

LTK-4B/4N

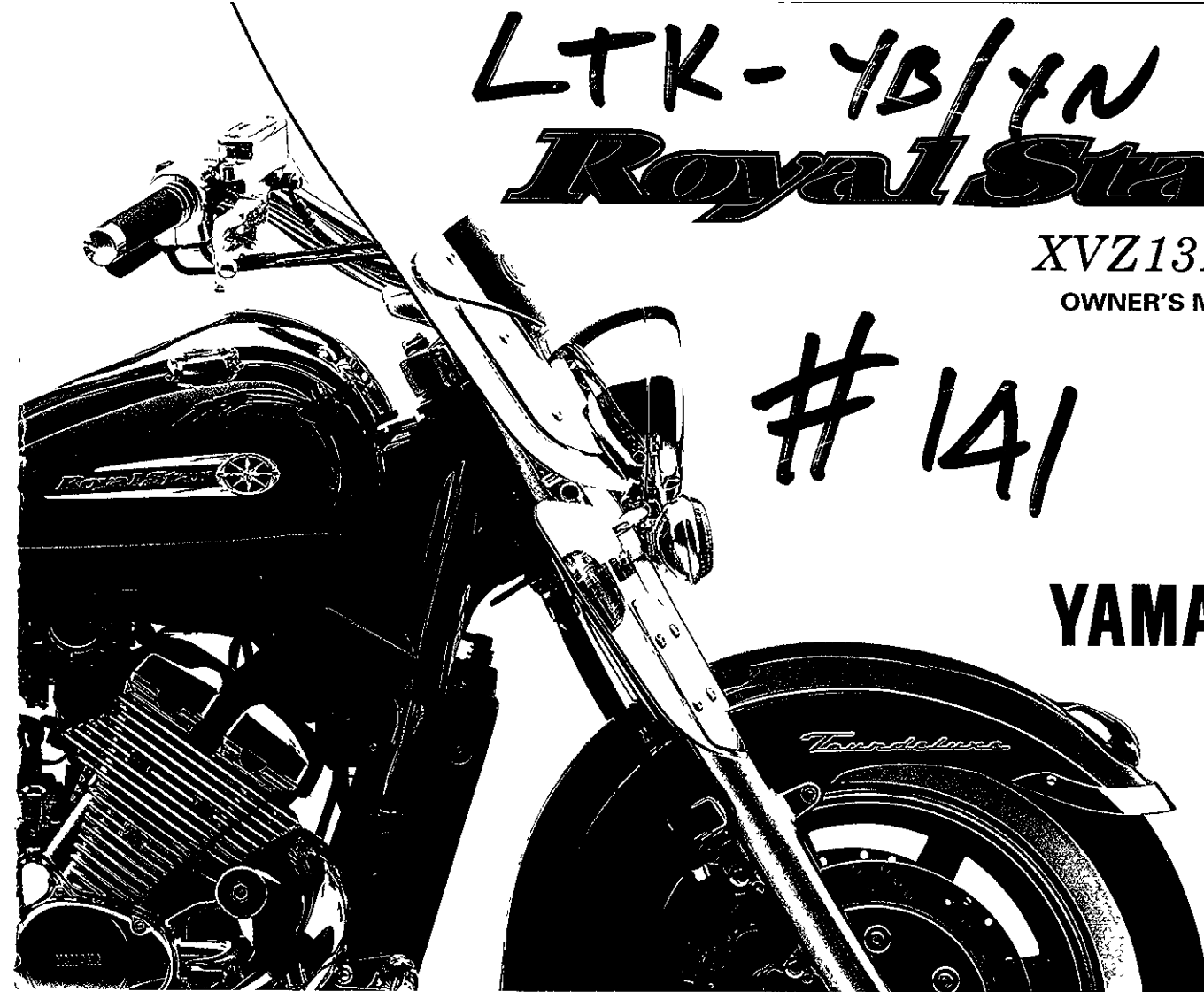
Royal Star

XVZ13LTK

OWNER'S MANUAL

141

YAMAHA



INTRODUCTION

Congratulations on your purchase of the Yamaha XVZ13LT. This model is the result of Yamaha's vast experience in the production of fine sporting, touring, and pacesetting racing machines. It represents the high degree of craftsmanship and reliability that have made Yamaha a leader in these fields.

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

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

IMPORTANT MANUAL INFORMATION

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



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



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

CAUTION:

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

NOTE:

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

NOTE:

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

 **WARNING**

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

XVZ13LTK

OWNER'S MANUAL

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SAFETY INFORMATION

1

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

HE OR SHE SHOULD

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

Safe riding

1. Always make pre-operation checks. Careful checks may help prevent an accident.
2. This motorcycle is designed to carry the operator only. No passengers.
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 posture is important for proper control. The operator should keep both hands on the handlebars and both feet on the operator footrests during operation to maintain control of the motorcycle.
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.



SAFETY INFORMATION

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.

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, accessories and cargo must not exceed the maximum load limit of 177 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.



SAFETY INFORMATION

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

Gasoline and exhaust gas

1. GASOLINE IS HIGHLY FLAMMABLE.
 - a. Always turn off the engine when refueling.
 - b. Take care not to spill any gasoline on the engine or exhaust pipe(s)/muffler(s) when refueling.
 - c. Never refuel while smoking or in the vicinity of an open flame.
2. Never start the engine or let it run for any length of time in a closed area. The exhaust fumes are poisonous and may cause loss of consciousness and death within a short time. Always operate your motorcycle in an area that has adequate ventilation.
3. Always turn off the engine before leaving the motorcycle unattended and remove the ignition key. When parking the motorcycle, note the following:
 - a. The engine and exhaust pipe(s)/muffler(s) may be hot. Park the motorcycle in a place where pedestrians or children are not likely to touch these hot areas.
 - b. Do not park the motorcycle on a slope or soft ground; the motorcycle may fall over.
 - c. Do not park the motorcycle near a flammable source, e.g. a kerosene heater, or near an open flame. The motorcycle could catch fire.
4. When transporting the motorcycle in another vehicle, be sure it is kept upright 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.

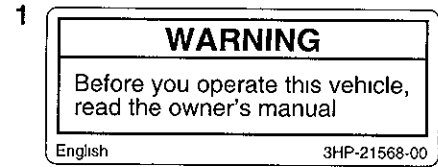
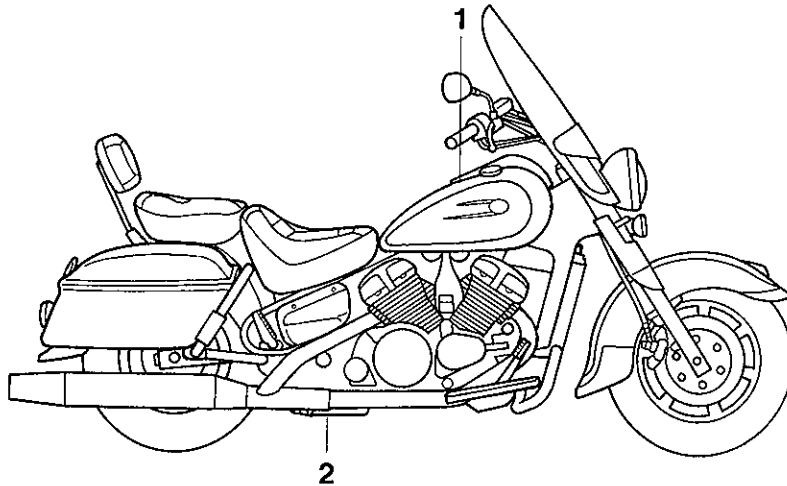


SAFETY INFORMATION

Location of the important labels

Please read the following labels carefully before operating this motorcycle

1

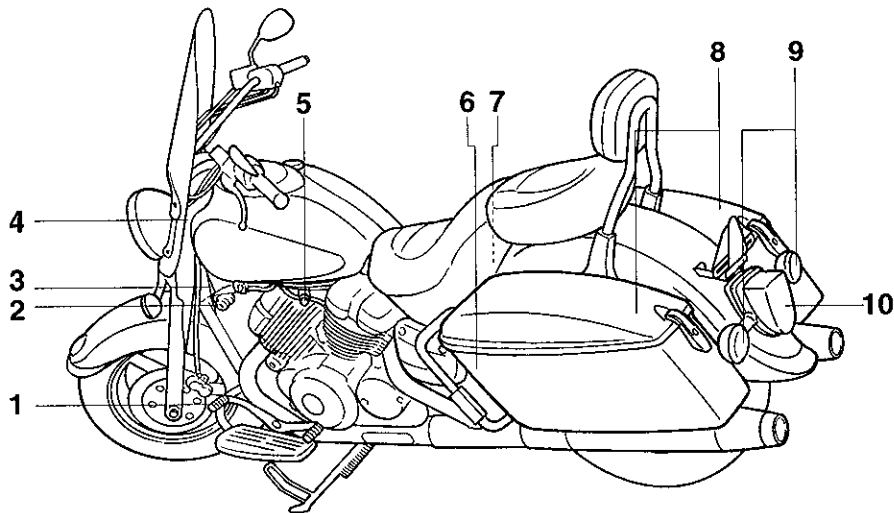



DESCRIPTION

Left side view	2-1
Right side view	2-2
Top view	2-3

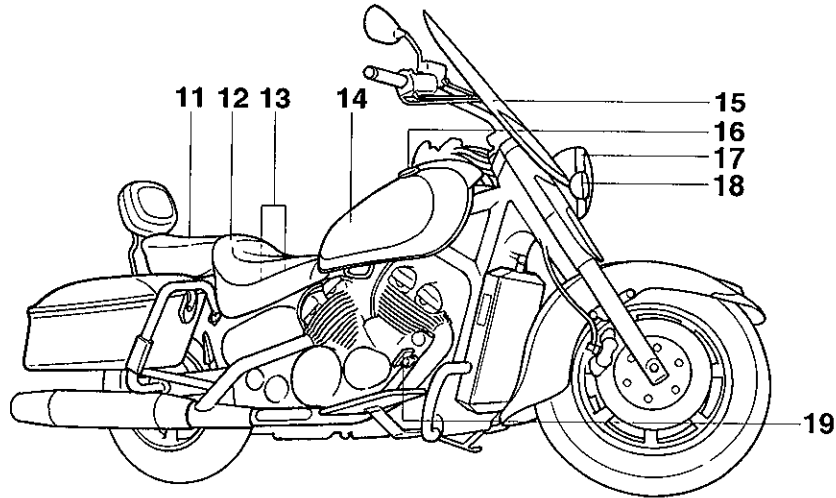
DESCRIPTION

Left side view



- 1. Shift pedal (Page 3-5)
- 2. Main switch (Page 3-1)
- 3. Fuel cock (Page 3-7)
- 4. Steering lock (Page 3-9)
- 5. Starter (choke) “
 - 7. Tool kit (Page 6-1)
 - 8. Saddlebags (Page 3-13)
 - 9. Rear turn signals
 - 10. Tail/brake light

