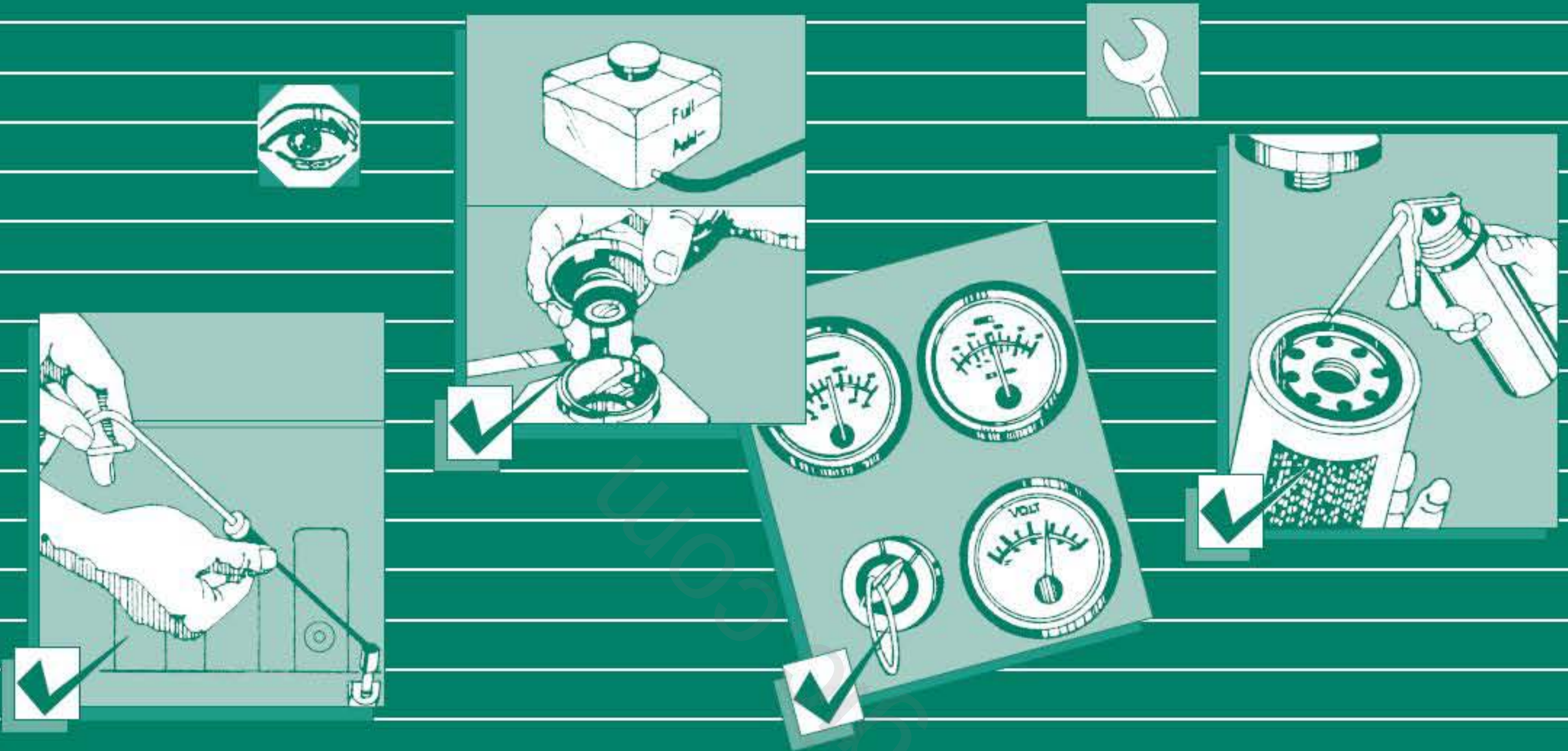
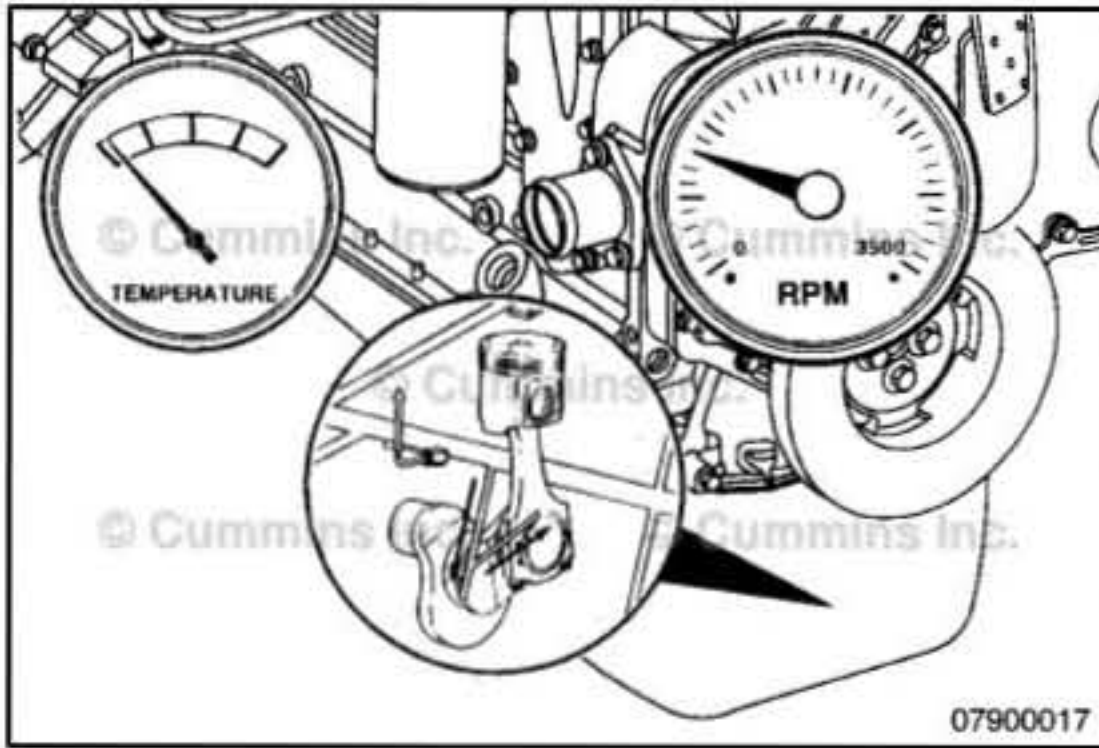




