



XV1600A

OWNER'S MANUAL



Welcome to the Yamaha world of motorcycling!

As the owner of a Yamaha Wild Star™, you are benefiting from Yamaha's vast experience and newest technology regarding the design and manufacture of high-quality products, which have earned Yamaha a reputation for dependability.

Please take the time to read this manual thoroughly, so as to enjoy all advantages of your Yamaha Wild Star's. The owner's manual does not only instruct you in how to operate, inspect and maintain your motorcycle, but also in how to safeguard yourself and others from trouble and injury.

In addition, the many tips given in this manual will help keep your motorcycle in the best possible condition. If you have any further questions, do not hesitate to contact your Yamaha dealer.

The Yamaha team wishes you many safe and pleasant rides. So, remember to put safety first!

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 you have any questions concerning this manual, please consult your Yamaha dealer.
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IMPORTANT MANUAL INFORMATION



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

IMPORTANT MANUAL INFORMATION

XV1600A

OWNER'S MANUAL

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GIVE SAFETY THE RIGHT OF WAY

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GIVE SAFETY THE RIGHT OF WAY

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

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

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

Enjoy your ride!

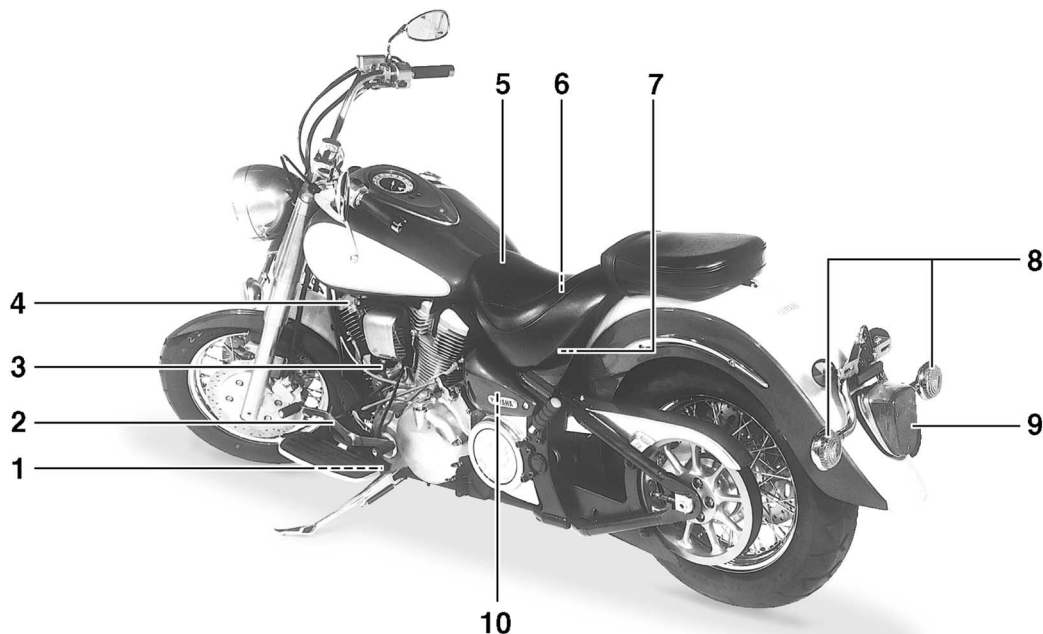
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Left view



1. Engine oil drain bolt (crankcase)

2. Shift pedal

3. Starter (choke) knob

4. Fuel cock

5. Rider seat

6. Owner's tool kit

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7. Helmet holder

8. Rear turn signal lights

9. Tail/brake light

10. Fuses

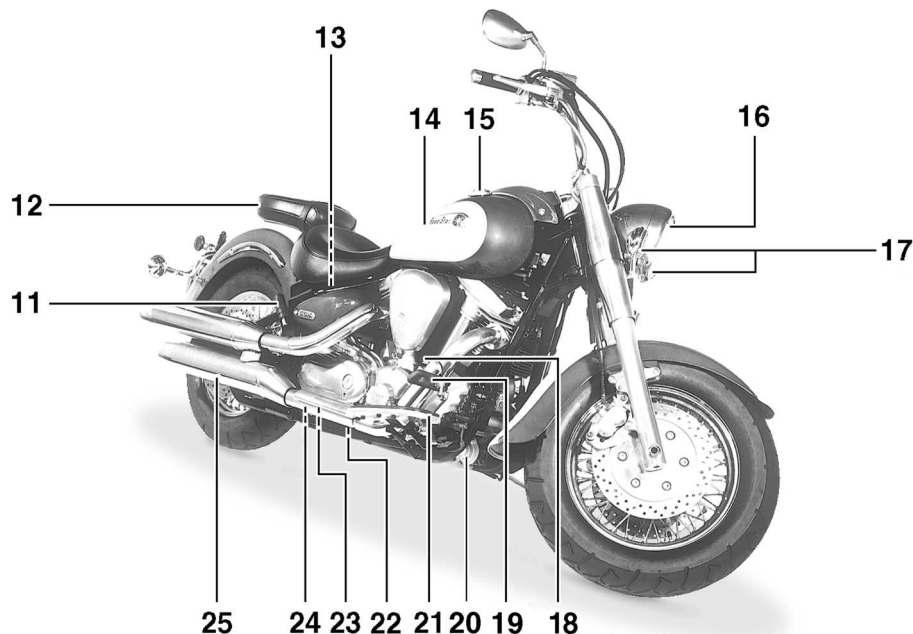
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Right view



- 11. Passenger footrest
- 12. Passenger seat
- 13. Engine oil filler cap
- 14. Fuel tank
- 15. Fuel tank cap
- 16. Headlight
- 17. Front turn signal lights
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- 19. Brake pedal
- 20. Engine oil filter cartridge
- 21. Rider footrest
- 22. Engine oil drain bolt (oil tank)
- 23. Transfer case oil drain bolt
- 24. Shock absorber assembly spring
preload adjusting nut
- 25. Muffler

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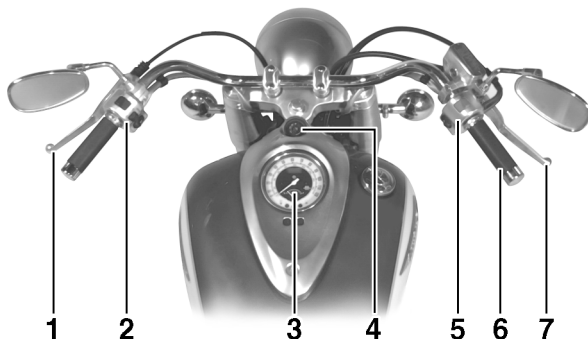
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DESCRIPTION

Controls and instruments

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- 1. Clutch lever
- 2. Left handlebar switches
- 3. Speedometer unit
- 4. Main switch/steering lock

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- 5. Right handlebar switches
- 6. Throttle grip
- 7. Brake lever

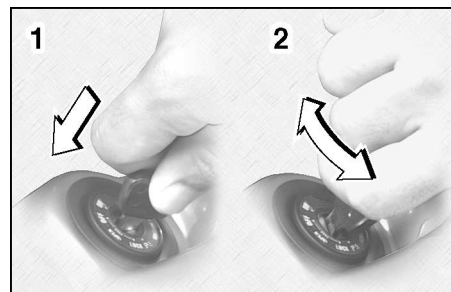
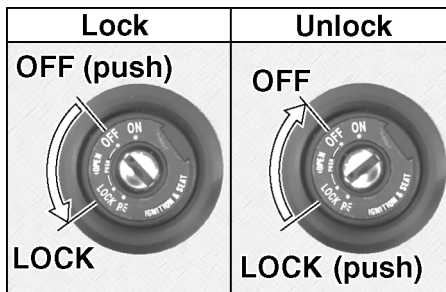
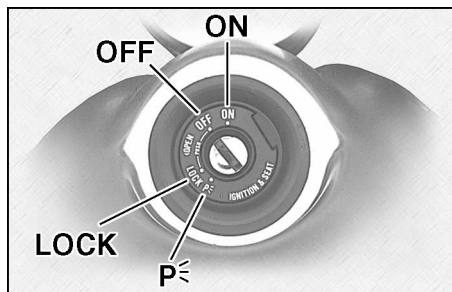
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INSTRUMENT AND CONTROL FUNCTIONS



1. Push.
2. Turn.

Main switch/steering lock

The main switch/steering lock controls the ignition and lighting systems, and is used to lock the steering. The various positions are described below.

ON

All electrical systems are supplied with power, and the engine can be started. The key cannot be removed.

OFF

All electrical systems are off. The key can be removed.

LOCK

The steering is locked, and all electrical systems are off. The key can be removed.

To lock the steering

1. Turn the handlebars all the way to the left.
2. Push the key in from the "OFF" position, and then turn it to "LOCK" while still pushing it.
3. Remove the key.

To unlock the steering

Push the key in, and then turn it to "OFF" while still pushing it.

! WARNING

Never turn the key to "OFF" or "LOCK" while the motorcycle is moving, otherwise the electrical systems will be switched off, which may result in loss of control or an accident. Make sure that the motorcycle is stopped before turning the key to "OFF" or "LOCK".

INSTRUMENT AND CONTROL FUNCTIONS

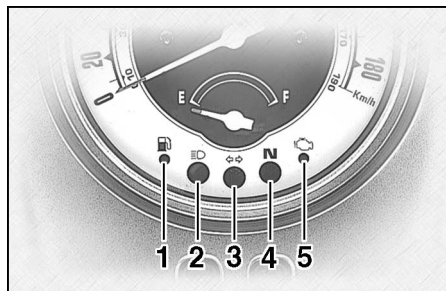
PⓅ (Parking)

The steering is locked, and the taillight and auxiliary light are on, but all other electrical systems are off. The key can be removed.

The steering must be locked before the key can be turned to “PⓅ”.

CAUTION:

Do not use the parking position for an extended length of time, otherwise the battery may discharge.



1. Fuel level warning light “”
2. High beam indicator light “”
3. Turn signal indicator light “ ”
4. Neutral indicator light “**N**”
5. Engine trouble warning light “”

Indicator and warning lights

Fuel level warning light “”

This warning light comes on when the fuel level drops below approximately 3.5 L. When this occurs, turn the fuel cock lever to the “RES” position and refuel as soon as possible.

High beam indicator light “”

This indicator light comes on when the high beam of the headlight is switched on.

Turn signal indicator light “ ”

This indicator light flashes when the turn signal switch is pushed to the left or right.

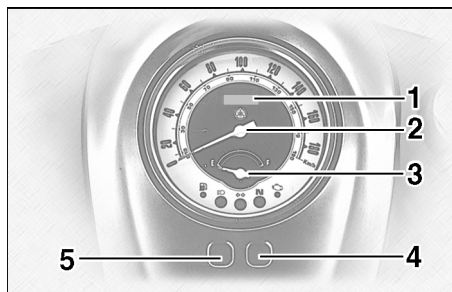
Neutral indicator light “**N**”

This indicator light comes on when the transmission is in the neutral position.

Engine trouble warning light “”

This warning light comes on or flashes when an electrical circuit monitoring the engine is defective. When this occurs, have the Yamaha dealer check the self-diagnosis system.

INSTRUMENT AND CONTROL FUNCTIONS



1. Odometer/tripmeter/clock
2. Speedometer
3. Fuel gauge
4. Set button
5. Mode button

Speedometer unit

The speedometer unit is equipped with a speedometer, an odometer and two tripmeters. The speedometer shows riding speed. The odometer shows the total distance traveled. The tripmeters show the distance traveled since they were last set to zero.

Pushing the mode button (left) switches the display between the odometer mode “ODO” and the tripmeter modes “TRIP A” and “TRIP B” in the following order:



To reset a tripmeter, select it by pushing the mode button (left), and then hold down the set button (right) for at least one second. The tripmeters can be used to estimate the distance that can be traveled with a full tank of fuel. This information will enable you to plan future fuel stops.

NOTE: _____

This motorcycle is not equipped with a tachometer; however, it has a built-in engine speed limiter, which prevents the engine speed from exceeding approximately 4,400 r/min.

Self-diagnosis device

This model is equipped with a self-diagnosis device for various electrical circuits.

If any of those circuits are defective, the engine trouble warning light will come on or the fuel level warning light will flash. If this occurs, have a Yamaha dealer check the motorcycle.

CAUTION:

To prevent engine damage, be sure to consult a Yamaha dealer as soon as possible if this occurs.

Fuel gauge

The fuel gauge indicates the amount of fuel in the fuel tank. The needle moves towards “E” (Empty) as the fuel level decreases. When the needle reaches “E”, refuel as soon as possible.

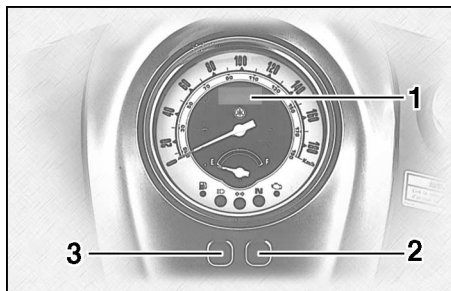
NOTE:

Do not allow the fuel tank to empty itself completely.

Anti-theft alarm (optional)

This motorcycle can be equipped with an optional anti-theft alarm by a Yamaha dealer. Contact a Yamaha dealer for more information.

INSTRUMENT AND CONTROL FUNCTIONS



1. Clock
2. Set button
3. Mode button

Clock

The digital clock shows the time regardless of the main switch position.



To set the clock:

1. Turn the key to "ON".
2. Press both the set button (right) and the mode button (left) simultaneously until the hours and minutes flash.



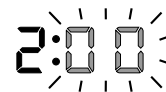
3. Push the left button and only the hour display will flash.



4. Push the right button to change the hours.



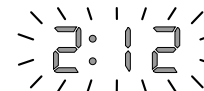
5. Push the left button and only the minute display will flash.



6. Push the right button to change the minutes.



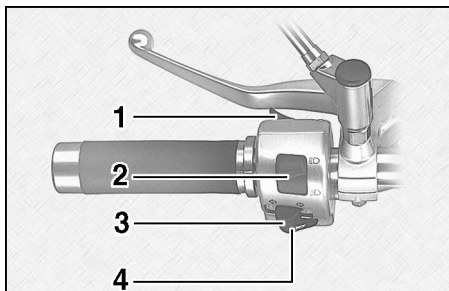
7. Push the left button and both the hours and minutes will flash.



8. Push the right button for two seconds to set the clock.



INSTRUMENT AND CONTROL FUNCTIONS



1. Pass switch “≡〇”
2. Dimmer switch “≡〇/☀〇”
3. Turn signal switch “↵/↶”
4. Horn switch “📢”

Handlebar switches

Pass switch “≡〇”

Press this switch to flash the headlight.

Dimmer switch “≡〇/☀〇”

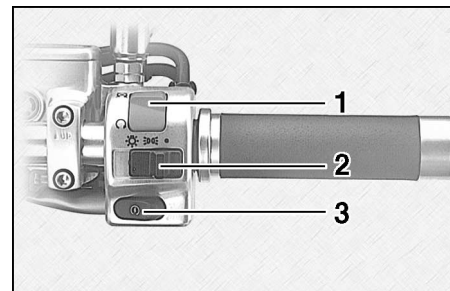
Set this switch to “≡〇” for the high beam and to “☀〇” for the low beam.

Turn signal switch “↵/↶”

To signal a right-hand turn, push this switch to “↶”. To signal a left-hand turn, push this switch to “↵”. When released, the switch returns to the center position. To cancel the turn signal lights, push the switch in after it has returned to the center position.

Horn switch “📢”

Press this switch to sound the horn.



