 Read this manual carefully before operating this vehicle.

OWNER'S MANUAL

TT-R230A

LIT-11626-24-03

1C6-F8199-17

EAU10042

 **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-R230A. This model is the result of Yamaha's vast experience in the production of fine sporting, touring, and pacesetter 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

EAUW0710

**TT-R230A
OWNER'S MANUAL
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1st edition, June 2010
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P/N LIT-11626-24-03**

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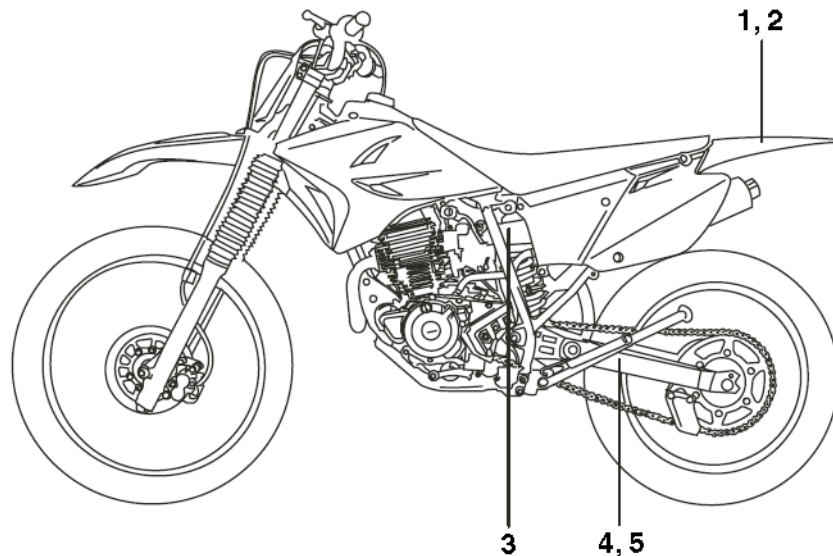
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LOCATION OF IMPORTANT LABELS

EAU10384

1

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.



LOCATION OF IMPORTANT LABELS

1

⚠ 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

2

TIRE INFORMATION

Cold tire normal pressure be set as follows.

FRONT : 100 kPa, {1.00 kgf/cm²}, 15 psi
REAR : 100 kPa, {1.00 kgf/cm²}, 15 psi

3RV-21668-A0

3

⚠ 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


4

⚠ 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-A1

5

VEHICLE EMISSION CONTROL INFORMATION YAMAHA MOTOR DO BRASIL LTDA. 

ENG : BYMXX223AAA PERM : BYMXXPP402BC3

THIS VEHICLE IS CERTIFIED TO OPERATE ON UNLEADED GASOLINE.

TUNE - UP SPECIFICATIONS AND ADJUSTMENTS (REFER TO YOUR OWNER'S MANUAL)

DISPLACEMENT : 223 cm³ EXHAUST EMISSION CONTROL SYSTEM : EM

SPARK PLUG GAP : 0.6 - 0.7 mm VALVE LASH : IN 0.05 - 0.09mm, EX 0.15 - 0.19 mm

IDLE SPEED : 1500 r/min IN NEUTRAL AT NORMAL OPERATING TEMPERATURE

FUEL : UNLEADED GASOLINE 91 RON MIN ENGINE OIL : SAE20W-40 OR 10W-30

NO OTHER ADJUSTMENTS NEEDED.

THIS VEHICLE MEETS US EPA, CALIFORNIA REGULATIONS AND US EPA EVAP ST'DS FOR 2011 MODEL YEAR NEW OFF-ROAD M.C.s. EPA FEL : HC+NOx 1.7, CO 14 (g/km) / CALIFORNIA ST'D : HC 1.2, CO 15.0 (g/km)

THIS MC MEETS 1986 AND LATER EPA NOISE EMISSION REQUIREMENTS OF THE FED. TEST PROCEDURES. MODIFICATIONS WHICH CAUSE THIS MC TO EXCEED FED. NOISE ST'D ARE PROHIBITED BY FED. LAW.

SEE OWNER'S MANUAL. LIMIT / CLOSING : 82 dBA / 6837 r/min MODEL CODE : YAM1C60223 1C6-2179C-60

SAFETY INFORMATION

EAU41465

2

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.

SAFETY INFORMATION

- Do not run engine outdoors where engine exhaust can be drawn into a building through openings such as windows and doors.

2

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 7-16 for tire specifications and more information on replacing your tires.

Transporting the motorcycle

Be sure to observe following instructions before transporting the motorcycle in another vehicle.

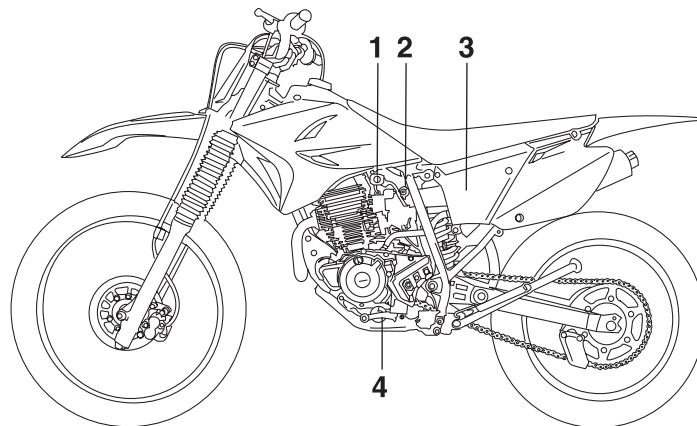
- Remove all loose items from the motorcycle.
- Check that the fuel cock (if equipped) is in the “OFF” position and that there are no fuel leaks.
- Point the front wheel straight ahead on the trailer or in the truck bed, and choke it in a rail to prevent movement.
- Shift the transmission in gear (for models with a manual transmission).
- Secure the motorcycle with tie-downs or suitable straps that are attached to solid parts of the motorcycle, such as the frame or upper front fork triple clamp (and not, for example, to rubber-mounted handlebars or turn signals, or parts that could break). Choose the location for the straps carefully so the straps will not rub against painted surfaces during transport.
- The suspension should be compressed somewhat by the tie-downs, if possible, so that the motorcycle will not bounce excessively during transport.

