YAMAHA

MASTER COPY

OWNER'S MANUAL

4XV-28199-20

EAU00000

Congratulations on your purchase of the Yamaha YZF-R1. 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.

IMPORTANT MANUAL INFORMATION

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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

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

IMPORTANT MANUAL INFORMATION

EW000002

⚠ WARNING

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

EAU00008

YZF-R1K
OWNER'S MANUAL

1st Edition, January 1998

Printed in Japan.

TABLE OF CONTENTS

⚠ SAFETY INFORMATION

EAU00012

1

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 197 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 vehicle

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 system 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 system 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

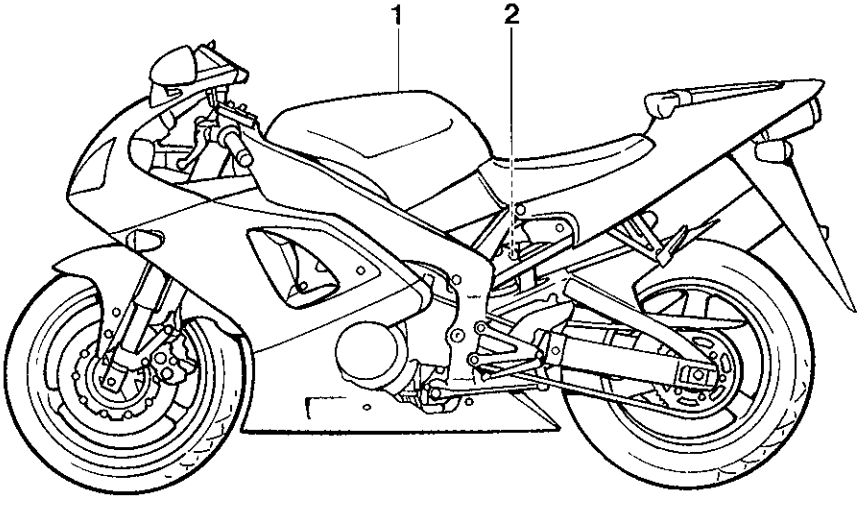
4 When transporting the motorcycle in another vehicle, be sure it is kept upright and that the fuel cock is turned to "ON" or "RES" (for vacuum type)/"OFF" (for manual type) If it should lean over, gasoline may leak out of the carburetor or fuel tank.

5. If you should swallow any gasoline, inhale a lot of gasoline vapor, or allow gasoline to get in your eyes, 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.

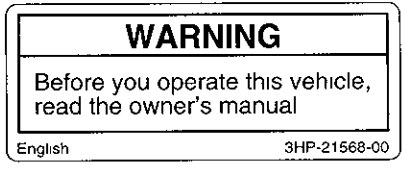
EAU00025

Location of the important labels

Please read the following labels carefully before operating this motorcycle

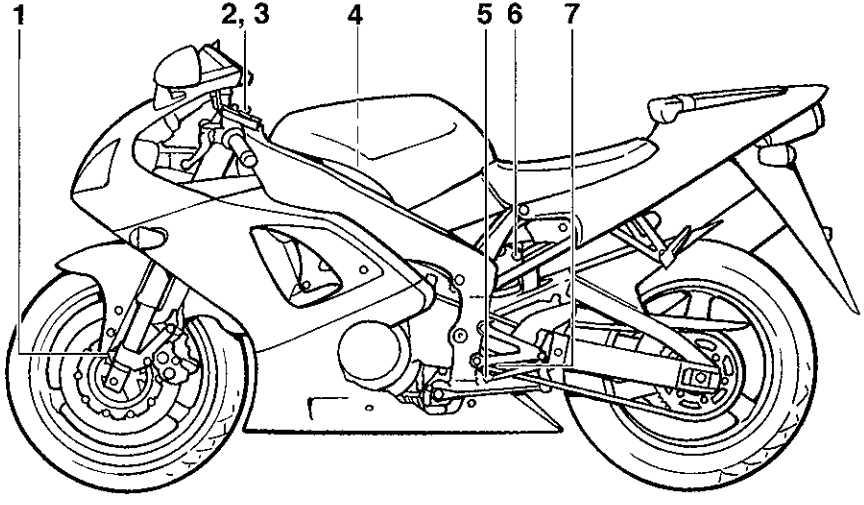


1



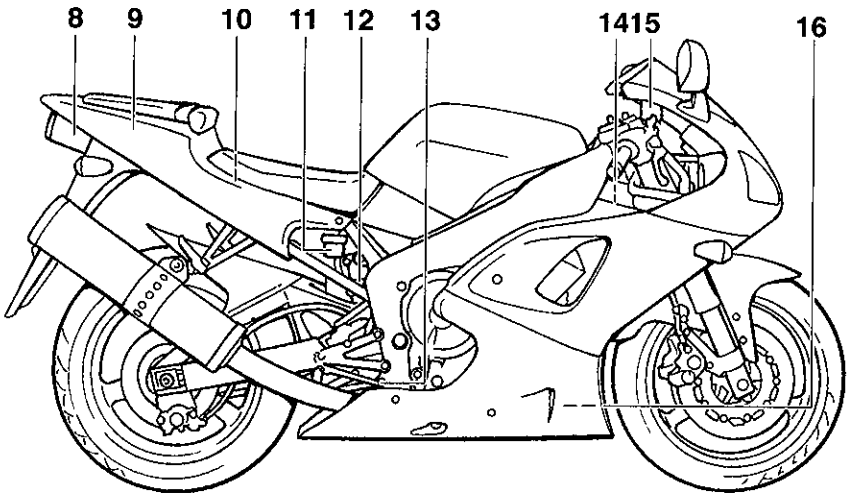
2

Left view



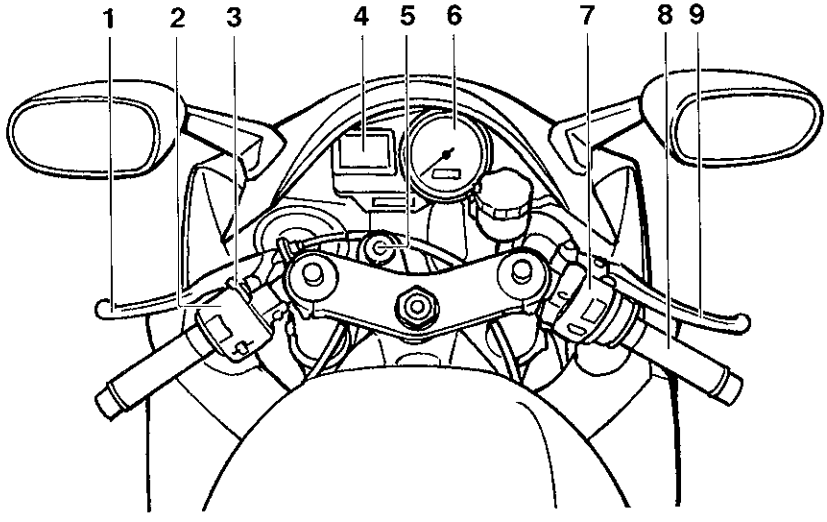
1. Front fork compression damping force adjusting screw (page 3-17)
2. Front fork rebound damping force adjusting screw (page 3-17)
3 Front fork spring preload adjusting bolt (page 3-16)
4 Air filter (page 6-15)
5 Shift pedal (page 3-11)
6 Rear shock absorber compression damping force adjusting screw (page 3-18)
7. Rear shock absorber rebound damping force adjusting screw (page 3-18)

Right view



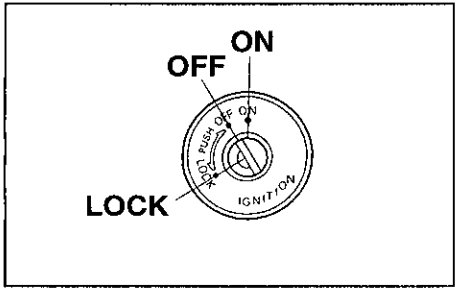
8. Luggage strap hooks
9. Tool kit (page 6-1)
10 Fuses (page 6-31)
11. Rear brake fluid master cylinder
12 Rear shock absorber spring preload adjusting ring (page 3-18)
13 Rear brake pedal (page 3-12)
14 Radiator cap and coolant reservoir tank cap (page 6-13)
15. Front brake fluid master cylinder
16 Engine oil filter (page 6-9)

Controls/Instruments



1 Clutch lever	(page 3-11)	6 Tachometer	(page 3-8)
2 Left handlebar switches	(page 3-9)	7 Right handlebar switches	(page 3-10)
3. Starter (choke) "⎸↖⎸"	(page 3-14)	8 Throttle grip	(page 6-17)
4. Digital speedometer	(page 3-7)	9 Front brake lever	(page 3-11)
5 Main switch	(page 3-1)		

EAU00027



EAU00029

Main switch/Steering lock

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

EAU00030

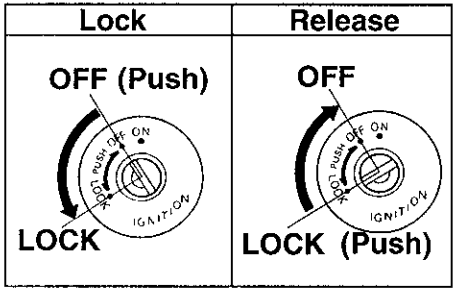
ON.

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

EAU00038

OFF

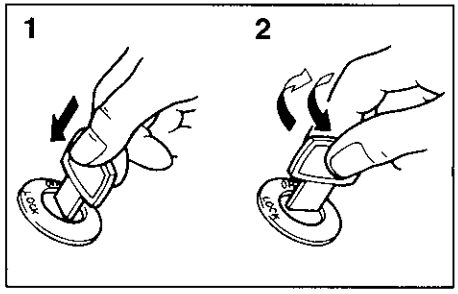
All electrical circuits are switched off The key can be removed in this position.



EAU00040

LOCK

The steering is locked in this position and all electrical circuits are switched off The key can be removed in this position 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.

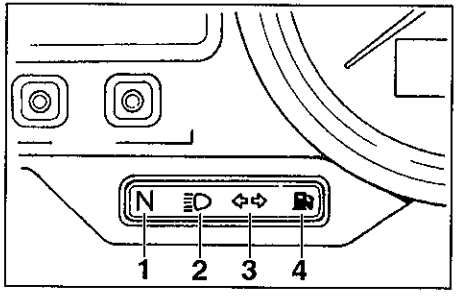


1 Push
2 Turn

EW000016

⚠ WARNING

Never turn the key to "OFF" or "LOCK" when the motorcycle is moving. The electrical circuits will be switched off which may result in loss of control or an accident. Be sure the motorcycle is stopped before turning the key to "OFF" or "LOCK".



1 Neutral indicator light "N"
2 High beam indicator light "≡D"
3 Turn indicator light "⇦ ⇨"
4 Fuel indicator light "⛽"

EAU00056

Indicator lights

EAU00057

Turn indicator light "⇦ ⇨"

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

EAU00061

Neutral indicator light "N"

This indicator comes on when the transmission is in neutral

EAU00063

High beam indicator light "≡D"

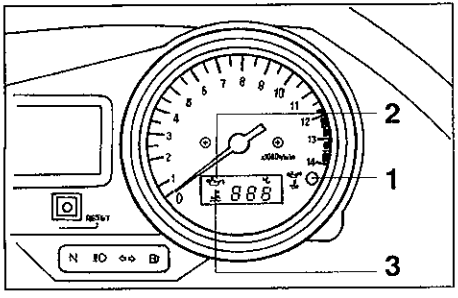
This indicator comes on when the headlight high beam is used

EAU01154

Fuel indicator light "⛽"

When the fuel level drops below approximately 5.5 L, this light will come on. When this light comes on, fill the tank at the first opportunity. This light circuit can be checked by the procedure on page 3-6.

3



1 Oil level/coolant temperature indicator light " "
2 Oil level symbol " "
3 Coolant temperature symbol " "

EAU01239

Oil level/coolant temperature indicator light " "

This indicator light has two functions

- The light will come on and symbol " " will flash if the engine oil level is low If this symbol flashes, stop the engine immediately and fill it with oil to the specified level
- The light will come on and symbol " " will flash if the coolant temperature is too high. The following chart shows the conditions of the indicator light, symbol and temperature display in accordance to coolant temperature.

The light circuit can be checked by the procedure on page 3-5.

