



 Read this manual carefully before operating this vehicle.

OWNER'S MANUAL

**XMAX**

*Connected*


**CZD250-A**

BPW-F8199-30


EALJ46091

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

EALJ46091

 **在使用这电单车以前，请充分使用这小手册。这手册须付与电单车一起。**

EALJ46091

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

# Introduction

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EAU10114

Welcome to the Yamaha world of motorcycling!

As the owner of the CZD250-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 CZD250-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.

EWA12412



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




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## Important manual information

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EAU10134

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

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

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

## Important manual information

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EAUV0012

**CZD250-A**  
**OWNER'S MANUAL**  
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## Location of important labels

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EAUIN2190

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.










## Location of important labels

1



2

 		
100kPa=1bar	kPa, psi	kPa, psi
	200, 29	225, 33
	200, 29	225, 33

1

## Safety information

EAU1026B

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 7-1 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.**

<p><b>Maximum load:</b> 171 kg (378 lb)</p>
---

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

### 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 9-19 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.

EAU57600

### Further safe-riding points

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

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

## Helmets

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 “SNI”.
- 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.

EAUN0213

### Correct usage



ZAUU0003

### Wrong usage



ZAUU0007

### Types of helmets and their usage

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

## Safety information

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2



ZAUU0005

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



ZAUU0006



## Left view

3



1. Storage compartment A (page 6-28)

2. Tool kit (page 9-2)

3. Grab bar (page 8-3)

4. Air filter element (page 9-14)

5. Shock absorber assembly spring preload adjusting ring (page 6-33)

6. Final transmission oil filler cap (page 9-12)

7. Final transmission oil drain bolt (page 9-12)

8. V-belt case air filter element (page 9-14)

9. Engine oil drain bolt (page 9-9)

10. Engine oil filter element (page 9-9)

11. Sidestand (page 6-34)

12. Spark plug (page 9-8)

13. Coolant reservoir (page 9-13)

## Description

EAU10421

### Right view

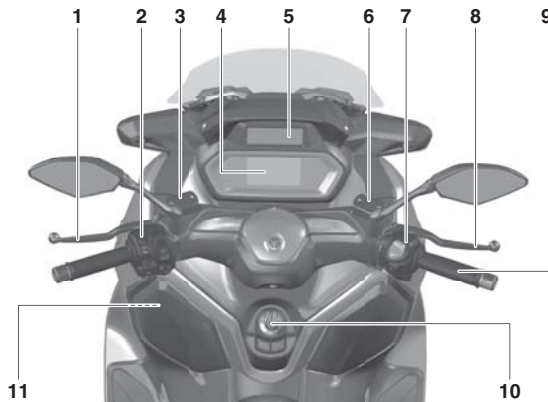
3



- 1. Tail light
- 2. Rear turn signal light (page 9-31)
- 3. Rear storage compartment (page 6-28)
- 4. Fuel tank cap (page 6-26)
- 5. Storage compartment B (page 6-28)
- 6. Windshield (page 6-30)
- 7. Front turn signal light (page 9-31)
- 8. Battery (page 9-28)

- 9. Fuses (page 9-29)
- 10. Headlight (page 9-30)
- 11. Auxiliary light (page 9-30)
- 12. Centerstand (page 9-26)
- 13. Engine oil level check window (page 9-9)
- 14. Engine oil filler cap (page 9-9)

## Controls and instruments



- 1. Rear brake lever (page 6-23)
- 2. Left handlebar switches (page 6-20)
- 3. Rear brake fluid reservoir (page 9-22)
- 4. Infotainment display (page 6-5)
- 5. Main display (page 6-3)
- 6. Front brake fluid reservoir (page 9-22)
- 7. Right handlebar switches (page 6-20)
- 8. Front brake lever (page 6-22)

9. Throttle grip (page 9-18)

10. Main switch (page 4-7)

11. Power outlet (page 6-33)

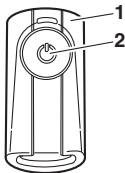
# Smart key system

EALN4130

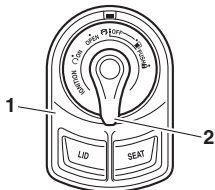
## Smart key system

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.)

4



1. Smart key
2. Smart key button

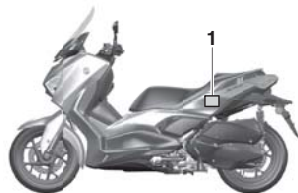


1. Main switch
2. Main switch knob

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.)

## Smart key system

EALU76453

- 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 9-36.)

### 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.

Scan the QR code below to see the certification number.



79732/SDPPI/2022



80778/SDPPI/2022

### Operating range of the smart key system

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



4

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

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

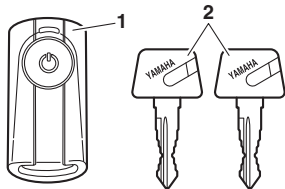
### TIP

- 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.

### Handling of the smart key and mechanical keys

EALU78624

EWA17952



1. Smart key  
2. Mechanical key



1. Identification number card

### 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 9-36.) **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

## Smart key system

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

ECA21573

### 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.

- **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

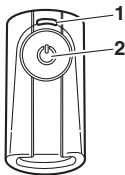
- The smart key battery life is approximately two years, but this may vary according to operating conditions.
- Replace the smart key battery when the smart key system indicator light flashes for 20 seconds when the vehicle is turned on, or when the smart key indicator light does not come on when the 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

### 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.

EAU76474

#### 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.

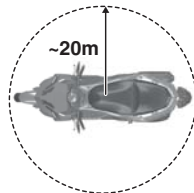
#### Remote answer-back function

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.

EWA17952

#### 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.



## Smart key system

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

EAU83294



1

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



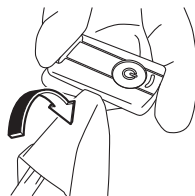
### WARNING

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

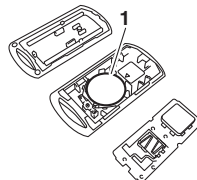
- Do not expose the battery to direct sunlight or other heat sources.

### To replace the smart key battery

1. Open the smart key case as shown.



2. Remove the battery.



1. Battery

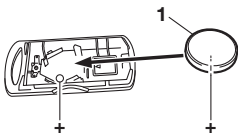
## Smart key system

### TIP

Dispose of the removed battery in accordance with local regulations.

- Note the polarity of the battery and install it with the positive "+" side facing downwards as shown.

**Specified battery:**  
CR2032



1. Battery

- Gently snap the smart key case closed.

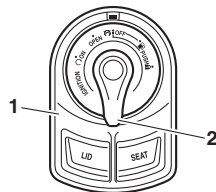
### NOTICE

- 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.

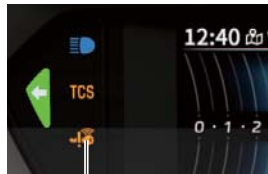
ECA15785

EAU76893

## Main switch



- Main switch
- Main switch knob




1. Smart key system indicator light " " "

The main switch is used to turn the vehicle power ON/OFF, lock/unlock the steering, and open the seat, fuel tank lid and storage compartment A. After

## Smart key system

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).

### **WARNING**

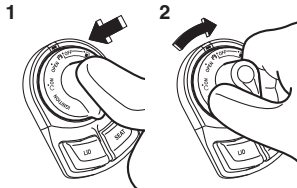
**Never turn the main switch to “OFF”, “”, or “OPEN” while the vehicle is moving. Otherwise the electrical systems will be switched off, which may result in loss of control or an accident.**

### **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**



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.

EAU76502

### **TIP**

- ❑ If the vehicle battery voltage is low, the turn signal lights will not flash.
- ❑ See “Emergency mode” on page 9-36 for information on turning the vehicle power on without the smart key.

### **OFF**



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”.

EAU76511

## Smart key system

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

### TIP

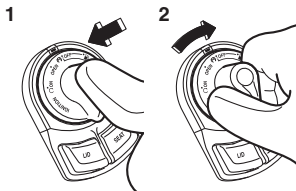
When the main switch is turned to "OFF" but the smart key cannot be confirmed (the smart key is either outside operation range or has been turned off), the beeper will sound for 3 seconds and the smart key system indicator light will flash for 30 seconds.

- 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)

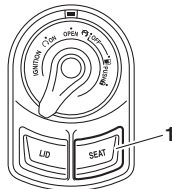
Power is supplied to the main switch. The seat and storage compartment A can be opened.

### To open the seat and storage compartment A



1. Push.
2. Turn.

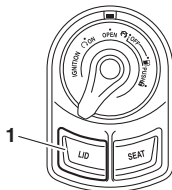
1. With the smart key turned on and within operating range, push the main switch knob.
2. While the smart key system indicator light is on, turn the main switch to "OPEN".
3. To open the seat, push the "SEAT" button, and then lift the rear of the seat.



1. "SEAT" button



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



1. "LID" button



1. Storage compartment A

## TIP

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

## 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.

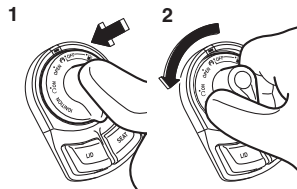
- When the main switch has been in the "OPEN" position for 3 minutes
- If the smart key is turned off while the main switch is in the "OPEN" position
- If you walk out of range of the smart key system with the main switch in the "OPEN" position

If the beeper sounds after 3 minutes, turn the main switch to "OFF" or "LOCK". 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 6-28.)

## "LOCK" (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 "LOCK".

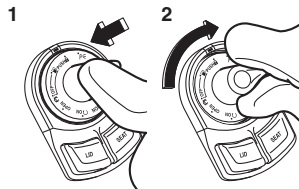
## Smart key system

### TIP

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

### To unlock the steering

4



1. Push.

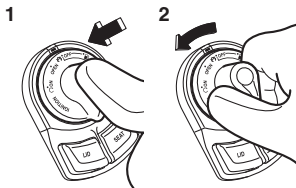
2. Push and turn.

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.

### “” (fuel tank cap lid)


EAU79000

### 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.

# Smartphone Connectivity System

## Smart features: Introduction

EAUN4140

EWA21412

### ⚠ WARNING

- **Failure to pay attention while riding could result in death or serious injury. Always concentrate on riding by keeping your eyes and mind on the road.**
- **Stop the vehicle before making any settings changes.**
- **Changing settings while riding can distract the operator and increase the risk of an accident.**
- **Never take your hands off the handlebars while riding.**
- **Keep volume levels low enough to maintain awareness of your surroundings and ensure safety.**

This vehicle is equipped with an extensive suite of smart features utilizing your smartphone, connected to the vehicle through a communication control unit (CCU) and the Yamaha Motorcycle Connect app on your phone.

