



OWNER'S MANUAL

⚠ Read this manual carefully before operating this vehicle.

E01

MOTORCYCLE

ETS110 (E01)

BCM-28199-E0

Location of important labels	1
Safety information	2
Description	3
ETS110 features	4
Smart key system	5
Instrument and control functions	6
For your safety – pre-operation checks	7
Lithium-ion battery	8
Operation and important riding points	9
Periodic maintenance and adjustment	10
Care and storage	11
Specifications	12
Consumer information	13

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

For EUR

YAMAHA MOTOR CO., LTD.

DECLARATION OF CONFORMITY

We, YAMAHA MOTOR CO., LTD, hereby declare, at our sole responsibility that the following product conforms to the Essential Requirements of Radio Equipment Directive (RED) 2014/53/EU in accordance with the tests conducted to the appropriate requirements of the relevant standards, as listed herewith.

Product : COMMUN.CONT.UNIT ASSY.

Model/Type Number : Y010-A10

Standard used :

EN 301 511 V12.5.1 (BTL Report No. BTL-ETSP-2-2004T181)

EN 301 908-1 V11.1.1 (BTL Report No. BTL-ETSP-3-2004T181)

EN 303 413 V1.1.1 (BTL Report No. BTL-ETSP-1-2004T181)

EN 301 489-1 V2.2.3 (BTL Report No. BTL-ETSE-1-2004T181)

EN 301 489-19 V2.1.1 (BTL Report No. BTL-ETSE-1-2004T181)

EN 301 489-52 V1.1.0 (BTL Report No. BTL-ETSE-1-2004T181)

EN62368-1:2014+A11:2017 (BTL Report No. BTL-LVD-1-S2003T182)

EN 60950-1: 2006+A11:2009+A1:2010+A12:2011+A2:2013 (BTL Report No. BTL-LVD-

1-S2004T181)

EN62311:2020 (BTL Report No. BTL-ETSP-4-2004T181)

The technical documentation relevant to the above equipment will be held at:

Company Name : YAMAHA MOTOR CO., LTD

Address : 2500 Shingai, Iwata-shi, Shizuoka-ken, Japan

NAME : FUJISHIRO,Masaya

July 13 2020

Position : Group Manager

Signature : *Masaya Fujishiro*

For UK

YAMAHA MOTOR CO., LTD.

UKCA DECLARATION OF CONFORMITY

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Company Name : YAMAHA MOTOR CO., LTD

Address : 2500 Shingai, Iwata-shi, Shizuoka-ken, Japan

NAME : FUJISHIRO,Masaya

July 01 2021

Position : Group Manager

Signature : *Masaya Fujishiro*

For EUR

Declaration of Conformity:

Hereby, MITSUBISHI ELECTRIC CORPORATION, HIMEJI WORKS, declares that the radio equipment type, Smart Keyless System (SKEA7E-01 (Smart Unit), SKEA7E-02 (Hand Unit)) is in compliance with Directive 2014/53/EU.

The full text of the EU declaration of conformity is available at the following internet address:

<http://www.mitsubishielectric.com/bu/automotive/doc/re.html>

Smart Unit:

Operation frequency: 125 kHz

Maximum output power: 117 dBuV/m at 10 meters

Hand Unit:

Operation frequency: 433.92 kHz

Maximum output power: 10 mW

Manufacturer:

MITSUBISHI ELECTRIC CORPORATION, HIMEJI WORKS

840, Chiyoda-machi, Himeji, Hyogo 670-8677, Japan

Importer:

YAMAHA MOTOR EUROPE N.V.

Koolhovenlaan 101, 1119 NC Schiphol-Rijk, 1117 ZN, Schiphol, the Netherlands

For UK



Declaration of Conformity:

Hereby, MITSUBISHI ELECTRIC CORPORATION, HIMEJI WORKS, declares that the radio equipment type, Smart Keyless System (SKEA7E-01 (Smart Unit), SKEA7E-02 (Hand Unit)) is in compliance with the Radio Equipment Regulations 2017. The full text of the declaration of conformity is available at the following internet address:
<http://www.mitsubishielectric.com/bu/automotive/doc/ukgb.html>

Smart Unit:

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Maximum output power: 10 mW

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MITSUBISHI ELECTRIC CORPORATION, HIMEJI WORKS
840, Chiyoda-machi, Himeji, Hyogo 670-8677, Japan

Importer:

YAMAHA MOTOR EUROPE N.V., BRANCH UK
Units A2-A3, Kingswey Business Park, Forsyth Road, Woking, Surrey. GU21 5SA. United Kingdom.

Introduction

EAU97060

Welcome to the Yamaha world!

As the owner of the ETS110, 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 ETS110. The Owner's Manual does not only instruct you in how to operate, inspect and maintain your electric vehicle, 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 electric vehicle 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 electric vehicle and this manual. If there is any question concerning this manual, please consult a Yamaha dealer.

EWA21770





WARNING

Please read this manual carefully and completely before operating this electric vehicle.

Important manual information

EAU10134

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

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

*Product and specifications are subject to change without notice.

