CEAM030002

Operation & Maintenance Manual

930E-4

DUMP TRUCK

SERIAL NUMBERS 930E-4 A31879 – A31880
A31882 – A31883
A31892 – A31935

ENGINE 16V160

February 2017

KOMATSU®

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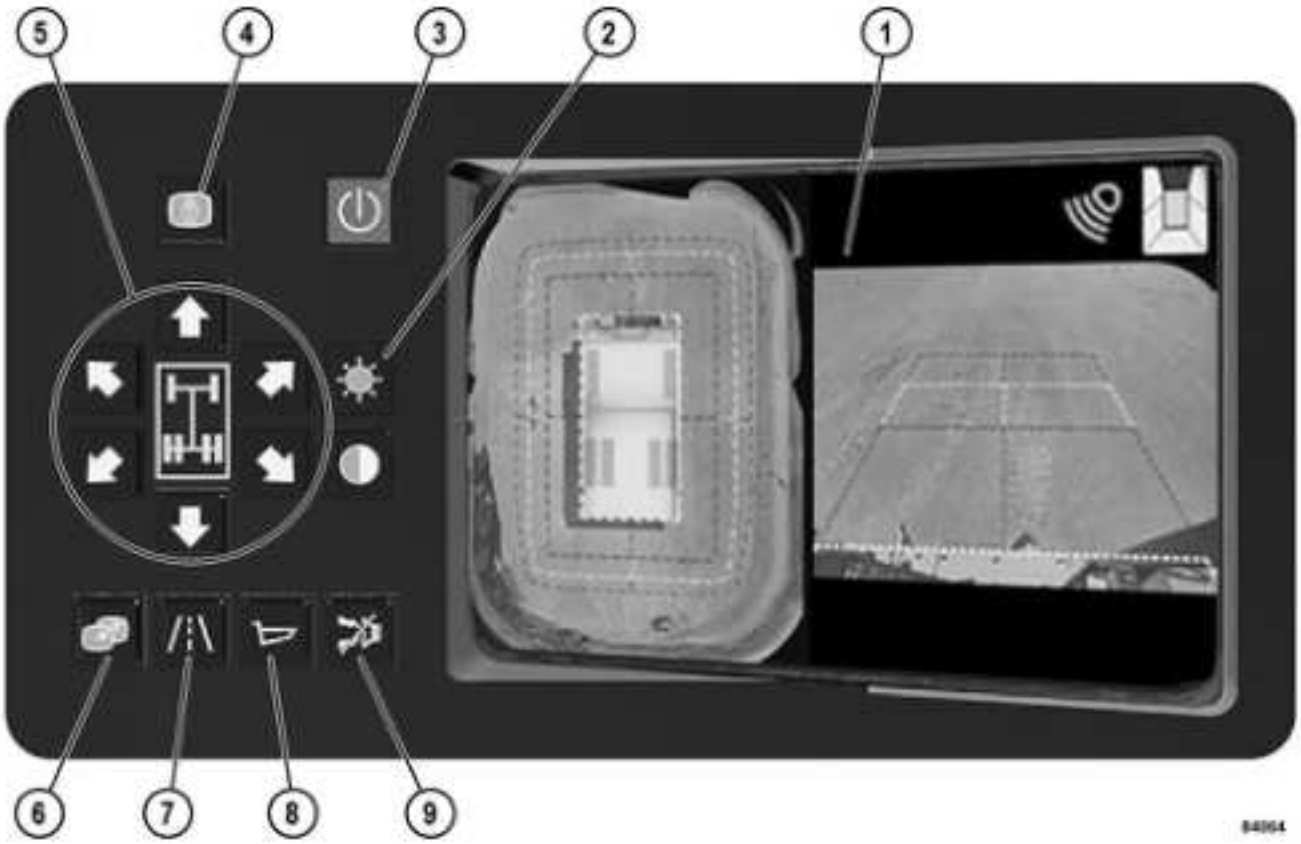
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Monitor Panel



1. Monitor Display
2. Brightness Switches
3. System Power Status Indicator
4. Force Display Switch
5. Camera Switches
6. Monitor Display Mode Switch
7. Reference Line Display Switch
8. Lower Body Display Switch
9. Object Clear Switch

Figure 5-12 MONITOR PANEL

Brightness Switches

Pressing this switch makes the monitor display lighter.



Pressing this switch makes the monitor display darker.



The level of brightness that is selected at the time of system shutdown will remain the same at the time of the next system startup. The operator should adjust the level of brightness as needed at the beginning of operation.