- GPS navigation (requires Garmin StreetCross) (page 5-5)
- Telephone (page 5-7)

- Audio player (page 6-11)
- Smartphone notifications
- Weather information (page 6-15)
- Clock automatic update (page 6-17)
- Language settings (page 5-2)

### TIP

- Some features may not be available depending on your smartphone. Some music and SNS applications may not function properly in combination with other applications.
- The CCU takes approximately 10 seconds to initiate its Bluetooth function after the vehicle power is turned on. Related functions will be grayed out in the menu system during this time.

Smart features are accessed via the menu system on the infotainment display. The menu system and all related features are controlled using the “^”/“v”/“✓” switches and the “56” button.

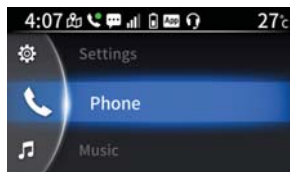
First, please read how to operate the basic menu controls in the next section, and then an initial setup and connection of a smartphone must be completed.

### Menu system controls



1. “^”/“v” switches
2. “✓” switch
3. “56” button

This manual uses the following terms to describe the usage of the menu controls:



## Smartphone Connectivity System

Short press	Briefly press the switch or button
Long press	Press the switch or button for 1 second

### Menu system basic operations:

- Use the “^”/“v” switches to highlight and adjust menu items.
- Short press the “✓” switch to open the menu system from the home screen or execute a selection in the menu system.
- Short press the “↺” button to cycle between the 3 home screens or return to the previous screen in the menu system.
- Long press the “↺” button to exit the menu system and return to the home screen.

### TIP

When the navigation system is not connected, the navigation home screen cannot be cycled to using the “↺” button.

### Yamaha Motorcycle Connect app



Yamaha Motorcycle Connect is a free app which is needed to complete the connection between the CCU and your smartphone. The app can be searched by name and downloaded from your smartphone application store.

### TIP

- Use of Yamaha Motorcycle Connect is subject to your agreement to the Yamaha Motorcycle Connect terms of use.
- The Yamaha Motorcycle Connect app may not function on all smartphones or OS (operating system) versions.

- Navigation and other features require GPS access permissions to be set as “Always allow” on your smartphone.
- Every smartphone operates differently; refer to your individual device instructions regarding connectivity, Bluetooth discovery, app permissions, and other settings.

Scan the QR code below to see the certification number.



80864/SDPPI/2022



78473/SDPPI/2021



## Smartphone Connectivity System

### Initial setup

EALU99109

This section describes the basic setup procedures to connect your smartphone to the CCU and start using smart features.

1. Download/install the Yamaha Motorcycle Connect app on your smartphone via an application store. Complete the installation and pair/connect it to the CCU via Bluetooth.



2. To use the navigation system, download/install the Garmin StreetCross app. Complete the installation and pair/connect it to the CCU via Bluetooth.



3. To use the audio/phone/navigation system route guidance, pair/connect a Bluetooth headset to your smartphone. (See page 5-6.).

### Yamaha Motorcycle Connect pairing

ECAN0150

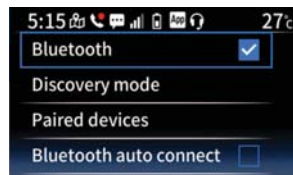
#### NOTICE

The Bluetooth connection may not work in the following situations.

- In a location exposed to strong radio waves or other electromagnetic noise.

- At facilities nearby that are emitting strong radio waves (TV or radio towers, power plants, broadcasting stations, airports, etc.).

1. Download and install the Yamaha Motorcycle Connect app on your smartphone.
2. Short press the "✓" switch to open the menu system. Navigate to: "⚙ Settings" → "Connection" → "Bluetooth".



3. Make sure there is a blue checkmark next to "Bluetooth" and select "Discovery mode".

## Smartphone Connectivity System

5

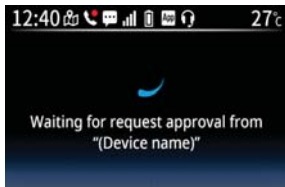


4. Open the Yamaha Motorcycle Connect app and navigate to the "Pairing" screen. Follow the instructions on the app to detect the CCU and pair/connect with it.

### TIP

After making the CCU discoverable, a pairing must be completed within 3 minutes or the process will fail. If a failure occurs, select "Discovery mode" again to retry.

5. A request for Bluetooth pairing will appear with a passkey matching the one displayed on the smartphone. Use the "▲"/"▼" switches to highlight "Yes" and then short press the "✓" switch.



6. Accept the pairing request on your smartphone.

### TIP

- After the passkey appears, the pairing must be confirmed within 30 seconds or it will time out. If a failure occurs, select "Discovery mode" again to retry.
- When connected, the Yamaha Motorcycle Connect indicator icon "M" will appear on the top of the infotainment display and also next to the connected smartphone device name in the "Paired devices" list. (See page 6-16.)

### TIP

- A request will appear on your smartphone to share contact information with the vehicle. If you decline to upload the data to the CCU and/or allow access to notifications, you can do so later in your smartphone's settings.
- If a Bluetooth pairing record is deleted from the smartphone, then the corresponding pairing record must be deleted from the "Paired devices" list in order to pair again successfully.
- If a Bluetooth pairing record is deleted from the "Paired devices" list, then the corresponding pairing record must be deleted from the smartphone in order to pair again successfully.
- The first time the vehicle is paired with the Yamaha Motorcycle Connect app, the menu system language will change to match the language selected in the app. When first installed, the app adopts the system language of the

## Smartphone Connectivity System

smartphone. If the language is not supported by the CCU, then English will be automatically selected.

- Once paired, the Yamaha Motorcycle Connect app will open automatically when a Bluetooth connection is established and will connect to the CCU automatically (This functionality varies by smartphone and/or OS versions. Refer to the Yamaha Motorcycle Connect app for more details).

### Navigation system: Garmin StreetCross

EWA21401

#### **WARNING**

- Always stop the vehicle before operating the navigation system.
- Always concentrate on riding by keeping your eyes and mind on the road.



This vehicle is equipped with a navigation system which provides visual and audio route guidance. To use the navigation system, you must first download the Garmin StreetCross app from an application store on a smartphone and then register for its service.

See page 6-6 for more information about operating the navigation system.

#### **TIP**

- Use of the Garmin StreetCross app is subject to your agreement to the Garmin StreetCross terms of use.
- Yamaha shall not be liable for any damages resulting from the use of the Garmin StreetCross app.

- The smartphone must remain unlocked and the Garmin StreetCross app must be kept in the foreground in order to ensure the smartphone does not sleep (lock). If another app's function moves the Garmin StreetCross app to the background (phone call, alarm, etc.) the smartphone may sleep (lock) and the navigation may stop.
- The Garmin StreetCross app's GPS access permissions must be set to "Always allow" on your smartphone's settings.
- The Garmin StreetCross app may not work on all smartphones or OS (operating system) versions.
- While route guidance is active, the weather information at the destination will be displayed. If the destination is more than 1 hour away, the weather information will be from a location 1 hour away on route to the destination.

# Smartphone Connectivity System

## Garmin StreetCross pairing

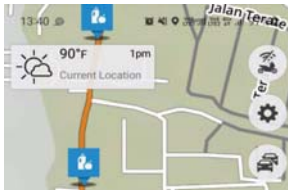
ECAN0150

### NOTICE

The Bluetooth connection may not work in the following situations.

- In a location exposed to strong radio waves or other electromagnetic noise.
- At facilities nearby that are emitting strong radio waves (TV or radio towers, power plants, broadcasting stations, airports, etc.).

1. Download and install the Garmin StreetCross app on your smartphone.
2. Make sure the Yamaha Motorcycle Connect is connected to the CCU.
3. Open the Garmin StreetCross app and tap “” to open the connection menu and follow the instructions in the app to pair/connect to the CCU.



### TIP

When connected, the navigation connection indicator icon “” will appear on the top of the infotainment display and the “@” icon will appear next to the connected smartphone device name in the “Paired devices” list. (See page 6-16.)

### Bluetooth Headset Pairing

Follow your headsets manufacturer instructions to pair/connect to your smartphone. When the headset connection is detected by the Yamaha Motorcycle Connect app, the Headset indicator icon “” will appear on the top of the infotainment display.

### TIP

When the using headset voice function, the Bluetooth connection between the smartphone and the CCU may become unstable. See the Yamaha Motorcycle Connect app for more details.

## Smartphone Connectivity System

### Telephone

This vehicle is equipped with a telephone function that requires both a smartphone and a Bluetooth headset. The smartphone must be paired and connected to both the CCU and a Bluetooth headset (page 5-3).

#### Receiving phone calls:



When a phone call is received to the connected smartphone, the ringtone will play through the connected headset and the incoming call screen will replace the current screen on the display. Short press the “^” switch to answer the call and the display will change to the active call screen. Short press the “v” switch to reject the call.

EAL099123

The active phone call indicator icon “☎” will appear for the duration of the call.



Use the “^” switch to increase the call volume and the “v” switch to decrease the call volume. Short press the “v” switch to end the call.

#### TIP

- For some smartphone models, the call volume cannot be adjusted using the handlebar switches. In this case, the volume adjustment will be grayed out on the active call screen.
- When a phone call is active and a second incoming call is accepted, the first call will be put on-hold until the second call is ended.

- For some smartphones, when a call is active and a second incoming call is rejected, the displayed caller ID might change to the second caller ID.
- For some smartphones, rejecting a call with the “v” switch will not function correctly. The end call icon may be grayed out or using the end call icon will accept the call instead. In this case, operate the smartphone directly to end the call.

#### Making phone calls:

To make a phone call, you must start the phone call directly on your smartphone. Once active, the active call screen will be accessible under “Phone” in the menu system (page 6-11) and the active call indicator will appear at the top of the infotainment display (page 6-9). The call audio will play through the connected Bluetooth headset.

EWA21420

#### WARNING

- Do not use your smartphone while the vehicle is in motion.**

## Smartphone Connectivity System

5

- Never take your hands off the handlebars while riding.
- Always concentrate on riding by keeping your eyes and mind on the road.
- Keep volume levels low enough to maintain awareness of your surroundings and ensure safety.

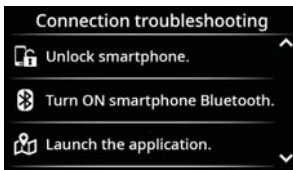
### Connection troubleshooting

EALJ99213

If a connection error occurs between the smartphone, Yamaha Motorcycle Connect app, Garmin StreetCross app and/or CCU, the following screen is displayed.



Select "Details" and check the connection as instructed on the screen.



If the error persists, try the following:

1. Turn OFF the vehicle power. After 20 seconds, turn ON the vehicle power again.
2. Turn OFF the smartphone's Bluetooth. Then turn it ON again.
3. Delete Bluetooth pairing information from both smartphone and vehicle.
4. Reboot the Yamaha Motorcycle Connect app and Garmin StreetCross app.

