CEBM013502

Shop Manual

830E

DUMP TRUCK

SERIAL NUMBERS **A30710 - A30732**

With Full Time Axle Blower

KOMATSU®

MidWestTech | Komatsu 830E with Full Time Axle Blower Dump Truck Service Manual | Publication CEBM013502

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

TABLE OF CONTENTS

SUBJECT	SECTION
GENERAL INFORMATION	A
STRUCTURES	B
ENGINE, FUEL, COOLING AND AIR CLEANER	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 830E with Full Time Axle Blower Dump Truck Service Manual | Pu... Order the manual at mid-west-tech.com >

SECTION A

GENERAL INFORMATION

INDEX

TRUCK COMPONENT DESCRIPTION & SPECIFICATIONS A2-1

GENERAL SAFETY AND TRUCK OPERATION A3-1

WARNINGS AND CAUTIONS A4-1

CHARTS AND TABLES A5-1

STORAGE PROCEDURES A7-1

MidWestTech | Komatsu 830E with Full Time Axle Blower Dump Truck Service Manual | Pu... Order the manual at mid-west-tech.com >

Standard Assembly Torques For 12-Point, Grade 9, Capscrews (SAE)

The following specifications apply to required assembly torques for all 12-Point, Grade 9 (170,000 psi minimum tensile), Capscrews.

- Capscrew threads and seats SHALL be lubricated when assembled.

Unless instructions specifically recommend otherwise, these standard torque values are to be used with simple lithium base chassis grease (multi-purpose EP NLGI) or a rust-preventive grease (see list, this page) on the threads.

- Torques are calculated to give a clamping force of approximately 75% of proof load.
- The maximum torque tolerance shall be ±10% of the torque value shown.

TABLE II. - STANDARD ASSEMBLY TORQUE for 12-Point, Grade 9 Capscrews

CAPSCREW SIZE*	TORQUE ft. lbs.	TORQUE N.m	TORQUE kg.m
0.250 - 20	12	16	1.7
0.312 - 18	24	33	3.3
0.375 - 16	42	57	5.8
0.438 -14	70	95	9.7
0.500 -13	105	142	14.5
0.562 - 12	150	203	20.7
0.625 - 11	205	278	28.3
0.750 - 10	360	488	49.7
0.875 - 9	575	780	79.4
1.000 - 8	860	1166	119
1.000 - 12	915	1240	126
1.125 - 7	1230	1670	170
1.125 - 12	1330	1800	184
1.250 - 7	1715	2325	237
1.250 - 12	1840	2495	254
1.375 - 6	2270	3080	313
1.375 - 12	2475	3355	342
1.500 - 6	2980	4040	411
1.500 - 12	3225	4375	445

* Shank Diameter (in.) - Threads per inch

This table represents standard values only. Do not use these values to replace torque values which are specified in assembly instructions.

Standard Metric Assembly Torque For Class 10.9 Capscrews & Class 10 Nuts

The following specifications apply to required assembly torques for all metric Class 10.9 finished hexagon head capscrews and Class 10 nuts.

- Capscrew threads and seats SHALL NOT be lubricated when assembled. These specifications are based on all capscrews, nuts, and hardened washers being phosphate and oil coated.NOTE: If zinc-plated hardware is used, each piece must be lubricated with a Rust Preventive Grease or Lithium-base grease to achieve the same clamping forces provided below.
- Torques are calculated to give a clamping force of approximately 75% of proof load.
- The maximum torque tolerance shall be within ±10% of the torque value shown.

TABLE III. - STANDARD METRIC ASSEMBLY TORQUE

CAPSCREW SIZE*	TORQUE N.m	TORQUE ft.lbs.	TORQUE kg.m
M6 x1	12	9	1.22
M8 x 1.25	30	22	3.06
M10 x 1.5	55	40	5.61
M12 x 1.75	95	70	9.69
M14 x 2	155	114	15.81
M16 x 2	240	177	24.48
M20 x 2.25	465	343	47.43
M24 x 3	800	590	81.6
M30 x 3.5	1600	1180	163.2
M36 x 4	2750	2028	280.5

* Shank Diameter (mm) - Threads per millimeter

This table represents standard values only. Do not use these values to replace torque values which are specified in assembly instructions.