1. Engine stop switch “🔥/⊘”
2. Light switch “☀/⊘/●”
3. Start switch “🔄”

Engine stop switch “🔥/⊘”

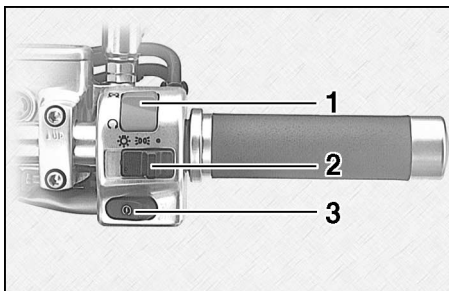
Set this switch to “⊘” before starting the engine. Set this switch to “🔥” to stop the engine in case of an emergency, such as when the motorcycle overturns or when the throttle cable is stuck.

Light switch “☀/⊘/●”

Set this switch to “⊘/⊘” to turn on the auxiliary light, meter lighting and tail-light. Set the switch to “☀” to turn on the headlight also. Set the switch to “●” to turn off all the lights.

INSTRUMENT AND CONTROL FUNCTIONS

3



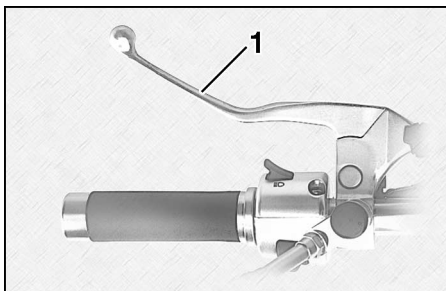
1. Engine stop switch “/○”
2. Light switch “/≡D ≡/ ●”
3. Start switch “ ”

Start switch “ ”

Push this switch to crank the engine with the starter.

CAUTION:

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

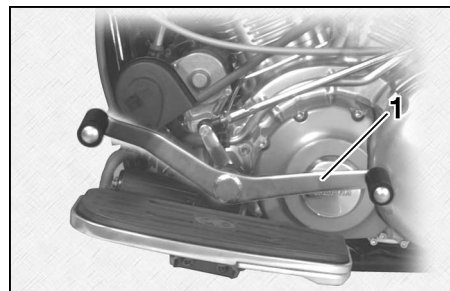


1. Clutch lever

Clutch lever

The clutch lever is located at the left handlebar grip. To disengage the clutch, pull the lever toward the handlebar grip. To engage the clutch, release the lever. The lever should be pulled rapidly and released slowly for smooth clutch operation.

The clutch lever is equipped with a clutch switch, which is part of the ignition circuit cut-off system. (See page 3-16 for an explanation of the ignition circuit cut-off system.)



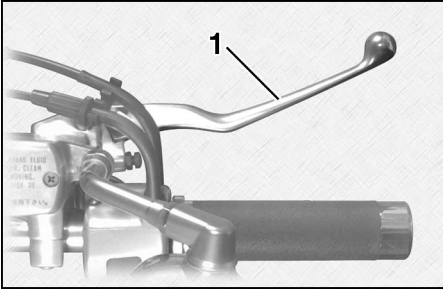
1. Shift pedal

Shift pedal

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

NOTE:

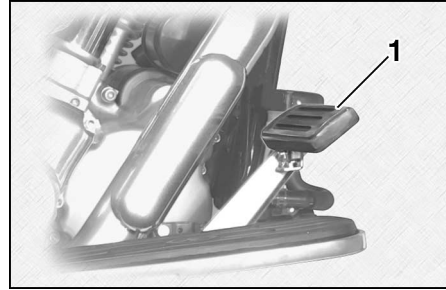
Use your toes or heel to shift up and your toes to shift down.



1. Brake lever

Brake lever

The brake lever is located at the right handlebar grip. To apply the front brake, pull the lever toward the handlebar grip.

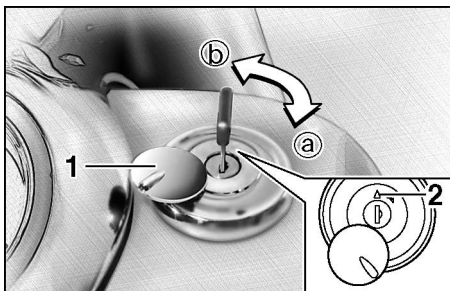


1. Brake pedal

Brake pedal

The brake pedal is on the right side of the motorcycle. To apply the rear brake, press down on the brake pedal.

INSTRUMENT AND CONTROL FUNCTIONS



1. Fuel tank cap lock cover
2. “△” mark
- a. Unlock.
- b. Lock.

Fuel tank cap

To remove the fuel tank cap

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

To install the fuel tank cap

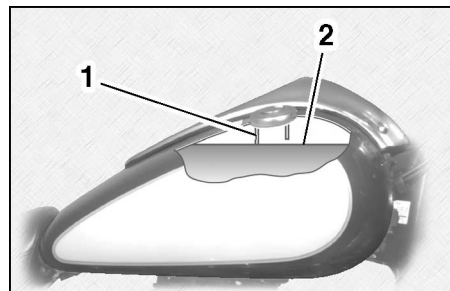
1. Insert the fuel tank cap into the tank opening with the key inserted in the lock and with the “△” mark facing forward.
2. Turn the key counterclockwise to the original position, remove it, and then close the lock cover.

NOTE:

The fuel tank cap cannot be installed unless the key is in the lock. In addition, the key cannot be removed if the cap is not properly installed and locked.



Make sure that the fuel tank cap is properly installed before riding.



1. Fuel tank filler tube
2. Fuel level

Fuel

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



- Do not overfill the fuel tank, otherwise it may overflow when the fuel warms up and expands.
- Avoid spilling fuel on the hot engine.

INSTRUMENT AND CONTROL FUNCTIONS

CAUTION:

Immediately wipe off spilled fuel with a clean, dry, soft cloth, since fuel may deteriorate painted surfaces or plastic parts.

Recommended fuel:
REGULAR UNLEADED
GASOLINE ONLY

Fuel tank capacity:

Total amount:

20 L

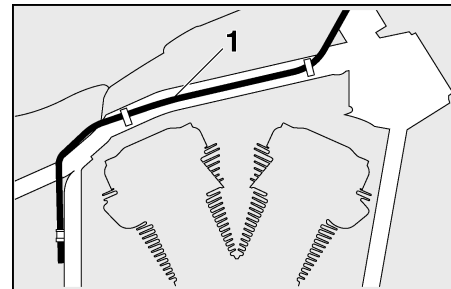
Reserve amount:

3.5 L

CAUTION:

Use only unleaded gasoline. The use of leaded gasoline will cause severe damage to internal engine parts such as the valves and piston rings, as well as to the exhaust system.

Your Yamaha engine has been designed to use regular unleaded gasoline with a research octane number of 91 or higher. If knocking (or pinging) occurs, use a gasoline of a different brand or premium unleaded fuel. Use of unleaded fuel will extend spark plug life and reduce maintenance costs.



1. Fuel tank breather hose

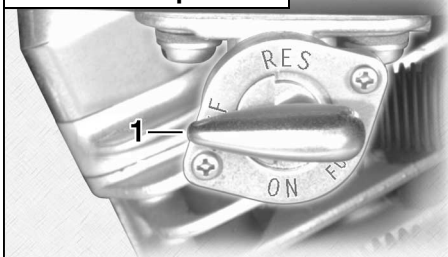
Fuel tank breather hose

Before operating the motorcycle:

- Check the fuel tank breather hose connection.
- Check the fuel tank breather hose for cracks or damage, and replace it if damaged.
- Make sure that the end of the fuel tank breather hose is not blocked, and clean it if necessary.

INSTRUMENT AND CONTROL FUNCTIONS

OFF: closed position



1. Pointed end positioned over "OFF"

Fuel cock

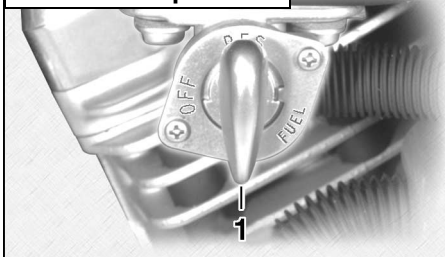
The fuel cock supplies fuel from the tank to the carburetor while filtering it also.

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.

ON: normal position

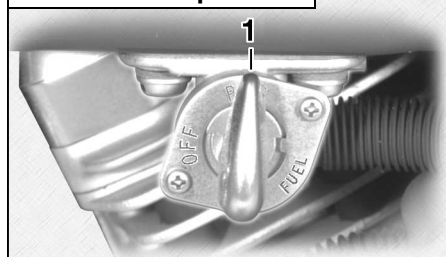


1. Pointed end positioned over "ON"

ON

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

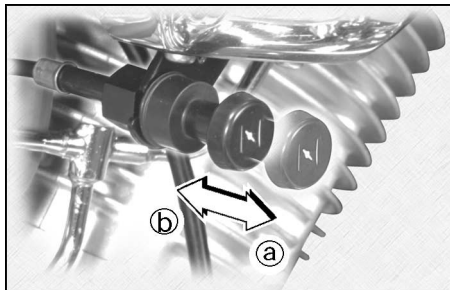
RES: reserve position



1. Pointed end positioned over "RES"

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 back to "ON" after refueling!

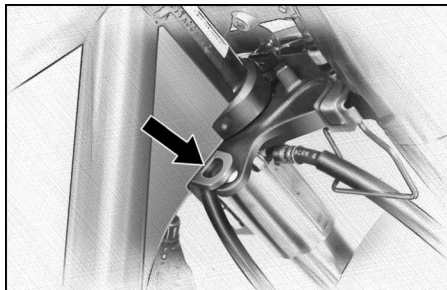


Starter (choke) knob “|/|”

Starting a cold engine requires a richer air-fuel mixture, which is supplied by the starter (choke).

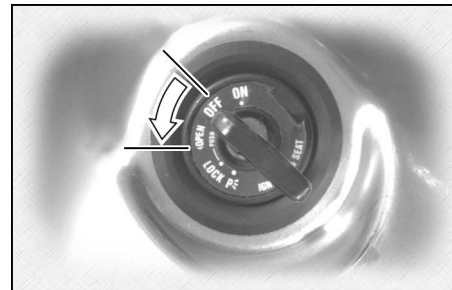
Move the knob in direction ① to turn on the starter (choke).

Move the knob in direction ② to turn off the starter (choke).



Locking the steering with a padlock

In addition to the main switch/steering lock, there are brackets on the right side of the steering head pipe for locking the steering with a padlock. To do so, turn the handlebar until the holes in the two brackets are aligned, and then lock the steering with a suitable padlock.



Rider seat

To remove the rider seat

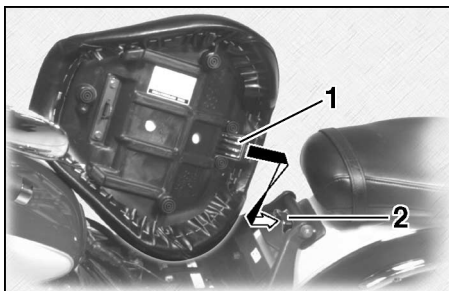
1. Insert the key into the main switch, and then turn it counterclockwise to “OPEN”.

NOTE: Do not push inward when turning the key.

2. Pull the rider seat off.

INSTRUMENT AND CONTROL FUNCTIONS

3

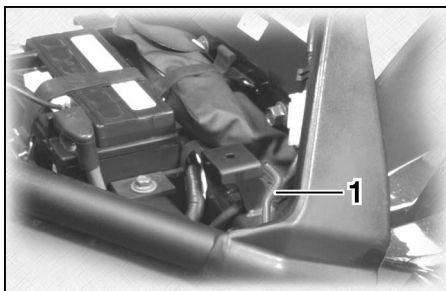


1. Projection
2. Seat holder

To install the rider seat

1. Insert the projection on the rear of the rider seat into the seat holder as shown, and then push the front of the seat down to lock it in place.
2. Remove the key from the main switch if the motorcycle will be left unattended.

NOTE: _____
Make sure that the rider seat is properly secured before riding.



1. Helmet holder

Helmet holder

The helmet holder is located under the rider seat.

To secure a helmet to the helmet holder

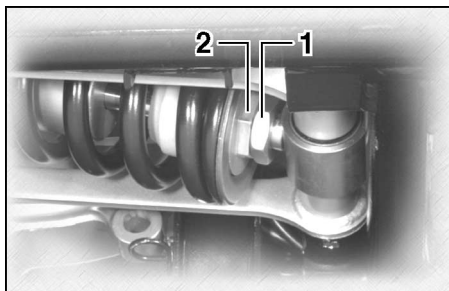
1. Remove the rider seat. (See page 3-12 for rider seat removal and installation procedures.)
2. Attach the helmet to the helmet holder, and then securely install the seat.

WARNING

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

To release the helmet from the helmet holder

Remove the rider seat, remove the helmet from the helmet holder, and then install the seat.



1. Locknut
2. Spring preload adjusting nut

Adjusting the shock absorber assembly

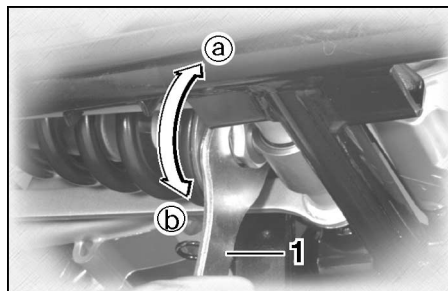
This shock absorber assembly is equipped with a spring preload adjusting nut.

CAUTION:

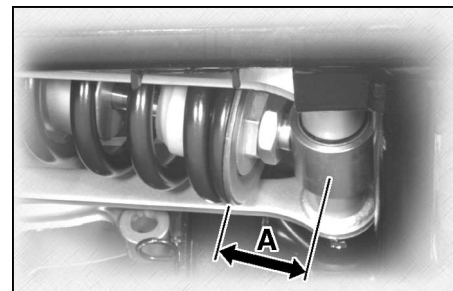
Never attempt to turn an adjusting mechanism beyond the maximum or minimum settings.

Adjust the spring preload as follows.

1. Loosen the locknut.



1. Special wrench
2. To increase the spring preload and thereby harden the suspension, turn the adjusting nut in direction (a). To decrease the spring preload and thereby soften the suspension, turn the adjusting nut in direction (b).



A. Distance A

NOTE:

The spring preload setting is determined by measuring distance A, shown in the illustration. The shorter distance A is, the lower the spring preload; the longer distance A is, the higher the spring preload.

INSTRUMENT AND CONTROL FUNCTIONS

Spring preload:

Minimum (soft)/standard:

Distance A = 42.5 mm

Maximum (hard):

Distance A = 51.5 mm

3. Tighten the locknut to the specified torque.

Tightening torque:

Locknut:

35 Nm (3.5 m·kgf)

CAUTION:

Always tighten the locknut against the adjusting nut, and then tighten the locknut to the specified torque.

⚠ WARNING

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

- Do not tamper with or attempt to open the gas cylinder.
- Do not subject the shock absorber to an open flame or other high heat sources, otherwise it may explode due to excessive gas pressure.
- Do not deform or damage the gas cylinder in any way, as this will result in poor damping performance.
- Always have a Yamaha dealer service the shock absorber.

Sidestand

The sidestand is located on the left side of the frame. Raise the sidestand or lower it with your foot while holding the motorcycle upright.

NOTE:

The built-in sidestand switch is part of the ignition circuit cut-off system, which cuts the ignition in certain situations. (See further down for an explanation of the ignition circuit cut-off system.)

WARNING

The motorcycle must not be ridden with the sidestand down, or if the sidestand cannot be properly moved up (or does not stay up), otherwise the sidestand could contact the ground and distract the operator, resulting in a possible loss of control. Yamaha's ignition circuit cut-off system has been designed to assist the operator in fulfilling the responsibility of raising the sidestand before starting off. Therefore, check this system regularly as described below and have a Yamaha dealer repair it if it does not function properly.

