CEBM021705

Shop Manual

930E-4

DUMP TRUCK

SERIAL NUMBERS **A30769 - A31033**

KOMATSU®

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Fault Code A007: Right rear suspension pressure sensor signal is high

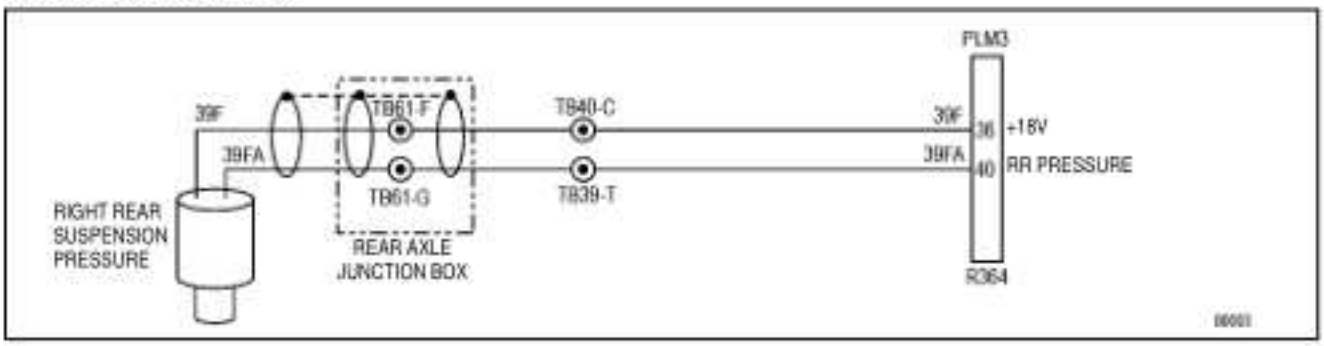
Operator Action	None
Fault Code	A007
Description	Right rear suspension pressure sensor signal is high.
Fault Conditions	Sets if pressure signal is out of range high (sensor current over 22 ma). Resets if reading returns to normal.
Operator Alerting System Response	PLM Display: ------
Resulting Problem(s)	Bad payload computation.
Related Information	

Table

1. This fault is generated by PLM in response to a problem in the sensor circuit. This sensor circuit may have a related fault that can be used to resolve the problem. Refer to the Troubleshooting Instructions for the active parameter fault(s).
2. If there are no active parameter fault codes, then, based on the truck's setup while this fault is active, determine which of the parameters in the Table is not shown in its expected state on the IM Realtime Data Monitor program. Refer to the schematic to identify which item(s) may be causing the parameter(s) to be in the unexpected state. Troubleshoot these items.
3. If this fault is not currently active or if no parameters are currently in the unexpected state and the malfunction is still unresolved, then check each of the parameters in the Table for proper functionality. Troubleshoot all item(s) related to the parameter(s) which are found to be malfunctioning.

Parameter	Expected State and/or Related Fault(s)
Right Rear Pressure Sensor (PLM3 36,40)	Sensor current > 22 ma: failed high Sensor current < 2 ma: failed low Sensor current > 2 ma but less than 22 ma: valid readings Fault(s): A008

Related circuit diagram



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Fault Code A358: Overload on output 1P

Operator Action	Go to shop now
Fault Code	A358
Description	Overload on output 1P.
Fault Conditions	Sets if driver chip detects overcurrent or over temp on output 1P. Output is turned off when overload is detected. Resets at power down.
Operator Alerting System Response	Amber "IM Maintenance" Lamp No Buzzer Right Lamp Module Row 5, Column 3
Resulting Problem(s)	Normal steering bleeddown after shutdown will not occur.
Related Information	A laptop running "IM Realtime Data Monitor" software may be required to resolve this fault.

Table

1. This fault's logic contains just one parameter, which may have additional fault code(s). This fault may be resolved by resolving the parameter(s) active fault code(s). Refer to the Troubleshooting Instructions for the active parameter fault(s).
2. If there are no active parameter fault codes, then based on the truck's setup while this fault is active, determine which of the parameters in the Table is not shown in its expected state on the IM Realtime Data Monitor program. Refer to the schematic to identify which item(s) may be causing the parameter(s) to be in the unexpected state. Troubleshoot these items.
3. If this fault is not currently active or if no parameters are currently in the unexpected state and the malfunction is still unresolved, then check each of the parameters in the Table for proper functionality. Troubleshoot all item(s) related to the parameter(s) which are found to be malfunctioning.

