

YAMAHA

MASTER COPY

OWNER'S MANUAL

Vmax

VMX12J

3JP-28199-75

INTRODUCTION

Congratulations on your purchase of the Yamaha VMX12. This model is the result of Yamaha's vast experience in the production of fine sporting, touring, and pacesetting racing machines. It represents the high degree of craftsmanship and reliability that have made Yamaha a leader in these fields.

This manual will give you an understanding of the operation, inspection, and basic maintenance of this motorcycle. If you have any questions about the operation or maintenance of your motorcycle, please consult a Yamaha dealer.

The design and manufacture of this Yamaha motorcycle fully comply with the emissions standards for clean air applicable at the date of manufacture. Yamaha has met these standards without reducing the motorcycle's performance or economy of operation. To maintain these high standards, it is important that you and your dealer pay close attention to the recommended maintenance schedules and operating instructions contained within this manual.

IMPORTANT MANUAL INFORMATION

Particularly important information is distinguished in this manual by the following notations:



The Safety Alert Symbol means ATTENTION! BECOME ALERT! YOUR SAFETY IS INVOLVED!



Failure to follow WARNING instructions could result in severe injury or death to the motorcycle operator, a bystander or a person inspecting or repairing the motorcycle.

CAUTION:

A CAUTION indicates special precautions that must be taken to avoid damage to the motorcycle.

NOTE:

A NOTE provides key information to make procedures easier or clearer.

NOTE:

- This manual should be considered a permanent part of this motorcycle and should remain with it even if the motorcycle is subsequently sold.
- Yamaha continually seeks advancements in product design and quality. Therefore, while this manual contains the most current product information available at the time of printing, there may be minor discrepancies between your motorcycle and this manual. If there is any question concerning this manual, please consult your Yamaha dealer.

** WARNING**

PLEASE READ THIS MANUAL CAREFULLY AND COMPLETELY BEFORE OPERATING THIS MOTORCYCLE. DO NOT ATTEMPT TO OPERATE THIS MOTORCYCLE UNTIL YOU HAVE ATTAINED A SATISFACTORY KNOWLEDGE OF ITS CONTROLS AND OPERATING FEATURES AND UNTIL YOU HAVE BEEN TRAINED IN SAFE AND PROPER RIDING TECHNIQUES. REGULAR INSPECTIONS AND CAREFUL MAINTENANCE, ALONG WITH GOOD RIDING SKILLS, WILL ENSURE THAT YOU SAFELY ENJOY THE CAPABILITIES AND THE RELIABILITY OF THIS MOTORCYCLE.

EAA00100

VMX12J

OWNER'S MANUAL

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SAFETY INFORMATION

TWO-WHEELED MOTORCYCLES ARE SINGLE TRACK VEHICLES. THEIR SAFE USE AND OPERATION ARE DEPENDENT UPON THE USE OF PROPER RIDING TECHNIQUES AS WELL AS THE EXPERTISE OF THE OPERATOR.

EVERY OPERATOR SHOULD KNOW THE FOLLOWING REQUIREMENTS BEFORE RIDING.

HE OR SHE SHOULD:

- 1. OBTAIN THOROUGH INSTRUCTIONS FROM A COMPETENT SOURCE ON ALL ASPECTS OF MOTORCYCLE OPERATION.**
- 2. OBSERVE THE WARNINGS AND MAINTENANCE REQUIREMENTS IN THE OWNER'S MANUAL.**
- 3. OBTAIN QUALIFIED TRAINING IN SAFE AND PROPER RIDING TECHNIQUES.**
- 4. OBTAIN PROFESSIONAL TECHNICAL SERVICE AS INDICATED BY THE OWNER'S MANUAL AND/OR WHEN MADE NECESSARY BY MECHANICAL CONDITIONS.**

SAFE RIDING

- 1. Always make pre-operation checks. Careful checks may help prevent an accident.**
- 2. This motorcycle is designed to carry the operator and a passenger.**

- 3. The failure of motorists to detect and recognize motorcycles in traffic is the predominating cause of automobile/motorcycle accidents. Many accidents have been caused by an automobile driver who did not see the motorcycle. Making yourself conspicuous appears to be very effective in reducing the chance of this type of accident.**

Therefore:

- a. Wear a brightly colored jacket.**
 - b. Use extra caution when you approach and pass through intersections, since intersections are the most likely places for motorcycle accidents.**
 - c. Ride where other motorists can see you. Avoid riding in another motorist's "blind spot".**
- 4. Many accidents involve inexperienced operators. In fact, many operators who have been involved in accidents do not even have a current motorcycle license.**
 - a. Make sure you are qualified. Also, only lend your motorcycle to experienced operators.**
 - b. Know your skills and limits. Staying within your limits may help you to avoid an accident.**
 - c. We recommend that you practice riding your motorcycle where there is no traffic until you have become thoroughly familiar with your motorcycle and all of its controls.**

5. Many motorcycle accidents have been caused by motorcycle operator errors. A typical error made by the operator is veering wide on a turn due to **EXCESSIVE SPEED** or undercornering (insufficient lean angle for the speed).
 - a. Always obey the speed limits and never travel faster than warranted by road and traffic conditions.
 - b. Always signal before turning or changing lanes. Make sure other motorists see you.
6. The operator's and passenger's posture are important for proper control.
 - a. The operator should keep both hands on the handlebars and both feet on the operator footrests during operation to maintain control of the motorcycle.
 - b. The passenger should always hold on to the operator, or the seat strap or grab bar if the motorcycle is so equipped, with both hands and keep both feet on the passenger footrests.
 - c. Never carry a passenger unless he or she can firmly place both feet on the passenger footrests.
7. Never ride under the influence of alcohol or drugs.
8. This motorcycle is designed for on-road use only. It is not suitable for off-road use.

PROTECTIVE APPAREL

The majority of fatalities from motorcycle accidents are the result of head injuries. The use of a safety helmet is the single most critical factor in the prevention or reduction of head injuries.

1. Always wear an approved helmet.
2. Wear a face shield or goggles. Wind on your unprotected eyes could contribute to an impairment of vision which could delay seeing a hazard.
3. The use of heavy boots, jacket, trousers, gloves, etc. is effective in preventing or reducing abrasions or lacerations.
4. Never wear loose fitting clothing. It could catch on the control levers, footrests, or wheels and cause injury or accident.
5. Never touch the engine or exhaust system during or after operation. They become very hot and can cause burns. Always wear protective clothing that covers your legs, ankles, and feet.
6. A passenger should also observe the above precautions.

MODIFICATION

Modifications made to the motorcycle not approved by Yamaha, or the removal of original equipment, may render your motorcycle unsafe for use and may cause severe personal injury. Modifications may also make your motorcycle illegal to use.

LOADING AND ACCESSORIES

Adding accessories or cargo to your motorcycle can adversely affect stability and handling if the weight distribution of the machine is changed. To avoid the possibility of an accident, extreme caution should be used if adding cargo or accessories to your motorcycle. Use extra care if riding a motorcycle which has added cargo or accessories. Here are some general guidelines to follow if loading cargo or adding accessories to your motorcycle:

LOADING

The total weight of the operator, passenger, accessories and cargo must not exceed the maximum load limit of 476 lbs. (216 kg).

When loading within these weight limits, keep the following in mind:

1. Cargo and accessory weight should be kept as low and close to the motorcycle as possible. Be sure to distribute the weight as evenly as possible on both sides of the machine to minimize imbalance or instability.
2. Shifting weights can create a sudden imbalance. Make sure that accessories and cargo are securely attached to the motorcycle before riding. Recheck accessory mounts and cargo restraints frequently.

3. Never attach any large or heavy items to the handlebars, front forks, or front fender. These items, including such cargo as sleeping bags, duffle bags, or tents, can create unstable handling or slow steering response.

ACCESSORIES

Genuine Yamaha accessories have been specifically designed for use on this motorcycle. Since Yamaha cannot test all other accessories which may be available, you must personally be responsible for the proper selection, installation and use of non-Yamaha accessories. You should use extreme caution when selecting and installing any accessories.

Keep in mind these guidelines for mounting accessories in addition to those provided under "LOADING".

1. Never install accessories or carry cargo that would impair the performance of your motorcycle. Carefully inspect the accessory before using it to make sure it does not in any way reduce ground clearance or cornering clearance, limit suspension travel, steering travel or control operation, or obscure lights or reflectors.
 - a. Accessories fitted to the handlebar or the front fork area can create instability due to improper weight distribution or aerodynamic changes. If accessories are added to the handlebar or front fork area, they must be as lightweight as possible and should be kept to a minimum.

- b. Bulky or large accessories may seriously affect the stability of the motorcycle due to aerodynamic effects. Wind may attempt to lift the motorcycle, or the motorcycle may become unstable in cross winds. These accessories may also cause instability when being passed by or passing large vehicles.
 - c. Certain accessories can displace the operator from his or her normal riding position. This improper position limits the freedom of movement of the operator and may limit control ability. Therefore such accessories are not recommended.
2. Caution must be used if adding electrical accessories. If these accessories exceed the capacity of the motorcycle's electrical system, an electric failure could result, which could cause a dangerous loss of lights or engine power.

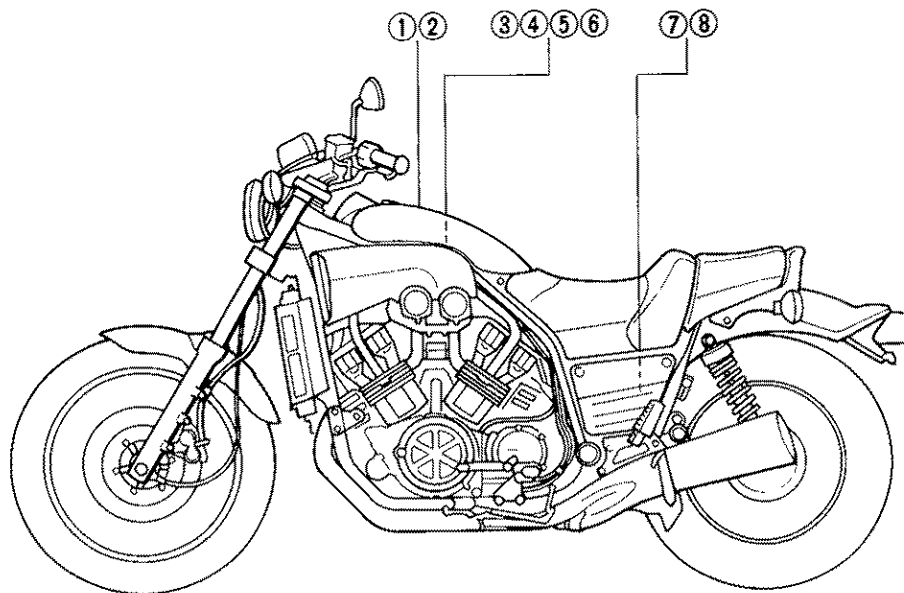
GASOLINE AND EXHAUST GAS

1. GASOLINE IS HIGHLY FLAMMABLE:
- a. Always turn off the engine when refueling.
 - b. Take care not to spill any gasoline on the engine or exhaust pipe(s)/muffler(s) when refueling.
 - c. Never refuel while smoking or in the vicinity of an open flame.
2. Never start the engine or let it run for any length of time in a closed area. The exhaust fumes are poisonous and may cause loss of consciousness and death within a short time. Always operate your motorcycle in an area that has adequate ventilation.

3. Always turn off the engine before leaving the motorcycle unattended and remove the ignition key. When parking the motorcycle, note the following:
 - a. The engine and exhaust pipe(s)/muffler(s) may be hot. Park the motorcycle in a place where pedestrians or children are not likely to touch these hot areas.
 - b. Do not park the motorcycle on a slope or soft ground; the motorcycle may fall over.
 - c. Do not park the motorcycle near a flammable source, e.g. a kerosene heater, or near an open flame. The motorcycle could catch fire.
4. When transporting the motorcycle in another vehicle, be sure it is kept upright. If it should lean over, gasoline may leak out of the carburetor or fuel tank.
5. If you should swallow any gasoline, inhale a lot of gasoline vapor, or allow gasoline to get in your eye(s), see your doctor immediately. If any gasoline spills on your skin or clothing, immediately wash it off with soap and water and change your clothes.

LOCATION OF THE IMPORTANT LABELS

Please read the following labels carefully before operating this motorcycle.



①

⚠ WARNING	
● BEFORE YOU OPERATE THIS VEHICLE, READ THE OWNER'S MANUAL AND ALL LABELS ● ALWAYS WEAR AN APPROVED MOTORCYCLE HELMET, eye protection, and protective clothing	
YAMAHA	3MX 2118K 00

②

⚠ AVERTISSEMENT	
● LIRE LE MANUEL DU PROPRIÉTAIRE AINSI QUE TOUTES LES ÉTIQUETTES AVANT D'UTILISER CE VÉHICULE ● TOUJOURS PORTER UN CASQUE DE MOTOCYCLISTE APPROUVE, des lunettes et des vêtements de protection	
YAMAHA	3MX 2118K 11

③

CAUTION	
● Read owner's manual before servicing battery ● Electrolyte will damage metal parts or paint If electrolyte spills, wash area with fresh water immediately ● Be sure to connect breather hose after installing battery	
YAMAHA	3JL 28177 00

④

ATTENTION	
● Lire le manuel du propriétaire avant d'entretenir la batterie ● L'électrolyte endommagera les pièces en métal ou la peinture. Si l'électrolyte se renverse, laver immédiatement la zone avec de l'eau fraîche ● Toujours brancher la durite de renflard après avoir installé la batterie	
YAMAHA	3JL 28177 10

⑤

TIRE INFORMATION

Cold tire pressure should be set as follows

- Up to 90kg (198 lbs) load

FRONT 225 kPa, (2 25 kgf/cm²), 33 psi

REAR 225 kPa, (2 25 kgf/cm²), 33 psi

- 90kg (198 lbs) ~ maximum load

FRONT 225 kPa, (2 25 kgf/cm²), 33 psi

REAR 250 kPa, (2 50 kgf/cm²), 36 psi

YAMAHA

3LD-21668-10

⑥

INFORMATION PNEU

La pression des pneus à froid doit normalement être réglée comme suit

- Jusqu' à 90 kg (198 lbs)

AVANT 225 kPa, (2 25 kgf/cm²), 33 psi

ARRIERE 225 kPa, (2 25 kgf/cm²), 33 psi

- Entre 90 kg (198 lbs) et charge maximale

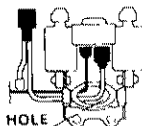
AVANT 225 kPa, (2 25 kgf/cm²), 33 psi

ARRIERE 250 kPa, (2 50 kgf/cm²), 36 psi

YAMAHA

3LD-21668-21

⑦



HOLE

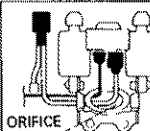
⚠ WARNING

PASS LEAD WIRES THROUGH HOLE, as shown. A short circuit could result from improper routing. This could cause the engine to stop running and lights to fail, which could result in an accident.

YAMAHA

3JF-2415F-10

⑧



ORIFICE

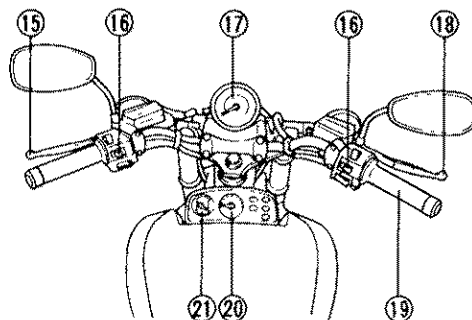
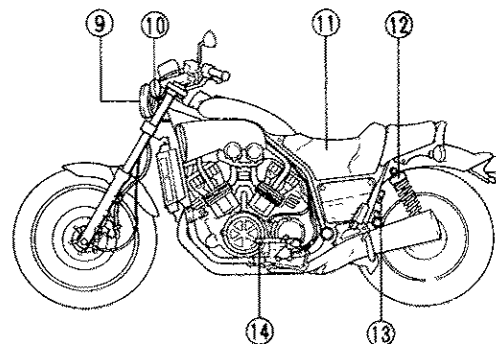
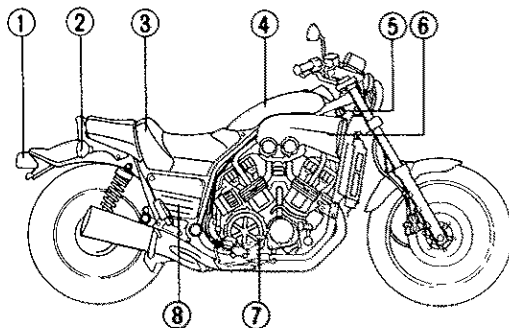
⚠ AVERTISSEMENT

FAIRE PASSER LES FILS A TRAVERS L'ORIFICE comme illustré. Un court circuit risque de se produire si les fils ne passent pas correctement. Un court circuit peut entraîner l'arrêt du moteur et l'extinction des feux, ce qui risque de se traduire par un accident.

YAMAHA

3LR-24-57-03

DESCRIPTION



- | | |
|---------------------------|------------------------------|
| 1. Tail/brake light | 11 Seat |
| 2. Rear flasher light | 12 Rear shock absorber |
| 3. Fuel tank filler cover | 13 Helmet holder |
| 4. Top cover | 14 Shift pedal |
| 5. Main switch | 15 Clutch lever |
| 6. Cover | 16 Handlebar switches |
| 7. Brake pedal | 17 Speedometer |
| 8. Side cover | 18. Brake lever |
| 9. Headlight | 19 Throttle grip |
| 10 Front flasher light | 20 Tachometer |
| (Front position light) | 21. Engine temperature gauge |

MOTORCYCLE IDENTIFICATION

EAA61800

Identification numbers record

Record the key identification number, vehicle identification number and model label information in the spaces provided for assistance when ordering spare parts from a Yamaha dealer or for reference in case the vehicle is stolen.

1. KEY IDENTIFICATION NUMBER:

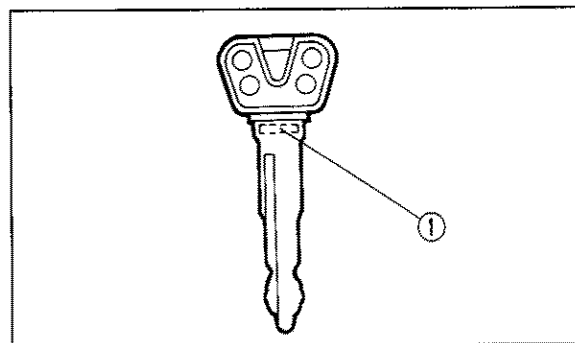
2. VEHICLE IDENTIFICATION NUMBER:

3. MODEL LABEL INFORMATION:

☐	
☒	

Key identification number

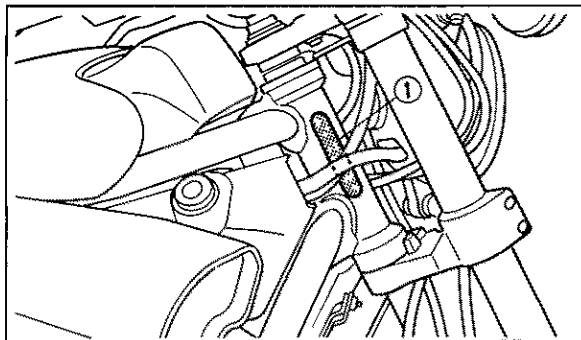
The key identification number is stamped on the key. Record this number in the space provided and use it for reference when obtaining a new key.



1 Key identification number

Vehicle identification number

The vehicle identification number is stamped into the steering head pipe.



