 Read this manual carefully before operating this vehicle.

OWNER'S MANUAL

TT-R230

B68-F8199-20

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

Welcome to the Yamaha world of motorcycling!

As the owner of the TT-R230, you are benefiting from Yamaha's vast experience and newest technology regarding the design and manufacture of high-quality products, which have earned Yamaha a reputation for dependability.

Please take the time to read this manual thoroughly, so as to enjoy all advantages of your TT-R230. The Owner's Manual does not only instruct you in how to operate, inspect and maintain your motorcycle, but also in how to safeguard yourself and others from trouble and injury.

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

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

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 carefully and completely before operating this motorcycle.

IMPORTANT MANUAL INFORMATION

EAU10134

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.

*Product and specifications are subject to change without notice.

IMPORTANT MANUAL INFORMATION

EAUW0012

**TT-R230
OWNER'S MANUAL**
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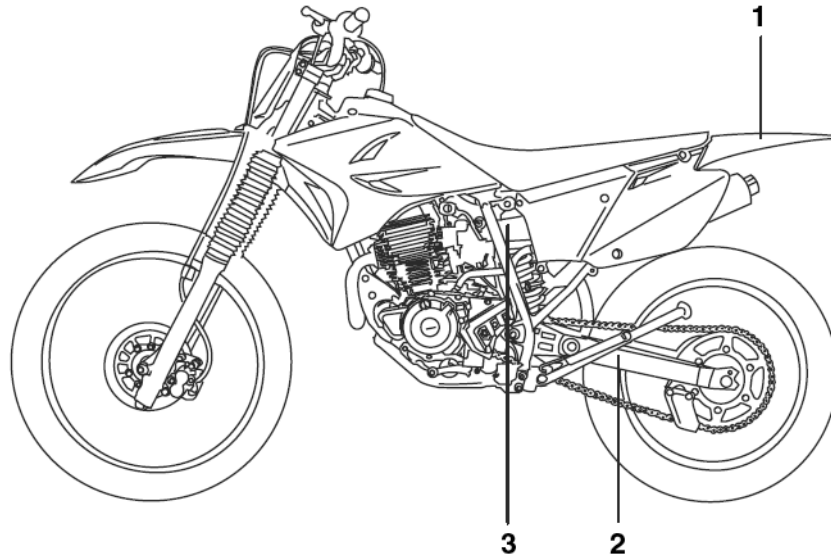
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LOCATION OF IMPORTANT LABELS

EAU10385

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.



1

⚠ WARNING

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

3PT-2118K-A1

3



2

TIRE INFORMATION

Cold tire normal pressure should be set as follows.

FRONT: 100kPa, (1.00kgf/cm²), 15 psi

REAR: 100kPa, (1.00kgf/cm²), 15 psi

3RV-216680-A0

EAU41469

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.

- Never operate a motorcycle without proper training or instruction. Take a training course. Beginners should receive training from a certified instructor. Contact an authorized motorcycle dealer to find out about the training courses nearest you.

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.
- Never maintain a motorcycle without proper knowledge. Contact an authorized motorcycle dealer to inform you on basic motorcycle maintenance. Certain maintenance can only be carried out by certified staff.

- 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.
 - 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 poi-

SAFETY INFORMATION

2

soning, leave the area immediately, get fresh air, and SEEK MEDICAL TREATMENT.

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

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 7-14 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.

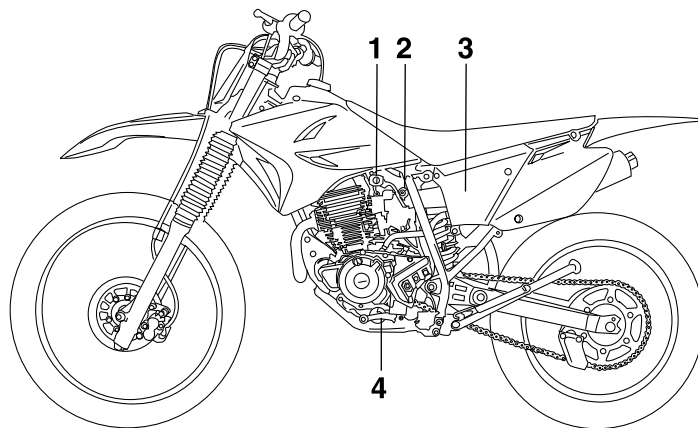
- Check that the fuel cock (if equipped) is in the "OFF" position and that there are no fuel leaks.
- Point the front wheel straight ahead on the trailer or in the truck bed, and choke it in a rail to prevent movement.
- Shift the transmission in gear (for models with a manual transmission).
- Secure 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

EAU10411

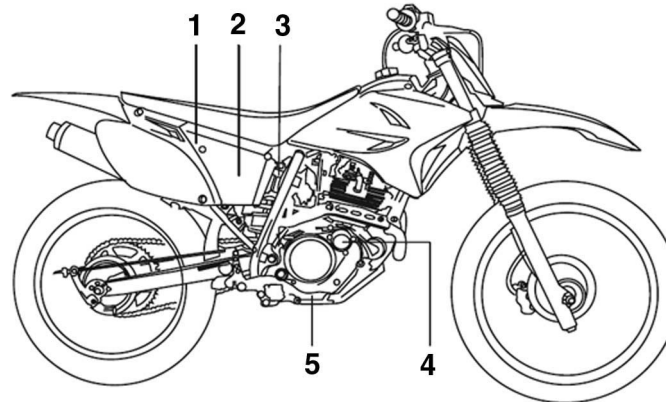
Left view

3



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

Right view



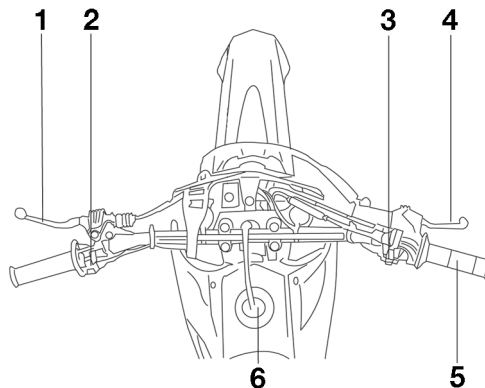
1. Fuse (page 7-27)
2. Battery (page 7-25)
3. Shock absorber assembly spring preload adjusting nut (page 4-7)
4. Engine oil filter element (page 7-7)
5. Brake pedal (page 4-3)