Operation and Maintenance Manual QSB6.7 CM2250



Cummins Customer Assistance Center
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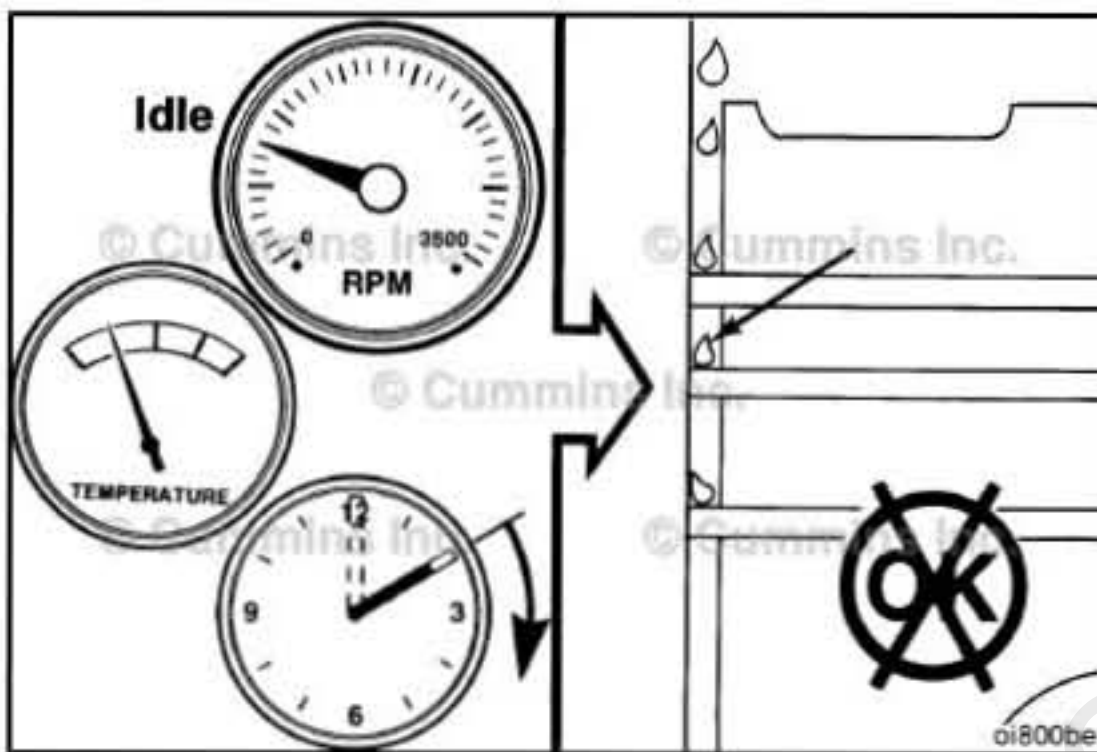