System Power Status Indicator

System ON — Green light is on.

System warming up — Green light is blinking.

System OFF — Green light is off.



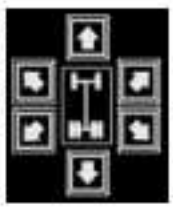
Force Display Switch

Pressing this switch disables the non-display mode of the monitor display when the truck is traveling at 15 kph (9 mph).



Camera Switches

Pressing any of these switches will change the camera view on the monitor display to the selected camera.



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EVERY 10 HOUR (DAILY) MAINTENANCE	
Item	**Task**
AUTOMATIC LUBE SYSTEM	• Check the grease reservoir; fill as required. (Lube Key "D"). • When filling the reservoir, check the grease filter indicator. Clean or replace the grease filter if the indicator detects a problem. • Inspect the system and check for proper operation. Ensure the following important areas are receiving grease. (Lube Key "D"). • Steering Linkage • Final Drive Pivot Pin • Rear Suspension Pin Joints - Upper & Lower • Body Hinge Pins - Both Sides • Hoist Cylinders Pins - Upper & Lower • Anti-sway Bar - Both Ends
WHEELS AND TIRES	• Inspect tires for proper inflation and wear. • Check for embedded debris in tread and remove. • Inspect for damaged, loose, or missing wheel mounting nuts and studs.
WASHER FLUID	Check the level of washer fluid in the bottle behind the cab. Fill as needed.
FUEL TANK	• Check the quick fill fuel receivers for excessive wear, leaks and mud buildup. • Check the vent on the back of the fuel tank at the bottom for mud buildup or any other obstructions. Clean if necessary. See EVERY 1000 HOURS LUBRICATION AND MAINTENANCE, page 7-19 for cleaning instructions.
TERMINALS AND WIRES	Check for wire cuts, short-circuits, or loose terminals. Fix anything that is wrong immediately.

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MAJOR COMPONENT DESCRIPTION C.3-0000051647

Truck and Engine B.2-0000060881

The 930E-4 dump truck is an off-highway, rear dump truck with AC electric drive. The gross vehicle weight is 498 960 kg (1,100,000 lbs). The engine is a Komatsu SSDA16V160 rated at 2 014 kW (2,700 HP).

Traction Alternator D.16-0000051645

The diesel engine drives an in-line alternator at engine speed. The alternator produces AC current which is rectified to DC within the main control cabinet.

Cooling air for the control / power group and wheel motors, as well as the alternator itself, is provided by a fan mounted on the alternator shaft.

Main Control Cabinet A.2-0000060880

Each phase module contains paired positive and negative semiconductor switches referred to as insulated gate bipolar transistors (IGBT). The IGBTs cycle on and off at varying frequencies to create an AC power signal from the DC supply.

The AC power signal produced by each inverter is a variable-voltage, variable-frequency (VVVF) signal. Frequency and voltage are changed to suit the operating conditions.

AC Induction Traction Motorized Wheels C.3-0000051644

The alternator output supplies electrical energy to the two wheel motors attached to the rear axle housing. The motorized wheels use three-phase AC induction motors with full-wave AC power.

The two wheel motors convert electrical energy back to mechanical energy through built-in gear trains within the wheel motor assembly. The direction of the wheel motors is controlled by a forward or reverse hand selector switch located on the center console.

Suspension D.3-0000051643

Hydrair II® suspension cylinders located at each wheel provide a smooth and comfortable ride for the operator and dampens shock loads to the chassis during loading and operation.

Operator's Cab D.25-0000051642

The operator cab has been engineered for operator comfort and to allow for efficient and safe operation of the truck. The cab provides wide visibility, with an integral 4-post ROPS/FOPS structure, and an advanced analog operator environment. It includes a tinted safety-glass windshield and power-operated side windows, a deluxe interior with a fully adjustable seat with lumbar support, a fully adjustable tilt/telescope steering wheel, controls mounted within easy reach of the operator, and a digital/analog instrument panel which provides the operator with all instruments and gauges which are necessary to control and/or monitor the truck's operating systems.

Power Steering D.1-0000051641

The truck is equipped with a full time power steering system which provides positive steering control with minimum operator effort. The system includes nitrogen-charged accumulators which automatically provide emergency power if the steering hydraulic pressure is reduced below an established minimum.