DESCRIPTION

EAU10431

Controls and instruments

3

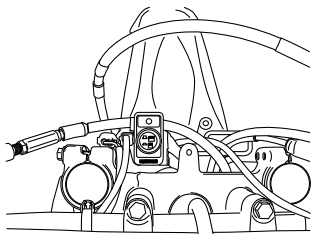


1. Clutch lever (page 4-2)
2. Engine stop switch (page 4-1)
3. Start switch (page 4-1)
4. Brake lever (page 4-2)
5. Throttle grip (page 7-13)
6. Fuel tank cap (page 4-3)

INSTRUMENT AND CONTROL FUNCTIONS

Ignition switch

EAUW1881



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

ON

EAUW0571

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

OFF

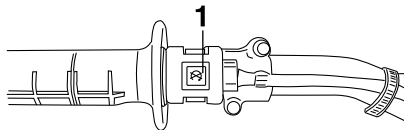
EAUW0583

All electrical systems are off.

Handlebar switches

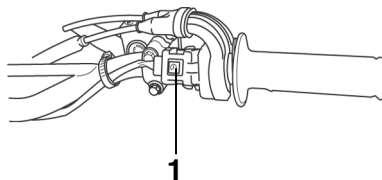
EAU1234H

Left



1. Engine stop switch

Right



1. Start switch

Engine stop button “ENGINE STOP”

EAU12672

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 “”

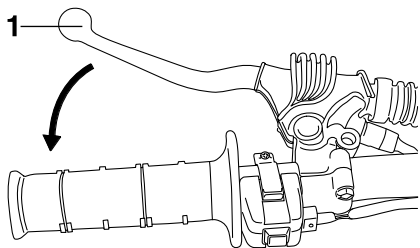
EAU12713

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

EAU31641



4

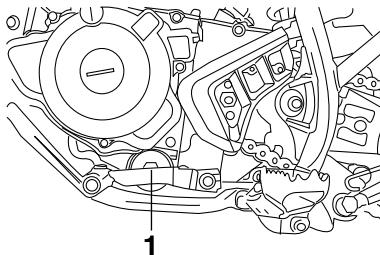
1. Clutch lever

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

EAU12872

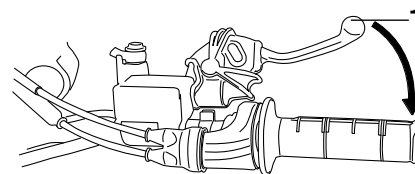


1. Shift pedal

The shift pedal is located on the left side of the motorcycle 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

EAU12892

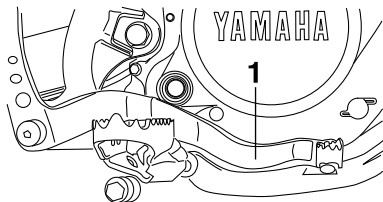


1. Brake lever

The brake lever is located on the right side of the handlebar. To apply the front brake, pull the lever toward the throttle grip.

Brake pedal

EAU12944

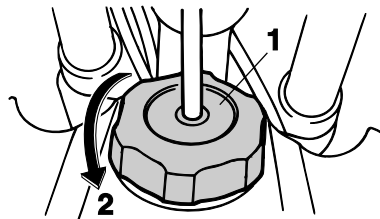


1. Brake pedal

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

Fuel tank cap

EAU13183



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.

EWA11092

! WARNING

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

Fuel

EAU13213

Make sure there is sufficient gasoline in the tank.

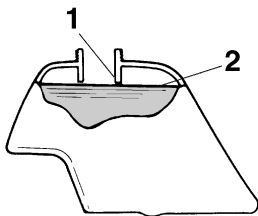
EWA10882

! 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



4

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.** [ECA10072]
4. Be sure to securely close the fuel tank cap.

EWA15152

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.

EAU53072

Recommended fuel:

Regular 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)

ECA11401

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 research octane number of 91 or higher. If knocking (or pinging) occurs, use a gasoline of a different brand or premium unleaded fuel. Use of unleaded fuel will extend spark plug life and reduce maintenance costs.

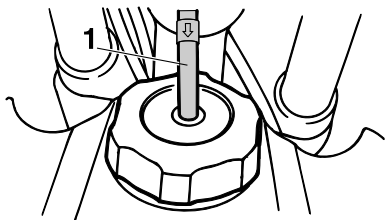
Gasohol

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

EAU13414



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 necessary.
- Make sure that the fuel tank breather hose is not blocked, and clean it if necessary.

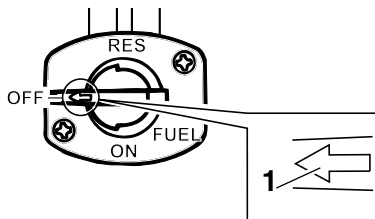
Fuel cock

EAU13562

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

The fuel cock has three positions:

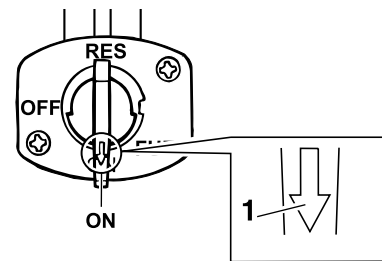
OFF



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.

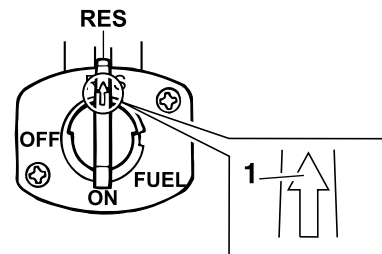
ON



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



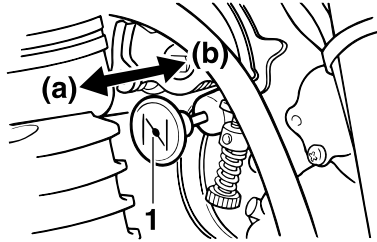
1. Arrow mark positioned over "RES"

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!

