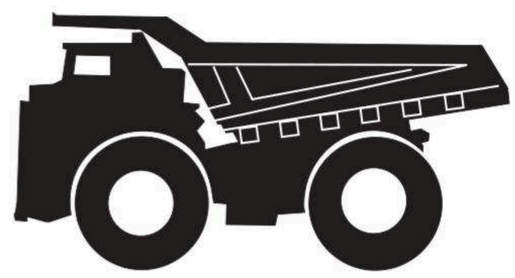
Shop Manual

CEBM006701



730E

DUMP TRUCK

SERIAL NUMBER **A30181 - A30211**

KOMATSU®

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

STATEX III ELECTRICAL SYSTEM CHECKOUT PROCEDURE
TABLE OF CONTENTS

SECTION ..... PAGE

GENERAL INFORMATION E3-1

COMMUNICATIONS PORT CHECK E3-2

PTU Hookup E3-2

1.0 SEQUENCE TESTS - (Engine not running) E3-4

1.1 Throttle System Check and Adjustment E3-5

1.1.1 Electronic throttle system E3-5

1.1.2 Electronic throttle system Fuel Enhancement ("Fuel Saver") E3-6

1.2 Retard System Check and Adjustment - Electronic Pedal System E3-8

1.2.1 Williams Electronic Retard Pedal and ACC/RET or RET Interface E3-8

1.2.2 Electronic Retard Pedal, Current Production Trucks E3-9

1.3 Reverser and Propulsion Contactors Check E3-11

1.4 Propulsion Lockout Test (DDEC, MTU Engines) E3-12

1.5 Retard Contactors Operation Check E3-13

1.6 Ground Fault Sensing Check E3-13

1.7 Ground Fault in Retard Operation Check E3-13

1.8 Override Operation Check E3-14

1.9 Anti-Reversal Function (AR) Check E3-15

1.10 Overspeed Retard Operation Check E3-15

1.11 Hoist Interlock Operation Check E3-16

1.12 Motor Blower Fault Light Operation Check E3-17

2.0 DIGITAL INPUT/OUTPUT SIGNALS TESTS - FL275 CARD PANEL E3-18

2.1 Setup Manual Digital Input/Output Test on PTU E3-18

2.2 Digital Input Checks E3-19

2.3 Digital Output Checks E3-21

3.0 ANALOG INPUT SIGNALS TESTS - FL275 CARD PANEL E3-24

3.1 Setup Analog Input Monitor Screen on PTU E3-24

3.2 Analog Input Checks E3-25

3.3 Frequency Input Checks E3-32

4.0 SPEED EVENT CHECKS E3-34

4.1 Single Speed Overspeed - Overspeed Settings Check E3-35

4.2 Empty Truck - 2 Speed Overspeed Settings Check E3-35

MidWestTech | Komatsu 730E Dump Truck Service Manual | Publication CEBM006701 Order the manual at mid-west-tech.com >

4. If the floppy disk drive containing the diskette is designated drive "B", type "b:install1" or "b:install2" and press [ENTER] key.
5. When all the diskette files have been copied to the hard drive, a message will appear stating the installation of the desired software version is complete. In addition, the message states that if this is the first time the STATEX III PTU software has been installed on this computer, it may be necessary to modify the AUTOEXEC.BAT and CONFIG.SYS files to ensure proper operation.
   a. The file C:\CONFIG.SYS must have the FILES variable set to a minimum of 20 and BUFFERS variable set to a minimum of 20.
   b. The file AUTOEXEC.BAT must have the following directory included in the PATH variable:
   Enhanced Version 1.00 -
   C:\GEOHV3E\TOOLS\BATS

   Version 14.00 -
   C:\GEOHV\TOOLS\BATS
6. If necessary, edit the above files using DOS to change the minimum FILES and BUFFERS variables and to add the PATH statement as described above.
7. Remove the diskette from the drive and reboot the computer if the changes described in step 5 were required.
8. When using the software, at the DOS C:> prompt, type "geohv3e" to start the Enhanced version 1.00 program or type "geohv" to start the version 14.00 program.

PTU/Truck Communication Problems

Communication problems will occur if the amount of DOS free memory available on the PTU is less than 460K bytes after the software has loaded. If significantly less than 460K is available, it will not be possible to communicate with the truck at all.

In some instances, if the PTU has less than (but very close to) 460K available, the software may appear to function properly until features such as retreiving and saving an event to a file are attempted at which point the program will terminate.