Important manual information

EAU10202

**ETS110
OWNER'S MANUAL
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1st edition, November 2021
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Table of contents

Location of important labels	1-1	Operating range of the smart key system	5-2	Charging time	8-7
Safety information	2-1	Handling of the smart key and mechanical keys	5-3	Checking the charging status of the battery	8-8
Further safe-riding points	2-5	Smart key	5-4	Storing the portable battery charger in the storage compartment	8-10
Description	3-1	Replacing the smart key battery	5-6	About the battery	8-12
Left view	3-1	Main switch	5-7	Battery specifications.....	8-13
Right view	3-2	Instrument and control functions	6-1	Operation and important riding points	9-1
Controls and instruments	3-3	Indicator lights and warning lights	6-1	Preparations for starting off	9-1
Battery charger	3-4	Multi-function display	6-3	Starting off	9-2
High-voltage components.....	3-5	Handlebar switches.....	6-12	Acceleration and deceleration	9-3
ETS110 features	4-1	Front brake lever	6-14	Braking	9-3
Features	4-1	Rear brake lever	6-15	Parking	9-3
Precautions for high-voltage components	4-1	ABS.....	6-15	Periodic maintenance and adjustment	10-1
Traveling range	4-2	Traction control system.....	6-16	Tool kit	10-2
Drive modes	4-2	Seat.....	6-18	General maintenance and lubrication chart.....	10-3
Temperature warning function to protect EV system	4-3	Helmet holders	6-19	Why Yamalube	10-6
Regenerative brake	4-4	Storage compartments.....	6-19	Final transmission oil	10-6
Available battery chargers.....	4-4	Power outlet	6-21	Tires.....	10-6
Lithium-ion battery level	4-6	Sidestand	6-22	Cast wheels	10-8
Effective use of the lithium-ion battery	4-7	For your safety – pre-operation checks	7-1	Checking the front and rear brake lever free play.....	10-8
Traction control system	4-7	Lithium-ion battery	8-1	Checking the front and rear brake pads	10-9
CCU (Communication Control Unit)	4-8	Safety information	8-1	Checking the brake fluid level.....	10-10
Smart key system	5-1	Charging the battery	8-3		
Smart key system.....	5-1	Charging procedure	8-4		

Table of contents

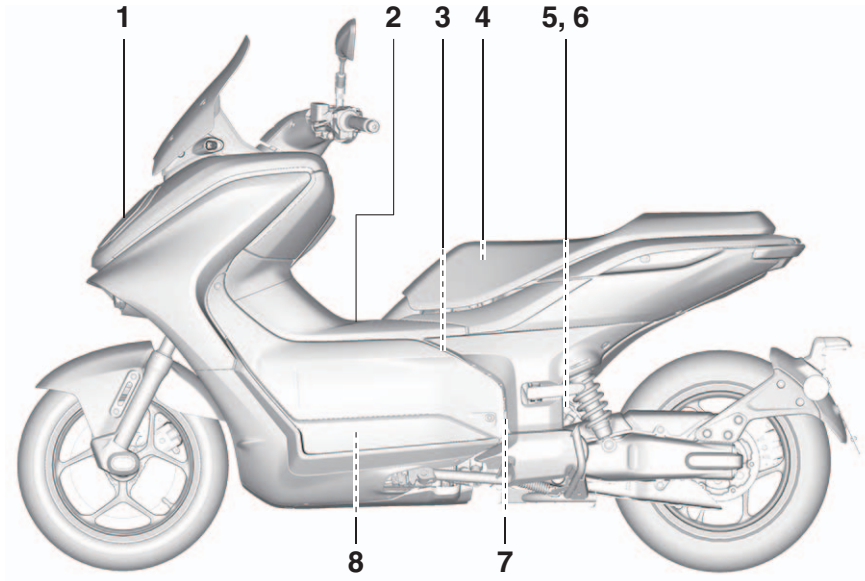
Changing the brake fluid.....	10-11	Index	14-1
Drive belt slack	10-11		
Checking and lubricating the cables.....	10-12		
Checking and lubricating the accelerator grip	10-12		
Lubricating the front and rear brake levers.....	10-12		
Checking and lubricating the centerstand and sidestand	10-13		
Checking the front fork	10-14		
Checking the steering.....	10-14		
Checking the wheel bearings	10-15		
12V battery	10-15		
Replacing the fuses	10-16		
Vehicle lights	10-18		
Troubleshooting.....	10-19		
Emergency mode	10-23		
Care and storage	11-1		
Matte color caution	11-1		
Care	11-1		
Storage	11-3		
Specifications	12-1		
Consumer information	13-1		
Identification numbers	13-1		
Diagnostic connector	13-2		
Use of your data	13-2		

Location of important labels

EAU96180

1

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



Location of important labels

1



1

NOTICE ATTENTION

- Use only YAMAHA recommended chargers.
- Utilisez uniquement les chargeurs recommandés par YAMAHA.

BCM-2817K-00

2

1CB-2816R-11

- Before you operate this vehicle, read the owner's manual.
- Prima di usare il veicolo, leggete il manuale di istruzioni.
- Lire le manuel du propriétaire avant d'utiliser ce véhicule.
- Lesen Sie die Bedienungsanleitung bevor Sie dieses Fahrzeug fahren.
- Antes de conducir este vehículo, lea el Manual del Propietario.




