



⚠ Read this manual carefully before operating this vehicle.

OWNER'S MANUAL

*Xenite*

*HW151*

52S-F8199-E1

 **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 HW151, 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 HW151. The Owner's Manual does not only instruct you in how to operate, inspect and maintain your scooter, 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 scooter 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 scooter and this manual. If there is any question concerning this manual, please consult a Yamaha dealer.



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**Please read this manual carefully and completely before operating this scooter.**

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# Important manual information

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

	<b>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.</b>
 <b>WARNING</b>	<b>A WARNING indicates a hazardous situation which, if not avoided, could result in death or serious injury.</b>
<b>NOTICE</b>	<b>A NOTICE indicates special precautions that must be taken to avoid damage to the vehicle or other property.</b>
<b>TIP</b>	<b>A TIP provides key information to make procedures easier or clearer.</b>

\*Product and specifications are subject to change without notice.

EAUT1391

**HW151  
OWNER'S MANUAL  
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# Safety information

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## Be a Responsible Owner

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

Scooters 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 scooter.

He or she should:

- Obtain thorough instructions from a competent source on all aspects of scooter 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 scooter without proper training or instruction. Take a training course. Beginners

should receive training from a certified instructor. Contact an authorized scooter 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 4-1 for a list of pre-operation checks.

- This scooter is designed to carry the operator and a passenger.
- The failure of motorists to detect and recognize scooters in traffic is the predominating cause of automobile/scooter accidents. Many accidents have been caused by an automobile driver who did not see the scooter. 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 scooter accidents to occur.

- Ride where other motorists can see you. Avoid riding in another motorist's blind spot.
- Never maintain a scooter without proper knowledge. Contact an authorized scooter dealer to inform you on basic scooter maintenance. Certain maintenance can only be carried out by certified staff.
- Many accidents involve inexperienced operators. In fact, many operators who have been involved in accidents do not even have a current driver's license.
- Make sure that you are qualified and that you only lend your scooter 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 scooter where



there is no traffic until you have become thoroughly familiar with the scooter and all of its controls.

- Many accidents have been caused by error of the scooter 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).
- Always obey the speed limit and never travel faster than warranted by road and traffic conditions.
- Always signal before turning or changing lanes. Make sure that other motorists can see you.
- The posture of the operator and passenger 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 scooter.
  - The passenger should always hold onto the operator, the seat strap or grab bar, if equipped, with both hands and keep both

feet on the passenger footrests. Never carry a passenger unless he or she can firmly place both feet on the passenger footrests.

- Never ride under the influence of alcohol or other drugs.
- This scooter is designed for on-road use only. It is not suitable for off-road use.

### **Protective Apparel**

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

- Always wear an approved helmet.
- Wear a face shield or goggles. Wind in your unprotected eyes could contribute to an impairment of vision that could delay seeing a hazard.
- The use of a jacket, substantial shoes, trousers, gloves, etc., is effective in preventing or reducing abrasions or lacerations.
- Never wear loose-fitting clothes, otherwise they could catch on the control levers 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.
- A passenger should also observe the above precautions.

### **Avoid Carbon Monoxide Poisoning**

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

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

# Safety information

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

## Loading

Adding accessories or cargo to your scooter can adversely affect stability and handling if the weight distribution of the scooter is changed. To avoid the possibility of an accident, use extreme caution when adding cargo or accessories to your scooter. Use extra care when riding a scooter that has added cargo or accessories. Here, along with the information about accessories below, are some general guidelines to follow if loading cargo to your scooter: The total weight of the operator, passenger, accessories and cargo must

not exceed the maximum load limit. **Operation of an overloaded vehicle could cause an accident.**

**Maximum load:**  
179 kg (395 lb)

When loading within this weight limit, keep the following in mind:

- Cargo and accessory weight should be kept as low and close to the scooter as possible. Securely pack your heaviest items as close to the center of the vehicle as possible and make sure to distribute the weight as evenly as possible on both sides of the scooter to minimize imbalance or instability.
- Shifting weights can create a sudden imbalance. Make sure that accessories and cargo are securely attached to the scooter before riding. Check accessory mounts and cargo restraints frequently.
- Properly adjust the suspension for your load (suspension-adjustable models only), and check the condition and pressure of your tires.

- Never attach any large or heavy items to the handlebar, front fork, or front fender. Such items can create unstable handling or a slow steering response.
- **This vehicle is not designed to pull a trailer or to be attached to a sidecar.**

## 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.

- Accessories fitted to the handlebar or the front fork area can create instability due to improper weight distribution or aerodynamic changes. 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 scooter due to aerodynamic effects. Wind may attempt to lift the scooter, or the scooter may become unstable in cross winds. These accessories may also cause instability when passing or being passed by large vehicles.
- 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 scooter'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 scooter 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 6-18 for tire specifications and more information on replacing your tires.

## **Transporting the Scooter**

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

- Remove all loose items from the scooter.
- Point the front wheel straight ahead on the trailer or in the truck bed, and choke it in a rail to prevent movement.
- Secure the scooter with tie-downs or suitable straps that are attached

# Safety information

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to solid parts of the scooter, 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 scooter will not bounce excessively during transport.

EAU57600

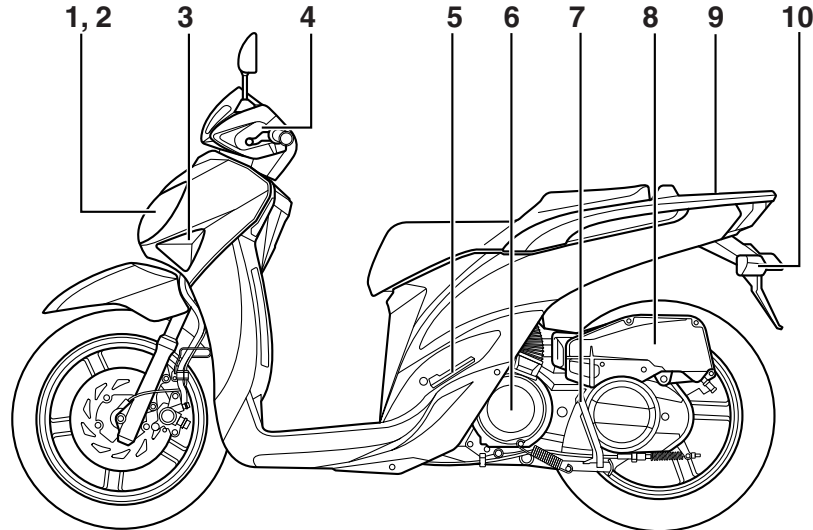
## Further safe-riding points

- Be sure to signal clearly when making turns.
- Braking can be extremely difficult on a wet road. Avoid hard braking, because the scooter could slide. Apply the brakes slowly when stopping on a wet surface.
- Slow down as you approach a corner or turn. Once you have completed a turn, accelerate slowly.
- Be careful when passing parked cars. A driver might not see you and open a door in your path.
- Railroad crossings, streetcar rails, iron plates on road construction sites, and manhole covers become extremely slippery when wet. Slow down and cross them with caution. Keep the scooter upright, otherwise it could slide out from under you.
- The brake pads or linings could get wet when you wash the scooter. After washing the scooter, check the brakes before riding.
- Always wear a helmet, gloves, trousers (tapered around the cuff

and ankle so they do not flap), and a brightly colored jacket.

- Do not carry too much luggage on the scooter. An overloaded scooter is unstable. Use a strong cord to secure any luggage to the carrier (if equipped). A loose load will affect the stability of the scooter and could divert your attention from the road. (See page 1-3.)

## Left view



1. Headlight (page 6-28)
2. Auxiliary light (page 6-29)
3. Front turn signal light (page 6-30)
4. Front brake fluid reservoir (page 6-22)
5. Passenger footrest (page 3-11)
6. V-belt air filter case cover (page 6-16)
7. Centerstand (page 6-24)
8. Air filter (page 6-16)

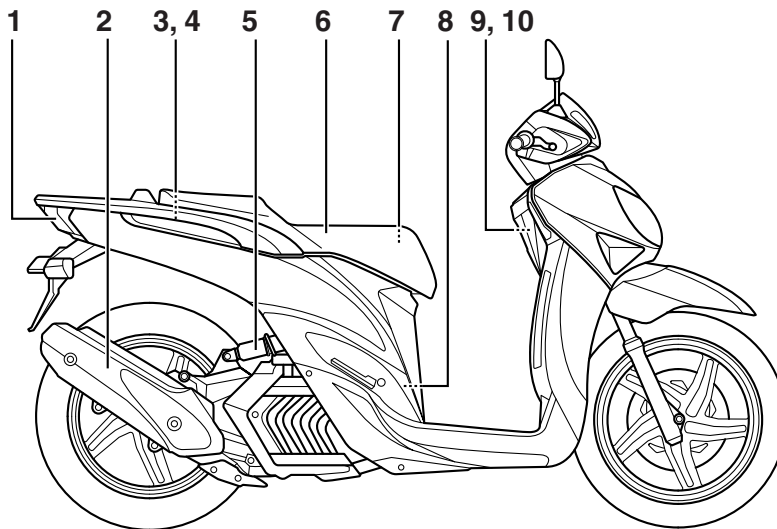
9. Carrier (page 3-14)
10. Rear turn signal light (page 6-31)

# Description

EAU10421

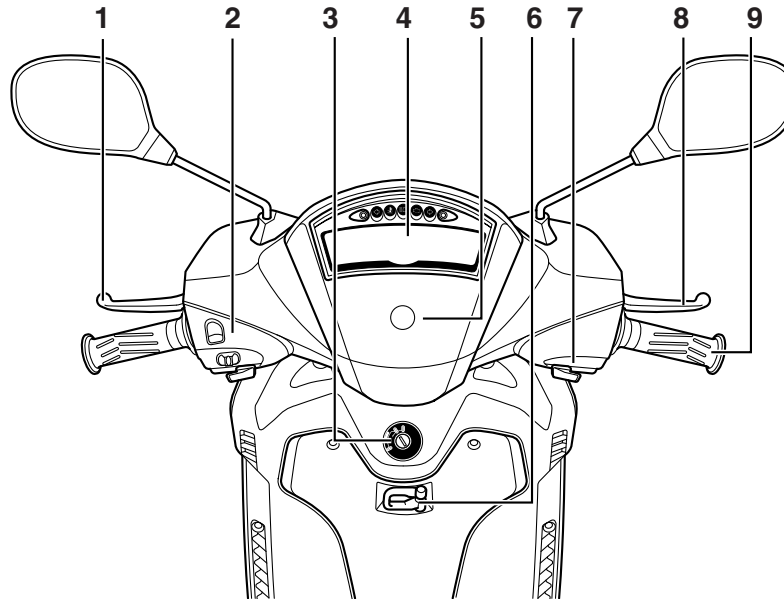
## Right view

2



1. Tail/brake light (page 6-30)
2. Muffler (page 3-10)
3. Fuel tank cap (page 3-8)
4. Coolant reservoir (page 6-14)
5. Shock absorber assembly (page 3-13)
6. Seat (page 3-11)
7. Rear storage compartment (page 3-12)
8. Spark plug (page 6-10)
9. Battery (page 6-26)
10. Fuse box (page 6-28)

## Controls and instruments



1. Rear brake lever (page 3-8)
2. Left handlebar switches (page 3-7)
3. Main switch/steering lock (page 3-1)
4. Multi-function display (page 3-3)
5. Front storage compartment (page 3-12)
6. Luggage holder (page 3-14)
7. Right handlebar switch (page 3-7)
8. Front brake lever (page 3-7)

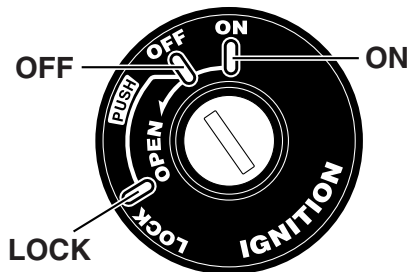
9. Throttle grip (page 6-17)

# Instrument and control functions

3

## Main switch/steering lock

EAU10462



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

### ON

EAU10551

All electrical circuits are supplied with power, the meter lighting, taillight, license plate light and auxiliary lights come on, and the engine can be started. The key cannot be removed.

### TIP

The headlights come on automatically when the engine is started and stay on until the key is turned to "OFF", even if

the engine stalls.

EAU10662

### OFF

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

EWA10662

### **WARNING**

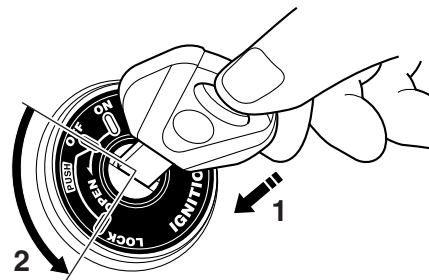
Never turn the key to "OFF" or "LOCK" while the vehicle is moving. Otherwise the electrical systems will be switched off, which may result in loss of control or an accident.