Right side view



11. Passenger seat

12. Rider seat

13. Helmet holders

14. Fuel tank

15. Windshield

(Page 3-9)

(Page 3-10)

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16. Fuel tank cap

17. Headlight

18. Front turn signals

19. Brake pedal

(Page 3-6)

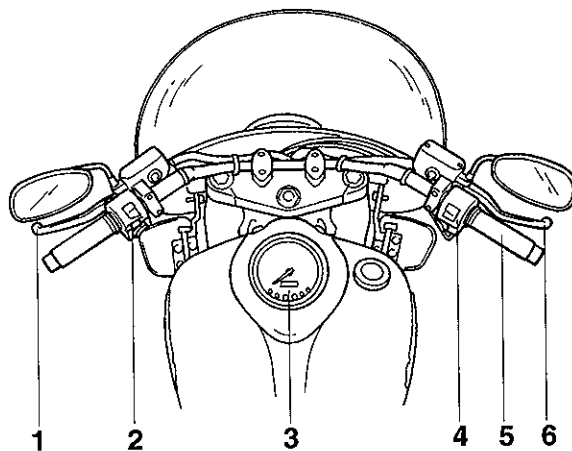
(Page 6-23)

(Page 3-6)

DESCRIPTION

Top view

2



- | | |
|-----------------------------|-------------|
| 1 Clutch lever | (Page 3-5) |
| 2 Left handlebar switches | (Page 3-4) |
| 3. Speedometer | (Page 3-1) |
| 4. Right handlebar switches | (Page 3-4) |
| 5. Throttle grip | (Page 6-11) |
| 6 Front brake lever | (Page 3-5) |

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Windshield	3-11
Saddlebags	3-13
Front fork adjustment	3-13
Rear shock absorber	3-15

CONTROL FUNCTIONS



3

Main switch

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

ON:

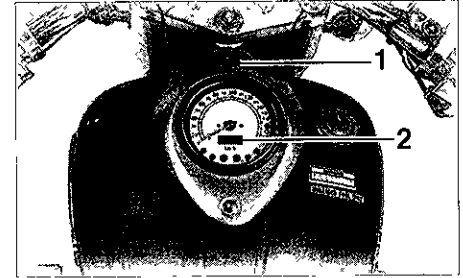
Electrical circuits are switched on, and the headlight, meter light, and taillight come on. The engine can be started. The key cannot be removed in this position.

OFF:

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

NOTE:

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



1 Trip button

2 Odo/Trip meter

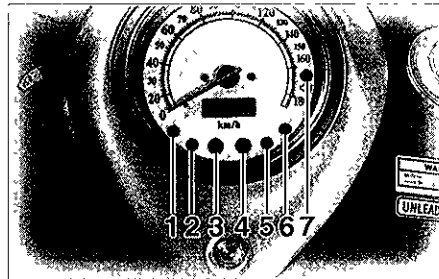
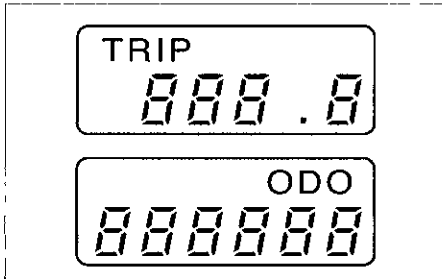
Speedometer

The speedometer is equipped with an odometer "ODO" and trip meter "TRIP".

Pushing the "TRIP" button will change the display from "ODO" to "TRIP" and vice versa.

The odometer displays the total distance that the motorcycle has been ridden.

The trip meter displays how many miles have been traveled since it was last reset.



Use the trip meter to estimate how far you can ride on a tank of fuel. This information will enable you to plan fuel stops in the future.

To reset the trip meter, push the "TRIP" button to display the trip meter. Then push the "TRIP" button again and hold it down for one second or longer. It will reset to "0".

Indicator lights

1. High beam indicator light "☰"

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

2. Fuel level indicator light "⛛"

When the fuel level drops below approximately 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.

3. Neutral indicator light "N"

This indicator comes on when the transmission is in neutral.

4. Turn indicator light "◁ ▷"

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

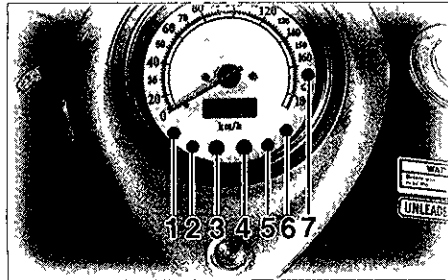
5. Oil level indicator light "⛛"

This indicator light will come on if the oil level is low.

To check that the indicator light is working properly:

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

CONTROL FUNCTIONS



3

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. This is normal.

6. Engine overheat 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.

- Move 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.

7. Overdrive indicator light “O/D”

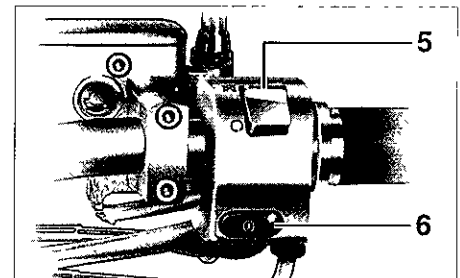
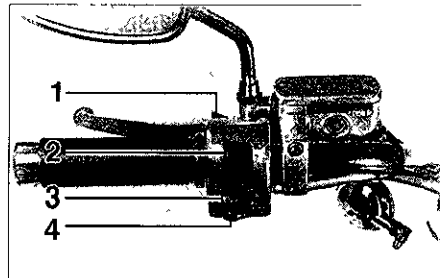
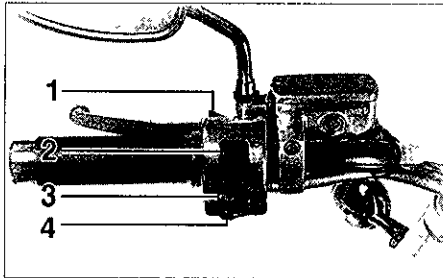
This indicator light has the following two functions

Overdrive

It will come on when the transmission is in overdrive(5th gear).

Engine trouble

It 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.





Handlebar switches



1. Pass switch “ ”

Press the switch to operate the passing light.

2. Dimmer switch

Turn the switch to “ ” for the high beam and to “ ” 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. Move the switch to “ ” to start the engine. In case of emergency, move the switch to “ ” to stop the engine

6. Start switch “ ”

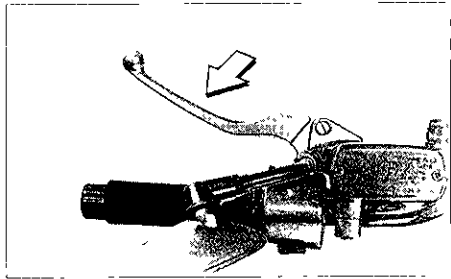
The starter motor cranks the engine when the start switch is pushed

CAUTION:

See starting instructions on page 5-1 prior to starting the engine.

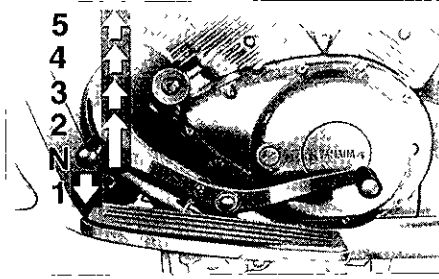
CONTROL FUNCTIONS

3



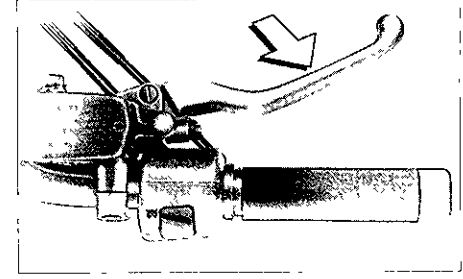
Clutch lever

This model is provided with a hydraulic clutch. The clutch lever is located on the left handlebar and the starting circuit cut-off switch is incorporated in the clutch lever holder. Pull the clutch lever toward 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 on page 5-1 for a description of the starting circuit cut-off system.)



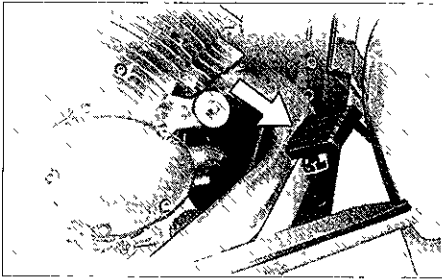
Shift pedal

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



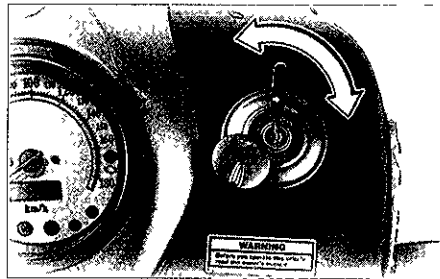
Front brake lever

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



Rear brake pedal

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



Fuel tank cap

TO REMOVE:

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

TO INSTALL:

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

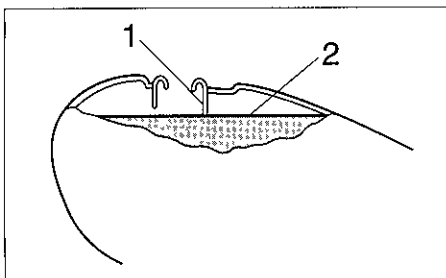
NOTE:

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

CONTROL FUNCTIONS



1 Filler tube 2 Fuel level

3

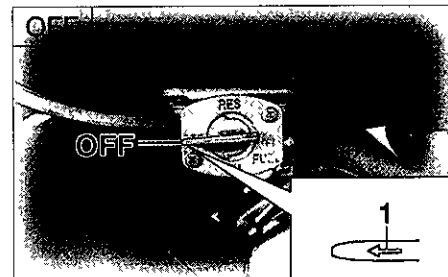
Fuel

Make sure there is sufficient fuel in the tank.

WARNING

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

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



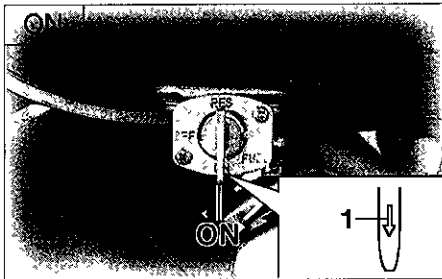
1 Arrow mark

Fuel cock

The fuel cock supplies fuel from the tank to the carburetors. The fuel cock also has an internal mesh screen to filter fuel.

