

PERIODIC MAINTENANCE AND MINOR REPAIR

Safety is an obligation of the owner. Periodic inspection, adjustment and lubrication will keep your vehicle in the safest and most efficient condition possible. The most important points of motorcycle inspection, adjustment, and lubrication are explained on the following pages.

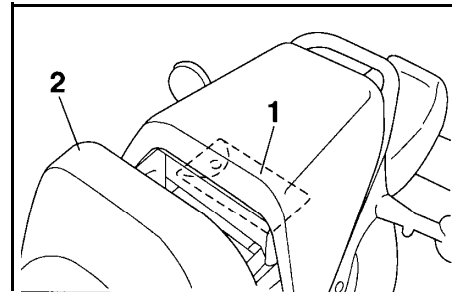
Maintenance, replacement, or repair of the emission control devices and systems may be performed by any repair establishment or individual that is certified (if applicable).

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PERIODIC MAINTENANCE

PROPER PERIODIC MAINTENANCE OF YOUR MOTORCYCLE IS IMPORTANT IN ORDER TO ENJOY LONG, PLEASURABLE SERVICE. ESPECIALLY IMPORTANT ARE THE MAINTENANCE SERVICES RELATED TO EMISSIONS CONTROL. THESE CONTROLS NOT ONLY FUNCTION TO ENSURE CLEANER AIR, BUT ARE ALSO VITAL TO PROPER ENGINE OPERATION AND MAXIMUM PERFORMANCE. IN THE FOLLOWING PERIODIC MAINTENANCE CHARTS, THE SERVICES RELATED TO EMISSIONS CONTROL ARE GROUPED SEPARATELY. THESE SERVICES REQUIRE SPECIALIZED DATA, KNOWLEDGE, AND EQUIPMENT. YAMAHA DEALERS ARE TRAINED AND EQUIPPED TO PERFORM THESE PARTICULAR SERVICES.



1. Owner's tool kit
2. Rider seat backrest

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Owner's tool kit

The tool kit is located inside the storage compartment behind the rider seat backrest. (See page 3-9 for an explanation on moving the rider seat backrest forward and back.)

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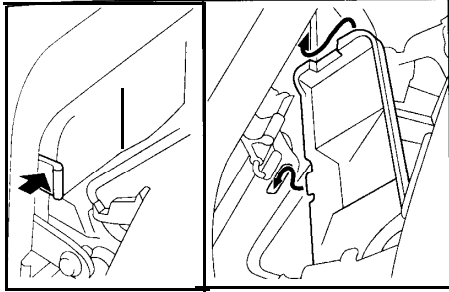
WARNING

If you are not familiar with motorcycle maintenance work, have a Yamaha dealer do it for you.

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PERIODIC MAINTENANCE AND MINOR REPAIR

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⚠ WARNING

Modifications not approved by Yamaha may cause loss of performance and render the vehicle unsafe for use. Consult a Yamaha dealer before attempting any changes.

The service information included in this manual and the tools provided in the owner's tool kit are intended to assist you in the performance of preventive maintenance and minor repairs. However, additional tools such as a torque wrench may be necessary to perform certain maintenance work correctly.

NOTE:

If you do not have the tools or experience required for a particular job, have a Yamaha dealer perform it for you.

PERIODIC MAINTENANCE AND MINOR REPAIR

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Periodic maintenance chart for emission control system

| No. | ITEM | ROUTINE | INITIAL | ODOMETER READINGS | | | | | |
|-----|------------------------------|--|--|--|--|---|---|---|--|
| | | | 600 mi (1,000 km) or 1 month | 4,000 mi (7,000 km) or 6 months | 8,066 mi (13,000 km) or 12 months | 12,000 mi (19,000 km) or 18 months | 16,000 mi (25,000 km) or 24 months | 20,600 mi (31,000 km) or 30 months | |
| 1 * | Valve clearance | <ul style="list-style-type: none"> Check and adjust valve clearance when engine is cold. | Every 30,000 mi (42,000 km) or 42 months | | | | | | |
| 2 | Spark plugs | <ul style="list-style-type: none"> Check condition. Adjust gap and clean. Replace every 8,000 mi (13,000 km) or 12 months and thereafter every 8,000 mi (13,000 km) or 12 months. | | √ | Replace. | √ | Replace. | √ | |
| 3 * | Crankcase ventilation system | <ul style="list-style-type: none"> Check ventilation hose for cracks or damage. Replace if necessary. | | √ | √ | √ | √ | √ | |
| 4 * | Fuel line | <ul style="list-style-type: none"> Check fuel hoses for cracks or damage. Replace if necessary. | | √ | √ | √ | √ | √ | |
| 5 * | Fuel filter | <ul style="list-style-type: none"> Replace initial 20,000 mi (31,000 km) or 30 months and thereafter every 20,000 mi (31,000 km) or 30 months. | | | | | | Replace. | |
| 6 * | Exhaust system | <ul style="list-style-type: none"> Check for leakage. Retighten if necessary. Replace gasket(s) if necessary. | | √ | √ | √ | √ | √ | |
| 7 * | Carburetor synchronization | <ul style="list-style-type: none"> Adjust synchronization of carburetors. | √ | √ | √ | √ | √ | √ | |
| 8 * | Idle speed | <ul style="list-style-type: none"> Check and adjust engine idle speed. Adjust cable free play. | | √ | √ | √ | √ | √ | |

