

**YAMAHA**

**OWNER'S MANUAL**

***Thundercat***

**YZF600R**

**4TV-28199-E1**



**YZF600R****OWNER'S MANUAL****©1996 by Yamaha Motor Co., Ltd.****1st Edition, September 1996****All rights reserved. Any reprinting or  
unauthorized use without the written  
permission of Yamaha Motor Co., Ltd.****is expressly prohibited.****Printed in Japan****INTRODUCTION**

Congratulations on your purchase of the Yamaha YZF600R. This model is the result of Yamaha's vast experience in the production of fine sporting, touring, and pace-setting 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.

## 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!

### WARNING

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.

EUU00001

### 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**

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**PLEASE READ THIS MANUAL CAREFULLY  
AND COMPLETELY BEFORE OPERATING  
THIS MOTORCYCLE.**

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**⚠ GIVE SAFETY THE RIGHT OF WAY**

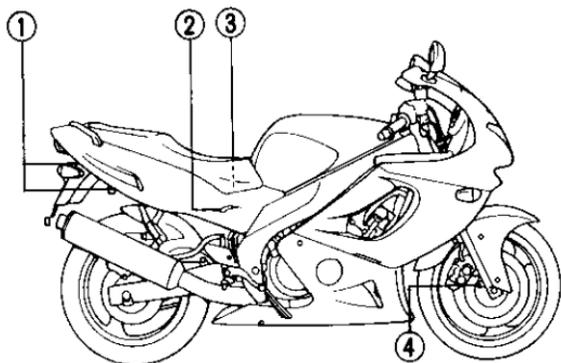
**Motorcycles are fascinating vehicles, which can give you an unsurpassed feeling of power and freedom. However, they also impose certain limits, which you must accept; even the best motorcycle does not ignore the laws of physics.**

**Regular care and maintenance are essential for preserving your motorcycle's value and operating condition. Moreover, what is true for the motorcycle is also true for the rider: good performance depends on being in good shape. Riding under the influence of medication, drugs and alcohol is, of course, out of the question. Motorcycle riders – more than car drivers – must always be at their mental and physical best. Under the influence of even small amounts of alcohol, there is a tendency to take dangerous risks.**

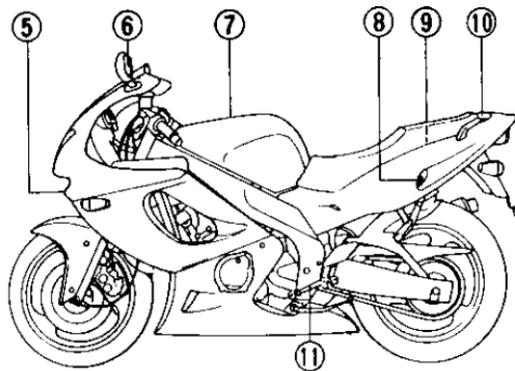
**Protective clothing is as essential for the motorcycle rider as seat belts are for car drivers and passengers. Always wear a complete motorcycle suit (whether made of leather or tear-resistant synthetic materials with protectors), sturdy boots, motorcycle gloves and a properly fitting helmet. Optimum protective wear, however, should not encourage carelessness. Though full-coverage helmets and suits, in particular, create an illusion of total safety and protection, motorcyclists will always be vulnerable. Riders who lack critical self-control run the risk of going too fast and are apt to take chances. This is even more dangerous in wet weather. The good motorcyclist rides safely, predictably and defensively – avoiding all dangers, including those caused by others.**

**Enjoy your ride!**

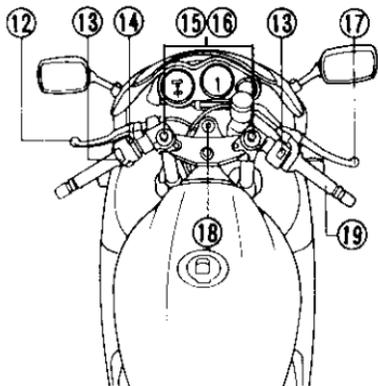
## DESCRIPTION



1. Luggage strap holders
2. Rear brake oil inspection window
3. Coolant reservoir tank
4. Front fork compression damping force adjusting screw



5. Air intake duct
6. Rear view mirror
7. Fuel tank
8. Rear shock absorber compression damping force adjusting screw
9. Storage compartment
10. Grab bar
11. Shift pedal



- 12. Clutch lever
- 13. Handlebar switches
- 14. Starter " | ↘ | "
- 15. Front fork spring preload adjuster
- 16. Front fork rebound damping force adjusting screw
- 17. Brake lever
- 18. Main switch
- 19. Throttle grip

# 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:

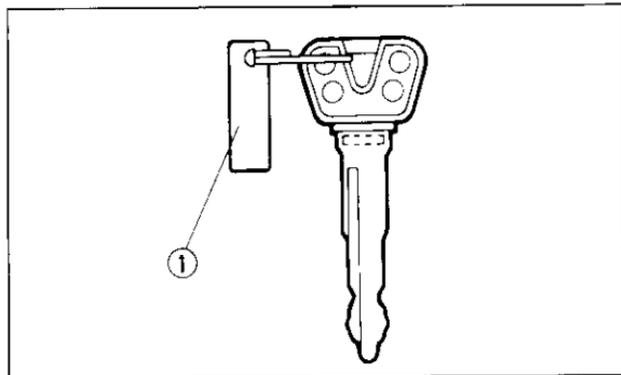
### 3. MODEL LABEL INFORMATION:


EAA61900

## Key identification number

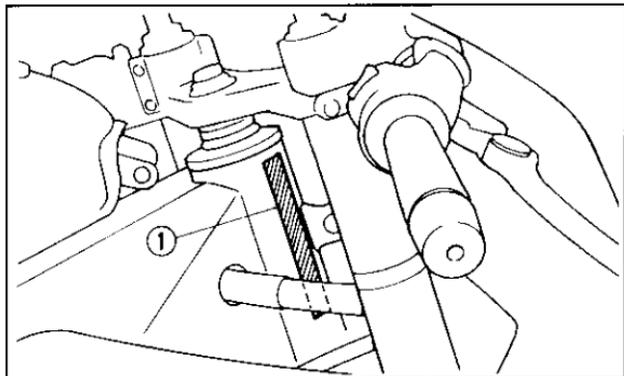
The key identification number is stamped on the key tag. Record this number in the space provided and use it for reference when obtaining a new key.



1. Key identification number

## Vehicle identification number

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



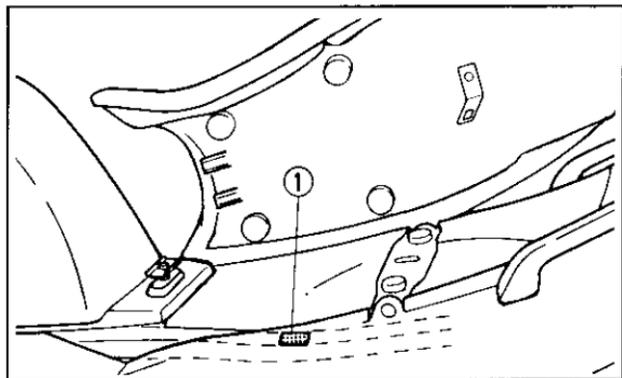
1. Vehicle identification number

## 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 location shown in the figure. Record the information on this label in the space provided. This information will be needed to order spare parts from your Yamaha dealer.

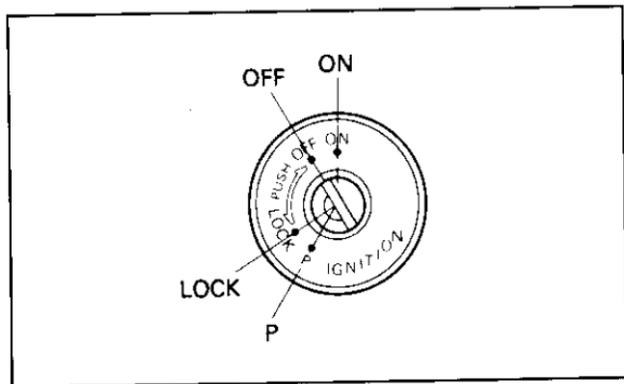


1. Model label

# CONTROL FUNCTIONS

## Main switch

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



### ON:

Electrical circuits are switched on. The engine can be started. The key cannot be removed in this position.

### OFF:

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

### LOCK:

The steering is locked in this position, and all electrical circuits are switched off. The key can be removed in this position. Refer to "Steering lock" (page 4-14) for operation instructions.

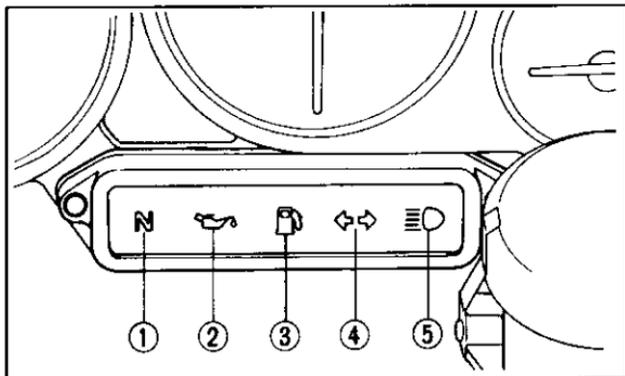
### P (Parking)

The steering is locked in this position, and the taillight and auxiliary light come on but all other circuits are off. The key can be removed in this position.

### NOTE:

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

## Indicator lights



1. Neutral indicator light "N"
2. Oil level indicator light "油"
3. Fuel indicator light "油"
4. Turn indicator light "左右"
5. High beam indicator light "远光"

### Turn indicator light "左右"

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

### Neutral indicator light "N"

This indicator comes on when the transmission is in neutral.

### High beam indicator light "远光"

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

### Oil level indicator light "油"

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

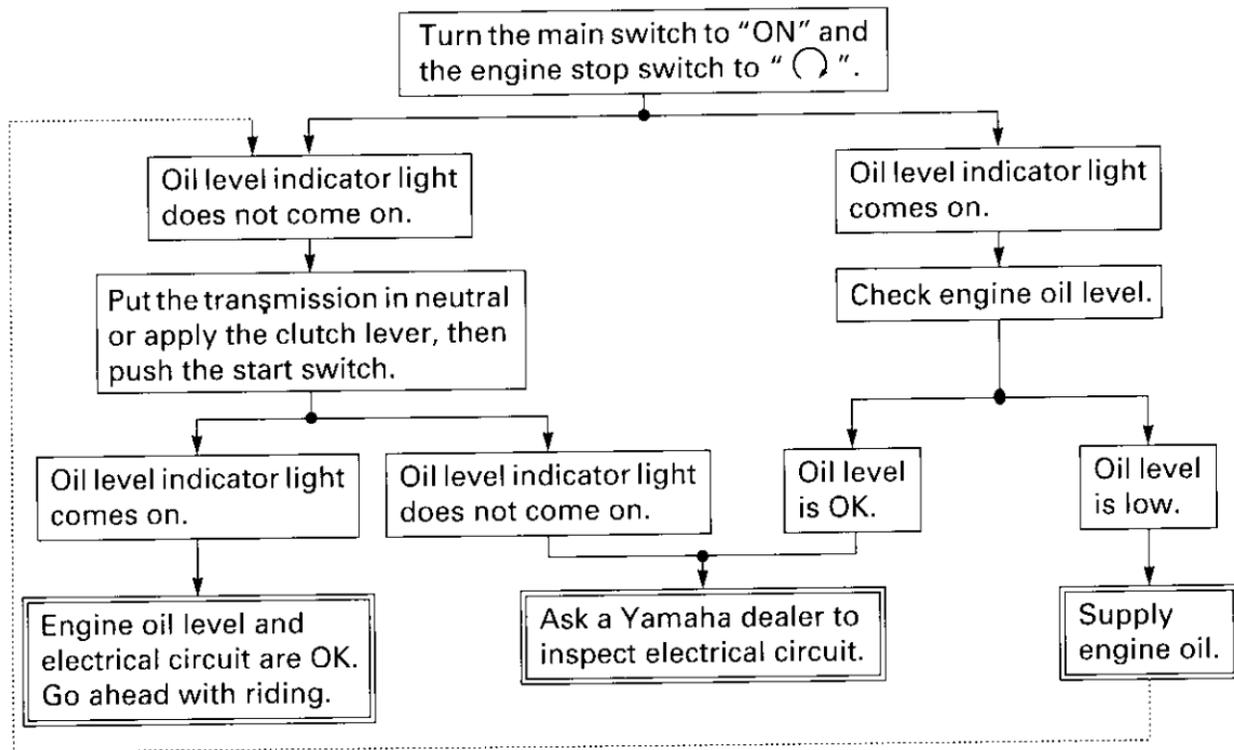
### CAUTION:

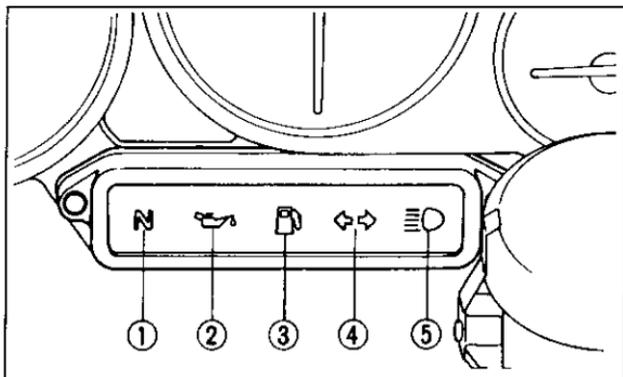
**Do not run the motorcycle until you know it has sufficient engine oil.**

### 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





1. Neutral indicator light " N "
2. Oil level indicator light "  "
3. Fuel indicator light "  "
4. Turn indicator light "  "
5. High beam indicator light "  "

EAB12901

### **Fuel indicator light " "**

When the fuel level drops below approximately 3.1 L, this light will come on. When this light comes on, fill the tank at the first opportunity.