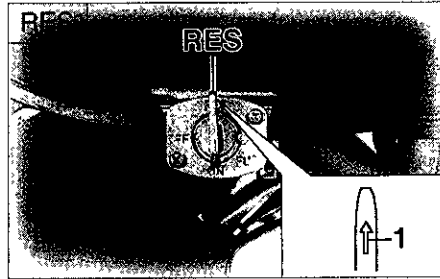
The fuel cock has three positions:

OFF With the lever in this position, fuel will not flow. Always return the lever to this position when the engine is not running.



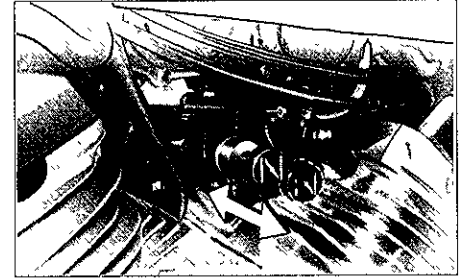
1 Arrow mark

ON: With the lever in this position, fuel flows to the carburetors. Normal riding is done with the lever in this position



1 Arrow mark

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

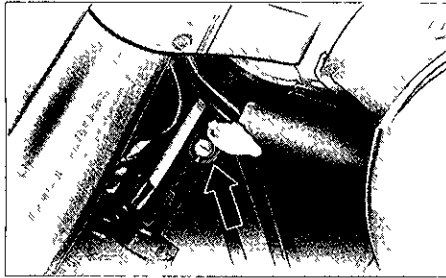


Starter (choke) “”

Starting a cold engine requires a richer air-fuel mixture. A separate enricher circuit supplies this mixture. Pull the knob out to enrichen the mixture for cold starts and push it in when the engine runs smoothly.

CONTROL FUNCTIONS

3

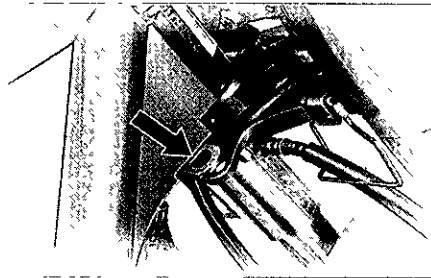


Steering locks

There is a steering lock on each side of the head pipe. The left side has a built-in lock that uses the key for the main switch. The right side allows use of a separate padlock.

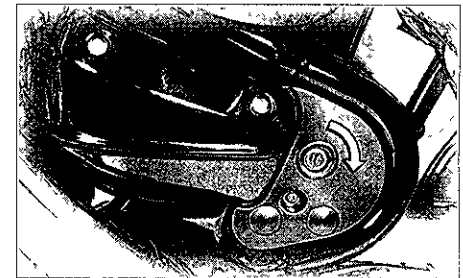
LEFT SIDE:

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



RIGHT SIDE:

Turn the handlebars to align the hole in the front fork lower bracket with the hole in the head pipe bracket. Use a padlock to lock the steering.



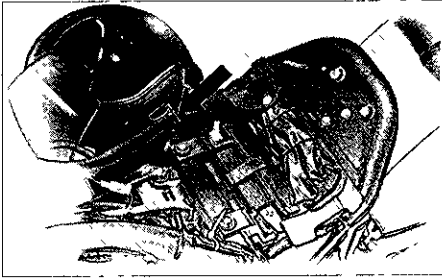
Seat

To remove the seat, insert the key in the lock and turn it clockwise.

To install the seat, insert the projection on the front of the seat into the holder and push down on the seat. Then remove the key.

NOTE: _____

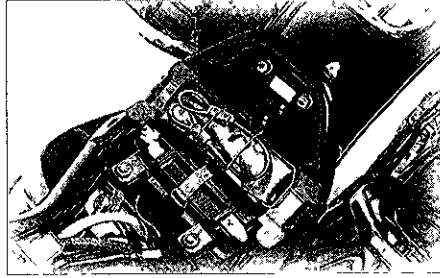
Make sure that the seat is securely fitted.



Helmet holders

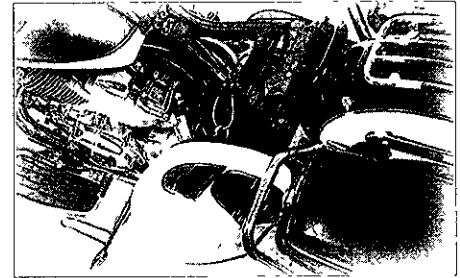
There are two helmet holders under the seat

To secure a helmet on the right side holder, simply hook the buckle of the helmet strap over the holder and close the seat securely.



1 Helmet holding cable

To secure a helmet on the left side holder, use the helmet holding cable located beside the tool kit. Pass the cable through the buckle on the helmet strap, then place both cable loops over the holder and close the seat securely.

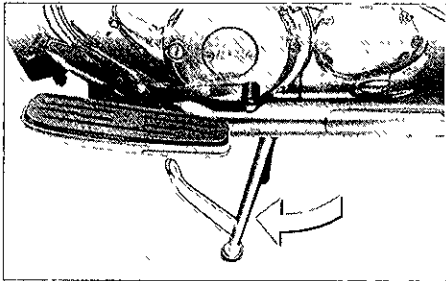


⚠ WARNING

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

CONTROL FUNCTIONS

3



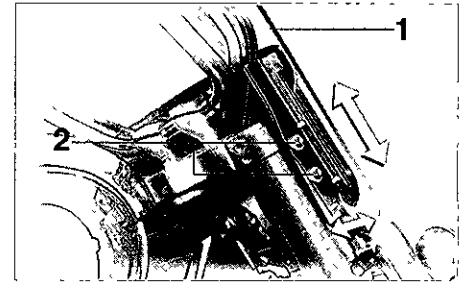
Sidestand

This model is equipped with an ignition circuit cut-off system. The motorcycle cannot be ridden when the sidestand is down. The sidestand is located on the left side of the frame. (Refer to page 6-19 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 his responsibility of retracting the sidestand. Please check the sidestand/clutch switch operation as described on page 6-19. If there is any indication of a malfunction, return the motorcycle to a Yamaha dealer immediately for repair.



1 Windshield

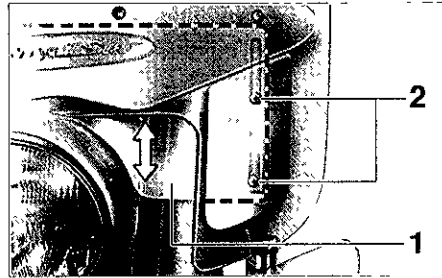
2 Bolt (x 4)

Windshield

The windshield height and angle can be adjusted to suit the rider's preference.

⚠ WARNING

- Tighten the windshield bolts securely after adjustment.
- After adjusting, turn the handlebars to the left and right making sure there is no obstruction and that the windshield does not contact any other parts, etc.



1 Headlight cover 2 Screw (x 4)

- **Open the throttle and make sure it returns properly when released.**

Otherwise an accident or injury could result.

ANGLE ADJUSTMENT

Loosen the bolts on each side of the windshield. Move the windshield to the desired position, then be sure to tighten the bolts to the specified torque.

HEIGHT ADJUSTMENT

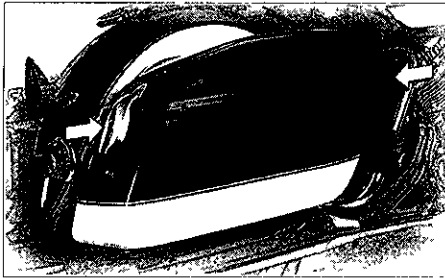
There are two height positions. To change the height

1. Remove the bolts on each side of the windshield. Move the windshield to the desired position and reinstall the bolts. Be sure to tighten the bolts to the specified torque.
2. Loosen the screws which hold the headlight cover. Position the cover so it will fit close to the headlight without touching it. Retighten the screws.

Tightening torque:
Windshield bolts
16 Nm (1.6 m·kg)

CONTROL FUNCTIONS

3



Saddlebags

⚠ WARNING

- Always be sure to close and lock each saddlebag securely before operating the motorcycle.
- Distribute weight evenly on each side of the motorcycle.
- Never exceed the maximum loading limit of 5 kg in each saddlebag. Improper loading or overloading can cause vehicle handling problems leading to an accident or personal injury.



TO OPEN

Unlock both locks by inserting the key into the lock and turning it counter-clockwise. Then lift the latches upward and remove the lid.

TO CLOSE.

Place the lid on the saddlebag, close the latches and lock them by turning the key clockwise. Then remove the key.



1 Valve cap

Front fork adjustment

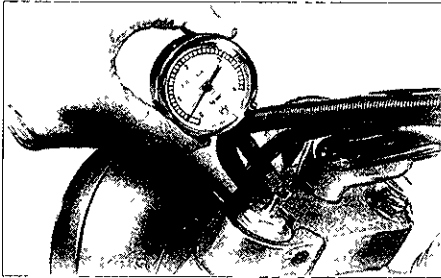
This front fork is equipped with a spring preload adjuster.

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

1. Elevate the front wheel by placing a suitable stand under the engine.



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

2. Remove the valve cap from each fork leg.
3. Using the air check gauge, check and adjust the air pressure. Increasing the air pressure increases the spring preload and decreasing it, decreases spring preload.

To increase:

Use an air pump or pressurized air supply.

To decrease:

Release the air by pushing the valve

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

Minimum/standard air pressure setting: Zero
Maximum air pressure setting.
50 kPa (0.50 kg/cm², 0.50 bar)

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

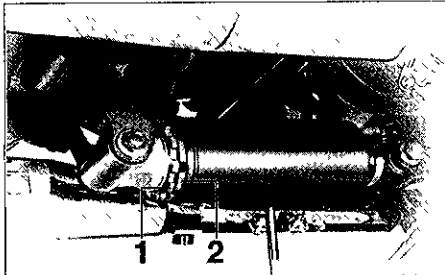
WARNING

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

4. Install the valve caps securely.

CONTROL FUNCTIONS

3

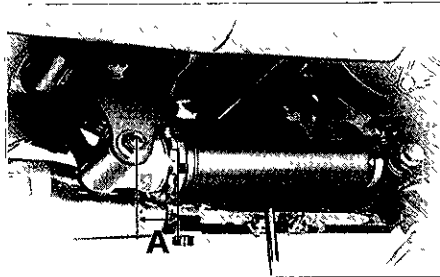


1 Locknut 2 Adjuster

Rear shock absorber

The shock absorber is equipped with a spring preload adjuster. Use the special wrench located in the Owner's tool kit and adjust spring preload as follows

1. Loosen the locknut
2. Adjust the spring set length by turning the spring adjuster.
3. Turn the adjuster counterclockwise to increase spring preload and clockwise to decrease spring preload.