After starting a cold engine, increase the engine speed (rpm) slowly to provide adequate lubrication to the bearings and to allow the oil pressure to stabilize.

Some engines are equipped with a Fast Idle Warm Up feature. When enabled, this feature elevates the idle speed of the engine in cold ambient conditions, in order to shorten the time necessary to warm up the engine. When the idle speed is elevated, the engine noise may change. This is normal. To bring the engine back to low idle speed:

- For vehicles equipped with a manual transmission and clutch switch: Depress the clutch pedal.
- For vehicles equipped with a brake switch: Depress the service brake pedal.
- Depress the accelerator pedal.

For more information on the Fast Idle Warm Up feature, contact a Cummins® Authorized Repair Location.



⚠CAUTION⚠

Do not operate the engine at low idle for long periods with engine coolant temperature below the minimum specification in Maintenance Specifications (Section V). This can result in the following:

- Fuel dilution of the lubricating oil
- Carbon buildup in the cylinder
- Cylinder head valve sticking
- Reduced performance.

Maintenance Procedures - Overview

General Information

All maintenance checks and inspections listed in previous maintenance intervals **must** also be performed at this time, in addition to those listed under this maintenance interval.

Air Cleaner Restriction

Maintenance Check

Mechanical Indicator



Never operate the engine without an air cleaner. Intake air must be filtered to prevent dirt and debris from entering the engine and causing premature wear.

