

1•18 Every 4000 miles

to seal the piston rings if they are leaking. Repeat the test for the other cylinder.

9 If the compression increases significantly after the addition of the oil, the piston rings and/or cylinders are definitely worn. If the compression does not increase, the pressure is leaking past the valves or the head gasket. Leakage past the valves may be due to insufficient valve clearances, burned, warped or cracked valves or valve seats or valves that are hanging up in the guides.

10 If compression readings are considerably higher than specified, the combustion chambers are probably coated with excessive carbon deposits. It is possible (but not very likely) for carbon deposits to raise the compression enough to compensate for the effects of leakage past rings or valves. Remove the cylinder head and carefully decarbonize the combustion chambers (see Chapter 2).

7 Idle speed and throttle operation/grip freeplay - check and adjustment



Idle speed

1 The idle speed should be checked and adjusted at the specified intervals, as well as whenever the carburetors are synchronized or when it is obviously too high or too low. Before adjusting the idle speed, make sure the valve clearances and spark plug gaps are correct. Also, turn the handlebars back-and-forth and see if the idle speed changes as this is done. If it does, the accelerator cable may not be adjusted correctly, or it may be worn out. Be sure to correct this problem before proceeding.

2 The engine should be at normal operating temperature, which is usually reached after 10 to 15 minutes of stop and go riding. Place the motorcycle on the sidestand (or centerstand, if equipped) and make sure the transmission is in Neutral.

3 Turn the throttle stop screw, located on the left side of the bike (see illustration), until the idle speed listed in this Chapter's Specifications is obtained.

4 Snap the throttle open and shut a few



9.2 Loosen the hose clamp and disconnect the breather hose from the air cleaner air box (GSX-R1100 shown, others similar)



7.3 Turn the idle speed adjusting screw (arrow) in or out until the correct idle speed is obtained

times, then recheck the idle speed. If necessary, repeat the adjustment procedure.

5 If a smooth, steady idle can't be achieved, the fuel/air mixture may be incorrect or the carburetors may need to be synchronized. Refer to Chapter 3 for additional carburetor information.

Throttle operation/grip freeplay

6 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. If the throttle sticks, check the throttle accelerator and decelerator (if equipped) cables for cracks or kinks in the housings. Also, make sure the inner cables are clean and well-lubricated.

7 Check for a small amount of freeplay at the cable and compare the freeplay to the value listed in this Chapter's Specifications. If it's incorrect, adjust the accelerator cable to correct it.

8 Freeplay adjustments can be made at the throttle end of the cable. Loosen the locknut on the cable where it leaves the handlebar (see illustration). Turn the adjuster until the specified freeplay is obtained (see this Chapter's Specifications), then retighten the locknut.

9 If the cable can't be adjusted within specifications, replace it (see Chapter 3).

10 If the motorcycle is equipped with a decelerator cable, adjust it so there is little or no play when the throttle is closed.



9.3 Remove the mounting screws (arrows) and lift the breather cover off the valve cover



7.8 Loosen the accelerator cable locknut with one wrench, then hold it and turn the adjuster with another wrench to obtain the correct throttle freeplay



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.

8 Evaporative emission control system - check



None of the emission control system require maintenance, other than checks for damaged or loose components (see Chapter 3).

9 Crankcase breather - inspection



1 The crankcase breather, used on some models, consists of a hose that runs from the air cleaner air box to an oil separator on the valve cover. The hose should be inspected and the separator cleaned periodically.

2 Loosen the clamp and disconnect the hose from the airbox fitting (see illustration).

3 Remove the separator mounting screws and take the separator off the valve cover (see illustration).

4 Remove the foam element from the separator and clean it in solvent (see illustration). Replace the element if it's cracked, torn or deteriorated.