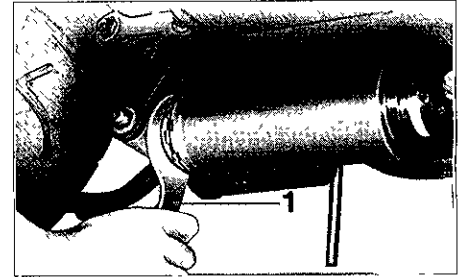
A Spring set length "A"

Measurement "A"
Standard length.
45.5 mm
Minimum length:
42.5 mm HARD
Maximum length:
50.5 mm SOFT

CAUTION: _____

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

4. Tighten the locknut to the specified torque.



1 Special wrench

Tightening torque.
Locknut.
25 Nm 2.5 m·kg

CAUTION: _____

Always tighten the locknut against the spring adjuster and torque the locknut to specification.



⚠ WARNING

This shock absorber contains highly pressurized nitrogen gas. Read and understand the following information before handling the shock absorber.

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

PRE-OPERATION CHECKS

Pre-operation check list 4-1

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.

ITEM	CHECKS	PAGE
Front brake	<ul style="list-style-type: none">• Check operation, fluid level and vehicle for fluid leakage.• Fill with DOT 4 brake fluid if necessary	6-15 ~ 6-17
Rear brake	<ul style="list-style-type: none">• Check operation, fluid level and vehicle for fluid leakage• Fill with DOT 4 brake fluid if necessary.	
Clutch	<ul style="list-style-type: none">• Check operation, fluid level and vehicle for fluid leakage• Fill with DOT 4 brake fluid if necessary	6-17
Throttle grip and housing	<ul style="list-style-type: none">• Check for smooth operation.• Lubricate if necessary.	6-11
Engine oil	<ul style="list-style-type: none">• Check oil level• Fill with oil if necessary	6-7 ~ 6-9
Final gear oil	<ul style="list-style-type: none">• Check vehicle for leakage	6-9
Wheels and tires	<ul style="list-style-type: none">• Check tire pressure, wear and for damage	6-12 ~ 6-14
Brake and shift pedal shafts	<ul style="list-style-type: none">• Check for smooth operation.• Lubricate if necessary	6-17
Brake and clutch lever pivots	<ul style="list-style-type: none">• Check for smooth operation.• Lubricate if necessary	6-18
Sidestand pivot	<ul style="list-style-type: none">• Check for smooth operation.• Lubricate if necessary	6-19
Chassis fasteners	<ul style="list-style-type: none">• Make sure that all nuts, bolts and screws are properly tightened.• Tighten if necessary.	—

PRE-OPERATION CHECKS

ITEM	CHECKS	PAGE
Fuel tank	<ul style="list-style-type: none">• Check fuel level• Fill with fuel if necessary	3-7
Lights, signals and switches	<ul style="list-style-type: none">• Check for proper operation	6-23 ~ 6-24

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

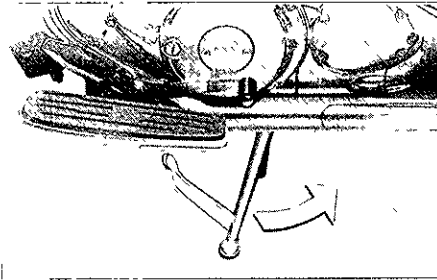
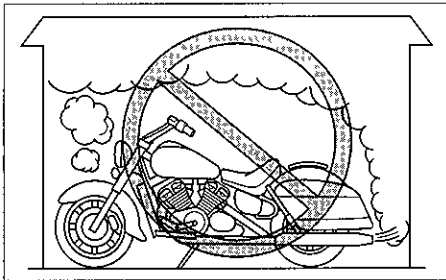
 WARNING

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

OPERATION AND IMPORTANT RIDING POINTS

Starting and warming up a cold engine	5-1
Starting a warm engine	5-3
Shifting	5-4
Engine break-in	5-5
Parking	5-6

OPERATION AND IMPORTANT RIDING POINTS



5

⚠ 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.
-

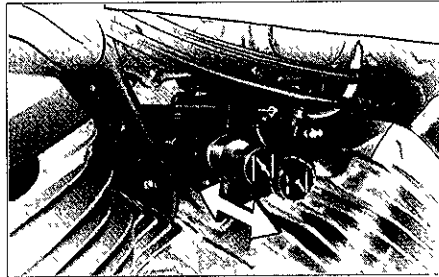
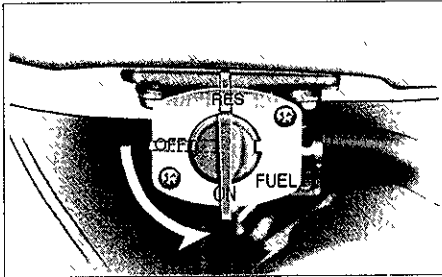
Starting and warming up a cold engine

NOTE:

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

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

OPERATION AND IMPORTANT RIDING POINTS



⚠ WARNING

Before going through the following steps, check the function of the sidestand switch and clutch switch. (Refer to page 6-19.)

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:

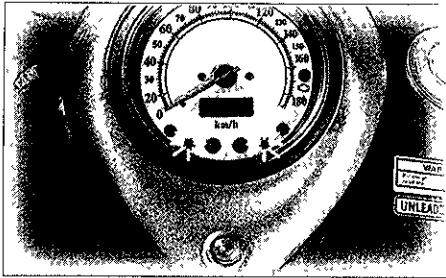
When the transmission is in neutral, the neutral indicator light should be on. If the light does not come on, ask a Yamaha dealer to inspect it.

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.

OPERATION AND IMPORTANT RIDING POINTS



CAUTION: _____

5

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

6. After starting the engine, move the starter (choke) halfway back to the warming up position.

NOTE: _____

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

- 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.

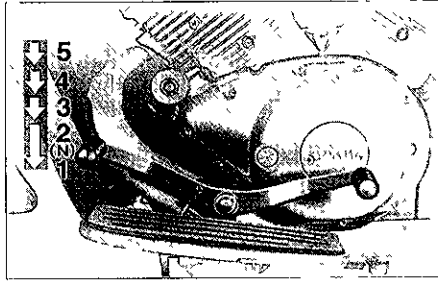
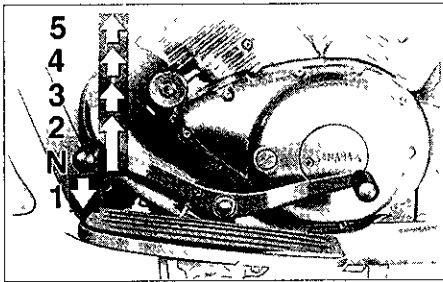
Starting a warm engine

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.

OPERATION AND IMPORTANT RIDING POINTS



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

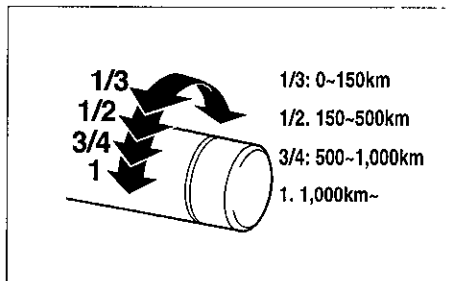
CAUTION:

1. Do not coast for long periods with the engine off, and do not tow the motorcycle a long distance. Even with gears in neutral, the transmission is only

properly lubricated when the engine is running. Inadequate lubrication may damage the transmission.

2. Always use the clutch when changing gears. The engine, transmission, and driveline are not designed to withstand the shock of forced shifting and can be damaged by shifting without using the clutch.

OPERATION AND IMPORTANT RIDING POINTS



Engine break-in

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

- 1 0 ~ 150 km.
Avoid prolonged operation above 1/3 throttle. Stop the engine and let it cool for 5 to 10 minutes after every hour of operation. Vary the speed of the motorcycle from time to time. Do not operate it at one set throttle position.
2. 150 ~ 500 km.
Avoid prolonged operation above 1/2 throttle.
- 3 500 ~ 1,000 km.
Avoid cruising speeds in excess of 3/4 throttle.

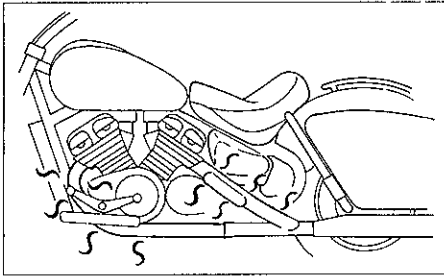
CAUTION:

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

4. 1,000 km and beyond:
Avoid prolonged full-throttle operation. Vary speed occasionally.

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 main switch key. Turn the fuel cock to "OFF" whenever stopping the engine.

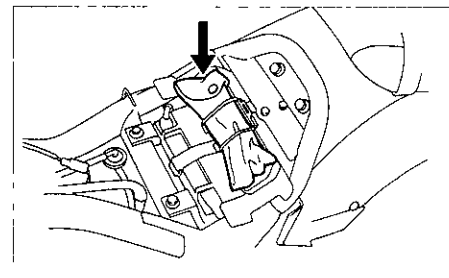
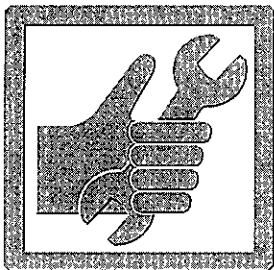
WARNING

The muffler and exhaust pipes will be very hot after the engine has been running. 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

Tool kit	6-1	Checking the brake pads	6-17
Periodic maintenance/lubrication chart	6-3	Clutch adjustment	6-17
Spark plug inspection	6-6	Brake and shift pedal lubrication	6-17
Engine oil	6-7	Brake and clutch lever lubrication	6-18
Final gear oil	6-9	Sidestand lubrication	6-19
Cooling system	6-10	Sidestand/clutch switch operation check	6-19
Carburetor adjustment	6-10	Front fork inspection	6-20
Idle speed adjustment	6-11	Battery	6-21
Throttle cable free play inspection	6-11	Fuse replacement	6-22
Tires	6-12	Headlight bulb replacement	6-23
Wheels	6-14	Brake light switch adjustment	6-24
Brake system	6-15	Troubleshooting	6-25
Inspecting the brake and clutch fluid level	6-16	Troubleshooting chart	6-26