## Fuel indicator circuit check

Turn the main switch to "ON" and the engine stop switch to "⏻".

Fuel indicator light does not come on.

Put the transmission in neutral or apply the clutch lever, then push the start switch.

Fuel indicator light comes on.

Fuel level and electrical circuit are OK.  
Go ahead with riding.

Fuel indicator light does not come on.

Ask a Yamaha dealer to inspect electrical circuit.

Fuel indicator light comes on.

Check the fuel level.

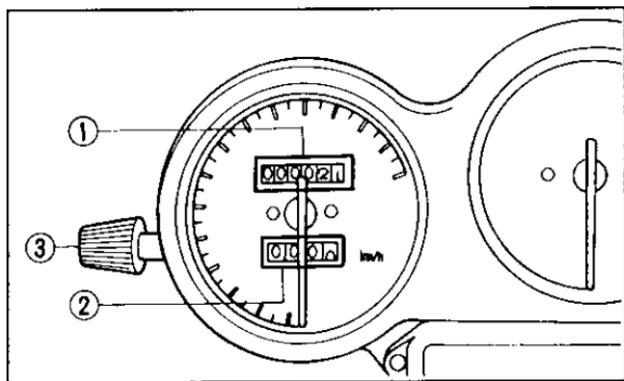
Fuel level is OK.

Fuel level is low.

Supply fuel.

## Speedometer

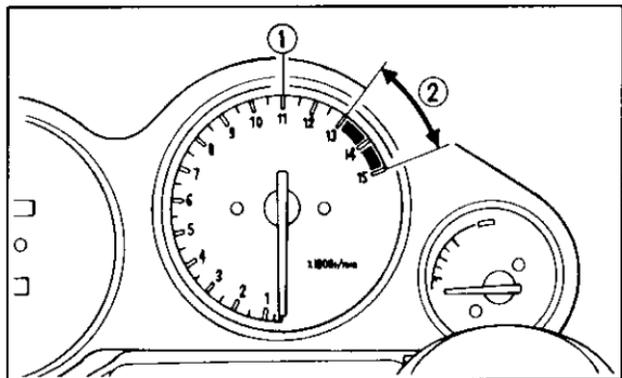
The speedometer shows riding speed. This speedometer is equipped with an odometer and trip odometer. The trip odometer can be reset to "0" with the reset knob. Use the trip odometer to estimate how far you can ride on a tank of fuel. This information will enable you to plan fuel stops in the future.



1. Odometer
2. Trip odometer
3. Reset knob

## 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. Tachometer
2. Red zone

### CAUTION:

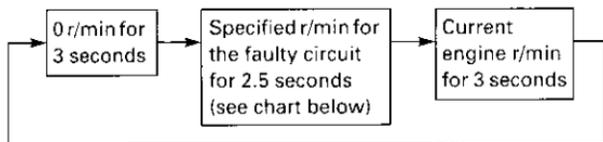
**Do not operate in the red zone.**  
**Red zone: 13,200 r/min and above**

## Diagnosis device

This model is equipped with a self diagnosis for the following circuits:

- Throttle Position Sensor (T.P.S.) circuit
- Fuel indicator light circuit

If some trouble should occur in any of these circuits, the tachometer will repeatedly display as follows:



Use this chart to identify what circuit is faulty according to the specified r/min displayed.

Specified r/min	Faulty circuit
3,000 r/min	Throttle Position Sensor (T.P.S.)
8,000 r/min	Fuel indicator light

If the tachometer displays as described above, take note of the specified r/min and then take your motorcycle to a Yamaha dealer for repair.

EJU47200

### CAUTION:

**To prevent engine damage, be sure to consult a Yamaha dealer as soon as possible if the tachometer displays a repeated change in rpm.**

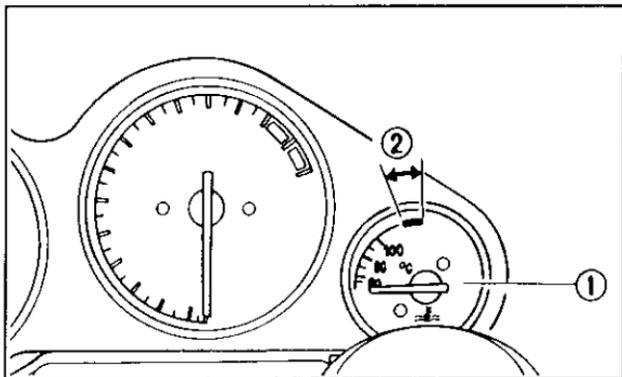
EAB55700

### Antitheft alarm (optional)

An antitheft alarm can be equipped to this motorcycle. Consult your Yamaha dealer to obtain and install the alarm.

## 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 5-9 for details.)



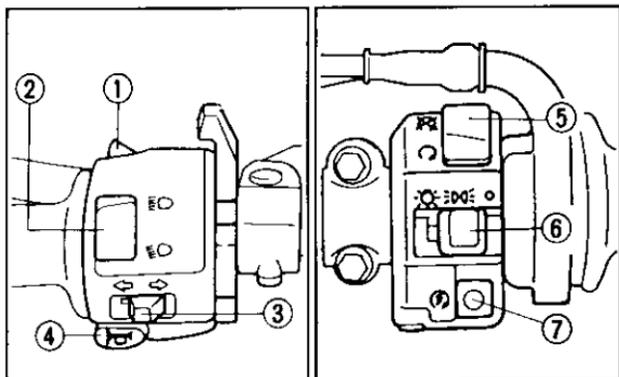
1. Engine temperature gauge

2. Red zone

## CAUTION:

**When the engine is overheated, do not continue riding.**

## Handlebar switches



1. Pass switch "PASS"
2. Dimmer switch
3. Turn signal switch
4. Horn switch "📢"
5. Engine stop switch
6. Lights switch
7. Start switch "🔌"

EAB63201

### Pass switch "PASS"

Press the switch to operate the passing light.

EAB63400

### Dimmer switch

Turn the switch to "☰" for the high beam and to "☷" for the low beam.

EAB63500

### Turn signal switch

To signal a right-hand turn, push the switch to "➡". To signal a left-hand turn, push the switch to "⬅". 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.

EAB63700

### Horn switch "📢"

Press the switch to sound the horn.

EAB64000

### Lights switch

Turning the light switch to "☰", turns on the auxiliary light, meter lights and tail-light. Turning the light switch to "☀", turns the headlight on also.

EAB63800

### **Engine stop switch**

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 "  " to start the engine. In case of emergency, turn the switch to "  " to stop the engine.

EAB64100

### **Start switch " "**

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

EUU30700

### **CAUTION:**

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**See starting instructions prior to starting the engine.**

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EAB70003

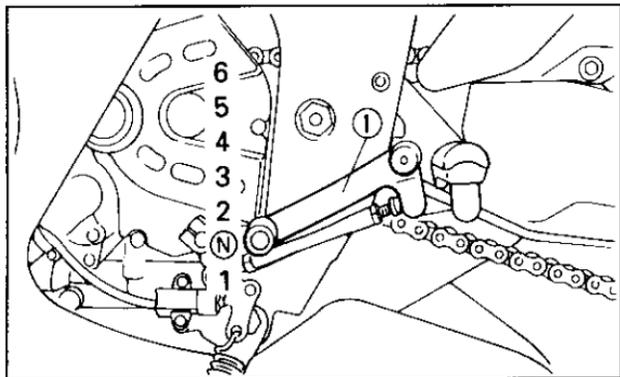
### **Clutch lever**

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 6-speed transmission.

The shift pedal is located on the left side of the engine and is used in combination with the clutch when shifting.

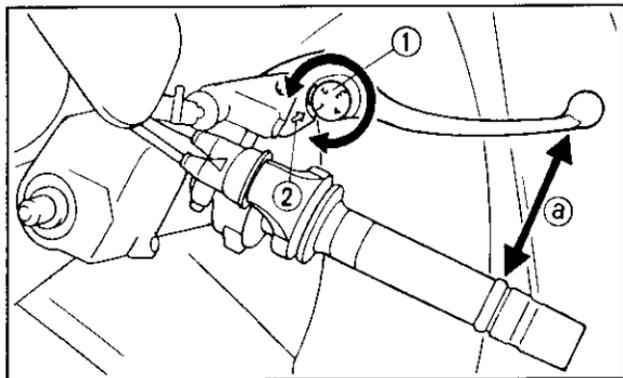


1. Shift pedal

N. Neutral

## Front brake lever

The front brake lever is located on the right handlebar and is equipped with a position adjuster. To activate the front brake, pull the lever toward the handlebar. To adjust the front brake lever position, turn the adjuster while pulling the lever forward. Make sure the setting on the adjuster is aligned with the arrow mark.



1. Lever position adjuster

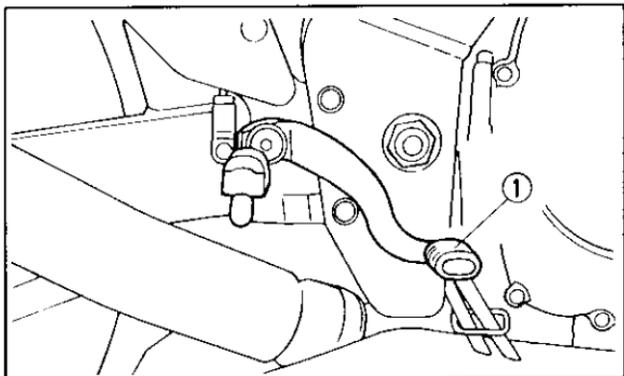
2. Arrow mark

a. Lever distance

EAB90101

## 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.



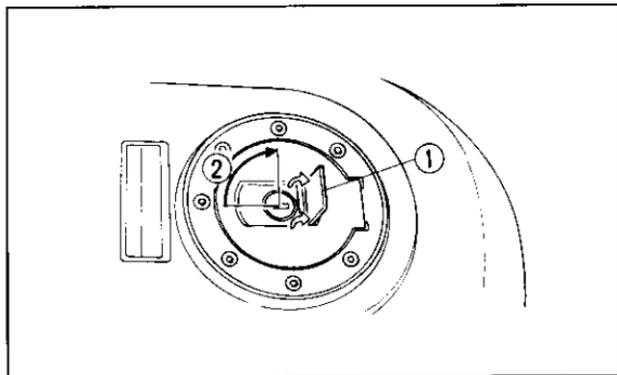
1. Rear brake pedal

EAC00501

## Fuel tank cap

TO OPEN:

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



1. Key cover

2. Unlock

## TO CLOSE:

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

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.

EUU61100

## ⚠ WARNING

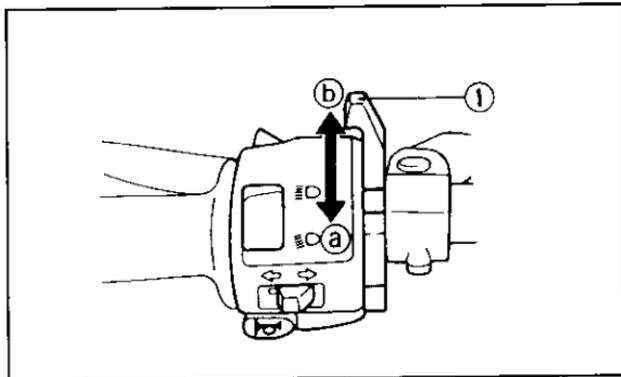
Be sure the cap is properly installed and locked in place before riding the motorcycle.

EAC20502

## Starter “”

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

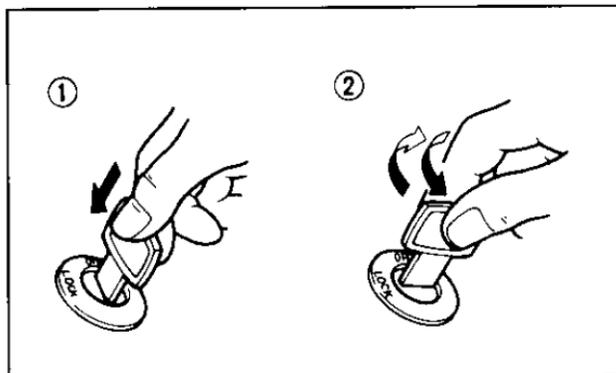
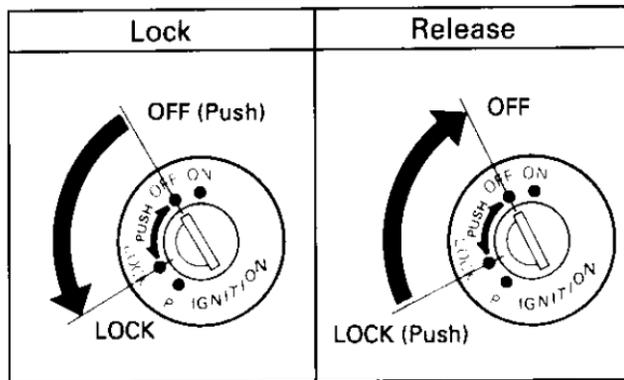
Move in direction **(a)** to turn on the starter.  
Move in direction **(b)** to turn off the starter.



1. Starter “”

## Steering lock

The steering is locked when the main switch is turned to "LOCK". To lock the steering, turn the handlebars all the way to the left. While pushing the key into the main switch, turn it from "OFF" to "LOCK" and remove it. To release the lock, turn the key to "OFF" while pushing.