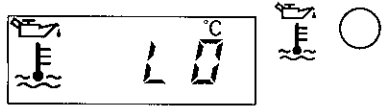
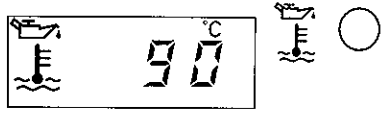
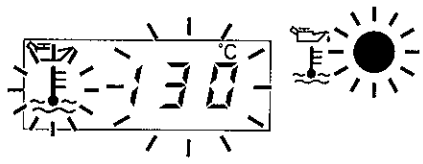
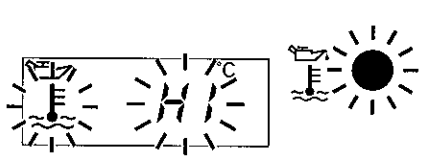
EC000118

CAUTION:

- **Do not run the motorcycle until you know it has sufficient engine oil.**
- **Do not run the motorcycle if the engine is overheated.**

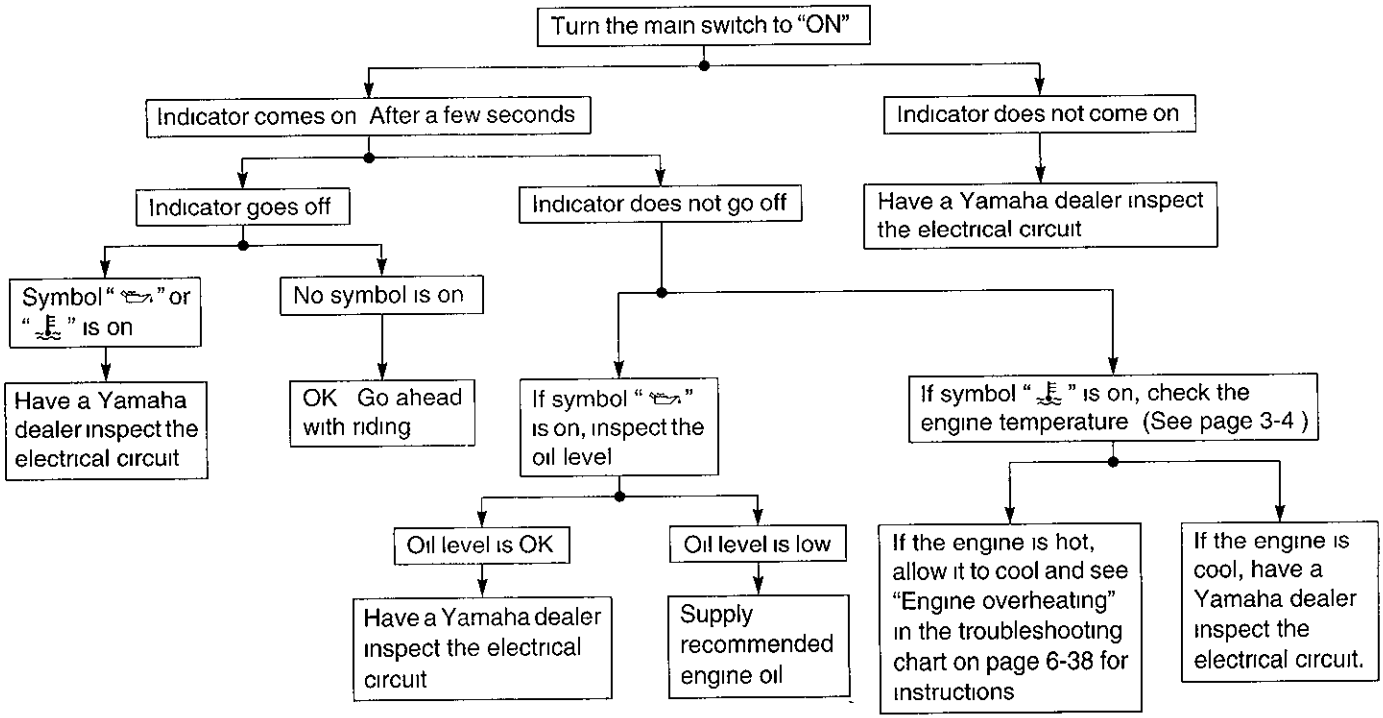
NOTE:

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 normal

Coolant temperature	Display	Conditions	What to do:
0 °C ~ 40 °C		Symbol is on and "LO" is displayed	OK Go ahead with riding
41 °C ~ 117 °C		Symbol is on and temperature is displayed	OK Go ahead with riding
118 °C ~ 140 °C		Symbol and temperature flashes Indicator light comes on	Stop the motorcycle and allow it to idle until coolant temperature goes down If the temperature does not go down, stop the engine. See "Engine overheating" in the troubleshooting chart on page 6-38 for instructions
141 °C ~		Symbol flashes "HI" is displayed and flashes also Indicator light comes on	Stop the engine and allow it to cool See "Engine overheating" in the troubleshooting chart on page 6-38 for instructions

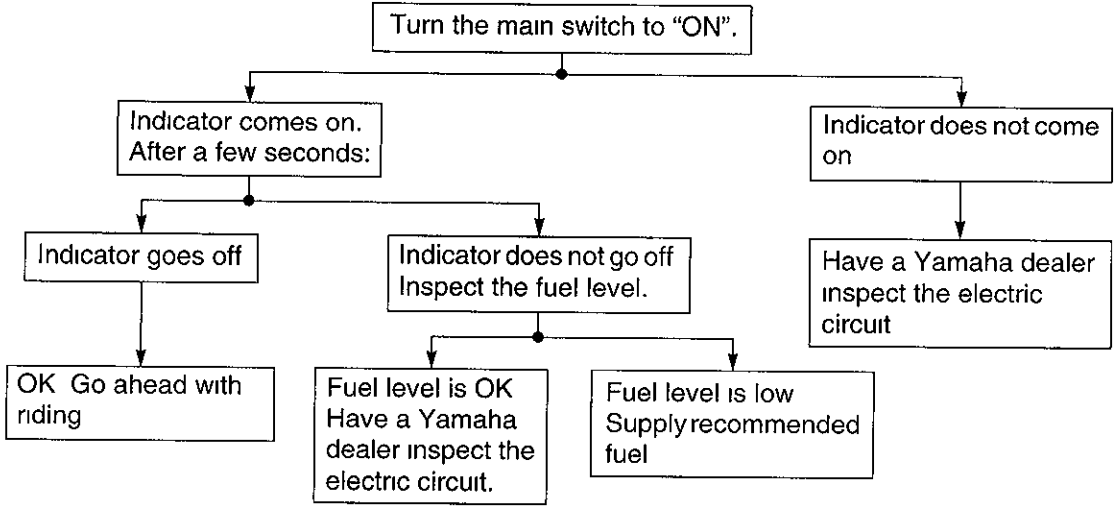
EAU01293

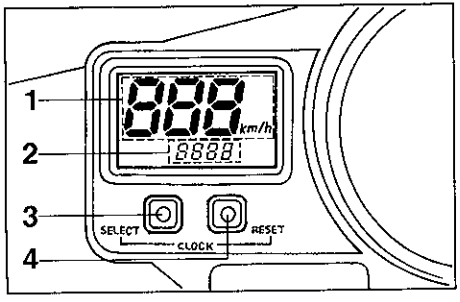
Oil level / coolant temperature indicator light circuit check



EAU01295

Fuel indicator light circuit check





1 Speedometer
2 Clock, odometer
3 "SELECT" button
4 "RESET" button

EAU01245

Digital speedometer

This speedometer is equipped with

- an odometer
- two trip odometers
- a fuel reserve trip meter
- a clock

For UK and USA models only

To change the speedometer display from kilometers to miles, press the "SELECT" button for at least two seconds

Odometer and trip meters

Use the trip meters to estimate how far you can ride on a tank of fuel

Use the fuel reserve trip meter to see the distance traveled from when the fuel level dropped to the reserve level.

Push the "SELECT" button to change between the odometer mode "ODO" and the trip odometer modes "TRIP 1" and "TRIP 2" in the following order

"ODO" → "TRIP 1" → "TRIP 2" → "ODO"

If the fuel level indicator light comes on (see page 3-2), the odometer display will automatically change to the fuel reserve trip meter mode "TRIP F" and start counting the distance traveled from that point Push the "SELECT" button to change between the fuel odometer, trip odometer and odometer modes in the following order

"TRIP F" → "TRIP 1" → "TRIP 2" → "ODO" → "TRIP F"

To reset a trip odometer to 0 0, select it by pushing the "SELECT" button and push the "RESET" button for at least one second To reset the fuel reserve trip meter, select it by pushing the "SELECT" button and push the "RESET" button for at least one second The display will return to "TRIP 1"

If you do not reset the fuel reserve trip meter manually, it will automatically reset and return to "TRIP 1" after refueling and the motorcycle has traveled both 5 km and for approximately 3 minutes.

NOTE:

After the fuel reserve trip meter is reset, the display always returns to the "TRIP 1" mode If "TRIP 2" was being used before the fuel reserve trip meter is reset, be sure to push the "SELECT" button to change back to the "TRIP 2" mode

Clock

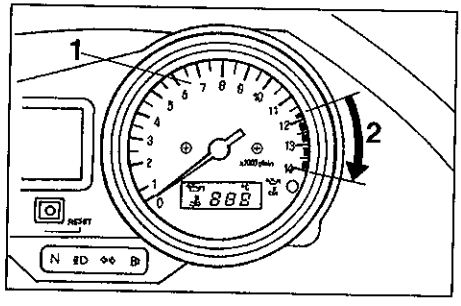
To change the display to the clock mode, push both the "SELECT" and "RESET" buttons

To set the clock·

1 Push both the "SELECT" and "RESET" buttons for at least two seconds.
2 When the hour digits start flashing, push the "RESET" button to set the hours
3. Push the "SELECT" button to change the minutes
4. When the minute digits start flashing, push the "RESET" button to set the minutes
5. Push the "SELECT" button to start the clock

NOTE:

After setting the clock, be sure to push the "SELECT" button before turning the main switch to "OFF", otherwise the clock will not be set.



1 Tachometer
2 Red zone

EAU00101

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

EC000003

CAUTION:

Do not operate in the red zone.
Red zone: 11,750 r/min and above

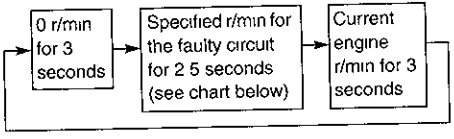
EAU00106

Diagnosis device

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

- Throttle Position Sensor (T P S) circuit
- EXhaust Ultimate Power valve (EXUP) circuit
- Fuel level indicator 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

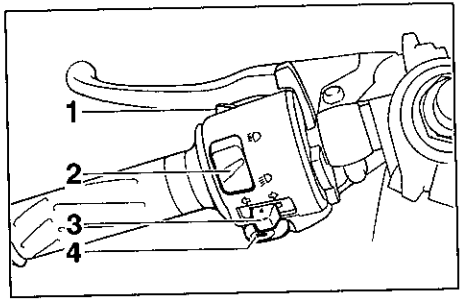
Specified r/min	Faulty circuit
3,000 r/min	Throttle Position Sensor (T P S)
7,000 r/min	Exhaust Ultimate Power valve (EXUP)
8,000 r/min	Fuel level indicator

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

EC000004

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.



1 Pass switch "PASS"
2 Dimmer switch
3 Turn signal switch
4 Horn switch "📯"

EAU00118

Handlebar switches

EAU00120

Pass switch "PASS"

Press the switch to operate the passing light

EAU00121

Dimmer switch

Turn the switch to "≣O" for the high beam and to "≣O" for the low beam

EAU00127

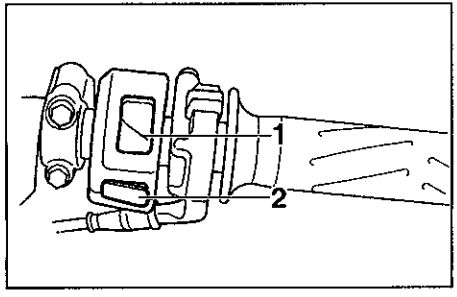
Turn signal switch

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

EAU00129

Horn switch "📯"

Press the switch to sound the horn.



1 Engine stop switch
2 Start switch "Ⓢ"

EAU00138

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.

EAU00143

Start switch "Ⓢ"

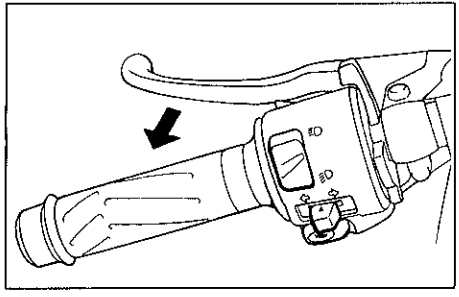
The starter motor cranks the engine when pushing the start switch

EC000005

CAUTION:

See starting instructions prior to starting the engine.

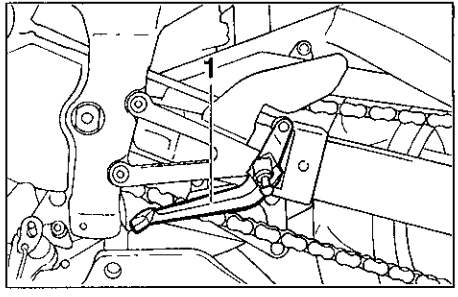
3



EAU00152

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)

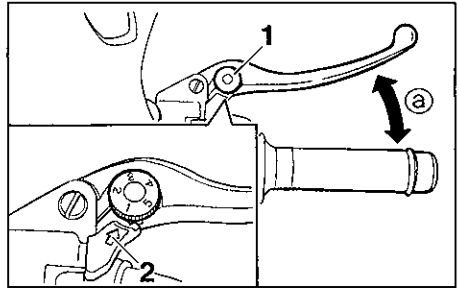


1 Shift pedal

EAU00157

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

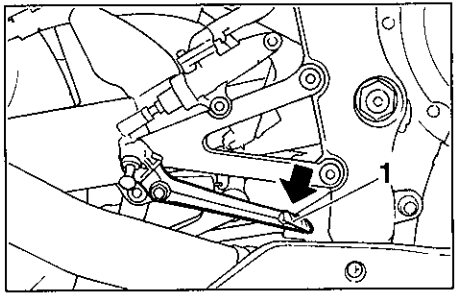


1 Lever position adjusting dial
2 Arrow mark
a Lever distance

EAU00161

Front brake lever

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

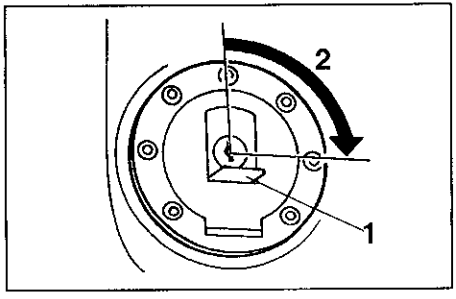


1 Rear brake pedal

EAU00162

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 Key cover
2 Open

EAU00172

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.

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.

