



Read this manual carefully before operating this vehicle.

OWNER'S MANUAL

TT-R230Y

LIT-11626-22-27

1C6-F8199-15

WARNING

The engine exhaust from this product contains chemicals known to the State of California to cause cancer, birth defects or other reproductive harm.

YAMAHA

LIT-CALIF-65-01



Read this manual carefully before operating this vehicle. This manual should stay with this vehicle if it is sold.

Congratulations on your purchase of the Yamaha TT-R230Y. This model is the result of Yamaha's vast experience in the production of fine sporting, touring, and pacesetting racing machines. It represents the high degree of craftsmanship and reliability that have made Yamaha a leader in these fields.

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

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

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 a Yamaha dealer.



WARNING:

Please read this manual and the “YOU AND YOUR MOTORCYCLE: RIDING TIPS” booklet carefully before operating this motorcycle. Do not attempt to operate this motorcycle until you have attained adequate knowledge of its controls and operating features. Regular inspections and careful maintenance, along with good operating techniques, will help ensure that you safely enjoy the capabilities and reliability of this motorcycle.

IMPORTANT MANUAL INFORMATION

EAU10132

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

	This is the safety alert symbol. It is used to alert you to potential personal injury hazards. Obey all safety messages that follow this symbol to avoid possible injury or death.
 WARNING:	A WARNING indicates a hazardous situation which, if not avoided, could result in death or serious injury.
NOTICE	A NOTICE indicates special precautions that must be taken to avoid damage to the vehicle or other property.
TIP	A TIP provides key information to make procedures easier or clearer.

IMPORTANT MANUAL INFORMATION

AFFIX DEALER
LABEL HERE

EAUW0710

**TT-R230Y
OWNER'S MANUAL
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YAMAHA MOTOR

CORPORATION, U.S.A.

OFF-ROAD MOTORCYCLE

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YAMAHA EXTENDED SERVICE

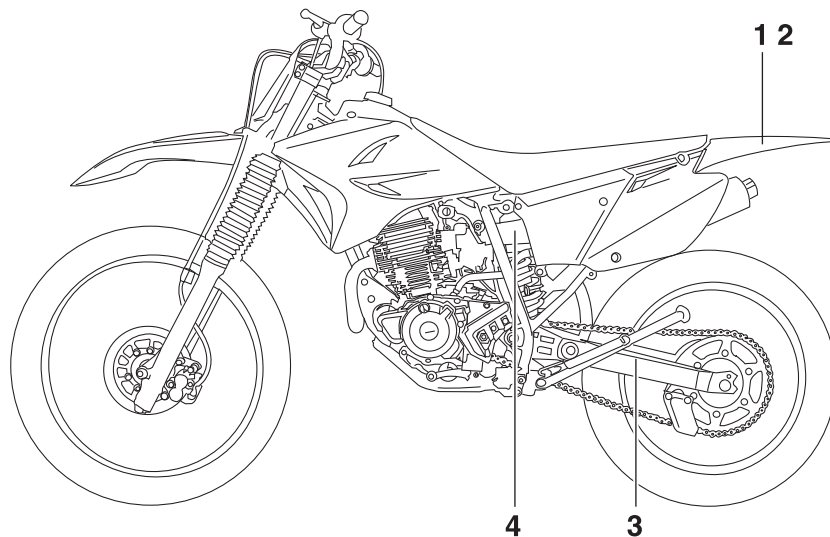
(Y.E.S.) 10-6

LOCATION OF IMPORTANT LABELS

EAU10382

Read and understand all of the labels on your vehicle. They contain important information for safe and proper operation of your vehicle. Never remove any labels from your vehicle. If a label becomes difficult to read or comes off, a replacement label is available from your Yamaha dealer.

1



LOCATION OF IMPORTANT LABELS


1

**WARNING**

- BEFORE YOU OPERATE THIS VEHICLE, READ THE OWNER'S MANUAL AND ALL LABELS.
- NEVER CARRY A PASSENGER. You increase your risk of losing control if you carry a passenger.
- NEVER OPERATE THIS VEHICLE ON PUBLIC ROADS. You can collide with another vehicle if you operate this vehicle on a public road.
- ALWAYS WEAR AN APPROVED MOTORCYCLE HELMET, eye protection, and protective clothing.

3PT-2118K-A0

2

**WARNING**

Riding as a passenger can cause the vehicle to go out of control.
Loss of control can cause a collision or rollover, which can result in severe injury or death.
NEVER ride as a passenger.

3XJ-2151H-A1

3

TIRE INFORMATION

Cold tire normal pressure should be set as follows.

FRONT: 100kPa, (1.00kgf/cm²), 15psi
REAR: 100kPa, (1.00kgf/cm²), 15psi

3RV-21668-A0

4

**WARNING**

This unit contains high pressure nitrogen gas.
Mishandling can cause explosion.

- Read owner's manual for instruction.
- Do not incinerate, puncture or open.

4AA-22259-80

1

SAFETY INFORMATION

EAU41214

Be a Responsible Owner

As the vehicle's owner, you are responsible for the safe and proper operation of your motorcycle.

Motorcycles are single-track vehicles.

Their safe use and operation are dependent upon the use of proper riding techniques as well as the expertise of the operator. Every operator should know the following requirements before riding this motorcycle.

He or she should:

- Obtain thorough instructions from a competent source on all aspects of motorcycle operation.
- Observe the warnings and maintenance requirements in this Owner's Manual.
- Obtain qualified training in safe and proper riding techniques.
- Obtain professional technical service as indicated in this Owner's Manual and/or when made necessary by mechanical conditions.

Safe Riding

Perform the pre-operation checks each time you use the vehicle to make sure it is in safe operating condition. Failure

to inspect or maintain the vehicle properly increases the possibility of an accident or equipment damage. See page 5-1 for a list of pre-operation checks.

- This motorcycle is designed for off-road use only, therefore, it is illegal to operate it on public streets, roads, or highways, even a dirt or gravel one. Off-road use on public lands may be illegal. Please check local regulations before riding.
- This motorcycle is designed to carry the operator only. No passengers.
- The failure of motorists to detect and recognize motorcycles in traffic is the predominating cause of automobile/motorcycle accidents. Many accidents have been caused by an automobile driver who did not see the motorcycle. Making yourself conspicuous appears to be very effective in reducing the chance of this type of accident.

Therefore:

- Wear a brightly colored jacket.
- Use extra caution when you are

approaching and passing through intersections, since intersections are the most likely places for motorcycle accidents to occur.

- Ride where other motorists can see you. Avoid riding in another motorist's blind spot.
- Many accidents involve inexperienced operators.
 - Make sure that you are qualified and that you only lend your motorcycle to other qualified operators.
 - Know your skills and limits. Staying within your limits may help you to avoid an accident.
 - We recommend that you practice riding your motorcycle until you have become thoroughly familiar with the motorcycle and all of its controls.
- Many accidents have been caused by error of the motorcycle operator. A typical error made by the operator is veering wide on a turn due to excessive speed or undercornering (insufficient lean angle for the speed). Never travel faster than warranted by conditions.

- Ride cautiously in unfamiliar areas. You may encounter hidden obstacles that could cause an accident.
- The posture of the operator is important for proper control. The operator should keep both hands on the handlebar and both feet on the operator footrests during operation to maintain control of the motorcycle.
- Never ride under the influence of alcohol or other drugs.
- Be sure the transmission is in neutral before starting the engine.

Protective apparel

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

- Always wear an approved helmet.
- Wear a face shield or goggles. Wind in your unprotected eyes could contribute to an impairment of vision that could delay seeing a hazard.
- The use of a jacket, heavy boots, trousers, gloves, etc., is effective in preventing or reducing abrasions

or lacerations.

- Never wear loose-fitting clothes, otherwise they could catch on the control levers, footrests, or wheels and cause injury or an accident.
- Always wear protective clothing that covers your legs, ankles, and feet. The engine or exhaust system become very hot during or after operation and can cause burns.

Avoid Carbon Monoxide Poisoning

All engine exhaust contains carbon monoxide, a deadly gas. Breathing carbon monoxide can cause headaches, dizziness, drowsiness, nausea, confusion, and eventually death.

Carbon Monoxide is a colorless, odorless, tasteless gas which may be present even if you do not see or smell any engine exhaust. Deadly levels of carbon monoxide can collect rapidly and you can quickly be overcome and unable to save yourself. Also, deadly levels of carbon monoxide can linger for hours or days in enclosed or poorly ventilated areas. If you experience any symptoms of carbon monoxide poisoning, leave the area immediately, get fresh air, and **SEEK MEDICAL TREATMENT.**

- Do not run engine indoors. Even if you try to ventilate engine exhaust with fans or open windows and doors, carbon monoxide can rapidly reach dangerous levels.
- Do not run engine in poorly ventilated or partially enclosed areas such as barns, garages, or carports.
- Do not run engine outdoors where engine exhaust can be drawn into a building through openings such as windows and doors.

Loading

Adding accessories to your motorcycle can adversely affect stability and handling if the weight distribution of the motorcycle is changed. To avoid the possibility of an accident, use extreme caution when adding accessories to your motorcycle. Use extra care when riding a motorcycle that has added accessories. Here are some general guidelines to follow if adding accessories to your motorcycle:

Operation of an overloaded vehicle could cause an accident.

- The weight of the operator must not exceed 150 kg (331 lb).

SAFETY INFORMATION

2

- Accessory weight should be kept as low and close to the motorcycle as possible. Securely pack your heaviest items as close to the center of the vehicle as possible and make sure to distribute the weight as evenly as possible on both sides of the motorcycle to minimize imbalance or instability.
- Shifting weights can create a sudden imbalance. Make sure that accessories are securely attached to the motorcycle before riding. Check accessory mounts frequently.
 - Properly adjust the suspension for your load, and check the condition and pressure of your tires.
 - Never attach any large or heavy items to the handlebar, front fork, or front fender.

Genuine Yamaha Accessories

Choosing accessories for your vehicle is an important decision. Genuine Yamaha accessories, which are available only from a Yamaha dealer, have been designed, tested, and approved by Yamaha for use on your vehicle.

Many companies with no connection to Yamaha manufacture parts and accessories or offer other modifications for Yamaha vehicles. Yamaha is not in a position to test the products that these aftermarket companies produce. Therefore, Yamaha can neither endorse nor recommend the use of accessories not sold by Yamaha or modifications not specifically recommended by Yamaha, even if sold and installed by a Yamaha dealer.

Aftermarket Parts, Accessories, and Modifications

While you may find aftermarket products similar in design and quality to genuine Yamaha accessories, recognize that some aftermarket accessories or modifications are not suitable because of potential safety hazards to you or others. Installing aftermarket products or having other modifications performed to your vehicle that change any of the vehicle's design or operation characteristics can put you and others at greater risk of serious injury or death. You are responsible for injuries related to changes in the vehicle. Keep the following guidelines in mind,

as well as those provided under "Loading" when mounting accessories.

- Never install accessories that would impair the performance of your motorcycle. Carefully inspect the accessory before using it to make sure that it does not in any way reduce ground clearance or cornering clearance, limit suspension travel, steering travel or control operation.
- Accessories fitted to the handlebar or the front fork area can create instability due to improper weight distribution. If accessories are added to the handlebar or front fork area, they must be as lightweight as possible and should be kept to a minimum.
- Bulky or large accessories may seriously affect the stability of the motorcycle. Wind may attempt to lift the motorcycle, or the motorcycle may become unstable in cross winds.
- Certain accessories can displace the operator from his or her normal riding position. This improper

position limits the freedom of movement of the operator and may limit control ability, therefore, such accessories are not recommended.

- Use caution when adding electrical accessories. If electrical accessories exceed the capacity of the motorcycle's electrical system, an electric failure could result, which could cause a dangerous loss of lights or engine power.