EAU10687

### LOCK

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

## To lock the steering



1. Push.
2. Turn.

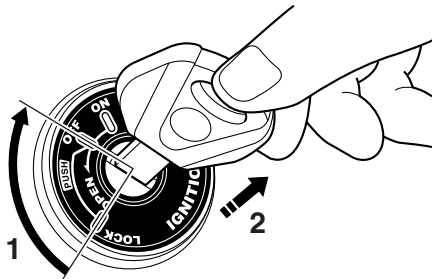
1. Turn the handlebars all the way to the left.
2. With the key in the "OFF" position, push the key in and turn it to "LOCK".
3. Remove the key.

### TIP

If the steering will not lock, try turning the handlebars back to the right slightly.



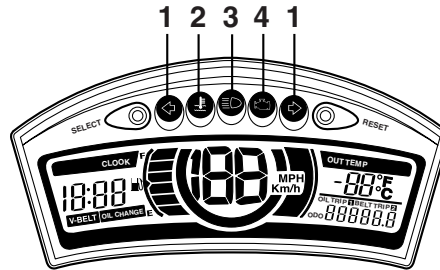
## To unlock the steering



1. Turn.
  2. Release.
1. Insert the key.
  2. With the key in the “LOCK” position, push the key in and turn it to “OFF”.

## Indicator lights and warning lights

EAU49398



1. Turn signal indicator lights “←” and “→”
2. Coolant temperature warning light “⚡”
3. High beam indicator light “≡”
4. Engine trouble warning light “⚠”

## Turn signal indicator lights “←” and “→”

EAU11032

Each indicator light will flash when its corresponding turn signal lights are flashing.

## High beam indicator light “≡”

EAU11081

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

## Coolant temperature warning light “⚡”

EAU11447

This warning light comes on if the engine overheats. If this occurs, stop the engine immediately and allow the engine to cool.

The electrical circuit of the warning light can be checked by turning the key to “ON”. The warning light should come on for a few seconds, and then go off. If the warning light does not come on initially when the key is turned to “ON”, or if the warning light remains on, have a Yamaha dealer check the electrical circuit.

## NOTICE

ECA10022

**Do not continue to operate the engine if it is overheating.**

## TIP

- For radiator-fan-equipped vehicles, the radiator fan(s) automatically switch on or off according to the coolant temperature in the radiator.
- If the engine overheats, see page

# Instrument and control functions

6-34 for further instructions.

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## Engine trouble warning light “”

EAUT1936

This warning light flashes or stays on if an electrical circuit monitoring the engine is not working correctly. If this occurs, have a Yamaha dealer check the self-diagnosis system.

The electrical circuit of the warning light can be checked by turning the key to “ON”. The warning light should come on for a few seconds, and then go off.

If the warning light does not come on initially when the key is turned to “ON”, or if the warning light remains on, have a Yamaha dealer check the electrical circuit.

## Multi-function display

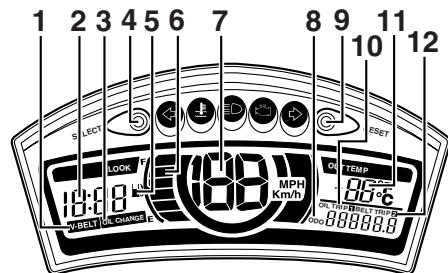
EAUT3725


EWA12313



**WARNING**

**Be sure to stop the vehicle before making any setting changes to the multi-function display. Changing settings while riding can distract the operator and increase the risk of an accident.**



1. V-belt replacement indicator “V-BELT”
2. Clock
3. Oil change indicator “OIL CHANGE”
4. “SELECT” button
5. Fuel level warning indicator “”
6. Fuel meter
7. Speedometer
8. Odometer
9. “RESET” button
10. Tripmeter 1
11. Ambient temperature display
12. Tripmeter 2

The multi-function display is equipped with the following:

- an odometer
- a fuel reserve tripmeter (which shows the distance traveled since the bottom segment of the fuel meter and fuel level warning indicator

started flashing)

- two tripmeters (which show the distance traveled since they were last set to zero)
- an oil change tripmeter (which shows the distance traveled since the last engine oil change)
- an oil change indicator (which displays when the engine oil should be changed)
- a V-belt replacement tripmeter (which shows the distance traveled since the V-belt was last replaced)
- a V-belt replacement indicator
- an ambient temperature display
- a clock
- a fuel meter
- a brightness control mode

## TIP

- When the key is turned to "ON", all segments of the display come on for a few seconds. During this time, the multi-function display is performing a self-test.
- Be sure to turn the key to "ON" before using the "SELECT" and "RESET" buttons except when setting

the brightness mode.

## Odometer, fuel tripmeter, tripmeters, oil change tripmeter and V-belt tripmeter modes

Pushing the "SELECT" button switches the display among the odometer mode "ODO", the fuel tripmeter mode "F", the tripmeter modes "TRIP 1" and "TRIP 2", the oil change tripmeter mode "OIL TRIP" and the V-belt change mode "BELT TRIP" in the following order:

ODO → F → TRIP 1 → TRIP 2 → OIL TRIP → BELT TRIP → ODO

When approximately 1.6 L (0.42 US gal, 0.35 Imp.gal) of fuel remains in the fuel tank, the bottom segment of the fuel meter and fuel level warning indicator will start flashing, and the display will automatically change to the fuel reserve tripmeter mode " F" and start counting the distance traveled from that point. In that case, pushing the "RESET" button switches the display to the previous mode.

To reset a tripmeter, select it by pushing the "SELECT" button until "Trip" or "Trip F" begins flashing ("Trip" or "Trip

F" will only flash for five seconds). While "Trip" or "Trip F" is flashing, push the "RESET" button for at least one second. If you do not reset the fuel reserve tripmeter manually, it will reset itself automatically and the display will return to the prior mode after refueling and traveling 5 km (3 mi).

## TIP

The display cannot be changed back to fuel reserve tripmeter "F" after pushing the "RESET" button.

## Odometer

### TIP

- For the U.K.: For any mode, the odometer units can be switched from kilometers to miles by pushing the "SELECT" button for 1 second.
- If the odometer indicates "-----", have a Yamaha dealer check the multi-function display, as it may be faulty.

## Tripmeters

To reset a tripmeter, select it by push-

# Instrument and control functions

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ing the “SELECT” button until “TRIP 1” or “TRIP 2” is displayed, and then push the “RESET” button for at least 1 second.

## TIP

If the tripmeter indicates “-----”, have a Yamaha dealer check the multi-function display, as it may be faulty.

## Oil change tripmeter

To reset the oil change tripmeter, select it by pushing the “SELECT” button until “OIL CHANGE” and “OIL TRIP” are displayed, and then push the “RESET” button for at least 3 seconds. After resetting, “OIL CHANGE” will disappear. Push the “SELECT” button again to start the oil change tripmeter; the display changes to V-belt tripmeter mode.

## Oil change indicator “OIL CHANGE”

This indicator will display at the initial 1000 km (625 mi), then at every 6000 km (3750 mi) thereafter to indicate that the engine oil should be changed. After changing the engine oil, reset the oil change tripmeter.

If the engine oil is changed before the oil change indicator displays (i.e. before the periodic oil change interval has been reached), the oil change tripmeter must be reset after the oil change for the next periodic oil change to be indicated at the correct time.

## TIP

- If the oil change tripmeter is reset before the initial 1000 km (625 mi), the next periodic oil change interval will be at every 6000 km (3750 mi) thereafter.
- If the oil change tripmeter indicates “-----”, have a Yamaha dealer check the multi-function display, as it may be faulty.

## V-belt replacement tripmeter

To reset the V-belt tripmeter, select it by pushing the “SELECT” button until “V-BELT” and “BELT TRIP” are displayed, and then push the “RESET” button for at least 3 seconds. After resetting, “V-BELT” will disappear. Push the “SELECT” button again to start the V-belt tripmeter; the display changes to ODO mode.

## V-belt change indicator “V-BELT”

This indicator comes on at every 20000 km (12500 mi) to indicate that the V-belt should be replaced.

After replacing the V-belt, reset the V-belt tripmeter.

If the V-belt is replaced before the V-belt indicator comes on (i.e., before the periodic V-belt replacement interval has been reached), the V-belt tripmeter must be reset after replacing the V-belt for the next periodic V-belt replacement to be indicated at the correct time.

## TIP

If the V-belt change indicator displays “-----”, have a Yamaha dealer check the multi-function display, as it may be faulty.

## Ambient temperature display “OUT TEMP”

This display shows the ambient temperature from  $-10\text{ }^{\circ}\text{C}$  to  $40\text{ }^{\circ}\text{C}$  in  $1\text{ }^{\circ}\text{C}$  increments. The temperature displayed may vary from the ambient temperature.

## TIP

- If the ambient temperature falls below  $-10\text{ }^{\circ}\text{C}$ , a lower temperature than  $-10\text{ }^{\circ}\text{C}$  will not be displayed.
- If the ambient temperature climbs above  $40\text{ }^{\circ}\text{C}$ , a higher temperature than  $40\text{ }^{\circ}\text{C}$  will not be displayed.
- The accuracy of the temperature reading may be affected when riding slowly (approximately under  $20\text{ km/h}$  ( $12\text{ mi/h}$ )) or when stopped at traffic signals, railroad crossings, etc.

## Clock

### To set the clock:

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

then release it to start the clock.

## Fuel meter

The fuel meter indicates the amount of fuel in the fuel tank. The display segments of the fuel meter disappear towards “E” (Empty) as the fuel level decreases. When the bottom segment of the fuel meter and fuel level warning indicator “\*” starts flashing, refuel as soon as possible. When the key is turned to “ON”, all of the display segments of the fuel meter will appear for a few seconds, and then shows the actual fuel level.

## Brightness control mode

This function allows you to adjust the brightness of the speedometer panel to suit the outside lighting conditions.

### To set the brightness

1. Turn the key to “OFF”.
2. Push and hold the “SELECT” button.
3. Turn the key to “ON”, and then release the “SELECT” button after five seconds. The display will change to brightness control

mode.

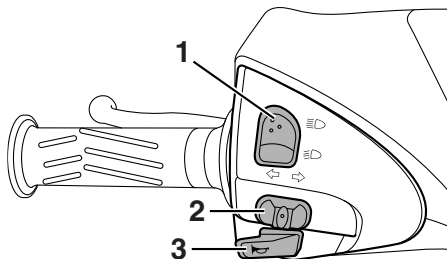
4. Push the “RESET” button to select the desired brightness level in the following order: BL-01 → BL-02 → BL-03 → BL-04 → BL-05 → BL-01.
5. Turn the key to “OFF”.

# Instrument and control functions

## Handlebar switches

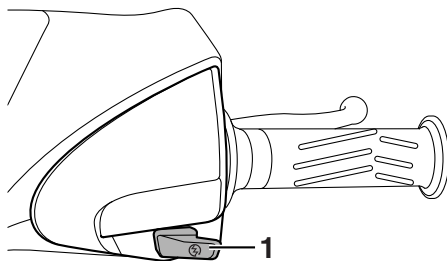
EAU1234H

### Left



1. Dimmer switch “ $\equiv$ ○/○ $\equiv$ ”
2. Turn signal switch “ $\leftarrow$ / $\rightarrow$ ”
3. Horn switch “ $\text{📢}$ ”

### Right



1. Start switch “ $\text{🔋}$ ”

EAU12401

### Dimmer switch “ $\equiv$ ○/○ $\equiv$ ”

Set this switch to “ $\equiv$ ○” for the high beam and to “○ $\equiv$ ” for the low beam.

EAU12461

### Turn signal switch “ $\leftarrow$ / $\rightarrow$ ”

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

EAU12501

### Horn switch “ $\text{📢}$ ”

Press this switch to sound the horn.

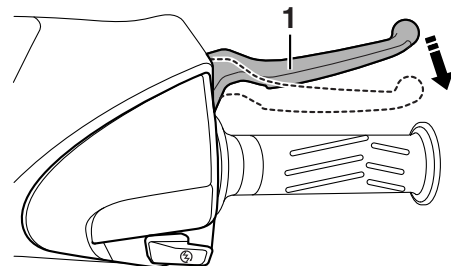
EAUM1133

### Start switch “ $\text{🔋}$ ”

Push this switch while applying the front or rear brake to crank the engine with the starter. See page 5-1 for starting instructions prior to starting the engine.

EAUS2012

## Front brake lever



1. Front brake lever

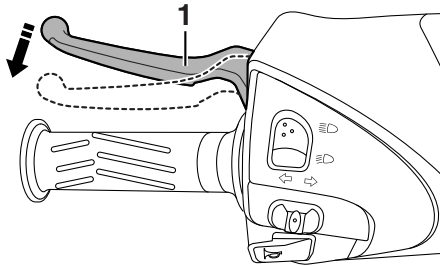
The front brake lever is located on the right side of the handlebar. To apply the front brake, pull this lever toward the throttle grip.