1 Vehicle identification number

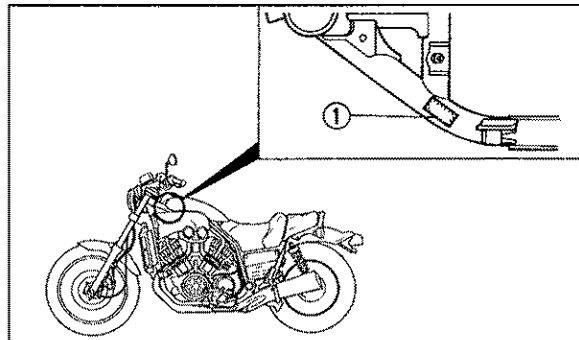
EUV00400

NOTE:

The vehicle identification number is used to identify your motorcycle and may be used to register your motorcycle with the licensing authority in your state.

Model label

The model label is affixed to the frame. Record the information on this label in the space provided. This information will be needed to order spare parts from your Yamaha dealer.



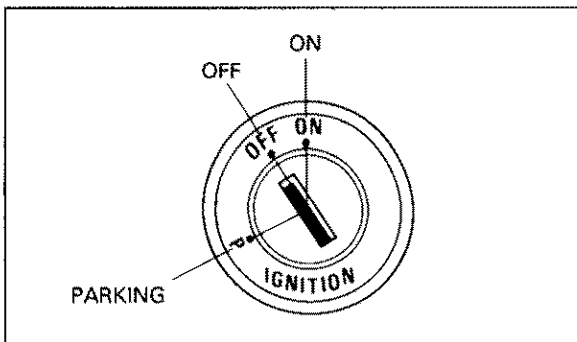
1. Model label

CONTROL FUNCTIONS

EAB00100

Main switch

The main switch controls the ignition and lighting systems. Its operation is described below.



EAB01501

ON:

Electrical circuits are switched on, and the headlight, meter light, taillight, and front position lights come on. The engine can be started. The key cannot be removed in this position.

EAB00600

OFF:

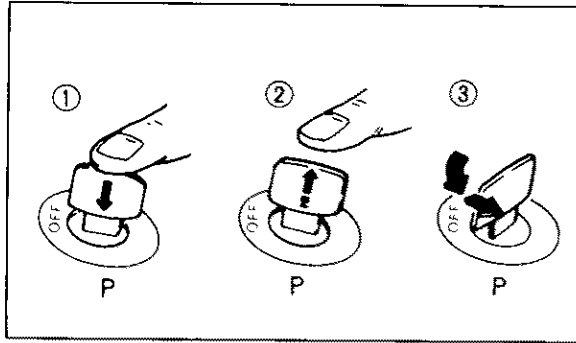
All electrical circuits are switched off. The key can be removed in this position.

EAB04302*

P (Parking):

The meter light, taillight and front position light come on but all other circuits are off. With the key at "OFF", push it into the main switch and turn it counterclockwise to "P". The key can be removed in this position.

Indicator lights

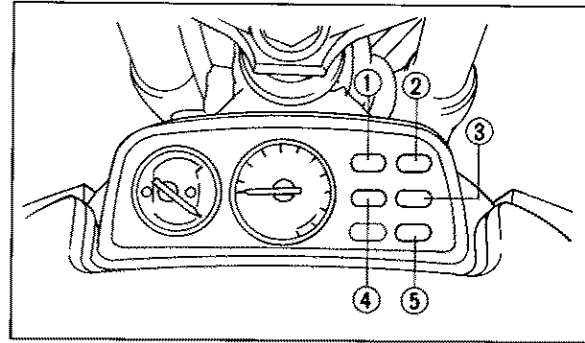


- 1 Push 2 Release 3 Turn

EUU08800

NOTE:

Always turn the main switch to "OFF" and remove the key when the motorcycle is unattended.



- 1 Neutral indicator light "NEUTRAL"
- 2 Turn indicator light "TURN"
- 3 Fuel indicator light "FUEL"
- 4 Oil level indicator light "OIL LEVEL"
- 5 High beam indicator light "HIGH BEAM"

EAB12403

Turn indicator light "TURN"

This indicator flashes when the turn switch is moved to the left or right.

EAB10201

Neutral indicator light "NEUTRAL"

This indicator comes on when the transmission is in neutral.

EAB10301

High beam indicator light "HIGH BEAM"

This indicator comes on when the headlight high beam is used.

EAB10702

Oil level indicator light "OIL LEVEL"

This indicator comes on when the oil level is low. This light circuit can be checked by the following procedure

EUU30000

CAUTION: _____

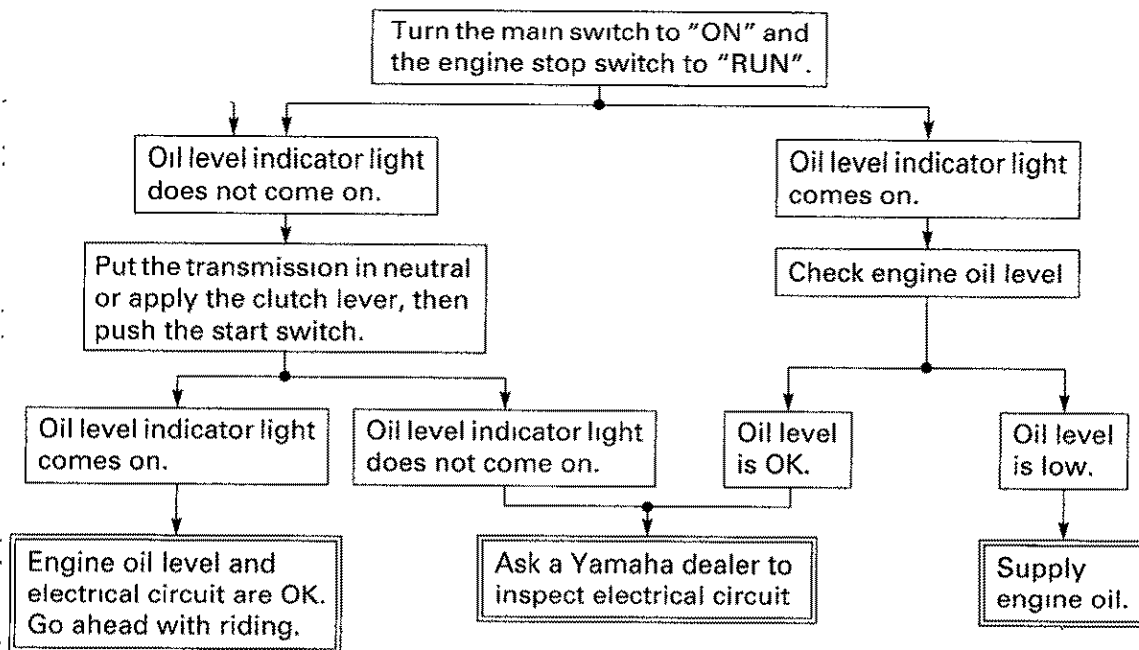
Do not run the motorcycle until you know it has sufficient engine oil.

EUU20900

NOTE: _____

Even if the oil is filled to the specified level, the indicator light may flicker when riding on a slope or during sudden acceleration or deceleration, but this is not abnormal.

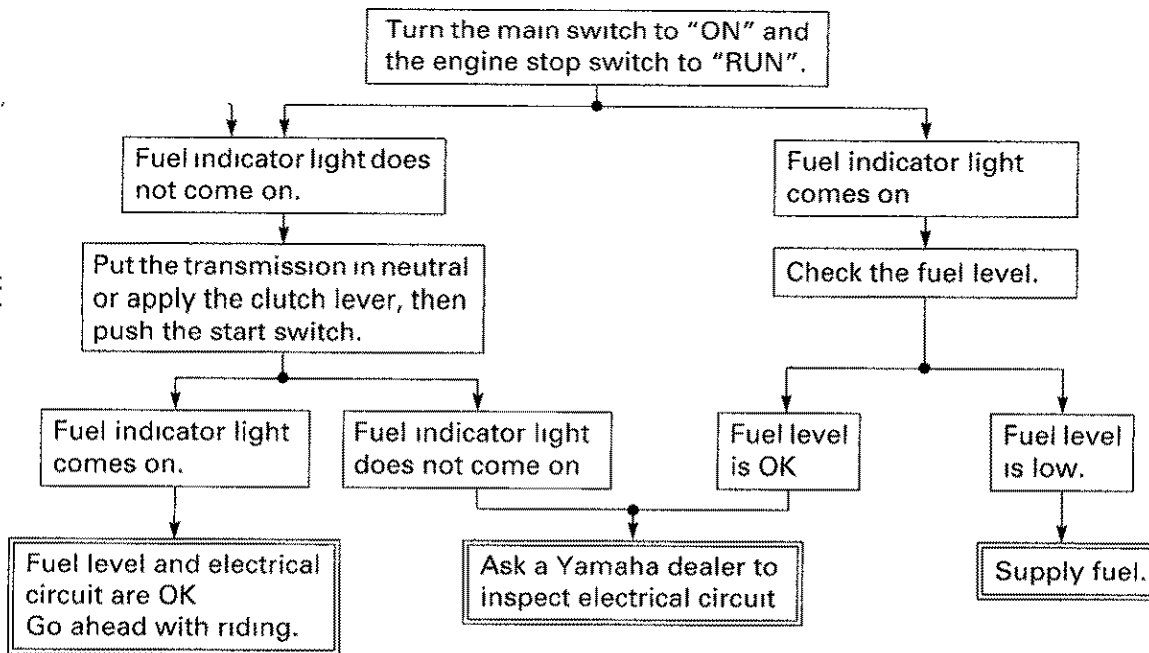
Oil level indicator circuit check



Fuel indicator light "FUEL"

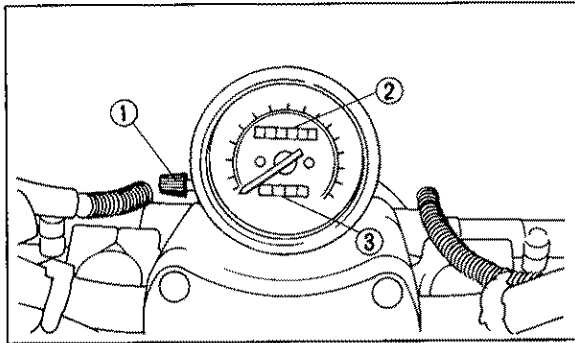
When the fuel level drops below approximately 3 L (0.7 Imp gal, 0.8 US gal), this light will come on. When this light comes on, move the fuel switch to "RES". Then, fill the tank at the first opportunity.

Fuel indicator circuit check



Speedometer

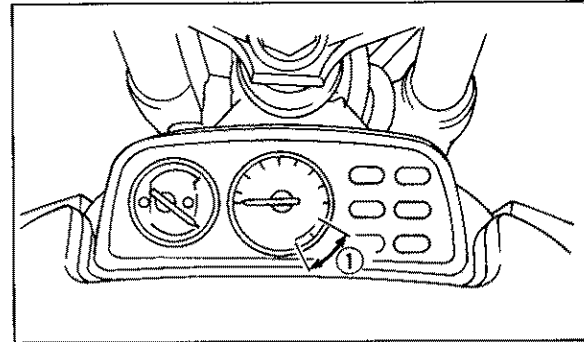
The speedometer shows riding speed. This speedometer is equipped with an odometer and trip odometer. The trip odometer can be reset to "0" with the reset knob. Use the trip odometer to estimate how far you can ride on a tank of fuel. This information will enable you to plan fuel stops in the future.



1 Reset knob 2 Odometer 3. Trip odometer

Tachometer

This model is equipped with an electric tachometer so the rider can monitor the engine speed and keep it within the ideal power range.



1. Red zone

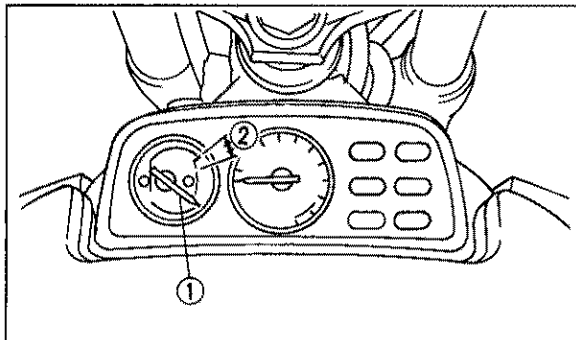
EUU30400

CAUTION:

Do not operate in the red zone.
Red zone: 9,500 r/min and above

Engine temperature gauge

This gauge indicates the coolant temperature when the main switch is on. The engine operating temperature will vary with changes in weather and engine load. If the needle points to the red zone or higher, stop your motorcycle and let the engine cool. (See page 8-16 for details.)



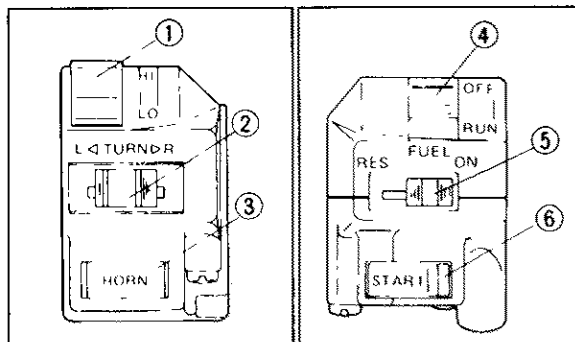
1 Engine temperature gauge

2. Red zone

CAUTION:

When the engine is overheated, do not continue riding.

Handlebar switches



- | | |
|--------------------------------|---------------------------------------|
| 1 Dimmer switch
"LIGHTS" | 4 Engine stop switch
"ENGINE STOP" |
| 2 Turn signal switch
"TURN" | 5 Fuel reserve switch
"FUEL" |
| 3 Horn switch "HORN" | 6 Start switch "START" |

EAB60101

Dimmer switch "LIGHTS"

Turn the switch to "HI" for the high beam and to "LO" for the low beam.

EAB60301

Turn signal switch "TURN"

This model is equipped with self-cancelling turn signals. To signal a right-hand turn, push the switch to the right. To signal a left-hand turn, push the switch to the left. Once the switch is released it will return to the center position. To cancel the signal, push the switch in after it has returned to the center position. If the switch is not cancelled by hand, it will self-cancel after the motorcycle has travelled for about 10 seconds or approximately 150 m (490 ft) whichever is greater. The self-cancelling mechanism only operates when the motorcycle is moving. Therefore the signal will not self-cancel while you are stopped at an intersection.

EAB60201

Horn switch "HORN"

Press the switch to sound the horn.

Engine stop switch "ENGINE STOP"

The engine stop switch is a safety device for use in an emergency such as when the motorcycle overturns or if trouble occurs in the throttle system. Turn the switch to "RUN" to start the engine. In case of emergency, turn the switch to "OFF" to stop the engine.

EAB60703

Start switch "START"

The starter motor cranks the engine when pushing the start switch.

EUU30700

CAUTION: _____

See starting instructions prior to starting the engine.

EAB61403

Fuel reserve switch "FUEL"

This switch should usually be kept on while riding. If the fuel indicator light comes on while riding, move the switch to "RES" and refuel at the first opportunity. Then move the switch to "ON".

NOTE: _____

When the switch is turned to "RES", about 3 L (0.7 Imp gal, 0.8 US gal) remain in the fuel tank

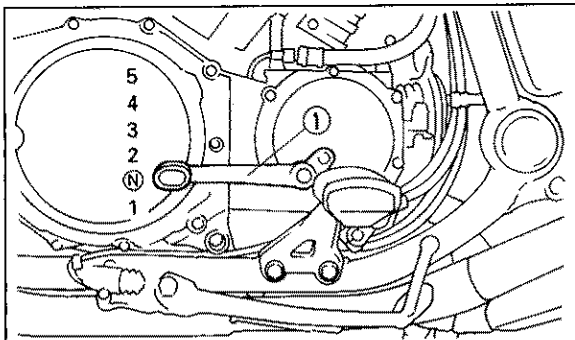
EAB70003

Clutch lever

The clutch lever is located on the left handlebar, and the ignition circuit cut-off system is incorporated in the clutch lever holder. Pull the clutch lever to the handlebar to disengage the clutch, and release the lever to engage the clutch. The lever should be pulled rapidly and released slowly for smooth clutch operation. (Refer to the engine starting procedures for a description of the ignition circuit cut-off system.)

Shift pedal

This motorcycle is equipped with a constant-mesh 5-speed transmission. The shift pedal is located on the left side of the engine and is used in combination with the clutch when shifting.



1. Shift pedal

N. Neutral

Front brake lever

The front brake lever is located on the right handlebar. Pull it toward the handlebar to apply the front brake.

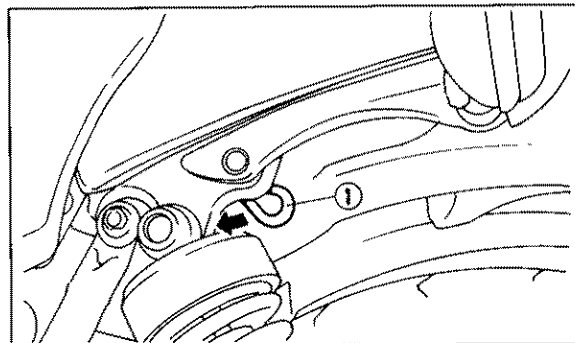
Rear brake pedal

The rear brake pedal is on the right side of the motorcycle. Press down on the brake pedal to apply the rear brake.

Fuel tank cap

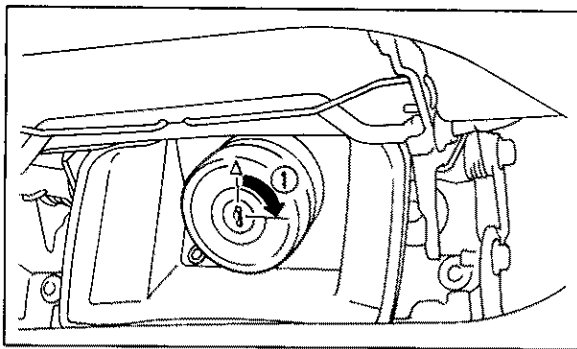
TO OPEN:

1. Push the levers (left and right) of the fuel tank filler cover and slide the cover forward to open it.



1 Lever

2. Insert the key and turn it clockwise 1/4 turn. The lock will be released and the cap can be opened.



1. Unlock

TO CLOSE:

1. Push the tank cap into position with the key inserted. To remove the key, turn it counterclockwise to the original position.

EUU01200

NOTE:

This tank cap cannot be closed unless the key is in the lock. The key cannot be removed if the cap is not locked properly.

2. Slide the fuel tank filler cover rearward and push it down.

EUU61100

⚠ WARNING

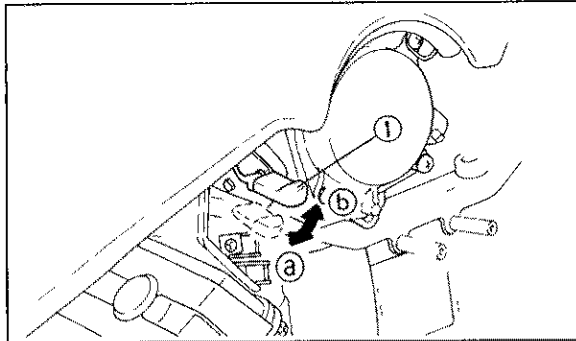
Be sure the cap is properly installed and locked in place before riding the motorcycle.

Starter "CHOKE"

Starting a cold engine requires a richer air fuel mixture. A separate starter circuit supplies this mixture.

Move in direction ① to turn on the starter.

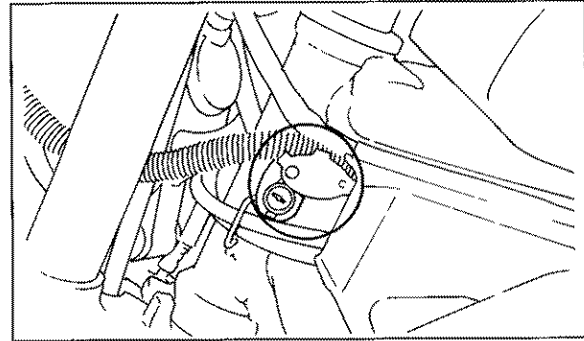
Move in direction ② to turn off the starter.