Aftermarket Tires and Rims

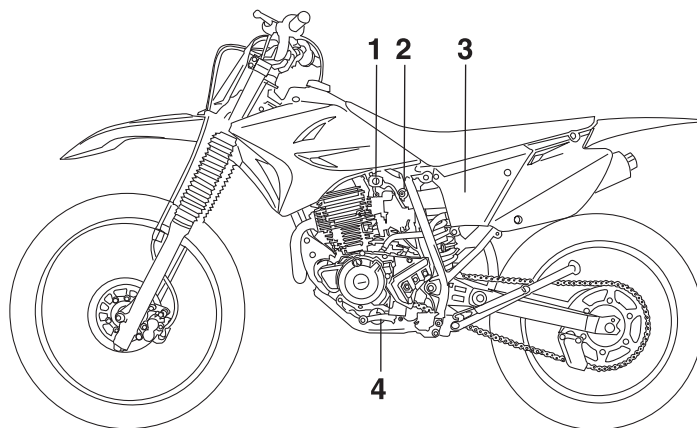
The tires and rims that came with your motorcycle were designed to match the performance capabilities and to provide the best combination of handling, braking, and comfort. Other tires, rims, sizes, and combinations may not be appropriate. Refer to page 7-13 for tire specifications and more information on replacing your tires.

DESCRIPTION

EAU10410

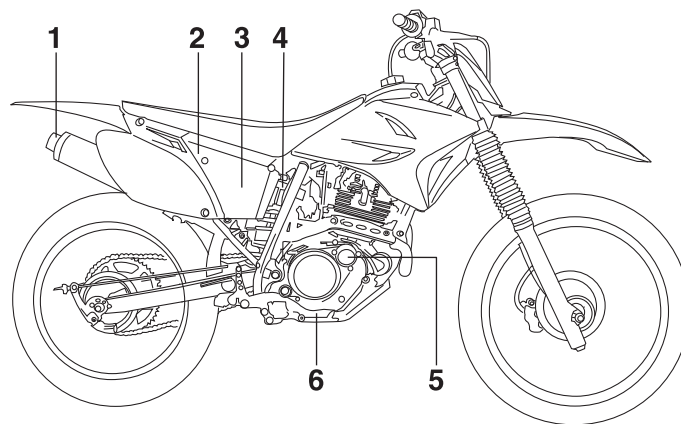
Left view

3



1. Fuel cock (page 4-5)
2. Starter (choke) knob (page 4-6)
3. Air filter element (page 7-10)
4. Shift pedal (page 4-2)

Right view

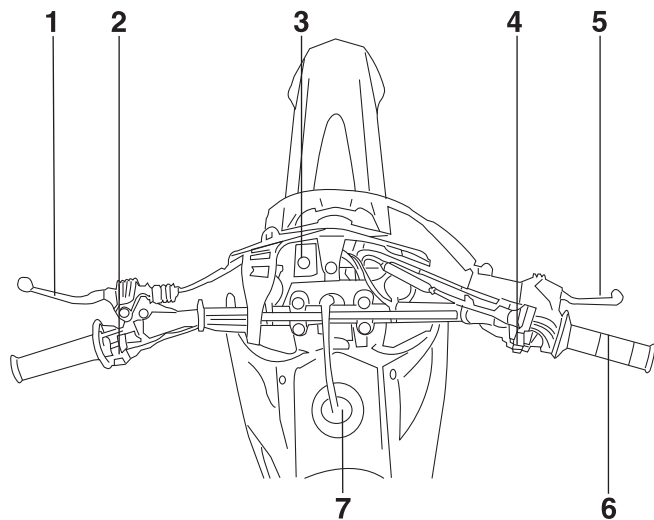


1. Spark arrester (page 7-11)
2. Fuse (page 7-24)
3. Battery (page 7-23)
4. Shock absorber assembly spring preload adjusting nut (page 4-7)
5. Engine oil filter element (page 7-7)
6. Brake pedal (page 4-3)

DESCRIPTION

Controls and instruments

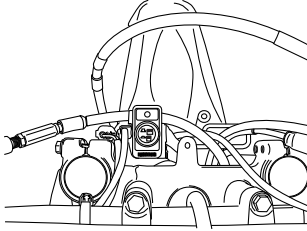
3



1. Clutch lever (page 4-2)
2. Engine stop switch (page 4-1)
3. Ignition switch (page 4-1)
4. Start switch (page 4-1)
5. Brake lever (page 4-2)
6. Throttle grip (page 7-13)
7. Fuel tank cap (page 4-3)

Ignition switch

EAUW0640



The ignition switch controls the ignition system. The ignition switch positions are described below.

ON

All electrical systems are supplied with power, and the engine can be started.

EAUW0570

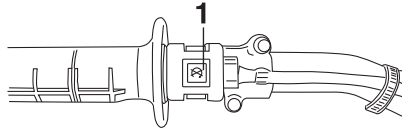
OFF

All electrical systems are off.

EAUW0580

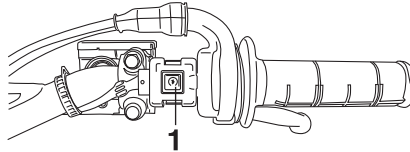
Handlebar switches Left

EAU12347



1. Engine stop button “”

Right



1. Start switch “”

EAU12670

“ENGINE STOP” button

Hold this button pushed until the engine stops in case of an emergency, such as when the vehicle overturns or when the throttle cable is stuck.

Start switch “”

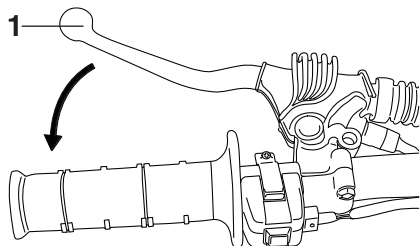
EAU12711

Push this switch to crank the engine with the starter. See page 6-1 for starting instructions prior to starting the engine.

INSTRUMENT AND CONTROL FUNCTIONS

Clutch lever

EAU31640



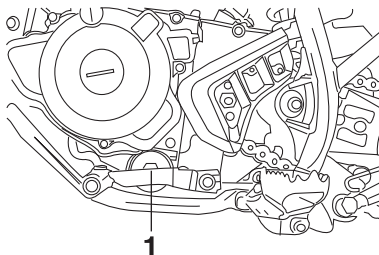
1. Clutch lever

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

The clutch lever is equipped with a clutch switch, which is part of the starting circuit cut-off system. (See page 4-8.)

Shift pedal

EAU12870

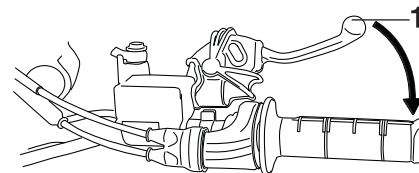


1. Shift pedal

The shift pedal is located on the left side of the engine and is used in combination with the clutch lever when shifting the gears of the 6 - speed constant-mesh transmission equipped on this motorcycle.

Brake lever

EAU12890



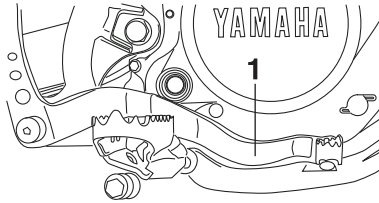
1. Brake lever

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

INSTRUMENT AND CONTROL FUNCTIONS

Brake pedal

EAU12941

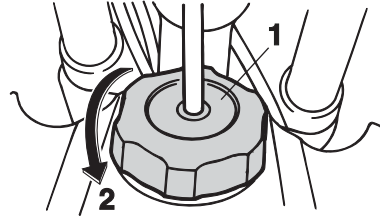


1. Brake pedal

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

EAU13182

Fuel tank cap



1. Fuel tank cap
2. Remove

To remove the fuel tank cap, turn it counterclockwise, and then pull it off.

To install the fuel tank cap, insert it into the tank opening, and then turn it clockwise.

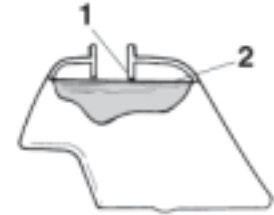
EWA11091

! WARNING:

Make sure that the fuel tank cap is properly closed after filling fuel. Leaking fuel is a fire hazard.

EAU13212

Fuel



1. Fuel tank filler tube
2. Fuel level

Make sure there is sufficient gasoline in the tank.

EWA10881

! WARNING:

Gasoline and gasoline vapors are extremely flammable. To avoid fires and explosions and to reduce the risk of injury when refueling, follow these instructions.

1. Before refueling, turn off the engine and be sure that no one is sitting on the vehicle. Never refuel while smoking, or while in the vicinity of sparks, open flames, or other sources of ignition such as the pilot lights of water heaters and clothes dryers.

INSTRUMENT AND CONTROL FUNCTIONS

4

2. Do not overfill the fuel tank. Stop filling when the fuel reaches the bottom of the filler tube. Because fuel expands when it heats up, heat from the engine or the sun can cause fuel to spill out of the fuel tank.
3. Wipe up any spilled fuel immediately. **NOTICE: Immediately wipe off spilled fuel with a clean, dry, soft cloth, since fuel may deteriorate painted surfaces or plastic parts.** [ECA10071]
4. Be sure to securely close the fuel tank cap.

EWA15151

WARNING:

Gasoline is poisonous and can cause injury or death. Handle gasoline with care. Never siphon gasoline by mouth. If you should swallow some gasoline or inhale a lot of gasoline vapor, or get some gasoline in your eyes, see your doctor immediately. If gasoline spills on your skin, wash with soap and water. If gasoline spills on your clothing, change your clothes.

EAU13301

Recommended fuel:

UNLEADED GASOLINE ONLY

Fuel tank capacity:

8.0 L (2.11 US gal, 1.76 Imp.gal)

Fuel reserve amount:

1.8 L (0.48 US gal, 0.40 Imp.gal)

ECA11400

NOTICE

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

Your Yamaha engine has been designed to use regular unleaded gasoline with a pump octane number $[(R+M)/2]$ of 86 or higher, or a research octane number of 91 or higher. If knocking (or pinging) occurs, use a gasoline of a different brand or premium unleaded fuel. Use of unleaded fuel will extend spark plug life and reduce maintenance costs.

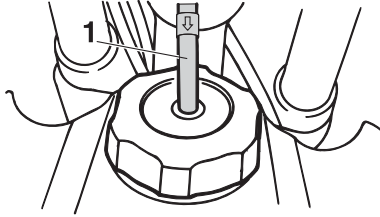
Gasohol

There are two types of gasohol: gasohol containing ethanol and that containing methanol. Gasohol containing etha-

nol can be used if the ethanol content does not exceed 10% (E10). Gasohol containing methanol is not recommended by Yamaha because it can cause damage to the fuel system or vehicle performance problems.

Fuel tank breather hose

EAU13412



1. Fuel tank breather hose

Before operating the motorcycle:

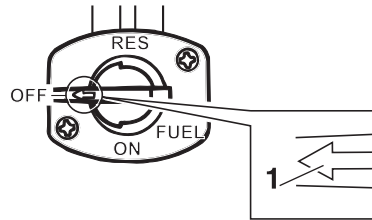
- Check the fuel tank breather hose connection.
- Check the fuel tank breather hose for cracks or damage, and replace it if damaged.
- Make sure that the fuel tank breather hose is not blocked, and clean it if necessary.

Fuel cock

EAU13561

The fuel cock supplies fuel from the tank to the carburetor while filtering it also. The fuel cock has three positions:

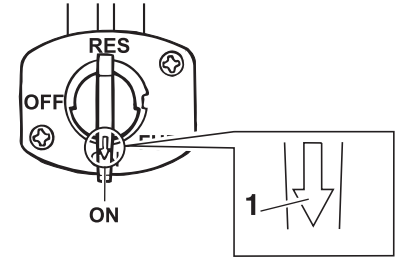
OFF



1. Arrow mark positioned over "OFF"

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

ON

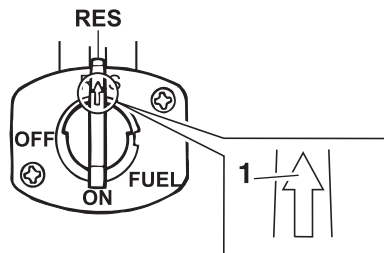


1. Arrow mark positioned over "ON"

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

INSTRUMENT AND CONTROL FUNCTIONS

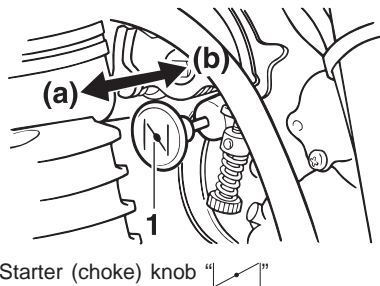
RES



1. Arrow mark positioned over "RES"

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

Starter (choke) knob " " EAU13600



1. Starter (choke) knob " "

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

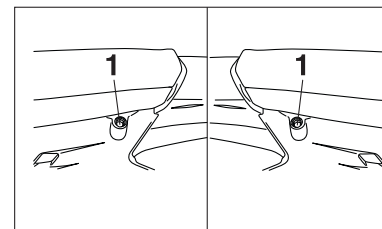
Move the knob in direction (a) to turn on the starter (choke).

