CEAM031201

Operation & Maintenance Manual

730E-8

DUMP TRUCK

SERIAL NUMBERS 730E-8 A40015 and up

ENGINE 16V159

March 2017

KOMATSU®

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While in the *Final Zone* moving faster than 5 km/h (3 mph), the payload meter calculates the loaded sprung weight of the truck. The same advanced algorithm is used to calculate the empty and loaded sprung weights. The payload meter will switch from the *Final Zone* to the *Dumping* state if the body up signal is received. If the truck has moved for less than 1 minute in the *Final Zone*, the payload meter will calculate the final payload using an averaging technique which may be less accurate. If this happens, the average_load flag will be recorded in the haul cycle.

The payload meter switches to the *Dumping* state when the dump body rises. The payload meter will switch from *Dumping* to *After Dump* when the dump body comes back down. From the after_dump, the payload meter will switch to one of three states:

1. If the average payload is greater than 20% of rated load and no final payload has been calculated, the payload meter will return to the *Maneuvering* state. After the truck travels 160 m (0.1 mile) the meter will switch to the *Final Zone* and attempt to calculate the payload again. The *False_Body_Up* flag will be recorded in the haul cycle record.
2. If the average payload is greater than 20% of rated load and the final payload has been calculated, the payload meter will switch back to the *Hauling* state. The *False_Body_Up* flag will be recorded in the haul cycle record.
3. If the average payload is less than 20% of rated load, the payload meter will switch to the Tare Zone and begin to calculate a new empty tare.

Load Calculation

The final load calculation is different from the last swingload calculation. The accuracy of the swingload calculation depends on loading conditions and the position of the truck during Loading. The last swingload calculation is not the value recorded in memory as the final load. The final load is determined by a series of calculations made while the truck is traveling to the dump site.

Carry Back

Carry back is calculated as the difference between the new truck tare and the clean truck tare. The clean truck tare is calculated using the PC software. When the suspensions are serviced or changes are made that may affect the sprung weight of the truck, a new clean truck tare should be calculated.

Measurement Accuracy

Payload measurements are typically repeatable within 1%. Accuracy for a particular scale test depends on specific combinations of pressure sensors and payload meters as well as the specifics of each scale test. Comparisons from different scale tests are often made without considering the differences introduced by the specific installation and operation of the scales for each test. In addition, each pressure sensor and payload meter introduces it's own nonlinearity. Each truck becomes an individual combination of sensors and payload meter. Errors from these sources can introduce up to a ±7% bias in the payload meter calculations for a specific scale test, for an individual truck.

Because the payload meter calculates a new empty tare for each payload, a detailed scale test must weigh the trucks empty and loaded for each haul cycle. Using a simple average of two or three empty truck weights as an empty tare for the entire scale test will introduce significant errors when comparing scale weights to PLM IV weights.

SOURCES FOR PAYLOAD ERROR A.3-0000073398

Payload Error

The number one source of errors in payload calculation is improperly serviced suspensions. The payload meter calculates payload by measuring differences in the sprung weight of the truck when it is empty and when it is loaded. The sprung weight is the weight of the truck supported by the suspensions. The only method for determining sprung weight is by measuring the pressure of the nitrogen gas in the suspensions. If the suspensions are not properly maintained, the payload meter cannot determine an accurate value for payload. The two critical factors are proper oil height and proper nitrogen charge.

Critical Suspension Factors:

