



OWNER'S MANUAL

TDM

TDM850

4TX-28199-E4

Welcome to the Yamaha world of motorcycling!

As the owner of a TDM850, you are benefiting from Yamaha's vast experience in and newest technology for the design and the 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 your TDM850's advantages. 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 to 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

EAU00005

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



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



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

CAUTION:

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

NOTE:

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

NOTE:

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

IMPORTANT MANUAL INFORMATION

EW000002



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

IMPORTANT MANUAL INFORMATION

EAU00008

**TDM850
OWNER'S MANUAL**

© 1999 by Yamaha Motor Co., Ltd.

1st Edition, September 1999

**All rights reserved. Any reprinting or
unauthorized use without the written
permission of Yamaha Motor Co., Ltd.
is expressly prohibited.**

Printed in Japan.

1	GIVE SAFETY THE RIGHT OF WAY	1
2	DESCRIPTION	2
3	INSTRUMENT AND CONTROL FUNCTIONS	3
4	PRE-OPERATION CHECKS	4
5	OPERATION AND IMPORTANT RIDING POINTS	5
6	PERIODIC MAINTENANCE AND MINOR REPAIR	6
7	MOTORCYCLE CARE AND STORAGE	7
8	SPECIFICATIONS	8
9	CONSUMER INFORMATION	9
	INDEX	



GIVE SAFETY THE RIGHT OF WAY

GIVE SAFETY THE RIGHT OF WAY..... 1-1



GIVE SAFETY THE RIGHT OF WAY

EAU00021

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

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

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

Enjoy your ride!

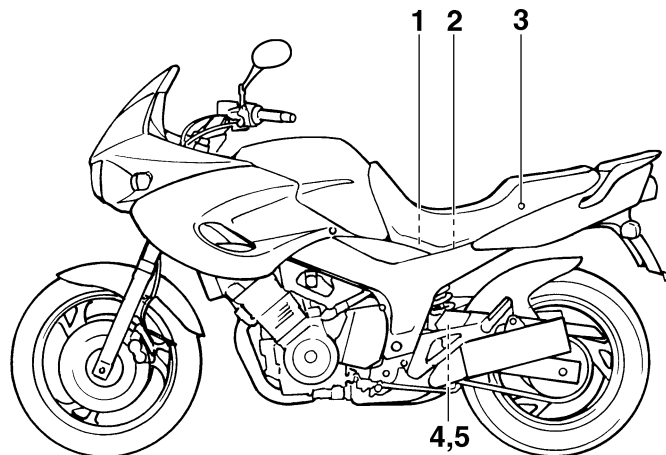
Left view 2-1

Right view..... 2-2

Controls/Instruments 2-3

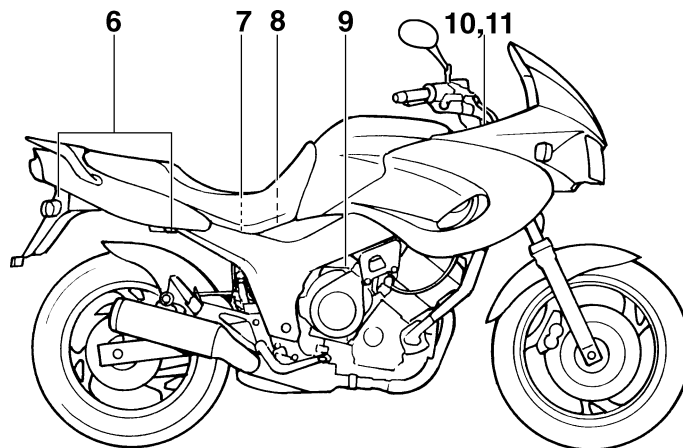
Left view

2



- | | |
|--|-------------|
| 1. Coolant reservoir tank | (page 6-10) |
| 2. Helmet holder | (page 3-13) |
| 3. Seat lock | (page 3-12) |
| 4. Rear shock absorber spring preload
adjusting nut (for fine adjustment) | (page 3-15) |
| 5. Rear shock absorber damping force
adjusting knob | (page 3-16) |

Right view

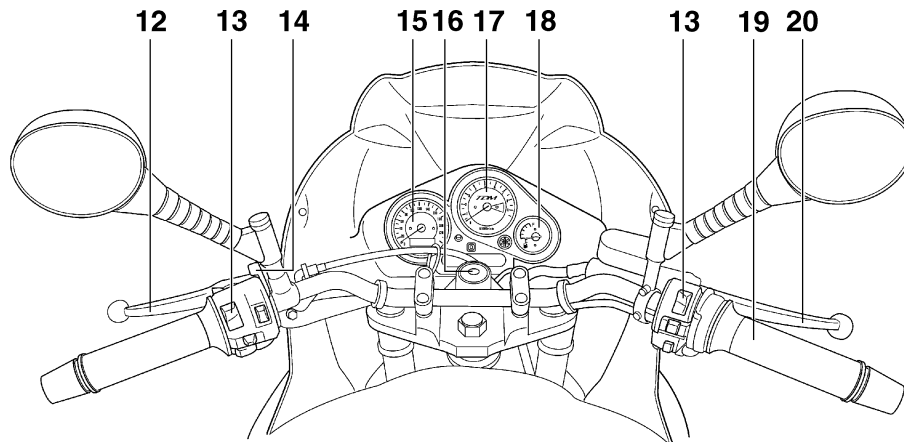


- | | |
|--|-------------|
| 6. Luggage strap holders | (page 3-17) |
| 7. Rear shock absorber spring preload adjusting lever
(for coarse adjustment) | (page 3-15) |
| 8. Fuses | (page 6-29) |
| 9. Engine oil level check window | (page 6-8) |
| 10. Front fork spring preload adjusting bolt | (page 3-14) |
| 11. Front fork damping force adjusting screw | (page 3-14) |

DESCRIPTION

Controls/Instruments

2



- 12. Clutch lever
- 13. Handlebar switches
- 14. Starter (choke) “|↘|”
- 15. Speedometer
- 16. Main switch/steering lock

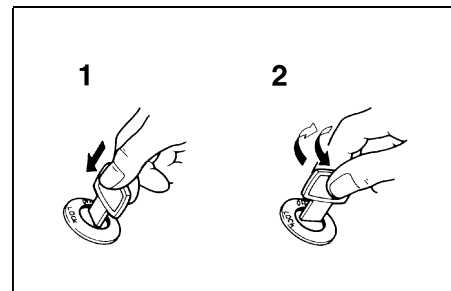
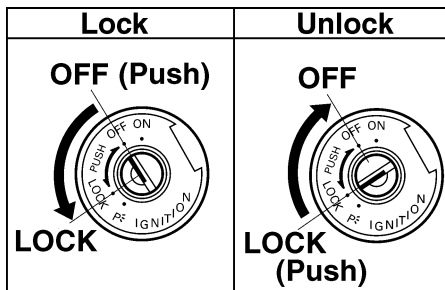
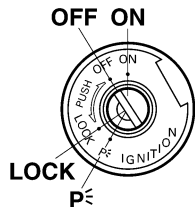
(page 3-8)
(page 3-6)
(page 3-7)
(page 3-3)
(page 3-1)

- 17. Tachometer
- 18. Fuel gauge
- 19. Throttle grip
- 20. Front brake lever

(page 3-4)
(page 3-5)
(page 6-16)
(page 3-9)

INSTRUMENT AND CONTROL FUNCTIONS

Main switch/steering lock.....	3-1	Rear brake pedal.....	3-9
Indicator lights	3-2	Fuel tank cap	3-10
Speedometer	3-3	Fuel	3-11
Tachometer	3-4	Fuel tank breather hose (for Germany only)	3-12
Diagnosis device.....	3-5	Seat.....	3-12
Antitheft alarm (optional)	3-5	Helmet holder.....	3-13
Fuel gauge.....	3-5	Storage compartment	3-13
Handlebar switches	3-6	Front fork adjustment	3-14
Starter (choke) “ ↘ ”	3-7	Rear shock absorber adjustment	3-15
Clutch lever	3-8	Luggage strap holders	3-17
Shift pedal.....	3-8	Sidestand	3-17
Front brake lever	3-9	Sidestand/clutch switch operation check.....	3-17



1. Push
2. Turn

EAU00029*

Main switch/steering lock

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

EAU00036

ON

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

EAU00038

OFF

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

EAU00040

LOCK

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

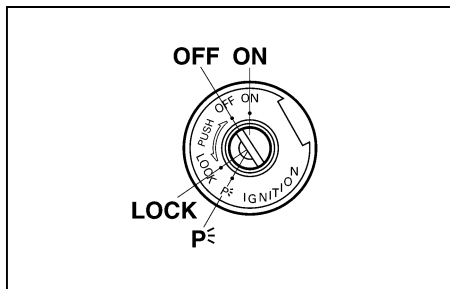
To lock the steering, turn the handlebars all the way to the left. While pushing the key into the main switch, turn it from "OFF" to "LOCK" and remove it. To release the lock, turn the key to "OFF" while pushing.

EW000016

WARNING

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

INSTRUMENT AND CONTROL FUNCTIONS

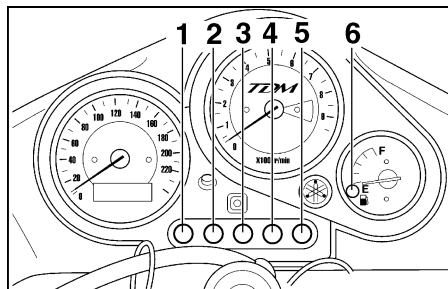


EAU00048

P (Parking)

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

To use the parking position, first lock the steering, then turn the key to “P”. Do not use this position for an extended length of time as the battery may discharge.



1. Left turn indicator light “”
2. Neutral indicator light “N”
3. High beam indicator light “”
4. Coolant temperature indicator light “”
5. Right turn indicator light “”
6. Fuel indicator light “”

Indicator lights

Turn indicator lights “” / “”

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

Neutral indicator light “N”

This indicator comes on when the transmission is in neutral.

High beam indicator light “”

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

Coolant temperature indicator light “”

This indicator light comes on when the engine overheats. If the light comes on, stop the engine immediately and allow the engine to cool. To check that the indicator light is working properly:

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

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

CAUTION:

When the engine is overheated, do not continue riding.

INSTRUMENT AND CONTROL FUNCTIONS

EAU01666

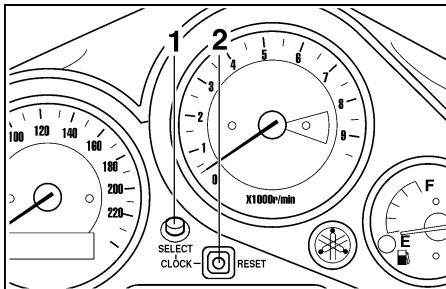
Fuel indicator light “”

When the fuel level drops below approximately 3,1 L, this light will come on. When this light comes on, fill the tank at the first opportunity.

To check that the indicator light is working properly:

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

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



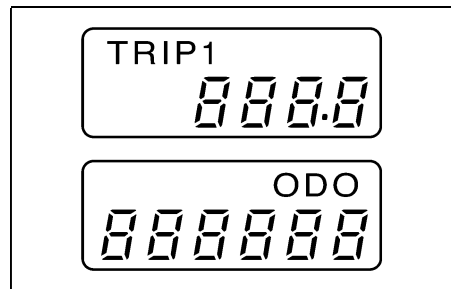
1. “SELECT” button
2. “RESET” button

Speedometer

EAU01667*

This speedometer is equipped with:

- an odometer
- two trip odometers
- a clock



Odometer and trip meter modes

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

When set to “ODO”, the motorcycle's total mileage is indicated.

When set to “TRIP 1” or “TRIP 2”, the motorcycle's mileage since the trip meter was last reset is indicated. Use the trip meter to estimate how far you can ride on a tank of fuel. This information will enable you to plan fuel stops in the future.

INSTRUMENT AND CONTROL FUNCTIONS

Selecting a mode

Push the “SELECT” button to change between the odometer mode “ODO” and the trip odometer modes “TRIP 1”, “TRIP 2” and “CLOCK” in the following order:

“ODO” → “TRIP 1” → “TRIP 2” → “CLOCK” → “ODO”

Resetting a trip meter

To reset a trip odometer to 0.0, select it by pushing the “SELECT” button and push the “RESET” button for at least one second.

Clock mode

To change the display to the clock mode, push both the “SELECT” and “RESET” buttons.

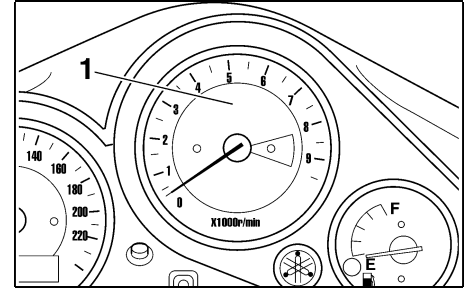
To change the display back to the odometer mode, push the “SELECT” button.