4

Starter (choke) knob “” EAU13601



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).

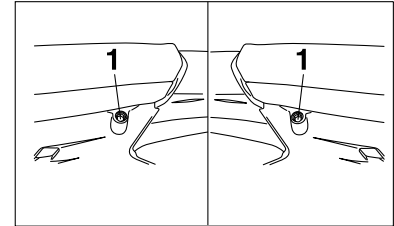
Move the knob in direction (b) to turn off the starter (choke).

Seat

EAU13962

To remove the seat

Remove the bolts, and then pull the seat off.

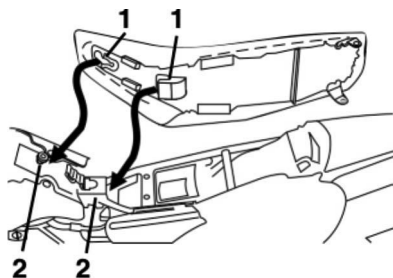


1. Bolt

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

EAUW2501

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

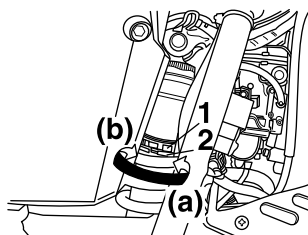
ECA10102

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.

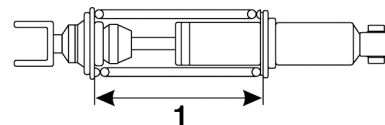


1. Locknut
2. Adjusting nut

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

decrease the spring preload and thereby soften the suspension, turn the adjusting nut in direction (b).

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



1. Distance A

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. [ECA10122]

Tightening torque:

Locknut:
70 Nm (7.0 m·kgf, 51 ft·lbf)

EWA10222

WARNING

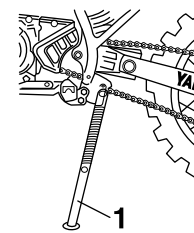
This shock absorber assembly contains highly pressurized nitrogen gas. Read and understand the following information before handling the shock absorber assembly.

- 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

EAU37491



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.

EWA14191

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.

EAUW0802

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?

YES **NO**

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?

YES **NO**

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

WARNING

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

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

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

FOR YOUR SAFETY – PRE-OPERATION CHECKS

EAU15598

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.

EWA11152

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.	7-7
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 specified brake fluid to specified level.• Check hydraulic system for leakage.	7-16, 7-18, 7-19
Rear brake	<ul style="list-style-type: none">• Check operation.• Check pedal free play.• Adjust if necessary.	7-17, 7-18

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. 	7-16
Throttle grip	<ul style="list-style-type: none"> • Make sure that operation is smooth. • Check throttle grip free play. • If necessary, have Yamaha dealer adjust throttle grip free play and lubricate cable and grip housing. 	7-13, 7-22
Control cables	<ul style="list-style-type: none"> • Make sure that operation is smooth. • Lubricate if necessary. 	7-22
Drive chain	<ul style="list-style-type: none"> • Check chain slack. • Adjust if necessary. • Check chain condition. • Lubricate if necessary. 	7-20, 7-21
Wheels and tires	<ul style="list-style-type: none"> • Check for damage. • Check tire condition and tread depth. • Check air pressure. • Correct if necessary. 	7-14, 7-15
Brake and shift pedals	<ul style="list-style-type: none"> • Make sure that operation is smooth. • Lubricate pedal pivoting points if necessary. 	7-23
Brake and clutch levers	<ul style="list-style-type: none"> • Make sure that operation is smooth. • Lubricate lever pivoting points if necessary. 	7-23
Sidestand	<ul style="list-style-type: none"> • Make sure that operation is smooth. • Lubricate pivot if necessary. 	7-23
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

EAU15952

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.

EWA10272



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

EAUW0596

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.
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.

ECA11043

NOTICE

For maximum engine life, never accelerate hard when the engine is cold!

OPERATION AND IMPORTANT RIDING POINTS

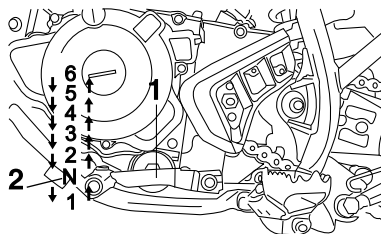
EAU16641

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.

EAU16673

Shifting



ECA10261

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.

6

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.

OPERATION AND IMPORTANT RIDING POINTS

EAU16851

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.

ECA10271

NOTICE

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

EAUW0604

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”.

EWA10312

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

EAU39945

Periodic maintenance chart for the emission control system

TIP

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

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

EAU3534D

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. • Check for correct routing and clamping. 		√	√
		<ul style="list-style-type: none"> • Replace. 	Every 4 years		
5	* Brake fluid	<ul style="list-style-type: none"> • Replace. 	Every 2 years		
6	* Wheels	<ul style="list-style-type: none"> • Check runout, spoke tightness and for damage. • Tighten spokes if necessary. 	√	√	√
7	* Tires	<ul style="list-style-type: none"> • Check tread depth and for damage. • Replace if necessary. • Check air pressure. • Correct 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	* Wheel bearings	<ul style="list-style-type: none"> • Check bearings for smooth operation. • Replace if necessary. 		√	√
9	* Swingarm pivot bearings	<ul style="list-style-type: none"> • Check bearing assemblies for looseness. • Moderately repack with lithium-soap-based grease. 		√	√
10	Drive chain	<ul style="list-style-type: none"> • Check chain slack/alignment and condition. • Adjust and lubricate chain with Yamaha chain lubricant or other suitable chain lubricant thoroughly. 	Every ride		
11	* Steering bearings	<ul style="list-style-type: none"> • Check bearing assemblies for looseness. • Moderately repack with lithium-soap-based grease. 	√		√
12	* Chassis fasteners	<ul style="list-style-type: none"> • Check all chassis fitting and fasteners. • Correct if necessary. 	√	√	√
13	Brake lever pivot shaft	<ul style="list-style-type: none"> • Apply silicone grease lightly. 		√	√
14	Brake pedal pivot shaft	<ul style="list-style-type: none"> • Apply lithium-soap-based grease lightly. 		√	√
15	Clutch lever pivot shaft	<ul style="list-style-type: none"> • Apply lithium-soap-based grease (all-purpose grease) lightly. 		√	√
16	Shift pedal pivot shaft	<ul style="list-style-type: none"> • Apply lithium-soap-based grease (all-purpose grease) lightly. 		√	√
17	Sidestand pivot	<ul style="list-style-type: none"> • Check operation. • Apply lithium-soap-based grease lightly. 	√		√
18	* Front fork	<ul style="list-style-type: none"> • Check operation and for oil leakage. • Replace if necessary. 		√	√
19	* Shock absorber assembly	<ul style="list-style-type: none"> • Check operation and for oil leakage. • Replace if necessary. 			√