NOTE:

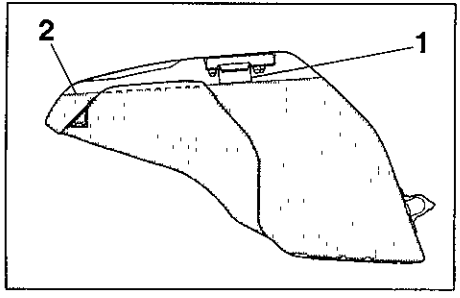
This tank cap cannot be closed unless the key is in the lock. The key cannot be removed if the cap is not locked properly.

EW000023

⚠ WARNING

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

3



1 Filler tube
2 Fuel level

EAU01183

Fuel

Make sure there is sufficient fuel in the tank. Fill the fuel tank to the bottom of the filler tube as shown in the illustration.

EW000130

⚠ 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 or it may overflow when the fuel heats up later and expands.

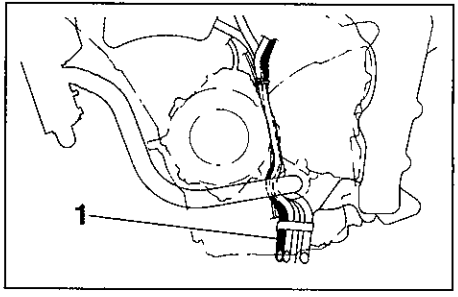
EAU00185

CAUTION:

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

EAU00192

Recommended fuel:
Regular gasoline
For Australia.
Unleaded fuel only
Fuel tank capacity:
Total.
18 L
Reserve
5.5 L



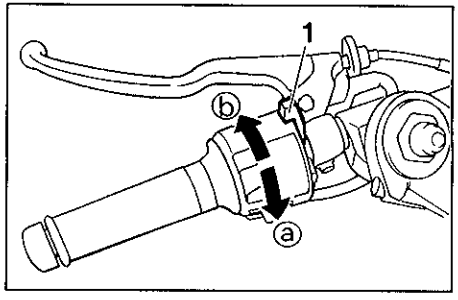
1 Fuel tank breather hose

EAU01323

Fuel tank breather hose

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.



1 Starter (choke) "|◺|"

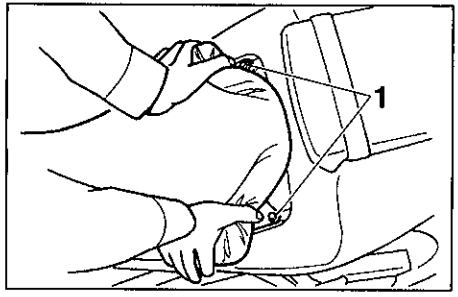
EAU00210

Starter (choke) "|◺|"

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

Move in direction ⓐ to turn on the starter (choke).

Move in direction ⓑ to turn off the starter (choke).



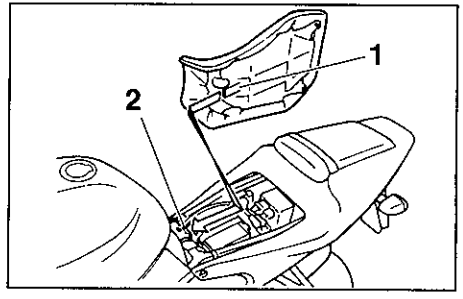
1 Bolt (× 2)

EAU01241

Rider seat

To remove:

Lift up the rear corners of the seat as shown and remove the bolts.

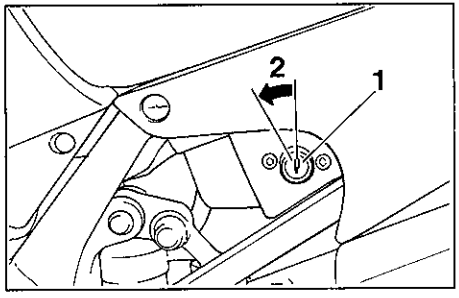


1 Projection
2 Seat holder

To install:

Insert the projection on the front of the seat into the seat holder and install the bolts.

3

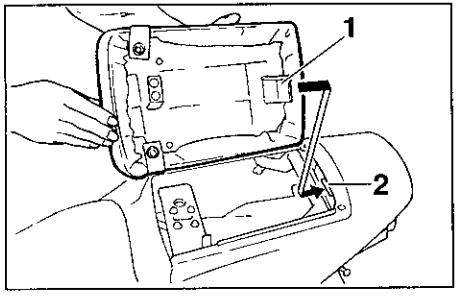


1 Passenger seat lock
2 Open

Passenger seat

To remove:

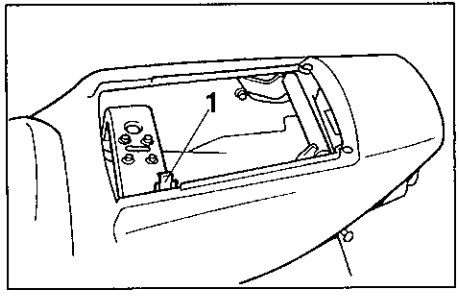
Insert the key into the seat lock and turn it counterclockwise. While holding the key in that position, lift up the front of the seat and pull it forward.



1 Projection
2 Seat holder

To install

Insert the projection on the rear of the seat into the seat holder and push down on the front of the seat.



EAU00265

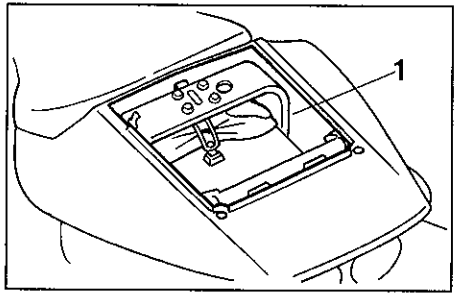
Helmet holder

Remove the passenger seat and hook the helmet into the helmet holder. Then install the passenger seat.

EW000030

⚠ WARNING

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



1 Storage compartment

EAU01242*

Storage compartment

The storage compartment is located under the passenger seat

EW000033

⚠ WARNING

Do not exceed maximum load.
Maximum load: 3 kg

EAU01141

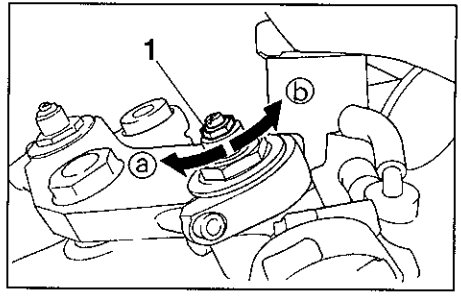
Front fork adjustment

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

EW000037

⚠ WARNING

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



1 Spring preload adjusting bolt

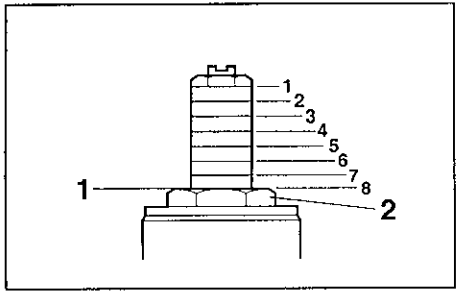
1 Adjust spring preload as follows. Turn the adjusting bolt in direction ⓐ to increase spring preload and in direction ⓑ to decrease spring preload. Align the preferred setting with the top of the front fork cap

EC000013

CAUTION:

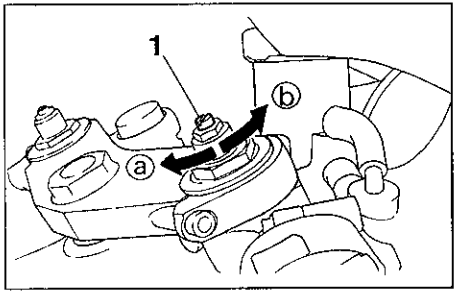
The grooves are provided to show the adjustment level. Always keep the adjustment level equal on both fork legs.

3



1 Setting position
2 Front fork cap

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

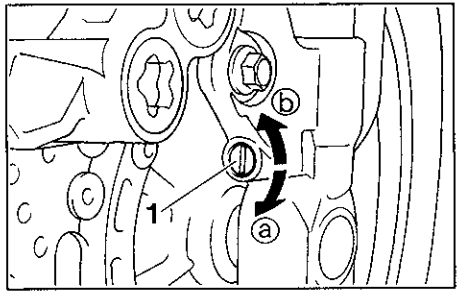


1 Rebound damping force adjusting screw

2 Adjust rebound damping force as follows
Turn adjusting screw in direction ⓐ to increase rebound damping force and in direction ⓑ to decrease rebound damping force

Standard	5 clicks out*
Minimum (Soft)	13 clicks out*
Maximum (Hard)	1 click out*

* From the fully turned-in position



1 Compression damping force adjusting screw

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

Standard	5 clicks out*
Minimum (Soft)	11 clicks out*
Maximum (Hard)	1 click out*

* From the fully turned-in position

EC000015

CAUTION:

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

EAU01298

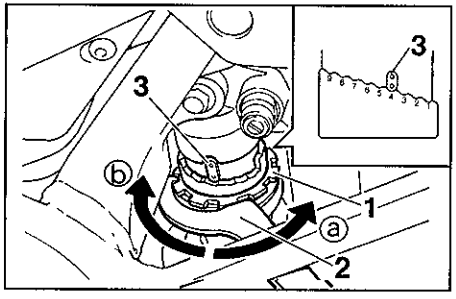
Rear shock absorber adjustment

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

EC000015

CAUTION:

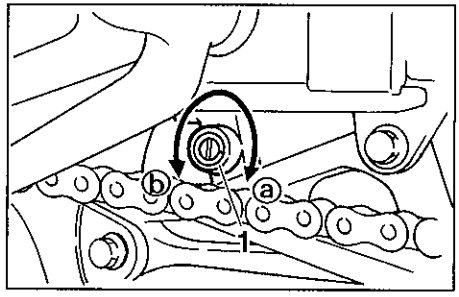
Never attempt to turn an adjuster beyond the maximum or minimum setting.



1 Spring preload adjusting ring
2 Special wrench
3 Position indicator

1 Adjust spring preload as follows.
Turn the adjusting ring in direction ⓐ to increase spring preload and in direction ⓑ to decrease spring preload.
Make sure that the appropriate notch in the adjusting ring is aligned with the position indicator on the rear shock absorber

	Soft			Standard	Hard				
Adjusting position	1	2	3	4	5	6	7	8	9



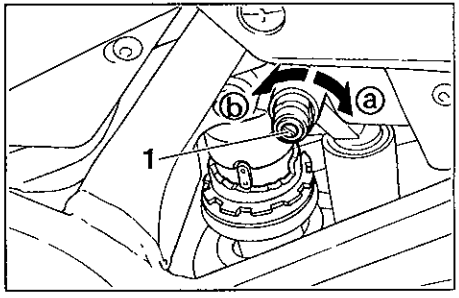
1 Rebound damping force adjusting screw

2 Adjust rebound damping force as follows
Turn the adjusting screw in direction ⓐ to increase rebound damping force and in direction ⓑ to decrease rebound damping force.

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

* From the fully turned-in position

3



1 Compression damping force adjusting screw

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

Standard	8 clicks out*
Minimum (Soft)	12 click out*
Maximum (Hard)	1 click out*

* From the fully turned-in position

EAU00315

⚠ WARNING

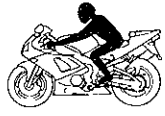
This shock absorber contains highly pressurized nitrogen gas. Read and understand the following information before handling the shock absorber. The manufacturer cannot be held responsible for property damage or personal injury that may result from improper handling.

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.**

EAU00317

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	
	Spring preload adjusting bolt	Compression damping force adjusting screw	Rebound damping force adjusting screw	Spring preload adjusting ring	Compression damping force adjusting screw	Rebound damping force adjusting screw	Solo rider 	With passenger 
1	1 ~ 8	1 ~ 11	1 ~ 13	1 ~ 7	4 ~ 12	3 ~ 12	○	
2	1 ~ 8	1 ~ 11	1 ~ 13	4 ~ 9	1 ~ 8	1 ~ 6		○

* From the fully-turned in position

EC000016

CAUTION:

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

EAU00328

EXUP (EXhaust Ultimate Powervalve)

This model is equipped with an EXUP system within the exhaust pipe. This valve is always activated by a computer-controlled servomotor in accordance with engine rpm

EC000027

CAUTION:

- **The EXUP 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.**
- **If the EXUP does not operate, ask a Yamaha dealer to inspect.**

EAU00330

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 5-1 for an explanation of this system)

EW000044

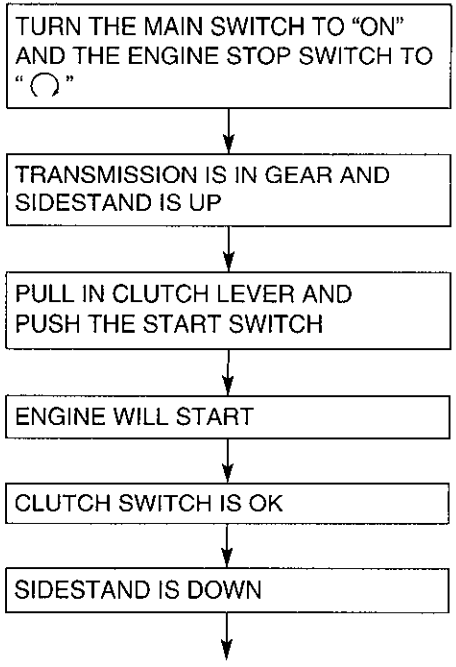
⚠ WARNING

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.

EAU00331

Sidestand/clutch switch operation check

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



ENGINE WILL STALL

↓

SIDESTAND SWITCH IS OK

EW000045

⚠ WARNING

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

PRE-OPERATION CHECKS

EAU01114

Owners are personally responsible for their vehicle's condition. Your motorcycle'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.