To set the clock

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

NOTE: _____

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



1. Tachometer

EAU00101

Tachometer

This model is equipped with an electric tachometer so the rider can monitor the engine speed and keep it within the ideal power range.

EC000003

CAUTION: _____

Do not operate in the red zone.

Red zone: 8,000 r/min and above

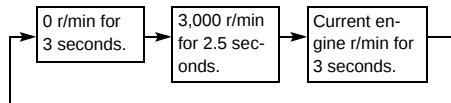
INSTRUMENT AND CONTROL FUNCTIONS

EAU00103

Diagnosis device

This model is equipped with a diagnosis device for the Throttle Position Sensor (T.P.S.) circuit.

If some trouble should occur in the circuit, the tachometer will repeatedly display as follows:



If the tachometer displays as described above, take your motorcycle to a Yamaha dealer for repair.

EC000004

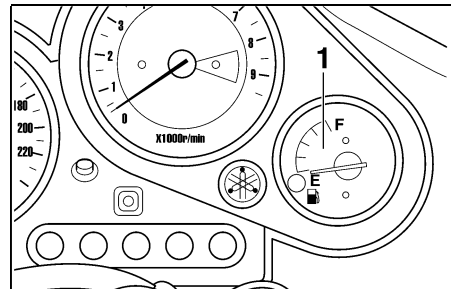
CAUTION:

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

EAU00109

Antitheft alarm (optional)

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

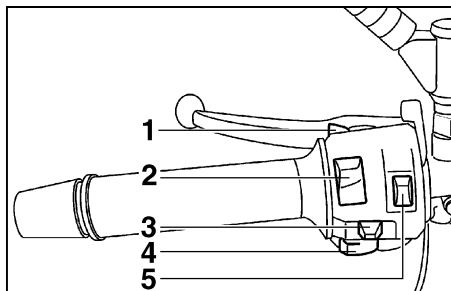


1. Fuel gauge

EAU00110

Fuel gauge

This model is equipped with an electric fuel gauge so the rider can monitor the fuel level in the fuel tank. When the needle indicates "E" (Empty), about 3.1 L remain in the fuel tank.



1. Pass switch "PASS"
2. Dimmer switch
3. Turn signal switch
4. Horn switch "🔊"
5. Hazard switch "⚠️"

Handlebar switches

Pass switch "PASS"

Press the switch to operate the passing light.

Dimmer switch

Turn the switch to "☀️" for the high beam and to "🌙" for the low beam.

Turn signal switch

To signal a right-hand turn, push the switch to "➡️". To signal a left-hand turn, push the switch to "⬅️". Once the switch is released it will return to the center position. To cancel the signal, push the switch in after it has returned to the center position.

Horn switch "🔊"

Press the switch to sound the horn.

Hazard switch "⚠️"

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

CAUTION:

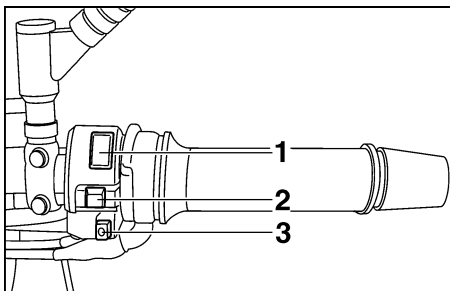
The battery can discharge from extended use, making it difficult to operate the starter.

NOTE:

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

INSTRUMENT AND CONTROL FUNCTIONS

3



1. Engine stop switch
2. Lights switch
3. Start switch “ $\otimes$ ”

Engine stop switch

EAU00138

The engine stop switch is a safety device for use in an emergency such as when the motorcycle overturns or if trouble occurs in the throttle system. Turn the switch to “ $\bigcirc$ ” to start the engine. In case of emergency, turn the switch to “ $\otimes$ ” to stop the engine.

Lights switch

EAU00134*

Turning the light switch to “ $\Rightarrow \text{D} \Leftarrow$ ”, turns on the auxiliary light, meter lights and taillight. Turning the light switch to “ $\odot$ ”, turns the headlight on also.

Start switch “ $\otimes$ ”

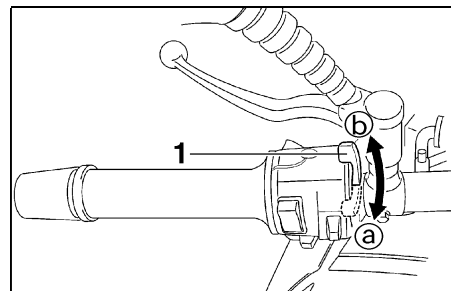
EAU00143

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

EC000005

CAUTION:

See starting instructions prior to starting the engine.



1. Starter (choke) “ $\swarrow \searrow$ ”

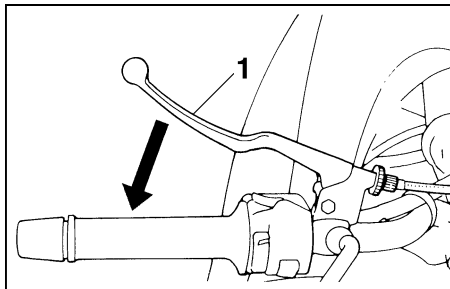
EAU02976

Starter (choke) “ $\swarrow \searrow$ ”

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

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

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

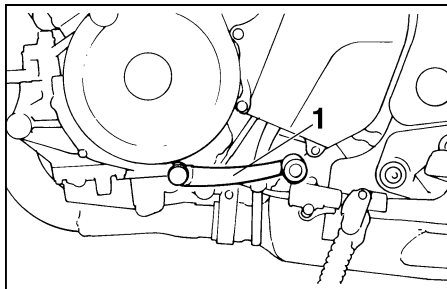


1. Clutch lever

EAU00152

Clutch lever

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



1. Shift pedal

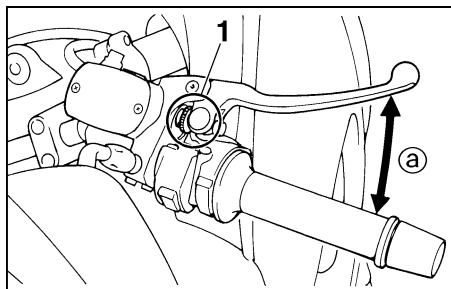
EAU00157

Shift pedal

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

INSTRUMENT AND CONTROL FUNCTIONS

3



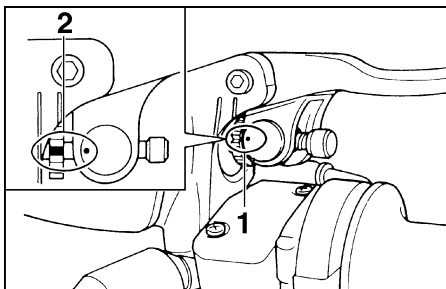
1. Brake lever position adjuster
- a. Lever distance

EAU00160

Front brake lever

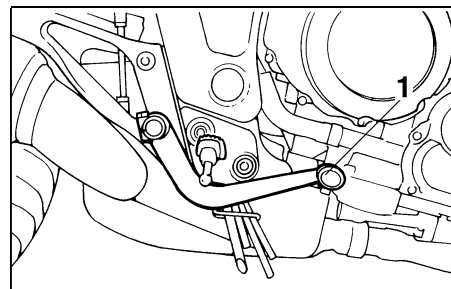
The front brake lever is located on the right handlebar and is equipped with a position adjuster.

To activate the front brake, pull the lever toward the handlebar.



1. Adjusting nut
2. Proper position

To adjust the front brake lever position, turn the adjusting nut while pulling the lever forward. Make sure the mark “■” on the adjusting nut is aligned with the mark “●” on the lever.

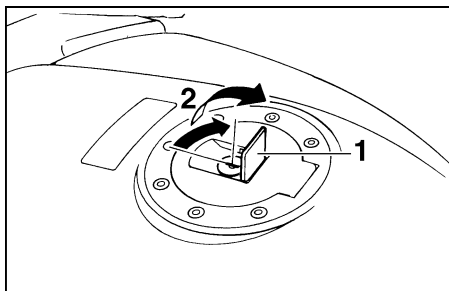


1. Rear brake pedal

EAU00162

Rear brake pedal

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



1. Lock cover
2. Open

EAU02935

Fuel tank cap

To open

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

To close

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

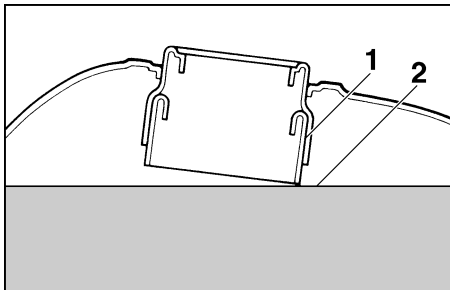
NOTE: _____
This tank cap cannot be closed unless the key is in the lock. The key cannot be removed if the cap is not locked properly.

EW000023

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

INSTRUMENT AND CONTROL FUNCTIONS

3



1. Filler tube
2. Fuel level

EAU001183

Fuel

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

EW000130

WARNING

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

EAU00186

CAUTION:

- Always wipe off spilled fuel immediately with a dry and clean soft cloth. Fuel may deteriorate painted surfaces or plastic parts.
- (For Germany only)

The fuel tank cap equipped on German models is specially designed. Always use the correct cap whenever replacement is necessary.

EAU00191

Recommended fuel:

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

Fuel tank capacity:

Total:

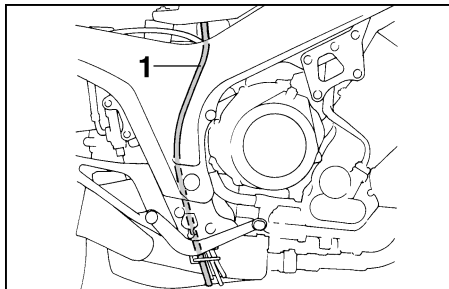
20 L

Reserve:

3.1 L

NOTE:

If knocking or pinging occurs, use a different brand of gasoline or higher octane grade.



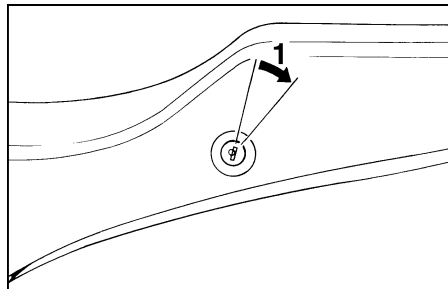
1. Fuel tank breather hose

EAU00196

Fuel tank breather hose (for Germany only)

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

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



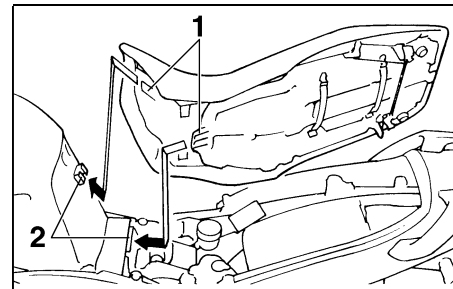
1. Open

EAU01726

Seat

To remove

Insert the key in the lock and turn it clockwise.



1. Projection (× 2)
2. Seat holder (× 2)

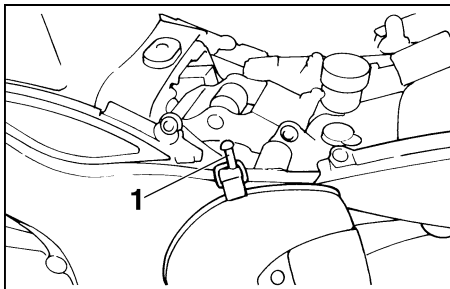
To install

Insert the projections on the front of the seat into the seat holders. Then push down on the seat.

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

INSTRUMENT AND CONTROL FUNCTIONS

3



1. Helmet holder

EAU00263

Helmet holder

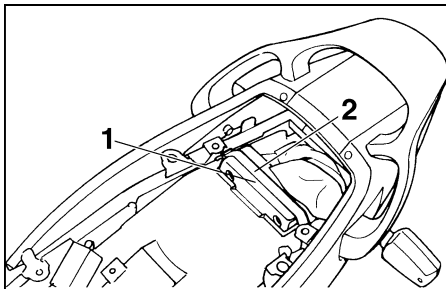
The helmet holder is under the seat. Remove the seat and hook the helmet on the helmet holder. Then, reinstall the seat and lock it.

