148

XVZ13TF

OWNER'S MANUAL

YAMAHA

IMPORTANT MANUAL INFORMATION

AFFIX DEALER

LABEL HERE

XVZ13TFM(C)/XVZ13TFLM(C)
OWNER'S MANUAL

1st Edition, August 1999

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⚠ WARNING

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

IMPORTANT MANUAL INFORMATION

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

⚠	The Safety Alert Symbol means ATTENTION! BECOME ALERT! YOUR SAFETY IS INVOLVED!
⚠ WARNING	Failure to follow WARNING instructions could result in severe injury or death to the motorcycle operator, a bystander or a person inspecting or repairing the motorcycle.
CAUTION:	A CAUTION indicates special precautions that must be taken to avoid damage to the motorcycle.
NOTE:	A NOTE provides key information to make procedures easier or clearer.

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.

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

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

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

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⚠ SAFETY INFORMATION

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

HE OR SHE SHOULD:

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

Safe riding

1. Always make pre-operation checks. Careful checks may help prevent an accident.
2. This motorcycle is designed to carry the operator and a passenger.
3. The failure of motorists to detect and recognize motorcycles in traffic is the predominating cause of automobile/motorcycle accidents. Many accidents have been caused by an automobile driver who did not see the motorcycle. Making yourself conspicuous appears to be very effective in reducing the chance of this type of accident.

Therefore:

a. Wear a brightly colored jacket.
b. Use extra caution when you approach and pass through intersections, since intersections are the most likely places for motorcycle accidents.
c. Ride where other motorists can see you. Avoid riding in another motorist's "blind spot".

4. Many accidents involve inexperienced operators. In fact, many operators who have been involved in accidents do not even have a current motorcycle license.
   a. Make sure you are qualified. Also, only lend your motorcycle to experienced operators.
   b. Know your skills and limits. Staying within your limits may help you to avoid an accident.
   c. We recommend that you practice riding your motorcycle where there is no traffic until you have become thoroughly familiar with your motorcycle and all of its controls.
5. Many motorcycle accidents have been caused by motorcycle operator errors. A typical error made by the operator is veering wide on a turn due to EXCESSIVE SPEED or undercornering (insufficient lean angle for the speed).
   a. Always obey the speed limits and never travel faster than warranted by road and traffic conditions.
   b. Always signal before turning or changing lanes. Make sure other motorists see you.
6. The operator's and passenger's posture are important for proper control.
   a. The operator should keep both hands on the handlebars and both feet on the operator footrests during operation to maintain control of the motorcycle.
   b. The passenger should always hold on to the operator, or the seat strap or grab bar if the motorcycle is so equipped, with both hands and keep both feet on the passenger footrests.
   c. Never carry a passenger unless he or she can firmly place both feet on the passenger footrests.
7. Never ride under the influence of alcohol or drugs.
8. This motorcycle is designed for on-road use only. It is not suitable for off-road use.

Protective apparel

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

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

Modification

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

Loading and accessories

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

Loading

The total weight of the operator, passenger, accessories and cargo must not exceed the maximum load limit of XVZ13TF(C)/XVZ13TFL(C): 419 lb (190 kg).
When loading within these weight limits, keep the following in mind:

1. Cargo and accessory weight should be kept as low and close to the motorcycle as possible. Be sure to distribute the weight as evenly as possible on both sides of the machine to minimize imbalance or instability.
2. Shifting weights can create a sudden imbalance. Make sure that accessories and cargo are securely attached to the motorcycle before riding. Recheck accessory mounts and cargo restraints frequently.
3. Never attach any large or heavy items to the handlebars, front forks, or front fender. These items, including such cargo as sleeping bags, duffle bags, or tents, can create unstable handling or slow steering response.

Accessories

Genuine Yamaha accessories have been specifically designed for use on this motorcycle. Since Yamaha cannot test all other accessories which may be available, you must personally be responsible for the proper selection, installation and use of non-Yamaha accessories. You should use extreme caution when selecting and installing any accessories.
Keep in mind these guidelines for mounting accessories in addition to those provided under "LOADING".

1. Never install accessories or carry cargo that would impair the performance of your motorcycle. Carefully inspect the accessory before using it to make sure it does not in any way reduce ground clearance or cornering clearance, limit suspension travel, steering travel or control operation, or obscure lights or reflectors.

a. Accessories fitted to the handlebar or the front fork area can create instability due to improper weight distribution or aerodynamic changes. If accessories are added to the handlebar or front fork area, they must be as lightweight as possible and should be kept to a minimum.
b. Bulky or large accessories may seriously affect the stability of the motorcycle due to aerodynamic effects. Wind may attempt to lift the motorcycle, or the motorcycle may become unstable in cross winds. These accessories may also cause instability when being passed by or passing large vehicles.
c. Certain accessories can displace the operator from his or her normal riding position. This improper position limits the freedom of movement of the operator and may limit control ability. Therefore such accessories are not recommended.

2. Caution must be used if adding electrical accessories. If these accessories exceed the capacity of the motorcycle's electrical system, an electric failure could result, which could cause a dangerous loss of lights or engine power.

Gasoline and exhaust gas

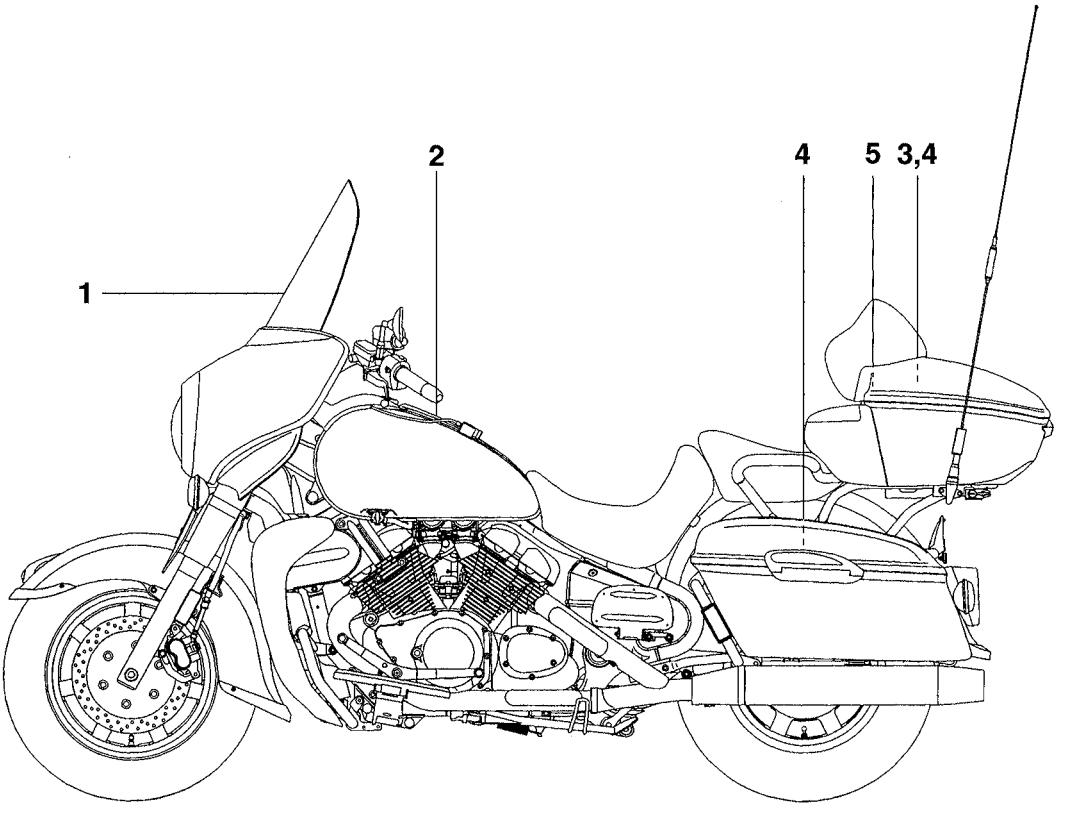
1. GASOLINE IS HIGHLY FLAMMABLE:
   a. Always turn off the engine when refueling.
   b. Take care not to spill any gasoline on the engine or exhaust system when refueling.
   c. Never refuel while smoking or in the vicinity of an open flame.
2. Never start the engine or let it run for any length of time 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.

Location of the important labels

Please read the following labels carefully before operating this motorcycle.



1

CAUTION

- Cleaning with alkaline or acid cleaner, gasoline or solvent will damage windshield.
- Use neutral detergent.

3JJ-2835Y-A0

2

⚠ WARNING

- **BEFORE YOU OPERATE THIS VEHICLE, READ THE OWNER'S MANUAL AND ALL LABELS.**
- **ALWAYS WEAR AN APPROVED MOTORCYCLE HELMET,** eye protection, and protective clothing.

3MX-2118K-A0

3

TIRE INFORMATION

Cold tire normal pressure should be set as follows.

- Up to 90 kg (198 lbs) load

FRONT : 250 kPa, (2.50 kgf/cm²), 36 psi
REAR : 250 kPa, (2.50 kgf/cm²), 36 psi

- 90 kg (198 lbs) ~ maximum load

FRONT : 250 kPa, (2.50 kgf/cm²), 36 psi
REAR : 280 kPa, (2.80 kgf/cm²), 41 psi

4NK-21668-A0

4

⚠ WARNING

Improper loading can adversely affect handing.

- Do not exceed maximum load limit:
  9 kg (20 lb) each saddlebag /9 kg (20 lb) travel trunk / 9 kg (20 lb) travel trunk bracket without travel trunk
- Distribute weight evenly from side to side.
- Read the Owner's manual for important loading and tire pressure information.
- Total weight of rider, passenger, accessories, and cargo must not exceed the motorcycle load capacity shown in the Owner's Manual.
- Never ride above 80mph (120 km/h) with travel trunk and/or saddlebags because handling could be affected.
  This maximum speed may be reduced by such factors as improper loading, poor tire or overall motorcycle conditions, poor road surfaces, or adverse weather conditions.

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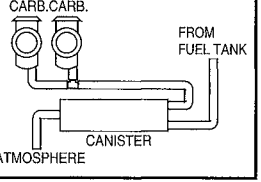
5

EMISSION HOSE ROUTING



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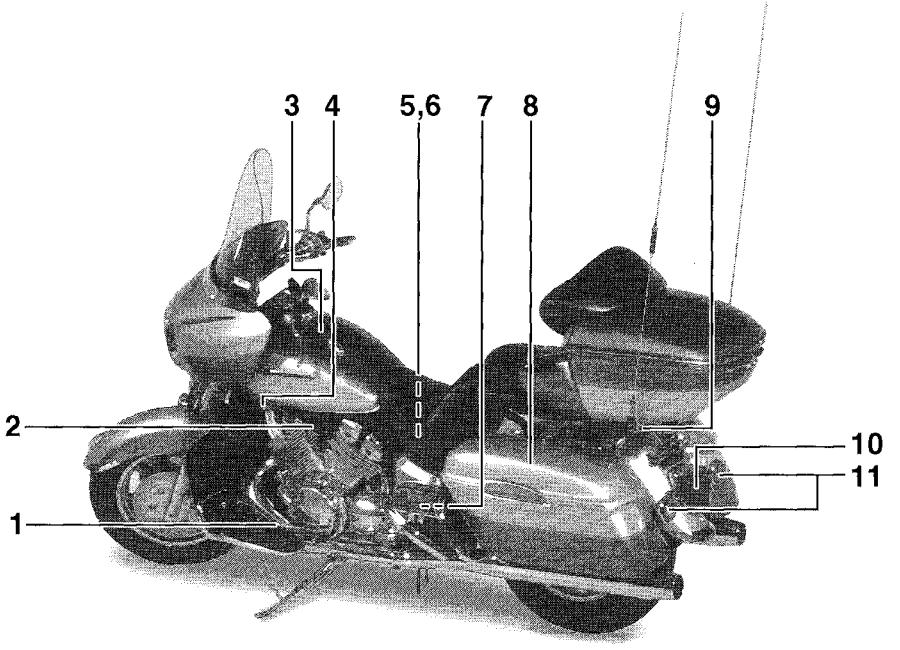
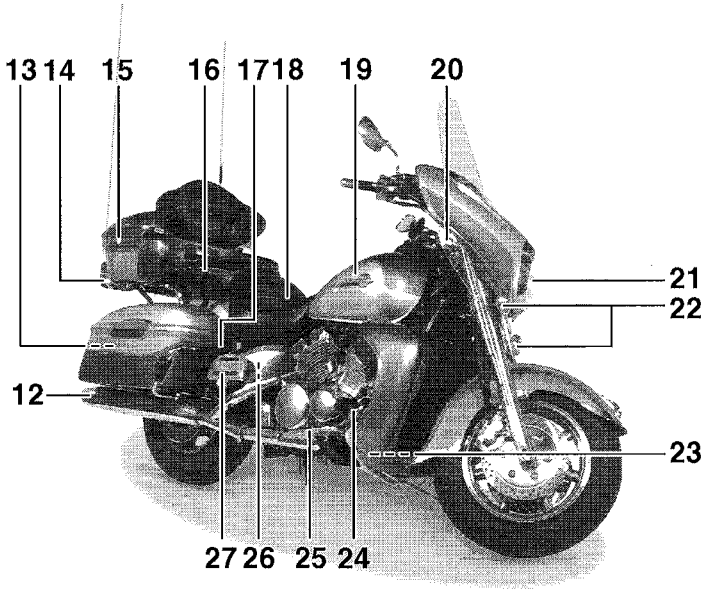
Royal Star™ VENTURE®
Left view



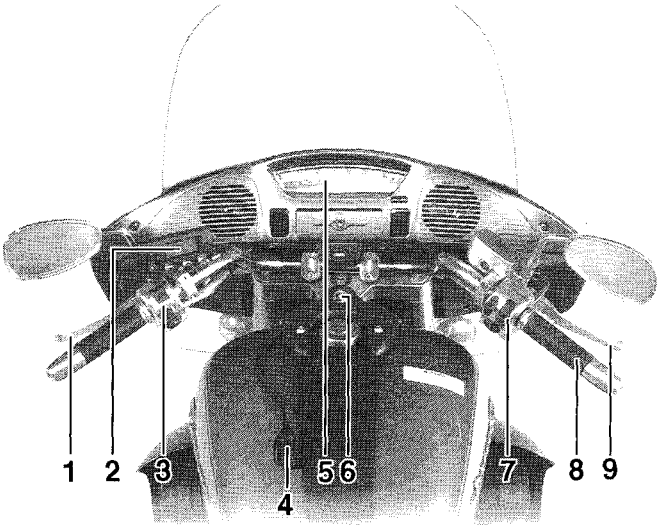
1. Shift pedal	(page 3-9)	7. Fuse box B	(page 7-33)
2. Starter (choke) knob	(page 3-13)	8. Saddlebag	(page 3-15)
3. Fuel tank cap	(page 3-10)	9. Helmet holder	(page 3-14)
4. Fuel cock	(page 3-12)	10. Tail/brake light	(page 7-35)
5. Battery	(page 7-31)	11. Rear turn signal lights	(page 7-35)
6. Coolant reservoir tank	(page 7-15)		

Royal Star™ VENTURE®
Right view

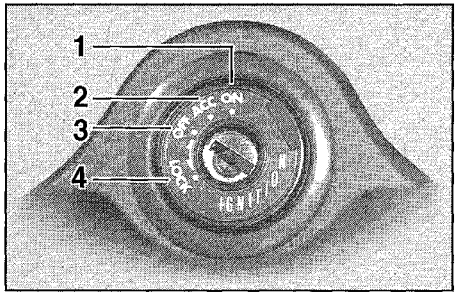


12. Muffler
13. Tool kit (page 7-2)
14. Helmet holder (page 3-14)
15. Travel trunk (page 3-15)
16. Passenger seat
17. Rear shock absorber air valve (page 3-18)
18. Rider seat (page 3-13)
19. Fuel tank (page 3-11)
20. Front fork air valve (page 3-17)
21. Headlight (page 7-33)
22. Front turn signal/position lights (page 7-35)
23. Fuse box A (page 7-32)
24. Rear brake pedal (page 3-10)
25. Rider footrest
26. Coolant reservoir tank (page 7-15)
27. Passenger footrest

Royal Star™ VENTURE®
Controls/Instruments



1. Clutch lever (page 3-9)
2. Audio system/CB radio control unit (page 4-3)
3. Left handlebar switches (page 3-7)
4. Rider headset jack (page 4-2)
5. Speedometer (page 3-4)
6. Main switch/steering lock (page 3-1)
7. Right handlebar switches (page 3-8)
8. Throttle grip (page 7-18)
9. Front brake lever (page 3-9)



1. ON
2. ACC (Accessory)
3. OFF
4. LOCK

Main switch/steering lock

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

ON

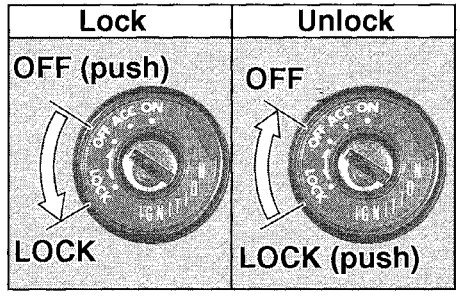
All electrical circuits are switched on, and the headlight, meter light, taillight, and front position lights come on. The engine can be started. The key cannot be removed in this position.

ACC (Accessory)

The audio system, CB radio and auxiliary DC terminals can be used in this position. The key cannot be removed in this position. Do not use the accessory position for an extended period of time as the battery may discharge.

OFF

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

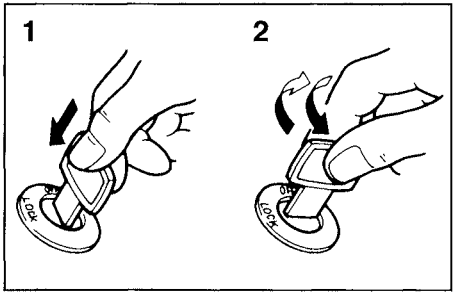


LOCK

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

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.

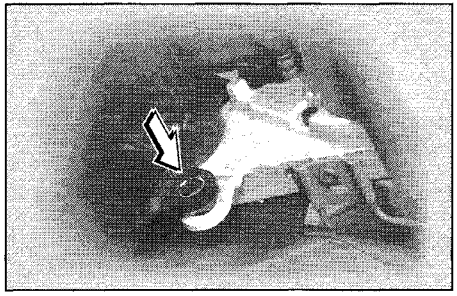
To release the lock, turn the key to "OFF" while pushing.



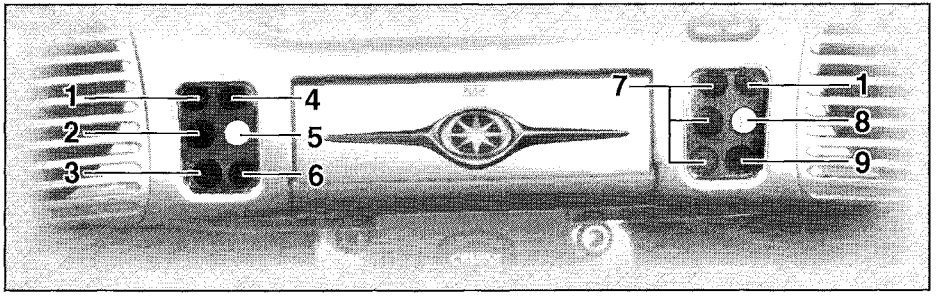
1. Push
2. Turn

⚠ 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".



On the right side of the headpipe, there is also a place to lock the steering with a padlock. Turn the handlebars to align the holes in the two brackets and lock the steering with a suitable padlock.



Indicator lights

1. Turn indicator lights "◁" / "▷"
The corresponding indicator flashes when the turn switch is moved to the left or right.

2. High beam indicator light "≡○"
This indicator comes on when the headlight high beam is used.

3. Oil level indicator light "🛢"
This indicator light will come on if the oil level is low. To check that the indicator light is working properly:

- Turn the engine stop switch to "○" and the main switch to "ON".
- Put the transmission in neutral or apply the clutch lever.
- Push the start switch.

If the indicator light does not come on while pushing the start switch, have a Yamaha dealer inspect the electrical circuit.

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.

4. Overdrive indicator light "O/D"
This indicator light will come on when the transmission is in overdrive (5th gear).

5. Engine trouble indicator light "🔧"
This indicator light will come on or flash if trouble occurs in a monitoring circuit. In such a case, take the motorcycle to a Yamaha dealer to have the self-diagnostic systems checked.

6. Fuel level indicator light "⛽"
When the fuel level drops below approximately 0.9 US gal (0.8 Imp gal, 3.5 L), this light will come on. When this light comes on, switch the fuel cock to "RES". Then, fill the tank at the first opportunity.

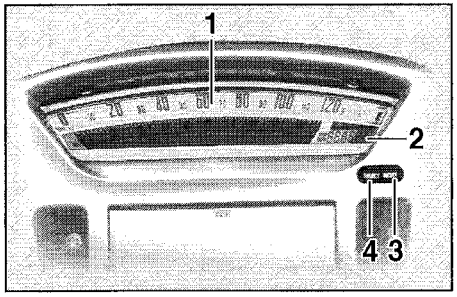
7. Cruise control indicator lights
See page 3-5 for an explanation of the functions of these indicator lights.

8. Neutral indicator light " N "
This indicator comes on when the transmission is in neutral.

9. Coolant temperature indicator light " "
This indicator light will come on if the engine overheats. If the light comes on, stop the engine immediately and allow the engine to cool. To check that the indicator light is working properly:

- Turn the engine stop switch to " " and the main switch to "ON".
- Put the transmission in neutral or apply the clutch lever.
- Push the start switch.

If the indicator light does not come on while pushing the start switch, have a Yamaha dealer inspect the electrical circuit.



1. Speedometer
2. Odometer/tripmeter/clock
3. "RESET" button
4. "SELECT" button

Speedometer

This speedometer is equipped with:

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

Odometer and trip meter modes
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.

Selecting a mode
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 3-3), 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 reserve trip meter, trip odometers and odometer modes in the following order:
"TRIP F" → "TRIP 1" → "TRIP 2" → "ODO" → "TRIP F"

Resetting a meter

To reset a trip odometer to 0.0, select it by pushing the "SELECT" button and push the "RESET" button. To reset the fuel reserve trip meter, select it by pushing the "SELECT" button and push the "RESET" button. 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 traveling 3 mi (5 km).

