7.2 Specification

Oil Specification	
Item	Standard
Engine / Gear Box Oil:	
Grade	API SG, SH AND SJ, JASO MA
Viscosity	SAE 10W-40
Capacity Engine	3L FROM COMPLETELY DRY 2.5L WHEN FILTER REMOVED
Capacity Gearbox	1.2L
Oil Pressure Measurement:	
Relief valve opening pressure	400kPa (4 Bar)
Oil pump pressure @8000rpm with 130˚C 10W/40 oil	6L/min and 300kPa (3 Bar)
oil pump pressure @1000rpm with 130˚C 10W/40 oil	150kPa (1.5 Bar)

Note: The engine has a completely separate oil supply from the clutch and transmission. Both should be changed at the same service intervals (see Periodic Maintenance Chart at 1-9).
For servicing engine oil refer to 6.3.2 and 6.3.3.
For servicing clutch and transmission oil refer to 6.3.4 and 6.3.5"

7.3 Engine Oil and Oil Filter

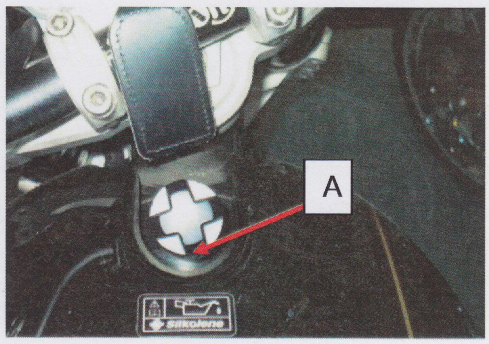
Warning: Motorcycle operation with insufficient, deteriorated or contaminated engine oil will cause accelerated wear and may result in engine or transmission seizure, accident, and possible injury.

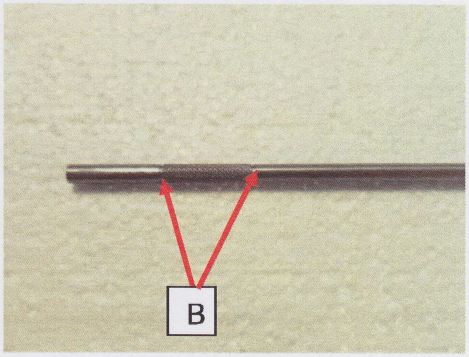
7.3.1 Engine Oil Level Inspection

- Situate the motorcycle so that it is perpendicular to the ground.
- When the oil has just been changed, start the engine and run it for 2 minutes at idle speed. This fills the oil filter with oil.

Caution: High revving the engine before the oil reaches every component can cause engine seizure.

- Stop the engine and leave it to stand for 1 minute to allow oil to drain down.
- If the motorcycle has just been ridden, run the engine for 20 seconds at idle speed. Stop the engine and leave it to stand for 1 minute.
- With the engine warm - Check the engine oil by removing the oil filler cap [A]. Clean the dip stick with a clean, lint free cloth and fully reinsert the cap by screwing it down fully.
- Remove the dip stick and check the oil level is in the middle of the two markings [B].
- If the oil level is difficult to see, check there is sufficient oil in the motorcycle.
- If the oil level is too high, remove the excess oil through the filler opening, using a syringe or some other suitable device.
- If the oil level is too low, add the correct amount of oil through the oil filler opening. Use a 10W40 oil, Silkolene is recommended.



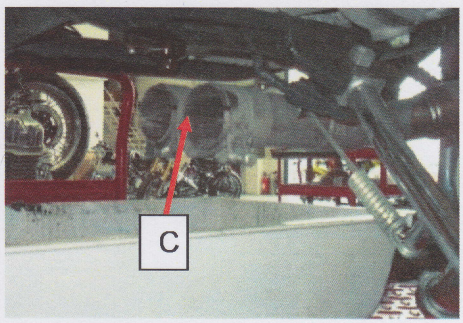


Warning: Spilled oil is hazardous. Ensure to clean working area and any spillages. Be careful to prevent oil coming in contact with tyres or controls as this may result in an unsafe riding condition.

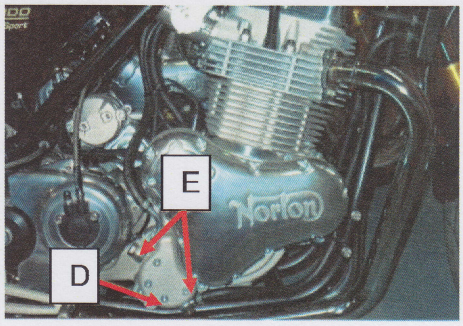
Note: If the engine oil type and make are unknown, use any brand of the specified oil to top off the level rather than running the engine with the oil level low. Then at your earliest convenience, change the oil completely. See previous page for details of oil type.