EW000030



WARNING

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



1. U-LOCK (optional)

2. Strap

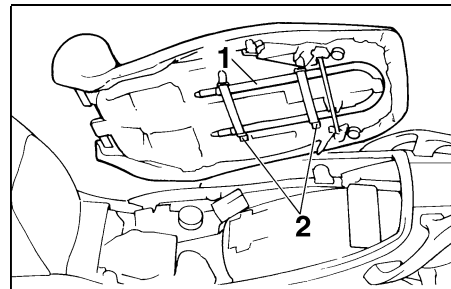
EAU01688

Storage compartment

This compartment is designed to store a genuine Yamaha U-LOCK. (Other locks may not fit.)

Be sure the lock is fastened securely with the straps when storing it in the compartment.

To prevent losing the straps, be sure to secure them even when a U-LOCK is not being stored in the compartment.

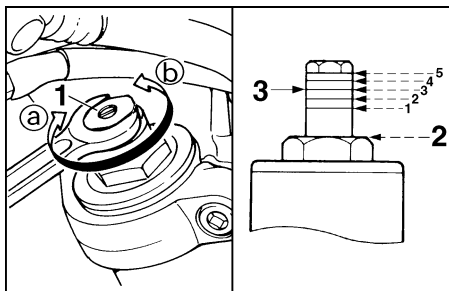


1. U-LOCK (optional)

2. Strap (× 2)

When storing this Owner's manual or other documents in the compartment, be sure to put them in a vinyl bag so they do not get wet. When washing the motorcycle, be careful not to flood this compartment with water.

INSTRUMENT AND CONTROL FUNCTIONS



1. Spring preload adjusting bolt
2. Adjusting position
3. Standard setting

EAU01728

Front fork adjustment

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

EW000038

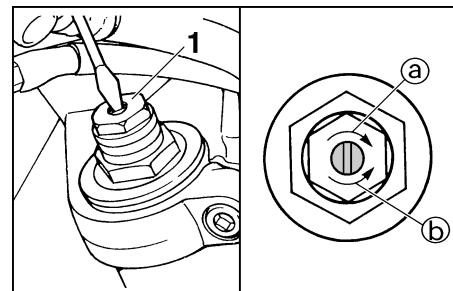
WARNING

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

Adjusting spring preload

Turn the adjusting bolt in direction (a) to increase spring preload and in direction (b) to decrease spring preload.

	Soft		Standard	Hard	
Adjusting position	1	2	3	4	5



1. Damping force adjusting screw

Adjusting damping force

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

Minimum (soft)	5 clicks out*
Standard	4 clicks out*
Maximum (hard)	0 click out*

* From the fully turned-in position

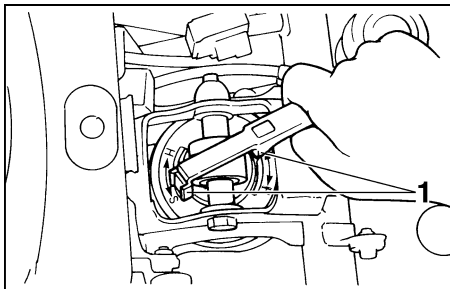
EC000015

CAUTION:

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

INSTRUMENT AND CONTROL FUNCTIONS

3



1. Adjusting lever

EAU01768*

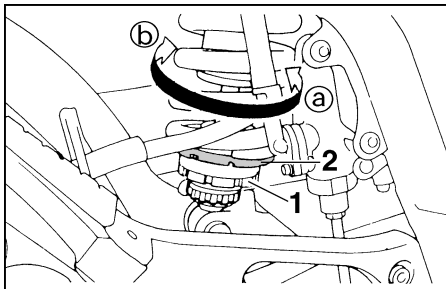
Rear shock absorber adjustment

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

Spring preload

Coarse adjustment (top)

Use the special tool in the owner's tool kit to turn the lever to "S" when riding solo and to "H" when riding with a passenger.

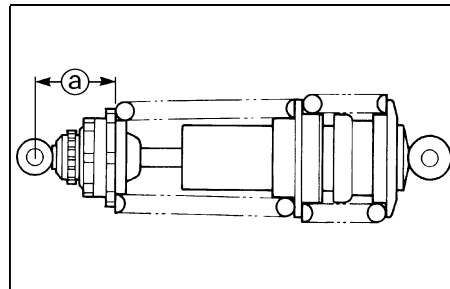


1. Locknut
2. Adjusting nut

Fine adjustment (bottom)

Proceed as follows to suit road conditions and the rider's preference.

1. Loosen the locknut.
2. Turn the adjusting nut in direction (a) to increase spring preload and in direction (b) to decrease spring preload.



a. Distance "A"

Spring preload:

Minimum (soft):

Distance "A" = 59 mm

Standard:

Distance "A" = 61 mm

Maximum (hard):

Distance "A" = 63 mm

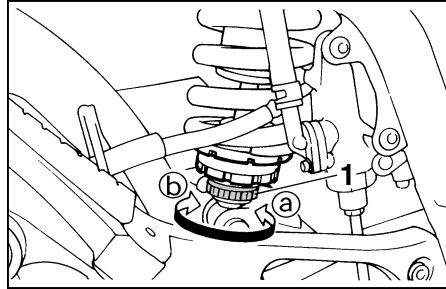
3. Tighten the locknut to the specified torque.

Tightening torque:
Locknut:
70 Nm (7.0 m·kg)

EC000018

CAUTION:

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



1. Adjusting knob

Damping force adjustment

Turn the adjusting knob in direction ① to increase damping force and in direction ② to decrease damping force.

Minimum (soft)	20 clicks out*
Standard	10 clicks out*
Maximum (hard)	0 click out*

* From the fully turned-in position

EC000015

CAUTION:

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

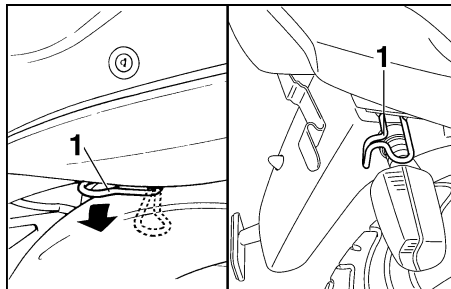
⚠ WARNING

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

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

INSTRUMENT AND CONTROL FUNCTIONS

3



1. Luggage strap holder (× 4)

EAU00324

Luggage strap holders

There are four luggage strap holders below the passenger seat, two of which can be turned outward for easier access.

Sidestand

This model is equipped with an ignition circuit cut-off system. The motorcycle must not be ridden when the sidestand is down. The sidestand is located on the left side of the frame. (Refer to page 5-1 for an explanation of this system.)

EAU00330



WARNING

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

EW000044

Sidestand/clutch switch operation check

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

EAU00331

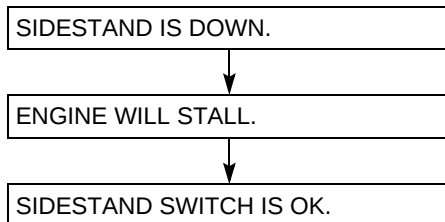
TURN THE MAIN SWITCH TO "ON" AND THE ENGINE STOP SWITCH TO "○".

TRANSMISSION IS IN GEAR AND SIDESTAND IS UP.

PULL IN CLUTCH LEVER AND PUSH THE START SWITCH.

ENGINE WILL START.

CLUTCH SWITCH IS OK.



EW000045



WARNING

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

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

PRE-OPERATION CHECKS

EAU01114

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

EAU00340

PRE-OPERATION CHECK LIST

ITEM	CHECKS	PAGE
Front brake	• Check operation, fluid level and brake fluid leakage. • Fill with DOT 4 brake fluid if necessary.	3-9, 6-20 ~ 6-23
Rear brake	• Check operation, fluid level and brake fluid leakage. • Fill with DOT 4 brake fluid if necessary.	
Clutch	• Check operation, condition and free play. • Adjust if necessary.	3-8, 6-19 ~ 6-20
Throttle grip and housing	• Check for smooth operation. • Lubricate if necessary.	6-16, 6-25
Engine oil	• Check oil level. • Fill with oil if necessary.	6-8 ~ 6-10
Coolant reservoir tank	• Check coolant level. • Fill with coolant if necessary.	6-10
Drive chain	• Check chain slack and condition. • Adjust if necessary.	6-23 ~ 6-24
Wheels and tires	• Check tire pressure, wear and damage.	6-17 ~ 6-19, 6-28
Control and meter cables	• Check for smooth operation. • Lubricate if necessary.	6-24 ~ 6-25
Brake and shift pedal shafts	• Check for smooth operation. • Lubricate if necessary.	6-25

PRE-OPERATION CHECKS

ITEM	CHECKS	PAGE
Brake and clutch lever pivots	• Check for smooth operation. • Lubricate if necessary.	6-25
Sidestand pivot	• Check for smooth operation. • Lubricate if necessary.	6-26
Chassis fasteners	• Make sure that all nuts, bolts and screws are properly tightened. • Tighten if necessary.	—
Lights, signals and switches	• Check for proper operation.	6-30 ~ 6-32
Fuel	• Check fuel level. • Fill with fuel if necessary.	3-11

4

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

WARNING

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

OPERATION AND IMPORTANT RIDING POINTS

Starting the engine	5-1
Starting a warm engine	5-4
Shifting	5-4
Tips for reducing fuel consumption	5-5
Engine break-in	5-5
Parking	5-6

EAU00373

EAU01665*

! WARNING

- Before riding this motorcycle, become thoroughly familiar with all operating controls and their functions. Consult a Yamaha dealer regarding any control or function that you do not thoroughly understand.
- Never start your engine or let it run for any length of time in a closed area. The exhaust fumes are poisonous and can cause loss of consciousness and death within a short time. Always operate your motorcycle in an area with adequate ventilation.
- Before starting out, always be sure the sidestand is up. Failure to retract the sidestand completely can result in a serious accident when you try to turn a corner.

Starting the engine

NOTE:

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

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

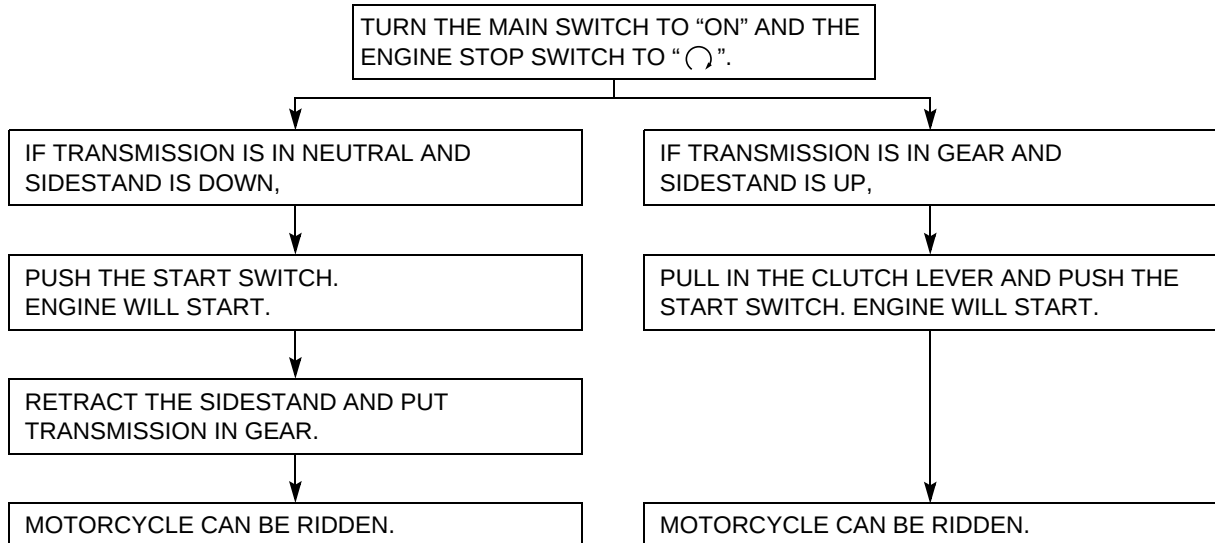
The motorcycle must not be ridden when the sidestand is down.

EW000054

! WARNING

Before going through the following steps, check the function of the sidestand switch and clutch switch. (Refer to page 3-17.)

OPERATION AND IMPORTANT RIDING POINTS



OPERATION AND IMPORTANT RIDING POINTS

1. Turn the main switch to “ON” and the engine stop switch to “

EC000035

CAUTION:

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

2. Shift the transmission into neutral.

NOTE:

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

3. Turn on the starter (choke) and completely close the throttle grip.
4. Start the engine by pushing the start switch.

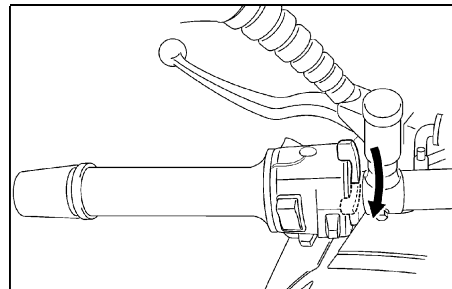
NOTE:

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

ECA00022

CAUTION:

The coolant temperature indicator light and the fuel indicator light should come on when the start switch is pushed and should go off when the start switch is released. If the coolant temperature indicator light remains on, immediately stop the engine and have a Yamaha dealer check the monitoring circuits. If the fuel indicator light remains on, add sufficient fuel.