PERIODIC MAINTENANCE AND MINOR REPAIR



6

Periodic inspection, adjustment and lubrication will keep your motorcycle in the safest and most efficient condition possible. Safety is an obligation of the motorcycle owner. The maintenance and lubrication schedule chart should be considered strictly as a guide to general maintenance and lubrication intervals. YOU MUST TAKE INTO CONSIDERATION THAT WEATHER, TERRAIN, GEOGRAPHICAL LOCATIONS, AND A VARIETY OF INDIVIDUAL USES ALL TEND TO DEMAND THAT EACH OWNER ALTER THIS TIME SCHEDULE TO SHORTER INTERVALS TO MATCH THE ENVIRONMENT. The most im-

portant points of motorcycle inspection, adjustment, and lubrication are explained in the following pages

⚠ WARNING

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

Tool kit

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

PERIODIC MAINTENANCE AND MINOR REPAIR

NOTE:

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

 WARNING

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

PERIODIC MAINTENANCE AND MINOR REPAIR

Periodic maintenance/lubrication chart

No	ITEM	ROUTINE	TYPE	BREAK-IN	EVERY	
				1,000 km	6,000 km or 6 months	12,000 km or 12 months
1	* Valve clearance	• Check and adjust valve clearance when engine is cold	–	Every 42,000 km		
2	Spark plug	• Check condition • Adjust gap and clean	See page 6-6		√	Replace
3	* Crankcase ventilation system	• Check ventilation hose for cracks or damage • Replace if necessary	–		√	√
4	* Fuel line	• Check fuel hose and vacuum pipe for cracks or damage • Replace if necessary	–		√	√
5	* Fuel filter	• Replace	–	Replace every 30,000 km		
6	* Exhaust system	• Check for leakage • Retighten if necessary • Replace gaskets if necessary	–		√	√
7	* Carburetor synchronization	• Adjust synchronization of carburetors	–	√	√	√
8	* Idle speed	• Check and adjust engine idle speed • Adjust cable free play	–	√	√	√
9	Engine oil	• Replace	See page 8-1	√		√
10	* Oil filter	• Replace	–	√		√

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

PERIODIC MAINTENANCE AND MINOR REPAIR

No	ITEM	ROUTINE	TYPE	BREAK-IN	EVERY	
				1,000 km	6,000 km or 6 months	12,000 km or 12 months
11	* Air filter (See NOTE on page 6-5.)	<ul style="list-style-type: none"> • Clean with compressed air • Replace if necessary 	-		√	√
12	* Cooling system	• Check hoses for cracks or damage, replace if necessary	-		√	√
		• Replace coolant	Ethylene glycol antifreeze coolant	Replace every 24 months		
13	* Brake system	<ul style="list-style-type: none"> • Check and replace brake pads if necessary • Check operation and for fluid leakage (See NOTE on page 6-5) • Correct if necessary 	-	√	√	√
14	* Clutch system	<ul style="list-style-type: none"> • Check operation and for fluid leakage (See NOTE on page 6-5) • Correct if necessary 	-	√	√	√
15	* Final gear oil	<ul style="list-style-type: none"> • Check oil level and for leakage • Replace every 24,000 km or 24 months 	SAE 80 API "GL-4" hypoid gear oil	Replace		√
16	* Control cable	• Apply chain lube thoroughly	SAE 10W30 motor oil	√	√	√
17	* Rear arm pivot bearing	<ul style="list-style-type: none"> • Check bearing assembly for looseness • Moderately repack every 24,000 km or 24 months 	Medium weight wheel bearing grease			√
18	Brake/ Clutch lever pivot shaft	• Apply chain lube lightly	SAE 10W30 motor oil		√	√
19	Brake pedal and shift pedal shaft	• Lubricate	SAE 10W30 motor oil		√	√
20	* Sidestand pivot	<ul style="list-style-type: none"> • Check operation • Lubricate 	SAE 10W30 motor oil		√	√
21	* Sidestand switch	• Check and clean or replace if necessary	-	√	√	√

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

PERIODIC MAINTENANCE AND MINOR REPAIR

No	ITEM	ROUTINE	TYPE	BREAK-IN	EVERY	
				1,000 km	6,000 km or 6 months	12,000 km or 12 months
22	* Front fork	• Check operation and for leakage	–		√	√
23	* Steering bearings	• Check bearing assembly for looseness • Moderately repack every 24,000 km or 24 months	Medium weight wheel bearing grease		√	√
24	* Wheel bearings	• Check bearings for smooth rotation	–		√	√
25	* Rear suspension link pivots	• Check operation • Apply grease lightly every 24,000 km or 24 months	Molybdenum disulfide grease			√

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

NOTE:

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

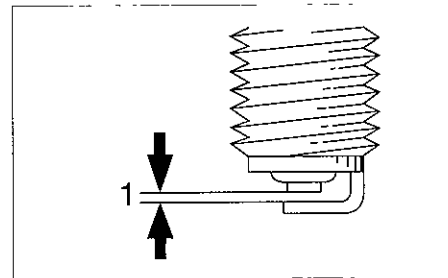
Spark plug inspection

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

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

Do not attempt to diagnose such problems yourself. Instead, take the motorcycle to a Yamaha dealer. You should periodically remove and inspect the spark plugs because heat and deposits will cause any spark plug to slowly break down and erode. If electrode erosion becomes excessive, or if carbon and other deposits are excessive, you should replace the spark plug with the specified plug

Specified spark plug:
DPR7EA-9/NGK or
X22EPR-U9/DENSO



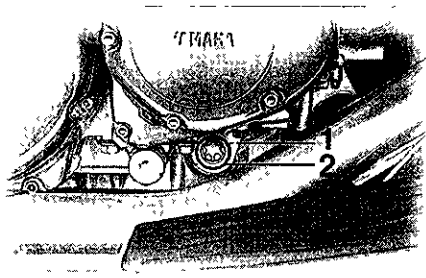
1 Spark plug gap

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

Spark plug gap
0.8 ~ 0.9 mm

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

PERIODIC MAINTENANCE AND MINOR REPAIR



1 Maximum level 2 Minimum level

Tightening torque:

Spark plug

17.5 Nm (1.75m·kg)

6

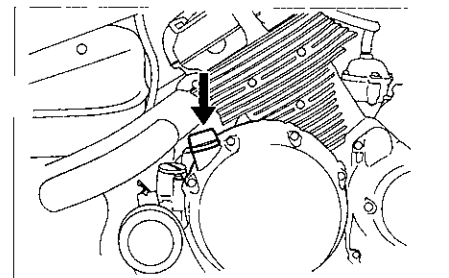
NOTE:

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

Engine oil

Oil level inspection

- Place the motorcycle on a level place and hold it in an upright position
- Warm up the engine for several minutes
- Stop the engine and wait a few minutes. Then check the oil level through the level window
- The oil level should be between the maximum and minimum marks. If the level is low, add oil to raise it to the specified level.



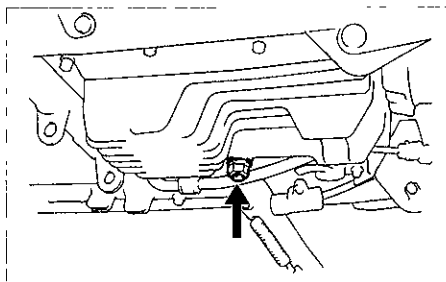
Engine oil and oil filter replacement

CAUTION:

A special tool is required when replacing the oil filter. Take the motorcycle to a Yamaha Dealer or refer to the Service Manual when replacing the oil filter.

- Warm up the engine for several minutes.
- Stop the engine. Place an oil pan under the engine and remove the oil filler cap.
- Remove the drain plug and drain the oil.
- Remove the oil filter.

PERIODIC MAINTENANCE AND MINOR REPAIR



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

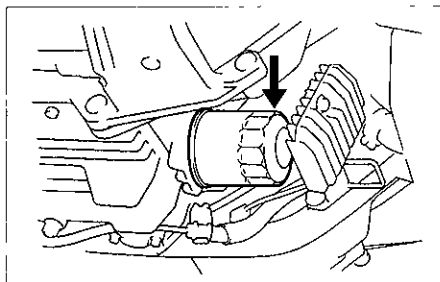
Tightening torque:

Drain plug:
38 Nm (3.8 m·kg)

- Apply a light coat of engine oil to the O-ring of the new oil filter. Make sure the O-ring is seated properly.
- Install the new oil filter. Tighten it to the specified tightening torque using the special tool.

Tightening torque:

Oil filter
17 Nm (1.7 m·kg)



- Fill engine with oil and install the oil filler cap.

Recommended oil:

See page 8-1

Oil quantity:

Total amount:

4.3 L

Periodic oil change

3.5 L

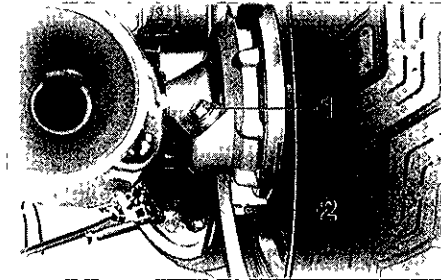
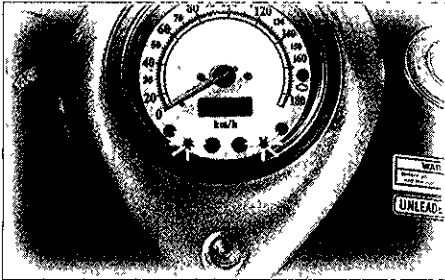
With oil filter replacement:

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.

PERIODIC MAINTENANCE AND MINOR REPAIR



1 Filler bolt

2 Drain plug

6

- 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 ask a Yamaha dealer to check for the cause.
- After the engine is started, the oil indicator light should go off if oil is filled to the specified level.

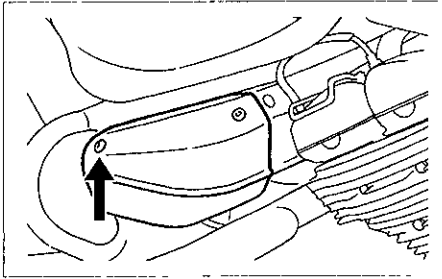
CAUTION:

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

Final gear oil

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

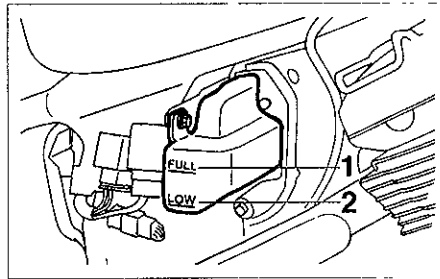
PERIODIC MAINTENANCE AND MINOR REPAIR



Cooling system

Coolant level inspection

To check the coolant level in the reservoir tank, remove the right side cover



- 1 Maximum level mark
- 2 Minimum level mark

The coolant level should be between the minimum and maximum marks. If it's not, add tap water to bring the level up to the maximum mark.