## Instrument and control functions

### Indicator lights and warning lights



1. Smart key system indicator light “”
2. Left turn signal indicator light “”
3. Traction control system indicator “ TCS”
4. High beam indicator light “”
5. Engine trouble warning light “”
6. Coolant temperature warning light “”
7. Right turn signal indicator light “”
8. ABS warning light “”

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

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

### High beam indicator light “”

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

### Coolant temperature warning light “”

This warning light comes on when the engine is overheating. If this occurs, stop the engine immediately and allow the engine to cool. (See page 9-35.)

For vehicles with a radiator fan, the radiator fan(s) automatically switch on or off according to the coolant temperature.

### TIP

When the vehicle is turned on, the light will 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 the vehicle.

### NOTICE

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

### Engine trouble warning light “”

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 vehicle.

### ABS warning light “”

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

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.

## Instrument and control functions

- 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.

6

### Traction control system indicator light “TCS”

EALJ88700

This indicator light will flash when traction control has engaged.

If the traction control system is turned off, this indicator light will come on.

### 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 the vehicle.

### Smart key system indicator light “ ”

EALJN2772

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.

### Dual Displays

EALJ99271



1. Main display
2. Infotainment display

EWAZ1412

### WARNING

- Failure to pay attention while riding could result in death or serious injury. Always concentrate on riding by keeping your eyes and mind on the road.
- Stop the vehicle before making any settings changes.
- Changing settings while riding can distract the operator and increase the risk of an accident.
- Never take your hands off the handlebars while riding.

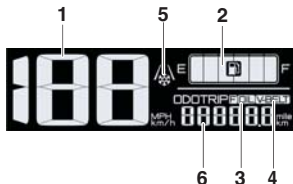


## Instrument and control functions

- **Keep volume levels low enough to maintain awareness of your surroundings and ensure safety.**

This vehicle is equipped with a multi-function-meter unit containing 2 separate display screens. The Main display contains basic information essential to operating the vehicle. The Infotainment display contains periphery vehicle information, a menu system and smart features.

### Main display



EAU99164

1. Speedometer
2. Fuel meter
3. Oil change indicator "OIL"
4. V-Belt replacement indicator "V-BELT"
5. Icy road warning indicator "❄️"
6. Odometer/tripmeters

### TIP

The display units can be changed in the menu system on the infotainment display. (See page 6-18.)

### Speedometer

The speedometer shows the vehicle's traveling speed.

### Fuel meter

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

### Oil change indicator "OIL"

This indicator will come on at the initial 1000 km (625 mi), then 4000 km (2500 mi) and then every 5000 km (3125 mi) thereafter. When it appears, change the engine oil. (See page 6-19.)

### V-Belt replacement indicator "V-BELT"

This indicator will come on every 20000 km (12500 mi). When it appears have a Yamaha dealer replace the V-Belt.

### TIP

To turn off the oilchange and V-belt replacement indicators after maintenance has been performed, use the "Maintenance reset" function in the in-

## Instrument and control functions

infotainment display menu system. (See page 6-19.)

### Odometer/Tripmeters

This section of the display contains an odometer (ODO), a tripmeter (TRIP 1), and a fuel reserve tripmeter (TRIP F).

The items are displayed one at a time. The item which is displayed can be selected using the “ODO/TRIP” function of the infotainment display menu system. (See page 6-12.)

#### TIP

The tripmeters can be reset using the “Settings” → “Information / Reset” → “Trip mileage reset” function of the infotainment display menu system. (See page 6-19.)

#### Odometer (ODO)

The odometer shows the total distance traveled by the vehicle.

#### TIP

ODO will lock at 999999 and cannot be reset.

#### Tripmeter (TRIP)

TRIP shows the distance traveled since it was last set to zero.

TRIP will reset to 0 and begin counting again after 9999.9 has been reached.

#### Fuel reserve tripmeter (TRIP F)

When the fuel is above the reserve level, TRIP F will show as “\_ \_ \_ \_”. When the fuel tank reserve level has been reached, TRIP F will begin recording

the distance traveled from that point. After refueling and traveling some distance, TRIP F will automatically reset.

## Instrument and control functions

EAL99135

### Infotainment display

The infotainment display provides the rider with easy access to smart features, vehicle information, and settings. It is controlled with the “^”/“v”/“✓” switches and “↻” button. (See page 5-1.)

When the main switch is turned on, a warning will appear on the infotainment display. After reading it, short press the “✓” switch to accept. The display will then transition your last selected home screen.

#### TIP

- This display is a thin-film-transistor liquid-crystal display (TFT LCD), designed for good contrast and readability in various lighting conditions. However, due to the nature of this technology, it is normal for a small number of pixels to be inactive.
- The brightness level of the infotainment display can be adjusted in the menu system. (See page 6-17.)

- If the display becomes too hot, the screen brightness levels will automatically reduce to avoid damage to the components.
- The display units can be switched between kilometers-miles and Celsius-Fahrenheit. (See page 6-18.)
- The display units for the navigation system are locked to match the region settings on the connected smartphone.

#### ⚠ WARNING

Failure to pay attention while riding could result in death or serious injury. Always concentrate on riding by keeping your eyes and mind on the road. Read the Owner's Manual.

ACCEPT

### Home screens

There are 3 home screens for the infotainment display:

- visualizer home screen
- navigation home screen
- vehicle information home screen

Short press the “↻” button to cycle between the home screens.

While a home screen is displayed, short press the “✓” switch to open the menu system

### Visualizer home screen

There are three types of visualizer home screen: Tachometer, ECO, and Speed. To select which visualizer is displayed, short press the “✓” switch to open the menu system and navigate to “⌚ Meter display”. (See page 6-12.)

#### TIP

While on the visualizer home screen, long pressing the “✓” switch shortcuts to “⌚ Meter display” in the menu system.

# Instrument and control functions

## Tachometer visualizer



6

The tachometer visualizer shows the engine speed, as measured by the rotational velocity of the crankshaft, in revolutions per minute (r/min).

### TIP

The tachometer visualizer is for reference only. The resolution of the tachometer visualizer is not as detailed as a traditional tachometer.

## ECO visualizer



A live visual representation of the instant and average fuel consumption of the vehicle

## Speed visualizer



The speed limit on the road currently being traveled on is indicated with text and by the outer circle. The inner circle

expands/contracts to indicate the current vehicle speed. When the speed limit is reached/exceeded, the outer circle will change color to orange.

### TIP

The speed limit is obtained via the navigation system. If the Garmin StreetCross app is not connected or if the speed limit for the current road is otherwise unavailable, then the speed limit and outer circle will not be shown.

## Navigation home screen

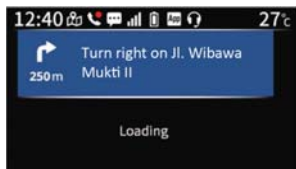


There are 3 display modes for route guidance: "Default view", "Turn-by-turn", and "Turn list".

## Instrument and control functions



In “Default view” mode: the “^”/“v” switches zoom in/out.



In “Turn list” mode: the “^”/“v” switches scroll up/down the list of turns on the route.



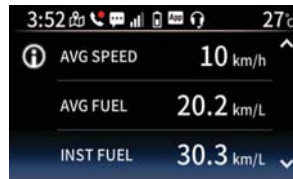
Short press the “v” switch to open the menu system and navigate to “Navigation” → “Change view” to switch between the display modes.

### TIP

- While on the navigation home screen, long pressing the “v” switch shortcuts to “Navigation” in the menu system.
- If the Bluetooth connection becomes unstable, the navigation screen may automatically change to the “Turn-by-turn” mode or freeze with a loading animation. When the connection improves, the navigation screen will return to the former setting.

- For some smartphones, using the phone function while navigation is in progress may display a connection error after returning to the navigation screen. If this happens, follow the instructions on the display. (See page 5-1.)
- If the connected smartphone’s AI assistant function is deactivated in the smartphones’s settings, and a headset is also connected, a connection error may be displayed when using the navigation home screen (iOS only).

### Vehicle information home screen



The vehicle information display provides the following information:

- Average speed (AVG SPEED)

## Instrument and control functions

- Average fuel consumption (AVG FUEL)
- Instantaneous fuel consumption (INST FUEL)
- Trip timer (TRIP TIME)
- Air temperature (AIR)
- Coolant temperature (COOLANT)
- Battery voltage (BATTERY)

Use the “^”/“v” switches to scroll up/down the list of items.

Short press the “v” switch to open the menu system and navigate to “⚙ Settings” → “Information / Reset” → “Vehicle info.” to reset individual items. (See page 6-18.)

### TIP

While on the vehicle information home screen, long pressing the “v” switch shortcuts to “⚙ Settings” → “Information / Reset” → “Vehicle info.” in the menu system.

### Average speed (AVG SPEED)

Displays the average traveling speed since last reset.

### Average fuel consumption (AVG FUEL)

When using kilometers, the average fuel consumption display can be set to “km/L” or “L/100km” (page 6-18). When using miles, the average fuel consumption is displayed in “MPG”.

### Instantaneous fuel consumption (CRNT FUEL)

When using kilometers, the instantaneous fuel consumption display can be set to “km/L” or “L/100km” (page 6-18). When using miles, the instantaneous fuel consumption is displayed in “MPG”.

### Trip timer (TRIP TIME)

Displays the running time (Main switch ON) since the timer was manually reset.

### Air temperature (AIR)

The air temperature is displayed from –9 °C (16 °F) to 50 °C (122 °F) in 1 °C (1 °F) increments. The temperature displayed may vary from the actual ambient temperature.

### TIP

- “---” will be displayed if the detected temperature is lower than –9 °C (16 °F).
- “---” will be displayed if the detected temperature is higher than 50 °C (122 °F).

### Coolant temperature (COOLANT)

The coolant temperature is displayed from –30 °C (–22 °F) to 125 °C (257 °F) in 1 °C (1 °F) increments.

### TIP

- If the vehicle coolant temperature is below –30 °C (–22 °F) the coolant temperature display will read “–30”.
- If the vehicle coolant temperature exceeds 125 °C (257 °F) the coolant temperature display will continue flashing to read “Hi”.
- The coolant temperature warning light will come on if the coolant temperature exceeds 125 °C (257 °F).

## Instrument and control functions

### Battery voltage (BATTERY)

Shows the current voltage of the battery.

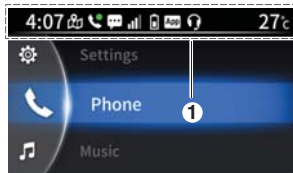
#### TIP

If the battery voltage is more than 16.0V or less than 9.0V, "--.-" is displayed.

### Clock

The clock uses a 12-hour time system. The clock can be updated automatically from connected smartphones. The clock can also be set manually; short press the "✓" switch to open the menu system and navigate to "⚙ Settings" → "Clock" → "Manual Adjustment". (See page 6-17.)