PERIODIC MAINTENANCE AND MINOR REPAIR

| No. | ITEM | ROUTINE | INITIAL | ODOMETER READINGS | | | | | |
|-----|---|---|---------------------------------------|--|--|---|---|---|--|
| | | | 600 mi (1,000 km) or 1 month | 4,000 mi (7,000 km) or 6 months | 8,000 mi (13,000 km) or 12 months | 12,000 mi (19,000 km) or 18 months | 16,000 mi (25,000 km) or 24 months | 20,000 mi (31,000 km) or 30 months | |
| 9 | * Evaporative emission control system (For California only) | <ul style="list-style-type: none"> • Check control system for damage. • Replace if necessary. | | | | √ | | √ | |

* Since these items require special tools, data and technical skills, have a Yamaha dealer perform the service.

PERIODIC MAINTENANCE AND MINOR REPAIR

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General maintenance and lubrication chart

| No. | ITEM | ROUTINE | TYPE | INITIAL | ODOMETER READINGS | | | | | |
|-----|-------------------------|---|---|---------------------------------------|--|--|---|---|---|--|
| | | | | 600 mi (1,000 km) or 1 month | 4,000 mi (7,000 km) or 6 months | 8,000 mi (13,000 km) or 12 months | 12,000 mi (19,000 km) or 18 months | 16,000 mi (25,000 km) or 24 months | 20,000 mi (31,000 km) or 30 months | |
| 1 | Engine oil | <ul style="list-style-type: none"> Replace (warm up engine before draining). | See page 8-I. | √ | √ | √ | √ | √ | √ | |
| 2 | Oil filter | <ul style="list-style-type: none"> Replace. | | √ | | √ | | √ | | |
| 3 | Air filter | <ul style="list-style-type: none"> Clean with compressed air. Replace if necessary. | | | √ | √ | √ | √ | √ | |
| 4 | Cooling system | <ul style="list-style-type: none"> Check hose for cracks or damage. Replace if necessary. | | | √ | √ | √ | √ | √ | |
| | | <ul style="list-style-type: none"> Replace coolant every 24 months. | Ethylene glycol antifreeze coolant | | | | | Replace. | | |
| 5 | * Brake system | <ul style="list-style-type: none"> Adjust free play. Replace pads if necessary. | — | √ | √ | √ | √ | √ | √ | |
| 6 | * Clutch | <ul style="list-style-type: none"> Check operation and fluid leakage. (See NOTE page 6-7.) Correct if necessary. | — | √ | √ | √ | √ | √ | √ | |
| 7 | Final gear oil | <ul style="list-style-type: none"> Check oil level and leakage. Replace every 16,000 mi (25,000 km) or 24 months. | SAE 80 API "GL-4" hypoid gear oil | Replace. | √ | √ | √ | Replace. | √ | |
| 8 | Control and meter cable | <ul style="list-style-type: none"> Apply chain lube thoroughly. | Yamaha chain and cable lube or SAE 10w-30 motor oil | √ | √ | √ | √ | √ | √ | |