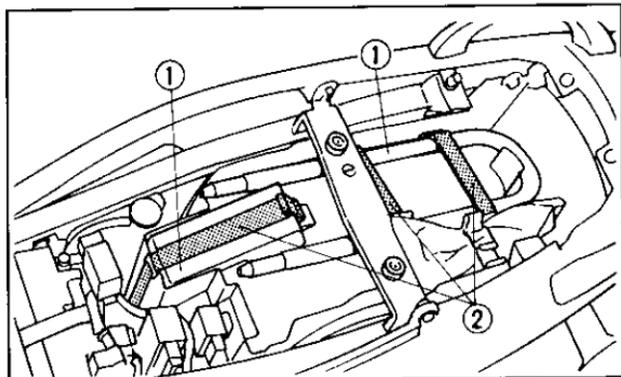
1. Push

2. Turn

EUU61400

**⚠ WARNING**

**Never turn the key to "LOCK" when the motorcycle is moving.**



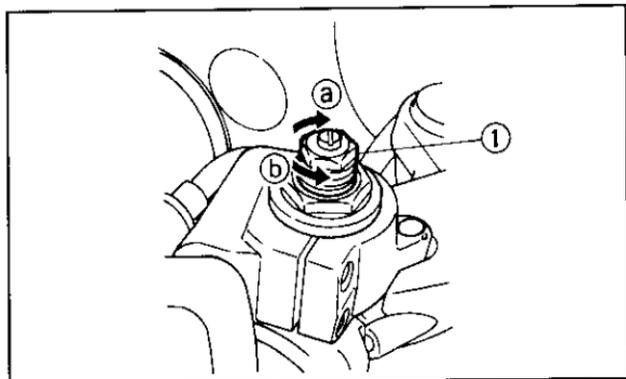
1. U-LOCK

2. Strap (x 3)

EAI59004

### Front fork adjustment

This front fork is equipped with spring preload and damping force adjusters.



1. Spring preload adjuster

a. Increase

b. Decrease

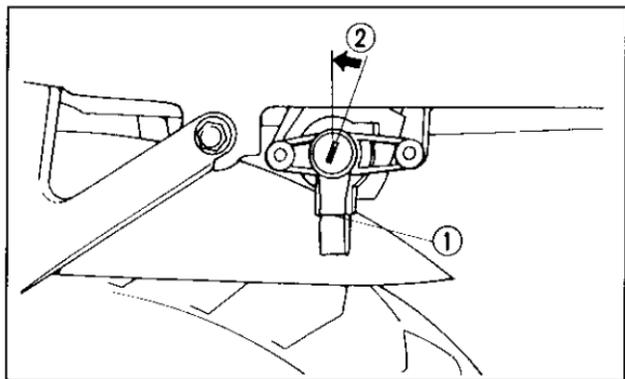
EUU66902

### **⚠ WARNING**

**Each fork leg must be set to the same pressure. Uneven setting can cause poor handling and loss of stability.**

## Helmet holder

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



1. Helmet holder

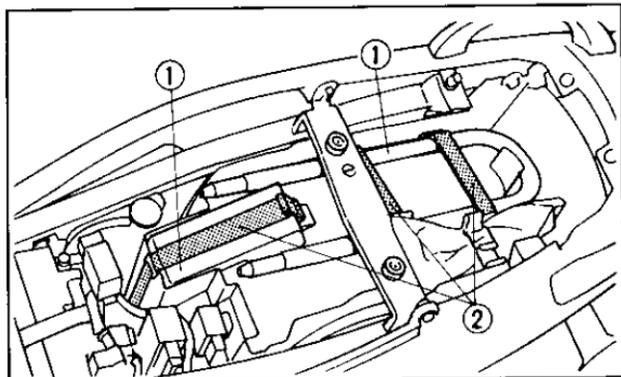
2. Unlock

## **⚠ WARNING**

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

## Storage compartment

This compartment is designed to store Yamaha genuine U-LOCKS. (Other locks may not fit.) Be sure the lock is fastened securely with the straps when storing it in the compartment. To prevent losing the straps, be sure to secure them even when a U-LOCK is not being stored in the compartment. When storing this Owner's manual or other documents in the compartment, be sure to put them in a vinyl bag so they don't get wet. When washing the motorcycle, be careful not to flood this compartment with water.



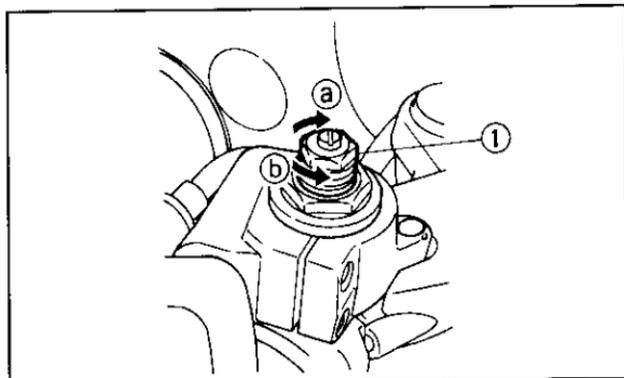
1. U-LOCK

2. Strap (x 3)

EAI59004

### Front fork adjustment

This front fork is equipped with spring preload and damping force adjusters.



1. Spring preload adjuster

a. Increase

b. Decrease

EUU66902

### **⚠ WARNING**

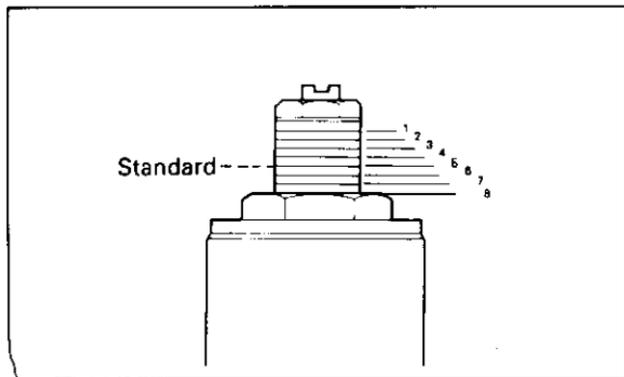
**Each fork leg must be set to the same pressure. Uneven setting can cause poor handling and loss of stability.**

- Adjust spring preload as follows.  
Turn adjuster in direction (a) to increase spring preload and in direction (b) to decrease spring preload. Align the preferred setting with the top of the front fork cap.

EUU43001

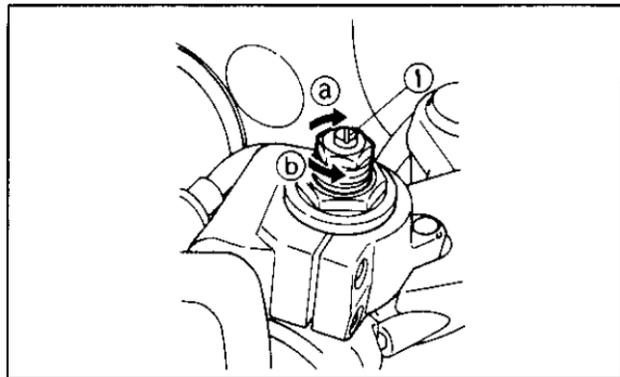
**CAUTION:**

The grooves are provided to show the adjustment level. Always keep the adjustment level equal on both fork legs.



	Hard				Standard	Soft			
Adjusting position	1	2	3	4	5	6	7	8	

- Adjust rebound damping force as follows.  
Turn adjusting screw in direction (a) to increase rebound damping force and in direction (b) to decrease rebound damping force.



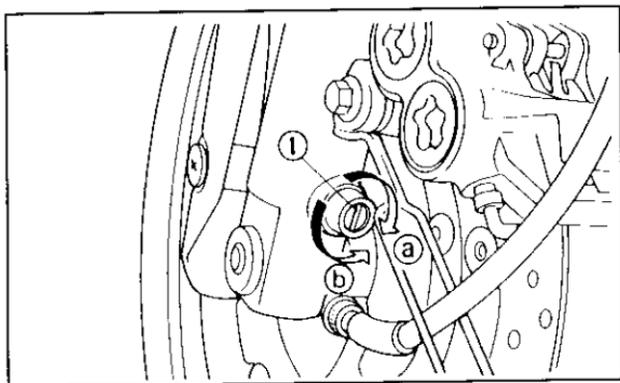
- Rebound damping force adjusting screw
  - Increase
  - Decrease

Standard	6 clicks out*
Minimum (Soft)	12 clicks out*
Maximum (Hard)	1 click out*

\* : From the fully turned in position

### 3. Adjust compression damping force as follows.

Turn adjusting screw in direction **(a)** to increase compression damping force and in direction **(b)** to decrease compression damping force.



1. Compression damping force adjusting screw  
 a. Increase                      b. Decrease

Standard	7 clicks out*
Minimum (Soft)	12 clicks out*
Maximum (Hard)	1 click out*

\* : From the fully turned in position

EUU36301

### **CAUTION:**

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

## Rear shock absorber adjustment

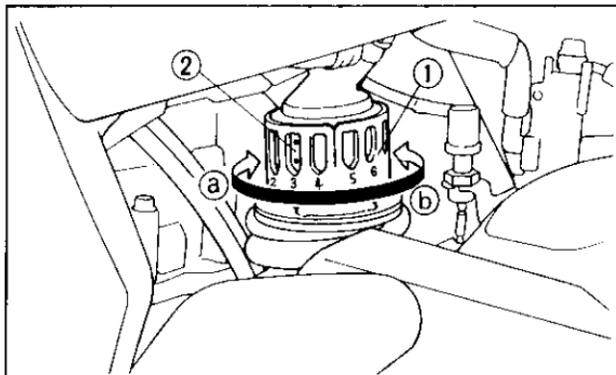
This shock absorber is equipped with spring preload and damping force adjusters.

EUU36301

### CAUTION:

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

- Adjust spring preload as follows.  
Turn the adjusting ring in direction ① to increase spring preload and in direction ② to decrease spring preload.

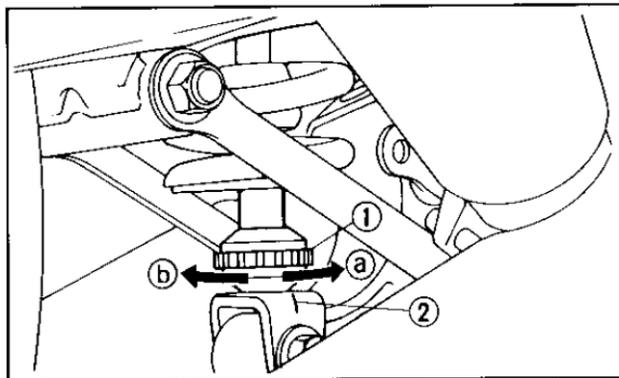


- Spring preload adjusting ring
- Align stopper with preload adjuster
  - Increase
  - Decrease

	Soft				Standard	Hard	
Adjusting position	7	6	5	4	3	2	1

2. Adjust rebound damping force as follows.

Turn the adjuster in direction ① to increase rebound damping force and in direction ② to decrease rebound damping force.



1. Rebound damping force adjuster

2. Alignment mark

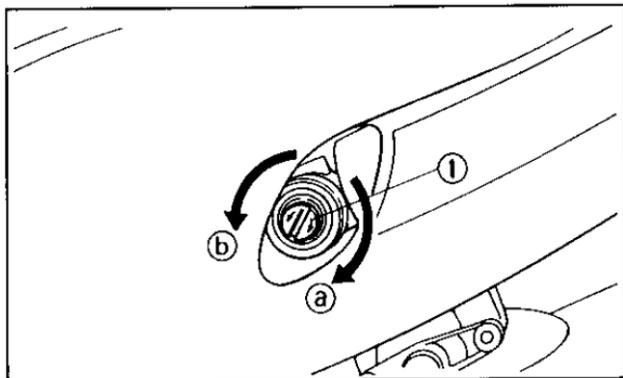
a. Increase

b. Decrease

Standard	10 clicks out*
Minimum (Soft)	20 clicks out*
Maximum (Hard)	0 click out*

\* : From the fully turned-in position

3. Adjust compression damping force as follows. Turn the adjusting screw in direction ① to increase compression damping force and in direction ② to decrease compression damping force.



1. Compression damping force adjusting screw

a. Increase

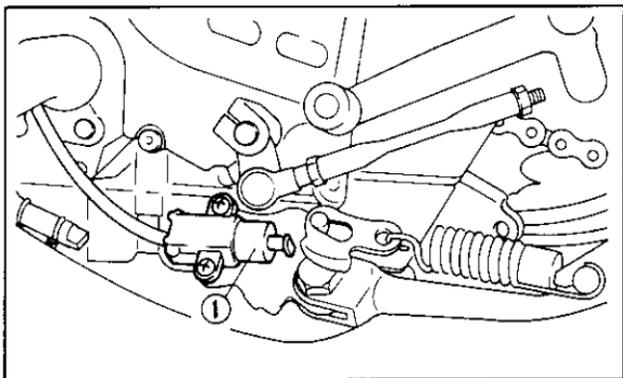
b. Decrease

Standard:	10 clicks in*
Minimum (Soft):	0 click in*
Maximum (Hard):	20 clicks in*

\* : From the fully turned-out position

## 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 6-1 for an explanation of this system.)



1. Sidestand switch

## 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.

TURN THE MAIN SWITCH TO "ON" AND THE ENGINE STOP SWITCH TO "  ".

TRANSMISSION IS IN GEAR AND SIDESTAND IS UP.

PULL IN CLUTCH LEVER AND PUSH THE START SWITCH.

ENGINE WILL START.

CLUTCH SWITCH IS OK.

SIDESTAND IS DOWN.

ENGINE WILL STALL.

SIDESTAND SWITCH IS OK.