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

Seat

To remove the seat

Remove the bolts, and then pull the seat off.

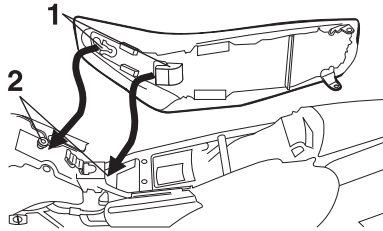


1. Bolt

To install the seat

1. Insert the projections on the front of the seat into the seat holders as shown.

INSTRUMENT AND CONTROL FUNCTIONS



1. Projection
2. Seat holder

2. Place the seat in the original position, and then tighten the bolts.

TIP

Make sure that the seat is properly secured before riding.

Adjusting the shock absorber assembly

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

EAU14813

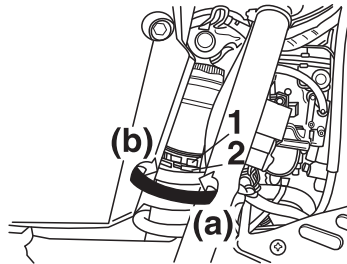
ECA10101

NOTICE

To avoid damaging the mechanism, do not attempt to turn beyond the maximum or minimum settings.

Adjust the spring preload as follows.

1. Loosen the locknut.

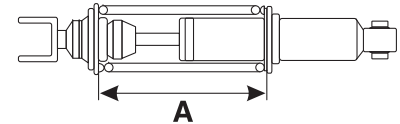


1. Locknut
2. Adjusting nut

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

suspension, turn the adjusting nut in direction (b).

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



Spring preload:

Minimum (soft):

Distance A = 194 mm (7.6 in)

Standard:

Distance A = 204 mm (8.0 in)

Maximum (hard):

Distance A = 206 mm (8.1 in)

3. Tighten the locknut to the specified torque. **NOTICE: Always tighten the locknut against the adjusting nut, and then tighten the locknut to the specified torque.** [ECA10121]

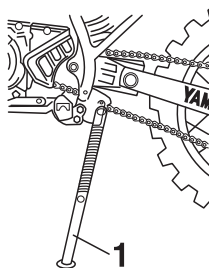
INSTRUMENT AND CONTROL FUNCTIONS

Tightening torque:

Locknut:

70 Nm (7.0 m.kgf, 51 ft.lbf)

Sidestand



1. Sidestand

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

EAU37490

EAU15391

Starting circuit cut-off system

The starting circuit cut-off system (comprising the clutch switch and the neutral switch) prevents starting when the transmission is in gear and the clutch lever is not pulled.

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

TIP

This check is most reliable if performed with a warmed-up engine.

EWA14190



WARNING:

The vehicle must not be ridden with the sidestand down, or if the sidestand cannot be properly moved up (or does not stay up), otherwise the sidestand could contact the ground and distract the operator, resulting in a possible loss of control.

INSTRUMENT AND CONTROL FUNCTIONS

With the engine turned off:
1. Make sure that the engine stop switch is set to “○”.
2. Turn the key to “ON”.
3. Shift the transmission into the neutral position.
4. Push the start switch.
Does the engine start?

YES

NO

5. Turn the engine off.
6. Shift the transmission into gear.
7. Keep the clutch lever pulled.
8. Push the start switch.
Does the engine start?

YES

NO

The system is OK. **The motorcycle can be ridden.**

WARNING

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

The neutral switch may not be working correctly.
The motorcycle should not be ridden until checked by a Yamaha dealer.

The clutch switch may not be working correctly.
The motorcycle should not be ridden until checked by a Yamaha dealer.

FOR YOUR SAFETY - PRE-OPERATION CHECKS

EAU15595

Inspect your vehicle each time you use it to make sure the vehicle is in safe operating condition. Always follow the inspection and maintenance procedures and schedules described in the Owner's Manual.

EWA11151

WARNING:

Failure to inspect or maintain the vehicle properly increases the possibility of an accident or equipment damage. Do not operate the vehicle if you find any problem. If a problem cannot be corrected by the procedures provided in this manual, have the vehicle inspected by a Yamaha dealer.

Before using this vehicle, check the following points:

EAU15605

Pre-operation check list

ITEM	CHECKS	PAGE
Fuel	<ul style="list-style-type: none">• Check fuel level in fuel tank.• Refuel if necessary.• Check fuel line for leakage.	4-3
Engine oil	<ul style="list-style-type: none">• Check oil level in engine.• If necessary, add recommended oil to specified level.• Check vehicle for oil leakage.	7-7 7-8 7-9
Front brake	<ul style="list-style-type: none">• Check operation.• If soft or spongy, have Yamaha dealer bleed hydraulic system.• Check lever free play.• Adjust if necessary.• Check brake pads for wear.• Replace if necessary.• Check fluid level in reservoir.• If necessary, add recommended brake fluid to specified level.• Check hydraulic system for leakage.	7-16 7-17 7-18
Rear brake	<ul style="list-style-type: none">• Check operation.• Check pedal free play.• Adjust if necessary.	7-16 7-17

FOR YOUR SAFETY - PRE-OPERATION CHECKS

ITEM	CHECKS	PAGE
Clutch	<ul style="list-style-type: none"> • Check operation. • Lubricate cable if necessary. • Check lever free play. • Adjust if necessary. 	7-15 7-21
Throttle grip	<ul style="list-style-type: none"> • Make sure that operation is smooth. • Check cable free play. • If necessary, have Yamaha dealer adjust cable free play and lubricate cable and grip housing. 	7-13 7-20
Control cables	<ul style="list-style-type: none"> • Make sure that operation is smooth. • Lubricate if necessary. 	7-20
Drive chain	<ul style="list-style-type: none"> • Check chain slack. • Adjust if necessary. • Check chain condition. • Lubricate if necessary. 	7-19 7-20
Wheels and tires	<ul style="list-style-type: none"> • Check for damage. • Check tire condition and tread depth. • Check air pressure. • Correct if necessary. 	7-13 7-14 7-15
Brake pedal	<ul style="list-style-type: none"> • Make sure that operation is smooth. • Lubricate pedal pivoting points if necessary. 	7-21
Brake and clutch levers	<ul style="list-style-type: none"> • Make sure that operation is smooth. • Lubricate lever pivoting points if necessary. 	7-21
Sidestand	<ul style="list-style-type: none"> • Make sure that operation is smooth. • Lubricate pivot if necessary. 	7-21
Chassis fasteners	<ul style="list-style-type: none"> • Make sure that all nuts, bolts and screws are properly tightened. • Tighten if necessary. 	-
Engine stop switch	<ul style="list-style-type: none"> • Check operation. 	4-1

OPERATION AND IMPORTANT RIDING POINTS

EAU15951

Read the Owner's Manual carefully to become familiar with all controls. If there is a control or function you do not understand, ask your Yamaha dealer.

EWA10271

WARNING:

Failure to familiarize yourself with the controls can lead to loss of control, which could cause an accident or injury.

EAUW0592

Starting and warming up a cold engine

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

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

See page 4-8 for more information.

1. Turn the fuel cock lever to "ON".
2. Push the ignition switch to set it to "ON".
3. Shift the transmission into the neutral position.
4. Turn the starter (choke) on and completely close the throttle. (See page 4-6.)
5. Start the engine by pushing the start switch.

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

6. After starting the engine, move the

starter (choke) back halfway.

NOTICE: For maximum engine life, always warm the engine up before starting off. Never accelerate hard when the engine is cold! [ECA11131]

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

TIP

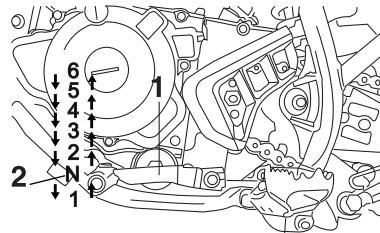
The engine is warm when it responds normally to the throttle with the starter (choke) turned off.

Starting a warm engine

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

EAU16640

Shifting



1. Shift pedal
2. Neutral position

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

The gear positions are shown in the illustration.

TIP

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

ECA10260

NOTICE

- Even with the transmission in the neutral position, do not coast

for long periods of time with the engine off, and do not tow the motorcycle for long distances. The transmission is properly lubricated only when the engine is running. Inadequate lubrication may damage the transmission.

- Always use the clutch while changing gears to avoid damaging the engine, transmission, and drive train, which are not designed to withstand the shock of forced shifting.

OPERATION AND IMPORTANT RIDING POINTS

EAU16850

Engine break-in

There is never a more important period in the life of your engine than the first 20 hours of riding. For this reason, you should read the following material carefully.

Since the engine is brand new, do not put an excessive load on it for the first 20 hours of operation. The various parts in the engine wear and polish themselves to the correct operating clearances. During this period, prolonged full-throttle operation or any condition that might result in engine overheating must be avoided. However, momentary full-throttle operation under load (i.e., two to three seconds maximum) does not harm the engine. Each full-throttle acceleration should be followed with a substantial rest period for the engine. To allow the engine to cool down from the temporary buildup of heat, cruise at a lower engine speed.

0-10 hours

- Avoid prolonged operation above 1/2 throttle.
- After every hour of operation, stop the engine, and then let it cool for five to ten minutes.

- Vary the engine speed from time to time. Do not operate the engine at one set throttle position.

10-20 hours

- Avoid prolonged operation above 3/4 throttle.
- Rev the engine freely through the gears, but do not use full throttle at any time.

After break-in

Avoid prolonged full-throttle operation. Vary the engine speed occasionally.

ECA10270

NOTICE

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

EAUW0603

Parking

When parking the vehicle, stop the engine, push the ignition switch to set it to "OFF", and then turn the fuel cock lever to "OFF".

EWA10311

WARNING:

- **Since the engine and exhaust system can become very hot, park in a place where pedestrians or children are not likely to touch them and be burned.**
- **Do not park on a slope or on soft ground, otherwise the vehicle may overturn, increasing the risk of a fuel leak and fire.**
- **Do not park near grass or other flammable materials which might catch fire.**

PERIODIC MAINTENANCE AND ADJUSTMENT

EAU41951

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

EWA10321

WARNING:

Failure to properly maintain the vehicle or performing maintenance activities incorrectly may increase your risk of injury or death during service or while using the vehicle. If you are not familiar with vehicle service, have a Yamaha dealer perform service.

EWA15121

WARNING:

Turn off the engine when performing maintenance unless otherwise specified.

- **A running engine has moving parts that can catch on body parts or clothing and electrical parts that can cause shocks or fires.**

- **Running the engine while servicing can lead to eye injury, burns, fire, or carbon monoxide poisoning - possibly leading to death. See page 2-2 for more information about carbon monoxide.**

PERIODIC MAINTENANCE AND ADJUSTMENT

EAU39943

Periodic maintenance chart for the emission control system

TIP

- From 7000 km (4200 mi) or 18 months, repeat the maintenance intervals starting from 3000 km (1800 mi) or 6 months.
- Items marked with an asterisk should be performed by a Yamaha dealer as they require special tools, data and technical skills.

