



EAU46091

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

EAU46091

 在使用这电单车以前，请充分使用这小手册。这手册须付与电单车一起。

EAU46091

 Baca buku panduan dengan teliti sebelum mengendalikan motosikal ini. Buku panduan diberi bersama dengan pembelian motosikal.

Welcome to the Yamaha world of motorcycling!

As the owner of the EGO GEAR, 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 EGO GEAR. The Owner's Manual does not only instruct you in how to operate, inspect and maintain your motorcycle, but also in how to safeguard yourself and others from trouble and injury.

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

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

Yamaha continually seeks advancements in product design and quality. Therefore, while this manual contains the most current product information available at the time of printing, there may be minor discrepancies between your motorcycle and this manual. If there is any question concerning this manual, please consult a Yamaha dealer.





Please read this manual carefully and completely before operating this motorcycle.

Important manual information

EAU10134

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

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

*Product and specifications are subject to change without notice.



EAUN0430

**EGO GEAR
OWNER'S MANUAL**
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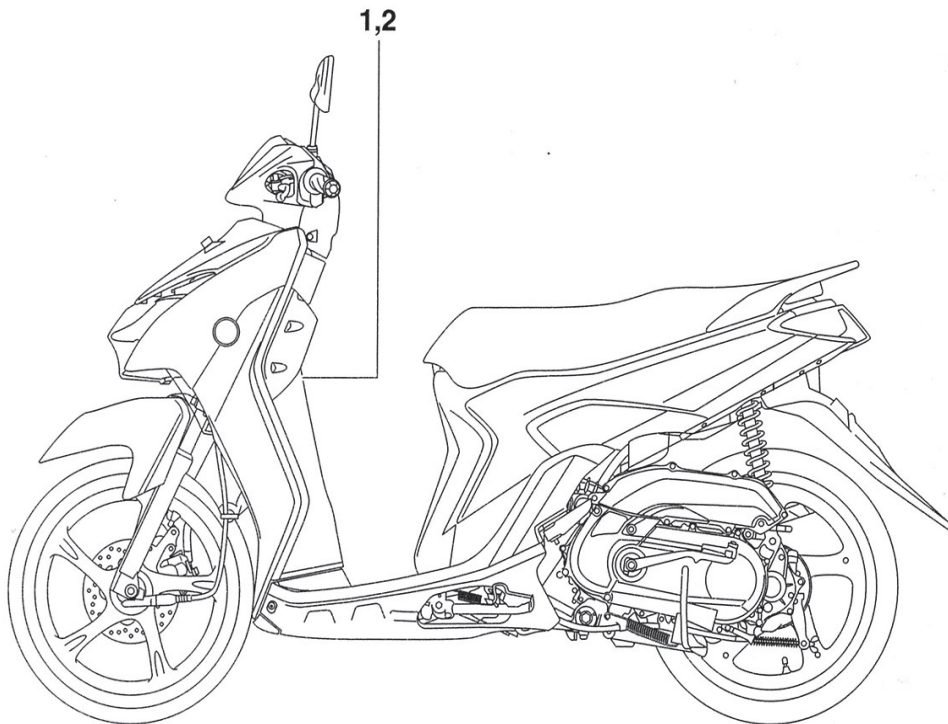
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Location of important labels


EAUN2190

1

Read and understand all of the labels on your vehicle. They contain important information for safe and proper operation of your vehicle. Never remove any labels from your vehicle.






1


**WARNING**


- Before you operate this vehicle, read the owner's manual

2


100kPa=1bar


225, 33


225, 33


kPa, psi

kPa, psi

250, 36

Be a Responsible Owner

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

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

He or she should:

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

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

Safe Riding

Perform the pre-operation checks each time you use the vehicle to make sure it is in safe operating condition. Failure to inspect or maintain the vehicle properly increases the possibility of an accident or equipment damage. See page 6-1 for a list of pre-operation checks.

- This motorcycle is designed to carry the operator and a passenger.
- The failure of motorists to detect and recognize motorcycles in traffic is the predominating cause of automobile/motorcycle accidents. Many accidents have been

caused by an automobile driver who did not see the motorcycle. Making yourself conspicuous appears to be very effective in reducing the chance of this type of accident.

Therefore:

- Wear a brightly colored jacket.
- Use extra caution when you are approaching and passing through intersections, since intersections are the most likely places for motorcycle accidents to occur.
- Ride where other motorists can see you. Avoid riding in another motorist's blind spot.
- Never maintain a motorcycle without proper knowledge. Contact an authorized motorcycle dealer to inform you on basic motorcycle maintenance. Certain maintenance can only be carried out by certified staff.
- Many accidents involve inexperienced operators. 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 motorcycle to other qualified operators.
- Know your skills and limits. Staying within your limits may help you to avoid an accident.
- We recommend that you practice riding your motorcycle where there is no traffic until you have become thoroughly familiar with the motorcycle and all of its controls.
- Many accidents have been caused by error of the motorcycle operator. A typical error made by the operator is veering wide on a turn due to excessive speed or undercornering (insufficient lean angle for the speed).
- 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 motorcycle.
 - 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 motorcycle is designed for on-road use only. It is not suitable for off-road use.

Protective Apparel

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

- Always wear an approved helmet.

- Wear a face shield or goggles. Wind in your unprotected eyes could contribute to an impairment of vision that could delay seeing a hazard.
- The use of a jacket, 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.

Safety information

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

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

Loading

Adding accessories or cargo to your motorcycle can adversely affect stability and handling if the weight distribution of the motorcycle is changed. To avoid the possibility of an accident, use extreme caution when adding cargo or accessories to your motorcycle. Use extra care when riding a motorcycle 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 motorcycle:

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:
154 kg (340 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 motorcycle as possible. Securely pack your heaviest items as close to the center of the vehicle as possible and make sure to distribute the weight as evenly as possible on both sides of the motorcycle to minimize imbalance or instability.

- Shifting weights can create a sudden imbalance. Make sure that accessories and cargo are securely attached to the motorcycle 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 en-

dorse nor recommend the use of accessories not sold by Yamaha or modifications not specifically recommended by Yamaha, even if sold and installed by a Yamaha dealer.

Aftermarket Parts, Accessories, and Modifications

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

Keep the following guidelines in mind, as well as those provided under "Loading" when mounting accessories.

- Never install accessories or carry cargo that would impair the performance of your motorcycle. Carefully inspect the accessory before using it to make sure that it does not in any way reduce

ground clearance or cornering clearance, limit suspension travel, steering travel or control operation, or obscure lights or reflectors.

- 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 motorcycle due to aerodynamic effects. Wind may attempt to lift the motorcycle, or the motorcycle 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 motorcycle's electrical system, an electric failure could result, which could cause a dangerous loss of lights or engine power.

Aftermarket Tires and Rims

The tires and rims that came with your motorcycle were designed to match the performance capabilities and to provide the best combination of handling, braking, and comfort. Other tires, rims, sizes, and combinations may not be appropriate. Refer to page 8-20 for tire specifications and more information on replacing your tires.

Transporting the Motorcycle

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

- Remove all loose items from the motorcycle.

- 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 motorcycle with tie-downs or suitable straps that are attached to solid parts of the motorcycle, such as the frame or upper front fork triple clamp (and not, for example, to rubber-mounted handlebars or turn signals, or parts that could break). Choose the location for the straps carefully so the straps will not rub against painted surfaces during transport.
- The suspension should be compressed somewhat by the tie-downs, if possible, so that the motorcycle will not bounce excessively during transport.

Further safe-riding points

EAU57610

- Be sure to signal clearly when making turns.
- Braking can be extremely difficult on a wet road. Avoid hard braking, because the motorcycle 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 motorcycle upright, otherwise it could slide out from under you.

- The brake pads or linings could get wet when you wash the motorcycle. After washing the motorcycle, 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 motorcycle. An overloaded motorcycle is unstable. Use a strong cord to secure any luggage to the carrier (if equipped). A loose load will affect the stability of the motorcycle and could divert your attention from the road. (See page 2-3.)

Helmets

EAUU0033

Operating this vehicle without an approved motorcycle helmet increases your chances of a severe head injury or death in the event of an accident. The majority of fatalities from motorcycle or 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 select an approved motorcycle helmet

Pay attention to the following when choosing a motorcycle helmet.

- The helmet must meet the safety standard “SIRIM”.
- The helmet size must match the size of the rider’s head.
- Never subject a helmet to heavy shocks.

Wearing the helmet correctly

Always connect the chin strap. In the case of an accident, the helmet has a much less chance of coming off if the chin strap is connected.

Correct usage



ZAUU0003

Wrong usage



ZAUU0007



ZAUU0005

- Full-face-type: use for riding at mid-range to high speeds



ZAUU0006

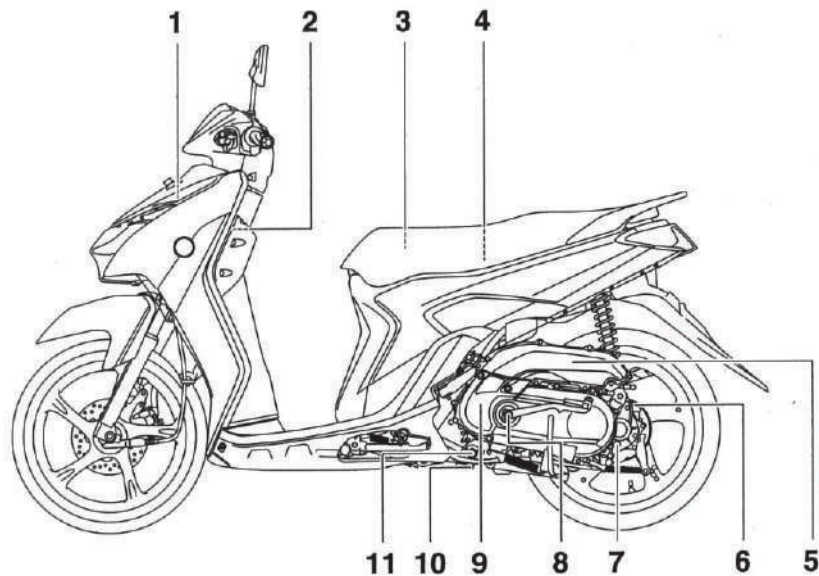
Types of helmets and their usage

- Full-type: use only for riding at low to mid-range speeds

Description

Left view

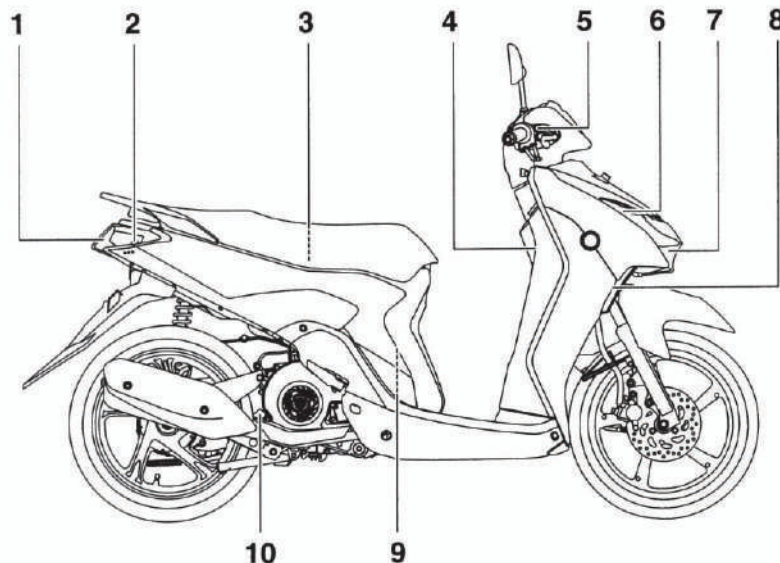
3



- 1. Fuse (page 8-30)
- 2. Power outlet (page 5-13)
- 3. Tool kit (page 5-1)
- 4. Compartment (page 5-12)
- 5. Air filter element (page 8-16)
- 6. Final transmission oil filler cap (page 8-15)
- 7. Final transmission oil drain bolt (page 8-15)
- 8. Kickstarter (page 5-11)

- 9. V-belt case air filter element (page 8-16)
- 10. Engine oil drain bolt A (page 8-13)
- 11. Engine oil drain bolt B (page 8-13)

Right view

**3**

- 1. Tail/brake light (page 8-32)
- 2. Rear turn signal light (page 8-32)
- 3. Battery (page 8-28)
- 4. Convenience hook
- 5. Front brake fluid reservoir (page 8-23)
- 6. Auxiliary light
- 7. Headlight (page 8-30)
- 8. Front turn signal light (page 8-32)

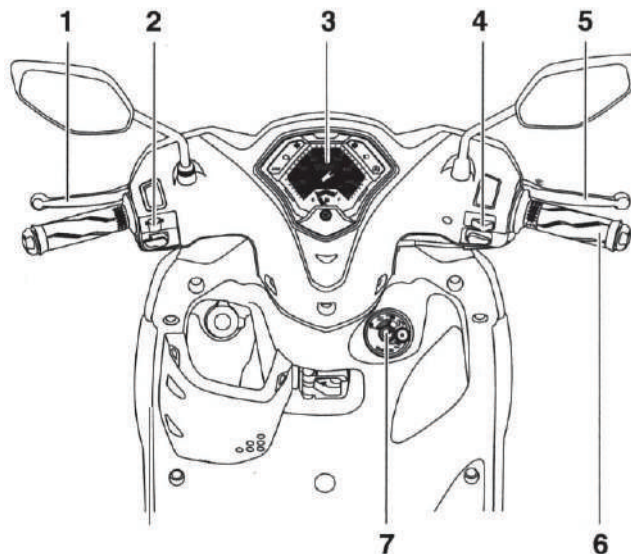
- 9. Spark plug (page 8-12)
- 10. Fuel tank cap (page 8-13)

Description

EAU32241

Controls and instruments

3

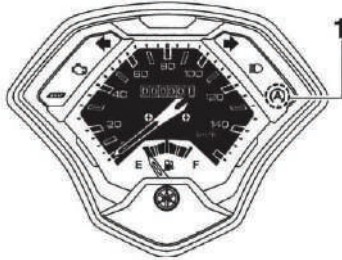


- 1. Rear brake lever (page 5-8)
- 2. Left handlebar switches (page 5-7)
- 3. Speedometer (page 5-6)
- 4. Right handlebar switch (page 5-7)
- 5. Front brake lever (page 5-8)
- 6. Throttle grip (page 8-19)
- 7. Main switch/steering lock (page 5-3)

Stop & Start System (EGO GEAR)

Stop and Start System

EAU76824



1. Stop and Start System indicator light “A”

The Stop and Start System is a system that stops the engine automatically when the vehicle is stopped while the Stop and Start System indicator light is on to prevent noise, control exhaust emissions, and reduce fuel consumption.