EUU69100

** WARNING**

**If improper operation is noted, consult a Yamaha dealer immediately.**

# PRE-OPERATION CHECKS

Owners are personally responsible for their vehicle's condition. Your motorcycle/scooter's vital functions can start to deteriorate quickly and unexpectedly, even if it remains unused (for instance, if it is exposed to the elements). Any damage, fluid leak or loss of tire pressure could have serious consequences. Therefore, it is very important that, in addition to a thorough visual inspection, you check the following points before each ride.

ITEM	ROUTINE	PAGE
Fuel tank	<ul style="list-style-type: none"><li>• Check fuel level.</li><li>• Fill with fuel as required.</li></ul>	5-4 ~ 5-5
Front brake	<ul style="list-style-type: none"><li>• Check operation, free play, fluid level and fluid leakage.</li><li>• Fill with DOT 4 brake fluid if necessary.</li></ul>	5-6 ~ 5-7, 7-16 ~ 7-20
Rear brake	<ul style="list-style-type: none"><li>• Check operation, free play, fluid level and fluid leakage.</li><li>• Fill with DOT 4 brake fluid if necessary.</li></ul>	
Clutch	<ul style="list-style-type: none"><li>• Check operation, fluid level and fluid leakage.</li><li>• Fill with DOT 4 brake fluid if necessary.</li></ul>	5-6, 7-20 ~ 7-21
Throttle grip/housing	<ul style="list-style-type: none"><li>• Check for smooth operation.</li><li>• Lubricate if necessary.</li></ul>	5-7, 7-24
Engine oil	<ul style="list-style-type: none"><li>• Check oil level.</li><li>• Fill with oil as required.</li></ul>	5-8 ~ 5-9, 7-7 ~ 7-11
Coolant reservoir tank	<ul style="list-style-type: none"><li>• Check coolant level.</li><li>• Fill with coolant as required.</li></ul>	5-9 ~ 5-10
Drive chain	<ul style="list-style-type: none"><li>• Check chain slack and condition.</li><li>• Adjust if necessary.</li></ul>	5-10, 7-21 ~ 7-23

ITEM	ROUTINE	PAGE
<b>Wheels/tires</b>	<ul style="list-style-type: none"> <li>• Check tire pressure, wear and damage.</li> </ul>	5-10 ~ 5-14
<b>Control/meter cable</b>	<ul style="list-style-type: none"> <li>• Check for smooth operation.</li> <li>• Lubricate if necessary.</li> </ul>	7-23
<b>Brake and shift pedal shafts</b>	<ul style="list-style-type: none"> <li>• Check for smooth operation.</li> <li>• Lubricate if necessary.</li> </ul>	7-24
<b>Brake and clutch lever pivots</b>	<ul style="list-style-type: none"> <li>• Check for smooth operation.</li> <li>• Lubricate if necessary.</li> </ul>	7-24
<b>Sidestand pivot</b>	<ul style="list-style-type: none"> <li>• Check for smooth operation.</li> <li>• Lubricate if necessary.</li> </ul>	7-24
<b>Chassis fasteners</b>	<ul style="list-style-type: none"> <li>• Check the tightness of all chassis nuts, bolts and screws.</li> <li>• Tighten if necessary.</li> </ul>	5-15
<b>Lights, signals and switches</b>	<ul style="list-style-type: none"> <li>• Check for proper operation.</li> </ul>	5-15, 7-30
<b>Air intake duct</b>	<ul style="list-style-type: none"> <li>• Check that the screen is not clogged.</li> <li>• Clean if necessary.</li> </ul>	5-15

**NOTE:**

---

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

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** WARNING**

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**If any item in the PRE-OPERATION CHECK is not working properly, have it inspected and repaired before operating the motorcycle.**

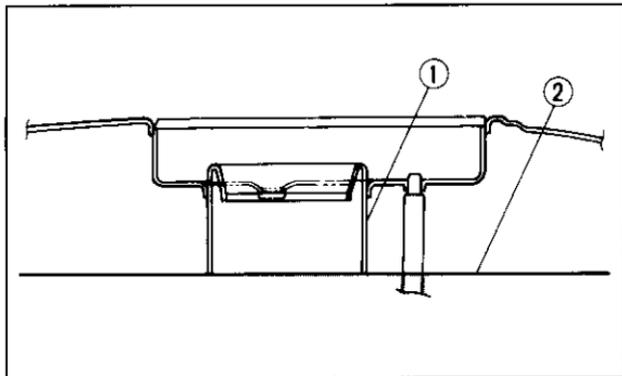
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## Fuel

Make sure there is sufficient fuel in the tank.

### **⚠ 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

### **CAUTION:**

- Always wipe off spilled fuel immediately with a dry and clean soft cloth. Fuel may deteriorate painted surfaces or plastic parts.
- (For Germany only)  
The fuel tank cap equipped on German models is specially designed. Always use the correct cap whenever replacement is necessary.

#### Recommended fuel:

Regular unleaded gasoline with a research octane number of 91 or higher.

#### Fuel tank capacity:

Total:

19.0 L

Reserve:

3.1 L

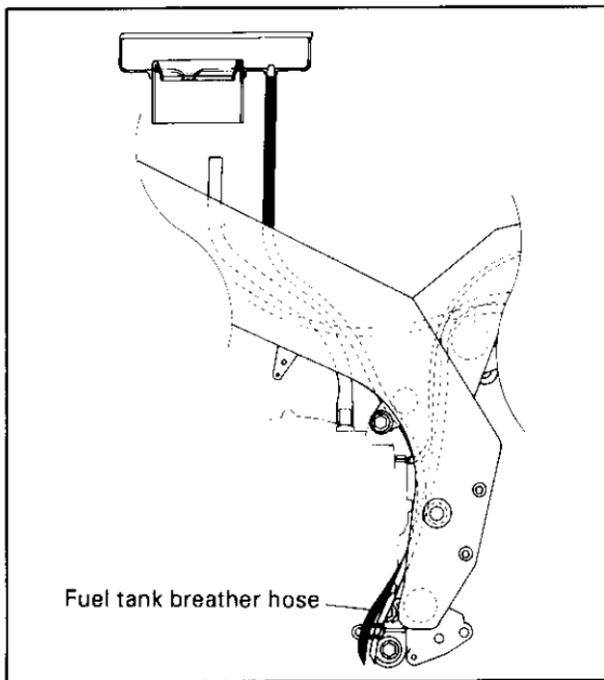
**NOTE:**

1. If knocking or pinging occurs, use a different brand of gasoline or higher octane grade.
2. If unleaded gasoline is not available, then leaded gasoline can be used.

**Fuel tank breather hose  
(for Germany only)**

This model is equipped with a fuel tank breather hose. Before using this motorcycle, be sure to:

1. Check hose connection.
2. Check hose for cracks or damage. Replace if damaged.
3. Make sure the end of the hose is not blocked. Clean it if necessary.



## 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 7-16 for details)

### **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. Fill the master cylinder with brake fluid if necessary.

Recommended brake fluid: DOT 4

3. Check the disc pads.  
Refer to page 7-17.

**NOTE:** \_\_\_\_\_  
When this brake service is necessary, consult a Yamaha dealer.  
\_\_\_\_\_

EAE10702

### **Brake fluid leakage**

Apply each brake for a few minutes. Check to see if any brake fluid leaks out from the pipe joints or the master cylinders.

EUU37801

#### **CAUTION:**

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

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EUU62500

#### **⚠ WARNING**

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

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EAE20002

### **Clutch**

Check the free play in the clutch lever and make sure the clutch operates properly. If the free play is incorrect, adjust it. (See page 7-20 for details.)

EAE30104

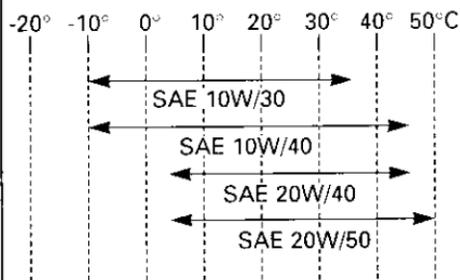
### **Throttle grip**

Turn the throttle grip to see if it operates properly. Make sure the grip returns by spring force when released. There should be a free play of 3 ~ 7 mm at the throttle grip. If the free play is incorrect, ask a Yamaha dealer to make this adjustment.

## Engine oil

Make sure the engine oil is at the specified level. Fill with oil as necessary. (See page 7-7 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:

3.5 L

Periodic oil change:

2.6 L

With oil filter replacement:

2.9 L

**CAUTION:**

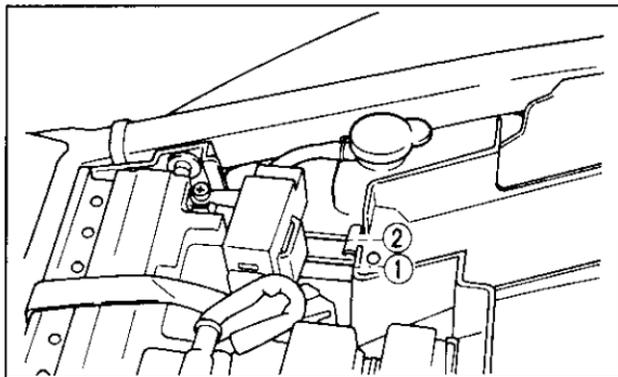
Do not put in any chemical additives. Also, be sure not to use oils labeled "ENERGY CONSERVING II" or higher. Engine oil also lubricates the clutch and additives could cause clutch slippage.

**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. Have a Yamaha dealer change the coolant every two years.

**WARNING**

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



1. Minimum level "LOW" 2. Maximum level "FULL"

**CAUTION:**

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

## 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 7-16 for details)

EJU61900

### **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. Fill the master cylinder with brake fluid if necessary.

Recommended brake fluid: DOT 4
--------------------------------

### 3. Check the disc pads.

Refer to page 7-17.

EJU02201

### **NOTE:**

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

EAE10702

### **Brake fluid leakage**

Apply each brake for a few minutes. Check to see if any brake fluid leaks out from the pipe joints or the master cylinders.

EUU37801

#### **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.**

EAE20002

### **Clutch**

Check the free play in the clutch lever and make sure the clutch operates properly. If the free play is incorrect, adjust it. (See page 7-20 for details.)

EAE30104

### **Throttle grip**

Turn the throttle grip to see if it operates properly. Make sure the grip returns by spring force when released. There should be a free play of 3 ~ 7 mm at the throttle grip. If the free play is incorrect, ask a Yamaha dealer to make this adjustment.

Reservoir tank capacity:  
0.55 L

EAE50001

### Chain

Check the general condition of the chain and the chain slack before every ride. Lubricate and adjust the chain as necessary. (see page 7-21 for details.)

EAE97700

### 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.**

Maximum load*:	180 kg 178 kg: (CH) (S) (A)	
Cold tire pressure:	Front	Rear
Up to 90 kg load*	225 kPa (2.25 kg/cm <sup>2</sup> , 2.25 bar)	250 kPa (2.5 kg/cm <sup>2</sup> , 2.5 bar)
90 kg Maximum load*	250 kPa (2.5 kg/cm <sup>2</sup> , 2.5 bar)	290 kPa (2.9 kg/cm <sup>2</sup> , 2.9 bar)
High speed riding	250 kPa (2.5 kg/cm <sup>2</sup> , 2.5 bar)	290 kPa (2.9 kg/cm <sup>2</sup> , 2.9 bar)

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

**⚠ 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.**

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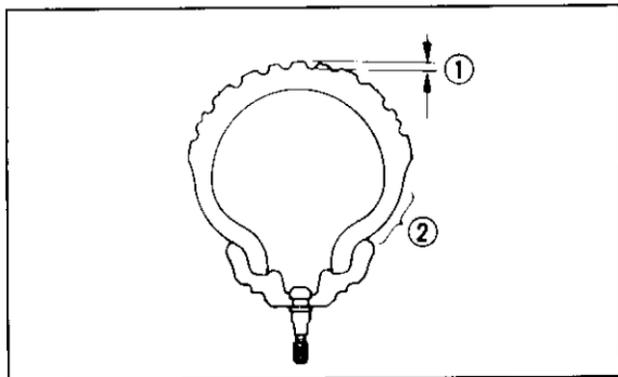
**2. Tire inspection**

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.

**⚠ 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.**

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1. Tread depth

2. Side wall

Minimum tire tread depth (front and rear)	1.6 mm
--	--------

EUU12600

**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.

## 3. Tire information

This motorcycle is equipped with tubeless tires, tire valves and cast wheels.

**WARNING**

- After extensive tests, the tires mentioned below have been approved by Yamaha Motor Co., Ltd. for this model. No guarantee for handling characteristics can be given if tire combinations other than what is approved are used on this motorcycle. The front and rear tires should be of the same manufacture and design.
- The use of tire valves and valve cores other than listed below could cause tire deflation during extreme high speed riding. Always use genuine parts or their equivalent for replacement.
- Be sure to install the valve caps securely, as these are important to prevent air pressure leakage during extreme high speed riding.