Parameter	**Expected State and/or Related Fault(s)**
Steering Bleed Valve (IM1 P)	Status - Open Load: Expected with key switch on. No problem. Otherwise, unexpected. Must troubleshoot. Status - Normal: Expected only with key off and steering bleed in process. Troubleshoot if found with key on. Status - Shorted to Ground: Unexpected. Troubleshoot. Status - Overload: Unexpected. Troubleshoot. 0: steering bleed valve is off. This is expected in normal running operation. 1: steering bleed valve is on. This is expected after key off initiates steering bleed operation. Fault(s): A235, A236, A253, A262, A263
IM Maintenance Lamp (IM1 X)	Status - Open Load: Unexpected. Troubleshoot Status - Normal: Expected Status - Shorted to Ground: Unexpected. Troubleshoot Status - Overload: Unexpected. Troubleshoot. 0: Lamp Off (IM output at B+) 1: Lamp On (IM output at ground) Fault(s): A363

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7. Close any bleed valves that are open.
8. Attach the charging valve adapter to the accumulator gas valve. Make sure that the hose does not loop or twist. Tighten the swivel nut to **14 - 20 N·m (10 - 15 in lb)**.
9. Turn the "T" handle clockwise to open the accumulator gas valve. Do not turn the "T" handle all the way down as it will damage the valve core.
10. Set the regulator for 172 kPa (25 psi), then slightly open the nitrogen container and slowly fill the accumulator. The proper fill rate for these 10 gallon accumulators is approximately three minutes.

⚠CAUTION

If the precharge is not added slowly, the bladder may suffer permanent damage. A "starburst" rupture in the lower end of the bladder is a characteristic failure caused by charging too quickly.

11. When 172 kPa (25 psi) of precharge pressure is obtained, close the nitrogen valve. Set the regulator for the operating precharge pressure based on the current ambient temperature. Refer to Table 1. Then, open the nitrogen container and fill the accumulator.
12. Let the precharge set for 15 minutes. This will allow the gas temperature to stabilize. If the desired precharge is exceeded, close the nitrogen container valve and slowly open the bleed valve until the correct precharge pressure is obtained. Refer to Table 1.

⚠CAUTION

Do not reduce the precharge by depressing the valve core with a foreign object. High pressure may rupture the rubber valve seat.

13. Hold the gas valve stationary and loosen the swivel nut to remove the assembly. Use a common leak reactant to check for nitrogen leaks.
14. Install the gas valve cap finger-tight. The gas valve cap serves as a secondary seal.

Temperature variation can affect the precharge pressure of an accumulator. As the temperature increases, the precharge pressure increases. Conversely, decreasing temperature will decrease the precharge pressure. In order to ensure the accuracy of the accumulator precharge pressure, the temperature variation must be accounted for.

A temperature variation factor is determined by the ambient temperature when charging the accumulator on a truck that has been shut down for one hour. Refer to Table 1 for charging pressures in different ambient operating conditions that the truck is currently exposed to during the charging procedure.

For example, assuming that the ambient temperature is 10°C (50°F), charge the accumulator to 9 294 kPa (1,348 psi).

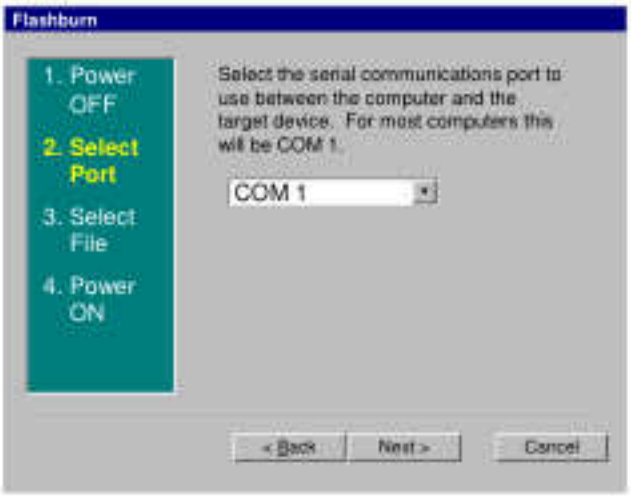
TABLE 1. Relationship Between Charging Pressure and Ambient Temperature

Ambient Temperature	Charging Pressure ± 70 kPa (10 psi)
-23°C (-10°F) and below	8 232 kPa (1194 psi)
-17°C (0°F)	8 412 kPa (1220 psi)
-12°C (10°F)	8 584 kPa (1245 psi)
-7°C (20°F)	8 763 kPa (1271 psi)
-1°C (30°F)	8 943 kPa (1297 psi)
4°C (40°F)	9 122 kPa (1323 psi)
10°C (50°F)	9 294 kPa (1348 psi)
16°C (60°F)	9 473 kPa (1374 psi)
21°C (70°F)	9 653 kPa (1400 psi)
27°C (80°F)	9 832 kPa (1426 psi)
32°C (90°F)	10 011 kPa (1452 psi)
38°C (100°F)	10 184 kPa (1477 psi)
43°C (110°F)	10 363 kPa (1503 psi)
49°C (120°F)	10 542 kPa (1529 psi)

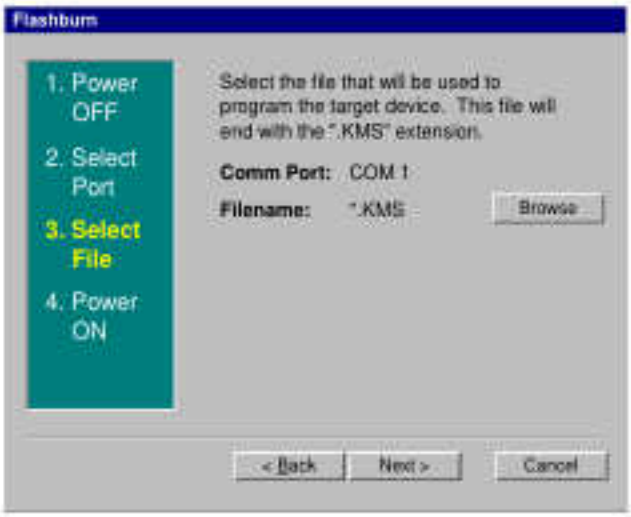
NOTE: A precharge pressure below 8232 kPa (1194 psi) is not recommended because of low precharge pressure warnings. The low accumulator precharge warning switch activates at 7584 ± 310 kPa (1100 ± 45 psi).