When the rider turns the throttle grip slightly, the engine restarts automatically and the vehicle starts off.

NOTICE

ECA23961

When parking the vehicle or leaving the vehicle unattended, be sure to turn the main switch off. If the Stop and Start System is left turned on,

the battery could become discharged and it may not be possible to restart the engine due to insufficient battery voltage.

TIP

- Although the engine normally stops at the same time the vehicle is stopped, it may take a while until the engine stops when operating the vehicle under 10 km/h such as in heavy traffic.
- If you think the battery voltage has decreased because the engine cannot be started using the starter switch or for some other reason, do not turn on the Stop and Start System.
- Have a Yamaha dealer check the battery at the intervals specified in the periodic maintenance chart.

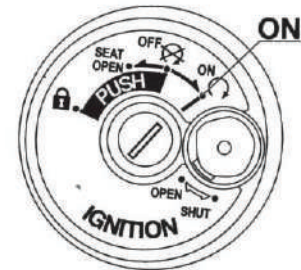
Stop and Start System operation

EAU76671

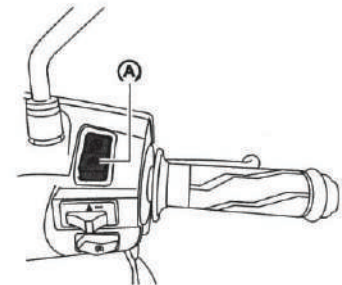
Activating the Stop and Start System

EAU76686

1. Turn the main switch on.



2. Set the Stop and Start System switch to “A”.

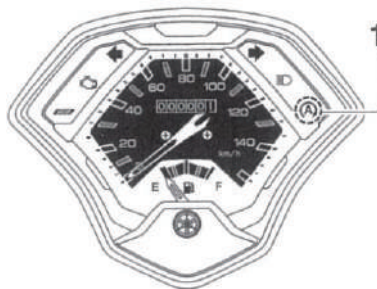


Stop & Start System (EGO GEAR)

4

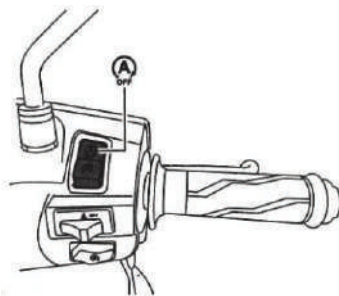
3. When the vehicle confirms that the following conditions are met, the Stop and Start System activates and the Stop and Start System indicator light comes on.

- The Stop and Start System switch is set to “A”.
- After the engine was warmed up, the engine was left idling for a certain period of time.
- The vehicle has traveled at a speed of 10 km/h or higher.



1. On

4. To turn off the Stop and Start System, set the Stop and Start System switch to “A”.



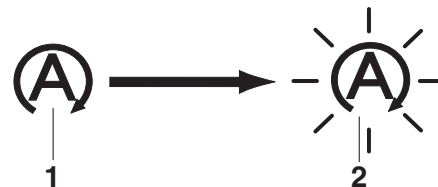
TIP

- To preserve battery power, the Stop and Start System may not activate.
- If the Stop and Start System does not activate repeatedly, have a Yamaha dealer check the battery.

The engine will stop automatically if:

- The Stop and Start System switch is set to “A”.
- The Indicator light “A” comes on at the speedometer.
- The vehicle is stopped and the throttle is in the fully closed position.

At this time, the “A” indicator light on the speedometer starts flashing to indicate that the engine is currently stopped by the Stop and Start System.



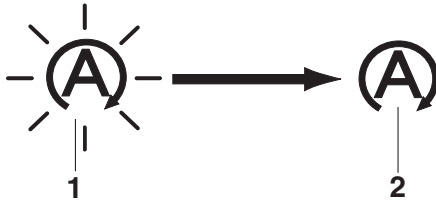
1. On
2. Flashing

Restart the engine

If you turn the throttle grip while the Stop and Start System indicator light is flashing and the engine is stopped, the engine restarts automatically and the “A” indicator light stops flashing.

EAU76703

Stop & Start System (EGO GEAR)



1. Flashing
2. Off

WARNING

Do not turn the throttle grip quickly when the Stop and Start System is activated and the engine is stopped. Otherwise, the vehicle could start moving unexpectedly after the engine restarts.

EWA18730



TIP

- When the sidestand is lowered, the Stop and Start System is deactivated.
- If the Stop and Start System does not operate correctly, have a Yamaha dealer check the vehicle.

EAU76711

Precautions when using the Stop and Start System

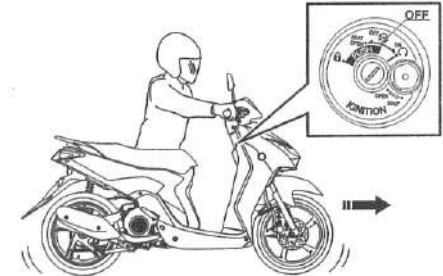
In order to prevent accidents due to improper operation, carefully read and observe the following precautions.

EWA18741

WARNING

When walking while pushing the vehicle, be sure to turn the main switch off. If the vehicle is pushed while the

Stop and Start System is left turned on, the engine could start and the vehicle could start moving if the throttle grip is turned accidentally.

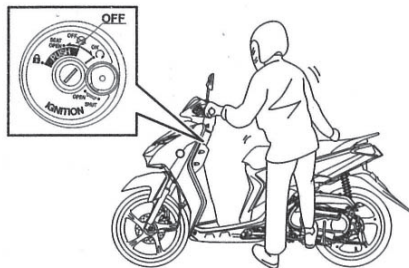


EWA18751

WARNING

When placing the vehicle on the centerstand, be sure to turn the main switch off. If the vehicle is placed on the centerstand while the Stop and Start System is left turned on, the engine could start and the vehicle could start moving if the throttle grip is turned accidentally.

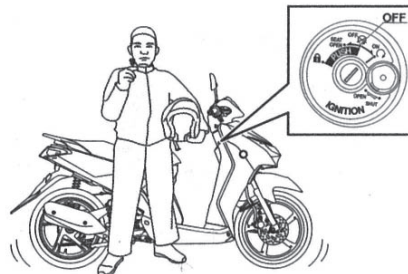
Stop & Start System (EGO GEAR)



EWA18771

WARNING

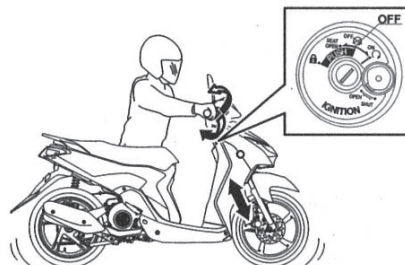
- When leaving the vehicle unattended, be sure to turn the main switch off.
- Do not leave the Stop and Start System turned on when parking the vehicle. Otherwise, the engine could start and the vehicle could start moving if the throttle grip is turned accidentally.



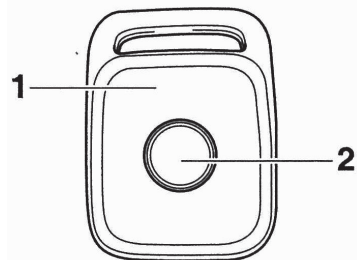
EWA18781

WARNING

Before performing maintenance, be sure to turn the main switch off. If maintenance is performed while the Stop and Start System is turned on, the engine could start and the vehicle could start moving if the throttle grip is turned.



Remote answer-back (for EGO GEAR)



- 1. Remote answer back
- 2. Remote answer-back button

This vehicle is equipped with a remote answer-back. The remote answer-back unit can help you find the location of your parked vehicle. The remote answer-back unit operations are described below.

To find the location of your parked vehicle

Press the remote control button on the main key to flash the turn signal lights twice and sound the electronic alert twice.

TIP

- If the main key is not used in nine days, the remote operation functions are automatically canceled to reduce load on the battery. When the main switch is turned to “ON” again, function is restored.
- Holding the remote answer-back improperly or other obstructions can reduce the effective range.

ECA20960

NOTICE

The main key contains a battery and electronic circuits. Handle it carefully. Therefore:

- Do not place or keep the remote answer-back in the compartment. The remote answer back will damage with the impact and heat.
- Do not drop the remote answer-back or subject it to strong impacts.
- Do not submerge it in water or other liquids.

- Do not place heavy items or excessive stress on the main key.
- Do not expose it to excessively high temperatures.
- Do not grind any key or alter its shape.

Replacing remote battery

Replace the battery if answer-back function does not operate when the button is pushed.

EWA14724

! WARNING

- The battery and other removable parts may cause injury if swallowed. Keep the battery and other removable parts away from children.
- Do not expose the battery to direct sunlight or other heat sources.

ECA15784

NOTICE

- Use a cloth when opening the smart key case with a screwdriver. Direct contact with hard objects may damage or scratch the remote.

Instrument and control functions

5

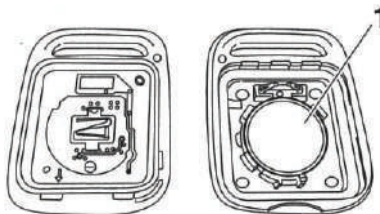
- Take precautions to prevent the waterproof seal from being damaged or contaminated by dirt.
- Do not touch the internal circuits and terminals. This may cause malfunctions.
- Do not apply excessive force to the smart key when replacing the battery.
- Make sure the battery is installed correctly. Confirm the direction of the positive/“+” side of the battery.

To replace the battery

1. Open the smart key case as shown.



2. Remove the battery.



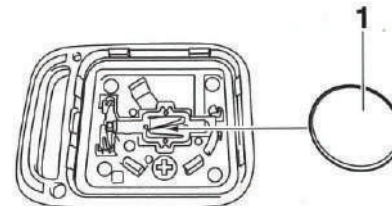
1. Battery

TIP

Dispose of the removed battery in accordance with local regulations.

3. Install a new battery as shown.
Note the polarity of the battery.

Specified battery:
CR2032

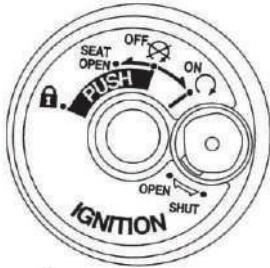


1. Battery

4. Slowly, snap the remote casing until it is locked.

Main switch/steering lock

EAU68550



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

TIP

The main switch is equipped with a keyhole shutter. See page 5-4 for instructions on how to open and shut the keyhole shutter.

ON

EAUJ1055

All electrical circuits are supplied with power, and the engine can be started. The key cannot be removed.

TIP

- To prevent the battery from drain, do not leave the key in "ON" position.
- This model is equipped with a fuel pump. When the motorcycle is started for the first time, you will hear a sound from the fuel pump, but this does not indicate a malfunction.

OFF

EAU10662

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

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.

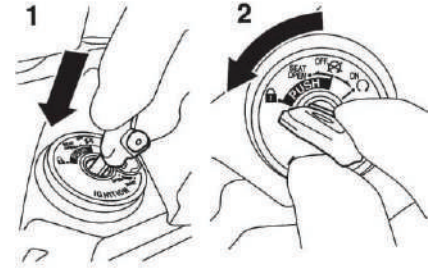
EWA10062

LOCK

EAU1068B

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

To lock the steering



1. Push.
2. Turn.

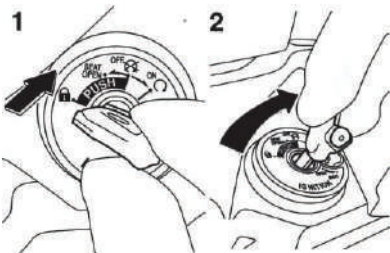
1. Turn the handlebars all the way to the left.
2. With the key in the "OFF" position, push the key in and turn it to "LOCK".
3. Remove the key.