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

NOTE:

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

6. After the engine is warm, turn off the starter (choke) completely.

NOTE:

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

Starting a warm engine

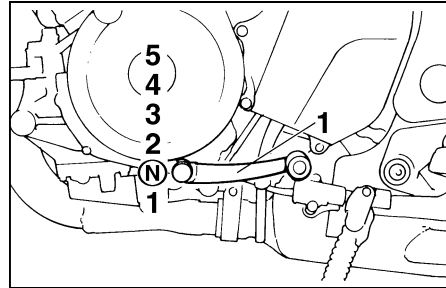
EAU01258

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

EC000046

CAUTION:

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



- 1. Shift pedal
- N. Neutral

EAU00423

Shifting

The transmission lets you control the amount of power you have available at a given speed for starting, accelerating, climbing hills, etc. The use of the shift pedal is shown in the illustration.

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

EC000048

CAUTION:

- Do not coast for long periods with the engine off, and do not tow the motorcycle a long distance. Even with gears in neutral, the transmission is only properly lubricated when the engine is running. Inadequate lubrication may damage the transmission.
- Always use the clutch when changing gears. The engine, transmission, and driveline are not designed to withstand the shock of forced shifting and can be damaged by shifting without using the clutch.

OPERATION AND IMPORTANT RIDING POINTS

EAU00424

Tips for reducing fuel consumption

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

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

Engine break-in

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

EAU00436

0 ~ 150 km

Avoid operation above 5,000 r/min. Stop the engine and let it cool for 5 to 10 minutes after every hour of operation. Vary the speed of the motorcycle from time to time. Do not operate it at one set throttle position.

150 ~ 500 km

Avoid prolonged operation above 6,000 r/min. Rev the motorcycle freely through the gears, but do not use full throttle at any time.

500 ~ 1,000 km

Avoid prolonged full throttle operation. Avoid cruising speeds in excess of 7,000 r/min.

EC000052

CAUTION:

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

OPERATION AND IMPORTANT RIDING POINTS

1,000 km and beyond

Full throttle can be used.

EC000053

CAUTION:

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

Parking

EAU00457

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

EW000058

WARNING

The exhaust system is hot. Park the motorcycle in a place where pedestrians or children are not likely to touch the motorcycle. Do not park the motorcycle on a slope or soft ground; the motorcycle may overturn.

PERIODIC MAINTENANCE AND MINOR REPAIR

Tool kit.....	6-1
Periodic maintenance and lubrication	6-2
Cowling and panel removal and installation.....	6-5
Cowlings A and B	6-5
Panels A and B	6-6
Spark plugs.....	6-6
Engine oil	6-8
Cooling system	6-10
Changing the coolant.....	6-11
Air filter	6-13
Carburetor adjustment	6-15
Idle speed adjustment	6-15
Throttle cable free play inspection	6-16
Valve clearance adjustment	6-16
Tires.....	6-17
Clutch lever free play adjustment.....	6-19
Rear brake pedal height adjustment.....	6-20
Brake light switch adjustment	6-21
Checking the front and rear brake pads.....	6-21
Inspecting the brake fluid level.....	6-22
Brake fluid replacement	6-23

Drive chain slack check.....	6-23
Drive chain slack adjustment	6-23
Drive chain lubrication.....	6-24
Cable inspection and lubrication	6-24
Throttle cable and grip lubrication	6-25
Brake and shift pedal lubrication	6-25
Brake and clutch lever lubrication	6-25
Sidestand lubrication.....	6-26
Rear suspension lubrication.....	6-26
Front fork inspection.....	6-27
Steering inspection	6-27
Wheel bearings	6-28
Battery.....	6-28
Fuse replacement	6-29
Headlight bulb replacement	6-30
Tail/brake light bulb replacement.....	6-31
Turn signal light bulb replacement.....	6-32
Troubleshooting	6-32
Troubleshooting chart.....	6-33
Engine overheating	6-34

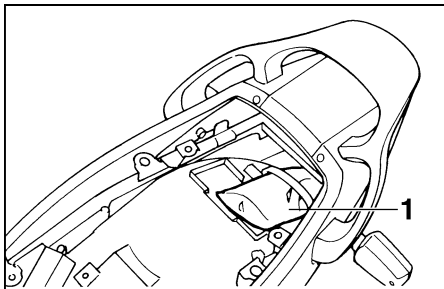
EAU00464

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

EW000060

! WARNING

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



1. Tool kit

EAU01299

Tool kit

The tool kit is located inside the storage compartment under the seat. (See page 3-12 for seat opening procedures.) The tools provided in the owner's tool kit are to assist you in the performance of periodic maintenance. However, some other tools such as a torque wrench are also necessary to perform the maintenance correctly.

The service information included in this manual is intended to provide you, the owner, with the necessary information for completing some of your own preventive maintenance and minor repairs.

NOTE:

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

EW000063

! WARNING

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

PERIODIC MAINTENANCE AND MINOR REPAIR

EAU00473

PERIODIC MAINTENANCE AND LUBRICATION

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

PERIODIC MAINTENANCE AND MINOR REPAIR

NO.	ITEM	CHECKS AND MAINTENANCE JOBS	INITIAL (1,000 km)	EVERY	
				6,000 km or 6 months (whichever comes first)	12,000 km or 12 months (whichever comes first)
12	* Swingarm	• Check swingarm pivoting point for play. • Correct if necessary. • Lubricate with molybdenum disulfide grease every 24,000 km or 24 months (whichever comes first).		√	√
13	Drive chain	• Check chain slack. • Adjust if necessary. Make sure that the rear wheel is properly aligned. • Clean and lubricate.	Every 500 km and after washing the motorcycle or riding in the rain		
14	* Steering bearings	• Check bearing play and steering for roughness. • Correct accordingly. • Lubricate with lithium soap base grease every 24,000 km or 24 months (whichever comes first).		√	√
15	* Chassis fasteners	• Make sure that all nuts, bolts and screws are properly tightened. • Tighten if necessary.		√	√
16	Sidestand	• Check operation. • Lubricate and repair if necessary.		√	√
17	* Sidestand switch	• Check operation. • Replace if necessary.	√	√	√
18	* Front fork	• Check operation and for oil leakage. • Correct accordingly.		√	√
19	* Rear shock absorber assembly	• Check operation and shock absorber for oil leakage. • Replace shock absorber assembly if necessary.		√	√
20	* Rear shock absorber assembly pivoting points	• Check operation. • Lubricate with molybdenum disulfide grease every 24,000 km or 24 months (whichever comes first).		√	√
21	* Carburetors	• Check engine idling speed, synchronization and starter operation. • Adjust if necessary.	√	√	√
22	Engine oil	• Check oil level and vehicle for oil leakage. • Correct if necessary. • Change. (Warm engine before draining.)	√	√	√
23	Engine oil filter element	• Replace.	√		√

PERIODIC MAINTENANCE AND MINOR REPAIR

NO.	ITEM	CHECKS AND MAINTENANCE JOBS	INITIAL (1,000 km)	EVERY	
				6,000 km or 6 months (whichever comes first)	12,000 km or 12 months (whichever comes first)
24	* Cooling system	• Check coolant level and vehicle for coolant leakage. • Correct if necessary. • Change coolant every 24,000 km or 24 months (whichever comes first).		√	√

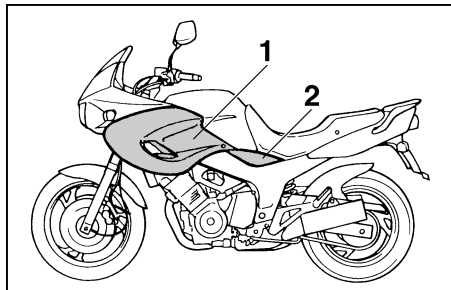
* Since these items require special tools, data and technical skills, they should be serviced by a Yamaha dealer.

EAU02970*

NOTE:

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

PERIODIC MAINTENANCE AND MINOR REPAIR

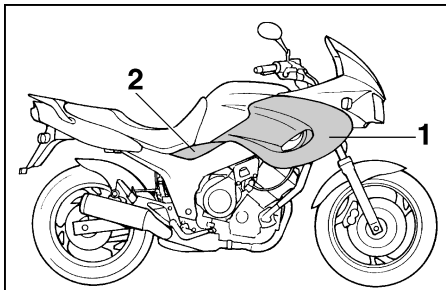


1. Cowling A
2. Panel A

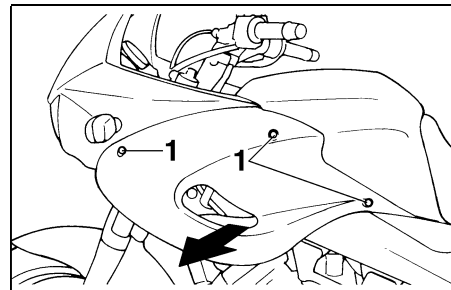
EAU01139

Cowling and panel removal and installation

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



1. Cowling B
2. Panel B



1. Screw (× 3)

EAU00484*

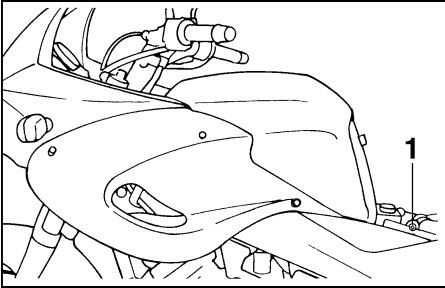
Cowlings A and B

To remove

Remove the screws and pull outward as shown.

To install

Place the cowlings in the original position and install the screws.



1. Screw

EAU01691*

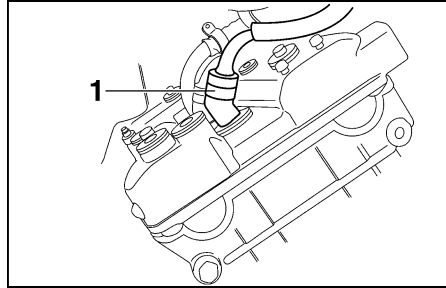
Panels A and B

To remove

1. Remove the seat. (See page 3-12 for removal and installation procedures.)
2. Remove the screw.

To install

1. Place the panels in the original position and install the screw.
2. Install the seat.



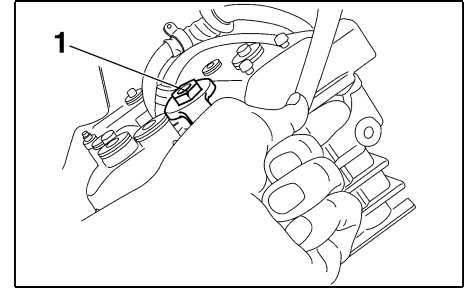
1. Spark plug cap

EAU01668*

Spark plugs

Removal

1. Remove cowlings A and B. (See page 6-5 for removal and installation procedures.)
2. Remove the spark plug caps.
3. Use the spark plug wrench in the tool kit to remove the spark plugs as shown.



1. Spark plug wrench

Inspection

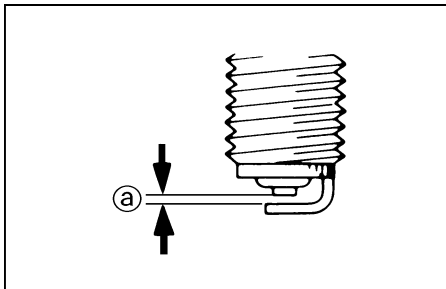
The spark plug is an important engine component and is easy to inspect. The condition of the spark plug can indicate the condition of the engine.

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

PERIODIC MAINTENANCE AND MINOR REPAIR

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

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



a. Spark plug gap

Installation

1. Measure the electrode gap with a wire thickness gauge and, if necessary, adjust the gap to specification.

Spark plug gap:
0.8 ~ 0.9 mm

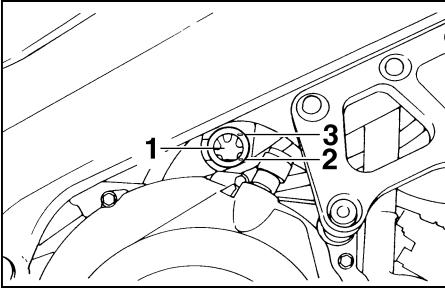
2. Clean the gasket surface. Wipe off any grime from the threads.
3. Install the spark plugs and tighten them to the specified torque.