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PERIODIC MAINTENANCE AND MINOR REPAIR

| No. | ITEM | ROUTINE | TYPE | INITIAL | ODOMETER READINGS | | | | | |
|-----|-----------------------------------|---|--|---------------------------------------|--|--|---|---|---|---|
| | | | | 600 mi (1,000 km) or 1 month | 4,000 mi (7,000 km) or 6 months | 8,000 mi (13,000 km) or 12 months | 12,000 mi (19,000 km) or 18 months | 16,000 mi (25,000 km) or 24 months | 20,000 mi (31,000 km) or 30 months | |
| 1 | Swingarm pivot bearing | <ul style="list-style-type: none"> Check bearing assembly for looseness. Moderately repack every 16,000 mi (25,000 km). | Lithium-soap-based grease | | | √ | | | Repack. | |
| 0 | Brake/clutch lever pivot shaft | <ul style="list-style-type: none"> Apply lithium-soap-based grease (all-purpose grease) lightly. | Lithium-soap-based (all-purpose grease) | | √ | √ | √ | √ | √ | √ |
| 1 | Brake pedal and shift pedal shaft | <ul style="list-style-type: none"> Lubricate. Apply lithium-soap-based grease (all-purpose grease) lightly. | Lithium-soap-based grease (all-purpose grease) | | √ | √ | √ | √ | √ | √ |
| 2 | Center/sidestand pivots | <ul style="list-style-type: none"> Check operation and lubricate. Apply lithium-soap-based grease (all-purpose grease) lightly. | Lithium-soap-based grease (all-purpose grease) | | √ | √ | √ | √ | √ | √ |
| 3 | Front fork | <ul style="list-style-type: none"> Check operation and leakage. | - | | √ | √ | √ | √ | √ | √ |
| 4 | Steering bearings | <ul style="list-style-type: none"> Check bearing assembly for looseness. Moderately repack every 16,000 mi (25,000 km). | Lithium-soap-based grease | | √ | √ | √ | | Repack. | √ |
| 5 | Wheel bearings | <ul style="list-style-type: none"> Check bearings for smooth rotation. | - | | √ | √ | √ | √ | √ | √ |
| 6 | Battery | <ul style="list-style-type: none"> Check specific gravity and breather pipe for proper operation. | - | | √ | √ | √ | √ | √ | √ |

PERIODIC MAINTENANCE AND MINOR REPAIR

| No. | ITEM | ROUTINE | TYPE | INITIAL | ODOMETER READINGS | | | | | |
|-----|------------------|--|------|---------------------------------------|--|--|---|---|---|--|
| | | | | 600 mi (1,000 km) or 1 month | 4,000 mi (7,000 km) or 6 months | 6,000 mi (13,000 km) or 12 months | 12,000 mi (19,000 km) or 18 months | 16,000 mi (25,000 km) or 24 months | 20,000 mi (31,000 km) or 30 months | |
| 17 | Sidestand switch | • Check and clean or replace if necessary. | - | √ | √ | √ | √ | √ | √ | |

* Since these items require special tools, data and technical skills, they should be serviced by a Yamaha dealer.

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NOTE:

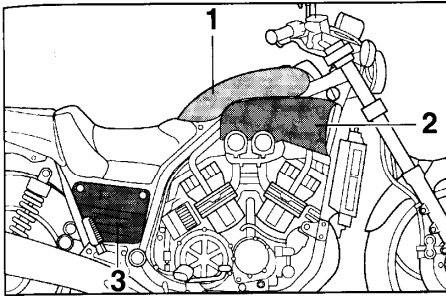
For odometer readings or time periods higher than 20,000 mi (31,000 km) or 30 months, follow the maintenance requirements listed in the maintenance chart under the 4,000 mi (7,000 km) or 6 month interval.

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NOTE:

- The air filter needs more frequent service if you are riding in unusually wet or dusty areas.
- Hydraulic brake and clutch systems
- After disassembling the master cylinder, caliper cylinder or clutch release cylinder, always replace the brake fluid. Check the brake fluid level of the master cylinder and clutch release cylinder regularly and fill as required.
- Replace the oil seals on the inner parts of the master cylinder, caliper cylinder and clutch release cylinder every two years.
- Replace the brake and clutch hoses every four years or if cracked or damaged.

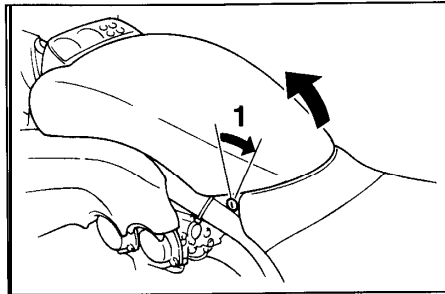
PERIODIC MAINTENANCE AND MINOR REPAIR



1. Cowling A
2. Panel A
3. Panel B

Removing and installing cowlings and panels

The cowlings and panels shown above need to be removed to perform some of the maintenance jobs described in this chapter. Refer to this section each time a cowling or panel needs to be removed and installed.