3









4






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

BM6-21668-00

5






6












BCM-8C1Y1-00

7




8

TYPE:ESB5 Li-ion battery
 MODEL:BCM-00 24CNI-Mn-Co08/262/216
 87.6V 56.3Ah 4931Wh

YAMAHA MOTOR CO.,LTD. MADE IN JAPAN

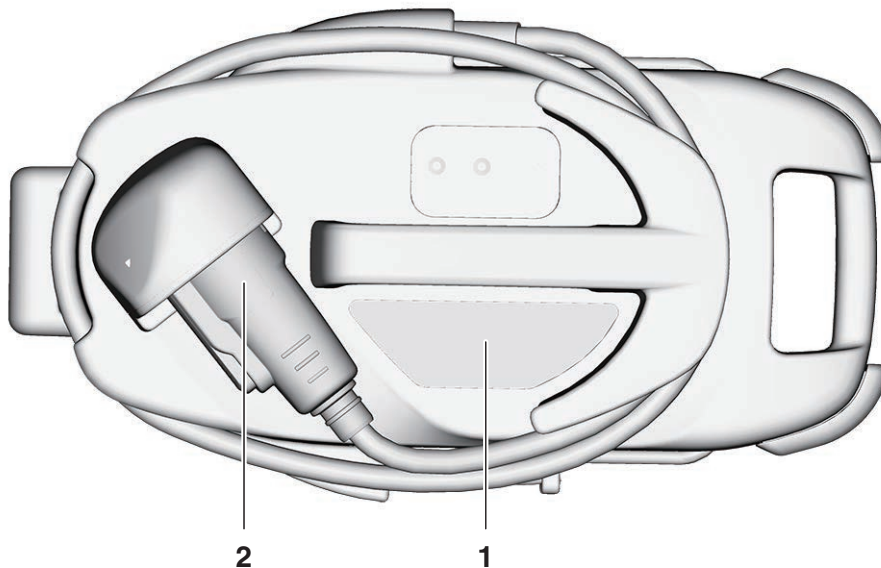
Li-ion 20 廃電池請回収

BCM-8C2Y1-00

Location of important labels

1



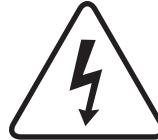
Location of important labels

1

1










2



Location of important labels

Familiarize yourself with the following pictograms and read the explanatory text.

	Read the Owner's manual.		No open flame.
	High voltage.		No wet hands.
	Electrical shock hazard.		Hot surface.
	Do not disassemble.		

Be a Responsible Owner

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

This electric vehicle is a single-track vehicle.

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 vehicle.

He or she should:

- Obtain thorough instructions from a competent source on all aspects of this vehicle's 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 vehicle without

proper training or instruction. Take a training course. Beginners should receive training from a certified instructor. Contact an authorized 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 vehicle is designed to carry the operator and a passenger.
- The failure of motorists to detect and recognize other vehicles in traffic is the predominating cause of vehicle accidents. Many accidents have been caused by an automobile driver who did not see the other vehicle. 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 vehicle accidents to occur.
- Ride where other motorists can see you. Avoid riding in another motorist's blind spot.
- Never maintain this vehicle without proper knowledge. Contact an authorized dealer to inform you on basic 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 this vehicle 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 this vehicle where there is no traffic until you have

become thoroughly familiar with the vehicle and all of its controls.

- Many accidents have been caused by error of the vehicle 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 vehicle.
 - 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 vehicle is designed for on-road use only. It is not suitable for off-road use.

Protective Appareil

The majority of fatalities from vehicle 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 EV system and its related components may become very hot during or after operation and can cause burns.

- A passenger should also observe the above precautions.

Loading

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

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

Operation of an overloaded vehicle could cause an accident.

Maximum load: 166 kg (366 lb)

Safety information

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

- Cargo and accessory weight should be kept as low and close to the vehicle 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 vehicle to minimize imbalance or instability.
- Shifting weights can create a sudden imbalance. Make sure that accessories and cargo are securely attached to the vehicle 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, recog-

nize 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 vehicle. 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 vehicle due to aerodynamic effects. Wind may attempt to lift the vehicle, or the vehicle 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 vehicle electrical system, an electric failure could result, which could cause a dangerous loss of lights or EV system power.

Aftermarket Tires and Rims

The tires and rims that came with your vehicle 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. See page 10-6 for tire specifications and more information on replacing your tires.

Transporting the Electric Vehicle

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

- Remove all loose items from the vehicle.
- 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 vehicle with tie-downs or suitable straps that are attached to solid parts of the vehicle, such as the frame or upper front fork triple clamp (and not, for example, to rubber-mounted handlebars or turn signals, or parts that could break). Choose the location for the

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

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

Safety information

EAU96660

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 vehicle 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 vehicle upright, otherwise it could slide out from under you.
- The brake pads or linings could get wet when you wash the vehicle. After washing the vehicle, check the brakes before riding.
- Always wear a helmet, gloves, trousers (tapered around the cuff