DESCRIPTION

EAU10410

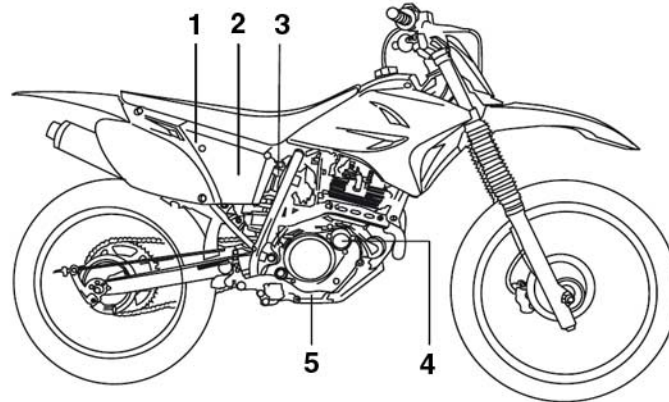
Left view

3



1. Fuel cock (page 4-5)
2. Starter (choke) knob (page 4-6)
3. Air filter element (page 7-11)
4. Shift pedal (page 4-2)

Right view



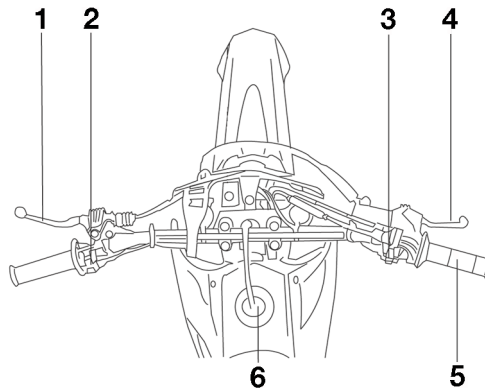
1. Fuse (page 7-28)
2. Battery (page 7-27)
3. Shock absorber assembly spring preload adjusting nut (page 4-7)
4. Engine oil filter element (page 7-8)
5. Brake pedal (page 4-3)

DESCRIPTION

EAU10430

Controls and instruments

3

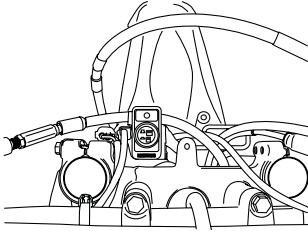


1. Clutch lever (page 4-2)
2. Engine stop switch (page 4-1)
3. Start switch (page 4-1)
4. Brake lever (page 4-2)
5. Throttle grip (page 7-15)
6. Fuel tank cap (page 4-3)

INSTRUMENT AND CONTROL FUNCTIONS

Ignition switch

EAUW1880



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

ON

EAUW0570

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

OFF

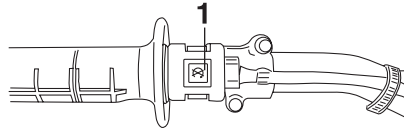
EAUW0582

All electrical systems are off.

Handlebar switches

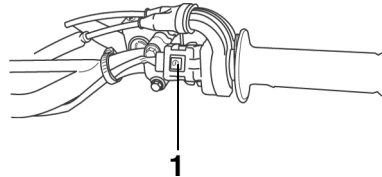
EAU12348

Left



1. Engine stop switch

Right



1. Start switch

“ENGINE STOP” button

EAU12670

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 “”

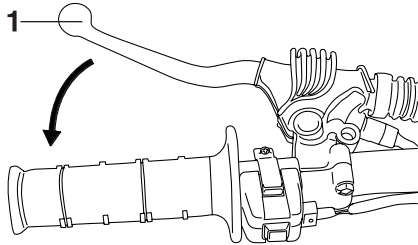
EAU12711

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



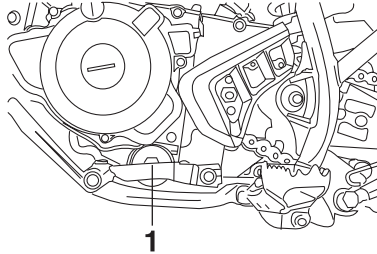
1. Clutch lever

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 4-9.)

Shift pedal

EAU12870

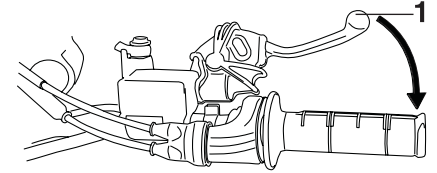


1. Shift pedal

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



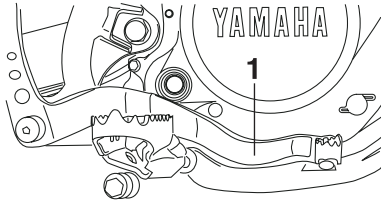
1. Brake lever

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

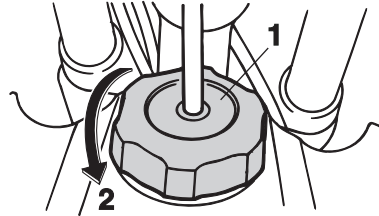


1. Brake pedal

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

Fuel tank cap

EAU13182



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.

Fuel

EAU13212

Make sure there is sufficient gasoline in the tank.

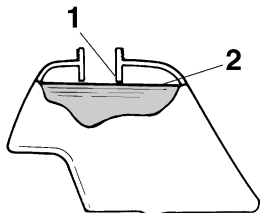
EWA10881

! 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.
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.

INSTRUMENT AND CONTROL FUNCTIONS



1. Fuel tank filler tube
2. Maximum fuel level

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 immedi-

ately. If gasoline spills on your skin, wash with soap and water. If gasoline spills on your clothing, change your clothes.

EAU13313

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 premi-

um unleaded fuel. Use of unleaded fuel will extend spark plug life and reduce maintenance costs.

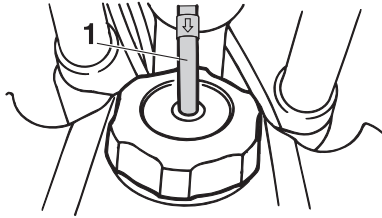
Gasohol

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

INSTRUMENT AND CONTROL FUNCTIONS

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.

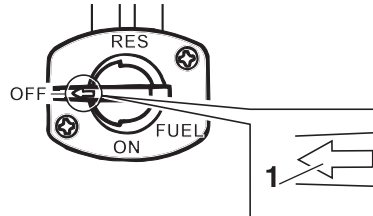
Fuel cock

EAU13561

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

The fuel cock has three positions:

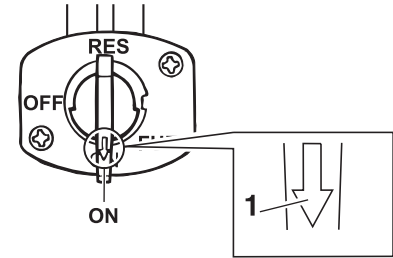
OFF



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.