NO	ITEM	CHECKS AND MAINTENANCE JOBS	INITIAL	ODOMETER READINGS	
			1000 km (600 mi) or 1 month or 30 hours	3000 km (1800 mi) or 6 months or 90 hours	5000 km (3000 mi) or 12 months or 150 hours
1	* Fuel line	<ul style="list-style-type: none"> • Check fuel hoses for cracks or damage. • Replace if necessary. 		✓	✓
2	Spark plug	<ul style="list-style-type: none"> • Check condition. • Adjust gap and clean. 		✓	✓
3	* Valve clearance	<ul style="list-style-type: none"> • Check and adjust valve clearance when engine is cold. 			✓
4	* Air filter element	<ul style="list-style-type: none"> • Clean with solvent. • Replace if necessary. 		✓	✓
5	* Crankcase breather system	<ul style="list-style-type: none"> • Check ventilation hose for cracks or damage and drain any deposits. • Replace if necessary. 	✓	✓	✓
6	* Carburetor	<ul style="list-style-type: none"> • Check engine idling speed and starter operation. • Adjust if necessary. 	✓	✓	✓
7	Exhaust system	<ul style="list-style-type: none"> • Check for leakage. • Tighten if necessary • Replace gasket(s) if necessary. 		✓	✓
8	Engine oil	<ul style="list-style-type: none"> • Change (warm engine before draining). 	✓	✓	✓
9	Engine oil filter element	<ul style="list-style-type: none"> • Clean • Check engine oil level and for leakage. 	✓	✓	✓

PERIODIC MAINTENANCE AND ADJUSTMENT

EAU35348

General maintenance and lubrication chat

NO	ITEM	CHECKS AND MAINTENANCE JOBS	INITIAL	ODOMETER READINGS	
			1000 km (600 mi) or 1 month or 30 hours	3000 km (1800 mi) or 6 months or 90 hours	5000 km (3000 mi) or 12 months or 150 hours
1	Clutch	<ul style="list-style-type: none"> • Check operation. • Adjust if necessary. 	✓	✓	✓
2	* Front brake	<ul style="list-style-type: none"> • Check operation, fluid level, and for fluid leakage. • Replace brake pads. 	✓	✓	✓
3	* Rear brake	<ul style="list-style-type: none"> • Check operation. • Adjust brake pedal free play and replace brake shoes if necessary. 	✓	✓	✓
4	* Brake hoses	<ul style="list-style-type: none"> • Check for cracks or damage. • Replace 	✓	✓	✓
5	* Wheels	<ul style="list-style-type: none"> • Check runout, spoke tightness and for damage. • Tighten spokes if necessary. 	✓	✓	✓
6	* Tires	<ul style="list-style-type: none"> • Check tread depth and for damage. • Replace if necessary. • Check air pressure. • Correct if necessary. 		✓	✓
7	* Wheel bearings	<ul style="list-style-type: none"> • Check bearings. • Check bearings for smooth operation • Replace if necessary. 		✓	✓
8	* Swingarm pivot bearings	<ul style="list-style-type: none"> • Check bearing assemblies for looseness. • Moderately repack with lithium-soap-based grease. 		✓	✓
9	Drive chain	<ul style="list-style-type: none"> • Check chain slack/alignment and condition. • Adjust and lubricate chain with Yamaha chain and cable lube thoroughly. 	Every ride		

PERIODIC MAINTENANCE AND ADJUSTMENT

NO	ITEM	CHECKS AND MAINTENANCE JOBS	INITIAL	ODOMETER READINGS	
			1000 km (600 mi) or 1 month or 30 hours	3000 km (1800 mi) or 6 months or 90 hours	5000 km (3000 mi) or 12 months or 150 hours
10	* Steering bearings	<ul style="list-style-type: none"> • Check bearing assemblies for looseness. • Moderately repack with lithium-soap-based grease. 	✓		✓
11	* Chassis fasteners	<ul style="list-style-type: none"> • Check all chassis fitting and fasteners. • Correct if necessary. 	✓	✓	✓
12	Brake lever pivot shaft	<ul style="list-style-type: none"> • Apply silicone grease lightly. 		✓	✓
13	Brake pedal pivot shaft	<ul style="list-style-type: none"> • Apply lithium-soap-based- grease lightly. 		✓	✓
14	Clutch lever pivot shaft	<ul style="list-style-type: none"> • Apply lithium-soap-based grease (all-purpose grase) lightly. 		✓	✓
15	Shift pedal pivot shaft	<ul style="list-style-type: none"> • Apply lithium-soap-based grease (all-purpose grase) lightly. 		✓	✓
16	Sidestand pivot	<ul style="list-style-type: none"> • Check operation. • Apply lithium-soap-based- grease lightly. 	✓		✓
17	* Spark arrester	<ul style="list-style-type: none"> • Clean. 			✓
18	* Front Fork	<ul style="list-style-type: none"> • Check operation and for oil leakage. • Replace if necessary. 		✓	✓
19	* Shock absorber assembly	<ul style="list-style-type: none"> • Check operation and for oil leakage. • Replace if necessary. 			✓
20	* Rear suspensions link pivots	<ul style="list-style-type: none"> • Check operation. 		✓	✓
		<ul style="list-style-type: none"> • Lubricate with lithium-soap-based grease. 			✓
21	* Control cables	<ul style="list-style-type: none"> • Apply Yamaha chain and cable lube or engine oil thoroughly. 	✓	✓	✓
22	* Throttle grip housing and cable	<ul style="list-style-type: none"> • Check operation and free play. • Adjust the throttle cable free play if necessary. • Lubricate the throttle grip housing and cable. 	✓	✓	✓

PERIODIC MAINTENANCE AND ADJUSTMENT

EAU18670

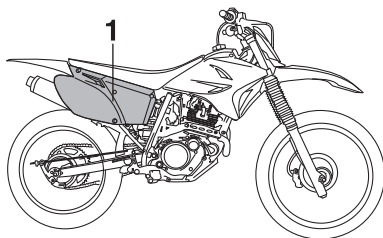
TIP

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

PERIODIC MAINTENANCE AND ADJUSTMENT

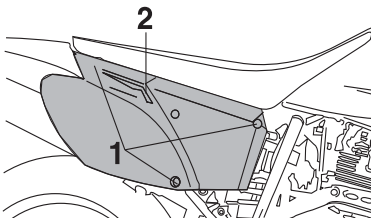
Removing and installing the panel

EAU18751



1. Panel

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



- 1. Screw
- 2. Panel

EAU19210

Panel

To remove the panel

Remove the screws, and then take the panel off.

To install the panel

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

Checking the spark plug

EAU19622

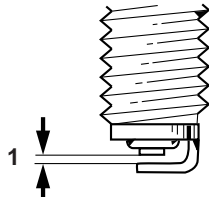
The spark plug is an important engine component, which should be checked periodically, preferably by a Yamaha dealer. Since heat and deposits will cause any spark plug to slowly erode, it should be removed and checked in accordance with the periodic maintenance and lubrication chart. In addition, the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

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

Specified spark plug:
NGK/DR8EA

PERIODIC MAINTENANCE AND ADJUSTMENT

EAUW0611



1. Spark plug gap

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

Spark plug gap:
0.6-0.7 mm (0,024-0,028 in)

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

Tightening torque:
Spark plug:
18 Nm (1.8 m.kgf, 13 ft.lbf)

TIP

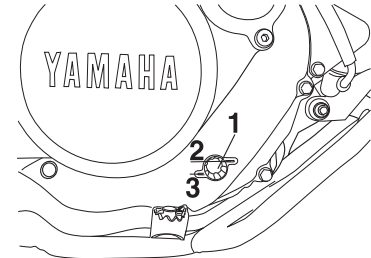
If a torque wrench is not available when installing a spark plug, a good estimate of the correct torque is 1/4-1/2 turn past finger tight. However, the spark plug should be tightened to the specified torque as soon as possible.

Engine oil and oil filter element

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

To check the engine oil level

1. Place the vehicle on a level surface and hold it in an upright position. A slight tilt to the side can result in a false reading.
2. Start the engine, warm it up for several minutes, and then turn it off.
3. Wait a few minutes until the oil settles, and then check the oil level through the check window located at the bottom-right side of the crankcase.



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

TIP

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

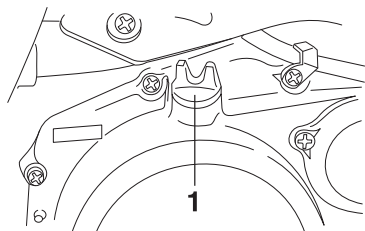
4. If the engine oil is below the minimum level mark, add sufficient oil of the recommended type to raise it to the correct level.

To change the engine oil (with or without oil filter element cleaning)

1. Place the vehicle on a level surface.
2. Start the engine, warm it up for several minutes, and then turn it off.
3. Place an oil pan under the engine to collect the used oil.

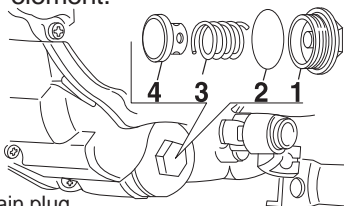
PERIODIC MAINTENANCE AND ADJUSTMENT

4. Remove the engine oil filler bolt and drain bolt to drain the oil from the crankcase. **NOTICE: When removing the engine oil drain bolt, the O-ring, compression spring, and oil strainer will fall out. Take care not to lose these parts.** [ECA11001]



1. Engine oil filler bolt

5. Remove the oil filter element drain bolt to drain the oil from the oil filter element.

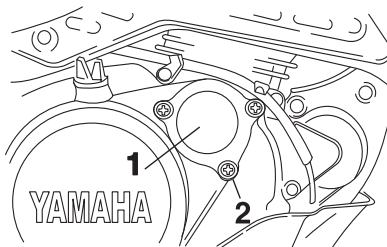


1. Drain plug
2. O-ring
3. Compression spring
4. Oil strainer

TIP

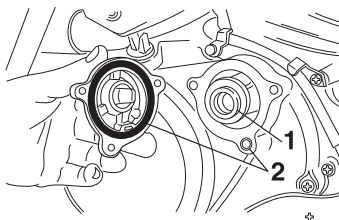
Skip steps 5-9 if the oil filter element is not being cleaned.

6. Remove the oil filter element cover by removing the bolts.



1. Oil filter element cover
2. Oil filter element drain bolt

7. Remove the oil filter element and O-rings.



1. Oil filter element
2. O-ring (x2)

8. Check the O-rings for damage and

replace them if necessary.

9. Clean the oil filter element with solvent, and then install it.

TIP

Check the oil filter element for damage and replace it if necessary.

10. Install the oil filter element cover by installing the bolts, then tightening them to the specified torque.

Tightening torque:

Oil filter element cover bolt:
7 Nm (0.7 m.kgf, 5.1 ft.lbf)

TIP

Make sure that the O-rings are properly seated.

11. Install the engine oil drain bolt, and then tighten it to the specified torque.
12. Install the engine oil filter element drain bolt, and then tighten it to the specified torque.

PERIODIC MAINTENANCE AND ADJUSTMENT

Tightening torques:

Engine oil drain bolt:

43 Nm (4.3 m.kgf, 3.1 ft.lbf)

Oil filter element drain bolt:

10 Nm (1.0 m.kgf, 7.2 ft.lbf)

13. Refill with the specified amount of the recommended engine oil, and then install and tighten the engine oil filler bolt.

Recommended oil:

See page 9-1.

Oil quantity:

Without oil filter element removal :

1.0 L (1.06 US qt, 0.91 Imp.qt)

With oil filter element removal:

1.10 L (1.16 US qt, 0.97

Imp.qt)

TIP

Be sure to wipe off spilled oil on any parts after the engine and exhaust system have cooled down.

ECA11620

NOTICE

- In order to prevent clutch slippage (since the engine oil also lubricates the clutch), do not mix any chemical additives. Do

not use oils with a diesel specification of “CD” or oils of a higher quality than specified. In addition, do not use oils labeled “ENERGY CONSERVING II” or higher.

- **Make sure that no foreign material enters the crankcase.**

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

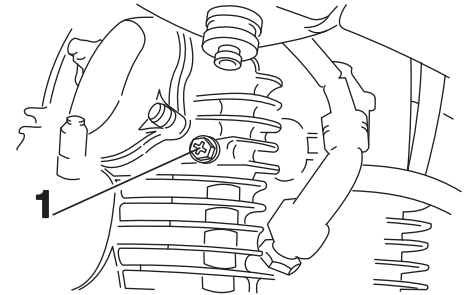
ECA11230

NOTICE

- **After changing the engine oil, make sure to check the oil pressure as described below.**
- **Remove the bleed bolt.**
- **Start the engine and keep it idling until oil flows out. If no oil comes out after one minute, turn the engine off immediately so it will not seize. If this occurs, have a Yamaha dealer repair the**

vehicle.