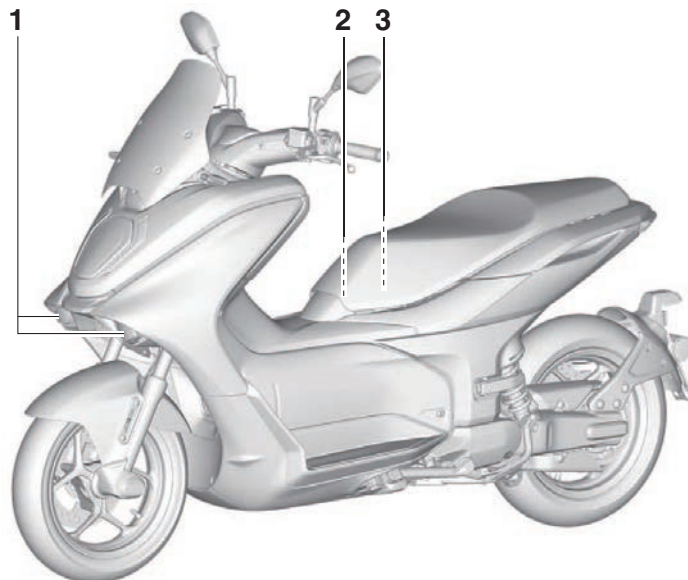
and ankle so they do not flap), and a brightly colored jacket.

- Do not carry too much luggage on the vehicle. An overloaded vehicle is unstable. Use a strong cord to secure any luggage to the carrier (if equipped). A loose load will affect the stability of the vehicle and could divert your attention from the road. (See page 2-2.)

Avoid riding on flooded roads

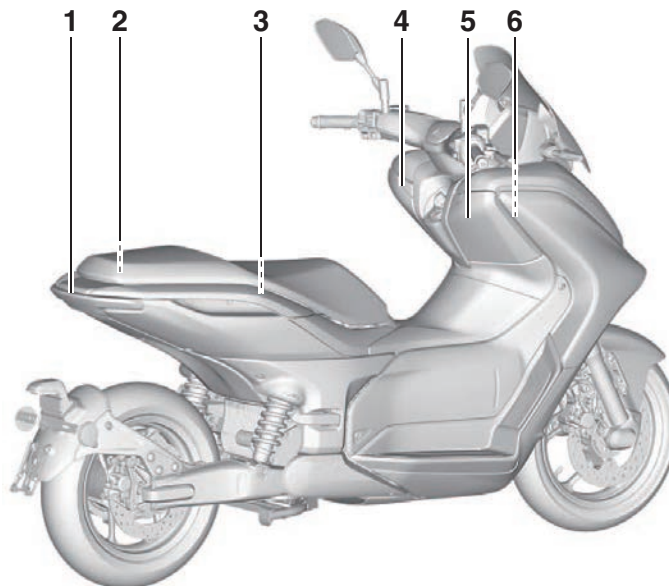
Riding on flooded roads could cause the EV system to stop and also malfunctions such as electric leakage or short circuits. If an electric component becomes submerged in water, have a Yamaha dealer check the vehicle.

Left view



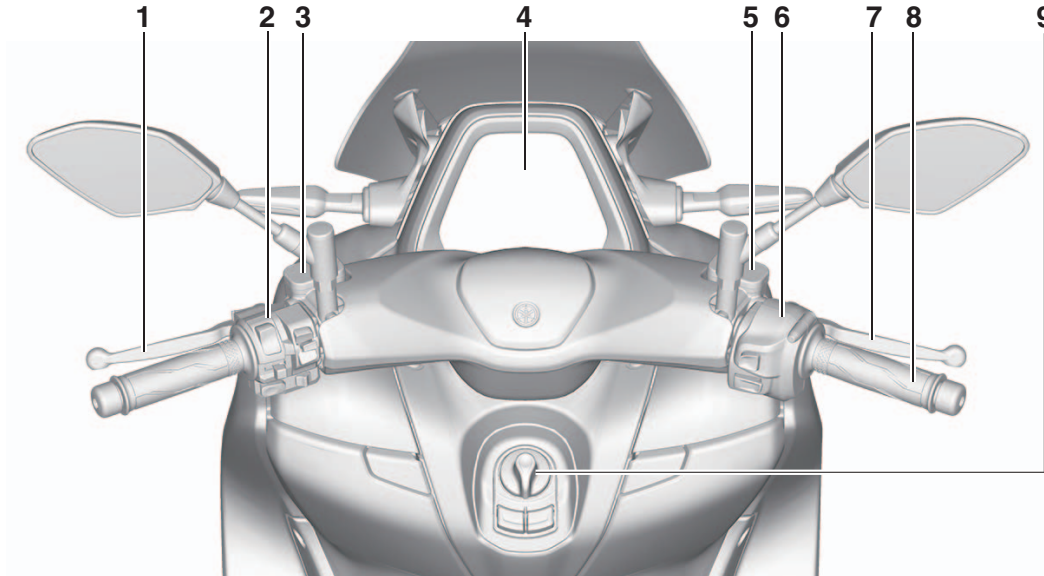
1. Headlight (page 10-18)
2. Fuses (page 10-16)
3. 12V battery

Right view

3

1. Brake/tail light
2. Tool kit (page 10-2)
3. Rear storage compartment (page 6-19)
4. Storage compartment A (page 6-19)
5. Storage compartment B (page 6-19)
6. Power outlet (page 6-21)

Controls and instruments



1. Rear brake lever (page 6-15)
2. Left handlebar switches (page 6-12)
3. Rear brake fluid reservoir (page 10-10)
4. Multi-function meter unit (page 6-3)
5. Front brake fluid reservoir (page 10-10)
6. Right handlebar switches (page 6-12)
7. Front brake lever (page 6-14)
8. Accelerator grip

