CEAM025001

Operation & Maintenance Manual

830E-1AC

DUMP TRUCK

SERIAL NUMBERS **A30589 & UP**

U.S.A. EPA TIER 4 COMPLIANT

KOMATSU®

MidWestTech | Komatsu 830E-1AC Dump Truck Operation & Maintenance Manual | Public... Order the manual at mid-west-tech.com >

TABLE OF CONTENTS

FOREWORD 10-1
"Alerts" Page - a description of DANGER, WARNING, and CAUTION symbols. 10-2
TABLE OF CONTENTS. 10-3
Truck Model Illustration. 10-15
ABOUT THIS MANUAL. 10-16

STANDARD CHARTS AND TABLES 12-1

GENERAL SAFETY 20-1
Safety Rules 20-1
Truck Safety Features 20-1
Clothing And Personal Items 20-1
Unauthorized Modification 20-1
Leaving The Operator's Seat 20-1
Mounting And Dismounting 20-2
Fire Extinguishers And First Aid Kits 20-2
Precautions For High Temperature Fluids 20-2
Asbestos Dust Hazard Prevention 20-2
Fire Prevention For Fuel And Oil 20-3
ROPS Precautions 20-3
Preventing Injury From Work Equipment 20-3
Precautions For Optional Attachments 20-3
Precautions When Starting The Machine 20-3
PRECAUTIONS FOR TRUCK OPERATION 20-4
Safety Is Thinking Ahead 20-4
Safety At The Worksite 20-4
Fire Prevention 20-4
Preparing For Operation 20-4
Ventilation For Enclosed Areas 20-4
Mirrors, Windows, And Lights 20-5

MidWestTech | Komatsu 830E-1AC Dump Truck Operation & Maintenance Manual | Public...
Order the manual at mid-west-tech.com >

TABLE OF CONTENTS (cont.)

In The Operator's Cab - Before Starting The Engine 20-5
Seat Belts 20-5
OPERATING THE MACHINE 20-5
Starting The Engine 20-5
Truck Operation - General 20-5
Traveling In The Truck 20-6
Precautions When Traveling In Reverse 20-6
Traveling On Slopes 20-6
Ensuring Good Visibility 20-7
Operating On Snow 20-7
Avoid Damage To The Dump Body 20-7
Driving Near High Voltage Cables 20-7
When Loading The Truck 20-7
When Dumping 20-7
Working On Loose Ground 20-8
Parking The Machine 20-8
TOWING 20-8
WORKING NEAR BATTERIES 20-9
Jump Starting With Booster Cables 20-10
Jump Starting With Receptacles 20-10
PRECAUTIONS FOR MAINTENANCE 20-11
BEFORE PERFORMING MAINTENANCE 20-11
Stopping The Engine Before Service 20-11
Electrical Systems Isolation 20-11
Warning Tag 20-13
Proper Tools 20-13
Securing The Dump Body 20-13
DURING MAINTENANCE 20-14
Personnel 20-14
Attachments 20-14

MidWestTech | Komatsu 830E-1AC Dump Truck Operation & Maintenance Manual | Public...
Order the manual at mid-west-tech.com >

TABLE OF CONTENTS (cont.)

Working Under The Machine 20-14
Keeping The Machine Clean 20-14
Rules To Follow When Adding Fuel Or Oil 20-14
Radiator Coolant Level 20-14
Use Of Lighting 20-15
Precautions With The Battery 20-15
Handling High Pressure Hoses 20-15
Precautions With High Pressure Oil 20-15
Maintenance Near High Temperatures And High Pressures 20-15
Rotating Fan And Belts 20-15
Waste Materials 20-15
TIRES 20-16
Handling Tires 20-16
Tire Maintenance 20-17
Storing Tires After Removal 20-17
ADDITIONAL JOB SITE RULES 20-18
WHEN REPAIRS ARE NECESSARY 20-19
SPECIAL PRECAUTIONS FOR WORKING ON AN 830E-AC TRUCK 20-20
Preliminary Procedures before Welding or Performing Maintenance 20-20
Engine Shutdown Procedure before Welding or Performing Maintenance 20-20
CAPACITOR DISCHARGE SYSTEM 20-22
Necessary Tools 20-22
Warnings And Cautions 20-23
MANUAL DC LINK CAPACITOR DISCHARGE PROCEDURE 20-24
Preparation 20-24
CAPACITOR CHARGE LIGHTS 20-26
FAILURE OF DISCHARGE SYSTEM 20-27
Measuring Dc Voltage On Capacitors 20-27
MANUAL DISCHARGE OF CAPACITORS 20-28
SHORT ISOLATED CAPACITOR TERMINALS 20-30

MidWestTech | Komatsu 830E-1AC Dump Truck Operation & Maintenance Manual | Public... Order the manual at mid-west-tech.com >

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 20-8.

