



OWNER'S MANUAL

**⚠ Read this manual carefully
before operating this vehicle.**

MOTORCYCLE

CZD300-A

B5X-F8199-EY

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

Welcome to the Yamaha world of motorcycling!

As the owner of the CZD300-A, 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 CZD300-A. The Owner's Manual does not only instruct you in how to operate, inspect and maintain your scooter, but also in how to safeguard yourself and others from trouble and injury.

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

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

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



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

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. |
|  | A WARNING indicates a hazardous situation which, if not avoided, could result in death or serious injury. |
|  | 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

**CZD300-A
OWNER'S MANUAL
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Manufacturing
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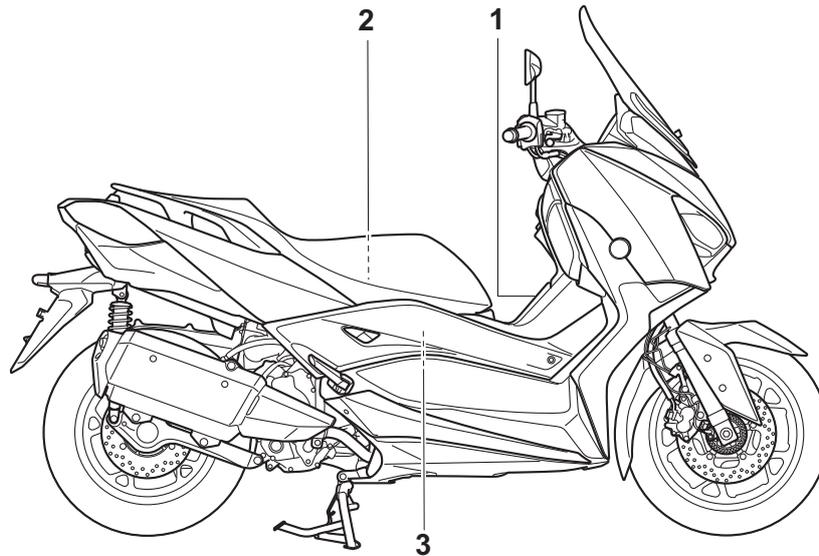
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Location of important labels

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1

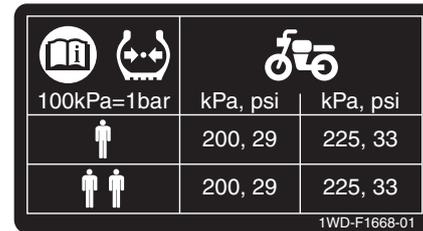
Read and understand all of the labels on your vehicle. They contain important information for safe and proper operation of your vehicle. Never remove any labels from your vehicle. If a label becomes difficult to read or comes off, a replacement label is available from your Yamaha dealer.



1



2



3



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2

Be a Responsible Owner

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

Scooters are single-track vehicles.

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

He or she should:

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

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

Safe Riding

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

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

conspicuous appears to be very effective in reducing the chance of this type of accident.

Therefore:

- Wear a brightly colored jacket.
- Use extra caution when you are approaching and passing through intersections, since intersections are the most likely places for scooter accidents to occur.
- Ride where other motorists can see you. Avoid riding in another motorist's blind spot.
- Never maintain a scooter without proper knowledge. Contact an authorized scooter dealer to inform you on basic scooter maintenance. Certain maintenance can only be carried out by certified staff.

- Many accidents involve inexperienced operators. In fact, many operators who have been involved in accidents do not even have a current driver's license.
 - Make sure that you are qualified and that you only lend your scooter to other qualified operators.
 - Know your skills and limits. Staying within your limits may help you to avoid an accident.
 - We recommend that you practice riding your scooter where there is no traffic until you have become thoroughly familiar with the scooter and all of its controls.
- Many accidents have been caused by error of the scooter operator. A typical error made by the operator is veering wide on a turn due to excessive speed or undercornering (insufficient lean angle for the speed).
 - Always obey the speed limit and never travel faster than warranted by road and traffic conditions.
- Always signal before turning or changing lanes. Make sure that other motorists can see you.
- The posture of the operator and passenger is important for proper control.
 - The operator should keep both hands on the handlebar and both feet on the operator footrests during operation to maintain control of the scooter.
 - The passenger should always hold onto the operator, the seat strap or grab bar, if equipped, with both hands and keep both feet on the passenger footrests. Never carry a passenger unless he or she can firmly place both feet on the passenger footrests.
- Never ride under the influence of alcohol or other drugs.
- This scooter is designed for on-road use only. It is not suitable for off-road use.

Protective Apparel

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

- Always wear an approved helmet.
- Wear a face shield or goggles. Wind in your unprotected eyes could contribute to an impairment of vision that could delay seeing a hazard.
- The use of a jacket, substantial shoes, trousers, gloves, etc., is effective in preventing or reducing abrasions or lacerations.
- Never wear loose-fitting clothes, otherwise they could catch on the control levers or wheels and cause injury or an accident.
- Always wear protective clothing that covers your legs, ankles, and feet. The engine or exhaust system become very hot during or after operation and can cause burns.
- A passenger should also observe the above precautions.

Safety information

2

Avoid Carbon Monoxide Poisoning

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

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

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

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

Loading

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

The total weight of the operator, passenger, accessories and cargo must not exceed the maximum load limit.

Operation of an overloaded vehicle could cause an accident.

Maximum load:

161 kg (355 lb)

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

- Cargo and accessory weight should be kept as low and close to the scooter as possible. Securely pack your heaviest items as close to the center of the vehicle as possible and make sure to distribute the weight as evenly as possible on both sides of the scooter to minimize imbalance or instability.
- Shifting weights can create a sudden imbalance. Make sure that accessories and cargo are securely attached to the scooter before riding. Check accessory mounts and cargo restraints frequently.
- Properly adjust the suspension for your load (suspension-adjustable models only), and check the condition and pressure of your tires.
- Never attach any large or heavy items to the handlebar, front fork, or front fender. Such items can create unstable handling or a slow steering response.
- **This vehicle is not designed to pull a trailer or to be attached to a sidecar.**

Genuine Yamaha Accessories

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

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

Aftermarket Parts, Accessories, and Modifications

While you may find aftermarket products similar in design and quality to genuine Yamaha accessories, recognize that some aftermarket accessories or modifications are not suitable because of potential safety hazards to you or others. Installing aftermarket

products or having other modifications performed to your vehicle that change any of the vehicle's design or operation characteristics can put you and others at greater risk of serious injury or death. You are responsible for injuries related to changes in the vehicle.

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

- Never install accessories or carry cargo that would impair the performance of your scooter. 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 scooter due to aerodynamic effects. Wind may attempt to lift the scooter, or the scooter may become unstable in cross winds. These accessories may also cause instability when passing or being passed by large vehicles.
- Certain accessories can displace the operator from his or her normal riding position. This improper position limits the freedom of movement of the operator and may limit control ability, therefore, such accessories are not recommended.
- Use caution when adding electrical accessories. If electrical accessories exceed the capacity of the scooter's electrical system, an electric failure could result, which could cause a dangerous loss of lights or engine power.

Safety information

2

Aftermarket Tires and Rims

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

Transporting the Scooter

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

- Remove all loose items from the scooter.
- Point the front wheel straight ahead on the trailer or in the truck bed, and choke it in a rail to prevent movement.
- Secure the scooter with tie-downs or suitable straps that are attached to solid parts of the scooter, such as the frame or upper front fork triple clamp (and not, for example, to rubber-mounted handlebars or turn signals, or parts that could break). Choose the lo-

cation for the straps carefully so the straps will not rub against painted surfaces during transport.

- The suspension should be compressed somewhat by the tie-downs, if possible, so that the scooter will not bounce excessively during transport.

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Further safe-riding points

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

- Always wear a helmet, gloves, trousers (tapered around the cuff and ankle so they do not flap), and a brightly colored jacket.
- Do not carry too much luggage on the scooter. An overloaded scooter is unstable. Use a strong cord to secure any luggage to the carrier (if equipped). A loose load will affect the stability of the scooter and could divert your attention from the road. (See page 2-3.)

Helmets

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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 “TIS”.
- 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



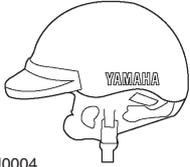
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Types of helmets and their usage

- Half-type: use only for riding at low speeds

Safety information

2



ZAUU0004



ZAUU0006

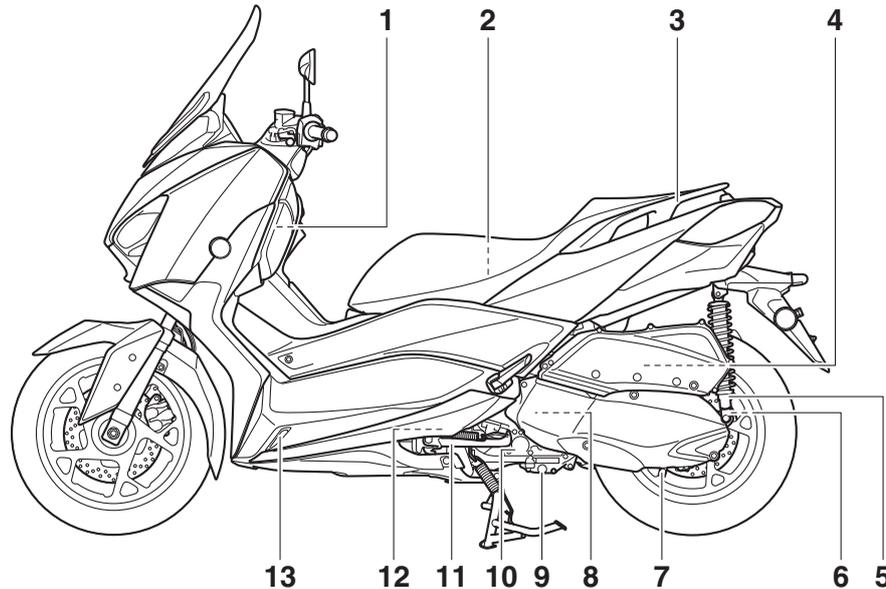
- Full-type: use only for riding at low to mid-range speeds



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

Left view



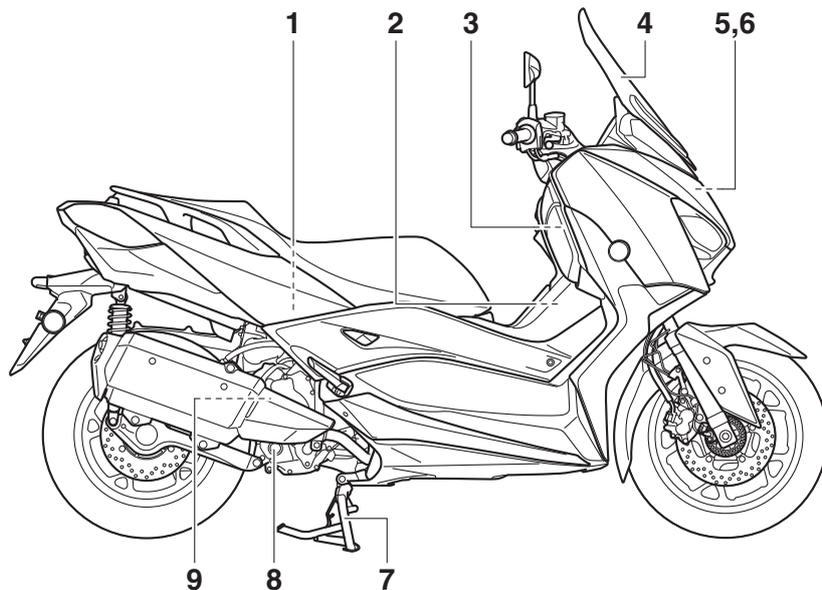
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|--|---|
| 1. Storage compartment A (page 5-18) | 9. Engine oil drain bolt (page 8-10) |
| 2. Tool kit (page 8-1) | 10. Engine oil filter element (page 8-10) |
| 3. Grab bar (page 7-3) | 11. Sidestand (page 5-24) |
| 4. Air filter element (page 8-15) | 12. Spark plug (page 8-9) |
| 5. Shock absorber assembly spring preload adjusting ring (page 5-22) | 13. Coolant reservoir (page 8-14) |
| 6. Final transmission oil filler cap (page 8-13) | |
| 7. Final transmission oil drain bolt (page 8-13) | |
| 8. V-belt case air filter element (page 8-15) | |

Description

EAU10421

Right view

3



1. Rear storage compartment (page 5-18)

2. Fuel tank cap (page 5-15)

3. Storage compartment B (page 5-18)

4. Windshield (page 5-20)

5. Battery (page 8-29)

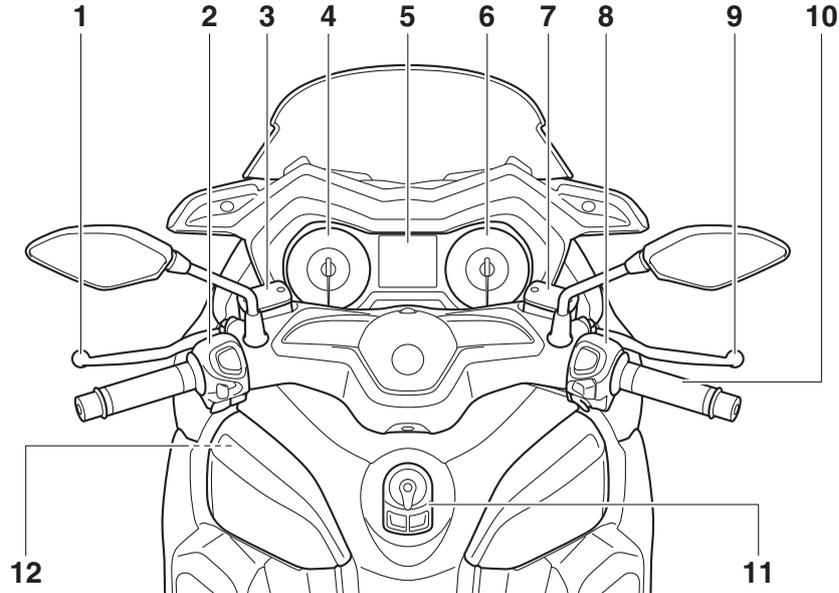
6. Fuses (page 8-30)

7. Centerstand (page 8-27)

8. Engine oil level check window (page 8-10)

9. Engine oil filler cap (page 8-10)

Controls and instruments



1. Rear brake lever (page 5-12)

2. Left handlebar switches (page 5-10)

3. Rear brake fluid reservoir (page 8-23)

4. Speedometer (page 5-2)

5. Multi-function display (page 5-3)

6. Tachometer (page 5-2)

7. Front brake fluid reservoir (page 8-23)

8. Right handlebar switches (page 5-10)

9. Front brake lever (page 5-12)

10. Throttle grip (page 8-19)

11. Main switch (page 4-7)

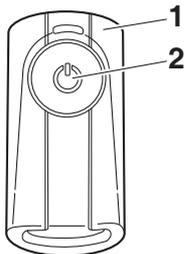
12. Auxiliary DC jack (page 5-23)

Smart key system

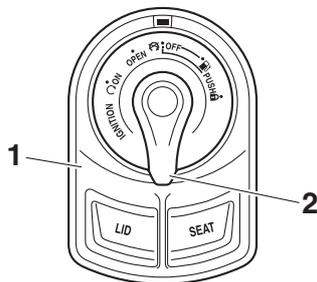
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Smart key system

The smart key system enables you to operate the vehicle without using a mechanical key. In addition, there is an answer-back function to help you locate the vehicle in a parking lot. (See page 4-5.)



1. Smart key
2. Smart key button

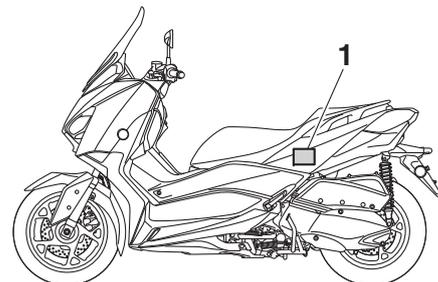


1. Main switch
2. Main switch knob

EWA14704

WARNING

- Keep implanted pacemakers or cardiac defibrillators, as well as other electric medical devices away from the vehicle mounted antenna (see illustration).
- Radio waves transmitted by the antenna may affect the operation of such devices when close by.
- If you have an electric medical device, consult a doctor or the device manufacturer before using this vehicle.



1. Vehicle mounted antenna

ECA24080

NOTICE

The smart key system uses weak radio waves. The smart key system may not work in the following situations.

- The smart key is placed in a location exposed to strong radio waves or other electromagnetic noise
- There are facilities nearby that are emitting strong radio waves (TV or radio towers, power plants, broadcasting stations, airports, etc.)

- You are carrying or using communication equipment such as radios or mobile phones in close proximity of the smart key
- The smart key is in contact with or covered by a metallic object
- Other vehicles equipped with a smart key system are nearby

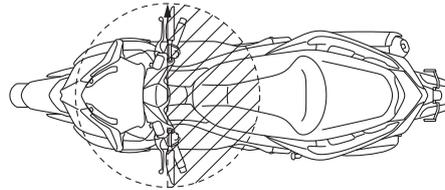
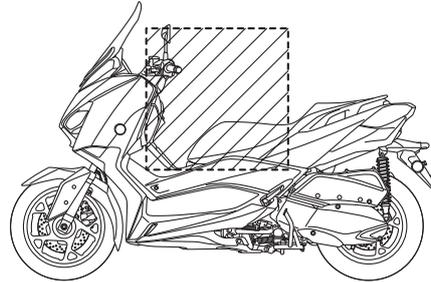
In such situations, move the smart key to another location and perform the operation again. If it still does not work, operate the vehicle in emergency mode. (See page 8-37.)

TIP _____

To preserve vehicle battery power, the smart key system turns off approximately 9 days after the vehicle was last used (the answer-back function is disabled). In this situation, simply push the main switch knob to turn the smart key system back on.

Operating range of the smart key system ^{EAU76453}

The approximate operating range of the smart key system is shown below.



smart key system may not work or its operating range may become very short.