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	* Rear suspension link pivots	• Check operation.		√	√
		• Lubricate with lithium-soap-based grease.			√
21	* Control cables	• Apply Yamaha cable lubricant or other suitable cable lubricant thoroughly.	√	√	√
22	* Throttle grip	<ul style="list-style-type: none"> • Check operation. • Check throttle grip free play, and adjust if necessary. • Lubricate cable and grip housing. 	√	√	√

EAU40001

7

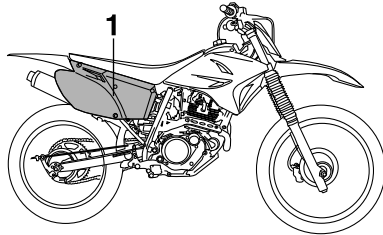
TIP _____
 The air filter needs more frequent service if you are riding in unusually wet or dusty areas.

PERIODIC MAINTENANCE AND ADJUSTMENT

Removing and installing the panel

EAU18752

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



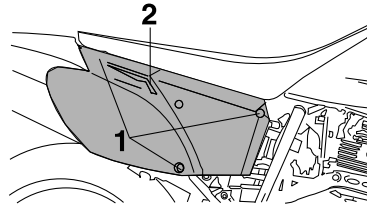
1. Panel

Panel

EAU19211

To remove the panel

Remove the screws, and then take the panel off.



1. Bolt
2. Panel

To install the panel

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

Checking the spark plug

EAU19623

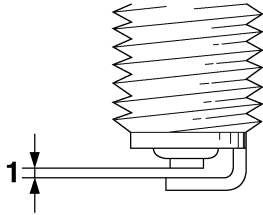
The spark plug is an important engine component, which should be checked periodically, preferably by a Yamaha dealer. Since heat and deposits will cause any spark plug to slowly erode, it should be removed and checked in accordance with the periodic maintenance and lubrication chart. In addition, the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

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

EAUW0613

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.

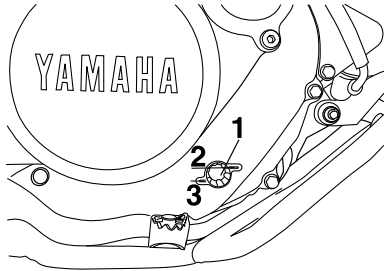
To check the engine oil level

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

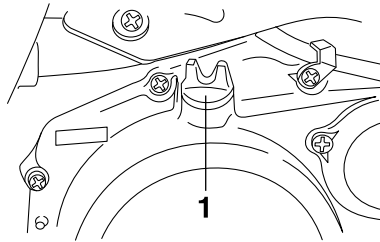


1. Engine oil level check window
2. Maximum level mark
3. Minimum level mark
4. If the engine oil is below the minimum level mark, add sufficient oil of the recommended type to raise it to the correct level.

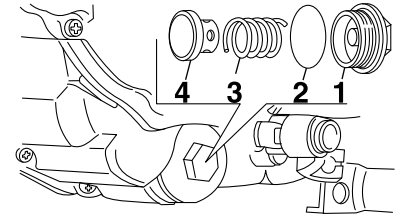
To change the engine oil (with or without oil filter element cleaning)

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.

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.** [ECA11002]



1. Engine oil filler bolt
5. Remove the oil filter element drain bolt to drain the oil from the oil filter element.



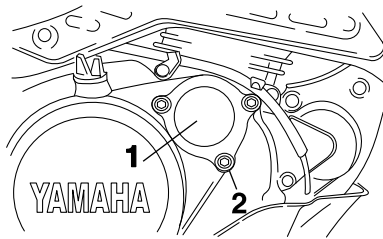
1. Engine oil drain bolt
2. O-ring
3. Compression spring
4. Oil strainer

TIP

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

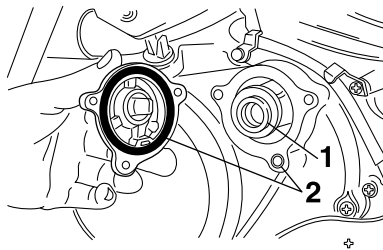
6. Remove the oil filter element cover by removing the bolts.

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, 31 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.

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 speci-

ECA11621

PERIODIC MAINTENANCE AND ADJUSTMENT

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

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

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

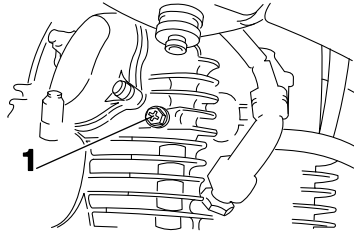
ECA11232

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

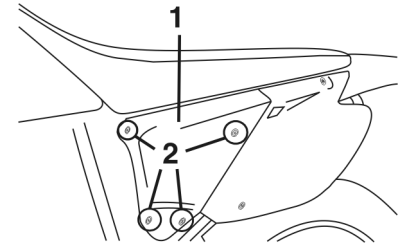
Tightening torque:
Bleed bolt:
7 Nm (0.7 m·kgf, 5.1 ft·lbf)

Cleaning the air filter element

EAUW0634

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.