### Indicator icons



#### 1. Indicator icons

##### Navigation connection indicator icon "📶"

This icon comes on when the Garmin StreetCross app is connected.

##### Telephone indicator icon "📞"/"📞"

This icon comes on green when there is an active call and red when there is a recent missed call. The missed call icon will disappear when the missed call is confirmed by navigating to "📶 Navigation" in the menu system.

##### Notification indicator icon "📧"

This icon comes on when the connected smartphone receives an SNS, E-mail or other notification. After that, the icon stays on until you turn the vehicle off or check the notifications by navigating to "📧 Notification" in the menu system.

#### TIP

- This function works only when the smartphone is connected to the vehicle via the Yamaha Motorcycle Connect app.
- Permission to access notifications must be granted to the Yamaha Motorcycle Connect app on the smartphone.

##### Network connectivity indicator icon "📶"

This icon indicates connected smartphone's network connection status.

Icon off: No smartphone connected.

📶: A smartphone is connected but has no network connectivity.

📶: A smartphone is connected and has network connectivity. The icon's segments indicate the signal strength.

# Instrument and control functions

EAU99146


## TIP


This icon may not operate with some models of smartphone, even if the connected smartphone has network connectivity.

### Smartphone battery level indicator icon “”

This icon indicates the connected smartphone's battery level.

Icon off: No smartphone connected.

: The center bar moves up and down to indicate the battery level.

: Smartphone connected and charging via USB.

## TIP

The battery level indicated by the icon may not always be consistent with the battery level displayed on the smartphone.

### Yamaha Motorcycle Connect indicator icon “”

This icon comes on when the Yamaha Motorcycle Connect app is successfully connected to the CCU.

: The icon turns yellow if the connected smartphone becomes overheated.

## TIP

If there is a communication error between the multi-function meter and the CCU, this icon will flash yellow.

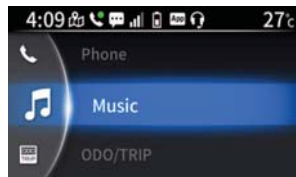
### Headset indicator icon “”





This icon comes on if a Bluetooth headset is connected to the smartphone.

## TIP





For some smartphones, this icon may go off during phone calls.

## Menu system




The menu system for this vehicle is controlled with the “”/“”/“” switches and “” button. (See page 6-18.)

### Menu system basic operations:









- Short press the “” switch to open the menu system from the home screen or execute a selection in the menu system.
- Short press the “”/“” switches to highlight and adjust menu items.
- Short press the “” button to cycle between the home screens or return to the previous screen in the menu system.



## Instrument and control functions

- Long press the “


The menu system is divided into the following main functions:

	Telephone function for an active call. (See page 6-11.)
	Opens audio player connected to smartphone. (See page 6-11.)
	Selection and reset for information display items on the main display. (See page 6-12.)
	Selection of home screen visualizer type. (See page 6-12.)
	Menu for the navigation system. (See page 6-12.)
	A list of received notifications and missed calls to connected smartphone. (See page 6-14.)
	Displays local weather reports. (See page 6-15.)
	Adjust settings related to the vehicle's operation. (See page 6-15.)


### “ Phone”



Selecting this module opens an active call screen. The contact name and call time are displayed.

Adjust the call volume with the “


#### TIP


Call volume control and/or ending call with the “


### “ Music”



This opens an audio player which interfaces with your smartphone's audio player app.

Short press the “

Long press the “

Short press the “

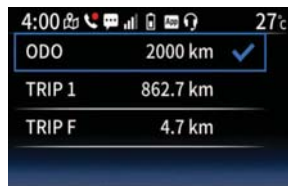
#### TIP

- All audio track information is imported from the music player application on your smartphone.
- Depending on the smartphone and music player application, the audio player may start playing automatically, the track information


## Instrument and control functions


may not display, or the next/previous track and volume adjustment may not function.

### “ ODO/TRIP”





This module controls which item is displayed on the odometer/tripmeters section of the main display. (See page 6-4.)

Short press the “” switch to select a highlighted item, it will be displayed on the odometer/tripmeter section of the main display and the menu will return to the previous screen.

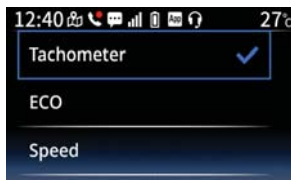
Long press the “” switch to reset the highlighted item.

### TIP

- The odometer cannot be reset.

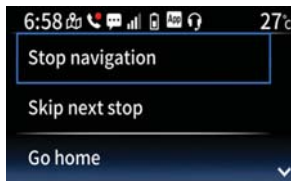
- With “ ODO/TRIP” highlighted in the top menu, long press the “” switch to reset all tripmeters at once.

### “ Meter display”



This module allows selection of which visualizer is displayed on the visualizer home screen. (See page 6-5.)

### “ Navigation”



This module contains a list of commands for the navigation system: (See page 6-6.)

- “Stop navigation”
- “Skip next stop”
- “Go home”
- “Go to work”
- “Favorites”
- “Nearby Gas stations”
- “Change view”

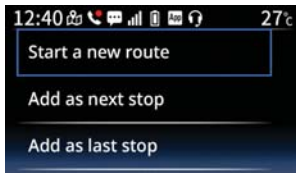
### TIP

Except for the commands listed above, operate the navigation system using the Garmin StreetCross app on your smartphone.



When a command is used to select a destination, the navigation home screen will open and display the new/updated route.

## Instrument and control functions



If route guidance is already active when a command is used to select a destination, the following options will be available:

"Start a new route": Cancels previous route and sets route to new destination  
"Add as next stop": Adds new destination as the next stop in the current route.

"Add as last stop" Adds new destination as the last stop in the current route.



If a route requires a toll, you will be prompted to search for another route without tolls. Select "Yes" to find a route without tolls. Select "No" to accept the current route.

### TIP

After 10 seconds, the route (with tolls) will be selected automatically.

### "Navigation" → "Stop navigation"

Cancels the current route guidance and opens the navigation home screen.

### "Navigation" → "Skip next stop"

Skips the next stop in your planned route and opens the navigation home screen.

### "Navigation" → "Go home"

Sets route guidance for home location (home location must already be set in the Garmin StreetCross app).

### "Navigation" → "Go to work"

Sets route guidance for work location (work location must already be set in the Garmin StreetCross app).

### "Navigation" → "Favorites"



Shows a list of saved locations and their distance from current location (must have saved locations in the Garmin StreetCross).

### TIP

If route guidance is in progress, arrows appear showing the direction to the saved locations. The current direction of travel is indicated by the upwards arrow.

## Instrument and control functions

“Navigation” → “Nearby Gas stations”

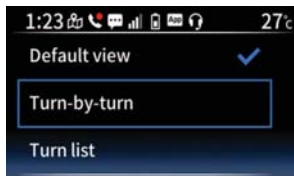


- 6 Shows a list of nearby gas stations and their distance from current location.

### TIP

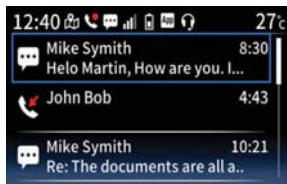
If route guidance is in progress, arrows appear showing direction to the gas stations. The current direction of travel is indicated by the upwards arrow.

“Navigation” → “Change view”

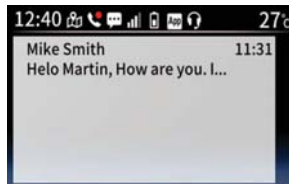


This module changes the navigation system display mode (Default view/Turn list/Turn-by-turn). After selection, the navigation home screen will open in the selected display mode.

### “Notification”



This is a list of notifications (since connection to CCU) and missed calls from the connected smartphone. Select an item to read the notification message on the infotainment display. When all notifications and missed calls have been viewed, the missed call indicator icon “☎” and message indicator icon will disappear.



### TIP

- For some smartphones and/or applications, notifications may not function.
- The maximum number of stored items is 30. When the limit is reached, older items will be deleted.
- If a message is too long then not all of it will be displayed.
- Messages cannot be opened and read while the vehicle is in motion.
- Notification timestamps may be slightly different than when displayed on your smartphone.

## Instrument and control functions

“Weather”

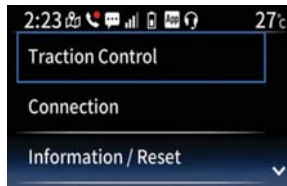


This module displays weather information at your current location. Short press the “^”/“v” switches to change the timeframe of the weather information (hourly/daily).

### TIP

The weather information in this module may be different than on the navigation home screen.

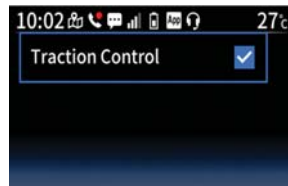
“Settings”



The Settings menu contains the following:

“Traction Control”	Activate/Deactivate traction control. (See page 6-15.)
“Connection”	Manage Bluetooth connections.
“Clock”	Adjust time/set automatic update. (See page 6-17.)
“Brightness”	Change brightness of infotainment display screen. (See page 6-17.)
“Unit”	Change the display units. (See page 6-18.)
“System information”	View CCU unit ID. (See page 6-18.)
“Legal information”	View software licenses. (See page 6-19.)
“Information / Reset”	Reset vehicle information.

“Settings” → “Traction Control”



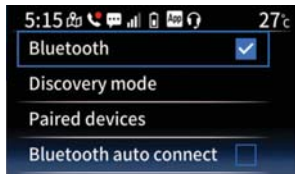
Short press the “v” switch to turn the traction control system ON/OFF. The checkmark indicates ON. See page 6-24 for more information about the traction control system.

### TIP

The checkmark beside this setting will reappear after each time the vehicle power is turned ON.

## Instrument and control functions

“Settings” → “Connection” →  
“Bluetooth”



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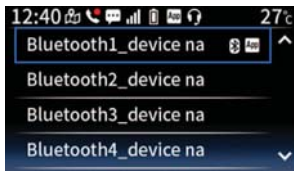
### “Bluetooth”



Turns the CCU's Bluetooth ON/OFF. The checkmark indicates ON.

### “Discovery mode”

Puts the CCU in Bluetooth discovery mode when pairing a smartphone. See page 5-3 for more information about Bluetooth pairing.

### “Paired devices”

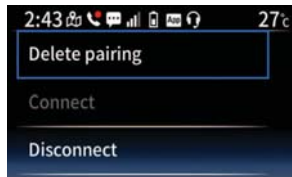


Paired smartphones are listed here. The Yamaha Motorcycle Connect app symbol “” next to a device name indicates that the app is currently connected to the CCU. The Bluetooth symbol “” next to a device name indicates that Garmin StreetCross is currently connected to the CCU.

### TIP

There is a maximum of 8 paired devices

Select a device name for more options:



“Delete pairing”: Deletes the selected paired device from the CCU memory.

“Connect”: Connect to the selected paired device.