- **After checking the oil pressure, tighten the bleed bolt to the specified torque.**



1. Bleed bolt

Tightening torque:

Bleed bolt:

7 Nm (0,7 m.kgf, 5,0 ft.lbf)

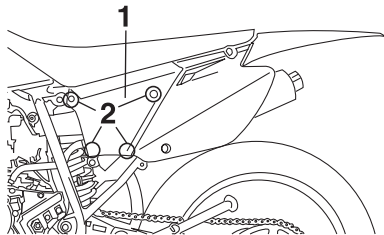
PERIODIC MAINTENANCE AND ADJUSTMENT

EAUW0633

Cleaning the air filter element

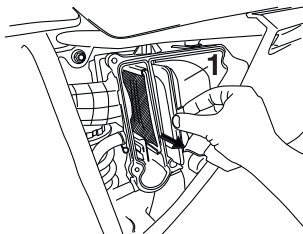
The air filter element should be cleaned at the intervals specified in the periodic maintenance and lubrication chart. Clean the air filter element more frequently if you are riding in unusually wet or dusty areas.

1. Remove the air filter element case cover by removing the screws, and then pulling it outward and sliding it forward.



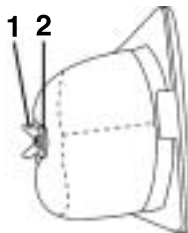
1. Air filter case cap
2. Screws

2. Pull the air filter element out of the air filter case.



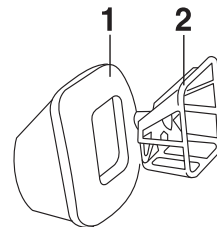
1. Air filter element

3. Remove the wing nut and washer from the air filter element.



1. Wingnut
2. Washer

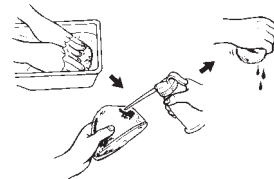
4. Remove the sponge material from the air filter element frame.



1. Sponge material
2. Air filter guide

5. Clean the sponge material with solvent, and then squeeze the remaining solvent out. **WARNING!** To avoid the risk of fire or explosion, do not use gasoline or solvents with a low flash point. [EAWW0021] **NOTICE!** To avoid damaging the foam material, handle it gently and carefully, and do not twist or wring it

[ECA10511]



PERIODIC MAINTENANCE AND ADJUSTMENT

6. Apply oil of the recommended type to the entire surface of the sponge material, and then squeeze the excess oil out.

TIP

The sponge material should be wet but not dripping.

Recommended oil:

Yamaha foam air filter oil or other quality foam air filter oil

7. Pull the sponge material over the air filter element frame.
8. Install the washer and wing nut, and then insert the air filter element into the air filter case. **NOTICE:** **Make sure that the air filter element is properly seated in the air filter case. The engine should never be operated without the air filter element installed, otherwise the piston(s) and/or cylinder(s) may become excessively worn.** [ECA10481]
9. Install the air filter case cover and screws.

Cleaning the spark arrester

The spark arrester should be cleaned at the intervals specified in the periodic maintenance and lubrication chart.

EAU40421

EWA10980

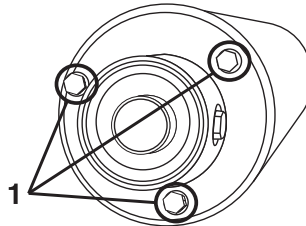
! WARNING:

- Always let the exhaust system cool prior to touching exhaust components.
- Do not start the engine when cleaning the exhaust system.

TIP

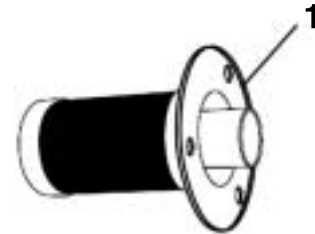
Make sure to select a well-ventilated area free of combustible materials to clean the spark arrester.

1. Remove the tailpipe by removing the bolts, and then pulling it out of the muffler.



1. Bolts

2. Tap the tailpipe lightly, and then use a wire brush to remove any carbon deposits from the spark arrester portion of the tailpipe and inside of the tailpipe housing.



1. Spark arrester

3. Insert the tailpipe into the muffler, and then install and tighten the bolts to the specified torque.

Tightening torque:

Tailpipe bolt:
10 Nm (1,0 m.kgf, 2,24 ft.lbf)

TIP

Make sure to align the bolt holes when inserting the tailpipe.

PERIODIC MAINTENANCE AND ADJUSTMENT

EAU39930

Adjusting the carburetor

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

ECA10550

NOTICE

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

EAU21362

Adjusting the engine idling speed

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

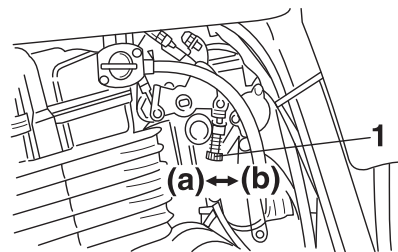
TIP

A diagnostic tachometer is needed to make this adjustment.

1. Attach the tachometer to the spark plug lead.
2. Start the engine and warm it up for several minutes at 1000-2000 r/min while occasionally revving it to 4000-5000 r/min.

TIP

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



1. Adjusting bolt

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

Engine idling speed:
1.400-1.600 r/min

PERIODIC MAINTENANCE AND ADJUSTMENT

EAU21401

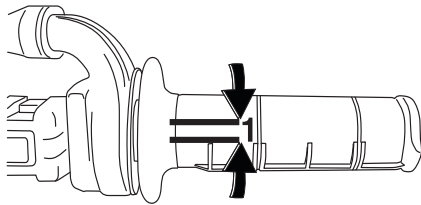
EAU21491

TIP

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

EAU21382

Checking the throttle cable free play



1. Throttle cable free play

The throttle cable free play should measure 3.0-5.0 mm (0.12-0.20 in) at the throttle grip. Periodically check the throttle cable free play and, if necessary, have a Yamaha dealer adjust it.

Valve clearance

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

Tires

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

Tire air pressure

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

EWA10441

! WARNING:

Operation of this vehicle with improper tire pressure may cause severe injury or death from loss of control.

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

PERIODIC MAINTENANCE AND ADJUSTMENT

Off-road riding:

Front:

100 kPa (1.00 kgf/cm², 15 psi)

Rear:

100 kPa (1.00 kgf/cm², 15 psi)

Maximum load*:

150 kg (331 lb)

* Total weight of rider, cargo and accessories

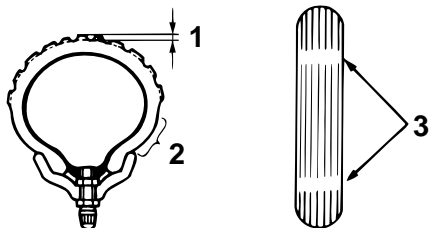
EWA10511

⚠ WARNING:

Never overload your vehicle. Operation of an overloaded vehicle could cause an accident.

Tire inspection

7



1. Tire sidewall
2. Tire tread depth
3. Tire wear indicator

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

Minimum tire tread depth (front and rear):
4.0 mm (0.16 in)

Tire information

This motorcycle is equipped with spoke wheels and tube tires.

EWA10461

⚠ WARNING:

The front and rear tires should be of the same make and design, otherwise the handling characteristics of the vehicle may be different, which could lead to an accident.

After extensive tests, only the tires listed below have been approved for this model by Yamaha Motor da Amazônia Ltda.

Front tire:

Size:

80/100-21 NHS

Manufacturer/model:

PIRELLI MT 320 H

Rear tire:

Size:

100/100-18 NHS

Manufacturer/model:

PIRELLI MT 320

EWA10570

⚠ WARNING:

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

EAU21940

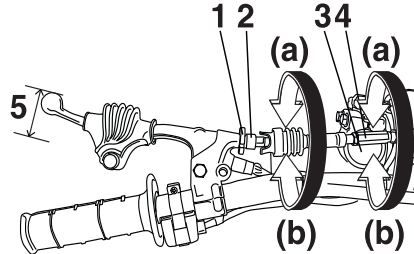
EAU22032

Spoke wheels

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

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

Adjusting the clutch lever free play



1. Locknut (clutch lever)
2. Adjusting bolt
3. Locknut (clutch cable)
4. Adjusting nut
5. Clutch lever free play

The clutch lever free play should measure 10-15 mm (0,39-0,59 in) as shown. Periodically check the clutch lever free play and, if necessary, adjust it as follows.

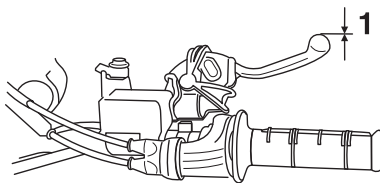
1. Loosen the locknut at the clutch lever.
2. To increase the clutch lever free play, turn the clutch lever free play adjusting bolt in direction (a). To decrease the clutch lever free play, turn the adjusting bolt in direction (b).

3. If the specified clutch lever free play could be obtained as described above, tighten the locknut and skip the rest of the procedure, otherwise, proceed as follows.
4. Fully turn the adjusting bolt in direction (a) to loosen the clutch cable.
5. Loosen the locknut further down the clutch cable.
6. To increase the clutch lever free play, turn the clutch lever free play adjusting nut in direction (a). To decrease the clutch lever free play, turn the adjusting nut in direction (b).
7. Tighten both locknuts.

PERIODIC MAINTENANCE AND ADJUSTMENT

Checking the front brake lever free play

EAU37912



1. Front brake lever free play

There should be no free play at the brake lever end. If there is free play, have a Yamaha dealer inspect the brake system.

EWA14211

⚠ WARNING:

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

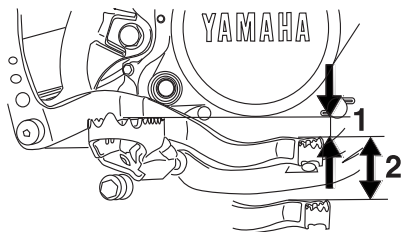
Adjusting the brake pedal position and free play

EAUW0650

EWA10670

⚠ WARNING:

It is advisable to have a Yamaha dealer make these adjustments.



- a. Pedal height
- b. Free play

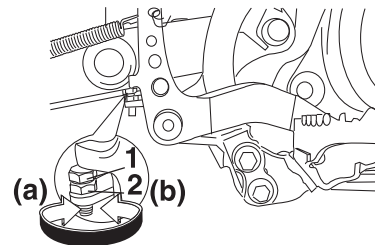
Brake pedal position

The top of the brake pedal should be positioned approximately 3 mm (0.12 in) below the top of the footrest. Periodically check the brake pedal position and, if necessary, adjust it as follows.

1. Loosen the locknut at the brake pedal.

2. To raise the brake pedal, turn the adjusting bolt in direction (a). To lower the brake pedal, turn the adjusting bolt in direction (b).

3. Tighten the locknut.



- 1. Adjuster
- 2. Locknut

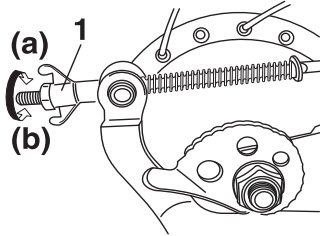
EWA11230

⚠ WARNING:

After adjusting the brake pedal position, the brake pedal free play must be adjusted.

PERIODIC MAINTENANCE AND ADJUSTMENT

Brake pedal free play



1. Adjuster

The brake pedal free play should measure 20-30 mm (0.8-1.2 in) as shown. Periodically check the brake pedal free play and, if necessary, adjust it as follows.

To increase the brake pedal free play, turn the adjusting nut at the brake rod in direction (a). To decrease the brake pedal free play, turn the adjusting nut in direction (b).

EWAW0030

⚠ WARNING:

- After adjusting the drive chain slack or removing and installing the rear wheel, always check the brake pedal free play.
- If proper adjustment cannot be obtained as described, have a Yamaha dealer make this adjustment.