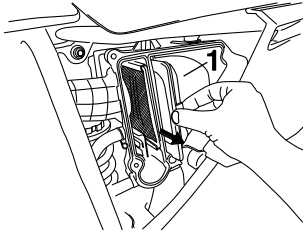


1. Air filter case cover

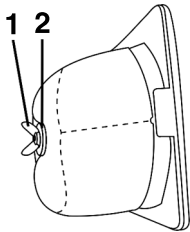
2. Bolt

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

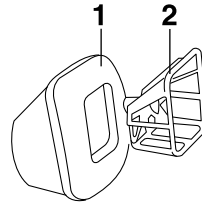
PERIODIC MAINTENANCE AND ADJUSTMENT



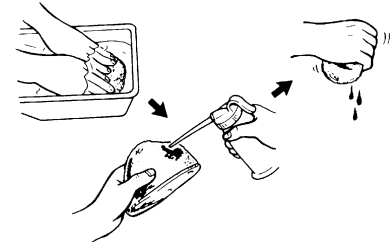
1. Air filter element
3. Remove the wing nut and washer from the air filter element.



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



1. Sponge material
2. Air filter element frame
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.** [EWAW0022] **NOTICE: To avoid damaging the foam material, handle it gently and carefully, and do not twist or wring it.** [ECA10512]



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. [ECA10482]

9. Install the air filter case cover and screws.

Adjusting the carburetor

EAU39931

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

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.

ECA10551

Adjusting the engine idling speed

EAU21363

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.

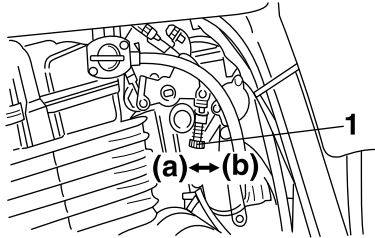
TIP

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

PERIODIC MAINTENANCE AND ADJUSTMENT

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



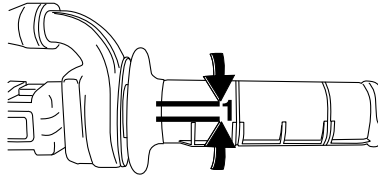
1. Adjusting bolt

Engine idling speed:
1400–1600 r/min

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

Checking the throttle grip free play

EAU21385



1. Throttle grip free play

The throttle grip 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 grip free play and, if necessary, have a Yamaha dealer adjust it.

Valve clearance

EAU21402

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

EAUW1835

Tires are the only contact between the vehicle and the road. Safety in all conditions of riding depends on a relatively small area of road contact. Therefore, it is essential to maintain the tires in good condition at all times and replace them at the appropriate time with the specified tires.

Tire air pressure

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

EWA10442

! WARNING

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

- The tire air pressure must be checked and adjusted on cold tires (i.e., when the temperature of the tires equals the ambient temperature).
- The tire air pressure must be adjusted in accordance with the riding speed and with the total

weight of rider, cargo, and accessories approved for this model.

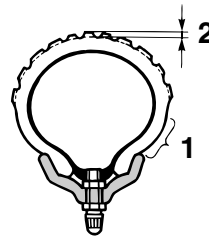
Front:
100 kPa (1.00 kgf/cm², 15 psi)
Rear:
100 kPa (1.00 kgf/cm², 15 psi)

EWA10512

! WARNING

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

Tire inspection



1. Tire sidewall
2. Tire tread depth

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)

TIP

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

Tire information

This motorcycle is equipped with spoke wheels and tube tires. Tires age, even if they have not been used or have only been used occasionally. Cracking of the tread and sidewall rubber, sometimes accompanied by carcass deformation, is an evidence of ageing. Old and aged tires shall be checked by tire specialists to ascertain their suitability for further use.

PERIODIC MAINTENANCE AND ADJUSTMENT

EWA10462

WARNING

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

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

Front tire:

Size:

80/100-21 51R

Manufacturer/model:
PIRELLI/MT320H

Rear tire:

Size:

100/100-18 59R

Manufacturer/model:
PIRELLI/MT320

EWA10572

WARNING

- Have a Yamaha dealer replace excessively worn tires. Besides being illegal, operating the mo-

torcycle 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.
- Ride at moderate speeds after changing a tire since the tire surface must first be “broken in” for it to develop its optimal characteristics.

EAU21944

Spoke wheels

EWA10611

WARNING

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

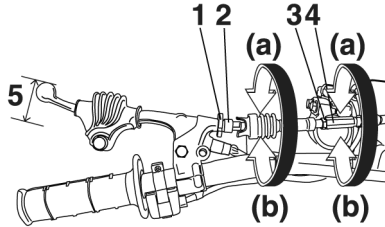
To maximize the performance, durability, and safe operation of your motorcycle, note the following points regarding the specified wheels.

- The wheel rims should be checked for cracks, bends, warpage or other damage, 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

EAU22036



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).

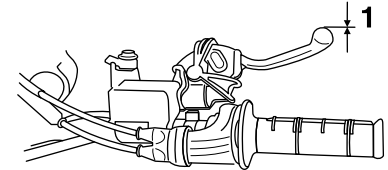
TIP

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

EAU37914



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.

EWA14212

⚠ WARNING

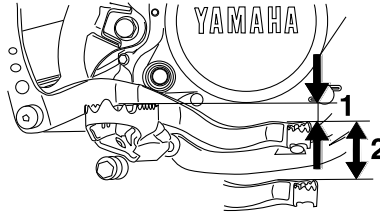
A soft or spongy feeling in the brake lever can indicate the presence of air in the hydraulic system. If there is air in the hydraulic system, have a Yamaha dealer bleed the system before operating the vehicle. Air in the hydraulic system will diminish the

PERIODIC MAINTENANCE AND ADJUSTMENT

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

Adjusting the brake pedal height and free play

EAUW0653



1. Brake pedal position
2. Brake pedal free play

EWA10671

! WARNING

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

Brake pedal height

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 height and, if necessary, adjust it as follows.

1. Loosen the locknut at the brake pedal.

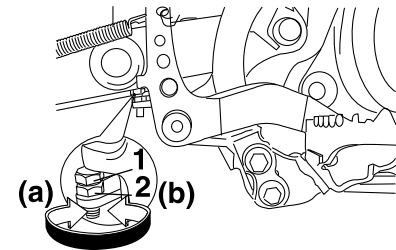
2. To raise the brake pedal, turn the adjusting bolt in direction (a). To lower the brake pedal, turn the adjusting bolt in direction (b).
3. Tighten the locknut.