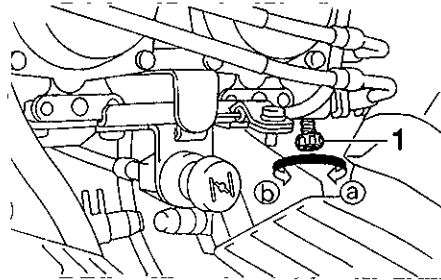
Carburetor adjustment

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

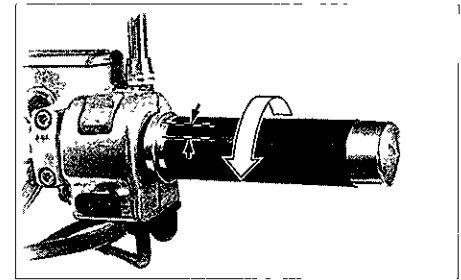
CAUTION:

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

PERIODIC MAINTENANCE AND MINOR REPAIR



1 Throttle stop screw



Throttle cable free play inspection

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

Idle speed adjustment

NOTE:

A diagnostic tachometer must be used for this procedure

6

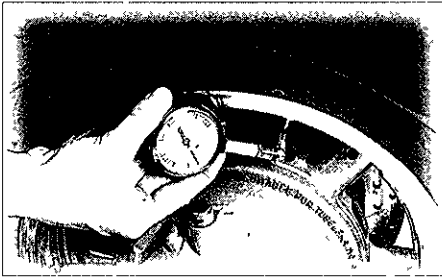
- 1 Attach the tachometer Start the engine and warm it up for a few minutes at approximately 1,000 to 2,000 r/min. Occasionally rev the engine to 4,000 to 5,000 r/min. The engine is warm when it quickly responds to the throttle

Standard idle speed
950 ~ 1,050 r/min

NOTE:

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

PERIODIC MAINTENANCE AND MINOR REPAIR



Tires

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

1. Tire air pressure

Always check and adjust the tire pressure before operating the motorcycle

WARNING

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

Maximum load*	177 kg	
Cold tire pressure	Front	Rear
Up to 90 kg	250 kPa (2.50 kg/cm ² , 2.50 bar)	250 kPa (2.50 kg/cm ² , 2.50 bar)
90 kg load ~ Maximum load*	250 kPa (2.50 kg/cm ² , 2.50 bar)	280 kPa (2.80 kg/cm ² , 2.80 bar)

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

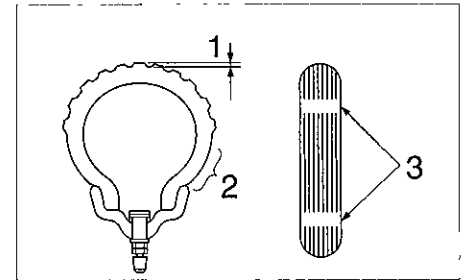
PERIODIC MAINTENANCE AND MINOR REPAIR

6

⚠ 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, sad-

dlebags, etc. if approved for this model) does not exceed the maximum load of the motorcycle. Operation of an overloaded motorcycle could cause tire damage, an accident, or even injury.

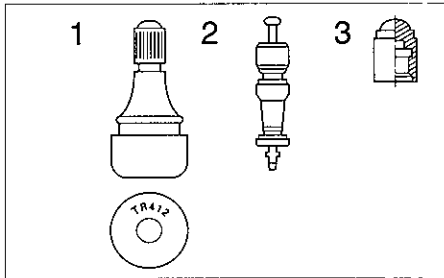


- 1 Tread depth 2 Sidewall
3 Wear indicator

2. Tire inspection

Always check the tires before operating the motorcycle. If a tire tread shows crosswise lines (minimum tread depth), if the tire has a nail or glass fragments in it, or if the side wall is cracked, contact a Yamaha dealer immediately and have the tire replaced.

PERIODIC MAINTENANCE AND MINOR REPAIR



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

FRONT

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

REAR

Manufacturer	Size	Type
Dunlop	150/90B-15M/C 74H	D404

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

NOTE:

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

Wheels

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

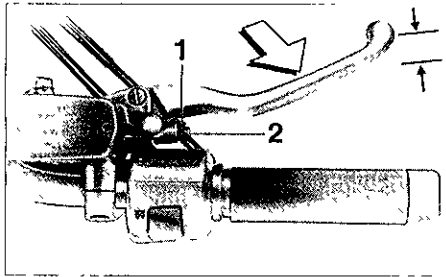
1. Always inspect the wheels before a ride. Check for cracks, bends, or warpage of the wheels. If any abnormal condition exists in a wheel, consult a Yamaha dealer. Do not attempt even small repairs to the wheel. If a wheel is deformed or cracked, it must be replaced.
2. Tires and wheels should be balanced whenever either one is changed or replaced. Failure to have a wheel balanced can result

in poor performance, adverse handling characteristics, and shortened tire life.

3. Ride at moderate speeds after changing a tire since the tire surface must first be broken in for it to develop its optimal characteristics.
4. After repairing or replacing the rear tire, tighten the valve stem locknut to the specified torque.

Tightening torque:
Valve stem locknut
15 Nm (1.5 m·kg)

PERIODIC MAINTENANCE AND MINOR REPAIR



1 Locknut

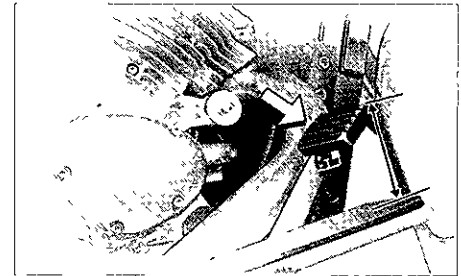
2 Adjusting bolt

Brake system

⚠ WARNING

6

Be sure the brakes are working properly. A soft or spongy feeling in the brake lever or 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 brake system if necessary.



Brake pedal height adjustment

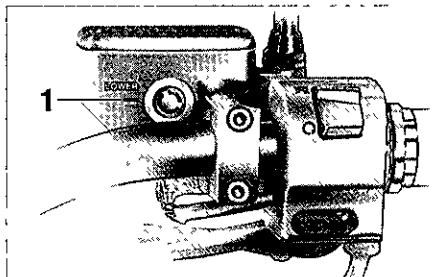
The top of the brake pedal should be positioned 100 mm above the top of the footrest. If it isn't, take the motorcycle to a Yamaha dealer for adjustment.

Lever free play adjustment

The free play at the end of the front brake lever should be 2 ~ 5 mm

- Loosen the locknut.
- Turn the adjusting bolt so that the brake lever movement at the lever end is 2 ~ 5 mm before the adjusting bolt contacts the master cylinder piston.
- After adjusting, tighten the locknut

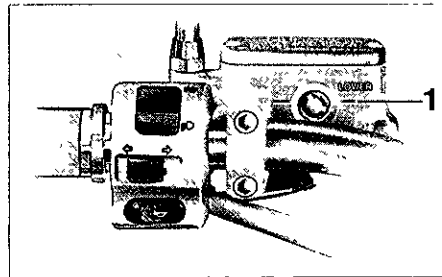
PERIODIC MAINTENANCE AND MINOR REPAIR



1 Minimum level



1 Minimum level



1 Minimum level

Inspecting the brake and clutch fluid level

Insufficient brake fluid may let air enter the brake/clutch system, possibly causing the brake/clutch to become ineffective. Before riding, check that the brake and clutch fluid is above the lower level and replenish when necessary. Observe these precautions.

- 1 When checking the fluid level, make sure the top of the master cylinder is level by turning the handlebars.

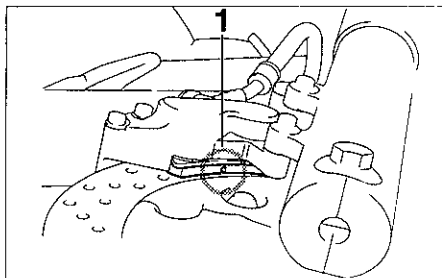
2. Use only the designated quality brake fluid. Otherwise, the rubber seals may deteriorate, causing leakage and poor brake or clutch performance.

Recommended brake fluid. DOT 4

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

4. Be careful that water does not enter the master cylinder when refilling. Water will significantly lower the boiling point of the fluid and may result in vapor lock.
5. Brake fluid may deteriorate painted surfaces or plastic parts. Always clean up spilled fluid immediately.
6. Have a Yamaha dealer check the cause if the brake fluid level goes down.

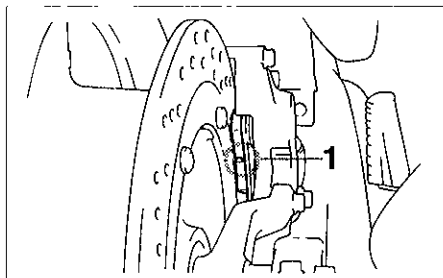
PERIODIC MAINTENANCE AND MINOR REPAIR



1 Wear indicator groove

Checking the brake pads

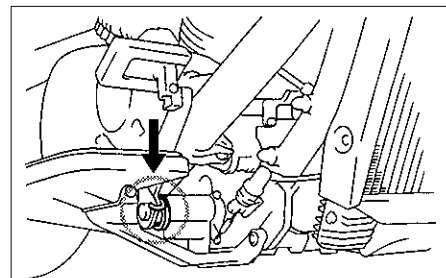
A wear indicator groove is provided on each brake pad. This indicator allows checking of brake pad wear without disassembling the brake. Apply the brake and inspect the groove. If the groove has almost disappeared, ask a Yamaha dealer to replace the pads



1 Wear indicator groove

Clutch 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

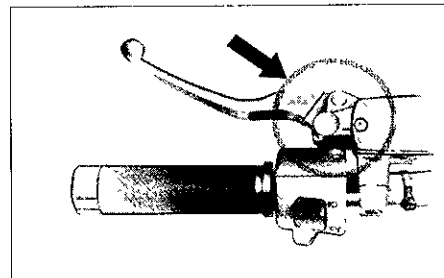
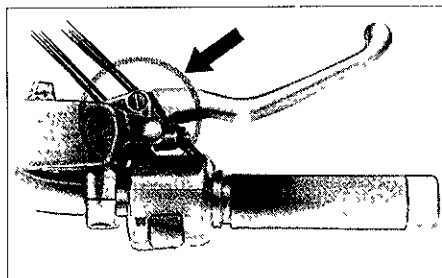
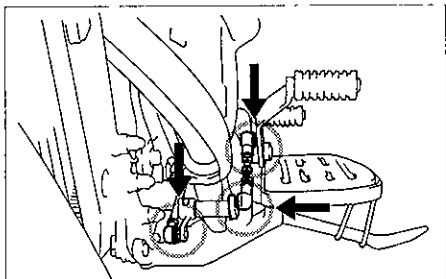


Brake and shift pedal lubrication

Lubricate the pivoting parts.