TIP _____

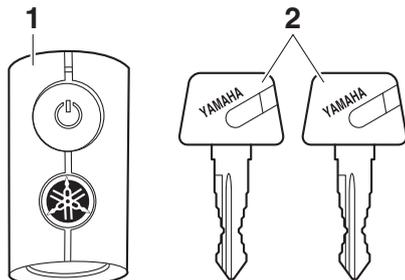
- Do not place the smart key in a storage compartment.
- Always carry the smart key with you.
- Turn the smart key off when leaving the vehicle.

If the smart key is turned off, the vehicle will not recognize the smart key even if it is within operating range. If the smart key battery is discharged, the

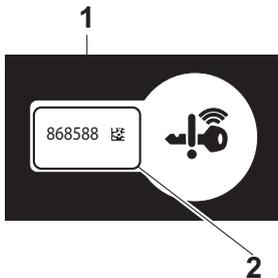
Smart key system

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Handling of the smart key and mechanical keys



1. Smart key
2. Mechanical key



1. Identification number card
2. Identification number

EWA17952

WARNING

- The smart key should be carried with you. Do not store it on the vehicle.
- When the smart key is within operating range, exercise due care because other people not carrying the smart key can start the engine and operate the vehicle.

Included with the vehicle is one smart key, two mechanical keys, and one identification number card.

If the vehicle battery is discharged, the mechanical key can be used to open the seat. **Carry one mechanical key in addition to the smart key.**

If the smart key is lost or the smart key battery has discharged, the identification number can be used to operate the vehicle in emergency mode. (See page 8-37.) **Write down the identification number in case of emergency.**

If the smart key is lost and the smart key system identification number is unknown, the entire smart key system will

need to be replaced at considerable cost. **Keep the identification number card in a safe place.**

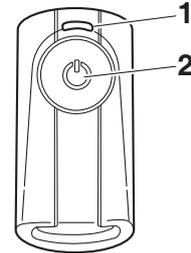
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NOTICE

The smart key has precision electronic components. Observe the following precautions to prevent possible malfunction or damage.

- Do not place or store the smart key in a storage compartment. The smart key may be damaged from road vibrations or excessive heat.
- Do not drop, bend, or subject the smart key to strong impacts.
- Do not submerge the smart key in water or other liquids.
- Do not place heavy items or excessive stress on the smart key.
- Do not leave the smart key in a place exposed to direct sunlight, high temperature or high humidity.
- Do not grind or attempt to modify the smart key.

Smart key



1. Smart key indicator light
2. Smart key button

WARNING

- **The smart key should be carried with you. Do not store it on the vehicle.**
- **When the smart key is within operating range, exercise due care because other people not carrying the smart key can start the engine and operate the vehicle.**

- **Keep the smart key away from strong magnetic fields and magnetic objects such as key holders, TVs, and computers.**
- **Keep the smart key away from electric medical equipment.**
- **Do not allow oils, polishing agents, fuel, or any strong chemicals to come in contact with the smart key. The smart key body may become discolored or cracked.**

TIP

- The smart key battery life is approximately two years, but this may vary according to operating conditions.
- Replace the smart key battery when the smart key system indicator light flashes for 20 seconds when the vehicle is turned on, or when the smart key indicator light does not come on when the smart key button is pushed. (See page 4-6.) After changing the smart key battery, if the smart key system

still does not operate, check the vehicle battery and then have a Yamaha dealer check the vehicle.

- If the smart key continually receives radio waves, the smart key battery will discharge quickly. (For example, when placed in the vicinity of electrical products such as televisions, radios, or computers.)
- You can register up to six smart keys for the same vehicle. See a Yamaha dealer regarding spare smart keys.
- If a smart key is lost, contact a Yamaha dealer immediately to prevent the vehicle from being stolen.

Smart key system

4

To turn the smart key on or off

Push the smart key button for approximately 1 second to turn the smart key on or off. When the smart key is turned off, the vehicle cannot be operated even if the smart key is within operating range. To operate the vehicle, turn the smart key on and bring it within operating range.

To check whether the smart key is turned on or off

Push the smart key button to confirm the current operating status of the smart key.

If the smart key indicator light:

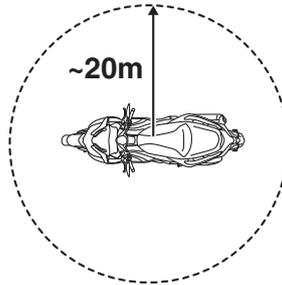
- Comes on quickly for 0.1 seconds: The smart key is turned on.
- Comes on slowly for 0.5 seconds: The smart key is turned off.

Remote answer-back function

Push the smart key button to operate the answer-back function remotely. The beeper will sound twice and all of the turn signal lights will flash twice. This feature is convenient for locating your vehicle in a parking lot and other areas.

Operating range of the answer-back function

The approximate operating range of the answer-back function is as shown.



As the smart key system uses weak radio waves, the operating range may be affected by the surrounding environment.

To turn the answer-back beeper on or off

The beeper, which sounds when the answer-back function is operated, can be turned on or off according to the following procedure.

1. Turn the smart key on and bring it within operating range.

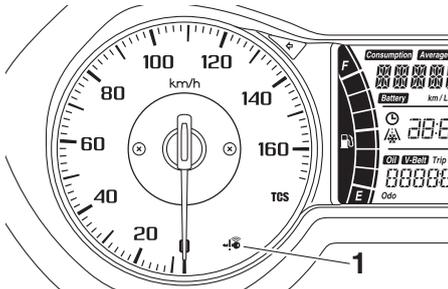
2. Turn the main switch to “OFF”, and then push the main switch knob once.
3. Within 9 seconds of pushing the knob, push and hold the knob again for 5 seconds.
4. When the beeper sounds, the setting is complete.

If the beeper:

- Sounds twice: The beeper is turned off.
- Sounds once: The beeper is turned on.

Smart key battery

EAU83293



1. Smart key system indicator light “”

If the smart key system indicator light flashes for 20 seconds when the vehicle is first turned on, the smart key battery is low and should be replaced.

Also, if the answer-back function does not work or its operating range is very short, replace the battery soon.

EWA14724

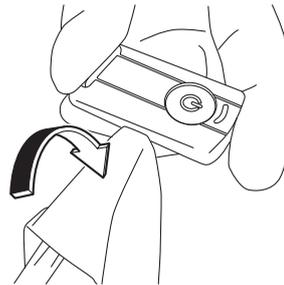
WARNING

- The battery and other removable parts may cause injury if swallowed. Keep the battery and other removable parts away from children.

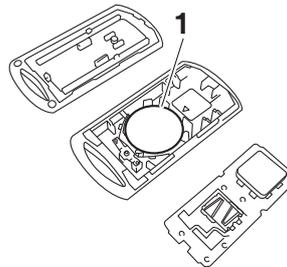
- Do not expose the battery to direct sunlight or other heat sources.

To replace the smart key battery

1. Open the smart key case as shown.



2. Remove the battery.



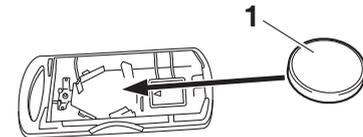
1. Battery

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. Gently snap the smart key case closed.

Smart key system

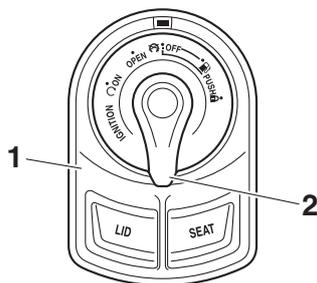
ECA15785

NOTICE

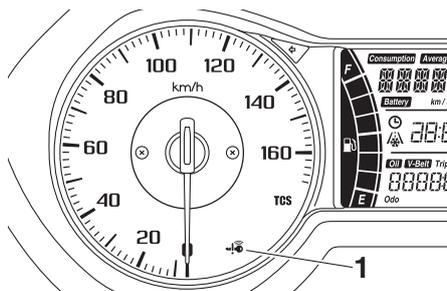
- Use a cloth when opening the smart key case with a screwdriver. Direct contact with hard objects may damage or scratch the smart key.
- Take precautions to prevent the waterproof seal from being damaged or contaminated by dirt.
- Do not touch the internal circuits and terminals. This may cause malfunctions.
- 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.

Main switch

EAU76892



1. Main switch
2. Main switch knob



1. Smart key system indicator light “”

The main switch is used to turn the vehicle power on and off, lock and unlock the steering, and open the seat, fuel tank cap lid and storage compartment

A. After pushing the main switch knob and confirmation with the smart key has taken place, the main switch can be turned while the smart key system indicator light is on (approximately 4 seconds).

EWA18720

WARNING

Never turn the main switch to “OFF”, “”, or “OPEN” while the vehicle is moving. Otherwise the electrical systems will be switched off, which may result in loss of control or an accident.

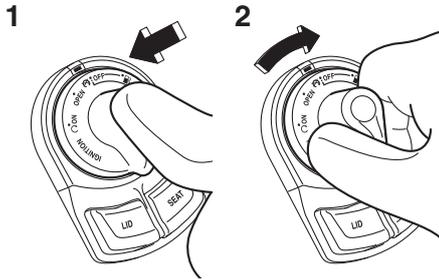
TIP

Do not push the main switch knob repeatedly or turn the main switch back and forth beyond normal use. Otherwise, to protect the main switch from damage, the smart key system will temporarily disable and the smart key system indicator light will flash. If this occurs, wait until the indicator light stops flashing before operating the main switch again.

The main switch positions are described below.

ON

EAU76502



1. Push.
2. Turn.

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

To turn the vehicle power on

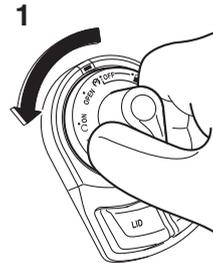
1. Turn the smart key on and bring it within operating range.
2. Push the main switch knob and the smart key indicator light will come on for approximately 4 seconds.
3. While the smart key system indicator light is on, turn the main switch to "ON". All of the turn signal lights will flash twice and the vehicle power will turn on.

TIP

- If the vehicle battery voltage is low, the turn signal lights will not flash.
- See "Emergency mode" on page 8-37 for information on turning the vehicle power on without the smart key.

OFF

EAU76511



1. Turn.

All electrical systems are off.

To turn the vehicle power off

1. With the smart key turned on and within operating range, turn the main switch to "OFF".

2. The turn signal lights flash once and the vehicle power turns off.

TIP

When the main switch is turned to "OFF" but the smart key cannot be confirmed (the smart key is either outside operation range or has been turned off), the beeper will sound for 3 seconds and the smart key system indicator light will flash for 30 seconds.

- During this 30 seconds, the main switch can be freely operated.
- After 30 seconds, the vehicle power will turn off automatically.
- To turn the vehicle power off immediately, push the main switch knob four times within 2 seconds.

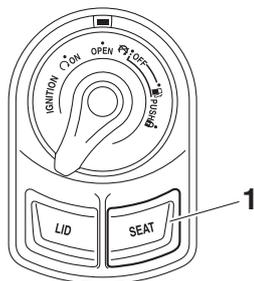
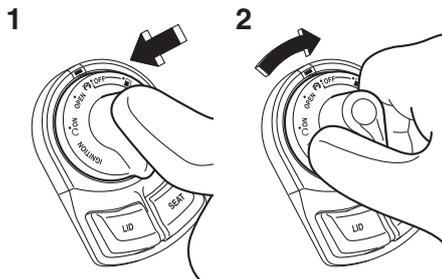
OPEN (open)

EAU79042

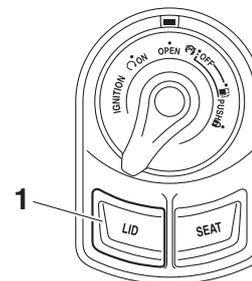
Power is supplied to the main switch. The seat and storage compartment A can be opened.

Smart key system

To open the seat and storage compartment A



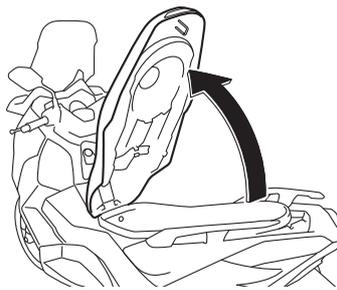
1. "SEAT" button



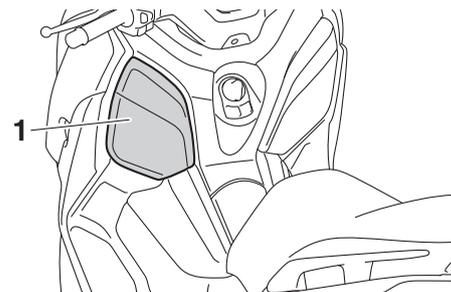
1. "LID" button

1. Push.
2. Turn.

1. With the smart key turned on and within operating range, push the main switch knob.
2. While the smart key system indicator light is on, turn the main switch to "OPEN".
3. To open the seat, push the "SEAT" button, and then lift the rear of the seat.



4. To open storage compartment A, push the "LID" button.



1. Storage compartment A

TIP

Make sure that the seat and storage compartment are securely closed before starting off.

EAU76521

Open position reminder

To prevent you from accidentally leaving the vehicle unlocked by walking away with the main switch still in the “OPEN” position, the smart key system beeper will sound under the following conditions.

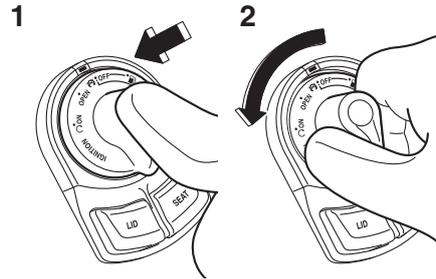
- When the main switch has been in the “OPEN” position for 3 minutes
- If the smart key is turned off while the main switch is in the “OPEN” position
- If you walk out of range of the smart key system with the main switch in the “OPEN” position

If the beeper sounds after 3 minutes, turn the main switch to “OFF” or “”. If the beeper sounds because the smart key was turned off or moved out of range, turn the smart key on and walk back into range.

TIP

- The beeper will turn off after 1 minute.
- The seat can also be opened with the mechanical key. (See page 5-18.)

“” (lock)



1. Push.
2. Push and turn.

The steering is locked and all electrical systems are off.

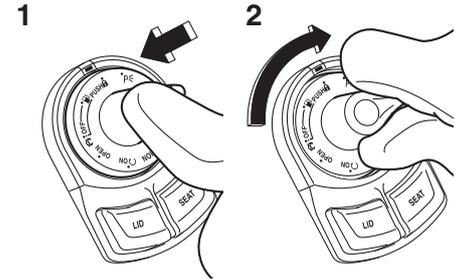
To lock the steering

1. Turn the handlebar all the way to the left.
2. With the smart key turned on and within operating range, push the main switch knob.
3. While the smart key system indicator light is on, push and turn the main switch to “”.

TIP

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

To unlock the steering



1. Push.
2. Push and turn.

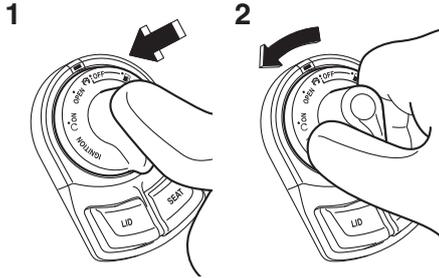
1. With the smart key turned on and within operating range, push the main switch knob.
2. While the smart key system indicator light is on, push and turn the main switch to the desired position.

Smart key system

EAU79000

“” (fuel tank cap lid)

To open the fuel tank cap lid



1. Push.
2. Turn.

1. With the smart key turned on and within operating range, push the main switch knob.
2. While the smart key system indicator light is on, turn the main switch to “”.

To close the fuel tank cap lid

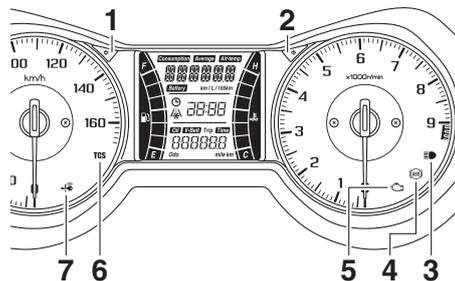
Push the fuel tank cap lid down until it is closed.

TIP _____

Make sure that fuel tank cap lid is securely closed before starting off.

Indicator lights and warning lights

EAU4939P



1. Left turn signal indicator light “”
2. Right turn signal indicator light “”
3. High beam indicator light “”
4. Anti-lock Brake System (ABS) warning light “”
5. Engine trouble warning light “”
6. Traction control system indicator light “TCS”
7. Smart key system indicator light “”

Turn signal indicator lights “” and “”

EAU11033

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

High beam indicator light “”

EAU11081

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

Engine trouble warning light “”

EAU77562

This warning light comes on if a problem is detected in the engine or other vehicle control system. If this occurs, have a Yamaha dealer check the on-board diagnostic system.

TIP

When the vehicle is turned on, this light should come on for a few seconds and then go off. Otherwise, have a Yamaha dealer check the vehicle.

ABS warning light “”

EAU78173

This warning light comes on when the vehicle is first turned on, and goes off after starting riding. If the warning light comes on while riding, the anti-lock brake system may not work correctly.

WARNING

EWA16043

If the ABS warning light does not turn off after reaching 10 km/h (6 mi/h), or if the warning light comes on while riding:

- Use extra caution to avoid possible wheel lock during emergency braking.
- Have a Yamaha dealer check the vehicle as soon as possible.

TIP

If the engine is revved while the brakes are applied or the vehicle is on its centerstand (if equipped), the ABS warning light may come on. If this happens, turn the vehicle power off and then back on again to reset the ABS warning light.

Traction control system indicator light “TCS”

EAU78591

This indicator light will flash when traction control has engaged. If the traction control system is turned off, this indicator light will come on. (See page 5-13.)

Instrument and control functions

TIP _____

When the vehicle is turned on, the light should come on for a few seconds and then go off. If the light does not come on, or if the light remains on, have a Yamaha dealer check vehicle.

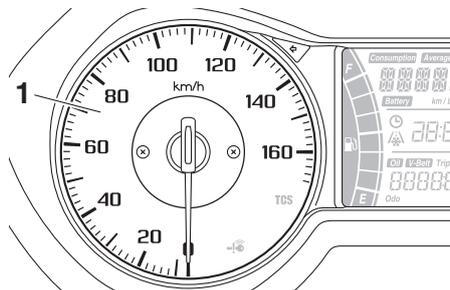
Smart key system indicator light “”

EAU78600

This indicator light communicates the status of the smart key system. When the smart key system is operating normally, this indicator light will be off. If there is an error in the smart key system, the indicator light will flash. The indicator light will also flash when communication between the vehicle and smart key takes place and when certain smart key system operations are carried out.