TIP

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

Instrument and control functions

To unlock the steering



1. Push
2. Turn

Push the key in, and then turn it to “OFF” while still pushing it.

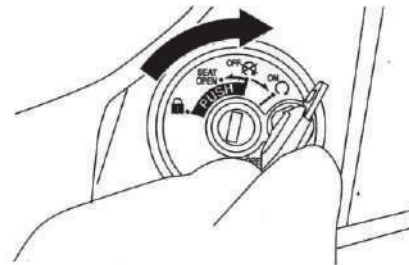
EWAU0042

! 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.
- If the vehicle turns over, and after placing it upright, ensure

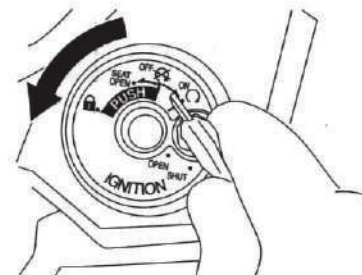
that there is no fuel leakage. If fuel is leaking, have a Yamaha dealer check the vehicle.

To open the keyhole cover



Insert the key head into the keyhole cover receptacle as shown, and then turn the key to the right to open the cover.

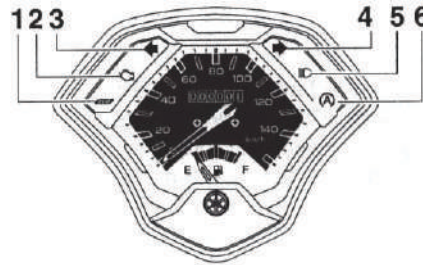
To close the keyhole cover



Instrument and control functions

Insert the key head into the keyhole cover receptacle as shown, and then turn the key to the left to close the cover.

Indicator lights and warning light EGO GEAR



1. Eco indicator "ECO"
2. Engine trouble warning light "⚠️"
3. Left turn signal indicator light "↶"
4. Right turn signal indicator light "↷"
5. High beam indicator light "≡ⓘ"
6. Stop and Start System indicator light "Ⓐ"

Turn signal indicator lights "↶" ^{EAU11032} and "↷"

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.

Instrument and control functions

Eco indicator light “ECO”

EAUN0711

This indicator light comes on when the vehicle is being operated in an environmentally friendly, fuel-efficient manner. The indicator light goes off when the vehicle is stopped.

TIP

Consider the following tips to reduce fuel consumption:

- Avoid high engine speeds during acceleration.
- Travel at a constant speed.

Engine trouble warning light “”

EAU11486

This warning light comes on if a problem is detected in the electrical circuit monitoring the engine. If this occurs, have a Yamaha dealer check the vehicle.

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.

Stop and Start System indicator light “” (EGO GEAR)

EAU76382

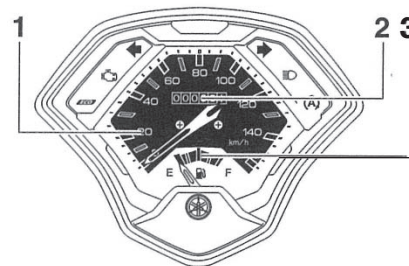
This indicator light comes on when the Stop and Start System activates. The indicator light will flash when the engine is automatically stopped by the Stop and Start System.

TIP

Even if the Stop and Start Switch is set to “”, this indicator light may not come on. (See page 4-1.)

Speedometer unit

EAUU0081

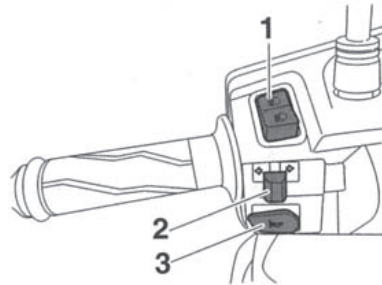


1. Speedometer
2. Odometer
3. Fuel meter

The speedometer unit is equipped with a speedometer, an odometer and a fuel meter. The speedometer shows riding speed. The odometer shows the total distance traveled. The fuel meter indicates the amount of fuel in the fuel tank.

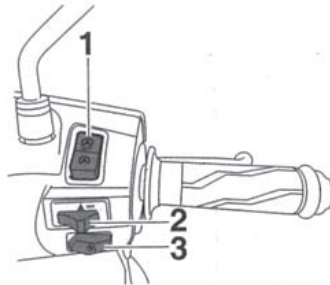
Handlebar switches

Left



1. Dimmer switch “/”
2. Turn signal switch “/”
3. Horn switch “”

Right



1. Stop and Start System switch “/”
2. Hazard Light switch “ / OFF”
3. Start switch “”

EAU1234H

Dimmer switch “/”

Set this switch to “” for the high beam and to “” for the low beam.

EAU12401

Turn signal switch “/”

To signal a right-hand turn, push this switch to “”. To signal a left-hand turn, push this switch to “”. 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.

EAU12461

Horn switch “”

Press this switch to sound the horn.

EAU12501

Start switch “”

Push this switch while applying the front or rear brake to crank the engine with the starter. See page 7-2 for starting instructions prior to starting the engine.

EAU1133

Hazard switch “”

With the key in the “ON” position, use this switch to turn on the hazard lights (simultaneous flashing of all turn signal lights).

The hazard lights are used in case of an emergency or to warn other drivers when your vehicle is stopped where it might be a traffic hazard.

EAU66010

NOTICE

Do not use the hazard lights for an extended length of time with the engine not running, otherwise the battery may discharge.

ECA10062

Stop & Start System switch “/” (for EGO GEAR)

To on the Stop & Start system push to the position “”. To off the Stop & Start system push to the position “ OFF”.

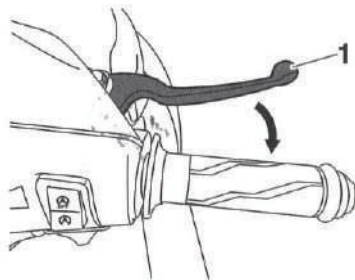
Instrument and control functions

EAU12902

EAU12952

EAUN0440

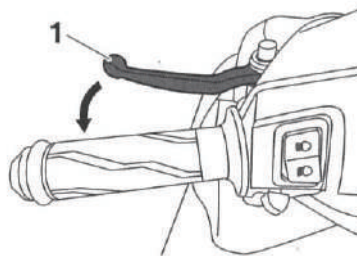
Front brake lever



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.

Rear brake lever

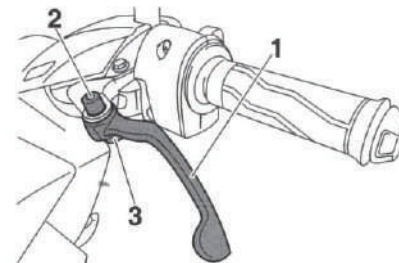


1. Rear brake lever

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

Rear brake lever lock

This vehicle is equipped with a rear brake lever lock.



1. Rear brake lever
2. Lever lock pin
3. Lever lock pin stopper

To lock the brake lever

1. Pull the rear brake lever toward the handlebar grip.
2. Push the lever lock pin down until it latches with the lever lock pin stopper.

To unlock the brake lever

1. Pull the brake lever toward the handlebar grip.
2. The lever lock pin should release from the lever lock pin stopper and unlock the rear brake lever.

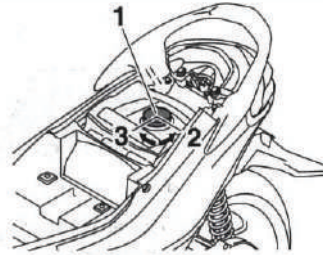
TIP _____
Use the rear brake lever lock while seated.

⚠ WARNING _____

Never apply the rear brake lever lock while the vehicle is moving, otherwise loss of control or an accident may result. Make sure that the vehicle is stopped before applying the rear brake lever lock.

EWAN0010

Fuel tank cap



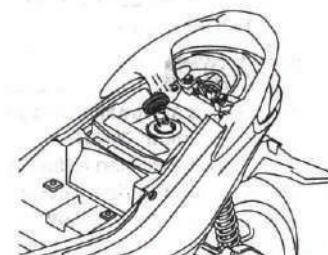
1. Fuel tank cap
2. Open.
3. Close.

To remove the fuel tank cap

1. Open the seat. (See page 5-11.)
2. Turn the fuel tank cap counter-clockwise and pull it off.

EAU37473

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 tank are aligned.
2. Close the seat.

EWA11092

⚠ WARNING _____

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

Instrument and control functions

Fuel

Make sure there is sufficient gasoline in the tank.

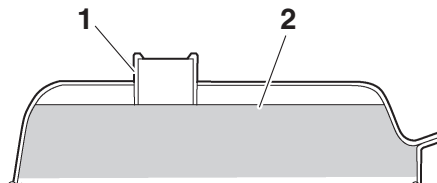
EAU13213

EWA10882

WARNING

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

1. Before refueling, turn off the engine and be sure that no one is sitting on the vehicle. Never refuel while smoking, or while in the vicinity of sparks, open flames, or other sources of ignition such as the pilot lights of water heaters and clothes dryers.
2. Do not overfill the fuel tank. Stop filling when the fuel reaches the bottom of the filler tube. Because fuel expands when it heats up, heat from the engine or the sun can cause fuel to spill out of the fuel tank.



ZAUU0026

1. Fuel tank filler tube
2. Maximum fuel level

3. Wipe up any spilled fuel immediately. **NOTICE:** Immediately wipe off spilled fuel with a clean, dry, soft cloth, since fuel may deteriorate painted surfaces or plastic parts. [ECA10072]
4. Be sure to securely close the fuel tank cap.

EWA15152

WARNING

Gasoline is poisonous and can cause injury or death. Handle gasoline with care. Never siphon gasoline by mouth. If you should swallow some gasoline or inhale a lot of gasoline vapor, or get some gasoline in your eyes, see your doctor immedi-

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

EAU00045

Recommended fuel:

Unleaded gasoline

Fuel tank capacity:

4.2 L

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.

Catalytic converter

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

EAU13434

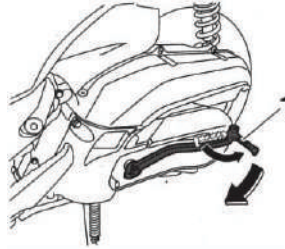
EWA10863

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.

Kickstarter



1. Kickstarter

If the engine fails to start by pushing the start switch, try to start it by using the kickstarter. To start the engine, fold out the kickstarter lever, move it down lightly with your foot until the gears engage, and then push it down smoothly but forcefully.

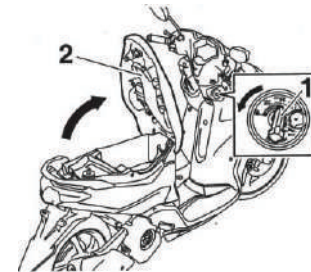
EAU37652

Seat

EAU13933

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. Seat lock
2. Seat

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.

Instrument and control functions

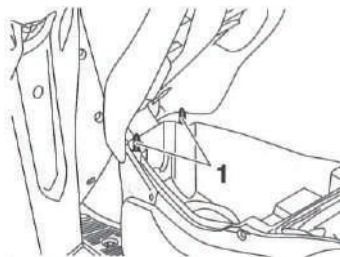
2. Remove the key from the main switch if the scooter will be left unattended.

TIP

Make sure that the seat is properly secured before riding.

Helmet holders

EAU37482



1. Helmet holder

The helmet holders are located under the seat.

To secure a helmet to a helmet holder

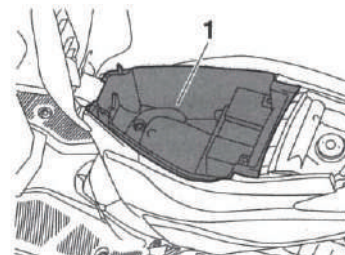
1. Open the seat. (See page 5-11.)
2. Attach a helmet to a helmet holder, and then securely close the seat. **WARNING! Never ride with a helmet attached to the helmet holder, since the helmet may hit objects, causing loss of control and possibly an accident.** [EWA10162]

To release a helmet from a helmet holder

Open the seat, remove the helmet from the helmet holder, and then close the seat.

Storage compartment

EAUN1200



1. Storage compartment

WARNING

- Do not exceed the load limit of 5 kg for the convenience hook.
- Do not exceed the maximum load of 154 kg for the scooter.

EWAN0030

NOTICE

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

ECA21150

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

TIP

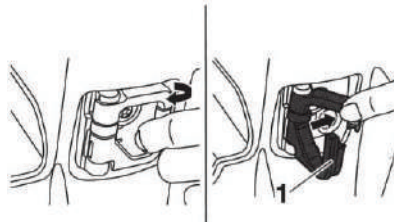
Do not leave your vehicle unattended with the seat open.

Convenience hook

To use the convenience hook pull out as per shown in the picture. To hide the convenience hook return to the original position.

WARNING

- Do not exceed the load limit of 1 kg for the convenience hook.
- Do not exceed the maximum load of 154 kg for the scooter.