To determine the amount of free memory available, start the software program and on the Main Menu, observe the amount of "free memory:" displayed in the upper right corner of the screen (see Figure 2-2). If the amount shown is less than 460K, it will be necessary to free up memory before using the PTU.

Suggestions for obtaining more free memory:

The following suggestions provide a starting point to provide additional free memory. If necessary, edit the laptop's CONFIG.SYS as follows:

- Load DOS and device drivers into high memory.
- Eliminate any TSR (terminate-stay-ready) programs such as shells or antivirus programs. Do not allow Microsoft Windows™ to load.
- Disable PCMCIA card drivers if the laptop is equipped with PCMCIA slots.
- If DOS version 6.2 or higher is used, it is advisable to create multiple start-up configurations. This will allow the user to choose the appropriate configuration from a menu list for the desired use of the laptop computer. A CONFIG.SYS file can be created for specific use with the GE software, preventing unwanted drivers from loading and using the required free memory. Alternate menu choices will allow the computer to boot and load the necessary drivers for other functions such as Microsoft Windows™.

Note: Consult the laptop computer manufacturer's instructions and the DOS operating system technical manuals for editing the CONFIG.SYS file, creating multiple configuration files, and additional suggestions to obtain maximum free memory.

If Microsoft Windows™ is installed on the computer, be certain to operate in MS-DOS mode, NOT Windows.

MidWestTech | Komatsu 730E Dump Truck Service Manual | Publication CEBM006701 Order the manual at mid-west-tech.com >

6. Drain oil at wheel hub drain plug (1, Figure 3-3). Remove cover (11).
7. Remove capscrews (9), retainer plate (7), and shims (10).
8. Reinstall retainer plate (7) with the thickness dimension stamp facing toward the outside with capscrews (9), and hardened washers. **Do NOT install shims at this time.**
9. Remove tire retaining chains (2 & 3, Figure 3-10).
10. Torque retainer capscrews (9, Figure 3-3) alternately using the following procedure:
    a. Tighten all capscrews to **100 ft. lbs. (136 N.m)** torque and rotate the wheel hub a minimum of three revolutions.
    b. Increase torque to **250 ft. lbs. (339 N.m)** and tighten capscrews. Rotate the wheel hub a minimum of three revolutions.
11. Loosen all six capscrews until the flat washers are loose to turn, then rotate the wheel hub a minimum of three revolutions.
12. Re-torque two capscrews 180° apart and adjacent to the 0.50 in. (13 mm) diameter depth measurement holes (3) to **60 ft. lbs. (81 N.m)**, then rotate the wheel hub a minimum of three revolutions.
13. Tighten the same two capscrews to **110 ft. lbs. (149 N.m)** and rotate the wheel hub a minimum of three revolutions.
14. Re-torque the same two capscrews to **110 ft. lbs. (149 N.m)** torque.
15. Using a depth micrometer, measure and record the depth to the end of the spindle from the face of the retainer plate (1) through each of the two retainer plate holes (3) adjacent to the capscrews which were tightened in step 14.
16. Add the two dimensions measured in step 15 and divide the total by 2, to obtain an averaged depth dimension.
17. Subtract the dimension stamped on the face of the retainer plate from the averaged depth dimension in step 16 to determine the required shim pack.

NOTE: The above procedure results in a shim pack which will provide a 0.007 in. (0.178 mm) preload for the bearings.

18. Assemble a shim pack to equal the dimension in step 17 within 0.001 in.

NOTE: Shim pack must be compressed when measuring.

19. Reinstall tire support chains (2 & 3, Figure 3-10).
20. Remove capscrews (9, Figure 3-3) and retainer (7). Install shim pack (from Step 18) and reinstall retainer, capscrews, and hardened washers.
21. Remove tire retaining chains (2 & 3, Figure 3-10).
22. Tighten capscrews alternately to **750 ± 75 ft. lbs. (1017 ± 100 N.m)** torque in several successive increments while rotating the wheel hub.
23. Using a new O-ring (10, Figure 3-3), install cover (11). Install capscrews and washers (2) and tighten to standard torque.
24. Rotate the wheel hub to position the fill plug (8, Figure 3-3) at the 12 o'clock position.

    Remove the fill plug.

    Fill wheel hub assembly at fill hole with SAE 80W-90 oil.

    When properly filled, the floating ball in the sight gauge should be at its highest position. Replace fill plug.
25. Remove any remaining chains and cribbing.