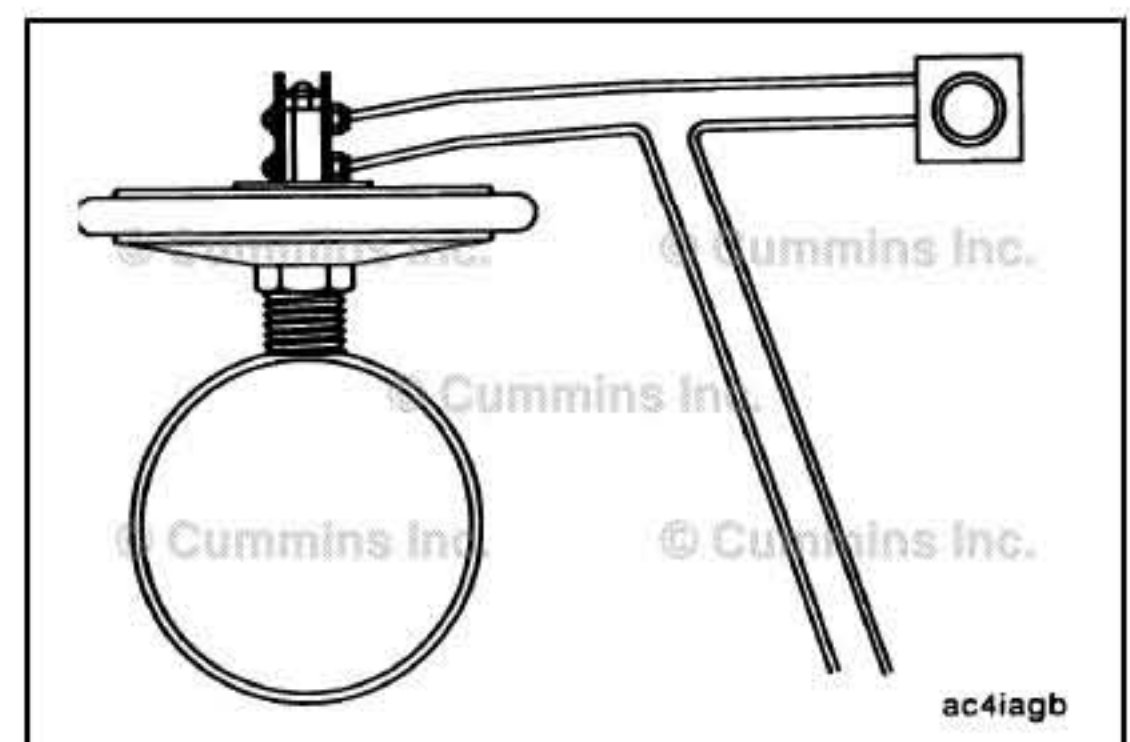
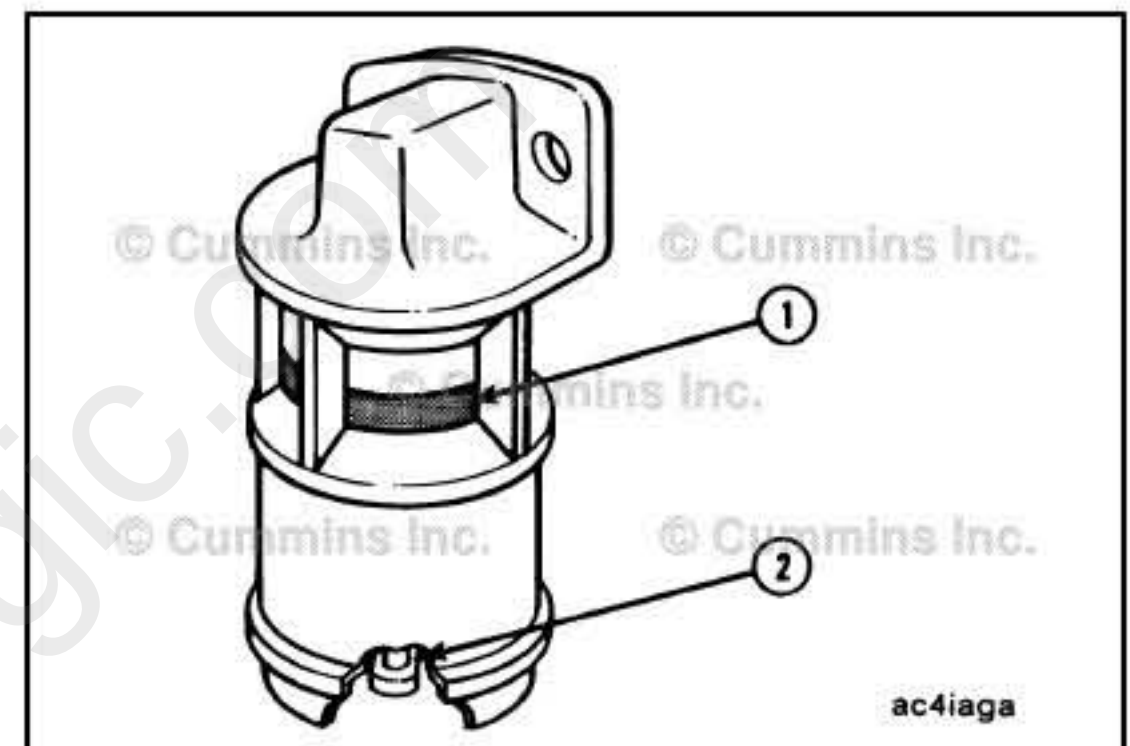
NOTE: Do **not** remove the felt washer from the indicator. The felt washer absorbs moisture.

A mechanical restriction indicator is available to indicate excessive air restriction through a dry-type air cleaner. This instrument can be mounted in the air cleaner outlet or on the instrument panel. The red flag (1) in the window gradually rises as the cartridge loads with dirt. After changing or replacing the cartridge, reset the indicator by pushing the reset button (2).

Restriction or vacuum indicators need to be installed as close as possible to the turbocharger air inlet in order to obtain a true indication of restrictions.

Vacuum Indicator

Vacuum switches actuate a warning light on the instrument panel when the air restriction becomes excessive.