This model is equipped with a unified brake system.

As this system is mechanical, additional free play can be felt in the front brake lever when the rear brake lever is being applied. See “Rear brake lever” for detailed information on the unified brake system.

EAUS1963

## Rear brake lever



1. Rear brake lever

The rear brake lever is located on the left handlebar grip. To apply the rear brake, pull the lever toward the handlebar grip.

This model is equipped with a unified brake system.

When pulling the rear brake lever, the rear brake and a portion of the front brake are applied. For full braking performance, apply both brake levers simultaneously.

### TIP

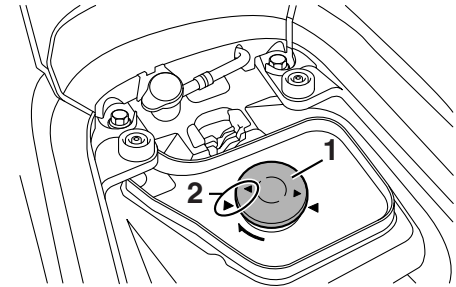
- As the unified brake system is mechanical, additional free play can be felt in the front brake lever when

the rear brake lever is being pulled.

- The unified brake system does not function when the front brake is applied alone.

EAUT3591

## Fuel tank cap



1. Fuel tank cap
2. Match marks

### To remove the fuel tank cap

1. Open the seat. (See page 3-11.)
2. Turn the fuel tank cap counter-clockwise and pull it off.

### To install the fuel tank cap

1. Insert the fuel tank cap into the tank opening and turn it clockwise until the “△” marks on the cap and rubber mat are aligned.
2. Close the seat.

EWA11092



**Make sure that the fuel tank cap is**

# Instrument and control functions

properly closed after filling fuel.  
Leaking fuel is a fire hazard.

3

## Fuel

Make sure there is sufficient gasoline in the tank.

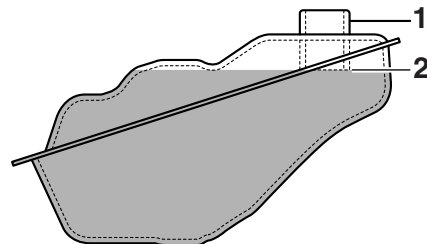
EAU13222

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. When refueling, be sure to insert the pump nozzle into the fuel tank filler hole. 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.



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.**<sup>[ECA10072]</sup>
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 immediately. If gasoline spills on your skin, wash with soap and water. If gasoline spills on your clothing, change your clothes.**

EAU33524

**Recommended fuel:**

Regular unleaded gasoline only

**Fuel tank capacity:**

8.0 L (2.1 US gal, 1.8 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 95 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.

## Catalytic converter

EAU13434

This model is equipped with a catalytic converter in the exhaust system.

EWA10863

**! WARNING**

**The exhaust system is hot after operation. To prevent a fire hazard or burns:**

- **Do not park the vehicle near possible fire hazards such as grass or other materials that easily burn.**
- **Park the vehicle in a place where pedestrians or children are not likely to touch the hot exhaust system.**
- **Make sure that the exhaust system has cooled down before doing any maintenance work.**
- **Do not allow the engine to idle more than a few minutes. Long idling can cause a build-up of heat.**

ECA10702

**NOTICE**

**Use only unleaded gasoline. The use of leaded gasoline will cause unre-**

**pairable damage to the catalytic converter.**

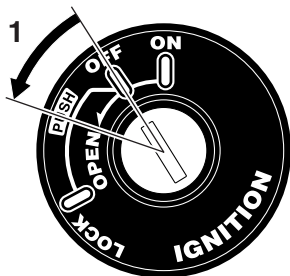
# Instrument and control functions

EAU13933

## Seat

### To open the seat

1. Place the scooter on the center-stand.
2. Insert the key into the main switch, and then turn it counterclockwise to "OPEN".



1. Turn.

**TIP** \_\_\_\_\_  
Do not push inward when turning the key.

3. Fold the seat up.

### To close the seat

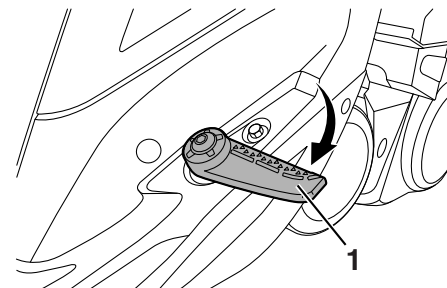
1. Fold the seat down, and then push it down to lock it in place.

2. Remove the key from the main switch if the scooter will be left unattended.

**TIP** \_\_\_\_\_  
Make sure that the seat is properly secured before riding.

EAUT3711

## Passenger footrest



1. Passenger footrest

To use the passenger footrest, pull it out as shown.

To retract the passenger footrest, push it back to original position.

## Storage compartments

EAUT4870

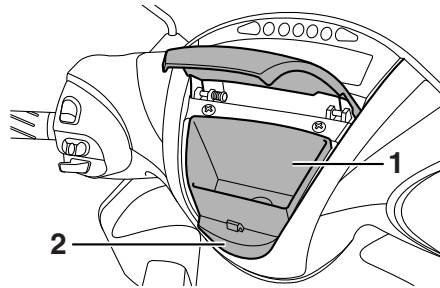
ECA17841

### NOTICE

Keep the following points in mind when using the storage compartments.

- Since the storage compartments accumulate heat when exposed to the sun and/or the engine heat, do not store anything susceptible to heat, consumables or flammable items inside them.
- To avoid humidity from spreading through the storage compartments, wrap wet articles in a plastic bag before storing them in the compartments.
- Since the storage compartments may get wet while the vehicle is being washed, wrap any articles stored in the compartments in a plastic bag.
- Do not keep anything valuable or breakable in the storage compartments.

## Front storage compartment



1. Front storage compartment
2. Button

### To open the storage compartment

Push the button to open the storage compartment lid.

### To close the storage compartment

Push the storage compartment lid into the original position.

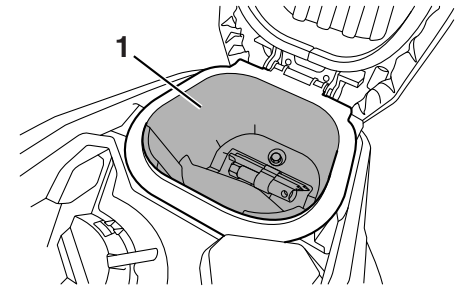
EWA11192

### **! WARNING**

- Do not exceed the load limit of 0.3 kg (0.7 lb) for the front storage compartment.
- Do not exceed the maximum load of 179 kg (395 lb) for the ve-

hicle.

## Rear storage compartment



1. Rear storage compartment

The rear storage compartment is located under the seat. (See page 3-11.)

EWAT1052

### **! WARNING**

- Do not exceed the load limit of 3 kg (7 lb) for the rear storage compartment.
- Do not exceed the maximum load of 179 kg (395 lb) for the vehicle.

### TIP

- Some helmets cannot be stored in the storage compartment because

# Instrument and control functions

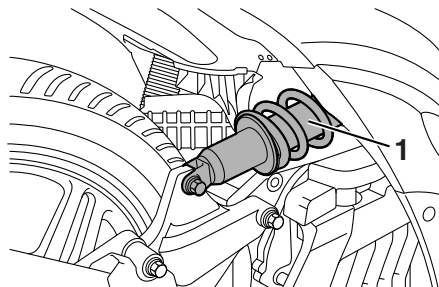
of their size or shape.

- Do not leave your scooter unattended with the seat open.

3

EAU46023

## Shock absorber assembly



1. Shock absorber assembly

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.

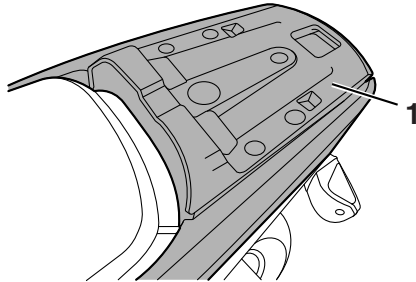
## Carrier

EAU15113

EWA10172

### **WARNING**

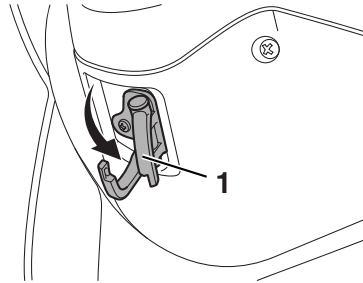
- Do not exceed the load limit of 5 kg (11 lb) for the carrier.
- Do not exceed the maximum load of 179 kg (395 lb) for the vehicle.



1. Carrier

## Luggage holder

EAUT3482



1. Luggage holder

Pull the luggage holder outward, then move the top portion of the luggage holder as shown in order to hook items on it.

EWAT1091

### **WARNING**

- Do not exceed the load limit of 3 kg (7 lb) for the luggage holder.
- Do not exceed the maximum load of 179 kg (395 lb) for the vehicle.

# For your safety – pre-operation checks

EAU15599

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.**

4

Before using this vehicle, check the following points:

ITEM	CHECKS	PAGE
Fuel	<ul style="list-style-type: none"><li>• Check fuel level in fuel tank.</li><li>• Refuel if necessary.</li><li>• Check fuel line for leakage.</li></ul>	3-9
Engine oil	<ul style="list-style-type: none"><li>• Check oil level in engine.</li><li>• If necessary, add recommended oil to specified level.</li><li>• Check vehicle for oil leakage.</li></ul>	6-11
Final transmission oil	<ul style="list-style-type: none"><li>• Check vehicle for oil leakage.</li></ul>	6-13
Coolant	<ul style="list-style-type: none"><li>• Check coolant level in reservoir.</li><li>• If necessary, add recommended coolant to specified level.</li><li>• Check cooling system for leakage.</li></ul>	6-14
Front brake	<ul style="list-style-type: none"><li>• Check operation.</li><li>• If soft or spongy, have Yamaha dealer bleed hydraulic system.</li><li>• Check lever free play.</li><li>• Adjust if necessary.</li><li>• Check brake pads for wear.</li><li>• Replace if necessary.</li><li>• Check fluid level in reservoir.</li><li>• If necessary, add specified brake fluid to specified level.</li><li>• Check hydraulic system for leakage.</li></ul>	6-20, 6-21, 6-22

# For your safety – pre-operation checks

ITEM	CHECKS	PAGE
<b>Rear brake</b>	<ul style="list-style-type: none"> <li>• Check operation.</li> <li>• Lubricate cable if necessary.</li> <li>• Check lever free play.</li> <li>• Adjust if necessary.</li> </ul>	6-20, 6-21
<b>Throttle grip</b>	<ul style="list-style-type: none"> <li>• Make sure that operation is smooth.</li> <li>• Check throttle grip free play.</li> <li>• If necessary, have Yamaha dealer adjust throttle grip free play and lubricate cable and grip housing.</li> </ul>	6-17, 6-24
<b>Control cables</b>	<ul style="list-style-type: none"> <li>• Make sure that operation is smooth.</li> <li>• Lubricate if necessary.</li> </ul>	6-23
<b>Wheels and tires</b>	<ul style="list-style-type: none"> <li>• Check for damage.</li> <li>• Check tire condition and tread depth.</li> <li>• Check air pressure.</li> <li>• Correct if necessary.</li> </ul>	6-18, 6-20
<b>Brake levers</b>	<ul style="list-style-type: none"> <li>• Make sure that operation is smooth.</li> <li>• Lubricate lever pivoting points if necessary.</li> </ul>	6-24
<b>Centerstand</b>	<ul style="list-style-type: none"> <li>• Make sure that operation is smooth.</li> <li>• Lubricate pivot if necessary.</li> </ul>	6-24
<b>Chassis fasteners</b>	<ul style="list-style-type: none"> <li>• Make sure that all nuts, bolts and screws are properly tightened.</li> <li>• Tighten if necessary.</li> </ul>	—
<b>Instruments, lights, signals and switches</b>	<ul style="list-style-type: none"> <li>• Check operation.</li> <li>• Correct if necessary.</li> </ul>	—

# 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

## **WARNING**

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

5

EAU45311

## **TIP**

This model is equipped with a lean angle sensor to stop the engine in case of a turnover. To start the engine after a turnover, be sure to turn the main switch to "OFF" and then to "ON". Failing to do so will prevent the engine from starting even though the engine will crank when pushing the start switch.

