



10.2 The gearbox oil should be level with the lower edge of the filler hole



10.3a Install the filler cap . . .



10.3b . . . and tighten it to the specified torque setting

15 If a smooth, steady idle can't be achieved, check for any possible air leaks around the throttle body and intake manifold assemblies and replace any worn components (see Chapter 3). Otherwise there could be a problem with either the valves (see Chapter 2) or the Motronic system (see Chapter 3).

9 Throttle and choke cable check



Throttle cable

1 Make sure the throttle grip rotates easily from fully closed to fully open with the front wheel turned at various angles. The grip should return automatically from fully open to fully closed when released.

2 If the throttle sticks, this is probably due to a cable fault. Remove the cable (see Chapter 3) and lubricate it (see Section 7). Install the cable, making sure it is correctly routed. If this fails to improve the operation of the throttle, the cable must be replaced. Note that in very rare cases, poor throttle action could be due to a sticking throttle pulley or joining cable between the two throttle bodies; on 1996-on models, the cable distributor box could be at fault (see Chapter 3).



Warning: Turn the handlebars all the way through their travel with the engine idling. Idle speed should not change. If it does, the cable may be routed incorrectly. Correct this condition before riding the bike.

3 On 1993 to 1995 models, check for a small amount of freeplay in the main cable between the handlebar and the left-hand throttle body, measured in terms of the amount of slack between the outer cable and its seat in the cable adjuster, and compare the amount to that listed in this Chapter's Specifications. If it's incorrect, adjust the cable to correct it. On 1996-on models cable freeplay should be 0.5 mm (see illustration 8.10b).

Caution: Adjustment of the joining cable linking the two throttle bodies can only be made in conjunction with vacuum testing equipment to preserve throttle body synchronisation (see Section 8).

Choke cable

4 If the choke does not operate smoothly this is probably due to a cable fault. Remove the cable (see Chapter 3) and lubricate it (see Section 7). Install the cable, routing it so it takes the smoothest route possible. If this fails to improve the operation of the choke, the cable must be replaced.

5 Check that the amount of freeplay is as specified in the Specifications section of this chapter. On 1993 to 1995 models, freeplay is measured in terms of slack between the outer cable and its seat in the cable adjuster (see illustration 8.5). On 1996-on models cable freeplay should be zero (see illustration 8.10a).

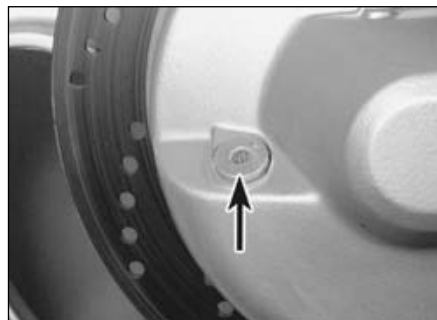
10 Gearbox oil level check



Note: The gearbox oil level is unlikely to fall unless there is leakage from the oil seals or the oil drain plug.

1 Place the motorcycle on its centre stand, making sure it is on level ground.

2 The check should be made after the machine has been standing for a few hours. Unscrew the oil filler cap and check that the oil is up to the lower edge of the filler hole (see illustration). If the level is below this, look for signs of leakage, such as oil staining on the underside of the gearbox. If leakage is evident, the problem must be rectified to avoid the possibility of damage to the gearbox



11.2a Remove the final drive oil level plug (arrowed)

and oil contaminating the rear tyre (see Chapter 2).

3 Replenish the oil if necessary to the correct level using the type and grade specified at the beginning of the Chapter (see illustration 13.4), then install the filler cap, using a new sealing washer, and tighten it to the torque setting specified at the beginning of the Chapter (see illustrations).

11 Final drive oil level check

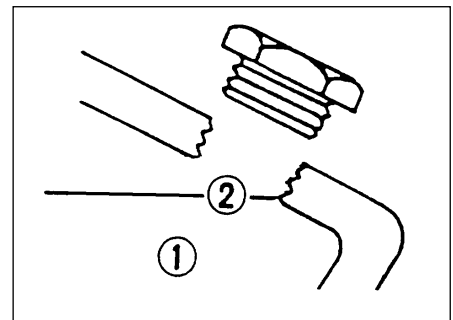


Note: The final drive oil level is unlikely to fall unless there is leakage from the oil seals or the oil drain plug.

1 Place the motorcycle on its centre stand, making sure it is on level ground.

2 The check should be made after the machine has been standing for a few hours. Unscrew the oil filler cap and check that the oil is up to the lower edge of the filler hole threads (see illustrations). If the level is below this, look for signs of leakage, such as oil staining on the underside of the casing. If leakage is evident, the problem must be rectified to avoid the possibility of damage to the final drive and oil contaminating the rear tyre (see Chapter 5).

3 Replenish the oil if necessary to the correct level using the type and grade specified at the beginning of the Chapter, then install the filler cap, using a new sealing washer, and tighten it to the torque setting specified at the beginning of the Chapter.