1 Starter "CHOKE"

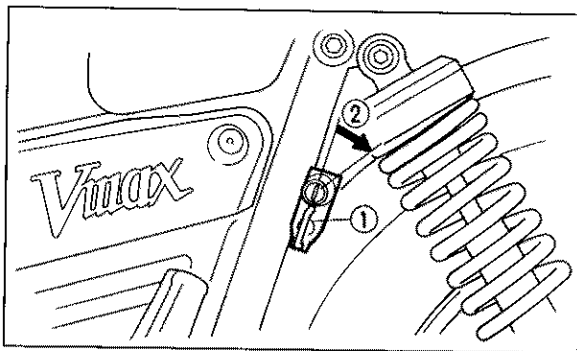
Steering lock

To lock the steering, turn the handlebars all the way to the right. Open the steering lock cover, turn the key 1/8 counterclockwise then push the key in and turn it 1/8 turn clockwise. After checking to see that the steering is locked, remove the key from the lock and close the cover. To release the lock, reverse the above procedure.



Helmet holder

To open the helmet holder, insert the key in the lock and turn it as shown. To lock the helmet holder, replace the holder in its original position.



1 Helmet holder

2 Open

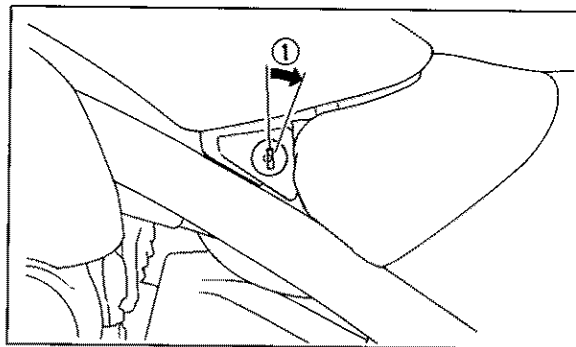
EUU72900

⚠ WARNING

Never ride with a helmet in the helmet holder. The helmet may hit objects, causing loss of control and possibly an accident.

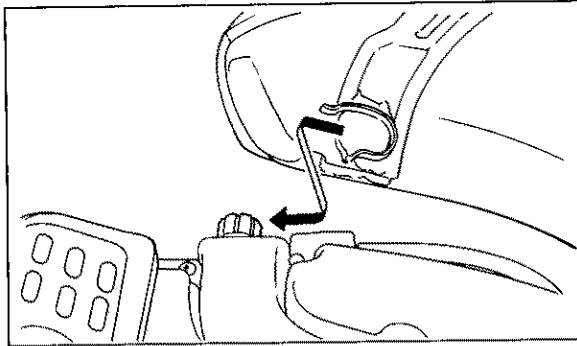
Top cover

To remove the top cover, insert the key in the lock and turn it clockwise. Then pull upward.



1 Unlock

To reinstall the top cover, fit the top cover brackets onto the lobes of the frame. Then push down on the rear of the top cover.



EAI50502

Front fork adjustment

This front fork is equipped with a spring preload adjuster.

EUU66901

⚠ WARNING

Always adjust each fork leg to the same setting. Uneven adjustment can cause poor handling and loss of stability.

Adjust spring preload as follows.

The front fork spring preload is adjusted by changing the air pressure.

1. Elevate the front wheel by placing the motorcycle on the centerstand.

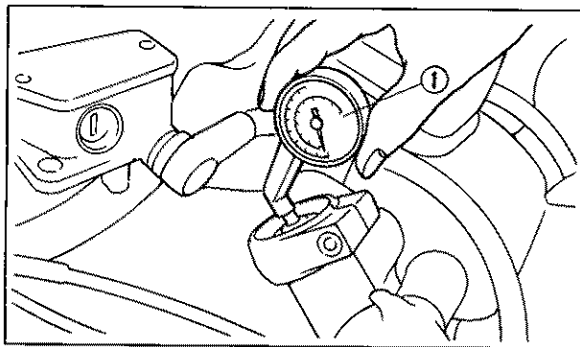
EUU06000

NOTE:

When checking and adjusting the air pressure, there should be no weight on the front end of the motorcycle.

2. Remove the valve cap from each fork leg.

3. Using the air check gauge, check and adjust the air pressure. Increasing the air pressure increases the spring preload and decreasing it, decreases spring preload.



1. Air check gauge

To increase:

Use an air pump or pressurized air supply.

To decrease:

Release the air by pushing the valve.

EUU05101

NOTE:

An optional air check gauge is available. Please ask a nearby Yamaha dealer.

Standard air pressure:

40 kPa (0.4 kgf/cm², 5.7 psi)

Maximum air pressure:

100 kPa (1.0 kgf/cm², 14 psi)

Minimum air pressure:

40 kPa (0.4 kgf/cm², 5.7 psi)

EUU33400

CAUTION:

Never exceed the maximum pressure, or oil seal damage may occur.

EUU66502

⚠ WARNING

There must not be more than 10 kPa(0.1 kgf/cm², 1.4 psi) difference in air pressure between the left and right fork legs.

4. Install the valve caps securely.

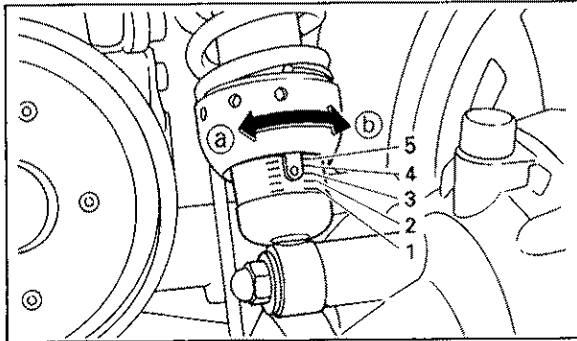
Rear shock absorber adjustment

This shock absorber is equipped with a spring preload and damping force adjuster.

1. Adjust spring preload as follows.
Turn adjuster in direction ① to increase spring preload and in direction ② to decrease spring preload.

Standard position: 1

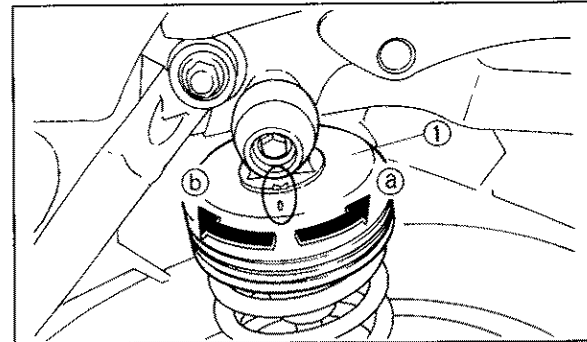
- 1. – Minimum (Soft)
- 5. – Maximum (Hard)



a Increase

b Decrease

2. Adjust damping force as follows.
Turn adjuster in direction ③ to increase damping force and in direction ④ to decrease damping force.



1 Damping adjuster a Increase b Decrease

Standard position: 1

- 1 – Minimum (Soft)
- 4 – Maximum (Hard)

 WARNING

Always adjust each shock absorber to the same setting. Uneven adjustment can cause poor handling and loss of stability.

Recommended combinations of the front fork and the rear shock absorber settings.

Use this table as a guide for specific settings according to motorcycle load conditions.

	Front fork	Rear shock absorber		Loading condition			
	Air pressure	Spring seat	Damping adjuster	Solo rider	With passenger	With accessory equipment	With accessory equipment and passenger
1	40 ~ 60 kPa (0.4 ~ 0.6 kg/cm ² , 5.7 ~ 8.5 psi)	1 ~ 2	1 ~ 2	○			
2	40 ~ 100 kPa (0.4 ~ 1.0 kg/cm ² , 5.7 ~ 14 psi)	3 ~ 5	2 ~ 4		○	○	
3	40 ~ 100 kPa (0.4 ~ 1.0 kg/cm ² , 5.7 ~ 14 psi)	5	4				○

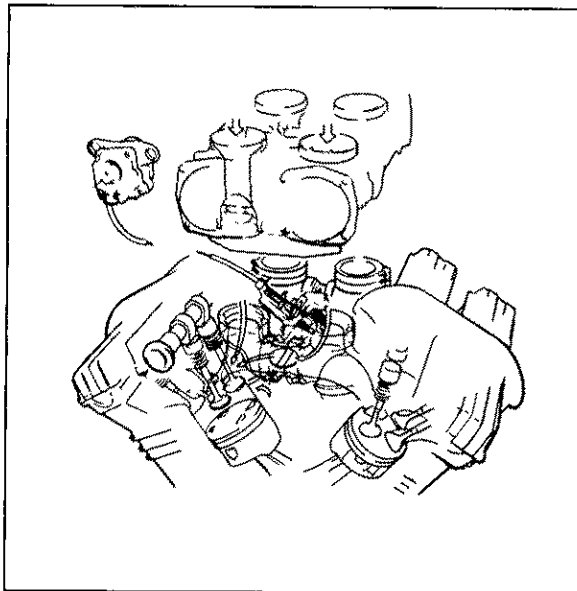
EUU36300

CAUTION:

Never attempt to turn the adjuster beyond the maximum or minimum setting.

V-Boost

The V-Boost is a vital part of the engine and requires very sophisticated adjustment. Adjustment should be left to a Yamaha dealer who has the professional knowledge and experience to do so.



CAUTION:

The V-Boost was set at the Yamaha factory after many tests. If the settings are changed by someone without sufficient technical knowledge, poor engine performance and damage may result.

The V-Boost operation can be heard when the main switch is turned on.

CAUTION:

If the V-Boost does not operate, ask a Yamaha dealer to inspect it.

Sidestand

This model is equipped with an ignition circuit cut-off system. The motorcycle must not be ridden when the sidestand is down. The sidestand is located on the left side of the frame. (Refer to page 7-2 for an explanation of this system.)

EUU68901

WARNING

This motorcycle must not be operated with the sidestand in the down position. If the stand is not properly retracted, it could contact the ground and distract the operator, resulting in a possible loss of control. Yamaha has designed into this motorcycle a lockout system to assist the operator in fulfilling the responsibility of retracting the sidestand. Please check carefully the operating instructions listed below and if there is any indication of a malfunction, return the motorcycle to a Yamaha dealer immediately for repair.

Sidestand/clutch switch operation check

Check the operation of the sidestand switch and clutch switch against the information below.

EUU69001

WARNING

- Be sure to use the centerstand during this inspection.
- If improper operation is noted, consult a Yamaha dealer.

TURN MAIN SWITCH TO "ON" AND
ENGINE STOP SWITCH TO "RUN"

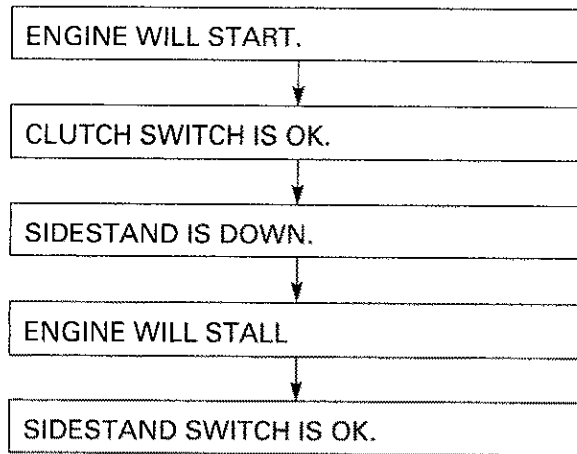


TRANSMISSION IS IN GEAR AND
SIDESTAND IS UP



PULL IN CLUTCH LEVER AND
PUSH START SWITCH





PRE-OPERATION CHECKS

Before using this motorcycle, check the following points:

No	ITEM	ROUTINE	PAGE
1	Front and rear brakes	• Check operation, free play, fluid level and fluid leakage. • Top up with DOT 4 brake fluid if necessary	6-3 ~ 6-4, 8-24 ~ 8-28
2	Clutch	• Check operation, fluid level and fluid leakage. • Top up with DOT 4 (or DOT 3) brake fluid if necessary	6-3 ~ 6-4, 8-29
3	Engine oil	• Check engine oil level, add oil if necessary	6-4, 8-10 ~ 8-14
4	Final gear oil	• Check for leakage visually	6-5, 8-14 ~ 8-16
5	Engine coolant	• Check for coolant level and leakage, add coolant if necessary	6-5 ~ 6-6, 8-16 ~ 8-21
6	Throttle	• Check for smooth operation • Adjust if necessary.	6-4, 8-23, 8-29
7	Battery	• Check fluid level, top up with distilled water if necessary	6-10, 8-32 ~ 8-36
8	Lights/Signals	• Check operation.	6-10, 8-37 ~ 8-39
9	Wheels/Tires	• Check tire pressure, wear or damage	6-6 ~ 6-9, 8-39 ~ 8-43
10	Fittings/Fasteners	• Check all chassis fittings and fasteners • Adjust if necessary	6-10

NOTE:

Pre-operation checks should be made each time the motorcycle is used. Such an inspection can be accomplished in a very short time and the added safety it assures is more than worth the time involved.

**WARNING**

1. The engine, exhaust pipes, and mufflers will be very hot after the engine has been run. Be careful not to touch them or to allow any clothing item to contact them during inspection or repair.
2. If any item in the PRE-OPERATION CHECK is not working properly, have it inspected and repaired before operating the motorcycle.

Brakes

1 Brake lever and brake pedal

Check for correct free play in the front brake lever and correct rear brake pedal height. Adjust if necessary. Make sure the brakes are working properly by checking at low speed shortly after starting out. (See page 8-24 for details.)

EUU61900

WARNING

A soft, spongy feeling in the brake lever (and/or brake pedal) indicates a failure in the brake system. Do not operate the motorcycle until the failure in the brake system is corrected. Ask a Yamaha dealer for immediate repairs. A soft, spongy feeling could indicate a hazardous condition in the brake system.

2. Brake fluid

Check the brake fluid level. Add fluid if necessary.

Recommended brake fluid. DOT 4

EUU13500

NOTE:

If DOT 4 is not available, DOT 3 can be used for the rear brake only

3. Check the disc pads

Refer to page 8-26.

EUU02201

NOTE:

When this brake service is necessary, consult a Yamaha dealer.

EAE11801

Brake/Clutch fluid leakage

Apply each brake and the clutch for a few minutes. Check to see if any brake fluid leaks out from the hose, joints, master cylinders, or plunger case.

CAUTION:

Brake fluid may deteriorate painted surfaces or plastic parts. Never spill any fluid. If spilled, clean it up immediately.

EUU62500

⚠ WARNING

If brake fluid leakage is found, ask a Yamaha dealer for immediate repairs. Such leakage could indicate a hazardous condition.

EAE30101

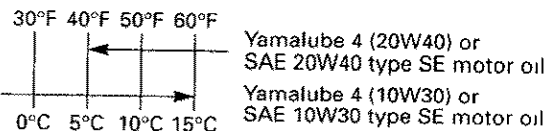
Throttle grip

Turn the throttle grip to see if it operates properly, and check the throttle cable free play. (See page 8-23 for details.) Make sure the grip returns by spring force when released. Ask a Yamaha dealer to make any necessary adjustments.

EAE40003

Engine oil

Make sure the engine oil is at the specified level. Fill with oil as necessary. (See page 8-10 for details.)

Recommended oil:**Recommended engine oil classification:**

API Service "SE", "SF" type or equivalent

(e.g. "SF-SE", "SF-SE-CC", "SF-SE-SD" etc.)

Oil quantity:

Total amount:

4.7 L (4.1 Imp qt, 5.0 US qt)

Periodic oil change:

3.5 L (3.1 Imp qt, 3.7 US qt)

With oil filter replacement:

3.8 L (3.3 Imp qt, 4.0 US qt)

Final gear oil

Make sure the final gear oil is at the specified level. Fill with oil as necessary (see page 8-14 for details).

Recommended oil:

SAE 80 API GL-4 Hypoid gear oil
If desired, an SAE 80W90 hypoid gear oil may be used for all conditions.

EUU02300

NOTE:

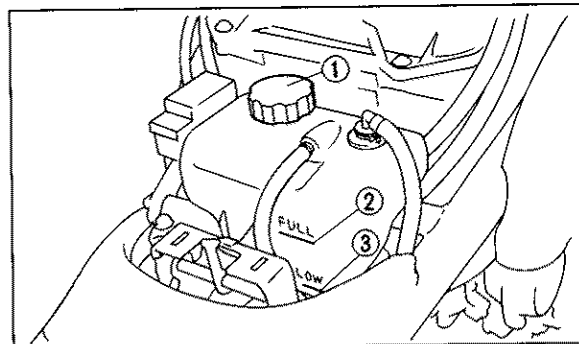
"GL-4" is a quality and additive rating. "GL-5" or "GL-6" rated hypoid gear oils may also be used.

EAE60004

Coolant

Check the coolant level in the reservoir tank when the engine is cold. The coolant level will vary with engine temperature. The coolant level is satisfactory if it is between the minimum and maximum marks

on the tank. If the coolant level is at or below the minimum mark, fill with tap water (soft water) to bring the level up to the maximum mark. Change the coolant every two years. (see page 8-16 for details)



- 1 Coolant reservoir tank cap
2 Maximum level "FULL" 3 Minimum level "LOW"

EUU62800

WARNING

Do not remove the radiator cap when the engine is hot.

CAUTION:

Hard water or salt water is harmful to the engine. You may use distilled water if you can't get soft water.

Reservoir tank capacity:

0.3 L (0.26 Imp qt, 0.32 US qt)

From the minimum to maximum marks:

0.2 L (0.18 Imp qt, 0.21 US qt)

Tires

To ensure maximum performance, long service, and safe operation, note the following:

1. Tire air pressure

Always check and adjust the tire pressure before operating the motorcycle.

EUU67500

** WARNING**

Tire inflation pressure should be checked and adjusted when the temperature of the tire equals the ambient air temperature. Tire inflation pressure must be adjusted according to total weight of cargo, rider, passenger, and accessories (fairing, saddlebags, etc. if approved for this model), and vehicle speed.

Basic weight With oil and full fuel tank	283 kg (624 lbs)	
Maximum load ^x	216 kg (476 lbs)	
Cold tire pressure	Front	Rear
Up to 90 kg (198 lbs) load ^x	225 kPa (2 25 kgf/cm ² , 33 psi)	225 kPa (2 25 kgf/cm ² , 33 psi)
90 kg (198 lbs) load ~ Maximum load ^x	225 kPa (2 25 kgf/cm ² , 33 psi)	250 kPa (2 5 kgf/cm ² , 36 psi)

* Load is the total weight of cargo, rider, passenger, and accessories

EUU67701

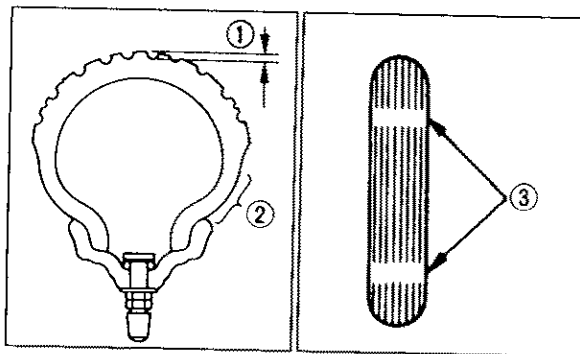
WARNING

Proper loading of your motorcycle is important for several characteristics of your motorcycle, such as handling, braking, performance and safety. Do not carry loosely packed items that can shift. Securely pack your heaviest items close to the center of the motorcycle, and distribute the weight evenly from side to side.

Properly adjust the suspension for your load, and check the condition and pressure of your tires. NEVER OVERLOAD YOUR MOTORCYCLE. Make sure the total weight of the cargo, rider, passenger, and accessories (fairing, saddlebags, etc. if approved for this model) does not exceed the maximum load of the motorcycle. Operation of an overloaded motorcycle could cause tire damage, an accident, or even injury.

2. Tire inspection

Always check the tires before operating the motorcycle. If center tread depth reaches the limit as shown, if the tire has a nail or glass fragments in it, or if the side wall is cracked, contact a Yamaha dealer immediately and have the tire replaced.