EAU73682

## Starting the engine

ECA10251

### **NOTICE**

**See page 5-3 for engine break-in instructions prior to operating the vehicle for the first time.**

1. Turn the key to "ON".  
The engine trouble warning light and coolant temperature warning light should come on for a few seconds, then go off. **NOTICE: If a warning light does not go off, have a Yamaha dealer check its electrical circuit.**<sup>[ECAT1171]</sup>
2. Close the throttle completely.
3. Start the engine by pushing the start switch while applying the front or rear brake. **NOTICE: For maximum engine life, never accelerate hard when the engine is cold!**<sup>[ECAT1310]</sup>  
If the engine does not 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.

EAU16762

## Starting off

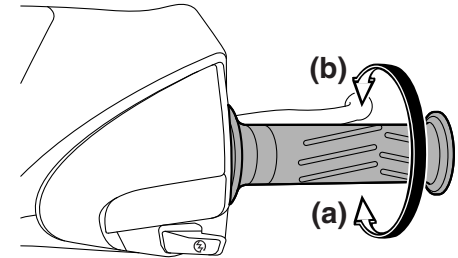
### TIP

Before starting off, allow the engine to warm up.

1. While pulling the rear brake lever with your left hand and holding the grab bar with your right hand, push the scooter off the centerstand.
2. Sit astride the seat, and then adjust the rear view mirrors.
3. Switch the turn signals on.
4. Check for oncoming traffic, and then slowly turn the throttle grip (on the right) in order to take off.
5. Switch the turn signals off.

EAU16782

## Acceleration and deceleration



The speed can be adjusted by opening and closing the throttle. To increase the speed, turn the throttle grip in direction (a). To reduce the speed, turn the throttle grip in direction (b).

# Operation and important riding points

## Braking

EAU16794

EWA10301

### **WARNING**

- **Avoid braking hard or suddenly (especially when leaning over to one side), otherwise the scooter may skid or overturn.**
- **Railroad crossings, streetcar rails, iron plates on road construction sites, and manhole covers become extremely slippery when wet. Therefore, slow down when approaching such areas and cross them with caution.**
- **Keep in mind that braking on a wet road is much more difficult.**
- **Ride slowly down a hill, as braking downhill can be very difficult.**

1. Close the throttle completely.
2. Apply both front and rear brakes simultaneously while gradually increasing the pressure.

## Tips for reducing fuel consumption

EAU16821

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

- Avoid high engine speeds during acceleration.
- Avoid high engine speeds with no load on the engine.
- Turn the engine off instead of letting it idle for an extended length of time (e.g., in traffic jams, at traffic lights or at railroad crossings).

## Engine break-in

EAU16831

There is never a more important period in the life of your engine than the period between 0 and 1000 km (600 mi). 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 1000 km (600 mi). 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.

EAUT3541

### **0–150 km (0–90 mi)**

Avoid prolonged operation above 1/3 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.

## 150–500 km (90–300 mi)

Avoid prolonged operation above 1/2 throttle.

## 500–1000 km (300–600 mi)

Avoid prolonged operation above 3/4 throttle. **NOTICE:** After 1000 km (600 mi) of operation, be sure to change the engine oil and final transmission oil, and to clean the oil strainer.  
[ECA16502]

## 1000 km (600 mi) and beyond

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.

EAU17214

## Parking

When parking, stop the engine, and then remove the key from the main switch.

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

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EAUS1824

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

The intervals given in the periodic maintenance charts should be simply considered as a general guide under normal riding conditions. However, depending on the weather, terrain, geographical location, and individual use, the maintenance intervals may need to be shortened.

## WARNING

EWA10322

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

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EWA15123

## WARNING

Turn off the engine when performing maintenance unless otherwise specified.

- A running engine has moving parts that can catch on body parts or clothing and electrical parts that can cause shocks or fires.
- Running the engine while servicing can lead to eye injury, burns, fire, or carbon monoxide poisoning – possibly leading to death. See page 1-2 for more information about carbon monoxide.

EWA10331

## WARNING

This scooter is designed for use on paved roads only. If this scooter is operated in abnormally dusty, muddy or wet conditions, the air filter element should be cleaned or replaced more frequently, otherwise rapid engine wear may result. Consult a Yamaha dealer for proper maintenance intervals.

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EWA15461

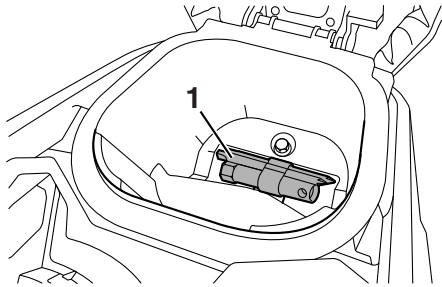
## WARNING

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

---

EAU17522

## Owner's tool kit



### 1. Owner's tool kit

The owner's tool kit is located inside the storage compartment under the seat. (See page 3-11.)

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

### **TIP** \_\_\_\_\_

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

# Periodic maintenance and adjustment

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EAU46872

## TIP

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- **The annual checks must be performed every year, except if a kilometer-based maintenance, or for the UK, a mileage-based maintenance, is performed instead.**
  - From 30000 km (17500 mi), repeat the maintenance intervals starting from 6000 km (3500 mi).
  - Items marked with an asterisk should be performed by a Yamaha dealer as they require special tools, data and technical skills.
-

# Periodic maintenance and adjustment

EAU46921

## Periodic maintenance chart for the emission control system

NO.	ITEM	CHECK OR MAINTENANCE JOB	ODOMETER READING					ANNUAL CHECK
			1000 km (600 mi)	6000 km (3500 mi)	12000 km (7000 mi)	18000 km (10500 mi)	24000 km (14000 mi)	
1	* Fuel line	<ul style="list-style-type: none"> <li>• Check fuel hoses for cracks or damage.</li> </ul>		√	√	√	√	√
2	Spark plug	<ul style="list-style-type: none"> <li>• Check condition.</li> <li>• Clean and regap.</li> </ul>		√		√		
		<ul style="list-style-type: none"> <li>• Replace.</li> </ul>			√		√	
3	* Valves	<ul style="list-style-type: none"> <li>• Check valve clearance.</li> <li>• Adjust.</li> </ul>		√	√	√	√	
4	* Fuel injection	<ul style="list-style-type: none"> <li>• Check engine idle speed.</li> </ul>	√	√	√	√	√	√
5	* Exhaust system	<ul style="list-style-type: none"> <li>• Check for leakage.</li> <li>• Tighten if necessary.</li> <li>• Replace gasket(s) if necessary.</li> </ul>		√	√	√	√	√

# Periodic maintenance and adjustment

EAU1771A

## General maintenance and lubrication chart

NO.	ITEM	CHECK OR MAINTENANCE JOB	ODOMETER READING					ANNUAL CHECK
			1000 km (600 mi)	6000 km (3500 mi)	12000 km (7000 mi)	18000 km (10500 mi)	24000 km (14000 mi)	
1	<b>Air filter element</b>	• Replace.				√		
2	<b>Air filter check hose</b>	• Clean.	√	√	√	√	√	
3	<b>V-belt case air filter element</b>	• Clean.		√	√	√	√	
		• Replace.				√		
4 *	<b>Front brake</b>	• Check operation, fluid level and vehicle for fluid leakage.	√	√	√	√	√	√
		• Replace brake pads.	Whenever worn to the limit					
5 *	<b>Rear brake</b>	• Check operation and adjust brake lever free play.	√	√	√	√	√	√
		• Replace brake shoes.	Whenever worn to the limit					
6 *	<b>Brake hose</b>	• Check for cracks or damage. • Check for correct routing and clamping.		√	√	√	√	√
		• Replace.	Every 4 years					
7 *	<b>Wheels</b>	• Check runout and for damage.		√	√	√	√	
8 *	<b>Tires</b>	• Check tread depth and for damage. • Replace if necessary. • Check air pressure. • Correct if necessary.		√	√	√	√	√
9 *	<b>Wheel bearings</b>	• Check bearings for looseness or damage.		√	√	√	√	
10 *	<b>Steering bearings</b>	• Check bearing play and steering for roughness.	√	√	√	√	√	
		• Lubricate with lithium-soap-based grease.	Every 50000 km (30000 mi)					
11 *	<b>Chassis fasteners</b>	• Make sure that all nuts, bolts and screws are properly tightened.		√	√	√	√	√



# Periodic maintenance and adjustment

NO.	ITEM	CHECK OR MAINTENANCE JOB	ODOMETER READING					ANNUAL CHECK
			1000 km (600 mi)	6000 km (3500 mi)	12000 km (7000 mi)	18000 km (10500 mi)	24000 km (14000 mi)	
12	* <b>Front brake lever pivot shaft</b>	• Lubricate with lithium-soap-based grease.		√	√	√	√	√
13	* <b>Rear brake lever pivoting points</b>	• Lubricate with silicone grease.		√	√	√	√	√
14	<b>Centerstand</b>	• Check operation. • Lubricate.		√	√	√	√	√
15	* <b>Front fork</b>	• Check operation and for oil leakage.		√	√	√	√	
16	* <b>Shock absorber assembly</b>	• Check operation and shock absorber for oil leakage.		√	√	√	√	
17	<b>Engine oil</b>	• Change. (See page 3-2.)	√	When the oil change indicator comes on [5000 km (3000 mi) after the initial 1000 km (600 mi) and every 6000 km (3500 mi) thereafter]				
		• Check oil level and vehicle for oil leakage.		Every 3000 km (1800 mi)				
18	<b>Engine oil strainer</b>	• Clean.	√	5000 km (3000 mi) after the initial 1000 km (600 mi) and every 6000 km (3500 mi) thereafter				
19	* <b>Cooling system</b>	• Check coolant level and vehicle for coolant leakage.		√	√	√	√	√
		• Change coolant.		Every 3 years				
20	<b>Final transmission oil</b>	• Check vehicle for oil leakage.	√	√		√		
		• Change.	√		√		√	
21	* <b>V-belt</b>	• Replace.	When the V-belt replacement indicator comes on					
22	* <b>Front and rear brake switches</b>	• Check operation.	√	√	√	√	√	√
23	<b>Moving parts and cables</b>	• Lubricate.		√	√	√	√	√

# Periodic maintenance and adjustment

NO.	ITEM	CHECK OR MAINTENANCE JOB	ODOMETER READING					ANNUAL CHECK
			1000 km (600 mi)	6000 km (3500 mi)	12000 km (7000 mi)	18000 km (10500 mi)	24000 km (14000 mi)	
24	*	<b>Throttle grip</b>		√	√	√	√	√
25	*	<b>Lights, signals and switches</b>	√	√	√	√	√	√

EAUT2711

## TIP

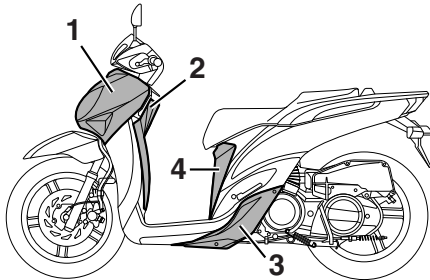
6

- Air filter and V-belt filter
  - This model's air filter is equipped with a disposable oil-coated paper element, which must not be cleaned with compressed air to avoid damaging it.
  - The air filter element needs to be replaced and V-belt filter needs to be serviced more frequently when riding in unusually wet or dusty areas.
- Hydraulic brake service
  - After disassembling the brake master cylinder and caliper, always change the fluid. Regularly check the brake fluid level and fill the reservoir as required.
  - Every two years replace the internal components of the brake master cylinder and caliper, and change the brake fluid.
  - Replace the brake hose every four years and if cracked or damaged.

EAU18724

## Removing and installing the cowling and panels

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



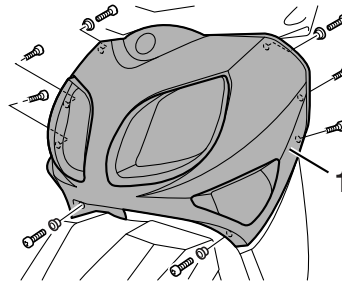
1. Cowling A
2. Panel A
3. Panel B
4. Panel C

EAUT3561

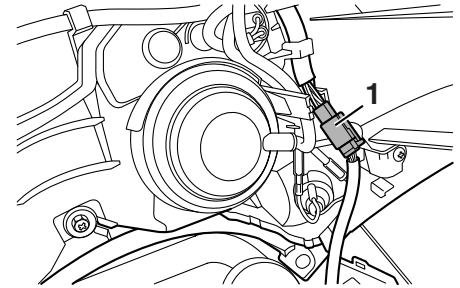
## Cowling A

### To remove the cowling

1. Remove the cowling screws and bolts.



1. Cowling A
2. Disconnect the coupler shown, and then take the cowling off.



1. Coupler

### To install the cowling

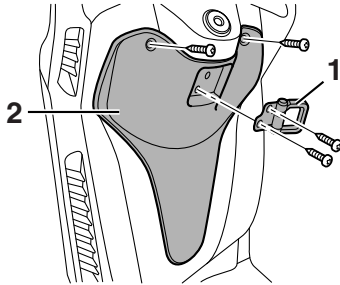
1. Connect the coupler.
2. Place the cowling in the original position.
3. Install the cowling screws and bolts.