Ignition circuit cut-off system

The ignition circuit cut-off system (comprising the sidestand switch, clutch switch and neutral switch) has the following functions.

- It prevents starting when the transmission is in gear and the sidestand is up, but the clutch lever is not pulled.
- It prevents starting when the transmission is in gear and the clutch lever is pulled, but the sidestand is still down.
- It cuts the running engine when the transmission is in gear and the sidestand is moved down.

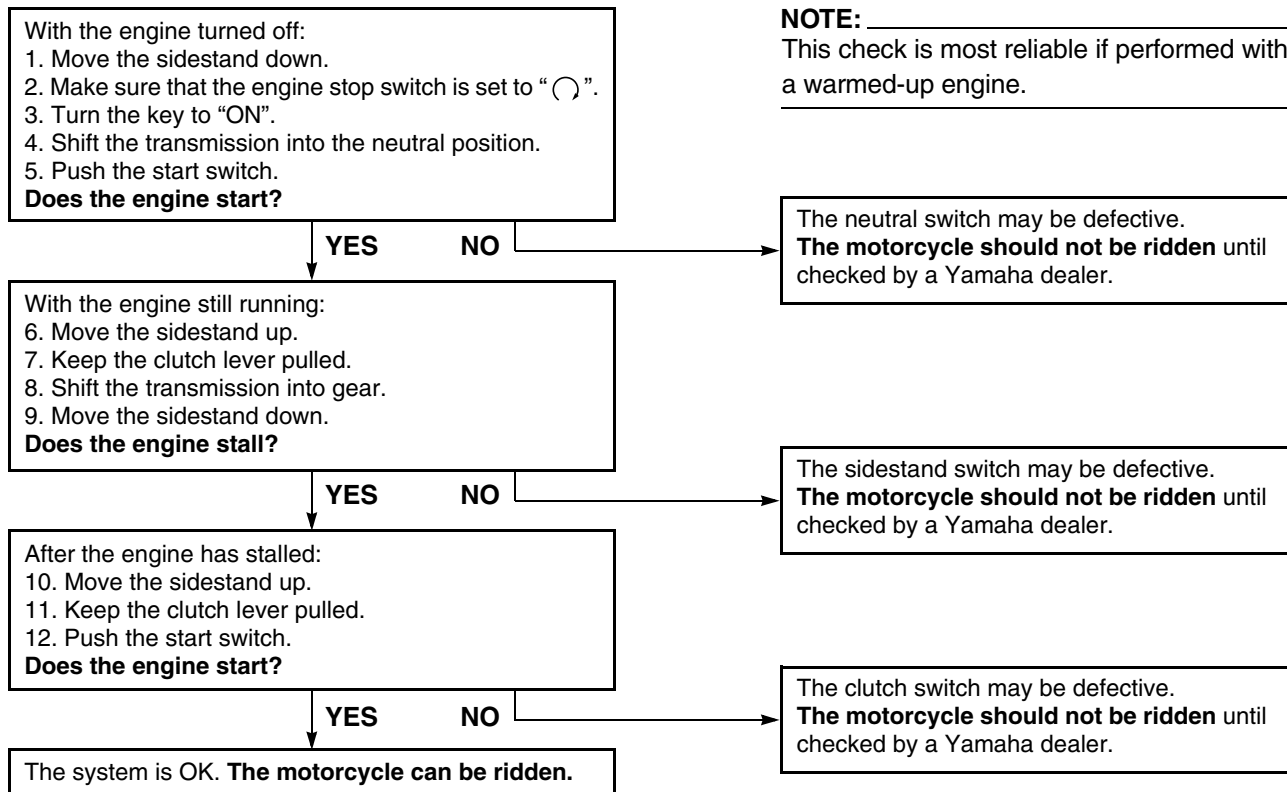
Periodically check the operation of the ignition circuit cut-off system according to the following procedure.

WARNING

If a malfunction is noted, have a Yamaha dealer check the system before riding.

INSTRUMENT AND CONTROL FUNCTIONS

3



Pre-operation check list	4-1
--------------------------------	-----

PRE-OPERATION CHECKS

The condition of a vehicle is the owner's responsibility. Vital components can start to deteriorate quickly and unexpectedly, even if the vehicle remains unused (for example, as a result of exposure to the elements). Any damage, fluid leakage or loss of tire air pressure could have serious consequences. Therefore, it is very important, in addition to a thorough visual inspection, to check the following points before each ride.

Pre-operation check list

ITEM	CHECKS	PAGE
Fuel	• Check fuel level in fuel tank. • Refuel if necessary. • Check fuel line for leakage.	3-9–3-10
Engine oil	• Check oil level in engine. • If necessary, add recommended oil to specified level. • Check vehicle for oil leakage.	6-8–6-11
Front brake	• Check operation. • If soft or spongy, have Yamaha dealer bleed hydraulic system. • Check lever free play. • Adjust if necessary. • Check fluid level in reservoir. • If necessary, add recommended brake fluid to specified level. • Check hydraulic system for leakage.	6-22, 6-23–6-26
Rear brake	• Check operation. • If soft or spongy, have Yamaha dealer bleed hydraulic system. • Check fluid level in reservoir. • If necessary, add recommended brake fluid to specified level. • Check hydraulic system for leakage.	6-22–6-26
Clutch	• Check operation. • Lubricate cable if necessary. • Check lever free play. • Adjust if necessary.	6-21, 6-30
Throttle grip	• Make sure that operation is smooth. • Check free play. • If necessary, have Yamaha dealer make adjustment or lubricate.	6-17

PRE-OPERATION CHECKS

ITEM	CHECKS	PAGE
Control cables	• Make sure that operation is smooth. • Lubricate if necessary.	—
Wheels and tires	• Check for damage. • Check tire condition and tread depth. • Check air pressure. • Correct if necessary.	6-17–6-20
Brake and shift pedals	• Make sure that operation is smooth. • Lubricate pedal pivoting points if necessary.	6-29
Brake and clutch levers	• Make sure that operation is smooth. • Lubricate lever pivoting points if necessary.	6-30
Sidestand	• Make sure that operation is smooth. • Lubricate pivot if necessary.	6-30
Chassis fasteners	• Make sure that all nuts, bolts and screws are properly tightened. • Tighten if necessary.	—
Instruments, lights, signals and switches	• Check operation. • Correct if necessary.	—
Sidestand switch	• Check operation of ignition circuit cut-off system. • If system is defective, have Yamaha dealer check vehicle.	3-16

NOTE:

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

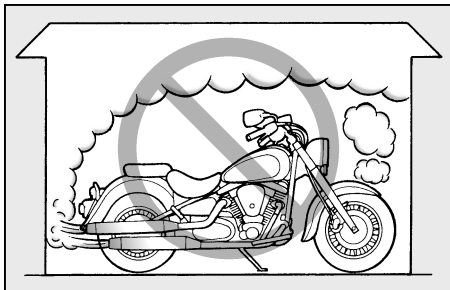
WARNING

If any item in the Pre-operation check list is not working properly, have it inspected and repaired before operating the motorcycle.

OPERATION AND IMPORTANT RIDING POINTS

Starting the engine	5-1
Starting a warm engine	5-3
Shifting	5-3
Recommended shift points (for Switzerland only)	5-4
Tips for reducing fuel consumption	5-4
Engine break-in	5-5
Parking	5-6

OPERATION AND IMPORTANT RIDING POINTS



⚠ WARNING

- Become thoroughly familiar with all operating controls and their functions before riding. Consult a Yamaha dealer regarding any control or function that you do not thoroughly understand.

- Never start the engine or operate it in a closed area for any length of time. Exhaust fumes are poisonous, and inhaling them can cause loss of consciousness and death within a short time. Always make sure that there is adequate ventilation.
 - Before starting out, make sure that the sidestand is up. If the sidestand is not raised completely, it could contact the ground and distract the operator, resulting in a possible loss of control.
-

Starting the engine

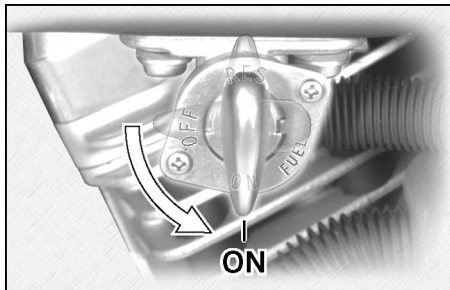
In order for the ignition circuit cut-off system to enable starting, one of the following conditions must be met:

- The transmission is in the neutral position.
- The transmission is in gear with the clutch lever pulled and the sidestand up.

⚠ WARNING

- Before starting the engine, check the function of the ignition circuit cut-off system according to the procedure described on page 3-16.
 - Never ride with the sidestand down.
-

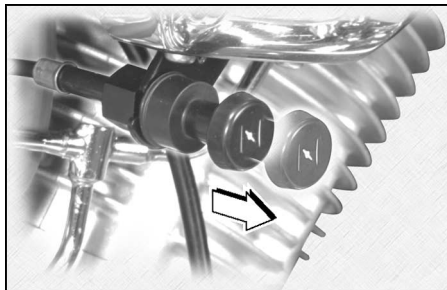
OPERATION AND IMPORTANT RIDING POINTS



1. Turn the fuel cock lever to "ON".
2. Turn the key to "ON" and make sure that the engine stop switch is set to "○".
3. Shift the transmission into the neutral position.

NOTE: _____

When the transmission is in the neutral position, the neutral indicator light should be on, otherwise have a Yamaha dealer check the electrical circuit.



4. Turn the starter (choke) on and completely close the throttle. (See page 3-12 for starter (choke) operation.)
5. Start the engine by pushing the start switch.

NOTE: _____

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

6. After starting the engine, move the starter (choke) knob back halfway.

CAUTION: _____

For maximum engine life, always warm the engine up before starting off. Never accelerate hard when the engine is cold!

7. When the engine is warm, turn the starter (choke) off.

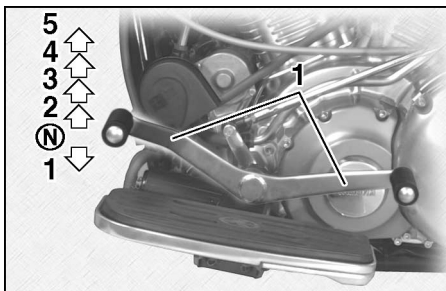
NOTE: _____

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

OPERATION AND IMPORTANT RIDING POINTS

Starting a warm engine

Follow the same procedure as for starting a cold engine with the exception that the starter (choke) is not required when the engine is warm.



1. Shift pedal
N. Neutral position

Shifting

Shifting gears lets you control the amount of engine power available for starting off, accelerating, climbing hills, etc.

The gear positions are shown in the illustration.

NOTE:

To shift the transmission into the neutral position, press the shift pedal down repeatedly until it reaches the end of its travel, and then slightly raise it.

CAUTION:

- Even with the transmission in the neutral position, do not coast for long periods of time with the engine off, and do not tow the motorcycle for long distances. The transmission is properly lubricated only when the engine is running. Inadequate lubrication may damage the transmission.
- Always use the clutch while changing gears to avoid damaging the engine, transmission, and drive train, which are not designed to withstand the shock of forced shifting.

Recommended shift points (for Switzerland only)

The recommended shift points during acceleration are shown in the table below.

	Shift point (km/h)
1st → 2nd	23
2nd → 3rd	36
3rd → 4th	50
4th → 5th	60

NOTE:

When shifting down two gears at a time, reduce the speed accordingly (e.g., down to 35 km/h when shifting from 4th to 2nd gear).

Tips for reducing fuel consumption

Fuel consumption depends largely on your riding style. Consider the following tips to reduce fuel consumption:

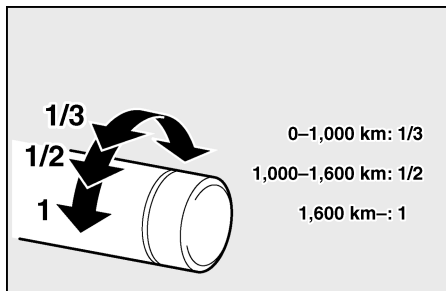
- Thoroughly warm up the engine.
- Turn the starter (choke) off as soon as possible.
- Shift up swiftly, and avoid high engine speeds during acceleration.
- Do not rev the engine while shifting down, and avoid high engine speeds with no load on the engine.
- Turn the engine off instead of letting it idle for an extended length of time (e.g., in traffic jams, at traffic lights or at railroad crossings).

OPERATION AND IMPORTANT RIDING POINTS

Engine break-in

There is never a more important period in the life of your engine than the period between 0 and 1,600 km. For this reason, you should read the following material carefully.

Since the engine is brand new, do not put an excessive load on it for the first 1,600 km. The various parts in the engine wear and polish themselves to the correct operating clearances. During this period, prolonged full-throttle operation or any condition that might result in engine overheating must be avoided.



0-1,000 km

Avoid prolonged operation above 1/3 throttle.

1,000-1,600 km

Avoid prolonged operation above 1/2 throttle.

CAUTION:

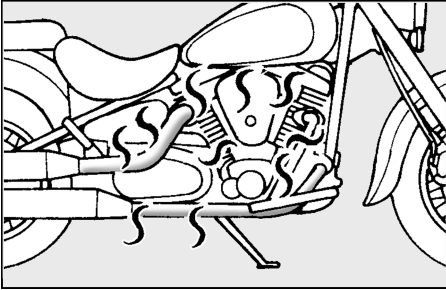
After 1,000 km of operation, the engine oil and transfer case oil must be changed, and the oil filter cartridge replaced.

1,600 km and beyond

The vehicle can now be operated normally.

CAUTION:

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



Parking

When parking, stop the engine, remove the key from the main switch, and then turn the fuel cock lever to “OFF”.

WARNING

- Since the engine and exhaust system can become very hot, park in a place where pedestrians or children are not likely to touch them.
- Do not park on a slope or on soft ground, otherwise the motorcycle may overturn.

PERIODIC MAINTENANCE AND MINOR REPAIR

Owner's tool kit	6-1	Drive belt slack	6-26
Periodic maintenance and lubrication chart	6-3	Checking and lubricating the cables	6-28
Removing and installing the panel	6-6	Checking and lubricating the throttle grip and cable	6-29
Checking the spark plugs	6-7	Checking and lubricating the brake and shift pedals	6-29
Engine oil and oil filter cartridge	6-8	Checking and lubricating the brake and clutch levers	6-30
Transfer case oil	6-12	Checking and lubricating the sidestand	6-30
Cleaning the air filter element	6-13	Checking the front fork	6-31
Adjusting the carburetor	6-16	Checking the steering	6-31
Adjusting the engine idling speed	6-16	Checking the wheel bearings	6-32
Adjusting the throttle cable free play	6-17	Battery	6-33
Adjusting the valve clearance	6-17	Replacing the fuses	6-35
Tires	6-17	Replacing the headlight bulb	6-36
Spoke wheels	6-20	Replacing a turn signal light bulb or the tail/brake light bulb	6-38
Adjusting the clutch lever free play	6-21	Troubleshooting	6-38
Adjusting the brake lever free play	6-22	Troubleshooting chart	6-39
Adjusting the brake pedal position	6-22		
Adjusting the rear brake light switch	6-23		
Checking the front and rear brake pads	6-23		
Checking the brake fluid level	6-25		
Changing the brake fluid	6-26		

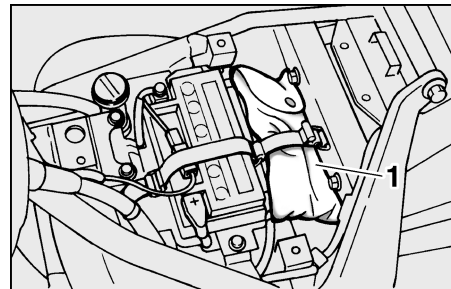
PERIODIC MAINTENANCE AND MINOR REPAIR



VALS MAY NEED TO BE SHORT-ENED.