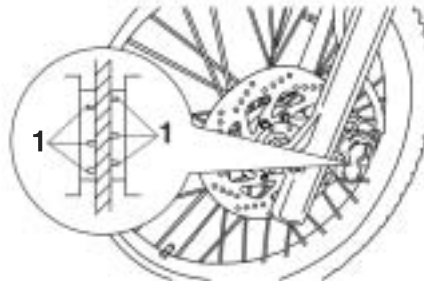
Checking the front brake pads and rear brake shoes

EAU22380

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

EAU36890

Front brake pads

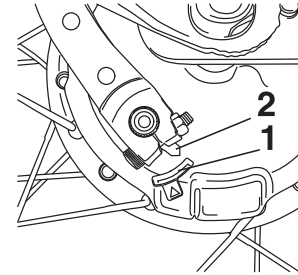


1. Brake pad wear indicator groove

Each front brake pad is provided with wear indicators, which allows you to check the brake pad wear without having to disassemble the brake. To check the brake pad wear, check the position of the wear indicators while applying the brake. If a brake pad has worn to the point that a wear indicator almost touches the brake disc, have a Yamaha dealer replace the brake pads as a set.

Rear brake shoes

EAU22540



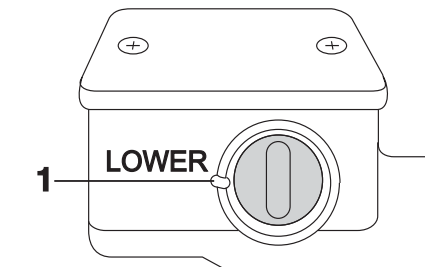
1. Wear limit
2. Wear indicator

The rear brake is provided with a wear indicator, which allows you to check the brake shoe wear without having to disassemble the brake. To check the brake shoe wear, check the position of the wear indicator while applying the brake. If a brake shoe has worn to the point that the wear indicator reaches the wear limit line, have a Yamaha dealer replace the brake shoes as a set.

PERIODIC MAINTENANCE AND ADJUSTMENT

EAU37001

Checking the front brake fluid level



1. Lower level

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

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

Observe these precautions:

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

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

Recommended brake fluid:
DOT 4

TIP

If DOT 4 is not available, DOT 3 can be used.

- Refill with the same type of brake fluid. Mixing fluids may result in a harmful chemical reaction and lead to poor braking performance.
- Be careful that water does not enter the 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.
- As the brake pads wear, it is normal for the brake fluid level to gradually go down. However, if the brake fluid level goes down suddenly, have a Yamaha dealer check the cause.

EAU22721

Changing the brake fluid

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

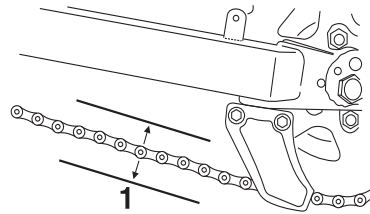
- Oil seals: Replace every two years.
- Brake hose: Replace every four years.

PERIODIC MAINTENANCE AND ADJUSTMENT

Drive chain slack

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

EAU22760



1. Drive chain slack

To check the drive chain slack

EAU22773

1. Place the motorcycle on the sidestand.

TIP

When checking and adjusting the drive chain slack, there should be no weight on the motorcycle.

2. Shift the transmission into the neutral position.
3. Move the rear wheel by pushing the motorcycle to locate the tightest portion of the drive chain, and then measure the drive chain slack as shown.

Drive chain slack:

45-60 mm (1.77-2.36 in)

4. If the drive chain slack is incorrect, adjust it as follows.

EAUW0661

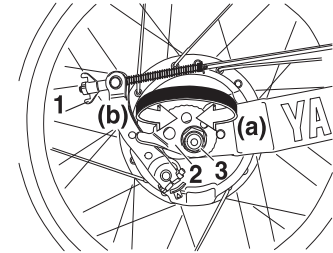
To adjust the drive chain slack

1. Loosen the brake pedal free play adjusting nut.
2. Loosen the axle nut.
3. To tighten the drive chain, turn the drive chain slack adjusting plate on each side of the swingarm in direction (a). To loosen the drive chain, turn the adjusting plate on each side of the swingarm in direction (b), and then push the rear wheel forward.

NOTICE: Improper drive chain slack will overload the engine as well as other vital parts of the motorcycle and can lead to chain slippage or breakage. To

prevent this from occurring, keep the drive chain slack within the specified limits.

[ECA10571]



1. Adjuster
2. Adjusting plate
3. Axle nut

TIP

Make sure that both adjusting plates are in the same position for proper wheel alignment.

4. Tighten the axle nut to the specified torque.

Tightening torque:

Axle nut:

80 Nm (8.0 m.kgf, 58 ft.lbf)

5. Adjust the brake pedal free play. (See page 7-16.)

PERIODIC MAINTENANCE AND ADJUSTMENT

EAU23023

Cleaning and lubricating the drive chain

The drive chain must be cleaned and lubricated at the intervals specified in the periodic maintenance and lubrication chart, otherwise it will quickly wear out, especially when riding in dusty or wet areas. Service the drive chain as follows.

ECA10581

NOTICE

The drive chain must be lubricated after washing the motorcycle and riding in the rain.

1. Clean the drive chain with kerosene and a small soft brush. **NOTICE:** To prevent damaging the O-rings, do not clean the drive chain with steam cleaners, high-pressure washers or inappropriate solvents. [ECA11121]
2. Wipe the drive chain dry.
3. Thoroughly lubricate the drive chain with a special O-ring chain lubricant. **NOTICE:** Do not use engine oil or any other lubricants for the drive chain, as they may contain substances that could damage the O-rings. [ECA11111]

EAU23093

Checking and lubricating the cables

The operation of all control cables and the condition of the cables should be checked before each ride, and the cables and cable ends should be lubricated if necessary. If a cable is damaged or does not move smoothly, have a Yamaha dealer check or replace it. **WARNING!** Damage to the outer housing of cables may result in internal rusting and cause interference with cable movement. Replace damaged cables as soon as possible to prevent unsafe conditions. [EWA10711]

Recommended lubricant:
Yamaha Chain and Cable Lube or engine oil

EAU23111

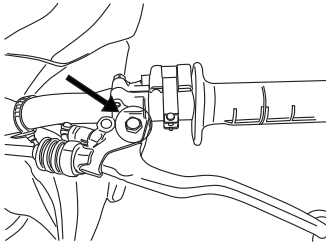
Checking and lubricating the throttle grip and cable

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

PERIODIC MAINTENANCE AND ADJUSTMENT

EAU23142

Checking and lubricating the brake and clutch levers



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

Recommended lubricants:

Brake lever:

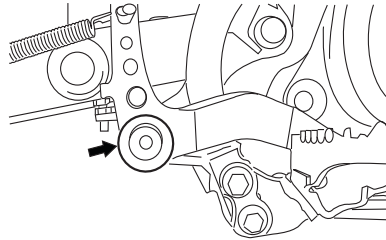
Silicone grease

Clutch lever:

Lithium-soap-based grease

EAU23182

Checking and lubricating the brake pedal



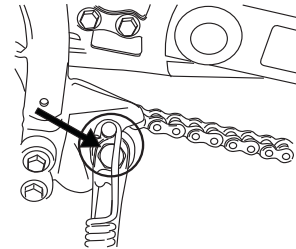
The operation of the brake pedal should be checked before each ride, and the pedal pivot should be lubricated if necessary.

Recommended lubricant:

Lithium-soap-based grease

EAU23202

Checking and lubricating the sidestand



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

EWA10731

! WARNING:

If the sidestand does not move up and down smoothly, have a Yamaha dealer check or repair it. Otherwise, the sidestand could contact the ground and distract the operator, resulting in a possible loss of control.

Recommended lubricant:

Lithium-soap-based grease

PERIODIC MAINTENANCE AND ADJUSTMENT

EAU23272

Checking the front fork

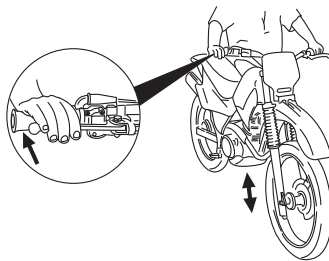
The condition and operation of the front fork must be checked as follows at the intervals specified in the periodic maintenance and lubrication chart.

To check the condition

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

To check the operation

1. Place the vehicle on a level surface and hold it in an upright position. **WARNING! To avoid injury, securely support the vehicle so there is no danger of it falling over.** [EWA10751]
2. While applying the front brake, push down hard on the handlebars several times to check if the front fork compresses and rebounds smoothly.



ECA10590

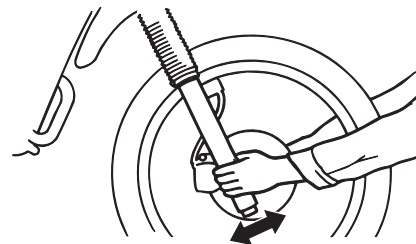
NOTICE

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

Checking the steering

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

1. Place a stand under the engine to raise the front wheel off the ground. (See page 7-25 for more information.) **WARNING! To avoid injury, securely support the vehicle so there is no danger of it falling over.** [EWA10751]
2. Hold the lower ends of the front fork legs and try to move them forward and backward. If any free play can be felt, have a Yamaha dealer check or repair the steering.



EAU23283

PERIODIC MAINTENANCE AND ADJUSTMENT

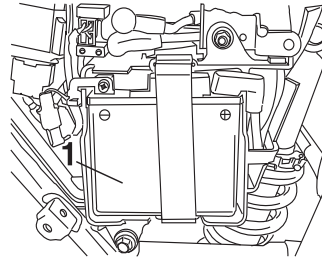
EAU23290

Checking the wheel bearings

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

EAU23383

Battery



1. Battery

The battery is located behind panel. (See page 7-6.)

This model is equipped with a VRLA (Valve Regulated Lead Acid) battery. There is no need to check the electrolyte or to add distilled water. However, the battery lead connections need to be checked and, if necessary, tightened.

ECA10620

NOTICE

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

EWA10760

WARNING:

- **Electrolyte is poisonous and dangerous since it contains sulfuric acid, which causes severe burns. Avoid any contact with skin, eyes or clothing and always shield your eyes when working near batteries. In case of contact, administer the following FIRST AID.**
 - **EXTERNAL:** Flush with plenty of water.
 - **INTERNAL:** Drink large quantities of water or milk and immediately call a physician.
 - **EYES:** Flush with water for 15 minutes and seek prompt medical attention.
- **Batteries produce explosive hydrogen gas. Therefore, keep sparks, flames, cigarettes, etc., away from the battery and provide sufficient ventilation when charging it in an enclosed space.**
- **KEEP THIS AND ALL BATTERIES OUT OF THE REACH OF CHILDREN.**

PERIODIC MAINTENANCE AND ADJUSTMENT

ECA10631

EAUW0623

To charge the battery

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

To store the battery

1. If the vehicle will not be used for more than one month, remove the battery, fully charge it, and then place it in a cool, dry place.

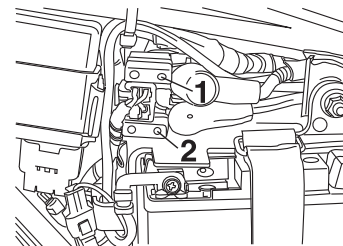
NOTICE: When removing the battery, be sure the key is turned to “OFF”, then disconnect the negative lead before disconnecting the positive lead. [ECA16302]

2. If the battery will be stored for more than two months, check it at least once a month and fully charge it if necessary.
3. Fully charge the battery before installation.
4. After installation, make sure that the battery leads are properly connected to the battery terminals.

NOTICE

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

Replacing the fuse



1. Fuse
2. Spare fuse

The fuse holder is located behind panel. (See page 7-6.)

If the fuse is blown, replace it as follows.

1. Push the ignition switch to set it to “OFF”.
2. Remove the blown fuse, and then install a new fuse of the specified amperage. **WARNING!** Do not use a fuse of a higher amperage rating than recommended to avoid causing extensive damage to the electrical system and possibly a fire. [EWA15131]

Specified fuse:

10 A

PERIODIC MAINTENANCE AND ADJUSTMENT

3. Push the ignition switch to set it to "ON".
4. If the fuse immediately blows again, have a Yamaha dealer check the electrical system.

Supporting the motorcycle

Since this model is not equipped with a centerstand, follow these precautions when removing the front and rear wheel or performing other maintenance requiring the motorcycle to stand upright. Check that the motorcycle is in a stable and level position before starting any maintenance. A strong wooden box can be placed under the engine for added stability.

To service the front wheel

1. Stabilize the rear of the motorcycle by using a motorcycle stand or, if an additional motorcycle stand is not available, by placing a jack under the frame in front of the rear wheel.
2. Raise the front wheel off the ground by using a motorcycle stand.