Suggested* Sources for Rust Preventive Grease:

- AMERICAN ANTI-RUST GREASE #3-X from Standard Oil Company (also American Oil Co.)
- GULF NORUST #3 from Gulf Oil Company.
- MOBILARMA 355, Product No. 66705 from Mobil Oil Corporation.
- RUST BAN 326 from Humble Oil Company.
- RUSTOLENE B GREASE from Sinclair Oil Company.
- RUST PREVENTIVE GREASE - CODE 312 from the Southwest Grease and Oil Company.

**** NOTE: This list represents the current Engineering approved sources for use in Komatsu manufacture. It is not exclusive. Other products may meet the same specifications of this list.***

MidWestTech | Komatsu 830E with Full Time Axle Blower Dump Truck Service Manual | Pu... Order the manual at mid-west-tech.com >

TROUBLESHOOTING GUIDE
(HOIST PUMP)

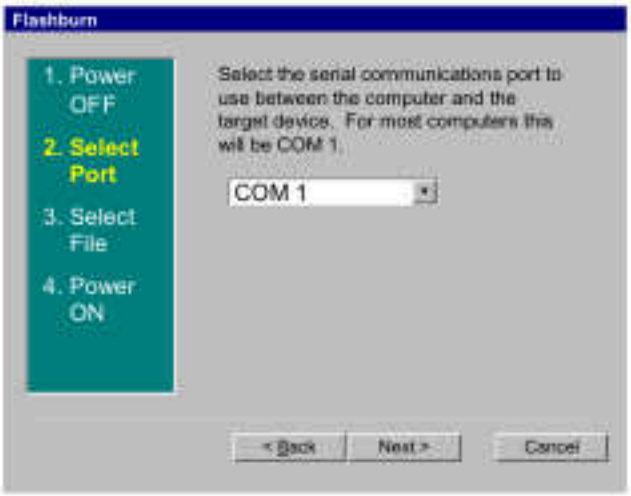
TROUBLE	POSSIBLE CAUSE	SUGGESTED CORRECTIVE ACTION
1. Sandblasted band around pressure plate bores 2. Angle groove on face of pressure plate 3. Lube groove enlarged and edges rounded 4. Dull area on shaft at root of tooth 5. Dull finish on shaft in bearing area 6. Sandblasted gear bore in housing	1. Abrasive wear caused by fine particles. a. Dirt (fine contaminants, not visible to the eye)	1. Was clean oil used? 2. Was filter element change period correct? 3. Were correct filter elements used? 4. Hoist cylinder rod wiper and seals in good condition? 5. Cylinder rods dented or scored? 6. Was system flushed properly after previous failure?
1. Scored pressure plates. 2. Scored shafts 3. Scored gear bore	2. Abrasive wear caused by metal particles a. Metal (coarse)contaminants, visible to the eye	1. Was system flushed properly after previous failure? 2. Contaminants generated elsewhere in hydraulic system? 3. Contaminants generated by wearing pump components?
1. Any external damage to pump 2. Damage on rear of drive gear and rear pressure plate only	3. Incorrect installation	1. Did shaft bottom in mating part? 2. Any interference between pump and machine?
1. Eroded pump housing 2. Eroded pressure plates	4. Aeration-Cavitation a. Restricted oil flow to pump inlet b. Aerated Oil	1. Tank oil level correct? 2. Oil viscosity as recommended? 3. Restriction in pump inlet line? 4. Air leak in pump inlet line? 5. Loose hose or tube connection?
1. Heavy wear on pressure plate 2. Heavy wear on end of gear	5. Lack of oil	1. Was oil level correct? 2. Any leaks in piping inside tank?
1. Housing scored heavily 2. Inlet peened and battered 3. Foreign object caught in gear teeth	6. Damage caused by metal object	1. Metal object left in system during initial assembly or previous repair? 2. Metal object generated by another failure in system?
1. Pressure plate black 2. O-rings and seals brittle 3. Gear and journals black	7. Excessive Heat	1. Metal object left in system during initial assembly or previous repair? 2. Was relief valve setting too low? 3. Was oil viscosity correct? 4. Was oil level correct?
1. Broken shaft 2. Broken housing or flange	8. Over Pressure	1. Relief valve setting correct? 2. Did relief valve function?