# Periodic maintenance and adjustment

EAUT4881

## Panel A

### To remove the panel



1. Luggage holder
2. Panel A

1. Remove the luggage holder by removing the screws.
2. Remove the screws, and then pull the panel outward.

### To install the panel

1. Place the panel in the original position, and then install the screws.
2. Install the luggage holder by installing the screws, and then tighten the screws to the specified torque.

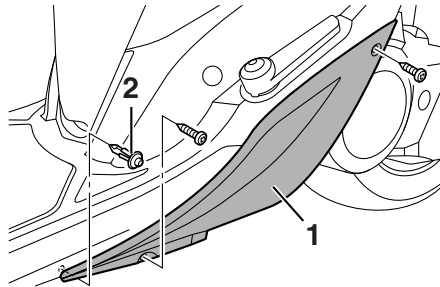
### **Tightening torque:**

luggage holder screws:  
7 Nm (0.7 m·kgf, 5.1 ft·lbf)

## Panel B

### To remove the panel

Remove the screws and quick fastener, and then take the panel off.



1. Panel B
2. Quick fastener

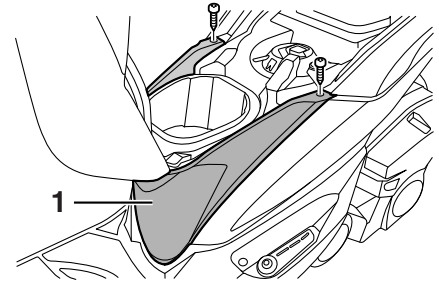
### To install the panel

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

## Panel C

### To remove the panel

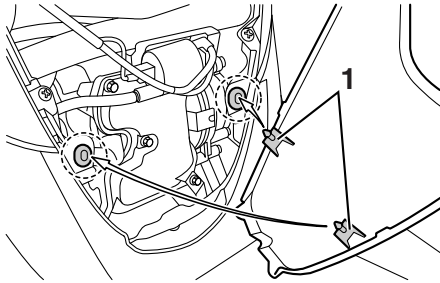
1. Open the seat. (See page 3-11.)
2. Remove the screw, and then pull the panel off as shown.



1. Panel C

# Periodic maintenance and adjustment

## To install the panel



1. Projection

1. Insert the projections on the panel into the slots as shown, and then install the screws.
2. Close the seat.

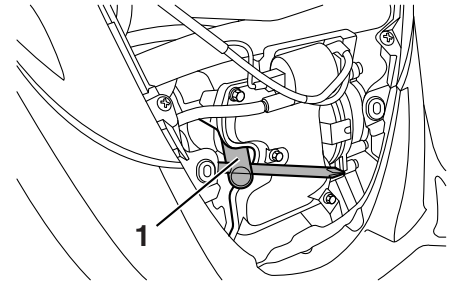
EAUT1837

## Checking the spark plug

The spark plug is an important engine component, which is easy to check. Since heat and deposits will cause any spark plug to slowly erode, the spark plug 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.

### To remove the spark plug

1. Place the vehicle on the center-stand.
2. Remove panel C. (See page 6-8.)
3. Remove the spark plug cap.
4. Remove the spark plug as shown, with the spark plug wrench included in the owner's tool kit.



1. Spark plug wrench

### To check the spark plug

1. Check that the porcelain insulator around the center electrode of the spark plug is a medium-to-light tan (the ideal color when the vehicle is ridden normally).

### TIP

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.

2. Check the spark plug for electrode erosion and excessive carbon or other deposits, and replace it if

# Periodic maintenance and adjustment

EAUT3703

necessary.

## Specified spark plug:

NGK / CPR9EA-9

3. Measure the spark plug gap with a wire thickness gauge and, if necessary, adjust the gap to specification.

## Spark plug gap:

0.8–0.9 mm (0.031–0.035 in)

## To install the spark plug

1. Clean the surface of the spark plug gasket and its mating surface, and then wipe off any grime from the spark plug threads.
2. Install the spark plug with the spark plug wrench, and then tighten it to the specified torque.

## Tightening torque:

Spark plug:

13 Nm (1.3 m·kgf, 9.4 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.

3. Install the spark plug cap.
4. Install the panel.

## Engine oil and oil strainer

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

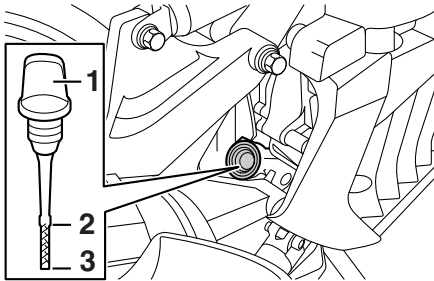
## To check the engine oil level

1. Place the scooter on the centerstand. 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, remove the oil filler cap, wipe the dipstick clean, insert it back into the oil filler hole (without screwing it in), and then remove it again to check the oil level.

## TIP

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

# Periodic maintenance and adjustment

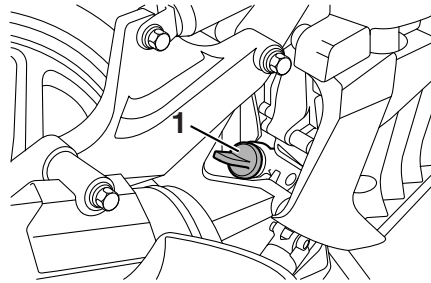


1. Oil filler cap
2. Maximum level mark
3. Minimum level mark
4. If the engine oil is below the minimum level mark, add sufficient oil of the recommended type to raise it to the correct level.
5. Insert the dipstick into the oil filler hole, and then tighten the oil filler cap.

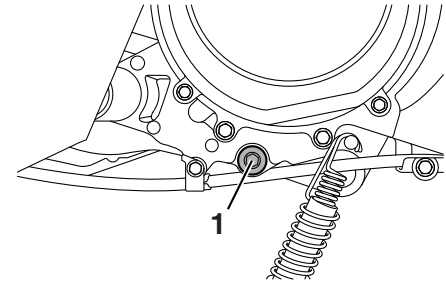
## To change the engine oil and clean the oil strainer

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

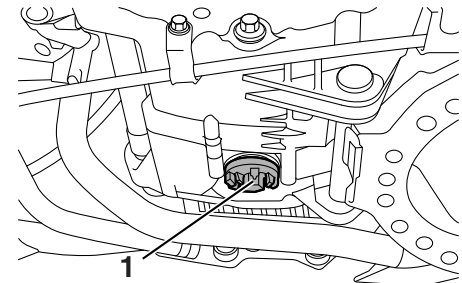
3. Remove the engine oil filler cap and the engine oil drain bolts A and B to drain the oil from the crankcase. **NOTICE:** When removing the engine oil drain bolt B, the O-ring, compression spring, and oil strainer will fall out. Take care not to lose these parts.<sup>[ECAT1022]</sup>



1. Oil filler cap



1. Engine oil drain bolt A



1. Engine oil drain bolt B
4. Clean the oil strainer with solvent, and then check it for damage and replace it if necessary.
5. Check the O-ring for damage and replace it if necessary.
6. Install the oil strainer, compression

# Periodic maintenance and adjustment

EAU20067

spring, O-ring and engine oil drain bolt B.

## TIP \_\_\_\_\_

Make sure that the O-ring is properly seated.

7. Install engine oil drain bolt A, and then tighten both drain bolts to their specified torques.

### Tightening torque:

Engine oil drain bolt A:  
20 Nm (2.0 m·kgf, 14.5 ft·lbf)  
Engine oil drain bolt B:  
32 Nm (3.2 m·kgf, 23.1 ft·lbf)

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

### Recommended engine oil:

See page 8-1.

### Oil change quantity:

1.10 L (1.16 US qt, 0.97 Imp.qt)

ECA11671

## NOTICE \_\_\_\_\_

- Do not use oils with a diesel specification of "CD" or oils of a higher quality than specified. In

addition, do not use oils labeled "ENERGY CONSERVING II" or higher.

- Be sure no foreign material enters the crankcase.

9. 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.
10. Turn the engine off, and then check the oil level and correct it if necessary.

## To reset the oil change indicator and oil change tripmeter

### TIP \_\_\_\_\_

The oil change indicator and oil change tripmeter can be reset when "OIL CHANGE" and "OIL TRIP" appear in the multi-function display. (See page 3-3.)

## Final transmission oil

The final transmission case must be checked for oil leakage before each ride. If any leakage is found, have a Yamaha dealer check and repair the scooter. In addition, the final transmission oil must be changed as follows at the intervals specified in the periodic maintenance and lubrication chart.

1. Start the engine, warm up the final transmission oil by riding the scooter for several minutes, and then stop the engine.
2. Place the scooter on the center-stand.
3. Place an oil pan under the final transmission case to collect the used oil.
4. Remove the final transmission oil filler cap and its O-ring from the final transmission case.



# Periodic maintenance and adjustment

EAU20071

## Coolant

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

EAUT3693

### To check the coolant level

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

1. Place the vehicle on the center-stand.

### TIP

- The coolant level must be checked on a cold engine since the level varies with engine temperature.
  - Make sure that the vehicle is positioned straight up when checking the coolant level. A slight tilt to the side can result in a false reading.
- 
2. Open the seat. (See page 3-11.)
  3. Check the coolant level in the coolant reservoir.

then tighten the bolt to the specified torque.

### Tightening torque:

Final transmission oil drain bolt:  
20 Nm (2.0 m-kgf, 14.5 ft-lbf)

7. Refill with the specified amount of the recommended final transmission oil. **WARNING! Make sure that no foreign material enters the final transmission case. Make sure that no oil gets on the tire or wheel.**<sup>[EWA11312]</sup>

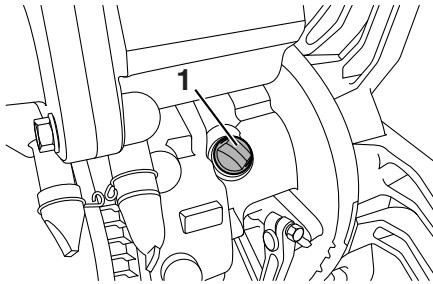
### Recommended final transmission oil:

See page 8-1.

### Oil quantity:

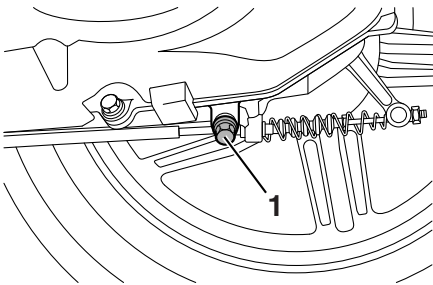
0.20 L (0.21 US qt, 0.18 Imp.qt)

8. Install the final transmission oil filler cap and its new O-ring, and then tighten the oil filler cap.
9. Check the final transmission case for oil leakage. If oil is leaking, check for the cause.



1. Final transmission oil filler cap

5. Remove the final transmission oil drain bolt and its gasket to drain the oil from the final transmission case.



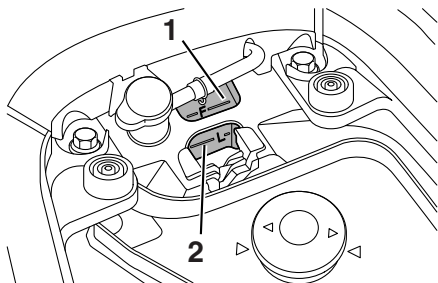
1. Final transmission oil drain bolt

6. Install the final transmission oil drain bolt and its new gasket, and

# Periodic maintenance and adjustment

## TIP

The coolant should be between the minimum and maximum level marks.



1. Maximum level mark
2. Minimum level mark

4. If the coolant is at or below the minimum level mark, remove the reservoir cap. (See page 3-11.)

**WARNING! Remove only the coolant reservoir cap. Never attempt to remove the radiator cap when the engine is hot.**<sup>[EWA15162]</sup>

5. Add coolant or distilled water to raise the coolant to the maximum level mark, and install the coolant reservoir cap and the panel.  
**NOTICE: If coolant is not avail-**

**able, use distilled water or soft tap water instead. Do not use hard water or salt water since it is harmful to the engine. If water has been used instead of coolant, replace it with coolant as soon as possible, otherwise the cooling system will not be protected against frost and corrosion. If water has been added to the coolant, have a Yamaha dealer check the antifreeze content of the coolant as soon as possible, otherwise the effectiveness of the coolant will be reduced.**<sup>[ECA10473]</sup>

hot.<sup>[EWA10382]</sup>

**Coolant reservoir capacity:**  
0.25 L (0.26 US qt, 0.22 Imp.qt)

6. Close the seat.

EAU33032

## Changing the coolant

The coolant must be changed at the intervals specified in the periodic maintenance and lubrication chart. Have a Yamaha dealer change the coolant.