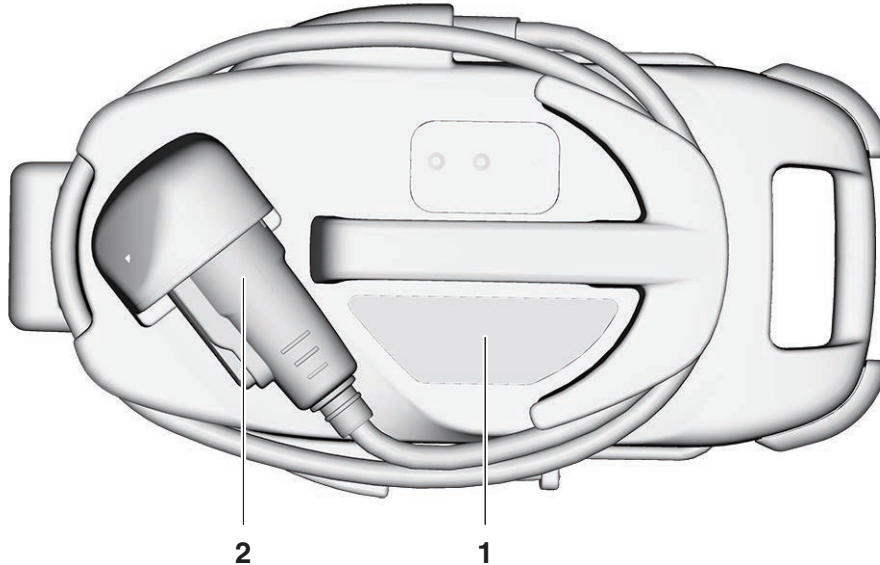
9. Main switch (page 5-7)

Description

EAU96000

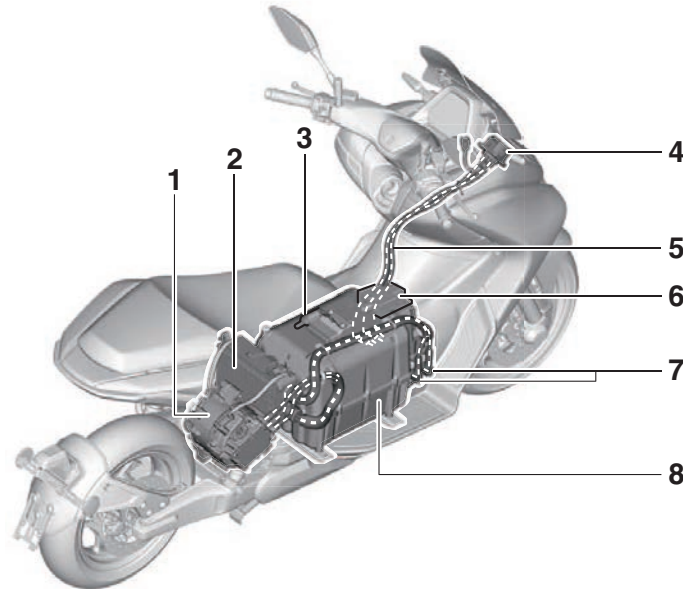
Battery charger

3



1. Portable battery charger
2. Charging plug

High-voltage components



1. Power unit
2. Motor control unit (MCU)
3. HV fuse box
4. Charging connector
5. High-voltage wiring (orange-colored)
6. DC-DC converter
7. Lithium-ion battery - MCU connector
8. Lithium-ion battery

Features

The ETS110 is an EV commuter vehicle that offers the convenience of a scooter for short/mid-distance traveling or commuting.

Its power train uses a lithium-ion battery with a capacity of 4.9 kWh (Yamaha internal measurement), and it has an Integrated Permanent Magnet Synchronous Motor (IPMSM) with a maximum output of 8.1 kW. It is silent with minimal vibration. It provides a smooth ride together with outstanding output even from very low speeds.

Precautions for high-voltage components

This vehicle uses high-voltage components (up to 102V). (See page 3-1.) Do not disassemble or remove any of the high-voltage components. The high-voltage wiring used to connect high-voltage components is colored orange. Warning labels are attached to the high-voltage components.



! WARNING

In the event of a road accident, be sure to observe the following:

- Never touch the high-voltage components or the orange-colored high-voltage wiring if they are exposed due to damage or deformation of the vehicle body.
- Do not touch them if they are covered with wet. Since the electrolyte is poisonous and dangerous, if it adheres to your skin and/or clothing, immediately flush with plenty of water and seek prompt medical attention.

In the event of a fire, always use a fire extinguisher designed for electrical fires.

! WARNING

Never push/pull the high-voltage components or orange-colored high-voltage wiring, as this may cause electric shock and serious injury. Do not touch the lithium-ion battery or its electrical wiring.

EAU95014

EAU95022

6-13.

Traveling range

The traveling range on a single charge depends on:

Drive mode, frequent starting and stopping, total vehicle weight, slope, road conditions, wind direction, wind speed, temperature, charging situation, total lithium-ion battery capacity, level of tire inflation, and etc.