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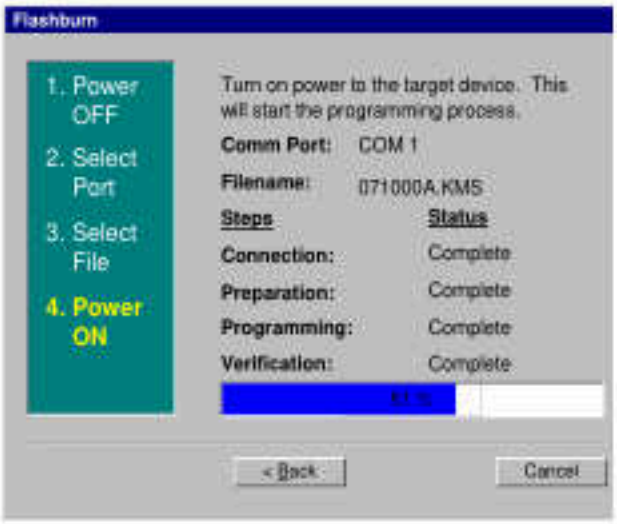
4. Confirm the proper communications port for the programming laptop. This is usually COM 1. Press "NEXT".



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



6. When instructed, turn the key switch 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 key switch 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.

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A/C DRIVE BELT CHECKOUT PROCEDURE

This procedure must be performed each time any component in the accessory drive is serviced, such as replacing a belt or removing the compressor. In addition, a 250 hour inspection of the AC drive belt is mandatory. The belts must be inspected for indications of wear and damage that may hinder performance. Replace as necessary and perform the following procedure.

Pulley Alignment

1. Install alignment tool (EL8868) onto the pulleys to check the alignment. Refer to Figure 4-15. If misalignment of the pulleys exceeds 3 mm (0.13 in.), the position of the compressor must be adjusted.

Belt Tension Check

NOTE: This procedure has been written for use with belt tension tool (XA3379), shown in Figure 4-13. Other tension tools may differ in functionality.



FIGURE 4-13. BELT TENSION TOOL - XA3379

2. Refer to Figure 4-16 for the proper distance from the centerline of the drive pulley to the centerline of the compressor pulley. Set the tension tool accordingly on the "deflection" scale by moving the deflection O-ring to the corresponding distance on the scale.
3. Slide the O-ring for the "force" scale to zero.



FIGURE 4-14. DEFLECTION MEASUREMENT

4. Find the approximate center of the belt between the two pulleys. Place the tip of the tool onto the outer face of the belt and apply pressure, as shown in Figure 4-14. The tool must be perpendicular to the belt. Push on the tool until the bottom edge of the deflection scale O-ring is even with the outer face of the adjacent drive belt. If only one belt is used, rest a straight edge across both pulleys to serve as the indicating plane.
5. The O-ring on the force scale indicates the force used to deflect the belt. The belt must deflect 5.3 mm (0.21 in.) under a force of 1.6 ± 0.1 kgf (3.44 ± 0.11 lbf). If not, adjust the belt accordingly and recheck the tension.

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COMPONENT	SHEET
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BATTERIES, START	26,33
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CB 14 - TURN SIGNAL FLASHER	10,22
CB 15 - TAIL LIGHTS (RB1)	10,22
CB 16 - RETARD LIGHTS (RB3)	10,19
CB 17 - MANUAL BACK-UP LTS (RB3)	10,19
CB 18 - STOP LIGHTS (RB3)	10,12
CB 19 - BACKUP LTS & HORN (RB3)	10,19
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FUSE-FB1-3 5A. FUEL, TEMP GA, VOLTM	10
FUSE-FB1-4 10A. CAB KEY POWER	10
FUSE-FB1-5 10A. HOIST SOLENOID	10
FUSE-FB1-6 15A. TURN/CLEAR LIGHTS	10
FUSE-FB1-7 10A. ENGINE OPTIONS	10
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FUSE-FB1-9 10A. ENG START FAIL.	10
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FUSE-FB2-12 10A. ENG LOAD CNTRL PWR	10
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FUSE-FB2-18 20A. ENGINE ECM POWER	10
FUSE-FB2-19 20A. ENGINE ECM POWER	10
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FUSE-FB3-2 10A. AUTO LUBE TIMER	10,15
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LIGHT, RIGHT LOW BEAM	23
LIGHT, RIGHT REAR BACK UP	19

COMPONENT	SHEET
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