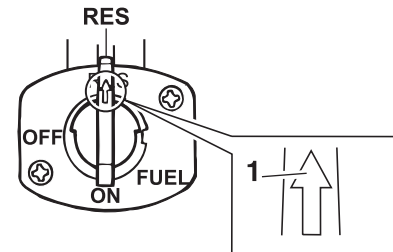
ON



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.

RES

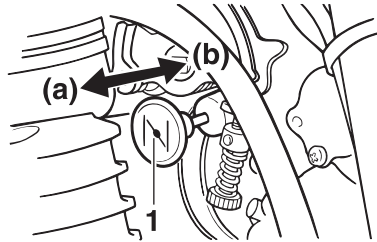


1. Arrow mark positioned over "RES"

INSTRUMENT AND CONTROL FUNCTIONS

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).

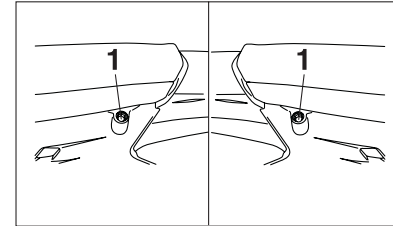
Move the knob in direction (b) to turn off the starter (choke).

Seat

EAU13960

To remove the seat

Remove the bolts, and then pull the seat off.

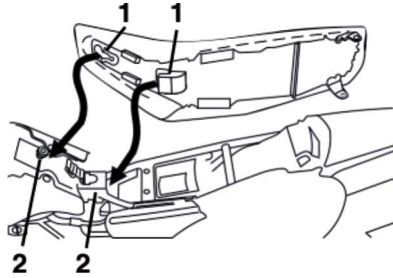


1. Bolt

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

EAU14816

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

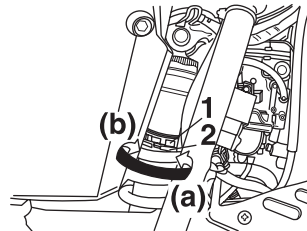
ECA10101

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.

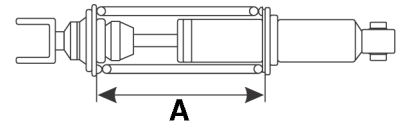


1. Locknut
2. Adjusting nut

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

load 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. Use the special wrench included in the owner's tool kit to make the adjustment.



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)

INSTRUMENT AND CONTROL FUNCTIONS

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]

Tightening torque:

Locknut:

70 Nm (7.0 m·kgf, 51 ft·lbf)

EWA10221

WARNING

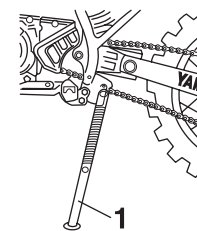
This shock absorber assembly contains highly pressurized nitrogen gas. Read and understand the following information before handling the shock absorber assembly.

- Do not tamper with or attempt to open the cylinder assembly.
- Do not subject the shock absorber assembly to an open flame or other high heat source. This may cause the unit to explode due to excessive gas pressure.

- Do not deform or damage the cylinder in any way. Cylinder damage will result in poor damping performance.
- Do not dispose of a damaged or worn-out shock absorber assembly yourself. Take the shock absorber assembly to a Yamaha dealer for any service.

Sidestand

EAU37490



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.

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.

EAUW0801

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.

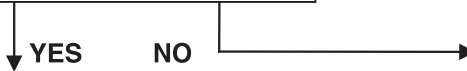
TIP _____

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

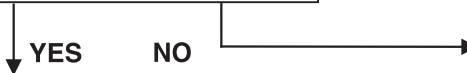
INSTRUMENT AND CONTROL FUNCTIONS

4

With the engine turned off:
1. Push the ignition switch to set it to "ON".
2. Shift the transmission into the neutral position.
3. Push the start switch.
Does the engine start?



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



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

EAU15596

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:

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.	7-8
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.	7-18, 7-20, 7-21
Rear brake	<ul style="list-style-type: none">• Check operation.• Check pedal free play.• Adjust if necessary.	7-19, 7-20

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. 	7-18
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. 	7-15, 7-24
Control cables	<ul style="list-style-type: none"> • Make sure that operation is smooth. • Lubricate if necessary. 	7-24
Drive chain	<ul style="list-style-type: none"> • Check chain slack. • Adjust if necessary. • Check chain condition. • Lubricate if necessary. 	7-22, 7-23
Wheels and tires	<ul style="list-style-type: none"> • Check for damage. • Check tire condition and tread depth. • Check air pressure. • Correct if necessary. 	7-16, 7-17
Brake and shift pedals	<ul style="list-style-type: none"> • Make sure that operation is smooth. • Lubricate pedal pivoting points if necessary. 	7-25
Brake and clutch levers	<ul style="list-style-type: none"> • Make sure that operation is smooth. • Lubricate lever pivoting points if necessary. 	7-25
Sidestand	<ul style="list-style-type: none"> • Make sure that operation is smooth. • Lubricate pivot if necessary. 	7-25
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



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

EAUW0594

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 4-9 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, never accelerate hard when the engine is cold! [ECA11041]
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.

OPERATION AND IMPORTANT RIDING POINTS

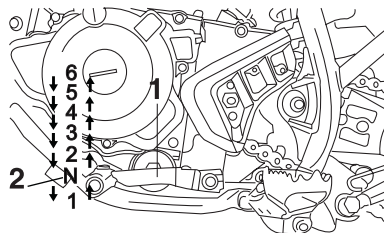
EAU16640

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.

EAU16671

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.

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 build-up 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

EAU41952

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 2-1 for more information about carbon monoxide.

EWA15460

WARNING

Brake discs, calipers, drums, and linings can become very hot during use. To avoid possible burns, let brake components cool before touching them.