Dynamic Retarding Grid E.24-0000051640

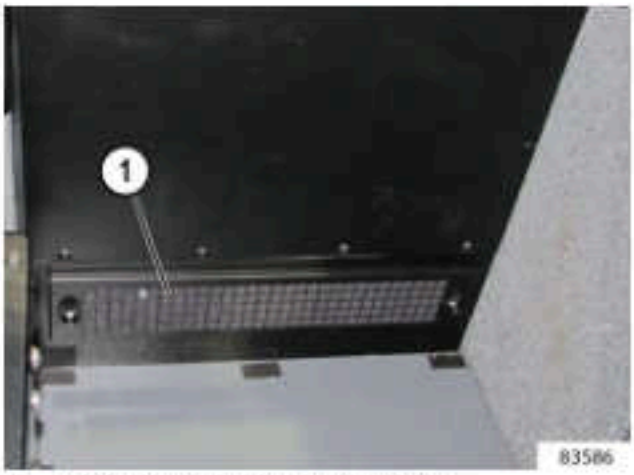
The dynamic retarding grid is used to slow the truck during normal operation or control speed coming down a grade. The dynamic retarding ability of the electric system is controlled by the operator through the activation of the retarder pedal (or by operating a lever on the steering column) in the operator's cab and by setting the speed control. Dynamic Retarding is automatically activated if the truck speed goes to a preset overspeed setting.

Brake System B.14-0000060879

Service brakes at each wheel are oil-cooled multiple disc brakes applied by an all-hydraulic actuation system. Depressing the brake pedal actuates both front and rear brakes after first applying the retarder. All wheel brakes will be applied automatically if the brake system pressure decreases below a preset minimum.

The parking brake is a dry disc type, mounted inboard on each rear wheel motor, and is spring-applied and hydraulically-released with wheel speed application protection (will not apply with truck moving).

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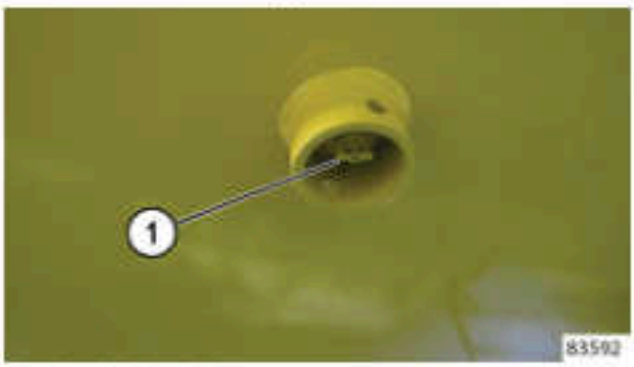
1. HVAC Recirculation Filter Element

Figure 7-7 HVAC RECIRCULATION FILTER LOCATION

1. Clean both filter elements (1, Figure 7-6 CAB AIR FILTER LOCATION, page 7-5 and Figure 7-7 HVAC RECIRCULATION FILTER LOCATION, page 7-6) with mild soap and water.
2. Rinse completely clean and air dry with a maximum of 275 kPa (40 psi).
3. Reinstall the filters.

FUEL SYSTEM SERVICE G.59-0000051601

Fuel Tank Cleaning

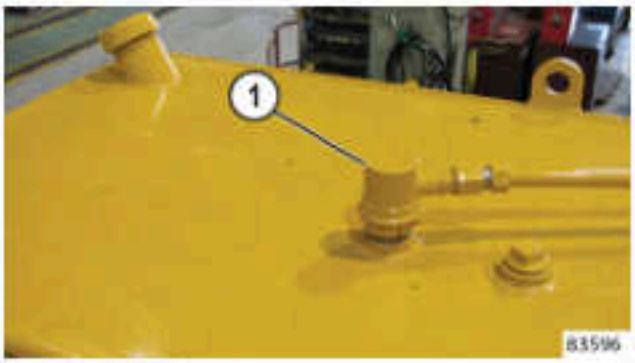


1. Fuel Tank Drain

Figure 7-8 FUEL TANK

Open fuel tank drain (1, Figure 7-8 FUEL TANK, page 7-6) to drain water and sediment from the fuel tank. The fuel tank is provided with a drain and a cleaning port in the side that allows steam or solvent to be utilized in cleaning tanks that have accumulated foreign material.

It is not necessary to remove the tank from the truck for cleaning of sediment, however rust and scale on the walls and baffles may require complete tank removal. Prior to a cleaning procedure of this type, all vents, fuel gauge, and hose connections should be removed and temporarily sealed. After all scale, rust, and foreign material has been removed, the temporary plugs can be removed. A small amount of light oil must be sprayed into the tank to prevent rust if the tank is to remain out of service. All openings should be sealed for rust prevention.