1 Tread depth

2. Side wall

3 Wear indicator

FRONT

Manufacturer	Size	Type
DUNLOP	110/90 V18	F20
BRIDGESTONE	110/90 V18	G525AW

REAR

Manufacturer	Size	Type
DUNLOP	150/90 V15 M/C	K525
BRIDGESTONE	150/90 V15 M/C	G526BW

Minimum tire tread depth (front and rear)	1.0 mm (0.04 in)
--	------------------

NOTE:

These limits may be different by regulation from country to country. If so, conform to the limits specified by the regulations of your own country.

EUU67901

⚠ WARNING

Operating the motorcycle with excessively worn tires decrease riding stability and can lead to loss of control. Have excessively worn tires replaced by a Yamaha dealer immediately. Brakes, tires, and related wheel parts replacement should be left to a Yamaha Service Technician.

**WARNING**

This motorcycle is fitted with super high-speed running tires. The following points must be observed in order for you to make fully effective use of these tires.

- 1. Never fail to use the specified tires in tire replacement. Other tires may have a danger of bursting at super high-speeds.**
 - 2. New tires have a relatively low grip on the road surface until they have been slightly worn. Therefore, approximately 100 km (60 mi) should be traveled at normal speed before any high-speed riding is done.**
 - 3. Before any high-speed runs, the tires should be warmed-up sufficiently.**
 - 4. Always inflate to the correct tire pressure according to the operating conditions.**
-

Cast wheels and tires

To ensure maximum performance, long service, and safe operation, note the following:

1. Always inspect the wheels before a ride. Check for cracks, bends, or warpage of the wheels. If any abnormal condition exists in a wheel, consult a Yamaha dealer. Do not attempt even small repairs to the wheel. If a wheel is deformed or cracked, it must be replaced.
2. Tires and wheels should be balanced whenever either one is changed or replaced. Failure to have a wheel balanced can result in poor performance, adverse handling characteristics, and shortened tire life.
3. Ride at moderate speeds after changing a tire since the tire surface must first be broken in for it to develop its optimal characteristics.

EAE85100

Fittings and fasteners

Always check the tightness of chassis fittings and fasteners before a ride. Take the motorcycle to a Yamaha dealer or refer to the Service Manual for correct tightening torque.

EAE71500

Lights, signals and switches

Check all the lights, meter lights and indicator lights to make sure they are in working condition.

Check the operation of the handlebar switches and main switch.

EAE70501

Battery

Check the fluid level and fill if necessary. Use only distilled water if refilling is necessary. (See page 8-32 for details.)

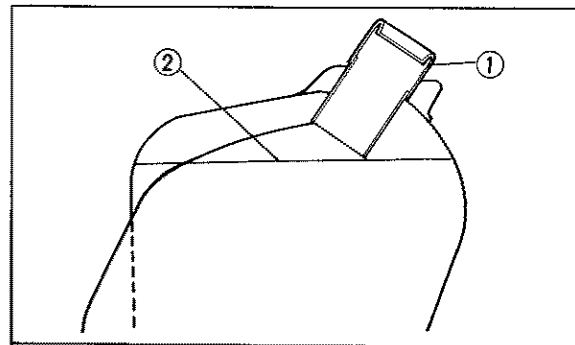
Fuel

Make sure there is sufficient fuel in the tank.

EUU61000

⚠ WARNING

Do not overfill the fuel tank. Avoid spilling fuel on the hot engine. Do not fill the fuel tank above the bottom of the filler tube as shown in the illustration or it may overflow when the fuel heats up later and expands.



1 Filler tube

2 Fuel level

EUU39302

CAUTION:

Always wipe off spilled fuel immediately with a dry and clean soft cloth. Fuel may deteriorate painted surfaces or plastic parts.

Recommended fuel:

REGULAR UNLEADED GASOLINE

Fuel tank capacity:

Total:

15 L (3.3 Imp gal, 4.0 US gal)

Reserve:

3 L (0.7 Imp gal, 0.8 US gal)

Your Yamaha engine has been designed to use regular unleaded gasoline with a pump octane number ($(R+M)/2$) of 86 or higher, or research octane number of 91 or higher. If knocking or pinging occurs, use a different brand of gasoline or premium unleaded fuel. Unleaded fuel will give you longer spark plug life and reduced maintenance cost. If unleaded gasoline is not available, then leaded regular gasoline can be used.

Gasohol

There are two types of gasohol; gasohol containing ethanol and that containing methanol. Gasohol containing ethanol can be used if ethanol content does not exceed 10%. Gasohol containing methanol is not recommended by Yamaha because it can cause fuel system damage or vehicle performance problems.

OPERATION AND IMPORTANT RIDING POINTS

EUU67200

WARNING

Before riding this motorcycle, become thoroughly familiar with all operating controls and their functions. Consult a Yamaha dealer regarding any control or function that you do not thoroughly understand.

EUU31100

CAUTION:

1. Be careful where you store personal items on the motorcycle. Avoid blocking the air cleaner intake or performance will suffer.
 2. Be careful not to put anything near the battery and its terminals. Electrical failure and acid corrosion may result.
-

⚠ WARNING

1. **Never start your engine or let it run for any length of time in a closed area. The exhaust fumes are poisonous and can cause loss of consciousness and death within a short time. Always operate your motorcycle in an area with adequate ventilation.**
 2. **Before starting out, always be sure the sidestand is up. Failure to retract the sidestand completely can result in a serious accident when you try to turn a corner.**
-

Starting and warming up a cold engine

EUU02801

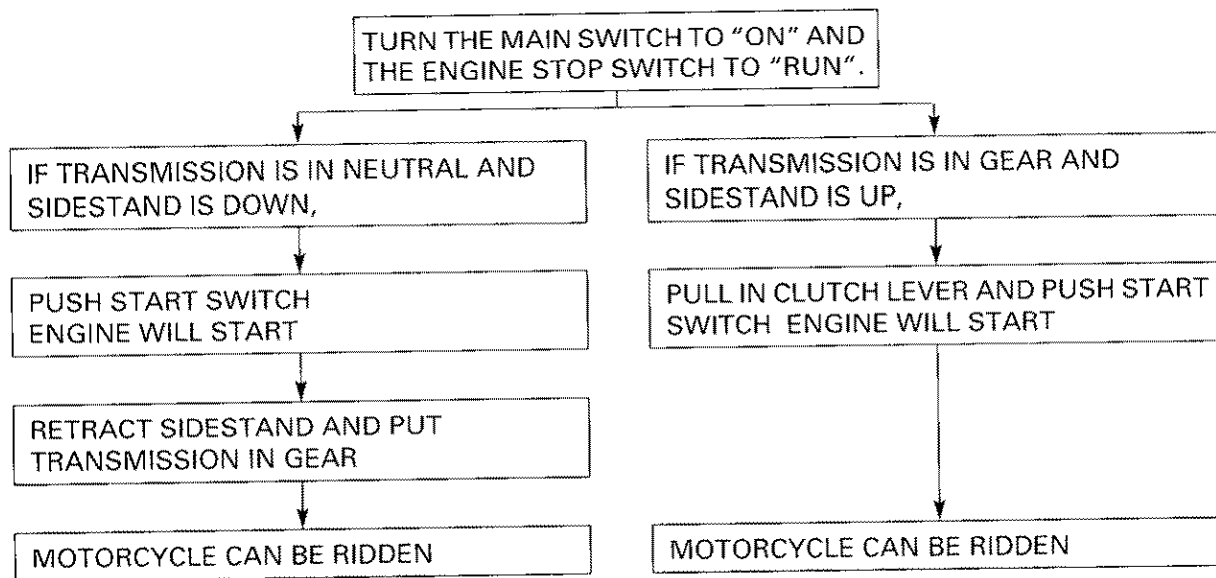
NOTE:

This motorcycle is equipped with an ignition circuit cut-off system.

1. The engine can be started only under the following conditions:
 - a. The transmission is in neutral.
 - b. The sidestand is up, the transmission is in gear and the clutch is disengaged.
 2. The motorcycle must not be ridden when the sidestand is down.
-

⚠ WARNING

Before going through the following steps, check the function of the sidestand switch and clutch switch. (Refer to page 5-21.)



1. Turn the main switch to "ON" and the engine stop switch to "RUN".

EUU39903

CAUTION:

If the fuel indicator light comes on, check the fuel level. If necessary, fill the tank with fuel.

2. Shift the transmission into neutral.

EUU03001

NOTE:

When the transmission is in neutral, the neutral indicator light should be on. If the light does not come on, ask a Yamaha dealer to inspect it.

3. Turn on the starter "CHOKE" and completely close the throttle grip.
4. Start the engine by pushing the start switch.

EUU02501

NOTE:

If the engine fails to start, release the start switch, wait a few seconds, then try again. Each attempt should be as short as possible to preserve the battery. Do not crank the engine more than 10 seconds on any one attempt.

EUU39802

CAUTION:

The oil level indicator light and fuel indicator light should come on when the start switch is pushed and should go off when the start switch is released. If the oil level indicator light flickers or remains on, immediately stop the engine and check the engine oil level and for oil leakage. If necessary, fill the engine with oil and check to see that the oil level indicator light goes off. If not, consult a Yamaha dealer.

- 5 After starting the engine, move the starter "CHOKE" to the warming up position.

EUU02600

NOTE: _____

For maximum engine life, always warm up the engine before starting off. Never accelerate hard with a cold engine.

6. After warming up the engine, turn off the starter "CHOKE" completely

EUU02701

NOTE: _____

The engine is warm when it responds normally to the throttle with the starter "CHOKE" turned off.

EAF10802

Starting a warm engine

The starter "CHOKE" is not required when the engine is warm.

EUU31401

CAUTION: _____

See the "Engine break-in" section prior to operating the motorcycle for the first time.

EAF20003

Shifting

The transmission lets you control the amount of power you have available at a given speed for starting, accelerating, climbing hills, etc. The use of the shift pedal is shown in the illustration. (Page 5-11)
To shift into neutral, depress the shift pedal repeatedly until it reaches the end of its travel, then raise the pedal slightly

CAUTION:

1. Do not coast for long periods with the engine off, and do not tow the motorcycle a long distance. Even with gears in neutral, the transmission is only properly lubricated when the engine is running. Inadequate lubrication may damage the transmission.
 2. Always use the clutch when changing gears. The engine, transmission, and driveline are not designed to withstand the shock of forced shifting and can be damaged by shifting without using the clutch.
-

To start out and accelerate:

1. Pull the clutch lever to disengage the clutch.
2. Shift into first gear. The neutral indicator light should go out.
3. Open the throttle gradually, and at the same time, release the clutch lever slowly.
4. At the recommended shift point in the table below, close the throttle, and at the same time, quickly pull in the clutch lever.
5. Shift into second gear. (Be careful not to shift into neutral.)
6. Open the throttle part way and gradually release the clutch lever.
7. Follow the same procedure when shifting to the next higher gear. Always shift gears at the recommended shift points.

To decelerate:

1. Apply both the front and the rear brakes at the same time to slow the motorcycle.
2. When the motorcycle reaches 20 km/h (12.5 mi/h), shift into first gear. Any time the engine is about to stall or runs very roughly, pull in the clutch and use the brakes to stop.
3. When the motorcycle is almost completely stopped, shift into neutral. The neutral indicator light should come on.

Recommended shift point

	Acceleration shift point km/h (mi/h)	Deceleration shift point km/h (mi/h)
1st → 2nd	16 (10.0)	20 (12.5)
2nd → 3rd	24 (15.0)	20 (12.5)
3rd → 4th	32 (20.0)	20 (12.5)
4th → 5th	40 (25.0)	20 (12.5)

Engine break-in

There is never a more important period in the life of your motorcycle than the period between zero and 1,000 km (600 mi). For this reason we ask that you carefully read the following material. Because the engine is brand new, you must not put an excessive load on it for the first 1,000 km (600 mi). The various parts in the engine wear and polish themselves to the correct operating clearances. During this period, prolonged full throttle operation, or any condition which might result in excessive heating of the engine, must be avoided.

1. 0 ~ 150 km (0 ~ 90 mi):

Avoid operation above 5,000 r/min. Stop the engine and let it cool for 5 to 10 minutes after every hour of operation. Vary the speed of the motorcycle from time to time. Do not operate it at one set throttle position.

2. 150 ~ 500 km (90 ~ 300 mi):
Avoid prolonged operation above 6,500 r/min. Rev the motorcycle freely through the gears, but do not use full throttle at any time.
3. 500 ~ 1,000 km (300 ~ 600 mi):
Avoid prolonged full throttle operation. Avoid cruising speeds in excess of 8,000 r/min.

EUU31800

CAUTION:

After 1,000 km (600 mi) of operation, be sure to replace the engine oil, oil filter element, and final gear oil.

4. 1,000 km (600 mi) and beyond:
Full throttle can be used.

EUU38700

CAUTION:

Never let engine speeds enter the red zone.

EUU32200

CAUTION:

If any engine trouble should occur during the break-in period, consult a Yamaha dealer immediately.

EA40000

Parking

When parking the motorcycle, stop the engine and remove the ignition key.

EUU63000

⚠ WARNING

The muffler and exhaust pipe are hot. Park the motorcycle in a place where pedestrians or children are not likely to touch the motorcycle. Do not park the motorcycle on a slope or soft ground; the motorcycle may overturn.

PERIODIC MAINTENANCE AND MINOR REPAIR

EAH00101

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

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

EUU63200

WARNING

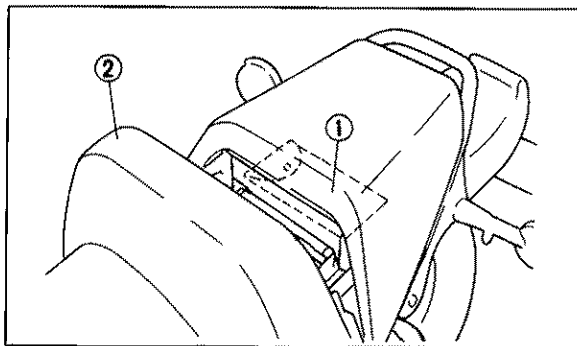
If you are not familiar with motorcycle service, this work should be done by a Yamaha dealer.

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 TABLES OF PERIODIC MAINTENANCE, 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.

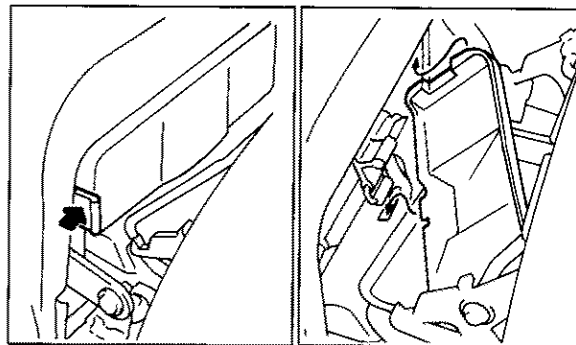
Tool kit

The service information included in this manual is intended to provide you, the owner, with the necessary information for completing some of your own preventive maintenance and minor repairs. The tools provided in the owner's tool kit are to assist you in the performance of periodic maintenance. However, some other tools such as a torque wrench are also necessary to perform the maintenance correctly.



1 Tool kit

2 Fuel tank filler cover



EUU18500

NOTE:

If you do not have necessary tools required during a service operation, take your motorcycle to a Yamaha dealer for service.

EUU63301

WARNING

Modifications to this motorcycle not approved by Yamaha may cause loss of performance, excessive emissions, and render it unsafe for use. Consult a Yamaha dealer before attempting any changes.

PERIODIC MAINTENANCE EMISSION CONTROL SYSTEM

No	ITEM	REMARKS	INITIAL	ODOMETER READINGS				
			1,000 km (600 mi) or 1 month	**1 7,000 km (4,400 mi) or 7 months	**2 13,000 km (8,200 mi) or 13 months	19,000 km (12,000 mi) or 19 months	25,000 km (15,800 mi) or 25 months	**3 31,000 km (19,600 mi) or 31 months
1*	Valve clearance	• Check and adjust valve clearance when engine is cold	Every 42,000 km (26,600 mi)					
2	Spark plugs	• Check condition • Adjust gap and clean • Replace at 13,000 km (or 13 months) and thereafter every 12,000 km (or 12 months)		○	Replace	○	Replace	○
3*	Crankcase ventilation system	• Check ventilation hose for cracks or damage • Replace if necessary		○	○	○	○	○
4*	Fuel line	• Check fuel hose and vacuum pipe for cracks or damage • Replace if necessary		○	○	○	○	○
5*	Fuel filter	• Replace initial 31,000 km (19,600 mi) and thereafter every 30,000 km (19,000 mi)						Replace
6*	Exhaust system	• Check for leakage • Retighten if necessary • Replace gasket(s) if necessary		○	○	○	○	○
7*	Carburetor Synchronization	• Adjust synchronization of carburetors	○	○	○	○	○	○
8*	Idle speed	• Check and adjust engine idle speed • Adjust cable free play		○	○	○	○	○

* It is recommended that these items be serviced by a Yamaha dealer

NOTE:

For farther odometer reading beyond those listed, repeat the above maintenance at the period established; **1: Every 6,000 km (3,800 mi), **2: Every 12,000 km (7,600 mi), **3: Every 30,000 km (19,000 mi) intervals.

GENERAL MAINTENANCE/LUBRICATION

No	ITEM	ROUTINE	TYPE	INITIAL	ODOMETER READINGS				
				1,000 km (600 mi) or 1 month	**1 7,000 km (4,400 mi) or 7 months	**2 13,000 km (8,200 mi) or 13 months	19,000 km (12,000 mi) or 19 months	**3 25,000 km (15,800 mi) or 25 months	31,000 km (19,600 mi) or 31 months
1	Engine oil	• Warm-up engine before draining	See page 8-10	○		○		○	
2	Oil filter	• Replace	-	○		○		○	
3*	Air filter	• Clean with compressed air • Replace if necessary	-		○	○	○	○	○
4*	Cooling system	• Check hose for cracks or damage • Replace if necessary			○	○	○	○	○
		• Replace coolant every 24 months	Ethylene glycol antifreeze coolant					Replace	
5*	Brake system	• Adjust free play • Replace pads if necessary	-	○	○	○	○	○	○

No.	ITEM	ROUTINE	TYPE	INITIAL	ODOMETER READINGS					
				1,000 km (600 mi) or 1 month	**1 7,000 km (4,400 mi) or 7 months	**2 13,000 km (8,200 mi) or 13 months	19,000 km (12,000 mi) or 19 months	**3 25,000 km (15,800 mi) or 25 months	31,000 km (19,600 mi) or 31 months	
6	Final gear oil	• Check oil level and leakage • Replace every 24,000 km or 24 months	SAE 80 API "GL-4" hypoid gear oil	Replace		Check		○		
7	Control and meter cable	• Apply chain lube thoroughly	Yamaha chain and cable lube or SAE 10W30 motor oil	○	○	○	○	○	○	
8*	Swingarm pivot bearing	• Check bearing assembly for looseness • Moderately repack every 24,000 km (15,200 mi)	Medium weight wheel bearing grease					Repack		
9	Brake/Clutch lever pivot shaft	• Apply chain lube lightly	Yamaha chain and cable lube or SAE 10W30 motor oil		○	○	○	○	○	
10	Brake pedal and shift pedal shaft	• Lubricate • Apply chain lube lightly	Yamaha chain and cable lube or SAE 10W30 motor oil		○	○	○	○	○	

No	ITEM	ROUTINE	TYPE	INITIAL	ODOMETER READINGS					
				1,000 km (600 mi) or 1 month	**1 7,000 km (4,400 mi) or 7 months	**2 13,000 km (8,200 mi) or 13 months	19,000 km (12,000 mi) or 19 months	**3 25,000 km (15,800 mi) or 25 months	31,000 km (19,600 mi) or 31 months	
11*	Center/Side-stand pivots	• Check operation and lubricate • Apply chain lube lightly	Yamaha chain and cable lube or SAE 10W30 motor oil		○	○	○	○	○	
12*	Front fork	• Check operation and leakage	—		○	○	○	○	○	
13*	Steering bearings	• Check bearings assembly for looseness • Moderately repack every 24,000 km (15,200 mi)	Medium weight wheel bearing grease		○	○	○	Repack	○	
14*	Wheel bearings	• Check bearings for smooth rotation	—		○	○	○	○	○	
15*	Battery	• Check specific gravity and breather pipe for proper operation	—		○	○	○	○	○	

No.	ITEM	ROUTINE	TYPE	INITIAL	ODOMETER READINGS					
				1,000 km (600 mi) or 1 month	**1 7,000 km (4,400 mi) or 7 months	**2 13,000 km (8,200 mi) or 13 months	19,000 km (12,000 mi) or 19 months	**3 25,000 km (15,800 mi) or 25 months	31,000 km (19,600 mi) or 31 months	
16*	Sidestand switch	• Check and clean or replace if necessary	-	○	○	○	○	○	○	

* It is recommended that these items be serviced by a Yamaha dealer

NOTE:

For farther odometer reading, repeat the above maintenance at the period established;
 **1. Every 6,000 km (3,800 mi), **2: Every 12,000 km (7,600 mi) and **3: Every 24,000 km (15,200 mi) intervals

Spark plug inspection

The spark plug is an important engine component and is easy to inspect. The condition of the spark plug can indicate the condition of the engine.