Recommended lubricant:
Same as engine oil

PERIODIC MAINTENANCE AND MINOR REPAIR

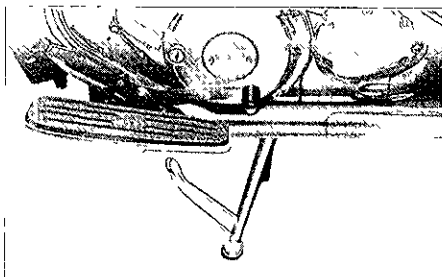
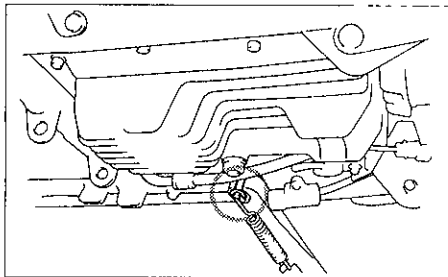


Brake and clutch lever lubrication

Lubricate the pivoting parts.

Recommended lubricant
Same as engine oil

PERIODIC MAINTENANCE AND MINOR REPAIR



Sidestand lubrication

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

Recommended lubricant:
Same as engine oil

WARNING

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

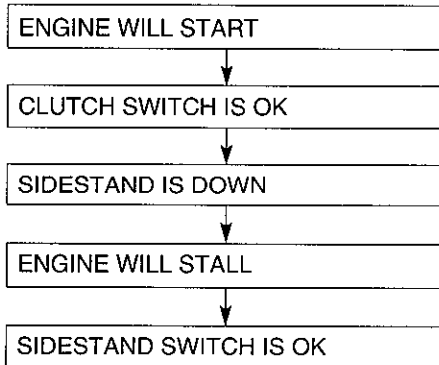
Sidestand/clutch switch operation check

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

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

TRANSMISSION IS IN GEAR AND SIDESTAND IS UP

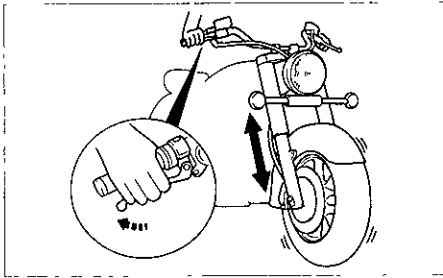
PULL IN CLUTCH LEVER AND PUSH THE START SWITCH.



WARNING

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

PERIODIC MAINTENANCE AND MINOR REPAIR



Front fork inspection

⚠ WARNING

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

Oil leakage check

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

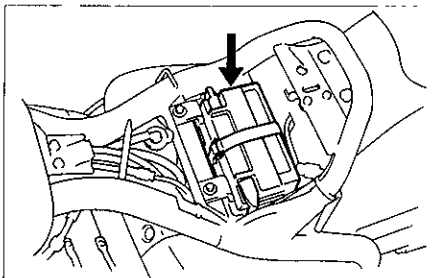
Operation check

Place the motorcycle on a level place. Hold the motorcycle in an upright position and apply the front brake. 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, take the motorcycle to a Yamaha dealer for repairs.

PERIODIC MAINTENANCE AND MINOR REPAIR



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 re-charge 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.

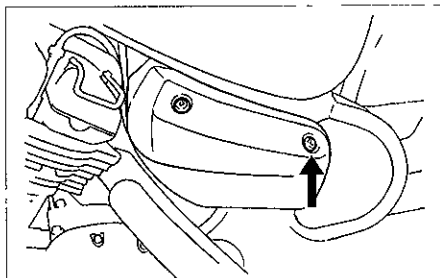
EYES: Flush with water for 15 minutes and get prompt medical attention. Batteries produce explosive gases. Keep sparks, flame, cigarettes etc., away. Ventilate when charging or using in an enclosed space. Always shield your eyes when working near batteries.

KEEP OUT OF REACH OF CHILDREN.

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

PERIODIC MAINTENANCE AND MINOR REPAIR

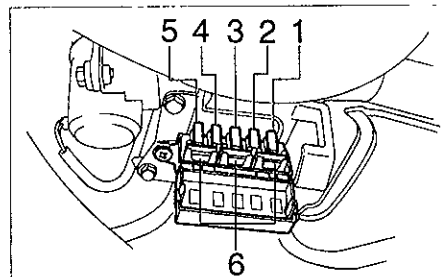


Fuse replacement

Sub fuse box

The sub fuse box is located inside the left upper side panel.

- Remove the bolt and pull the upper side panel outward to remove it.



- | | |
|----------------------|---------------|
| 1 Ignition | 2 Signal |
| 3 Head | 4 Fan |
| 5 Back up (odometer) | 6 Spare (x 3) |

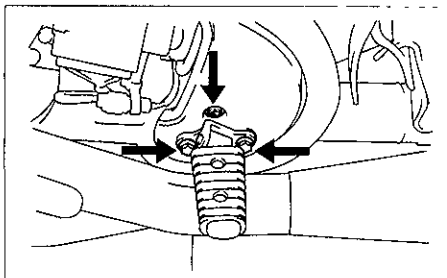
Specified fuse*

Ignition:	10A
Signal:	10A
Head:	15A
Fan:	10A
Back up (Odometer):	5A

CAUTION:

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

PERIODIC MAINTENANCE AND MINOR REPAIR

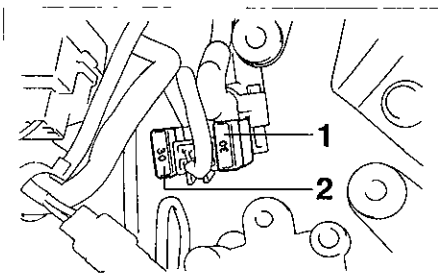


Main fuse box

The main fuse box is located inside the left lower side panel.

- Remove the upper side panel.
- Remove the left passenger footrest bolts and the lower side panel bolt and pull the panel outward to remove it.

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



1 Main

2 Spare

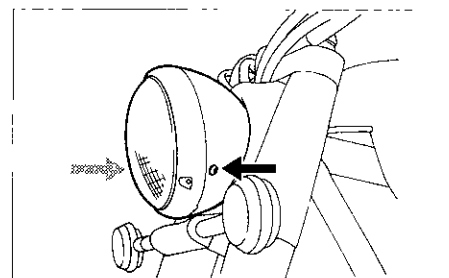
CAUTION:

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

Specified fuse.

Main

30A



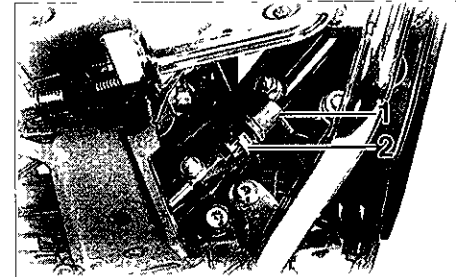
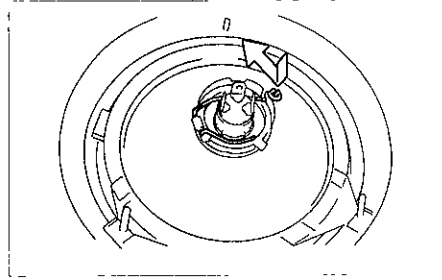
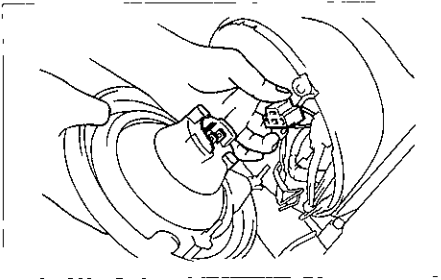
Headlight bulb replacement

This motorcycle is equipped with a quartz bulb headlight.

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

1. Remove the screws holding the headlight assembly.
2. Remove the connector and the bulb cover.
3. Unhook the bulb holding spring and remove the defective bulb.

PERIODIC MAINTENANCE AND MINOR REPAIR



1 Brake light switch 2 Adjusting nut

⚠ 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.

- 4 Put a new bulb into position and secure it in place with the bulb holding spring

CAUTION:

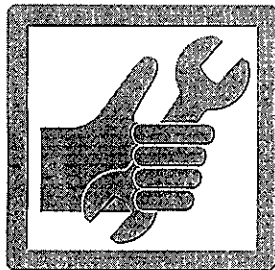
Avoid touching the glass part of the bulb. Keep it free from oil; otherwise, the transparency of the glass, life of the bulb, and illuminous flux will be adversely affected. If oil gets on the bulb, thoroughly clean it with a cloth moistened with alcohol or lacquer thinner.

- 5 Install the bulb cover and the connector. If the headlight beam adjustment is necessary, ask a Yamaha dealer or to make adjustment

Brake light switch adjustment

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

PERIODIC MAINTENANCE AND MINOR REPAIR



Troubleshooting

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

6

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.