7.3.2 Engine Oil Draining

Warning: To avoid burns, do not remove the oil cooler hose or try to change the oil when the engine is still hot. Wait until it cools down. Oil on tires will make them slippery and can cause an accident and injury. Immediately wash away any oil that spills on the frame, engine, or wheels. Since oil is harmful to the human body, do not use for drinking.



- Place a container under the drain plug [C] at the bottom of the sump, remove oil filler cap and then remove the drain plug. It is not necessary to remove the primary or secondary exhaust sections (Euro 3), but does make access easier. Euro 4 motorcycles require the secondary exhaust to be removed.
- Place a tray under the oil pump [D] and remove both banjo bolts [E], this will drain the contents of the oil cooler, and the contents of the oil tank.
- Remove both banjo bolts
- Ensure oil has fully drained before reinstalling banjos with new copper washers.
- Tighten banjos and drain plug

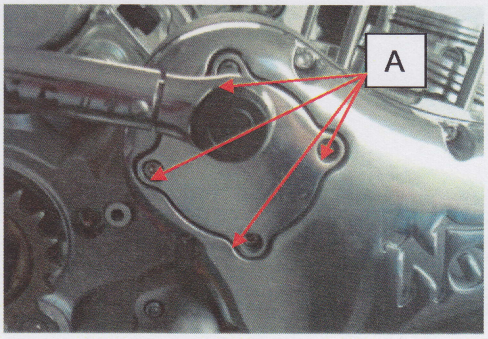


Torque – Oil Banjo bolts: 35Nm

Torque – Sump drain Plug: 15Nm

7.3.3 Engine Oil Filling

- Fill the oil tank with 2.5L of oil and tighten the filler cap. Run the engine at idle for 2 minutes in a well ventilated area. Allow the motorcycle to stand for 2 minutes.
- Check the oil level as described in (Oil Level Inspection) top up if necessary.

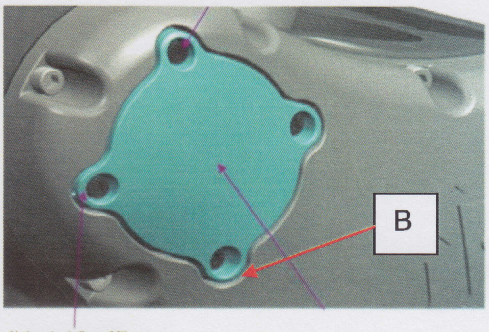


Note: Pour in the oil slowly so that the air in the engine and cooler can escape.

Caution: Do not fill oil past the full mark on dip stick

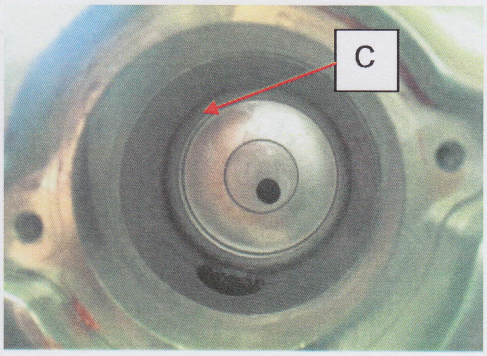
Oil Filter Change

- Drain engine oil. (see engine oil draining)
- Remove oil filter cover bolts [A].
- Remove oil filter cover [B].
- Remove oil filter.
- Using a clean cloth remove as much excess oil in oil filter cavity as possible before replacing filter.



Note orientation of filter cover
when assembling to RH side cover
(thinnest lug with cross drilling is rearmost)

- Apply oil to the mounting surfaces and oil filter.
- Replace the filter element with a new one



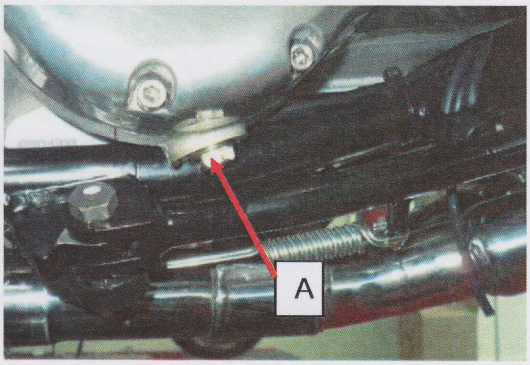
Note: when installing the oil filter, ensure the filter is located in the recess in the crank case before continuing [C].