⚠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.

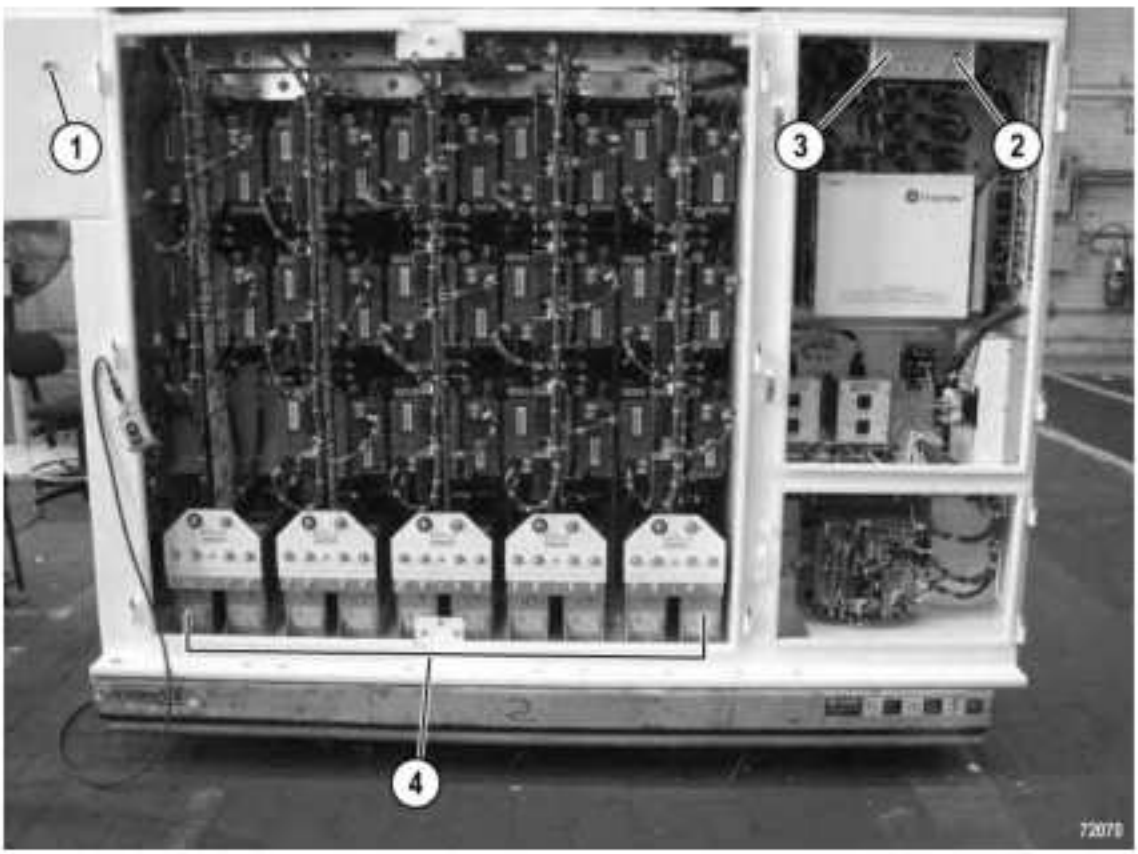


FIGURE 20-8. CAPACITOR CHARGE LIGHTS

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

MidWestTech | Komatsu 830E-1AC Dump Truck Operation & Maintenance Manual | Public...
Order the manual at mid-west-tech.com >