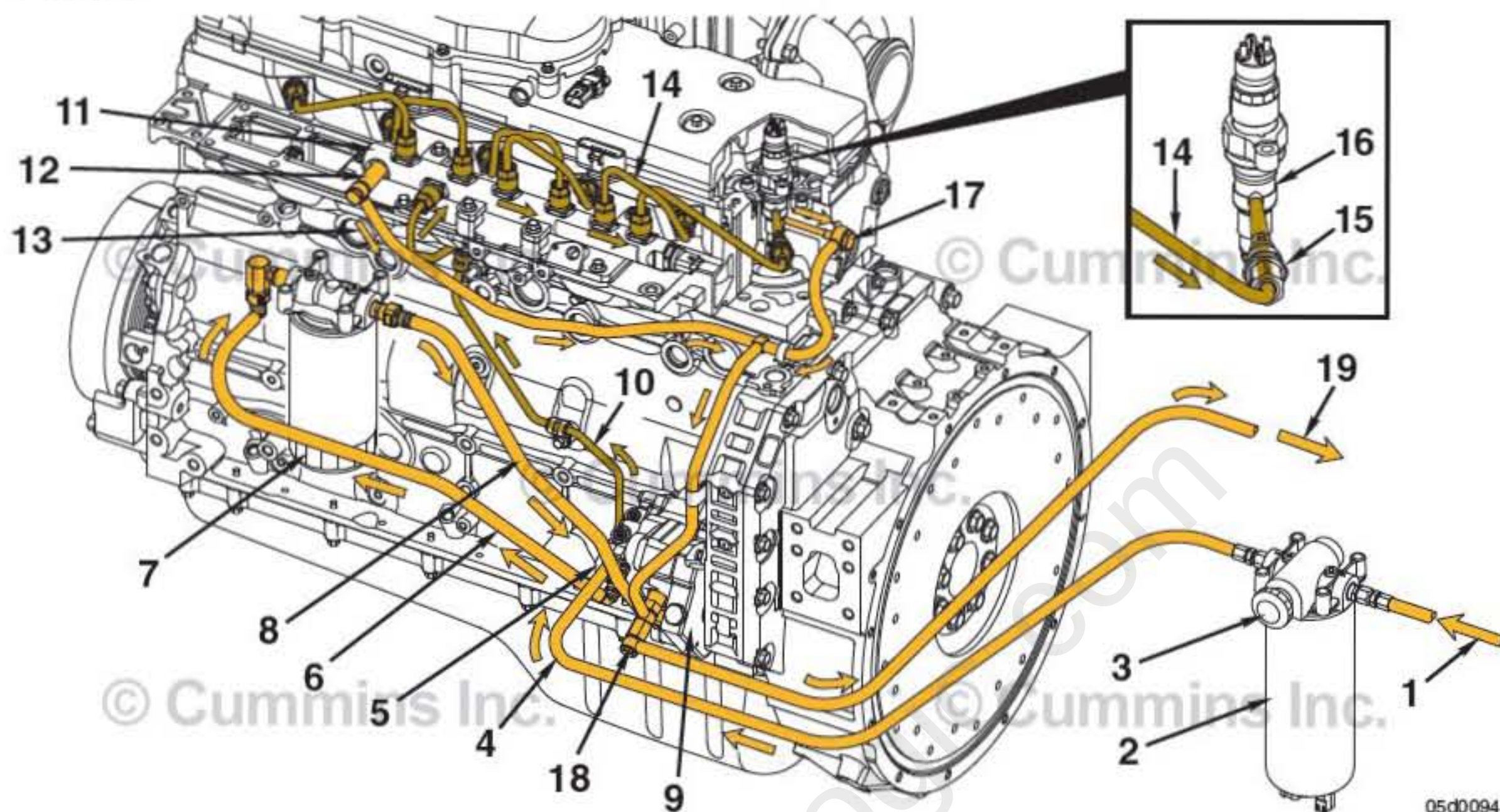
Section 7 - Maintenance Procedures at 2000 Hours or 2 Years