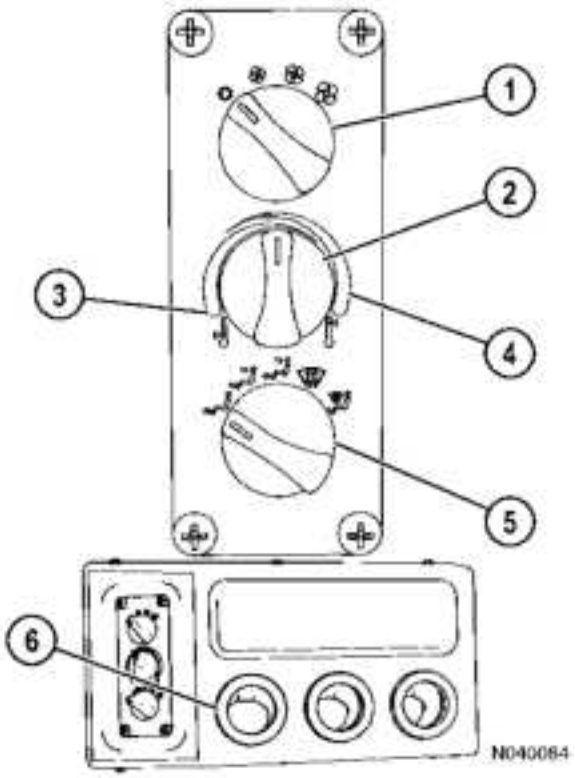
- Proper oil height.
- Proper charge with nitrogen to the correct suspension extension. See service manual for correct extension.

If the suspensions are overcharged, the payload meter will not be able to determine the empty sprung weight of the truck. The suspension cylinder must be able to travel up and down as the truck drives empty. The pressure in an overcharged suspension can push the suspension rod to full extension. In this case, the pressure inside the cylinder does not accurately represent the force necessary to support that portion of the truck.

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HEATER / AIR CONDITIONER CONTROLS E.6-0000051502

The heater/air conditioner compartment contains heater/air conditioner controls and some of the heater/air conditioner components, such as the blower motor assembly and the heater coil. Optimum cab air climate can be selected by using the following controls in various combinations.



1. Fan Speed Control Knob
2. Temperature Control Knob
3. Blue Zone
4. Red Zone
5. Air Flow Directional Knob
6. Heater/Air Conditioner Vents

Figure 6-12 HEATER / AIR CONDITIONER CONTROLS

Fan Speed Control Knob

Fan speed control knob (1, Figure 6-12 HEATER / AIR CONDITIONER CONTROLS, page 6-16) is provided to control the cab air fan motor. The fan motor is a 3-speed motor (low, medium and high). Speeds are selected by rotating the control knob clockwise to the desired position. OFF is in the full counter-clockwise position. The control knob must be switched ON for the air conditioner to function.

Temperature Control Knob

Temperature control knob (2) allows the operator to select a comfortable air temperature.

The control knob determines the operation of the air conditioning and heater modes.

Rotating the control knob counter-clockwise (blue zone 3) will cause the A/C compressor to operate and result in cooler air temperatures. Full counter-clockwise position is the coldest air setting.

Rotating the control knob clockwise (red zone 4) will affect coolant flow through the heater core and result in warmer air temperatures. The full clockwise position is the warmest heater setting.

Air Flow Directional Knob

Air flow directional knob (5) controls the direction of airflow as follows:

	Provides airflow to floor vents, only.
	Provides airflow to upper vents and floor vents.
	(Blue Icon) Provides dehumidified air to upper vents and floor vents.
	Defrost - Provides dehumidified air to the windshield.
	Defrost - Provides dehumidified air to the windshield as well as to floor vents.

Heater/Air Conditioner Vents

Heater/air conditioner vents (6) may be rotated 360°. There are three vents in the heater/air conditioner compartment, four vents across the top of the instrument panel, and one vent each in the RH and LH instrument panels. There are also an additional four vents under the instrument panel. Air flow through the vents is controlled by manually opening, closing or turning the louvers.