“Disconnect”: Disconnect from the selected paired device

### TIP

If “Bluetooth auto connect” is on, the CCU may immediately reconnect to the smartphone after being disconnected.

### “Bluetooth auto connect”

Turns the Bluetooth automatic connection ON/OFF. The checkmark indicates ON. When the auto connect is ON, the CCU will automatically connect to the last connected device. If it

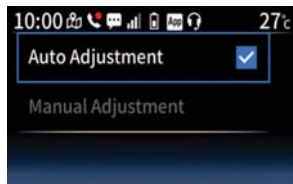
## Instrument and control functions

is not available, the CCU will attempt to connect to another device in the paired device list.

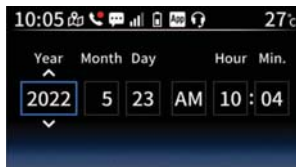
### TIP

If “Bluetooth auto connect” is OFF, previously paired devices can be connected manually via the “Paired devices” list.

### ⚙️ “Settings” ☒ “Clock”

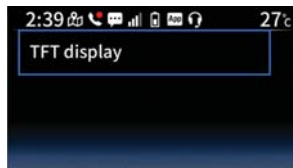


The clock can be set to auto-adjust in sync with a smartphone. “Auto Adjustment” ON is indicated by the checkmark and requires a connection with the Yamaha Motorcycle Connect app. (See page 5-2.) “Manual Adjustment” allows the clock to be calibrated manually.



To manually adjust the clock, Short press the “^”/“v” switches to adjust the highlighted item up/down. Short press the “✓” switch to set the item and continue to the next item in line. After the last item is set, select “OK” and the display will return to the previous menu.

### ⚙️ “Settings” ☒ “Brightness”



This module allows you to change the screen brightness of the infotainment display.

“TFT display”: Brightness setting for the infotainment display

### TIP

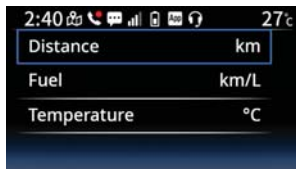
- As the brightness settings are adjusted in the menu, the screen brightness will change in real time.
- If the temperature of the infotainment display become to high, the screen brightness will reduce automatically and cannot be adjusted. When the temperature lowers, the screen brightness will return to the previous setting.



## Instrument and control functions

The infotainment display brightness setting has 3 levels. Short press the “^”/“v” switches to adjust the brightness setting up/down. Short press the “v” switch to confirm the setting and return to the previous menu.

### “Settings” → “Unit”



The selected display units are shown. The display units can be selected as follows:

- “Mileage”: “km” or “mile”
- “Fuel”: “km/L”, “L/100km” or “MPG”
- “Temperature”: “°C” or “°F”

### TIP

When “mile” is selected for the “Mileage” unit, the “Fuel” unit is automatically changed to “MPG”. At this time, the “Fuel” item is grayed out and cannot be selected.

### “Settings” → “System information”

This module displays the current system software version.

### “Unit ID”



This module contains a QR code with the CCU's unit identification number. The “^”/“v” switches control the brightness of the QR code. Short press the “v” switch to return to the previous menu.

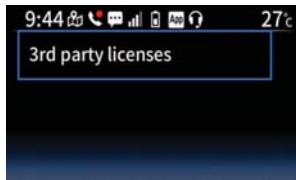
### TIP

The CCU's unit ID is only required for dealer service operations.



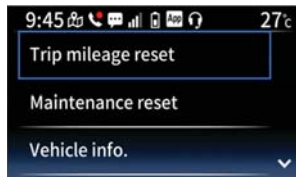
## Instrument and control functions

### “Settings” → “Legal information”



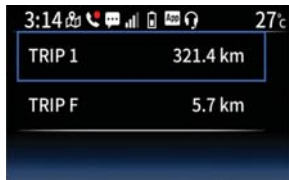
Third-party license agreements can be viewed here.

### “Settings” → “Information / Reset”



This module allows the viewing and reset of tripmeters, maintenance tripmeters, vehicle information items, and the mass reset of other settings to factory defaults.

### “Trip mileage reset”



This module allows reset of the tripmeters on the main display. Short press the “^”/“v” switches to highlight an item. Long press the “v” switch to reset the item. Confirm by selecting “OK”.

#### TIP

“TRIP F” can only be selected when the fuel is low. Otherwise the item is grayed out.

### “Maintenance reset”



This module allows reset of the maintenance tripmeters and their associated indicator icons. Short press the “^”/“v” switches to highlight an item. Short press the “v” switch to reset the item. Confirm by selecting “OK”.

#### TIP

When the “OIL” and “V-BELT” items are reset, the Oil change indicator “OIL” and the V-Belt replacement indicator “V-BELT” on the main display will go off.

## Instrument and control functions

### "Vehicle info."



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This module allows reset of the vehicle information display items. Short press the "∧"/"∨" switches to highlight an item. Short press the "✓" switch to reset the item. Confirm by selecting "OK".

### "Reset (Others)"



This module mass resets the following to the default settings:

- TRIP TIME
- infotainment display home screen selection
- navigation view setting
- notification list
- weather info.
- Bluetooth settings
- clock
- language settings

Confirm by selecting "OK".

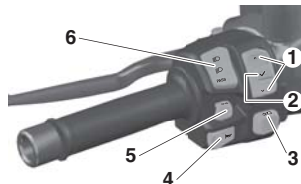
### TIP

If "Reset (Others)" is executed, the corresponding pairing record must be deleted from the smartphone in order to pair again.

## Handlebar switches

EAU1234T

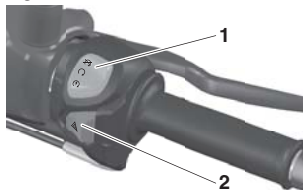
### Left



1. "∧"/"∨" switches
2. "✓" switch
3. "50" button
4. Horn switch "📢"
5. Turn signal switch "↔/↔"
6. Dimmer/Pass switch "☰/☷/PASS"

## Instrument and control functions

Right

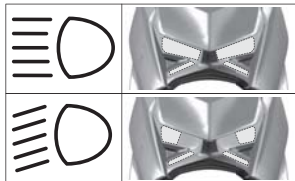


1. Stop/Run/Start switch “//”
2. Hazard switch “”

### Dimmer/Pass switch “//PASS”

EAUJ54203

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 “/”

EAUJ2461

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 “”

EAUJ12501

Press this switch to sound the horn.

### Stop/Run/Start switch “//”

EAUJ54213

To crank the engine with the starter, set this switch to “”, and then push the switch down towards “”. See page 8-2 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 “”

EALN3950

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.

The hazard lights can be turned on or off only when the main switch is in the “ON” position. You can turn the main switch to the “OFF” or “LOCK” position, and the hazard lights will continue to flash. To turn off the hazard lights, turn the main switch to the “ON” position and operate the hazard switch again.

### NOTICE

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

# Instrument and control functions

## Menu switches

EAUN3910



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1. “^”/“v” switches
2. “v” switch
3. “>” button

These switches are used to control the various functions of the infotainment display and its menu system.

This manual uses the following terms to describe the usage of the menu controls:

Short press	Briefly press the switch or button
Long press	Press the switch or button for 1 second

## Menu system basic operations:

- ☑ Use the “^”/“v” switches to highlight and adjust menu items.

- Short press the “v” switch to open the menu system from the home screen or execute a selection in the menu system.
- Short press the “>” button to cycle between the 3 home screens or return to the previous screen in the menu system.
- Long press the “>” button to exit the menu system and return to the home screen.

## Front brake lever

EAU12902

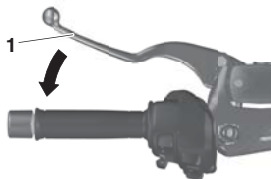


1. Front brake lever

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

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.

EAU78201

#### **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.

EWA16051

### TIP

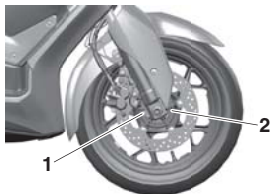
- The ABS performs a self-diagnostic test each time the vehicle first starts off after the main switch is turned to “ON” and the vehicle has traveled at a speed of 10 km/h (6 mi/h) or higher. During this test, a “clicking” noise can be heard from the front of the vehicle, and if either brake lever is 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.**

## Instrument and control functions



1. Front wheel sensor
2. Front wheel sensor rotor

6



1. Rear wheel sensor
2. Rear wheel sensor rotor

### Traction control system

EALIN3962

The traction control system 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.

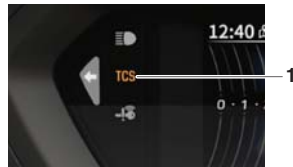
When traction control has engaged, the "TCS" indicator light will flash. You may notice changes in engine response or exhaust sound.

### WARNING

EWA18860

**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.**

### Setting the traction control system



1. Traction control system indicator light "TCS"

When the vehicle is turned on, traction control is automatically turned on.

To turn the traction control system off, see page 6-15.

### 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.


## Instrument and control functions

ECA16801


### NOTICE

Use only the specified tires. (See page 9-19.) 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 “” warning light, too.



1. Traction control system indicator “TCS”
2. Engine trouble warning light “

### 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.

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 “” warning light.

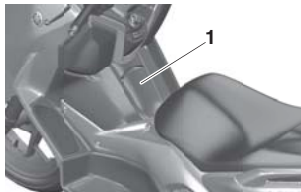
# Instrument and control functions

EAU78503

## Fuel tank cap

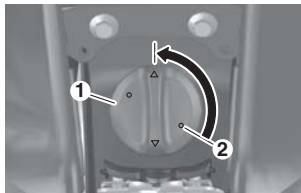
### To remove the fuel tank cap

1. With the smart key turned on and within operating range, turn the main switch to "I" to open the fuel tank cap lid.



1. Fuel tank cap lid

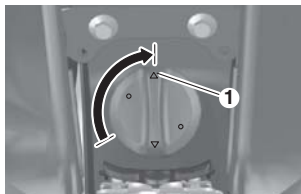
2. Turn the fuel tank cap counter-clockwise until the release mark "o" aligns with "▽", and then pull the cap off.



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.

### WARNING

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

EWA11092



## Instrument and control functions

### Fuel

Make sure there is sufficient gasoline in the tank.

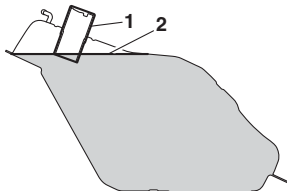
EAU13213

EWA10882

#### **WARNING**

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

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



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.

EALN0750

#### **Recommended fuel:**

Unleaded gasoline only

#### **Fuel tank capacity:**

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

ECA11401

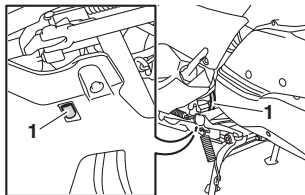
#### **NOTICE**

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.