Tightening torque:
Spark plug:
18 Nm (1.8 m·kg)

NOTE:

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

4. Install the spark plug caps.
5. Install the cowling.



1. Oil level window
2. Minimum level mark
3. Maximum level mark

EAU01692

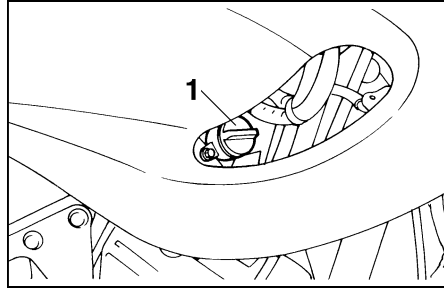
Engine oil

Oil level inspection

1. Place the motorcycle on a level place. Warm up the engine at idle for 15 minutes.

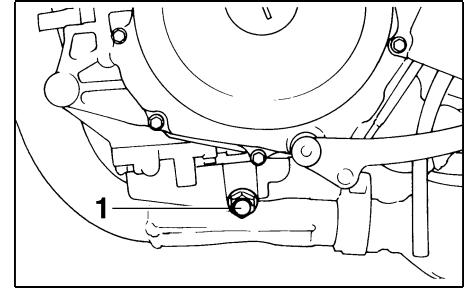
NOTE:

Be sure the motorcycle is positioned straight up when checking the oil level. A slight tilt toward the side can result in false readings.



1. Engine oil filler cap

2. The oil tank is located behind the engine cylinders. With the engine stopped, check the oil level through the level window located on the right side of the oil tank.
3. The oil level should be between the maximum and minimum marks. If the level is low, fill engine with sufficient oil to raise it to the specified level.

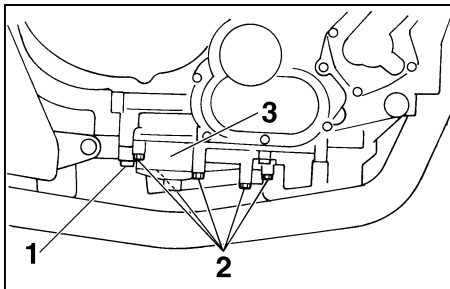


1. Engine oil drain bolt Ⓐ

Engine oil and oil filter element replacement

1. Warm up the engine for a few minutes.
2. Stop the engine. Place an oil pan under the engine and remove the oil filler cap.
3. Remove the drain bolts and drain the oil.
4. Remove the oil filter cover bolts and oil filter.

PERIODIC MAINTENANCE AND MINOR REPAIR



1. Engine oil drain bolt ⑥
2. Oil filter cover bolt (× 5)
3. Oil filter cover

5. Install the drain bolts and tighten them to the specified torque.

Tightening torque:

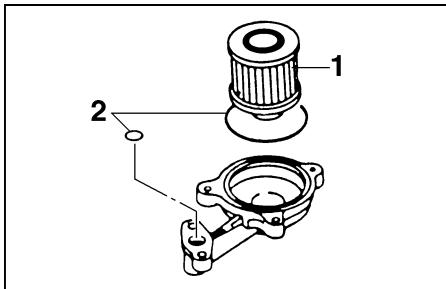
Drain bolt ⑥:

35 Nm (3.5 m·kg)

Drain bolt ⑤:

30 Nm (3.0 m·kg)

6. Install the new oil filter, O-rings and the filter cover. Tighten the oil filter cover bolts to the specified torque.



1. Oil filter
2. O-ring (× 2)

Tightening torque:

Oil filter cover bolt:

10 Nm (1.0 m·kg)

NOTE: Make sure the O-rings are seated properly.

7. Fill engine with oil. Install the oil filler cap and tighten.

Recommended oil:

See page 8-1.

Oil quantity:

Total amount:

4.2 L

Periodic oil change:

3.5 L

With oil filter replacement:

3.6 L

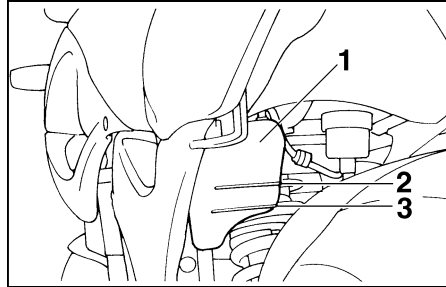
EC000066

CAUTION:

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

PERIODIC MAINTENANCE AND MINOR REPAIR

8. Start the engine and warm up for a few minutes. While warming up, check for oil leakage. If oil leakage is found, stop the engine immediately and check for the cause.
9. Stop the engine and check the oil level.

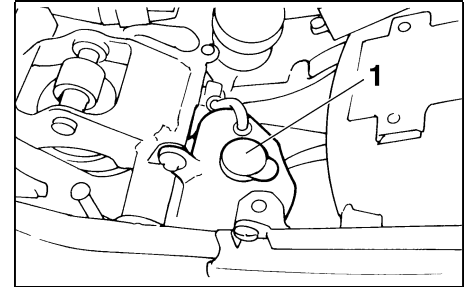


1. Coolant reservoir
2. Maximum level mark
3. Minimum level mark

EAU03024*

Cooling system

1. Check the coolant level in the coolant reservoir when the engine is cold as the coolant level will vary with engine temperature. The coolant level should be between the maximum and minimum marks.
2. If the level is low, remove the seat. (See page 3-12 for seat removal and installation procedures.)
3. Remove the coolant reservoir cap, then add coolant or distilled water to raise it to the specified level.



1. Coolant reservoir cap

Coolant reservoir capacity:
0.3 L

4. Install the coolant reservoir cap and seat.

ECA00041

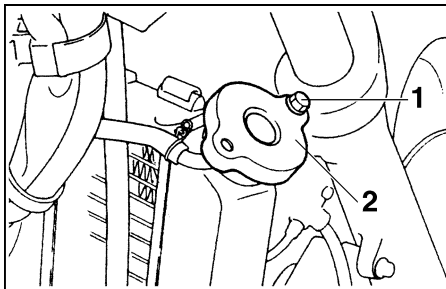
CAUTION:

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

PERIODIC MAINTENANCE AND MINOR REPAIR

NOTE:

- If water is added, have a Yamaha dealer check the antifreeze content of the coolant as soon as possible.
 - The radiator fan operation is completely automatic. It is switched on or off according to the coolant temperature in the radiator.
5. If your motorcycle overheats, see page 6-34 for details.



1. Radiator cap stopper bolt
2. Radiator cap

EAU01176*

Changing the coolant

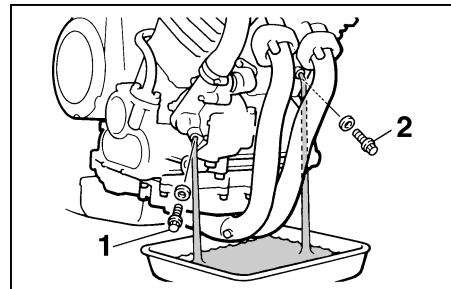
1. Put the motorcycle on a level place.
2. Remove cowling B. (See page 6-5 for cowling removal and installation procedures.)
3. Place a container under the engine.
4. Remove the radiator cap stopper bolt and radiator cap.

EW000067



WARNING

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

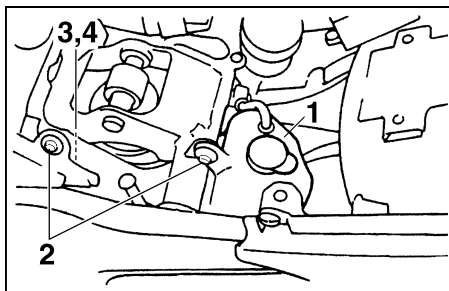


1. Water pump drain bolt
2. Cylinder drain bolt

5. Remove the water pump drain bolt and cylinder drain bolt.

PERIODIC MAINTENANCE AND MINOR REPAIR

ECA00041



1. Coolant reservoir
2. Bolt
3. Coolant reservoir hose clamp
4. Hose

6. Remove the seat. (See page 3-12 for seat removal and installation procedures.)
7. Remove the coolant reservoir by removing the bolts.
8. Remove the coolant reservoir hose clamp and disconnect the hose.
9. Drain the coolant from the coolant reservoir by turning it upside down.
10. Install the hose and connect the coolant reservoir hose clamp.

11. Drain the coolant completely and thoroughly flush the cooling system with clean tap water.
12. If the washers are damaged, replace them. Tighten the water pump drain bolt and cylinder drain bolt to the specified torques.

Tightening torque:

Water pump and cylinder drain bolts:

10 Nm (1.0 m·kg)

13. Pour the recommended coolant into the radiator until it is full.

Recommended antifreeze:

High quality ethylene glycol antifreeze containing corrosion inhibitors for aluminum engines.

Antifreeze and water mixing ratio:

1 : 1

Total amount:

1.7 L

Coolant reservoir capacity:

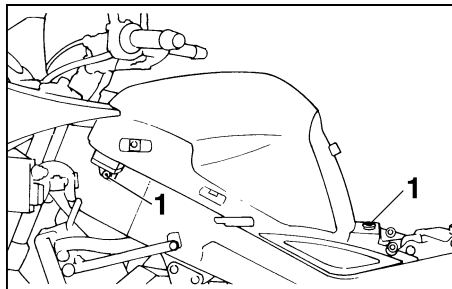
0.3 L

CAUTION:

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

14. Run the engine several minutes. Stop the engine and recheck the coolant level in the radiator. If it is low, add more coolant until it reaches the top of the radiator.
15. Fill the coolant reservoir with coolant up to maximum level.
16. Install the radiator cap, radiator cap stopper bolt and coolant reservoir cap.
17. Check for coolant leakage. If any leakage is found, ask a Yamaha dealer to inspect the cooling system.

PERIODIC MAINTENANCE AND MINOR REPAIR



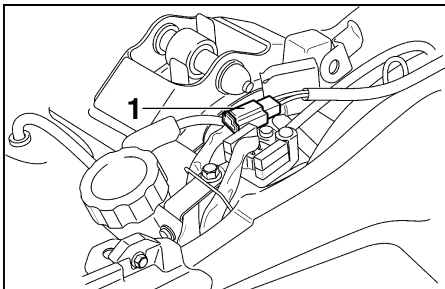
1. Bolt (× 2)

EAU01769*

Air filter

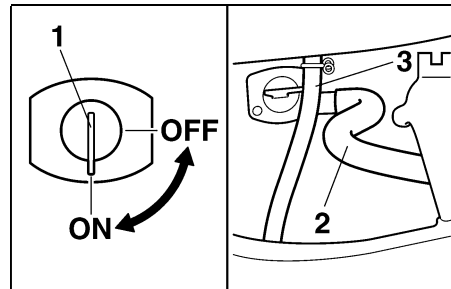
The air filter should be cleaned at the specified intervals. It should be cleaned more frequently if you are riding in unusually wet or dusty areas.

1. Remove the seat. (See page 3-12 for seat removal and installation procedures.)
2. Remove cowlings A and B and panels A and B. (See pages 6-5 ~ 6-6 for removal and installation procedures.)
3. Remove the fuel tank holding bolts.



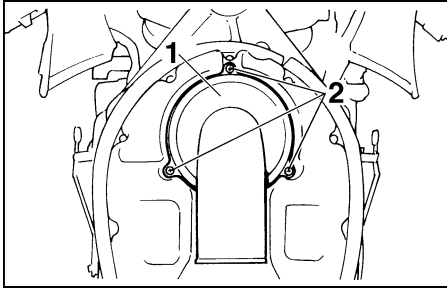
1. Fuel sender coupler

4. Disconnect the fuel sender coupler.
5. Lift up the rear of the fuel tank slightly, turn the fuel cock to "OFF" and disconnect the fuel hose and breather hose. Then remove the fuel tank.