EAU00340

PRE-OPERATION CHECK LIST

ITEM	CHECKS	PAGE
Front brake	• Check operation, free play, fluid level and fluid leakage • Fill with DOT 4 brake fluid if necessary	6-22 ~ 6-23
Rear brake		6-22 ~ 6-23
Clutch	• Check operation condition and free play • Adjust if necessary	6-21 ~ 6-22
Throttle grip and housing	• Check for smooth operation • Lubricate if necessary	6-17, 6-26
Engine oil	• Check oil level • Fill with oil if necessary	6-9 ~ 6-12
Coolant reservoir tank	• Check coolant level • Fill with coolant if necessary	6-12 ~ 6-14
Drive chain	• Check chain slack and condition • Adjust if necessary	6-25 ~ 6-26
Wheels and tires	• Check tire pressure, wear and damage	6-18 ~ 6-21 6-34 ~ 6-36
Control cable	• Check for smooth operation • Lubricate if necessary	6-26
Brake pedal shaft	• Check for smooth operation • Lubricate if necessary	6-27
Brake and clutch lever pivots	• Check for smooth operation • Lubricate if necessary	6-27

ITEM	CHECKS	PAGE
Sidestand pivot	• Check for smooth operation • Lubricate if necessary	6-27
Chassis fasteners	• Make sure that all nuts, bolts and screws are properly tightened • Tighten if necessary	—
Fuel tank	• Check fuel level • Fill with fuel if necessary	3-12 ~ 3-13
Lights, signals and switches	• Check for proper operation.	6-31 ~ 6-33

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.

⚠ WARNING

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

OPERATION AND IMPORTANT RIDING POINTS

EAU00373

⚠ 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.**

EAU01383

Starting and warming up a cold engine

NOTE:

This motorcycle is equipped with an ignition circuit cut-off system
The engine can be started only under the following conditions

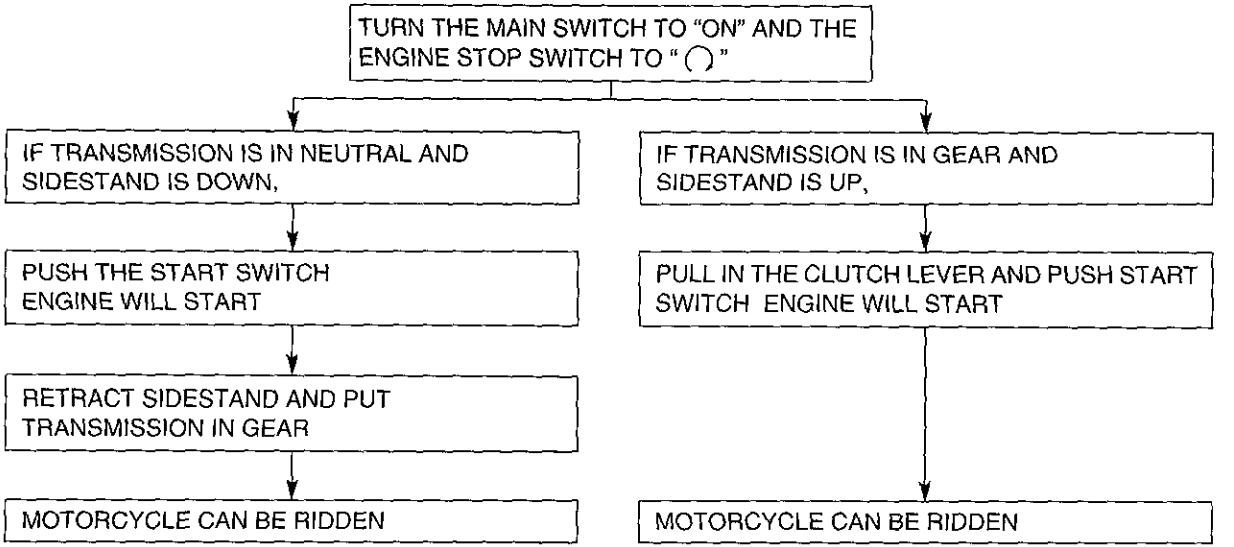
a The transmission is in neutral
b The sidestand is up, the transmission is in gear and the clutch is disengaged

The motorcycle must not be ridden when the sidestand is down

EW000054

⚠ WARNING

Before going through the following steps, check the function of the sidestand switch and clutch switch. (Refer to page 3-21.)


TURN THE MAIN SWITCH TO "ON" AND THE ENGINE STOP SWITCH TO " ◯ "
IF TRANSMISSION IS IN NEUTRAL AND SIDESTAND IS DOWN,
PUSH THE 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 THE 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 "○".

ECA00005

CAUTION:

The oil level/coolant temperature indicator light and fuel indicator light should come on for a few seconds and then go off. If an indicator light does not go off, refer to the corresponding indicator light circuit check in the "INSTRUMENT AND CONTROL FUNCTIONS" section.

2. Shift the transmission into neutral

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.

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.

5 After starting the engine, move the starter (choke) to the warming up position.

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.

NOTE:

The engine is warm when it responds normally to the throttle with the starter (choke) turned off.

EAU00420

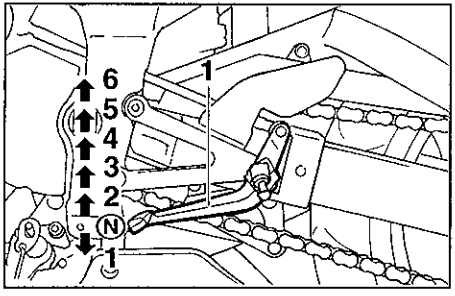
Starting a warm engine

The starter (choke) is not required when the engine is warm.

EC000046

CAUTION:

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



1 Shift pedal
N Neutral

EAU00423

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

To shift into neutral, depress the shift pedal repeatedly until it reaches the end of its travel, then raise the pedal slightly

EC000048

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.**

EAU00424

Tips for reducing fuel consumption

Your motorcycle's fuel consumption depends to a large extent on your riding style The following tips can help reduce fuel consumption:

1. Warm up the engine before riding
2. Turn off the starter (choke) as soon as possible.
3. Shift up swiftly and avoid high engine speeds during acceleration
4. Do not double-clutch or rev the engine while shifting down and avoid high engine speeds with no load on the engine
5. Turn off the engine instead of letting it idle for an extended length of time, i e in traffic jams, at traffic lights or railroad crossings

5

EAU01128

Engine break-in

There is never a more important period in the life of your motorcycle than the period between zero and 1,600 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 1,600 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

EAU01329

1 0 ~ 1,000 km
Avoid operation above 5,000 r/min.
2 1,000 ~ 1,600 km:
Avoid cruising speeds in excess of 6,000 r/min

EC000052

CAUTION:

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

3 1,600 km and beyond
Proceed with normal riding

EC000053

CAUTION:

- **Never let engine speeds enter the red zone.**
- **If any engine trouble should occur during the break-in period, consult a Yamaha dealer immediately.**

EAU00460

Parking

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

EW000058

⚠ WARNING

The exhaust system is 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.

EAU00464

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 maintenance and lubrication schedule chart should be considered strictly as a guide to general maintenance and lubrication intervals. YOU MUST TAKE INTO CONSIDERATION THAT WEATHER, TERRAIN, GEOGRAPHICAL LOCATIONS, AND A VARIETY OF INDIVIDUAL USES ALL TEND TO DEMAND THAT EACH OWNER ALTER THIS TIME SCHEDULE TO SHORTER INTERVALS TO MATCH THE ENVIRONMENT The most important points of motorcycle inspection, adjustment, and lubrication are explained in the following pages

EW000060

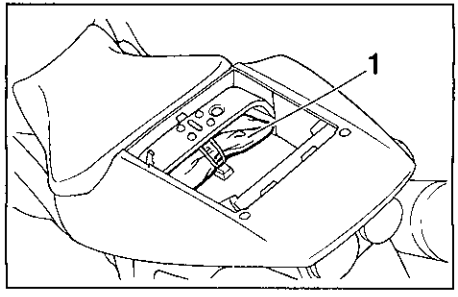
⚠ WARNING

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

EAU01296

CAUTION:

Do not test this motorcycle on a dynamometer for an extended period of time as discoloration to the fiber constructed muffler may occur from the heat.



1 Tool kit

EAU00470

Tool kit

The tool kit is located inside of the storage compartment. (See page 3-15 for compartment opening procedures.) 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

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.

NOTE:

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

EW000063

⚠ 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 AND LUBRICATION

EAU00473

NO		ITEM	CHECKS AND MAINTENANCE JOBS	INITIAL (1,000 km)	EVERY	
					6,000 km or 6 months (whichever comes first)	12,000 km or 12 months (whichever comes first)
1	*	**Fuel line**	• Check fuel hoses for cracks or damage • Replace if necessary		√	√
2	*	**Fuel filter**	• Check condition • Replace if necessary			√
3		**Spark plugs**	• Check condition • Clean, regap or replace if necessary	√	√	√
4	*	**Valves**	• Check valve clearance • Adjust if necessary	Every 42,000 km or 42 months (whichever comes first)		
5		**Air filter**	• Clean or replace if necessary		√	√
6		**Clutch**	• Check operation • Adjust or replace cable	√	√	√
7	*	**Front brake**	• Check operation, fluid level and vehicle for fluid leakage (See NOTE on page 6-5) • Correct accordingly • Replace brake pads if necessary	√	√	√
8	*	**Rear brake**	• Check operation, fluid level and vehicle for fluid leakage (See NOTE on page 6-5) • Correct accordingly • Replace brake pads if necessary	√	√	√
9	*	**Wheels**	• Check balance runout and for damage • Rebalance or replace if necessary		√	√
10	*	**Tires**	• Check tread depth and for damage • Replace if necessary • Check air pressure • Correct if necessary		√	√

NO.		ITEM	CHECKS AND MAINTENANCE JOBS	INITIAL (1,000 km)	EVERY	
					6,000 km or 6 months (whichever comes first)	12,000 km or 12 months (whichever comes first)
11	*	Wheel bearings	• Check bearing for looseness or damage • Replace if necessary		√	√
12	*	Swingarm	• Check swingarm pivoting point for play • Correct if necessary		√	√
13		Drive chain	• Check chain slack • Adjust if necessary Make sure that the rear wheel is properly aligned • Clean and lubricate	Every 1,000 km and after washing the motorcycle or riding in rain		
14	*	Steering bearings	• Check bearing play and steering for roughness • Correct accordingly • Lubricate with lithium soap base grease every 24,000 km or 24 months (whichever comes first)		√	√
15	*	Chassis fasteners	• Make sure that all nuts, bolts and screws are properly tightened • Tighten if necessary		√	√
16		Sidestand	• Check operation • Lubricate and repair if necessary		√	√
17	*	Sidestand switch	• Check operation • Replace if necessary	√	√	√
18	*	Front fork	• Check operation and for oil leakage • Correct accordingly		√	√
19	*	Rear shock absorber assembly	• Check operation and shock absorber for oil leakage • Replace shock absorber assembly if necessary		√	√
20	*	Rear suspension relay arm and connecting arm pivoting points	• Check operation • Correct if necessary		√	√

NO.		ITEM	CHECKS AND MAINTENANCE JOBS	INITIAL (1,000 km)	EVERY 6,000 km or 6 months (whichever comes first)	EVERY 12,000 km or 12 months (whichever comes first)
21	*	Carburetors	• Check engine idling speed, synchronization and starter operation • Adjust if necessary	√	√	√
22		Engine oil	• Check oil level and vehicle for oil leakage • Correct if necessary • Change (Warm engine before draining)	√	√	√
23		Engine oil filter cartridge	• Replace	√		√
24	*	Cooling system	• Check coolant level and vehicle for coolant leakage • Correct if necessary • Change coolant every 24,000 km or 24 months (whichever comes first)		√	√

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

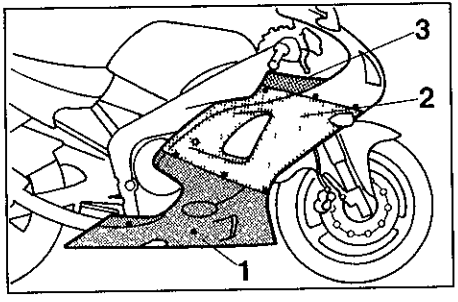
6

EAU00477

NOTE:

- The air filter needs more frequent service if you are riding in unusually wet or dusty areas
- Brake fluid replacement

1 When disassembling the master cylinder or caliper cylinder, always replace the brake fluid Check the brake fluid level regularly and fill as required
2 Replace the oil seals on the inner parts of the master cylinder and caliper cylinder every two years
3 Replace the brake hoses every four years or if cracked or damaged

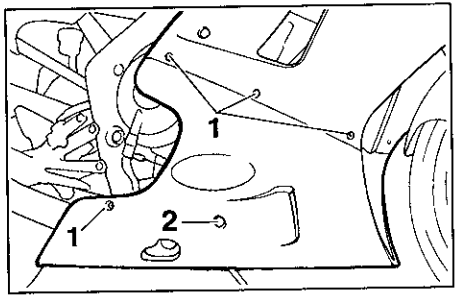


1 Cowling A
2 Cowling B
3 Panel C

EAU01139

Cowling and panel removal and installation

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



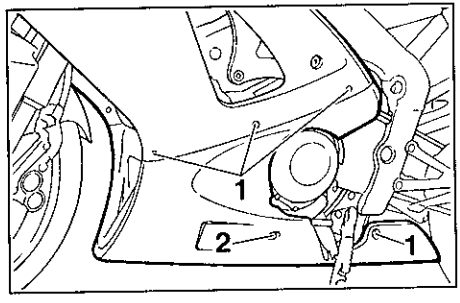
1 Quick fastener screw (× 4)
2 Screw

EAU01254

Cowling A

To remove:

Loosen the quick fastener screws and remove the screws.