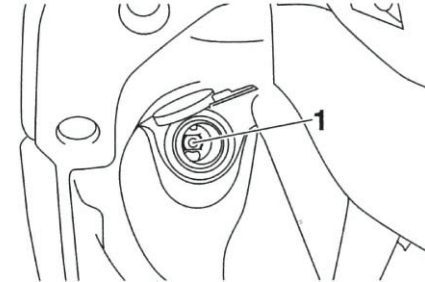


1. Convenience hook

EWAN0030

Power outlet

This model is equipped with a 12V DC power outlet.



1. Power outlet

ECAN0140

NOTICE

Do not use the power outlet when the engine is off, and do not exceed the specified electrical load; otherwise the fuse may blow or the battery may discharge.

When washing the vehicle, do not direct high-pressure washers at the power outlet area.

Maximum electrical load:
12 W (1A)

Instrument and control functions

EWAN0050

EAU76780

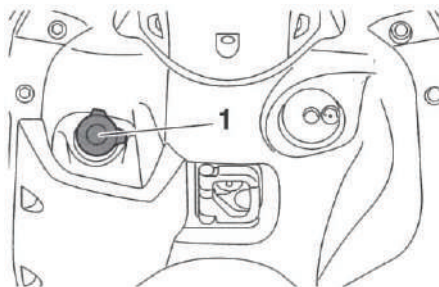
To use the power outlet

1. Turn the vehicle power off.
2. Remove the power outlet cap.
3. Turn the accessory off.
4. Insert the accessory plug into the power outlet.
5. Turn the vehicle power on and start the engine.
6. Turn the accessory on.

5

TIP

When finished riding, turn off the accessory and disconnect it from the power outlet, and then install the cap.



1. Power outlet cap

! WARNING

To prevent electrical shock or short-circuiting, install the cap when the power outlet is not in use.

Sidestand

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

TIP

- The built-in sidestand switch is part of the ignition circuit cut-off system, which cuts the ignition in certain situations. (See the following section for an explanation of the ignition circuit cut-off system.)
- When the sidestand is lowered, the Stop and Start System is deactivated.

EWA10242

! WARNING

The vehicle must not be ridden with the sidestand down, or if the sidestand cannot be properly moved up (or does not stay up), otherwise the sidestand could contact the ground and distract the operator, resulting in a possible loss of control. Yamaha's ignition circuit cut-off system has been designed to assist the operator in fulfilling the respon-

sibility of raising the sidestand before starting off. Therefore, check this system regularly and have a Yamaha dealer repair it if it does not function properly.

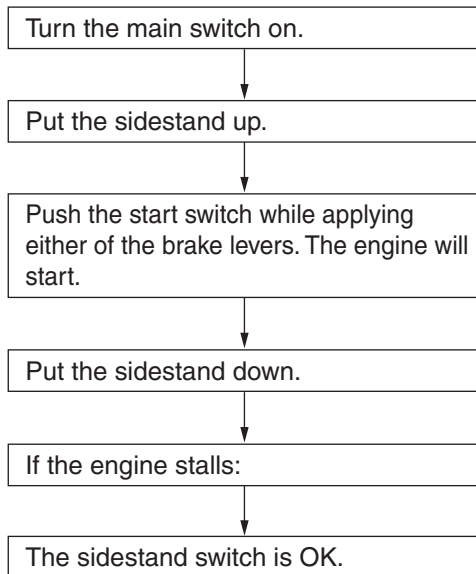
EAUT1097

Ignition circuit cut-off system

Check the operation of the sidestand switch according to the following procedure.

Instrument and control functions

5



WARNING

- The vehicle must be placed on the center-stand during this inspection.
- If a malfunction is noted, have a Yamaha dealer check the system before riding.

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.

Before using this vehicle, check the following points:

ITEM	CHECKS	PAGE
Fuel	<ul style="list-style-type: none">• Check fuel level in fuel tank.• Refuel if necessary.• Check fuel line for leakage.• Check fuel tank overflow hose for obstructions, cracks or damage, and check hose connection.	5-10
Engine oil	<ul style="list-style-type: none">• Check oil level in engine.• If necessary, add recommended oil to specified level.• Check vehicle for oil leakage.	8-13
Final transmission oil	<ul style="list-style-type: none">• Check vehicle for oil leakage.	8-15
Front brake	<ul style="list-style-type: none">• Check operation.• If soft or spongy, have Yamaha dealer bleed hydraulic system.• Check brake pads for wear.• Replace if necessary.• Check fluid level in reservoir.• If necessary, add specified brake fluid to specified level.• Check hydraulic system for leakage.	8-23, 8-23

For your safety – pre-operation checks

ITEM	CHECKS	PAGE
Rear brake	<ul style="list-style-type: none"> • Check operation. • Lubricate cable if necessary. • Check lever free play. • Adjust if necessary. 	8-22, 8-23
Throttle grip	<ul style="list-style-type: none"> • Make sure that operation is smooth. • Check throttle grip free play. • If necessary, have Yamaha dealer adjust throttle grip free play and lubricate cable and grip housing. 	8-19, 8-25
Control cables	<ul style="list-style-type: none"> • Make sure that operation is smooth. • Lubricate if necessary. 	8-25
Wheels and tires	<ul style="list-style-type: none"> • Check for damage. • Check tire condition and tread depth. • Check air pressure. • Correct if necessary. 	8-20, 8-21
Brake levers	<ul style="list-style-type: none"> • Make sure that operation is smooth. • Lubricate lever pivoting points if necessary. 	8-26
Centerstand, sidestand	<ul style="list-style-type: none"> • Make sure that operation is smooth. • Lubricate pivots if necessary. 	8-26
Chassis fasteners	<ul style="list-style-type: none"> • Make sure that all nuts, bolts and screws are properly tightened. • Tighten if necessary. 	—
Instruments, lights, signals and switches	<ul style="list-style-type: none"> • Check operation. • Correct if necessary. 	—
Sidestand switch	<ul style="list-style-type: none"> • Check operation of ignition circuit cut-off system. • If system is not working correctly, have Yamaha dealer check vehicle. 	5-14

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.

EAU16842

Engine break-in

There is never a more important period in the life of your engine than the period between 0 and 1600 km (1000 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 1600 km (1000 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.

EAUM2012

0–1000 km (0–600 mi)

Avoid prolonged operation above 1/3 throttle. **NOTICE:** After 1000 km (600 mi) of operation, be sure to replace the engine oil and final transmission oil. [ECA11662]

1000–1600 km (600–1000 mi)

Avoid prolonged operation above 1/2 throttle.

1600 km (1000 mi) and beyond

The vehicle can now be operated normally.

ECA10271

NOTICE

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

Operation and important riding points

Starting the engine

The sidestand must be up in order for the ignition circuit cut-off system to enable starting (see page 5-15).

EAUN0850

EWAN0020

WARNING

Before starting the engine, make sure that the vehicle is placed on the centerstand.

ECA10251

NOTICE

See page 7-1 for engine break-in instructions prior to operating the vehicle for the first time.

To start the engine

1. Place the vehicle on the centerstand.
2. Turn the key to "ON".
3. Apply the front or rear brake.
4. Push the start switch.

Each starting attempt should be as short as possible to preserve the battery. Do not crank the engine more than 5 seconds on any one attempt.

5. When the engine starts, release the start switch.

If the engine does not start, try again with the throttle grip open 1/4 turn (10 mm).

TIP

- If the engine will not start by pushing the start switch, try using the kick starter.
- The engine will start and the Stop & Start System is active (see page 4-1)

ECA11043

NOTICE

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

ECAN0072

NOTICE

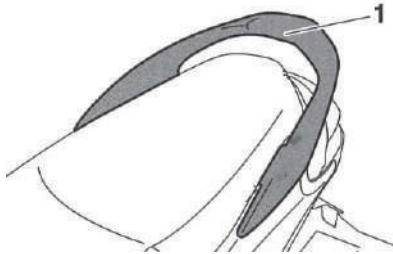
Do not ride through deep water, otherwise the engine may be damaged. Avoid puddles because they may be deeper than expected.

Operation and important riding points

Starting off

EAU45093

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 center-stand.

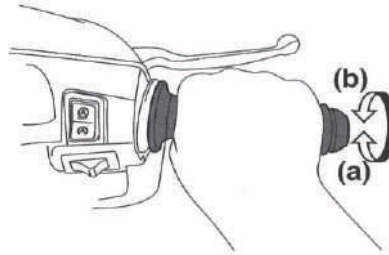


1. Grab bar

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.

Acceleration and deceleration

EAU16782



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).

Braking

EAU60650

EWA17790

WARNING

- Avoid braking hard or suddenly (especially when leaning over to one side), otherwise the vehicle 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.

Operation and important riding points

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).

7

Parking (for EGO GEAR)

EAU77861

When parking, turn off the Stop and Start System and then stop the engine. After turning off the main switch, be sure to remove the key and take it with you. For smart key models, be sure to turn off the smart key and take with you.

EWA18840

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.**
- **If the Stop and Start System is left turned on, the battery could become discharged and it may not be possible to restart the engine due to insufficient battery voltage.**

Periodic maintenance and adjustment

EAU17246

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

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.

EWA10322

WARNING

Turn off the engine when performing maintenance unless otherwise specified.

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

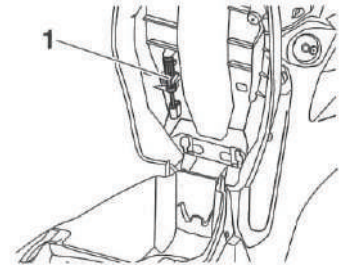
EWA15123

WARNING

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

EWA15461

Tool kit



1. Tool kit

The tool kit is in the location shown. The tools provided in the tool kit are intended to assist you in the performance of preventive maintenance and minor repairs. However, a torque wrench and other tools are necessary to perform certain maintenance work correctly.

TIP

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

Periodic maintenance and adjustment

EAU0621

TIP

- The annual checks must be performed every year, except if a kilometer-based maintenance is performed instead.
- From 16000 km, repeat the maintenance intervals starting from 4000 km.
- Items marked with an asterisk should be performed by a Yamaha dealer as they require special tools, data and technical skills.

EAU67781

Periodic maintenance chart for the emission control system

NO.	ITEM	CHECK OR MAINTENANCE JOB	ODOMETER READING (whichever comes first)					ANNUAL CHECK
			1000 km or 1 month	4000 km or 4 months	7000 km or 7 months	10000 km or 10 months	13000 km or 13 months	
1	* Fuel line	• Check fuel hoses for cracks or damage.		√	√	√	√	√
2	* Fuel filter	• Check condition. • Replace if necessary.	Every 12000 km					
3	Spark plug	• Check condition. • Clean and regap.		√	√	√	√	
		• Replace.	Every 6000 km					
4	* Valves	• Check valve clearance. • Adjust if necessary.			√		√	
5	* Fuel injection	• Check engine idle speed.	√	√	√	√	√	√

Periodic maintenance and adjustment

NO.	ITEM	CHECK OR MAINTENANCE JOB	ODOMETER READING (whichever comes first)					ANNUAL CHECK
			1000 km or 1 month	4000 km or 4 months	7000 km or 7 months	10000 km or 10 months	13000 km or 13 months	
6	*	Exhaust system		√	√	√	√	√
		<ul style="list-style-type: none"> • Check for leakage. • Tighten if necessary. • Replace gasket(s) if necessary. 						