PERIODIC MAINTENANCE AND ADJUSTMENT

EAU39944

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	ODOMETER READINGS		
			INITIAL 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	* Spark arrester	<ul style="list-style-type: none"> • Clean. 			√
9	Engine oil	<ul style="list-style-type: none"> • Change (warm engine before draining). 	√	√	√

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	Engine oil filter element	<ul style="list-style-type: none"> • Clean. • Check engine oil level and for leakage. 	√	√	√

PERIODIC MAINTENANCE AND ADJUSTMENT

EAU3534B

General maintenance and lubrication chart

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	* 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. 	√	√	√
		<ul style="list-style-type: none"> • Replace brake pads. 	Whenever worn to the limit		
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. 		√	√
		<ul style="list-style-type: none"> • Replace. 	Every 4 years		
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 for smooth operation. • Replace if necessary. 		√	√

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
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		
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 grease) lightly. 		√	√
15	Shift pedal pivot shaft	<ul style="list-style-type: none"> • Apply lithium-soap-based grease (all-purpose grease) lightly. 		√	√
16	Sidestand pivot	<ul style="list-style-type: none"> • Check operation. • Apply lithium-soap-based grease lightly. 	√		√
17	* Front fork	<ul style="list-style-type: none"> • Check operation and for oil leakage. • Replace if necessary. 		√	√
18	* Shock absorber assembly	<ul style="list-style-type: none"> • Check operation and for oil leakage. • Replace if necessary. 			√
19	* Rear suspension link pivots	<ul style="list-style-type: none"> • Check operation. 		√	√
		<ul style="list-style-type: none"> • Lubricate with lithium-soap-based grease. 			√

7

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	
20	*	Control cables	• Apply Yamaha chain and cable lube or engine oil thoroughly.	√	√	√
21	*	Throttle grip housing and cable	• Check operation and free play. • Adjust the throttle cable free play if necessary. • Lubricate the throttle grip housing and cable.	√	√	√

EAU18670

TIP

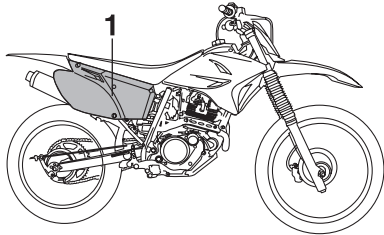
- The air filter needs more frequent service if you are riding in unusually wet or dusty areas.
- Hydraulic brake service
 - Regularly check and, if necessary, correct the brake fluid level.
 - Every two years replace the internal components of the brake master cylinders and calipers, and change the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

PERIODIC MAINTENANCE AND ADJUSTMENT

Removing and installing the panel

EAU18751

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.



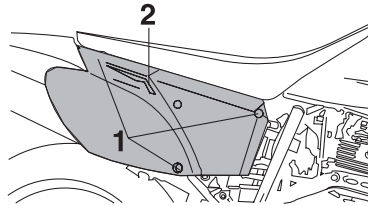
- 7 1. Panel

Panel A

EAU19210

To remove the panel

Remove the screws, and then take the panel off.



1. Screw
2. Panel

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.

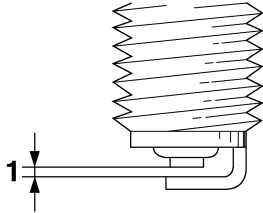
The porcelain insulator around the center electrode of the spark plug should be a medium-to-light tan (the ideal color when the vehicle is ridden normally). If the spark plug shows a distinctly different color, the engine could be operating improperly. Do not attempt to diagnose such problems yourself. 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

EAUW0612

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



1. Spark plug gap

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.

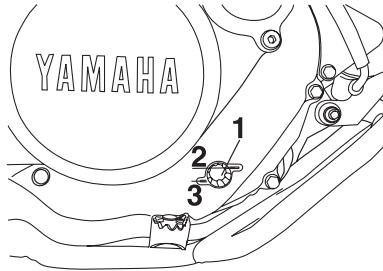
To check the engine oil level

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.

TIP

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

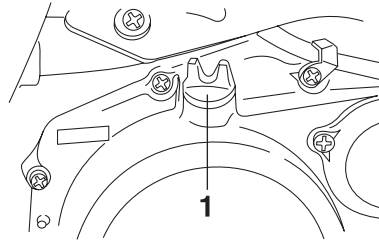
PERIODIC MAINTENANCE AND ADJUSTMENT



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

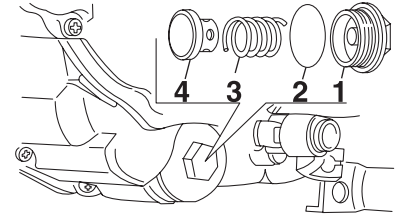
4. If the engine oil is below the minimum level mark, add sufficient oil of the recommended type to raise it to the correct level.

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. Engine oil drain bolt
2. O-ring
3. Compression spring
4. Oil strainer

TIP

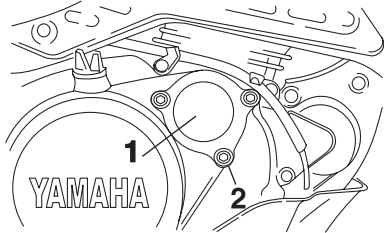
Skip steps 5–9 if the oil filter element is not being cleaned.

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

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

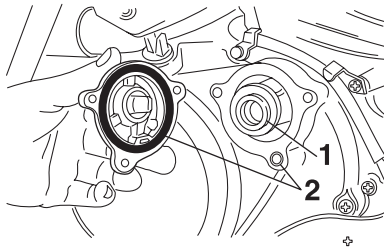
1. Place the vehicle on a level surface.
2. Start the engine, warm it up for several minutes, and then turn it off.
3. Place an oil pan under the engine to collect the used oil.

PERIODIC MAINTENANCE AND ADJUSTMENT



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

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.

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:
1.00 L (1.06 US qt, 0.88 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.

PERIODIC MAINTENANCE AND ADJUSTMENT

- Make sure that no foreign material enters the crankcase.

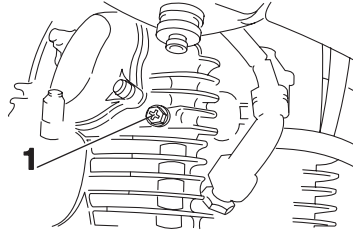
14. Start the engine, and then let it idle for several minutes while checking it for oil leakage. If oil is leaking, immediately turn the engine off and check for the cause.
15. Turn the engine off, and then check the oil level and correct it if necessary.

ECA11231

NOTICE

After changing the engine oil, make sure to check the oil pressure as described below.