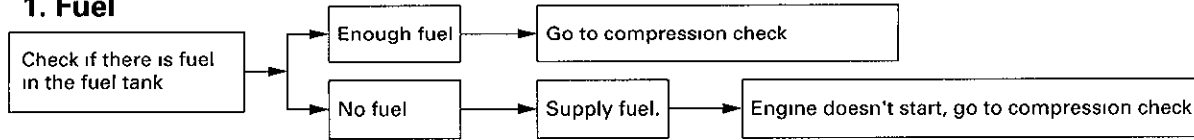
PERIODIC MAINTENANCE AND MINOR REPAIR

Troubleshooting chart

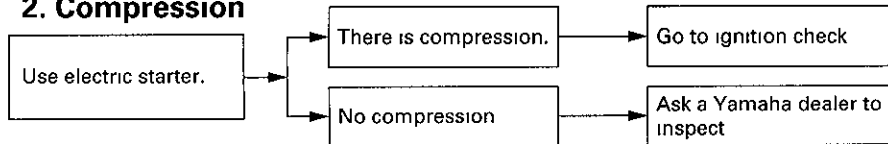
WARNING

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

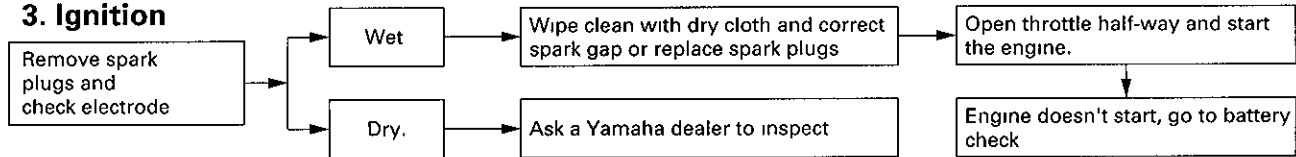
1. Fuel



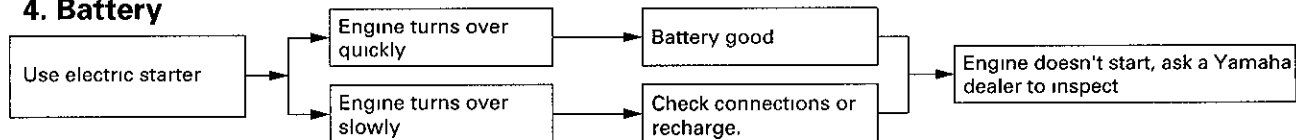
2. Compression



3. Ignition



4. Battery



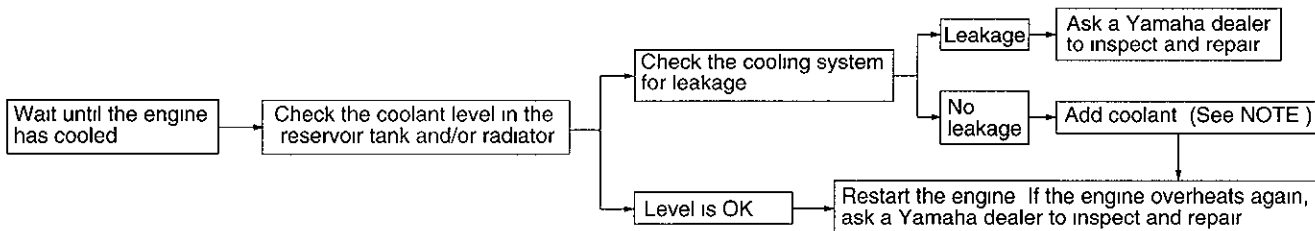
PERIODIC MAINTENANCE AND MINOR REPAIR

5. 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. 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.



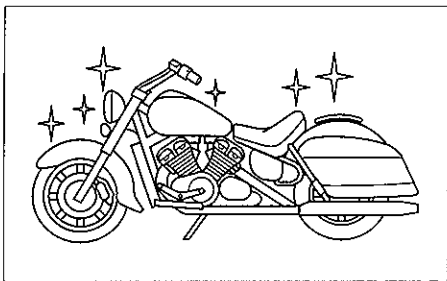
NOTE:

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	7-1
Storage	7-3

CLEANING AND STORAGE



A. CLEANING

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

7

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 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.



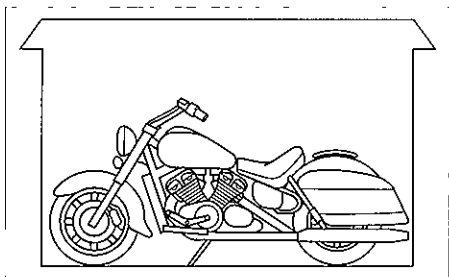
CAUTION: _____

Excessive hose pressure may cause water seepage and deterioration of wheel bearings, front fork, brakes, transmission seals 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. Windscreen cleaning
Clean the windscreen with a cloth or sponge dampened with a neutral detergent, and after cleaning, thoroughly wash it off with water. Some cleaning compounds for plastics may leave scratches on surfaces of the windscreen. Before using them, make a test by polishing an area which does not affect your visibility
7. Clean the seat with a vinyl upholstery cleaner to keep the cover pliable and glossy.
8. Automotive-type wax may be applied to all painted and chrome-plated surfaces. Avoid combination cleaner-waxes. Many contain abrasives which may mar the paint or protective finish. When finished, start the engine and let it idle for several minutes.

CLEANING AND STORAGE



B. STORAGE

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

- 7**
1. Fill the fuel tank with fuel and add fuel stabilizer (if available).
 2. Remove the spark plugs, pour about one tablespoon of engine oil in each spark plug hole and re-install the spark plugs. Turn the engine over several times (ground 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
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 completely recharge it once a month. Do not store the battery in an excessively warm or cold place (less than 0°C or more than 30°C). See page 6-21 for battery storage precautions.

NOTE:

Make any necessary repairs before storing the motorcycle

Specifications 8-1
HOW TO USE THE CONVERSION TABLE 8-5

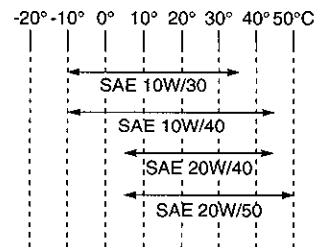
SPECIFICATIONS

Specifications

Model	XVZ13LT
Dimensions:	
Overall length	2,485 mm
Overall width	925 mm
Overall height	1,475 mm
Seat height	725 mm
Wheelbase	1,695 mm
Minimum ground clearance	145 mm
Minimum turning radius	3,400 mm
Basic weight (with oil and full fuel tank):	356 kg
Engine:	
Engine type	Liquid-cooled 4-stroke, DOHC
Cylinder arrangement	V type 4-cylinder
Displacement	1,294 cm ³
Bore × stroke	79 × 66 mm
Compression ratio	10.1
Starting system	Electrical starter
Lubrication system	Wet sump

Engine oil:

Type



Classification

API Service "SE", "SF" type or equivalent
(e.g. "SF-SE", "SF-SE-CC", "SF-SE-SD" etc.)

Capacity

Periodic oil change	3.5 L
With oil filter replacement	3.7 L
Total amount	4.3 L

Final gear oil:

Type

SAE80API "GL-4" Hypoid Gear Oil

Capacity

0.2 L

Radiator capacity (including all routes):

2.9 L

Air filter	Dry type element
Fuel:	
Type	Unleaded fuel (for Australia) Regular gasoline (except for Australia)
Fuel tank capacity	18 L
Reserve amount	3.5 L
Carburetor:	
Type × quantity	BDS28×4
Manufacturer	MIKUNI
Spark plug:	
Type/Manufacturer	DPR7EA-9/NGK or X22EPR-U9/DENSO
Spark plug gap	0.8 ~ 0.9 mm
Clutch type	Wet, multiple-disc
Transmission:	
Primary reduction system	Spur gear
Primary reduction ratio	1.666
Secondary reduction system	Shaft drive
Secondary reduction ratio	2.566
Transmission type	Constant mesh 5-speed
Operation	Left foot operation
Gear ratio	1st 2.437 2nd 1.578

	3rd	1.160
	4th	0.906
	5th	0.750
Chassis		
Frame type		Double cradle
Caster angle		30°
Trail		126 mm
Tire:		
Type		Tubeless
Size		
Front		150/80-16 71H
Rear		150/90B-15M/C 74H
Manufacture / model		
Front		Dunlop / D404F
Rear		Dunlop / D404
Maximum load		177 kg
Air pressure (cold tire)		
Up to 90 kg load*		
Front		250 kPa, 2.50 kg/cm ² , 2.50 bar
Rear		250 kPa, 2.50 kg/cm ² ; 2.50 bar
90 kg load ~ Maximum load*		
Front		250 kPa, 2.50 kg/cm ² , 2.50 bar
Rear		280 kPa, 2.80 kg/cm ² , 2.80 bar

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

SPECIFICATIONS

Wheels:

Type

Front	Cast
Rear	Cast

Size

Front	16 × MT3 50
Rear	15M/C × MT4 00

Brakes:

Front

Type	Dual disc brake
Operation	Right hand operation

Rear

Type	Single disc brake
Operation	Right foot operation

Suspension:

Front

Type	Telescopic fork
------	-----------------

Rear

Type	Swingarm (link suspension)
------	----------------------------

Shock absorber:

Front

Coil-air spring / oil damper

Rear

Coil spring / gas-oil damper

Wheel travel:

Front	140 mm
Rear	95 mm

Electrical:

Ignition system	T C I (digital)
Generator system	A C generator
Standard output	14 V 23 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 W / 55 W
Tail / brake light	12 V, 5 W / 21 W
Turn signal lights	12 V, 21 W × 4
Meter light	12 V, 1 4 W × 2
Neutral indicator light	12 V, 1 7 W × 1
High beam indicator light	12 V, 1 7 W × 1
Turn indicator light	12 V, 1 7 W × 1
Fuel level indicator light	12 V, 3 0 W × 1
Engine overheat indicator light	12 V, 1 7 W × 1
Oil level indicator light	12 V, 1 7 W × 1
Overdrive indicator light	12 V, 1 7 W × 1

Fuses:

Main fuse	30 A
Ignition fuse	10 A
Signaling system fuse	10 A
Headlight fuse	15 A
Fan fuse	10 A
Back up (Odometer)	5 A

SPECIFICATIONS

HOW TO USE THE CONVERSION TABLE

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

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

Ex.

METRIC		MULTIPLIER	=	IMPERIAL
**mm	×	0 03937	=	**in
2 mm	×	0 03937	=	0 08 in

CONVERSION TABLE

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

CONSUMER INFORMATION

Identification numbers record	9-1
Key identification number	9-1
Vehicle identification number	9-2
Model label	9-2
Noise regulation (FOR Australia)	9-3

CONSUMER INFORMATION

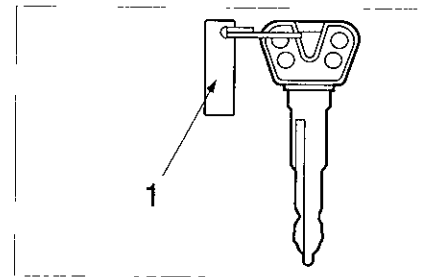
Identification numbers record

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

- 1 KEY IDENTIFICATION NUMBER

2. VEHICLE IDENTIFICATION NUMBER

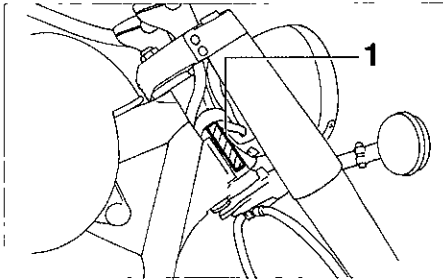
- 3 MODEL LABEL INFORMATION



1 Key identification number

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.



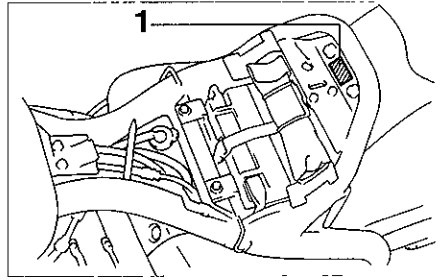
1 Vehicle identification number

Vehicle identification number

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

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. Record the information on this label in the space provided on page 8-1. This information will be needed to order spare parts from your Yamaha dealer.

CONSUMER INFORMATION

NOISE REGULATION (FOR Australia)

"TAMPERING WITH NOISE CONTROL SYSTEM PROHIBITED"

Owners are warned that the law may prohibit:

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

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