Normally, all spark plugs from the same engine should have the same color on the white insulator around the center electrode. The ideal color at this point is a medium-to-light tan color for a motorcycle that is being ridden normally. If one spark plug shows a distinctly different color, there could be something wrong with the engine.

Do not attempt to diagnose such problems yourself. Instead, take the motorcycle to a Yamaha dealer. You should periodically remove and inspect the spark plugs because heat and deposits will cause any spark plug to slowly break down and erode. If electrode erosion becomes exces-

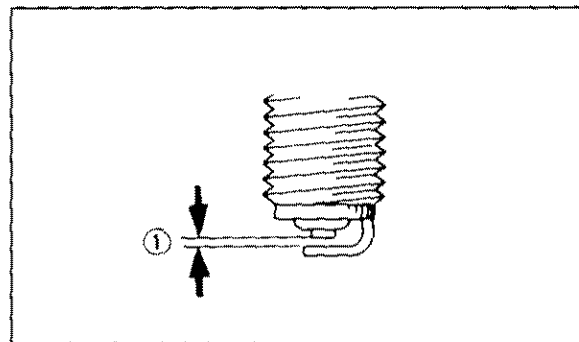
sive, or if carbon and other deposits are excessive, you should replace the spark plug with the specified plug.

Specified spark plug:

DPR8EA-9 (NGK) or

X24EPR-U9 (NIPPONDENSO)

Before installing any spark plug, measure the electrode gap with a wire thickness gauge. Adjust the gap to specification.



1 Spark plug gap

Spark plug gap:

0.8 ~ 0.9 mm (0.031 ~ 0.035 in)

When installing the spark plug, always clean the gasket surface and use a new gasket. Wipe off any grime from the threads and tighten the spark plug to the specified torque.

Tightening torque:

Spark plug:

18 Nm (1.8 m·kg, 13 ft·lb)

EUU03802

NOTE:

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

EAH49700

Engine oil

1. Oil level inspection

- a. Place the motorcycle on the center-stand. Warm up the engine for several minutes.

EUU03901

NOTE:

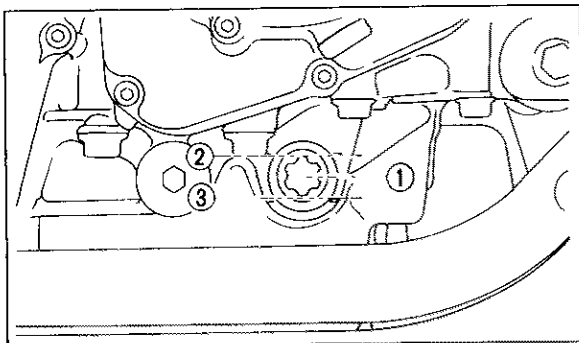
Be sure the motorcycle is positioned straight up when checking the oil level. A slight tilt toward the side can result in false readings.

- b. With the engine stopped, check the oil level through the level window located at the lower part of the right side crankcase cover.

EUU04000

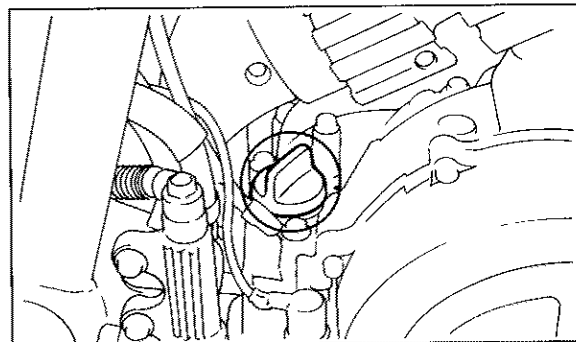
NOTE:

Wait a few minutes until the oil level settles before checking.

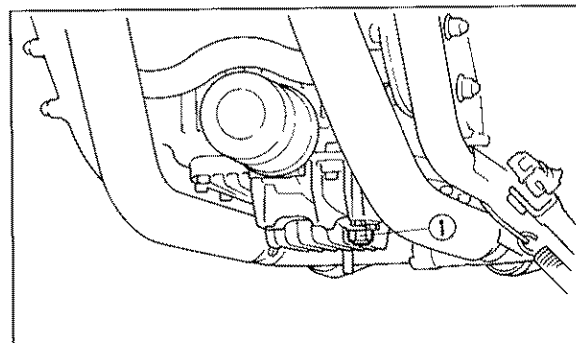


- 1 Level window
- 2 Maximum mark
- 3 Minimum mark

- c The oil level should be between the maximum and minimum marks. If the level is low, fill the engine with sufficient oil to reach the specified level.
- 2. Engine oil and oil filter cartridge replacement
 - a Warm up the engine for several minutes.
 - b. Stop the engine. Place an oil pan under the engine and remove the oil filler cap

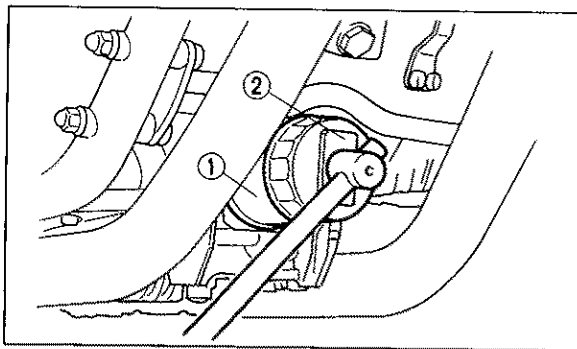


- c. Remove the drain plug and drain the oil.



- 1 Engine oil drain plug

- d. Remove the oil filter by using an oil filter wrench.



1. Oil filter

2. Oil filter wrench

EUU13001

NOTE:

An oil filter wrench is available at a nearby Yamaha dealer.

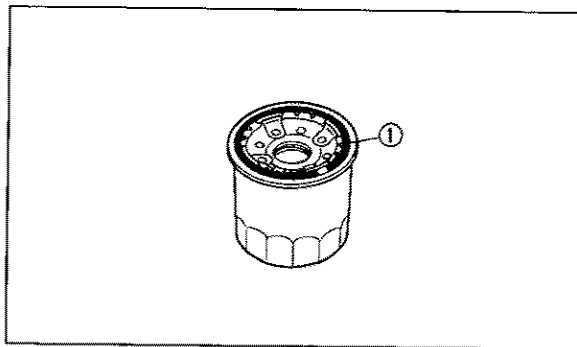
- e. Reinstall the drain plug and tighten it to the specified torque.

Tightening torque:

Drain plug:

43 Nm (4.3 m·kg, 31 ft·lb)

- f. Apply a light coat of engine oil to the O-ring of the new oil filter.



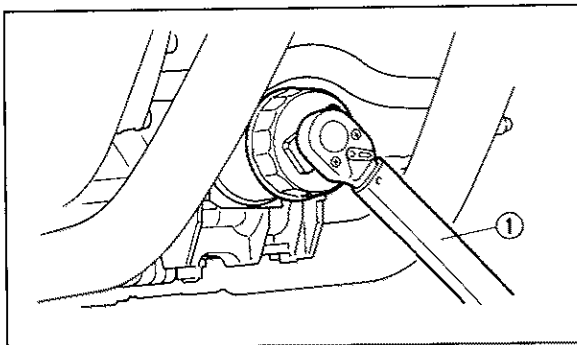
1. O-ring

EUU04101

NOTE:

Make sure the O-ring is seated properly.

- g. Install the new oil filter and tighten it to the specified torque with an oil filter wrench.



1 Torque wrench

Tightening torque:

Oil filter:

17 Nm (1.7 m·kg, 12 ft·lb)

- h. Fill the engine with sufficient oil to reach the specified level. Install the oil filler cap and tighten it.

Recommended oil:

See page 6-4.

Recommended engine oil classification:

API Service "SE", "SF" type or equivalent

(e.g. "SF-SE", "SF-SE-CC", "SF-SE-SD" etc.).

Oil quantity:

Total amount:

4.7 L (4.1 Imp qt, 5.0 US qt)

Periodic oil change:

3.5 L (3.1 Imp qt, 3.7 US qt)

With oil filter replacement:

3.8 L (3.3 Imp qt, 4.0 US qt)

CAUTION: _____

Do not put in any chemical additives. Engine oil also lubricates the clutch and additives could cause clutch slippage.

EUU32400

CAUTION: _____

Be sure no foreign material enters the crankcase.

- i. Start the engine and warm it up for several minutes. While warming up, check for oil leakage. If oil leakage is found, stop the engine immediately and check for the cause.
- j. After the engine is started, the oil level indicator light should go off if the oil is at the specified level.

CAUTION: _____

If the indicator light flickers or remains on, immediately stop the engine and consult with a Yamaha dealer or other qualified mechanic.

EAH40605

Final gear oil

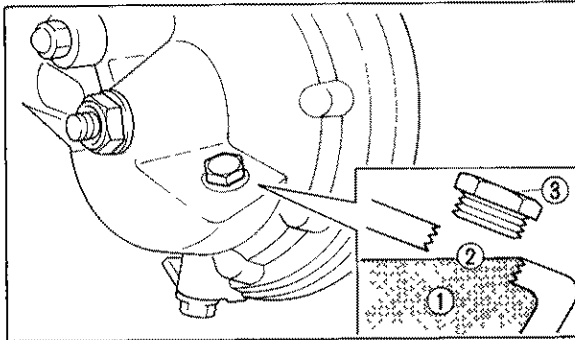
EUU63400

** WARNING** _____

Do not let foreign material enter the final gear case. Be sure oil does not get on the tire or wheel.

1. Oil level inspection

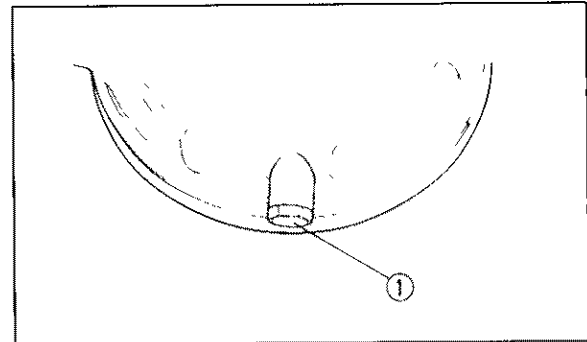
- a. Place the motorcycle on a level place and place it on the centerstand. The engine should be cool at ambient temperature.
- b. Remove the oil filler bolt and check the oil level. The oil level should be at the brim of the hole. Fill with oil as necessary.



1 Final gear oil 2 Correct oil level 3 Oil filler bolt

2. Gear oil replacement

- a. Place an oil pan under the final gear case.
- b. Remove the oil filler bolt and the drain plug to drain the oil.



1 Drain plug

- c. Reinstall and tighten the drain plug to the specified torque

Tightening torque:

Drain plug:

23 Nm (2.3 m kg, 17 ft-lb)

- d. Fill the gear case to the brim of the hole with the recommended oil

Oil capacity:

Final gear case:

0.2 L (0.18 Imp qt, 0.21 US qt)

Recommended oil:

SAE 80 API GL-4 Hypoid gear oil

If desired, an SAE 80W90 hypoid gear oil may be used for all conditions.

EUU02300

NOTE:

"GL-4" is a quality and additive rating
"GL-5" or "GL-6" rated hypoid gear oils
may also be used.

- e. Reinstall and tighten the oil filler bolt to the specified torque.

Tightening torque:

Oil filler bolt:

23 Nm (2.3 m·kg, 17 ft·lb)

- f After replacement of the final gear oil, be sure to check for oil leaks.

EAH50406

Cooling system

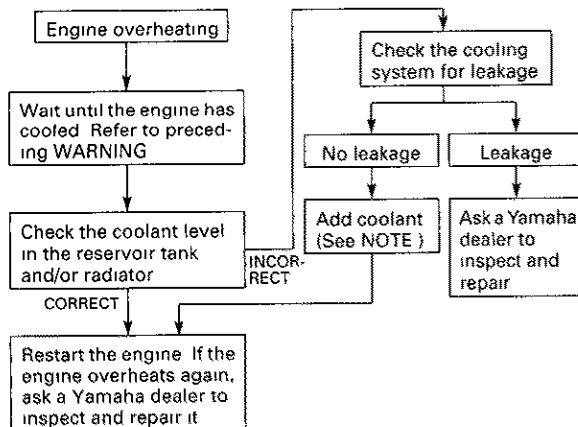
1. If your motorcycle overheats

EUU70501

WARNING

Do not remove the radiator cap when the engine and radiator are hot. Scalding hot fluid and steam may be blown out under pressure, which could cause serious injury. Open the radiator cap as follows.

Wait until the engine has cooled. Place a thick rag like a towel over the radiator cap and slowly rotate the cap counterclockwise to the detent. This procedure allows any residual pressure to escape. When the hissing sound has stopped, press down on the cap while turning counterclockwise and remove it.



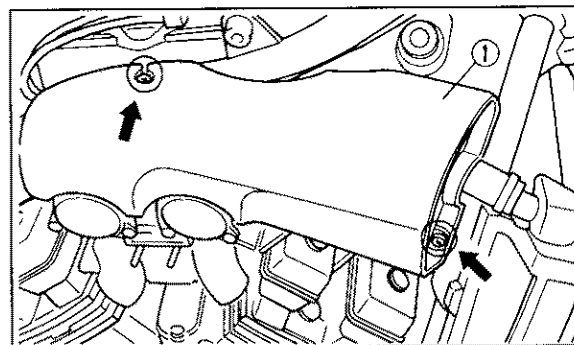
EUU04300

NOTE:

If it is difficult to get the recommended coolant, tap water can be temporarily used, provided that it is changed to the recommended coolant as soon as possible.

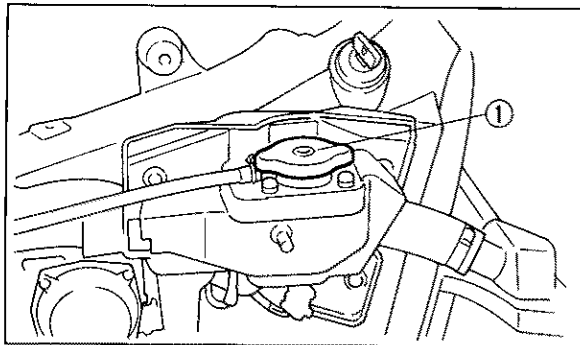
2. Changing the coolant ENGINE

- Place a container under the engine.
- Remove the top cover and right cover.



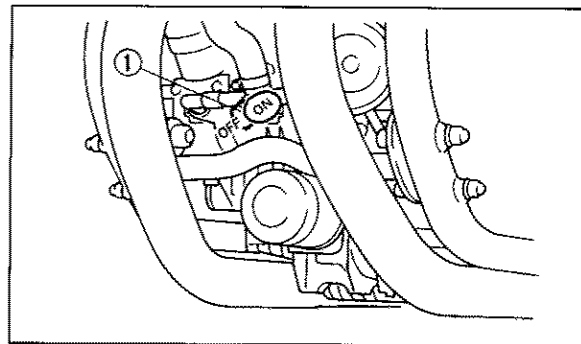
1 Right cover

c. Remove the radiator cap.



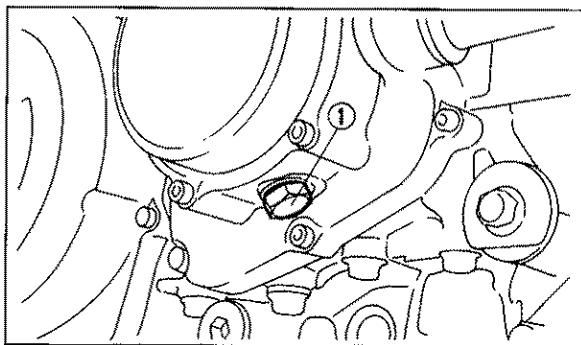
1 Radiator cap

d. Turn the coolant drain cock to the "ON" position.



1 Coolant drain cock

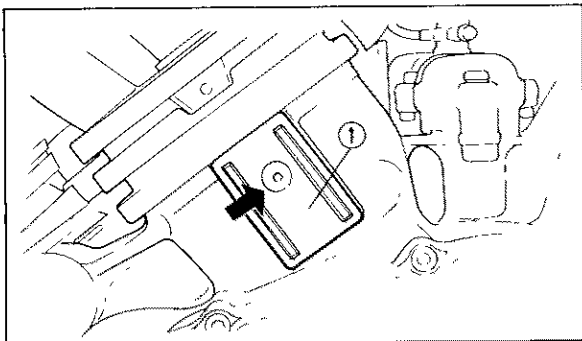
e. Remove the drain bolt at the pump cover and drain the coolant.



1. Drain bolt

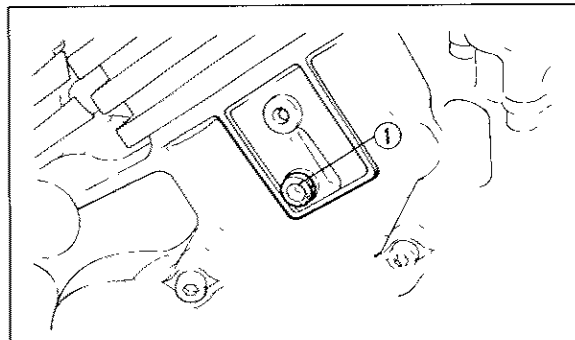
CYLINDER

- a. Remove the covers.



1 Cover

- b. Remove the rubber plugs and drain the coolant.



1 Rubber plug

3 Coolant filling procedure

- a. Drain the coolant completely, and thoroughly flush the cooling system with clean tap water.
- b. Check the drain bolt gasket and rubber plugs for damage. If damaged, replace as necessary.
- c. Install the drain bolt with the gasket and rubber plugs.

Tightening torque:

Drain bolt:

43 Nm (4.3 m·kg, 31 ft·lb)

- d. Pour the recommended coolant into the radiator until it's full.

Recommended coolant:

High quality ethylene glycol
anti-freeze containing corrosion
inhibitors for aluminum engines.

Antifreeze and water mix ratio:
50%/50%

Total amount:

3.05 L (2.68 Imp qt, 3.22 US qt)

Reservoir tank capacity:

0.3 L (0.26 Imp qt, 0.32 US qt)

From the minimum to maximum levels:

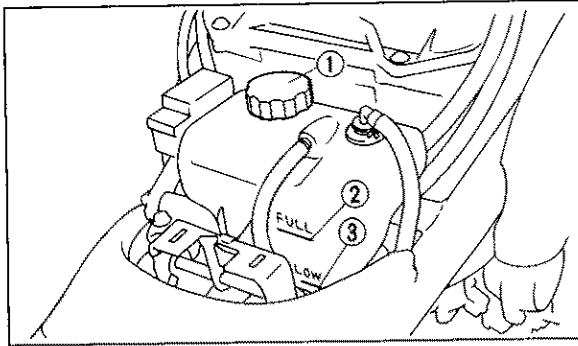
0.2 L (0.18 Imp qt, 0.21 US qt)

CAUTION:

Hard water or salt water is harmful to the engine. You may use distilled water if you can't get soft water.