WARNING

If you are not familiar with motorcycle maintenance work, have a Yamaha dealer do it for you.



1. Owner's tool kit

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

The intervals given in the periodic maintenance and lubrication chart should be simply considered as a general guide under normal riding conditions. However, DEPENDING ON THE WEATHER, TERRAIN, GEOGRAPHICAL LOCATION, AND INDIVIDUAL USE, THE MAINTENANCE INTER-

Owner's tool kit

The owner's tool kit is located under the rider seat. (See page 3-12 for rider seat removal and installation procedures.)

The service information included in this manual and the tools provided in the owner's tool kit are intended to assist you in the performance of preventive maintenance and minor repairs. However, additional tools such as a torque wrench may be necessary to perform certain maintenance work correctly.

PERIODIC MAINTENANCE AND MINOR REPAIR

NOTE:

If you do not have the tools or experience required for a particular job, have a Yamaha dealer perform it for you.

WARNING

Modifications not approved by Yamaha may cause loss of performance and render the vehicle unsafe for use. Consult a Yamaha dealer before attempting any changes.

PERIODIC MAINTENANCE AND MINOR REPAIR

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Periodic maintenance and lubrication chart

NOTE:

- The annual checks must be performed every year, except if a kilometer-based maintenance is performed instead.
- From 50,000 km, repeat the maintenance intervals starting from 10,000 km.
- Items marked with an asterisk should be performed by a Yamaha dealer as they require special tools, data and technical skills.

NO.	ITEM	CHECK OR MAINTENANCE JOB	ODOMETER READING (× 1,000 km)					ANNUAL CHECK
			1	10	20	30	40	
1	* Fuel line	• Check fuel hoses for cracks or damage.		√	√	√	√	√
2	* Fuel filter	• Check condition.			√		√	
3	Spark plugs	• Check condition. • Clean and regap.		√		√		
		• Replace.			√		√	
4	* Valves	• Check valve clearance. • Adjust.		√	√	√	√	
5	Air filter element	• Clean.		√		√		
		• Replace.			√		√	
6	Clutch	• Check operation. • Adjust.	√	√	√	√	√	
7	* Front brake	• Check operation, fluid level and vehicle for fluid leakage. (See NOTE on page 6-5.)	√	√	√	√	√	√
		• Replace brake pads.	Whenever worn to the limit					
8	* Rear brake	• Check operation, fluid level and vehicle for fluid leakage. (See NOTE on page 6-5.)	√	√	√	√	√	√
		• Replace brake pads.	Whenever worn to the limit					

PERIODIC MAINTENANCE AND MINOR REPAIR

NO.	ITEM	CHECK OR MAINTENANCE JOB	ODOMETER READING (× 1,000 km)					ANNUAL CHECK
			1	10	20	30	40	
9	* Brake hoses	• Check for cracks or damage. • Replace. (See NOTE on page 6-5.)		√	√	√	√	√
10	* Wheels	• Check runout, spoke tightness and for damage. • Tighten spokes if necessary.		√	√	√	√	
11	* Tires	• Check tread depth and for damage. • Replace if necessary. • Check air pressure. • Correct if necessary.		√	√	√	√	√
12	* Wheel bearings	• Check bearing for looseness or damage.		√	√	√	√	
13	* Swingarm	• Check operation and for excessive play. • Lubricate with lithium-soap-based grease.		√	√	√	√	
14	* Drive belt	• Check belt tension. • Make sure that the rear wheel is properly aligned.						
15	* Steering bearings	• Check bearing play and steering for roughness. • Lubricate with lithium-soap-based grease.	√	√	√	√	√	
16	* Chassis fasteners	• Make sure that all nuts, bolts and screws are properly tightened.		√	√	√	√	√
17	Sidestand	• Check operation. • Lubricate.		√	√	√	√	√
18	* Sidestand switch	• Check operation.	√	√	√	√	√	√
19	* Front fork	• Check operation and for oil leakage.		√	√	√	√	
20	* Shock absorber assembly	• Check operation and shock absorber for oil leakage.		√	√	√	√	
21	* Rear suspension relay arm and connecting arm pivoting points	• Check operation. • Lubricate with lithium-soap-based grease.		√	√	√	√	
22	* Carburetor	• Check starter (choke) operation. • Adjust engine idling speed.	√	√	√	√	√	√

PERIODIC MAINTENANCE AND MINOR REPAIR

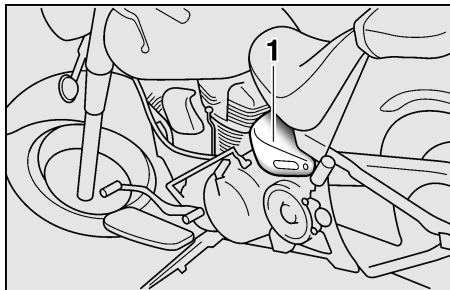
NO.	ITEM	CHECK OR MAINTENANCE JOB	ODOMETER READING (× 1,000 km)					ANNUAL CHECK
			1	10	20	30	40	
23	Engine oil	• Change. • Check oil level and vehicle for oil leakage.	√	√	√	√	√	√
24	Engine oil filter cartridge	• Replace.	√		√		√	
25	* Transfer case oil	• Check oil level.		√		√		
		• Change.	√		√		√	
26	* Front and rear brake switches	• Check operation.	√	√	√	√	√	√
27	Moving parts and cables	• Lubricate.		√	√	√	√	√
28	* Lights, signals and switches	• Check operation. • Adjust headlight beam.	√	√	√	√	√	√

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NOTE:

- The air filter needs more frequent service if you are riding in unusually wet or dusty areas.
- Hydraulic brake service
 - Regularly check and, if necessary, correct the brake fluid level.
 - Every two years replace the internal components of the brake master cylinders and calipers, and change the brake fluid.
 - Replace the brake hoses every four years and if cracked or damaged.

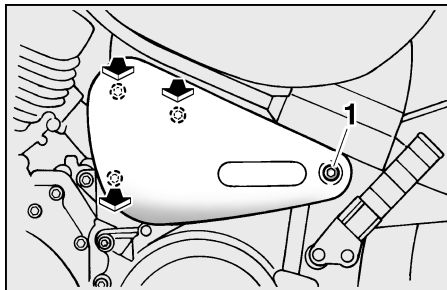
PERIODIC MAINTENANCE AND MINOR REPAIR



1. Panel A

Removing and installing the panel

The panel shown above needs to be removed to perform some of the maintenance jobs described in this chapter. Refer to this section each time the panel needs to be removed and installed.

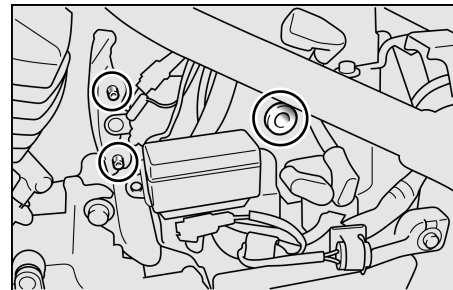


1. Bolt

Panel A

To remove the panel

Remove the bolt, and then pull the panel off as shown.



To install the panel

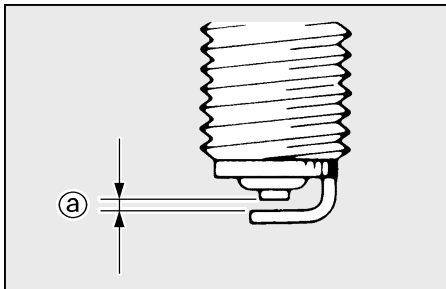
Place the panel in the original position, and then install the bolt.

PERIODIC MAINTENANCE AND MINOR REPAIR

Checking the spark plugs

The spark plugs are important engine components, which should be checked periodically, preferably by a Yamaha dealer. Since heat and deposits will cause any spark plug to slowly erode, they should be removed and checked in accordance with the periodic maintenance and lubrication chart. In addition, the condition of the spark plugs can reveal the condition of the engine.

The porcelain insulator around the center electrode of each spark plug should be a medium-to-light tan (the ideal color when the motorcycle is ridden normally), and all spark plugs installed in the engine should have the same color. If any spark plug shows a distinctly different color, the engine could be defective. Do not attempt to diagnose such problems yourself. Instead, have a Yamaha dealer check the motorcycle. If a spark plug shows signs of electrode erosion and excessive carbon or other deposits, it should be replaced.



a. Spark plug gap

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

Before installing a spark plug, the spark plug gap should be measured with a wire thickness gauge and, if necessary, adjusted to specification.

Spark plug gap:
0.8–0.9 mm

Clean the surface of the spark plug gasket and its mating surface, and then wipe off any grime from the spark plug threads.

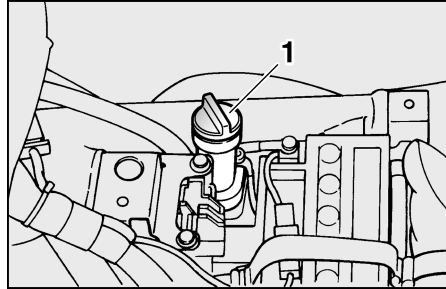
Tightening torque:
Spark plug:
17.5 Nm (1.75 m·kgf)

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

PERIODIC MAINTENANCE AND MINOR REPAIR

CAUTION:

Do not use any tools to remove or install the spark plug cap, otherwise the ignition coil coupler may get damaged. The spark plug cap may be difficult to remove because the rubber seal on the end of the cap fits tightly. To remove the spark plug cap, simply twist it back and forth while pulling it out; to install it, twist it back and forth while pushing it in.



1. Engine oil filler cap

Engine oil and oil filter cartridge

The engine oil level should be checked before each ride. In addition, the oil must be changed and the oil filter cartridge replaced at the intervals specified in the periodic maintenance and lubrication chart.

To check the engine oil level

1. Place the motorcycle on a level surface and hold it in an upright position.

NOTE:

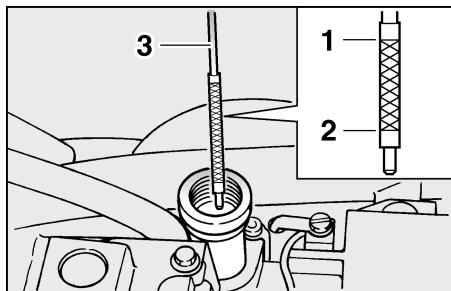
Make sure that the motorcycle is positioned straight up when checking the oil level. A slight tilt to the side can result in a false reading.

2. Remove the rider seat. (See page 3-12 for rider seat removal and installation procedures.)
3. Start the engine, warm it up until the engine oil has reached a normal temperature of 60 °C, let it continue to idle for ten seconds, and then turn the engine off.

NOTE:

To achieve the proper engine oil temperature for an accurate oil level reading, the engine must have first completely cooled down, and then warmed up again for several minutes to normal operating temperature.

PERIODIC MAINTENANCE AND MINOR REPAIR



1. Maximum level mark
2. Minimum level mark
3. Dipstick

4. Wait a few minutes until the oil settles, remove the oil filler cap, wipe the dipstick clean, insert it back into the oil filler hole (without screwing it in), and then remove it again to check the oil level.

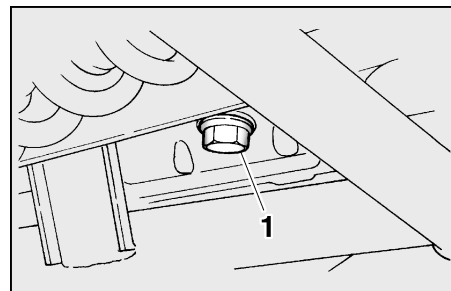
NOTE: _____
The engine oil should be between the minimum and maximum level marks.

5. If the engine oil is below the minimum level mark, add sufficient oil of the recommended type to raise it to the correct level.

NOTE: _____
When adding oil, be careful not to overfill the engine; the oil level rises faster starting from the half level portion on the dipstick.

6. Insert the dipstick into the oil filler hole, and then tighten the oil filler cap.
7. Install the rider seat.

CAUTION: _____
Make sure that the oil filler cap is securely tightened, otherwise oil may seep out when the engine is running.

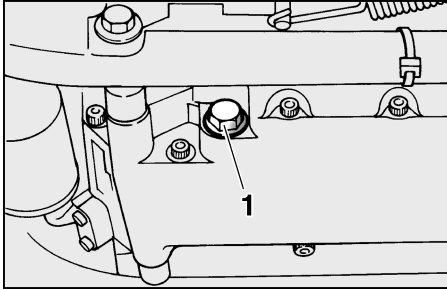


1. Engine oil drain bolt (oil tank)

**To change the engine oil
(with or without oil filter cartridge replacement)**

1. Start the engine, warm it up for several minutes, and then turn it off.
2. Place an oil pan under the oil tank to collect the used oil.
3. Remove the engine oil filler cap and drain bolt to drain the oil from the oil tank.

PERIODIC MAINTENANCE AND MINOR REPAIR



1. Engine oil drain bolt (crankcase)

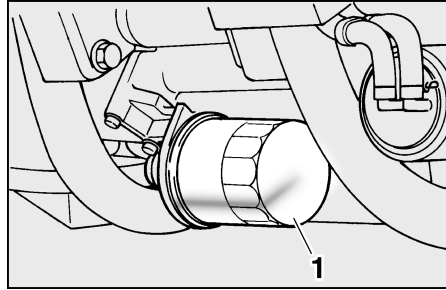
NOTE:

Skip steps 4–8 if the oil filter cartridge is not being replaced.

4. Place an oil pan under the engine to collect the used oil.
5. Remove the engine oil drain bolt to drain the oil from the crankcase.
6. Remove the oil filter cartridge with an oil filter wrench.

NOTE:

An oil filter wrench is available at a Yamaha dealer.



1. Engine oil filter cartridge

7. Apply a thin coat of engine oil to the O-ring of the new oil filter cartridge.

NOTE:

Make sure that the O-ring is properly seated.

8. Install the new oil filter cartridge with an oil filter wrench, and then tighten it to the specified torque with a torque wrench.

Tightening torque:

Oil filter cartridge:

17 Nm (1.7 m·kgf)

9. Install the engine oil drain bolts, and then tighten them to the specified torque.

Tightening torque:

Engine oil drain bolt:

43 Nm (4.3 m·kgf)

10. Pour only 2.5 L of the specified amount of recommended engine oil through the filler hole, insert the dipstick, and then tighten the oil filler cap.
11. Start the engine, rev it several times, and then turn it off.
12. Remove the engine oil filler cap, and then gradually fill the oil tank with the remaining oil quantity while regularly checking the oil level on the dipstick.

PERIODIC MAINTENANCE AND MINOR REPAIR

Recommended engine oil:

See page 8-1.

Oil quantity:

Without oil filter cartridge
replacement:

3.7 L

With oil filter cartridge
replacement:

4.1 L

Total amount (dry engine):

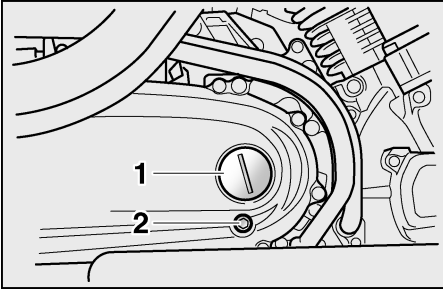
5.0 L

13. Install the engine oil filler cap.
14. Start the engine, and then let it idle for several minutes while checking it for oil leakage. If oil is leaking, immediately turn the engine off and check for the cause.
15. Turn the engine off, and then check the oil level and correct it if necessary.