NOTE:

After resetting the fuel reserve trip meter, the display always returns to the "TRIP 1" mode, unless a different mode had been previously selected; in that case, the display automatically returns to the prior mode.

Clock mode

To change the display to the clock mode, push the "SELECT" button for at least two seconds.

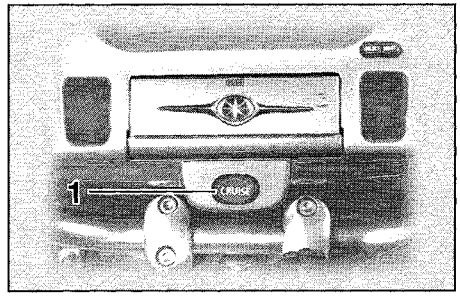
To change the display back to the odometer modes, push the "SELECT" button.

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 and the minute digits will start flashing.
4. 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.



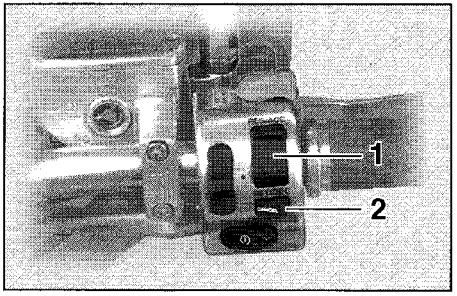
1. "CRUISE" switch

Cruise control system

This motorcycle is equipped with a cruise control system designed to maintain a set traveling speed.

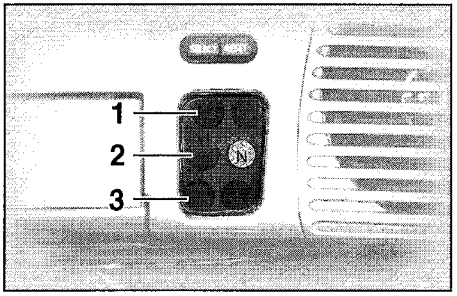
Activating and setting cruise control

Cruise control can only be activated when riding in 4th or 5th gear at speeds between 30 mi/h (50 km/h) and 80 mi/h (130 km/h).



1. Cruise control switch
2. "CANCEL" switch

1. Push the "CRUISE" switch to the left to turn on the cruise control system. The "ON" indicator light will come on.
2. Press the "SET/DEC" (set/decelerate) side of the cruise control switch to activate cruise control. The "SET" indicator light will come on.
3. Set the desired traveling speed as follows. Press the "RES/ACC" (resume/accelerate) side of the cruise control switch to increase the set speed orthe "SET/DEC" side to decrease the speed.



1. "SET" indicator light
2. "RES" indicator light
3. "ON" indicator light

NOTE:

Pressing the switch once will change the speed by 1 mi/h (1.6 km/h). Holding the switch down will increase or decrease the speed continuously until the switch is released.

The traveling speed can be set to maximum 80 mi/h (130 km/h) and minimum 30 mi/h (50 km/h).

When cruise control is activated and the throttle grip is turned to increase the traveling speed by up to 5 mi/h (8 km/h), the cruise control system will return to the set speed after the throttle grip is released. However, if the speed is increased by more than 5 mi/h (8 km/h), cruise control will be deactivated until the traveling speed returns to within 5 mi/h (8 km/h) of the set speed.

Deactivating cruise control

Applying the front or rear brake or disengaging the clutch will automatically deactivate cruise control.

Push the "CANCEL" switch to manually deactivate cruise control and return to normal throttle operation.

NOTE:

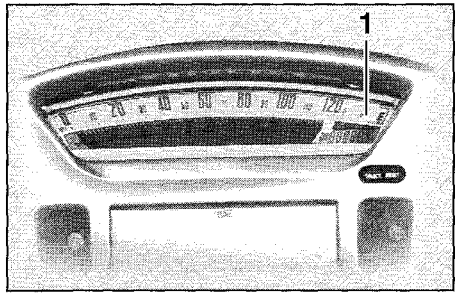
- When cruise control is deactivated, the "RES" (resume) indicator light will come on.
- The traveling speed starts decreasing as soon as cruise control is deactivated, unless the throttle grip is turned.

Push the "RES/ACC" side of the cruise control button to reactivate cruise control. The traveling speed will return to the previously set speed. The "RES" indicator light will flash during this time and then go off. Finally, the "SET" indicator light will come on.

Push the "CRUISE" switch to the right to turn the cruise control system off completely.

⚠ WARNING

If some trouble occurs in the cruise control system, the "SET" and "RES" indicator lights will flash simultaneously. If this occurs, turn off the cruise control system and have a Yamaha dealer check it.

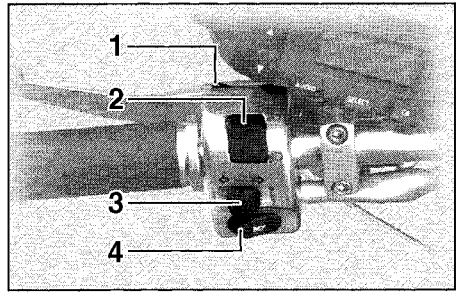


1. Fuel gauge

Fuel gauge

The fuel gauge indicates the quantity of the remaining gasoline in the tank. The segments in the fuel gauge disappear towards "E" (Empty) as the fuel level decreases. When only one segment is left near "E", add fuel as soon as possible.

This fuel gauge is equipped with a self-diagnosis system. If there is a problem in an electric circuit, first the segments and then either "E" or "F" flash. In this case, be sure to consult a Yamaha dealer as soon as possible.



Handlebar switches

1. "TALK" switch

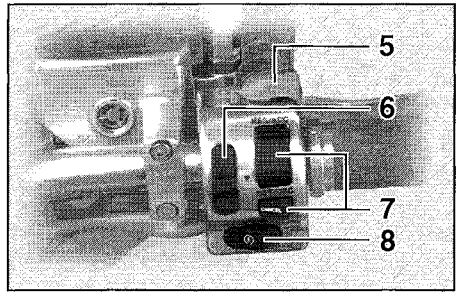
See page 4-24 for "TALK" switch operation.

2. Dimmer switch

Turn the switch to "≡D" for the high beam and to "≡D" for the low beam.

3. 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.

4. Horn switch "📯"
Press the switch to sound the horn.



5. 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.

6. Hazard switch
The hazard switch should be turned on under emergency or hazardous conditions. All turn signal lights will flash simultaneously when this switch is turned to the "⚠" position with the main switch in the "ON" position.

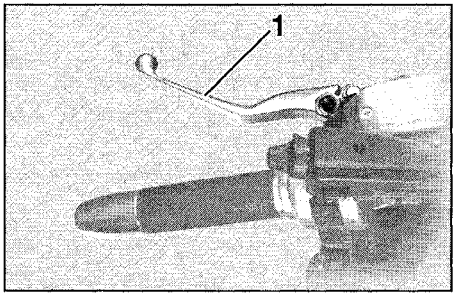
CAUTION:
The battery can discharge from extended use, making it difficult to operate the starter.

NOTE:
Turn on the hazard switch to warn other drivers if your motorcycle must be stopped where it might be a traffic hazard.

7. Cruise control switches
See page 3-5 for operation procedures.

8. Start switch "⏻"
The starter motor cranks the engine when pushing the start switch.

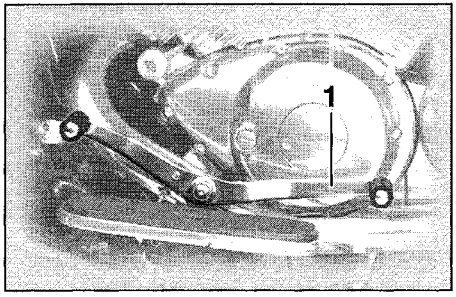
CAUTION:
See starting instructions prior to starting the engine.



1. Clutch lever

Clutch lever

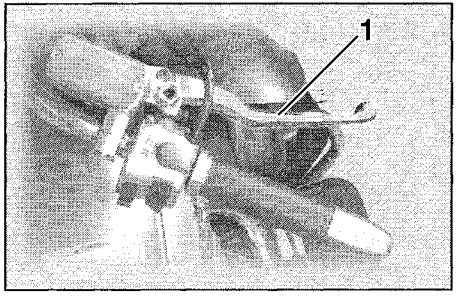
The clutch lever is located on the left handlebar, and the ignition circuit cut-off system is incorporated in the clutch lever holder. Pull the clutch lever to the handlebar to disengage the clutch, and release the lever to engage the clutch. The lever should be pulled rapidly and released slowly for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



1. Shift pedal

Shift pedal

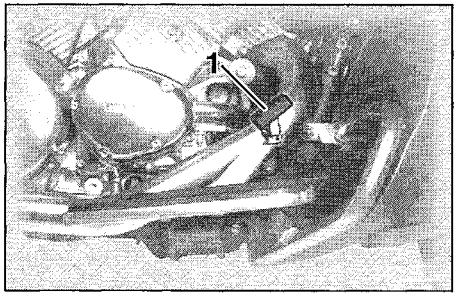
The shift pedal is located on the left side of the engine and is used in combination with the clutch when shifting. Use your toe or heel to shift up and your toe to shift down.



1. Front brake lever

Front brake lever

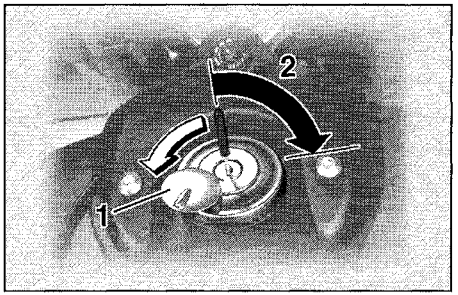
The front brake lever is located on the right handlebar. Pull it toward the handlebar to apply the front brake.



1. Rear brake pedal

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. Lock cover
2. Open

Fuel tank cap

To remove

Slide the lock cover open, insert the key and turn it 1/4 turn clockwise. The lock will be released and the cap can be removed.

To install

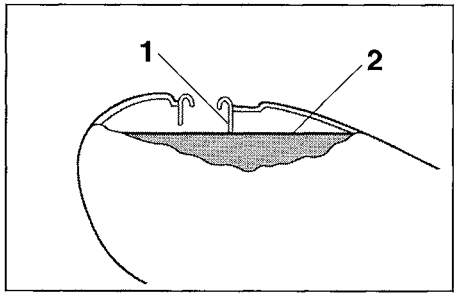
Make sure the arrow mark on the tank cap is facing forward, then push the tank cap into position. Turn the key counterclockwise to the original position and remove it. Close the lock cover.

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.

⚠ WARNING

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



1. Filler tube
2. Fuel level

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.

⚠ 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.

CAUTION:

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

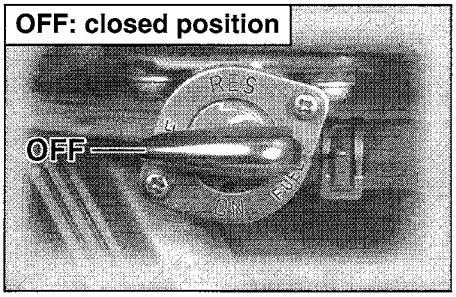
Recommended fuel:
UNLEADED FUEL
Fuel tank capacity:
Total:
5.9 US gal (5.0 Imp gal, 22.5 L)
Reserve:
0.9 US gal (0.8 Imp gal, 3.5 L)

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

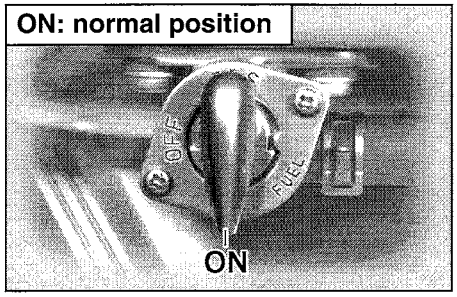
Gasohol

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

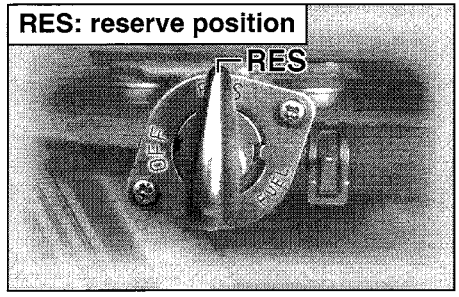
OFF: closed position



ON: normal position



RES: reserve position



Fuel cock

The fuel cock supplies fuel from the tank to the carburetors while filtering it also.

The fuel cock has three positions, which should be set as shown in the illustrations.

OFF

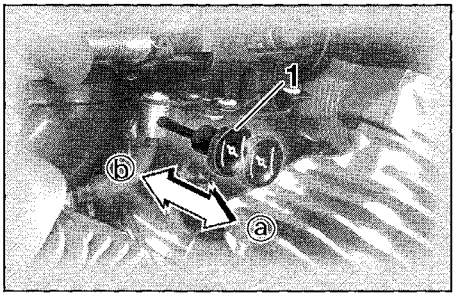
With the fuel cock in this position, fuel will not flow. Always set the fuel cock to this position when the engine is not running.

ON

With the fuel cock in this position, fuel flows to the carburetors. Set the fuel cock to this position when starting the engine and while riding.

RES

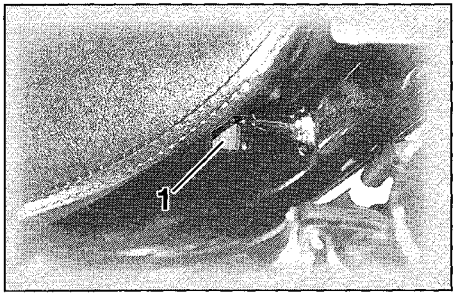
This indicates reserve. If you run out of fuel while riding, set the fuel cock to this position. Fill the tank at the first opportunity. Be sure to set the fuel cock back to "ON" after refueling!



1. Starter (choke) knob

Starter (choke) knob

Starting a cold engine requires a richer air-fuel mixture, which is supplied by the starter (choke).
Move the knob in direction ⓐ to turn on the starter (choke).
Move the knob in direction ⓑ to turn off the starter (choke).

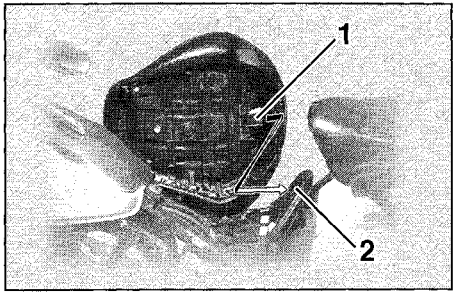


1. Nut (× 2)

Rider seat

To remove

Remove the nuts and lift up the rider seat.

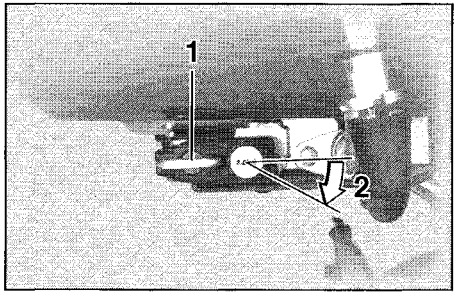


1. Projection
2. Seat holder

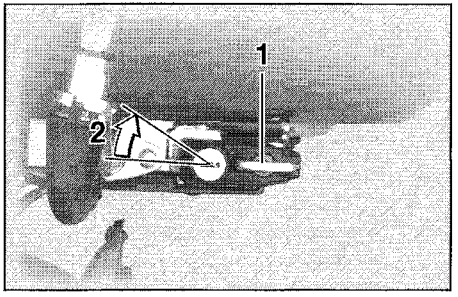
To install

Insert the projection on the rear of the rider seat into the seat holder, then tighten the nuts.

NOTE:
Make sure that the rider seat is securely fitted.



1. Helmet holder (right)
2. Open



1. Helmet holder (left)
2. Open

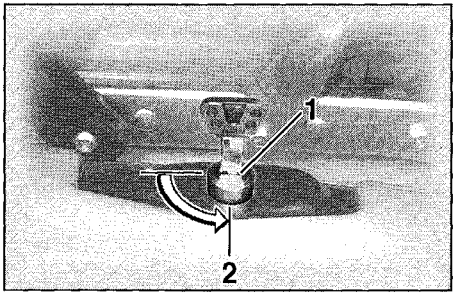
Helmet holders

To open a helmet holder, insert the key in the lock and turn it as shown.

To lock the helmet holder, place the holder in its original position and remove the key.

⚠ WARNING

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

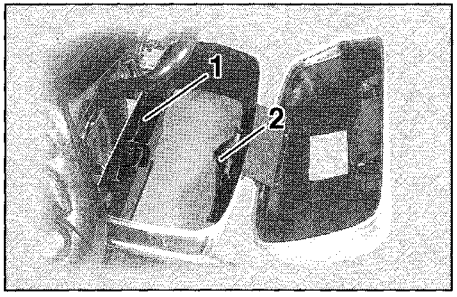


1. Saddlebag lock
2. Open

Saddlebags and travel trunk

⚠ WARNING

- **Always be sure to close and lock the saddlebags and travel trunk securely before operating the motorcycle.**
- **Distribute weight evenly on each side of the motorcycle.**
- **Never exceed the maximum loading limit of 20 lb (9 kg) in each saddlebag and the travel trunk. Improper loading or overloading can cause vehicle handling problems leading to an accident or personal injury.**



1. Storage compartment
2. Storage pouch

Saddlebags

To open

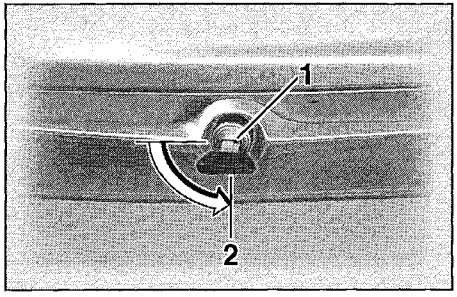
Insert the key into the lock, turn it counterclockwise, and then push it in.

To lock

Close the lid. Then, turn the key clockwise and remove it.

NOTE:

Be sure to push down on both sides of the lid so that each latch snaps into place.

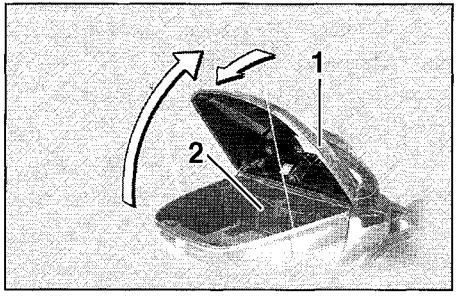


1. Travel trunk lock
2. Open

Travel trunk

To open

1. Insert the key into the lock, turn it counterclockwise, and then push it in.

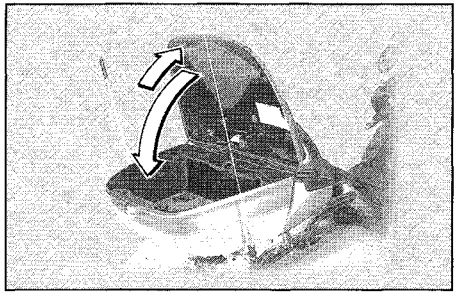


1. Lid resting in opened position
2. Storage pouch

2. Lift up the lid so that it will rest in place as shown when it is released.

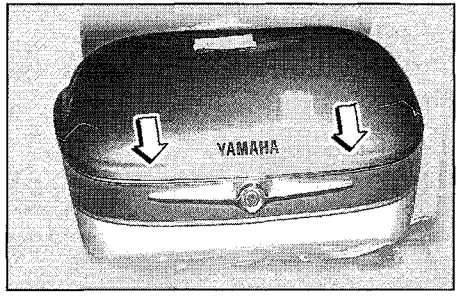
CAUTION:

Do not apply excessive pressure on the travel trunk lid when it is open.



To lock

1. Lift up the lid completely, and then close it.



NOTE:

Be sure to push down on both sides of the lid so that each latch snaps into place.

2. Turn the key clockwise and remove it.

CAUTION:

Be sure not to lock the key inside either saddlebag or the travel trunk.

Front fork adjustment

This front fork is equipped with a spring preload adjuster.

⚠ WARNING

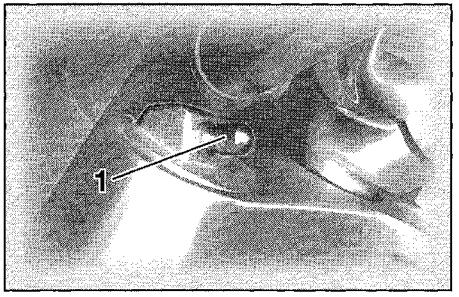
Always adjust each fork leg to the same setting. Uneven adjustment can cause poor handling and loss of stability.

Adjust spring preload as follows.

1. Put the motorcycle on the sidestand.

NOTE:

There should be no weight on the motorcycle when performing this job.



1. Front fork air valve cap

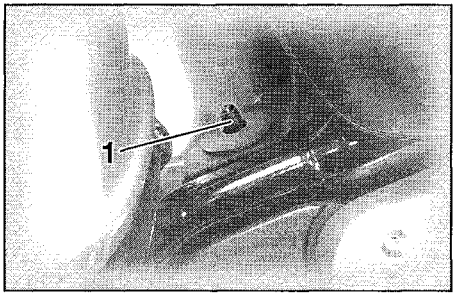
2. Remove the valve cap from each fork leg.
3. Check the air pressure using the air pressure gauge in the owner's tool kit, and adjust it if necessary.
   Increasing the air pressure increases the spring preload, decreasing the air pressure decreases the spring preload.
   To increase the air pressure, use an air pump or compressed air.
   To decrease the air pressure, release the air by pushing the valve.

Spring preload (air pressure):
Minimum/Standard:
0 psi (0 kgf/cm^2, 0 kPa)
Maximum:
7.1 psi (0.5 kgf/cm^2, 50 kPa)

CAUTION:

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

4. Install the valve caps securely.



1. Rear shock absorber air valve cap

Rear shock absorber adjustment

This rear shock absorber is equipped with a spring preload adjuster.
Adjust spring preload as follows.