MidWestTech | Komatsu 830E with Full Time Axle Blower Dump Truck Service Manual | Pu... Order the manual at mid-west-tech.com >

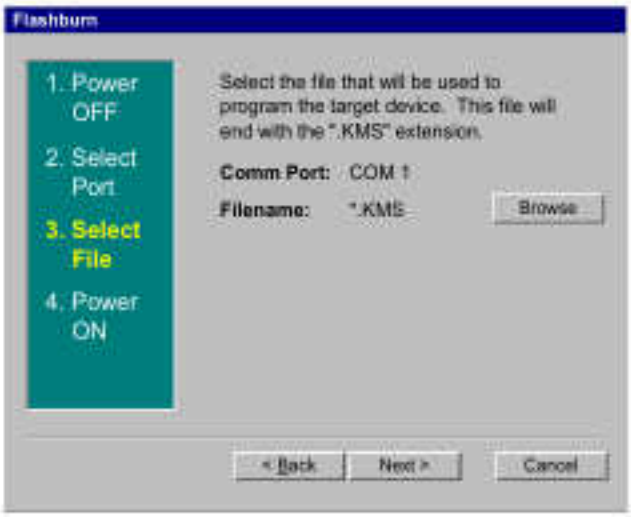
NOTES

MidWestTech | Komatsu 830E with Full Time Axle Blower Dump Truck Service Manual | Pu... Order the manual at mid-west-tech.com >

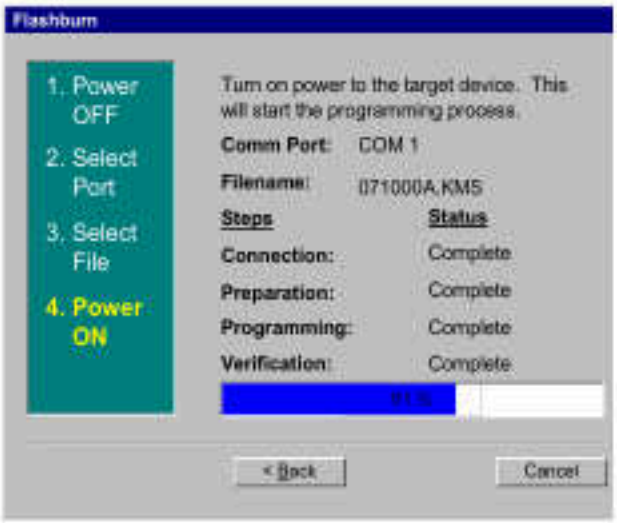
4. Confirm the proper communications port for the programming laptop. This is usually COM 1. Press "NEXT".



5. Press "BROWSE" and select the ".kms" file to program into the payload meter. Press "NEXT".



6. When instructed, turn the keyswitch ON in order to power-up the payload meter. The PC will begin to reprogram the payload meter. This process takes approximately 5 minutes.



7. After successful programming, turn the key witch OFF.
8. Wait 20 seconds and turn the keyswitch ON.
9. The payload meter will need to be configured as instructed in the manual using the Payload Data Manager software on the laptop computer.

MidWestTech | Komatsu 830E with Full Time Axle Blower Dump Truck Service Manual | Pu... Order the manual at mid-west-tech.com >

PLM III SYSTEM CONFIGURATION

Starting Communications

The PDM software allows users to download and configure the system.



Before connecting to the payload meter, select "Change Program Options" and confirm that the program has selected the correct laptop serial port. Most laptops use Comm 1 for serial communications. The units displayed for reports and graphs by the PC software can be set on this form. Click "Done" to return to the main menu.



From the main menu, click the "Connect to Payload Meter" button. The PC will try to connect to the payload meter and request basic information from the system. In the event of communications trouble, the PC will try 3 times to connect before "timing-out". This may take several seconds.

Displayed Payload Units

Three options are available for the display of units in the PC software, reports, and graphs:



Short Tons: Payload is displayed in short tons, distances and speeds will be displayed in Miles

Metric Tons: Payload is displayed in metric tons, distances and speeds are displayed in Kilometers

Long Tons: Payload is displayed in long tons, distances and speeds are displayed in Miles