**WARNING! Never attempt to remove the radiator cap when the engine is**

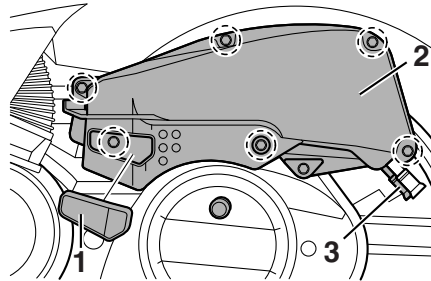
EAUT3551

## Air filter and V-belt case air filter elements

The air filter and V-belt case air filter elements should be cleaned or replaced at the intervals specified in the periodic maintenance and lubrication chart. Check both filter elements more frequently if you are riding in unusually wet or dusty areas. The air filter check hose must be frequently checked and cleaned if necessary.

### Replacing the air filter element

1. Place the scooter on the center-stand.
2. Remove the screw cover and air filter case cover by removing the screws.



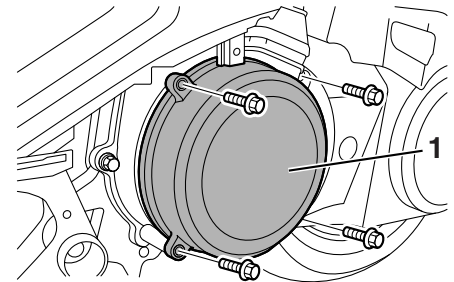
1. Screw cover
  2. Air filter case cover
  3. Air filter case drain hose
3. Pull the air filter element out.
  4. Insert a new air filter element into the air filter case. **NOTICE: Make sure that the air filter element is properly seated in the air filter case. The engine should never be operated without the air filter element installed, otherwise the piston(s) and/or cylinder(s) may become excessively worn.**<sup>[ECA10482]</sup>
  5. Install the air filter case cover by installing the screws and the screw cover.

### Cleaning the air filter check hose

1. Check the hose on the rear side of the air filter case for accumulated dirt or water.
2. If dirt or water is visible, remove the hose, clean it, and then install it.

### Cleaning the V-belt case air filter element

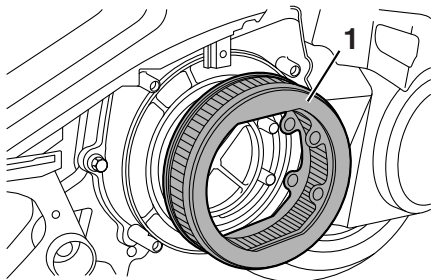
1. Remove panel B. (See page 6-9.)
2. Remove the V-belt air filter case cover by removing the bolts.



1. V-belt air filter case cover
3. Pull the air filter element out, and then clean it with compressed air. **NOTICE: To avoid damaging the air filter element, handle it gen-**

# Periodic maintenance and adjustment

tly and carefully, and do not twist it.<sup>[ECA10522]</sup>



1. V-belt case air filter element

4. Insert the element into the air filter case.
5. Install the V-belt air filter case cover by installing the bolts.
6. Install the panel.

EAU44735

## Checking the engine idling speed

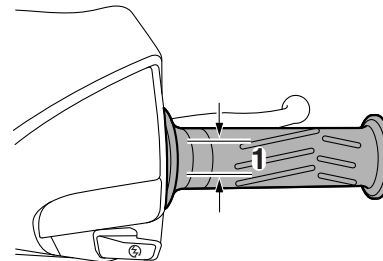
Check the engine idling speed and, if necessary, have it corrected by a Yamaha dealer.

**Engine idling speed:**  
1600–1800 r/min

EAU21386

## Checking the throttle grip free play

Measure the throttle grip free play as shown.



1. Throttle grip free play

**Throttle grip free play:**  
3.0–5.0 mm (0.12–0.20 in)

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

# Periodic maintenance and adjustment

EAU21402

## Valve clearance

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

EAU61710

## Tires

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.

EWA10504



**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, passenger, cargo, and accessories approved for this model.**

**Tire air pressure (measured on cold tires):**

**Up to 90 kg (198 lb) load:**

Front:

175 kPa (1.75 kgf/cm<sup>2</sup>, 25 psi)

Rear:

200 kPa (2.00 kgf/cm<sup>2</sup>, 29 psi)

**90 kg (198 lb) to maximum load:**

Front:

175 kPa (1.75 kgf/cm<sup>2</sup>, 25 psi)

Rear:

225 kPa (2.25 kgf/cm<sup>2</sup>, 33 psi)

**Maximum load\*:**

179 kg (395 lb)

\* Total weight of rider, passenger, cargo and accessories

EWA10512

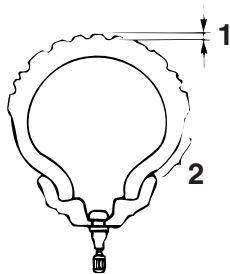


**WARNING**

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

# Periodic maintenance and adjustment

## Tire inspection



1. Tire tread depth
2. Tire sidewall

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

**Minimum tire tread depth (front and rear):**

1.6 mm (0.06 in)

### TIP

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

EWA10472

### WARNING

- Have a Yamaha dealer replace excessively worn tires. Besides being illegal, operating the vehicle 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 to do so.
- Ride at moderate speeds after changing a tire since the tire surface must first be “broken in” for it to develop its optimal characteristics.

### Tire information

This model is equipped with tubeless tires and tire air valves.

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.

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.

#### Front tire:

Size:

100 / 80 - 16M/C 50P

Manufacturer/model:

DURO / DM1157F

#### Rear tire:

Size:

120 / 80 - 16M/C 60P

Manufacturer/model:

DURO / DM1157

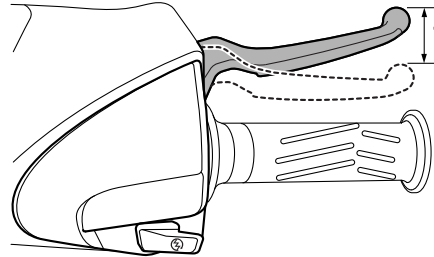
## Cast wheels

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

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

EAU21963

## Checking the front brake lever free play



1. Front brake lever free play

Periodically check the brake lever free play. If the free play exceeds 10 mm (0.39 in), have a Yamaha dealer adjust it.

EAUS2002

EWA10642

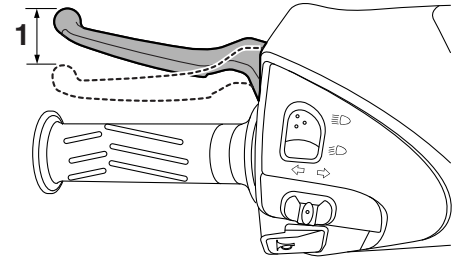


**WARNING**

**An incorrect brake lever free play indicates a hazardous condition in the brake system. Do not operate the vehicle until the brake system has been checked or repaired by a Yamaha dealer.**

## Adjusting the rear brake lever free play

Measure the rear brake lever free play as shown.



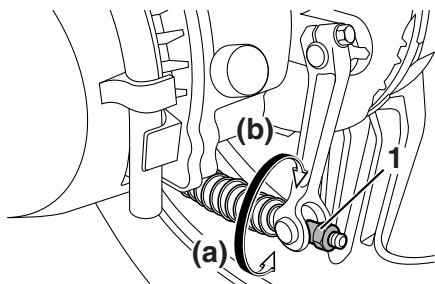
1. Rear brake lever free play

**Rear brake lever free play:**  
10.0–15.0 mm (0.39–0.59 in)

Periodically check the brake lever free play and, if necessary, adjust it as follows.

To increase the brake lever free play, turn the adjusting nut at the brake shoe plate in direction (a). To decrease the brake lever free play, turn the adjusting nut in direction (b).

# Periodic maintenance and adjustment



1. Rear brake lever free play adjusting nut

EWA10651

## **⚠ WARNING**

If proper adjustment cannot be obtained as described, have a Yamaha dealer make this adjustment.

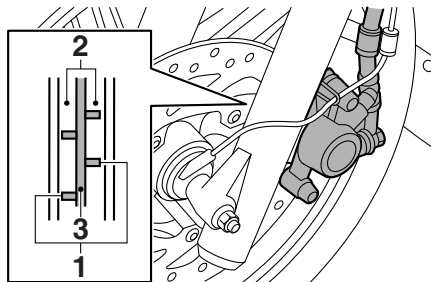
## Checking the front brake pads and rear brake shoes

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

EAU22421



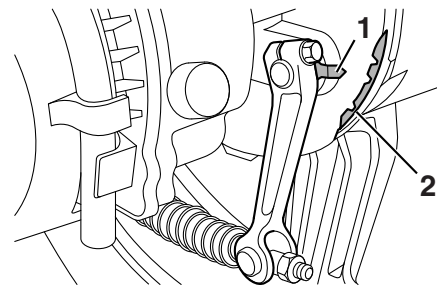
1. Brake pad wear indicator groove
2. Brake pad
3. Brake disc

Each front brake pad is provided with a wear indicator groove, which allows you to check the brake pad wear without having to disassemble the brake. To check the brake pad wear, check the wear indicator groove. If a brake

pad has worn to the point that the wear indicator groove has almost disappeared, have a Yamaha dealer replace the brake pads as a set.

### Rear brake shoes

EAU22541



1. Wear indicator
2. Wear limit line

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



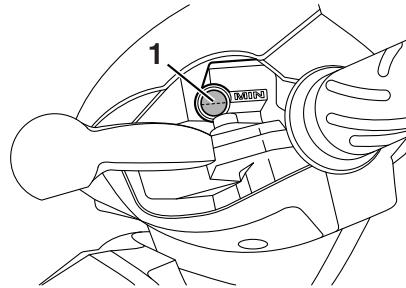
# Periodic maintenance and adjustment

set.

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. Minimum level mark

**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.

ECA17641

### **NOTICE**

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

As the brake pads wear, it is normal for the brake fluid level to gradually go down. A low brake fluid level may indicate worn brake pads and/or brake system leakage; therefore, be sure to

# Periodic maintenance and adjustment

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.

## Changing the brake fluid

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.

EAU22724

EAU23098

## Checking and lubricating the cables

The operation of all control cables and the condition of the cables should be checked before each ride, and the cables and cable ends should be lubricated if necessary. If a cable is damaged or does not move smoothly, have a Yamaha dealer check or replace it. **WARNING! Damage to the outer housing of cables may result in internal rusting and cause interference with cable movement. Replace damaged cables as soon as possible to prevent unsafe conditions.**<sup>[EWA10712]</sup>

### Recommended lubricant:

Yamaha cable lubricant or other suitable cable lubricant

# Periodic maintenance and adjustment

EAU23115

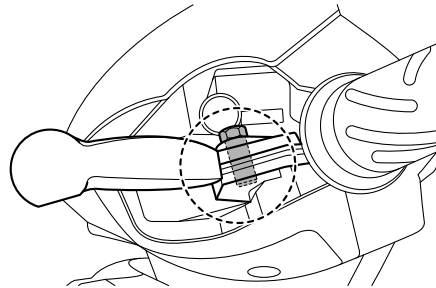
## Checking and lubricating the throttle grip and cable

The operation of the throttle grip should be checked before each ride. In addition, the cable should be lubricated 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.

## Lubricating the front and rear brake levers

EAUT3571

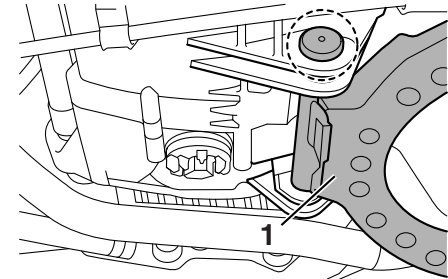
### Front and rear brake levers



The pivoting points of the front and rear brake levers should be lubricated by a Yamaha dealer at the intervals specified in the periodic maintenance and lubrication chart.

EAU23193

## Checking and lubricating the centerstand



### 1. Centerstand

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

EWA11302

### **WARNING**

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

# Periodic maintenance and adjustment

**Recommended lubricant:**  
Lithium-soap-based grease

EAU23273

## Checking the front fork

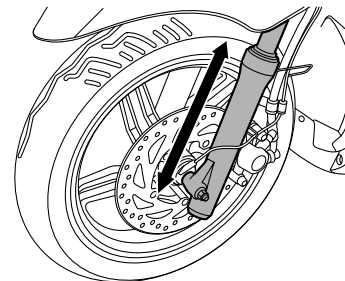
The condition and operation of the front fork must be checked as follows at the intervals specified in the periodic maintenance and lubrication chart.