1. Put the motorcycle on the sidestand.

NOTE:
There should be no weight on the motorcycle when performing this job.

2. Remove the valve cap.
3. Check the air pressure using the air pressure gauge in the owner's tool kit, and adjust it if necessary. Increasing the air pressure increases the spring preload, decreasing the air pressure decreases the spring preload.
   To increase the air pressure, use an air pump or compressed air.
   To decrease the air pressure, release the air by pushing the valve.

Spring preload (air pressure):
Minimum/Standard:
0 psi (0 kgf/cm^2, 0 kPa)
Maximum:
57 psi (4.0 kgf/cm^2, 400 kPa)

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

4. Install the valve cap securely.

Sidestand

This model is equipped with an ignition circuit cut-off system. The motorcycle must not be ridden when the sidestand is down. The sidestand is located on the left side of the frame. (Refer to page 6-1 for an explanation of this system.)

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

Sidestand/clutch switch operation check

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

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

↓

TRANSMISSION IS IN GEAR AND SIDESTAND IS UP.

↓

PULL IN CLUTCH LEVER AND PUSH THE START SWITCH.

↓

ENGINE WILL START.

↓

CLUTCH SWITCH IS OK.

↓

SIDESTAND IS DOWN.

↓

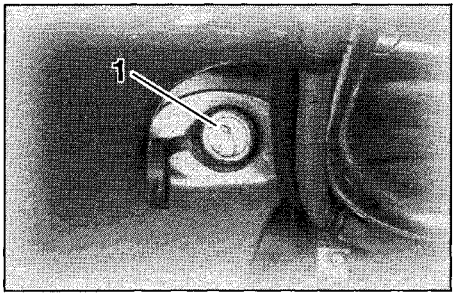
ENGINE WILL STALL.

↓

SIDESTAND SWITCH IS OK.

⚠ WARNING

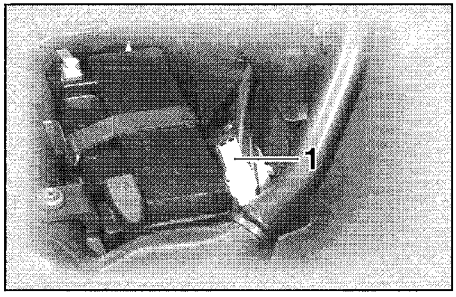
If improper operation is noted, consult a Yamaha dealer immediately.



1. Auxiliary DC jack

Auxiliary DC jack and terminal

This motorcycle is equipped with two 12 V DC auxiliary outlets: a jack in the front and a terminal under the rider seat. These outlets can be used when the main switch is in the "ACC" or "ON" position. The combined load on these auxiliary outlets should never exceed 5 A or 60 W.



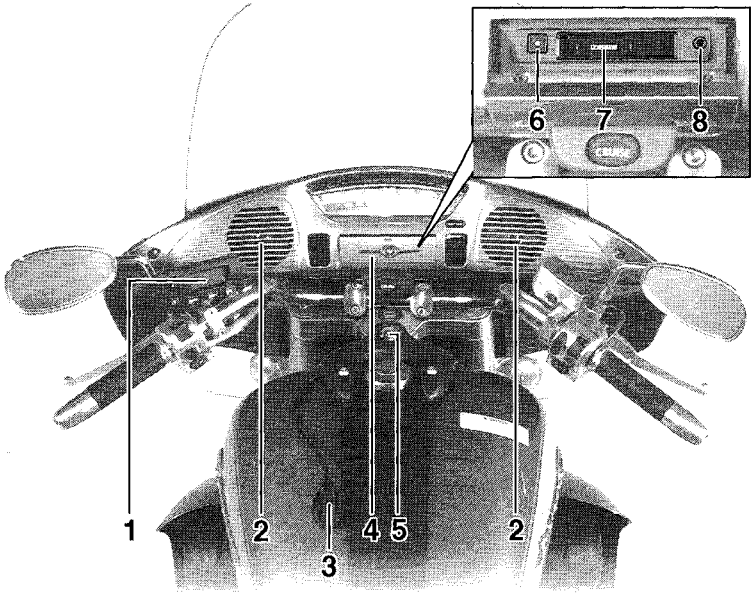
1. Auxiliary DC terminal

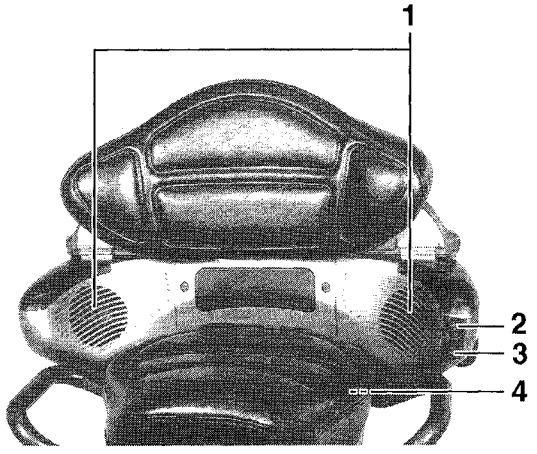
If accessories are used in excess of the specified consumption limit or with the engine turned off, the battery may discharge.

⚠ WARNING

When the accessory outlets are not being used, be sure the caps are installed to prevent electrical shock or short-circuiting.

Location of parts





1. Audio system/CB radio remote control
2. Front speaker (× 2)
3. Rider headset jack
4. Cassette deck lid
5. Main switch
6. Eject ("⏏") button
7. Cassette deck compartment
8. Auxiliary audio input jack

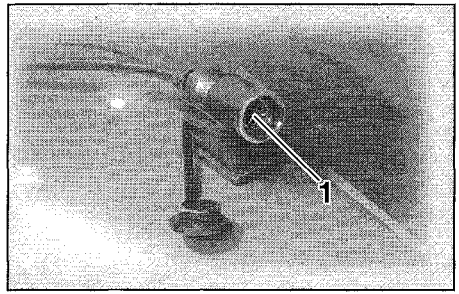
1. Rear speaker (× 2)
2. Passenger volume control knob
3. Passenger "TALK" switch
4. Passenger headset jack

⚠ WARNING

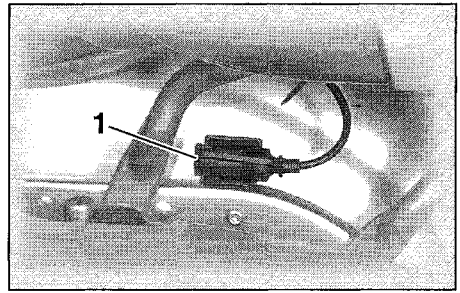
- **It is dangerous to operate the audio system controls while riding. Never take your hands off the handlebars while riding.**
- **Keep the volume at a low enough level to be aware of traffic conditions and ensure safety.**

CAUTION:

- **Do not use the audio system or CB radio for a long period of time when the engine is not running as the battery may discharge.**
- **The control unit, cassette deck and speakers are water-resistant; however, it is good practice to cover them with plastic bags when washing the motorcycle.**
- **When cleaning the control unit display, use a neutral detergent. Never use strong abrasive cleaning products, fuel (gasoline), thinner, etc.**



1. Rider headset jack

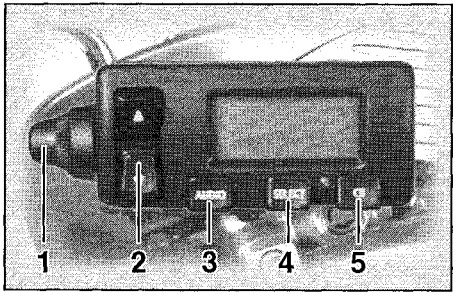


1. Passenger headset jack

Headsets (optional)

For CB (Citizens Band) radio transmission, a headset is necessary; however, CB reception is possible without a headset. For intercom use, two headsets are necessary. Consult a Yamaha dealer if you wish to obtain headsets.

Connect the headsets to the jacks shown in the illustrations and be sure that the headsets are selected as the output. (Refer to page 4-7 for instructions.)



1. Volume control knob
2. Up/down ("△▽") switch
3. Audio system button "AUDIO"
4. Selection button "SELECT"
5. CB radio button "CB"

Control unit

Volume control knob

This knob adjusts the audio system volume, the CB radio reception volume, and the CB squelch level.

Up/down ("△▽") switch

This switch is used to perform the following operations.

Short push (less than 1 second)

- Searching for the next song on the cassette tape
- Selecting a preset radio station
- Selecting a track on the optional CD changer
- Selecting a CB channel
- Adjusting the CB squelch level
- Tuning in a radio station manually
- Adjusting the intercom volume
- Changing the settings in a mode

Long push (1 second or more)

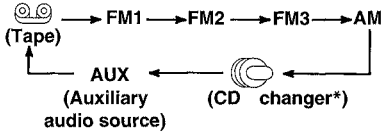
- Changing the cassette deck play direction
- Tuning in a radio station automatically
- Selecting a CD in the optional CD changer

Audio system button "AUDIO"

This button is used to perform the following operations.

Short push (less than 1 second)

- Turning on the audio system
- Changing the audio source in the following sequence



* The CD mode appears in the display only when the optional CD changer is installed.

Long push (1 second or more)

- Turning off the audio system

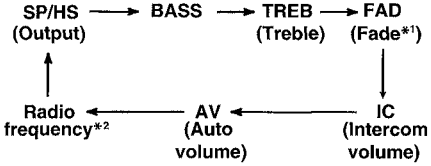
Selection button "SELECT"

This button is used to perform the following operations.

Short push (less than 2 seconds)

- Changing modes in the following sequence

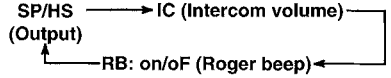
Audio system



*1 This mode does not appear in the display when the headsets are selected as the output.

*2 This mode appears in the display only when one of the radio frequency bands is selected as the audio source.

CB radio



- Programing preset radio stations

Long push (2 seconds or more)

- Selecting the preset radio station programming mode

CB radio button "CB"

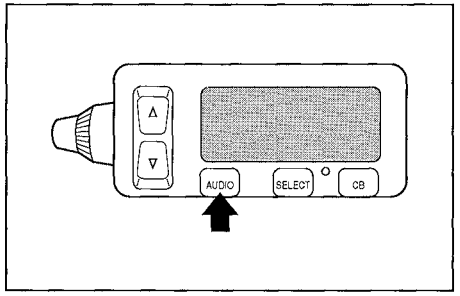
This button is used to perform the following operations.

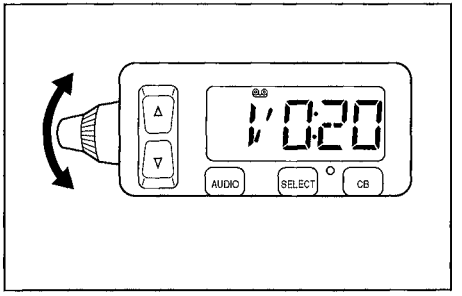
Short push (less than 1 second)

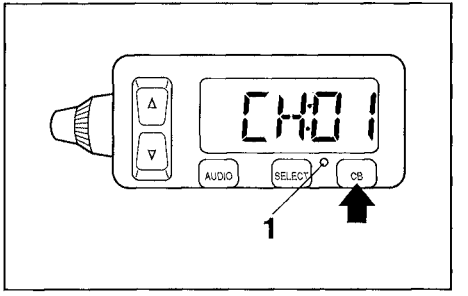
- Turning on the CB radio
- Selecting the squelch level mode

Long push (1 second or more)

- Turning off the CB radio







1. CB radio indicator light

Making basic settings

Turning on/off the audio system

To turn the power on

1. Make sure that the main switch is set to the "ACC" or "ON" position.
2. Push the "AUDIO" button once for less than 1 second.

To turn the power off

Push the "AUDIO" button once for 1 second or more.

Adjusting the audio system volume

Turn the volume control knob until the desired audio system volume is displayed (e.g., "Vo:20"). The audio system volume can be set between "0" and "30". After the adjustment is made, the audio system returns to normal operation and the current audio mode appears in the display.

Turning on/off the CB radio

To turn the power on

1. Make sure that the main switch is set to the "ACC" or "ON" position.
2. Push the "CB" button once for less than 1 second. The current CB channel appears in the display.

To turn the power off

Push the "CB" button once for 1 second or more. The CB indicator light will go off.

Adjusting the CB reception volume

Turn the control knob until the desired CB reception volume is displayed (e.g., "cVo:10"). The CB reception volume can be set between "0" and "20". After the adjustment is made, the CB radio returns to normal operation and the CB channel appears in the display.

Making mode settings

General procedure

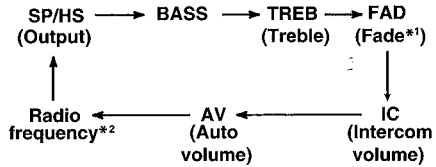
The following setting procedure applies to the audio system, CB radio, and optional CD changer.

NOTE:

- In order to make settings in any of the audio system modes, make sure that the audio system is selected. If necessary, push the "AUDIO" button for less than 1 second.
- In order to make settings in the CB radio modes, make sure that the CB radio is selected. If necessary, push the "CB" button for less than 1 second.

1. Repeatedly push the "SELECT" button for less than 1 second until the desired mode appears in the display. With each press of the button, the mode changes in the following sequence.

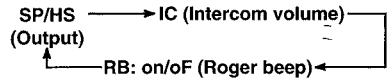
Audio system



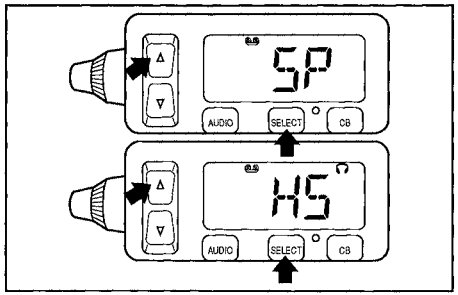
*1 This mode does not appear in the display when the headsets are selected as the output.

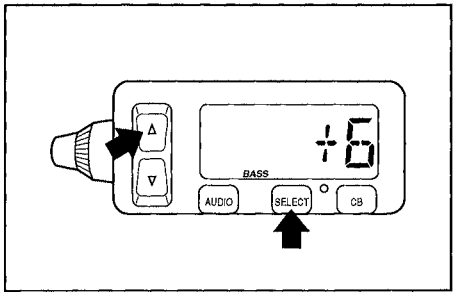
*2 This mode appears in the display only when one of the radio frequency bands is selected as the audio source.

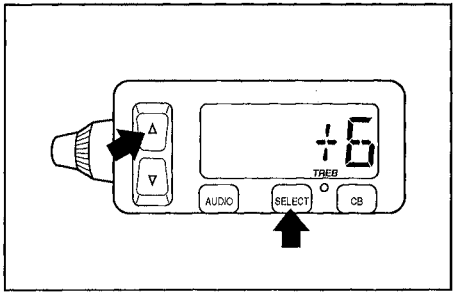
CB Radio



2. While the selected mode is displayed (for about 5 seconds), repeatedly push either side of the up/down switch for less than 1 second until the desired setting is displayed.







Selecting the output (speakers or headsets)

1. Repeatedly push the "SELECT" button for less than 1 second until either "SP" (speakers) or "HS" and "🎧" (headsets) appears in the display.
2. Push either side of the up/down switch for less than 1 second to change the setting.

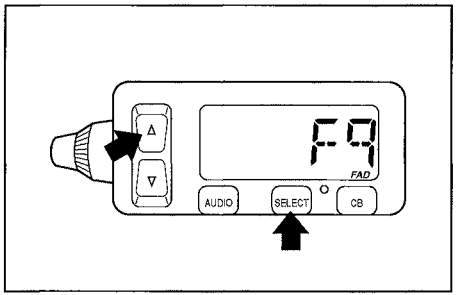
NOTE:
The speakers and headsets cannot be used at the same time.

Adjusting the bass level

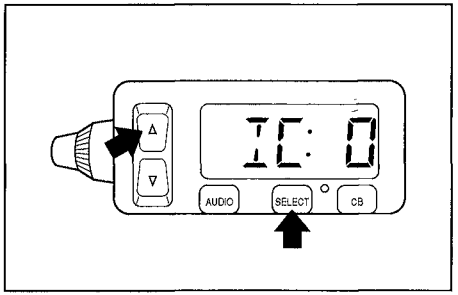
1. Repeatedly push the "SELECT" button for less than 1 second until "BASS" appears at the bottom of the display.
2. Repeatedly push either side of the up/down switch for less than 1 second until the desired level is displayed. The bass level can be set between "–6" and "+6".

Adjusting the treble level

1. Repeatedly push the "SELECT" button for less than 1 second until "TREB" appears at the bottom of the display.
2. Repeatedly push either side of the up/down switch for less than 1 second until the desired level is displayed. The treble level can be set between "–6" and "+6".



NOTE:
When the fade level is set to "0", the front and rear speaker levels are the same.

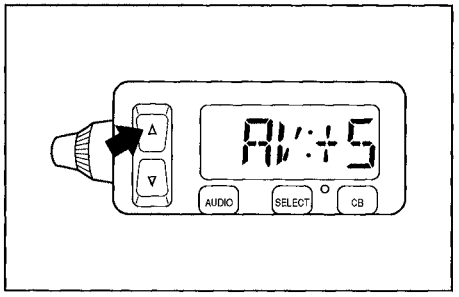


Adjusting the fade level (balance between front and rear speakers)

1. Make sure that the speakers are selected as the output source. (Refer to page 4-7.)
2. Repeatedly push the "SELECT" button for less than 1 second until "FAD" appears at the bottom of the display.
3. Repeatedly push either side of the up/down switch for less than 1 second until the desired level is displayed. The fade level can be set between "F9" (front speakers only) and "R9" (rear speakers only).

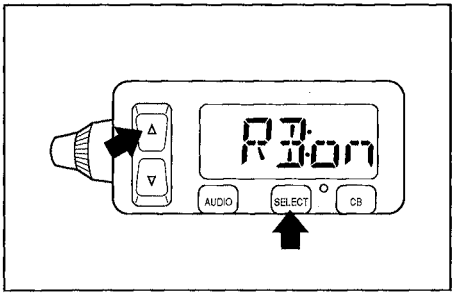
Adjusting the intercom volume

1. Repeatedly push the "SELECT" button for less than 1 second until the intercom volume (e.g., "IC:0") appears in the display.
2. Repeatedly push either side of the up/down switch for less than 1 second until the desired volume is displayed. The intercom volume can be set between "0" and "20".



Intercom operation

Provided both the rider and passenger are wearing headsets, they can talk to each other through the intercom at any time. See page 4-8 for instructions on how to adjust the intercom volume.



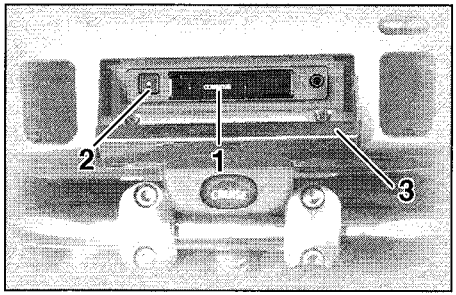
Adjusting the auto volume

When riding the motorcycle, external noise may override the audio system output volume. The audio system features an automatic volume control function which compensates for external noise.

1. Repeatedly push the "SELECT" button for less than 1 second until the auto volume (e.g., "AV: 5") appears in the display.
2. Repeatedly push either side of the up/down switch for less than 1 second until the desired volume is displayed. The auto volume can be set between "0" and "5".

Turning on/off the CB roger beep

1. Repeatedly push the "SELECT" button for less than 1 second until either "RB:on" (roger beep on) or "RB:oF" (roger beep off) appears in the display.
2. Repeatedly push either side of the up/down switch for less than 1 second to change the setting.

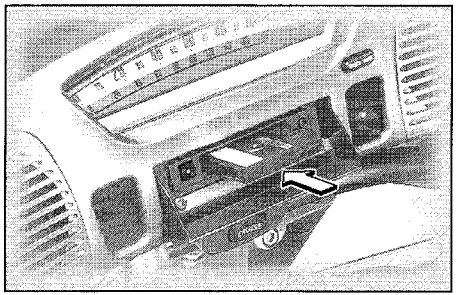


1. Cassette deck compartment
2. Eject ("⏏") button
3. Cassete deck lid

Cassette deck operation

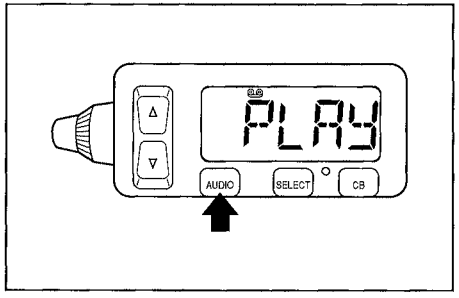
⚠ WARNING

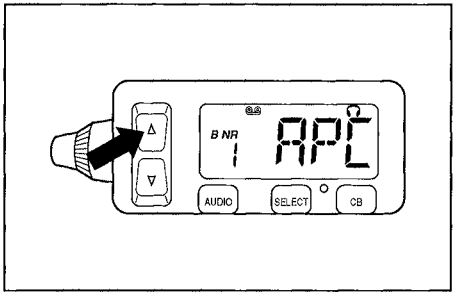
- **It is dangerous to operate the cassette deck while riding. Never take your hands off the handlebars while riding.**
- **Keep the volume at a low enough level to be aware of traffic conditions and ensure safety.**



CAUTION:

- **Keep the cassette deck lid closed at all times, except when inserting or removing a cassette.**
- **Do not leave cassette tapes in direct sunlight for a long period of time.**
- **Do not allow the inside of the cassette deck to get wet. If this happens, keep the cassette deck lid open and dry out the deck in the shade.**
- **To clean the tape head, use a de-magnetizing cleaning cassette, but be sure to turn the volume all the way down to avoid speaker damage.**





NOTE:

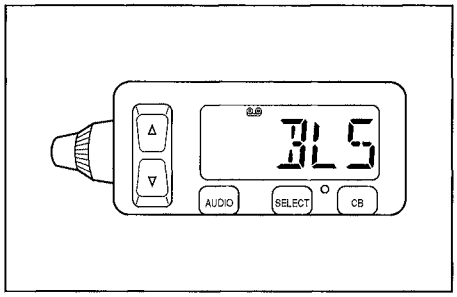
- The maximum number of songs that can be skipped in either direction is 9.
- To stop skipping songs, push the up/down switch in the opposite direction that songs are being skipped.