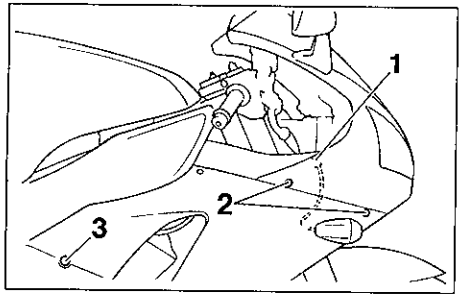


1 Quick fastener screw (× 4)
2 Screw

To install

Place the cowling in its original position, tighten the quick fastener screws and install the screws.

6



1 Connector (× 2)
2 Quick fastener screw (× 2)
3 Screw

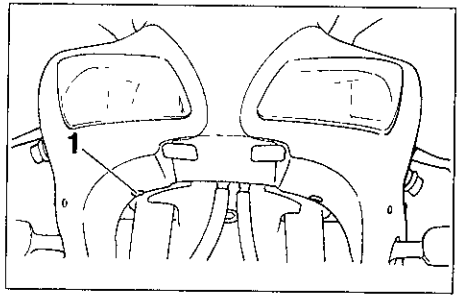
EAU01259

Cowling B

6

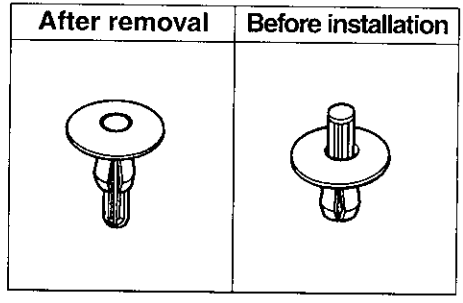
To remove·

1. Remove cowling A and panel C.
2. Disconnect the turn signal connectors
3. Remove the screw and loosen the quick fastener screws



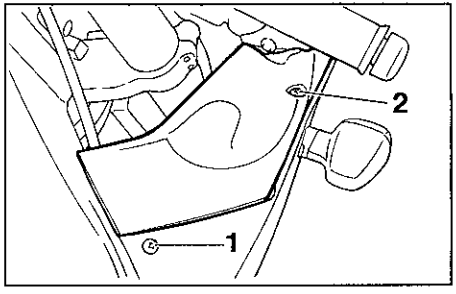
1 Quick fastener

4. Remove the quick fastener at the front of the cowling by pushing its center in with a screwdriver, then pulling the fastener out.



To install

1. Connect the turn signal connectors
2. Place the cowling in its original position, then install the screw and tighten the quick fastener screws
3. Prepare the quick fastener for installation by pushing its pin back so that it will protrude from the fastener head, then insert the fastener into the cowling and push the protruding pin in until it is flush with the fastener head
4. Install cowling A and panel C



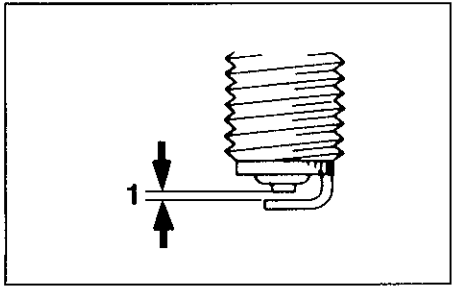
1 Quick fastener screw
2 Screw

EAU01255

Panel C

To remove:
Loosen the quick fastener screw and remove the screw

To install
Place the panel in its original position, tighten the quick fastener screw and install the screw.



1 Spark plug gap

EAU00496

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 excessive, 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 (DENSO)

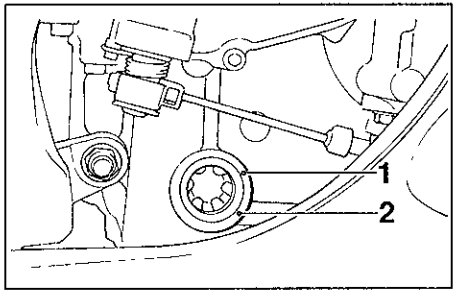
Before installing any spark plug, measure the electrode gap with a wire thickness gauge Adjust the gap to specification.

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)

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



1 Maximum level mark
2 Minimum level mark

EAU01170

Engine oil

1 Oil level inspection

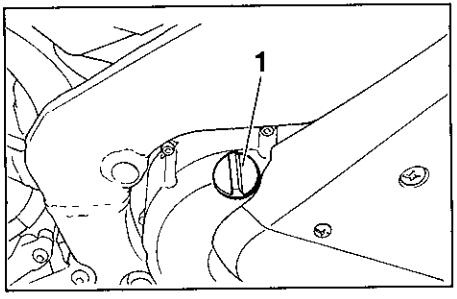
a Place the motorcycle on a level place and hold it in an upright position Warm up the engine for several minutes

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

NOTE:
Wait a few minutes until the oil level settles before checking

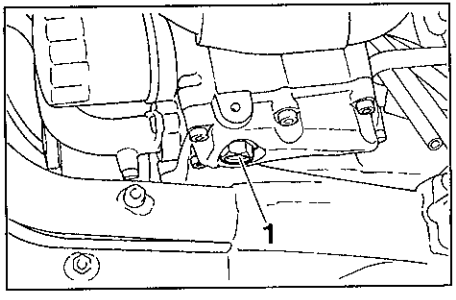
c The oil level should be between maximum and minimum marks. If the level is low, fill the engine with sufficient oil to reach the specified level



1 Engine oil filler cap

2. Engine oil and oil filter cartridge replacement

a Remove cowling A. (See page 6-6 for cowling removal and installation procedures)

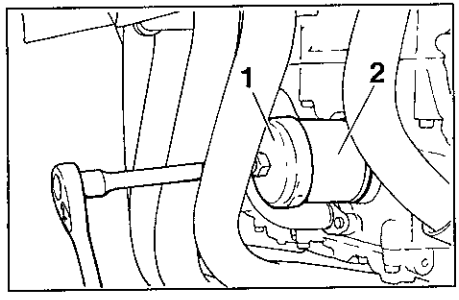


1 Engine oil drain plug

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.

d. Remove the drain plug and drain the oil



1 Oil filter wrench
2 Oil filter cartridge

e Remove the oil filter by using an oil filter wrench

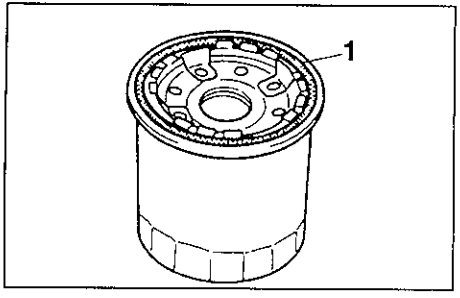
NOTE:

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)

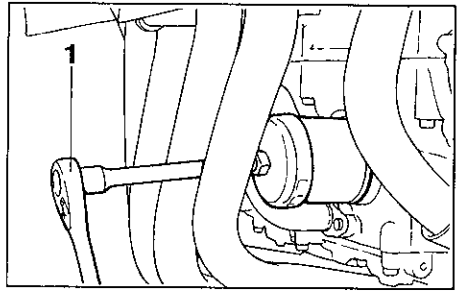
6



1 O-ring

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

NOTE:
Make sure the O-ring is seated properly



1 Torque wrench

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

NOTE:
When installing the oil filter, tighten it to the proper torque by using a torque 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 8-1
Oil quantity:
Total amount
3.6 L
Periodic oil change
2.7 L
With oil filter replacement.
2.9 L

EC000066

CAUTION:

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

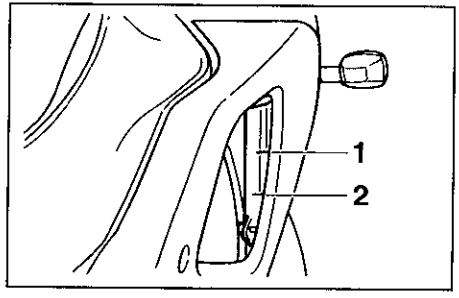
k After the engine is started, the oil level indicator light should go off if the oil is at the specified level.

EC000067

CAUTION:

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

l Install the cowling



1 Maximum level mark
2 Minimum level mark

EAU01179

Cooling system

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.

EW000067

WARNING

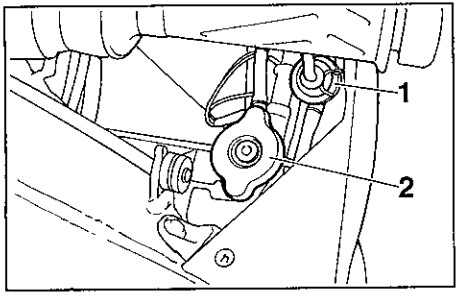
Do not remove the radiator cap when the engine is hot.

EC000080

CAUTION:

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

6



1 Coolant reservoir tank cap
2 Radiator cap

EAU01250

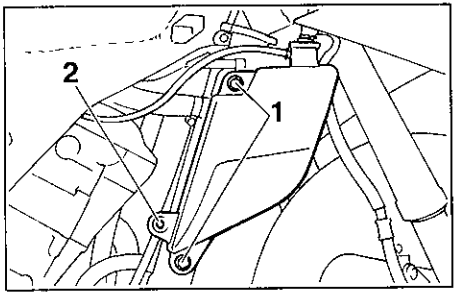
Changing the coolant

1 Remove cowlings A and B, and panel C (See page 6-6 ~ 6-8 for removal and installation procedures)
2 Place a container under the engine
3. Remove the radiator cap and coolant reservoir tank cap

EW000067

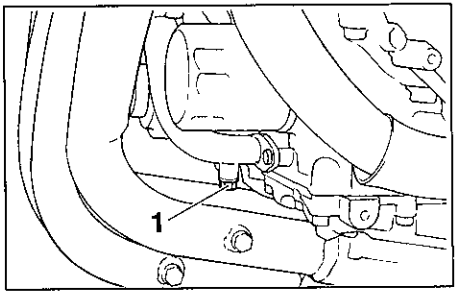
⚠ WARNING

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



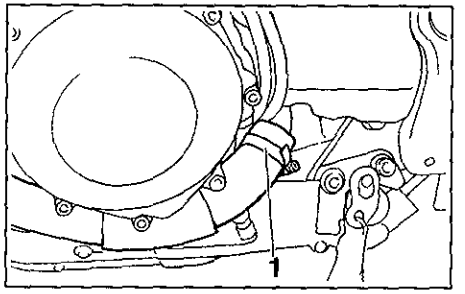
1 Bolt (× 2)
2 Clutch cable holder

4 Remove the coolant reservoir tank bolts and clutch cable holder, then turn the coolant reservoir tank upside-down to empty it.
5 Install the coolant reservoir tank and clutch cable holder.



1 Coolant drain plug

6 Remove the coolant drain plug



1 Hose clamp

7. Loosen the radiator outlet hose clamp on the left side of the engine and pull off the hose.
8 Drain the coolant completely and thoroughly flush the cooling system with clean tap water.
9 Install the coolant drain plug and tighten it to the specified torque If the drain plug washer is damaged, replace it

Tightening torque:
Coolant drain plug:
7 Nm (0 7 m·kg)

10 Install the radiator outlet hose and hose clamp
11. Pour the specified amount of recommended coolant into the radiator and reservoir tank

Recommended antifreeze
High quality ethylene glycol antifreeze containing corrosion inhibitors for aluminum engines
Antifreeze and water mixing ratio:
1:1
Coolant quantity
Total amount:
2 6 L
Reservoir tank capacity
0.45 L

EC000080

CAUTION:

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

12 Run the engine several minutes Stop the engine and recheck the coolant level in the radiator If it is low, add more coolant until it reaches the top of the radiator
13. Fill the reservoir tank with coolant up to maximum level
14. Install the radiator cap and reservoir tank cap Check for coolant leakage

NOTE:

If any leakage is found, ask a Yamaha dealer to inspect the cooling system

15 Install the cowlings and the panel

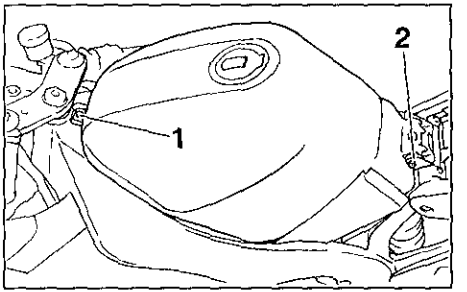
6

EAU00566

Radiator fan

Operation

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



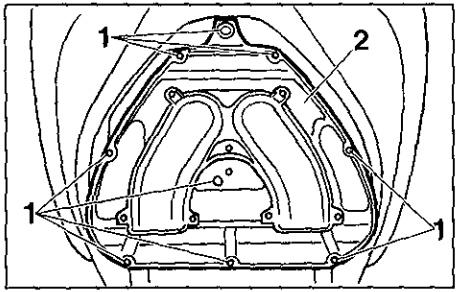
1 Bolt (front)
2 Bolt (rear)

EAU01256

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 rider seat.
2. Remove the bolt at the front of the fuel tank and loosen the bolt at the rear.
3. Lift the front of the fuel tank upward and tilt it back and away from the air filter case. (Do not remove the fuel hoses.)



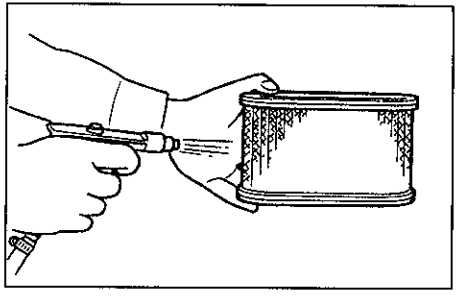
1 Screw (× 9)
2 Air filter case cover

EW000071

⚠ 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.