Periodic maintenance and adjustment

EAU67794

General maintenance and lubrication chart

NO.	ITEM	CHECK OR MAINTENANCE JOB	ODOMETER READING (whichever comes first)					ANNUAL CHECK
			1000 km or 1 month	4000 km or 4 months	7000 km or 7 months	10000 km or 10 months	13000 km or 13 months	
1	* Diagnostic system check	<ul style="list-style-type: none"> Perform dynamic inspection using Yamaha diagnostic tool. Check the error codes. 	√	√	√	√	√	√
2	Air filter element	<ul style="list-style-type: none"> Replace. 	Every 15000 km					
3	Air filter check hose	<ul style="list-style-type: none"> Clean. 	√	√	√	√	√	
4	* V-belt case air filter element	<ul style="list-style-type: none"> Clean. Replace if necessary. 		√	√	√	√	
5	* Battery	<ul style="list-style-type: none"> Check voltage. Charge if necessary. 	√	√	√	√	√	√
6	* Front brake	<ul style="list-style-type: none"> Check operation, fluid level and vehicle for fluid leakage. 	√	√	√	√	√	√
		<ul style="list-style-type: none"> Replace brake pads. 	Whenever worn to the limit					
7	* Rear brake	<ul style="list-style-type: none"> Check operation, fluid level and vehicle for fluid leakage. 	√	√	√	√	√	√
		<ul style="list-style-type: none"> Replace brake pads. 	Whenever worn to the limit					

Periodic maintenance and adjustment

NO.	ITEM	CHECK OR MAINTENANCE JOB	ODOMETER READING (whichever comes first)					ANNUAL CHECK
			1000 km or 1 month	4000 km or 4 months	7000 km or 7 months	10000 km or 10 months	13000 km or 13 months	
8	* Brake hoses	<ul style="list-style-type: none"> • Check for cracks or damage. • Check for correct routing and clamping. 		√	√	√	√	√
		• Replace.	Every 4 years					
9	* Brake fluid	• Change.	Every 2 years					
10	* Wheels	• Check runout and for damage.		√	√	√	√	
11	* Tires	<ul style="list-style-type: none"> • Check tread depth and for damage. • Replace if necessary. • Check air pressure. • Correct if necessary. 		√	√	√	√	√
12	* Wheel bearings	• Check bearings for looseness or damage.		√	√	√	√	
13	* Steering bearings	• Check bearing play and steering for roughness.	√	√	√	√	√	
		• Lubricate with lithium-soap-based grease.	Every 12000 km					
14	* Chassis fasteners	• Make sure that all nuts, bolts and screws are properly tightened.		√	√	√	√	√
15	Front brake lever pivot shaft	• Lubricate with silicone grease.		√	√	√	√	√
16	Rear brake lever pivot shaft	• Lubricate with silicone grease.		√	√	√	√	√

Periodic maintenance and adjustment

NO.	ITEM	CHECK OR MAINTENANCE JOB	ODOMETER READING (whichever comes first)					ANNUAL CHECK
			1000 km or 1 month	4000 km or 4 months	7000 km or 7 months	10000 km or 10 months	13000 km or 13 months	
17	Sidestand, center-stand	<ul style="list-style-type: none"> • Check operation. • Lubricate with lithium-soap-based grease. 		√	√	√	√	√
18	* Sidestand switch	<ul style="list-style-type: none"> • Check operation. 	√	√	√	√	√	√
19	* Front fork	<ul style="list-style-type: none"> • Check operation and for oil leakage. 		√	√	√	√	
20	* Shock absorber assemblies	<ul style="list-style-type: none"> • Check operation and shock absorbers for oil leakage. 		√	√	√	√	
21	Engine oil	<ul style="list-style-type: none"> • Change. • Check oil level and vehicle for oil leakage. 	√	√	√	√	√	
22	* Engine oil strainer	<ul style="list-style-type: none"> • Clean. 	√					√
23	Final transmission oil	<ul style="list-style-type: none"> • Check vehicle for oil leakage. 	√	√	√	√	√	
		<ul style="list-style-type: none"> • Change. 	√	Every 12000 km				
24	* V-belt	<ul style="list-style-type: none"> • Check for damage and wear. 			√	√	√	√
		<ul style="list-style-type: none"> • Replace. 	Every 25000 km					
25	* V-belt secondary sheave	<ul style="list-style-type: none"> • Lubricate. 	Every 12000 km					
26	* Front and rear brake switches	<ul style="list-style-type: none"> • Check operation. 	√	√	√	√	√	√

Periodic maintenance and adjustment

NO.	ITEM	CHECK OR MAINTENANCE JOB	ODOMETER READING (whichever comes first)					ANNUAL CHECK
			1000 km or 1 month	4000 km or 4 months	7000 km or 7 months	10000 km or 10 months	13000 km or 13 months	
27	Moving parts and cables	<ul style="list-style-type: none"> Lubricate. 		√	√	√	√	√
28	* Throttle grip	<ul style="list-style-type: none"> Check operation. Check throttle grip free play, and adjust if necessary. Lubricate cable and grip housing. 		√	√	√	√	√
29	* Lights, signals and switches	<ul style="list-style-type: none"> Check operation. Adjust headlight beam. 	√	√	√	√	√	√

EAUN2840

TIP

- Air 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 more frequently when riding in unusually wet or dusty areas.
- V-belt case air filter
 - The air filter needs more frequent service if you are riding in unusually wet or dusty areas.
- V-belt
 - The V-belt should be checked at the initial 7000 km and every 3000 km thereafter. Replace the V-belt if any damage or excessive wear is found. The V-belt needs to be replaced every 25000 km even if there is not wear or damage.

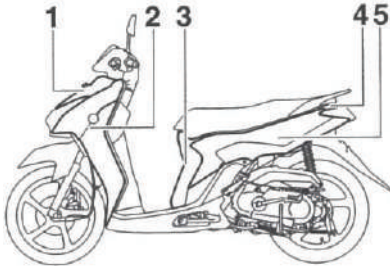
Periodic maintenance and adjustment

- Hydraulic brake service
 - Regularly check and, if necessary, correct the brake fluid level.
 - Every two years replace the internal components of the brake master cylinders and calipers, and change the brake fluid.
 - Replace the brake hoses every four years and if cracked or damaged.
- Fuel system service
 - 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.
 - Replace the fuel filler cover every two years or if cracked or damaged.
 - Check the fuel filter for clogging or damage every 12000 km.
- Battery service
 - Check the condition and service the battery every 3 months.
 - Recharge the battery immediately if the voltage is less than 12.7 V.
 - If the battery tends to discharge, replace it immediately.
 - 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.

EAU18773

Removing and installing panels

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

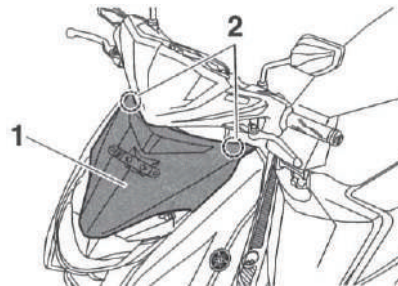


1. Panel A
2. Panel B (with headlight)
3. Panel C
4. Panel D
5. Panel E

Panel A

To remove the panel

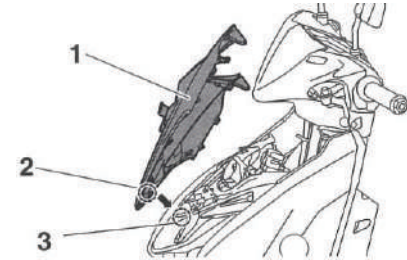
Remove screws and panel A.
pull out the panel.



1. Fuel tank cap lid
2. Panel A

To install the panel

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



1. Panel A
2. Cowling
3. Hole

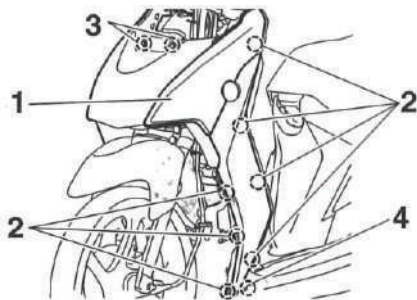
2. Place the panel and install the screw.

Panel B (with head light)

To remove the panel

1. Remove panel A.
2. Remove the screws, quick fastener screws and bolts, and then pull the panel B (with head light) until it is remove.

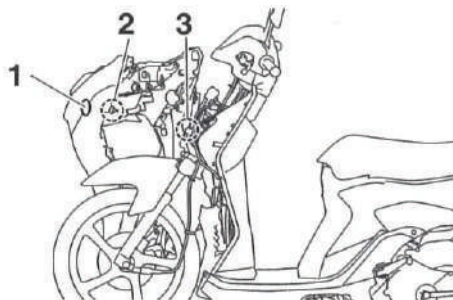
Periodic maintenance and adjustment



1. Panel B (with headlight)
2. Screw
3. Bolt
4. Quick fastener

To install the panel

1. Place the panel in the original position, and fix the cowling to the panel and the hole.



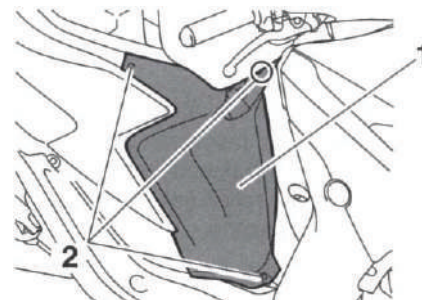
1. Panel B (with headlight)
2. Cowling
3. Hole

2. Install the screw, bolt and quick fastener to the panel.
3. Install panel A.

Panel C

To remove the panel

1. Open the seat (see page 5-11)
2. Remove the screw from panel C, and pull out the panel.



1. Panel C
2. Screw

To install the panel

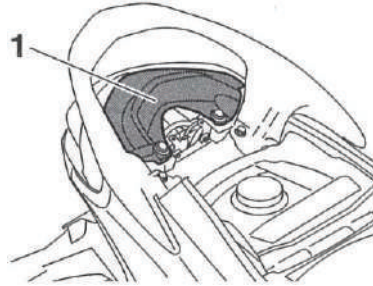
1. Place the panel in the original position, and install the bolts.
2. Close the seat.

Panel D

To remove the panel

1. Open the seat (see page 5-11)
2. Remove the screw from panel D, and pull out the panel.

Periodic maintenance and adjustment



1. Panel D

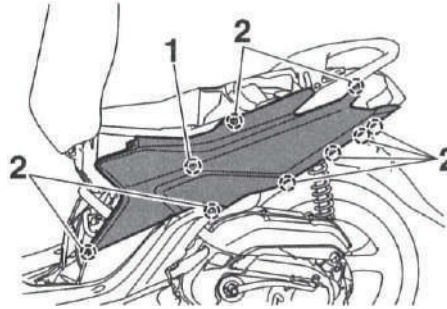
To install the panel

1. Place the panel in the original position, and install the bolts.
2. Close the seat.

Panel E

To remove the panel

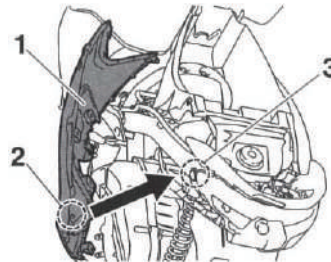
1. Remove panel C and D.
2. Remove the screw from panel E, and pull out the panel.



1. Panel E
2. Screw

To install the panel

1. Place the panel in the original position, and fix the cowling to the panel and the hole.



1. Panel E
2. Cowling
3. Hole

2. Install the screw to the panel.
3. Install panel C and D.

Periodic maintenance and adjustment

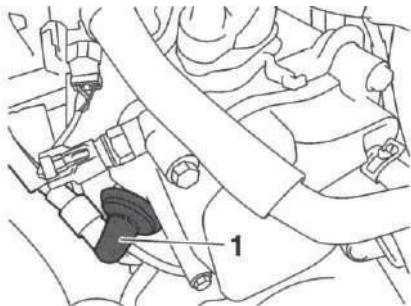
EAU67161

Checking the spark plug

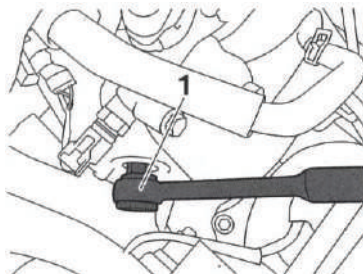
The spark plug is an important engine component, which is easy to check. Since heat and deposits will cause any spark plug to slowly erode, the spark plug should be removed and checked in accordance with the periodic maintenance and lubrication chart. In addition, the condition of the spark plug can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

To remove the spark plug

1. Remove panels D. (See page 8-9)
2. Remove the spark plug cap.



1. Spark plug cap
3. 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).

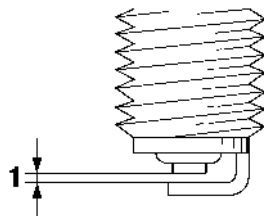
TIP

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 necessary.

Specified spark plug:
NGK/CR6HSA

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



1. Spark plug gap

Spark plug gap:
0.6–0.7 mm

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.

EUA62845

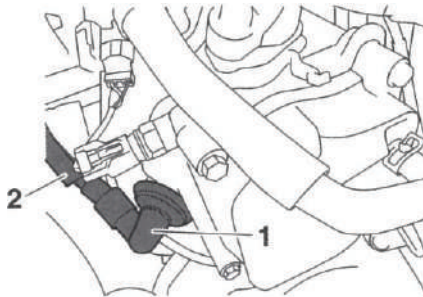
Tightening torque:

Spark plug:
13 N·m (1.3 kgf·m)

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.



1. Spark plug cap
2. Spark plug lead

4. Install panel D.

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 vehicle on the center-stand. 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.

EWAU0031

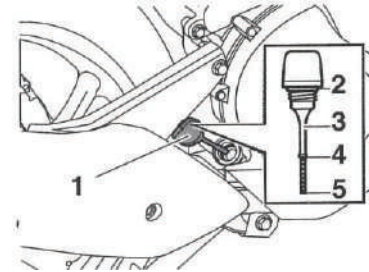


WARNING

The muffler and muffler protector become very hot during use. To avoid possible burns, let the muffler and protector cool before removing the oil filler cap.

TIP

The engine oil should be between the tip of the dipstick and maximum level mark.



1. Engine oil filler cap
2. O ring
3. Engine oil dipstick
4. Maximum level mark
5. Tip of the engine oil dipstick

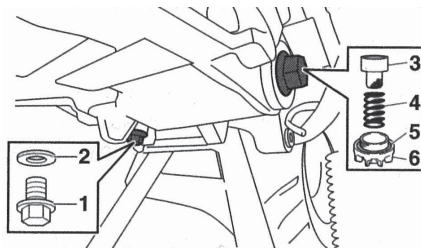
4. If the engine oil is at or below the minimum level mark, add sufficient oil of the recommended type to raise it to the correct level.