Playing a cassette tape

1. Make sure that the audio system is turned on (See page 4-3.) and selected (See page 4-4.).
2. Insert a cassette tape into the cassette compartment. "LOAD", then "PLAY" appears in the display. (If a cassette is already inserted, push the "AUDIO" button until "PLAY" appears in the display.) The tape starts playing.

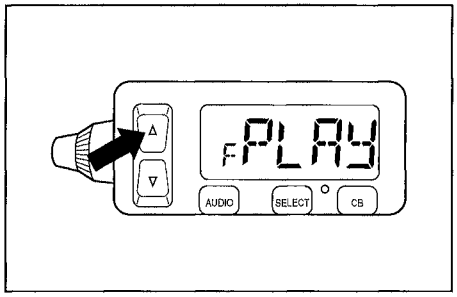
Skipping songs

While a cassette tape is playing, push either side of the up/down switch once for less than one second for each song to be skipped. Pushing "▽" skips songs in the forward direction. Pushing "△" skips songs in the reverse direction. "APC" (auto program control) and the number of songs to be skipped (e.g., "3") appear in the display. When skipping songs in reverse, a minus sign appears in front of the number of songs to be skipped (e.g., "–2"). ("–1" indicates that the current song will be played again.)



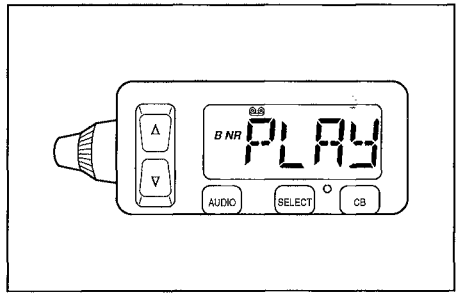
Skipping a blank

When there is a long blank portion of tape on the cassette, "BLS" appears in the display and the cassette deck automatically fast-forwards the tape to the next song.



Changing the tape play direction

While the cassette tape is playing, push either side of the up/down switch for more than one second to reverse the play direction. "F" appears in the display when the tape is played in the forward direction. "R" appears in the display when the tape is played in the reverse direction.

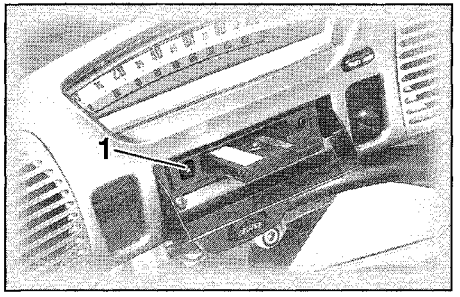


Turning on/off the Dolby noise reduction system

While the cassette tape is playing, push the eject ("⏏") button for more than two seconds to turn the Dolby B noise reduction system on or off. "B NR" appears in the display when the noise reduction system is turned on.

NOTE:

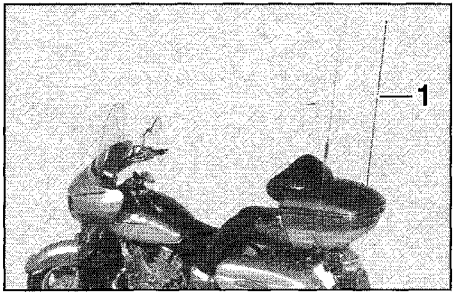
- The Dolby noise reduction system has been manufactured under license from Dolby Laboratories Licensing Corporation.
- Dolby and the double "D" symbol are registered trademarks of Dolby Laboratories Licensing Corporation.



1. Eject ("⏏") button

Ejecting the cassette tape

Push the eject ("⏏") button to eject the tape from the cassette deck. "EJECT" appears in the display, and then "CASS" starts flashing.

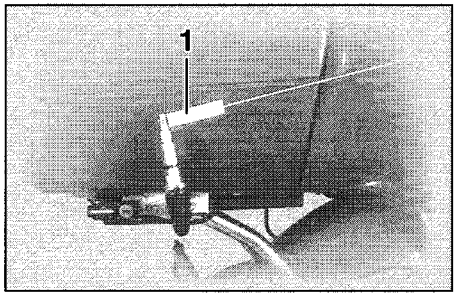


1. Radio antenna

Radio operation

⚠ WARNING

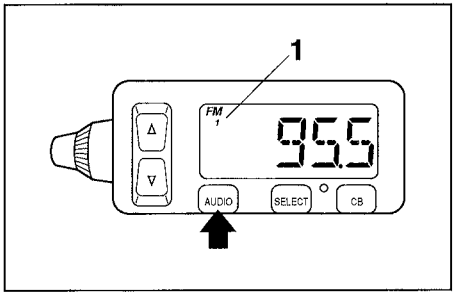
- **It is dangerous to operate the radio while riding. Never take your hands off the handlebars while riding.**
- **Keep the volume at a low enough level to be aware of traffic conditions and ensure safety.**
- **Never ride the motorcycle with the radio antenna folded down.**



1. Sleeve

NOTE:

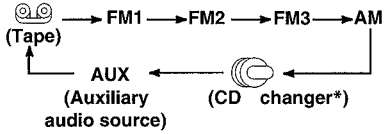
- The antenna can be folded down after lifting the sleeve.
- Make sure that the sleeve covers the antenna joint after folding the antenna back up.



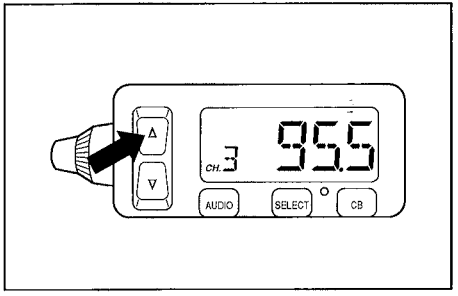
1. Frequency band

Selecting a frequency band

This radio offers 3 FM bands and 1 AM band. Since all 3 FM bands cover the whole FM frequency range, any one of them can be selected for tuning in an FM station. These 3 FM bands are useful for categorizing FM preset stations. Repeatedly push the "AUDIO" button for less than 1 second until the desired frequency band appears in the display.

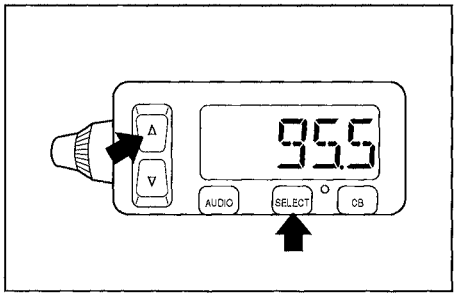


* The CD mode appears in the display only when the optional CD changer is installed.



Tuning in a radio station automatically

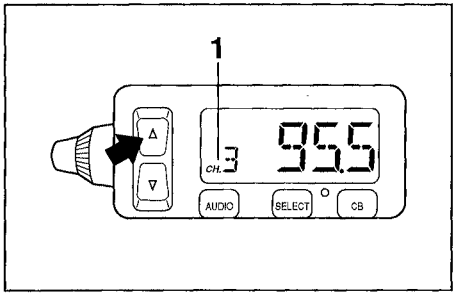
1. Select a frequency band.
2. Push either side of the up/down switch once for 1 second or more. The radio automatically tunes in the first station that has a strong enough signal to be received.



Tuning in a radio station manually

In order to tune in a particular radio station (e.g., when the signal is too weak for automatic tuning), the radio frequency can be selected manually as follows.

1. Select a frequency band.
2. Repeatedly push the "SELECT" button for less than 1 second until the currently selected radio frequency appears in the display.
3. Push either side of the up/down switch for less than 1 second until the desired frequency is displayed. The frequency changes in 0.2-MHz steps for FM and in 10-kHz steps for AM.



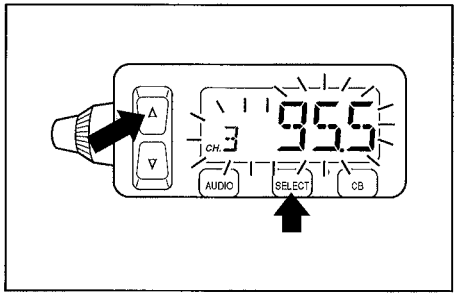
1. Preset station number

Tuning in a preset radio station

1. Select a frequency band. (Refer to page 4-14.)
2. Repeatedly push either side of the up/down switch for less than 1 second until the desired preset station number is displayed.

NOTE:

To be able to tune in a preset radio station, you must have previously programmed at least one. (Refer to page 4-16 for instructions.)



Programing preset radio stations manually

Up to 6 stations can be programmed for each frequency band (FM1, FM2, FM3, and AM) using either manual or automatic tuning.

Using manual tuning

1. Manually tune in a radio station that you wish to preset. (Refer to page 4-15 for instructions.)
2. Push the "SELECT" button once for 2 seconds or more. The radio frequency and preset station number "1" (to the right of "CH.") start flashing.
3. Repeatedly push either side of the up/down switch for less than 1 second until the desired preset number ("1" through "6") is displayed.

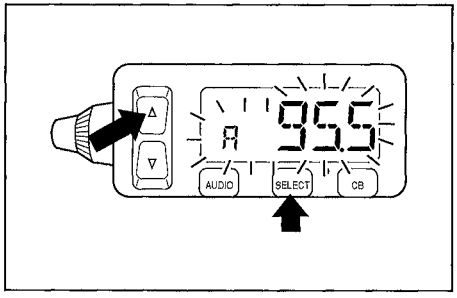
NOTE:

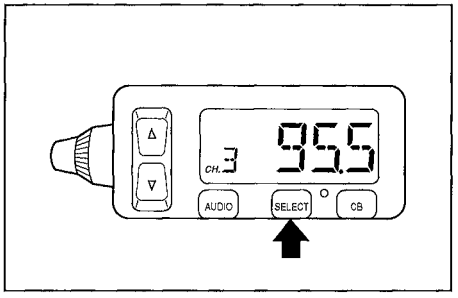
Selecting "A" will automatically program the preset stations. Refer to the following section.

4. Push the "SELECT" button once for less than 1 second to store the radio station selected in step 1 under the preset number selected in step 3.
5. Repeat this procedure to preset other radio stations.

Using automatic tuning

1. Select a frequency band. (Refer to page 4-14.)
2. Push the "SELECT" button once for 2 seconds or more. The radio frequency and preset station number "1" (to the right of "CH.") start flashing.
3. Push either side of the up/down switch once for 1 second or more to tune in a station automatically.
4. Repeatedly push either side of the up/down switch for less than 1 second until the desired preset number ("1" through "6") is displayed.
5. Push the "SELECT" button once for less than 1 second to store the radio station selected in step 3 under the preset number selected in step 4.
6. Repeat this procedure to preset other radio stations.





Programing preset radio stations automatically

Up to 6 stations can be programmed automatically for each frequency band (FM1, FM2, FM3, and AM) as follows.

NOTE:

This function works best in areas with strong radio signals.

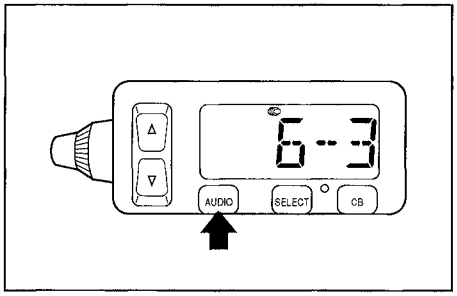
1. Select a frequency band. (Refer to page 4-14.)
2. Push the "SELECT" button once for 2 seconds or more. The radio frequency and preset station number "1" (to the right of "CH.") start flashing.
3. Repeatedly push either side of the up/down switch for less than 1 second until "A" (automatic) appears in the display.
4. Push the "SELECT" button once for less than 1 second to program preset radio stations automatically.

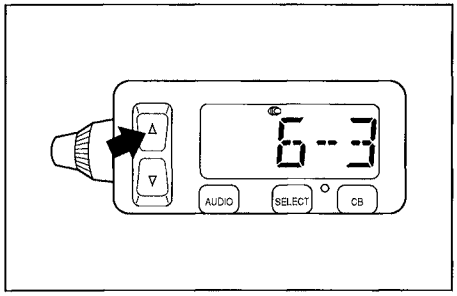
CD changer (optional) operation

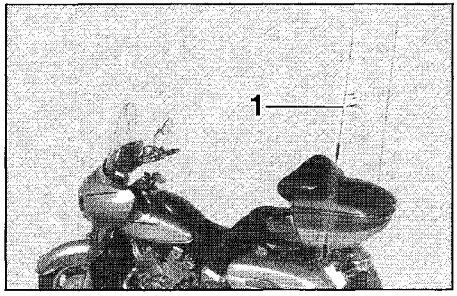
⚠ WARNING

- **It is dangerous to operate the CD changer while riding. Never take your hands off the handlebars while riding.**
- **Keep the volume at a low enough level to be aware of traffic conditions and ensure safety.**

An optional 6-disc CD changer can be mounted in the travel trunk. Ask a Yamaha dealer to install the genuine Clarion CDC635 model.







1. CB antenna

Playing a CD

1. Insert up to 6 CDs into the CD changer. Follow the manufacturer's directions.
2. Push the "AUDIO" button until "◎" as well as the CD number and track number (e.g.,"6-3") appear in the display. The CD starts playing.

NOTE:
"6-3" indicates track no. 3 on CD no. 6.

Selecting a CD

Repeatedly push either side of the up/down switch for 1 second or more until the number for the desired CD appears in the display.

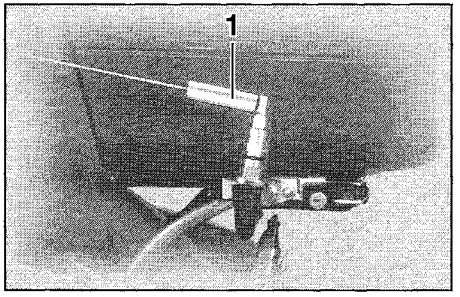
Selecting a CD track

Repeatedly push either side of the up/down switch for less than 1 second until the number for the desired CD track appears in the display.

CB radio operation

⚠ WARNING

- **It is dangerous to change CB radio channels or adjust the volume while riding. Never take your hands off the handlebars while riding.**
- **Keep the volume at a low enough level to be aware of traffic conditions and ensure safety.**
- **Never ride the motorcycle with the CB antenna folded down.**



1. Sleeve

NOTE:

The antenna can be folded down after lifting the sleeve.

This CB radio will operate on any of the 40 frequencies designated as Citizens band channels by the Federal Communications Commission (F.C.C.).

This model features a frequency synthesizing circuit with PHASE LOOK LOOP techniques to assure ultraprecise frequency control. This radio has been Type Accepted and Type Certified by the F.C.C.

The Citizens Band Radio Service is under the jurisdiction of the Federal Communications Commission (F.C.C.). Any adjustments or modifications which would alter the performance of the transceiver's original F.C.C. Type Acceptance or which would change the frequency determining method are strictly prohibited.

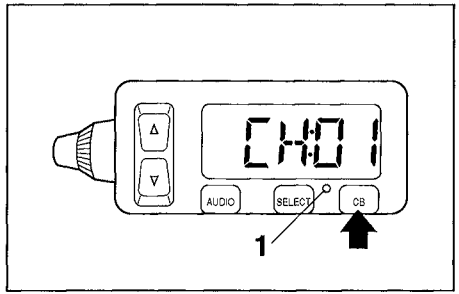
Replacement or substitution of Crystals, Transistors, IC, Regulator Diodes or any other part of unique nature, with parts other than those recommended may cause violation of the technical regulation of Part 95 of the F.C.C. Rules or Violation of Type Acceptance requirements of Part 2 of the Rules.

Elimination of licensing

The Federal Communications Commission (F.C.C) has ruled that Citizens Band Radio Service Operators no longer are required to obtain an F.C.C. license to operate their CB equipment. In doing so, the F.C.C. also decided to permit CB station operation without station identification. Elimination of individual station license results in no lessening of the operating privileges or responsibilities of CB users. An operator of a CB radio station is still required to comply with the Communications Act and with the rules of CB Radio Service.

The CB radio is capable of the following functions

- Changing the transmitting or the receiving channel
- Adjusting the squelch level
- Adjusting the receiving volume level
- Transmitting and receiving



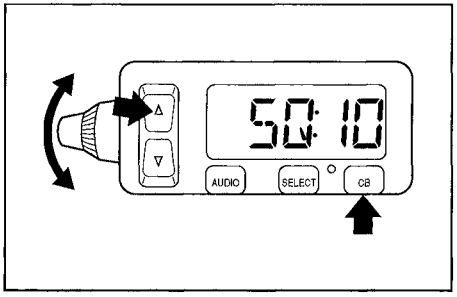
1. CB radio indicator light

Selecting a CB channel

1. Make sure that the CB radio is turned on and is selected. (Refer to pages 4-5 and 4-6.)
2. Repeatedly push either side of the up/down switch for less than 1 second until the desired CB channel ("Ch:01" through "Ch:40") is displayed.

NOTE:

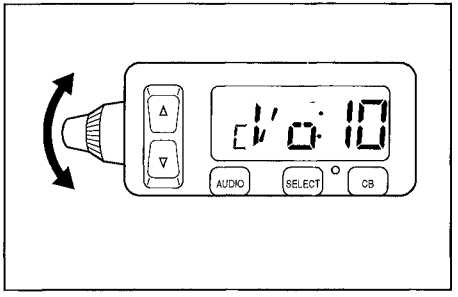
All channels, except channel 9, may be used for communications between stations operating under different licenses. Channel 9 has been reserved by the F.C.C. for emergency communications involving the immediate safety of individuals or immediate protection of property. Channel 9 may also be used to render assistance to a motorist. This is an F.C.C. rule and applies to all operators of CB radios.



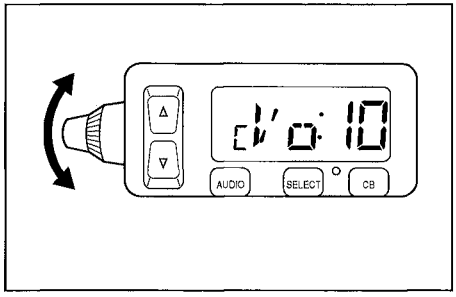
Adjusting the squelch level

The squelch is a noise suppresser designed to reduce or eliminate background noise in the absence of an incoming signal. The squelch level can be adjusted as follows.

1. Push the "CB" button once for less than 1 second. The squelch level appears in the display (e.g.,"SQ: 10").
2. Repeatedly push either side of the up/down switch for less than 1 second or turn the control knob until the desired squelch level is displayed. The squelch level can be set between "1" and "20". After the adjustment is made, the CB radio returns to normal operation and the CB channel appears in the display.



For maximum reception sensitivity, the squelch level should be set by turning the control knob fully counterclockwise, and then slowly turning it clockwise until the background noise has been sufficiently reduced. In order for an incoming CB signal to be heard, it must be stronger than the noise received. Turning the control further clockwise will increase the threshold level that a signal must overcome in order to be heard. Only strong signals will be heard at the maximum setting.



Changing the receive volume for the CB radio

Turn the volume control knob to change the receiving volume level for the CB radio. After setting the level, the display will automatically change back to the "CB" mode and the channel will appear.

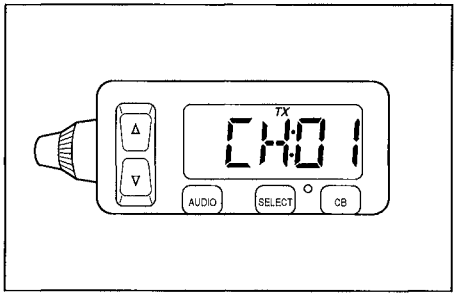
The volume level can be set from 0 to 20.

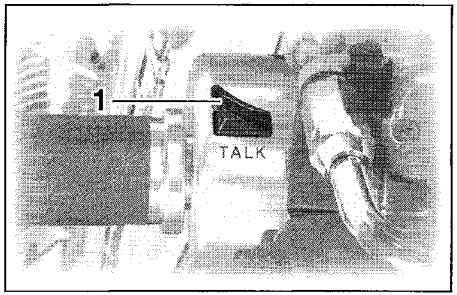
Channel information

Channel	Channel Frequency in MHz	Channel	Channel Frequency in MHz
1	26.965	21	27.215
2	26.975	22	27.225
3	36.985	23	27.235
4	27.005	24	27.245
5	27.015	25	27.255
6	27.025	26	27.265
7	27.035	27	27.275
8	27.055	28	27.285
9	27.065	29	27.295
10	27.075	30	27.305
11	27.085	31	27.315
12	27.105	32	27.325
13	27.115	33	27.335
14	27.125	34	27.345
15	27.135	35	27.355
16	27.155	36	27.365
17	27.165	37	27.375
18	27.175	38	27.385
19	27.185	39	27.395
20	27.205	40	27.405

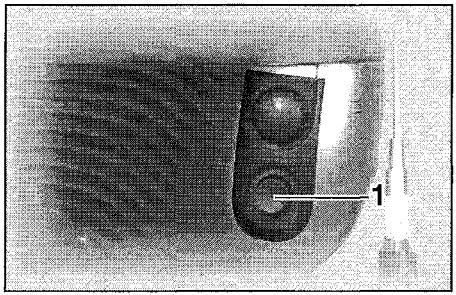
NOTE:

This radio has been designed for operation in the 11 meter Citizens Band Radio Service. It uses a frequency synthesizing circuit with Phase Locked Loop (PLL) techniques to provide crystal controlled transmit and receive operation on all 40 channels. The PLL circuitry assures ultraprecise frequency control. It is designed to meet the Federal Communications Commission requirements applicable to equipment operating in the Citizens Radio Service, and is not to be used for any other purpose.