Speedometer

EAU63544

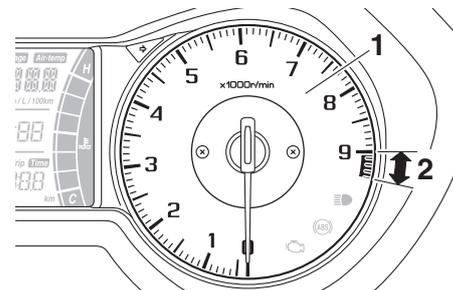


1. Speedometer

The speedometer shows the vehicle's traveling speed. When the vehicle power is turned on, the speedometer needle will sweep once across the speed range and then return to zero in order to test the electrical circuit.

Tachometer

EAU63551



1. Tachometer
2. Tachometer red zone

The electric tachometer allows the rider to monitor the engine speed and keep it within the ideal power range. When the vehicle power is turned on, the tachometer needle will sweep once across the r/min range and then return to zero r/min in order to test the electrical circuit.

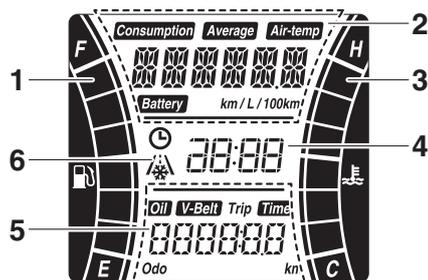
ECA10032

NOTICE

Do not operate the engine in the tachometer red zone.
Red zone: 9000 r/min and above

Multi-function display

EAU79171



1. Fuel meter
2. Information display
3. Coolant temperature meter
4. Clock
5. Tripmeter display
6. Icy road warning indicator “”

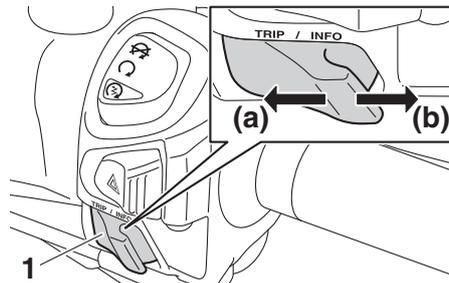
WARNING

EWA12423

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

The “TRIP/INFO” switch is located on the right side of the handlebar. This switch allows you to control or change

the settings of the multi-function meter unit. To use the “TRIP” switch, move the “TRIP/INFO” switch in direction (a). To use the “INFO” switch, move the “TRIP/INFO” switch in direction (b).



1. “TRIP/INFO” switch

The multi-function display is equipped with the following:

- clock
- fuel meter
- coolant temperature meter
- tripmeter display
- information display

Clock



1. Clock

The clock uses a 24-hour time system.

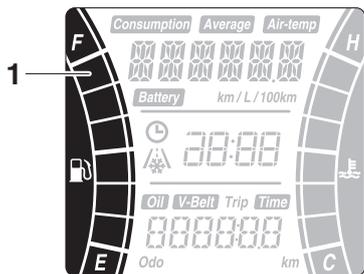
To set the clock

1. Turn the main switch to “OFF”.
2. Push and hold the “TRIP” switch.
3. Turn the main switch to “ON” while pushing the “TRIP” switch, and then continue to push the “TRIP” switch for eight seconds. The hour digits will start flashing.
4. Use the “TRIP” switch to set the hours.
5. Push the “TRIP” switch for three seconds, and then release it. The minute digits will start flashing.
6. Use the “TRIP” switch to set the minutes.

Instrument and control functions

7. Push the "TRIP" switch for three seconds, and then release it to start the clock.

Fuel meter



1. Fuel meter

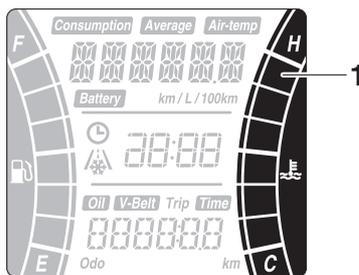
The fuel meter indicates the amount of fuel in the fuel tank. The segments of the fuel meter disappear from "F" (full) towards "E" (empty) as the fuel level decreases. When the last segment of the fuel meter starts flashing, refuel as soon as possible.

TIP

- If a problem is detected in the fuel meter, the all segments will flash repeatedly. If this occurs, have a Yamaha dealer check the vehicle.

- When approximately 2.4 L (0.63 US gal, 0.53 Imp.gal) of fuel remains in the fuel tank, the last segment of the fuel meter will start flashing. The display will automatically change to the fuel reserve tripmeter "F Trip" and start counting the distance traveled from that point.

Coolant temperature meter



1. Coolant temperature meter

The coolant temperature meter indicates the temperature of the coolant. If the top segment flashes, stop the vehicle, then stop the engine, and let the engine cool. (See page 8-36.)

ECA10022

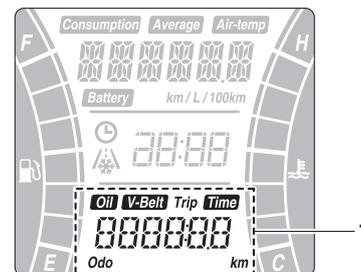
NOTICE

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

TIP

- If a problem is detected in the coolant temperature meter, all segments will flash repeatedly. If this occurs, have a Yamaha dealer check the vehicle as soon as possible.
- The coolant temperature varies with changes in the weather and engine load.

Tripmeter display



1. Tripmeter display

Instrument and control functions

The tripmeter display is equipped with the following:

- odometer
- tripmeter
- time tripmeter
- fuel reserve tripmeter
- oil change tripmeter
- V-belt replacement tripmeter

Push the “TRIP” switch to change the display between the odometer “Odo”, tripmeter “Trip”, time tripmeter “Trip Time”, oil change tripmeter “Oil Trip”, and V-belt replacement tripmeter “V-Belt Trip” in the following order:

Odo → Trip → Trip Time → Oil Trip → V-Belt Trip → Odo

TIP

When approximately 2.4 L (0.63 US gal, 0.53 Imp.gal) of fuel remains in the fuel tank, the last segment of the fuel meter will start flashing. The display will automatically change to the fuel reserve tripmeter “F Trip” and start counting the distance traveled from that point.

Odometer “Odo” and tripmeter “Trip”

The odometer shows the total distance traveled by the vehicle.

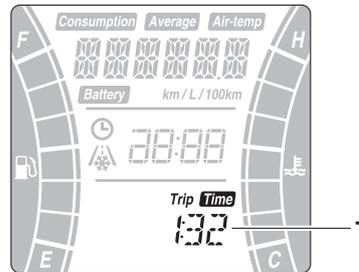
The tripmeter shows the distance traveled since it was last reset.

To reset the tripmeter, select it by pushing the “TRIP” switch, and then push the “TRIP” switch for three seconds.

TIP

- The odometer will lock at 999999.
- The tripmeter will reset and continue counting after 9999.9 is reached.

Time tripmeter “Time”



1. Time tripmeter

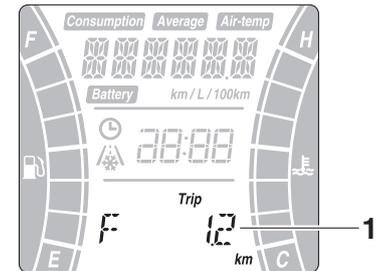
The time tripmeter displays the time that has elapsed while the main switch was in the “ON” position since it was last reset.

The maximum time that can be shown is 99:59.

TIP

To reset the time tripmeter, select it by pushing the “TRIP” switch, and then push the “TRIP” switch for three seconds.

Fuel reserve tripmeter “F Trip”



1. Fuel reserve tripmeter

When approximately 2.4 L (0.63 US gal, 0.53 Imp.gal) of fuel remains in the fuel tank, the last segment of the fuel meter will start flashing. The display

Instrument and control functions

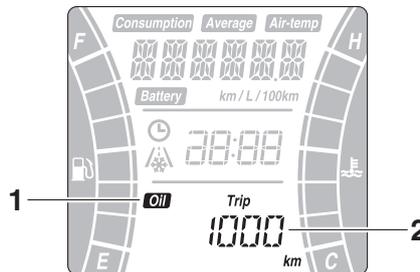
will automatically change to the fuel reserve tripmeter “F Trip” and start counting the distance traveled from that point. In this case, push the “TRIP” switch to switch the display in the following order:

F Trip → Oil Trip → V-Belt Trip → Odo → Trip → Trip Time → F Trip

To reset the fuel reserve tripmeter, select it by pushing the “TRIP” switch, and then push the “TRIP” switch for three seconds.

The fuel reserve tripmeter will reset automatically and disappear after refueling and traveling 5 km (3 mi).

Oil change tripmeter “Oil Trip”



1. Oil change indicator “Oil”
2. Oil change tripmeter

The oil change tripmeter shows the distance traveled since the oil was last changed.

The oil change indicator “OIL” flashes at the initial 1000 km (600 mi), then at 4000 km (2400 mi) and every 5000 km (3000 mi) thereafter to indicate that the engine oil should be changed.

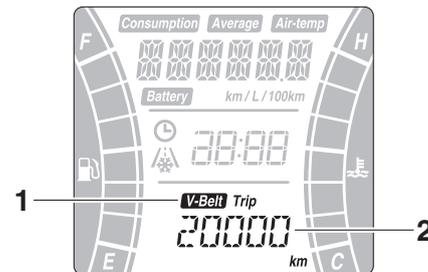
After changing the engine oil, reset the oil change indicator and the oil change tripmeter. To reset them both, select the oil change tripmeter, and then push the “TRIP” switch for three seconds.

While the oil change tripmeter is flashing, push the “TRIP” switch for 15 to 20 seconds. Release the “TRIP” switch, and the oil trip value will reset to zero.

TIP

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

V-belt replacement tripmeter “V-Belt Trip”



1. V-belt replacement indicator “V-Belt”
2. V-belt replacement tripmeter

Instrument and control functions

The V-belt replacement tripmeter shows the distance traveled since the V-belt was last replaced.

The V-belt replacement indicator “V-Belt” will flash every 20000 km (12000 mi) to indicate that the V-belt should be replaced.

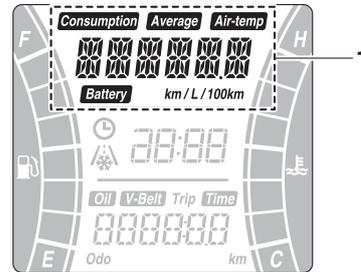
After replacing the V-belt, reset the V-belt replacement indicator and the V-belt replacement tripmeter. To reset them both, select the V-belt replacement tripmeter, and then push the “TRIP” switch for three seconds.

While the V-belt replacement tripmeter is flashing, push the “TRIP” switch for 15 to 20 seconds. Release the “TRIP” switch, and the V-belt trip value will reset to zero.

TIP

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

Information display



1. Information display

The information display is equipped with the following:

- air temperature display
- battery voltage display
- traction control system display
- average fuel consumption display
- instantaneous fuel consumption display
- average speed display
- warning message function

Navigating the information display

Push the “INFO” switch to change the display between the air temperature display “Air-temp”, battery voltage display “Battery”, traction control system display “TCS ON” or “TCSOFF”, aver-

age fuel consumption display “Consumption/Average_ _ km/L” or “Consumption/Average_ _ L/100 km”, instantaneous fuel consumption display “Consumption_ _ km/L” or “Consumption_ _ L/100 km” and average speed display “Average” in the following order:

Air-temp → Battery → TCS ON or TCSOFF → Consumption/Average_ _ km/L → Consumption/Average_ _ L/100 km → Consumption_ _ km/L → Consumption_ _ L/100 km → Average → Air-temp

Air temperature display



1. Air temperature display
2. Icy road warning indicator “”

Instrument and control functions

This display shows the air temperature from $-10\text{ }^{\circ}\text{C}$ to $50\text{ }^{\circ}\text{C}$ in $1\text{ }^{\circ}\text{C}$ increments.

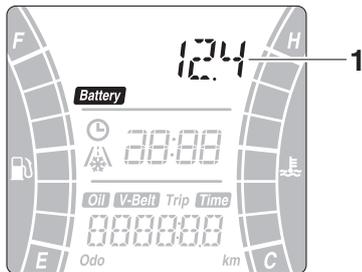
The icy road warning indicator “” will flash when the temperature is below $4\text{ }^{\circ}\text{C}$.

The temperature displayed may vary from the actual ambient temperature.

5

TIP _____
The accuracy of the temperature reading may be affected by engine heat when riding slowly (under 20 km/h [12 mi/h]) or when stopped at traffic signals, etc.

Battery voltage display

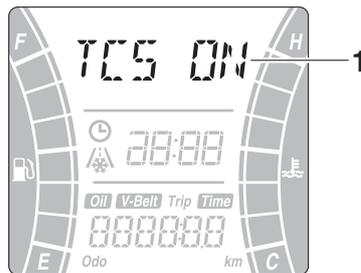


1. Battery voltage display

This display shows the current charge state of the battery.

TIP _____
● If the engine turns over slowly when using the start switch, have a Yamaha dealer charge the battery.
● If “---” appears in the battery voltage display, have a Yamaha dealer check the battery.

Traction control system display



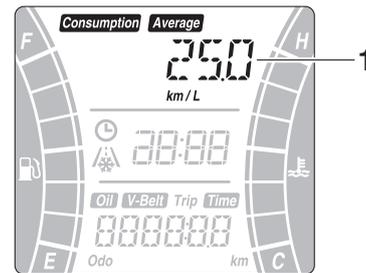
1. Traction control system display

This display shows the current status of the traction control system. (See page 5-13.)

- “TCS ON”: the system is on
- “TCSOFF”: the system is off

TIP _____
If only “TCS” is displayed, there is a communication error within the vehicle. Have a Yamaha dealer check the vehicle as soon as possible.

Average fuel consumption display



1. Average fuel consumption display

This function calculates the average fuel consumption since it was last reset.

The average fuel consumption can be displayed as either “Consumption/Average_ _ km/L” or “Consumption/Average_ _ L/100 km”.

Instrument and control functions

- “Consumption/Average_ _._ km/L”: The average distance that can be traveled on 1.0 L of fuel is shown.
- “Consumption/Average_ _._ L/100 km”: The average amount of fuel necessary to travel 100 km is shown.

To reset the average fuel consumption, push the “INFO” switch for at least three seconds.

TIP _____

After resetting the average fuel consumption, “_ _.” will be shown until the vehicle has traveled 1 km (0.6 mi).

Instantaneous fuel consumption display



1. Instantaneous fuel consumption display

This function calculates the fuel consumption under current riding conditions.

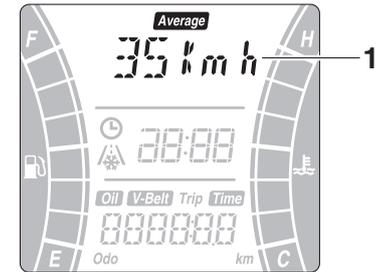
The instantaneous fuel consumption can be displayed as either “Consumption_ _._km/L” or “Consumption_ _._L/100 km”.

- “Consumption_ _._km/L”: The distance that can be traveled on 1.0 L of fuel under the current riding conditions is shown.
- “Consumption_ _._L/100 km”: The amount of fuel necessary to travel 100 km under the current riding conditions is shown.

TIP _____

If traveling at speeds under 10 km/h (6 mi/h), “_ _.” is displayed.

Average speed display



1. Average speed display

The average speed “Average_ _._kmh” is displayed.

The average speed is the total distance divided by the total time (with the main switch in the “ON” position) since the display was last reset to zero.

This display shows the average speed since it was last reset.

To reset the average speed display, select it by pushing the “INFO” switch, and then push the “INFO” switch for three seconds.

Instrument and control functions

Warning message function

This function displays a warning message corresponding to the current warning.

“L FUEL”: Appears when the last segment of the fuel meter starts flashing. If “L FUEL” is displayed, refuel as soon as possible.

“H TEMP”: Appears when the top segment of the coolant temperature meter starts flashing. If “H TEMP” is displayed, stop the vehicle, then stop the engine, and let the engine cool.

“ICE”: Appears when the icy road warning indicator “” starts flashing. If “ICE” is displayed, be careful of icy roads.

“OIL SERV”: Appears when the oil change indicator “OIL” starts flashing. If “OIL SERV” is displayed, change the engine oil, and then reset the oil change indicator and oil change trip-meter.

“V-BELT SERV”: Appears when the V-belt replacement indicator “V-Belt” starts flashing. If “V-BELT SERV” is displayed, replace the V-belt, and then reset the V-belt replacement indicator and V-belt replacement tripmeter.

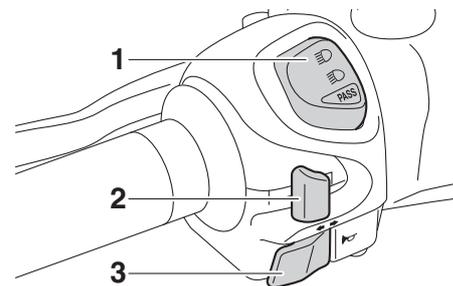
When there are two or more warnings, the warning messages are displayed in the following order:

L FUEL → H TEMP → ICE → OIL SERV
→ VBELT SERV → L FUEL

Handlebar switches

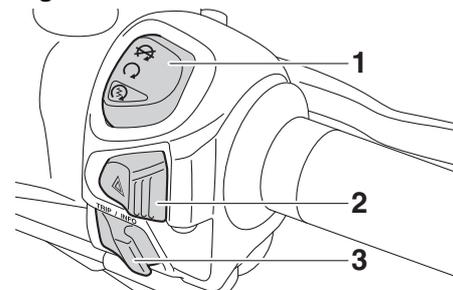
EAU1234R

Left



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

Right

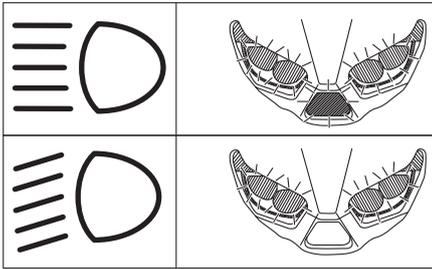


1. Stop/Run/Start switch “//”
2. Hazard switch “”
3. “TRIP/INFO” switch

Dimmer/Pass switch “/”/PASS”

EAU54203

Set this switch to “” for the high beam and to “” for the low beam. To flash the high beam, push the switch down towards “PASS” while the headlights are on low beam.