5. Pull out the air filter element.
6. Tap the air filter element lightly to remove most of the dust and dirt Blow out the remaining dirt with compressed air from the mesh side of the air filter element If it is damaged, replace it.
7. Reinstall by reversing the removal procedure

EC000085

CAUTION:

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

EW000072

⚠ WARNING

- **Before reinstallation, make sure that the fuel hoses are not damaged at all. If any damage is found, it may result in a fuel leak, so do not start the engine. Ask a Yamaha dealer for repairs.**
- **Always make sure that the fuel hoses are properly connected, in place, and not pinched.**

EAU00630

Carburetor adjustment

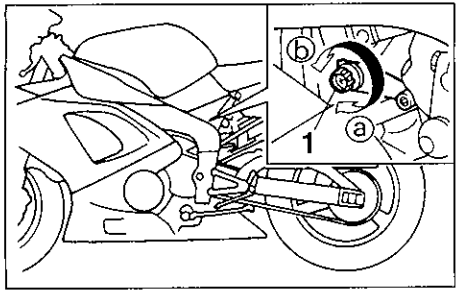
The carburetors are important parts of the engine and require very sophisticated adjustment Most adjustments should be left to a Yamaha dealer who has the professional knowledge and experience to do so However, the idle speed may be adjusted by the owner as part of routine maintenance.

EC000095

CAUTION:

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

6



1 Throttle stop screw

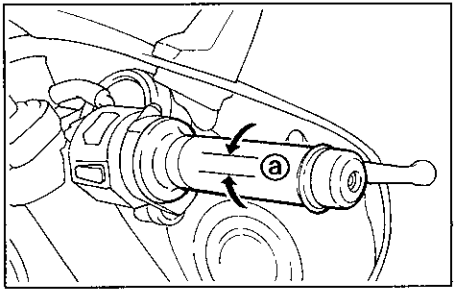
EAU00632

Idle speed adjustment

1 Start the engine and warm it up for a few 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 direction ⓐ to increase engine speed and in direction ⓑ to decrease engine speed.

Standard idle speed
1,100 r/min

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



a Free play

EAU00635

Throttle cable free play inspection

There should be a free play of 3 ~ 5 mm at the throttle grip. If the free play is incorrect, ask a Yamaha dealer to make this adjustment.

EAU00637

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.

EAU01132

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

EW000082

⚠ 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*	197 kg	
Cold tire pressure	Front	Rear
Up to 90 kg load*	250 kPa (2.50 kg/cm^2, 2.50 bar)	250 kPa (2.50 kg/cm^2, 2.50 bar)
90 kg-Maximum load*	250 kPa (2.50 kg/cm^2, 2.50 bar)	290 kPa (2.90 kg/cm^2, 2.90 bar)
High speed riding	250 kPa (2.50 kg/cm^2, 2.50 bar)	250 kPa (2.50 kg/cm^2, 2.50 bar)

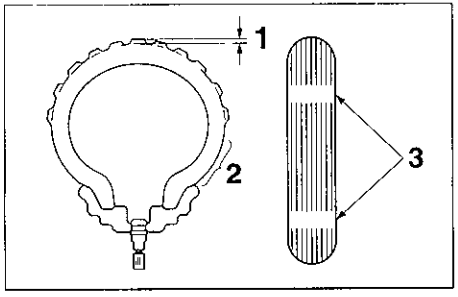
* Load is the total weight of cargo, rider, passenger and accessories

6

EW000083

⚠ 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.



1 Tread depth
2 Side wall
3 Wear indicators

2 Tire inspection
Always check the tires before operating the motorcycle. If a tire tread shows crosswise lines (minimum tread depth), 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

EW000079

⚠ 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.

Minimum tire tread depth (front and rear)	1.0 mm

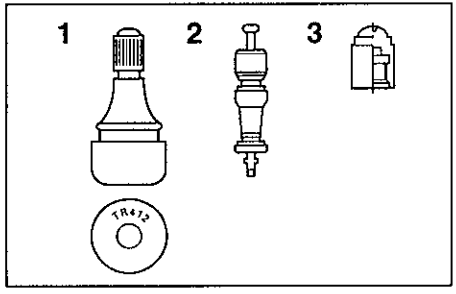
NOTE:
These limits may be different by regulation from country to country. If so, conform to the limits specified by the regulations of your own country

3 Tire information
This motorcycle is equipped with tubeless tires, tire valves and cast wheels

EW000080

⚠ 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.**



1 Tire valve
2 Valve core
3 Valve cap with seal

FRONT

Manufacturer	Size	Type
Bridgestone	120/70 ZR17 (58W)	BT56F BT57F
Metzeler	120/70 ZR17 (58W)	MEZ1 Front Racing
Metzeler	120/70 ZR17 (58W)	MEZ3 Front
Dunlop	120/70 ZR17 (58W)	D207FN
Michelin	120/70 ZR17 (58W)	TX15
Michelin	120/70 ZR17 (58W)	MACADAM 90XS
Pirelli	120/70 ZR17 (58W)	MTR01
Pirelli	120/70 ZR17 (58W)	MTR01 COPSA

REAR

Manufacturer	Size	Type
Bridgestone	190/50 ZR17 (73W)	BT56R BT57R
Metzeler	190/50 ZR17 (73W)	MEZ1 Racing
Metzeler	190/50 ZR17 (73W)	MEZ3
Dunlop	190/50 ZR17 (73W)	D207L
Michelin	190/50 ZR17 (73W)	TX25
Michelin	190/50 ZR17 (73W)	MACADAM 90X
Pirelli	190/50 ZR17 (73W)	MTR02
Pirelli	190/50 ZR17 (73W)	MTR02 COPSA

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

6

EAU00684

⚠ 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 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.**

EAU00687

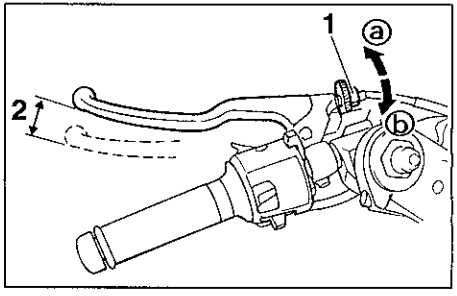
Wheels

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



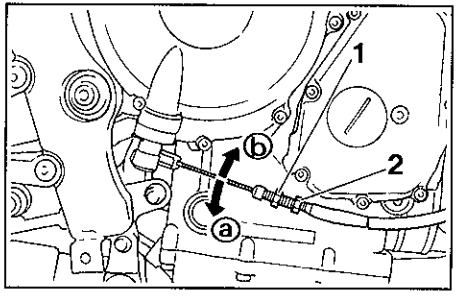
1 Adjusting bolt
2 Free play

EAU01264

Clutch lever free play adjustment

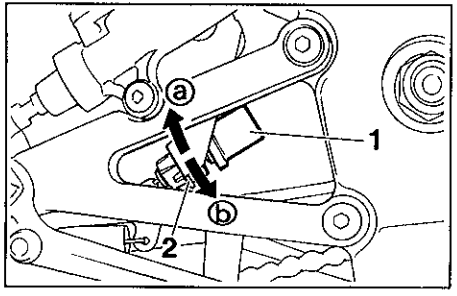
The clutch lever free play should be adjusted to 10 ~ 15 mm

1. Turn the adjusting bolt at the clutch lever in direction ⓐ to increase free play or in direction ⓑ to decrease free play
   If the specified free play cannot be obtained, proceed with the following steps.
2. Turn the adjusting bolt at the clutch lever in direction ⓑ to loosen the cable



1 Locknut
2 Adjusting nut

3. Loosen the locknut at the crankcase side
4. Turn the adjusting nut at the crankcase in direction ⓐ to increase free play or in direction ⓑ to decrease free play. Then tighten the locknut

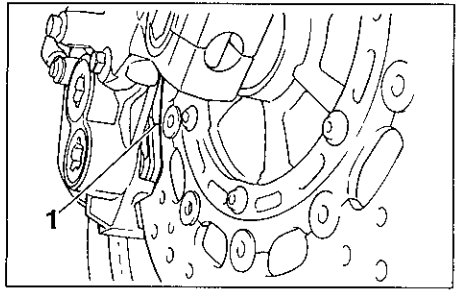


1 Brake light switch
2 Adjusting nut

EAU00713

Brake light switch adjustment

The rear brake light switch is activated by the brake pedal and is properly adjusted when the brake light comes on just before braking takes effect. To adjust the rear brake light switch, hold the switch body so it does not rotate while turning the adjusting nut. Turn the adjusting nut in direction ⓐ to make the brake light come on earlier. Turn the adjusting nut in direction ⓑ to make the brake light come on later.



1 Wear indicator groove

EAU00721

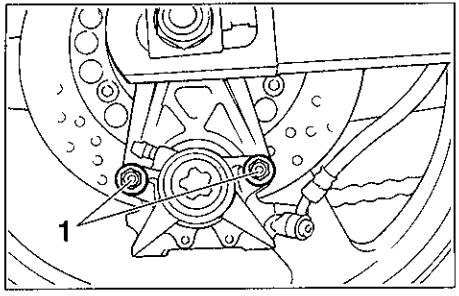
Checking the front and rear brake pads

EAU00725

FRONT

A wear indicator groove is provided on each brake pad. This indicator allows checking of brake pad wear without disassembling the brake. Inspect the groove. If the groove has almost disappeared, ask a Yamaha dealer to replace the pads.

6



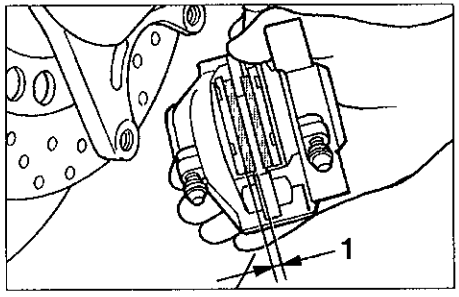
1 Caliper bolt (× 2)

EAU01248

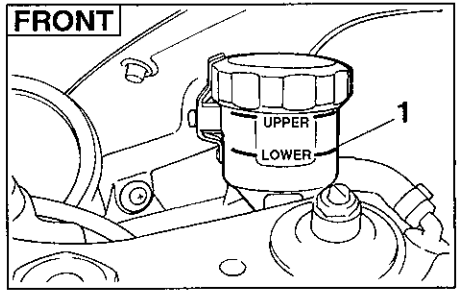
REAR

Remove the caliper bolts and the caliper to inspect the brake pads If the thickness is less than the specified value, have a Yamaha dealer replace the pads. Reinstall the caliper and caliper bolts and tighten the bolts to the specified tightening torque

Tightening torque.
Caliper bolt
40 Nm (4.0 m·kg)



1 Wear limit 0 5 mm



1 Minimum level mark

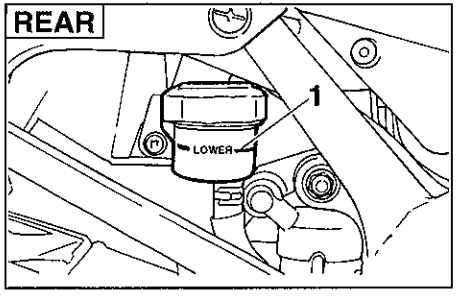
EAU00731

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



1 Minimum level mark

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.

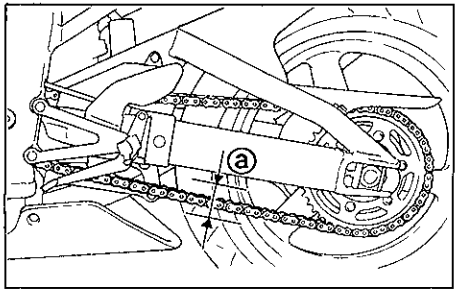
EAU00742

Brake fluid replacement

The brake fluid should be replaced only by trained Yamaha service personnel Have the Yamaha dealer replace the following components during periodic maintenance or when they are damaged or leaking

a oil seals (every two years)
b. brake hoses (every four years)

6



a Chain slack

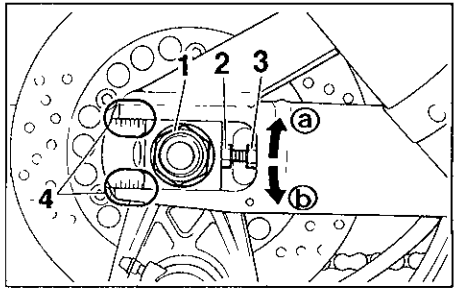
EAU00744

Drive chain slack check

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 40 ~ 50 mm If the slack exceeds 50 mm, adjust



1 Axle nut
2 Adjusting bolt
3 Locknut
4 Alignment marks

EAU01251

Drive chain slack adjustment

1 Loosen the axle nut
2 Loosen the locknuts on each side To tighten the chain, turn the chain adjusting bolts in direction ⓐ To loosen the chain, turn the adjusting bolts in direction ⓑ and push the wheel forward. Turn each adjusting bolt 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

EC000096

CAUTION:

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

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

Tightening torque
Axle nut
150 Nm (15 m·kg)

EAU00769

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

EC000097

CAUTION:

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

EAU00772

Cable inspection and lubrication

EW000112

WARNING

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

Lubricate the cables and cable ends. If a cable does not operate smoothly, ask a Yamaha dealer to replace it

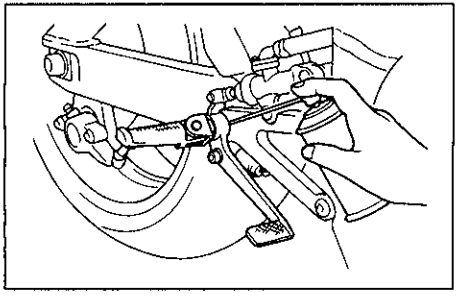
Recommended lubricant
Same as engine oil

EAU00773

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

6

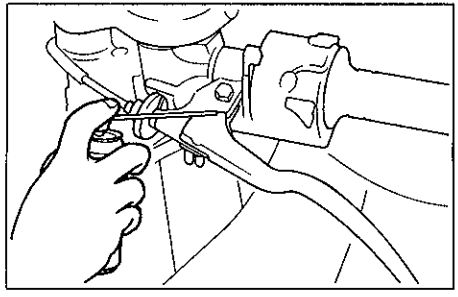


EAU01290

Brake pedal lubrication

Lubricate the pivoting parts

Recommended lubricant
Same as engine oil

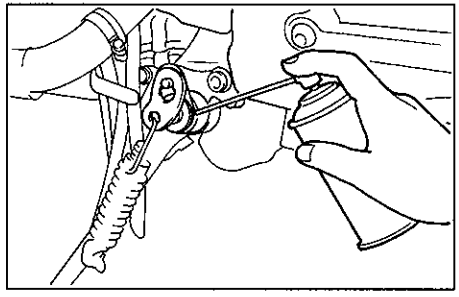


EAU00778

Brake and clutch lever lubrication

Lubricate the pivoting parts

Recommended lubricant:
Same as engine oil



EAU00785

Sidestand lubrication

Lubricate the sidestand pivoting point and metal-to-metal contact surfaces. Check that the sidestand moves up and down smoothly.