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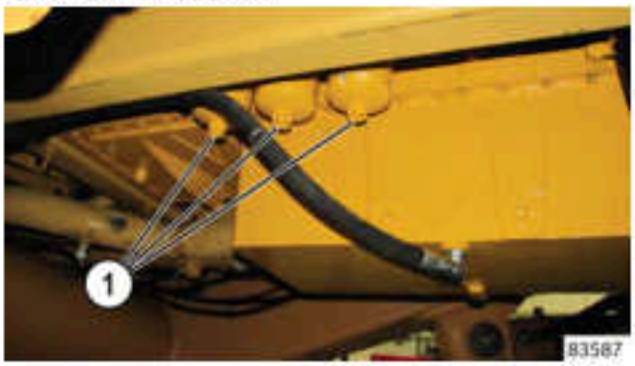
EVERY 500 HOUR LUBRICATION AND MAINTENANCE A.9-0000073680

NOTE: *Maintenance requirements for every 10 & 250 hour Lubrication and Maintenance Checks must also be performed at this time. "Lube Key" references are to the lubrication chart.*

EVERY 500 HOUR LUBRICATION AND MAINTENANCE	
Item	**Task**
WHEEL MOTORS	• Remove the breather elements for the motorized wheels. Clean or replace the elements. • (Initial 500 hours only) change or filter wheel motor gear oil only after initial 500 hours or operation. Wheel motor gear oil must be filtered or changed every 2500 hours of operation thereafter. Refer to the Shop Manual, Section 10 for oil sampling information.
HYDRAULIC SYSTEM	• Replace filter elements. Check the oil level. Add oil as necessary. (Lube Key "B"). • Replace the breather elements. Refer to HYDRAULIC SYSTEM SERVICE, page 7-2 for detailed instructions.
HYDRAIR® SUSPENSION	Check for proper piston extension (front and rear). Refer to Section H4 in the service manual for more information on proper suspension extension and maintenance procedures.
THROTTLE AND BRAKE PEDAL	Lubricate the treadle roller and hinge pins with lubricating oil. Lift the boot from the mounting plate and apply a few drops of lubricating oil between the mounting plate and the plunger.
HOIST ACTUATOR LINKAGE	Check operation. Clean, lubricate, and adjust as necessary.
ACCUMULATOR PRECHARGE	Check all steering, brake and auxiliary hydraulic system accumulator pre-charge pressures. Refer to the Shop Manual, Section 30 details.
HVAC	• Clean the air conditioner recirculation filter. • Ensure the air conditioner cab drains are clear of any obstructions. • Wash the air conditioner condenser with a low pressure hose. Check for any obstructions to airflow, clean as required.
COOLING SYSTEM	Wash the radiator fins with a low pressure hose. Check for any obstructions to airflow, clean as required.
FUEL SYSTEM	Wash the fuel cooler (if equipped), located on the front RH side of the radiator, with a low pressure hose. Check for any obstructions to airflow, clean as required.
FRONT WHEELS	Take an oil sample of the front wheel bearing oil. Refer to FRONT WHEEL SERVICE, page 7-8 for detailed instructions.
FRONT BRAKE DISC	Measure the thickness of the disc. If 20 to 25% of the disc wear surface is worn below **28.7 mm (1.13 in.)**, the disc must be replaced. Refer to the shop manual, Section 30, for additional information.
REAR BRAKE DISC	Measure the thickness of the disc. If 20 to 25% of the disc wear surface is worn below **22.3 mm (0.88 in.)**, the disc must be replaced. Refer to the shop manual, Section 30, for additional information.
PARKING BRAKE	Refer to the Shop Manual, Section 30 for the recommended inspections.

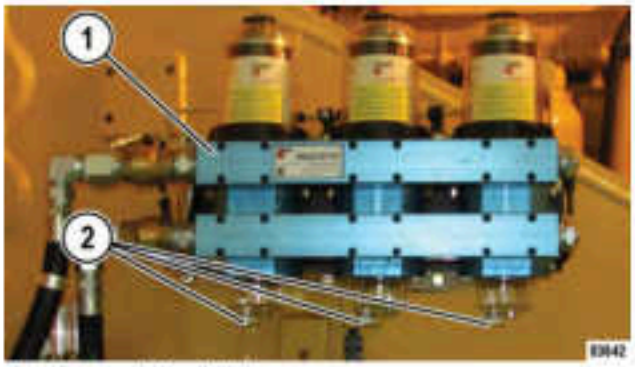
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Fuel Filter Service