- e. Reinstall radiator cap and covers.
f. Run the engine several minutes and recheck the coolant level in the radiator. If it is low, add more coolant until it reaches the top of the radiator.
g. Turn the coolant drain cock to the "OFF" position.

- h. Fill the reservoir tank with coolant up to maximum level.



- 1 Coolant reservoir tank cap 2 Maximum level "FULL"
3 Minimum level "LOW"

- i. Reinstall the reservoir tank cap and check for coolant leakage.

EUU04400

NOTE:

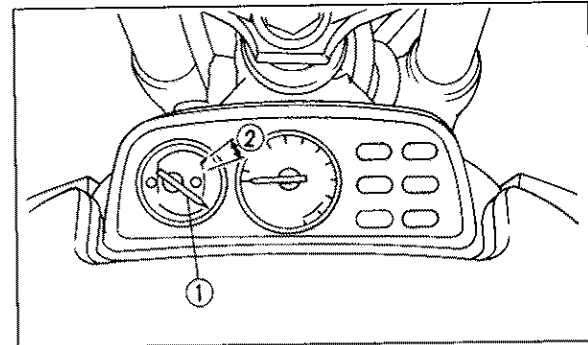
If you find any leaks, ask a Yamaha dealer to inspect.

- j. Reinstall the right cover and top cover.

Radiator fan

Operation

The electric fan operation is completely automatic. It is switched on or off according to the coolant temperature in the radiator.

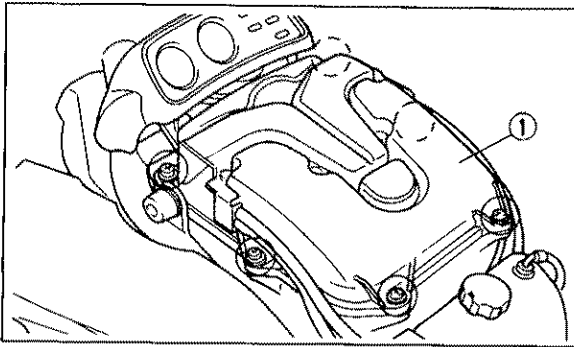


- 1 Engine temperature gauge 2 Red zone

Air filter

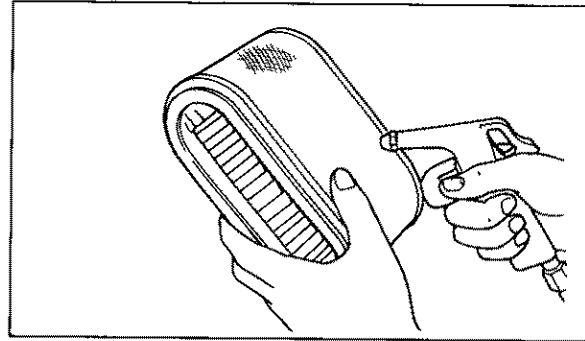
The air filter element should be cleaned at the specified intervals. It should be cleaned more frequently if you are riding in unusually wet or dusty areas.

1. Remove the top cover.
2. Remove the air filter case fitting screws and the filter case cover.



1 Air filter case cover

3. Pull out the air filter.
4. Tap the air filter lightly to remove most of the dust and dirt. Blow out the remaining dirt with compressed air as shown. If the air filter is damaged, replace it.



5. Reassemble by reversing the removal procedure.

CAUTION: _____

Make sure the air filter is properly seated in the filter case.

EUU42400

CAUTION: _____

The engine should never be run without the air filter element installed; excessive piston and/or cylinder wear may result.

EAH93002

Carburetor adjustment

The carburetors are important parts of the engine and emission control system. Adjusting should be left to a Yamaha dealer with the professional knowledge, specialized data and equipment to do so properly

EAH92201

Throttle cable free play adjustment

EUU06401

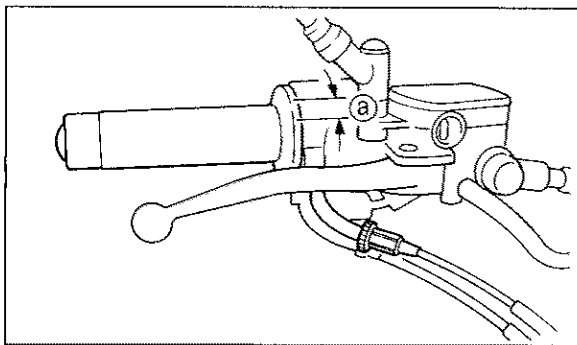
NOTE: _____

Before checking the throttle cable free play, the engine idling speed should be adjusted.

The throttle cable should have a specified free play in the turning direction at the grip flange. If the free play is incorrect, ask a Yamaha dealer to make adjustment

Free play:

3 ~ 5 mm (0.12 ~ 0.20 in)



a Free play

EAH90801

Valve clearance adjustment

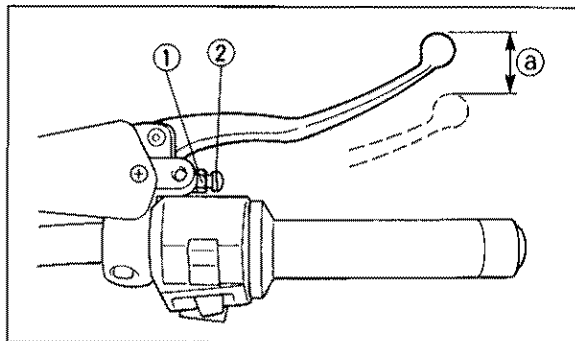
The correct valve clearance changes with use, resulting in improper fuel/air supply or engine noise. To prevent this, the valve clearance must be adjusted regularly. This adjustment however, should be left to a professional Yamaha service technician.

EAH80103

Front brake lever free play adjustment

The free play at the front brake lever should be 2 ~ 5 mm (0.08 ~ 0.20 in).

1. Loosen the locknut.
2. Turn the adjusting bolt so that the brake lever movement is 2 ~ 5 mm (0.08 ~ 0.20 in) before the bolt contacts the master cylinder piston.
3. After adjusting, tighten the locknut.



1. Locknut
 2. Adjusting bolt
- a 2 ~ 5 mm (0.08 ~ 0.20 in)

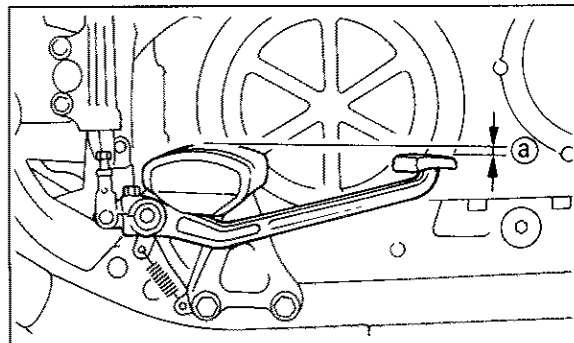
⚠ WARNING

- Check the brake lever free play. Be sure the brake is working properly.
- A soft or spongy feeling in the brake lever can indicate the presence of air in the brake system. This air must be removed by bleeding the brake system before the motorcycle is operated. Air in the system will cause greatly diminished braking capability and can result in loss of control and an accident. Have a Yamaha dealer inspect and bleed the system if necessary.

EAH80402

Rear brake pedal height adjustment

The top of the brake pedal should be positioned 10 ~ 30 mm (0.4 ~ 1.2 in) below the top of the footrest. If not, ask a Yamaha dealer to adjust it.



a 10 ~ 30 mm (0.4 ~ 1.2 in)

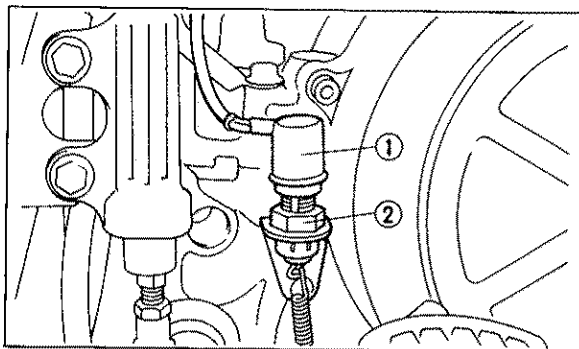
EUU79300

⚠ WARNING

A soft or spongy feeling in the brake pedal can indicate the presence of air in the brake system. This air must be removed by bleeding the brake system before the motorcycle is operated. Air in the system will cause greatly diminished braking capability and can result in loss of control and an accident. Have a Yamaha dealer inspect and bleed the system if necessary.

Brake light switch adjustment

The brake light switch is operated by movement of the brake pedal. To adjust, hold the main body of the switch so it does not rotate and turn the adjusting nut. Proper adjustment is achieved when the brake light comes on just before the brake begins to take effect.

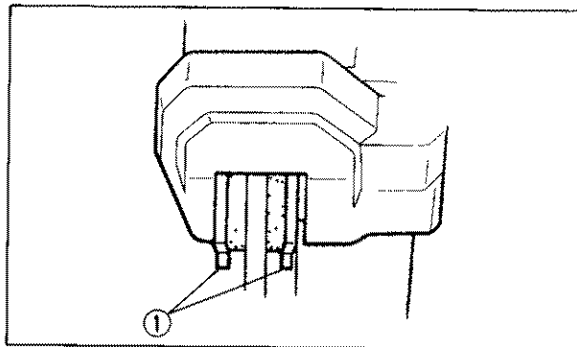


1 Main body

2. Adjusting nut

Checking the front and rear brake pads

A wear indicator is provided on each brake. This indicator allows checking of brake pad wear without disassembling the brake. Apply the brake and inspect the wear indicator. If the indicator is ALMOST in contact with the disc plate, ask a Yamaha dealer to replace the pads.



1 Wear indicator

Inspecting the brake fluid level

Insufficient brake fluid may let air enter the brake/clutch system, possibly causing the brakes/clutch to become ineffective.

Before riding, check that the brake fluid is above the lower level and replenish when necessary.

Observe these precautions

1. When checking the fluid level, make sure the top of the master cylinder is level by turning the handlebars.
2. Use only the designated quality brake fluid. Otherwise, the rubber seals may deteriorate, causing leakage and poor brake/clutch performance.
3. Refill with the same type of brake fluid. Mixing fluids may result in a harmful chemical reaction and lead to poor brake/clutch performance.
4. Be careful that water does not enter the master cylinder when refilling. Water will significantly lower the boiling point of the fluid and may result in vapor lock.
5. Brake fluid may deteriorate painted surfaces or plastic parts. Always clean up spilled fluid immediately.
6. Have a Yamaha dealer check the cause if the brake fluid level goes down.

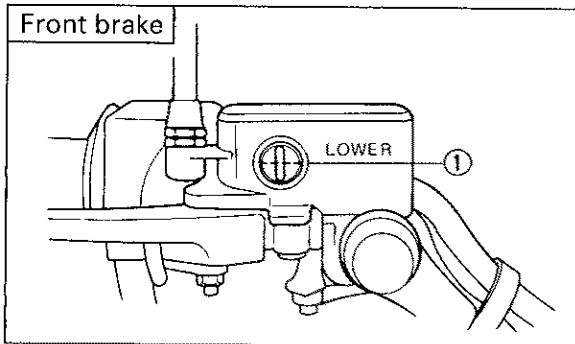
Recommended brake fluid DOT 4

E0U17500

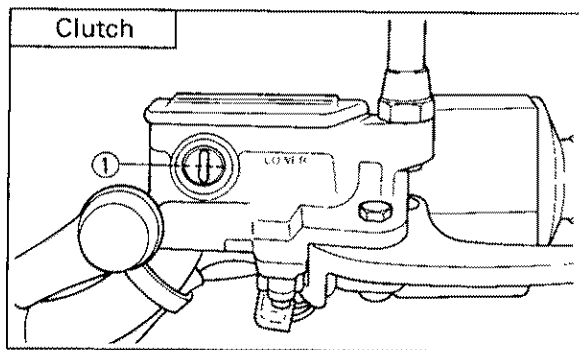
NOTE:

(Rear brake, clutch fluid only)

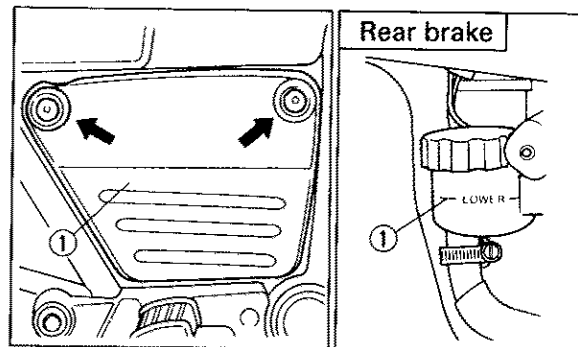
If DOT 4 is not available, DOT 3 can be used.



1 Lower level



1 Lower level



1 Right side cover

1. Lower level

EAH83501

Brake fluid replacement

1. Complete fluid replacement should be done only by trained Yamaha service personnel.
2. Have a Yamaha dealer replace the following components during periodic maintenance or when they are damaged or leaking.
 - a. Replace all rubber seals every two years.
 - b. Replace all hoses every four years.

Clutch lever free play adjustment

This motorcycle has a hydraulic clutch. There are no adjustments to perform but the clutch system must be inspected periodically for proper fluid level and leakage. If the control lever free play becomes excessive and the motorcycle creeps or stalls when shifted into gear, or if the clutch slips, causing acceleration to lag behind engine speed, there is probably air in the clutch system and it must be bled out. Ask a Yamaha dealer to do this service.

EAI10101

Cable inspection and lubrication

EUU64601



Damage to the outer housing of cables may allow internal rusting and cause interference with cable movement. Replace damaged cables as soon as possible to prevent unsafe conditions.

Lubricate the inner cable and the cable end. If it does not operate smoothly, ask a Yamaha dealer to replace them.

Recommended lubricant:

Yamaha Chain and Cable Lube or
SAE 10W30 motor oil

EAI10201

Throttle cable and grip lubrication

The throttle twist grip assembly should be greased at the time that the cable is lubricated, since the grip must be removed to get at the end of the throttle cable. After removing the screws, hold the end of the cable up in the air and put in several drops of lubricant. With the throttle grip disassembled, coat the metal surface of the grip assembly with a suitable all-purpose grease.

EAI30202

Brake and shift pedal lubrication

Lubricate the pivoting parts.

Recommended lubricant:
Yamaha Chain and Cable Lube or
SAE 10W30 motor oil

EAI30301

Brake and clutch lever lubrication

Lubricate the pivoting parts.

Recommended lubricant:
Yamaha Chain and Cable Lube or
SAE 10W30 motor oil

EAI30402*

Center and sidestand lubrication

Lubricate the pivoting and mating parts.
Check to see that the center and sidestand
move up and down smoothly.

Recommended lubricant:
Yamaha Chain and Cable Lube or
SAE 10W30 motor oil

EUU69301

⚠ WARNING

**If the center and/or sidestand does not
move smoothly, consult a Yamaha dealer.**

EAI31301

Rear suspension lubrication

Lubricate the pivoting parts.

Recommended lubricant:
Lithium soap base grease

EAI20502

Front fork inspection

EUU65700

⚠ WARNING

**Securely support the motorcycle so there
is no danger of it falling over.**

1. Visual check

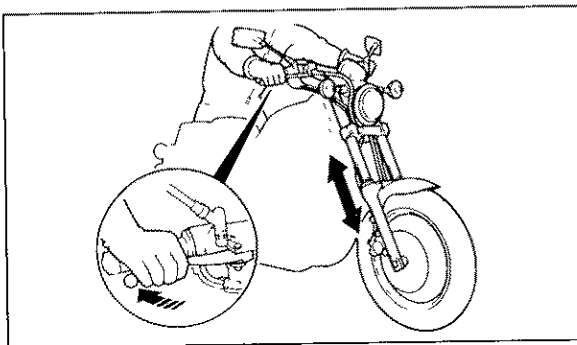
Check for scratches or damage on the
inner tube and excessive oil leakage
from the front fork.

2. Operation check
Place the motorcycle on a level place.
 - a. Hold the motorcycle in an upright position and apply the front brake.
 - b. Push down hard on the handlebars several times and check if the fork rebounds smoothly.

EUU42500

CAUTION:

If any damage or unsmooth movement is found with the front fork, consult a Yamaha dealer.



EAI60301

Steering inspection

Periodically inspect the condition of the steering. Worn out or loose steering bearings may be dangerous. Place a stand under the engine to raise the front wheel off the ground. Hold the lower end of the front forks and try to move them forward and backward. If any free play can be felt, ask a Yamaha dealer to inspect and adjust the steering. Inspection is easier if the front wheel is removed.

EUU65700

! WARNING

Securely support the motorcycle so there is no danger of it falling over

Wheel bearings

If there is play in the front or rear wheel hub or if the wheel does not turn smoothly, have a Yamaha dealer inspect the wheel bearings. The wheel bearings should be inspected according to the Maintenance Schedule.

EAI71103

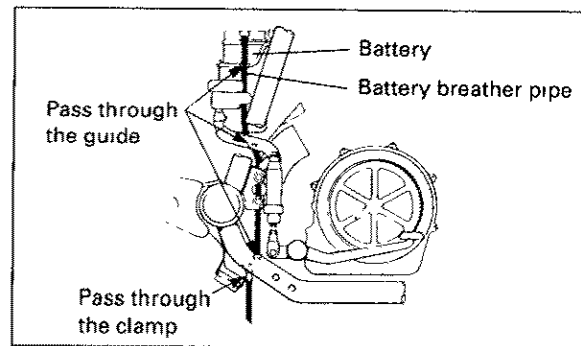
Battery

Check the level of the battery electrolyte and make sure that the terminals are tight. Fill with distilled water if the electrolyte level is low.

EUU33601

CAUTION:

When inspecting the battery, be sure the breather pipe is routed correctly. If the breather pipe is positioned in such a way as to cause battery electrolyte or gas to exit onto the frame, structural and cosmetic damage to the motorcycle can occur.



⚠ WARNING

Battery electrolyte is poisonous and dangerous, causing severe burns, etc. It contains sulfuric acid. Avoid contact with skin, eyes or clothing.

Antidote:

EXTERNAL: Flush with water.

INTERNAL: Drink large quantities of water or milk. Follow with milk of magnesia, beaten egg, or vegetable oil. Call a physician immediately.

EYES: Flush with water for 15 minutes and get prompt medical attention. Batteries produce explosive gases. Keep sparks, flame, cigarettes etc., away. Ventilate when charging or using in an enclosed space. Always shield your eyes when working near batteries.

KEEP OUT OF REACH OF CHILDREN.

Replenishing the battery fluid

A poorly maintained battery will corrode and discharge quickly. The battery fluid should be checked at least once a month. The level should be between the minimum and maximum marks. Use only distilled water if refilling is necessary.

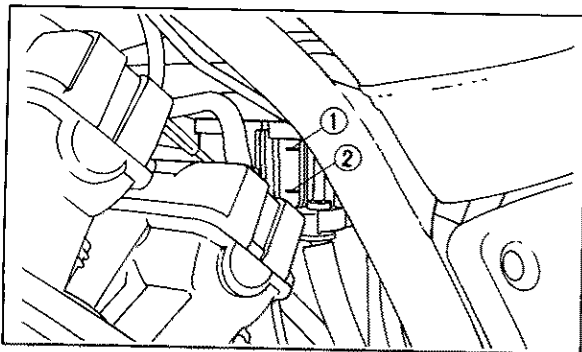
EUU33800

CAUTION:

Normal tap water contains minerals which are harmful to a battery; therefore, refill only with distilled water

Storage

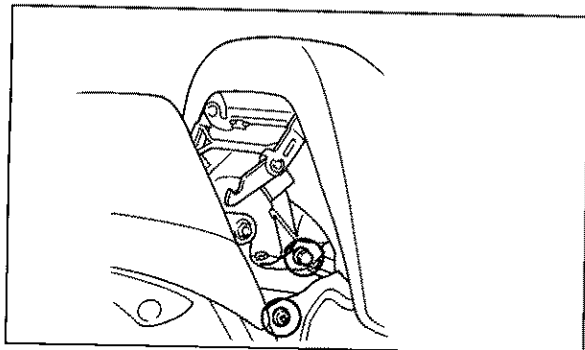
1. The level should be between the maximum and minimum levels. Use only distilled water if refilling is necessary.



