6
63	WINDSHIELD WIPER/WASHER POWER	17-C1, 19-B5
63H	WINDSHIELD WIPER HIGH SPEED	19-C6
63HB	COMBO SW. HORN BUTTON	17-C2
63HI	WINDSH WIPER HI SPEED CONTROL	19-C6
63L	WINDSHIELD WIPER LOW SPEED	19-C7
63LI	WINDSH WIPER LO SPEED CONTROL	19-B6
63P	WINDSH WIPER PARK SIGNAL	19-C5
63RI	WINDSHIELD WIPER DELAY MODULE	19-B6
63TI	WINDSHIELD WIPER DELAY MODULE	19-B6
63W	WINDSHIELD WASHER CONTROL	19-B6
64	HORN POWER SUPPLY	17-C3
65	RADIO SW"HD PWR SUPPLY (+12V)	19-A2
65A	ANTENNA CABLE	19-B1
65C	A/C COMP CLUTCH POWER	18-C7
65T	A/C THERMOSTAT SIGNAL	18-C7
66A	SUSPENSION SOLENOID #1	9-C2
66B	SUSPENSION SOLENOID #2	9-C2
66C	SUSPENSION SOLENOID #3	9-D2
67AS	SEAT	18-D2
67C	CIGAR LIGHTER POWER (+12V)	19-C2
67L	LEFT WINDOW MOTOR	19-C3
67W	LEFT WINDOW MOTOR	19-C3
67P	LEFT WINDOW PWR SUPPLY (+12V)	19-C2
67R	RIGHT WINDOW PWR SUPPLY (+12V)	19-D3
67S	RIGHT WINDOW MOTOR	19-D4
67T	RIGHT WINDOW MOTOR	19-D4
68	LUBE SYSTEM CONTROL SIGNAL	19-A6
68A	LUBE SYSTEM POWER SUPPLY	2-A5, 19-A5
68C	ETHER START SOLENOID	2-A7
68D1	ETHER START SW. BOTTOM LT	2-A6
71F	BODY SEATED SIGNAL	7-B2
81	SWITCHED BATTERY POWER SUPPLY	9-A6
82	SWITCHED BATTERY POWER SUPPLY	12-A6
801	WARNING LIGHT	3-C7
803	COOLANT LEVEL LO WARN LIGHT	3-A3
804	ENG OIL TEMP HI WARN LIGHT	3-A3
805	ENG OIL PRESS LO WARN LIGHT	3-A3
806	BLOW-BY PRESS HI WARN LIGHT	3-B3
807	CHARGE MONITOR WARNING LIGHT	3-B3
808	T/M OIL FILTER WARNING LIGHT	3-B3
809	T/M OIL TEMP HI WARNING LT	3-B3
810	ACCUMULATOR PRESS LOW WARN LT	3-C3
811	BRAKE PRESS LO WARN LIGHT	3-C3
812	STRG SYS PRESS LOW WARN LIGHT	3-C3
813	LATERAL INCLINATION WARN LT	3-D3
814	BODY FLOAT WARNING LIGHT	3-D3
815	SERVICE BRAKE CAUTION LIGHT	3-D3
91A	SWITCHED BATTERY POWER SUPPLY	10-A2
91B1	BATTERY DIRECT POWER SUPPLY	10-A2
91B2	BATTERY DIRECT POWER SUPPLY	10-A
900	PUBLIC DATA +	11-A3
901	PUBLIC DATA -	11-A3
916M	THROTTLE POS (+5V DC SUPPLY)	8-C6
920	RS422 TXD (+)	11-A2
921	RS422 TXD (-)	11-A2
922	RS422 RXD (+)	11-A2
923	RS422 RXD (-)	11-A2
924	RETURN	9-C6
925	(+5VIDC SUPPLY	9-C6