1. Fuel cock
2. Fuel hose
3. Breather hose

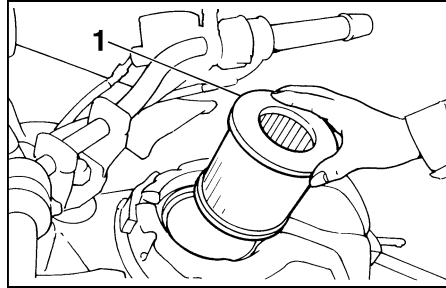
PERIODIC MAINTENANCE AND MINOR REPAIR



1. Air filter case cover

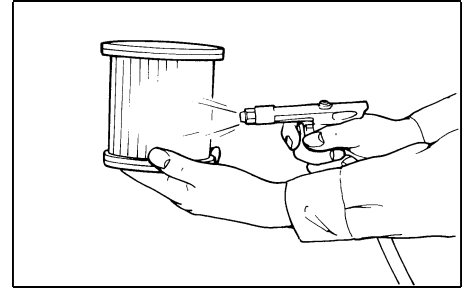
2. Screw (× 3)

6. Remove the air filter case cover by removing the screws.



1. Air filter

7. Remove the air filter.



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

9. Install by reversing the removal procedure.

EWA00013

WARNING

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

PERIODIC MAINTENANCE AND MINOR REPAIR

EC000082

CAUTION:

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

EAU00630

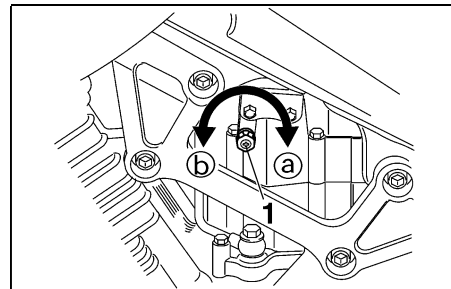
Carburetor adjustment

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

EC000095

CAUTION:

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



1. Throttle stop screw

EAU00632

Idle speed adjustment

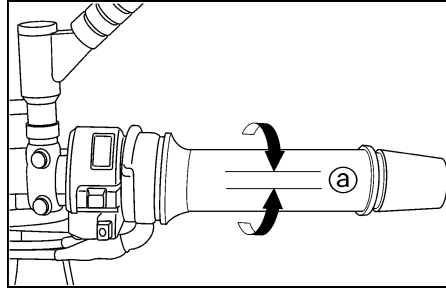
1. Start the engine and warm it up for a few minutes at approximately 1,000 to 2,000 r/min. Occasionally rev the engine to 4,000 to 5,000 r/min. The engine is warm when it quickly responds to the throttle.
2. Set the idle to the specified engine speed by adjusting the throttle stop screw. Turn the screw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

PERIODIC MAINTENANCE AND MINOR REPAIR

Standard idle speed:
1,050 ~ 1,250 r/min

NOTE:

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



a. Free play

EAU00635

Throttle cable free play inspection

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

EAU00637

Valve clearance adjustment

The correct valve clearance changes with use, resulting in improper fuel/air supply or engine noise. To prevent this, the valve clearance must be adjusted regularly. This adjustment however, should be left to a professional Yamaha service technician.

PERIODIC MAINTENANCE AND MINOR REPAIR

Tires

EAU00658

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

Tire air pressure

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

EW000082



WARNING

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

Maximum load*	203 kg	
	Front	Rear
Cold tire pressure		
Up to 90 kg load*	225 kPa (2.25 kg/cm ² , 2.25 bar)	275 kPa (2.75 kg/cm ² , 2.75 bar)
90 kg load ~ Maximum load*	225 kPa (2.25 kg/cm ² , 2.25 bar)	275 kPa (2.75 kg/cm ² , 2.75 bar)
High speed riding	225 kPa (2.25 kg/cm ² , 2.25 bar)	275 kPa (2.75 kg/cm ² , 2.75 bar)

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

EW000083

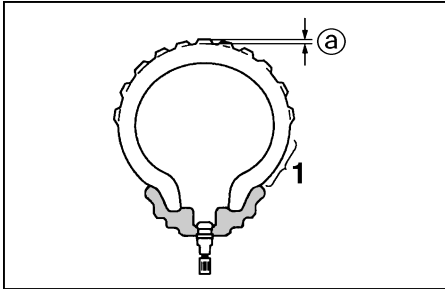


WARNING

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

EW000095

EW000080



1. Side wall
a. Tread depth

Tire inspection

Always check the tires before operating the motorcycle. If center tread depth reaches the limit as shown, if the tire has a nail or glass fragments in it, or if the side wall is cracked, contact a Yamaha dealer immediately and have the tire replaced.

! WARNING

Operating the motorcycle with excessively worn tires decrease riding stability and can lead to loss of control. Have excessively worn tires replaced by a Yamaha dealer immediately. Brakes, tires, and related wheel parts replacement should be left to a Yamaha Service Technician.

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

NOTE:

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

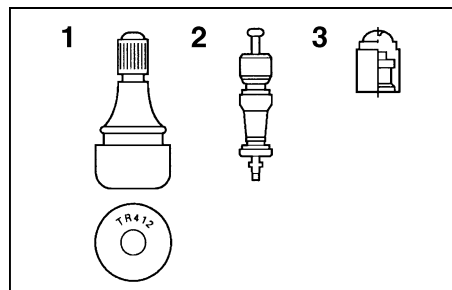
Tire information

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

! WARNING

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

PERIODIC MAINTENANCE AND MINOR REPAIR



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

FRONT

Manufacturer	Size	Type
Bridgestone	110/80 ZR18 (58W)	BT-54F
Pirelli	110/80 ZR18 (58W)	MTR03
Michelin	110/80 ZR18 (58W)	MACADAM 90X

REAR

Manufacturer	Size	Type
Bridgestone	150/70 ZR17 (69W)	BT-54R
Pirelli	150/70 ZR17 (69W)	MTR04
Michelin	150/70 ZR17 (69W)	MACADAM 90X

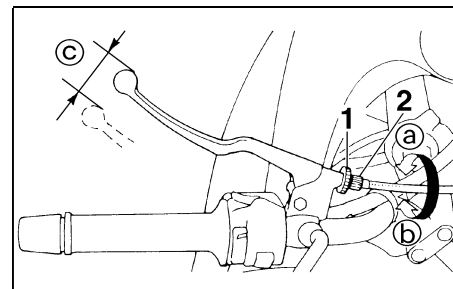
	Type
Tire valve	TR412
Valve core	#9000A (original)

EAU00684

⚠ WARNING

This motorcycle is fitted with super high-speed running tires. The following points must be observed in order for you to make fully effective use of these tires.

- Never fail to use the specified tires in tire replacement. Other tires may have a danger of bursting at super high-speeds.
- New tires have a relatively low grip on the road surface until they have been slightly worn. Therefore, approximately 100 km should be traveled at normal speed before any high-speed riding is done.
- Before any high-speed runs, the tires should be warmed-up sufficiently.
- Always inflate to the correct tire pressure according to the operating conditions.



1. Locknut
2. Adjusting bolt
- c. Free play

EAU00692

Clutch lever free play adjustment

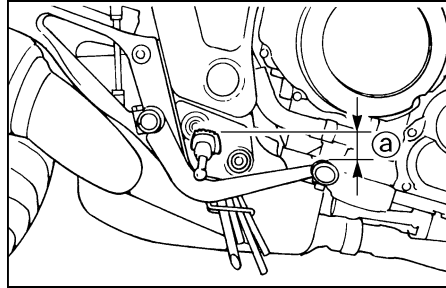
The clutch lever free play should be adjusted to 10 ~ 15 mm. If the free play is incorrect, adjust as follows.

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

PERIODIC MAINTENANCE AND MINOR REPAIR

NOTE:

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



a. Pedal height

Rear brake pedal height adjustment

The top of the brake pedal should be positioned 29 mm below the top of the footrest. If not, ask a Yamaha dealer to adjust it.

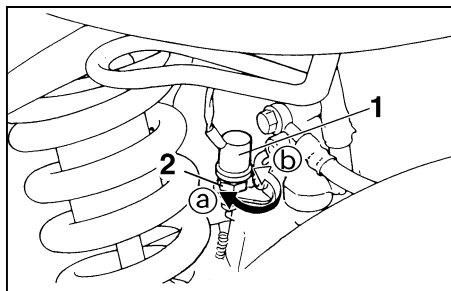
⚠ WARNING

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

EW000109

EAU00712

PERIODIC MAINTENANCE AND MINOR REPAIR



- 1. Brake light switch
- 2. Adjusting nut

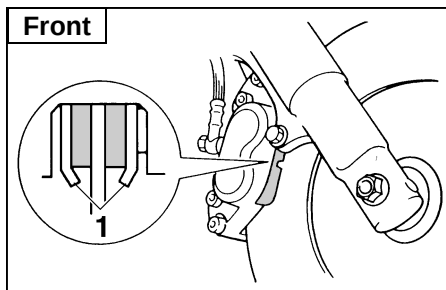
EAU00713

Brake light switch adjustment

The rear brake light switch is activated by the brake pedal and is properly adjusted when the brake light comes on just before braking takes effect. To adjust the rear brake light switch, hold the switch body so it does not rotate while turning the adjusting nut.

Turn the adjusting nut in direction ① to make the brake light come on earlier.

Turn the adjusting nut in direction ② to make the brake light come on later.

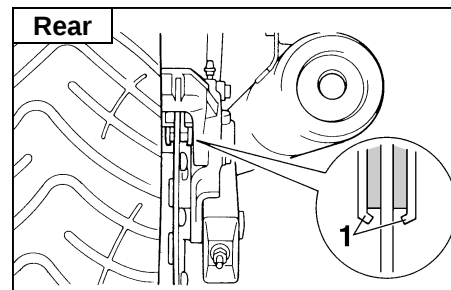


- 1. Wear indicator (× 2)

EAU00715

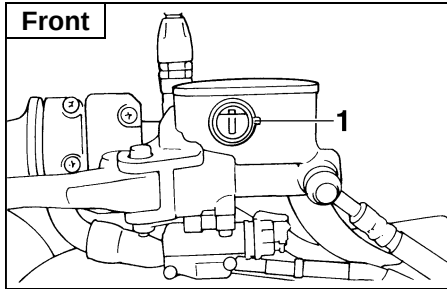
Checking the front and rear brake pads

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



- 1. Wear indicator (× 2)

PERIODIC MAINTENANCE AND MINOR REPAIR



1. Minimum level mark

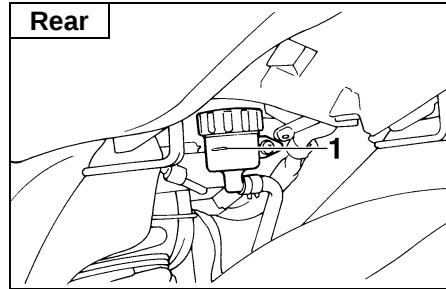
EAU00731

Inspecting the brake fluid level

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

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

Observe these precautions:



1. Minimum level mark

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

Recommended brake fluid: DOT 4

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

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

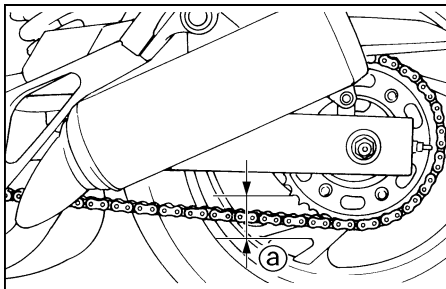
PERIODIC MAINTENANCE AND MINOR REPAIR

Brake fluid replacement

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

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

EAU00742



a. Chain slack

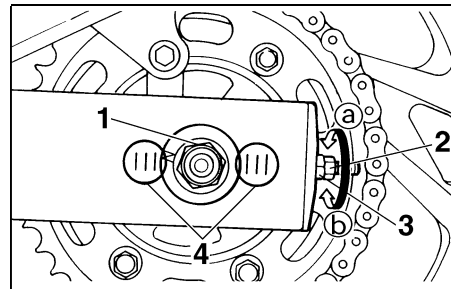
EAU00744

Drive chain slack check

NOTE:

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

To check the chain slack the motorcycle must be held straight up with both wheels on the ground and without rider. Check the slack at the position shown in the illustration. Normal slack is approximately 40 ~ 50 mm. If the slack exceeds 50 mm, adjust.



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

EAU00765

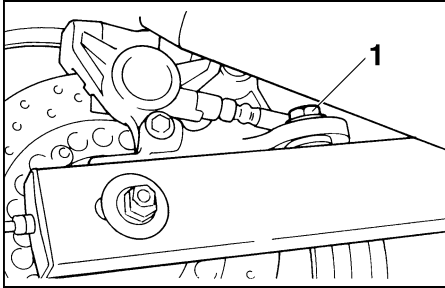
Drive chain slack adjustment

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

PERIODIC MAINTENANCE AND MINOR REPAIR

EAU03006

EAU02962



1. Caliper bracket bolt

EC000096

CAUTION:

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

3. After adjusting, tighten the axle nut and caliper bracket bolt to the specified torque.

Tightening torque:

Axle nut:

110 Nm (11.0 m·kg)

Caliper bracket bolt:

35 Nm (3.5 m·kg)

Drive chain lubrication

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

EC000097

CAUTION:

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

Cable inspection and lubrication

EW000112

WARNING

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

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

Recommended lubricant:
Engine oil

PERIODIC MAINTENANCE AND MINOR REPAIR

Throttle cable and grip lubrication

EAU00773

The throttle twist grip assembly should be greased at the time that the cable is lubricated, since the grip must be removed to get at the end of the throttle cable. After removing the screws, hold the end of the cable up in the air and put in several drops of lubricant. With the throttle grip disassembled, coat the metal surface of the grip assembly with a suitable all-purpose grease.

Brake and shift pedal lubrication

EAU02984

Lubricate the pivoting parts.