Periodic maintenance and adjustment

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 drain bolt B to drain the oil from the crankcase. **NOTICE:** When removing the engine oil drain bolt, the O-ring, compression spring, and oil strainer will fall out. Take care not to lose these parts. [ECA11002]



1. Engine oil drain bolt A
2. Gasket
3. Oil strainer
4. Compression spring
5. O-ring
6. Engine oil drain bolt B

TIP

When only changing the engine oil, remove drain bolt A. When changing the engine oil and cleaning the engine oil strainer, remove drain bolt B also.

4. Clean the engine oil strainer with solvent, and then check it for damage and replace it if necessary.

5. Install the engine oil strainer, compression spring, engine oil drain bolt with new O-ring, and then tighten the drain bolt to the specified torque.

TIP

Make sure that the O-ring is properly seated.

Tightening torque:

Engine oil drain bolt A:

20 N·m (2.0 kgf·m)

Engine oil drain bolt B:

20 N·m (2.0 kgf·m)

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

Recommended engine oil:

See page 10-1.

Oil quantity:

0.80 L

TIP

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

NOTICE

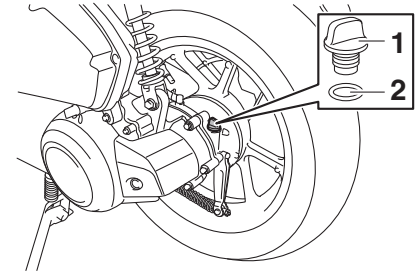
- **Be sure no foreign material enters the crankcase.**

7. 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.
8. Turn the engine off, and then check the oil level and correct it if necessary.

Final transmission oil

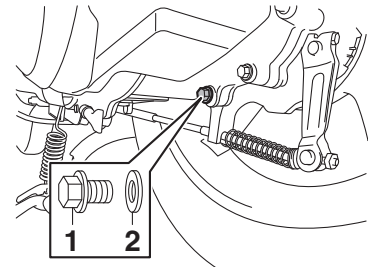
The final transmission case must be checked for oil leakage before each ride. If any leakage is found, have a Yamaha dealer check and repair your motorcycle. In addition, the final transmission oil must be changed as follows at the intervals specified in the periodic maintenance and lubrication chart.

1. Start the engine and warm up the final transmission oil by riding the motorcycle for several minutes.
2. Stop the engine and then place the motorcycle 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.



1. Final transmission oil filler cap
2. O-ring

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
2. Gasket

Periodic maintenance and adjustment

EAU67174

6. Install the final transmission oil drain bolt and its new gasket, and then tighten the bolt to the specified torque.

TIP

- Before installing the final transmission oil drain bolt and gasket, apply oil to them.
- Wipe off any excess oil afterwards.

Tightening torque:

Final transmission oil drain bolt:
20 N·m (2.0 kgf·m)

8

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.** [EWA11312]

Recommended final transmission oil:

See page 10-1.

Oil quantity:

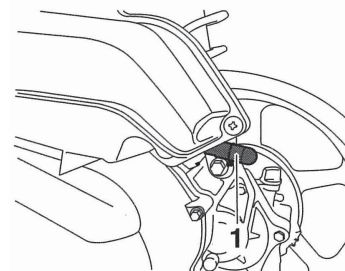
0.10 L

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.

Air filter and V-belt case air filter elements

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

Cleaning the air filter check hose



1. Air filter check hose

Periodic maintenance and adjustment

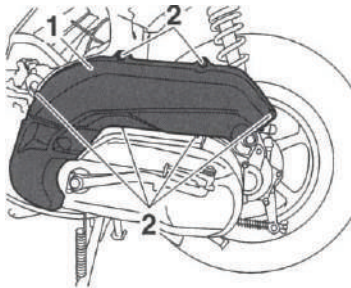
1. Check the hose on the rear side of the air filter case for accumulated dirt or water.
2. If dirt or water is visible, remove the hose from the clamp, clean it, and then install it.

TIP

If dirt or water was found in the check hose, be sure to check the air filter element for excessive dirt or damage and replace it if necessary.

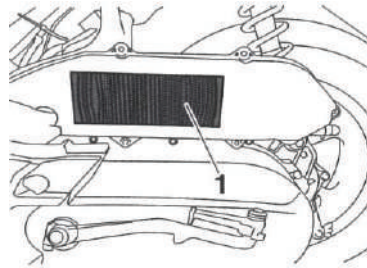
Replacing the air filter element

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



1. Air filter case cover
2. Screw

3. Pull the air filter element out.



1. Air filter element

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.

[ECA10482]

ECA21220

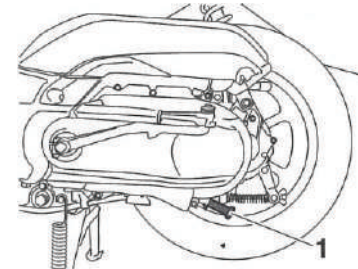
NOTICE

- The air filter element must be replaced at the intervals specified in the periodic maintenance chart.

- The air filter element should be replaced more frequently if you often ride in the rain or dusty areas.
- The air filter cannot be cleaned by blowing it with compressed air. It must be replaced.

5. Install the air filter case cover by installing the screws.

Cleaning the V-belt case check hose



1. V-belt case check hose

1. Check the hose on the rear side of the V-belt case for accumulated dirt or water.

Periodic maintenance and adjustment

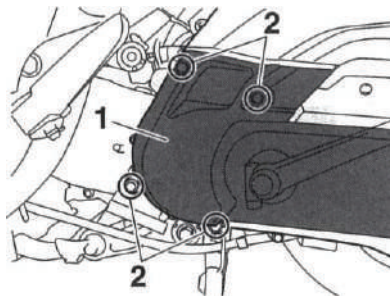
2. If dirt or water is visible, remove the hose from the clamp, clean it, and then install it.

TIP

If dirt or water was found in the check hose, be sure to check the V-belt case air filter element for excessive dirt or damage and clean or replace it if necessary.

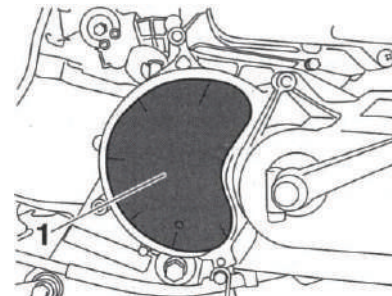
Cleaning the V-belt case air filter element

1. Place the vehicle on the center-stand.
2. Remove the screws, and then pull the V-belt case air filter element cover outward and away from the V-belt case.

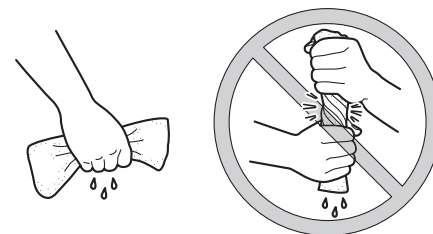


1. V-belt case air filter element cover
2. Bolt

3. Pull the V-belt case air filter element out, and then clean it with solvent. After cleaning, remove the remaining solvent by squeezing the element. **WARNING! Use only a dedicated parts cleaning solvent. To avoid the risk of fire or explosion, do not use gasoline or solvents with a low flash point.** [EWA10432] **NOTICE: To avoid damaging the air filter element, handle it gently and carefully, and do not twist it.** [ECA10522]



1. V-belt case air filter element



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

TIP

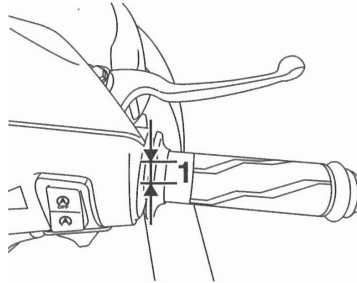
- The air filter element should be wet but not dripping.

- Check the air filter element for excessive dirt or damage and replace it if necessary.

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

Checking the throttle grip free play

Measure the throttle grip free play as shown.



1. Throttle grip free play

Throttle grip free play:
3.0–7.0 mm

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

Valve clearance

The valves are an important engine component, and since valve clearance changes with use, they must be checked and adjusted at the intervals specified in the periodic maintenance chart. Unadjusted valves can result in improper air-fuel mixture, engine noise, and eventually engine damage. To prevent this from occurring, have your Yamaha dealer check and adjust the valve clearance at regular intervals.

TIP

This service must be performed when the engine is cold.

Periodic maintenance and adjustment

EAU82721

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

8

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.

Cold tire air pressure:

1 person:

Front:
200 kPa (29 psi)

Rear:
225 kPa (33 psi)

2 persons:

Front:
200 kPa (29 psi)

Rear:
225 kPa (33 psi)

Maximum load

Vehicle:

154 kg

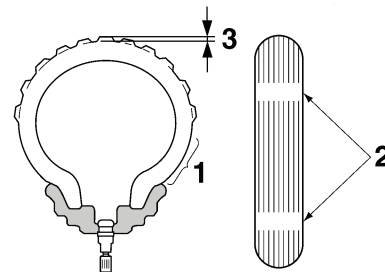
The vehicle's maximum load is the combined weight of the rider, passenger, cargo, and any accessories.

EWA10512

WARNING

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

Tire inspection



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

The tires must be checked before each ride. If a tire tread shows crosswise lines (minimum tread depth), if the tire has a nail or glass fragments in it, or if the sidewall is cracked, contact a Yamaha dealer immediately and have the tire replaced.

Minimum tire tread depth (front and rear):

1.0 mm

EWA10583

WARNING

- It is dangerous to ride with a worn-out tire. When a tire tread begins to show crosswise lines, have a Yamaha dealer replace the tire immediately.
- 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:
70/90-14M/C 34P
Manufacturer/model:
IRC/NR82
DUNLOP/D115

Rear tire:

Size:
90/80-14M/C 49P
Manufacturer/model:
IRC/NR82
DUNLOP/D115

EAU21963

Cast wheels

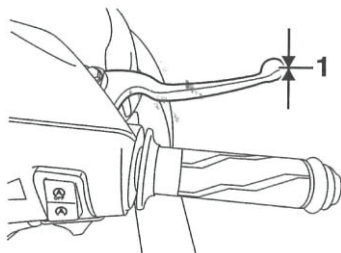
To maximize the performance, durability, and safe operation of your vehicle, note the following points regarding the specified wheels.

- The wheel rims should be checked for cracks, bends, warp-age 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.

Periodic maintenance and adjustment

Checking the front brake lever free play

EAU49351



1. No brake lever free play

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

WARNING

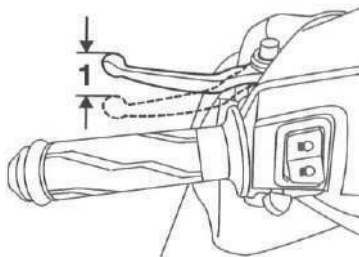
A soft or spongy feeling in the brake lever can indicate the presence of air in the hydraulic system. If there is air in the hydraulic system, have a Yamaha dealer bleed the system before operating the vehicle. Air in the hydraulic system will diminish the braking performance, which may result in loss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

EWA14212

Adjusting the rear brake lever free play

EAU22172

Measure the rear brake lever free play as shown.

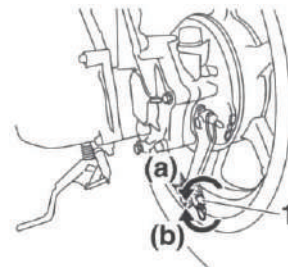


1. Rear brake lever free play

Rear brake lever free play:
15.0–20.0 mm

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).



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.

Periodic maintenance and adjustment

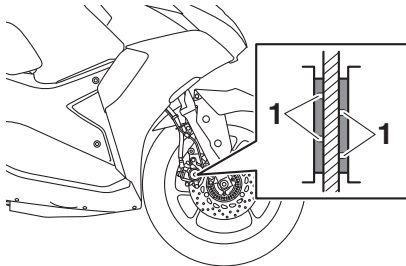
Checking the front brake pads and rear brake shoes

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

EAU22434



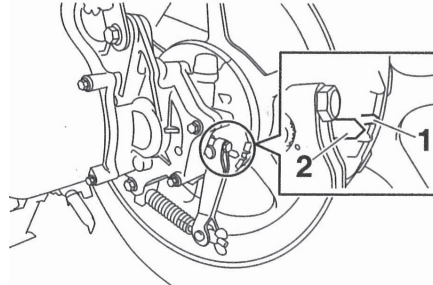
1. Brake pad wear indicator groove

Each front brake pad is provided with wear indicator grooves, which allow you to check the brake pad wear without having to disassemble the brake. To check the brake pad wear, check the wear indicator grooves. If a brake pad has worn to the point that the wear

indicator grooves have almost disappeared, have a Yamaha dealer replace the brake pads as a set.

Rear brake shoes

EAU22541



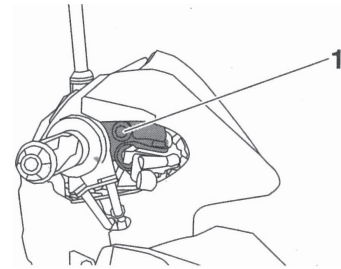
1. Brake shoe wear indicator
2. Brake shoe wear limit line

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 set.