CENTER CONSOLE

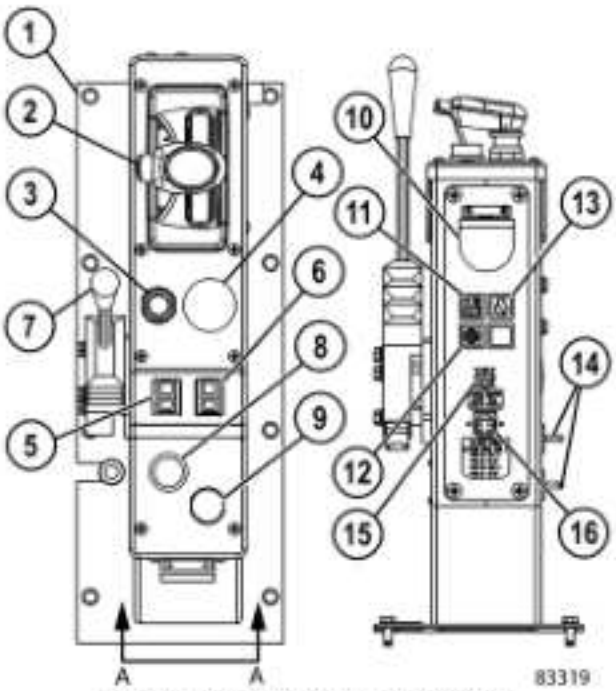


FIGURE 32-3. CENTER CONSOLE

1. Center Console
2. Directional Control Lever
3. Override/Fault Reset Switch
4. Engine Stop Switch
5. L.H. Window Control Switch
6. R.H. Window Control Switch
7. Hoist Control Lever
8. Retarder Speed Control Dial
9. RSC Switch
10. Data Store Button
11. KOMTRAX Plus Snapshot In Progress Light
12. Link Energized Light (Red)
13. Service Engine Light (Blue)
14. 12V Auxiliary Power Outlets
15. 24V Fire Control Connector
16. 24V/12V Radio Connector

Directional Control Lever

Directional Control Lever (2, Figure 32-3) is mounted on a console to the right of the operator's seat. It is a four position lever that controls the park, reverse, neutral, and forward motion of the truck. Before moving the directional control lever, apply the service brakes to completely stop the truck. Depress the button on the side to release the detent lock, then move the control lever to the desired position. When the control lever is in the center N position, it is in NEUTRAL. When the control lever is in the P position, it is in PARK, and the parking brake will be applied. The parking brake is spring applied and hydraulically released. It is designed to hold the truck stationary when the engine is off and the key switch is turned OFF. The truck must be completely stopped before moving the control lever to PARK, or damage may occur to the park brake. When the key switch is ON, and the control lever is in PARK, the parking brake indicator light (A3, overhead panel, Figure 32-11) will be illuminated.

⚠ IMPORTANT ⚠

The directional control lever must be in PARK to start the engine.

NOTE: DO NOT move the directional control lever to the PARK position at the shovel or dump.

The operator can select FORWARD drive by moving the control lever to the F position.

The operator can select REVERSE drive by moving the control lever to the R position. DO NOT allow the control lever to travel too far and go into the PARK position when REVERSE is desired.

NOTE: The truck must be completely stopped before the control lever is moved to a drive position or into PARK. A GE fault will be recorded if the control lever is placed into the PARK position while the truck is still moving.

MidWestTech | Komatsu 830E-1AC Dump Truck Operation & Maintenance Manual | Public... Order the manual at mid-west-tech.com >

5000 HOUR MAINTENANCE CHECKS (Continued)

Truck Serial Number_____ **Site Unit Number**_____ **Date**_____
Hourmeter_____ **Name of Service Technician**_____

	TASK	COMMENTS	CHECKED	INITIALS
3.	RETRACTABLE LADDER SYSTEM (If equipped) - Drain, flush and re-fill the hydraulic oil reservoir.			

NOTE: "Lube Key" references are to the lubrication chart.

10,000 HOUR MAINTENANCE CHECKS

Maintenance for every 10, 250, 500, 1,000, 2,500 & 5000 hour Lubrication and Maintenance Checks should also be performed at this time.

Truck Serial Number_____ **Site Unit Number**_____ **Date**_____
Hourmeter_____ **Name of Service Technician**_____

	TASK	COMMENTS	CHECKED	INITIALS
1.	WHEEL MOTORS - Clean the area around the grease ports to prevent dirt or other contaminates from entering. Remove the six grease port plugs on each wheel motor. Grease the inboard and outboard wheel hub bearings with one 14 oz. cartridge per each grease port.			

MidWestTech | Komatsu 830E-1AC Dump Truck Operation & Maintenance Manual | Public... Order the manual at mid-west-tech.com >

FAILURE OF DISCHARGE SYSTEM

If the capacitor charge lights remain illuminated, a failure of the normal (fast) capacitor discharge system (RP discharge path) has likely occurred. The slow discharge resistors that are hard wired across the DC link should then discharge the capacitors. The slow discharge resistors will discharge the DC link to less than 1 VDC in under 7.5 minutes. If after 7.5 minutes, the capacitor charge lights are still illuminated, it must be assumed that the automatic discharge system is not working and that high voltage is present in the high voltage area.