1. "TALK" switch

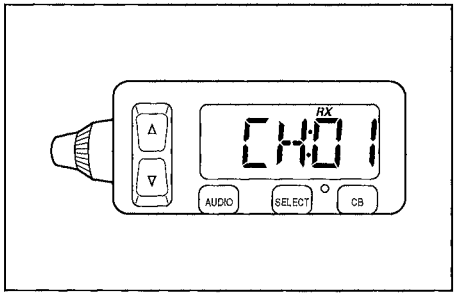


1. Passenger "TALK" button

Transmitting and receiving

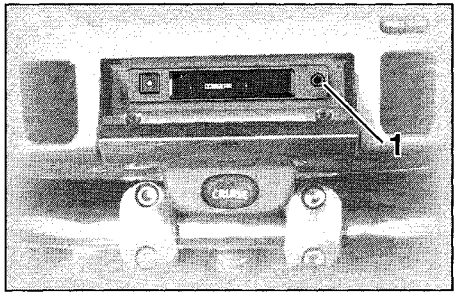
Transmission

Push the rider "TALK" or passenger "TALK" switch to transmit. "TX" appears in the display.



Reception

"RX" appears in the display when the CB radio is receiving a signal.

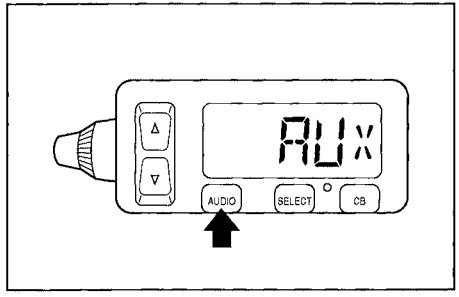


1. Auxiliary audio input jack

Auxiliary audio source operation

Auxiliary audio equipment can be connected to, and played through, the audio system.

1. Insert the output plug of the auxiliary equipment into the jack located at the right of the cassette deck.



2. Repeatedly push the "AUDIO" button for less than 1 second until "AUX" appears in the display. The auxiliary equipment can now be played through the audio system.

PRE-OPERATION CHECKS

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.

PRE-OPERATION CHECK LIST

ITEM	CHECKS	PAGE
Front brake	• Check operation, fluid level and vehicle for fluid leakage. • Fill with DOT 4 brake fluid if necessary.	7-24 ~ 7-28
Rear brake	• Check operation, fluid level and vehicle for fluid leakage. • Fill with DOT 4 brake fluid if necessary.	
Clutch	• Check operation, fluid level and vehicle for fluid leakage. • Fill with DOT 4 brake fluid if necessary.	7-23
Throttle grip and housing	• Check for smooth operation. • Lubricate if necessary.	7-18
Engine oil	• Check oil level. • Fill with oil if necessary.	7-12 ~ 7-14
Coolant reservoir tank	• Check coolant level. • Fill with coolant if necessary.	7-15 ~ 7-16
Final gear oil	• Check vehicle for leakage.	7-15
Wheels and tires	• Check tire pressure, wear and for damage.	7-19 ~ 7-22
Brake and shift pedal shafts	• Check for smooth operation. • Lubricate if necessary.	7-28
Brake and clutch lever pivots	• Check for smooth operation. • Lubricate if necessary.	7-29
Sidestand pivot	• Check for smooth operation. • Lubricate if necessary.	7-29

ITEM	CHECKS	PAGE
Chassis fasteners	• Make sure that all nuts, bolts and screws are properly tightened. • Tighten if necessary.	—
Fuel	• Check fuel level. • Fill with fuel if necessary.	3-11
Lights, signals and switches	• Check for proper operation.	7-33 ~ 7-35

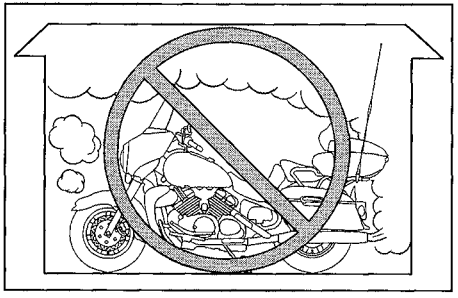
NOTE:

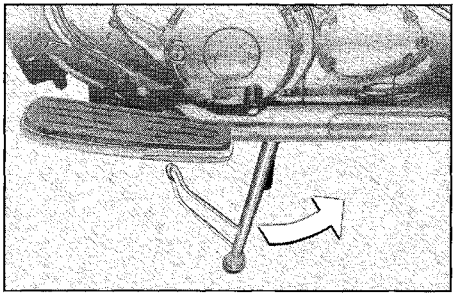
Pre-operation checks should be made each time the motorcycle is used. Such an inspection can be thoroughly accomplished in a very short time; and the added safety it assures is more than worth the time involved.

⚠ WARNING

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

OPERATION AND IMPORTANT RIDING POINTS





⚠ WARNING

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

CAUTION:

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

Starting and warming up a cold engine

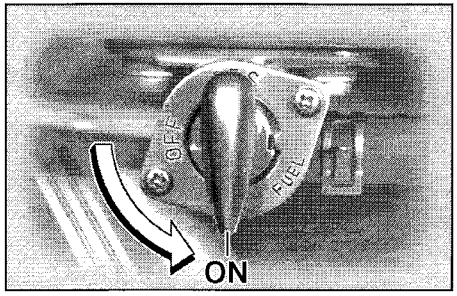
NOTE:
This motorcycle is equipped with an ignition circuit cut-off system.
The engine can be started only under one of the following conditions:

- The transmission is in neutral.
- The transmission is in gear with the sidestand up and the clutch disengaged.

The motorcycle must not be ridden when the sidestand is down.

⚠ WARNING

Before going through the following steps, check the function of the sidestand switch and clutch switch. (Refer to page 3-19.)



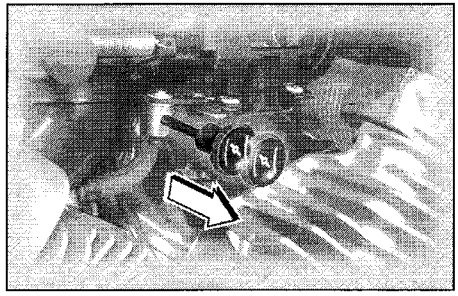
1. Turn the fuel cock to "ON".
2. Turn the main switch to "ON" and the engine stop switch to "○".

CAUTION:

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

3. 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.



4. Turn on the starter (choke) and completely close the throttle grip.
5. 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.

CAUTION:

The engine trouble indicator light should come on when the start switch is pushed and should go off when the start switch is released. If the engine trouble indicator light remains on, have a Yamaha dealer check the self-diagnosis system.

6. Turn off the starter (choke) when the engine is warm. Refer to the following notes.

NOTE:

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

7. After warming up the engine, turn off the starter (choke) completely.

NOTE:

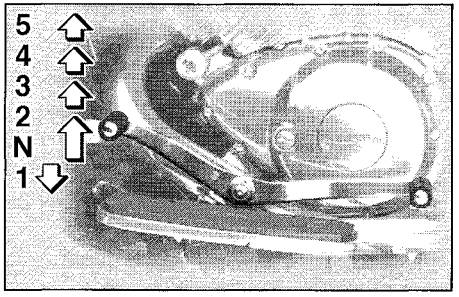
The engine is warm when it responds normally to the throttle with the starter (choke) turned off. To avoid excessive exhaust emissions, never leave the starter (choke) on longer than necessary. The length of time the starter (choke) is needed depends upon the ambient temperature. Warm ambient temperatures (above 50 °F / 10 °C) require about 7 seconds of starter (choke) use. Cold ambient temperatures (below 50 °F / 10 °C) require about 35 seconds with the starter (choke) fully open, then about 2.5 minutes with the starter in the half-open position. For maximum engine life, always warm up the engine before starting off. Never accelerate hard with a cold engine.

Starting a warm engine

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

CAUTION:

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



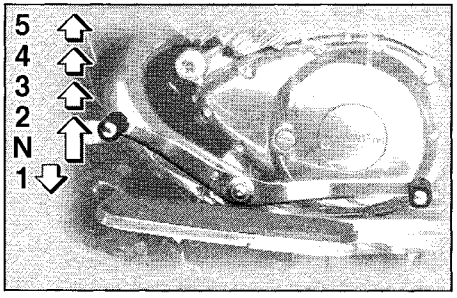
Shifting

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.

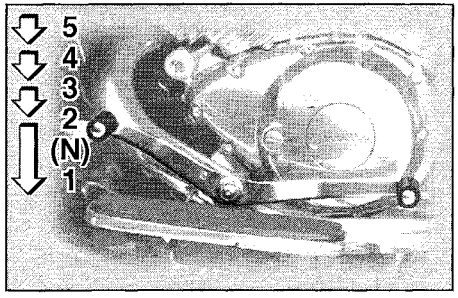
To shift into neutral, depress the shift pedal repeatedly until it reaches the end of its travel, then raise the pedal slightly.

CAUTION:

- **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.**
- **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.**



5. Shift into second gear. (Be careful not to shift into neutral.)
6. Open the throttle part way and gradually release the clutch lever.
7. Follow the same procedure when shifting to the next higher gear. Always shift gears at the recommended shift points.



To start out and accelerate

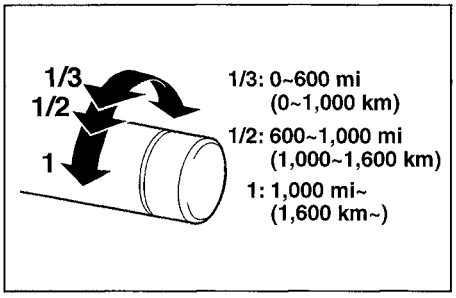
1. Pull the clutch lever to disengage the clutch.
2. Shift into first gear. The neutral indicator light should go out.
3. Open the throttle gradually, and at the same time, release the clutch lever slowly.
4. At the recommended shift points shown in the table on page 6-6, close the throttle, and at the same time, quickly pull in the clutch lever.

To decelerate

1. Apply both the front and the rear brakes at the same time to slow the motorcycle.
2. When the motorcycle reaches 16 mi/h (25 km/h), shift into first gear. Any time the engine is about to stall or runs very roughly, pull in the clutch and use the brakes to stop.
3. When the motorcycle is almost completely stopped, shift into neutral. The neutral indicator light should come on.

Recommended shift points

	Acceleration shift point mi/h (km/h)	Deceleration shift point mi/h (km/h)
1st → 2nd	13 (20)	16 (25)
2nd → 3rd	19 (30)	16 (25)
3rd → 4th	25 (40)	16 (25)
4th → 5th	31 (50)	16 (25)



Engine break-in

There is never a more important period in the life of your motorcycle than the period between zero and 1,000 mi (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 1,000 mi (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.

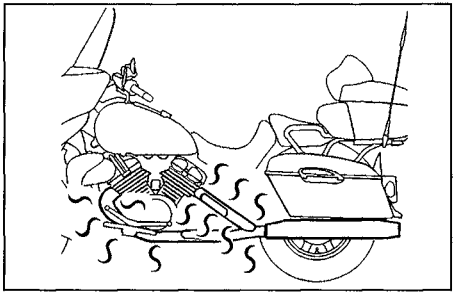
0 ~ 600 mi (0 ~ 1,000 km)
Avoid operation above 1/3 throttle.

600 ~ 1,000 mi (1,000 ~ 1,600 km)
Avoid cruising speeds in excess of 1/2 throttle.

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

1,000 mi (1,600 km) and beyond
Proceed with normal riding.

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



Parking

When parking the motorcycle, stop the engine and remove the ignition key. Turn the fuel cock to "OFF" whenever stopping the engine.

⚠ 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.

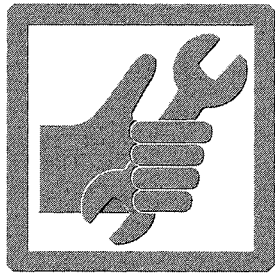
PERIODIC MAINTENANCE AND MINOR REPAIR

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

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

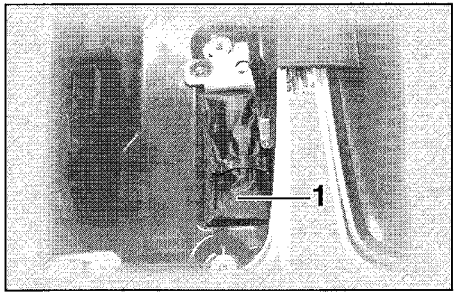
⚠ WARNING

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



PERIODIC MAINTENANCE

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



1. Owner's tool kit

Tool kit

The tool kit is located inside the right saddlebag. 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.

⚠ WARNING

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

PERIODIC MAINTENANCE CHART FOR EMISSION CONTROL SYSTEM

No.		ITEM	ROUTINE	INITIAL	ODOMETER READINGS				
				600 mi (1,000 km) or 1 month	4,000 mi (7,000 km) or 6 months	8,000 mi (13,000 km) or 12 months	12,000 mi (19,000 km) or 18 months	16,000 mi (25,000 km) or 24 months	20,000 mi (31,000 km) or 30 months
1	*	**Valve clearance**	• Check and adjust valve clearance when engine is cold.	**Every 28,000 mi (43,000 km)**					
2		**Spark plug**	• Check condition. • Adjust gap and clean. • Replace at 8,000 mi (13,000 km) or 12 months and thereafter every 8,000 mi (13,000 km) or 12 months.		√	**Replace**	√	**Replace**	√
3	*	**Crankcase ventilation system**	• Check ventilation hose for cracks or damage. • Replace if necessary.		√	√	√	√	√
4	*	**Fuel line**	• Check fuel hose for cracks or damage. • Replace if necessary.		√	√	√	√	√
5	*	**Fuel filter**	• Replace initial 20,000 mi (31,000 km) or 30 months and thereafter every 20,000 mi (31,000 km) or 30 months.						**Replace**
6	*	**Exhaust system**	• Check for leakage. • Retighten if necessary. • Replace gasket(s) if necessary.		√	√	√	√	√
7	*	**Carburetor synchronization**	• Adjust synchronization of carburetors.	√	√	√	√	√	√
8	*	**Idle speed**	• Check and adjust engine idle speed. • Adjust cable free play.	√	√	√	√	√	√
9	*	**Evaporative Emission control system (For California only)**	• Check control system for damage. • Replace if necessary.				√		√

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

GENERAL MAINTENANCE AND LUBRICATION CHART

No.		ITEM	ROUTINE	TYPE	INITIAL	ODOMETER READINGS				
					600 mi (1,000 km) or 1 month	4,000 mi (7,000 km) or 6 months	8,000 mi (13,000 km) or 12 months	12,000 mi (19,000 km) or 18 months	16,000 mi (25,000 km) or 24 months	20,000 mi (31,000 km) or 30 months
1		**Engine oil**	• Replace	See page 9-1.	√		√		√	
2	*	**Oil filter**	• Replace	-	√		√		√	
3	*	**Air filter (See NOTE page 7-6.)**	• Clean with compressed air. • Replace if necessary.	-		√	√	√	√	√
4	*	**Cooling system**	• Check hoses for cracks or damage, replace if necessary.	-		√	√	√	√	√
			• Replace coolant every 24 months.	Ethylene glycol antifreeze coolant					**Replace**	
5	*	**Brake system (See NOTE page 7-6.)**	• Adjust free play. • Check and replace pads if necessary.	-	√	√	√	√	**Replace brake fluid**	√
6	*	**Clutch**	• Check operation and fluid leakage. (See NOTE page 7-6.) • Correct if necessary.	-	√	√	√	√	√	√
7	*	**Final gear oil**	• Check vehicle for leakage. • Replace every 16,000 mi (25,000 km) or 24 months.	SAE 80 API "GL-4" hypoid gear oil	**Replace**		**Check**		**Replace**	
8	*	**Control cable**	• Apply chain lube thoroughly.	Yamaha chain and cable lube or SAE 10W30 motor oil	√	√	√	√	√	√
9	*	**Rear arm pivot bearing**	• Check bearing assembly for looseness. • Moderately repack every 16,000 mi (25,000 km) or 24 months.	Medium weight wheel bearing grease			√		**Repack**	

No.		ITEM	ROUTINE	TYPE	INITIAL	ODOMETER READINGS				
					600 mi (1,000 km) or 1 month	4,000 mi (7,000 km) or 6 months	8,000 mi (13,000 km) or 12 months	12,000 mi (19,000 km) or 18 months	16,000 mi (25,000 km) or 24 months	20,000 mi (31,000 km) or 30 months
10		**Brake/ Clutch lever pivot shaft**	• Apply chain lube lightly.	Yamaha chain and cable lube or SAE 10W30 motor oil		√	√	√	√	√
11		**Brake pedal and shift pedal shaft**	• Lubricate • Apply chain lube lightly.	Yamaha chain and cable lube or SAE 10W30 motor oil		√	√	√	√	√
12	*	**Sidestand pivot**	• Check operation and lubricate. • Apply chain lube lightly.	Yamaha chain and cable lube or SAE 10W30 motor oil		√	√	√	√	√
13	*	**Sidestand switch**	• Check and clean or replace if necessary.	-	√	√	√	√	√	√
14	*	**Front fork**	• Check operation and for leakage.	-		√	√	√	√	√
15	*	**Steering bearings**	• Check bearing assembly for looseness. • Moderately repack every 16,000 mi (25,000 km) or 24 months.	Medium weight wheel bearing grease.		√	√	√	**Repack**	√
16	*	**Wheel bearings**	• Check bearings for smooth rotation.	-		√	√	√	√	√
17	*	**Rear suspension link pivots**	• Apply grease lightly.	Molybdenum disulfide grease					√	

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

NOTE:

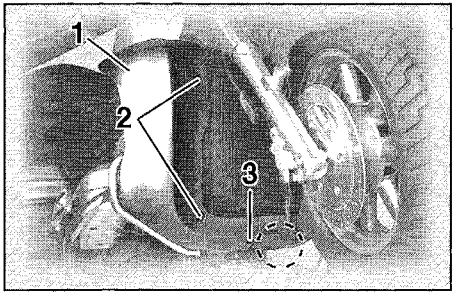
For odometer readings or time periods higher than 20,000 mi (31,000 km) or 30 months, repeat the same maintenance as listed in the chart from the 4,000 mi (7,000 km) or 6 month interval.

NOTE:

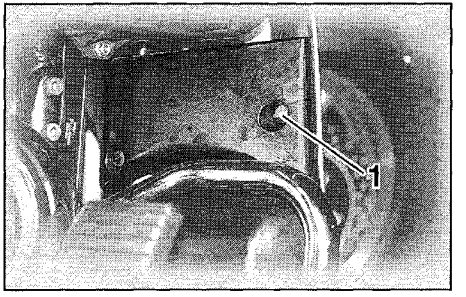
- The air filter needs more frequent service if you are riding in unusually wet or dusty areas.
- Hydraulic brake and clutch systems
  - After disassembling the master cylinder, caliper or clutch release cylinder, always replace the brake fluid. Check the brake fluid level of the master cylinder and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

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. Cowling A
2. Screw (× 2)
3. Quick fastener

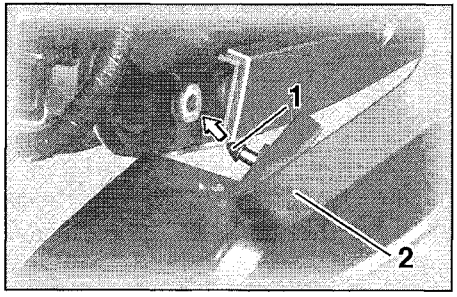


1. Screw

Cowling A

To remove

Remove the cowling screws and the quick fastener. Then, pull outward on the area shown.



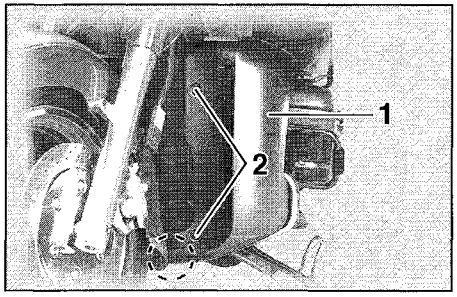
1. Projection
2. Cowling A

To install

1. Place the cowling in the original position.

NOTE:
Be sure to insert the projection into the grommet.

2. Install the screws and the quick fastener.

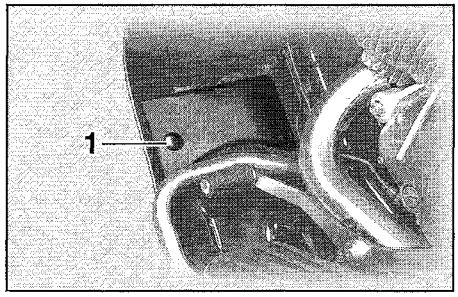


1. Cowling B
2. Screw (× 2)

Cowling B

To remove

1. Remove cowling A.
2. Remove the screws. Then, pull outward on the area shown.



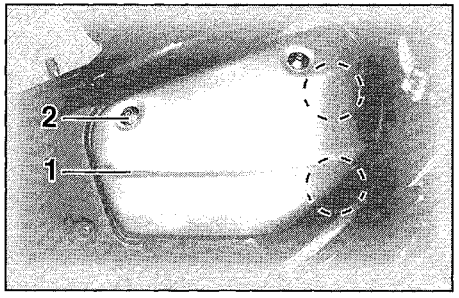
1. Screw

To install

1. Place the cowling in the original position.

NOTE:
Be sure to insert the projection into the grommet.

2. Install the screws.
3. Install cowling A.

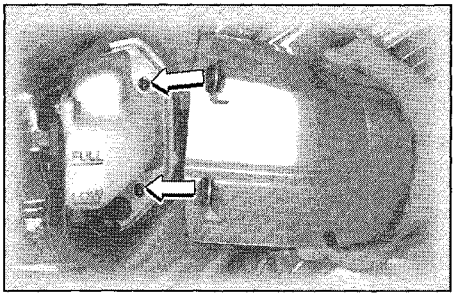


1. Panel C
2. Screw

Panel C

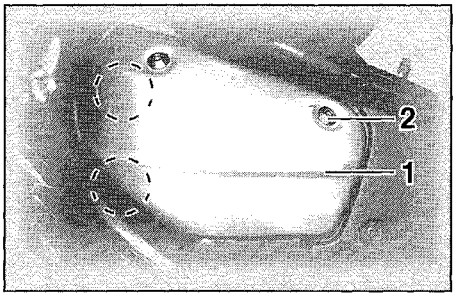
To remove

Remove the screw and pull outward on the areas shown.



To install

Place the panel in the original position and install the screw.