Checking the brake fluid level

EAUN2470

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 3 or DOT 4

⚠ WARNING

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

EWAN0060

Periodic maintenance and adjustment

EAU22734

- Insufficient brake fluid may allow air to enter the brake system, reducing braking performance.
- Clean the filler cap before removing. Use only 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. Mixing brake fluids may result in a harmful chemical reaction.
- Be careful that water or dust 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, and dirt may clog the ABS hydraulic unit valves.

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

Changing the brake fluid

Have a Yamaha dealer change the brake fluid every 2 years. In addition, have the seals of the master cylinders and brake calipers, as well as the brake hoses replaced at the intervals listed below or sooner if they are damaged or leaking.

- Brake seals: every 2 years
- Brake hoses: every 4 years

NOTICE

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

Checking the V-belt

EAUJ0311

The V-belt must be checked and replaced by a Yamaha dealer at the intervals specified in the periodic maintenance and lubrication chart.

Checking and lubricating the cables

EAU23098

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

Checking and lubricating the throttle grip and cable

EAU49921

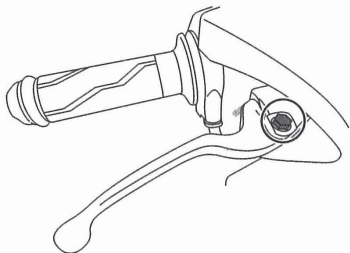
The operation of the throttle grip should be checked before each ride. In addition, the cable should be lubricated by a Yamaha dealer at the intervals specified in the periodic maintenance chart.

Periodic maintenance and adjustment

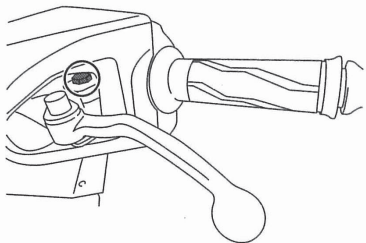
Lubricating the front and rear brake levers

EAU23173

Front brake lever



Rear brake lever



The pivoting points of the front and rear brake levers must be lubricated at the intervals specified in the periodic maintenance and lubrication chart.

Recommended lubricants:

Front brake lever:

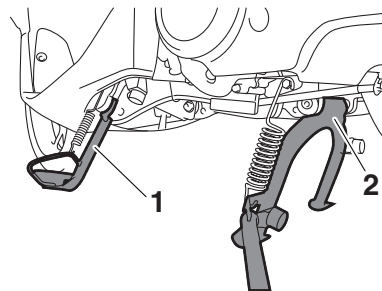
Silicone grease

Rear brake lever:

Lithium-soap-based grease

Checking and lubricating the centerstand and sidestand

EAU23215



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

EWA10742

WARNING

If the centerstand or sidestand does not move up and down smoothly, have a Yamaha dealer check or repair it. Otherwise, the centerstand or sidestand 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

Checking the front fork

EAU23273

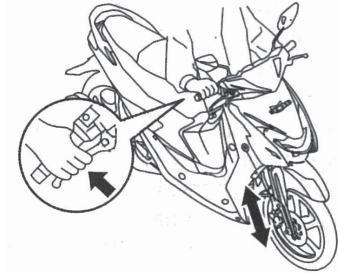
The condition and operation of the front fork must be checked as follows at the intervals specified in the periodic maintenance and lubrication chart.

To check the condition

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

To check the operation

1. Place the vehicle on a level surface and hold it in an upright position. **WARNING! To avoid injury, securely support the vehicle so there is no danger of it falling over.** [EWA10752]
2. While applying the front brake, push down hard on the handlebars several times to check if the front fork compresses and rebounds smoothly.



ECA10591

NOTICE

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

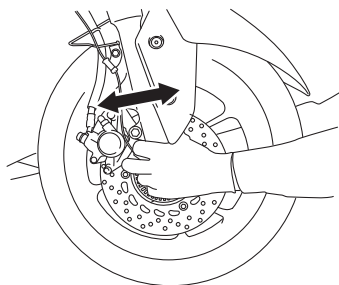
Periodic maintenance and adjustment

EAU45512

Checking the steering

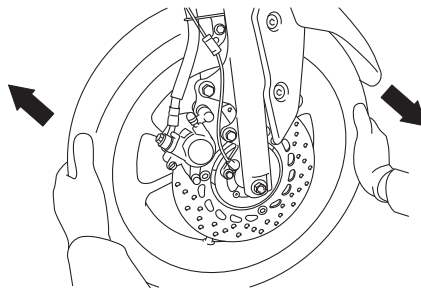
Worn or loose steering bearings may cause danger. Therefore, the operation of the steering must be checked as follows at the intervals specified in the periodic maintenance and lubrication chart.

1. Place the vehicle on the center-stand. **WARNING! To avoid injury, securely support the vehicle so there is no danger of it falling over.** [EWA10752]
2. Hold the lower ends of the front fork legs and try to move them forward and backward. If any free play can be felt, have a Yamaha dealer check or repair the steering.



EAU23292

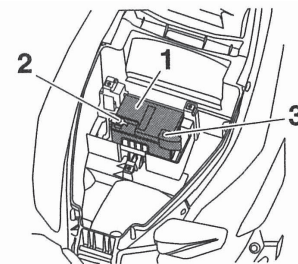
Checking the wheel bearings



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.

EAU50292

Battery



1. Battery
2. Positive battery lead (red)
3. Negative battery lead (black)

The battery is located under the seat. (See page 5-11.)

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**

Periodic maintenance and adjustment

burns. Avoid any contact with skin, eyes or clothing and always shield your eyes when working near batteries. In case of contact, administer the following FIRST AID.

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

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 to turn the main switch off, then disconnect the negative lead before disconnecting the positive lead. [ECA16304]
2. If the battery will be stored for more than two months, check it at least once a month and fully charge it if necessary.
3. Fully charge the battery before installation. **NOTICE:** When installing the battery, be sure to turn the main switch off, then con-

nect the positive lead before connecting the negative lead.

[ECA16842]

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

ECA16531

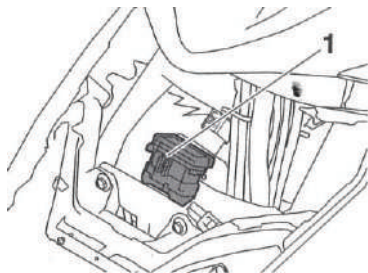
NOTICE

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

Periodic maintenance and adjustment

EAU23505

Replacing the fuse

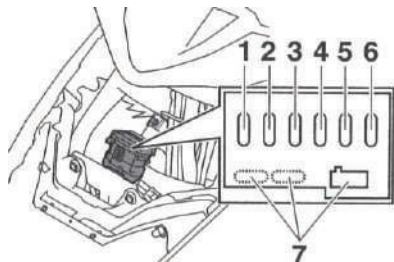


1. Fuse

The fuse holder is located behind panel A. (See page 8-9.)

If the fuse is blown, replace it as follows.

1. Turn the key to “OFF” and turn off all electrical circuits.
2. Remove the blown fuse, and then install a new fuse of the specified amperage. **WARNING! Do not use a fuse of a higher amperage rating than recommended to avoid causing extensive damage to the electrical system and possibly a fire.** [EWA15132]



1. Backup fuse
2. Main fuse
3. Headlight fuse
4. Signaling system fuse
5. Ignition fuse
6. Terminal fuse 1 (for power outlet)
7. Spare fuse

Specified fuses:

Main fuse:

20.0 A

Headlight fuse:

7.5 A

Signaling system fuse:

7.5 A

Ignition fuse:

7.5 A

Terminal fuse 1:

5.0 A

Backup fuse:

7.5 A

3. Turn the key to “ON” and turn on the electrical circuits to check if the devices operate.
4. If the fuse immediately blows again, have a Yamaha dealer check the electrical system.

Periodic maintenance and adjustment

Headlight

This model is equipped with an LED-type headlight.

If a headlight does not come on, have a Yamaha dealer check its electrical circuit.

NOTICE

Do not affix any type of tinted film or stickers to the headlight lens.

EAU62850

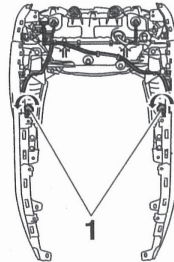
ECA16581

Replacing a turn signal light bulb or auxiliary light bulb

If a turn signal light bulb or auxiliary light bulb does not come on, follow the procedures as follow.

Replacing a front turn signal light bulb

1. Place the vehicle on the centerstand.
2. Remove panel A and B (see page 8-9)
3. Remove the turn signal light bulb socket (together with the bulb) by turning it counterclockwise.



1. Turn signal light bulb socket
4. Remove the burnt-out bulb by pulling it out.

5. Insert a new bulb into the socket.

ECAU0081

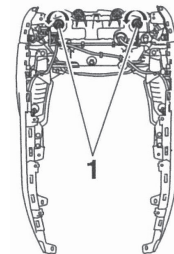
NOTICE

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

6. Install the socket (together with the bulb) by turning it clockwise.
7. Install the panel.

Replacing an auxiliary light bulb

1. Remove panel A and B. (See page 8-9.)
2. Remove the auxiliary light socket (together with the bulb) by pulling it out.



1. Auxiliary light bulb socket

Periodic maintenance and adjustment

ECAUN0490

3. Remove the burnt-out bulb by pulling it out.
4. Insert a new bulb into the socket.

ECAU0081

NOTICE

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

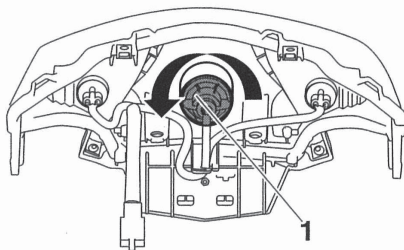
5. Install the auxiliary light socket (together with the bulb) by pushing it in.
6. Install the panel.

Replacing a tail/brake light bulb or a rear turn signal light bulb

If a tail/brake light bulb or a rear turn signal light bulb burns out, replace it as follows.

Tail/brake light bulb

1. Remove panel D and E. (See page 8-9)
2. Remove the bulb socket (together with the bulb) by turning it counterclockwise and pulling the tail-light bulb socket up at an angle.



1. Tail/brake light bulb socket

3. Remove the burnt-out bulb by pushing it in and turning it counterclockwise.

4. Insert a new bulb into the socket by pushing it in and turn it clockwise until it stops.

ECAU0091

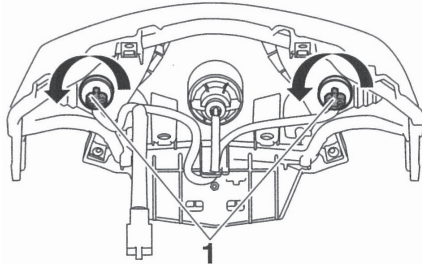
NOTICE

If a taillight bulb of different wattage than recommended is used, it may cause the battery to discharge or affect the taillight lighting.

5. Install the bulb socket (together with the bulb) by turning it clockwise.
6. Install the panel, and then close the seat.

Rear turn signal light bulb

1. Remove panel D and E. (See page 8-9)
2. Remove the bulb socket (together with the bulb) by turning it counterclockwise.



1. Rear turn signal light bulb

3. Remove the burnt-out bulb from the socket by pulling it out.
4. Insert a new bulb into the socket.

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 bulb socket (together with the bulb) by turning it clockwise.
6. Install the panel, and then close the seat.

Troubleshooting

Although Yamaha vehicles 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 vehicle require any repair, take it to a Yamaha dealer, whose skilled technicians have the necessary tools, experience, and know-how to service the vehicle 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.

⚠ WARNING

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

EAU76843

Stop and Start System troubleshooting (for EGO GEAR)

If a problem occurs, check the following before taking the vehicle to a Yamaha dealer.

The Stop and Start System indicator light does not come on.

1. Is the main switch turned on?
2. Is the Stop and Start System switch set to "A"?
3. Was the engine warmed up sufficiently after starting?
4. After the engine was warmed up, was the engine left idling for a certain period of time?

Periodic maintenance and adjustment

5. Did the vehicle travel at a speed of 10 km/h or higher?

Even if the preceding conditions are met, the Stop and Start System may not activate in order to preserve battery power. In this case, continue to drive the vehicle.

In addition, the Stop and Start System indicator light does not come on if the engine trouble warning light is on.

If the Stop and Start System indicator light still does not come on after you checked the preceding conditions, have a Yamaha dealer check the vehicle as soon as possible.

8

The Stop and Start System indicator light comes on, but the engine does not stop automatically.

1. Was the vehicle stopped completely?

The engine may not stop automatically until the vehicle is stopped for a certain period of time. Try bringing the vehicle to a complete stop.


2. Is the throttle grip turned?


The engine does not stop automatically if the throttle grip is not in the fully closed position.

Turn the throttle grip to the fully closed position.

If the engine still does not stop automatically after you checked the preceding conditions, have a Yamaha dealer check the vehicle as soon as possible.

After the engine was stopped by the Stop and Start System, the engine does not restart even if the throttle grip is turned.

1. Is the Stop and Start System switch set to “”?

If the Stop and Start System switch is set to “” while the Stop and Start System is activated, the Stop and Start System will be turned off.

2. Was the sidestand operated?

When the sidestand is lowered, the Stop and Start System is deactivated.