EWA11232

! WARNING

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

Brake pedal free play

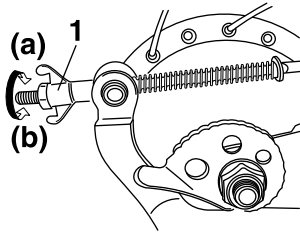


1. Adjusting bolt
2. Locknut

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 bolt

EWAW0031

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.

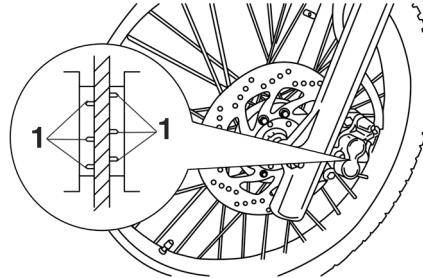
Checking the front brake pads and rear brake shoes

EAU22382

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

EAU36891



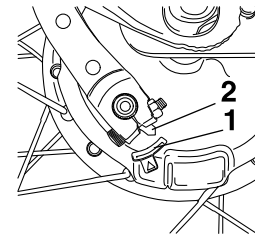
1. Brake pad wear indicator groove

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

EAU22541



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

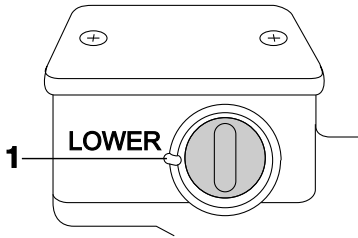
The rear brake is provided with a wear indicator, which allows you to check the brake shoe wear without having to disassemble the brake. To check the brake shoe wear, check the position of the wear indicator while applying the brake. If a brake shoe has worn to the point that the wear indicator reaches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

PERIODIC MAINTENANCE AND ADJUSTMENT

EAU32346

Checking the brake fluid level

Before riding, check that the brake fluid is above the minimum level mark. Check the brake fluid level with the top of the reservoir level. Replenish the brake fluid if necessary.



1. Lower level

Specified brake fluid:
DOT 4

EWA15991

WARNING

Improper maintenance can result in loss of braking ability. Observe these precautions:

- **Insufficient brake fluid may allow air to enter the brake system, reducing braking performance.**
- **Clean the filler cap before removing. Use only DOT 4 brake fluid from a sealed container.**
- **Use only the specified brake fluid; otherwise, the rubber seals may deteriorate, causing leakage.**
- **Refill with the same type of brake fluid. Adding a brake fluid other than DOT 4 may result in a harmful chemical reaction.**
- **Be careful that water does not enter the brake fluid reservoir when refilling. Water will significantly lower the boiling point of the fluid and may result in vapor lock.**

As the brake pads wear, it is normal for the brake fluid level to gradually go down. A low brake fluid level may indicate worn brake pads and/or brake system leakage; therefore, be sure to check the brake pads for wear and the brake system for leakage. If the brake fluid level goes down suddenly, have a Yamaha dealer check the cause before further riding.

ECA17641

NOTICE

Brake fluid may damage painted surfaces or plastic parts. Always clean up spilled fluid immediately.

PERIODIC MAINTENANCE AND ADJUSTMENT

Changing the brake fluid

EAU22724

Have a Yamaha dealer change the brake fluid at the intervals specified in 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

EAU22762

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

To check the drive chain slack

EAU22775

1. Place the motorcycle on the side-stand.

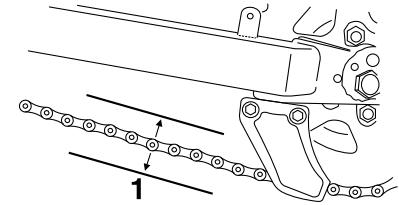
TIP

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. 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

EAUW0663

Consult a Yamaha dealer before adjusting the drive chain slack.

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

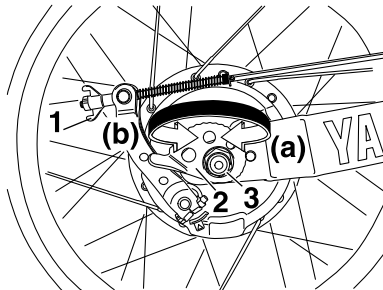
PERIODIC MAINTENANCE AND ADJUSTMENT

er drive chain slack will overload the engine as well as other vital parts of the motorcycle and can lead to chain slippage or breakage. To prevent this from occurring, keep the drive chain slack within the specified limits.

[ECA10572]

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 7-17.)
6. Make sure that the drive chain pullers are in the same position, the drive chain slack is correct, and the drive chain moves smoothly.

Cleaning and lubricating the drive chain

EAU23026

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.

ECA10584

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. [ECA11122]
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.

[ECA11112]

Checking and lubricating the cables

EAU23098

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.** [EWA10712]

Recommended lubricant:
Yamaha cable lubricant or other suitable cable lubricant

Checking and lubricating the throttle grip and cable

EAU23115

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 cover. Make sure that the cover is securely installed. Even though the cover is installed correctly, it does not completely protect the cable from water entry. Therefore, use care not to pour water directly onto the cover or cable when washing the vehicle. If the cable or cover becomes dirty, wipe clean with a moist cloth.

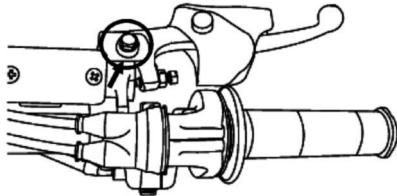
PERIODIC MAINTENANCE AND ADJUSTMENT

Checking and lubricating the brake and clutch levers

EAU23144

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

Brake lever



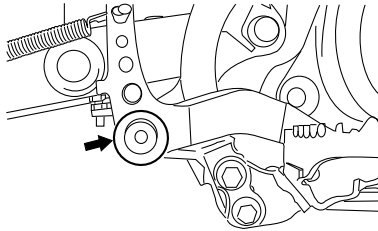
Recommended lubricants:

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

Checking and lubricating the brake pedal

EAU23185

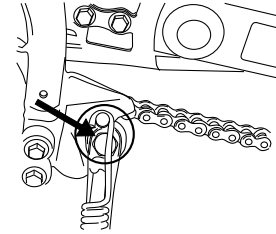
The operation of the brake pedal should be checked before each ride, and the pedal pivot should be lubricated if necessary.