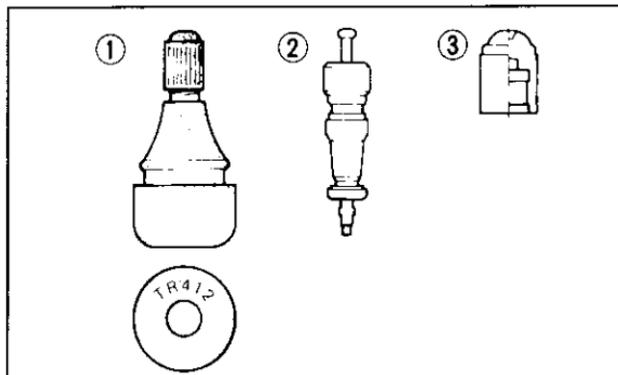
## FRONT:

Manufacturer	Size	Type
Dunlop	120/60 ZR17	D202F
Metzeler	120/60 ZR17	MEZ1 'Front'
Bridgestone	120/60 ZR17	BT50F
Michelin	120/60 ZR17	A89X

## REAR:

Manufacturer	Size	Type
Dunlop	160/60 ZR17	D202
Metzeler	160/60 ZR17	MEZ1
Bridgestone	160/60 ZR17	BT50R
Michelin	160/60 ZR17	M89X

	Type
Tire valve	TR412
Valve core	#9000A (Genuine)



1. Tire valve
2. Valve core
3. Valve cap with seal

## OPERATION AND IMPORTANT RIDING POINTS

### **WARNING**

1. **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.**
2. **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.**

3. **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 the engine**

#### **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 4-23.)**

TURN THE MAIN SWITCH TO "ON" AND THE ENGINE STOP SWITCH TO "⏻".

IF TRANSMISSION IS IN NEUTRAL AND SIDESTAND IS DOWN,

PUSH START SWITCH.  
ENGINE WILL START.

RETRACT SIDESTAND AND PUT TRANSMISSION IN GEAR.

MOTORCYCLE CAN BE RIDDEN.

IF TRANSMISSION IS IN GEAR AND SIDESTAND IS UP,

PULL IN CLUTCH LEVER AND PUSH START SWITCH. ENGINE WILL START.

MOTORCYCLE CAN BE RIDDEN.

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

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.

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3. Turn on the starter "Ⓜ" 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 “|↘|” to the halfway position.

EUU18700

**NOTE:** \_\_\_\_\_

For maximum engine life, never accelerate hard with a cold engine!

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6. After the engine is warm, turn off the starter “|↘|” completely.

EUU02701

**NOTE:** \_\_\_\_\_

The engine is warm when it responds normally to the throttle with the starter “|↘|” turned off.

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EA110802

### **Starting a warm engine**

The starter “|↘|” 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.**

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EA120003

### **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 4-11)  
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.

### Recommended shift point (For Switzerland only)

The recommended shift points are shown in the table below.

	Acceleration shift point km/h
1st → 2nd	20
2nd → 3rd	30
3rd → 4th	40
4th → 5th	50
5th → 6th	60

**NOTE:**

When shifting two gears down from 5th to 3rd, bring your motorcycle to a speed of 35 km/h.

## 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. 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. 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:

Avoid operation above 8,000 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:

Avoid prolonged operation above 9,000 r/min. Rev the motorcycle freely through the gears, but do not use full throttle at any time.

### 3. 500 ~ 1,000 km:

Avoid prolonged full throttle operation. Avoid cruising speeds in excess of 10,000 r/min.

## CAUTION:

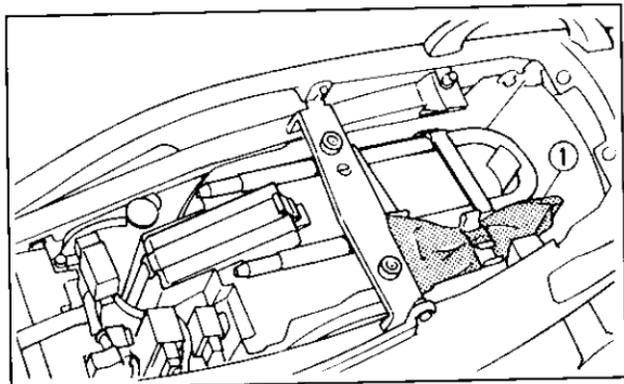
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**After 1,000 km of operation, be sure to replace the engine oil and oil filter.**

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### 4. 1,000 km and beyond:

Full throttle can be used.



1. Tool kit

EUU18500

**NOTE:**

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

**⚠ WARNING**

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

## PERIODIC MAINTENANCE / LUBRICATION

ITEM	ROUTINE	BREAK-IN 1,000 km	EVERY	
			6,000 km or 6 months	12,000 km or 12 months
* <b>Valves</b>	<ul style="list-style-type: none"> <li>• Check valve clearance.</li> <li>• Adjust if necessary.</li> </ul>	EVERY 42,000 km		
<b>Spark plugs</b>	<ul style="list-style-type: none"> <li>• Check condition.</li> <li>• Clean or replace if necessary.</li> </ul>	○	○	○
<b>Air filter</b>	<ul style="list-style-type: none"> <li>• Clean.</li> <li>• Replace if necessary.</li> </ul>		○	○
* <b>Carburetor</b>	<ul style="list-style-type: none"> <li>• Check idle speed/synchronization/starter operation.</li> <li>• Adjust if necessary.</li> </ul>	○	○	○
* <b>Fuel line</b>	<ul style="list-style-type: none"> <li>• Check fuel hose for cracks or damage.</li> <li>• Replace if necessary.</li> </ul>		○	○
* <b>Fuel filter</b>	<ul style="list-style-type: none"> <li>• Check condition.</li> <li>• Replace if necessary.</li> </ul>			○
<b>Engine oil</b>	<ul style="list-style-type: none"> <li>• Replace (Warm engine before draining.)</li> </ul>	○	○	○
* <b>Engine oil filter</b>	<ul style="list-style-type: none"> <li>• Replace.</li> </ul>	○		○
* <b>Brake</b>	<ul style="list-style-type: none"> <li>• Check operation/fluid leakage. (See NOTE page 7-5.)</li> <li>• Correct if necessary.</li> </ul>		○	○
* <b>Clutch</b>	<ul style="list-style-type: none"> <li>• Check operation.</li> <li>• Adjust if necessary.</li> </ul>		○	○
* <b>Swingarm pivot</b>	<ul style="list-style-type: none"> <li>• Check swingarm assembly for looseness.</li> <li>• Correct if necessary.</li> <li>• Moderately repack every 24,000 km or 24 months.*2</li> </ul>			○

ITEM	ROUTINE	BREAK-IN 1,000 km	EVERY	
			6,000 km or 6 months	12,000 km or 12 months
* <b>Rear suspension link pivots</b>	<ul style="list-style-type: none"> <li>• Check operation.</li> <li>• Apply grease lightly every 24,000 km or 24 months.*2</li> </ul>			○
* <b>Wheels</b>	<ul style="list-style-type: none"> <li>• Check balance/damage/runout.</li> <li>• Replace if necessary.</li> </ul>		○	○
* <b>Wheel bearings</b>	<ul style="list-style-type: none"> <li>• Check bearing assembly for looseness/damage.</li> <li>• Replace if damaged.</li> </ul>		○	○
* <b>Steering bearing</b>	<ul style="list-style-type: none"> <li>• Check bearing assembly for looseness.</li> <li>• Correct if necessary.</li> <li>• Moderately repack every 24,000 km or 24 months.*1</li> </ul>	○		○
* <b>Front forks</b>	<ul style="list-style-type: none"> <li>• Check operation/oil leakage.</li> <li>• Repair if necessary.</li> </ul>		○	○
* <b>Rear shock absorber</b>	<ul style="list-style-type: none"> <li>• Check operation/oil leakage.</li> <li>• Repair if necessary.</li> </ul>		○	○
<b>Cooling system</b>	<ul style="list-style-type: none"> <li>• Check coolant leakage.</li> <li>• Repair if necessary.</li> <li>• Replace coolant every 24,000 km or 24 months.</li> </ul>		○	○
<b>Drive chain</b>	<ul style="list-style-type: none"> <li>• Check chain slack/alignment.</li> <li>• Adjust if necessary.</li> <li>• Clean and lube.</li> </ul>	EVERY 1,000 km*3		
* <b>Chassis fasteners</b>	<ul style="list-style-type: none"> <li>• Check the tightness of all chassis nuts, bolts and screws.</li> <li>• Correct if necessary.</li> </ul>	○	○	○
* <b>Sidestand</b>	<ul style="list-style-type: none"> <li>• Check operation.</li> <li>• Repair if necessary.</li> </ul>	○	○	○

ITEM	ROUTINE	BREAK-IN 1,000 km	EVERY	
			6,000 km or 6 months	12,000 km or 12 months
* Sidestand switch	<ul style="list-style-type: none"> <li>• Check operation.</li> <li>• Repair if necessary.</li> </ul>	○	○	○

Items marked with an asterisk (\*) require special tools, data and technical skills for servicing. Take the motorcycle to a Yamaha Dealer or refer to the Service Manual when servicing these items.

\*1 : Lithium soap base grease

\*2 : Molybdenum disulfide grease

\*3 : Every 1,000 km and after washing the motorcycle or riding in the rain.

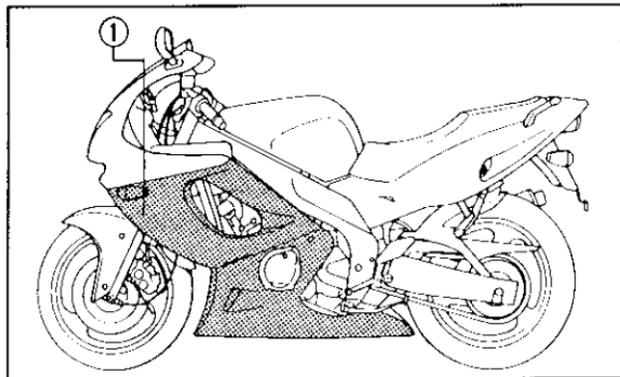
## NOTE:

### Brake fluid replacement:

1. When disassembling the master cylinder or caliper cylinder, replace the brake fluid. Normally check the brake fluid level and fill the master cylinder with fluid as required.
2. On the inner parts of the master cylinder and caliper cylinder, replace the oil seals every two years.
3. Replace the brake hoses every four years, or if cracked or damaged.

## Cowling/Panel removal and installation

The cowlings/panels indicated in the illustration need to be removed to perform some of the maintenance described in this chapter. Refer to this section each time a cowling/panel has to be removed or reinstalled.

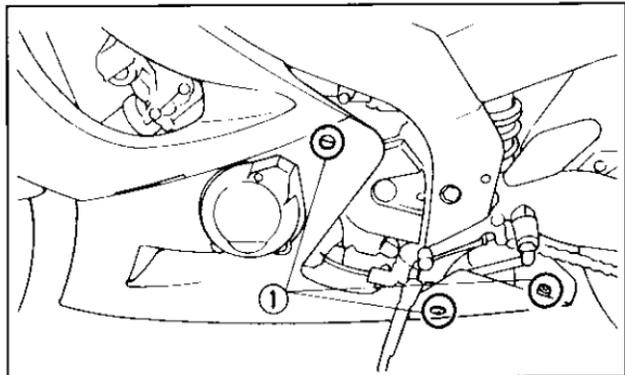


1. Cowling A

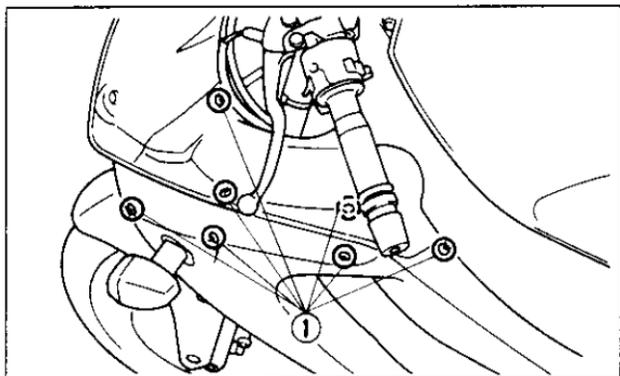
## Cowling A

To remove:

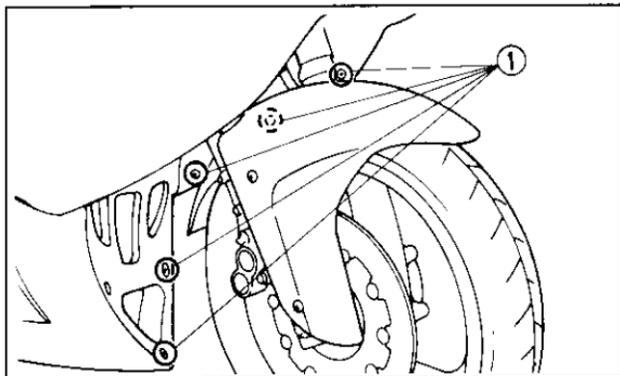
Remove the bolts shown and disconnect the turn signal leads.



1. Screw (× 3) (Left: × 3, Right: × 3)



1. Screw (× 7) (Left: × 7, Right: × 7)



1. Screw (× 5) (Left: × 5, Right: × 5)

To install:

Place in the original position, install the bolts and connect the turn signal leads.

EAH55300

### Engine oil

#### 1. Oil level inspection

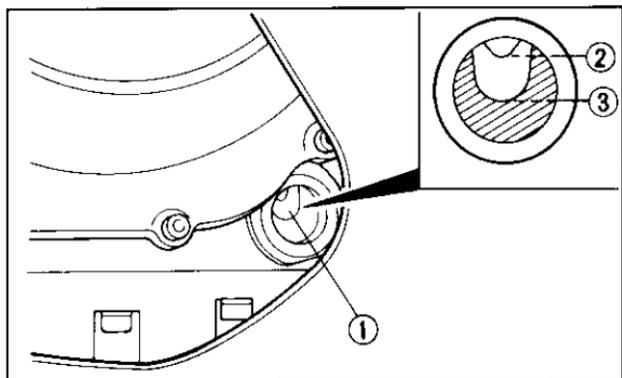
- a. Place the motorcycle on a level place and hold it in an upright position. Warm up the engine for several minutes.

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.