Recommended lubricant:
Engine oil

Brake and clutch lever lubrication

EAU02985

Lubricate the pivoting parts.

Recommended lubricant:
Engine oil

PERIODIC MAINTENANCE AND MINOR REPAIR

EAU02986

Sidestand lubrication

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

Recommended lubricant:
Engine oil

EW000113



WARNING

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

EAU00790

Rear suspension lubrication

Lubricate the pivoting parts.

Recommended lubricant:
Molybdenum disulfide grease

PERIODIC MAINTENANCE AND MINOR REPAIR

Front fork inspection

Visual check

EAU02939

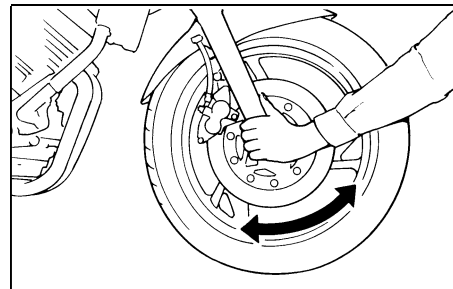
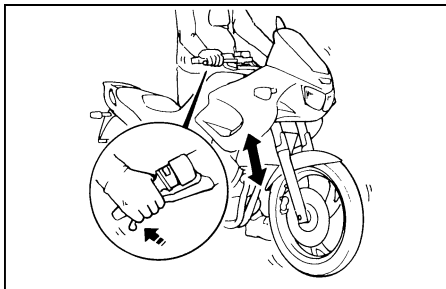
EW000115



WARNING

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

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



Operation check

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

EC000098

CAUTION:

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

Steering inspection

EAU00794

Periodically inspect the condition of the steering. Worn out or loose steering bearings may be dangerous. Place a stand under the engine to raise the front wheel off the ground. Hold the lower end of the front forks and try to move them forward and backward. If any free play can be felt, ask a Yamaha dealer to inspect and adjust the steering. Inspection is easier if the front wheel is removed.

EW000115



WARNING

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

PERIODIC MAINTENANCE AND MINOR REPAIR

EAU01144

Wheel bearings

If there is play in the front or rear wheel hub or if the wheel does not turn smoothly, have a Yamaha dealer inspect the wheel bearings.

EAU00800

Battery

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

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

EC000101

CAUTION:

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

EW000116

WARNING

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

ANTIDOTE:

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

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

KEEP OUT OF REACH OF CHILDREN.

PERIODIC MAINTENANCE AND MINOR REPAIR

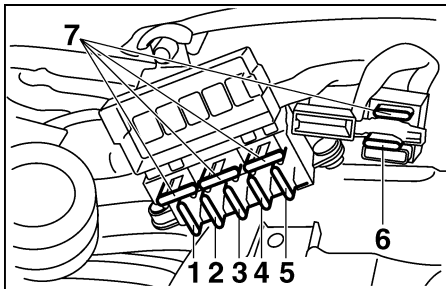
Battery storage

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

EC000102

CAUTION:

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



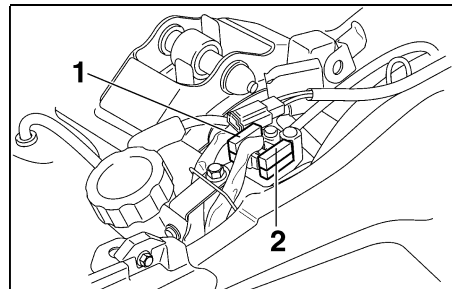
1. Headlight fuse
2. Signaling system fuse
3. Ignition fuse
4. Hazard light fuse
5. Odometer fuse
6. Radiator fan fuse
7. Spare fuse (x 4)

EAU01670

Fuse replacement

The fuse boxes are located under the rider seat and the main fuse case is attached to the starter relay.

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



1. Main fuse
2. Spare fuse

EC000103

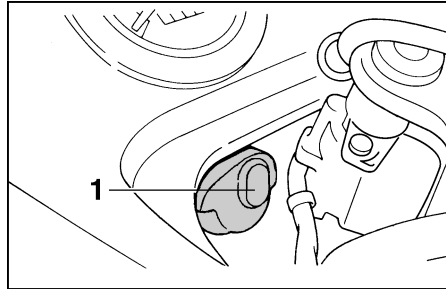
CAUTION:

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

PERIODIC MAINTENANCE AND MINOR REPAIR

Specified fuses:

Main fuse:	30 A
Headlight fuse:	15 A
Signaling system fuse:	15 A
Ignition fuse:	10 A
Hazard light fuse:	10 A
Odometer fuse:	5 A
Radiator fan fuse:	7.5 A



1. Bulb holder cover

EAU00827

Headlight bulb replacement

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

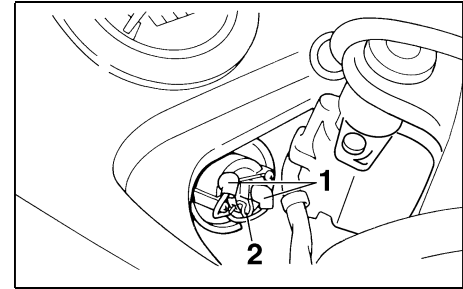
1. Remove the connectors and the bulb holder cover.
2. Unhook the bulb holder and remove the defective bulb.

EW000119



WARNING

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



1. Connector (x 2)

2. Bulb holder

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

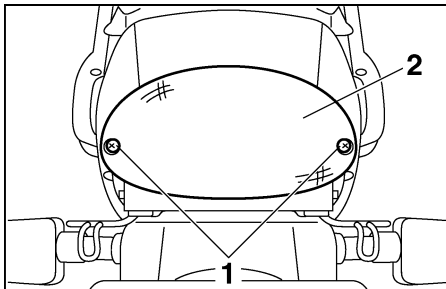
EC000105

CAUTION:

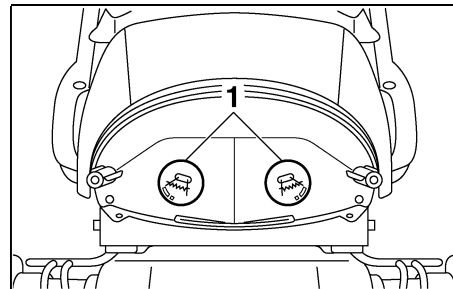
Avoid touching the glass part of a bulb. Keep it free from oil; otherwise, the transparency of the glass, life of the bulb, and luminous flux will be adversely affected. If oil gets on a bulb, thoroughly clean it with a cloth moistened with alcohol or lacquer thinner.

PERIODIC MAINTENANCE AND MINOR REPAIR

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



1. Screw (× 2)
2. Lens



1. Bulb (× 2)

EAU01623*

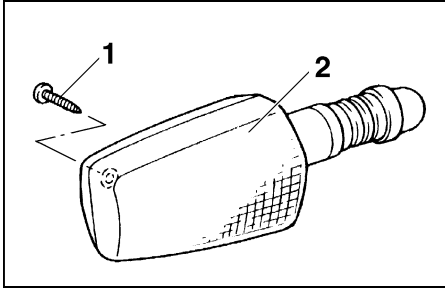
Tail/brake light bulb replacement

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

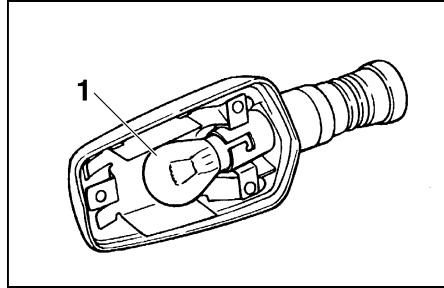
EC000108

CAUTION:

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



1. Screw
2. Lens



1. Bulb

EAU01095

Turn signal light bulb replacement

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

Troubleshooting

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

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

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

PERIODIC MAINTENANCE AND MINOR REPAIR

Troubleshooting chart

EAU02990*

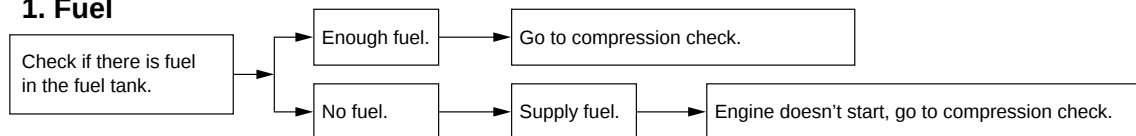
EW000125



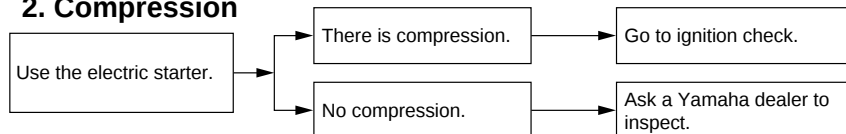
WARNING

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

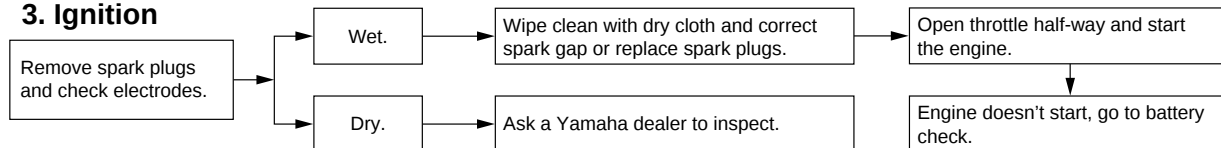
1. Fuel



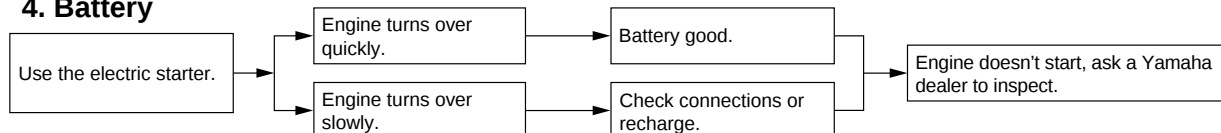
2. Compression



3. Ignition



4. Battery



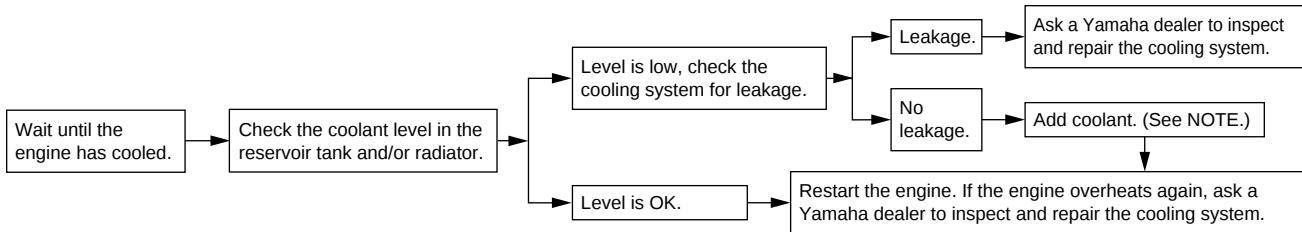
PERIODIC MAINTENANCE AND MINOR REPAIR

Engine overheating

EW000070

WARNING

Do not remove the radiator cap when the engine and radiator are hot. Scalding hot fluid and steam may be blown out under pressure, which could cause serious injury. Open the radiator cap as follows. Wait until the engine has cooled. Remove the radiator cap stopper by removing the screw. Place a thick rag like a towel over the radiator cap and slowly rotate the cap counterclockwise to the detent. This procedure allows any residual pressure to escape. When the hissing sound has stopped, press down on the cap while turning counterclockwise and remove it.



NOTE:

If it is difficult to get the recommended coolant, tap water can be temporarily used, provided that it is changed to the recommended coolant as soon as possible.

MOTORCYCLE CARE AND STORAGE

Care	7-1
Storage	7-4

Care

The exposure of its technology makes a motorcycle charming but also vulnerable. Although high-quality components are used, they are not all rust-resistant. While a rusty exhaust pipe may remain unnoticed on a car, it does look unattractive on a motorcycle. Frequent and proper care, however, will keep your motorcycle looking good, extend its life and maintain its performance. Moreover, the warranty states that the vehicle must be properly taken care of. For all these reasons, it is recommended that you observe the following cleaning and storing precautions.

Before cleaning

1. Cover up the muffler outlets with plastic bags.
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, sprockets, the drive chain and wheel axles. Always rinse the dirt and degreaser off with water.

Cleaning

After normal use

Remove dirt with warm water, a neutral detergent and a soft clean sponge, then rinse with plenty of clean water. Use a tooth or bottle brush for hard-to-reach parts. Tougher dirt and insects will come off more easily if the area is covered with a wet cloth for a few minutes before cleaning.