Recommended lubricant:
Lithium-soap-based grease

Checking and lubricating the sidestand

EAU23203



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.

EWA10732

! 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

EAU23273

Checking the front fork

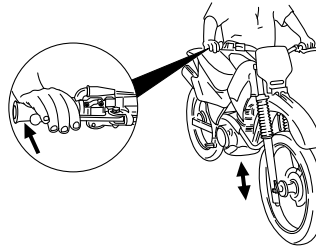
The condition and operation of the front fork must be checked as follows at the intervals specified in the periodic maintenance and lubrication chart.

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.** [EWA10752]
2. While applying the front brake, push down hard on the handlebars several times to check if the front fork compresses and rebounds smoothly.



ECA10591

NOTICE

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

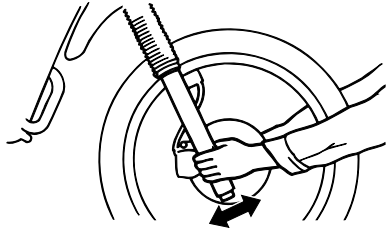
EAU23284

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 7-27 for more information.) **WARNING! To avoid injury, securely support the vehicle so there is no danger of it falling over.** [EWA10752]
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

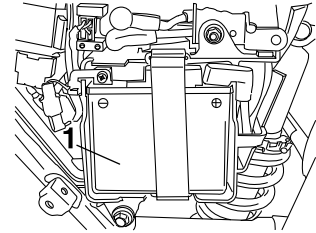


Checking the wheel bearings EAU23292

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.

Battery

EAU23389



1. Battery

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

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

EWA10761

! WARNING

- **Electrolyte is poisonous and dangerous since it contains sulfuric acid, which causes severe burns. Avoid any contact with skin, eyes or clothing and al-**

PERIODIC MAINTENANCE AND ADJUSTMENT

ways shield your eyes when working near batteries. In case of contact, administer the following **FIRST AID**.

- **EXTERNAL:** Flush with plenty of water.
- **INTERNAL:** Drink large quantities of water or milk and immediately call a physician.
- **EYES:** Flush with water for 15 minutes and seek prompt medical attention.
- Batteries produce explosive hydrogen gas. Therefore, keep sparks, flames, cigarettes, etc., away from the battery and provide sufficient ventilation when charging it in an enclosed space.
- **KEEP THIS AND ALL BATTERIES OUT OF THE REACH OF CHILDREN.**

ECA10621

NOTICE

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

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.

ECA16522

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.

[ECA16303]

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. [ECA16841]
4. After installation, make sure that the battery leads are properly connected to the battery terminals.

ECA16531

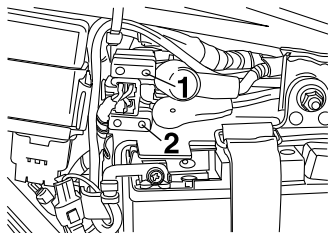
NOTICE

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

PERIODIC MAINTENANCE AND ADJUSTMENT

Replacing the fuse

EAUW0625



1. Fuse
2. Spare fuse

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

If the fuse is blown, replace it as follows.

1. Push the ignition switch to set it to "OFF".
2. Remove the blown fuse, and then install a new fuse of the specified amperage. **WARNING! Do not use a fuse of a higher amperage rating than recommended to avoid causing extensive damage to the electrical system and possibly a fire.** [EWA15132]

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

EAU24351

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

To service the front wheel

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

To service the rear wheel

Raise the rear wheel off the ground by using a motorcycle stand or, if a motorcycle stand is not available, by placing

PERIODIC MAINTENANCE AND ADJUSTMENT

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

Front wheel

EAU24361

EAU56231

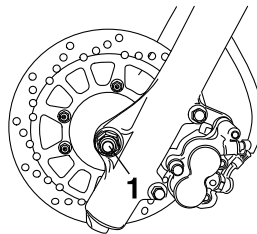
To remove the front wheel

EWA10822

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 the previous section “Supporting the motorcycle”.
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 and brake disc have been removed, otherwise the brake pads will be forced shut.**^[ECA11073]

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)

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

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Rear wheel

EAU25081

EAU56600

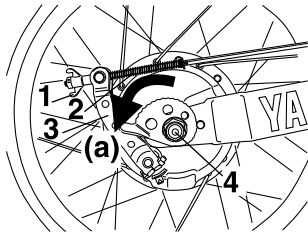
To remove the rear wheel

EWA10822

WARNING

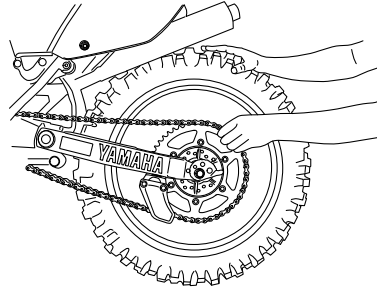
To avoid injury, securely support the vehicle so there is no danger of it falling over.

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 swing-arm fully in direction (a).
4. Lift the rear wheel off the ground according to the procedure on page 7-27.
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.

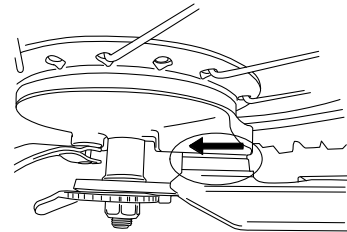
7. Remove the wheel.

To install the rear wheel

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.



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2. Install the drive chain onto the rear sprocket, and then install the axle nut.
3. Adjust the drive chain slack. (See page 7-20.)
4. Lower the rear wheel so that it is on the ground.
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 7-17.)

EWA10661



WARNING

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

EAU25852

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.