Traveling range on a single charge (WMTC Class1):

130 km (80.8 mi)

Drive modes

You can choose the drive mode according to the riding conditions (road situation) and your preferences.

- “PWR” (power) mode:
Maximizes the motor power and is suitable for climbing hills or acceleration when overtaking.

TIP

Because it consumes more electricity than the “STD” (standard) mode, the traveling range is reduced.

- “STD” (standard) mode:
Suitable for traveling on paved roads.
- “ECO” (economy) mode:
Suitable for long-distance travel. This mode curbs the battery consumption and limits the maximum speed to approximately 60 km/h (37.3 mph).
- “R” (reverse) mode:
Convenient for parking. Allows reversing up to 1 km/h (0.6 mph).

TIP

To choose the drive mode, see page

ETS110 features

EAU97071

Temperature warning function to protect EV system

This vehicle is equipped with a temperature warning function to protect the EV system.

1. When the information display shows “HOT” / “COLD”

When the temperature of EV system becomes higher than the specified temperature, “HOT” will appear on the information display. And when the temperature becomes lower, “COLD” will appear.



2. Limited output indicator light on
When the limited output indicator is on with “HOT” or “COLD” on the information display, the EV system output is restricted.

3. Operating status indicator off

When the vehicle continues to be ridden with “HOT” on the information display and the limited output indicator light on, the operating status indicator light may turn off and the vehicle may stop.

TIP

While the temperature warning function limits the output and/or stops riding, it is not a malfunction. If the temperature returns to the specified temperature, the limits will be released. Turn the vehicle power off and wait for a while.

The temperature warning function may activate easily in the following circumstances:

- Riding right after charging the battery
- Long riding in high ambient temperatures
- Riding on a long uphill stretch
- Riding after the vehicle has been left in a place where exposed to strong sunshine for a long period
- Riding after the vehicle has been left in an excessively cold place

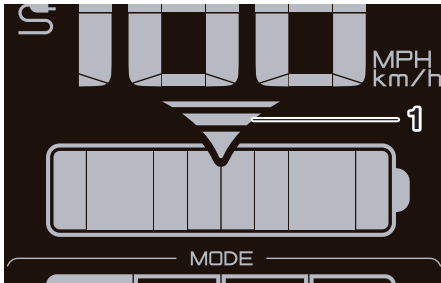
(less than 0 °C)

TIP

“COLD” will appear and the output become limited at higher EV system temperatures than normal if the lithium-ion battery level is low. This is not a malfunction.

Regenerative brake

The regenerative brake produces a braking effect, similar to the engine brake on a conventional combustion engine, for smooth deceleration of the vehicle. When slowing down and no acceleration is applied, the rotational power of the rear wheel is regenerated and supplied to the lithium-ion battery. The resistance of the motor reduces the speed of the vehicle. The regenerative brake indicator on the multi-function display will come on to let the rider know that the regenerative brake has engaged.



1. Regenerative brake indicator

! WARNING

- **The regenerative brake is not a substitute for appropriate riding or brake techniques. In order to obtain effective braking and stopping power, operate the front and rear brake levers simultaneously.**
- **When the lithium-ion battery is fully charged or the battery temperature is extremely high or low, the regenerative brake may not function. In this situation, the regenerative brake indicator will flash.**
- **If the lithium-ion battery is close to fully-charged or the temperature of the battery is high or low, the regenerative brake may not function well.**

Available battery chargers

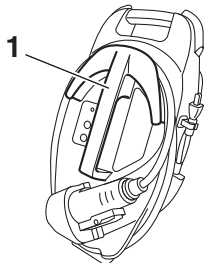
The lithium-ion battery can be charged with three types of battery chargers: portable battery charger, normal battery charger, and fast battery charger. Choose one of these chargers according to the usage environment and purpose.

TIP

Charging time and travel range may vary according to the ambient temperature.

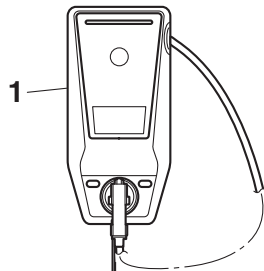
- **Portable battery charger (provided with the vehicle):**
This battery charger is provided with the vehicle. It can be placed under the seat. It can charge the battery from 0 % to 100 % in 14 hours.

ETS110 features



1. Portable battery charger

- Normal battery charger:
Separately sold charger suitable for installation in premises such as a home. It can charge the battery from 0 % to 100 % in 5 hours.



1. Normal battery charger












- Fast battery charger:
Available only at installed places. It can charge the battery from 0 % to 90 % in 1 hour.

EWA21760

WARNING

Do not use fast battery chargers with charging cables more than 30 m (98.4 ft) in length.

Lithium-ion battery level

Remaining battery level (%)	Lithium-ion battery level meter	Warning lights	Current status
100–21		—	The vehicle can be operated.
20–11			The lithium-ion battery level is low. Charge the battery. The distance on the estimated traveling range display will be displayed as “LOW _{km} ”.
10–6			When the lithium-ion battery level decreases to 10 %, the last segment will flash. Stop riding as soon as possible and charge the lithium-ion battery.
5–1			When the lithium-ion battery level decreases to 5 %, the last segment will flash and the lithium-ion battery level display will show as “LOW%”. Stop riding as soon as possible, and charge the lithium-ion battery.
0			The lithium-ion battery level is 0 %. The drive mode is restricted to the “ECO” (economy) mode, and the maximum speed is limited to 30 km/h (18.6 mph). Stop riding and charge the lithium-ion battery immediately; the vehicle can only travel a short distance.
0			If the entire lithium-ion battery level meter is flashing, the vehicle cannot be driven.