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Flow Diagram, Fuel System

Flow Diagram



- | | |
|--|--|
| 1 Fuel from supply tank | 11 Fuel rail |
| 2 Water/fuel separator filter (remote mount or engine mounted) | 12 Fuel rail pressure relief valve |
| 3 Priming pump (remote mount or engine mounted) | 13 Common rail fuel return |
| 4 Fuel supply to fuel gear pump | 14 High-pressure fuel line to injector |
| 5 Fuel gear pump | 15 High-pressure connector |
| 6 To pressure side fuel filter | 16 Injector |
| 7 Pressure side fuel filter | 17 Fuel return from injectors |
| 8 To high-pressure fuel pump | 18 Combined fuel return |
| 9 High-pressure fuel pump | 19 Fuel return to fuel supply tank. |
| 10 To fuel rail | |

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Engine Power Output Low

Cause	Correction
STEP 1 Operator technique is not correct	Explain correct engine operation to the operator. Refer to Procedure 101-015 in Section 1.
OK Go To Next Step	
STEP 2 Engine is operating above recommended altitude	Engine power decreases above recommended altitude. Refer to Procedure 101-008 in Section 1 or Contact a Cummins® Authorized Repair Facility for specifications.
OK Go To Next Step	
STEP 3 Engine indicator lamps illuminated	Refer to Procedure 101-048 in Section 1. If required, contact a Cummins® Authorized Repair Location.
OK Go To Next Step	
STEP 4 Tachometer is not calibrated or is malfunctioning	Compare the tachometer reading with a handheld tachometer or an electronic service tool reading. Calibrate or replace the tachometer as necessary. Refer to the OEM service manual.
OK Go To Next Step	
STEP 5 Fuel level is low in the tank	Fill the supply tank. Refer to the OEM service manual.
OK Go To Next Step	
STEP 6 Fuel filter is plugged	Measure the fuel pressure before and after the fuel filter. Refer to Procedure 006-015 in Section 5 and Contact a Cummins® Authorized Repair Facility.
OK Go To Next Step	
STEP 7 Fuel suction line restricted	Inspect for pinched, crimped, or kinked fuel lines. Refer to a Cummins® Authorized Repair Facility.
OK Go To Next Step	
STEP 8 Fuel leak	Check the fuel lines, fuel connections, and fuel filters for leaks. Check the fuel lines to the supply tanks. Refer to the OEM service manual.
OK Go To Next Step	
STEP 9 Air intake system restriction is above specification	Check the air intake system for restrictions. Clean or replace the air filter and inlet piping as necessary. Refer to Procedure 010-059 in Section 4.
OK Go To Next Step	

Lubricating Oil Pressure Low

Cause	Correction
STEP 1 Engine indicator lamps illuminated	Refer to Procedure 101-048 in Section 1. If required, contact a Cummins® Authorized Repair Location.
OK Go To Next Step	
STEP 2 Lubricating oil pressure switch, gauge, or sensor is malfunctioning or is not in the correct location	Check the oil pressure switch, gauge, or sensor for correct operation and location. Contact a Cummins® Authorized Repair Location.
OK Go To Next Step	
STEP 3 Lubricating oil level is above or below specification	Check the oil level. Add or drain oil, if necessary. Refer to Procedure 007-043 in Section 3.
OK Go To Next Step	
STEP 4 Lubricating oil leak (external)	Inspect the engine for external oil leaks. Tighten the capscrews, pipe plugs, and fittings. Replace gaskets, if necessary. Contact a Cummins® Authorized Repair Location.
OK Go To Next Step	
STEP 5 Lubricating oil does not meet specifications for operating conditions	Change the oil and filters. Refer to Procedure 007-002 in Section 5. Use the oil recommended in Section V.
OK Go To Next Step	
STEP 6 Lubricating oil is contaminated with coolant or fuel	Change the oil and filters. Refer to Procedure 007-002 in Section 5 and Procedure 018-003 in Section V.
OK Go To Next Step	
STEP 7 Engine angularity during operation exceeds specification	Refer to the Engine Specification Data Sheet.
OK Go To Next Step	
STEP 8 Lubricating oil filter is plugged	Change the oil and filter. Refer to Procedure 007-002 in Section 5.
OK Go To Next Step	
STEP 9 Contact a Cummins® Authorized Repair Facility	

Full Version Available

Cummins QSB6.7 CM2250 Engine Operation and Maintenance Manual

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