# Instrument and control functions

## Fuel tank overflow hose

EAU58301



1. Fuel tank overflow hose

6

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



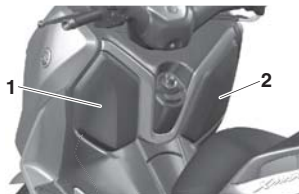
**The exhaust system is hot after operation. To prevent a fire hazard or burns:**

- 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.

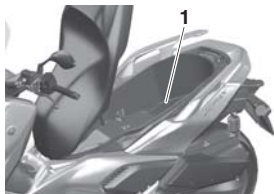
## Storage compartments

EAU78515

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 can only be opened using the smart key system. (See page 4-9.)
- 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.

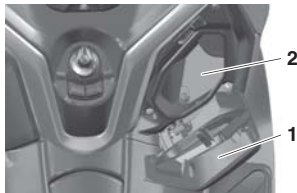
### Storage compartment A

To open storage compartment A: with the smart key turned on and within operating range, 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.

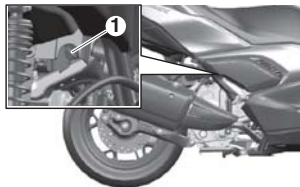
### Seat/rear storage compartment

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

With the smart key turned on and within operating range, turn the main switch to "OPEN", and then push the "SEAT" button.

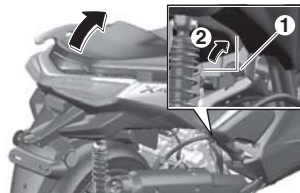
To open the seat/rear storage compartment with the mechanical key

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.

## Instrument and control functions

### 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.

### WARNING

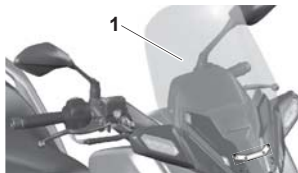
EWA18950

- 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 171 kg (378 lb) for the vehicle.

EAL80910

### Windshield

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

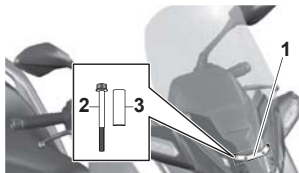


1. Windshield

To change the windshield height to the high position

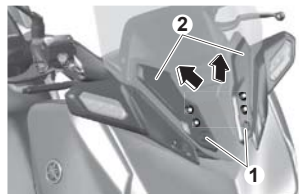
1. Remove the bracket number plate by removing the bolts with collars.

## Instrument and control functions



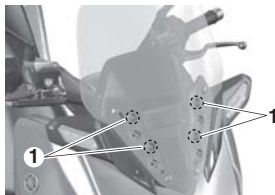
1. Bracket number plate
2. Bolt
3. Collar

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



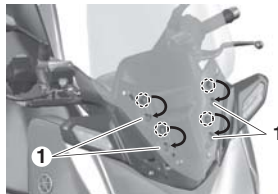
1. Quick fastener
2. Bolt access cover

3. Remove the windshield by removing the bolts.



1. Bolt

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

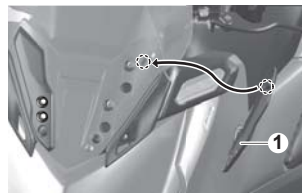


1. Bolt

5. 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:  
7 N·m (0.7 kgf·m, 5.2 lb·ft)

6. Place the bolt access covers, and then install the quick fasteners.
7. Place the bracket number plate and then install the bolts with collars.

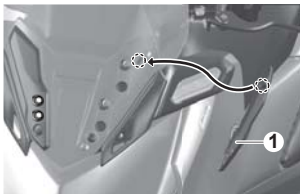
### To change the windshield height to the low position

1. Remove the bracket number plate by removing the bolts with collars.

## Instrument and control functions

EALU46833

2. Remove the bolt access covers by removing the quick fasteners.
3. Remove the windshield by removing the bolts.
4. Remove the bolts, and then install the bolts in the desired position.
6. Place the bolt access covers, and then install the quick fasteners.
7. Place the bracket number plate and then install the bolts with collars.



1. Bolt

5. 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 accident. Be sure to tighten the screws to the specified torque.**

[EWA15511]

### Tightening torque:

Windshield bolt:

7 N·m (0.7 kgf·m, 5.2 lb·ft)

### 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

### 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.

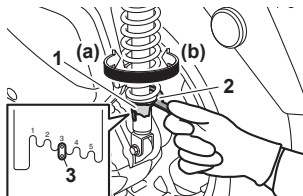
ECA10102

#### 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 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

### Power outlet

EAU13820

EWA10050

#### WARNING

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

ECAN0210

#### NOTICE

The accessory connected to the power outlet 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 a power outlet located within storage compartment A.

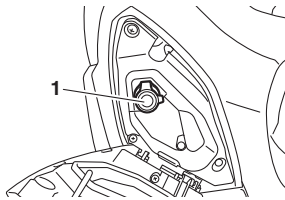
A 12-V accessory connected to the power outlet can be used when the main switch is in the "ON" position and should only be used when the engine is running.

#### To use the power outlet

1. Open storage compartment A.  
(See page 4-9.)
2. Turn the main switch off.

## Instrument and control functions

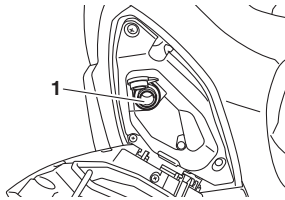
3. Remove the power outlet cap.



1. Power outlet cap

6

4. Turn the accessory off.
5. Insert the accessory plug into the power outlet.



1. Power outlet

6. Turn the main switch on, and then start the engine. (See page 8-2.)
7. Turn the accessory on.

### Sidestand

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

#### TIP

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

#### 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**

EAU15306

**this system regularly and have a Yamaha dealer repair it if it does not function properly.**

EWA10242



EAL080922

### 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 6-20 for switch operation information.

## Instrument and control functions

6

With the engine turned off:

1. Place vehicle on centerstand.
2. Move the sidestand down.
3. Turn main switch to on position.
4. Apply the front or rear brake.
5. Push the start switch.

**Does the engine start?**

NO

YES

With the engine still off:

6. Move the sidestand up.
7. Apply the front or rear brake.
8. Push the start switch.

**Does the engine start?**

YES

NO

With the engine still running:

9. Move the sidestand down.

**Does the engine stall?**

YES

NO

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

### **WARNING**

- The vehicle must be placed on the centerstand during this inspection.
- If a malfunction is found, have the vehicle inspected before riding.

The sidestand switch may not be working.

**The vehicle should not be ridden** until checked by a Yamaha dealer.

The brake switch may not be working.

**The vehicle should not be ridden** until checked by a Yamaha dealer.

The sidestand switch may not be working.

**The vehicle should not be ridden** until checked by a Yamaha dealer.

## 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.

EW11152

### **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"><li>• Check fuel level in fuel tank.</li><li>• Refuel if necessary.</li><li>• Check fuel line for leakage.</li><li>• Check fuel tank overflow hose for obstructions, cracks or damage, and check hose connection.</li></ul>	6-27, 6-28
Engine oil	<ul style="list-style-type: none"><li>• Check oil level in engine.</li><li>• If necessary, add recommended oil to specified level.</li><li>• Check vehicle for oil leakage.</li></ul>	9-9
Final transmission oil	<ul style="list-style-type: none"><li>• Check vehicle for oil leakage.</li></ul>	9-12
Coolant	<ul style="list-style-type: none"><li>• Check coolant level in reservoir.</li><li>• If necessary, add recommended coolant to specified level.</li><li>• Check cooling system for leakage.</li></ul>	9-13
Front brake	<ul style="list-style-type: none"><li>• Check operation.</li><li>• If soft or spongy, have Yamaha dealer bleed hydraulic system.</li><li>• Check brake pads for wear.</li><li>• Replace if necessary.</li><li>• Check fluid level in reservoir.</li><li>• If necessary, add specified brake fluid to specified level.</li><li>• Check hydraulic system for leakage.</li></ul>	9-21, 9-22, 9-22

## For your safety – pre-operation checks

ITEM	CHECKS	PAGE
Rear brake	<ul style="list-style-type: none"> <li>• Check operation.</li> <li>• If soft or spongy, have Yamaha dealer bleed hydraulic system.</li> <li>• Check brake pads for wear.</li> <li>• Replace if necessary.</li> <li>• Check fluid level in reservoir.</li> <li>• If necessary, add specified brake fluid to specified level.</li> <li>• Check hydraulic system for leakage.</li> </ul>	9-21, 9-22, 9-22
Throttle grip	<ul style="list-style-type: none"> <li>• Make sure that operation is smooth.</li> <li>• Check throttle grip free play.</li> <li>• If necessary, have Yamaha dealer adjust throttle grip free play and lubricate cable and grip housing.</li> </ul>	9-18, 9-25
Control cables	<ul style="list-style-type: none"> <li>• Make sure that operation is smooth.</li> <li>• Lubricate if necessary.</li> </ul>	9-24
Wheels and tires	<ul style="list-style-type: none"> <li>• Check for damage.</li> <li>• Check tire condition and tread depth.</li> <li>• Check air pressure.</li> <li>• Correct if necessary.</li> </ul>	9-19, 9-21
Brake levers	<ul style="list-style-type: none"> <li>• Make sure that operation is smooth.</li> <li>• Lubricate lever pivoting points if necessary.</li> </ul>	9-25
Centerstand, sidestand	<ul style="list-style-type: none"> <li>• Make sure that operation is smooth.</li> <li>• Lubricate pivots if necessary.</li> </ul>	9-26
Chassis fasteners	<ul style="list-style-type: none"> <li>• Make sure that all nuts, bolts and screws are properly tightened.</li> <li>• Tighten if necessary.</li> </ul>	—
Instruments, lights, signals and switches	<ul style="list-style-type: none"> <li>• Check operation.</li> <li>• Correct if necessary.</li> </ul>	—
Sidestand switch	<ul style="list-style-type: none"> <li>• Check operation of ignition circuit cut-off system.</li> <li>• If system is not working correctly, have Yamaha dealer check vehicle.</li> </ul>	6-34

## Operation and important riding points

EAU15952

Read the Owner's Manual carefully to become familiar with all controls. If there is a control or function you do not understand, ask your Yamaha dealer.

EWA10272

### **WARNING**

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

### 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.

EAU16842

### 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.**

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]

# Operation and important riding points

## Starting the engine

EAU78231

ECA22510

EAU78221

### NOTICE

ECA10251

See page 8-1 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 6-35.)

1. Turn the main switch on and make sure that the stop/run/start switch is set to "O".

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.

### NOTICE

If a warning or indicator light does not work as described above, see page 6-1 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 restarting 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

EAU45093

1. While pulling the rear brake lever with your left hand and holding the grab bar with your right hand, push the scooter off the center-stand.