NOTE: The wheel bearing preload should be checked 500 hours after truck is commissioned and after the first 500 hours following the assembly or servicing of the wheel bearings. During the 500 hour preload check, if the shim pack requires a change larger than 0.007 in, disassemble the wheel and bearing assembly and check for wear or damage. Replace worn or damaged parts and assemble wheel assembly. Check bearing preload again at 500 hours.

26. Check bearing adjustment after first 500 hours of operation and at each 5000 hour maintenance interval thereafter.

MidWestTech | Komatsu 730E Dump Truck Service Manual | Publication CEBM006701 Order the manual at mid-west-tech.com >

F-20: Sensor Power Fault

A common failure point can be the connector on the suspension pressure sensors. These connectors take a lot of abuse from pressure washing and occasionally short circuit or develop floating voltages from water and dirt intrusion. The quickest way to fix these problems is to disconnect the two halves and blow out any debris and clean the contacts. The process of disconnecting and re-inserting a connector often clears up many problems. If a problem persists, check the crimps on the terminals for intermittent connection due to vibration and wear.

On the 930E's, the most common cause for sensor power faults is a short in the harness coming from the back of the cab to the Aux/Junction box. This harness contains a splice for sensor power. This splice is approximately 305 mm (12 in.) from the connector and is exposed to vibration and dirt from the left tire. It may be possible to locate this splice and repair it. A single wire for circuit 39F carries 18v from the payload meter to the splice, where it branches out for each sensor.

The 39F circuit from PLM II™ is over-current protected. If this circuit is shorted to ground, the payload meter will automatically shut off the 18v supply. This will cause the payload meter to register faults for all the sensors.

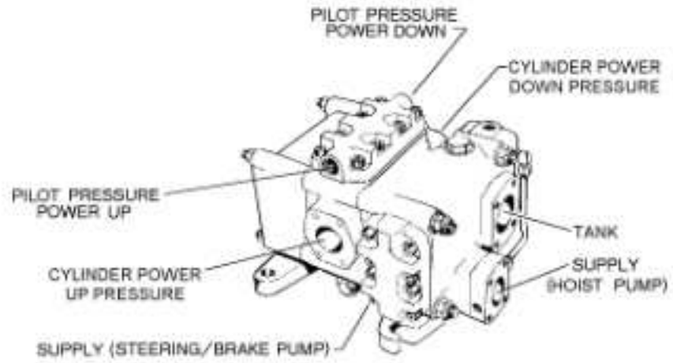
In general, check the voltages at the sensors. It may be possible to disconnect each sensor in the junction box to see where the short may be. If disconnecting all the sensors does not clear the fault, it is likely that the problem lies within the harness from the back of the cab to the control cabinet.

Refer to the following page for the fault tree diagram.

MidWestTech | Komatsu 730E Dump Truck Service Manual | Publication CEBM006701 Order the manual at mid-west-tech.com >

HH349
730E
NOV 2001
HYDRAULIC SCHEMATIC
& AUTO LUBE
EFFECTIVE - A30181 & UP

FLASHER
1 sec. On
1 sec. Off
2500 PSI
N/C
VENT
VALVE
To
Grease
Injectors
SV1
PRESSURE
REDUCING
VALVE
SV2
AUTO
LUBE
GREASE
PUMP
AUTO LUBE
CONTROL MANIFOLD
UNLOADER VALVE
2500 - 2950 PSI
HOIST VALVE
Hoist
Relief
Valve
2500 PSI
Flow
Control
Valve
Low Pressure
Relief Valve
75 PSI
Overcenter Valve
Manifold
Pilot
Vent
HOIST
CYLINDERS
Counterbalance
Valve
HOIST PILOT
CONTROL VALVE
Power
Down
Relief
1500 PSI
Piloted
Check
Valve
Hoist
Limit
Solenoid
Accumulator Precharge
Press. Sw. N.C. 850 PSI
ACCUMULATORS
1400 PSI Nitrogen
HIGH PRESSURE
FILTERS
Ind. 40 PSI
Bypass 50 PSI
Supply
to
Brake
System
Low
Steering
Pressure Sw.
2100 PSI
Steering
Bleeddown
Solenoid
Relief Valve
4000 PSI
Piloted
Check
Valve
Relief Valve
500 PSI
Return
Supply
BLEEDDOWN MANIFOLD
STEER/
BRAKE
PUMP
(VANE)
68 GPM
@1900 RPM
@0 PSI
HOIST PUMP (GEAR)
135 GPM @1900 RPM @0 PSI
Breather
Inlet Strainer
Shut-Off
Valves
HYDRAULIC TANK



Hydraulic Supply & Auto Lube

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