Turn signal switch “/”

EAU12461

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.

Horn switch “”

EAU12501

Press this switch to sound the horn.

Stop/Run/Start switch “/”/”

EAU54213

To crank the engine with the starter, set this switch to “”, and then push the switch down towards “”. See page 7-2 for starting instructions prior to starting the engine.

Set this switch to “” to stop the engine in case of an emergency, such as when the vehicle overturns or when the throttle cable is stuck.

Hazard switch “”

EAU78190

With the main switch in the “ON” or “” 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.

NOTICE

ECA10062

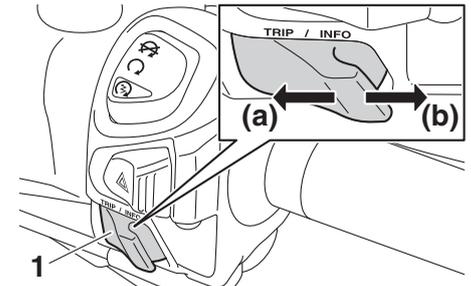
Do not use the hazard lights for an extended length of time with the engine not running, otherwise the battery may discharge.

“TRIP/INFO” switch

EAU78491

This switch is used to make setting and display changes in the multi-function meter unit. See page 5-3 for more information.

To use the “TRIP” switch, move the “TRIP/INFO” switch in direction (a). To use the “INFO” switch, move the “TRIP/INFO” switch in direction (b).

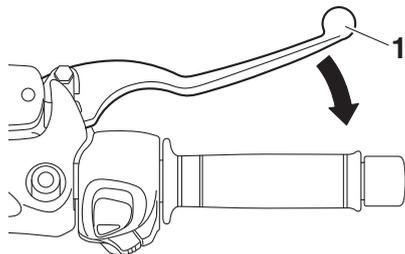


1. “TRIP/INFO” switch

Instrument and control functions

Front brake lever

EAU12902

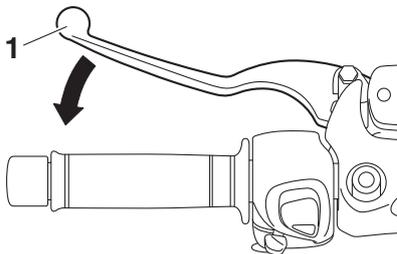


1. Front brake lever

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

EAU12952



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.

ABS

EAU78200

The Yamaha ABS (Anti-lock Brake System) features a dual electronic control system, which acts on the front and rear brakes independently.

Operate the brakes with ABS as you would conventional brakes. If the ABS is activated, a pulsating sensation may be felt at the brake levers. In this situation, continue to apply the brakes and let the ABS work; do not “pump” the brakes as this will reduce braking effectiveness.

EWA16051

WARNING

Always keep a sufficient distance from the vehicle ahead to match the riding speed even with ABS.

- **The ABS performs best with long braking distances.**
- **On certain surfaces, such as rough or gravel roads, the braking distance may be longer with the ABS than without.**

The ABS is monitored by an ECU, which will revert the system to conventional braking if a malfunction occurs.

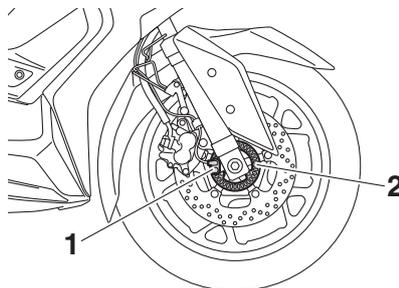
TIP

- The ABS performs a self-diagnosis test each time the vehicle first starts off after the main switch is turned to “ON” and the vehicle has traveled at a speed of 10 km/h (6 mi/h) or higher. During this test, a “clicking” noise can be heard from the front of the vehicle, and if either brake lever is even slightly applied, a vibration can be felt at the lever, but these do not indicate a malfunction.
- This ABS has a test mode which allows the owner to experience the pulsation at the brake levers when the ABS is operating. However, special tools are required, so please consult your Yamaha dealer.

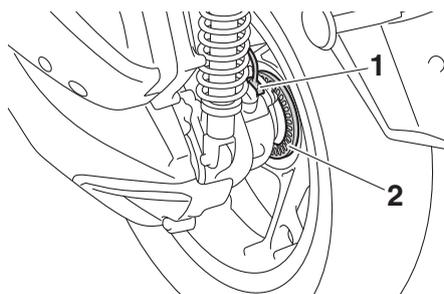
ECA20100

NOTICE

Be careful not to damage the wheel sensor or wheel sensor rotor; otherwise, improper performance of the ABS will result.



1. Front wheel sensor
2. Front wheel sensor rotor



1. Rear wheel sensor
2. Rear wheel sensor rotor

Traction control system

The traction control system (TCS) helps maintain traction when accelerating on slippery surfaces, such as unpaved or wet roads. If sensors detect that the rear wheel is starting to slip (uncontrolled spinning), the traction control system assists by regulating engine power until traction is restored. When traction control has engaged, the “tcs” indicator light will flash. You may notice changes in engine response or exhaust sound.

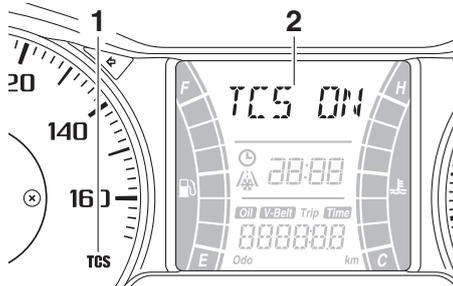
EWA18860

⚠ WARNING

The traction control system is not a substitute for riding appropriately for the conditions. Traction control cannot prevent loss of traction due to excessive speed when entering turns, when accelerating hard at a sharp lean angle, or while braking, and cannot prevent front wheel slipping. As with any vehicle, approach surfaces that may be slippery with caution and avoid especially slippery surfaces.

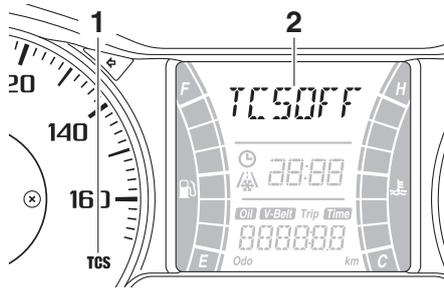
Instrument and control functions

Setting the traction control system



1. Traction control system indicator light "TCS"
2. Traction control system display

When the vehicle is turned on, traction control is automatically turned on. To turn the traction control system off, use the "INFO" switch to change the information display to the traction control system display. Then push the "INFO" switch for three seconds. The display will show "TCSOFF", and the "TCS" indicator light will come on.



1. Traction control system indicator light "TCS"
2. Traction control system display

TIP

Turn the traction control system off to help free the rear wheel if the vehicle gets stuck in mud, sand, or other soft surfaces.

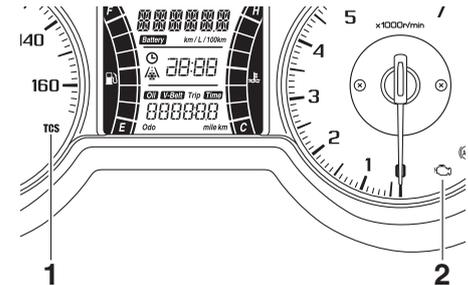
ECA16801

NOTICE

Use only the specified tires. (See page 8-20.) Using different sized tires will prevent the traction control system from controlling tire rotation accurately.

Resetting the traction control system

The traction control system will automatically disable under certain conditions; such as when a sensor fault is detected, or when only one wheel is allowed to rotate for more than a few seconds. Should this happen, the "tcs" indicator light will come on, and possibly the "engine" warning light, too.



1. Traction control system indicator light "TCS"
2. Engine trouble warning light "engine"

TIP

When the vehicle is on the centerstand, do not rev the engine for an extended period of time. Otherwise, the traction control system will automatically disable and need to be reset.

EAU78502

If the traction control system automatically disables, try resetting it as follows.

1. Stop the vehicle and turn it off completely.
2. Wait a few seconds and then turn the vehicle power on.
3. The “tcs” indicator light should turn off and the system be enabled.

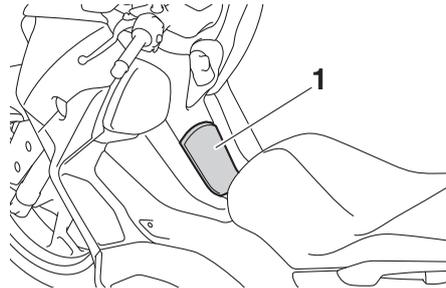
TIP

If the “tcs” indicator light remains on after resetting, the vehicle may still be ridden; however, have a Yamaha dealer check the vehicle as soon as possible.

4. Have a Yamaha dealer check the vehicle and turn off the “tcs” warning light.

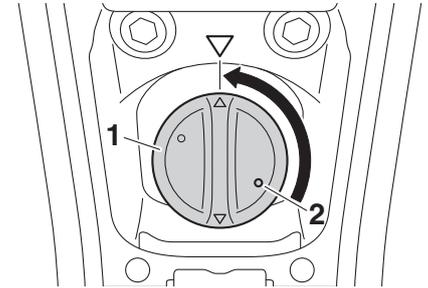
Fuel tank cap

To remove the fuel tank cap

1. Turn the main switch to “A line drawing of the fuel tank area of a motorcycle. A fuel tank cap lid is shown being pulled out of the fuel tank opening. A number '1' points to the cap lid.

1. Fuel tank cap lid

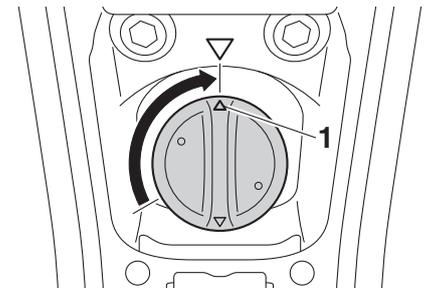
2. Turn the fuel tank cap counter-clockwise until the release mark “o” aligns with “▽”, and then pull the cap off.



1. Fuel tank cap
2. Release mark “o”

To install the fuel tank cap

1. Insert the fuel tank cap onto the tank opening and turn it clockwise until the install mark “Δ” aligns with “▽”.



1. Install mark “Δ”
2. Close the fuel tank cap lid.

Instrument and control functions

⚠ WARNING

EWA11092

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

Fuel

EAU13213

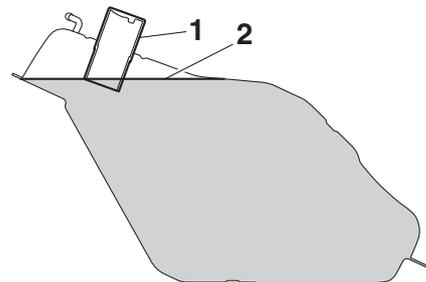
Make sure there is sufficient gasoline in the tank.

EWA10882

⚠ WARNING

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

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



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.

EAUN0750

Recommended fuel:

Regular unleaded gasoline (E10 to E20 only)

Fuel tank capacity:

13 L (3.4 US gal, 2.9 Imp.gal)

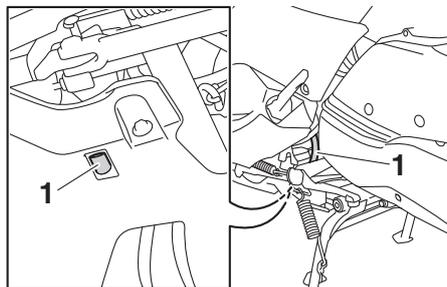
ECA11401

NOTICE

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

Fuel tank overflow hose

EAU58301



1. Fuel tank overflow hose

Before operating the vehicle:

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

Catalytic converter

EAU13435

The exhaust system contains catalytic converter(s) to reduce harmful exhaust emissions.

EWA10863

⚠ WARNING

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

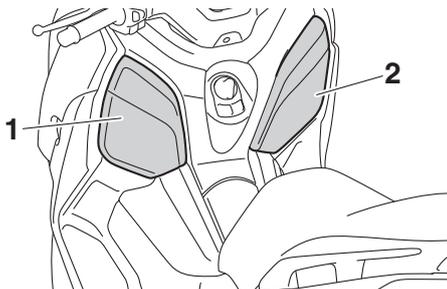
- Do not park the vehicle near possible fire hazards such as grass or other materials that easily burn.
- Park the vehicle in a place where pedestrians or children are not likely to touch the hot exhaust system.
- Make sure that the exhaust system has cooled down before doing any maintenance work.
-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

Instrument and control functions

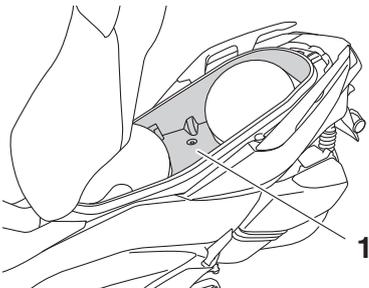
EAU78514

Storage compartments

This model is equipped with 3 storage compartments. The front storage compartments and rear storage compartment are located as shown.



1. Storage compartment A
2. Storage compartment B



1. Rear storage compartment

TIP

- Storage compartment A must be opened using the smart key system. (See page 4-8.)
- The seat/rear storage compartment can be opened using the smart key system or the mechanical key.
- Some helmets cannot be stored in the rear storage compartment because of their size or shape.

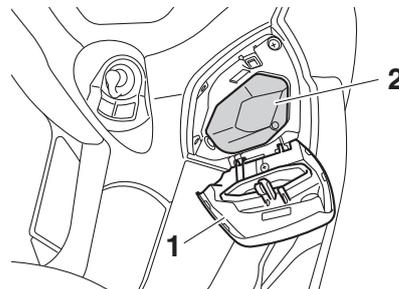
Storage compartment A

To open storage compartment A, turn the main switch to “OPEN” and then push the “LID” button.

To close storage compartment A, push the storage compartment lid until it is closed.

Storage compartment B

To open storage compartment B, push the storage compartment lid inward to unlock it, and then pull to open.



1. Lid
2. Storage compartment

To close storage compartment B, push the storage compartment lid into the original position.

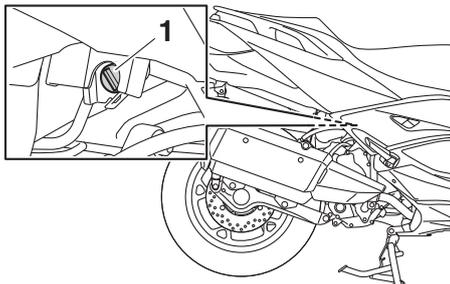
Seat/rear storage compartment

To open the seat/rear storage compartment via the main switch

Turn the main switch to “OPEN”, and then push the “SEAT” button.

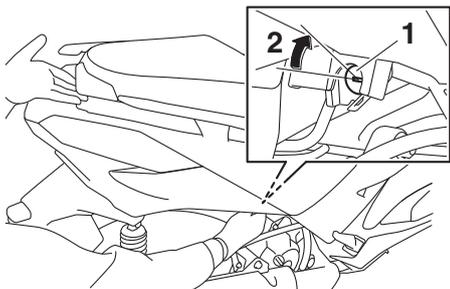
To open the seat/rear storage compartment with the mechanical key

1. Open the keyhole cover.



1. Keyhole cover

2. Insert the mechanical key into the seat lock, and then turn it clockwise.



1. Seat lock
2. Unlock.

TIP _____
Be sure to close the seat and all storage compartments before starting off.

ECA24020

NOTICE _____
Make sure that the keyhole cover is installed when the mechanical key is not being used.

ECA21150

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

- 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.

EWA18950

! WARNING _____

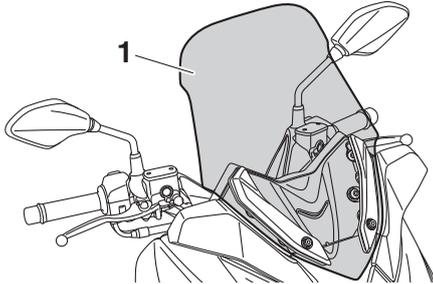
- Do not exceed the load limit of 1.0 kg (2.2 lb) for storage compartment A.
- Do not exceed the load limit of 0.5 kg (1.1 lb) for storage compartment B.
- Do not exceed the load limit of 5.0 kg (11 lb) for the rear storage compartment.
- Do not exceed the maximum load of 161 kg (355 lb) for the vehicle.

Instrument and control functions

EAU78521

Windshield

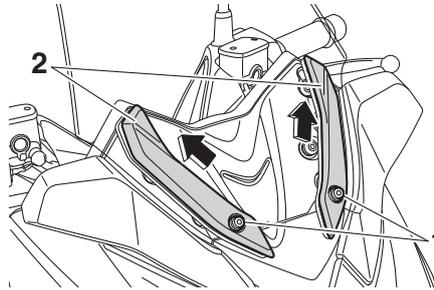
To suit the rider's preference, the windshield height can be changed to one of two positions.



1. Windshield

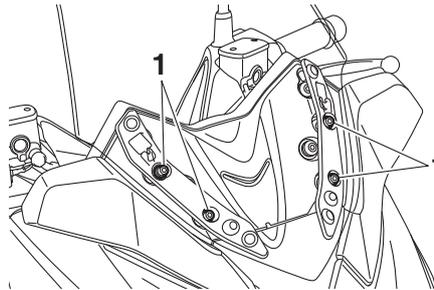
To change the windshield height to the high position

1. Remove the bolt access covers by removing the quick fasteners.



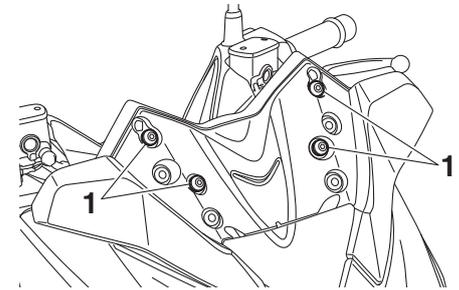
1. Quick fastener
2. Bolt access cover

2. Remove the windshield by removing the bolts.

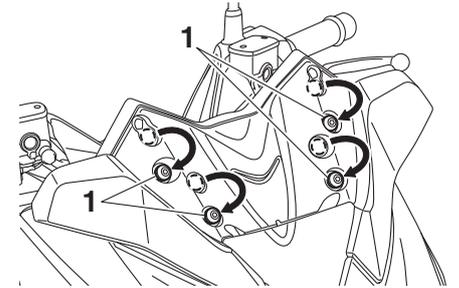


1. Bolt

3. Remove the bolts, and then install the bolts in the desired position.



1. Bolt

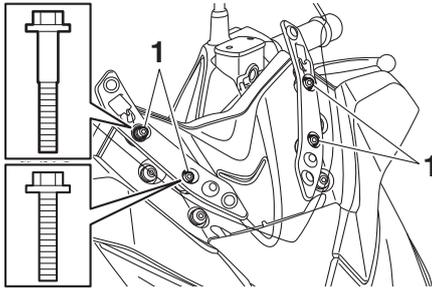


1. Bolt

4. Install the windshield to the high position by installing the bolts, and then tighten the bolts to the specified torque. **WARNING! A loose windshield could cause an acci-**

dent. Be sure to tighten the screws to the specified torque.