EAU96673

Effective use of the lithium-ion battery

If the lithium-ion battery is left nearly fully charged (9–10 segments shown on the lithium-ion battery level meter) or exposed to high temperatures for an extended period, it will rapidly degrade. To extend the lithium-ion battery life, handle as follows:

- Choose a cool place with no direct sunlight when charging the lithium-ion battery.
- Do not store the lithium-ion with a charge less than 20 % (below the last 2 segments of the lithium-ion battery level meter) for an extended period of time.
- Choose a cool and well-ventilated place without direct sunlight for storing the vehicle.
- If the vehicle will not be used for a long period of time, charge the lithium-ion battery until the 4–6 segments of the lithium-ion battery level meter are shown and then store the vehicle in a cool place (optimum temperature 15–25 °C). Check the battery level while the

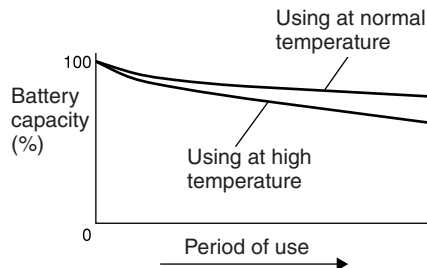
vehicle is in storage. If the battery level drops to the last segment, recharge the lithium-ion battery until 4–6 segments of the lithium-ion battery level meter are shown.

ECA27921

NOTICE

If the lithium-ion battery is completely discharged, recharging will not be possible and the lithium-ion battery will not be usable.

Lithium-ion battery degradation



EAU95032

Traction control system

EWA15433

⚠ WARNING

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

The traction control system helps maintain traction when starting or accelerating. If the sensor detects tendencies to rear wheel slippage (uncontrolled spinning), the traction control system assists by regulating motor output. The traction control system indicator light “TCS” flashes to let the rider know that traction control system has engaged. When the power or the vehicle is turned on, the traction control system will be automatically turned on. The traction

control system can be set on or off only when the vehicle is stopped and the power of the vehicle is on.

TIP

- The traction control system may engage when the vehicle goes over a bump.
- Turn the traction control system off to help free the rear wheel if the vehicle becomes stuck in mud, sand, or other soft surfaces.
- To turn the traction control system off, see page 6-16.

EAU95182

CCU (Communication Control Unit)

This model is equipped with a CCU. While accessing the web application using a smartphone or PC, the last parking location or the remaining battery capacity can be checked even away from the vehicle. Refer to the web application for more details.



Since this CCU has a built-in 3G /LTE SIM and GPS, vehicle data such as vehicle location and route information will be periodically uploaded to Yamaha server.

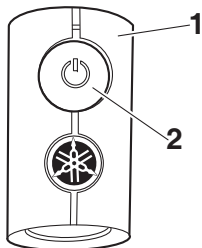
For the details regarding the usage of collected data, refer to page 13-2.

Smart key system

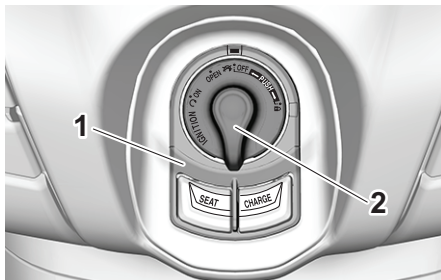
EUA76444

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 5-5.)



1. Smart key
2. Smart key button

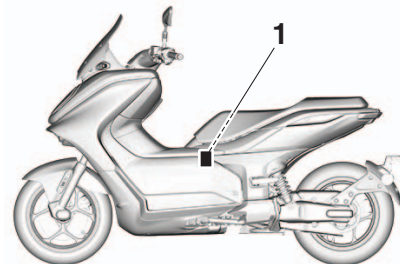


1. Main switch
2. Main switch knob

EWA14704

WARNING

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



1. Vehicle mounted antenna

ECA24080

NOTICE

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

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

radios or mobile phones in close proximity of the smart key

- The smart key is in contact with or covered by a metallic object
- Other vehicles equipped with a smart key system are nearby

In such situations, move the smart key to another location and perform the operation again. If it still does not work, operate the vehicle in emergency mode. (See page 10-23.)

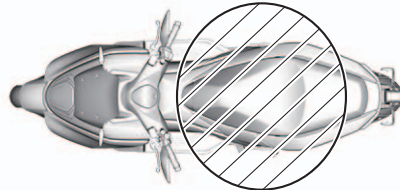
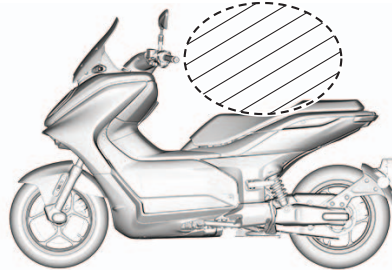
TIP

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.