Recommended lubricant:
Same as engine oil

EW000113

⚠ WARNING

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

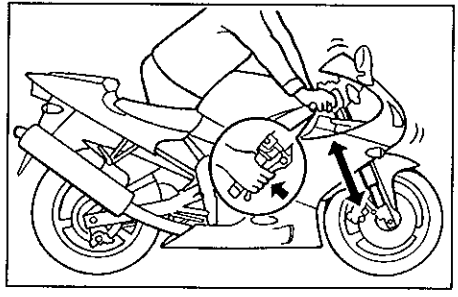
6

EAU00791

Rear suspension lubrication

Lubricate the pivoting parts.

Recommended lubricant.
Lithium soap base grease



EAU00793

Front fork inspection

EW000115

⚠ WARNING

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

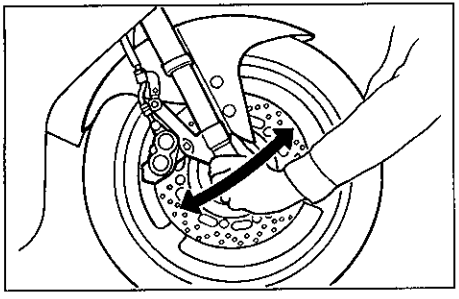
1 Visual check
Check for scratches or damage on the inner tube and excessive oil leakage from the front fork
2 Operation check
Place the motorcycle on a level place
a Hold the motorcycle in an upright position and apply the front brake.
b Push down hard on the handlebars several times and check if the fork rebounds smoothly

EC000098

CAUTION:

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

6



EAU00794

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.

EW000115

⚠ WARNING

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

EAU01144

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.

EAU01291

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.

EW000116

⚠ 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.

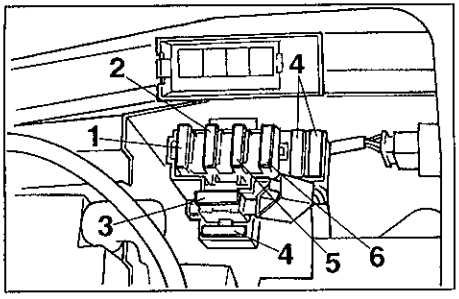
Battery storage

This motorcycle is equipped with a digital speedometer and the odometer memory tends to drain the battery When the motorcycle is not used for a month or longer, be sure to remove the battery, fully charge it and store it in a cool, dry place

EC000102

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. If you do not have a sealed-type battery charger, contact your Yamaha dealer.**
- **Always make sure the connections are correct when reinstalling the battery.**

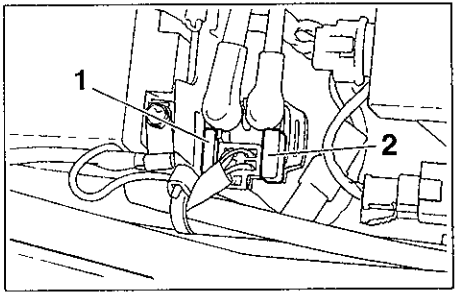


1 Ignition fuse
2 Headlight fuse
3 Signaling system fuse
4 Spare fuse (× 3)
5 Radiator fan fuse
6 Back up fuse (odometer)

EAU01281

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.



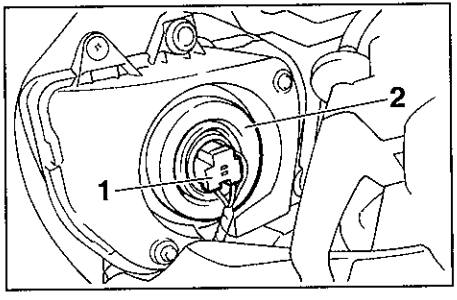
1 Main fuse
2 Spare fuse

EC000103

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	30 A
Headlight fuse	20 A
Signaling system fuse	20 A
Radiator fan fuse.	7 5 A
Ignition fuse	15 A
Back up fuse (Odometer)	7 5 A



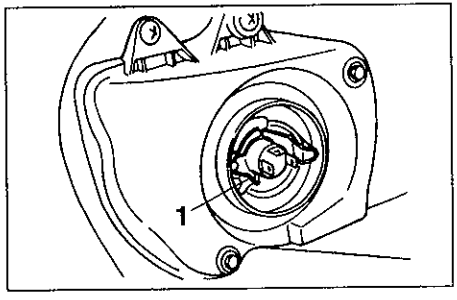
1 Connector
2 Bulb holder cover

EAU00826

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 Bulb holder

2. Unhook the bulb holder and remove the defective bulb.

EW000119

⚠ 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.

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

EC000104

CAUTION:

Headlight bulb

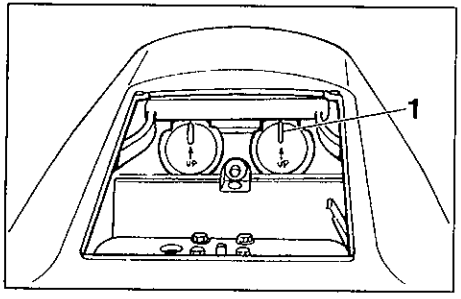
- **Avoid touching the glass part of the bulb. Keep it free from oil; otherwise, the transparency of the glass, life of the bulb, and illuminous flux will be adversely affected. If oil gets on the bulb, thoroughly clean it with a cloth moistened with alcohol or lacquer thinner.**

Headlight lense

To prevent damage or deforming:

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

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

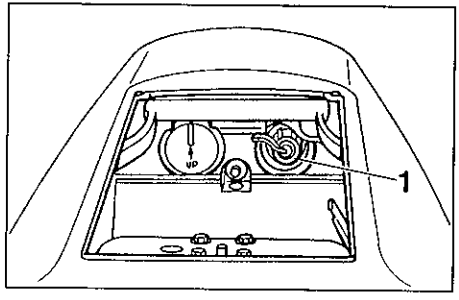


1 Bulb holder cover

EAU01253

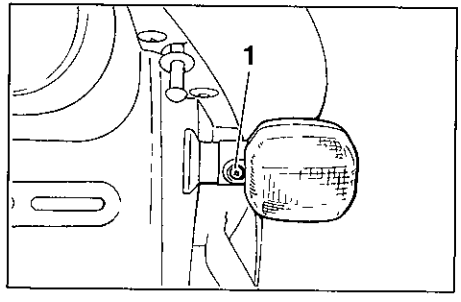
Taillight bulb replacement

1 Remove the passenger seat.
2. Remove the bulb cover
3 To remove the socket, turn it counterclockwise
4. To remove the defective bulb, turn it counterclockwise.



1 Bulb holder

5 Push a new bulb into the socket and turn it clockwise
6 Install the socket and turn it clockwise.
7 Install the bulb cover
8 Install the passenger seat



1 Screw

EAU01095

Turn signal light bulb replacement

1. Remove the screw and the lense
2 Remove the defective bulb by pushing it inward and turning it counterclockwise
3 Install a new bulb by pushing it inward and turning it clockwise.
4 Install the lense and tighten the screw.

EAU00862

Supporting the motorcycle

Since the Yamaha YZF-R1 has no centerstand, follow these precautions when removing the front and rear wheel or performing other maintenance requiring the motorcycle to stand upright.

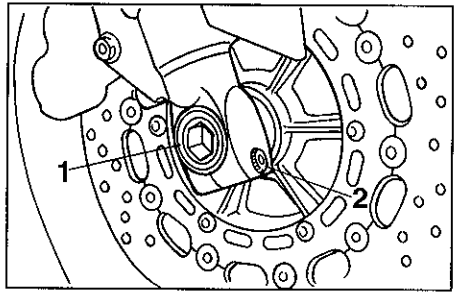
Front wheel service

To stabilize the rear of the motorcycle, either use a motorcycle stand or place a motorcycle jack under the frame in front of the rear wheel to prevent it from moving from side to side. Then use a motorcycle stand to elevate the front wheel off of the ground.

Rear wheel service:

Use a motorcycle stand or motorcycle jack to elevate the motorcycle so the rear wheel is off the ground Alternatively, two jacks can be placed under the frame or swingarm

Check that the motorcycle is in a stable and level position before starting any maintenance A strong wooden box can be placed under the engine for added stability



1 Axle
2 Pinch bolt

EAU01252

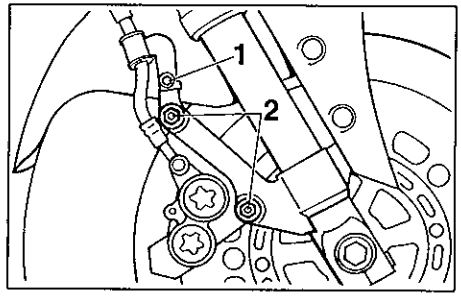
Front wheel removal

EW000122

⚠ 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. Remove cowling A (See page 6-6 for removal and installation procedures)



1 Brake hose holder bolt
2 Caliper bolt (× 2)

2. Loosen the pinch bolt, wheel axle and calipers bolts
3 Elevate the front wheel
4. Remove the brake hose holders and calipers

NOTE:

Do not depress the brake lever when the calipers are off the discs as the brake pads will be forced shut.

5 Remove the axle Make sure the motorcycle is properly supported

6

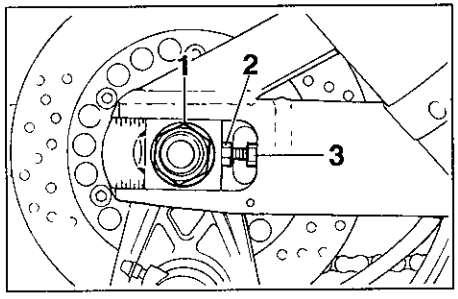
EAU01249

Front wheel installation

1 Lift up the wheel between the front fork legs.
2 Install the wheel axle and let the motorcycle down
3. Push down hard on the handlebars several times to check for proper fork operation
4. Install the calipers, caliper bolts and brake hose holders Make sure there is enough gap between the brake pads before installing the calipers onto the brake discs.
5. Tighten the wheel axle, pinch bolt and caliper bolts to the specified torques.

Tightening torque:
Wheel axle
72 Nm (7 2 m·kg)
Pinch bolt:
20 Nm (2 0 m kg)
Caliper bolt
40 Nm (4 0 m·kg)

6 Install the cowling



1 Axle nut
2 Adjusting bolt
3 Locknut

EAU01247

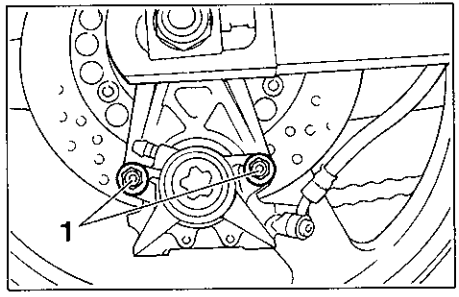
Rear wheel removal

EW000122

⚠ WARNING

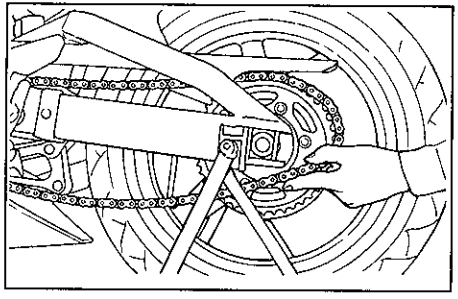
- **It is advisable to have a Yamaha dealer service the wheel.**
- **Securely support the motorcycle so there is no danger of it falling over.**

1 Loosen the axle nut and caliper bolts
2 Elevate the rear wheel.



1 Caliper bolt (× 2)

3. Remove the axle nut, caliper bolts and caliper.
4. Loosen the locknuts on each side of the swingarm
5 Turn the chain adjusting bolts fully inward
6 Push the wheel forward and remove the drive chain
7 Pull out the wheel axle and remove the wheel assembly by pulling backwards



NOTE:

- Do not depress the brake pedal when the caliper is off the disc as the brake pads will be forced shut.
- You do not have to disassemble the chain in order to remove or install the rear wheel.