- Loosen 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:

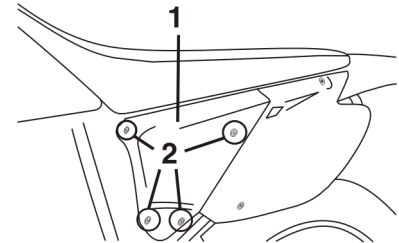
Bleed bolt:
7 Nm (0.7 m·kgf, 5.1 ft·lbf)

Cleaning the air filter element

EAUW0633

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.

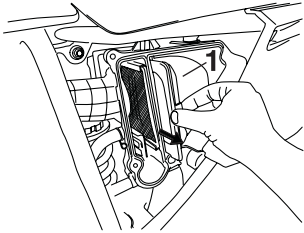
1. Remove the air filter element case cover by removing the screws, and then pulling it outward and sliding it forward.



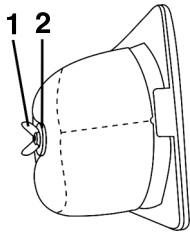
1. Air filter case cover
2. Screw

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

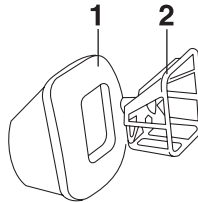
PERIODIC MAINTENANCE AND ADJUSTMENT



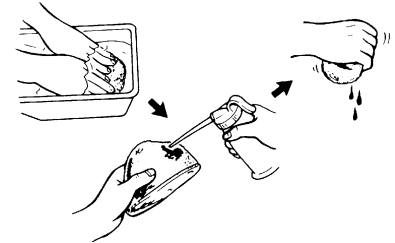
1. Air filter element
3. Remove the wing nut and washer from the air filter element.



1. Nut
2. Washer
4. Remove the sponge material from the air filter element frame.



1. Sponge material
2. Air filter element 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.** [EWA0021] **NOTICE: To avoid damaging the foam material, handle it gently and carefully, and do not twist or wring it.** [ECA10511]



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**

PERIODIC MAINTENANCE AND ADJUSTMENT

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 EAU40421

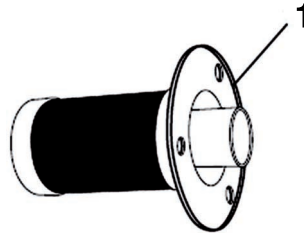
The spark arrester should be cleaned at the intervals specified in the periodic maintenance and lubrication chart. EWA10980

WARNING

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

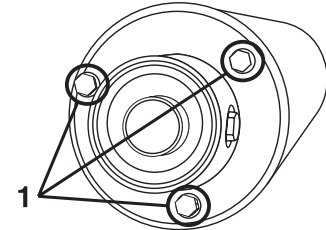
TIP

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



1. Spark arrester

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



1. Bolt

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.
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, 7.2 ft·lbf)

PERIODIC MAINTENANCE AND ADJUSTMENT

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

Adjusting the carburetor

EAU239930

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.

NOTICE _____

ECA10550

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.

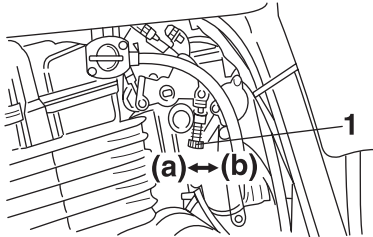
1. Attach the tachometer to the spark plug lead.
2. Start the engine and warm it up for several minutes at 1000–2000 r/min while occasionally revving it to 4000–5000 r/min.

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

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 di-

PERIODIC MAINTENANCE AND ADJUSTMENT

rection (a). To decrease the engine idling speed, turn the screw in direction (b).



1. Adjusting bolt

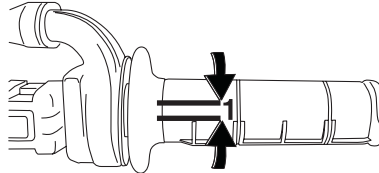
Engine idling speed:
1400–1600 r/min

7

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

EAU21383

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 inner edge of the throttle grip. Periodically check the throttle cable free play and, if necessary, have a Yamaha dealer adjust it.

EAU21401

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.

PERIODIC MAINTENANCE AND ADJUSTMENT

Tires

EAUW2201

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.

WARNING

EWA10441

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.

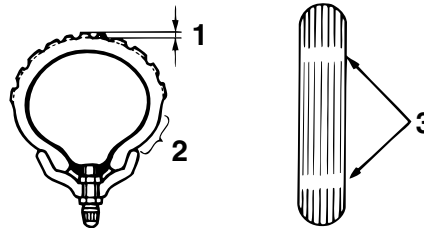
Front:
100 kPa (1.00 kgf/cm², 15 psi)
Rear:
100 kPa (1.00 kgf/cm², 15 psi)

EWA10511

WARNING

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

Tire inspection



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.

PERIODIC MAINTENANCE AND ADJUSTMENT

Front tire:

Size:

80/100-21 NHS

Manufacturer/model:

PIRELLI/MT320H

Rear tire:

Size:

100/100-18 NHS

Manufacturer/model:

PIRELLI/MT320

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.

Spoke wheels

EAU21942

EWA10610

WARNING

The wheels on this model are not designed for use with tubeless tires. Do not attempt to use tubeless tires on this model.

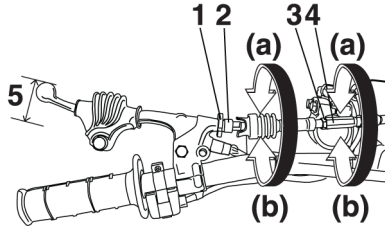
To maximize the performance, durability, and safe operation of your motorcycle, note the following points regarding the specified wheels.

- 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.

PERIODIC MAINTENANCE AND ADJUSTMENT

Adjusting the clutch lever free play

EAU22034



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 10.0–15.0 mm (0.39–0.59 in) as shown. Periodically check the clutch lever free play and, if necessary, adjust it as follows.

1. Slide the rubber cover back at the clutch lever.
2. Loosen the locknut.
3. 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).

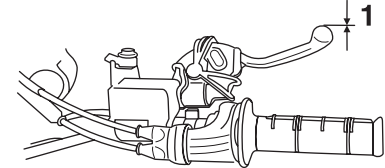
TIP

If the specified clutch lever free play could be obtained as described above, skip steps 4–7.

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 the locknut at the clutch cable.
8. Tighten the locknut at the clutch lever, and then slide the rubber cover to its original position.

Checking the brake lever free play

EAU37913



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.