To service the rear wheel

Raise the rear wheel off the ground by using a motorcycle stand or, if a motorcycle stand is not available, by placing a jack either under each side of the frame in front of the rear wheel or under each side of the swingarm.

7-25

EAU24350

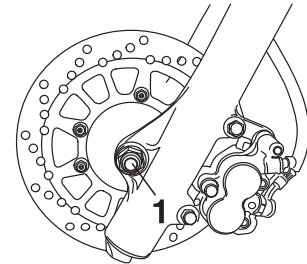
Front wheel

To remove the front wheel

! WARNING:

To avoid injury, securely support the vehicle so there is no danger of it falling over.

1. Loosen the axle nut.
2. Lift the front wheel off the ground according to the procedure on page 7-25.



1. Axle nut

3. Remove the axle nut and washer.
4. Pull the wheel axle out, and then remove the wheel. **NOTICE: Do not apply the brake after the wheel has been removed together with the brake disc, oth-**

EAU24360

EAUW0541

EWA10821

PERIODIC MAINTENANCE AND ADJUSTMENT

Otherwise the brake pads will be forced shut. [ECA11071]

EAUW0560

To install the front wheel

1. Lift the wheel up between the fork legs.

TIP

Make sure that there is enough space between the brake pads before inserting the brake disc into the caliper.

2. Insert the wheel axle, and then install the washer and the axle nut.
3. Lower the front wheel so that it is on the ground.
4. Tighten the axle nut to the specified torque.

Tightening torque:

Axle nut:

80 Nm (8.0 m.kgf, 58 ft.lbf)

5. Push down hard on the handlebar several times to check for proper fork operation.

Rear wheel

EAU25080

To remove the rear wheel

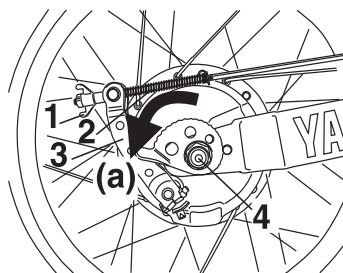
EAU25421

EWA10821

⚠ WARNING:

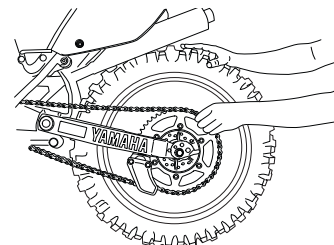
To avoid injury, securely support the vehicle so there is no danger of it falling over.

1. Loosen the axle nut.



1. Adjuster
2. Brake rod
3. Brake cam lever
4. Axle nut

2. Remove the brake pedal free play adjusting nut, and then disconnect the brake rod from the brake camshaft lever.
3. Turn the drive chain adjusting plate on each side of the swingarm fully in direction (a).



4. Lift the rear wheel off the ground according to the procedure on page 7-25.
5. Remove the axle nut, and then pull the wheel axle out.
6. Push the wheel forward, and then remove the drive chain from the rear sprocket.

TIP

The drive chain does not need to be disassembled in order to remove and install the wheel.

7. Remove the wheel.

EAU25761

To install the rear wheel

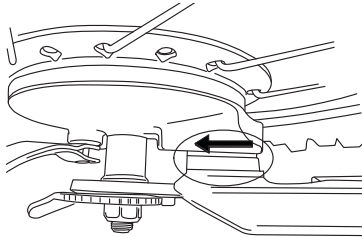
1. Insert the wheel axle from the left-hand side.

TIP

Make sure that the drive chain adjusting plates are installed with the punched

PERIODIC MAINTENANCE AND ADJUSTMENT

sides facing to the outside and that the slot in the brake shoe plate fits over the retainer on the swingarm.



2. Install the drive chain onto the rear sprocket, and then adjust the drive chain slack. (See page 7-19.)
3. Install the axle nut, and then lower the rear wheel so that it is on the ground.
4. Tighten the axle nut to the specified torque.

Tightening torque:

Axle nut:

80 Nm (8.0 m.kgf, 58 ft.lbf)

5. Install the brake rod onto the brake camshaft lever, and then install the brake pedal free play adjusting nut onto the brake rod.

6. Adjust the brake pedal free play.
(See page 7-16.)

EWA10660

! WARNING:

After adjusting the brake pedal free play, check the operation of the brake light.

Troubleshooting

EAU25851

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

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

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

EWA15141

! WARNING:

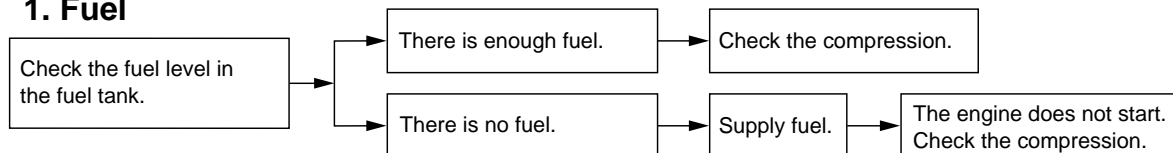
When checking the fuel system, do not smoke, and make sure there are no open flames or sparks in the area, including pilot lights from water heaters or furnaces. Gasoline or gasoline vapors can ignite or explode, causing severe injury or property damage.

PERIODIC MAINTENANCE AND ADJUSTMENT

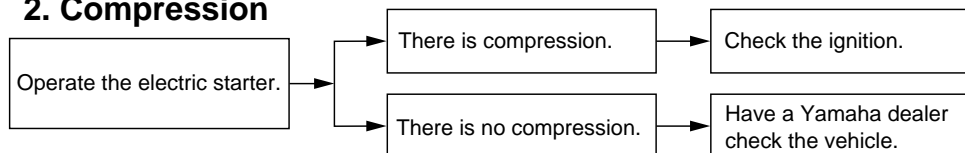
EAU25902

Troubleshooting chart

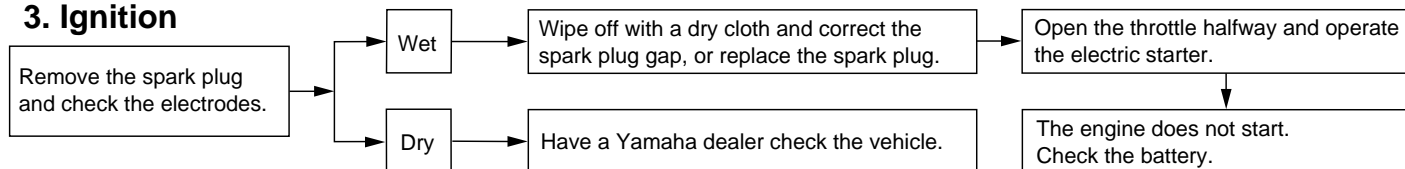
1. Fuel



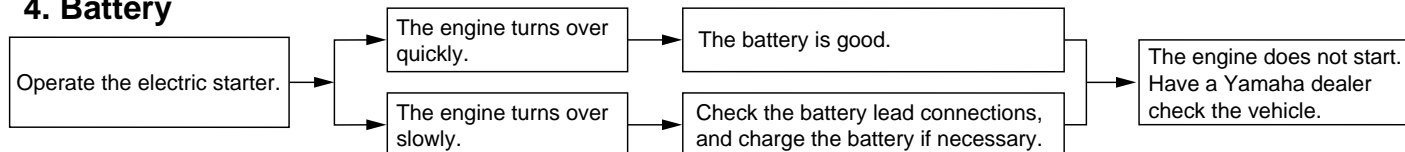
2. Compression



3. Ignition



4. Battery



EAU41354

Care

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

Before cleaning

1. Cover the muffler outlet with a plastic bag after the engine has cooled down.
2. Make sure that all caps and covers as well as all electrical couplers and connectors, including the spark plug cap, 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, sprock-

ets, the drive chain and wheel axles. Always rinse the dirt and degreaser off with water.

Cleaning

ECA10771

NOTICE

- **Avoid using strong acidic wheel cleaners, especially on spoked wheels. If such products are used on hard-to-remove dirt, do not leave the cleaner on the affected area any longer than instructed. Also, thoroughly rinse the area off with water, immediately dry it, and then apply a corrosion protection spray.**
- **Improper cleaning can damage plastic parts such as cowlings, panels, windshields, headlight lenses, meter lenses, etc. 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 and swingarm bearings, fork and brakes), electric components (couplers, connectors, instruments, switches and lights), breather hoses and vents.**
- **For motorcycles equipped with a windshield: Do not use strong cleaners or hard sponges as they will cause dulling or scratching. Some cleaning compounds for plastic may leave scratches on the windshield. Test the product on a small hidden part of the windshield to make sure that it does not leave any marks. If the windshield is scratched, use a quality plastic polishing compound after washing.**

MOTORCYCLE CARE AND STORAGE

After normal use

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

After riding in the rain or near the sea

Since sea salt is extremely corrosive, carry out the following steps after each ride in the rain or near the sea.

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

NOTICE: Do not use warm water since it increases the corrosive action of the salt. [ECA10791]

2. Apply a corrosion protection spray on all metal, including chrome- and nickel-plated, surfaces to prevent corrosion.

After cleaning

1. Dry the motorcycle with a chamois or an absorbing cloth.
2. 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.
4. To prevent corrosion, it is recommended to apply a corrosion protection spray on all metal, including chrome- and nickel-plated, 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 or covering it.

EWA11131



WARNING:

Contaminants on the brakes or tires can cause loss of control.

- **Make sure that there is no oil or wax on the brakes or tires.**
- **If necessary, clean the brake discs and brake linings with a regular brake disc cleaner or acetone, and wash the tires with warm water and a mild deter-**

gent. Before riding at higher speeds, test the motorcycle's braking performance and cornering behavior.

ECA10800

NOTICE

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

TIP

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

EAU26151

Storage Short-term

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

ECA10810

NOTICE

- **Storing the motorcycle in a poorly ventilated room or covering it with a tarp, while it is still wet, will allow water and humidity to seep in and cause rust.**
- **To prevent corrosion, avoid damp cellars, stables (because of the presence of ammonia) and areas where strong chemicals are stored.**

Long-term

Before storing your motorcycle for several months:

1. Follow all the instructions in the “Care” section of this chapter.
2. For motorcycles equipped with a fuel cock that has an “OFF” position: Turn the fuel cock lever to “OFF”.

3. Drain the carburetor float chamber by loosening the drain bolt; this will prevent fuel deposits from building up. Pour the drained fuel into the fuel tank.
4. Fill up the fuel tank and add fuel stabilizer (if available) to prevent the fuel tank from rusting and the fuel from deteriorating.
5. Perform the following steps to protect the cylinder, piston rings, etc. from corrosion.
 - a. Remove the spark plug cap and spark plug.
 - b. Pour a teaspoonful of engine oil into the spark plug bore.
 - c. Install the spark plug cap onto the spark plug, and then place the spark plug 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 wall with oil.)
WARNING! To prevent damage or injury from sparking, make sure to ground the spark plug electrodes while turning the engine over. [EWA10951]

- e. Remove the spark plug cap from the spark plug, and then install the spark plug and the spark plug cap.

6. Lubricate all control cables and the pivoting points of all levers and pedals as well as of the sidestand/centerstand.
7. Check and, if necessary, correct the tire air pressure, and then lift the motorcycle so that both of its wheels are off the ground. Alternatively, turn the wheels a little every month in order to prevent the tires from becoming degraded in one spot.
8. Cover the muffler outlet with a plastic bag to prevent moisture from entering it.
9. Remove the battery and fully charge it. Store it in a cool, dry place and charge it once a month. Do not store the battery in an excessively cold or warm place [less than 0 °C (30 °F) or more than 30 °C (90 °F)]. For more information on storing the battery, see page 7-23.

MOTORCYCLE CARE AND STORAGE

TIP

Make any necessary repairs before storing the motorcycle.

