DBT Diesel FBR-15
Ram-car

Operators Manual

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3. Gauge Alarm Parameters and colour coding

Engine Coolant temperature.

0 -50°C	**Yellow.**	Coolant temp to low.
50 -104°C	**Green.**	Normal operating temperature range.
104 - 107°C	**Orange.**	Above normal operating temperature. Engine shutdown imminent.
107 - 120°C	**Red.**	Above normal operating temperature Engine should have shutdown. Coolant will be boiling

Exhaust Coolant temperature.

0 - 100°C	**Green.**	Normal operating temperature range.
100 -108°C	**Orange.**	Above normal operating temperature. Engine shutdown imminent.
107 - 120°C	**Red.**	Above normal operating temperature Engine should have shutdown. Coolant will be boiling.

Exhaust gas temperature.

0 - 140°C	**Green.**	Normal operating temperature range.
140 - 150°C	**Orange.**	Above normal operating temperature. Engine shutdown imminent.
150 - 200°C	**Red.**	Above normal operating temperature Engine should have shutdown.

Exhaust Pressure.

0 – 10kPa	**Green.**	Normal operating pressure.
10 – 12kPa	**Orange.**	Exhaust pressure getting high indicating that exhaust filter needs to be changed.
12 – 25kPa	**Red.**	Exhaust pressure to high. Exhaust filter needs to be replaced. Continued long periods of operation will result in damage to engine.

Engine Oil Pressure.

0 – 100kPa	**Red.**	Engine oil pressure to low. Engine should have shut down.
100 – 600kPa	**Green.**	Normal operating pressure range.
600 – 800kPa	**Red**	Engine oil pressure to high. Continued operation could result in damage to the engine.

Air Pressure Gauge.

0 – 275kPa	**Orange.**	Air pressure low. Machine will not start. Machine may shut down.
275 – 827kPa	**Green.**	Normal operating pressure range.
827 – 1000kPa	**Red.**	Air pressure to high. Continued long periods of operation could result in damage to the equipment.

Brake Accumulator Pressure Gauge.

0 – 13790kPa	**Red.**	Pressure to low. Brakes may not fully release. Premature brake wear may result if operated for prolonged periods. Needle may drop into this area for a short period when brakes are operating.
13790 – 18616kPa	**Green.**	Normal operating pressure range.
18616 – 25000kPa	**Red**.	Above normal operating range. Damage to brake components may result if operated for prolonged periods.

3. MACHINE ORIENTATION CONTROLS AND FUNCTIONS

3.1.18 Driver's Horn Button

Pushing this button sounds the air horns.

NOTE:
It is good operating procedure to sound the horn 2-3 seconds before an engine start or whenever approaching blind intersection.

3.1.19 Exhaust Heat Exchanger Coolant Temperature Gauge

This shows the coolant temperature circulating through the exhaust heat exchanger and radiator systems. Normal operating temperature is between 70^0C-80^0C.

WARNING:
Shut off the engine immediately if the water temperature gauge goes above 105 ºC.
The engine safety shutdown system should shutdown the engine at 105ºC.

3.1.20 Exhaust Out-let Gas Temperature Gauge

Shows the exhaust gas temperature entering the mine atmosphere from the exhaust out-let Machine will shut-down if this temperature Exceeds 140^0C

Exhaust Out-let Gas Temperature Gauge

Exhaust Coolant Temperature Gauge

Figure 3.1.10 Left hand side operators panel

5. PRE-START PROCEDURE

Refer to preventive maintenance checklist in section 20.1.

5.1 Walk around the machine

a) Check condition of all tyres. Inspect for sidewall cuts, tread cuts and separation.
b) Look for damaged or missing wheel nuts and studs.
c) Check for loose wheel nuts
d) Guards and covers are in place and secure
e) Missing or loose bolts
f) Oil leaks

5.2 Check the following

5.2.1 *Hydraulic reservoir oil level.*

a) Be sure the machine is level when checking fluid level.
b) Check the level at normal operating temperature.
c) When the fluid level has dropped below the full mark, add hydraulic oil to restore the proper operating level.
d) The Reservoir fill cap is located on the off drivers side of the machine on the side of the hydraulic reservoir
e) Check the hydraulic oil filter indicator is in the green area

Figure 5.2.1 Hydraulic level sight gauges and filler cap

5.2.2 *Check the engine oil level*

a) If required the engine should be filled to the full mark on the engine dipstick.
b) Insure to correct engine oil is used
Oil specifications are listed in the Fluid specifications table section. 22
c) Do not over fill

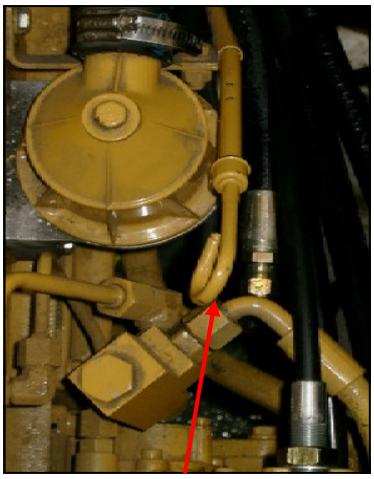

Figure 5.2.2 Engine oil Dipstick

Figure 5.2.3 Engine fill point

NOTE:
The oil level can be checked with the engine either running or not running

8. STOPPING THE ENGINE

1. Park the machine in a suitably safe location
2. Put the transmission Directional control lever into the NEUTRAL position.
3. Remove any hydraulic load from the engine.
4. Apply the PARKING BRAKE. Observe that the brake head pressure gauge is on ZERO
5. Allow the engine to run at about idle speed for five minutes. This will allow internal temperatures to reduce gradually. Reduce engine speed to low idle for 30 seconds.

NOTE:

As the engine is turbo charged, shutting down the engine when the engine's operating temperature is high may cause damage to the turbo charge and the lubrication system

6. Turn the ON / OFF switch located on the instrument panel to the OFF position and the engine will shut down.
7. Open the door Check floor hold on and step down using three points of contact at all times

WARNING:

Any problems with the normal engine shut-off mechanism must be corrected before the engine is restarted.

8. CLOSE the air tank isolation valve on the air receiver after the engine has stopped.

WARNING:

Ensure the bucket is flat on the ground before leaving the operator's compartment.

WARNING:

Ensure the machine is parked in an area that will not block traffic or in a blind intersection that may result in a collision