[EWA15511]

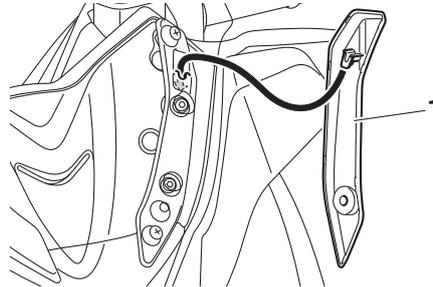


1. Bolt

Tightening torque:

Windshield bolt:
8 N·m (0.8 kgf·m, 5.9 lb·ft)

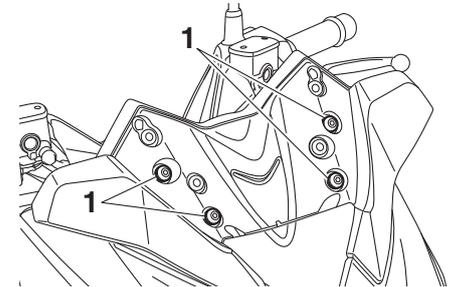
5. Place the bolt access covers, and then install the quick fasteners.



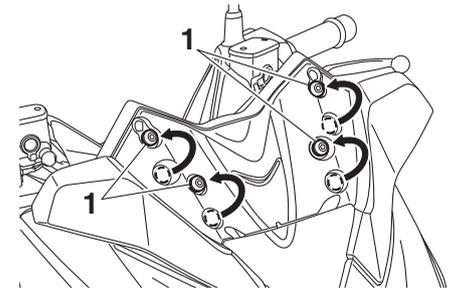
1. Bolt access cover

To change the windshield height to the low position

1. Remove the bolt access covers by removing the quick fasteners.
2. Remove the windshield by removing the bolts.
3. Remove the bolts, and then install the bolts in the desired position.



1. Bolt



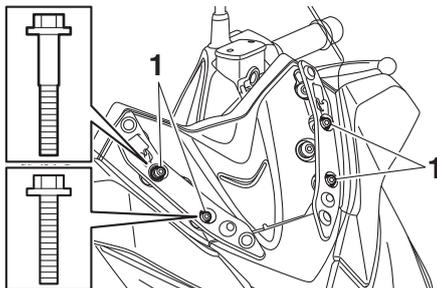
1. Bolt

4. Install the windshield to the low position by installing the bolts, and then tighten the bolts to the specified torque. **WARNING! A loose windshield could cause an acci-**

Instrument and control functions

dent. Be sure to tighten the screws to the specified torque.

[EWA15511]



1. Bolt

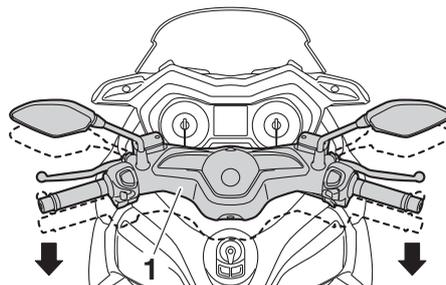
Tightening torque:

Windshield bolt:
8 N·m (0.8 kgf·m, 5.9 lb·ft)

5. Place the bolt access covers, and then install the quick fasteners.

Handlebar position

The handlebar can be adjusted to one of two positions to suit the rider's preference. Have a Yamaha dealer adjust the position of the handlebar.



1. Handlebar

EAU46833

Adjusting the shock absorber assemblies

EAU14895

EWA10211

⚠ WARNING

Always adjust both shock absorber assemblies equally, otherwise poor handling and loss of stability may result.

Each shock absorber assembly is equipped with a spring preload adjusting ring.

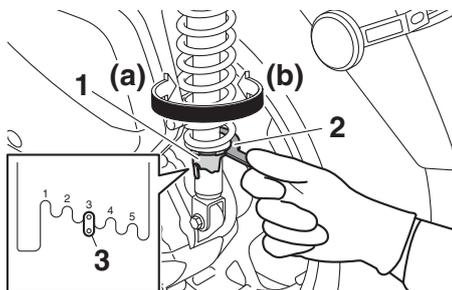
ECA10102

NOTICE

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

Adjust the spring preload as follows. Turn the adjusting ring in direction (a) to increase the spring preload. Turn the adjusting ring in direction (b) to decrease the spring preload.

- Align the appropriate notch in the adjusting ring with the position indicator on the shock absorber.
- Use the spring preload adjusting tool included in the tool kit to make this adjustment.



1. Spring preload adjusting ring
2. Special wrench
3. Position indicator

Spring preload setting:

Minimum (soft):

1

Standard:

3

Maximum (hard):

5

Auxiliary DC jack

EAU78213

EWA14361

⚠ WARNING

To prevent electrical shock or short-circuiting, make sure that the cap is installed when the auxiliary DC jack is not being used.

ECA15432

NOTICE

The accessory connected to the auxiliary DC jack should not be used with the engine turned off, and the load must never exceed 12 W (1 A), otherwise the fuse may blow or the battery may discharge.

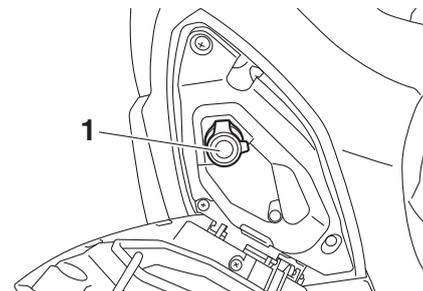
This vehicle is equipped with an auxiliary DC jack located within storage compartment A.

A 12-V accessory connected to the auxiliary DC jack can be used when the main switch is in the “ON” position and should only be used when the engine is running.

To use the auxiliary DC jack

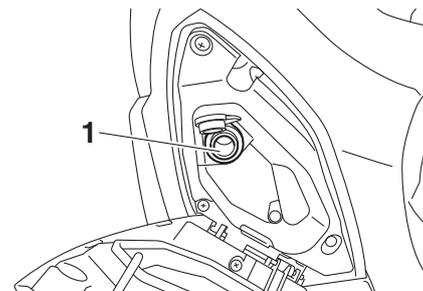
1. Open storage compartment A. (See page 4-8.)

2. Turn the main switch off.
3. Remove the auxiliary DC jack cap.



1. Auxiliary DC jack cap

4. Turn the accessory off.
5. Insert the accessory plug into the auxiliary DC jack.



1. Auxiliary DC jack

6. Turn the main switch on, and then start the engine. (See page 7-2.)

Instrument and control functions

7. Turn the accessory on.

Sidestand

EAU15306

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.)

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 responsibility 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.

EAU80922

Ignition circuit cut-off system

This system prevents engine starts unless the sidestand is up. Also, it will stop the running engine should the sidestand be lowered.

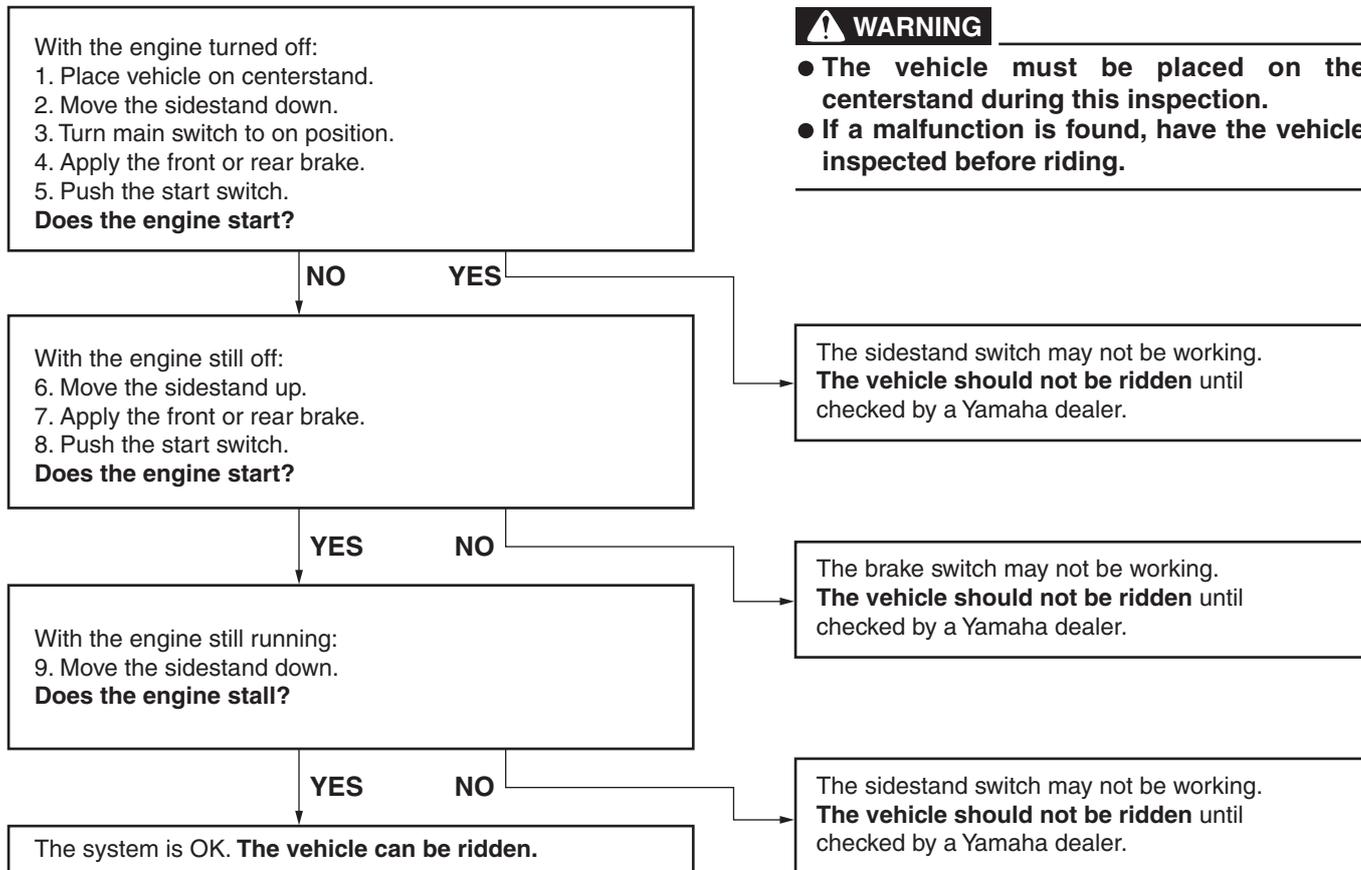
Periodically check the system via the following procedure.

TIP

- This check is most reliable if performed with a warmed-up engine.
 - See pages 4-7 and 5-10 for switch operation information.
-

Instrument and control functions

5



For your safety – pre-operation checks

EAU1559B

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. | 5-16, 5-17 |
| 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. | 8-10 |
| Final transmission oil | <ul style="list-style-type: none">• Check vehicle for oil leakage. | 8-13 |
| Coolant | <ul style="list-style-type: none">• Check coolant level in reservoir.• If necessary, add recommended coolant to specified level.• Check cooling system for leakage. | 8-14 |
| 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. | 8-22, 8-23, 8-23 |

For your safety – pre-operation checks

| ITEM | CHECKS | PAGE |
|--|---|------------------|
| Rear 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. | 8-22, 8-23, 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, 8-26 |
| 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, 8-22 |
| 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. | 8-27 |
| 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. | 5-24 |

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.

EAU34323

0–1000 km (0–600 mi)

Avoid prolonged operation above 4500 r/min. **NOTICE: After 1000 km (600 mi) of operation, be sure to replace the engine oil, final transmission oil and the oil filter element.** [ECA12932]

1000–1600 km (600–1000 mi)

Avoid prolonged operation above 5400 r/min.

1600 km (1000 mi) and beyond

The vehicle can now be operated normally.

ECA10311

NOTICE

- **Keep the engine speed out of the tachometer red zone.**
- **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

EAU78231

ECA22510

EAU78221

NOTICE

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

In order for the ignition circuit cut-off system to enable starting, the side-stand must be up. (See page 5-25.)

1. Turn the main switch on and make sure that the stop/run/start switch is set to “○”.

The following warning lights and indicator lights should come on for a few seconds, then go off.

- Engine trouble warning light
- Traction control system indicator light
- Smart key system indicator light

TIP

The ABS warning light should come on and stay on until the vehicle reaches a traveling speed of 10 km/h (6 mi/h) or higher.

ECA10251

NOTICE

If a warning or indicator light does not work as described above, see page 5-1 for the corresponding warning and indicator light circuit check.

2. Close the throttle.
3. While applying the front or rear brake, push the “⊕” side of the stop/run/start switch. Release it when the engine starts.

TIP

If the engine does not start, release the start switch after 5 seconds. Before pressing the start switch again, wait 10 seconds to allow battery voltage to restore.

ECA11043

NOTICE

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

TIP

This model is equipped with a lean angle sensor to stop the engine in case of a turnover. In this case, the engine trouble warning light will come on but this is not a malfunction. Before re-starting the engine, turn the main switch off and then back on to reset the engine trouble warning light. Failing to do so will prevent the engine from starting even though the engine will crank when pushing the start switch.

Operation and important riding points

EAUN0073

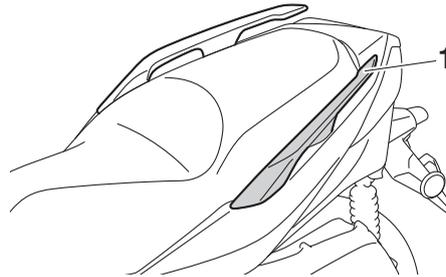
ECAN0072

NOTICE

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

Starting off

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.



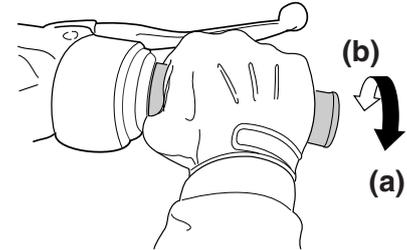
1. Grab bar

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.

EAU45093

Acceleration and deceleration

EAU16782



ZAJUM0199

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

Operation and important riding points

Braking

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.

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).

Parking

EAUN1421

When parking, turn the vehicle power off, and then turn the smart key off.

TIP

Even when the vehicle is parked in a location partitioned by a fence or the glass window of a shop, if the smart key is within operating range, other people will be able to start the engine and operate the vehicle. Please turn the smart key off when leaving the vehicle. (See page 4-4.)

If the sidestand is lowered when the engine is running, the engine will stop and the beeper will sound for approximately 1 minute. To stop the beeper, turn the vehicle power off or raise the sidestand.

TIP

- Before leaving the vehicle, be sure to turn the main switch to “OFF” or “”. Otherwise, the battery may discharge.
- The sidestand alarm beeper can be set to not activate. Please contact your Yamaha dealer.

EWA10312

WARNING

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

Periodic maintenance and adjustment

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

EWA10322

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

EWA15123

WARNING

Turn off the engine when performing maintenance unless otherwise specified.

- **A running engine has moving parts that can catch on body parts or clothing and electrical parts that can cause shocks or fires.**
- **Running the engine while servicing can lead to eye injury, burns, fire, or carbon monoxide poisoning – possibly leading to death. See page 2-3 for more information about carbon monoxide.**

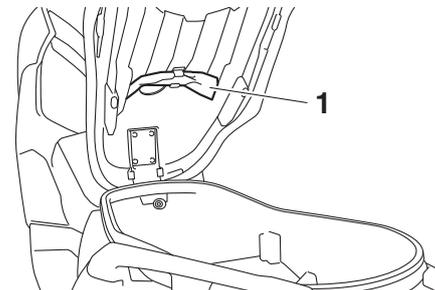
WARNING

EWA15461

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

EAU85230

Tool kit



1. Tool kit

The tool kit is in the location shown. The information included in this manual and 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

EAU62940

TIP _____

- **The annual checks must be performed every year, except if a kilometer-based maintenance is performed instead.**
- From 25000 km or 25 months, repeat the maintenance intervals starting from 5000 km or 5 months.
- Items marked with an asterisk should be performed by a Yamaha dealer as they require special tools, data and technical skills.