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

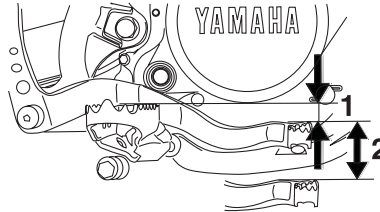
EWA14211

PERIODIC MAINTENANCE AND ADJUSTMENT

braking performance, which may result in loss of control and an accident.

Adjusting the brake pedal position and free play

EAWW0650



1. Brake pedal position
2. Brake pedal free play

! WARNING

EWA10670

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

Brake pedal position

The top of the brake pedal should be positioned approximately 3.0 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.

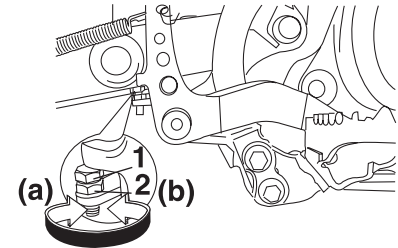
2. To raise the brake pedal, turn the adjusting bolt in direction (a). To lower the brake pedal, turn the adjusting bolt in direction (b).
3. Tighten the locknut.

EWA11230

! WARNING

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

Brake pedal free play

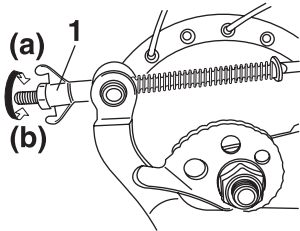


1. Adjusting bolt
2. Locknut

The brake pedal free play should measure 20.0–30.0 mm (0.79–1.18 in) as shown. Periodically check the brake pedal free play and, if necessary, adjust it as follows.

PERIODIC MAINTENANCE AND ADJUSTMENT

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).



1. Adjusting nut

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.

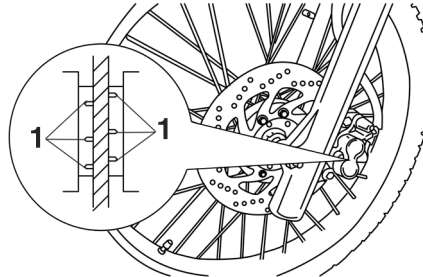
Checking the front brake pads and rear brake shoes

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.

Front brake pads

EAU36890



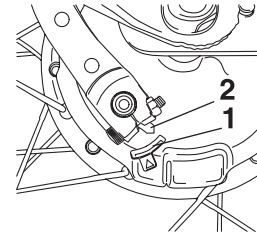
1. Brake pad wear indicator groove

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



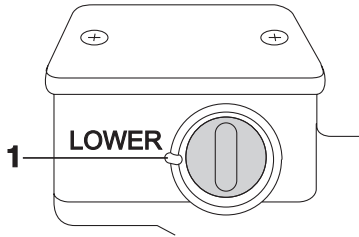
1. Brake shoe wear limit line
2. Brake shoe wear indicator

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

Checking the front brake fluid level

EAU37001



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.

PERIODIC MAINTENANCE AND ADJUSTMENT

Changing the brake fluid

EAU22721

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.

Drive chain slack

EAU22760

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

To check the drive chain slack

EAU22773

1. Place the motorcycle on the side-stand.

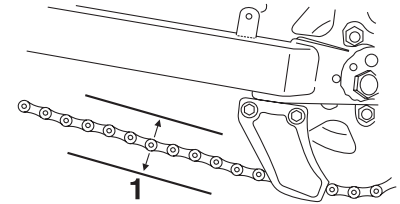
TIP

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:

45.0–60.0 mm (1.77–2.36 in)



1. Drive chain slack

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

To adjust the drive chain slack

EAUW0661

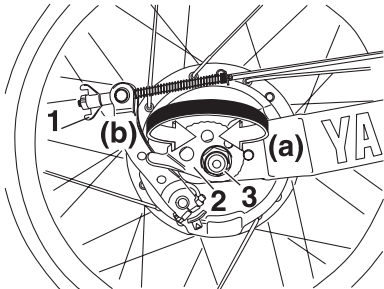
1. Loosen the brake pedal free play adjusting nut.
2. Loosen the axle nut.
3. To tighten the drive chain, turn the drive chain slack adjusting plate on each side of the swingarm in direction (a). To loosen the drive chain, turn the adjusting plate on each side of the swingarm in direction (b), and then push the rear wheel forward. **NOTICE: Improper drive chain slack will overload the engine as well as other vital parts**

PERIODIC MAINTENANCE AND ADJUSTMENT

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]

TIP

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



1. Adjusting nut
2. Adjusting plate
3. Axle nut

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 7-19.)

EAU23025

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.

ECA10583

NOTICE

The drive chain must be lubricated after washing the motorcycle, riding in the rain or riding in wet areas.

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**

PERIODIC MAINTENANCE AND ADJUSTMENT

may contain substances that could damage the O-rings.

[ECA11111]

Checking and lubricating the cables

EAU23093

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

Checking and lubricating the throttle grip and cable

EAU23113

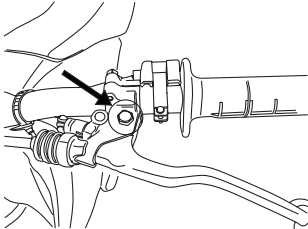
The operation of the throttle grip should be checked before each ride. In addition, the cable should be lubricated by a Yamaha dealer at the intervals specified in the periodic maintenance chart. The throttle cable is equipped with a rubber boot. Make sure that the boot is securely installed. Even though the boot is installed correctly, it does not completely protect the cable from water entry. Therefore, use care not to pour water directly onto the boot or cable when washing the vehicle. If the cable or boot becomes dirty, wipe clean with a moist cloth.

PERIODIC MAINTENANCE AND ADJUSTMENT

Checking and lubricating the brake and clutch levers

EAU23142

Brake lever



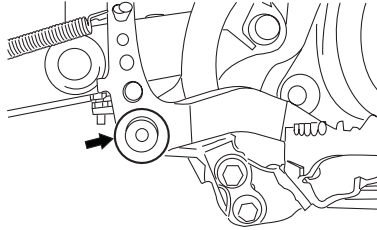
The operation of the brake and clutch levers should be checked before each ride, and the lever pivots should be lubricated if necessary.

Recommended lubricants:

- Brake lever:
 - Silicone grease
- Clutch lever:
 - Lithium-soap-based grease

Checking and lubricating the brake pedal

EAU23182

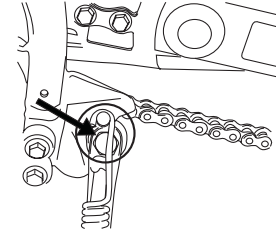


The operation of the brake pedal should be checked before each ride, and the pedal pivot should be lubricated if necessary.