1. Level window  
3. Minimum level

2. Maximum level

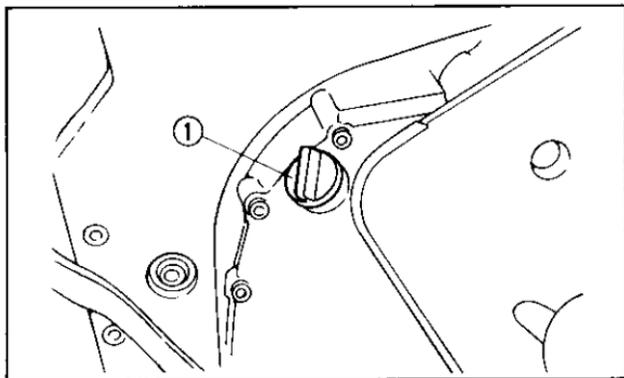
EUU04000

**NOTE:**

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

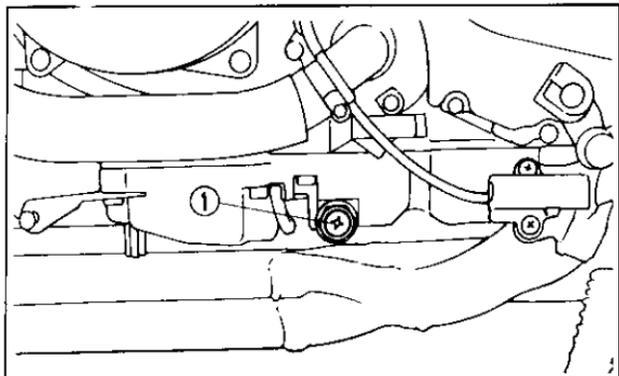
- c. The oil level should be between maximum and minimum marks. If the level is low, fill the engine with sufficient oil to reach the specified level.
2. Engine oil and oil filter cartridge replacement

- a. Remove cowling A. (See page 7-6.)
- b. Warm up the engine for several minutes.
- c. Stop the engine. Place an oil pan under the engine and remove the oil filler cap.



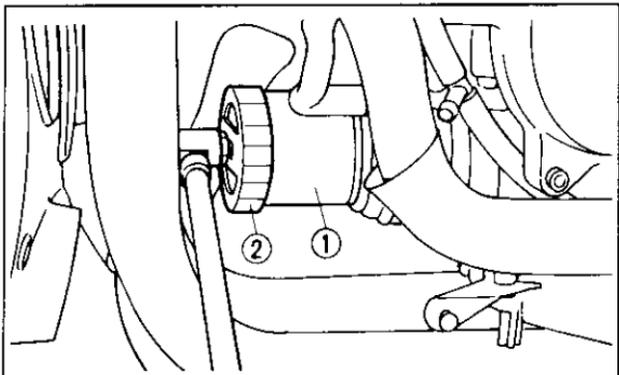
1. Oil filter cap

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



1. Engine oil drain plug

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



1. Oil filter

2. Oil filter wrench

**NOTE:** \_\_\_\_\_  
An oil filter wrench is available at a nearby Yamaha dealer.

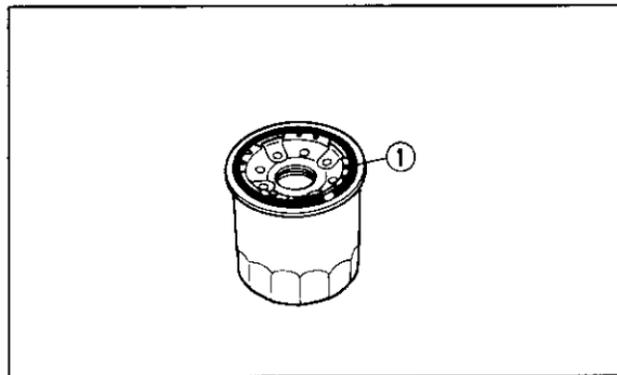
- f. Reinstall the drain plug and tighten it to the specified torque.

Tightening torque:

Drain plug:

43 Nm (4.3 m·kg)

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



1. O-ring

**NOTE:**

Make sure the O-ring is seated properly.

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

Tightening torque:

Oil filter:

17 Nm (1.7 m.kg)

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

Recommended oil:

See page 5-8.

Oil quantity:

Total amount:

3.5 L

Periodic oil change:

2.6 L

With oil filter replacement:

2.9 L

**CAUTION:**

- Do not put in any chemical additives. Engine oil also lubricates the clutch and additives could cause clutch slip-page.
- Be sure no foreign material enters the crankcase.

- j. 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.
- k. 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.**

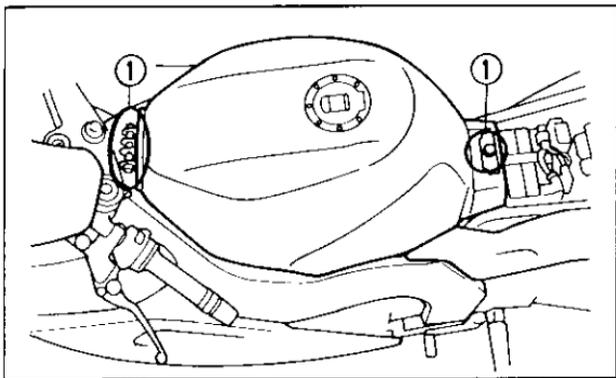
1. Install cowling A. (See page 7-6.)

EAH55201

### Air filter

The air filter 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 seat.
2. Remove the bolts holding the fuel tank.



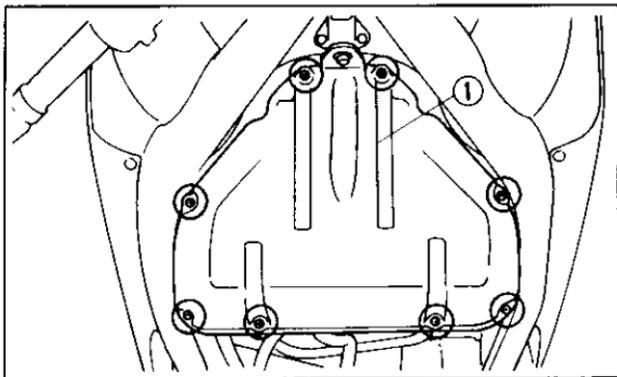
1. Bolt (x 2)

3. Lift the fuel tank upward and position it away from the air filter case. (Do not remove the fuel hoses.)

EUU80300

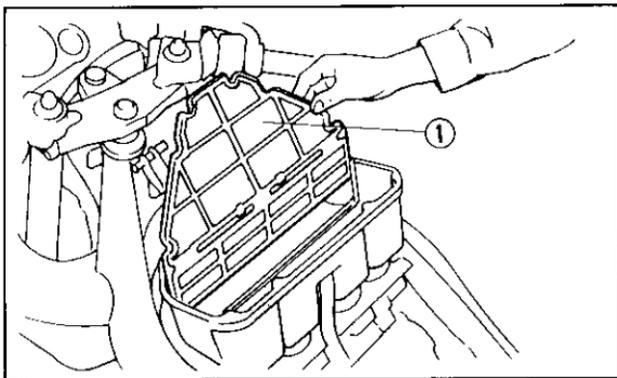
### **⚠ WARNING**

- **Support the fuel tank carefully during this procedure.**
  - **Do not tilt the fuel tank too much or pull it too hard because the fuel hose connections may become loose causing fuel leakage.**
- 
4. Remove the screws holding the air filter case cover.



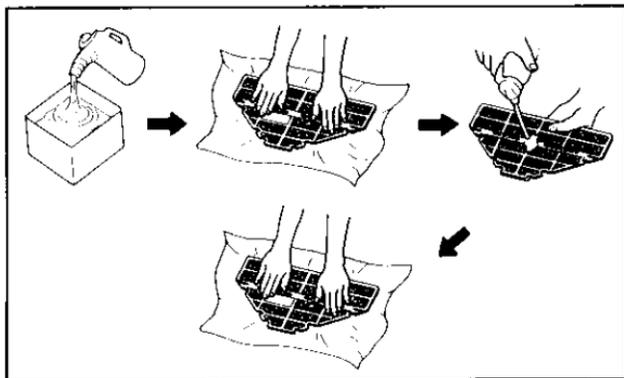
1. Air filter case cover

5. Pull out the air filter.



1. Air filter

6. Remove the air filter from its guide and clean it with solvent. After cleaning, squeeze the air filter to remove the remaining solvent.



7. Apply recommended oil to the entire surface of the filter and squeeze out the excess oil. The air filter should be wet but not dripping.

Recommended oil:

SAE 10W30 type SE motor oil

**CAUTION:**

- **Make sure the air filter is properly seated in the air filter case.**
- **The engine should never be run without the air filter installed. Excessive piston and/or cylinder wear may result.**

8. Reverse the removal procedures for installation.

**⚠ WARNING**

**Make sure that the fuel hoses are properly connected, in place and not pinched. If a hose is damaged, be sure to replace it.**

**Carburetor adjustment**

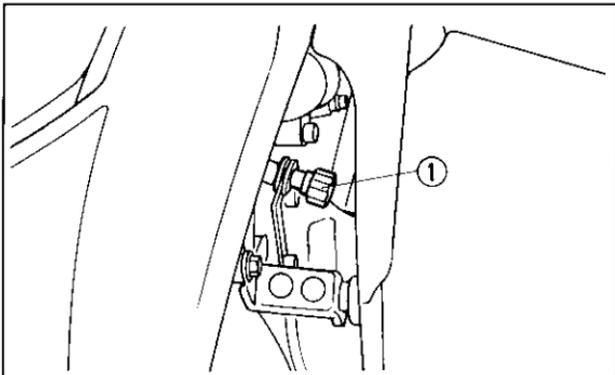
The carburetors are important parts of the engine and require very sophisticated adjustment. Most adjustments should be left to a Yamaha dealer who has the professional knowledge and experience to do so. However, the idle speed may be adjusted by the owner as part of routine maintenance.

**CAUTION:**

**The carburetors were set at the Yamaha factory after many tests. If they are changed, poor engine performance and damage may result.**

## Idle speed adjustment

1. Start the engine and warm it up for a few minutes (normally, 1 or 2 minutes) at approximately 1,000 to 2,000 r/min. Occasionally rev the engine to 4,000 to 5,000 r/min. The engine is warm when it quickly responds to the throttle.
2. Set the idle to the specified engine speed by adjusting the throttle stop screw; turn the screw in to increase engine speed, and out to decrease engine speed.



1. Throttle stop screw

Standard idle speed:  
1,200 ~ 1,300 r/min

EUU04500

### NOTE:

If the specified idle speed cannot be obtained by performing the above adjustment, consult a Yamaha dealer.

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.

## 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:

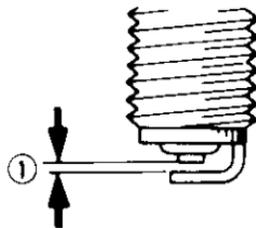
CR9E (NGK)

U27ESR-N (NIPPONDENSO)

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

Spark plug gap:

0.7 ~ 0.8 mm



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:

12.5 Nm (1.25 m·kg)

EUU03802

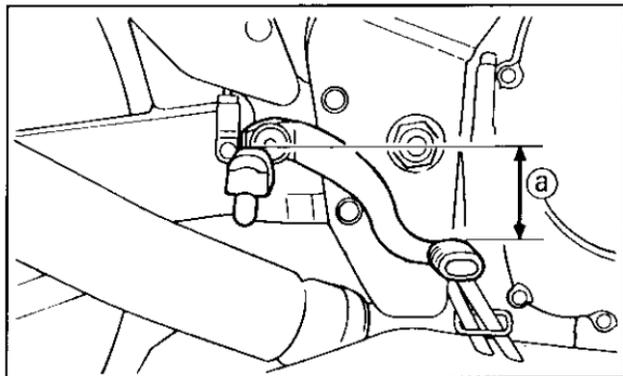
**NOTE:**

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.

EAH80402

**Rear brake pedal height adjustment**

The top of the brake pedal should be positioned 42 mm below the top of the footrest. If not, ask a Yamaha dealer to adjust it.