EAUN0411

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 | 5000 km or 5 months | 10000 km or 10 months | 15000 km or 15 months | 20000 km or 20 months | |
| 1 | * Fuel line | <ul style="list-style-type: none"> • Check fuel hoses for cracks or damage. | | √ | √ | √ | √ | √ |
| 2 | * Fuel filter | <ul style="list-style-type: none"> • Check condition. • Replace if necessary. | Every 12000 km (7500 mi) | | | | | |
| 3 | Spark plug | <ul style="list-style-type: none"> • Check condition. • Clean and regap. | | √ | √ | √ | √ | |
| | | <ul style="list-style-type: none"> • Replace. | Every 8000 km (5000 mi) | | | | | |
| 4 | * Valves | <ul style="list-style-type: none"> • Check valve clearance. • Adjust if necessary. | | | √ | | √ | |
| 5 | * Fuel injection | <ul style="list-style-type: none"> • Check engine idle speed. | √ | √ | √ | √ | √ | √ |
| 6 | * Exhaust system | <ul style="list-style-type: none"> • Check for leakage. • Tighten if necessary. • Replace gasket(s) if necessary. | | √ | √ | √ | √ | √ |

Periodic maintenance and adjustment

| NO. | ITEM | CHECK OR MAINTENANCE JOB | ODOMETER READING (whichever comes first) | | | | | ANNUAL CHECK |
|-----|------|--|---|---------------------------|-----------------------------|-----------------------------|-----------------------------|--|
| | | | 1000 km or 1 month | 5000 km or 5 months | 10000 km or 10 months | 15000 km or 15 months | 20000 km or 20 months | |
| 7 | * | Evaporative emission control system | <ul style="list-style-type: none"> • Check control system for damage. • Replace if necessary. | | | | | At 19000 km (12000 mi) and thereafter every 12000 km (8000 mi) |

Periodic maintenance and adjustment

EAUN0423

General maintenance and lubrication chart

| NO. | ITEM | CHECK OR MAINTENANCE JOB | ODOMETER READING (whichever comes first) | | | | | ANNUAL CHECK |
|-----|----------------------------------|--|--|---------------------------|-----------------------------|-----------------------------|-----------------------------|--------------|
| | | | 1000 km or 1 month | 5000 km or 5 months | 10000 km or 10 months | 15000 km or 15 months | 20000 km or 20 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 12000 km (7500 mi) | | | | | |
| 3 | * Pre air filter element | <ul style="list-style-type: none"> Clean. | Every 12000 km (7500 mi) | | | | | |
| 4 | * Sub air filter element | <ul style="list-style-type: none"> Replace. | Every 12000 km (7500 mi) | | | | | |
| 5 | Air filter check hose | <ul style="list-style-type: none"> Clean. | √ | √ | √ | √ | √ | |
| 6 | * V-belt case air filter element | <ul style="list-style-type: none"> Clean. Replace if necessary. | | √ | √ | √ | √ | |
| 7 | * Battery | <ul style="list-style-type: none"> Check voltage. Charge if necessary. | √ | √ | √ | √ | √ | √ |
| 8 | * 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 | | | | | |
| 9 | * 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 | | | | | |
| 10 | * Brake hoses | <ul style="list-style-type: none"> Check for cracks or damage. Check for correct routing and clamping. | | √ | √ | √ | √ | √ |
| | | <ul style="list-style-type: none"> Replace. | Every 4 years | | | | | |
| 11 | * Brake fluid | <ul style="list-style-type: none"> Change. | Every 2 years | | | | | |

Periodic maintenance and adjustment

| NO. | ITEM | CHECK OR MAINTENANCE JOB | ODOMETER READING (whichever comes first) | | | | | ANNUAL CHECK |
|-----|---|--|--|---------------------------|-----------------------------|-----------------------------|-----------------------------|--------------|
| | | | 1000 km or 1 month | 5000 km or 5 months | 10000 km or 10 months | 15000 km or 15 months | 20000 km or 20 months | |
| 12 | * Wheels | • Check runout and for damage. | | √ | √ | √ | √ | |
| 13 | * Tires | • Check tread depth and for damage. • Replace if necessary. • Check air pressure. • Correct if necessary. | | √ | √ | √ | √ | √ |
| 14 | * Wheel bearings | • Check bearings for looseness or damage. | | √ | √ | √ | √ | |
| 15 | * Steering bearings | • Check bearing play and steering for roughness. | √ | √ | √ | √ | √ | |
| | | • Lubricate with lithium-soap-based grease. | Every 24000 km (14000 mi) | | | | | |
| 16 | * Chassis fasteners | • Make sure that all nuts, bolts and screws are properly tightened. | | √ | √ | √ | √ | √ |
| 17 | Front and rear brake lever pivot shaft | • Lubricate with silicone grease. | | √ | √ | √ | √ | √ |
| 18 | Sidestand, center-stand | • Check operation. • Lubricate with lithium-soap-based grease. | | √ | √ | √ | √ | √ |
| 19 | * Sidestand switch | • Check operation. | √ | √ | √ | √ | √ | √ |
| 20 | * Front fork | • Check operation and for oil leakage. | | √ | √ | √ | √ | |
| 21 | * Shock absorber assemblies | • Check operation and shock absorbers for oil leakage. | | √ | √ | √ | √ | |

Periodic maintenance and adjustment

| NO. | ITEM | CHECK OR MAINTENANCE JOB | ODOMETER READING (whichever comes first) | | | | | ANNUAL CHECK |
|-----|---------------------------------|--|---|---------------------------------------|-----------------------------|-----------------------------|-----------------------------|--------------|
| | | | 1000 km or 1 month | 5000 km or 5 months | 10000 km or 10 months | 15000 km or 15 months | 20000 km or 20 months | |
| 22 | Engine oil | • Change. (See pages 5-3 and 8-10.) | √ | When the oil change indicator flashes | | | | |
| | | • Check oil level and vehicle for oil leakage. | Every 5000 km (3000 mi) | | | | | √ |
| 23 | Engine oil filter cartridge | • Replace. | √ | | | | √ | |
| 24 | * Cooling system | • Check coolant level and vehicle for coolant leakage. | | √ | √ | √ | √ | √ |
| | | • Change with Yamaha genuine coolant. | Every 3 years | | | | | |
| 25 | Final transmission oil | • Check vehicle for oil leakage. | √ | √ | √ | √ | √ | |
| | | • Replace. | Every 10000 km (6000 mi) | | | | | |
| 26 | * V-belt | • Replace. | When the V-belt replacement indicator flashes [every 20000 km (12500 mi)] | | | | | |
| 27 | * Front and rear brake switches | • Check operation. | √ | √ | √ | √ | √ | √ |
| 28 | Moving parts and cables | • Lubricate. | | √ | √ | √ | √ | √ |
| 29 | * Throttle grip | • Check operation. • Check throttle grip free play, and adjust if necessary. • Lubricate cable and grip housing. | | √ | √ | √ | √ | √ |
| 30 | * Lights, signals and switches | • Check operation. • Adjust headlight beam. | √ | √ | √ | √ | √ | √ |

Periodic maintenance and adjustment

EAU80950

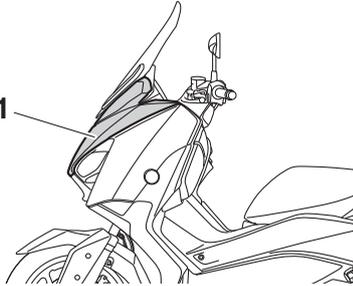
TIP

- Engine air filter and V-belt air filter
 - This model's engine air filter is equipped with a disposable oil-coated paper element, which must not be cleaned with compressed air to avoid damaging it.
 - The engine air filter element and sub air filter element need to be replaced and the V-belt air filter element needs to be serviced more frequently when riding in unusually wet or dusty areas.
 - Hydraulic brake service
 - After disassembling the brake master cylinders and calipers, always change the fluid. Regularly check the brake fluid levels and fill the reservoirs as required.
 - 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.
-

Removing and installing the panel

EAU18752

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



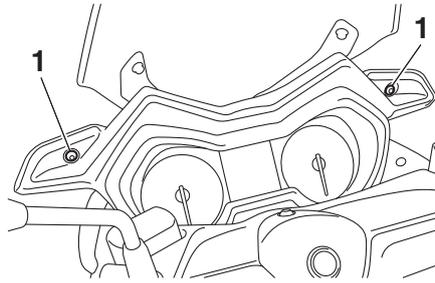
1. Panel A

EAU78530

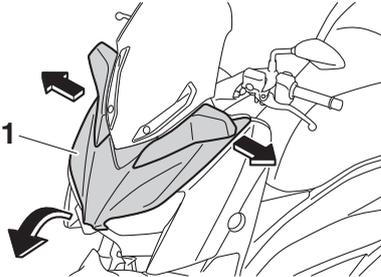
Panel A

To remove the panel

Remove the screws, and then pull the panel outward and slide it forward as shown.



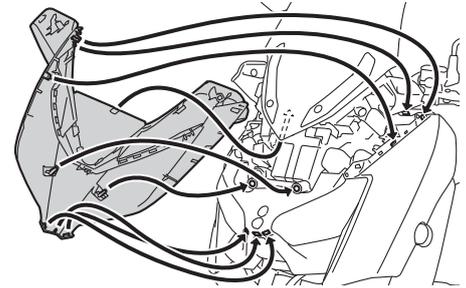
1. Screw



1. Panel A

To install the panel

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



Periodic maintenance and adjustment

8

Checking the spark plug

EAU19623

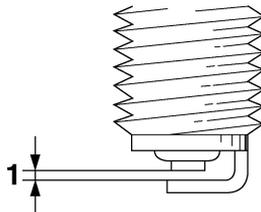
The spark plug is an important engine component, which should be checked periodically, preferably by a Yamaha dealer. Since heat and deposits will cause any spark plug to slowly erode, it should be removed and checked in accordance with the periodic maintenance and lubrication chart. In addition, the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

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

If the spark plug shows signs of electrode erosion and excessive carbon or other deposits, it should be replaced.

Specified spark plug:
NGK/LMAR8A-9

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



1. Spark plug gap

Spark plug gap:

0.8–0.9 mm (0.031–0.035 in)

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

Tightening torque:

Spark plug:

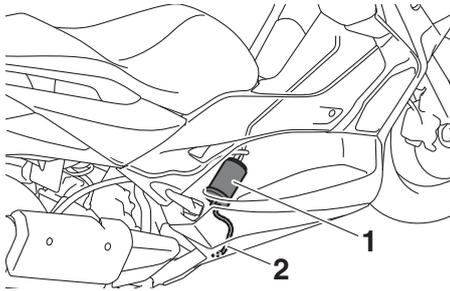
13 N·m (1.3 kgf·m, 9.6 lb·ft)

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.

Canister

EAU36113



1. Canister
2. Canister breather hose

This model is equipped with a canister to prevent the discharging of fuel vapor into the atmosphere. Before operating this vehicle, make sure to check the following:

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

Engine oil and oil filter element

EAU79021

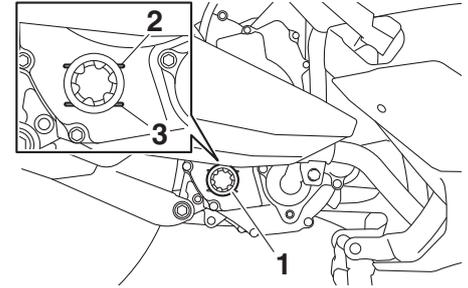
The engine oil level should be checked before each ride. In addition, the oil must be changed and the oil filter element replaced at the intervals specified in the periodic maintenance and lubrication chart.

To check the engine oil level

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

TIP

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



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

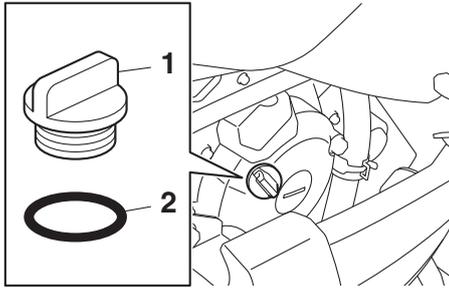
4. If the engine oil is below the minimum level mark, add sufficient oil of the recommended type to raise it to the correct level.

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

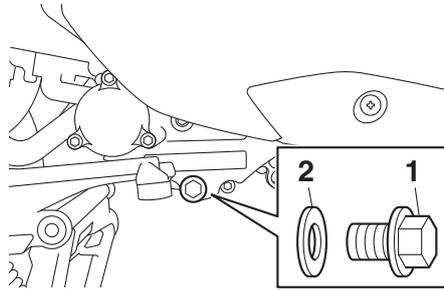
1. Start the engine, warm it up for several minutes, and then turn it off.
2. Place an oil pan under the engine to collect the used oil.

Periodic maintenance and adjustment

3. Remove the engine oil filler cap and its O-ring, and then remove the engine oil drain bolt and its gasket to drain the oil from the crankcase.
4. Check the O-ring for damage, and replace it if necessary.



1. Engine oil filler cap
2. O-ring

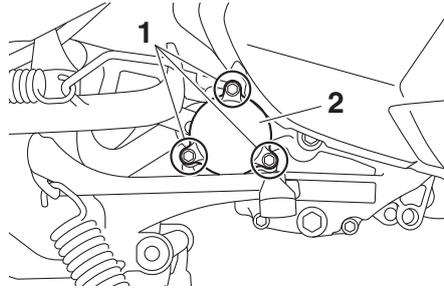


1. Engine oil drain bolt
2. Gasket

TIP

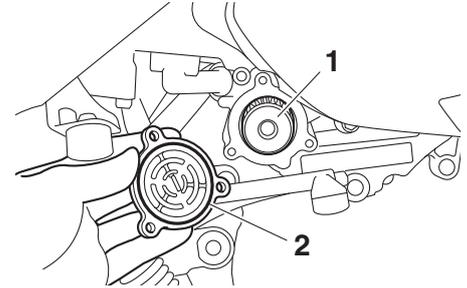
Skip steps 5–7 if the oil filter element is not being replaced.

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



1. Bolt
2. Oil filter element cover

6. Remove and replace the oil filter element and O-ring.



1. Oil filter element
2. O-ring

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

Tightening torque:

Oil filter element cover bolt:
10 N·m (1.0 kgf·m, 7.4 lb·ft)

TIP

Make sure that the O-ring is properly seated.

8. Install the engine oil drain bolt and its new gasket, and then tighten the bolt to the specified torque.

Tightening torque:

Engine oil drain bolt:
20 N·m (2.0 kgf·m, 15 lb·ft)

9. Refill with the specified amount of the recommended engine oil.

Recommended engine oil:

See page 10-1.

Oil quantity:

Oil change:
1.50 L (1.59 US qt, 1.32 Imp.qt)
With oil filter removal:
1.60 L (1.69 US qt, 1.41 Imp.qt)

TIP _____

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

ECA24060

NOTICE _____

Make sure that no foreign material enters the crankcase.

10. Install and tighten the oil filler cap and its O-ring.

11. 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.
12. Turn the engine off, wait a few minutes for the oil level to settle for an accurate reading, and then check the oil level and correct it if necessary.

Why Yamalube

YAMALUBE oil is a Genuine YAMAHA Part born of the engineers' passion and belief that engine oil is an important liquid engine component. We form teams of specialists in the fields of mechanical engineering, chemistry, electronics and track testing, and have them develop the engine together with the oil it will use. Yamalube oils take full advantage of the base oil's qualities and blend in the ideal balance of additives to make sure the final oil clears our performance standards. Thus, Yamalube mineral, semisynthetic and synthetic oils have their own distinct characters and value. Yamaha's experience gained over many years of research and development into oil since the 1960's helps make Yamalube the best choice for your Yamaha engine.



YAMALUBE®

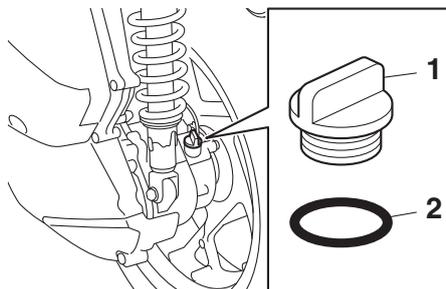
Periodic maintenance and adjustment

EAU20067

Final transmission oil

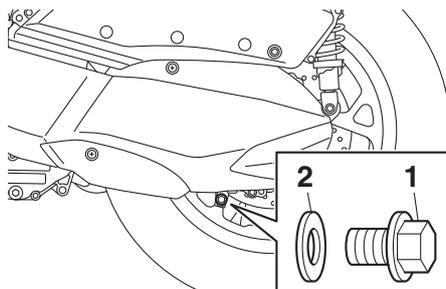
The final transmission case must be checked for oil leakage before each ride. If any leakage is found, have a Yamaha dealer check and repair the scooter. In addition, the final transmission oil must be changed as follows at the intervals specified in the periodic maintenance and lubrication chart.

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



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

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

Tightening torque:

Final transmission oil drain bolt:
20 N·m (2.0 kgf·m, 15 lb·ft)

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:

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

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

Periodic maintenance and adjustment

Coolant

EAU20071

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

To check the coolant level

EAU78580

1. Place the vehicle on the center-stand.

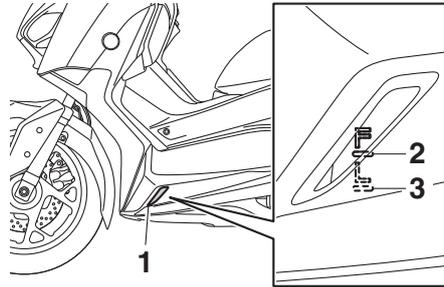
TIP

- The coolant level must be checked on a cold engine since the level varies with engine temperature.
- Make sure that the vehicle is positioned straight up when checking the coolant level. A slight tilt to the side can result in a false reading.

2. Check the coolant level through the check window.

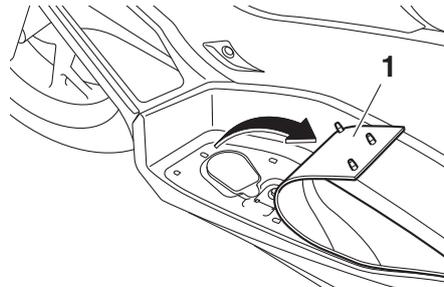
TIP

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

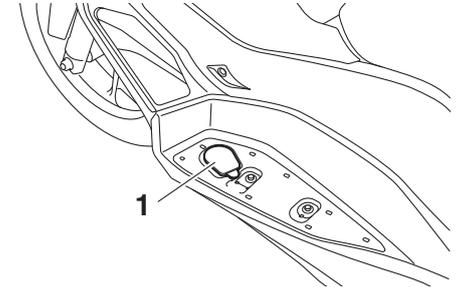


1. Coolant level check window
2. Maximum level mark
3. Minimum level mark

3. If the coolant is at or below the minimum level mark, remove the left floorboard mat by pulling it up.



1. Floorboard mat
4. Remove the coolant reservoir cover.



1. Coolant reservoir cover

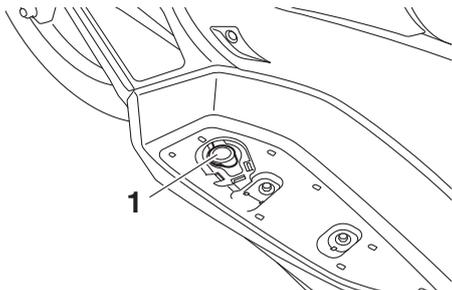
5. Remove the coolant reservoir cap, add coolant to the maximum level mark, and then install the reservoir cap. **WARNING! Remove only the coolant reservoir cap. Never attempt to remove the radiator cap when the engine is hot.**

[EWA15162]

NOTICE: If coolant is not available, use distilled water or soft tap water instead. Do not use hard water or salt water since it is harmful to the engine. If water has been used instead of coolant, replace it with coolant as soon as possible, otherwise the cooling system will not be protected against frost and corrosion. If water has been

Periodic maintenance and adjustment

added to the coolant, have a Yamaha dealer check the anti-freeze content of the coolant as soon as possible, otherwise the effectiveness of the coolant will be reduced. [ECA10473]



1. Coolant reservoir cap

Coolant reservoir capacity (up to the maximum level mark):
0.18 L (0.19 US qt, 0.16 Imp.qt)

6. Install the coolant reservoir cover.
7. Place the left floorboard mat in the original position and push it downward to secure it.