9.4 Remove and clean the foam element



10.7 To adjust the rear brake light switch, raise or lower it in relation to the bracket



10.9 The brake pads are visible once the dust cover is removed (arrow) - some rear caliper dust covers are accessible from below (rear caliper shown; front caliper similar)



10.12 To adjust the brake pedal height, loosen the locknut (arrow) and turn the adjusting bolt

10 Brake system - checks



General

- 1 A routine general check of the brakes will ensure that any problems are discovered and remedied before the rider's safety is jeopardized.
- 2 Check the brake lever and pedal for loose connections, excessive play, bends, and other damage. Replace any damaged parts with new ones (see Chapter 6).
- 3 Make sure all brake fasteners are tight. Check the brake pads for wear (see Section 5) and make sure the fluid level in the reservoirs is correct (see Section 2). Look for leaks at the hose connections and check for cracks in the hoses. If the lever or pedal is spongy, bleed the brakes as described in Chapter 6.
- 4 Make sure the brake light operates just before resistance is felt when the brake lever is depressed.
- 5 Make sure the brake light is activated just before resistance is felt when the rear brake pedal is depressed.
- 6 The front brake light switch is mounted beneath the brake lever. On early models (switch fastened with two screws) the switch is adjustable. To adjust it, loosen the switch mounting screws and move the switch from side to side so the brake light comes on at the specified point. On later models (switch fastened with one screw) the switch isn't adjustable.
- 7 If adjustment of the rear brake light switch is necessary, turn the switch body so the brake light is activated at the correct point (see illustration). If the switch doesn't operate the brake lights, check it as described in Chapter 8.

Brake pad wear

- 8 The front and rear brake pads should be checked at the recommended intervals and replaced with new ones when worn beyond the limit listed in this Chapter's Specifications.
- 9 To check the brake pads, remove the dust

cover (if equipped) from the caliper so you can see the edges of the pad lining material (see illustration). The brake pads should have at least the minimum amount of lining material remaining on the metal backing plate as listed in this Chapter's Specifications.

- 10 If the pads are worn excessively, they must be replaced with new ones (see Chapter 6).

Rear brake pedal position

- 11 Rear brake pedal position should be set at the height listed in this Chapter's Specifications.
- 12 To adjust the position of the pedal, loosen the locknut on the adjusting bolt, turn the bolt to set the pedal position and tighten the locknut (see illustration).
- 13 If necessary, adjust the brake light switch.

11 Fuel system - check and filter cleaning



Warning: Gasoline (petrol) is extremely flammable, so take extra precautions when you work on any part of the fuel system. Don't smoke or allow open flames or bare light bulbs near the work area, and don't work in a garage where a natural gas-type appliance (such as a water



11.8 The fuel tap is secured to the tank by two screws

heater or clothes dryer) is present. If you spill any fuel on your skin, rinse it off immediately with soap and water. When you perform any kind of work on the fuel system, wear safety glasses and have a fire extinguisher suitable for a Class B type fire (flammable liquids) on hand.

- 1 Check the fuel tank, the fuel tap, the lines and the carburetors for leaks and evidence of damage.
- 2 If carburetor gaskets are leaking, the carburetors should be disassembled and rebuilt by referring to Chapter 3.
- 3 If the fuel tap is leaking, tightening the screws may help. If leakage persists, the tap should be disassembled and repaired or replaced with a new one.
- 4 If the fuel lines are cracked or otherwise deteriorated, replace them with new ones.
- 5 Check the vacuum hose connected to the fuel tap. If it is cracked or otherwise damaged, replace it with a new one.
- 6 The fuel filter, which is attached to the fuel tap, may become clogged and should be removed and cleaned periodically. In order to clean the filter, the fuel tank must be drained and the fuel tap removed.
- 7 Remove the fuel tank (see Chapter 3). Drain the fuel into an approved fuel container.
- 8 Once the tank is emptied, loosen and remove the screws that attach the fuel tap to the tank (see illustration). Remove the tap and filter.
- 9 Take the filter off the tap (see illustration).



11.9a The fuel filter is mounted on the tap