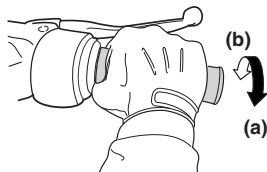


1. Grab bar

2. Sit astride the seat, and then adjust the rear view mirrors.
3. Switch the turn signals on.
4. Check for oncoming traffic, and then slowly turn the throttle grip (on the right) in order to take off.
5. Switch the turn signals off.

## Acceleration and deceleration

EAU16782



ZALN0199

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

EAU17790



### 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

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).

EAU16821

## Parking

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 4-5.)

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.

EAUN1421



## Operation and important riding points

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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.

EWA10322

### **WARNING**

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

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.**

EWA15461

### **WARNING**

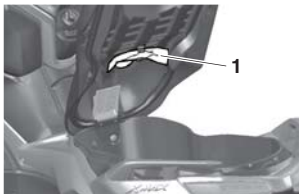
**Brake discs, calipers, drums, and linings can become very hot during use. To avoid possible burns, let brake components cool before touching them.**

Emission controls not only function to ensure cleaner air, but are also vital to proper engine operation and maximum performance. In the following periodic maintenance charts, the services related to emissions control are grouped separately. These services require specialized data, knowledge, and equipment. Maintenance, replacement, or repair of the emission control devices and systems may be performed by any repair establishment or individual that is certified (if applicable). Yamaha dealers are trained and equipped to perform these particular services.

## Periodic maintenance and adjustment

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

## Periodic maintenance and adjustment

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"> <li>Perform dynamic inspection using Yamaha diagnostic tool.</li> <li>Check the error codes.</li> </ul>	√	√	√	√	√	√
2	Air filter element	<ul style="list-style-type: none"> <li>Replace.</li> </ul>	Every 12000 km (7500 mi)					
3	* Pre air filter element	<ul style="list-style-type: none"> <li>Clean.</li> </ul>	Every 12000 km (7500 mi)					
4	* Sub air filter element	<ul style="list-style-type: none"> <li>Replace.</li> </ul>	Every 12000 km (7500 mi)					
5	Air filter check hose	<ul style="list-style-type: none"> <li>Clean.</li> </ul>	√	√	√	√	√	
6	* V-belt case air filter element	<ul style="list-style-type: none"> <li>Clean.</li> <li>Replace if necessary.</li> </ul>		√	√	√	√	
7	* Battery	<ul style="list-style-type: none"> <li>Check voltage.</li> <li>Charge if necessary.</li> </ul>	√	√	√	√	√	√
8	* Front brake	<ul style="list-style-type: none"> <li>Check operation, fluid level and vehicle for fluid leakage.</li> </ul>	√	√	√	√	√	√
		<ul style="list-style-type: none"> <li>Replace brake pads.</li> </ul>	Whenever worn to the limit					
9	* Rear brake	<ul style="list-style-type: none"> <li>Check operation, fluid level and vehicle for fluid leakage.</li> </ul>	√	√	√	√	√	√
		<ul style="list-style-type: none"> <li>Replace brake pads.</li> </ul>	Whenever worn to the limit					
10	* Brake hoses	<ul style="list-style-type: none"> <li>Check for cracks or damage.</li> <li>Check for correct routing and clamping.</li> </ul>		√	√	√	√	√
		<ul style="list-style-type: none"> <li>Replace.</li> </ul>	Every 4 years					
11	* Brake fluid	<ul style="list-style-type: none"> <li>Change.</li> </ul>	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 lithium-soap-based 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 9-9.)	√	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 for oil leakage.	√	√	√	√	√	
		• Replace.		Every 10000 km				
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

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EALIN3980

### TIP

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- 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.
- Battery service
  - Check the condition and service every 3 months.
  - Recharge the battery immediately if the voltage is less than 12.4 V.
  - If the battery tends to discharge, replace it immediately.



## Periodic maintenance and adjustment

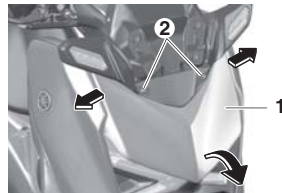
### Removing and installing the panel

EAU18752

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



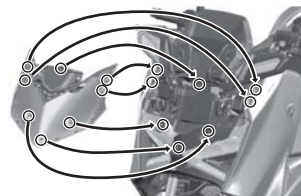
1. Panel A



1. Panel A
2. Screw

#### To install the panel

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



EAUN3931

### Panel A

#### To remove the panel

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

### 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.

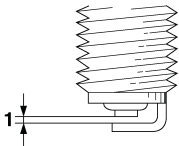
The porcelain insulator around the center electrode of the spark plug should be a medium-to-light tan (the ideal color when the vehicle is ridden normally). If the spark plug shows a distinctly different color, the engine could be operating improperly. Do not attempt to diagnose such problems yourself.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

## Periodic maintenance and adjustment

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



1. Spark plug gap

### Spark plug gap:

0.8–0.9 mm (0.031–0.035 in)

9

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.

## Engine oil and oil filter element

EAUN4160

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.

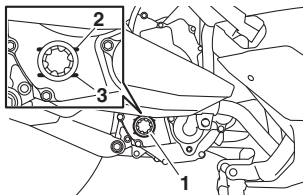
### To check the engine oil level

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.

## Periodic maintenance and adjustment



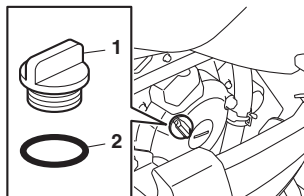
1. Engine oil level check window
2. Maximum level mark
3. Minimum level mark

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

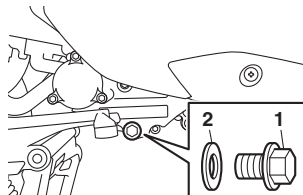
### To change the engine oil (with or without oil filter element replacement)

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.

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

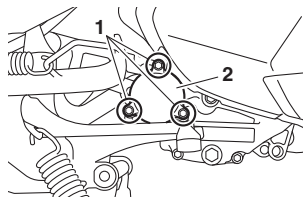


1. Engine oil drain bolt
2. Gasket

### TIP

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

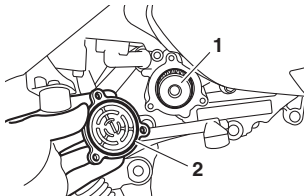
5. Remove the oil filter element cover by removing the bolts.



1. Bolt
2. Oil filter element cover

## Periodic maintenance and adjustment

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:

SAE 10W-40, API service SG type or higher, JASO standard MB.

### 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)

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.

### 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.

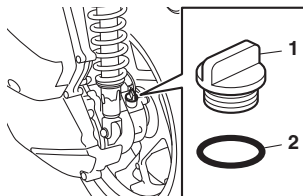
## Periodic maintenance and adjustment

EAUN4170

### Final transmission oil

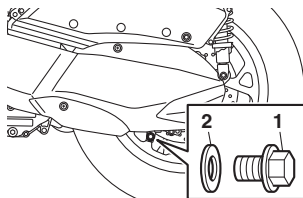
The final transmission case must be checked for oil leakage before each ride. If any leakage is found, have a Yamaha dealer check and repair the scooter. In addition, the final transmission oil must be changed as follows at the intervals specified in the periodic maintenance and lubrication chart.

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:

Motor oil SAE 10W-40 type SG or higher.

#### Oil quantity:

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

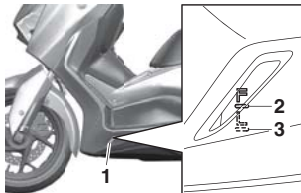
8. Install the final transmission oil filler cap and its new O-ring, and then tighten the oil filler cap.
9. Check the final transmission case for oil leakage. If oil is leaking, check for the cause.

## Periodic maintenance and adjustment

### Coolant

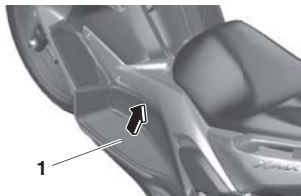
The coolant level should be checked before each ride. In addition, the coolant must be changed at the intervals specified in the periodic maintenance and lubrication chart.

EAU20071



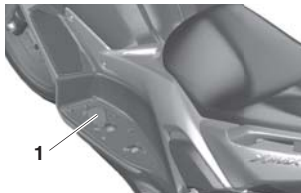
1. Coolant level check window
2. Maximum level mark
3. Minimum level mark

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

### 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.

## 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.

### 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]

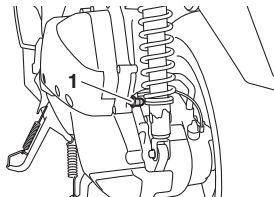
EALU33032

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

EALU78575

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

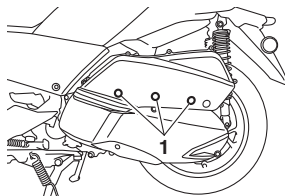
1. Check the hose on the rear side of the air filter case for accumulated dirt or water.
2. If dirt or water is visible, remove the hose from the clamp, clean it, and then install it.

### 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.

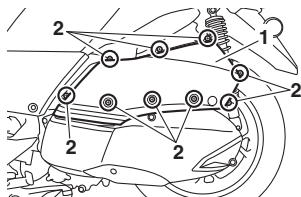
### Replacing the air filter element and sub air filter element and cleaning the pre air filter element

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



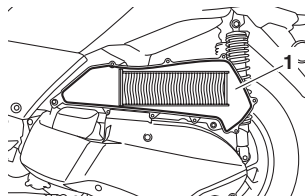
1. Rubber plug

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

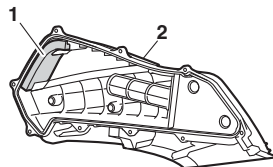


1. Air filter case cover  
2. Screw

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**

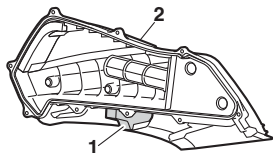


## Periodic maintenance and adjustment

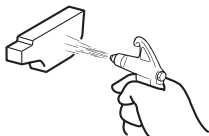
case. The engine should never be operated without the air filter element installed, otherwise the piston(s) and/or cylinder(s) may become excessively worn.

[ECA10482]

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



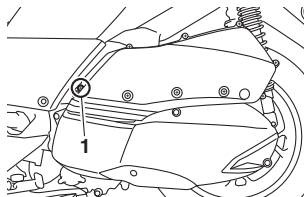
1. Pre air filter element
2. Air filter case cover



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.



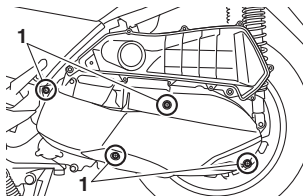
1. Long screw

11. Install the rubber plugs.

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

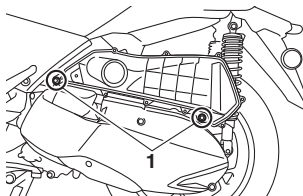
1. Place the vehicle on the center-stand.
2. Remove the air filter case cover. (See the previous section.)
3. Remove the V-belt case cover screws.