11.2b Oil (1) must be level with bottom of threads (2)

12 Nut and bolt tightness check



1 Since vibration of the machine tends to loosen fasteners, all nuts, bolts, screws, etc. should be periodically checked for proper tightness.

2 Pay particular attention to the following:

- Spark plugs
- Engine oil, gearbox oil and final drive oil filler and drain plugs
- Gearshift lever, front brake lever and rear

- brake pedal bolts
- Footrest and stand bolts
- Engine mounting bolts
- Shock absorber mounting bolts and Telelever/swingarm pivot bolts
- Handlebar clamp bolts
- Front axle bolt and axle clamp bolts
- Front fork yoke bolts
- Rear wheel bolts
- Brake caliper mounting bolts
- Brake hose banjo bolts and caliper bleed valves
- Brake disc bolts
- Exhaust system bolts/nuts

3 If a torque wrench is available, use it along with the torque specifications at the beginning of this and other Chapters.

HAYNES HINT Complete the Minor service with a test ride, paying attention to all freshly-adjusted or serviced components while riding. The ride must be of sufficient length to warm up all components to normal operating temperature and a careful check must be made for any fuel, oil or brake fluid leaks that may have developed. If necessary repeat any service operation.

Major service

After the first 12,000 miles (20,000 km), and every 12,000 miles (20,000 km) thereafter

Carry out all the items under the minor service (except the spark plug check), plus the following:

13 Gearbox oil change



1 Before changing the oil, take the bike for a ride to warm up the oil so it will drain easily. Place the motorcycle on its centre stand, making sure it is on level ground.

2 Place an oil drain tray below the gearbox. To avoid the oil running over the hot exhaust system, make a chute using a piece of card

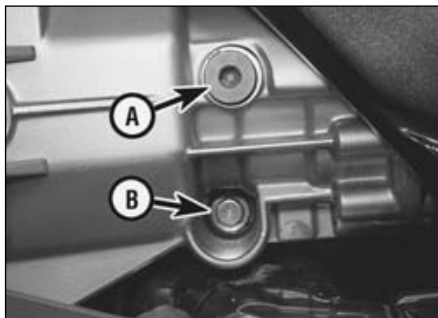
and shape it to fit under the oil drain passage, so that it will channel the oil into the tray. Unscrew the oil filler plug to act as a vent, then unscrew the drain plug and allow the oil to flow into the drain tray (**see illustrations**). Discard the sealing washer (where fitted) on the drain plug as a new one should be used.

HAYNES HINT An oil drain tray can be easily made by cutting away the front or back of an old five litre oil container, or any other such container that is of an adequate size.

3 When the oil has completely drained, fit the drain plug using a new sealing washer (where fitted), and tighten it to the torque setting specified at the beginning of the Chapter. Do not overtighten the plug as the threads in the sump could be damaged.

4 Fill the gearbox using the amount and type of oil specified at the beginning of the Chapter until it just starts to run out of the filler hole (**see illustration**). The oil level is correct when it is up to the lower edge of the filler hole.

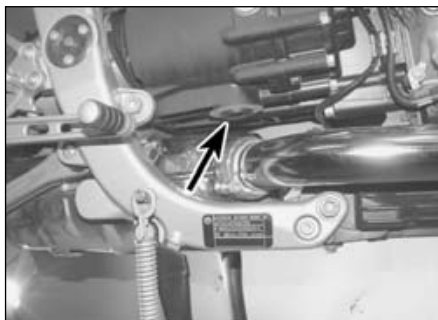
5 Install the filler cap, using a new sealing washer, and tighten it to the specified torque setting.



13.2a Unscrew the filler plug (A), followed by the drain plug (B – see 13.2c for R1100S) . . .



13.2b . . . and allow the oil to drain completely – note the cardboard chute



13.2c Oil drain plug (arrowed) – R1100S models



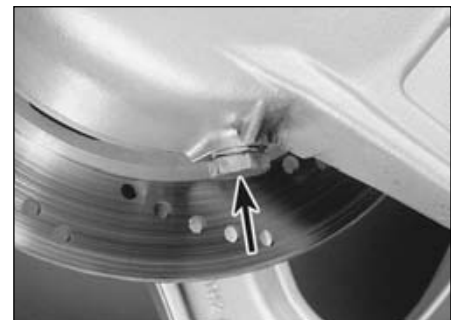
13.4 Fill the gearbox with the specified oil

14 Final drive oil change



1 Before changing the oil, take the bike for a ride to warm up the oil so it will drain easily. Place the motorcycle on its centre stand, making sure it is on level ground.

2 Place an oil drain tray below the final drive housing. Unscrew the oil filler plug to act as a vent (**see illustration 11.2a**), then unscrew the drain plug and allow the oil to flow into the drain tray (**see illustrations**). Discard the sealing washers as new one should be used.



14.2a Unscrew the final drive oil drain plug (arrowed) . . .