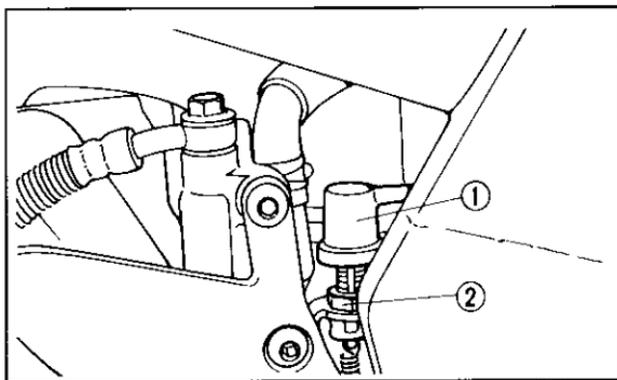
a. Pedal height: 42 mm

**⚠ 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.

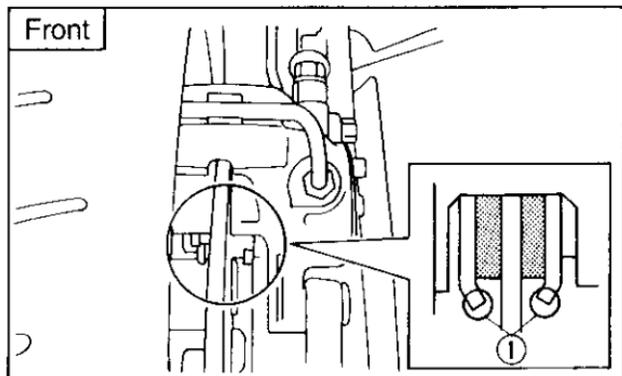


1. Main body

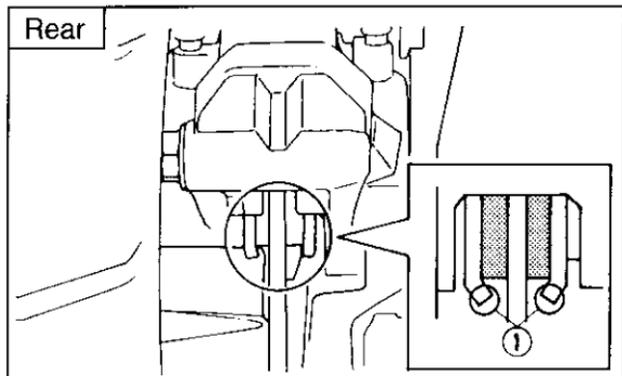
2. Adjusting nut

**Checking the front and rear brake pads**

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



1. Wear indicator (× 2)



1. Wear indicator (× 2)

## Inspecting the brake fluid level

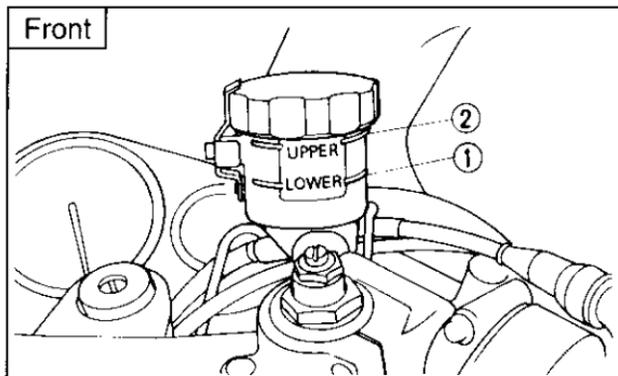
Insufficient brake fluid may let air enter the brake system, possibly causing the brakes to become ineffective.

Before riding, check that the brake fluid is above the minimum level and replenish when necessary. Observe these precautions:

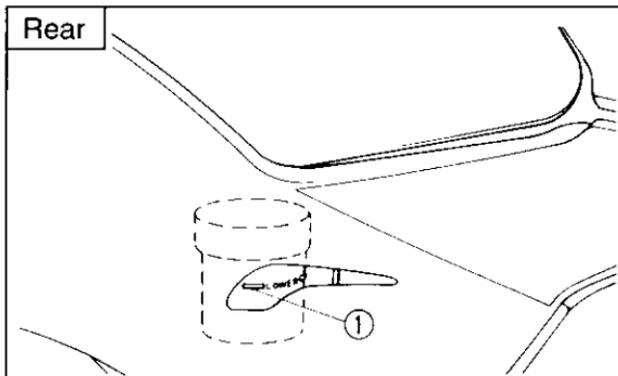
1. When checking the fluid level, make sure the top of the master cylinder is level by turning the handlebars.
2. Use only the designated quality brake fluid. Otherwise, the rubber seals may deteriorate, causing leakage and poor brake performance.

Recommended brake fluid: DOT 4

3. Refill with the same type of brake fluid. Mixing fluids may result in a harmful chemical reaction and lead to poor brake 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.



1. Minimum level "LOWER"
2. Maximum level "UPPER"



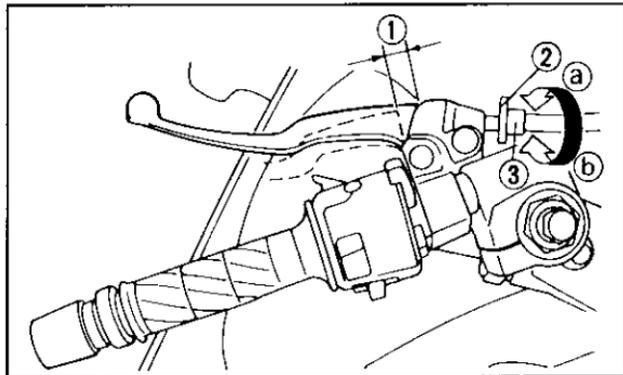
1. Minimum level "LOWER"

## 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

The clutch lever free play should be adjusted to 2 ~ 3 mm. If the free play is incorrect, adjust as follows.



1. Free play      2. Locknut      3. Adjusting bolt

1. Loosen the locknut.
2. Turn the adjusting bolt at the clutch lever in direction ① to increase free play or in direction ② to decrease free play.
3. Tighten the locknut.

EUU17800

**NOTE:**

If proper adjustment cannot be obtained or the clutch does not work correctly, ask a Yamaha dealer to inspect the internal clutch mechanism.

EAI40801

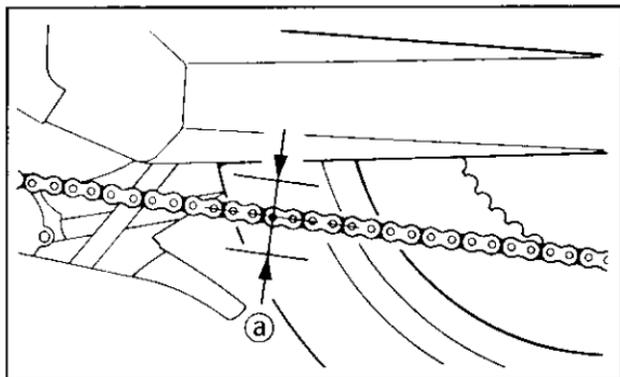
**Drive chain slack check**

EUU04801

**NOTE:**

Spin the wheel several times and find the tightest position of the chain. Check and/or adjust the chain slack while it's in this tightest position.

To check the chain slack the motorcycle must be held straight up with both wheels on the ground and without rider. Check the slack at the position shown in the illustration. Normal slack is approximately 20 ~ 30 mm. If the slack exceeds 30 mm, adjust.



a. 20 ~ 30 mm

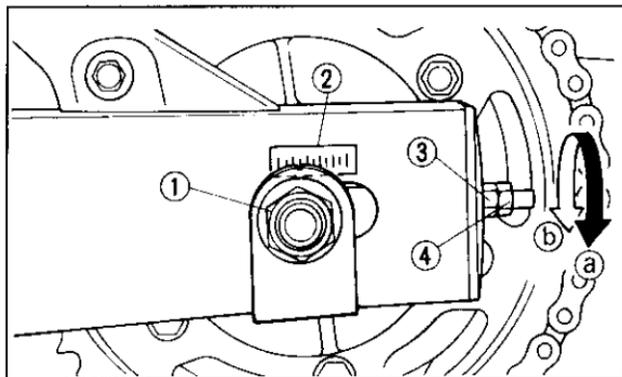
## Drive chain slack adjustment

1. Loosen the axle nut.
2. Loosen the locknuts on each side. To tighten the chain, turn the chain adjusting nuts in direction (b). To loosen the chain, turn the adjusting nuts in direction (a) and push the wheel forward. Turn each adjusting nut exactly the same amount to maintain correct axle alignment. There are marks on each side of the swingarm. Use these marks to align the rear wheel.

EUU33301

### CAUTION:

**Too little chain slack will overload the engine and other vital parts. Keep the slack within the specified limits.**



- |                  |                    |
|------------------|--------------------|
| 1. Axle nut      | 2. Alignment marks |
| 3. Adjusting nut | 4. Locknut         |

3. After adjusting, tighten the locknuts. Then tighten the axle nut to the specified torque.

Tightening torque:

Axle nut:

115 Nm (11.5 m·kg)

## Drive chain lubrication

The chain consists of many parts which work with each other. If the chain is not maintained properly, it will wear out quickly. Therefore, the chain must be serviced regularly. This service is especially necessary when riding in dusty areas. This motorcycle is equipped with a sealed type chain. Steam cleaning, high-pressure washes, and solvents can damage chain so do not use these for cleaning it. Use only kerosene to clean the drive chain. Wipe it dry, and thoroughly lubricate it with SAE 30 ~ 50W motor oil. Do not use any other lubricants on the drive chain. They may contain solvents that could damage the sealed chain.

EUU48300

### **CAUTION:**

**Be sure to oil the chain after washing the motorcycle or riding in the rain.**

## Cable inspection and lubrication

EUU64601

### **⚠ WARNING**

**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:  
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.

EAI30602

### **Brake and shift pedal lubrication**

Lubricate the pivoting parts.

Recommended lubricant:  
SAE 10W30 motor oil

EAI30701

### **Brake and clutch lever lubrication**

Lubricate the pivoting parts.

Recommended lubricant:  
SAE 10W30 motor oil

EAI31104

### **Sidestand lubrication**

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

Recommended lubricant:  
SAE 10W30 motor oil

EUU70401

 **WARNING**

**If the sidestand does not move smoothly, consult a Yamaha dealer.**

EAI31901

## Rear suspension lubrication

Lubricate the pivoting parts.

Recommended lubricant:  
Molybdenum disulfide grease

EAI20502

## Front fork inspection

EUU65700

### **⚠ WARNING**

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

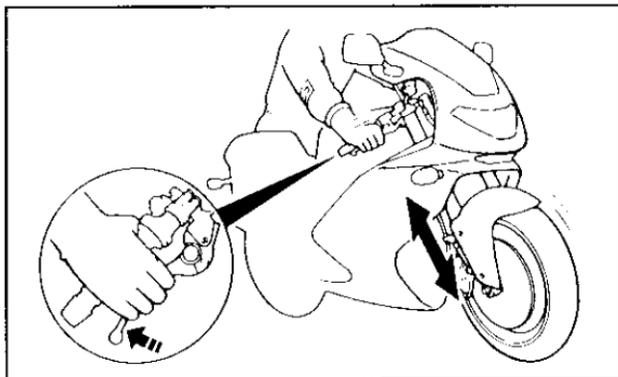
1. Visual check  
Check for scratches or damage on the inner tube and excessive oil leakage from the front fork.
2. Operation check  
Place the motorcycle on a level place.
  - a. Hold the motorcycle in an upright position and apply the front brake.

- 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.**



## Rear shock absorber

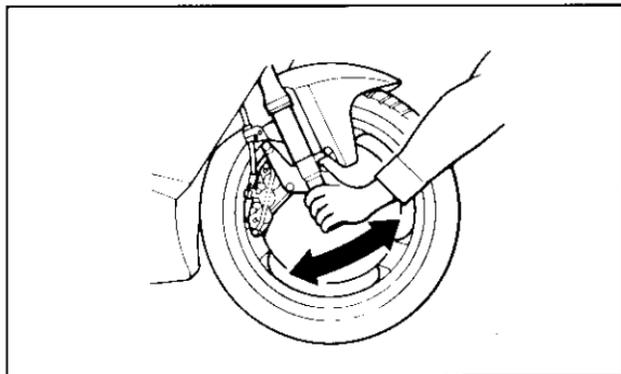
### **⚠ WARNING**

**This shock absorber contains highly pressurized nitrogen gas. Read and understand the following information before handling the shock absorber. The manufacturer cannot be held responsible for property damage or personal injury that may result from improper handling.**

- 1. Do not tamper with or attempt to open the cylinder assembly.**
- 2. Do not subject the shock absorber to an open flame or other high heat source. This may cause the unit to explode due to excessive gas pressure.**
- 3. Do not deform or damage the cylinder in any way. Cylinder damage will result in poor damping performance.**
- 4. Take your shock absorber to a Yamaha dealer for any service.**

## 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.**

---

EAI60201

**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.

EAI84905

**Battery**

This motorcycle is equipped with a sealed-type battery. Therefore it is not necessary to check the electrolyte or fill the battery with distilled water.

- If the battery seems to have discharged, consult a Yamaha dealer.
- If the motorcycle is equipped with optional electrical accessories, the battery tends to discharge more quickly, so be sure to recharge it periodically.

EUU43402

**CAUTION:**

**Never try to remove the sealing caps of the battery cells. The battery will be damaged.**

---

**⚠ 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.**

---

## Storage

When the motorcycle is not used for a month or longer, remove the battery, fully charge it and store it in a cool, dry place.

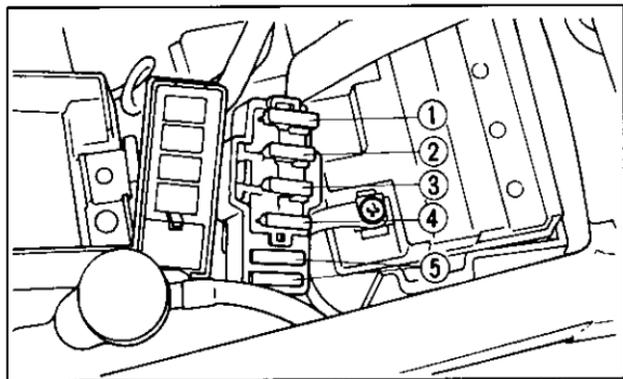
EUV43502

**CAUTION:**

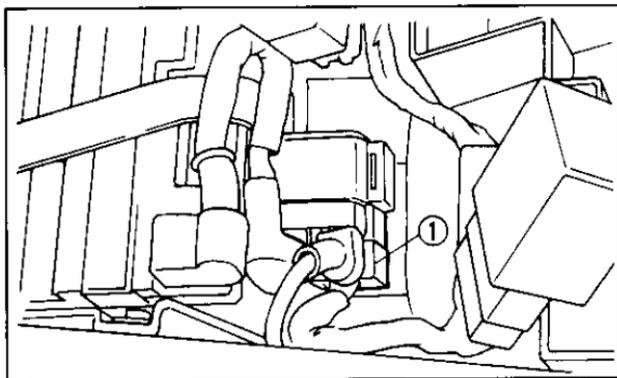
- **Completely recharge the battery before storing. Storing a discharged battery can cause permanent battery damage.**
  - **Use a battery charger designed for a sealed-type (MF) battery. Using a conventional battery charger will cause battery damage.**
  - **Always make sure the connections are correct when reinstalling the battery.**
-

## Fuse replacement

The fuse boxes are located under the rider's seat. If any fuse is blown, turn off the main switch and the switch of the circuit in question. Install a new fuse of specified amperage. Turn on the switches and see if the electrical device operates. If the fuse immediately blows again, consult a Yamaha dealer.