1. Fuel Tank Breather

Figure 7-9 FUEL TANK BREATHER

Remove breather (1, Figure 7-9 FUEL TANK BREATHER, page 7-6) and clean in solvent. Dry with pressurized air and reinstall.

Fuel Filter Service



1. Water Drain Valves

Figure 7-10 WATER SEPARATOR DRAIN

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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.*

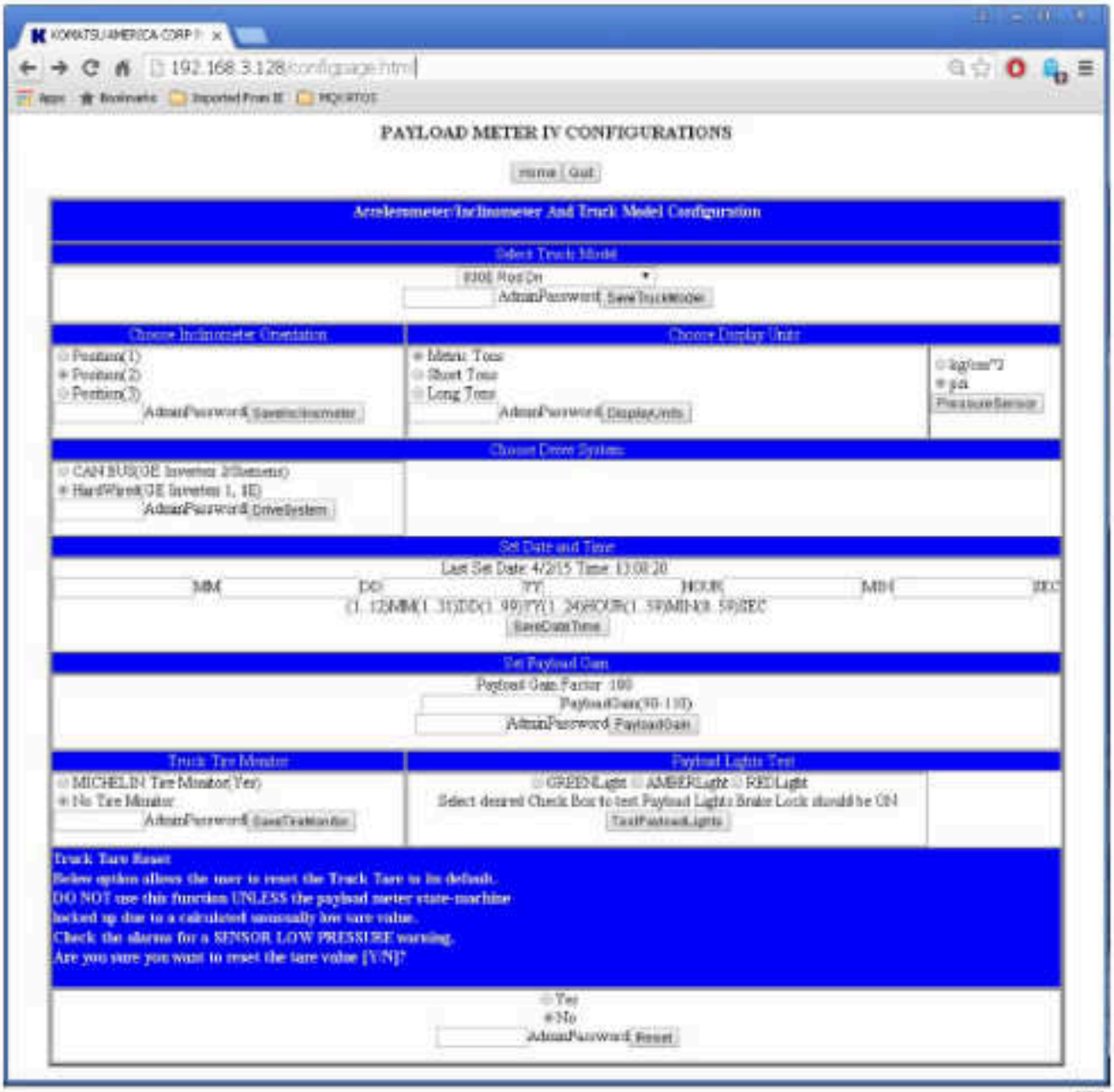


Figure 5-36 PAYLOAD METER IV CONFIGURATIONS

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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