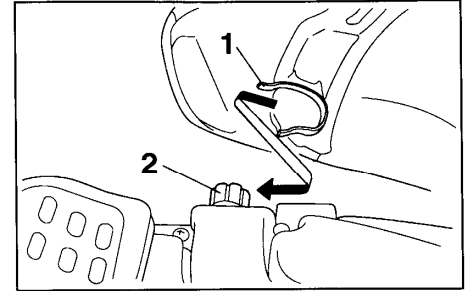
1. Unlock.

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Cowling A

To remove the cowling

1. Insert the key into the lock, and then turn it clockwise.
2. Pull the cowling off as shown.

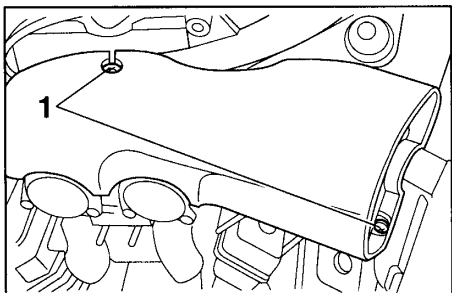


1. Holder (x 2)
2. Projection (x 2)

To install the cowling

1. Align the holders under the cowling with the projections on the frame.
2. Push down on the rear of the cowling until it locks in place.
3. Remove the key from the lock.

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1. Screw (x 2)

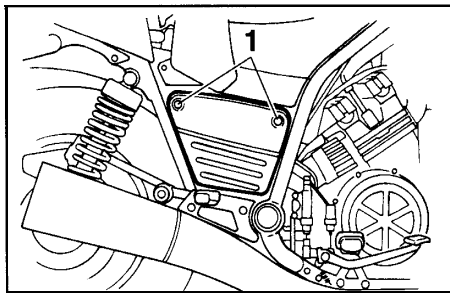
Panel A

To remove the panel

1. Remove cowling A. (See page 6-8 for cowling removal and installation procedures.)
2. Remove the screws, and then take the panel off.

To install the panel

1. Place the panel in the original position, and then install the screws.
2. Install the cowling.



1. Screw (x 2)

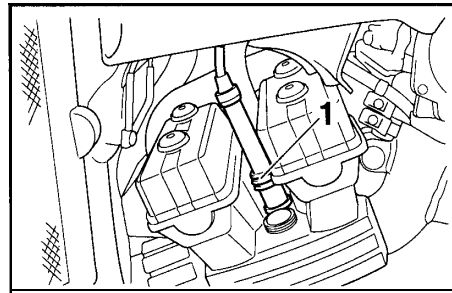
Panel B

To remove the panel

Remove the screws, and then take the panel off.

To install the panel

Place the panel in the original position, and then install the screws.



1. Spark plug cap

Checking the spark plugs

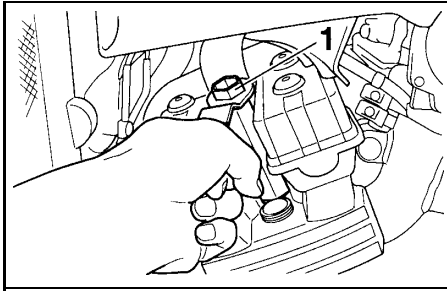
The spark plugs are important engine components, which are easy to check. Since heat and deposits will cause any spark plug to slowly erode, the spark plugs should be removed and checked in accordance with the periodic maintenance and lubrication chart. In addition, the condition of the spark plugs can reveal the condition of the engine.

To remove a spark plug

1. Remove the spark plug cap.

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1. Spark plug wrench

2. Remove the spark plug as shown, with the spark plug wrench included in the owner's tool kit.

To check the spark plugs

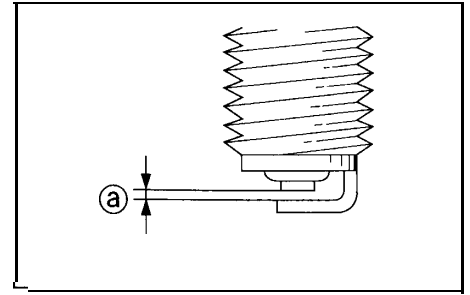
1. Check that the porcelain insulator around the center electrode on each spark plug is a medium-to-light tan (the ideal color when the motorcycle is ridden normally).
2. Check that all spark plugs installed in the engine have the same color.

NOTE:

If any spark plug shows a distinctly different color, the engine could be defective. Do not attempt to diagnose such problems yourself. Instead, have a Yamaha dealer check the motorcycle.