EAU01246

Rear wheel installation

1. Install the wheel assembly and insert the axle
2. Install and adjust the drive chain (See page 6-25 for details about adjusting the drive chain slack.)
3. Install the axle nut and let the motorcycle down
4. Install the caliper and caliper bolts. Make sure there is enough gap between the brake pads before installing the caliper onto the brake disc.
5. Tighten the axle nut and caliper bolts to the specified torques

Tightening torque:
Axle nut
150 Nm (15 0 m·kg)
Caliper bolt:
40 Nm (4.0 m·kg)

EAU01008

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

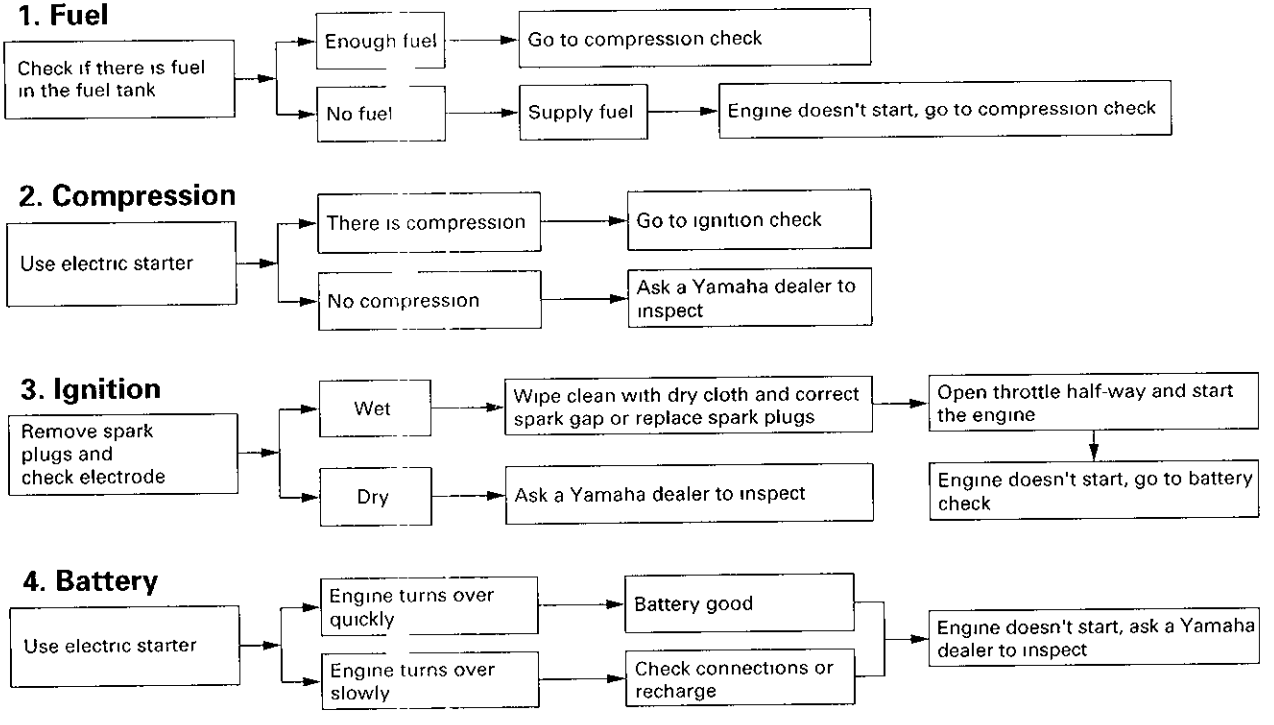
EAU01262

Troubleshooting chart

EW000125

⚠ WARNING

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

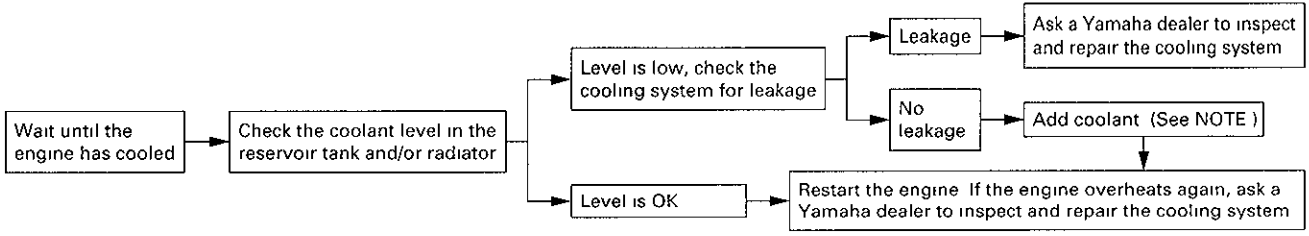


5. Engine overheating

EW000070

⚠ 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. Remove the radiator cap stopper by removing the screw. 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



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

6

CLEANING AND STORAGE

EAU01010

EAU01265

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

ECA00001

CAUTION:

- **Improper cleaning can damage the windshield, cowlings, panels and other plastic parts. Use only a soft, clean cloth or sponge with mild detergent and water to clean plastic. If the windshield is scratched, use a quality plastic polishing compound after washing.**
- **Do not use any harsh chemical products on plastic parts. Be sure to avoid using cloths or sponges which have been in contact with strong or abrasive cleaning products, solvent or thinner, fuel (gasoline), rust removers or inhibitors, brake fluid, antifreeze or electrolyte.**

1 Before cleaning the motorcycle
a Block off the end of the exhaust pipe 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 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

EC000111

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. After riding on salted roads, wash the motorcycle with cold water immediately. Do not use warm water as it increases the chemical reaction of the salt
5 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

7

6 Rinse the motorcycle off immediately with clean water and dry all surfaces with a chamois, clean towel or soft absorbent cloth
7 Dry the chain and lubricate it to prevent rust.
8 Clean the windscreen 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.
9 Clean the seat with a vinyl upholstery cleaner to keep the cover pliable and glossy
10 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

EAU01321

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 Fill the fuel tank with fuel and add fuel stabilizer (if available)
2 Remove each spark plug, pour about one tablespoon of engine 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

EW000127

⚠ WARNING

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

3. Clean the chain and lubricate it (refer to "Drive chain lubrication")
4 Lubricate all control cables
5 Block up the frame to raise both wheels off the ground
6 Tie a plastic bag over the exhaust pipe outlet to prevent moisture from entering.
7 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
8 Remove the battery and fully charge it. Store it in a cool, 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) See page 6-29 for battery storage precautions

NOTE:

Make any necessary repairs before storing the motorcycle.

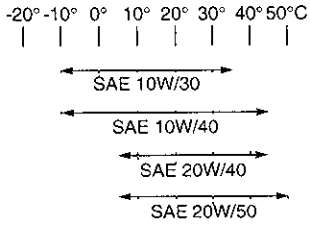
SPECIFICATIONS

Specifications

Model	**YZF-R1**
Dimensions.	
Overall length	2,095 mm
Overall width	695 mm
Overall height	1,095 mm
Seat height	815 mm
Wheelbase	1,395 mm
Ground clearance	140 mm
Minimum turning radius	3,400 mm
Basic weight (with oil and full fuel tank):	198 kg
Engine:	
Engine type	Liquid-cooled 4-stroke, DOHC
Cylinder arrangement	Forward-inclined parallel 4-cylinder
Displacement	998 cm^3
Bore × Stroke	74 × 58 mm
Compression ratio	11.8:1
Starting system	Electric starter
Lubrication system	Wet sump

Engine oil

Type



Classification	API Service "SE", "SF" type or equivalent (e.g. "SF-SE", "SF-SE-CC", "SF-SE-SD" etc.)
Quantity	
Periodic oil change	2.7 L
With oil filter replacement	2.9 L
Total amount	3.6 L
Radiator	
Quantity (including all routes)	2.55 L
Air filter	Dry type element

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Fuel:		
Type		Regular gasoline
		Unleaded fuel only (for Australia)
Fuel tank capacity		18 L
Fuel reserve amount		5.5 L
Carburetor:		
Type × quantity		BDSR40 × 4
Manufacturer		MIKUNI
Spark plug:		
Type/Manufacturer		CR9E / NGK or U27ESR-N / DENSO
Gap		0.7 ~ 0.8 mm
Clutch type		Wet, multiple-disc
Transmission		
Primary reduction system		Spur gear
Primary reduction ratio		1.581
Secondary reduction system		Chain drive
Secondary reduction ratio		2.688
Number of sprocket teeth		
Front/Rear		16/43
Transmission type		Constant mesh 6-speed
Operation		Left foot operation
Gear ratio	1st	2.600
	2nd	1.842
	3rd	1.500
	4th	1.333
	5th	1.200
	6th	1.115
Chassis:		
Frame type		Diamond
Caster angle		24°
Trail		92 mm
Tire:		
Type		Tubeless
Size		
Front		120/70 ZR17 (58 W)
Rear		190/50 ZR17 (73 W)
Manufacturer/model		
Front		Bridgestone/BT56F, BT57F Metzeler/MEZ1 Front Racing Metzeler/MEZ3 Front Dunlop/D207FN Michelin/TX15 Michelin/MACADAM 90XS Pirelli/MTR01 Pirelli/MTR01 COPSA

Rear	Bridgestone/BT56R, BT57R	
	Metzeler/MEZ1 Racing	
	Metzeler/MEZ3	
	Dunlop/D207L	
	Michelin/TX25	
	Michelin/MACADAM 90X	
	Pirelli/MTR02	
	Pirelli/MTR02 COPSA	
Maximum load*	197 kg	
Air pressure (cold tire)		
Up to 90 kg load*		
Front	250 kPa, 2.50 kg/cm^2, 2.50 bar	
Rear	250 kPa, 2.50 kg/cm^2, 2.50 bar	
90 kg load ~ maximum load*		
Front	250 kPa, 2.50 kg/cm^2, 2.50 bar	
Rear	290 kPa, 2.90 kg/cm^2, 2.90 bar	
High speed riding		
Front	250 kPa 2.50 kg/cm^2, 2.50 bar	
Rear	250 kPa, 2.50 kg/cm^2, 2.50 bar	

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

Wheels		
Type		
	Front	Cast
	Rear	Cast
Size		
	Front	17 × MT 3.50
	Rear	17 × MT 6.00
Brakes		
Front		
	Type	Dual disc brake
	Operation	Right hand operation
	Fluid	DOT 4
Rear		
	Type	Single disk brake
	Operation	Right foot operation
	Fluid	DOT 4
Suspension		
Front		
	Type	Telescopic fork
Rear		
	Type	Swingarm (link suspension)

8

Shock absorbers:	
Front	Coil spring / oil damper
Rear	Coil spring / gas-oil damper
Wheel travel:	
Front	135 mm
Rear	130 mm
Electrical system:	
Ignition system	T C I (digital)
Charging system	
Type	A C magneto
Standard output	14 V, 23 5 A @ 5,000 rpm
Battery	
Type	GT12B-4
Voltage, capacity	12 V, 10 AH
Headlight type	Quartz bulb (halogen)
Bulb voltage, wattage × quantity:	
Headlight	12 V, 60 W / 55 W × 2
Tail/brake light	12 V, 5 W / 21 W × 2
Auxiliary light	12 V, 5 W × 2
Turn signal light	12 V, 21 W × 4
Meter light	12 V, 1 4 W × 2
Neutral indicator light	LED
High beam indicator light	LED
Turn indicator light	LED
Fuel indicator light	LED
Oil level/coolant temperature indicator light	LED
Fuses.	
Main fuse	30 A
Headlight fuse	20 A
Signaling system fuse	20 A
Radiator fan fuse	7 5 A
Ignition fuse	15 A
Back up fuse (odometer)	7 5 A

EAU01064

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 m kg cm kg cm kg	7 233 86 794 0 0723 0 8679	ft lb in lb ft lb in lb
Weight	kg g	2 205 0 03527	lb oz
Speed	km/hr	0 6214	mph
Distance	km m m cm mm	0 6214 3 281 1 094 0 3937 0 03937	mi ft yd in in
Volume / Capacity	cc (cm^3) cc (cm^3) lt (liter) lt (liter)	0 03527 0 06102 0 8799 0 2199	oz (IMP liq) cu in qt (IMP liq) gal (IMP liq)
Misc	kg/mm kg/cm^2 Centigrade (°C)	55 997 14 2234 9/5 + 32	lb/in psi (lb/in^2) Fahrenheit (°F)

8

EAU01039

EAU01040

Identification numbers record

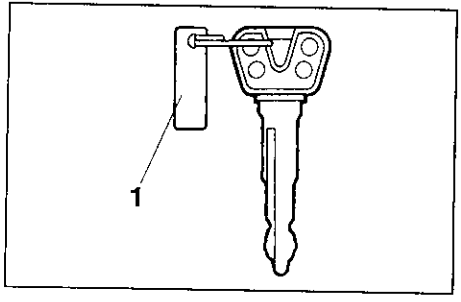
Record the key identification number, vehicle identification number and model label information in the spaces provided for assistance when ordering spare parts from a Yamaha dealer or for reference in case the vehicle is stolen.

1 KEY IDENTIFICATION NUMBER:

2. VEHICLE IDENTIFICATION NUMBER

3. MODEL LABEL INFORMATION

○
●

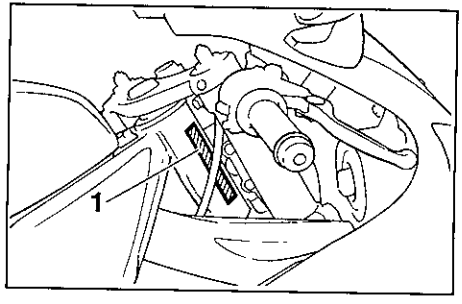


1 Key identification number

EAU01041

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 Vehicle identification number

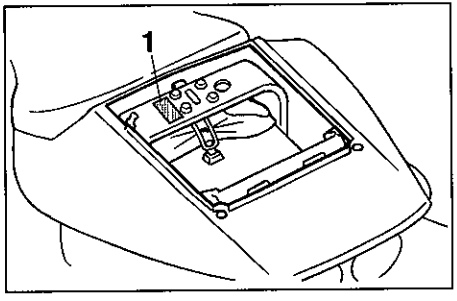
EAU01043

Vehicle identification number

The vehicle identification number is stamped into the steering head pipe. Record this number in the space provided.

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.



1 Model label

EAU01049

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.

EAU01054

NOISE REGULATION (FOR Australia)

"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 purposes 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

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