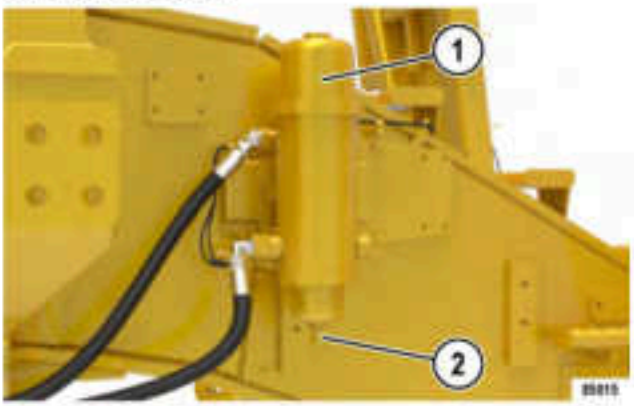
1. Water Drain Valves

Figure 7-11 WATER SEPARATOR DRAIN



1. Stage 1 Fuel Filter
2. Water Drain Valves

Figure 7-12 WATER SEPARATOR DRAIN (TIER 2 OR TIER 4 ONLY)



1. Stage 1 Fuel Filter
2. Water Drain Valve

Figure 7-13 WATER SEPARATOR DRAIN (TIER 2 OR TIER 4 ONLY)

Open water drain valves (1, Figure 7-11 WATER SEPARATOR DRAIN, page 7-7) on the engine mounted fuel filters. If equipped, open water drain valves (2, Figure 7-12 WATER SEPARATOR DRAIN (TIER 2 OR TIER 4 ONLY), page 7-7 or 2, Figure 7-13 WATER SEPARATOR DRAIN (TIER 2 OR TIER 4 ONLY), page 7-7) on the stage 1 fuel filter to remove water from the fuel/water separator daily.

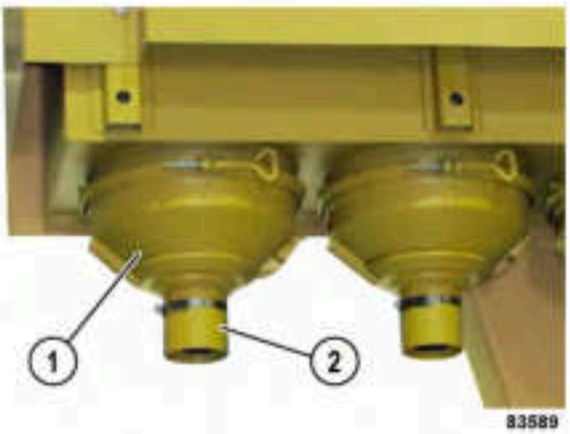
INTAKE AIR CLEANER SERVICE E.5-0000051600

⚠ CAUTION

- **The engine must be turned off before servicing the air cleaner assemblies or opening the engine air intake system. Never start the engine with the filter elements removed. Serious engine damage can result.**

During operation or after the engine has been turned off, observe the air filter restriction gauges mounted on the overhead panel in the cab. When a gauge shows maximum restriction, filter service is required.

To service the intake air cleaner system, perform the following:



1. Dust Cup
2. Vacuator™ Valve

Figure 7-14 DUST CUP LOCATION

1. Inspect and empty dust cups (1, Figure 7-14 DUST CUP LOCATION, page 7-7). Never allow the dust level to build up to the tube (precleaner) chamber.

NOTE: *On dust cups with the Vacuator™valve, dust cup service is minimal; just check the valve to see that it is not inverted, damaged or plugged. If it is damaged, replace it immediately.*

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NOTE: *Some of the configuration parameters require a password to change. The password for all parameters except the Payload Gain is "**Kac2300**". This is case sensitive. The password for the payload gain, which is a critical setting, is not included in this document.*