ECA00010

CAUTION:

- Avoid using strong acidic wheel cleaners, especially on spoked wheels. If you do use such products for hard-to-remove dirt, do not leave it on any longer than instructed, then thoroughly rinse it off with water, immediately dry the area and 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.
- 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 bearings, swingarm bearings, forks 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 they do not leave any marks. If the windshield is scratched, use a quality plastic polishing compound after washing.

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

Since sea salt or salt sprayed on the roads in the 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. (Salt sprayed in the winter may remain on the roads well into spring.)

MOTORCYCLE CARE AND STORAGE

1. Clean your motorcycle with cold water and soap after the engine has cooled down.

ECA00012

CAUTION:

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

2. Be sure to apply a corrosion protection spray on all (even chrome- and nickel-plated) metal surfaces to prevent corrosion.

After cleaning

1. Dry the motorcycle with a chamois or an absorbing cloth.
2. Immediately dry the drive chain and lubricate it to prevent it from rusting.
3. 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.)
4. To prevent corrosion, it is recommended to apply a corrosion protection spray on all (even chrome- and nickel-plated) metal surfaces.
5. Use spray oil as a universal cleaner to remove any remaining dirt.
6. Touch up minor paint damage caused by stones, etc.
7. Wax all painted surfaces.
8. Let the motorcycle dry completely before storing it or covering it.

EWA00001

WARNING

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

ECA00013

CAUTION:

- Apply spray oil and wax sparingly and wipe off any excess.
- Never apply oil or wax on rubber and plastic parts, but treat them with a suitable care product.
- Avoid using abrasive polishing compounds as they 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.

ECA00014

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. 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.
3. Only for motorcycles equipped with a fuel cock which has an “OFF” position: Turn the fuel cock to “OFF”.
4. Fill up the fuel tank and add fuel stabilizer (if available) to prevent the fuel tank from rusting and the fuel from deteriorating.
5. Perform the following steps to protect the cylinders, piston rings, etc. from corrosion.

MOTORCYCLE CARE AND STORAGE

- 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 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, install the spark plugs and then 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, then raise 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 up the muffler outlets with plastic bags to prevent moisture from entering.
9. Remove the battery and fully charge it. Store it in a cool, dry place and recharge it once a month. Do not store the battery in an excessively cold or warm place (less than 0 °C or more than 30 °C). For more information, see “Battery storage” in the chapter “PERIODIC MAINTENANCE AND MINOR REPAIRS”.

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

WARNING

When turning the engine over, be sure to ground the spark plug electrodes to prevent damage or injury from sparking.

EWA00003

Specifications 8-1

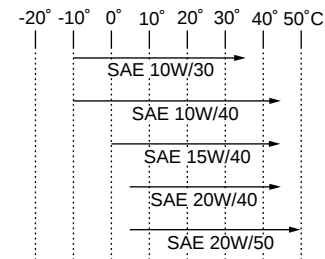
HOW TO USE THE CONVERSION TABLE 8-5

Specifications

Model	TDM850
Dimensions	
Overall length	2,165 mm (for GB, NL, B, F, E, P, I, GR, D, DK)
	2,200 mm (for N, S, SF)
Overall width	790 mm
Overall height	1,285 mm
Seat height	805 mm
Wheelbase	1,475 mm
Ground clearance	165 mm
Minimum turning radius	2,900 mm
Basic weight (with oil and full fuel tank)	232 kg
Engine	
Engine type	Liquid cooled 4-stroke, DOHC
Cylinder arrangement	Forward inclined parallel 2-cylinder
Displacement	849 cm ³
Bore × Stroke	89.5 × 67.5 mm
Compression ratio	10.5:1
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”) contain anti-friction additives which will cause clutch and/or starter clutch slippage, resulting in reduced component life and poor engine performance.

Quantity

Periodic oil change	3.5 L
With oil filter replacement	3.6 L
Total amount	4.2 L

Cooling system capacity (total amount)

1.7 L

Air filter	Dry type element
Fuel	
Type	Regular unleaded gasoline
Fuel tank capacity	20 L
Reserve amount	3.1 L
Carburetor	
Type × quantity	BDSR38 × 2
Manufacturer	MIKUNI
Spark plug	
Manufacturer/Type	NGK / DPR8EA-9 or DENSO / X24EPR-U9
Gap	0.8 ~ 0.9 mm
Clutch type	Wet, multiple-disc
Transmission	
Primary reduction system	Spur gear
Primary reduction ratio	1.718
Secondary reduction system	Chain drive
Secondary reduction ratio	2.688
Number of sprocket teeth (rear/front)	43/16
Transmission type	Constant mesh 5-speed
Operation	Left foot operation

Gear ratio	
1st	2.643
2nd	1.947
3rd	1.500
4th	1.174
5th	0.964

Chassis	
Frame type	Diamond
Caster angle	24.5°
Trail	103 mm

Tires	
Front	
Type	Tubeless
Size	110/80 ZR18 (58W)
Manufacturer/ model	Bridgestone / BT54F Michelin / MACADAM 90X Pirelli / MTR03
Rear	
Type	Tubeless
Size	150/70 ZR17 (69W)
Manufacturer/ model	Bridgestone / BT54R Michelin / MACADAM 90X Pirelli / MTR04

SPECIFICATIONS

Maximum load*	203 kg
Air pressure (cold tire)	
Up to 90 kg load*	
Front	225 kPa (2.25 kg/cm ² , 2.25 bar)
Rear	275 kPa (2.75 kg/cm ² , 2.75 bar)
90 kg load ~ maximum load*	
Front	225 kPa (2.25 kg/cm ² , 2.25 bar)
Rear	275 kPa (2.75 kg/cm ² , 2.75 bar)
High speed riding	
Front	225 kPa (2.25 kg/cm ² , 2.25 bar)
Rear	275 kPa (2.75 kg/cm ² , 2.75 bar)

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

Wheels

Front	
Type	Cast
Size	18 × MT3.00
Rear	
Type	Cast
Size	17 × MT4.00

Brakes

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

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

Suspension

Front	
Type	Telescopic fork
Rear	
Type	Swingarm

Shock absorber

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

Wheel travel

Front	149 mm
Rear	144 mm

Electrical system

Ignition system	T.C.I. (digital)
Charging system	
Type	A.C. magneto
Standard output	14 V, 23.5 A @ 5,000 r/min
Battery	
Type	GT12B-4
Voltage, capacity	12 V, 10 AH

Headlight type	Quartz bulb (halogen)
----------------	-----------------------

Bulb voltage, wattage × quantity

Headlight	12 V, 55 W × 2
Auxiliary light	12 V, 5 W × 1
Tail/brake light	12 V, 5/21 W × 2
Turn signal light	12 V, 21 W × 4
Meter light	12 V, 2 W × 3
Neutral indicator light	14 V, 1.4 W × 1
High beam indicator light	14 V, 1.4 W × 1
Turn indicator light	14 V, 1.4 W × 2
Coolant temperature indicator light	14 V, 1.4 W × 1
Fuel indicator light	12 V, 2 W × 1

Fuses

Main fuse	30 A
Headlight fuse	15 A
Signaling system fuse	15 A
Ignition fuse	10 A
Hazard light fuse	10 A
Odometer fuse	5 A
Radiator fan fuse	7.5 A

SPECIFICATIONS

EAU01064

HOW TO USE THE CONVERSION TABLE

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

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

Ex.

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

CONVERSION TABLE

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

Identification number records.....	9-1
Key identification number	9-1
Vehicle identification number.....	9-1
Model label.....	9-2

EAU02944

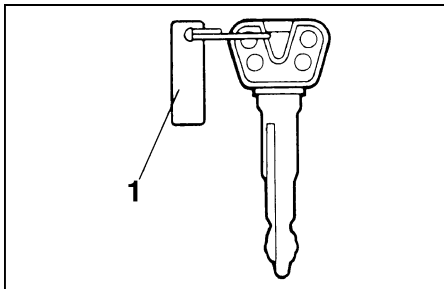
Identification number records

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

1. KEY IDENTIFICATION NUMBER:

2. VEHICLE IDENTIFICATION NUMBER:

3. MODEL LABEL INFORMATION:

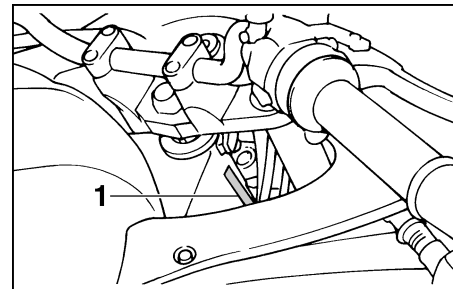


1. Key identification number

EAU01041

Key identification number

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



1. Vehicle identification number

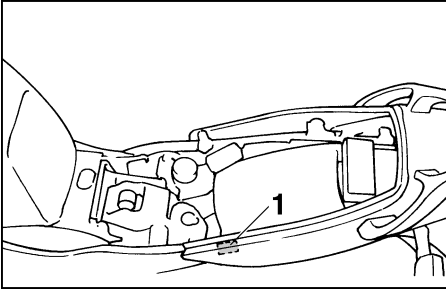
EAU01043

Vehicle identification number

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

NOTE:

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



1. Model label

EAU01050

Model label

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

INDEX

A

- Air filter6-13
- Antitheft alarm (optional)3-5

B

- Battery6-28
- Brake and clutch lever lubrication6-25
- Brake and shift pedal lubrication6-25
- Brake fluid replacement6-23
- Brake light switch adjustment6-21

C

- Cable inspection and lubrication6-24
- Carburetor adjustment6-15
- Care7-1
- Changing the coolant6-11
- Checking the front and rear brake pads6-21
- Clutch lever3-8
- Clutch lever free play adjustment6-19
- Controls/Instruments2-3
- Coolant temperature indicator light3-2
- Cooling system6-10
- Cowling and panel removal and installation6-5
- Cowlings A and B6-5

D

- Diagnosis device3-5
- Dimmer switch3-6
- Drive chain lubrication6-24
- Drive chain slack adjustment6-23
- Drive chain slack check6-23

E

- Engine break-in5-5
- Engine oil6-8
- Engine overheating6-34
- Engine stop switch3-7

F

- Front brake lever3-9
- Front fork adjustment3-14
- Front fork inspection6-27
- Fuel3-11
- Fuel gauge3-5
- Fuel indicator light3-3
- Fuel tank breather hose (for Germany only)3-12
- Fuel tank cap3-10
- Fuse replacement6-29

G

- Give safety the right of way1-1

H

- Handlebar switches3-6
 - Dimmer switch3-6
 - Engine stop switch3-7
 - Hazard switch3-6
 - Horn switch3-6
 - Lights switch3-7
 - Pass switch3-6
 - Start switch3-7
 - Turn signal switch3-6
- Hazard switch3-6
- Headlight bulb replacement6-30
- Helmet holder3-13

- High beam indicator light3-2
- Horn switch3-6

I

- Identification number records9-1
- Idle speed adjustment6-15
- Indicator lights3-2
 - Coolant temperature indicator light3-2
 - Fuel indicator light3-3
 - High beam indicator light3-2
 - Neutral indicator light3-2
 - Turn indicator lights3-2
- Inspecting the brake fluid level6-22

K

- Key identification number9-1

L

- Left view2-1
- Lights switch3-7
- Luggage strap holders3-17

M

- Main switch/steering lock3-1
- Model label9-2

N

- Neutral indicator light3-2

P

- Panels A and B6-6
- Parking5-6
- Pass switch3-6
- Periodic maintenance and lubrication6-2
- Pre-operation check list4-1

R

Rear brake pedal	3-9
Rear brake pedal height adjustment	6-20
Rear shock absorber adjustment	3-15
Rear suspension lubrication	6-26
Right view	2-2

S

Seat	3-12
Shifting	5-4
Shift pedal	3-8
Sidestand	3-17
Sidestand/clutch switch operation check	3-17
Sidestand lubrication	6-26
Spark plugs	6-6
Specifications	8-1
Speedometer	3-3
Starter (choke) " ↘ "	3-7
Starting a warm engine	5-4
Starting the engine	5-1
Start switch	3-7
Steering inspection	6-27
Storage	7-4
Storage compartment	3-13

T

Tachometer	3-4
Tail/brake light bulb replacement	6-31
Throttle cable and grip lubrication	6-25
Throttle cable free play inspection	6-16
Tips for reducing fuel consumption	5-5
Tires	6-17
Tool kit	6-1

Troubleshooting	6-32
Troubleshooting chart	6-33
Turn indicator lights	3-2
Turn signal light bulb replacement	6-32
Turn signal switch	3-6

V

Valve clearance adjustment	6-16
Vehicle identification number	9-1

W

Wheel bearings	6-28
----------------------	------



YAMAHA MOTOR CO., LTD.

PRINTED ON RECYCLED PAPER

PRINTED IN JAPAN
99・9 - 0.8 × 1 CR
(E)