Recommended lubricant:
Lithium-soap-based grease

Checking and lubricating the sidestand

EAU23202



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

⚠ WARNING

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

Recommended lubricant:
Lithium-soap-based grease

EWA10731

EAU23272

Checking the front fork

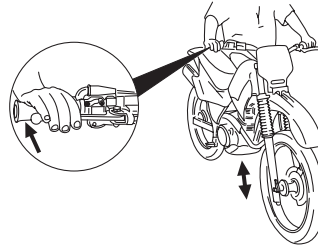
The condition and operation of the front fork must be checked as follows at the intervals specified in the periodic maintenance and lubrication chart.

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

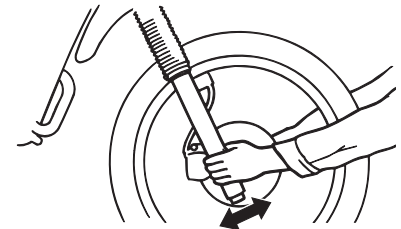
If any damage is found or the front fork does not operate smoothly, have a Yamaha dealer check or repair it.

EAU23283

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 7-29 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.



PERIODIC MAINTENANCE AND ADJUSTMENT

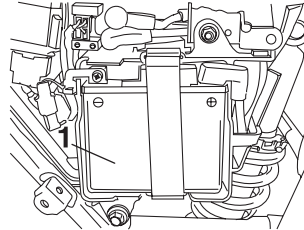
EAU23291

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.

EAU23387

Battery



1. Battery

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

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.**

PERIODIC MAINTENANCE AND ADJUSTMENT

EAUW0624

- **KEEP THIS AND ALL BATTERIES OUT OF THE REACH OF CHILDREN.**

To charge the battery

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

ECA16521

NOTICE

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.

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. **NOTICE: When installing the battery, be sure the key is turned to “OFF”, then connect the positive lead before connecting the negative lead.**

[ECA16840]

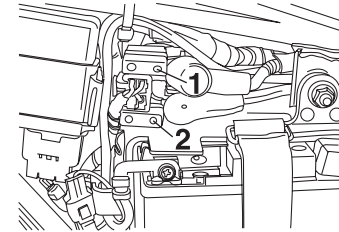
4. After installation, make sure that the battery leads are properly connected to the battery terminals.

ECA16530

NOTICE

Always keep the battery charged. Storing a discharged battery can cause permanent battery damage.

Replacing the fuse



1. Fuse
2. Spare fuse

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

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]

PERIODIC MAINTENANCE AND ADJUSTMENT

Specified fuse:
10.0 A

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

EAU24350

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.

a jack either under each side of the frame in front of the rear wheel or under each side of the swingarm.

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

PERIODIC MAINTENANCE AND ADJUSTMENT

Front wheel

EAU24360

To remove the front wheel

EAUW0542

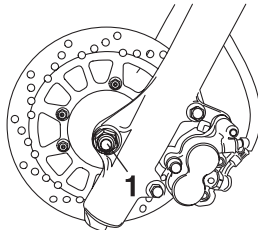
EWA10821



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 in “Supporting the motorcycle” on page 7-29.
3. Remove the axle nut and washer.



1. Axle nut

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, otherwise the brake pads will be forced shut.**^[ECA11071]

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

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 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)

PERIODIC MAINTENANCE AND ADJUSTMENT

Rear wheel

EAU25080

To remove the rear wheel

EAU25421

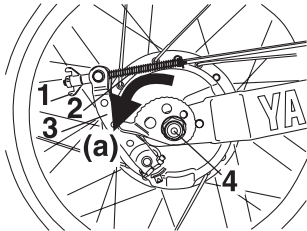
EWA10821



WARNING

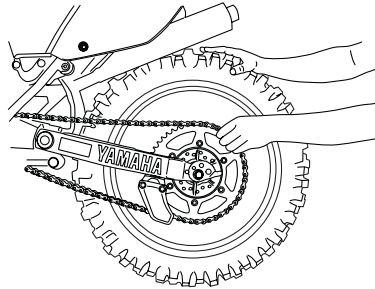
To avoid injury, securely support the vehicle so there is no danger of falling over.

1. Loosen the axle nut.



1. Adjusting nut
2. Brake rod
3. Brake camshaft 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 7-29.
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.

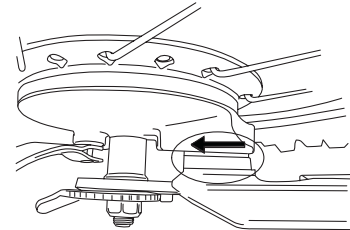
To install the rear wheel

EAU25762

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

TIP

Make sure that the drive chain adjusting plates are installed with the punched 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 install the axle nut.
3. Adjust the drive chain slack. (See page 7-22.)
4. Lower the rear wheel so that it is on the ground.

PERIODIC MAINTENANCE AND ADJUSTMENT

5. Tighten the axle nut to the specified torque.

Tightening torque:

Axle nut:
80 Nm (8.0 m·kgf, 58 ft·lbf)

6. Install the brake rod onto the brake camshaft lever, and then install the brake pedal free play adjusting nut onto the brake rod.
7. Adjust the brake pedal free play. (See page 7-19.)

EWA10660

 WARNING

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

EAU25851

Troubleshooting

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

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

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

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

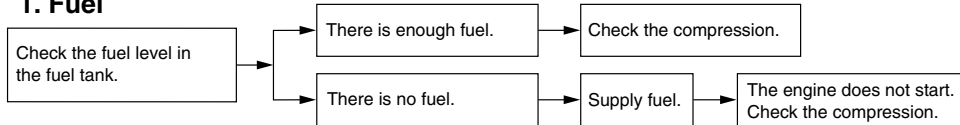
heaters or furnaces. Gasoline or gasoline vapors can ignite or explode, causing severe injury or property damage.