EAU33032

Changing the coolant

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

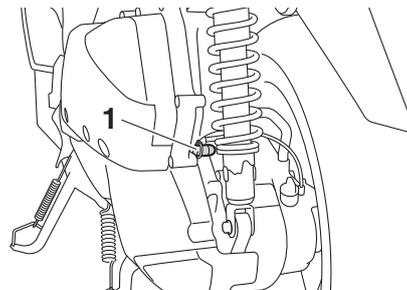
WARNING! Never attempt to remove the radiator cap when the engine is hot. [EWA10382]

EAU78574

Air filter and V-belt case air filter elements

The air filter element and the sub air filter element should be replaced, and the pre air filter element 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 must be frequently checked and cleaned if necessary.

Cleaning the air filter check hose



1. Air filter check hose

Periodic maintenance and adjustment

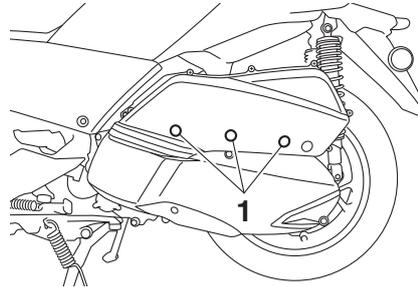
1. Check the hose on the rear side of the air filter case for accumulated dirt or water.
2. If dirt or water is visible, remove the hose from the clamp, clean it, and then install it.

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.

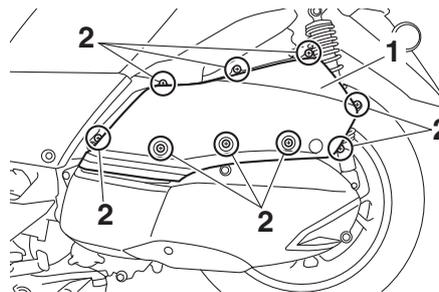
Replacing the air filter element and sub air filter element and cleaning the pre air filter element

1. Place the vehicle on the center-stand.
2. Remove the rubber plugs.



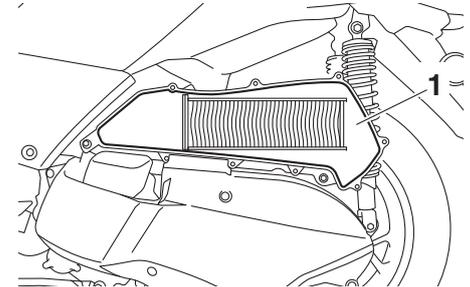
1. Rubber plug

3. Remove the air filter case cover by removing the screws.

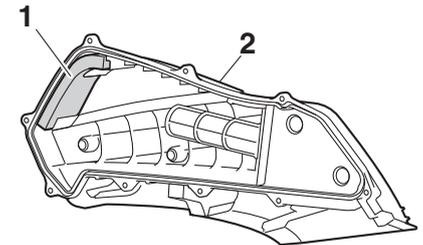


1. Air filter case cover
2. Screw

4. Pull the air filter element and sub air filter element out.



1. Air filter element



1. Sub air filter element
2. Air filter case cover

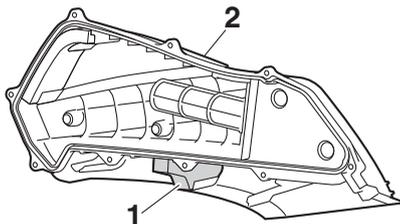
5. Insert a new sub air filter element into the air filter case cover.
6. Insert a new air filter element into the air filter case. **NOTICE: Make sure that the air filter element is properly seated in the air filter**

Periodic maintenance and adjustment

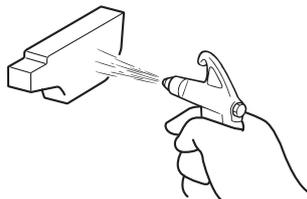
case. The engine should never be operated without the air filter element installed, otherwise the piston(s) and/or cylinder(s) may become excessively worn.

[ECA10482]

7. Pull the pre air filter element out, and then blow out the dirt with compressed air as shown.



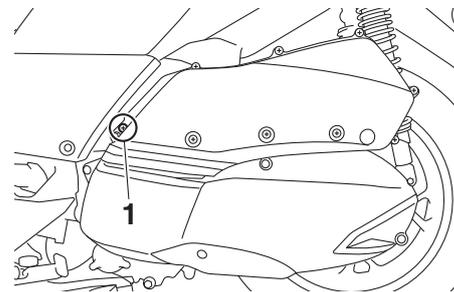
1. Pre air filter element
2. Air filter case cover



8. Check the pre air filter element for damage, and replace it if necessary.
9. Insert the pre air filter element into the air filter case cover.
10. Install the air filter case cover by installing the screws.

TIP

The long screw should be installed as shown.



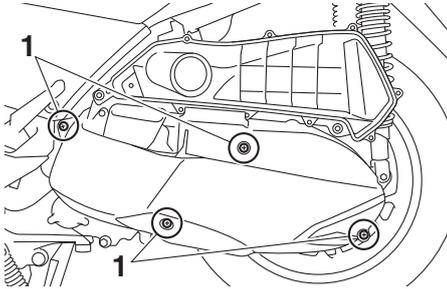
1. Long screw

11. Install the rubber plugs.

Cleaning the V-belt case air filter element

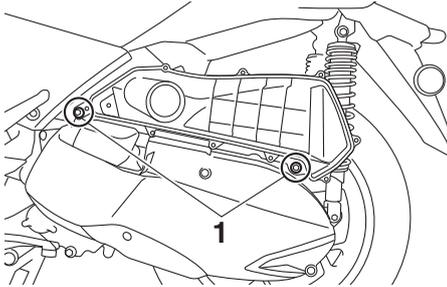
1. Place the vehicle on the center-stand.
2. Remove the air filter case cover. (See the previous section.)
3. Remove the V-belt case cover screws.

Periodic maintenance and adjustment



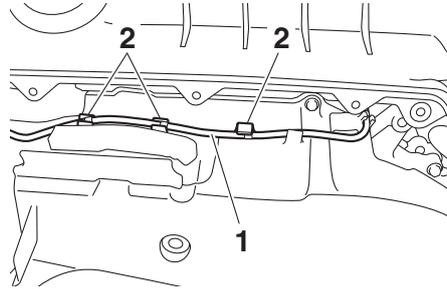
1. Screw

4. Remove the air filter case bolts.



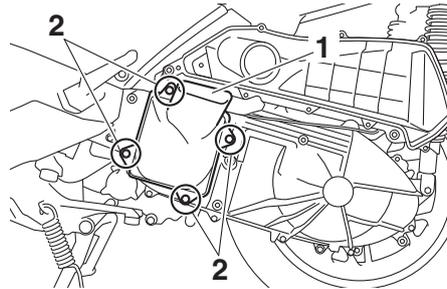
1. Bolt

5. Lift up the air filter case slightly, remove the rear wheel sensor lead from the holder, and then remove the V-belt case cover.



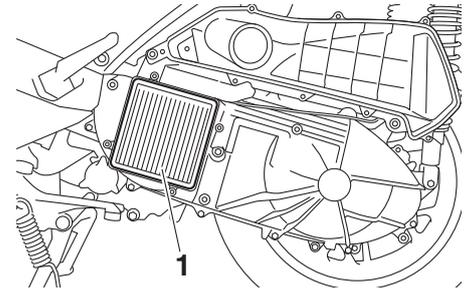
1. Rear wheel sensor lead
2. Lead holder

6. Remove the V-belt case air filter cover by removing the bolts.

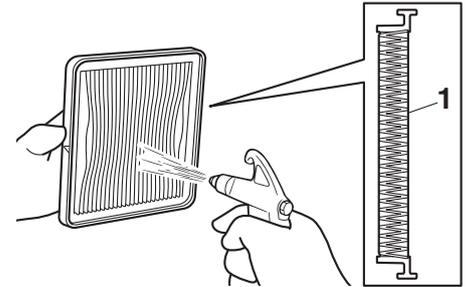


1. V-belt case air filter cover
2. Bolt

7. Remove the air filter element, and then blow out the dirt with compressed air from the clean side as shown.



1. V-belt case air filter element

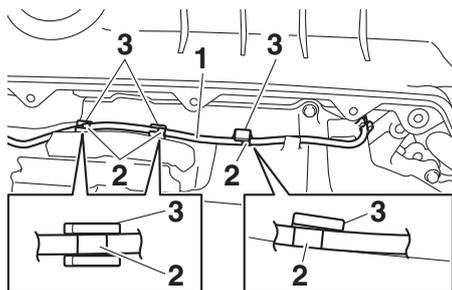


1. Clean side

8. Check the V-belt case air filter element for damage and replace it if necessary.

Periodic maintenance and adjustment

9. Insert the element into the V-belt case.
10. Install the V-belt case air filter cover by installing the bolts.
11. Install the rear wheel sensor lead into the holder at the white tape on the lead as shown.
14. Install the air filter case cover by installing the screws.



1. Rear wheel sensor lead
2. White tape
3. Lead holder

12. Install the air filter case bolts, and then tighten the bolts to the specified torque.

Tightening torque:

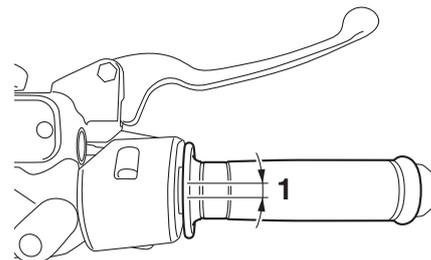
Bolt:

10 N·m (1.0 kgf·m, 7.4 lb·ft)

13. Install the V-belt case cover by installing the screws.

Checking the throttle grip free play EAU21386

Measure the throttle grip free play as shown.



1. Throttle grip free play

Throttle grip free play:

3.0–5.0 mm (0.12–0.20 in)

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

EAU21403

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.

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

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 (2.00 kgf/cm², 29 psi)

Rear:

225 kPa (2.25 kgf/cm², 33 psi)

2 persons:

Front:

200 kPa (2.00 kgf/cm², 29 psi)

Rear:

225 kPa (2.25 kgf/cm², 33 psi)

Maximum load:

Vehicle:

161 kg (355 lb)

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

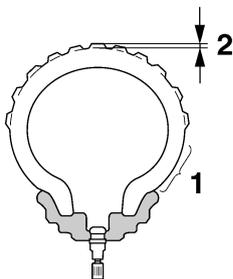
EWA10512

WARNING

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

Periodic maintenance and adjustment

Tire inspection



1. Tire sidewall
2. 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 (0.04 in)

WARNING

EWA10583

- 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:

120/70-15 M/C 56P

Manufacturer/model:

DUNLOP/SCOOTSMART

Rear tire:

Size:

140/70-14 M/C 62P

Manufacturer/model:

DUNLOP/SCOOTSMART

Cast wheels

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

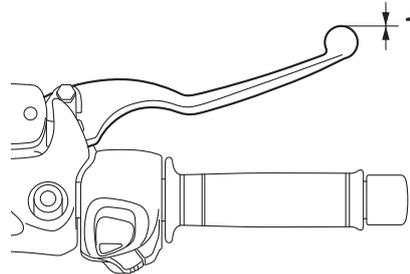
- The wheel rims should be checked for cracks, bends, warpage or other damage before each ride. If any damage is found, have a Yamaha dealer replace the wheel. Do not attempt even the smallest repair to the wheel. A deformed or cracked wheel must be replaced.
- The wheel should be balanced whenever either the tire or wheel has been changed or replaced. An unbalanced wheel can result in poor performance, adverse handling characteristics, and a shortened tire life.

EAU21963

Checking the front and rear brake lever free play

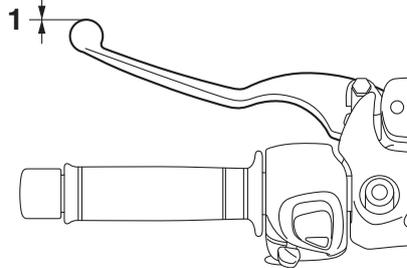
EAU50861

Front



1. No brake lever free play

Rear



1. No brake lever free play

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

EWA14212

⚠ WARNING

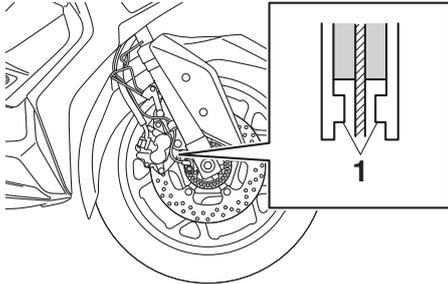
A soft or spongy feeling in the brake lever can indicate the presence of air in the hydraulic system. If there is air in the hydraulic system, have a Yamaha dealer bleed the system before operating the vehicle. Air in the hydraulic system will diminish the braking performance, which may result in loss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

Periodic maintenance and adjustment

Checking the front and rear brake pads

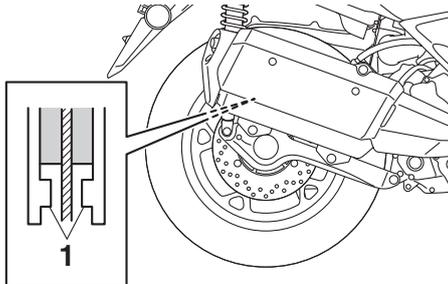
EAU22312

Front brake



1. Brake pad wear indicator

Rear brake



1. Brake pad wear indicator

The front and rear brake pads must be checked for wear at the intervals specified in the periodic maintenance and lubrication chart. Each brake pad is provided with a wear indicator, which allows you to check the brake pad wear without having to disassemble the brake. To check the brake pad wear, check the position of the wear indicator while applying the brake. If a brake pad has worn to the point that the wear indicator almost touches the brake disc, have a Yamaha dealer replace the brake pads as a set.

Checking the brake fluid level

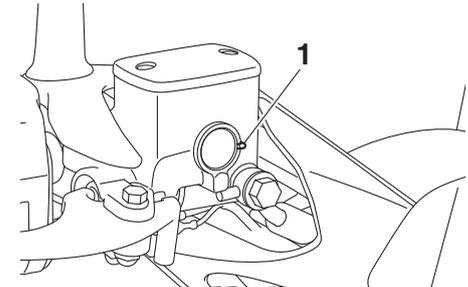
EAU60681

Before riding, check that the brake fluid is above the minimum level mark.

TIP

Make sure the reservoir is parallel to the ground when checking.

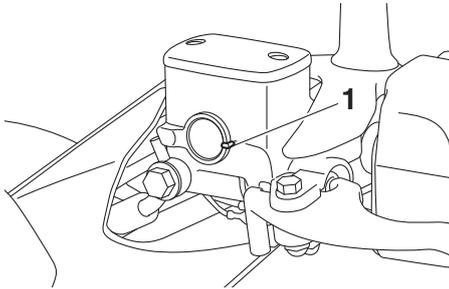
Front brake



1. Minimum level mark

Periodic maintenance and adjustment

Rear brake



1. Minimum level mark

Specified brake fluid:
YAMAHA GENUINE BRAKE FLUID
(DOT 4)

EWA15991

ECA17641

WARNING

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

- Insufficient brake fluid may allow air to enter the brake system, reducing braking performance.
- Clean the filler cap before removing. Use only DOT 4 brake fluid from a sealed container.

- Use only the specified brake fluid; otherwise, the rubber seals may deteriorate, causing leakage.
- Refill with the same type of brake fluid. Adding a brake fluid other than DOT 4 may result in a harmful chemical reaction.
- Be careful that water does not enter the brake fluid reservoir when refilling. Water will significantly lower the boiling point of the fluid and may result in vapor lock.

fluid level goes down suddenly, have a Yamaha dealer check the cause before further riding.

NOTICE

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

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

Periodic maintenance and adjustment

Changing the brake fluid

EAU22734

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

Checking the V-belt

EAU00311

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]

Recommended lubricant:

Yamaha cable lubricant or other suitable cable lubricant

Periodic maintenance and adjustment

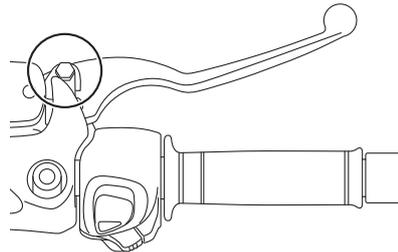
Checking and lubricating the throttle grip and cable EAU49921

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.

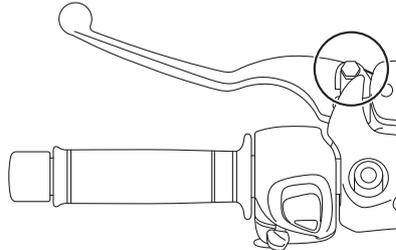
Lubricating the front and rear brake levers EAU23173

Recommended lubricant:
Silicone grease

Front brake lever



Rear brake lever

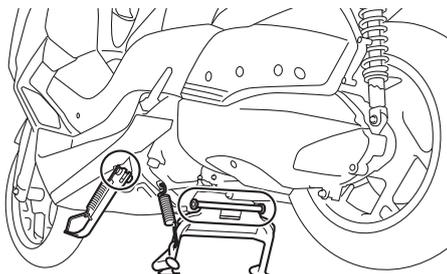


The pivoting points of the front and rear brake levers must be lubricated at the intervals specified in the periodic maintenance and lubrication chart.

Periodic maintenance and adjustment

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.