- |              |                |             |
|--------------|----------------|-------------|
| 1. Headlight | 2. Signal      | 3. Ignition |
| 4. Fan       | 5. Spare (x 2) |             |



1. Main fuse

EUU34400

### 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 fuses:

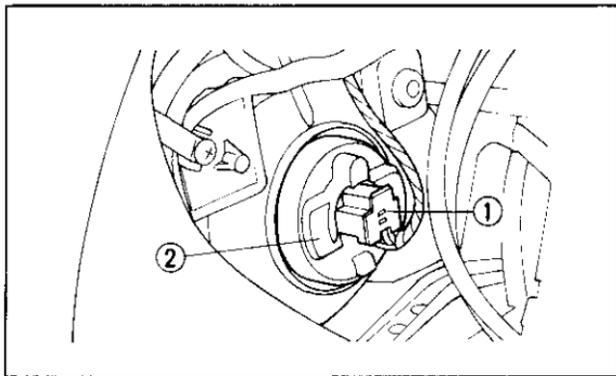
Main fuse:	30A
Headlight fuse:	20A
Signaling system fuse:	15A
Radiator fan fuse:	7.5A
Ignition fuse:	7.5A

EAI88901

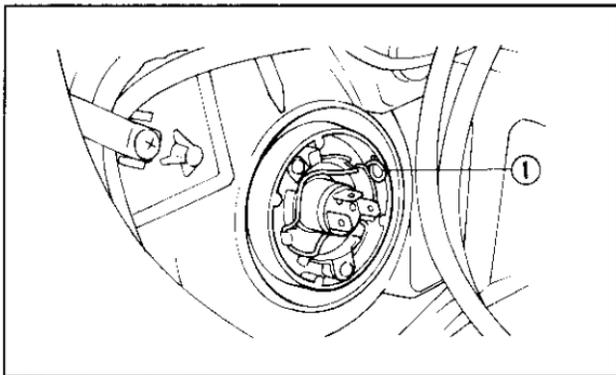
### Headlight bulb replacement

This motorcycle is equipped with a quartz bulb headlight. If the headlight bulb burns out, replace the bulb as follows:

1. Remove the headlight connector and the bulb holder cover.

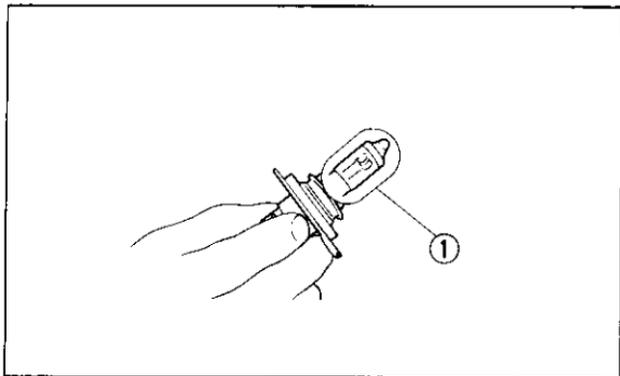


1. Headlight connector      2. Bulb holder cover
2. Unhook the bulb holder and remove the defective bulb.



## **⚠ 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.



1. Don't touch
3. Put a new bulb into position and secure it in place with the bulb holder.

## **CAUTION:**

### Headlight bulb

- 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.

### Headlight lens

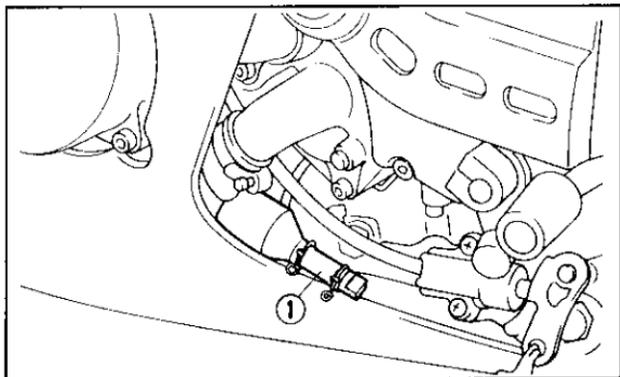
To prevent damage or deforming:

- Do not affix any type of tinted film or stickers to the headlight lens.
- Do not use headlight bulbs of wattage higher than specified.

4. Install the bulb holder cover and re-connect the headlight connector. If the headlight beam adjustment is necessary, ask a Yamaha dealer to make that adjustment.

## Air vent hose

If dust or water collects in this hose, remove the hose and clean it.



1. Hose

EUU48600

### **CAUTION:**

**Do not operate the motorcycle with the air vent hose removed.**

## Troubleshooting

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

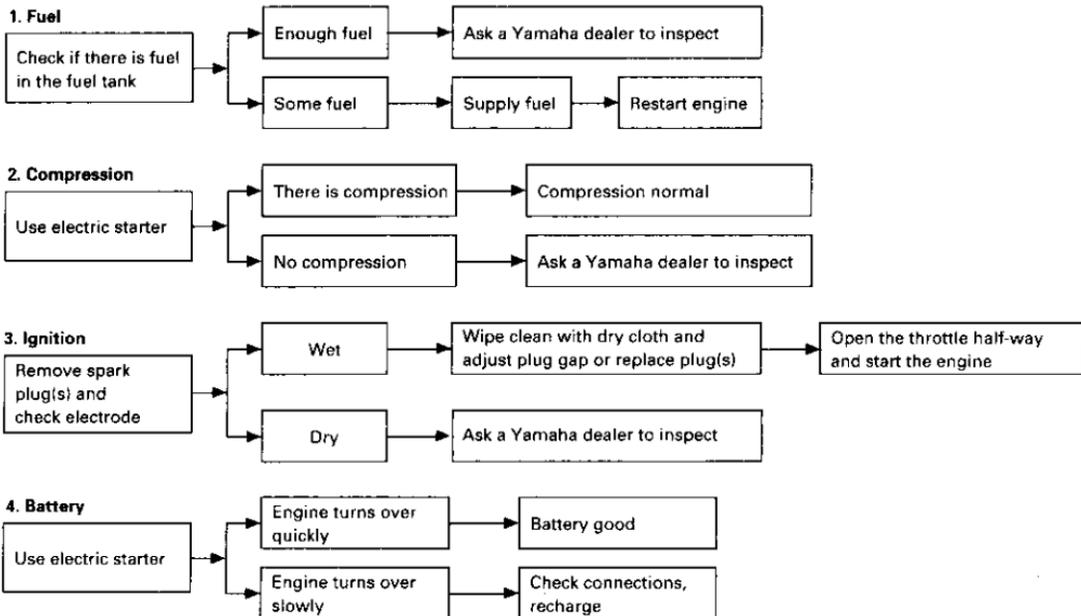
Any problem in the fuel, compression, or ignition systems can cause poor starting and loss of power. The troubleshooting chart describes a quick, easy procedure for making checks.

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

## **⚠ WARNING**

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



## CLEANING AND STORAGE

### 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 pipe and air intake duct to prevent water entry. A plastic bag and a strong rubber band (or tape) 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 the chain, sprockets or wheel axles.

3. Rinse the dirt and degreaser off with a garden hose. Use only enough pressure to do the job.

### 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. Dry the chain and lubricate it to prevent rust.
7. Clean windscreen and the headlight lense.

EUU37400

### **CAUTION:**

**Avoid using any alkaline or strong acid cleaner, gasoline, brake fluid, or any other solvent.**

Clean the windscreen and the headlight lense with a cloth or sponge dampened with a neutral detergent, and after cleaning, thoroughly wash it off with water. Some cleaning compounds for plastics may leave scratches on surfaces of the windscreen.

Before using them, make a test by polishing an area which does not affect your visibility.

8. Clean the seat with a vinyl upholstery cleaner to keep the cover pliable and glossy.
9. 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 on the fuel tank and side covers. When finished, start the engine and let it idle for several minutes.

EAK02700

### **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 bowls.
2. Remove the empty fuel tank, pour a cup of SAE 10W30 or 20W40 motor oil in the tank, shake the tank to coat the inner surfaces thoroughly and drain off the excess oil. Reinstall the tank.
3. Remove each spark plug, pour about one tablespoon of SAE 10W30 or 20W40 motor oil in each spark plug hole and reinstall the spark plugs. Turn the engine over several times (ground spark plug leads) to coat the cylinder walls with oil.
5. Lubricate all control cables.
6. Block up the frame to raise both wheels off the ground.
7. Tie a plastic bag over the exhaust pipe outlet to prevent moisture from entering.
8. 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.
9. 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 or more than 30°C).

EUU66400

 **WARNING**

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

4. Clean the chain and lubricate it (refer to "Drive chain lubrication").

EUU05800

**NOTE:** Make any necessary repairs before storing the motorcycle.

# SPECIFICATIONS

Model	YZF600R
<b>Dimensions:</b>	
Overall length	2,145 mm: Except for I, E, F 2,060 mm: For I, E, F
Overall width	725 mm
Overall height	1,190 mm
Seat height	805 mm
Wheelbase	1,415 mm
Minimum ground clearance	135 mm
Minimum turning radius	3,200 mm
<b>Basic weight with oil and full fuel tank:</b>	212 kg: Except for CH, S, A 214 kg: For CH, S, A
<b>Engine:</b>	
Engine type	Liquid-cooled 4-stroke, DOHC
Cylinder arrangement	Forward-inclined parallel 4-cylinder
Displacement	599 cm <sup>3</sup>
Bore × stroke	62.0 × 49.6 mm
Compression ratio	12:1
Starting system	Electric starter
<b>Lubrication system:</b>	Wet sump

Model	YZF600R
Oil type or grade: Engine oil	See Page 5-8.
Oil capacity: Engine oil Periodic oil change With oil filter replacement Total amount	2.6 L 2.9 L 3.5 L
Radiator capacity (including all routes):	1.95 L
Air filter:	Wet type element
Fuel: Type Fuel tank capacity Fuel reserve amount	Regular unleaded gasoline 19 L 3.1 L
Carburetor: Type / quantity Manufacturer	CVKD36/4 KEIHIN
Spark plug: Type Manufacturer Spark plug gap Clutch type	CR9E/U27ESR-N NGK/NIPPONDENSO 0.7 ~ 0.8 mm Wet, multiple-disc

Model	YZF600R						
<b>Transmission:</b> Primary reduction system Primary reduction ratio Secondary reduction system Secondary reduction ratio Transmission type Operation Gear ratio <table data-bbox="539 391 592 606" style="display: inline-table; vertical-align: middle;"> <tr><td>1st</td></tr> <tr><td>2nd</td></tr> <tr><td>3rd</td></tr> <tr><td>4th</td></tr> <tr><td>5th</td></tr> <tr><td>6th</td></tr> </table>	1st	2nd	3rd	4th	5th	6th	Spur gear 82/48 (1.708) Chain drive 47/15 (3.133) Constant mesh 6-speed Left foot operation 37/13 (2.846) 37/19 (1.947) 34/22 (1.545) 28/21 (1.333) 25/21 (1.190) 29/27 (1.074)
1st							
2nd							
3rd							
4th							
5th							
6th							
<b>Chassis:</b> Frame type Caster angle Trail	Diamond 25° 97 mm						
<b>Tire:</b> Type Size <table data-bbox="539 844 606 906" style="display: inline-table; vertical-align: middle;"> <tr><td>front</td></tr> <tr><td>rear</td></tr> </table>	front	rear	Tubeless 120/60ZR17 160/60ZR17				
front							
rear							



Model	YZF600R
<b>Bulb wattage × quantity:</b> Headlight Auxiliary light Tail / brake light Flasher light Meter light Neutral indicator light Oil level indicator light Fuel indicator light Turn indicator light High beam indicator light	12 V 60 W / 55 W × 1 12 V 4 W × 1 12 V 5 W / 21 W × 1 12 V 21 W × 4 12 V 1.7 W × 4 12 V 3.4 W × 1 12 V 3.4 W × 1

## HOW TO USE THE CONVERSION TABLE

All specification data in this manual are listed in SI and METRIC UNITS.

Use this table to convert METRIC unit data to IMPERIAL unit data.

Ex.

METRIC		MULTIPLIER	=	IMPERIAL
**mm	×	0.03937	=	**in
2 mm	×	0.03937	=	0.08 in

## CONVERSION TABLE

METRIC TO IMPERIAL			
	Metric unit	Multiplier	Imperial unit
Torque	m·kg	7.233	ft·lb
	m·kg	86.794	in·lb
	cm·kg	0.0723	ft·lb
	cm·kg	0.8679	in·lb
Weight	kg	2.205	lb
	g	0.03527	oz
Speed	km/hr	0.6214	mph
Distance	km	0.6214	mi
	m	3.281	ft
	m	1.094	yd
	cm	0.3937	in
	mm	0.03937	in
Volume / Capacity	cc (cm <sup>3</sup> )	0.03527	oz (IMP liq.)
	cc (cm <sup>3</sup> )	0.06102	cu-in
	lt (liter)	0.8799	qt (IMP liq.)
	lt (liter)	0.2199	gal (IMP liq.)
Misc.	kg/mm	55.997	lb/in
	kg/cm <sup>2</sup>	14.2234	psi (lb/in <sup>2</sup> )
	Centigrade (°C)	9/5 + 32	Fahrenheit (°F)