CKT#	DESCRIPTION	SHT/ZONE
926	COOLANT HIGH LEVEL SIGNAL	9-C6
927	COOLANT LOW LEVEL SIGNAL	9-C6
936	SIGNAL GROUND	11-B2
930	RS422 TXD (+)	11-A2
931	RS422 TXD (-)	11-A2
932	RS422 RXD (+)	11-B2
933	RS422 RXD (-)	11-B2
956	SIGNAL GROUND	11-B2
950	RS232 TXD	11-B2
951	RS232 RTS	11-B2
952	RS232 RXD	11-B2
953	RS232 CTS	11-B2
966	SIGNAL GROUND	11-C2
960	RS232 TXD	11-C2
961	RS232 RTS	11-C2
962	RS232 RXD	11-C2
963	RS232 CTS	11-C2
970	RS232TX	11-A5
971	RS232RX	11-A5
976	RS232GND	11-A5
996	SIGNAL GROUND	11-D2
990	RS422 TXD (+)	11-C2
991	RS422 TXD (-)	11-C2
992	RS422 RXD (+)	11-C2
993	RS422 RXD (-)	11-C2
1103	LAMP CHECK	17-A3
1108	MPH SELECT	4-B7
1109	BRAKE AIR PRESSURE MONITOR	4-B7
FLASH	SOFTWARE PROGRAM DNLOAD CIR.	11-C7
LNEG	SPEAKER GROUND	19-B2
LPOS	LEFT SPEAKER	19-B2
RPOS	RIGHT SPEAKER	19-B2
RX	SERVICE TOOL COMMUNICATION	11-C7
s02	SHIELD FOR 35S4/5S/S6	12-C6
s04	SHIELD FOR 35S1/S2/S3	12-C6
s05	SHIELD FOR 32S1/30	7-C6
s06	SHIELD FOR 32S3/30	7-C6
s08	SHIELD FOR 35TM	8-B6
s09	SHIELD FOR 35S7/S8/S9	12-C6
s10	SHIELD FOR 35S10/S11/S12	12-D6
s11	SHIELD FOR 923/922/921/920	11-A2
s13	SHIELD FOR 5S6/51EM/50	11-C6
s14	SHIELD FOR 31S1/30	7-C6
s15	SHIELD FOR 31S2/30	7-C6
s16	SHIELD FOR 52AR	12-B2
s17	SHIELD FOR 52R1/R2/R3	12-D2
s23	SHIELD FOR 933/932/931/930	11-B2
s24	SHIELD FOR 953/952/951/950	11-B2
s25	SHIELD FOR 32S1/30	7-A6
s26	SHIELD FOR 32S2/30	7-B6
s27	SHIELD FOR 32S3/30	7-A6
s30	SHIELD FOR 56R1/R2	12-B6
s31	SHIELD FOR 56L1/L2	12-B6
s32	SHIELD FOR 33B1/B2	12-D2
s33	SHIELD FOR 33B3/B4	12-C2
s34	SHIELD FOR 31C/320	5-B3
s35A	SHIELD FOR 924/925	9-C6
s35B	SHIELD FOR 926/927	9-C6
s36	SHIELD FOR 900/901/439/50	11-A2
s41	SHIELD FOR 970/971/976	11-A5
SNET +A	KOMATSU COMMUNICATION	11-D7
SNET +B	KOMATSU COMMUNICATION	11-D7
SNET 0	COMMUNICATION GROUND	11-D7
TM3-01	MED GEAR RANGE SOL VALVE (+)	6-B2
TM3-02	MED GEAR RANGE SOL VALVE (-)	6-B2
TM3-04	HIGH GEAR RANGE SOL VALVE (+)	6-B2
TM3-05	HIGH GEAR RANGE SOL VALVE (-)	6-B2
TM3-07	1ST GEAR RANGE SOL VALVE (+)	6-C2
TM3-08	1ST & 3RD GR RANGE SOL VLV (-)	6-A2
TM3-13	L/C SOLENOID VALVE (+)	6-C2
TM3-14	L/C SOLENOID VALVE (-)	6-C2
TM4-01	3RD GEAR RANGE SOL VALVE (+)	6-A2
TM4-04	REVERSE GEAR RANGE SOL VLV (+)	6-A2
TM4-05	2ND & REV GEAR RGE SOL VLV (-)	6-A2
TM4-07	2ND GEAR RANGE SOL VALVE (+)	6-A2
TM4-10	LOW GEAR RANGE SOL VALVE (+)	6-B2
TM4-11	LOW GEAR RANGE SOL VALVE (-)	6-B2
TX	SERVICE TOOL COMMUNICATION	11-C7

EH8407-6 June 01
ELECTRICAL SCHEMATIC
CIRCUIT ID LOCATOR
HD1500-5
A30039 - A30048
23 OF 24

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