CAUTION:

- In order to prevent clutch slippage (since the engine oil also lubricates the clutch), do not mix any chemical additives with the oil or use oils of a “CD” grade or higher. In addition, do not use oils labeled “ENERGY CONSERVING II” or higher.
- Make sure that no foreign material enters the crankcase.

PERIODIC MAINTENANCE AND MINOR REPAIR



1. Transfer case oil filler cap
2. Transfer case oil check bolt

Transfer case oil

The transfer case oil level should be checked before each ride. In addition, the oil must be changed at the intervals specified in the periodic maintenance and lubrication chart.

To check the transfer case oil level

1. Place the motorcycle on a level surface and hold it in an upright position.

NOTE:

Make sure that the motorcycle is positioned straight up when checking the oil level. A slight tilt to the side can result in a false reading.

2. Remove the oil check bolt, and then check the oil level in the transfer case.

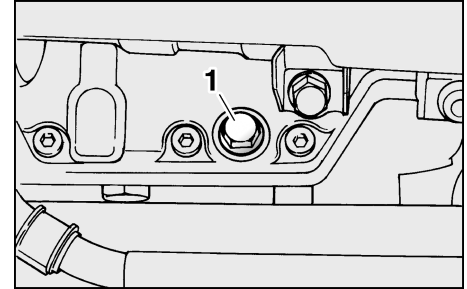
NOTE:

The oil should be at the brim of the check hole.

3. If the oil is below the brim of the check hole, remove the oil filler cap, add sufficient oil of the recommended type to raise it to the correct level, and then install the oil filler cap.
4. Install the oil check bolt, and then tighten it to the specified torque.

Tightening torque:

Transfer case oil check bolt:
7.5 Nm (0.75 m·kgf)



1. Transfer case oil drain bolt

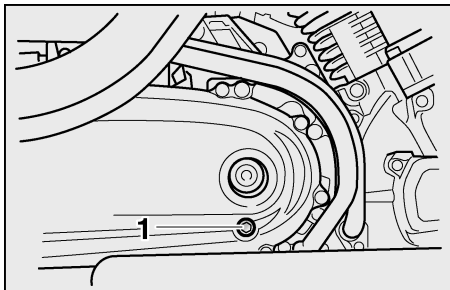
To change the transfer case oil

1. Place an oil pan under the transfer case to collect the used oil.
2. Remove the drain bolt and the check bolt to drain the oil from the transfer case.
3. Install the drain bolt and the check bolt, and then tighten the drain bolt to the specified torque.

Tightening torque:

Transfer case oil drain bolt:
17.5 Nm (1.75 m·kgf)

PERIODIC MAINTENANCE AND MINOR REPAIR



1. Transfer case oil check hole

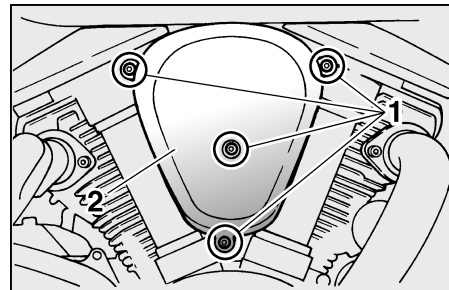
4. Remove the oil filler cap, add the specified amount of the recommended transfer case oil, and then install and tighten the oil filler cap.

Recommended transfer case oil:
See page 8-2.
Oil quantity:
0.4 L

CAUTION:

Make sure that no foreign material enters the transfer case.

5. Start the engine and let it idle for several minutes while checking the transfer case for oil leakage. If oil is leaking, immediately turn the engine off and check for the cause.



1. Bolt (× 4)

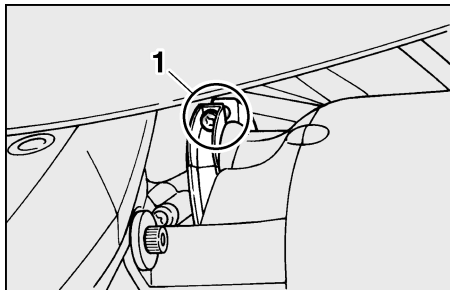
2. Air filter case

Cleaning the air filter element

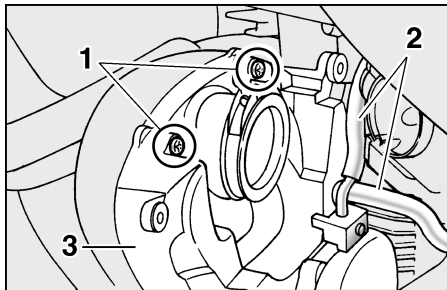
The air filter element should be cleaned at the intervals specified in the periodic maintenance and lubrication chart. Clean the air filter element more frequently if you are riding in unusually wet or dusty areas.

1. Remove the air filter case bolts.

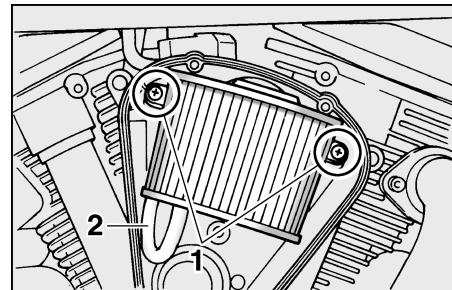
PERIODIC MAINTENANCE AND MINOR REPAIR



1. Air filter joint clamp screw
2. Loosen the air filter joint clamp screw, and then slightly pull the air filter case out.

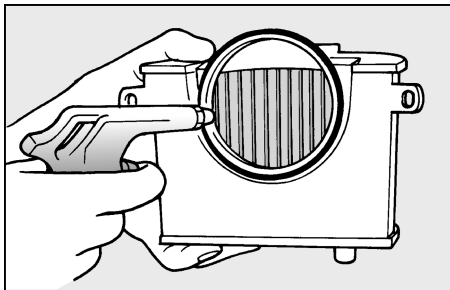


1. Screw (× 2)
2. Hose (× 2)
3. Air filter case cover
3. Remove the air filter case cover by removing the screws.
4. Disconnect the hoses shown.

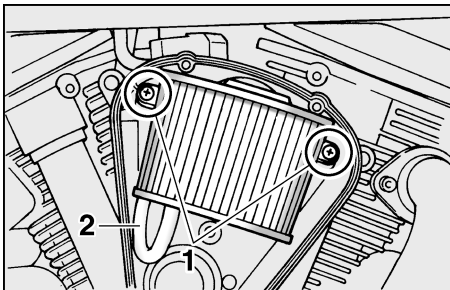


1. Screw (× 2)
2. Hose
5. Remove the air filter element by removing the screws, and then disconnect the hose shown.

PERIODIC MAINTENANCE AND MINOR REPAIR

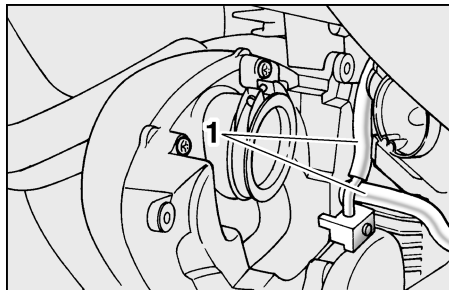


6. Lightly tap the air filter element to remove most of the dust and dirt, and then blow the remaining dirt out with compressed air as shown. If the air filter element is damaged, replace it.



1. Screw (× 2)
2. Hose

7. Install the air filter element by inserting it into the air filter case, then installing the screws, and then connect the hose shown.
8. Install the air filter case cover by installing the screws.



1. Hose (× 2)

9. Connect the hoses shown.
10. Install the air filter case by pushing it onto the air filter joint, and then tighten the air filter joint clamp screw.
11. Install the air filter case by installing the bolts.

PERIODIC MAINTENANCE AND MINOR REPAIR

Adjusting the carburetor

The carburetor is an important part of the engine and requires very sophisticated adjustment. Therefore, most carburetor adjustments should be left to a Yamaha dealer, who has the necessary professional knowledge and experience. The adjustment described in the following section, however, may be serviced by the owner as part of routine maintenance.

CAUTION:

The carburetor has been set and extensively tested at the Yamaha factory. Changing these settings without sufficient technical knowledge may result in poor performance of or damage to the engine.

Adjusting the engine idling speed

The engine idling speed must be checked and, if necessary, adjusted as follows at the intervals specified in the periodic maintenance and lubrication chart.

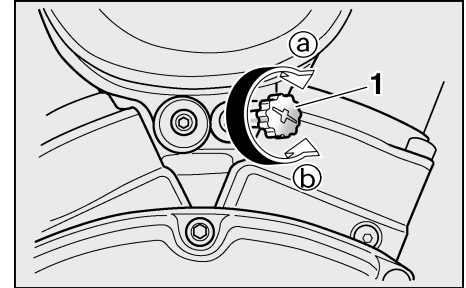
NOTE:

A diagnostic tachometer is needed to make this adjustment.

1. Attach the tachometer to the spark plug lead.
2. Start the engine and warm it up for several minutes at 1,000–2,000 r/min while occasionally revving it to 4,000–4,400 r/min.

NOTE:

The engine is warm when it quickly responds to the throttle.



1. Throttle stop screw

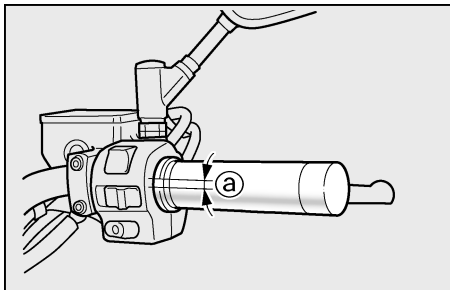
3. Check the engine idling speed and, if necessary, adjust it to specification by turning the throttle stop screw. To increase the engine idling speed, turn the screw in direction ①. To decrease the engine idling speed, turn the screw in direction ②.

Engine idling speed:
850–950 r/min

NOTE:

If the specified idling speed cannot be obtained as described above, have a Yamaha dealer make the adjustment.

PERIODIC MAINTENANCE AND MINOR REPAIR



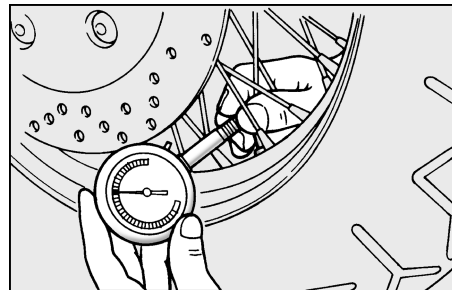
a. Throttle cable free play

Adjusting the throttle cable free play

The throttle cable free play should measure 4–6 mm at the throttle grip. Periodically check the throttle cable free play and, if necessary, have a Yamaha dealer adjust it.

Adjusting the valve clearance

The valve clearance changes with use, resulting in improper air-fuel mixture and/or engine noise. To prevent this from occurring, the valve clearance must be adjusted by a Yamaha dealer at the intervals specified in the periodic maintenance and lubrication chart.



Tires

To maximize the performance, durability, and safe operation of your motorcycle, note the following points regarding the specified tires.

Tire air pressure

The tire air pressure should be checked and, if necessary, adjusted before each ride.

PERIODIC MAINTENANCE AND MINOR REPAIR

WARNING

- The tire air pressure must be checked and adjusted on cold tires (i.e., when the temperature of the tires equals the ambient temperature).
- The tire air pressure must be adjusted in accordance with the riding speed and with the total weight of rider, passenger, cargo, and accessories approved for this model.

Tire air pressure (measured on cold tires)		
Load*	Front	Rear
Up to 90 kg	250 kPa 2.50 kgf/cm ² 2.50 bar	250 kPa 2.50 kgf/cm ² 2.50 bar
90 kg–maximum	250 kPa 2.50 kgf/cm ² 2.50 bar	280 kPa 2.80 kgf/cm ² 2.80 bar

Maximum load*	196 kg
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* Total weight of rider, passenger, cargo and accessories

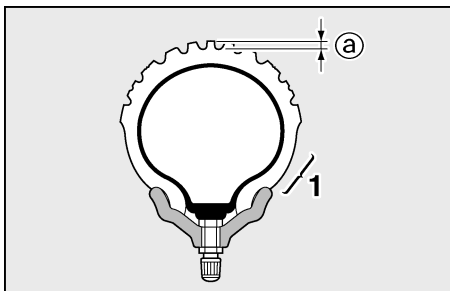
WARNING

Because loading has an enormous impact on the handling, braking, performance and safety characteristics of your motorcycle, you should keep the following precautions in mind.

- **NEVER OVERLOAD THE MOTORCYCLE!** Operation of an overloaded motorcycle may result in tire damage, loss of control, or severe injury. Make sure that the total weight of rider, passenger, cargo, and accessories does not exceed the specified maximum load for the vehicle.

- Do not carry along loosely packed items, which can shift during a ride.
- Securely pack the heaviest items close to the center of the motorcycle and distribute the weight evenly on both sides.
- Adjust the suspension and tire air pressure with regard to the load.
- Check the tire condition and air pressure before each ride.

PERIODIC MAINTENANCE AND MINOR REPAIR



1. Tire sidewall
a. Tire tread depth

Tire inspection

The tires must be checked before each ride. If the center tread depth reaches the specified limit, if the tire has a nail or glass fragments in it, or if the sidewall is cracked, have a Yamaha dealer replace the tire immediately.

Minimum tire tread depth (front and rear)	1.6 mm
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NOTE:

The tire tread depth limits may differ from country to country. Always comply with the local regulations.

WARNING

- Have a Yamaha dealer replace excessively worn tires. Besides being illegal, operating the motorcycle with excessively worn tires decreases riding stability and can lead to loss of control.
- The replacement of all wheel- and brake-related parts, including the tires, should be left to a Yamaha dealer, who has the necessary professional knowledge and experience.

Tire information

This motorcycle is equipped with tube tires.

WARNING

- The front and rear tires should be of the same make and design, otherwise the handling characteristics of the motorcycle cannot be guaranteed.
- After extensive tests, only the tires listed below have been approved for this model by Yamaha Motor Co., Ltd.

FRONT

Manufacturer	Size	Model
Dunlop	130/90-16 67H	D404FL
	130/90-16 M/C 67H	
Bridgestone	130/90-16 67H	G703F
	130/90-16 M/C 67H	

REAR

Manufacturer	Size	Model
Dunlop	150/80B-16 71H	D404
	150/80B-16 M/C 71H	
Bridgestone	150/80B-16 71H	G702
	150/80B-16 M/C 71H	

WARNING

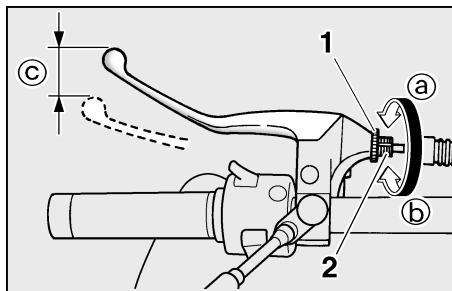
- **Have a Yamaha dealer replace excessively worn tires. Besides being illegal, operating the motorcycle with excessively worn tires decreases riding stability and can lead to loss of control.**
- **The replacement of all wheel- and brake-related parts, including the tires, should be left to a Yamaha dealer, who has the necessary professional knowledge and experience.**
- **It is not recommended to patch a punctured tube. If unavoidable, however, patch the tube very carefully and replace it as soon as possible with a high-quality product.**

Spoke wheels

To maximize the performance, durability, and safe operation of your motorcycle, note the following points regarding the specified wheels.