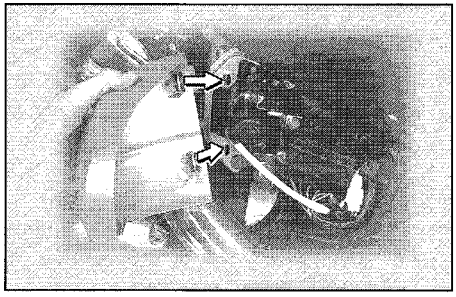


1. Panel D
2. Screw

Panel D

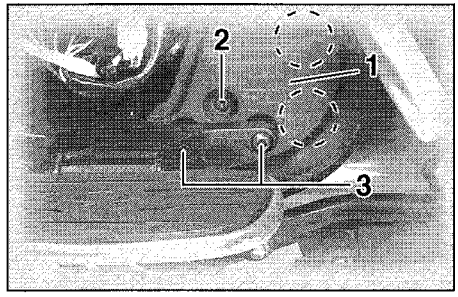
To remove

Remove the screw and pull outward on the areas shown.



To install

Place the panel in the original position and install the screw.

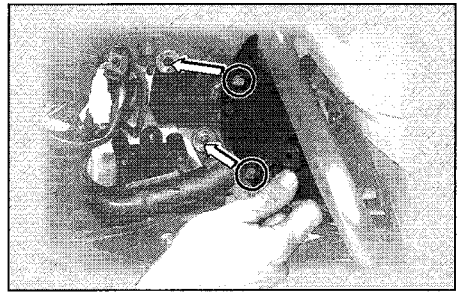


1. Panel E
2. Screw
3. Bolt (× 2)

Panel E

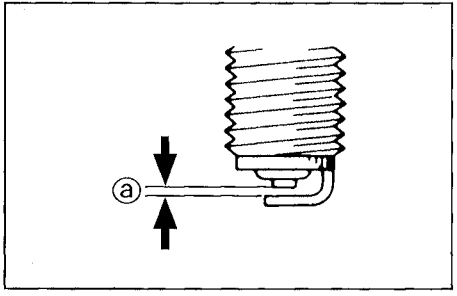
To remove

1. Remove the left passenger footrest by removing the bolts.
2. Remove the screw and pull outward on the areas shown.



To install

1. Place the panel in the original position and install the screw.
2. Install the passenger footrest and tighten the bolts.



a. Spark plug gap

Spark plug inspection

The spark plug is an important engine component and should be inspected periodically, preferably by a Yamaha dealer. 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. The spark plugs should be periodically removed and inspected 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, the spark plug should be replaced with the specified plug.

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

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

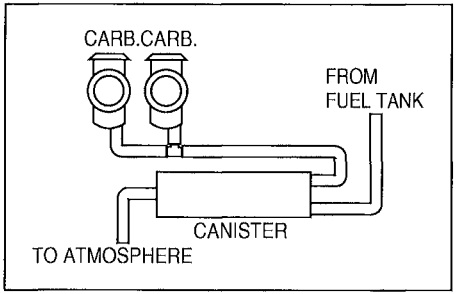
Spark plug gap:
0.03 ~ 0.04 in (0.8 ~ 0.9 mm)

When installing a spark plug, the gasket surface should always be cleaned and a new gasket used. Any grime should be wiped off from the threads and the spark plug tightened to the specified torque.

Tightening torque:
Spark plug:
12.5 ft·lb (1.75 m·kg, 17.5 Nm)

NOTE:

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



Canister (for California only)

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

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

Engine oil

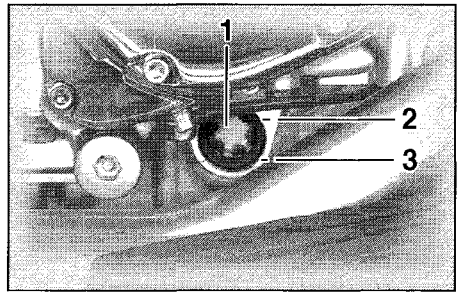
Oil level inspection

1. 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.

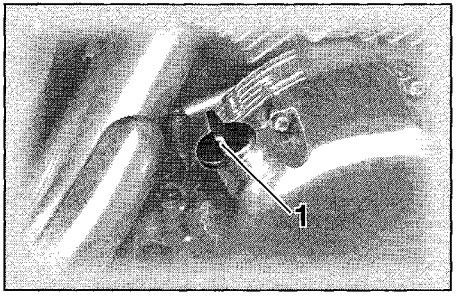
2. Stop the engine and wait for a few minutes. Check the oil level through the level window located at the lower part of the right side crankcase cover.

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

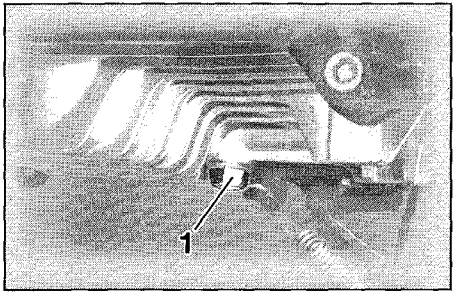


1. Engine oil level window
2. Maximum level mark
3. Minimum level mark

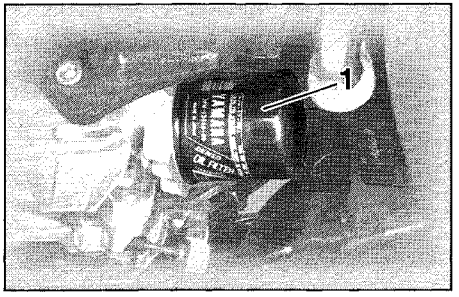
3. The oil level should be between the maximum and minimum marks. If the level is low, fill the engine with sufficient recommended oil to reach the specified level.



1. Engine oil filler cap



1. Engine oil drain bolt



1. Engine oil filter cartridge

Engine oil and oil filter cartridge replacement

1. Warm up the engine for several minutes.
2. Stop the engine. Place an oil pan under the engine and remove the oil filler cap.
3. Remove the drain bolt and drain the oil.
4. Remove the oil filter by using an oil filter wrench.

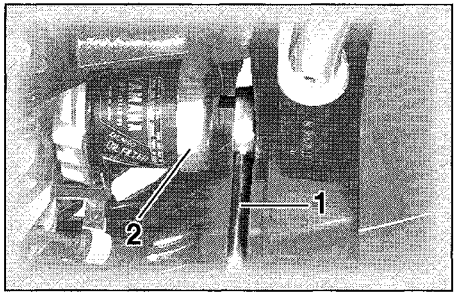
NOTE:
An oil filter wrench is available at a nearby Yamaha dealer.

5. Reinstall the drain bolt and tighten it to the specified torque.

Tightening torque:
Drain bolt:
31 ft·lb (4.3 m·kg, 43 Nm)

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

NOTE:
Make sure the O-ring is seated properly.



1. Torque wrench
2. Oil filter wrench

7. Install the new 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:
12 ft·lb (1.7 m·kg, 17 Nm)

8. Fill the engine with sufficient recommended oil. Install the oil filler cap and tighten it.

Recommended oil:
See page 9-1.
Oil quantity:
Total amount:
4.6 US qt (3.8 Imp qt, 4.3 L)
Periodic oil change:
3.7 US qt (3.1 Imp qt, 3.5 L)
With oil filter replacement:
3.9 US qt (3.3 Imp qt, 3.7 L)

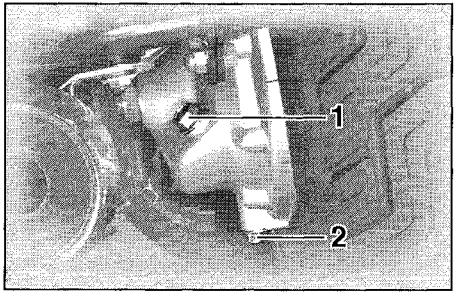
CAUTION:

- **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.**

9. 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.

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

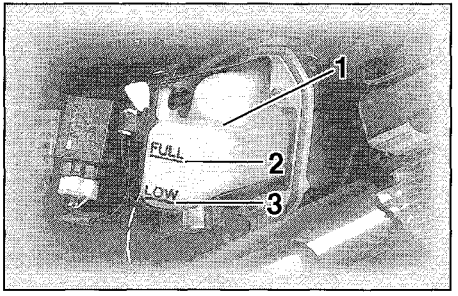
CAUTION:
If the indicator light flickers or remains on, immediately stop the engine and consult with a Yamaha dealer.



1. Final gear oil filler bolt
2. Final gear oil drain bolt

Final gear oil

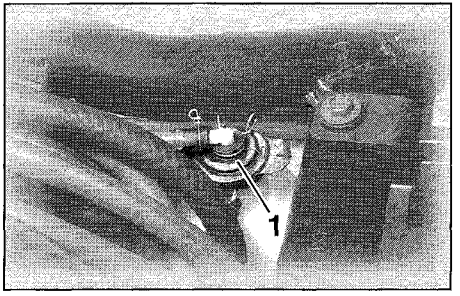
Check for oil leakage. If any leakage is found, take the motorcycle to a Yamaha dealer for repairs.



1. Reservoir tank
2. Maximum level mark
3. Minimum level mark

Coolant

1. Remove panel C. (See page 7-9 for removal and installation procedures.)
2. Check the coolant level in the reservoir tank when the engine is cold as the coolant level will vary with engine temperature. The coolant level should be between the maximum and minimum marks.



1. Coolant reservoir tank cap

3. If the level is low, remove the rider seat, open the reservoir tank cap, and add coolant or distilled water to the specified level. (See page 3-13 for rider seat removal and installation procedures.)
4. Install the reservoir tank cap and rider seat.
5. Install the panel.

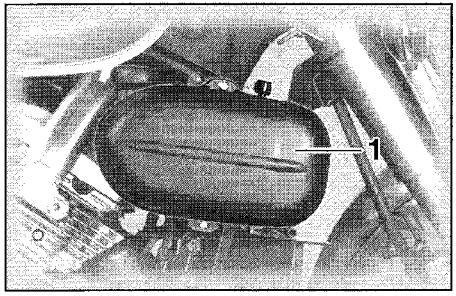
Reservoir tank capacity:
0.89 US qt (0.74 Imp qt, 0.84 L)

CAUTION:

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

NOTE:

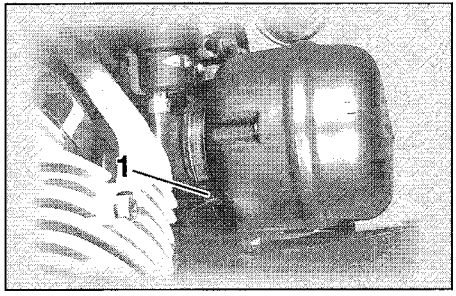
- If water is added, have a Yamaha dealer check the antifreeze content of the coolant as soon as possible.
- Have a Yamaha dealer change the coolant every two years.
- The radiator fan operation is completely automatic. It is switched on or off according to the coolant temperature in the radiator.



1. Air filter case

Air filters

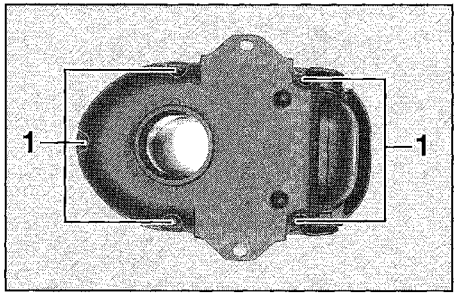
1. Remove cowlings A and B. (See pages 7-7 and 7-8 for removal and installation procedures.)



1. Carburetor intake joint clamp screw

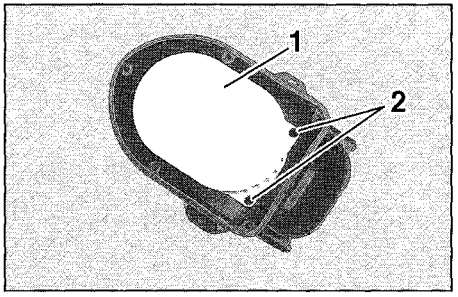
For each air filter:

2. Loosen the carburetor intake joint clamp screw and pull off the air filter.



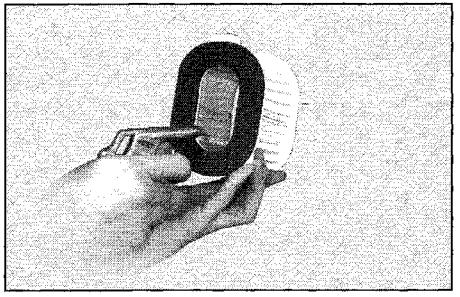
1. Air filter case bolt (× 5)

3. Remove the air filter case cover by removing the bolts.



1. Air filter element
2. Air filter element screw (× 2)

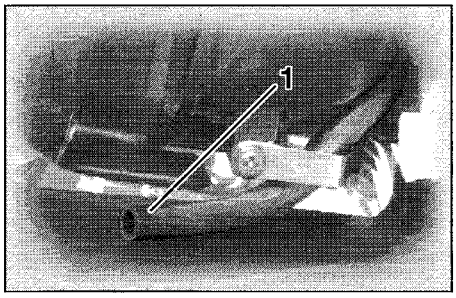
4. Remove the air filter element by removing the screws.



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

CAUTION:

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



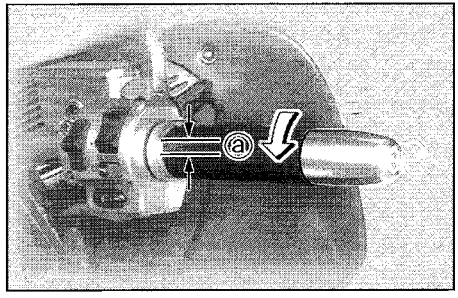
1. Air filter case drain hose

6. Fit the projection on the air filter element into the holder in the air filter case, and then tighten the screws.
7. Install the air filter case cover and tighten the bolts.
8. Insert the air filter case into the carburetor intake joint and tighten the clamp screw.
9. Install the cowlings.

NOTE:
Be sure to position the air filter case drain hose as shown.

Carburetor adjustment

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



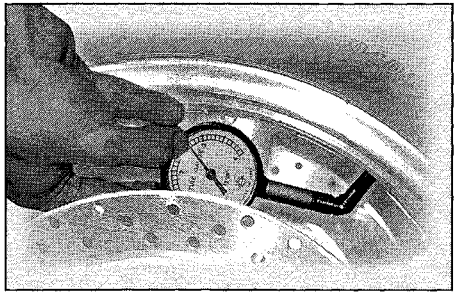
a. Free play

Throttle cable free play inspection

There should be a free play of 0.16 ~ 0.24 in (4 ~ 6 mm) at the throttle grip. If the free play is incorrect, ask a Yamaha dealer to make this adjustment.

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.



Tires

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

Tire air pressure

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

⚠ WARNING

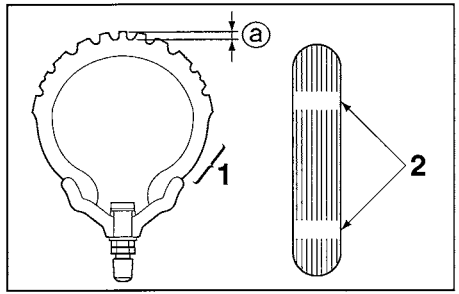
Tire inflation pressure should be checked and adjusted when the temperature of the tire equals the ambient air temperature. Tire inflation pressure must be adjusted according to total weight of cargo, rider, passenger, and accessories (fairing, saddlebags, etc.).

Maximum load*	419 lb (190 kg)	
Cold tire pressure	Front	Rear
Up to 198 lb (90 kg) load*	36 psi (2.50 kgf/cm^2, 250 kPa)	36 psi (2.50 kgf/cm^2, 250 kPa)
198 lb (90 kg) load ~ Maximum load*	36 psi (2.50 kgf/cm^2, 250 kPa)	41 psi (2.80 kgf/cm^2, 280 kPa)

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

⚠ WARNING

Proper loading of your motorcycle is important for several characteristics of your motorcycle, such as handling, braking, performance and safety. Do not carry loosely packed items that can shift. Securely pack your heaviest items close to the center of the motorcycle, and distribute the weight evenly from side to side. Properly adjust the suspension for your load, and check the condition and pressure of your tires. NEVER OVERLOAD YOUR MOTORCYCLE. Make sure the total weight of the cargo, rider, passenger, and accessories (fairing, saddlebags, etc. if approved for this model) does not exceed the maximum load of the motorcycle. Operation of an overloaded motorcycle could cause tire damage, an accident, or even injury.



1. Sidewall
2. Wear indicator

a. Tread depth

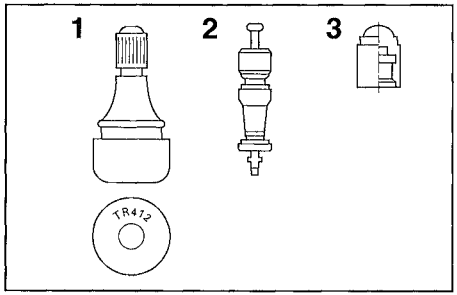
Tire inspection

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.

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

⚠ WARNING

It is dangerous to ride with a worn-out tire. When a tire tread begins to show lines, have a Yamaha dealer replace the tire immediately. Brakes, tires and related wheel parts replacement should also be left to a Yamaha dealer.



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

Tire information

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

⚠ WARNING

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

FRONT

Manufacturer	Size	Type
Dunlop	150/80-16 71H	D404F
Bridgestone	150/80-16 71H	G705

	Type
Tire valve	TR412
Valve core	#9000A

REAR

Manufacturer	Size	Type
Dunlop	150/90B15M/C 74H	D404
Bridgestone	150/90B15M/C 74H	G702

	Type
Tire valve	PVR59A
Valve core	#9000

Wheels

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

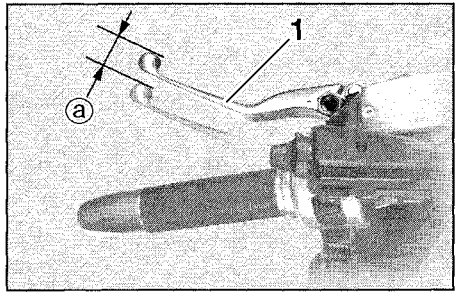
- Always inspect the wheels before a ride. Check for cracks, bends or warpage of the wheels. If any abnormal condition exists in a wheel, consult a Yamaha dealer. Do not attempt even small repairs to the wheel. If a wheel is deformed or cracked, it must be replaced.
- Tires and wheels should be balanced 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.
- Ride at moderate speeds after changing a tire since the tire surface must first be broken in for it to develop its optimal characteristics.
- After repairing or replacing the rear tire, tighten the valve stem nut and locknut to the specified torque.

Tightening torque:
Valve stem nut:
1.16 ft·lb (0.16 m·kg, 1.6 Nm)
Valve stem locknut:
1.16 ft·lb (0.16 m·kg, 1.6 Nm)

Accessories or replacement parts

⚠ WARNING

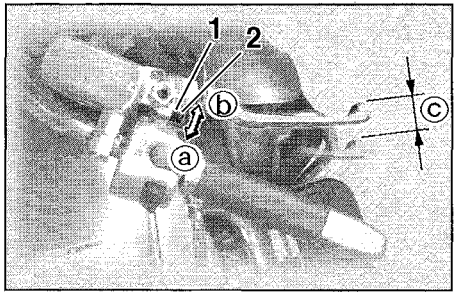
This motorcycle is not designed to pull a trailer or to be attached to a sidecar. The accessories or replacement parts you choose for your motorcycle should be designed specifically for it, and they must be securely mounted to maintain the inherent stability of the original design. Genuine Yamaha Parts and Accessories are designed and tested to be compatible with your motorcycle. Please consider Genuine Yamaha Parts and Accessories before making an accessory purchase. Use of non-Yamaha-approved parts or accessories may cause loss of handling stability and riding safety. Since Yamaha cannot control the quality of parts or accessories manufactured by other companies, Yamaha cannot be held liable for any consequences caused by the use of items which have not been approved by Yamaha.



1. Clutch lever
a. Free play

Clutch lever free play adjustment

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



1. Locknut
2. Adjusting bolt
c. Free play

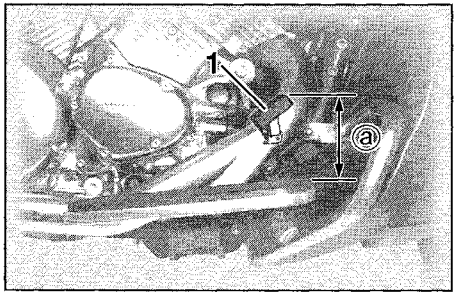
Front brake lever free play adjustment

The free play at the front brake lever should be 0.08 ~ 0.2 in (2 ~ 5 mm).

1. Loosen the locknut.
2. Turn the adjusting bolt in direction ⓐ to increase free play or in direction ⓑ to decrease free play.
3. After adjusting, tighten the locknut.

⚠ WARNING

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



1. Rear brake pedal
a. Brake pedal height

Rear brake pedal height adjustment

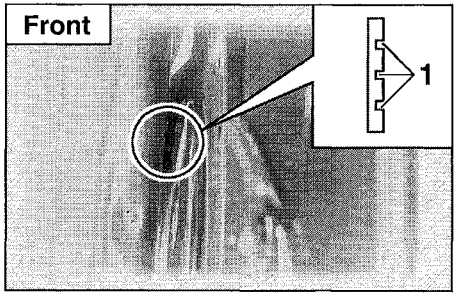
The top of the brake pedal should be positioned 3.9 in (100 mm) above the top of the footrest. If not, ask a Yamaha dealer to adjust it.

⚠ WARNING

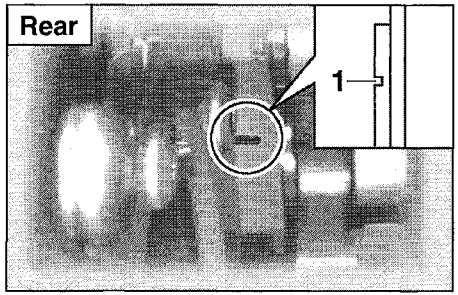
A soft or spongy feeling in the brake pedal can indicate the presence of air in the brake system. This air must be removed by bleeding the brake system before the motorcycle is operated. Air in the system will cause greatly diminished braking capability and can result in loss of control and an accident.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

Brake light switch adjustment

The 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. Since the brake light switch is a component of the cruise control system, adjustment should be made by a Yamaha dealer.