Time Units

Minutes and Seconds Example:
Five minutes and thirty-two seconds = 5:32

Decimal Minutes Example:
Five minutes and thirty-two seconds = 5.53

Connection Menu

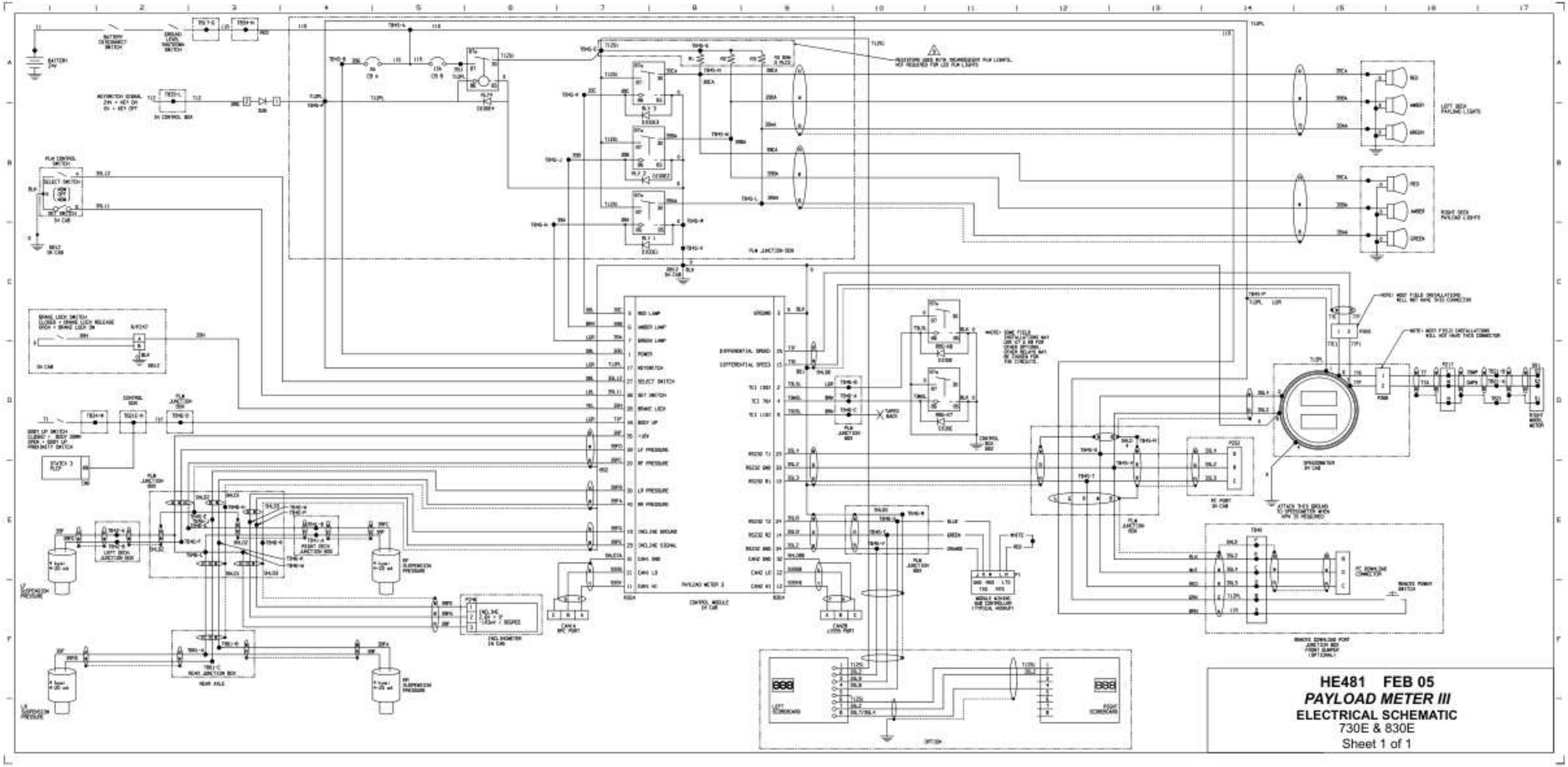


The connection screen displays basic system information to the user.

- Frame S/N should agree with the truck serial number from the serial plate located on the truck frame.
- Truck Number is an ID number assigned to the truck by the mine.
- The Payload Meter Date / Time values come from the payload meter at the moment of connection.
- Number of Haul Cycle Records is the number of haul cycles records stored in memory and available for download.
- Number of Active Alarms shows how many alarms are currently active in the system at the time of connection. If there are active alarms, the "Display Active Alarms" button is available.
- Number of Inactive Alarms shows how many alarms have been recorded in memory and are available for download.
- PLM Software Version displays the current version of software in the payload meter.

The information on the connection menu comes from the configuration of the payload system on the truck.

MidWestTech | Komatsu 830E with Full Time Axle Blower Dump Truck Service Manual | Pu... Order the manual at mid-west-tech.com >



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