- The wheel rims should be checked for cracks, bends or warpage, and the spokes for looseness or damage before each ride. If any damage is found, have a Yamaha dealer replace the wheel. Do not attempt even the smallest repair to the wheel. A deformed or cracked wheel must be replaced.
- The wheel should be balanced whenever either the tire or wheel has been changed or replaced. An unbalanced wheel can result in poor performance, adverse handling characteristics, and a shortened tire life.
- Ride at moderate speeds after changing a tire since the tire surface must first be “broken in” for it to develop its optimal characteristics.

PERIODIC MAINTENANCE AND MINOR REPAIR

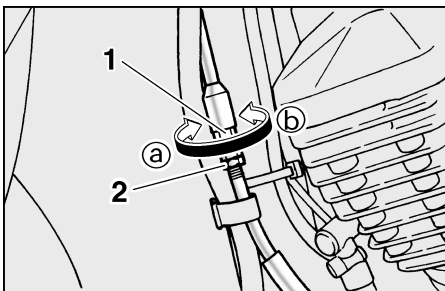


1. Locknut
2. Clutch lever free play adjusting bolt
- c. Clutch lever free play

Adjusting the clutch lever free play

The clutch lever free play should measure 10–15 mm as shown. Periodically check the clutch lever free play and, if necessary, adjust it as follows.

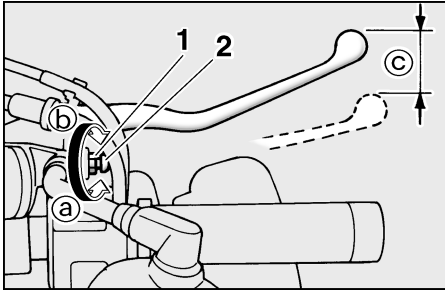
1. Loosen the locknut at the clutch lever.
2. To increase the clutch lever free play, turn the adjusting bolt in direction ①. To decrease the clutch lever free play, turn the adjusting bolt in direction ②.



1. Clutch lever free play adjusting nut
2. Locknut

3. If the specified clutch lever free play could be obtained as described above, tighten the locknut and skip the rest of the procedure, otherwise proceed as follows.
4. Fully turn the adjusting bolt at the clutch lever in direction ① to loosen the clutch cable.
5. Loosen the locknut at the crankcase.
6. To increase the clutch lever free play, turn the adjusting nut in direction ①. To decrease the clutch lever free play, turn the adjusting nut in direction ②.

7. Tighten the locknut at the clutch lever and the crankcase.



1. Locknut
2. Brake lever free play adjusting bolt
- c. Brake lever free play

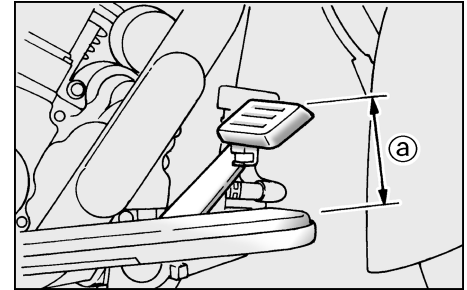
Adjusting the brake lever free play

The brake lever free play should measure 2–5 mm as shown. Periodically check the brake lever free play and, if necessary, adjust it as follows.

1. Loosen the locknut at the brake lever.
2. To increase the brake lever free play, turn the adjusting bolt in direction ①. To decrease the brake lever free play, turn the adjusting bolt in direction ②.
3. Tighten the locknut.

⚠ WARNING

- After adjusting the brake lever free play, check the free play and make sure that the brake is working properly.
- A soft or spongy feeling in the brake lever can indicate the presence of air in the hydraulic system. If there is air in the hydraulic system, have a Yamaha dealer bleed the system before operating the motorcycle. Air in the hydraulic system will diminish the braking performance, which may result in loss of control and an accident.



- a. Distance between brake pedal and footrest

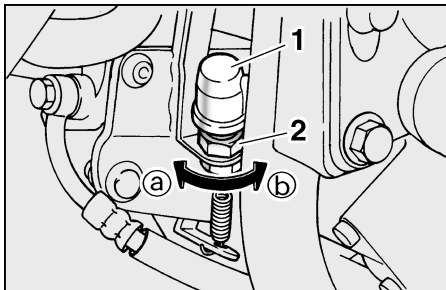
Adjusting the brake pedal position

The top of the brake pedal should be positioned approximately 100 mm above the top of the footrest as shown. Periodically check the brake pedal position and, if necessary, have a Yamaha dealer adjust it.

PERIODIC MAINTENANCE AND MINOR REPAIR

⚠ WARNING

A soft or spongy feeling in the brake pedal can indicate the presence of air in the hydraulic system. If there is air in the hydraulic system, have a Yamaha dealer bleed the system before operating the motorcycle. Air in the hydraulic system will diminish the braking performance, which may result in loss of control and an accident.



1. Rear brake light switch
2. Rear brake light switch adjusting nut

Adjusting the rear brake light switch

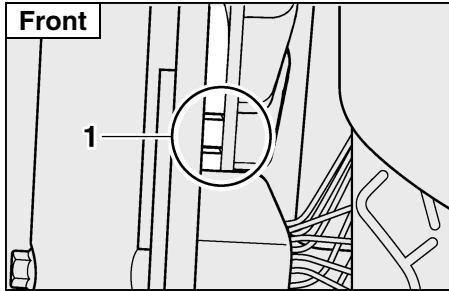
The rear brake light switch, which is activated by the brake pedal, is properly adjusted when the brake light comes on just before braking takes effect. If necessary, adjust the brake light switch as follows.

Turn the adjusting nut while holding the rear brake light switch in place. To make the brake light come on earlier, turn the adjusting nut in direction ①. To make the brake light come on later, turn the adjusting nut in direction ②.

Checking the front and rear brake pads

The front and rear brake pads must be checked for wear at the intervals specified in the periodic maintenance and lubrication chart.

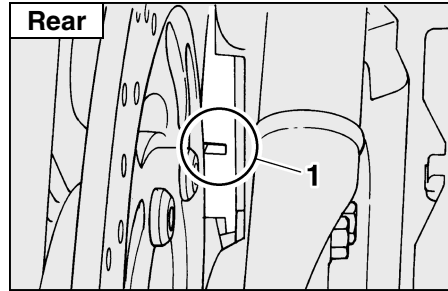
PERIODIC MAINTENANCE AND MINOR REPAIR



1. Brake pad wear indicator groove (× 2)

Front brake pads

Each front brake pad is provided with wear indicator grooves, which allow you to check the brake pad wear without having to disassemble the brake. To check the brake pad wear, check the wear indicator grooves. If a brake pad has worn to the point that the wear indicator grooves have almost disappeared, have a Yamaha dealer replace the brake pads as a set.

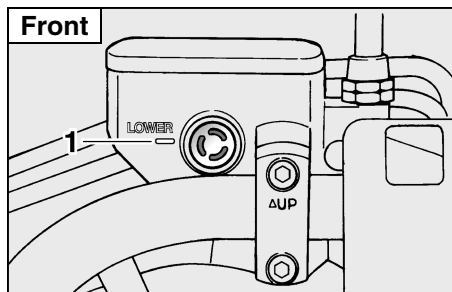


1. Brake pad wear indicator groove

Rear brake pads

Each rear brake pad is provided with a wear indicator groove, which allows you to check the brake pad wear without having to disassemble the brake. To check the brake pad wear, check the wear indicator groove. If a brake pad has worn to the point that the wear indicator groove has almost disappeared, have a Yamaha dealer replace the brake pads as a set.

PERIODIC MAINTENANCE AND MINOR REPAIR



1. Minimum level mark

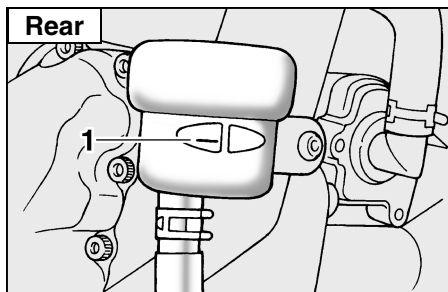
Checking the brake fluid level

Insufficient brake fluid may allow air to enter the brake system, possibly causing it to become ineffective.

Before riding, check that the brake fluid is above the minimum level mark and replenish if necessary. A low brake fluid level may indicate worn brake pads and/or brake system leakage. If the brake level is low, be sure to check the brake pads for wear and the brake system for leakage.

Observe these precautions:

- When checking the fluid level, make sure that the top of the brake fluid reservoir is level.



1. Minimum level mark

- Use only the recommended quality brake fluid, otherwise the rubber seals may deteriorate, causing leakage and poor braking performance.

Recommended brake fluid: DOT 4

- Refill with the same type of brake fluid. Mixing fluids may result in a harmful chemical reaction and lead to poor braking performance.
- Be careful that water does not enter the brake fluid reservoir when refilling. Water will significantly lower the boiling point of the fluid and may result in vapor lock.

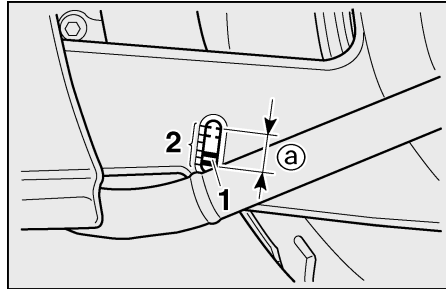
- Brake fluid may deteriorate painted surfaces or plastic parts. Always clean up spilled fluid immediately.
- As the brake pads wear, it is normal for the brake fluid level to gradually go down. However, if the brake fluid level goes down suddenly, have a Yamaha dealer check the cause.

PERIODIC MAINTENANCE AND MINOR REPAIR

Changing the brake fluid

Have a Yamaha dealer change the brake fluid at the intervals specified in the NOTE after the periodic maintenance and lubrication chart. In addition, have the oil seals of the master cylinders and calipers as well as the brake hoses replaced at the intervals listed below or whenever they are damaged or leaking.

- Oil seals: Replace every two years.
- Brake hoses: Replace every four years.



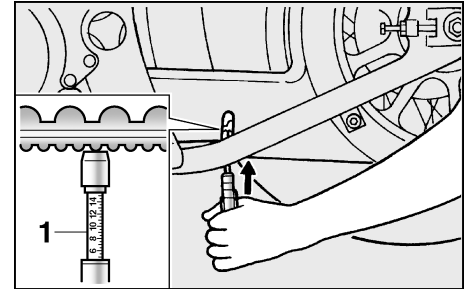
1. Drive belt
2. Marks
- a. Drive belt slack

Drive belt slack

The drive belt slack should be checked before each ride and adjusted if necessary.

To check the drive belt slack

1. Place the motorcycle on a level surface and hold it in an upright position.
2. Note the current position of the drive belt using the marks near the check hole.



1. Belt tension gauge

NOTE:

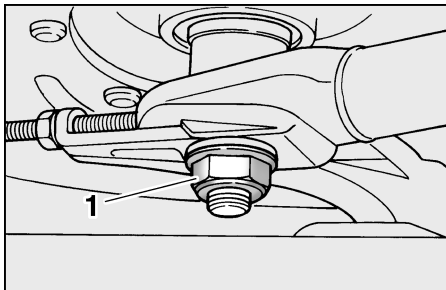
The marks near the drive belt check hole are 5 mm apart.

3. Note the position of the drive belt with a force of 45 N (4.5 kgf) applied to the belt with a belt tension gauge as shown.
4. Calculate the drive belt slack by subtracting the measurement noted in step 2 from the measurement noted in step 3.

PERIODIC MAINTENANCE AND MINOR REPAIR

Drive belt slack:
7.5–13 mm

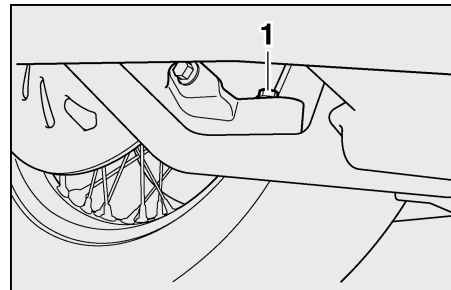
5. If the drive belt slack is incorrect, adjust it as follows.



1. Wheel axle nut

To adjust the drive belt slack

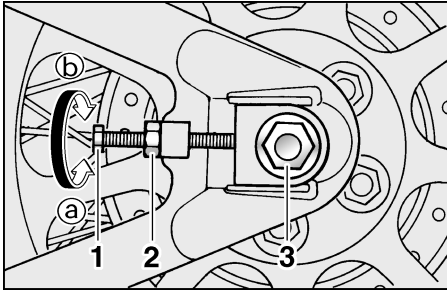
1. Loosen the rear wheel axle nut and the brake caliper bracket bolt.



1. Brake caliper bracket bolt

2. Loosen the drive belt puller lock-nut on each side of the swingarm.

PERIODIC MAINTENANCE AND MINOR REPAIR



1. Drive belt slack adjusting bolt (× 2)
2. Drive belt puller locknut (× 2)
3. Wheel axle

3. To tighten the drive belt, turn the adjusting bolt on each side of the swingarm in direction (a). To loosen the drive belt, turn the adjusting bolt on each side of the swingarm in direction (b), and then push the rear wheel forward.

NOTE:

Turn each adjusting bolt the same amount for proper wheel alignment.

4. Tighten the locknuts.

CAUTION:

Improper drive belt slack will overload the engine. Keep the drive belt slack within the specified range.

5. Tighten the axle nut and the brake caliper bracket bolt to the specified torques.

Tightening torques:

Axle nut:

150 Nm (15 m·kgf)

Brake caliper bracket bolt:

48 Nm (4.8 m·kgf)

Checking and lubricating the cables

The operation of all control cables and the condition of the cables should be checked before each ride, and the cables and cable ends should be lubricated if necessary. If a cable is damaged or does not move smoothly, have a Yamaha dealer check or replace it.

Recommended lubricant:
Engine oil

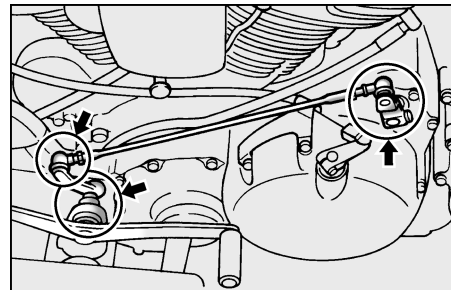
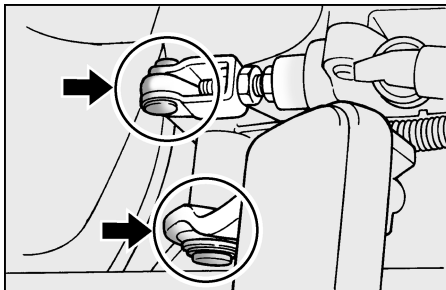
⚠ WARNING

Damage to the outer sheath may interfere with proper cable operation and will cause the inner cable to rust. Replace a damaged cable as soon as possible to prevent unsafe conditions.

PERIODIC MAINTENANCE AND MINOR REPAIR

Checking and lubricating the throttle grip and cable

The operation of the throttle grip should be checked before each ride. In addition, the cable should be lubricated or replaced at the intervals specified in the periodic maintenance chart.

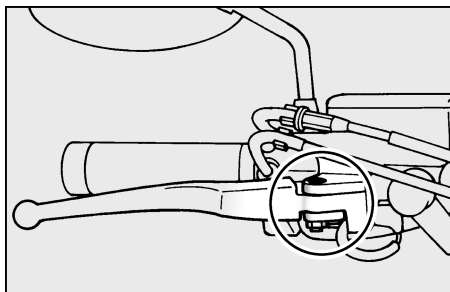


Checking and lubricating the brake and shift pedals

The operation of the brake and shift pedals should be checked before each ride, and the pedal pivots should be lubricated if necessary.