1. Wear indicator groove (× 3)



1. Wear indicator groove

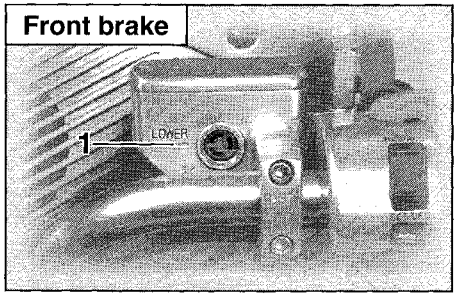
Checking the front and rear brake pads

Front brake

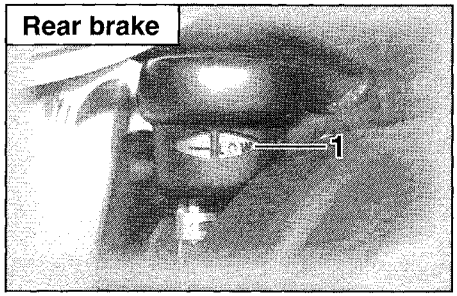
Wear indicator grooves are provided on each brake pad. These indicators allow checking of brake pad wear without disassembling the brake. Inspect the grooves. If they have almost disappeared, ask a Yamaha dealer to replace the pads.

Rear brake

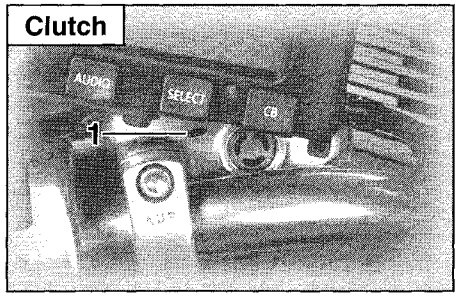
A wear indicator groove is provided on each brake pad. This indicator allows checking of brake pad wear without disassembling the brake. Inspect the groove. If the groove has almost disappeared, ask a Yamaha dealer to replace the pads.



1. Minimum level mark



1. Minimum level mark



1. Minimum level mark

Inspecting the brake fluid level

Insufficient brake fluid may let air enter the brake or clutch system, possibly causing them to become ineffective.
Before riding, check that the brake fluid is above the minimum level and fill when necessary. Low brake fluid levels may indicate worn brake pads and/or brake system leakage. If the brake level is low, be sure to inspect the brake pads for wear or brake system for leakage.
Observe these precautions:

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

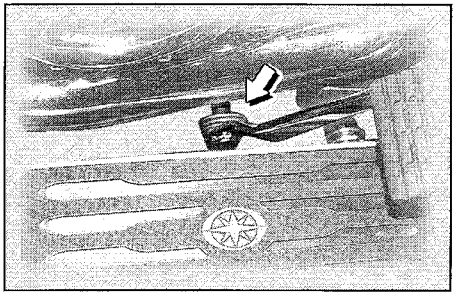
Recommended brake fluid: DOT 4

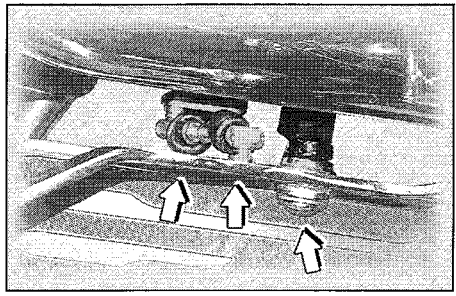
- Refill with the same type of brake fluid. Mixing fluids may result in a harmful chemical reaction and lead to poor brake or clutch performance.
- Be careful that water does not enter the master cylinder when refilling. Water will significantly lower the boiling point of the fluid and may result in vapor lock.
- Brake fluid may deteriorate painted surfaces or plastic parts. Always clean up spilled fluid immediately.
- Have a Yamaha dealer check the cause if the brake fluid level goes down.

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:

- oil seals (every two years)
- brake hoses (every four years)

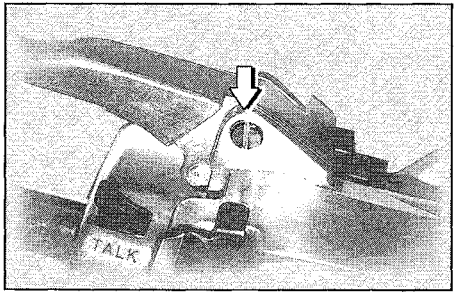




Brake and shift pedal lubrication

Lubricate the pivoting parts.

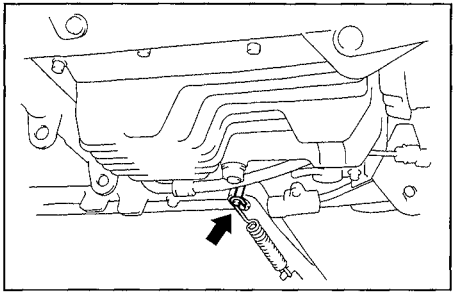
Recommended lubricant:
Yamaha Chain and Cable Lube or SAE 10W30 motor oil



Brake and clutch lever lubrication

Lubricate the pivoting parts.

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



Sidestand lubrication

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

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

⚠ WARNING

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

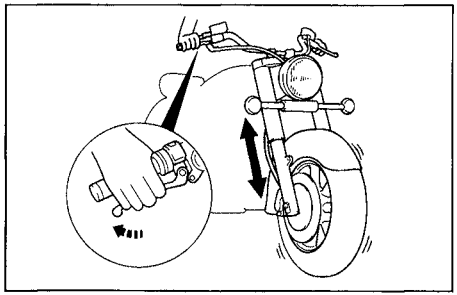
Front fork inspection

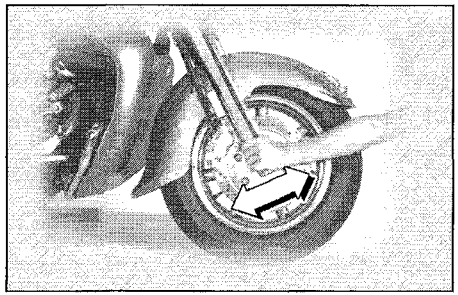
Visual check

⚠ WARNING

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

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





Operation check

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

CAUTION:

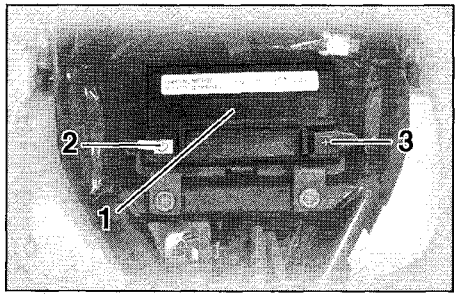
If any damage or unsmooth movement is found with the front fork, consult a Yamaha dealer.

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.

⚠ WARNING

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



1. Battery
2. Negative terminal
3. Positive terminal

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.

CAUTION:

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

⚠ WARNING

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

ANTIDOTE:

- **EXTERNAL: Flush with water.**
- **INTERNAL: Drink large quantities of water or milk. Follow with milk of magnesia, beaten egg, or vegetable oil. Call a physician immediately.**
- **EYES: Flush with water for 15 minutes and get prompt medical attention.**

Batteries produce explosive gases. Keep sparks, flame, cigarettes etc., away. Ventilate when charging or using in an enclosed space. Always shield your eyes when working near batteries.

KEEP OUT OF REACH OF CHILDREN.

Battery storage

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

CAUTION:

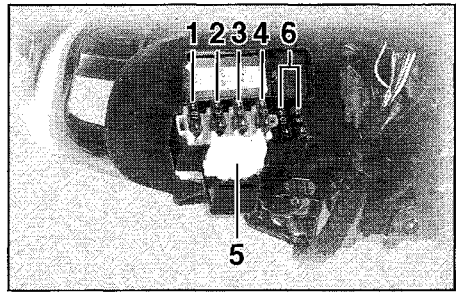
- **Completely recharge the battery before storing. Storing a discharged battery can cause permanent battery damage.**
- **Use a battery charger designed for a sealed-type (MF) battery. Using a conventional battery charger will cause battery damage. If you do not have a sealed-type battery charger, contact your Yamaha dealer.**
- **Always make sure the connections are correct when reinstalling the battery.**

Fuse replacement

If a fuse is blown, turn off the main switch and the switch of the circuit in question. Install a new fuse of proper amperage. Turn on the switches and see if the electrical device operates. If the fuse immediately blows again, consult a Yamaha dealer.

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.

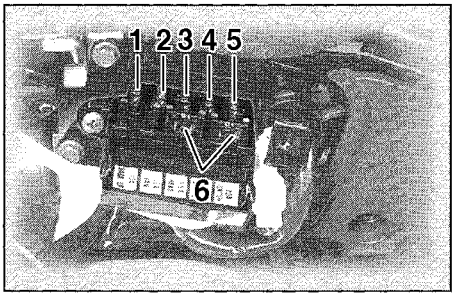


1. Cruise control fuse
2. Carburetor heater fuse
3. Auxiliary DC terminal fuse
4. Auxiliary DC jack fuse
5. Audio system fuse
6. Spare fuse (× 2)

Fuse box A

Fuse box A is located behind cowling A. (See page 7-7 for removal and installation procedures.)

Specified fuses:	
Cruise control fuse:	10 A
Carburetor heater fuse:	10 A
Auxiliary DC terminal fuse:	5 A
Auxiliary DC jack fuse:	5 A
Audio system fuse:	10 A

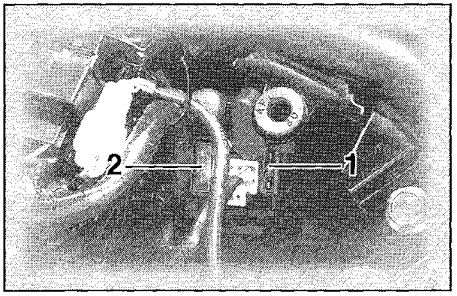


1. Ignition fuse
2. Signaling system fuse
3. Headlight fuse
4. Radiator fan fuse
5. Odometer fuse
6. Spare fuse (× 2)

Fuse box B

Fuse box B is located behind panel D. (See page 7-9 for removal and installation procedures.)

Specified fuses:	
Ignition fuse:	10 A
Signaling system fuse:	15 A
Headlight fuse:	15 A
Radiator fan fuse:	10 A
Odometer fuse:	10 A

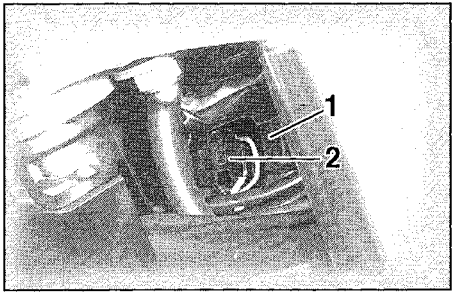


1. Main fuse
2. Spare fuse

Main fuse box

The main fuse box is located behind panel E. (See page 7-10 for removal and installation procedures.)

Specified main fuse:	30 A

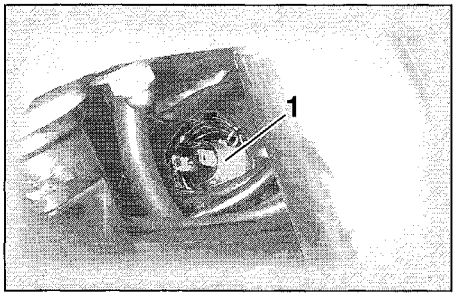


1. Bulb holder cover
2. Headlight connector

Headlight bulb replacement

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

1. Disconnect the headlight connector and remove the bulb holder cover.



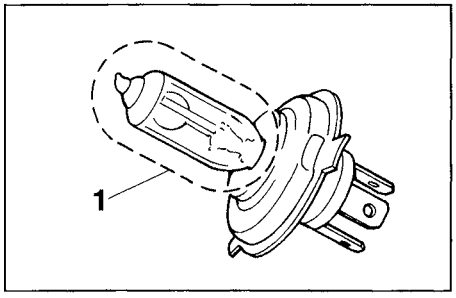
1. Bulb holder

2. Turn the bulb holder counterclockwise to remove it and remove the defective bulb.

⚠ WARNING

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

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



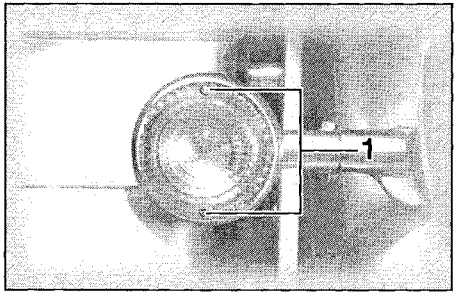
1. Don't touch

CAUTION:

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

4. Install the bulb holder cover and connect the headlight connector.

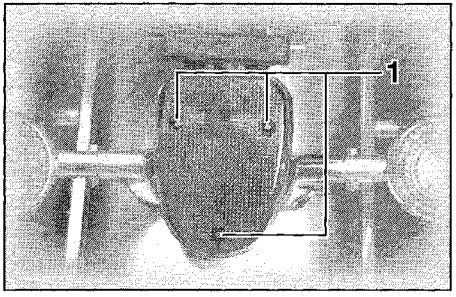
If the headlight beam adjustment is necessary, ask a Yamaha dealer to make that adjustment.



1. Screw (× 2)

Turn signal and tail/brake light bulb replacement

1. Remove the screws and the lens.
2. Push the bulb inward and turn it counterclockwise.



1. Screw (× 3)

3. Place a new bulb in the socket. Push the bulb inward and turn it clockwise until it engages into the socket.
4. Install the lens and the screws.

CAUTION:

Do not over-tighten the screws as the lens may break.

Troubleshooting

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

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

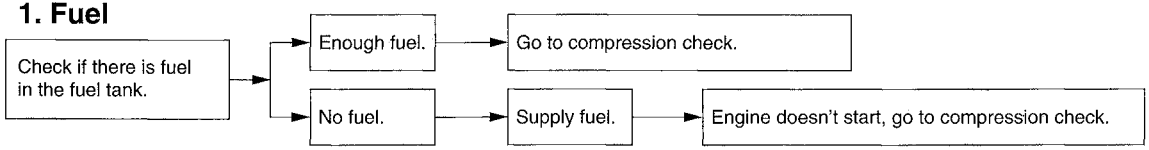
If your motorcycle requires any repair, bring it to a Yamaha dealer. The skilled technicians at a Yamaha dealership have the tools, experience, and know-how to properly service your motorcycle. Use only genuine Yamaha parts on your motorcycle. Imitation parts may look like Yamaha parts, but they are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

Troubleshooting charts

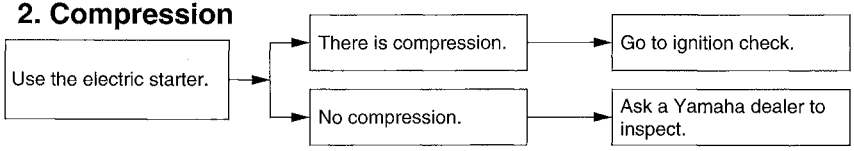
⚠ WARNING

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

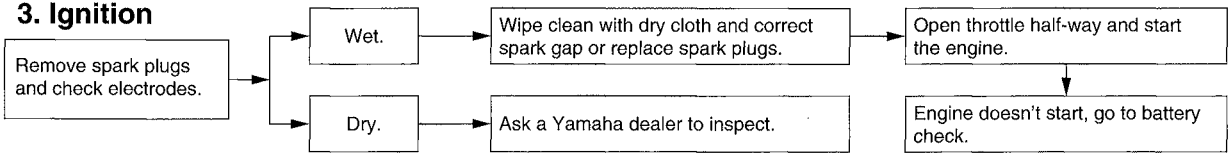
1. Fuel



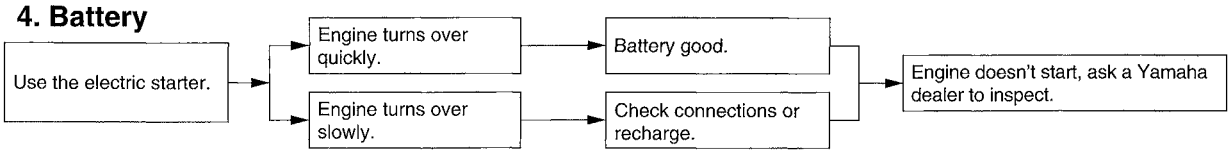
2. Compression



3. Ignition



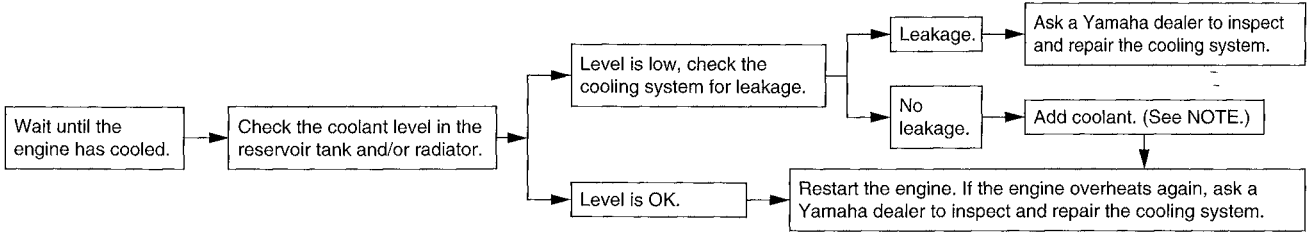
4. Battery



Engine overheating

⚠ WARNING

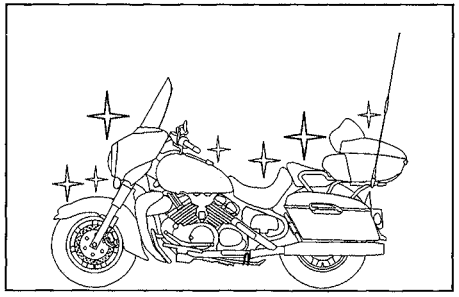
Do not remove the radiator cap when the engine and radiator are hot. Scalding hot fluid and steam may be blown out under pressure, which could cause serious injury. Open the radiator cap as follows. Wait until the engine has cooled. Remove the radiator cap stopper by removing the screw. Place a thick 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.

CLEANING AND STORAGE



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.

CAUTION:

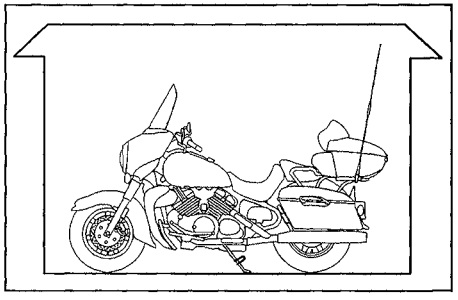
- **Improper cleaning can damage the windshield, cowlings, panels and other plastic parts. Use only a soft, clean cloth or sponge with mild detergent and water to clean plastic. If the windshield is scratched, use a quality plastic polishing compound after washing.**
- **Do not use any harsh chemical 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 pipes to prevent water entry; a plastic bag and strong rubber band may be used.
   b. Make sure the spark plugs and all filler caps are properly installed.
2. If the engine case is excessively greasy, apply Yamaha Mud and Grease Release or other quality degreaser with a paint brush. Do not apply degreaser to wheel axles.
3. Rinse the dirt and degreaser off with a garden hose. Use only enough pressure to do the job.

CAUTION:

- **Excessive hose pressure may cause water seepage and deterioration of wheel bearings, front fork, brakes, transmission seals, audio system, speakers, saddlebags, travel trunk and electrical parts.**
- **Many expensive repair bills have resulted from improper high pressure detergent applications such as those available in coin-operated car washers.**

4. Once the majority of the dirt has been hosed off, wash all surfaces with warm water and mild, detergent-type soap. An old toothbrush or bottle brush is handy for hard-to-get-at places.
5. Rinse the motorcycle off immediately with clean water and dry all surfaces with a chamois, clean towel, or soft absorbent cloth.
6. Clean the seat with Yamaha Protectant or an equivalent vinyl upholstery cleaner to keep the cover pliable and glossy.
7. Windshield cleaning
   Avoid using any alkaline or strong acid cleaner, gasoline, brake fluid, or any other solvent. Clean the windshield with a cloth or sponge dampened with a neutral detergent, and after cleaning, thoroughly wash it off with water. For additional cleaning, use Yamaha Windshield Cleaner or other quality cleaner. Some cleaning compounds for plastics may leave scratches on surfaces of the windshield. Before using them, make a test by polishing an area which does not affect your visibility.
8. Apply Yamaha Silicone Wax or other automotive-type wax on all painted and chrome-plated surfaces. Avoid combination cleaner-waxes. Many contain abrasives which may mar the paint or protective finish. When finished, start the engine and let it idle for several minutes.



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. Top off the fuel tank with fresh fuel and add one ounce of Yamaha Fuel Conditioner and Stabilizer or an equivalent stabilizer to each gallon of fuel. Run the engine for several minutes to insure the newly conditioned fuel enters the entire fuel system and carburetors.

NOTE:

Use of Yamaha Fuel Conditioner and Stabilizer eliminates the need to drain the fuel system. Consult your Yamaha dealer if the fuel system is to be drained instead.

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

⚠ WARNING

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

3. Lubricate all control cables.

NOTE:

Use a Yamaha Power Cable Luber and Yamaha Lube Zall or equivalent to pressure lubricate the cables and purge out any moisture between the inner and outer cables.

4. Block up the frame to raise both wheels off the ground.
5. Tie a plastic bag over the exhaust pipe outlets to prevent moisture from entering.
6. If storing in a humid or salt-air atmosphere, coat all exposed metal surfaces with a light film of oil. Do not apply oil to any rubber parts or the seat cover.

7. Remove the battery and 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 30 °F (0 °C) or more than 90 °F (30 °C)]. See page 7-32 for battery storage precautions.

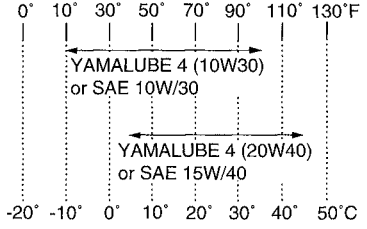
NOTE:
Make any necessary repairs before storing the motorcycle.