### 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.**<sup>[EWA10752]</sup>
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**

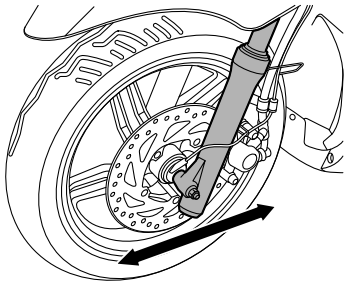
**If any damage is found or the front fork does not operate smoothly, have a Yamaha dealer check or repair it.**

EAU45512

## 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 the vehicle on the centerstand. **WARNING! To avoid injury, securely support the vehicle so there is no danger of it falling over.**<sup>[EWA10752]</sup>
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.



EAU23292

## Checking the wheel bearings

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

EAUT3762

## Battery

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 always shield your eyes when working near batteries. In case of contact, administer the following FIRST AID.**
  - **EXTERNAL:** Flush with plenty of water.
  - **INTERNAL:** Drink large quantities of water or milk and immediately call a physician.
  - **EYES:** Flush with water for 15 minutes and seek prompt medical attention.
- **Batteries produce explosive hydrogen gas. Therefore, keep**

# Periodic maintenance and adjustment

sparks, flames, cigarettes, etc., away from the battery and provide sufficient ventilation when charging it in an enclosed space.

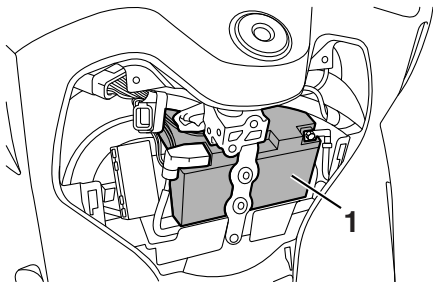
- **KEEP THIS AND ALL BATTERIES OUT OF THE REACH OF CHILDREN.**

ECA10621

## NOTICE

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

The battery is located behind panel A. Remove the panel to access the battery. (See page 6-8.)



1. 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.**<sup>[ECA16303]</sup>
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 installing it. **NOTICE: When installing the battery, be sure the key is turned to “OFF”, then connect the positive lead before connecting the negative lead.**<sup>[ECA16841]</sup>
4. After installing the battery, make sure that the battery leads are properly connected to the battery terminals.
5. Turn the key from “ON” to “OFF” three times in three-second intervals to initialize the idle speed control system.

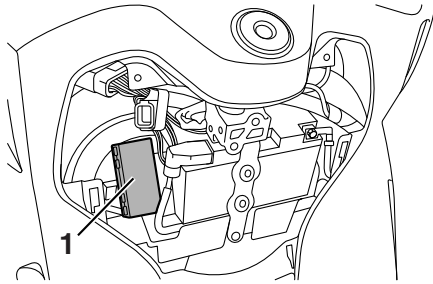
ECA16531

## NOTICE

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

## Replacing the fuses

EAUT3752



1. Fuse box

The fuse box is located beside the battery compartment under panel A. (See page 6-8.)

If a fuse is blown, replace it as follows.

1. Turn the key to "OFF" and turn off the electrical circuit in question.
2. Remove the blown fuse, and then install a new fuse of the specified amperage. **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.**<sup>[EWA15132]</sup>

### Specified fuses:

- Main fuse:  
20.0 A
- Ignition fuse:  
7.5 A
- Signaling system fuse:  
15.0 A
- Headlight fuse:  
15.0 A
- Backup fuse:  
7.5 A

### TIP

After removing and installing the main fuse, be sure to turn the main switch from "ON" to "OFF" three times in three-second intervals to initialize the idle speed control system.

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

EAUT3661

## Replacing the headlight bulb

This model is equipped with a halogen bulb headlight. If a headlight bulb burns out, replace it as follows.

ECA10651

### NOTICE

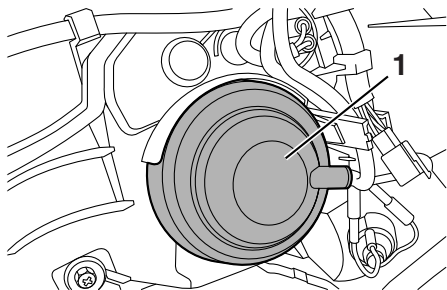
Take care not to damage the following parts:

- **Headlight bulb**  
Do not touch the glass part of the headlight bulb to keep it free from oil, otherwise the transparency of the glass, the luminosity of the bulb, and the bulb life will be adversely affected. Thoroughly clean off any dirt and fingerprints on the headlight bulb using a cloth moistened with alcohol or thinner.
- **Headlight lens**  
Do not affix any type of tinted film or stickers to the headlight lens.  
Do not use a headlight bulb of a wattage higher than specified.

1. Remove cowling A together with the headlight unit. (See page 6-8.)

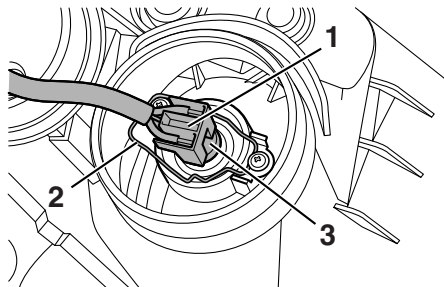
# Periodic maintenance and adjustment

2. Remove the bulb cover, and then disconnect the headlight coupler.



1. Headlight bulb cover

3. Unhook the headlight bulb holder, and then remove the burnt-out bulb.



1. Headlight coupler  
2. Headlight bulb holder  
3. Headlight bulb

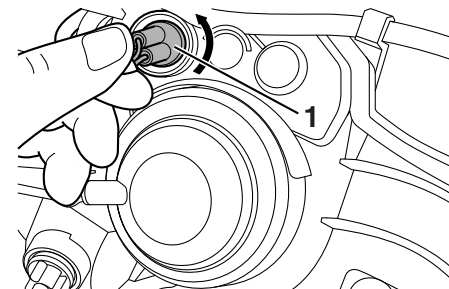
4. Place a new headlight bulb into position, and then secure it with the bulb holder.
5. Connect the coupler, and then install the headlight bulb cover.
6. Install the cowling together with the headlight unit.
7. Have a Yamaha dealer adjust the headlight beam if necessary.

EAUT3641

## Replacing an auxiliary light bulb

If an auxiliary light bulb burns out, replace it as follows.

1. Remove cowling A. (See page 6-8.)
2. Remove the socket (together with the bulb) by turning it counter-clockwise.



1. Auxiliary light bulb socket

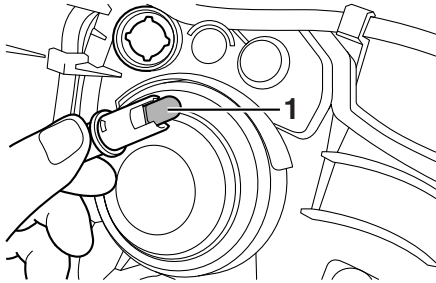
3. Remove the burnt out bulb by pulling it out.



# Periodic maintenance and adjustment

EAU24182

EAUT3652



## Tail/brake light

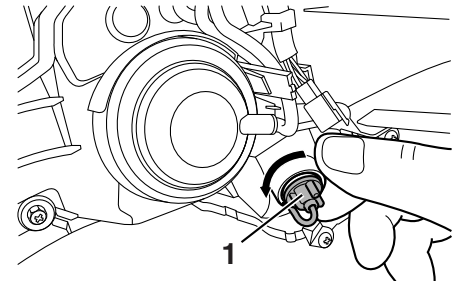
This model is equipped with an LED-type tail/brake light. If the tail/brake light does not come on, have a Yamaha dealer check it.

1. Auxiliary light bulb
4. Insert a new bulb into the socket.
5. Install the socket (together with the bulb) by turning it clockwise.
6. Install the cowling.

## Replacing a front turn signal light bulb

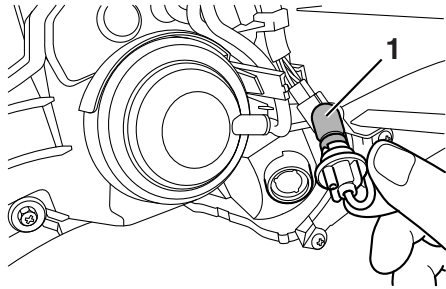
If a front turn signal light burns out, replace it as follows.

1. Remove cowling A. (See page 6-8.)
2. Remove the socket (together with the bulb) by turning it counter-clockwise.



1. Turn signal light bulb socket
3. Remove the burnt out bulb by pushing it in and turning it counter-clockwise.

# Periodic maintenance and adjustment



1. Turn signal light bulb

4. Insert a new bulb into the socket, push it in, and then turn it clockwise until it stops.

ECAU0081

## NOTICE

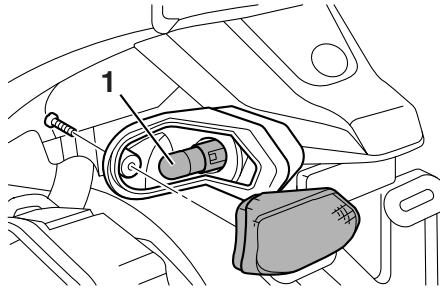
If a turn signal light bulb of different wattage than recommended is used, the turn signal light flashing may be affected.

5. Install the socket (together with the bulb) by turning it clockwise.
6. Install the cowling.

EAUT3671

## Replacing a rear turn signal light bulb

1. Remove the turn signal lens by removing the screw.



1. Turn signal light bulb

2. Remove the burnt-out bulb by pushing it in and turning it counter-clockwise.
3. Insert a new bulb into the socket, push it in, and then turn it clockwise until it stops.

ECAU0081

## NOTICE

If a turn signal light bulb of different wattage than recommended is used, the turn signal light flashing may be affected.

4. Install the lens by installing the screw. **NOTICE:** Do not over-tighten the screw, otherwise the lens may break.<sup>[ECA11192]</sup>

EAU24331

## License plate light

If the license plate light does not come on, have a Yamaha dealer check the electrical circuit or replace the bulb.

EAU25882

## Troubleshooting

Although Yamaha scooters 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 charts represent quick and easy procedures for checking these vital systems yourself. However, should your scooter require any repair, take it to a Yamaha dealer, whose skilled technicians have the necessary tools, experience, and know-how to service the scooter 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



**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.**

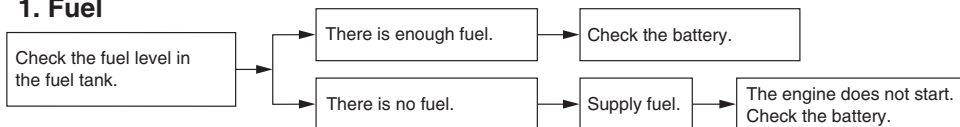
# Periodic maintenance and adjustment

EAU42706

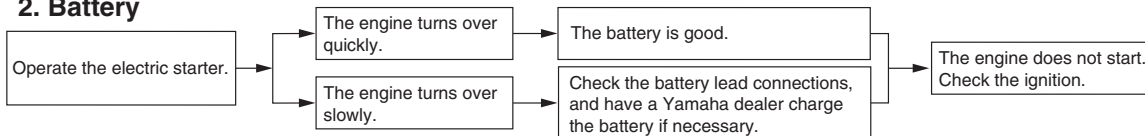
## Troubleshooting charts

### Starting problems or poor engine performance

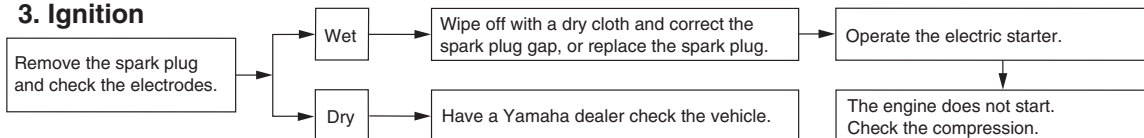
#### 1. Fuel



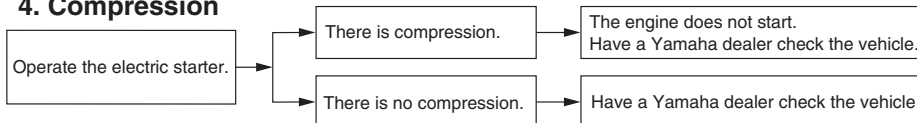
#### 2. Battery



#### 3. Ignition



#### 4. Compression



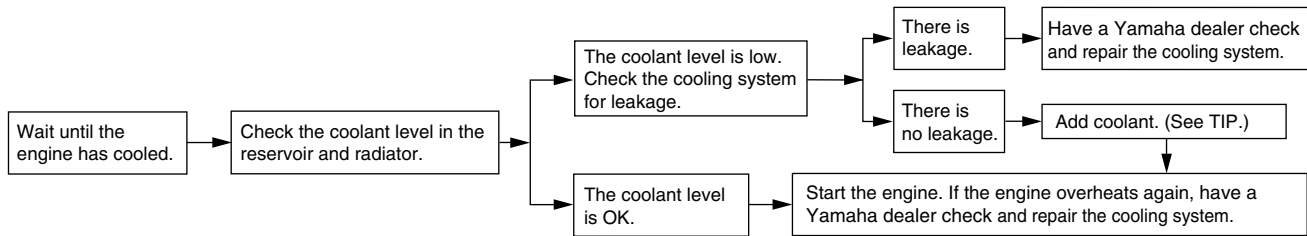
# Periodic maintenance and adjustment

## Engine overheating

EWAT1041

### **WARNING**

- Do not remove the radiator cap when the engine and radiator are hot. Scalding hot fluid and steam may be blown out under pressure, which could cause serious injury. Be sure to wait until the engine has cooled.
- Place a thick rag, like a towel, over the radiator cap, and then slowly rotate the cap counterclockwise to the detent to allow any residual pressure to escape. When the hissing sound has stopped, press down on the cap while turning it counterclockwise, and then remove the cap.