Recommended lubricant:
Lithium-soap-based grease
(all-purpose grease)

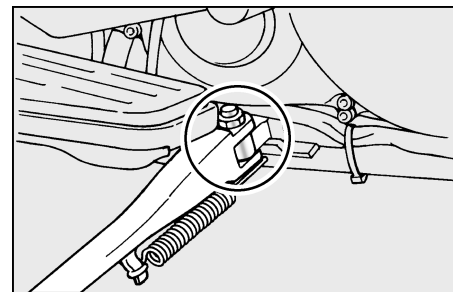
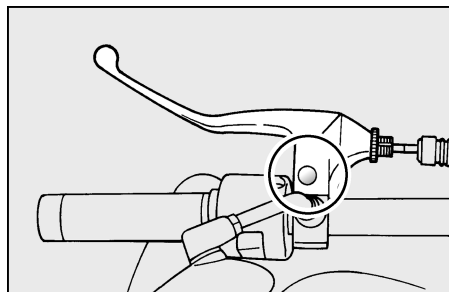
PERIODIC MAINTENANCE AND MINOR REPAIR



Checking and lubricating the brake and clutch levers

The operation of the brake and clutch levers should be checked before each ride, and the lever pivots should be lubricated if necessary.

Recommended lubricant:
Lithium-soap-based grease
(all-purpose grease)



Checking and lubricating the sidestand

The operation of the sidestand should be checked before each ride, and the sidestand pivot and metal-to-metal contact surfaces should be lubricated if necessary.

WARNING

If the sidestand does not move up and down smoothly, have a Yamaha dealer check or repair it.

Recommended lubricant:
Lithium-soap-based grease
(all-purpose grease)

PERIODIC MAINTENANCE AND MINOR REPAIR

Checking the front fork

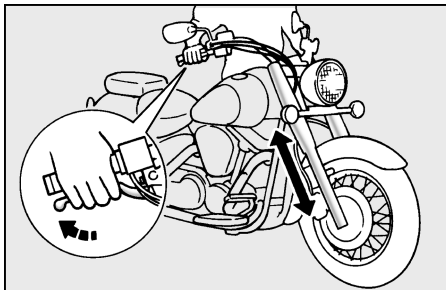
The condition and operation of the front fork must be checked as follows at the intervals specified in the periodic maintenance and lubrication chart.

To check the condition

WARNING

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

Check the inner tubes for scratches, damage and excessive oil leakage.



To check the operation

1. Place the motorcycle on a level surface and hold it in an upright position.
2. While applying the front brake, push down hard on the handlebars several times to check if the front fork compresses and rebounds smoothly.

CAUTION:

If any damage is found or the front fork does not operate smoothly, have a Yamaha dealer check or repair it.

Checking the steering

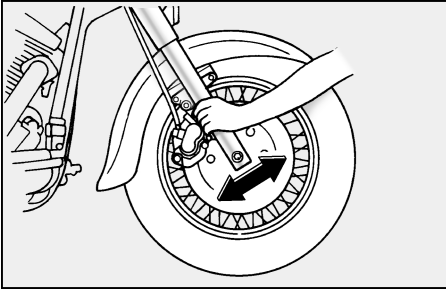
Worn or loose steering bearings may cause danger. Therefore, the operation of the steering must be checked as follows at the intervals specified in the periodic maintenance and lubrication chart.

1. Place a stand under the engine to raise the front wheel off the ground.

WARNING

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

PERIODIC MAINTENANCE AND MINOR REPAIR

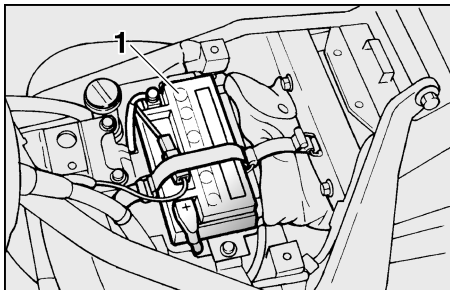


Checking the wheel bearings

The front and rear wheel bearings must be checked at the intervals specified in the periodic maintenance and lubrication chart. If there is play in the wheel hub or if the wheel does not turn smoothly, have a Yamaha dealer check the wheel bearings.

2. Hold the lower ends of the front fork legs and try to move them forward and backward. If any free play can be felt, have a Yamaha dealer check or repair the steering.

PERIODIC MAINTENANCE AND MINOR REPAIR



1. Battery

Battery

This motorcycle is equipped with a sealed-type (MF) battery, which does not require any maintenance. There is no need to check the electrolyte or to add distilled water.

CAUTION:

Never attempt to remove the battery cell seals, as this would permanently damage the battery.

⚠ WARNING

- **Electrolyte is poisonous and dangerous since it contains sulfuric acid, which causes severe burns. Avoid any contact with skin, eyes or clothing and always shield your eyes when working near batteries. In case of contact, administer the following FIRST AID.**
- **EXTERNAL:** Flush with plenty of water.
- **INTERNAL:** Drink large quantities of water or milk and immediately call a physician.
- **EYES:** Flush with water for 15 minutes and seek prompt medical attention.

- **Batteries produce explosive hydrogen gas. Therefore, keep sparks, flames, cigarettes, etc., away from the battery and provide sufficient ventilation when charging it in an enclosed space.**
- **KEEP THIS AND ALL BATTERIES OUT OF THE REACH OF CHILDREN.**

To charge the battery

Have a Yamaha dealer charge the battery as soon as possible if it seems to have discharged. Keep in mind that the battery tends to discharge more quickly if the motorcycle is equipped with optional electrical accessories.

PERIODIC MAINTENANCE AND MINOR REPAIR

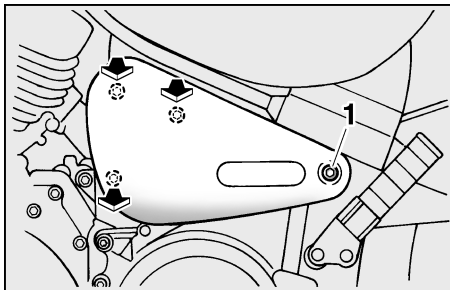
To store the battery

1. If the motorcycle will not be used for more than one month, remove the battery, fully charge it, and then place it in a cool, dry place.
2. If the battery will be stored for more than two months, check it at least once a month and fully charge it if necessary.
3. Fully charge the battery before installation.
4. After installation, make sure that the battery leads are properly connected to the battery terminals.

CAUTION:

- Always keep the battery charged. Storing a discharged battery can cause permanent battery damage.
- To charge a sealed-type (MF) battery, a special (constant-voltage) battery charger is required. Using a conventional battery charger will damage the battery. If you do not have access to a sealed-type (MF) battery charger, have a Yamaha dealer charge your battery.

PERIODIC MAINTENANCE AND MINOR REPAIR

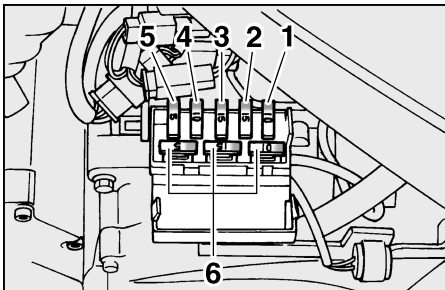


1. Bolt

Replacing the fuses

The main fuse box is located behind panel A. (See page 6-6 for panel removal and installation procedures.)

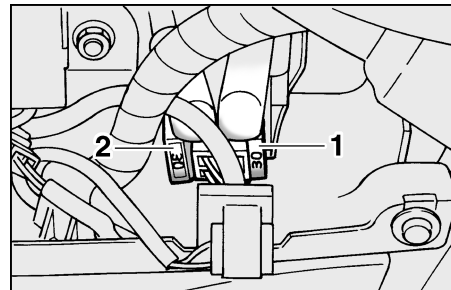
The fuse box, which contains the fuses for the individual circuits, is located behind panel A. (See page 6-6 for panel removal and installation procedures.)



1. Signaling system fuse
2. Ignition fuse
3. Headlight fuse
4. Carburetor heater fuse
5. Backup fuse (odometer)
6. Spare fuse (x 3)

If a fuse is blown, replace it as follows.

1. Turn the key to "OFF" and turn off the electrical circuit in question.
2. Remove the blown fuse, and then install a new fuse of the specified amperage.



1. Main fuse
2. Spare main fuse

Specified fuses:

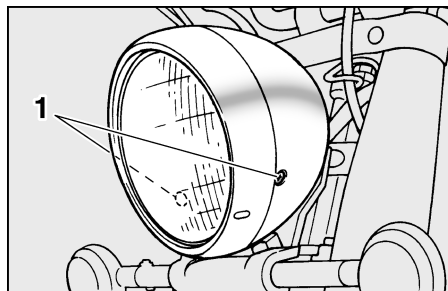
Main fuse:	30 A
Ignition fuse:	15 A
Signaling system fuse:	10 A
Headlight fuse:	15 A
Carburetor heater fuse:	10 A
Backup fuse (odometer):	5 A

PERIODIC MAINTENANCE AND MINOR REPAIR

CAUTION:

Do not use a fuse of a higher amperage rating than recommended to avoid causing extensive damage to the electrical system and possibly a fire.

3. Turn the key to "ON" and turn on the electrical circuit in question to check if the device operates.
4. If the fuse immediately blows again, have a Yamaha dealer check the electrical system.

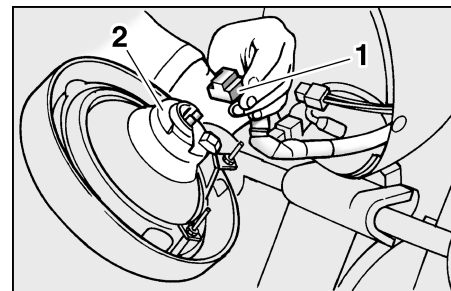


1. Screw (x 2)

Replacing the headlight bulb

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

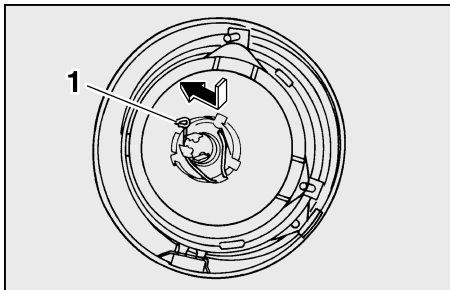
1. Remove the headlight unit by removing the screws.



1. Headlight coupler
2. Headlight bulb cover

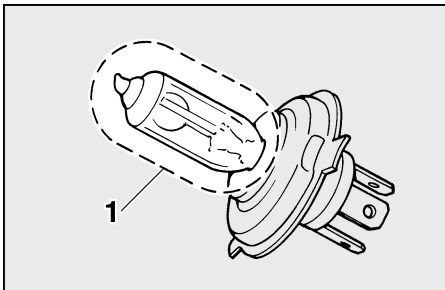
2. Disconnect the headlight coupler, and then remove the bulb cover.

PERIODIC MAINTENANCE AND MINOR REPAIR



1. Headlight bulb holder

3. Unhook the headlight bulb holder, and then remove the defective bulb.



1. Do not touch this area.

WARNING

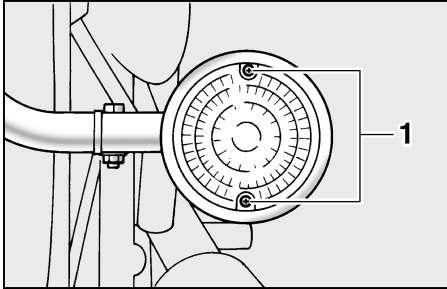
Headlight bulbs get very hot. Therefore, keep flammable products away from a lit headlight bulb, and do not touch the bulb until it has cooled down.

4. Place a new headlight bulb into position, and then secure it with the bulb holder.

CAUTION:

Do not touch the glass part of the headlight bulb to keep it free from oil, otherwise the transparency of the glass, the luminosity of the bulb, and the bulb life will be adversely affected. Thoroughly clean off any dirt and fingerprints on the headlight bulb using a cloth moistened with alcohol or thinner.

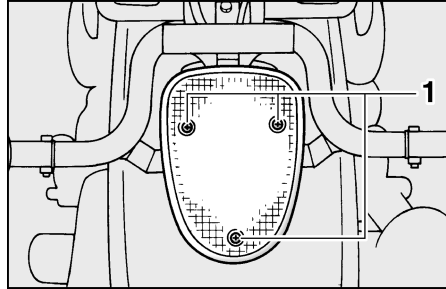
5. Install the headlight bulb cover, and then connect the coupler.
6. Install the headlight unit by installing the screws.
7. Have a Yamaha dealer adjust the headlight beam if necessary.



1. Screw (× 2)

Replacing a turn signal light bulb or the tail/brake light bulb

1. Remove the lens by removing the screws.
2. Remove the defective bulb by pushing it in and turning it counter-clockwise.



1. Screw (× 3)

3. Insert a new bulb into the socket, push it in, and then turn it clockwise until it stops.
4. Install the lens by installing the screws.

CAUTION:

Do not overtighten the screws, otherwise the lens may break.

Troubleshooting

Although Yamaha motorcycles receive a thorough inspection before shipment from the factory, trouble may occur during operation. Any problem in the fuel, compression, or ignition systems, for example, can cause poor starting and loss of power.

The following troubleshooting chart represents a quick and easy procedure for checking these vital systems yourself. However, should your motorcycle require any repair, take it to a Yamaha dealer, whose skilled technicians have the necessary tools, experience, and know-how to service the motorcycle properly.

Use only genuine Yamaha replacement parts. Imitation parts may look like Yamaha parts, but they are often inferior, have a shorter service life and can lead to expensive repair bills.

PERIODIC MAINTENANCE AND MINOR REPAIR

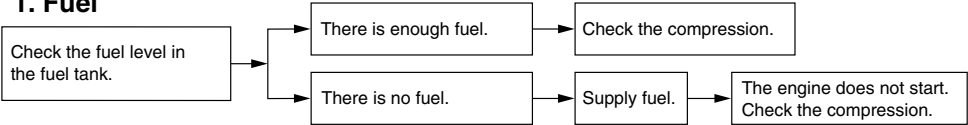
Troubleshooting chart



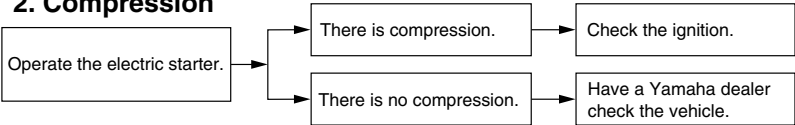
WARNING

Keep away open flames and do not smoke while checking or working on the fuel system.

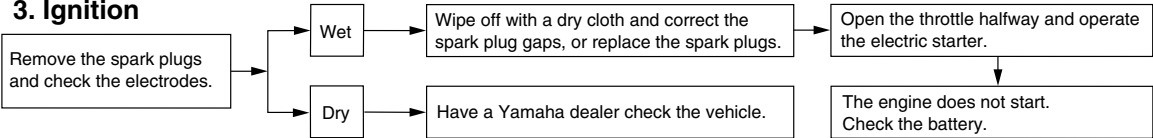
1. Fuel



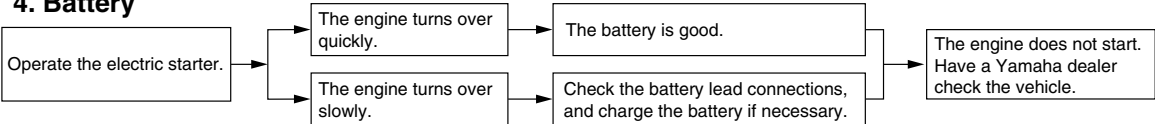
2. Compression



3. Ignition



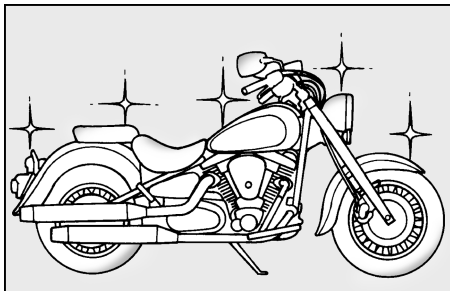
4. Battery



MOTORCYCLE CARE AND STORAGE

Care	7-1
Storage	7-4

MOTORCYCLE CARE AND STORAGE



Care

While the open design of a motorcycle reveals the attractiveness of the technology, it also makes it more vulnerable. Rust and corrosion can develop even if high-quality components are used. A rusty exhaust pipe may go unnoticed on a car, however, it detracts from the overall appearance of a motorcycle. Frequent and proper care does not only comply with the terms of the warranty, but it will also keep your motorcycle looking good, extend its life and optimize its performance.