3. Check each spark plug for electrode erosion and excessive carbon or other deposits, and **replace** it if necessary.

Specified spark plug:
DPR8EA-9/NGK or
X24EPR-U9/DENSO



a. Spark plug gap

To install a spark plug

1. Measure the spark plug gap with a wire thickness gauge and, if necessary, adjust the gap to specification.

Spark plug gap:
0.8-0.9 mm (0.03-0.04 in)

2. Clean the surface of the spark plug gasket and its mating surface, and then wipe off any grime from the spark plug threads.
3. Install the spark plug with the spark plug wrench, and then tighten it to the specified torque.

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Tightening torque:

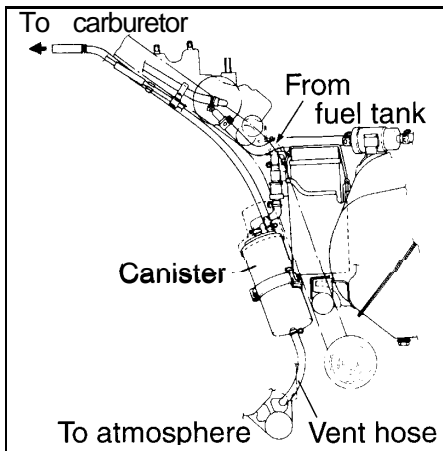
Spark plug:

18 Nm (1.8 m·kg, 13 ft·lb)

NOTE:

If a torque wrench is not available when installing a spark plug, a good estimate of the correct torque is 1/4-1/2 turn past finger tight. However, the spark plug should be tightened to the specified torque as soon as possible.

4. Install the spark plug cap.



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Canister (for California only)

This model is equipped with a canister to prevent the discharging of fuel vapor into the atmosphere.

- Check each hose connection.
- Check each hose and canister for cracks or damage. Replace if damaged.
- Make sure the vent hose is not blocked. Clean it if necessary.

Engine oil and oil filter cartridge

The engine oil level should be checked before each ride. In addition, the oil must be changed and the oil filter cartridge replaced at the intervals specified in the periodic maintenance and lubrication chart.

To check the engine oil level

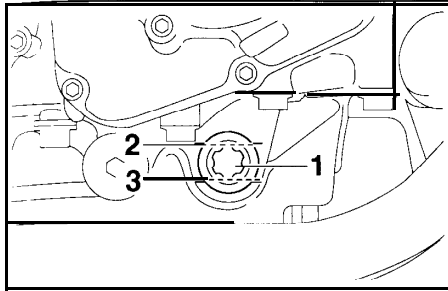
1. Place the motorcycle on the terstand.

NOTE:

Make sure that the motorcycle is positioned straight up when checking the oil level. A slight tilt to the side can result in a false reading.

2. Start the engine, warm it up for several minutes, and then turn it off.

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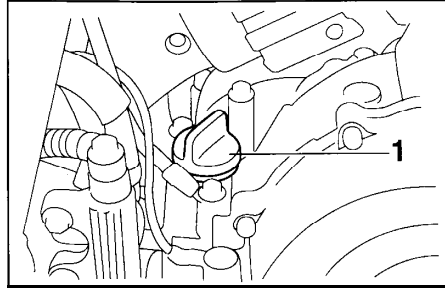
1. Engine oil level check window
2. Maximum level mark
3. Minimum level mark

3. Wait a few minutes until the oil settles, and then check the oil level through the check window located at the bottom-right side of the crankcase.

NOTE: _____

The engine oil should be between the minimum and maximum level marks.

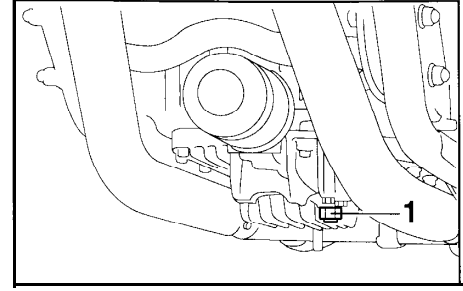
4. If the engine oil is below the minimum level mark, add sufficient oil of the recommended type to raise it to the correct level.



1. Engine oil filler cap

To change the engine oil (with or without oil filter cartridge replacement)

1. Start the engine, warm it up for several minutes, and then turn it off.
2. Place an oil pan under the engine to collect the used oil.



Engine oil drain bolt

3. Remove the engine oil filler cap and drain bolt to drain the oil from the crankcase.

NOTE: _____

Skip steps 4-6 if the oil filter cartridge is not being replaced.