## Periodic maintenance and adjustment



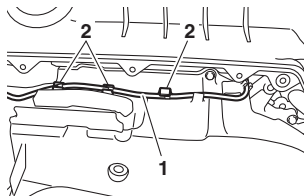
1. Screw

4. Remove the air filter case bolts.



1. Bolt

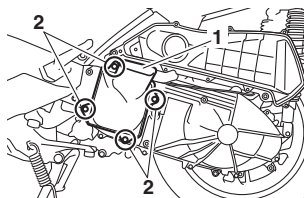
5. Lift up the air filter case slightly, remove the rear wheel sensor lead from the holder, and then remove the V-belt case cover.



1. Rear wheel sensor lead

2. Lead holder

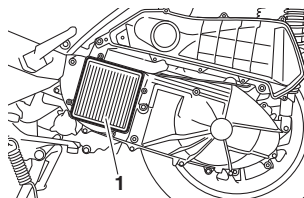
6. Remove the V-belt case air filter cover by removing the bolts.



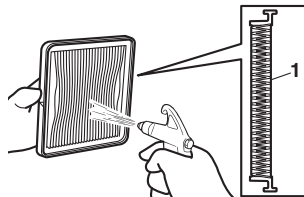
1. V-belt case air filter cover

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



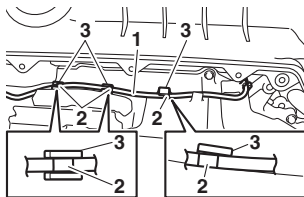
1. Clean side

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

## Periodic maintenance and adjustment

EAUJ21386

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 holders, so that the white tape on the lead matches the holders as shown.
13. Install the V-belt case cover by installing the screws.
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.

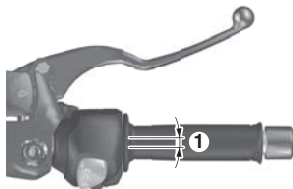
### Tightening torque:

Bolt:

10 N·m (1.0 kgf·m, 7.4 lb·ft)

### Checking the throttle grip free play

Measure the throttle grip free play as shown.



1. Throttle grip free play

### Throttle grip free play:

3.0–5.0 mm (0.12–0.20 in)

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

## Periodic maintenance and adjustment

### Valve clearance

EAU21403

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.

### Tires

EAU82721

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/cm<sup>2</sup>, 29 psi)

Rear:

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

##### 2 persons:

Front:

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

Rear:

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

#### Maximum load:

Vehicle:

171 kg (378 lb)

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

EWA10512

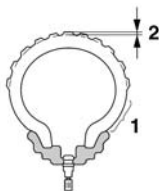


#### WARNING

**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

- 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

EWA10583

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

## Periodic maintenance and adjustment

### 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**

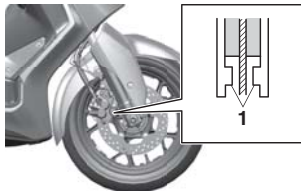
**A soft or spongy feeling in the brake lever can indicate the presence of air in the hydraulic system. If there is air in the hydraulic system, have a Yamaha dealer bleed the system before operating the vehicle. Air in the hydraulic system will diminish the braking performance, which may result in loss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

## Periodic maintenance and adjustment

### Checking the front and rear brake pads

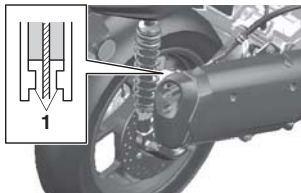
EAU22312

#### 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.

EAU60682

### Checking the brake fluid level

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

#### TIP

Make sure the reservoir is level with the ground when checking the fluid level.

#### 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

#### **WARNING**

9

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.

ECA17641

#### **NOTICE**

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

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

EAUJ0311

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

### Checking and lubricating the cables

EAUN4121

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:**  
Any 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

EAU43634

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

#### Front brake lever



#### Rear brake lever

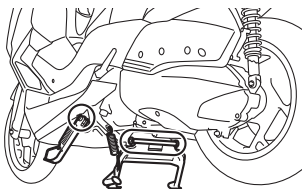


The pivoting points of the front and rear brake levers must be lubricated at the intervals specified in the periodic maintenance and lubrication chart.

## 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.

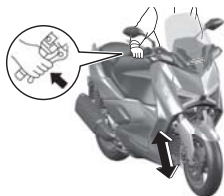
#### To check the condition

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.

## Periodic maintenance and adjustment



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

EALN4010

EWA10761



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

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

#### TIP

To access the battery, also remove the windscreen. (See page 6-30.)

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.

#### 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

## Periodic maintenance and adjustment

switch off, then disconnect the negative lead before disconnecting the positive lead. [ECA16304]

- If the battery will be stored for more than two months, check it at least once a month and fully charge it if necessary.
- Fully charge the battery before installation. **NOTICE:** When installing the battery, be sure to turn the main switch off, then connect the positive lead before connecting the negative lead. [ECA16842]
- After installation, make sure that the battery leads are properly connected to the battery terminals.

### 9 NOTICE

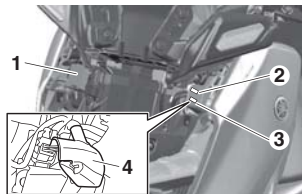
**Always keep the battery charged. Storing a discharged battery can cause permanent battery damage.**

### Replacing the fuses

The main fuse and the fuse boxes, which contain the fuses for the individual circuits, are located under panel A. (See page 9-8.)

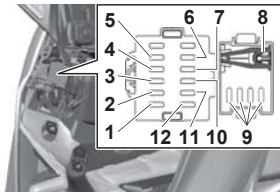
#### TIP

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



- Fuse box
- Main fuse
- Spare main fuse
- Starter relay cover

EAUN4021



- ABS motor fuse
- ABS solenoid fuse
- Signaling system fuse 2
- Terminal fuse
- Ignition fuse 2
- Signaling system fuse 1
- ABS control unit fuse
- Fuse puller
- Spare fuse
- Ignition fuse 1
- Radiator fan motor fuse
- Backup fuse

If a fuse is blown, replace it as follows.

- Turn the main switch off and turn off the electrical circuit in question.
- 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
- Terminal fuse 1:  
5.0 A
- Signaling system fuse:  
7.5 A
- Signaling system fuse 2:  
7.5 A
- Ignition fuse:  
7.5 A
- Ignition fuse 2:  
7.5 A
- Radiator fan motor fuse:  
7.5 A
- Backup fuse:  
7.5 A
- ABS control unit fuse:  
7.5 A
- ABS motor fuse:  
30.0 A
- ABS solenoid fuse:  
15.0 A

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

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

ECA27210

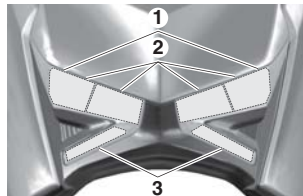
### NOTICE

**Do not drive while the fuse box cover is removed.**

### Vehicle lights

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.

EALUN2261



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.**

## 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

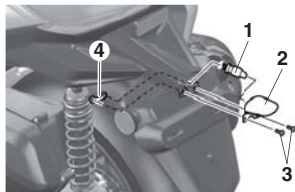
EAU11331

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 bulb socket
2. License plate light unit
3. Bolt
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

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.

EAU60701



### 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 4-5.)
- 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 9-28.)

## Periodic maintenance and adjustment

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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 9-36 for information on starting the engine without the smart key.

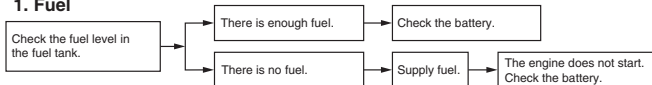
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# Periodic maintenance and adjustment

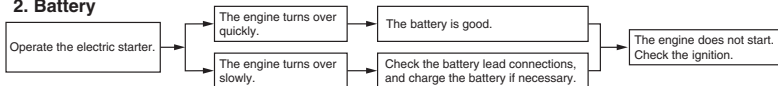
EAU86350

## Troubleshooting chart

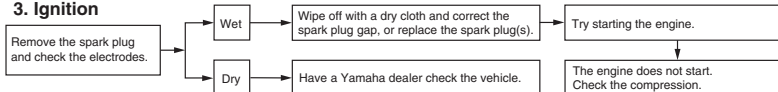
### 1. Fuel



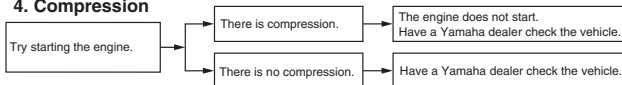
### 2. Battery



### 3. Ignition



### 4. Compression



## Periodic maintenance and adjustment

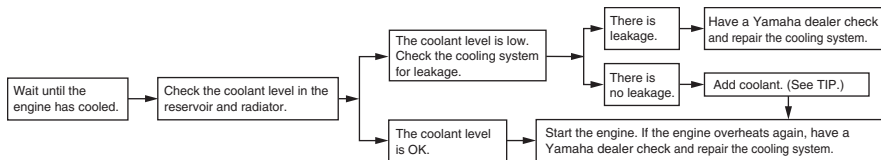
EAL86420

### 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, then release it. 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

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.



## Periodic maintenance and adjustment

---

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.

### Matte color caution

EAU37834

#### 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.

ECA15193

### Care

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

#### TIP

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

EAU84991

#### 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.

## Scooter care and storage

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 terry cloth.
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.** [EWA20651]
5. Treat rubber, vinyl, and unpainted plastic parts with a suitable care product.



## Scooter care and storage

EALUB3472

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

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.)
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

[EWA10952]

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

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 9-28 for more information on charging and storing the battery.

## Dimensions:

Overall length:  
2180 mm (85.8 in)  
Overall width:  
795 mm (31.3 in)  
Overall height:  
1460 mm (57.5 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:  
181 kg (399 lb)

## Engine:

Combustion cycle:  
4-stroke  
Cooling system:  
Liquid cooled  
Valve train:  
SOHC  
Number of cylinders:  
Single cylinder  
Displacement:  
249.8 cm<sup>3</sup>  
Bore x stroke:  
70.0 x 64.9 mm (2.76 x 2.56 in)  
Starting system:  
Electric starter

## Engine oil:

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 only  
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:  
BG61

## 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:  
171 kg (378 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

# Specifications

---

## **Battery:**

Model:

GTZ8V

Voltage, capacity:

12 V, 7.0 Ah (10 HR)

## **Bulb wattage:**

Headlight:

LED

Brake/tail light:

LED

Front turn signal light:

LED

Rear turn signal light:

LED

Auxiliary light:

LED

License plate light:

5.0 W

### 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.

## Consumer information

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### 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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