Before cleaning

1. Cover the muffler outlets with plastic bags after the engine has cooled down.
2. Make sure that all caps and covers as well as all electrical couplers and connectors, including the spark plug caps, are tightly installed.
3. Remove extremely stubborn dirt, like oil burnt onto the crankcase, with a degreasing agent and a brush, but never apply such products onto seals, gaskets, the drive belt and wheel axles. Always rinse the dirt and degreaser off with water.

Cleaning

CAUTION:

- Avoid using strong acidic wheel cleaners, especially on spoked wheels. If such products are used on hard-to-remove dirt, do not leave the cleaner on the affected area any longer than instructed. Also, thoroughly rinse the area off with water, immediately dry it, and then apply a corrosion protection spray.
- Improper cleaning can damage windshields, cowlings, panels and other plastic parts. Use only a soft, clean cloth or sponge with mild detergent and water to clean plastic.

MOTORCYCLE CARE AND STORAGE

- 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.
 - Do not use high-pressure washers or steam-jet cleaners since they cause water seepage and deterioration in the following areas: seals (of wheel and swing-arm bearings, fork and brakes), electric components (couplers, connectors, instruments, switches and lights), breather hoses and vents.
 - For motorcycles equipped with a windshield: Do not use strong cleaners or hard sponges as they will cause dulling or scratching. Some cleaning compounds for plastic may leave scratches on the windshield. Test the product on a small hidden part of the windshield to make sure that it does not leave any marks. If the windshield is scratched, use a quality plastic polishing compound after washing.
-

After normal use

Remove dirt with warm water, a mild detergent, and a soft, clean sponge, and then rinse thoroughly with clean water. Use a toothbrush or bottlebrush for hard-to-reach areas. Stubborn dirt and insects will come off more easily if the area is covered with a wet cloth for a few minutes before cleaning.

MOTORCYCLE CARE AND STORAGE

After riding in the rain, near the sea or on salt-sprayed roads

Since sea salt or salt sprayed on roads during winter are extremely corrosive in combination with water, carry out the following steps after each ride in the rain, near the sea or on salt-sprayed roads.

NOTE:

Salt sprayed on roads in the winter may remain well into spring.

1. Clean the motorcycle with cold water and a mild detergent, after the engine has cooled down.

CAUTION:

Do not use warm water since it increases the corrosive action of the salt.

2. After drying the motorcycle, apply a corrosion protection spray on all metal, including chrome- and nickel-plated, surfaces to prevent corrosion.

After cleaning

1. Dry the motorcycle with a chamois or an absorbing cloth.
2. Use a chrome polish to shine chrome, aluminum and stainless-steel parts, including the exhaust system. (Even the thermally induced discoloring of stainless-steel exhaust systems can be removed through polishing.)
3. To prevent corrosion, it is recommended to apply a corrosion protection spray on all metal, including chrome- and nickel-plated, surfaces.
4. Use spray oil as a universal cleaner to remove any remaining dirt.
5. Touch up minor paint damage caused by stones, etc.
6. Wax all painted and chrome-plated surfaces. Avoid combination cleaner waxes, many of which contain abrasives that may mar the paint or protective finish.
7. Let the motorcycle dry completely before storing or covering it.

WARNING

- **Make sure that there is no oil or wax on the brakes or tires. If necessary, clean the brake discs and brake linings with a regular brake disc cleaner or acetone, and wash the tires with warm water and a mild detergent.**
- **Before operating the motorcycle test its braking performance and cornering behavior.**

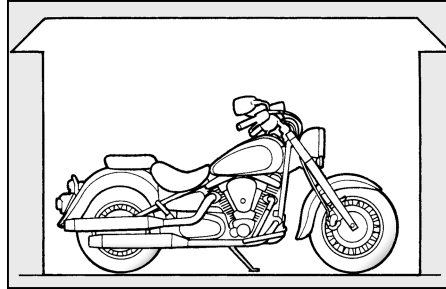
MOTORCYCLE CARE AND STORAGE

CAUTION:

- Apply spray oil and wax sparingly and make sure to wipe off any excess.
- Never apply oil or wax to the drive belt.
- Never apply oil or wax to any rubber and plastic parts, but treat them with a suitable care product.
- Avoid using abrasive polishing compounds as they will wear away the paint.

NOTE:

Consult a Yamaha dealer for advice on what products to use.



Storage

Short-term

Always store your motorcycle in a cool, dry place and, if necessary, protect it against dust with a porous cover.

CAUTION:

- Storing the motorcycle in a poorly ventilated room or covering it with a tarp, while it is still wet, will allow water and humidity to seep in and cause rust.

- To prevent corrosion, avoid damp cellars, stables (because of the presence of ammonia) and areas where strong chemicals are stored.

Long-term

Before storing your motorcycle for several months:

1. Follow all the instructions in the “Care” section of this chapter.
2. For motorcycles equipped with a fuel cock that has an “OFF” position: Turn the fuel cock lever to “OFF”.
3. Drain the carburetor float chambers by loosening the drain bolts; this will prevent fuel deposits from building up. Pour the drained fuel into the fuel tank.
4. Fill up the fuel tank and add fuel stabilizer (if available) to prevent the fuel tank from rusting and the fuel from deteriorating.

MOTORCYCLE CARE AND STORAGE

5. Perform the following steps to protect the cylinders, piston rings, etc. from corrosion.
 - a. Remove the spark plug caps and spark plugs.
 - b. Pour a teaspoonful of engine oil into each spark plug bore.
 - c. Install the spark plug caps onto the spark plugs, and then place the spark plugs on the cylinder head so that the electrodes are grounded. (This will limit sparking during the next step.)
 - d. Turn the engine over several times with the starter. (This will coat the cylinder walls with oil.)
 - e. Remove the spark plug caps from the spark plugs, and then install the spark plugs and the spark plug caps.
6. Lubricate all control cables and the pivoting points of all levers and pedals as well as of the sidestand/centerstand.
7. Check and, if necessary, correct the tire air pressure, and then lift the motorcycle so that both of its wheels are off the ground. Alternatively, turn the wheels a little every month in order to prevent the tires from becoming degraded in one spot.
8. Cover the muffler outlets with plastic bags to prevent moisture from entering them.
9. Remove the battery and fully charge it. Store it in a cool, dry place and charge it once a month. Do not store the battery in an excessively cold or warm place (less than 0 °C or more than 30 °C). For more information on storing the battery, see page 6-34.

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

WARNING

To prevent damage or injury from sparking, make sure to ground the spark plug electrodes while turning the engine over.

Specifications 8-1

Conversion table 8-5

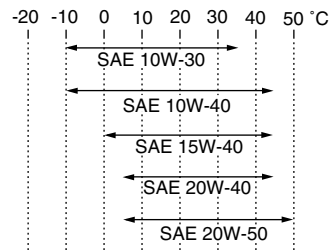
SPECIFICATIONS

Specifications

Model	XV1600A
Dimensions	
Overall length	2,500 mm
Overall width	980 mm
Overall height	1,140 mm
Seat height	710 mm
Wheelbase	1,685 mm
Ground clearance	145 mm
Minimum turning radius	3,200 mm
Basic weight (with oil and full fuel tank)	332 kg
Engine	
Engine type	Air-cooled 4-stroke, OHV
Cylinder arrangement	V-type 2-cylinder
Displacement	1,602 cm ³
Bore × Stroke	95 × 113 mm
Compression ratio	8.3:1
Starting system	Electric starter
Lubrication system	Dry sump

Engine oil

Type



Recommended engine oil classification

API Service SE, SF, SG type or higher

CAUTION:

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

Quantity

Without oil filter cartridge replacement	3.7 L
With oil filter cartridge replacement	4.1 L
Total amount (dry engine)	5.0 L

Transfer case oil

Type	SAE80API "GL-4" Hypoid Gear Oil
Quantity	0.4 L

Air filter

Dry type element

Fuel

Type	REGULAR UNLEADED GASOLINE ONLY
Fuel tank capacity	20 L
Reserve amount	3.5 L

Carburetor

Manufacturer	MIKUNI
Model × quantity	BSR40 × 1

Spark plug

Manufacturer/model	NGK / DPR7EA-9 or DENSO / X22EPR-U9
Gap	0.8–0.9 mm

Clutch type

Wet, multiple-disc

Transmission

Primary reduction system	Spur gear
Primary reduction ratio	1.532
Secondary reduction system	Belt
Secondary reduction ratio	2.320
Transmission type	Constant mesh 5-speed
Operation	Left foot

Gear ratio

1st	2.438
2nd	1.579
3rd	1.160
4th	0.906
5th	0.750

Chassis

Frame type	Double cradle
Caster angle	32°
Trail	142 mm

Tire

Front	
Type	Tube tire
Size	130/90-16 67H 130/90-16 M/C 67H
Manufacturer/model	Dunlop / D404FL Bridgestone / G703F

Rear

Type	Tube tire
Size	150/80B-16 71H 150/80B-16 M/C 71H
Manufacturer/model	Dunlop / D404 Bridgestone / G702

SPECIFICATIONS

8

Maximum load*	196 kg
Tire air pressure (measured on cold tires)	
Up to 90 kg*	
Front	250 kPa (2.50 kgf/cm ² , 2.50 bar)
Rear	250 kPa (2.50 kgf/cm ² , 2.50 bar)
90 kg—maximum*	
Front	250 kPa (2.50 kgf/cm ² , 2.50 bar)
Rear	280 kPa (2.80 kgf/cm ² , 2.80 bar)
* Total weight of rider, passenger, cargo and accessories	
Wheels	
Front	
Type	Spoke wheel
Size	16 × MT 3.00
	16 M/C × MT 3.00
Rear	
Type	Spoke wheel
Size	16 × MT 3.50
	16 M/C × MT 3.50
Brakes	
Front	
Type	Dual disc brake
Operation	Right hand
Fluid	DOT 4

Rear	
Type	Single disc brake
Operation	Right foot
Fluid	DOT 4
Suspension	
Front	Telescopic fork
Rear	Swingarm (link suspension)
Spring/shock absorber	
Front	Coil spring / oil damper
Rear	Coil spring / gas-oil damper
Wheel travel	
Front	140 mm
Rear	110 mm
Electrical	
Ignition system	Transistorized coil ignition (digital)
Charging system	
Type	A.C. magneto
Standard output	14 V, 21 A @ 5,000 r/min
Battery	
Type	YTX20L-BS
Voltage, capacity	12 V, 18 Ah

Headlight type Quartz bulb (halogen)

Bulb voltage, wattage × quantity

Headlight	12 V, 60/55 W × 1
Tail/brake light	12 V, 5/21 W × 1
Turn signal lights	12 V, 21 W × 4
Auxiliary light	12 V, 4 W × 1
Meter lighting	14 V, 0.6 W × 4
Neutral indicator light	12 V, 1 W × 1
High beam indicator light	12 V, 1 W × 1
Turn indicator light	12 V, 1 W × 1
Fuel level warning light	LED × 1
Engine trouble warning light	LED × 1

Fuses

Main fuse	30 A
Ignition fuse	15 A
Signaling system fuse	10 A
Headlight fuse	15 A
Carburetor heater fuse	10 A
Backup fuse (odometer)	5 A

SPECIFICATIONS

Conversion table

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

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

Example:

METRIC VALUE	CONVERSION FACTOR		IMPERIAL VALUE
2 mm	× 0.03937	=	0.08 in

Conversion table

METRIC SYSTEM TO IMPERIAL SYSTEM			
	Metric unit	Conversion factor	Imperial unit
Torque	m·kgf	× 7.233	ft·lb
	m·kgf	× 86.794	in·lb
	cm·kgf	× 0.0723	ft·lb
	cm·kgf	× 0.8679	in·lb
Weight	kg	× 2.205	lb
	g	× 0.03527	oz
Speed	km/h	× 0.6214	mi/h
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
	L (liter)	× 0.8799	qt (IMP liq.)
	L (liter)	× 0.2199	gal (IMP liq.)
Miscellaneous	kgf/mm	× 55.997	lb/in
	kgf/cm ²	× 14.2234	psi (lb/in ²)
	°C	× 1.8 + 32	°F

Identification numbers	9-1
Key identification number	9-1
Vehicle identification number	9-1
Model label	9-2

CONSUMER INFORMATION

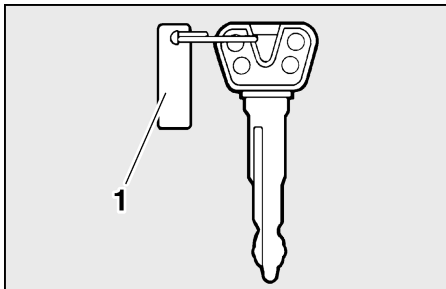
Identification numbers

Record the key identification number, vehicle identification number and model label information in the spaces provided below 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:

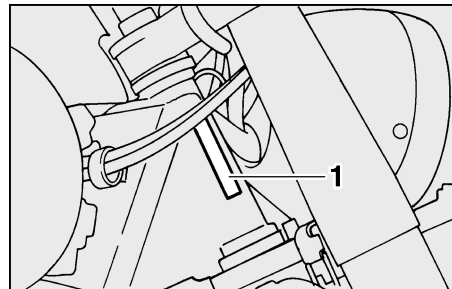
3. MODEL LABEL INFORMATION:



1. Key identification number

Key identification number

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



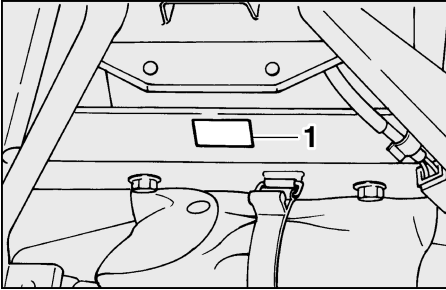
1. Vehicle identification number

Vehicle identification number

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

NOTE:

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



1. Model label

Model label

The model label is affixed to the frame under the rider seat. (See page 3-12 for rider seat removal and installation procedures.) Record the information on this label in the space provided. This information will be needed when ordering spare parts from a Yamaha dealer.

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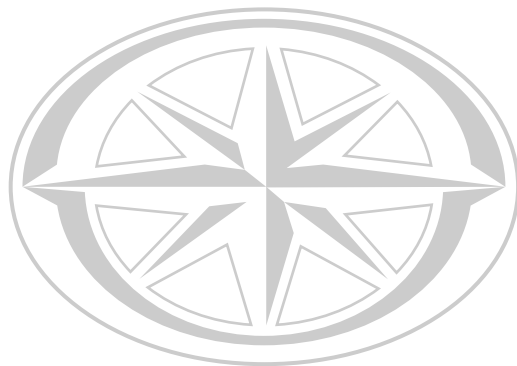
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