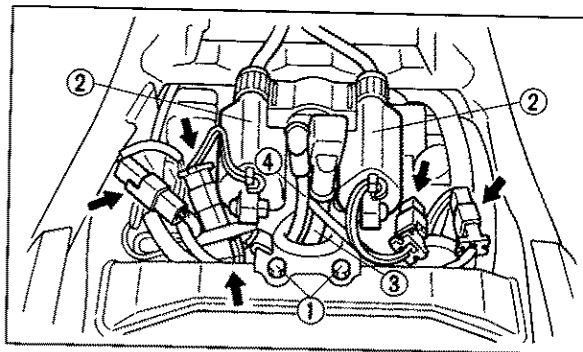
1 Maximum level 2 Minimum level

To fill the battery with fluid:

- a. Open the fuel tank filler cover and remove the seat.

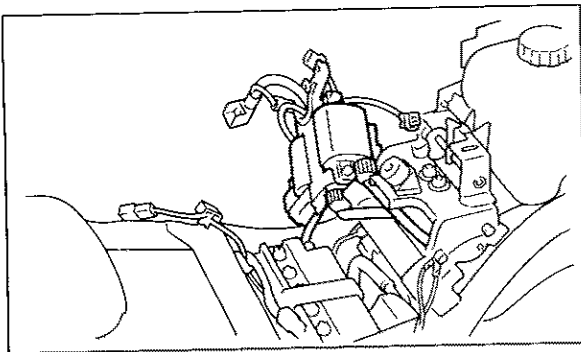


- b. Disconnect the leads as shown and remove the ignition coil holding bolts.



- 1 Ignition coil holding bolt (x 2)
- 2 Ignition coil assembly
- 3 Battery positive lead (Red)
- 4 Starter motor lead (Black)

- c. Position the ignition coil so that it's not in the way and fill battery with fluid.

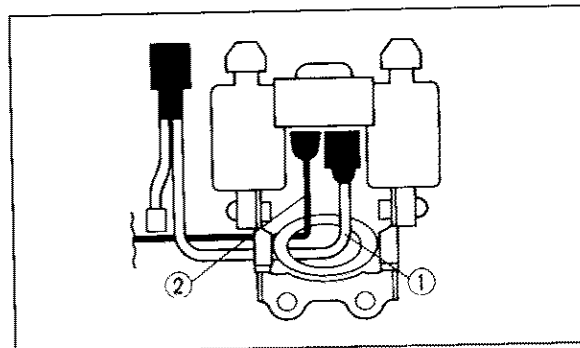


- d. Reinstall the ignition coil assembly and reconnect the leads.
- e. Reinstall the seat and fuel tank filler cover.

EUU78200

⚠ WARNING

Pass the battery positive lead (Red) and starter motor lead (Black) through the bracket hole, as shown. A short circuit could result from improper routing. This could cause the engine to stop running and lights to fail, which could result in an accident.



- 1 Battery positive lead (Red)
- 2 Starter motor lead (Black)

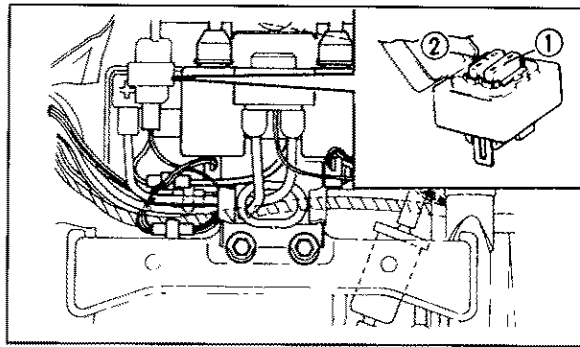
2. When the motorcycle will not be used for a month or longer, remove the battery and store it in a cool, dark place. Completely recharge the battery before reinstalling.
3. If the battery will be stored for longer than two months, check the specific gravity of the fluid at least once a month and recharge the battery when it is too low

4. Always make sure the connections are correct when putting the battery back in the motorcycle. Make sure the breather pipe is properly connected and is not damaged or obstructed.

EAI91501

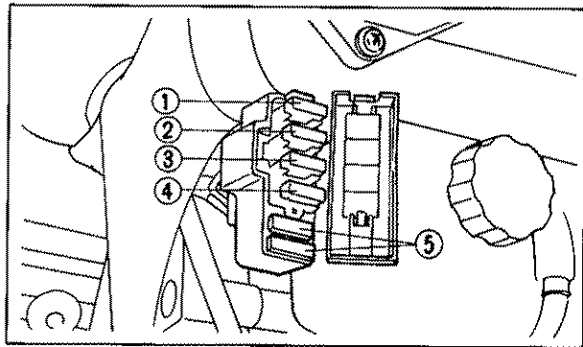
Fuse replacement

1. There are two fuse boxes on this motorcycle. The main fuse box is located under the seat. The sub fuse box is located under the top cover.
2. If any fuse is blown, turn off the ignition switch and the switch of the circuit in question. Install a new fuse of proper amperage. Turn on the switches and see if the electrical device operates. If the fuse immediately blows again, consult a Yamaha dealer.



1. Main fuse (30 A)

2. Spare fuse



1. Headlight

2. Signal

3. Ignition

4. Fan

5. Spare

CAUTION:

Do not use fuses of higher amperage rating than those recommended. Substitution of a fuse of improper rating can cause extensive electrical system damage and possibly a fire.

Specified fuse:

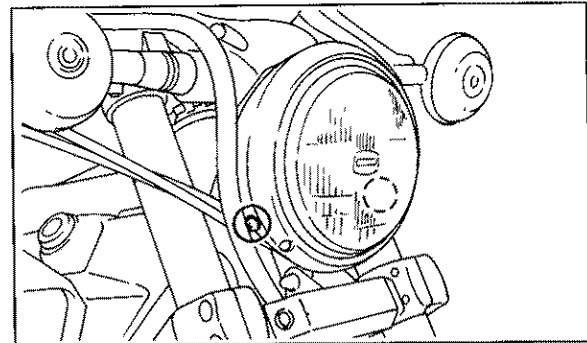
Main:	30 A
Head:	15 A
Signal:	10 A
Fan:	10 A
Ignition:	10 A

Headlight bulb replacement

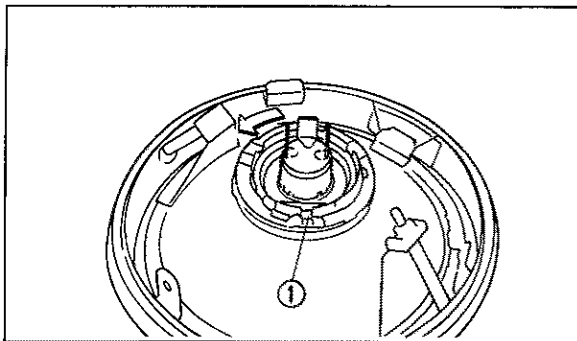
This motorcycle is equipped with a quartz bulb headlight.

If the headlight bulb burns out, replace the bulb as follows:

1. Remove the screws holding the light unit assembly.



2. Remove the headlight connectors, remove the light unit assembly and then the bulb holder cover.
3. Turn the bulb holder counterclockwise to remove it and remove the defective bulb.



1. Bulb holder

EUU66002

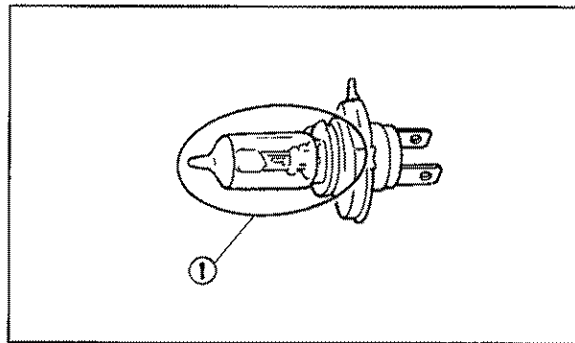
⚠ WARNING

Keep flammable products and your hands away from a bulb while it is on, as it is hot. Do not touch a bulb until it cools down.

4. Put a new bulb into position and secure it in place with the bulb holder.

CAUTION:

Avoid touching the glass part of the bulb. Keep it free from oil; otherwise, the transparency of the glass, life of the bulb, and illuminous flux will be adversely affected. If oil gets on the bulb, thoroughly clean it with a cloth moistened with alcohol or lacquer thinner.



1 Don't touch

5. Install the bulb holder cover, headlight connectors and the light unit assembly.

If the headlight beam adjustment is necessary, ask a Yamaha dealer to make adjustment.

EAJ80201*

Front wheel removal

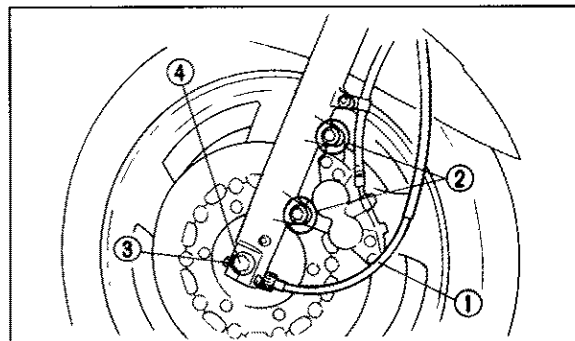
EUU66202

WARNING

- It is advisable to have a Yamaha dealer service the wheel.
- Securely support the motorcycle so there is no danger of it falling over.

1. Place the motorcycle on the center-stand.
2. Remove the speedometer cable from the front wheel side.

3. Remove the caliper bolts and then the calipers.



- | | |
|---------------------|----------------------|
| 1 Speedometer cable | 2 Caliper bolt (x 2) |
| 3 Pinch bolt | 4 Wheel axle |

4. Loosen the pinch bolt and wheel axle.
5. Elevate the front wheel by placing a suitable stand under the engine.
6. Remove the wheel axle. Make sure the motorcycle is properly supported.

EUU05401

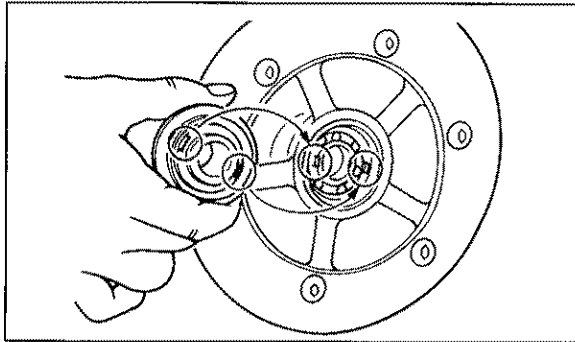
NOTE:

Do not depress the brake lever when the disc and caliper are separated.

Front wheel installation

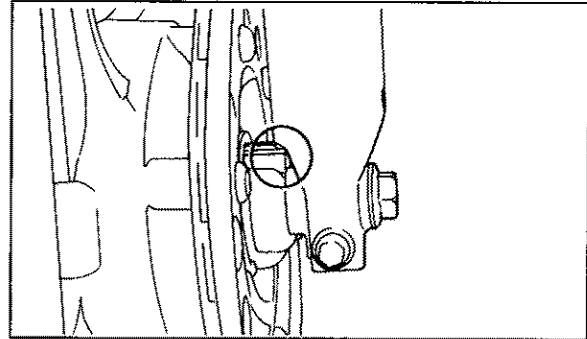
When installing the front wheel, reverse the removal procedure. Pay attention to the following points:

1. Make sure the wheel hub and the speedometer clutch assembly are installed with the projections meshed into the slots.



2. Make sure there is enough gap between the brake pads before setting the calipers or discs.

3. Make sure the slot in the speedometer gear unit fits over the stopper on the front fork.



4. Tighten the following parts to the specified torque.

Tightening torque:

Axle:

58 Nm (5.8 m·kg, 42 ft·lb)

Caliper bolt:

40 Nm (4.0 m·kg, 29 ft·lb)

5. Before tightening the pinch bolt, push down hard on the handlebars several times to check for proper fork operation.
6. Tighten the pinch bolt to the specified torque.

Tightening torque:

Pinch bolt:

20 Nm (2.0 m·kg, 14 ft·lb)

EAJ83400*

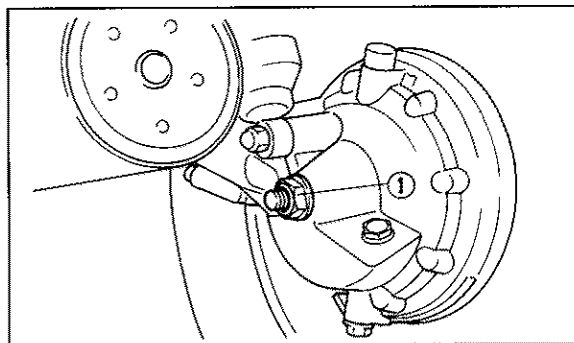
Rear wheel removal

EUU66202

WARNING

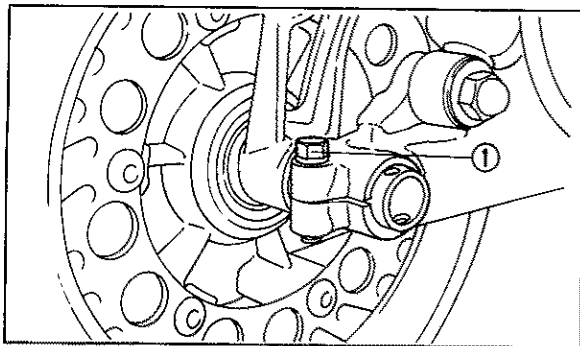
- It is advisable to have a Yamaha dealer service the wheel.
- Securely support the motorcycle so there is no danger of it falling over.

1. Place the motorcycle on the center-stand.
2. Remove the axle nut.



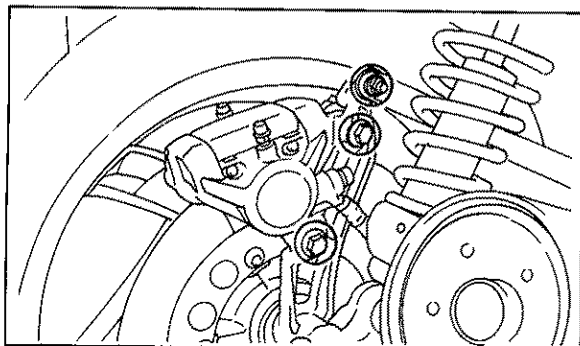
1 Axle nut

3. Loosen the rear axle pinch bolt.

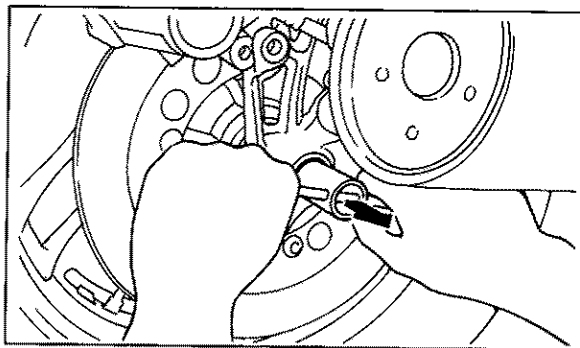


1. Pinch bolt

4. Remove the caliper bolts and then the compression bar bolt by removing the cotter pin and nut.



5. While supporting the brake caliper, pull out the rear axle.



6. Move the wheel to the right to separate it from the final gear case and remove the rear wheel.

EUU05501

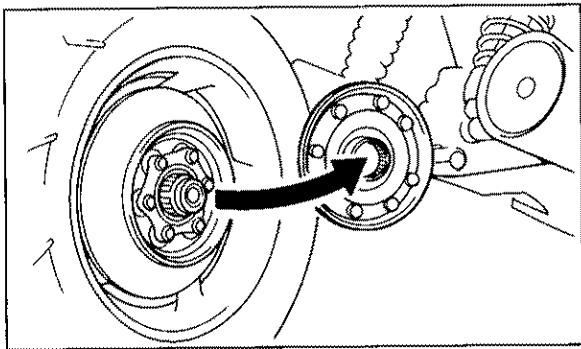
NOTE:

Do not depress the brake pedal when the disc and caliper are separated.

Rear wheel installation

When installing the rear wheel, reverse the removal procedure. Pay attention to the following points:

1. Apply a light coating of lithium base grease to final gear case splines and rear wheel hub splines.
2. Make sure the splines on the wheel hub fit into the final gear case.



3. Make sure there is enough gap between the brake pads before inserting the brake disc.

4. Make sure the following parts are properly torqued, and a new cotter pin is installed.

EUU78000

⚠ WARNING

Always use a new cotter pin.

Tightening torque:

Axle nut:

150 Nm (15.0 m·kg, 108 ft·lb)

Pinch bolt:

16 Nm (1.6 m·kg, 11 ft·lb)

Compression bar bolt:

48 Nm (4.8 m·kg, 35 ft·lb)

Caliper bolt:

40 Nm (4.0 m·kg, 29 ft·lb)

Troubleshooting

Although Yamaha motorcycles receive a rigid inspection before shipment from the factory, trouble may occur during operation.

Any problem in the fuel, compression, or ignition systems can cause poor starting and loss of power. The troubleshooting chart describes a quick, easy procedure for making checks.

If your motorcycle requires any repair, bring it to a Yamaha dealer. The skilled technicians at a Yamaha dealership have the tools, experience, and know-how to properly service your motorcycle. Use only genuine Yamaha parts on your motorcycle. Imitation parts may look like Yamaha parts, but they are often inferior. Consequently, they have a shorter service life and can lead to expensive repair bills.

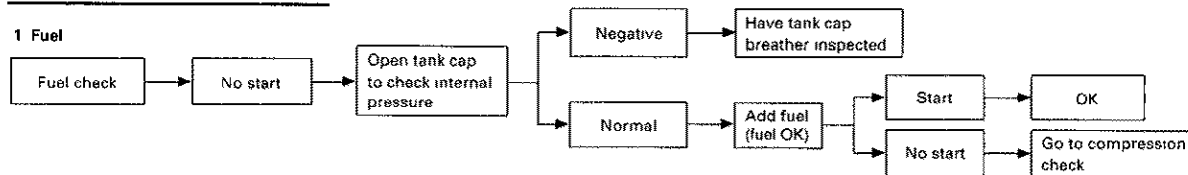
Troubleshooting chart

EUU66300

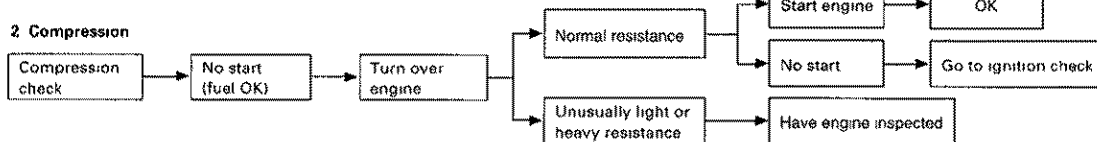
⚠ WARNING

Never check the fuel system while smoking or in the vicinity of an open flame.