### **TIP**

If coolant is not available, tap water can be temporarily used instead, provided that it is changed to the recommended coolant as soon as possible.

# Scooter care and storage

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## Matte color caution

EAU37834

ECA15193

### **NOTICE**

Some models are equipped with matte colored finished parts. Be sure to consult a Yamaha dealer for advice on what products to use before cleaning the vehicle. Using a brush, harsh chemical products or cleaning compounds when cleaning these parts will scratch or damage their surface. Wax also should not be applied to any matte colored finished parts.

## Care

EAU26096

While the open design of a scooter 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 scooter. Frequent and proper care does not only comply with the terms of the warranty, but it will also keep your scooter 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 and wheel axles. Always rinse the dirt and degreaser off with water.

## Cleaning

ECA10784

### **NOTICE**

- Avoid using strong acidic wheel cleaners, especially on spoked wheels. If such products are used on hard-to-remove dirt, do not leave the cleaner on the affected area any longer than instructed. Also, thoroughly rinse the area off with water, immediately dry it, and then apply a corrosion protection spray.
- Improper cleaning can damage plastic parts (such as cowlings, panels, windshields, headlight lenses, meter lenses, etc.) and the mufflers. Use only a soft, clean cloth or sponge with water to clean plastic. However, if the plastic parts cannot be thoroughly cleaned with water, diluted mild detergent with water may be used. Be sure to rinse off any detergent residue using

plenty of water, as it is harmful to plastic parts.

- Do not use any harsh chemical products on plastic parts. Be sure to avoid using cloths or sponges which have been in contact with strong or abrasive cleaning products, solvent or thinner, fuel (gasoline), rust removers or inhibitors, brake fluid, antifreeze or electrolyte.
- Do not use high-pressure washers or steam-jet cleaners since they cause water seepage and deterioration in the following areas: seals (of wheel and swing-arm bearings, fork and brakes), electric components (couplers, connectors, instruments, switches and lights), breather hoses and vents.
- For scooters equipped with a windshield: Do not use strong cleaners or hard sponges as they will cause dulling or scratching. Some cleaning compounds for plastic may leave scratches on the windshield. Test the product on a small hid-

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

### After normal use

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

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

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

### **TIP**

Salt sprayed on roads in the winter may

remain well into spring.

1. Clean the scooter 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.**<sup>[ECA10792]</sup>
2. Apply a corrosion protection spray on all metal, including chrome- and nickel-plated, surfaces to prevent corrosion.

### Cleaning the windshield

Avoid using any alkaline or strong acid cleaner, gasoline, brake fluid, or any other solvent. Clean the windshield with a cloth or sponge dampened with a mild detergent, and then wash it off thoroughly with water. For additional cleaning, use Yamaha Windshield Cleaner or another high-quality windshield cleaner. Some cleaning compounds for plastics may leave scratches on the windshield. Before using such cleaners, test an area of the windshield which does not affect your visibility and which cannot be easily recognized.

# Scooter care and storage

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## After cleaning

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

EWA10943



## 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 operating the scooter test its 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.
- Washing, rainy weather or humid climates can cause the headlight lens to fog. Turning the headlight on for a short period of time will

help remove the moisture from the lens.

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## Storage

EAU36564

### Short-term

Always store your scooter 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 scooter.

ECA10821

### NOTICE

- **Storing the scooter 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 scooter for several months:

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

2. Fill up the fuel tank and add fuel stabilizer (if available) to prevent the fuel tank from rusting and the fuel from deteriorating.
3. 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.)
  - e. Remove the spark plug cap from the spark plug, and then install the spark plug and the spark plug cap. **WARNING! To prevent damage or injury from sparking, make sure to ground the spark plug electrodes while turning the engine over.**<sup>[EWA10952]</sup>
4. Lubricate all control cables and the pivoting points of all levers and pedals as well as of the sidestand/centerstand.
5. Check and, if necessary, correct the tire air pressure, and then lift the scooter 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.
6. Cover the muffler outlet with a plastic bag to prevent moisture from entering it.
7. Remove the battery and fully charge it. Store it in a cool, dry place and charge it once a month. Do not store the battery in an excessively cold or warm place [less than 0 °C (30 °F) or more than 30 °C (90 °F)]. For more information on storing the battery, see page 6-26.

### TIP

Make any necessary repairs before storing the scooter.

# Specifications

## Dimensions:

- Overall length:  
1990 mm (78.3 in)
- Overall width:  
690 mm (27.2 in)
- Overall height:  
1135 mm (44.7 in)
- Seat height:  
785 mm (30.9 in)
- Wheelbase:  
1385 mm (54.5 in)
- Ground clearance:  
140 mm (5.51 in)

## Weight:

- Curb weight:  
142 kg (313 lb)

## Engine:

- Combustion cycle:  
4-stroke
- Cooling system:  
Liquid cooled
- Valve train:  
SOHC
- Number of cylinders:  
Single cylinder
- Displacement:  
155 cm<sup>3</sup>
- Bore × stroke:  
58.0 × 58.7 mm (2.28 × 2.31 in)
- Compression ratio:  
11.0 : 1
- Starting system:  
Electric starter

## Lubrication system:

Wet sump

## Engine oil:

- Recommended brand:  
YAMALUBE
- Type:  
SAE 10W-40
- Recommended engine oil grade:  
API service SG type or higher, JASO standard MA or MB
- Engine oil quantity:  
Periodic oil change:  
1.10 L (1.16 US qt, 0.97 Imp.qt)

## Final transmission oil:

- Type:  
SAE 10W-30 type SE motor oil
- Quantity:  
0.20 L (0.21 US qt, 0.18 Imp.qt)
- Coolant reservoir (up to the maximum level mark):  
0.25 L (0.26 US qt, 0.22 Imp.qt)
- Radiator (including all routes):  
0.56 L (0.59 US qt, 0.49 Imp.qt)

## Air filter:

- Air filter element:  
Oil-coated paper element
- V-belt filter element:  
Dry element

## Fuel:

- Recommended fuel:  
Regular unleaded gasoline only
- Fuel tank capacity:  
8.0 L (2.1 US gal, 1.8 Imp.gal)

## Fuel injection:

- Throttle body:  
ID mark:  
52S1 01

## Spark plug(s):

- Manufacturer/model:  
NGK / CPR9EA-9
- Spark plug gap:  
0.8–0.9 mm (0.031–0.035 in)

## Clutch:

- Clutch type:  
Dry, centrifugal automatic

## Transmission:

- Primary reduction ratio:  
1.000
- Final drive:  
Gear
- Secondary reduction ratio:  
10.320 (46 / 13) × (35 / 12)
- Transmission type:  
V-belt automatic
- Gear ratio:

## Chassis:

- Frame type:  
Underbone
- Caster angle:  
23.8 °
- Trail:  
84 mm (3.3 in)

## Front tire:

- Type:  
Tubeless
- Size:  
100 / 80 - 16M/C 50P

Manufacturer/model:  
DURO / DM1157F

## Rear tire:

Type:  
Tubeless  
Size:  
120 / 80 - 16M/C 60P

Manufacturer/model:  
DURO / DM1157

## Loading:

Maximum load:  
179 kg (395 lb)  
\* (Total weight of rider, passenger, cargo  
and accessories)

## Tire air pressure (measured on cold tires):

Loading condition:  
90 kg (198 lb)  
Front:  
175 kPa (1.75 kgf/cm<sup>2</sup>, 25 psi)  
Rear:  
200 kPa (2.00 kgf/cm<sup>2</sup>, 29 psi)

Loading condition:  
90 kg - maximum load  
Front:  
175 kPa (1.75 kgf/cm<sup>2</sup>, 25 psi)  
Rear:  
225 kPa (2.25 kgf/cm<sup>2</sup>, 33 psi)

## Front wheel:

Wheel type:  
Cast wheel  
Rim size:  
J 16M/C × MT2.50

## Rear wheel:

Wheel type:  
Cast wheel  
Rim size:  
J 16M/C × MT2.75

## Front brake:

Type:  
Hydraulic single disc brake  
Specified brake fluid:  
DOT 4

## Rear brake:

Type:  
Mechanical leading trailing drum brake

## Front suspension:

Type:  
Telescopic fork  
Spring:  
Coil spring  
Shock absorber:  
Hydraulic damper  
Wheel travel:  
100 mm (3.9 in)

## Rear suspension:

Type:  
Unit swing  
Spring:  
Coil spring  
Shock absorber:  
Gas-hydraulic damper  
Wheel travel:  
92 mm (3.6 in)

## Electrical system:

System voltage:  
12 V

Ignition system:

TCI

Charging system:

AC magneto

## Battery:

Model:  
GT7B-4  
Voltage, capacity:  
10 V, 6.5 Ah (10 HR)

## Headlight:

Bulb type:  
Halogen bulb

## Bulb voltage, wattage × quantity:

Headlight:  
12 V, 55.0 W × 2

Brake/tail light:  
LED

Front turn signal light:  
12 V, 10.0 W × 2

Rear turn signal light:  
12 V, 10.0 W × 2

Auxiliary light:  
12 V, 5.0 W × 2

License plate light:  
12 V, 5.0 W × 1

Meter lighting:  
LED

High beam indicator light:  
LED

Turn signal indicator light:  
LED

Coolant temperature warning light:  
LED

# Specifications

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Engine trouble warning light:  
LED

## **Fuse:**

Main fuse:  
20.0 A

Headlight fuse:  
15.0 A

Signaling system fuse:  
15.0 A

Ignition fuse:  
7.5 A

Backup fuse:  
7.5 A

EAU53562

EAU26411

EAU26442

## Identification numbers

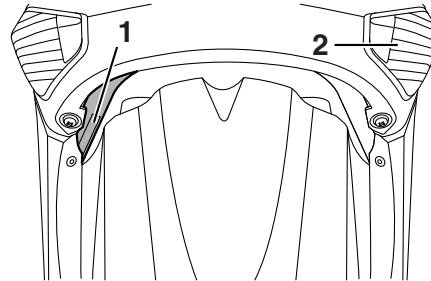
Record the vehicle identification number, engine serial number, and the model label information in the spaces provided below. These identification numbers are needed when registering the vehicle with the authorities in your area and when ordering spare parts from a Yamaha dealer.

VEHICLE IDENTIFICATION NUMBER:

ENGINE SERIAL NUMBER:

MODEL LABEL INFORMATION:

## Vehicle identification number

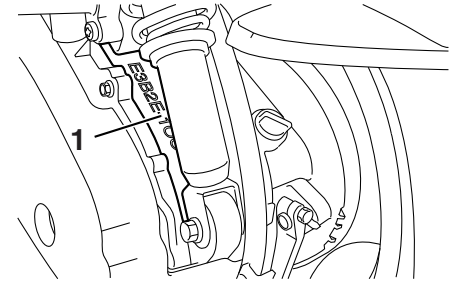


1. Vehicle identification number
2. Front turn signal light

The vehicle identification number is stamped into the frame.

**TIP** \_\_\_\_\_  
The vehicle identification number is used to identify your vehicle and may be used to register it with the licensing authority in your area.

## Engine serial number



1. Engine serial number

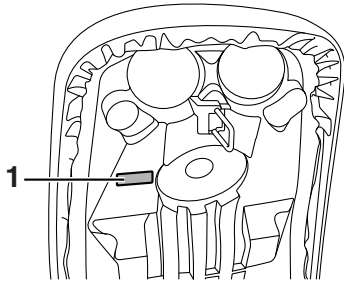
The engine serial number is stamped into the crankcase.

# Consumer information

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EAU26491

## Model label



### 1. Model label

The model label is affixed to the bottom of the seat. (See page 3-11.) 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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