Dimensions:

Overall length:
2065 mm (81.3 in)
Overall width:
800 mm (31.5 in)
Overall height:
1180 mm (46.5 in)
Seat height:
870 mm (34.2 in)
Wheelbase:
1385 mm (54.5 in)
Ground clearance:
295 mm (11.6 in)
Minimum turning radius:
2100 mm (11.6 in)

Weight:

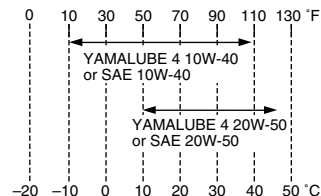
With oil and fuel:
116 kg (256 lb)

Engine:

Engine type:
Air cooled 4-stroke, SOHC
Cylinder arrangement:
Forward inclined single cylinder
Displacement:
223 cm³ (13.61 cu.in)
Bore x stroke
70.0 x 58.0 mm (2.76 x 2.28 in)
Compression ratio:
9.50 : 1
Starting system:
Electric starter
Lubrication system:
Wet sump

Engine oil:

Type:
YAMALUBE 4, SAE10W40 or
SAE20W50



Recommended engine oil grade:
API service SE, SF, SG type or higher

Engine oil quantity:

Without oil filter element replacement:
1.0 L (1.1 us.qt, 0.90 Imp.qt)
With oil filter element replacement:
1.1 L (1.2 us.qt, 1.0 Imp.qt)

Air filter:

Air filter element:
Wet

Fuel:

Recommended fuel:
Unleaded gasoline only
Fuel tank capacity:
8.0 L (2.11 us.gal, 1.76 Imp.gal)
Fuel reserve amount:
1.8 L (0.48 us.gal, 0.4 Imp.gal)

Carburetor:

Manufacturer:
TEIKEI
Type x quantity:
Y26P x 1

Spark plug(s):

Manufacturer/model:
NGK/DR8EA
Spark plug gap:
0.6-0.7 mm (0.024-0.028 in)

Clutch:

Clutch type:
Wet, multiple-disc

Transmission:

Primary reduction system:
Spur gear
Primary reduction ratio:
73/22 (3.318)
Secondary reduction system:
Chain drive
Secondary reduction ratio:
49/13 (3.769)
Transmission type:
Constant mesh 6-speed
Operation:
Left foot operation

Gear ratio:

1st:
38/13 (2.923)
2nd:
34/18 (1.889)

SPECIFICATIONS

3rd:
30/21 (1.428)
4th:
27/24 (1.125)
5th:
25/27 (0.925)
6th:
23/29 (0.793)

Chassis:

Frame type:
Diamond
Caster angle:
27.0
Trail:
111.0 mm (4.4 in)

Front tire:

Type:
With tube
Size:
100/100-18 NHS
Manufacturer/model:
PIRELLI/MT320H

Rear tire:

Type:
With tube
Size:
100/100-18 NHS
Manufacturer/model:
PIRELLI/MT320
Maximum load:
150 kg (331 lb)
(Total weight of rider, cargo and accessories)

Tire air pressure (measured on cold tires):

Front:
100 kPa (15 psi) (1.00 kgf/cm²)
Rear:
100 kPa (15 psi) (1.00 kgf/cm²)

Front wheel:

Wheel type:
Spoke wheel
Rim size:
21x1.60

Rear wheel:

Wheel type:
Spoke wheel
Rim size:
18x1.85

Front brake:

Type:
Single disc brake
Operation:
Right hand operation
Recommended fluid:
DOT 4

Rear brake:

Type:
Drum brake
Operation:
Right foot operation

Front suspension:

Type:
Telescopic fork
Spring/shock absorber type:
Coil spring/oil damper
Wheel travel:
240.0 mm (9.45 in)

Rear suspension:

Type:
Swingarm (link suspension)
Spring/shock absorber type:
Coil-gas spring/oil damper
Wheel travel:
220.0 mm (8.66 in)

Electrical system:

Ignition system:
D.C. C.D.I.
Charging system:
A.C. magneto

Battery:

Model:
YTX5L-BS
Voltage, capacity:
12 V, 4.0 Ah

Fuse:

Fuse:
10.0 A

EAU40790

EAU26400

EAU26460

Identification numbers

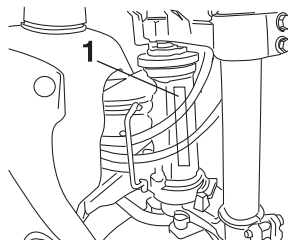
Record the vehicle identification number and model label information in the spaces provided below for assistance when ordering spare parts from a Yamaha dealer or for reference in case the vehicle is stolen.

VEHICLE IDENTIFICATION NUMBER:

MODEL LABEL INFORMATION:

○●

Vehicle identification number

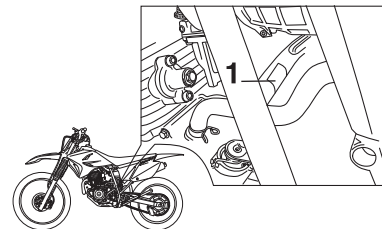


1. Vehicle identification number

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

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

Model label



1. Model label

The model label is affixed to the location shown. Record the information on this label in the space provided. This information will be needed when ordering spare parts from a Yamaha dealer.

Motorcycle noise regulation

TAMPERING WITH NOISE CONTROL SYSTEM PROHIBITED:

Federal law prohibits the following acts or the causing thereof: (1) The removal or rendering inoperative by any person other than for purposes of maintenance, repair, or replacement of any device or element of design incorporated into any new vehicle for the purpose of noise control prior to its sale or delivery to the ultimate purchaser or while it is in use or (2) the use of the vehicle after such device or element of design has been removed or rendered inoperative by any person.

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

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

Exhaust system

- Muffler
- Exhaust pipe
- Silencer

Intake system

- Air cleaner case
- Air cleaner element
- Intake duct

Have a Yamaha dealer complete this record when the motorcycle is serviced.

[illegible]

CONSUMER INFORMATION

EAU38051

YAMAHA MOTOR CORPORATION, U.S.A. OFF-ROAD MOTORCYCLE LIMITED WARRANTY

Yamaha Motor Corporation, USA hereby warrants that new Yamaha off-road motorcycles purchased from an authorized Yamaha motorcycle dealer in the continental United States will be free from defects in material and workmanship for the period of time stated herein, subject to certain stated limitations. Covered off-road motorcycles are those units certified by Yamaha to EPA noise regulations and come equipped from the factory with USDA-FS approved spark arresters.

THE PERIOD OF WARRANTY for Yamaha off-road motorcycles shall be ninety (90) days from the date of purchase, with no mileage limitation.

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

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

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

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

SPECIFIC EXCLUSIONS from this warranty shall include parts replaced due to normal wear or routine maintenance.

THE CUSTOMER'S RESPONSIBILITY under this warranty shall be to:

1. Operate and maintain the motorcycle as specified in the appropriate Owner's Manual, and
2. Give notice to an authorized Yamaha motorcycle dealer of any and all apparent defects within ten (10) days after discovery, and make the motorcycle available at that time for inspection and repairs at such dealer's place of business.

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

EMISSION CONTROL SYSTEM WARRANTY

Yamaha Motor Corporation, USA also warrants to the ultimate purchaser and each subsequent purchaser of each 2006 and later model Yamaha motorcycle covered by this warranty that the vehicle is designed, built, and equipped so as to conform at the time of sale with all U.S. emissions standards applicable at the time of manufacture and that it is free from defects in materials and workmanship which would cause it not to meet these standards within the period listed immediately below. Failures other than those resulting from defects in material or workmanship which

arise solely as a result of owner abuse and/or lack of proper maintenance are not covered by this warranty.

All Off-Road Models

Thirty (30) months from the original purchase date

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

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

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

YAMAHA MOTOR CORPORATION, USA
Post Office Box 6555
Cypress, California 90630

WARRANTY QUESTIONS AND ANSWERS

- Q. What costs are my responsibility during the warranty period?
- A. The customer's responsibility includes all costs of normal maintenance services, non-warranty repairs, accident and collision damages, and oil, oil filters, air filters, spark plugs, and brake shoes.
- Q. What are some examples of "abnormal" strain, neglect, or abuse?
- A. These terms are general and overlap each other in areas. Specific examples include: Running the machine out of oil, sustained high-rpm, full-throttle, operating the machine with a broken or damaged part which causes another part to fail, damage or failure due to improper or careless transportation and or tie down. If you have any specific questions on operation or maintenance, please contact your dealer for advice.
- Q. Does the warranty cover incidental costs such as towing or transportation due to a failure?
- A. No. The warranty is limited to repair of the machine itself.
- Q. May I perform any or all of the recommended maintenance shown in the Owner's Manual instead of having the dealer do them?
- A. Yes, if you are a qualified mechanic and follow the procedures specified in the Owner's and Service Manual. We do recommend, however, that items requiring special tools or equipment be done by Yamaha Motorcycle dealer.
- Q. Will the warranty be void or cancelled if I do not operate or maintain my new motorcycle exactly as specified in the Owner's Manual?
- A. No. The warranty on a new motorcycle cannot be "voided" or "cancelled." **However, if a particular failure is caused by operation or maintenance other than as shown in the Owner's Manual, that failure may not be covered under warranty.**
- Q. What responsibility does my dealer have under this warranty?
- A. Each Yamaha Motorcycle dealer is expected to:
1. Completely set up every new machine before sale.
 2. Explain the operation, maintenance, and warranty requirements to your satisfaction at the time of sale, and upon your request at any later date.
 3. Each Yamaha Motorcycle dealer is held responsible for his setup, service and warranty repair work.
- Q. Is the warranty transferable to second owners?
- A. Yes. The remainder of the existing warranty can be transferred upon request. The unit has to be inspected and re-registered by an authorized Yamaha Motorcycle dealer for the policy to remain effective.

CUSTOMER SERVICE

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

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

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

CHANGE OF ADDRESS

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

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

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

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

CONSUMER INFORMATION

EAU26750

YAMAHA EXTENDED SERVICE (Y.E.S.)

Keep your Yamaha protected even after your warranty expires with genuine Yamaha Extended Service (Y.E.S.).

- Y.E.S. is designed and administered by Yamaha Motor Corporation to provide maximum owner satisfaction. You get uninterrupted factory-backed coverage for extra peace of mind.
- Y.E.S. is flexible. You choose the plan that's right for you: 12 months, 24 months, 36 months or, on certain models, even 48 months beyond your warranty period.
- Y.E.S. is designed and administered by the same Yamaha people who handle your warranty – and it shows in the comprehensive coverage benefits. There are no mileage limitations. Coverage isn't limited to "moving parts" or the "drive train" like many other plans. And Y.E.S. covers manufacturing defects just like the warranty. See the sample contract at your Yamaha dealer to see how comforting uninterrupted factory-backed protection can be.
- You don't have to pay anything for covered repairs. There's no deductible to pay, and repairs aren't "pro-rated." You don't have any "out-of-pocket" expenses for covered repairs.
- In addition, Travel and Recreation Interruption Protection (TRIP) is included at no extra cost. TRIP gives you up to \$150 reimbursement per occurrence for any reasonable expenses you incur because your Yamaha needs covered service: replacement vehicle rental, emergency towing, phone calls, even food and lodging when you are away from home. This superb coverage goes into effect when you purchase Y.E.S., so it applies to any warranty repairs as well as covered repairs during your entire Y.E.S. plan period.
- Y.E.S. coverage is honored at any authorized Yamaha dealer nationwide.
- Y.E.S. coverage is transferable to a new owner if you sell or trade-in. That can make your Yamaha much more valuable!

This excellent Y.E.S. plan coverage is only available to Yamaha owners like you, and only while your Yamaha is still within the Yamaha Limited Warranty period. So visit your authorized Yamaha dealer to get all the facts. He can show you how easy it is to protect your investment with Yamaha Extended Service.

CONSUMER INFORMATION

We urge you to act now. You'll get the excellent benefits of TRIP coverage right away, and you'll rest easy knowing you'll have strong factory-backed protection even after your Yamaha Limited Warranty expires.

A special note:

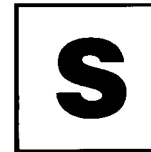
If visiting your dealer isn't convenient, contact Yamaha with your Primary ID number (your frame number). We'll be happy to help you get the Y.E.S. coverage you need.

Yamaha Service Marketing

P.O. Box 6555

Cypress, CA 90630

1-(866)-YES-EXTD (1-866-937-3983)



YAMAHA EXTENDED SERVICE

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PROTECT YOUR INVESTMENT

Use Genuine YAMAHA Parts And Accessories

See your Authorized YAMAHA Dealer for a Genuine YAMAHA Service Manual.



YAMAHA

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