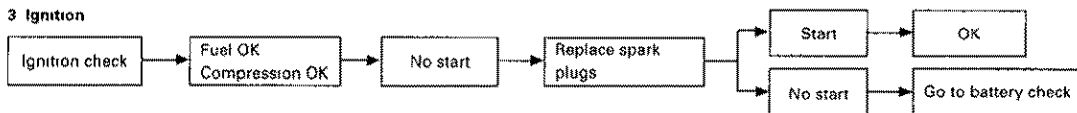
1 Fuel



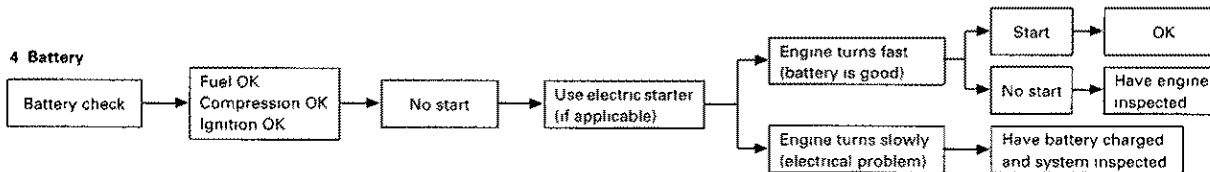
2 Compression



3 Ignition



4 Battery



CLEANING AND STORAGE

EAK02300

A. CLEANING

Frequent, thorough cleaning of your motorcycle will not only enhance its appearance but will improve its general performance and extend the useful life of many components.

1. Before cleaning the motorcycle:
 - a. Block off the end of the exhaust pipes to prevent water entry; a plastic bag and strong rubber band may be used.
 - b. Make sure the spark plugs and all filler caps are properly installed.
2. If the engine case is excessively greasy, apply degreaser with a paint brush. Do not apply degreaser to wheel axles.
3. Rinse the dirt and degreaser off with a garden hose. Use only enough pressure to do the job.

EUU34602

CAUTION:

Excessive hose pressure may cause water seepage and deterioration of wheel bearings, front fork, brakes, transmission seals and electrical parts.

Many expensive repair bills have resulted from improper high pressure detergent applications such as those available in coin-operated car washers.

4. Once the majority of the dirt has been hosed off, wash all surfaces with warm water and mild, detergent-type soap. An old toothbrush or bottle brush is handy for hard-to-get-at places.
5. Rinse the motorcycle off immediately with clean water and dry all surfaces with a chamois, clean towel, or soft absorbent cloth.

6. Clean the seat with a vinyl upholstery cleaner to keep the cover pliable and glossy.
7. Automotive-type wax may be applied to all painted and chrome-plated surfaces. Avoid combination cleaner-waxes. Many contain abrasives which may mar the paint or protective finish. When finished, start the engine and let it idle for several minutes.

EAK01700

B. STORAGE

Long term storage (60 days or more) of your motorcycle will require some preventive procedures to guard against deterioration. After thoroughly cleaning the motorcycle, prepare for storage as follows:

1. Drain the fuel tank, fuel lines, and carburetor float bowl(s).

2. Remove the spark plug, pour about one tablespoon of SAE 10W30 or 20W40 motor oil in the spark plug hole and reinstall the spark plug. Turn the engine over several times (ground spark plug lead wires) to coat the cylinder walls with oil.

EUU66400

WARNING

When using the starter motor to crank the engine, remove the spark plug wires, and ground them to prevent sparking.

3. Lubricate all control cables.
4. Block up the frame to raise both wheels off the ground.
5. Tie a plastic bag over the exhaust pipe outlet to prevent moisture from entering.

6. If storing in a humid or salt-air atmosphere, coat all exposed metal surfaces with a light film of oil. Do not apply oil to any rubber parts or the seat cover.
7. Remove the battery and charge it. Store it in a dry place and recharge it once a month. Do not store the battery in an excessively warm or cold place (less than 0°C (30°F) or more than 30°C (90°F)).

EUU05800

NOTE: _____

Make any necessary repairs before storing the motorcycle.

SPECIFICATIONS

Model	VMX12
Dimensions Overall length Overall width Overall height Seat height Wheelbase Minimum ground clearance Minimum turning radius	2,300 mm (90.6 in) 795 mm (31.3 in) 1,160 mm (45.7 in) 765 mm (30.1 in) 1,590 mm (62.6 in) 145 mm (5.7 in) 2,900 mm (114.2 in)
Basic weight: With oil and full fuel tank	283 kg (624 lb)
Engine: Engine type Cylinder arrangement Displacement Bore × stroke Compression ratio Starting system Lubrication system	Liquid-cooled 4-stroke, gasoline, DOHC V type 4-cylinder 1,198 cm ³ 76 × 66 mm (2.99 × 2.60 in) 10.5:1 Electric starter Wet sump

Model	VMX12
Oil type or grade: Engine oil Final gear oil	See page 6-4. SAE80API "GL-4" Hypoid Gear Oil
Oil capacity. Engine oil Periodic oil change With oil filter replacement Total amount Final gear oil Total amount	 3.5 L (3.1 Imp qt, 3.7 US qt) 3.8 L (3.3 Imp qt, 4.0 US qt) 4.7 L (4.1 Imp qt, 5.0 US qt) 0.2 L (0.18 Imp qt, 0.21 US qt)
Radiator capacity (including all routes):	3.05 L (2.68 Imp qt, 3.22 US qt)
Air filter:	Dry type element
Fuel: Type Tank capacity Reserve amount	Regular unleaded gasoline 15 L (3.3 Imp gal, 4.0 US gal) 3 L (0.7 Imp gal, 0.8 US gal)
Carburetor: Type / quantity Manufacturer	BDS35/4 MIKUNI

Model	VMX12
Spark plug	
Type	DPR8EA-9 / X24EPR-U9
Manufacturer	NGK / NIPPONDENSO
Spark plug gap	0.8 ~ 0.9 mm (0.031 ~ 0.035 in)
Clutch type	Wet, multiple-disc
Transmission:	
Primary reduction system	Spur gear
Primary reduction ratio	87/49 (1.775)
Secondary reduction system	Shaft drive
Secondary reduction ratio	21/27 × 33/9 (2.851)
Transmission type	Constant mesh 5-speed
Operation	Left foot operation
Gear ratio	
1st	43/17 (2.529)
2nd	39/22 (1.772)
3rd	31/23 (1.347)
4th	28/26 (1.076)
5th	26/28 (0.928)
Chassis	
Frame type	Double cradle
Caster angle	29°
Trail	119 mm (4.69 in)

Model		VMX12
Tire:		
Type		Tubeless
Size	(front)	110/90 V18
	(rear)	150/90 V15 M/C
Brake:		
Front brake	type	Dual disc brake
	operation	Right hand operation
Rear brake	type	Single disc brake
	operation	Right foot operation
Suspension		
Front		Telescopic fork
Rear		Swingarm
Shock absorber:		
Front		Coil-air spring / Oil Damper
Rear		Coil spring / Oil damper
Wheel travel:		
Front		140 mm (5.5 in)
Rear		100 mm (3.9 in)

Model	VMX12
Electrical	
Ignition system	T.C.I (Digital)
Generator system	A.C. magneto
Battery type	YB16AL-A2
Battery capacity	12 V 16 AH
Headlight type	Quartz bulb (Halogen)
Bulb wattage × quantity	
Headlight	12 V 60 W / 55 W × 1
Tail / brake light	12 V 8 W / 27 W × 2
Front flasher/position light	12 V 27 W / 8 W × 2
Rear flasher light	12 V 27 W × 2
Meter light	12 V 3 W × 4
Neutral indicator light	12 V 3 W × 1
High beam indicator light	12 V 3 W × 1
Oil level indicator light	12 V 3 W × 1
Turn indicator light	12 V 3 W × 1
Fuel indicator light	12 V 3 W × 1

TAMPERING WITH NOISE CONTROL SYSTEM PROHIBITED

Owners are warned that the law may prohibit:

- (a) The removal or rendering inoperative by any person other than for purpose of maintenance repair or replacement, of any device or element of design incorporated into any new vehicle for the purpose of noise control prior to its sale or delivery to the ultimate purchaser or while it is in use, and
- (b) the use of the vehicle after such device or element of design has been removed or rendered inoperative by any person

MAINTENANCE RECORD

Copies of work orders and/or receipts for parts you purchase and install will be required to document that maintenance has been completed in accordance with the emission warranty. The chart below is printed only as a reminder to you that the maintenance work is required. It is not acceptable proof of maintenance work.

MAINTENANCE INTERVAL	DATE OF SERVICE	MILEAGE	SERVICING DEALER NAME AND ADDRESS	REMARKS
1,000 km or 600 mi or 1 mo				
7,000 km or 4,400 mi or 7 mos				
13,000 km or 8,200 mi or 13 mos				
19,000 km or 12,000 mi or 19 mos				
25,000 km or 15,800 mi or 25 mos				

MAINTENANCE INTERVAL	DATE OF SERVICE	MILEAGE	SERVICING DEALER NAME AND ADDRESS	REMARKS
31,000 km or 19,600 mi or 31 mos.				
37,000 km or 23,400 mi or 37 mos				
43,000 km or 27,200 mi or 43 mos.				
49,000 km or 31,000 mi or 49 mos.				
55,000 km or 34,800 mi or 55 mos.				
61,000 km or 38,600 mi or 61 mos				

YAMAHA MOTOR CANADA LTD. MOTORCYCLE WARRANTY GUIDE

Congratulations on the purchase of your new Yamaha motorcycle. You have chosen a quality product designed and manufactured to bring you years of enjoyment.

This information explains Yamaha warranty policies. You will find the answers to most of your questions by reading it through.

If you require further assistance, see your Yamaha dealer. His qualified personnel will be pleased to meet all your service requirements, both during and after the warranty period.

Keep in mind that Yamaha manufactures many other quality products too. For further information on our complete line up contact your dealer or Yamaha Motor Canada Ltd.

For a product brochure, or a dealer nearest you, call 1-800-267-8577.

Yamaha Motor Canada Ltd.
480 Gordon Baker Road NORTH YORK, Ontario
M2H 3B4 (416) 498 1911

Yamaha motorcycle Warranty Policy

In this warranty, the term MOTORCYCLE shall refer to a new MOTORCYCLE manufactured by the YAMAHA MOTOR COMPANY, LTD. ("MANUFACTURER") under the trade name of Yamaha, distributed by YAMAHA MOTOR CANADA LTD.

(YAMAHA), sold at retail by an authorized YAMAHA dealer ("DEALER"), normally operated within Canada and registered in Canada. The term CUSTOMER shall refer to the owner or lessee of record of the MOTORCYCLE registered with YAMAHA and to any subsequent owner, and the term DELIVERY shall refer to the date of delivery of a MOTORCYCLE from the DEALER to the CUSTOMER.

Section A - Warranty

Subject to Section D, YAMAHA offers the following warranty coverage to the CUSTOMER:

1. Period of Warranty
 - a. Pleasure use (including government use): the period of warranty shall be ninety days commencing on DELIVERY on all models designated RT, PW, BW, TT, IT, MX, TY and on model YZ80.
 - b. the period of warranty shall be two years on DELIVERY, unlimited mileage on model GTS1000.

- c. the period of warranty shall be one year on DELIVERY, unlimited mileage on all other models Commercial use.

The period of warranty shall be half of the warranty period indicated for pleasure use, commencing on DELIVERY on all MOTORCYCLES.

2. During these periods of warranty
 - a. any part defective by reason of the MANUFACTURER'S faulty workmanship or material will be replaced or repaired free of charge.
 - b. Any repairs or adjustments made necessary by reason of the MANUFACTURER'S faulty workmanship or material will be performed free of charge.

The MANUFACTURER reserves the right to change the design of any model without obligation to modify any model previously manufactured.

Section B - Subsequent Owner

The warranty provided for in Section A may be transferred to any subsequent owner provided that the period of warranty has not expired and that the CUSTOMER has complied with all terms and conditions of this warranty.

The subsequent owner has the responsibility for ensuring that a subsequent owner card is sent to YAMAHA at the time of such transfer of ownership.

This transfer MUST be done by contacting the DEALER who will forward the following information to YAMAHA:

- a. the complete model and serial number as shown on the original warranty document,
- b. the name of the previous owner,
- c. the original delivery date of the MOTORCYCLE,
- d. the complete name and address of the subsequent owner,
- e. the indication that the subsequent owner has received and read the Owner's Manual and this warranty policy.

Section C - Obtaining Repairs Under Warranty

To obtain repairs under warranty, the CUSTOMER must:

1. Ensure that the MOTORCYCLE is properly operated, maintained and stored as specified in the Owner's Manual.
 2. Give notice to a DEALER of any and all apparent defects immediately upon discovery, and make the entire MOTORCYCLE available at that time for inspection and repair at the DEALER'S place of business.
 3. Provide proof of warranty coverage to such DEALER (CUSTOMER'S copy of the New Vehicle Information Statement NVIS 1).
 4. Authorize the DEALER to tear down the MOTORCYCLE for diagnostic evaluation should it be required.
- All warranty repairs must be done by a DEALER and final approval of any repairs rests with YAMAHA. All parts replaced become the property of YAMAHA.

Section D - Exclusions

1. This warranty does not apply unless
 - a. the MOTORCYCLE has been fully assembled and set to the MANUFACTURER'S operating specifications by a DEALER prior to DELIVERY to the CUSTOMER.
 - b. the CUSTOMER has followed the break-in and storage instructions contained in the Owner's Manual, and all other instructions shown in the Owner's Manual.
 - c. the CUSTOMER can provide record of maintenance having been performed as recommended in the Owner's Manual.
 - d. requests for repairs under warranty have been made as prescribed in Section C.
2. This warranty does not cover the repair of damage resulting from abuse or neglect of the MOTORCYCLE. Examples of abuse and neglect include but are not limited to:
 - a. racing, competition, MOTORCYCLE designated by model prefix TZ, WR, or YZ with the exception of model YZ80, modification of original parts, abnormal strain,
 - b. use of lubricants, oils and fuel/oil mixtures other than those recommended in the Owner's Manual, improperly installed accessories and use of parts or accessories that are not equivalent in design and quality to genuine Yamaha parts.
 - c. damage as a result of accidents, collisions, contact with foreign materials, impact, submersion or use of the MOTORCYCLE after discovery of a defect,

- d appearance related damages of body parts. Examples of such damages include but are not limited to scratches, dents, fading, flaking, peeling
- 3 This warranty does not extend to
- a MOTORCYCLES which have been modified in any way from the standard specifications as shown in the Owner's Manual, including any MOTORCYCLE whose odometer has been altered,
- b normal wear and tear, corrosion and routine maintenance, such as the recommended service inspections,
- c pre-delivery inspection and assembly,
- d MOTORCYCLES from which the MANUFACTURER'S identification numbers have been removed or whose identification numbers have been altered or mutilated,
- e parts replaced due to normal wear or routine maintenance such as drive chain, clutch plate and facings, oil and lubricants, spark plugs, batteries, generator brushes, sealed beams, lightbulbs, tires, filters, drive belts, brake pads and fuses,
- f inconvenience, loss of time, loss of income or loss of use of the MOTORCYCLE or any consequential damage of any kind,
- g damages from theft, fire, vandalism, explosion, water or acts of God,
- h storage costs, or transportation and shipping costs related to the performance of this warranty,

Section E – Emissions Control System Warranty (For applicable models only)

YAMAHA warrants to the CUSTOMER of a MOTORCYCLE covered by this warranty with a displacement of 50cc or greater, that the MOTORCYCLE is designed, built and equipped so as to conform at the time of DELIVERY with all federal emissions standards applicable at the time of manufacture and that it is free from defects in materials and workmanship which would cause it not to meet these standards within the periods listed immediately below. Failures other than those resulting from defects in material or workmanship which arise solely as a result of owner abuse and/or lack of proper maintenance are not covered by this warranty.

Engine Displacement	Period
50cc to 169cc	12,000 km or 5 years, whichever occurs first
170cc to 279cc	18,000 km or 5 years, whichever occurs first
280cc and over	30,000 km or 5 years, whichever occurs first

Section F

This warranty is in addition to, and not a modification of, any legal warranty required by the laws of any province of Canada.

Subject to any applicable sales or consumer legislation, the above warranty is in lieu of any warranty or representation, expressed or implied, including any warranty of performance, merchantability or fitness for a particular purpose on the part of YAMAHA, and any other obligation or liability on behalf of YAMAHA, and the above warranty constitutes your sole remedy and the full liability of YAMAHA. In no event shall YAMAHA be liable for special, incidental or consequential damages howsoever caused, whether by negligence or otherwise resulting directly or indirectly from the use of the MOTORCYCLE, or the MOTORCYCLE'S having replacement parts or the unavailability of replacement parts.

YAMAHA does not assume, or authorize any person to create or assume for YAMAHA, any obligation or liability in connection with the MOTORCYCLE or any part thereof distributed by YAMAHA.

Original Equipment Tires

Tires supplied as original equipment on your MOTORCYCLE are warranted separately by the individual tire manufacturer or its representatives. Generally speaking, this warranty covers defects in workmanship and material.

If an adjustment becomes necessary, present your MOTORCYCLE to your DEALER and have the DEALER contact the appropriate tire manufacturer.

Storing your MOTORCYCLE

If your MOTORCYCLE is not to be used for 60 days or more, it must be properly stored to ensure against deterioration.

You should consult your Owner's Manual for storage details, but WE RECOMMEND THAT YOU HAVE AN

AUTHORIZED YAMAHA MOTORCYCLE DEALER PREPARE YOUR MOTORCYCLE FOR STORAGE. His highly-trained staff have the experience and the qualifications to do the job right.

YAMAHA cannot accept responsibility for damage to your vehicle or personal injury resulting from negligence or lack of experience in the preparation of your MOTORCYCLE for storage.

Pre-delivery Checklist

The DEALER has assembled and inspected the MOTORCYCLE according to the following pre-delivery checklist prior to DELIVERY to the CUSTOMER (Some items may not be applicable to all models.)

Appearance	• check for and correct superficial damage or missing parts
Battery	• fill with electrolyte • charge battery properly • check vent hose routing
Valves	• check valve clearances • check cam chain tension
Spark plug(s)	• check gap
Carburetor(s)	• drain float bowl(s) before starting • check idle speed, synchronization, starter operation
Fuel line	• check fuel hose routing and ensure that clamps are in proper position
Oil levels	• check engine oil, transmission, final drive
Oil pump (2-stroke)	• bleed oil pump • check oil pump settings (cable and minimum stroke)
Coolant	• check coolant level in radiator and recovery tank
Cables	• check for proper routing and freeplay on throttle, brake, clutch
Clutch	• check operation
Brakes	• check operation, freeplay, fluid level • check parking brake operation
Drive chain	• check freeplay
Wheels	• check tire pressures and wheel run out • check wheel nut torque • check spokes for proper tension
Steering system	• check operation
Suspension	• check operation and adjustment
Drive select lever	• check operation

Fittings/
Fasteners

- check all for loose or missing hardware

Electricals

- check all light and switch operations
- check safety switches and horn for proper operation

Ignition
Final

- check headlight aim
- check ignition timing
- check and correct superficial damage or missing parts
- test ride and observe any abnormal noise or function

YAMAHA EXTENDED SERVICE PLAN (Y.E.S.)

YAMAHA offers to the CUSTOMER of a Yamaha MOTORCYCLE an extended service plan (Y.E.S.) which may be purchased at any time during the warranty period of the MOTORCYCLE. Restrictions apply to some models and applications

Features of the plan include

- The same coverage, terms and conditions described in this warranty policy apply under the Y.E.S. plan
- There is no deductible to pay
- Some allowance if towing of the MOTORCYCLE is necessary. This coverage goes into effect when you purchase the Y.E.S. plan, therefore, it applies to repair during the warranty period, as well as for the duration of the Y.E.S. plan
- Y.E.S. coverage is honored at any authorized Yamaha dealer in North America
- Y.E.S. coverage is transferable to a new owner.

Should you wish to know more on how Y.E.S. can extend the protection on your MOTORCYCLE, please contact an authorized DEALER for further details

Change of Address

If you should move after you have purchased your MOTORCYCLE, please advise YAMAHA of your new address by providing the model name, serial number and dealer number as it is shown on your warranty card, along with your new mailing address. This will ensure that YAMAHA has an up-to-date registration record

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YAMAHA MOTOR CO., LTD

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