- Install the oil filter.
- Replace the oil filter cover o-ring, and apply engine oil.
- Install oil filter cover and bolts

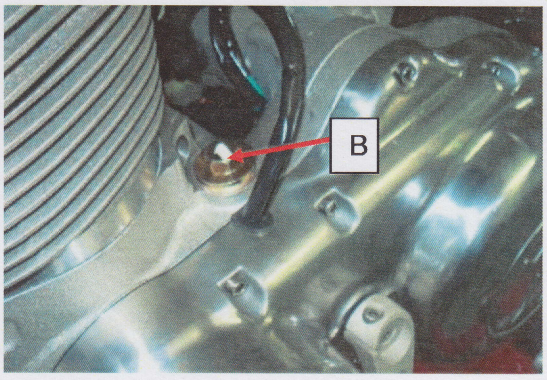
Torque – filter cover bolts: 6Nm

- Pour in the specified type and amount of oil. See engine oil filling

7.3.4 Gearbox Oil Draining



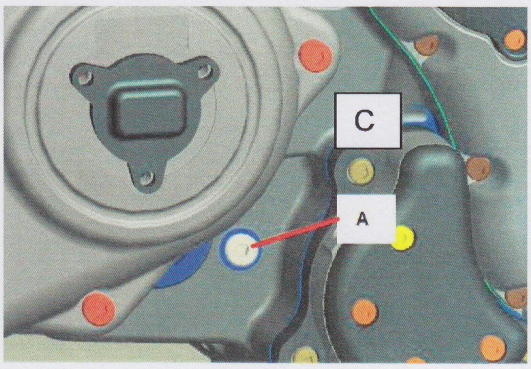
Warning: To avoid injury, do not change the oil when the engine is still hot. Wait until it cools down. Oil on tires will make them slippery and can cause an accident and injury. Immediately wash away any oil that spills on the frame, engine, or wheels. Since oil is harmful to the human body, do not use for drinking.



- Place the bike on a paddock stand
- Place a container under the drain plug [A] at the bottom of the gearbox, remove oil filler cap [B] and then remove the drain plug.
- Allow oil to drain fully.
- Clean the inline oil filter thoroughly.

7.3.5 Gearbox Oil Filling

- Tighten the drain plug to **15Nm.**
- Fill the gearbox with 1.2L gear box oil.
- Place an oil tray under the opening of the plug fill to spill plug [C].
- Remove the fill to spill plug
- Allow oil to drain through plug opening.
- Oil will cease to drain when correct level is reached. Clean excess oil and re-fit plug.



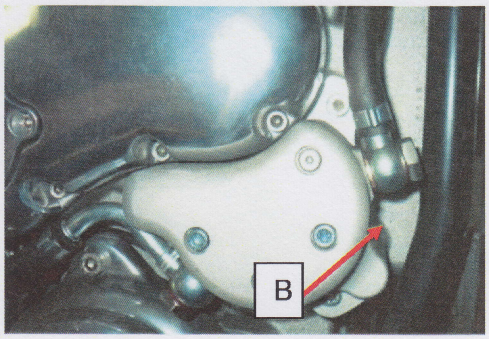
Note: If oil does not exit plug add oil in small quantities until it does so.

- Tighten fill to spill plug and filler cap

Torque - Fill to Spill Plug 15Nm

Torque - Gear Box Filler Cap: 20 Nm

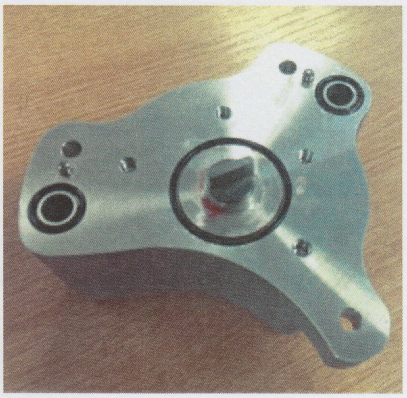
7.3.6 Relief Valve Opening Pressure Measurement



Note: Measure the oil pressure before the engine is warmed up if you want to test relief valve opening pressure.

- Remove oil passage plug [B] on the oil pump and replace with double banjo bolt and oil pressure gauge adapter.

Special Tools – Oil Pressure Gauge Adapter and Oil Pressure Gauge.



- Start the engine, and read the maximum oil pressure while running the engine at various speeds. A normal relief valve keeps the maximum oil pressure between the specified values.

Relief Valve Opening Pressure

Standard: 300~400 kPa (3-4 Bar)