EWA15142



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

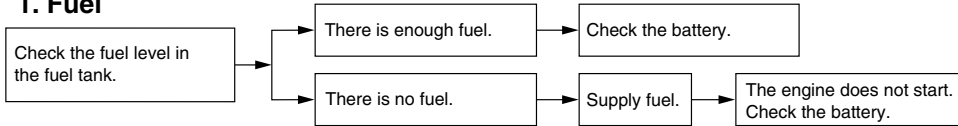
heaters or furnaces. Gasoline or gasoline vapors can ignite or explode, causing severe injury or property damage.

PERIODIC MAINTENANCE AND ADJUSTMENT

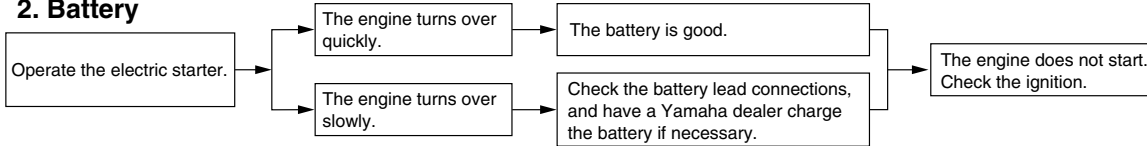
EAU25905

Troubleshooting chart

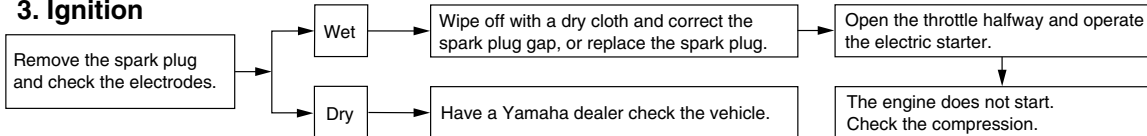
1. Fuel



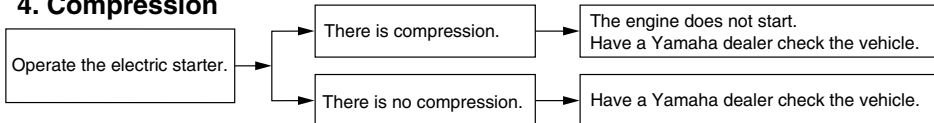
2. Battery



3. Ignition



4. Compression



Care

EAU41359

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

ECA17692

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, 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, and switches), breather hoses and vents.**

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

MOTORCYCLE CARE AND STORAGE

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. [ECA10792]

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

8

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.

EWA11132

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.**

ECA10801

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

EAU26153

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.

ECA10811

NOTICE

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

Long-term

Before storing your motorcycle for several months:

1. Follow all the instructions in the “Care” section of this chapter.

2. For motorcycles equipped with a fuel cock that has an “OFF” position: Turn the fuel cock lever to “OFF”.
3. Drain the carburetor float chamber by loosening the drain bolt; this will prevent fuel deposits from building up. Pour the drained fuel into the fuel tank.
4. Fill up the fuel tank and add fuel stabilizer (if available) to prevent the fuel tank from rusting and the fuel from deteriorating.
5. Perform the following steps to protect the cylinder, piston rings, etc. from corrosion.
 - a. Remove the spark plug cap and spark plug.
 - b. Pour a teaspoonful of engine oil into the spark plug bore.
 - c. Install the spark plug cap onto the spark plug, and then place the spark plug on the cylinder head so that the electrodes are grounded. (This will limit sparking during the next step.)
 - d. Turn the engine over several times with the starter. (This will coat the cylinder wall with oil.)

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

[EWA10952]

- 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-

MOTORCYCLE CARE AND STORAGE

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 7-25.

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:

- Curb weight:
114 kg (251 lb)
- Technical permissible mass (Maximum load +
Curb weight):
204 kg (450 lb)

Engine:

- Engine type:
Air cooled 4-stroke, SOHC
- Cylinder arrangement:
Single cylinder
- Displacement:
223 cm³
- Bore × stroke:
70.0 × 58.0 mm (2.76 × 2.28 in)
- Compression ratio:
9.5 : 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 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:
Regular 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 ratio:
3.318 (73/22)
- Final drive:
Chain
- Secondary reduction ratio:
3.769 (49/13)
- Transmission type:
Constant mesh 6-speed
- Operation:
Left foot operation
- Gear ratio:
1st:
2.923 (38/13)
- 2nd:
1.889 (34/18)
- 3rd:
1.429 (30/21)
- 4th:
1.125 (27/24)
- 5th:
0.926 (25/27)
- 6th:
0.793 (23/29)

Chassis:

- Frame type:
Diamond
- Caster angle:
27.00 °
- Trail:
111 mm (4.4 in)

SPECIFICATIONS

Front tire:

Type:
With tube
Size:
80/100-21 51R
Manufacturer/model:
PIRELLI/MT320H
Speed rating:
170 km/h (106 mph)

Rear tire:

Type:
With tube
Size:
100/100-18 59R
Manufacturer/model:
PIRELLI/MT320
Speed rating:
170 km/h (106 mph)

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
Specified brake 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 mm (9.4 in)

Rear suspension:

Type:
Swingarm (link suspension)
Spring/shock absorber type:
Coil spring/gas-oil damper
Wheel travel:
220 mm (8.7 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

EAU40793

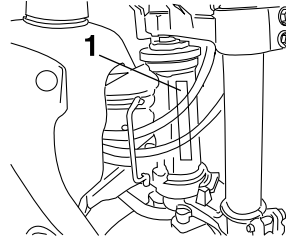
Record the vehicle identification number and model label information in the spaces provided below for assistance when ordering spare parts from a Yamaha dealer or for reference in case the vehicle is stolen.

VEHICLE IDENTIFICATION NUMBER:

MODEL LABEL INFORMATION:

Vehicle identification number

EAU26401



1. Vehicle identification number

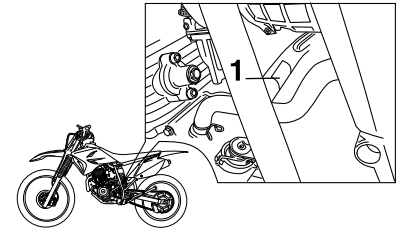
The vehicle identification number is stamped into the steering head pipe. Record this number in the space provided.

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

EAU26461



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.

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