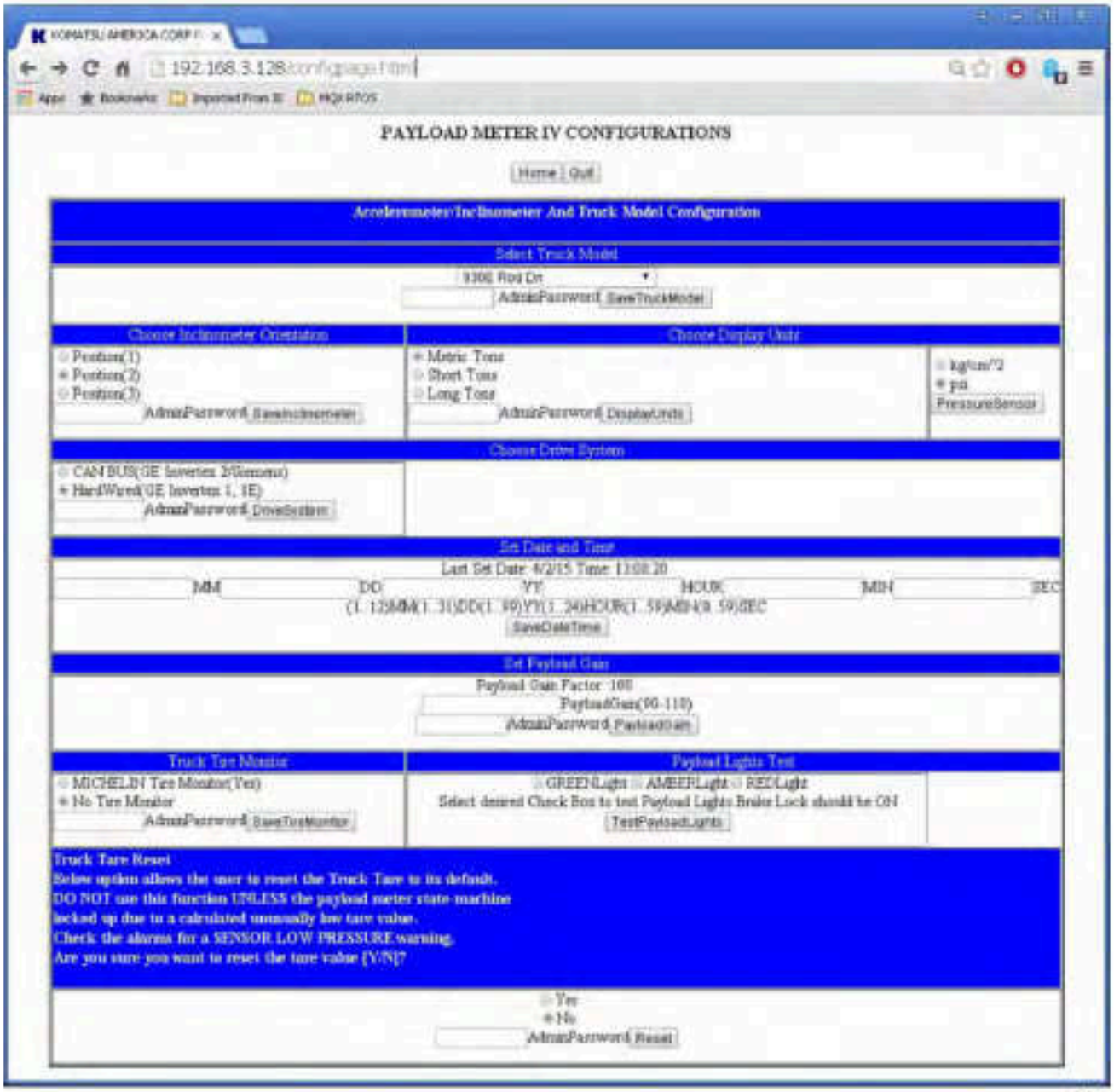


Figure 5-35 PAYLOAD METER IV CONFIGURATIONS

There are ten configuration parameters on this page. Below is a description of each.

- Truck Model
- PLM IV Mounting Orientation
- Gauge Display Units
- Pressure Sensor Units (for RTD web page only)
- Date and Time
- Payload Gain Factor
- Payload Light Test
- Truck Tare Reset

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