Measuring Dc Voltage On Capacitors

1. Open the high voltage area doors.
2. With a suitable high voltage meter rated for at least 2000 VDC, such as PC3186 or equivalent, plus suitable protective equipment, measure the voltage across each of the DC link capacitors. Place one meter lead on the positive (+) capacitor terminal, and the other meter lead on the negative (-) capacitor terminal, and observe the voltage. See Figure 20-9 and Figure 20-10. If the voltage is less than 1.0 V the capacitor is sufficiently discharged. Repeat on all DC Link capacitors. If the voltage of any capacitor is above 1.0 V, manually discharge the capacitor as described in "MANUAL DISCHARGE OF CAPACITORS" on page 28.



FIGURE 20-9. DC METER ON CAPACITOR



FIGURE 20-10. CAPACITOR TERMINAL POLARITY

MidWestTech | Komatsu 830E-1AC Dump Truck Operation & Maintenance Manual | Public...

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

Setting the Computer Subnet Mask and IP Address

If the adaptor software does not allow for setting an IP address, then this must be done manually.

The Windows TCP/IP settings must be modified for the correct subnet mask and an adequate IP address. The steps to reach the point where the TCP/IP settings can be modified vary according to the operating system and are described below. The actual steps for making the changes to the settings are described for the following operating systems.

Windows 2000:

1. Click on the start menu, select settings and then "Network and Dial-up Connections."
2. Right click on the wireless network adaptor and select "properties." Skip instructions for other Operating Systems and continue to the topic of "Properties".

Windows XP:

1. Click on the start menu, right click on "My Networks" and select "Properties." A window with all available networks will be shown.
2. Right click on the wireless network and select "Properties." Skip instructions for Windows Vista and continue to the topic of "Properties".

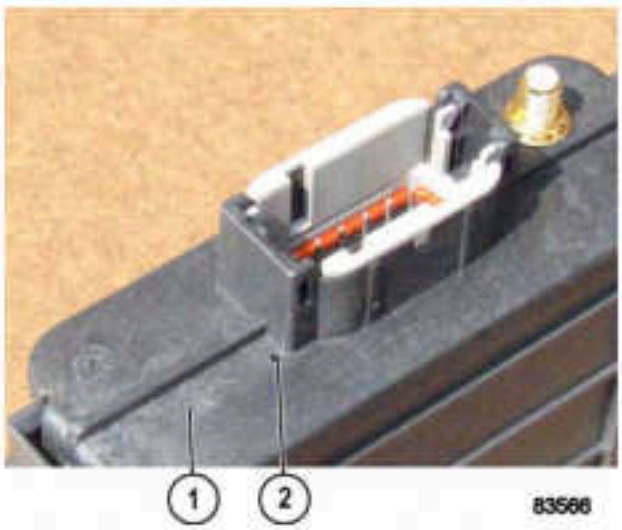


FIGURE 32-17. RESET LOCATION

1. Komatsu Wireless Bridge
2. Reset Button Hole

Windows Vista:

1. Click on the Windows menu, right click on "Network" then select "Properties." A window will open with the option "Manage network connections" as one of the options on the left side. Select that option.
2. A new window showing all available networks will open. Right click on the wireless network to be used to connect to the KWB and select "Properties." Vista will inquire if this was an intentional selection; select "Continue." Continue to the topic of "Properties".

Properties

Once the window with the list of available protocols is shown, the TCP/IP should then be selected. Click on "Properties" and bring up a window for setting the IP address and the subnet mask (alternatively, double click on TCP/IP). Before making any changes, write down the current settings. These settings will be needed to restore the original computer settings if needed.

3. Select "Use the following IP address," then set the IP address to 192.168.0.xxx, where xxx represents any number between 1 and 255. 123 is generally used. However, no two computers should use the same IP address). The subnet mask should now be set to 255.255.0.0. If a gateway address is requested, this is set to the same as the IP address.

This prepares the computer to communicate with the KWB and to interact with the automatic download software.

NOTE: The previous steps are not necessary if the software that comes with the computer/adaptor allows an IP address and mask to be assigned to each profile. This is done automatically by selecting the profile.
It may be necessary to repeat these steps to restore the computer settings when connecting to another network.

MidWestTech | Komatsu 830E-1AC Dump Truck Operation & Maintenance Manual | Public...
Order the manual at mid-west-tech.com >