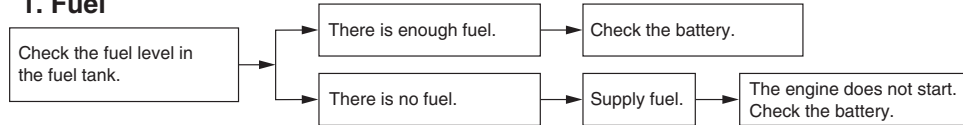
3. Was the engine left stopped by the Stop and Start System for a long period of time?

If the engine is left stopped by the Stop and Start System for a long period of time, the battery could become discharged.

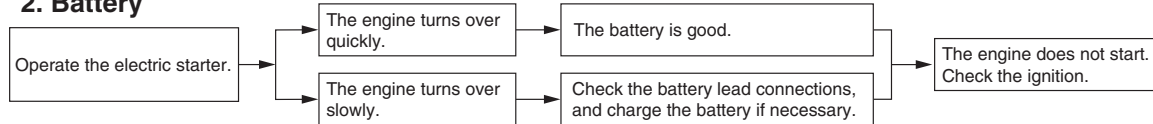
If the engine still does not restart after you checked the preceding conditions, have a Yamaha dealer check the vehicle as soon as possible.

Troubleshooting chart

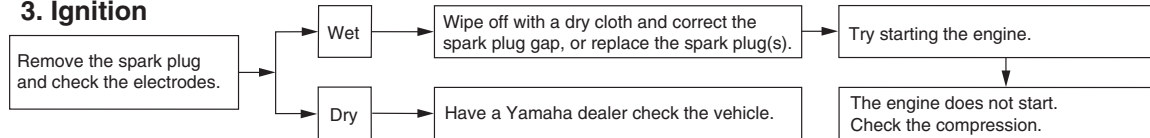
1. Fuel



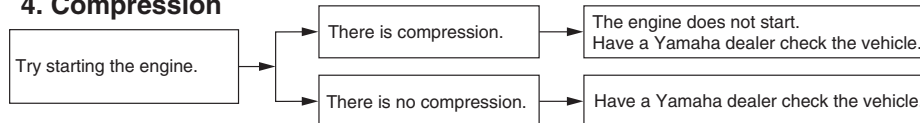
2. Battery



3. Ignition



4. Compression



Motorcycle care and storage

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

Frequent, thorough cleaning of the vehicle will not only enhance its appearance but also will improve its general performance and extend the useful life of many components. Washing, cleaning, and polishing will also give you a chance to inspect the condition of the vehicle more frequently. Be sure to wash the vehicle after riding in the rain or near the sea, because salt is corrosive to metals.

TIP

- Genuine Yamaha care and maintenance products are sold under the YAMALUBE brand in many markets worldwide.
- See your Yamaha dealer for additional cleaning tips.

EAU84990

NOTICE

Improper cleaning can cause cosmetic and mechanical damage. Do not use:

- high-pressure washers or steam-jet cleaners. Excessive water pressure may cause wa-

ter seepage and deterioration of wheel bearings, brakes, transmission seals and electrical devices. Avoid high-pressure detergent applications such as those available in coin-operated car washers.

- harsh chemicals, including strong acidic wheel cleaners, especially on spoke or magnesium wheels.
- harsh chemicals, abrasive cleaning compounds, or wax on matte-finished parts. Brushes can scratch and damage the matte-finish, use soft sponge or towel only.
- towels, sponges, or brushes contaminated with abrasive cleaning products or strong chemicals such as, solvents, gasoline, rust removers, brake fluid, or antifreeze, etc.

Before washing

1. Park the vehicle out of direct sunlight and allow it to cool. This will help avoid water spots.

2. Make sure all caps, covers, electrical couplers and connectors are tightly installed.
3. Cover the muffler end with a plastic bag and a strong rubber band.
4. Pre-soak stubborn stains like insects or bird droppings with a wet towel for a few minutes.
5. Remove road grime and oil stains with a quality degreasing agent and a plastic-bristle brush or sponge. **NOTICE: Do not use degreasing agent on areas requiring lubrication such as seals, gaskets, and wheel axles. Follow product instructions.**

[ECA26290]

Washing

1. Rinse off any degreaser and spray down the vehicle with a garden hose. Use only enough pressure to do the job. Avoid spraying water directly into the muffler, instrument panel, air inlet, or other inner areas such as underseat storage compartments.
2. Wash the vehicle with a quality automotive-type detergent mixed with cool water and a soft, clean towel or sponge. Use an old toothbrush or plastic-bristle brush for hard-to-reach places. **NOTICE: Use cold water if the vehicle has been exposed to salt. Warm water will increase salt's corrosive properties.** [ECA26301]
3. For windshield-equipped vehicles: Clean the windshield with a soft towel or sponge dampened with water and a pH neutral detergent. If necessary, use a high-quality windshield cleaner or polish for motorcycles. **NOTICE: Never use any strong chemicals to clean the windshield. Additionally, some cleaning compounds for plastic may scratch the windshield, so be sure to test all cleaning products before general application.** [ECA26310]
4. Rinse off thoroughly with clean water. Be sure to remove all detergent residues, as they can be harmful to plastic parts.

After washing

1. Dry the vehicle with a chamois or absorbent towel, preferably microfiber terrycloth.
2. For drive chain-equipped models: Dry and then lubricate the drive chain to prevent rust.
3. Use a chrome polish to shine chrome, aluminum, and stainless steel parts. Often the thermally induced discoloring of stainless steel exhaust systems can be removed through polishing.
4. Apply a corrosion protection spray on all metal parts including chrome or nickel-plated surfaces. **WARNING! Do not apply silicone or oil spray to seats, hand grips, rubber foot pegs or tire treads. Otherwise these parts will become slippery, which could cause loss of control. Thoroughly clean the surfaces of these parts before operating the vehicle.** [EWA20650]
5. Treat rubber, vinyl, and unpainted plastic parts with a suitable care product.

Motorcycle care and storage

6. Touch up minor paint damage caused by stones, etc.
7. Wax all painted surfaces using a non-abrasive wax or use a detail spray for motorcycles.
8. When finished cleaning, start the engine and let it idle for several minutes to help dry any remaining moisture.
9. If the headlight lens has fogged up, start the engine and turn on the headlight to help remove the moisture.
10. Let the vehicle dry completely before storing or covering it.

ECA26320

NOTICE

- Do not apply wax to rubber or unpainted plastic parts.
- Do not use abrasive polishing compounds as they will wear away the paint.
- Apply sprays and wax sparingly. Wipe off excess afterwards.

EWA20660

WARNING

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

- **Make sure there is no lubricant or wax on the brakes or tires.**
- **If necessary, wash the tires with warm water and a mild detergent.**
- **If necessary, clean the brake discs and pads with brake cleaner or acetone.**
- **Before riding at higher speeds, test the vehicle's braking performance and cornering behavior.**

EAU83472

Storage

Always store the vehicle in a cool, dry place. If necessary, protect it against dust with a porous cover. Be sure the engine and the exhaust system are cool before covering the vehicle. If the vehicle often sits for weeks at a time between uses, the use of a quality fuel stabilizer is recommended after each fill-up.

ECA21170

NOTICE

- **Storing the vehicle 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 storage

Before storing the vehicle long term (60 days or more):

1. Make all necessary repairs and perform any outstanding maintenance.
2. Follow all instructions in the Care section of this chapter.
3. Fill up the fuel tank, adding fuel stabilizer according to product instructions. Run the engine for 5 minutes to distribute treated fuel through the fuel system.
4. For vehicles equipped with a fuel cock: Turn the fuel cock lever to the off position.
5. For vehicles with a carburetor: To prevent fuel deposits from building up, drain the fuel in the carburetor float chamber into a clean container. Retighten the drain bolt and pour the fuel back into the fuel tank.
6. Use a quality engine fogging oil according to product instructions to protect internal engine components from corrosion. If engine fogging oil is not available, perform the following steps for each cylinder:
 - a. Remove the spark plug cap and spark plug.
 - b. Pour a teaspoonful of engine oil into the spark plug bore.
 - c. Install the spark plug cap onto the spark plug, and then place the spark plug on the cylinder head so that the electrodes are grounded. (This will limit sparking during the next step.)
 - d. Turn the engine over several times with the starter. (This will coat the cylinder wall with oil.)
WARNING! To prevent damage or injury from sparking, make sure to ground the spark plug electrodes while turning the engine over.
[EWA10952]
 - e. Remove the spark plug cap from the spark plug, and then install the spark plug and the spark plug cap.
7. Lubricate all control cables, pivots, levers and pedals, as well as the sidestand and centerstand (if equipped).
8. Check and correct the tire air pressure, and then lift the vehicle so that all wheels are off the ground. Otherwise, turn the wheels a little once a month in order to prevent the tires from becoming degraded in one spot.
9. Cover the muffler outlet with a plastic bag to prevent moisture from entering it.
10. Remove the battery and fully charge it, or attach a maintenance charger to keep the battery optimally charged. **NOTICE: Confirm that the battery and its charger are compatible. Do not charge a VRLA battery with a conventional charger.** [ECA26330]

TIP

- If the battery will be removed, charge it once a month and store it in a temperate location between 0-30 °C (32-90 °F).
- See page 8-28 for more information on charging and storing the battery.

Specifications

Dimensions:

Overall length:
1870 mm
Overall width:
685 mm
Overall height:
1060 mm
Seat height:
750 mm
Wheelbase:
1260 mm
Ground clearance:
135 mm
Minimum turning radius:
1.9 m

Weight:

Curb weight:
96 kg

Engine:

Combustion cycle:
4-stroke, SOHC
Number of cylinders:
Single cylinder
Displacement:
124.96 cm³
Bore × stroke:
52.4 × 57.9 mm
Starting system:
Electric starter and kickstarter

Engine oil:

SAE viscosity grades:
10W-40

Recommended engine oil grade:
API service SG type or higher, JASO
standard MB
Engine oil quantity:
Oil change:
0.80 L

Final transmission oil:

Type:
SAE 10W-40 type or SAE 10W-30
type SE motor oil
Quantity:
0.10 L

Fuel:

Recommended fuel:
Unleaded gasoline (E10 acceptable)
Fuel tank capacity:
4.2 L
Fuel reserve amount:
1.1 L (0.29 US gal, 0.24 Imp.gal)

Fuel injection:

Throttle body:
ID mark:
B5D1 00

Front tire:

Type:
Tubeless
Size:
80/80-14M/C 43P
Manufacturer/model:
IRC/NR82
DUNLOP/D115

Rear tire:

Type:
Tubeless

Size:

100/70-14M/C 51P
Manufacturer/model:
IRC/NR82
DUNLOP/D115

Loading:

Maximum load:
154 kg
(Total weight of rider, passenger, cargo and accessories)

Front brake:

Type:
Hydraulic single disc brake

Rear brake:

Type:
Mechanical leading trailing drum brake

Front suspension:

Type:
Telescopic fork

Rear suspension:

Type:
Unit swing

Electrical system:

System voltage:
12 V

Battery:

Model:
YTZ6V

Voltage, capacity:

12 V, 5.0 Ah (10 HR)

Bulb wattage:

Headlight:

LED

Brake/tail light:

21.0W/5.0W

Front turn signal light:

10.0 W

Rear turn signal light:

10.0 W

Auxiliary light:

5.0W

Consumer information

Identification numbers

EAU26366

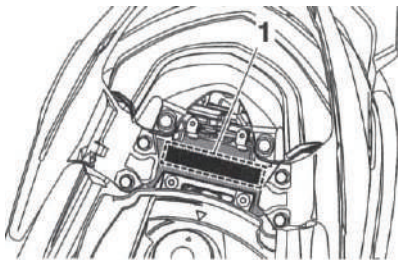
Record the vehicle identification number and the engine serial number in the spaces provided below for assistance when ordering spare parts from a Yamaha dealer or for reference in case the vehicle is stolen.

VEHICLE IDENTIFICATION NUMBER:

ENGINE SERIAL NUMBER:

Vehicle identification number

EAU26411



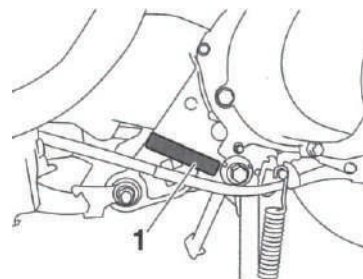
1. Vehicle identification number

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

EAU26442



1. Engine serial number

The engine serial number is stamped into the crankcase.

Vehicle data recording

EAU85400

This model's ECU stores certain vehicle data to assist in the diagnosis of malfunctions and for research, statistical analysis and development purposes.

Although the sensors and recorded data will vary by model, the main data points are:

- Vehicle status and engine performance data
- Fuel-injection and emission-related data

This data will be uploaded only when a special Yamaha diagnostic tool is attached to the vehicle, such as when maintenance checks or service procedures are performed.

Yamaha will not disclose this data to a third party except in the following cases. In addition, Yamaha may provide vehicle data to a contractor in order to outsource services related to the handling of vehicle data. Even in this case, Yamaha will require the contractor to

properly handle the vehicle data we provided and Yamaha will appropriately manage the data.

- With the consent of the vehicle owner
- Where obligated by law
- For use by Yamaha in litigation
- When the data is not related to an individual vehicle nor owner