PERIODIC MAINTENANCE AND ADJUSTMENT

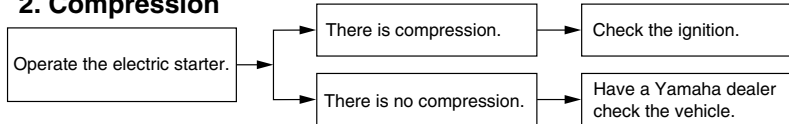
EAU25902

Troubleshooting chart

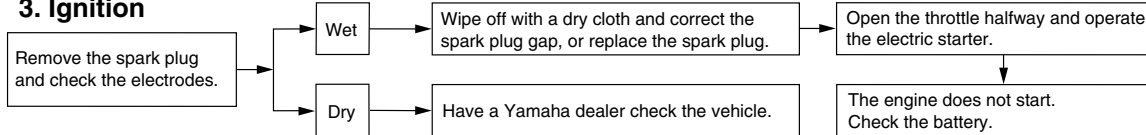
1. Fuel



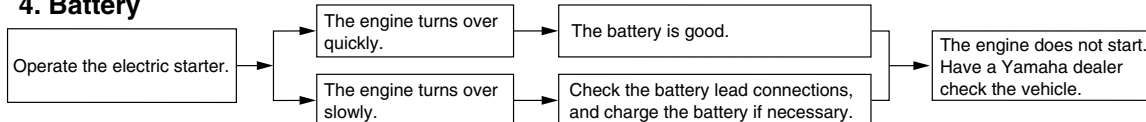
2. Compression



3. Ignition



4. Battery



Care

EAU41356

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 prod-

ucts onto seals, gaskets, sprockets, the drive chain and wheel axles. Always rinse the dirt and degreaser off with water.

Cleaning

ECA10772

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.) and the mufflers. Use only a soft, clean cloth or sponge with water to clean plastic. However, if the plastic parts cannot be thoroughly cleaned with water, diluted mild detergent with water may be used. Be sure to rinse off any detergent residue using plenty of water, as it is harmful to plastic parts.**
- **Do not use any harsh chemical products on plastic parts. Be sure to avoid using cloths or sponges which have been in contact with strong or abrasive cleaning products, solvent or thinner, fuel (gasoline), rust removers or inhibitors, brake fluid, antifreeze or electrolyte.**
- **Do not use high-pressure washers or steam-jet cleaners since they cause water seepage and deterioration in the following areas: seals (of wheel and swing-arm bearings, fork and brakes), electric components (couplers, connectors, instruments, switches and lights), breather hoses and vents.**
- **For motorcycles equipped with a windshield: Do not use strong cleaners or hard sponges as they will cause dulling or scratching. Some cleaning compounds for plastic may leave scratches on the windshield.**

MOTORCYCLE CARE AND STORAGE

Test the product on a small hidden part of the windshield to make sure that it does not leave any marks. If the windshield is scratched, use a quality plastic polishing compound after washing.

After normal use

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

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 detergent. 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.

Storage

EAU26152

Short-term

Always store your motorcycle in a cool, dry place and, if necessary, protect it against dust with a porous cover. Be sure the engine and the exhaust system are cool before covering the motorcycle.

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.)

MOTORCYCLE CARE AND STORAGE

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 side-stand/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 ex-

cessively 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 7-27.

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 (34.3 in)
- Wheelbase:
1385 mm (54.5 in)
- Ground clearance:
295 mm (11.61 in)
- Minimum turning radius:
2100 mm (82.7 in)

Weight:

- With oil and fuel:
114 kg (251 lb)

Engine:

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

Engine oil:

- Recommended brand:
YAMALUBE
- Type:
SAE 10W-30, 10W-40, 10W-50, 15W-40,
20W-40 or 20W-50
- Recommended engine oil grade:
API service SE, SF, SG type or higher,
JASO standard MA
- Engine oil quantity:
Without oil filter element replacement:
1.00 L (1.06 US qt, 0.88 Imp.qt)
With oil filter element replacement:
1.10 L (1.16 US qt, 0.97 Imp.qt)

Air filter:

- Air filter element:
Wet element

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, 0.40 Imp.gal)

Carburetor:

- Type × 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)
3rd:
30/21 (1.429)
4th:
27/24 (1.125)
5th:
25/27 (0.926)
6th:
23/29 (0.793)

Chassis:

- Frame type:
Diamond
- Caster angle:
27.00 °

SPECIFICATIONS

Trail:
111.0 mm (4.37 in)

Front tire:

Type:
With tube

Size:
80/100-21 NHS

Manufacturer/model:
PIRELLI/MT320H

Rear tire:

Type:
With tube

Size:
100/100-18 NHS

Manufacturer/model:
PIRELLI/MT320

Tire air pressure (measured on cold tires):

Front:
100 kPa (1.00 kgf/cm², 15 psi)

Rear:
100 kPa (1.00 kgf/cm², 15 psi)

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 spring/gas-oil damper
Wheel travel:
220.0 mm (8.66 in)

Electrical system:

Ignition system:
DC CDI
Charging system:
AC magneto

Battery:

Model:
YTX5L-BS

Voltage, capacity:
12 V, 4.0 Ah

Fuse:

Fuse:
10.0 A

Identification numbers

EAU40791

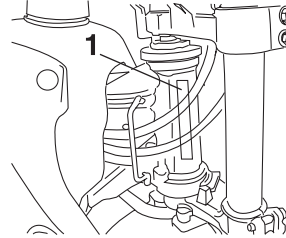
Record the vehicle identification number and model label information in the spaces provided below for assistance when ordering spare parts from a Yamaha dealer or for reference in case the vehicle is stolen.

VEHICLE IDENTIFICATION
NUMBER:

MODEL LABEL INFORMATION:

Vehicle identification number

EAU26400



1. Vehicle identification number

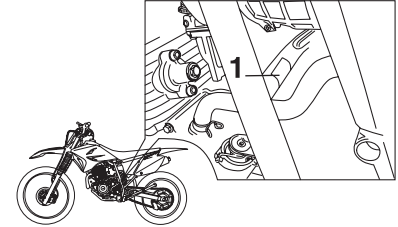
The vehicle identification number is stamped into the steering head pipe. Record this number in the space provided.

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

EAU26460



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.

CONSUMER INFORMATION

EAU26560

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

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:

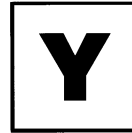
If visiting your dealer isn't convenient, contact Yamaha with your Primary ID number (your frame number). We'll be happy to help you get the Y.E.S. coverage you need.

Yamaha Service Marketing

P.O. Box 6555

Cypress, CA 90630

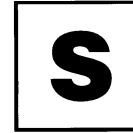
1-(866)-YES-EXTD (1-866-937-3983)



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

YAMAHA MOTOR DA AMAZÔNIA LTDA.

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