Specifications

Model	**XVZ13TF(C)/XVZ13TFL(C)**
Dimensions	
Overall length	104.5 in (2,655 mm)
Overall width	35.4 in (900 mm)
Overall height	61.6 in (1,565 mm)
Seat height	29.5 in (750 mm)
Wheelbase	67.1 in (1,705 mm)
Minimum ground clearance	6.1 in (155 mm)
Minimum turning radius	137.8 in (3,500 mm)
Basic weight (with oil and full fuel tank)	869 lb (394 kg)
Engine	
Engine type	Liquid cooled 4-stroke, DOHC
Cylinder arrangement	V-type 4-cylinder
Displacement	1,294 cm^3
Bore × stroke	3.11 × 2.60 in (79 × 66 mm)
Compression ratio	10:1
Starting system	Electric starter
Lubrication system	Wet sump

Engine oil

Type



Recommended engine oil classification	API Service SE, SF, SG type or higher

CAUTION:

Be sure to use motor oils that do not contain anti-friction modifiers. Passenger car motor oils (often labeled "Energy Conserving") contain anti-friction additives which will cause clutch and/or starter clutch slippage, resulting in reduced component life and poor engine performance.

Quantity

Periodic oil change	3.7 US qt (3.1 Imp qt, 3.5 L)
With oil filter replacement	3.9 US qt (3.3 Imp qt, 3.7 L)
Total amount	4.6 US qt (3.8 Imp qt, 4.3 L)

Final gear oil	
Type	SAE80API "GL-4" Hypoid Gear Oil
Quantity	0.21 US qt (0.18 Imp qt, 0.2 L)
Cooling system capacity (total amount)	3.7 US qt (3.1 Imp qt, 3.5 L)
Air filter	Dry type element
Fuel	
Type	Unleaded fuel
Fuel tank capacity	5.9 US gal (5.0 Imp gal, 22.5 L)
Reserve amount	0.9 US gal (0.8 Imp gal, 3.5 L)
Carburetor	
Type × quantity	BDSR32 × 4
Manufacturer	MIKUNI
Spark plug	
Manufacturer/Type	NGK / DPR8EA-9 or DENSO / X24EPR-U9
Gap	0.03 ~0.04 in (0.8 ~ 0.9 mm)
Clutch type	Wet, multiple-disc
Transmission	
Primary reduction system	Spur gear
Primary reduction ratio	1.776
Secondary reduction system	Shaft drive
Secondary reduction ratio	2.567
Transmission type	Constant mesh 5-speed
Operation	Left foot operation
Gear ratio	
1st	2.529
2nd	1.632
3rd	1.200
4th	0.960
5th	0.786
Chassis	
Frame type	Double cradle
Caster angle	29°10′
Trail	5.98 in (152 mm)
Tire	
Front	
Type	Tubeless
Size	150/80-16 71H
Manufacturer / model	Dunlop / D404F
	Bridgestone / G705
Rear	
Type	Tubeless
Size	150/90B15M/C 74H
Manufacturer / model	Dunlop / D404
	Bridgestone / G702

Maximum load*	419 lb (190 kg)
Air pressure (cold tire)	
Up to 198 lb (90 kg) load*	
Front	36 psi (2.50 kgf/cm^2, 250 kPa)
Rear	36 psi (2.50 kgf/cm^2, 250 kPa)
198 lb (90 kg) load ~ maximum load*	
Front	36 psi (2.50 kgf/cm^2, 250 kPa)
Rear	41 psi (2.80 kgf/cm^2, 280 kPa)

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

Wheels

Front	
Type	Cast
Size	16 × MT 3.50
Rear	
Type	Cast
Size	15M/C × MT 4.00

Brakes

Front	
Type	Dual disc brake
Operation	Right hand operation
Fluid	DOT 4
Rear	
Type	Single disc brake
Operation	Right foot operation
Fluid	DOT 4

Suspension

Front	
Type	Telescopic fork
Rear	
Type	Swingarm (link suspension)

Shock absorber

Front	Coil-air spring / oil damper
Rear	Coil-air spring / oil damper

Wheel travel

Front	5.51 in (140 mm)
Rear	4.13 in (105 mm)

Electrical

Ignition system	T.C.I. (digital)
Charging system	
Type	A.C. magneto
Standard output	14 V, 29 A @ 5,000 r/min
Battery	
Type	YTX20L-BS
Voltage, capacity	12 V, 18 AH

Headlight type Quartz bulb (halogen)

Bulb voltage, wattage × quantity	
Headlight	12 V, 60/55 W × 1
Tail/brake light	12 V, 8/27 W × 1
Front turn signal/position light	12 V, 27/8 W × 2
Rear turn signal light	12 V, 27 W × 2
Neutral indicator light	12 V, 1.7 W × 1
High beam indicator light	12 V, 1.7 W × 1
Oil level indicator light	12 V, 1.7 W × 1
Turn indicator light	12 V, 1.7 W × 2
Fuel level indicator light	14 V, 3 W × 1
Coolant temperature indicator light	12 V, 1.7 W × 1
Engine trouble indicator light	12 V, 1.7 W × 1
Overdrive indicator light	12 V, 1.7 W × 1
Cruise control "SET" indicator light	12 V, 1.7 W × 1
Cruise control "RES" indicator light	12 V, 1.7 W × 1
Cruise control "ON" indicator light	12 V, 1.7 W × 1
Audio system amplifier	
Output power	
Speaker	14 W × 4
Headset	1 W × 2
Auto-volume range	5 steps
Output impedance	
Speaker	4 Ω
Headset	8 Ω ~ 16 Ω
Fuses	
Main fuse	30 A
Headlight fuse	15 A
Signaling system fuse	15 A
Ignition fuse	10 A
Radiator fan fuse	10 A
Odometer fuse	10 A
Cruise control fuse	10 A
Carburetor heater fuse	10 A
Audio system fuse	10 A
Auxiliary DC jack fuse	5 A
Auxiliary DC terminal fuse	5 A

Identification number records

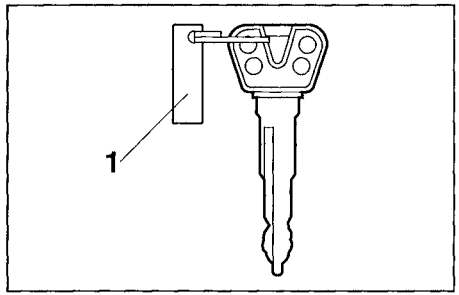
Record the key identification number, vehicle identification number and model label information in the spaces provided for assistance when ordering spare parts from a Yamaha dealer or for reference in case the vehicle is stolen.

1. KEY IDENTIFICATION NUMBER:

2. VEHICLE IDENTIFICATION NUMBER:

3. MODEL LABEL INFORMATION:

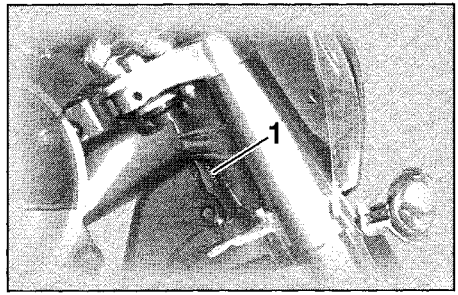
○
●



1. Key identification number

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.



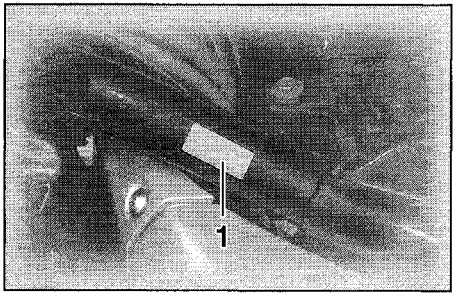
1. Vehicle identification number

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

Model label

The model label is affixed to the frame under the rider seat. (See page 3-13 for rider seat removal and installation procedures.)

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

Reporting safety defects

If you believe that your vehicle has a defect which could cause a crash or could cause injury or death, you should immediately inform the National Highway Traffic Safety Administration (NHTSA) in addition to notifying YAMAHA MOTOR CORP. U.S.A. If NHTSA receives similar complaints, it may open an investigation, and if it finds that a safety defect exists in group of vehicles, it may order a recall and remedy campaign. However, NHTSA cannot become involved in individual problems between you, your dealer, or YAMAHA MOTOR CORP. U.S.A.

To contact NHTSA, you may either call the Auto Safety Hotline toll-free at 1-800-424-9393 (or 366-0123 in Washington, D.C. area) or write to: NHTSA, U.S. Department of Transportation, Washington, D.C. 20590.
You can also obtain other information about motor vehicle safety from the Hotline.

Motorcycle noise regulation

TAMPERING WITH NOISE CONTROL SYSTEM PROHIBITED:

Federal law prohibits the following acts or the causing thereof: (1) 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 or (2) the use of the vehicle after such device or element of design has been removed or rendered inoperative by any person.

"AMONG THOSE ACTS PRESUMED TO CONSTITUTE TAMPERING ARE THE ACTS LISTED BELOW".

These acts include tampering with the following systems; i.e., modification, removal, etc.

Exhaust system	Muffler Exhaust pipe Silencer
Intake system	Air cleaner case Air cleaner element Intake duct

MAINTENANCE RECORD

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

MAINTENANCE INTERVAL	DATE OF SERVICE	MILEAGE	SERVICING DEALER NAME AND ADDRESS	REMARKS
600 mi (1,000km)or 1 mo.				
4,000 mi (7,000km)or 6 mos.				
8,000 mi (13,000km)or 12 mos.				
12,000 mi (19,000km)or 18 mos.				
16,000 mi (25,000km)or 24 mos.				
20,000 mi (31,000km)or 30 mos.				
24,000 mi (37,000km)or 36 mos.				

MAINTENANCE INTERVAL	DATE OF SERVICE	MILEAGE	SERVICING DEALER NAME AND ADDRESS	REMARKS
28,000 mi (43,000km)or 42 mos.				
32,000 mi (49,000km)or 48 mos.				
36,000 mi (55,000km)or 54 mos.				
40,000 mi (61,000km)or 60 mos.				

YAMAHA MOTOR CORPORARION, U.S.A.
ROYAL STAR™ VENTURE® LIMITED WARRANTY

Yamaha Motor Corporation, U.S.A. hereby warrants that each new Yamaha Royal Star Venture motorcycle purchased from an authorized Yamaha motorcycle dealer in the continental United States will be free from defects in material or workmanship for the period of time stated herein, subject to certain stated limitations.

THE PERIOD OF WARRANTY for the Yamaha Royal Star Venture, including windshield, saddlebags, and mounting hardware installed as original equipment, shall be five (5) years from the date of purchase, regardless of mileage.

MODELS EXCLUDED FROM WARRANTY include those used for non-Yamaha-authorized renting, leasing, or other commercial purposes.

DURING THE PERIOD OF WARRANTY any authorized Yamaha motorcycle dealer will, free of charge, repair or replace any part adjudged defective by Yamaha due to faulty workmanship or material from the factory. Parts used in warranty repairs will be warranted for the balance of the product's warranty period. All parts replaced under warranty become property of Yamaha Motor Corporation, U.S.A..

GENERAL EXCLUSIONS from this warranty shall include any failures caused by:

a. Competition or racing use.
b. Installation of parts or accessories that are not qualitatively equivalent to genuine Yamaha parts.
c. Abnormal strain, neglect, or abuse.
d. Lack of proper maintenance or storage.
e. Accident or collision damage.
f. Modification to original parts.
g. Damage due to improper transportation.

SPECIFIC EXCLUSIONS from this warranty shall include:

1. The cost of parts and labor for routine maintenance or normal wear and tear. Examples include periodic oil changes and lubrication, filter cleaning and replacement, spark plugs, tune-ups, coolant, and brake and clutch adjustments.
2. Battery deterioration caused by improper maintenance and/or storage.

THE CUSTOMER'S RESPONSIBILITY under this warranty shall be to:
Operate and maintain the Royal Star Venture as specified in the appropriate Owner's Manual, and Give notice to an authorized Yamaha motorcycle dealer of any and all apparent defects within ten (10) days after discovery, and make the machine available at that time for inspection and repairs at such dealer's place of business.

WARRANTY TRANSFER

To transfer the warranty from the original purchaser to any subsequent purchaser, it is imperative that the machine be inspected and registered for warranty by an authorized Yamaha motorcycle dealer. In order for this warranty to remain in effect, this inspection and registration must take place within ten (10) days after transfer of ownership to the subsequent purchaser. A reasonable dealer-imposed fee may be charged for the inspection.

AUDIO WARRANTY

Yamaha Motor Corporation, U.S.A. warrants that factory-installed audio components which prove defective due to improper workmanship or material will be repaired or replaced, at Yamaha's option, without charge for parts or labor for a period of five (5) years from the date of purchase of the motorcycle, subject to certain stated limitations.

This warranty excludes audio components damaged or affected by:

1. Accident or collision.
2. Misuse or neglect.
3. Alteration, improper installation or connection.
4. Unauthorized adjustment or repairs.
5. Use in an application for which the audio component was nc designed.

In addition, any audio component which has had the serial number in any way tampered with or removed will be excluded from warranty.

This warranty does not cover the elimination of static or other electrical interference.
Audio components and parts repaired or replaced under this warranty will be warranted for the balance of the audio warranty period. All defective components or parts replaced under the warranty become the property of Yamaha Motor Corporation, U.S.A.

EMISSIONS CONTROL SYSTEM WARRANTY

Yamaha Motor Corporation, U.S.A. also warrants to the ultimate purchaser and each subsequent purchaser of each Royal Star Venture that the vehicle is designed, built, and equipped so as to conform at the time of sale with all U.S. emissions standards applicable at the time of manufacture, and that it is free from defects in materials and workmanship which would cause it not to meet these standards for 18, 642 miles (30,000 km) or five years, whichever occurs first. Failures other than those resulting from defects in material or workmanship which arise solely as a result of owner abuse and/or lack of proper maintenance are not covered by this warranty.

YAMAHA MOTOR CORPORATION, U.S.A. MAKES NO OTHER WARRANTY OF ANY KIND, EXPRESSED OR IMPLIED. ALL IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE WHICH EXCEED THE OBLIGATIONS AND TIME LIMITS STATED IN THIS WARRANTY ARE HEREBY DISCLAIMED BY YAMAHA MOTOR CORPORATION, U.S.A. AND EXCLUDED FROM THIS WARRANTY.

SOME STATES DO NOT ALLOW LIMITATIONS ON HOW LONG AN IMPLIED WARRANTY LASTS, SO THE ABOVE LIMITATION MAY NOT APPLY TO YOU. ALSO EXCLUDED FROM THIS WARRANTY ARE ANY INCIDENTAL OR CONSEQUENTIAL DAMAGES INCLUDING LOSS OF USE. SOME STATES DO NOT ALLOW THE EXCLUSION OR LIMITATION OF INCIDENTAL OR CONSEQUENTIAL DAMAGES, SO THE ABOVE EXCLUSIONS MAY NOT APPLY TO YOU.

THIS WARRANTY GIVES YOU SPECIFIC LEGAL RIGHTS, AND YOU MAY ALSO HAVE OTHER RIGHTS WHICH VARY FROM STATE TO STATE.

YAMAHA MOTOR CORPORATION, U.S.A.
Post Office Box 6555
Cypress, CA 90630

WARRANTY QUESTIONS AND ANSWERS

Q. What costs are my responsibility during the warranty period?
A. The customer's responsibility includes all costs of normal maintenance services, non-warranty repairs, accident and collision damage, and oil, oil filters, air filters, spark plugs, and brake shoes or pads.

Q. What are some examples of "abnormal" strain, neglect, or abuse?
A. These terms are general and overlap each other in areas. Specific examples include: Running the machine out of oil, sustained high-rpm, full-throttle use; operating the machine with a broken or damaged part which causes another part to fail; damage or failure due to improper or careless transportation and or tie down; and so on. If you have any specific questions on operation or maintenance, please contact your dealer for advice.

Q. Does the warranty cover incidental costs such as towing or transportation due to a failure?
A. No. The warranty is limited to repair of the machine itself.

Q. May I perform any or all of the recommended maintenance shown in the Owner's Manual instead of having the dealer do them?
A. Yes, if you are a qualified mechanic and follow the procedures specified in the Owner's and Service Manual. We do recommend, however, that items requiring special tools or equipment be done by Yamaha motorcycle dealer.

Q. Will the warranty be void or cancelled if I do not operate or maintain my new motorcycle exactly as specified in the Owner's Manual?
A. No. The warranty on a new motorcycle cannot be "voided" or "cancelled." **However, if a particular failure is caused by operation or maintenance other than as shown in the Owner's Manual, that failure may not be covered under warranty.**

Q. What responsibility does my dealer have under this warranty?
A. Each Yamaha Motorcycle dealer is expected to:
1. Completely set up every new machine before sale.
2. Explain the operation, maintenance, and warranty requirements to your satisfaction at the time of sale, and upon your request at any later date.

In addition, each Yamaha motorcycle dealer is held responsible for his setup, service and warrnaty repair work.

Q. Is the warranty transferable to second owners?

A. Yes. The remainder of the existing warranty can be transferred upon request. The unit has to be inspected and re-registered by an authorized Yamaha motorcycle dealer for the warranty coverage to remain effective.

CUSTOMER SERVICE

If your machine requires warranty service, you must take it to any authorized Yamaha motorcycle dealer within the continental United States. Be sure to bring your warranty registration identification or other valid proof of the original date of purchase. If a question or problem arises regarding warranty, first contact the owner of the dealership. Since all warranty matters are handled at the dealer level, this person is in the best position to help you. If you are still not satisfied and require additional assistance, please write:

YAMAHA MOTOR CORPORATION U.S.A.
CUSTOMER RELATIONS DEPARTMENT
P.O. Box 6555
Cypress, California 90630

When contacting Yamaha Motor Corporation, U.S.A. don't forget to include any important information such as names, addresses, model, V.I.N. (frame number), dates, and receipts.

CHANGE OF ADDRESS

The federal government requires each manufacturer of a motor vehicle to maintain a complete, up-to-date list of all first purchasers against the possibility of a safety-related defect and recall. This list is compiled from the purchase registrations sent to Yamaha Motor Corporation, U.S.A. by the selling dealer at the time of your purchase.

If you should move after you have purchased your new motorcycle, please advise us of your new address by sending a postcard listing your motorcycle model name, V.I.N. (frame number), dealer number (or dealer's name) as it is shown on your warranty identification, your name and new mailing address. Mail to:

YAMAHA MOTOR CORPORATION, U.S.A.
P.O. Box 6555
Cypress, California 90630
Attention: Warranty Department

This will ensure that Yamaha Motor Corporation, U.S.A. has an up-to-date registration record in accordance with federal law.

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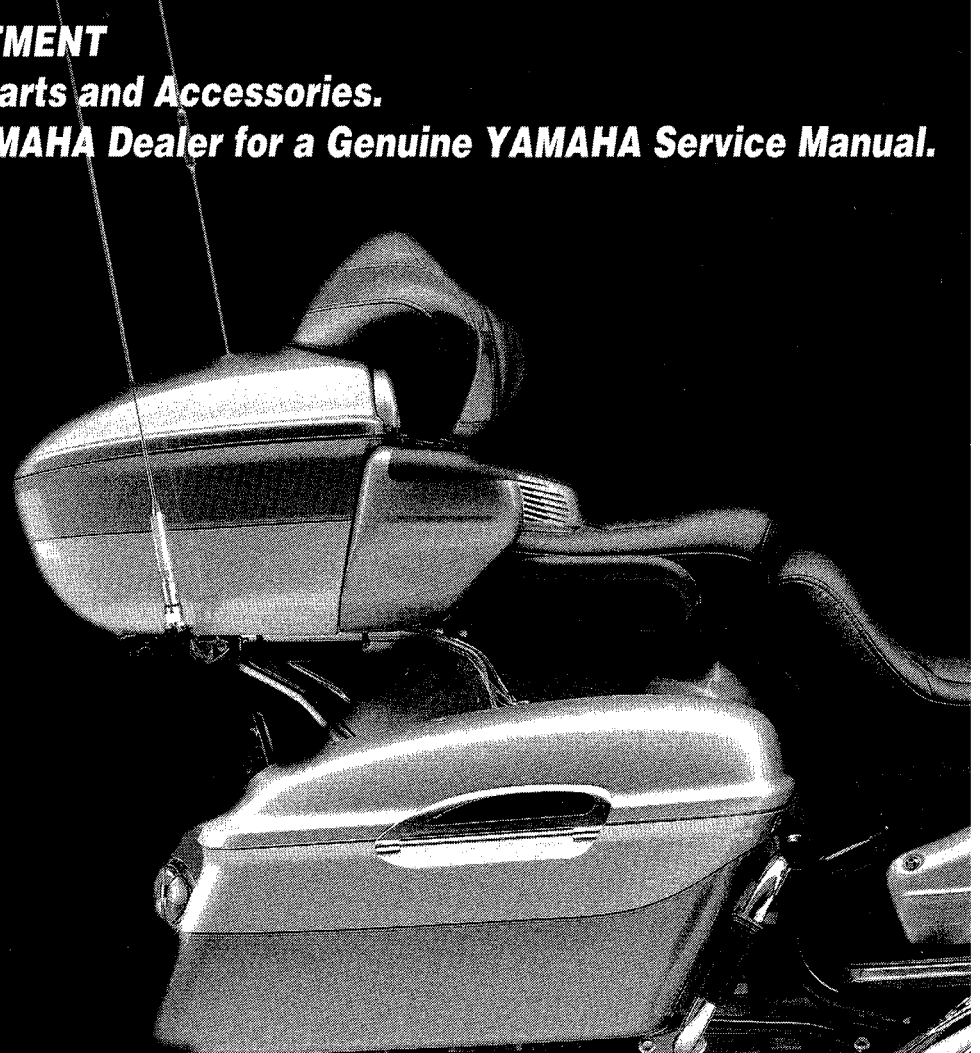
PROTECT YOUR INVESTMENT
Use Genuine YAMAHA parts and Accessories.
See your Authorized YAMAHA Dealer for a Genuine YAMAHA Service Manual.

YAMAHA



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