Recommended lubricant:
Lithium-soap-based grease

Checking the front fork

EAU23273

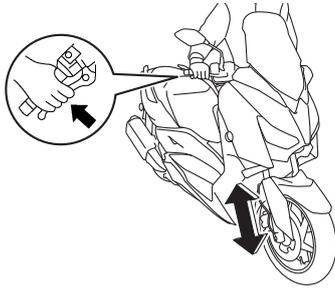
The condition and operation of the front fork must be checked as follows at the intervals specified in the periodic maintenance and lubrication chart.

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

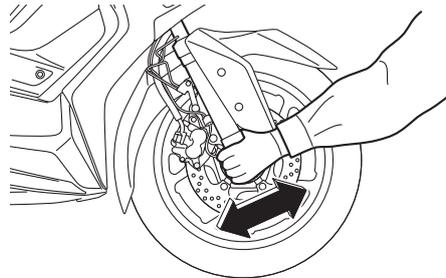
If any damage is found or the front fork does not operate smoothly, have a Yamaha dealer check or repair it.

Checking the steering

EAU45512

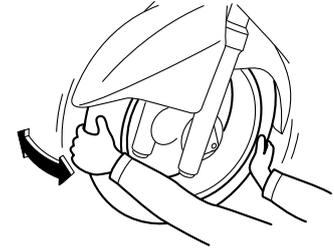
Worn or loose steering bearings may cause danger. Therefore, the operation of the steering must be checked as follows at the intervals specified in the periodic maintenance and lubrication chart.

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.



Checking the wheel bearings

EAU23292

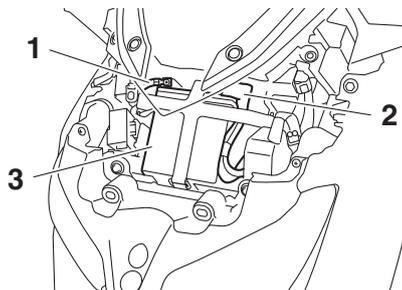


The front and rear wheel bearings must be checked at the intervals specified in the periodic maintenance and lubrication chart. If there is play in the wheel hub or if the wheel does not turn smoothly, have a Yamaha dealer check the wheel bearings.

Periodic maintenance and adjustment

Battery

EAU60691



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

The battery is located behind panel A. (See page 8-8.)

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

EWA10761

⚠ WARNING

- **Electrolyte is poisonous and dangerous since it contains sulfuric acid, which causes severe**

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

- **EXTERNAL:** Flush with plenty of water.
- **INTERNAL:** Drink large quantities of water or milk and immediately call a physician.
- **EYES:** Flush with water for 15 minutes and seek prompt medical attention.
- **Batteries produce explosive hydrogen gas. Therefore, keep 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-**

Periodic maintenance and adjustment

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.

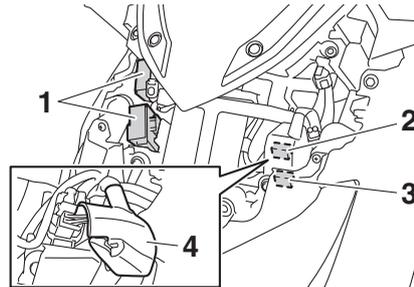
Replacing the fuses

EAU78242

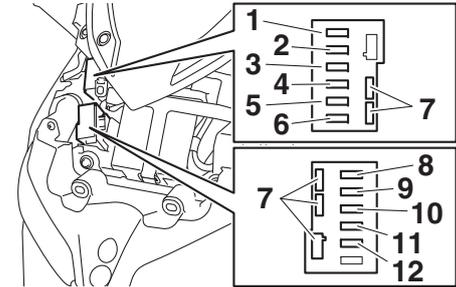
The main fuse and the fuse boxes, which contain the fuses for the individual circuits, are located under panel A. (See page 8-8.)

TIP

To access the main fuse, remove the starter relay cover as shown.



1. Fuse box
2. Main fuse
3. Spare main fuse
4. Starter relay cover



1. Signaling system fuse 2
2. Signaling system fuse
3. ABS control unit fuse
4. Main fuse 2
5. Radiator fan motor fuse
6. Backup fuse
7. Spare fuse
8. ABS motor fuse
9. ABS solenoid fuse
10. Turn signal light and hazard fuse
11. Terminal fuse 1
12. Answer back fuse

If a fuse is blown, replace it as follows.

1. Turn the main switch off and turn off the electrical circuit in question.
2. Remove the blown fuse, and then install a new fuse of the specified amperage. **WARNING! Do not use a fuse of a higher amperage**

Periodic maintenance and adjustment

rating than recommended to avoid causing extensive damage to the electrical system and possibly a fire. [EWA15132]

Specified fuses:

Main fuse:

20.0 A

Main fuse 2:

7.5 A

Terminal fuse 1:

2.0 A

Signaling system fuse:

10.0 A

Radiator fan motor fuse:

7.5 A

Backup fuse:

7.5 A

Turn signal light and hazard fuse:

7.5 A

ABS control unit fuse:

7.5 A

ABS motor fuse:

30.0 A

ABS solenoid fuse:

15.0 A

Answer back fuse:

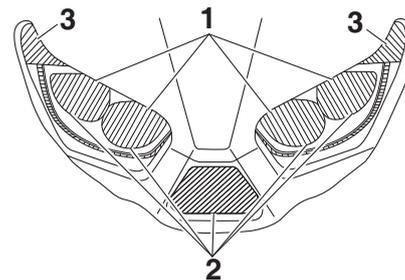
2.0 A

4. If the fuse immediately blows again, have a Yamaha dealer check the electrical system.

Vehicle lights

EAUN2261

This model is equipped with LED lights for headlights, auxiliary lights and brake/tail light. If a light does not come on, check the fuse and then have a Yamaha dealer check the vehicle.



1. Headlight (low beam)
2. Headlight (high beam)
3. Auxiliary light

ECA16581

NOTICE

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

3. Turn the main switch on and turn on the electrical circuit in question to check if the device operates.

Periodic maintenance and adjustment

Front turn signal light

EAU39881

If a front turn signal light does not come on, have a Yamaha dealer check its electrical circuit or replace the bulb.

Rear turn signal light bulb

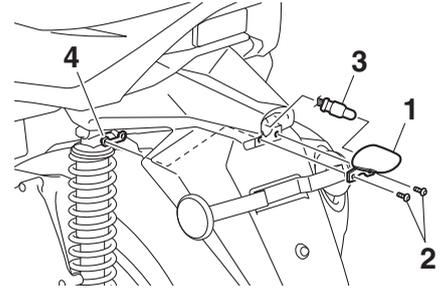
EAUT1331

If a rear turn signal light does not come on, have a Yamaha dealer check the electrical circuit or replace the bulb.

Replacing the license plate light bulb

EAU78560

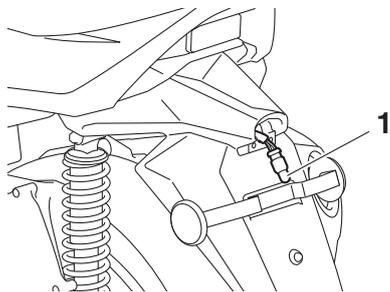
1. Remove the license plate light unit by removing the bolts and plate, and then remove the license plate light bulb socket (together with the bulb) by pulling it out.



1. License plate light unit
2. Bolt
3. License plate light bulb socket
4. Plate

2. Remove the burnt-out bulb by pulling it out.

Periodic maintenance and adjustment



1. License plate light bulb

3. Insert a new bulb into the socket.
4. Install the socket (together with the bulb) by pushing it in, and then install the license plate light unit by installing the plate and bolts.

Troubleshooting

EAU60701

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.

EWA15142

WARNING

When checking the fuel system, do not smoke, and make sure there are no open flames or sparks in the area, including pilot lights from water

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

EAU76551

Smart key system troubleshooting

Please check the following items when the smart key system does not work.

- Is the smart key turned on? (See page 4-4.)
- Is the smart key battery discharged? (See page 4-6.)
- Is the smart key battery installed correctly? (See page 4-6.)
- Is the smart key being used in a location with strong radio waves or other electromagnetic noise? (See page 4-1.)
- Are you using the smart key that is registered to the vehicle?
- Is the vehicle battery discharged? When the vehicle battery is discharged, the smart key system will not operate. Please have the vehicle battery charged or replaced. (See page 8-29.)

Periodic maintenance and adjustment

If the smart key system does not work after checking the above items, have a Yamaha dealer check the smart key system.

TIP _____

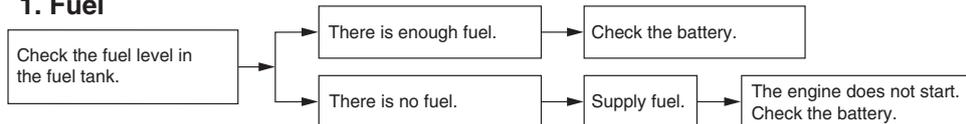
See Emergency mode on page 8-37 for information on starting the engine without the smart key.

Periodic maintenance and adjustment

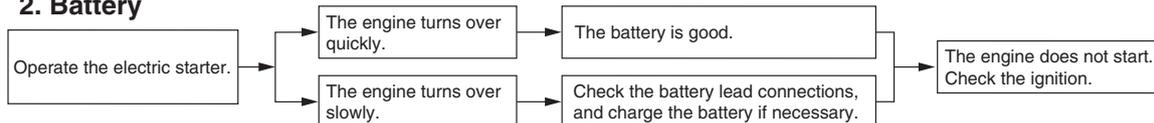
EAU86350

Troubleshooting chart

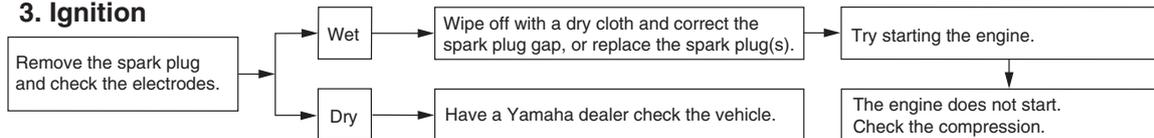
1. Fuel



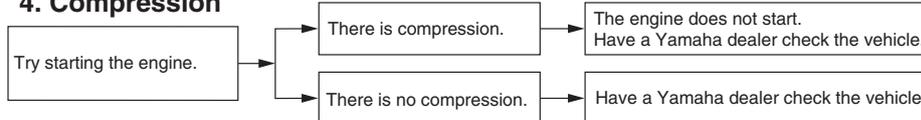
2. Battery



3. Ignition



4. Compression



Periodic maintenance and adjustment

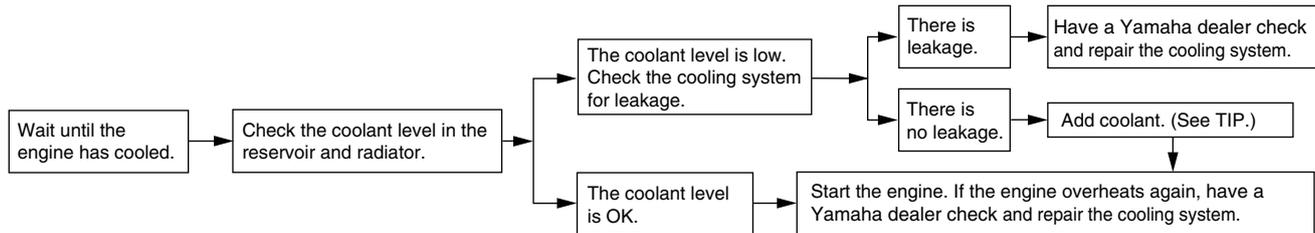
EAU86420

Engine overheating

EWAT1041

WARNING

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



TIP

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

Periodic maintenance and adjustment

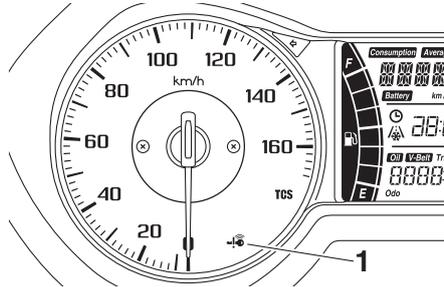
EAU76561

Emergency mode

When the smart key is lost or damaged, or its battery has discharged, the vehicle can still be turned on and the engine started. You will need the smart key system identification number.

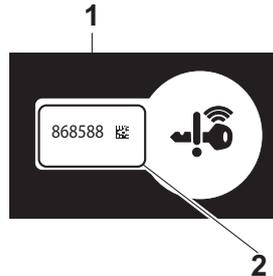
To operate the vehicle in emergency mode

1. Stop the vehicle in a safe place and turn the main switch to “OFF”.
2. Push the main switch knob for 5 seconds until the smart key system indicator light flashes once. Repeat two more times. The smart key system indicator light will come on for three seconds to indicate the transition to emergency mode.



1. Smart key system indicator light “”

3. After the smart key system indicator light goes off, input the identification number as follows.



1. Identification number card
2. Identification number

4. Inputting the identification number is done by counting the number of flashes of the smart key system indicator light.

For example, if the identification number is 123456:

Push and hold the knob.



The smart key system indicator light will start to flash.



Release the knob after the smart key system indicator light flashes once.



The first digit of the identification number has been set as “1”.



Push and hold the knob again.





Release the knob after the smart key system indicator light flashes twice.



The second digit has been set as “2”.



Repeat the above procedure until all digits of the identification number have been set. The smart key system indicator light will flash for 10 seconds if the correct identification number was entered.

TIP

When one of the following situations applies, emergency mode will be terminated and the smart key system indicator light will flash quickly for 3 seconds. In this case, start over again from step 2.

- When there are no knob operations for 10 seconds during the identification number input process.
- When the smart key system indicator light is allowed to flash nine or more times.
- The identification number is not entered correctly.

5. While the smart key system indicator light is on, push the knob once more to complete emergency mode access. The smart key indicator light will go off and then come back on for approximately 4 seconds.
6. While the smart key system indicator light is on, turn the main switch to “ON”. The vehicle can now be operated normally.

Scooter 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

EAU84990

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.
-

ECA26280

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.

Scooter 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.**
-

Storage

EAU83472

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):

Scooter care and storage

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 8-29 for more information on charging and storing the battery.

Specifications

Dimensions:

- Overall length:
2185 mm (86.0 in)
- Overall width:
775 mm (30.5 in)
- Overall height:
1415/1465 mm (55.7/57.7 in)
- Seat height:
795 mm (31.3 in)
- Wheelbase:
1540 mm (60.6 in)
- Ground clearance:
135 mm (5.31 in)
- Minimum turning radius:
2.6 m (8.53 ft)

Weight:

- Curb weight:
179 kg (395 lb)

Engine:

- Combustion cycle:
4-stroke
- Cooling system:
Liquid cooled
- Valve train:
SOHC
- Number of cylinders:
Single cylinder
- Displacement:
292 cm³
- Bore × stroke:
70.0 × 75.9 mm (2.76 × 2.99 in)
- Starting system:
Electric starter

Engine oil:

Recommended brand:



- SAE viscosity grades:
10W-40, 0W-30
- Recommended engine oil grade:
API service SG type or higher, JASO standard MA or MB
- Engine oil quantity:
Oil change:
1.50 L (1.59 US qt, 1.32 Imp.qt)
With oil filter removal:
1.60 L (1.69 US qt, 1.41 Imp.qt)

Final transmission oil:

- Type:
Motor oil SAE 10W-40 type SG or higher
- Quantity:
0.20 L (0.21 US qt, 0.18 Imp.qt)

Coolant quantity:

- Coolant reservoir (up to the maximum level mark):
0.18 L (0.19 US qt, 0.16 Imp.qt)
- Radiator (including all routes):
1.10 L (1.16 US qt, 0.97 Imp.qt)

Fuel:

- Recommended fuel:
Unleaded gasoline (E10 to E20 only)
- Octane number (RON):
90
- Fuel tank capacity:
13 L (3.4 US gal, 2.9 Imp.gal)

- Fuel reserve amount:
2.4 L (0.63 US gal, 0.53 Imp.gal)

Fuel injection:

- Throttle body:
ID mark:
B741

Drivetrain:

Front tire:

- Type:
Tubeless
- Size:
120/70-15 M/C 56P
- Manufacturer/model:
DUNLOP/SCOOTSMART

Rear tire:

- Type:
Tubeless
- Size:
140/70-14 M/C 62P
- Manufacturer/model:
DUNLOP/SCOOTSMART

Loading:

- Maximum load:
161 kg (355 lb)
(Total weight of rider, passenger, cargo and accessories)

Front brake:

- Type:
Hydraulic single disc brake

Rear brake:

- Type:
Hydraulic single disc brake

Front suspension:

Type:
Telescopic fork

Rear suspension:

Type:
Unit swing

Electrical system:

System voltage:
12 V

Battery:

Model:
GTZ8V
Voltage, capacity:
12 V, 7.0 Ah (10 HR)

Bulb wattage:

Headlight:
LED
Brake/tail light:
LED
Front turn signal light:
10.0 W
Rear turn signal light:
10.0 W
Auxiliary light:
LED
License plate light:
5.0 W

Consumer information

Identification numbers

EAU26366

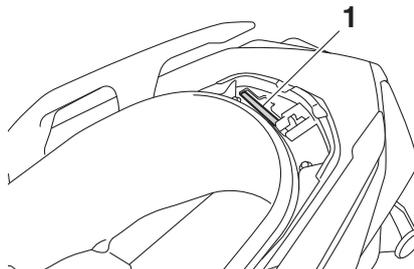
Record the vehicle identification number and the engine serial number in the spaces provided below for assistance when ordering spare parts from a Yamaha dealer or for reference in case the vehicle is stolen.

VEHICLE IDENTIFICATION NUMBER:

ENGINE SERIAL NUMBER:

Vehicle identification number

EAU26411



1. Vehicle identification number

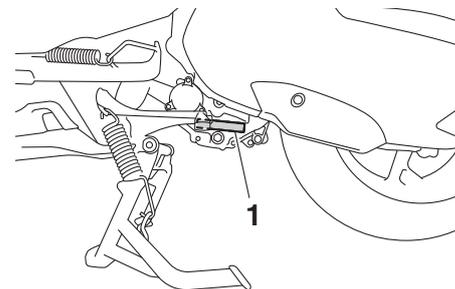
The vehicle identification number is stamped into the frame.

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

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