EAU76453

Operating range of the smart key system

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



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

TIP

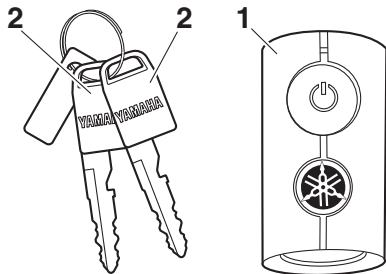
- Do not place the smart key in a storage compartment.
- Always carry the smart key with you.
- Turn the smart key off when leaving the vehicle.

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

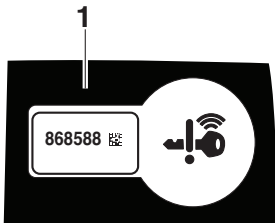
Smart key system

EAU96680

Handling of the smart key and mechanical keys



1. Smart key
2. Mechanical key



1. Identification number card

EWA21620

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 EV system and operate the vehicle.

Included with the vehicle is one smart key, two mechanical keys, and one identification number card. Keep one mechanical key and the identification number card in a safe place separate from the vehicle.

If the vehicle battery is discharged, the mechanical key can be used to open the seat to charge or replace the battery. Therefore it is recommended that you carry one mechanical key together with the smart key.

If the smart key and the smart key system identification number are both lost or damaged, the entire smart key system will need to be replaced. To prevent this, it is recommended that you

write down the identification number in case the identification number card is lost.

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 hold-

ers, 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.**

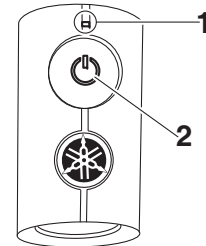
TIP

- 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 5-6.) 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 re-

ceives 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, etc.

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 EV system and operate the vehicle.**

To turn the smart key on or off
Push the smart key button for approxi-

Smart key system

mately 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.

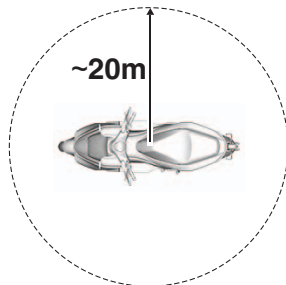
Remote answer-back function

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

Operating range of the answer-back function

The approximate operating range of

the answer-back function is as shown.



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

To turn the answer-back beeper on or off

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

1. Turn the smart key on and bring it within operating range.
2. Turn the main switch to "OFF", and then push the main switch knob once.
3. Within 9 seconds of pushing the knob, push and hold the knob

again for 5 seconds.

4. When the beeper sounds, the setting is complete.

If the beeper:

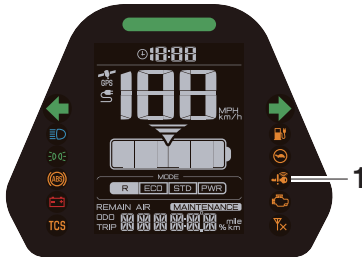
- Sounds twice: The beeper is turned off.
- Sounds once: The beeper is turned on.


EAU96700

Replacing the smart key battery

Replace the battery in the following situations.

- The smart key system indicator light flashes for about 20 seconds when the power of the vehicle is turned on.
- The answer-back function does not operate when the smart key button is pushed.



1. Smart key system indicator light “”

EWA20631

WARNING

Danger of explosion if battery is incorrectly replaced

- Replace only with the same or

equivalent type.

- Please check and obey all local laws and regulations for the disposal of batteries or accumulations.
- Never dispose of battery in fire or mechanical crushing or cutting.
- If battery is incorrectly discarded or heated to high temperature (100 °C (212 °F) or higher), gas may be generated inside battery, causing electrolyte leak, internal short circuit, heat generation, explosion and violent flaring.

Do not expose Hand Unit to excessive heat such as sunshine, fire or the like.

Do not ingest the battery, Chemical Burn Hazard

- This product contains a coin/button cell battery. If the coin/button cell battery is swallowed, it can cause severe internal burns in just 2 hours and can lead to death. Keep new and

used batteries away from children.

- If the battery compartment does not close securely, stop using the product and keep it away from children.
- If you think batteries might have been swallowed or placed inside any part of the body, seek immediate medical action.

ECA15785

NOTICE

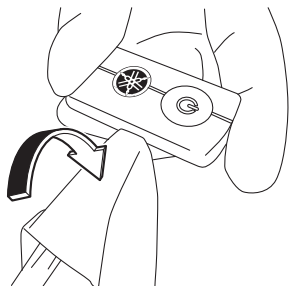
- Use a cloth when opening the smart key case with a screwdriver. Direct contact with hard objects may damage or scratch the smart key.
- Take precautions to prevent the waterproof seal from being damaged or contaminated by dirt.
- Do not touch the internal circuits and terminals. This may cause malfunctions.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

Smart key system

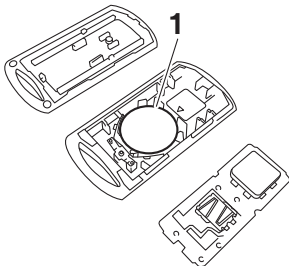
stalled correctly. Confirm the direction of the positive “+” side of the battery.

To replace the smart key battery

1. Open the smart key case as shown.



2. Remove the battery.

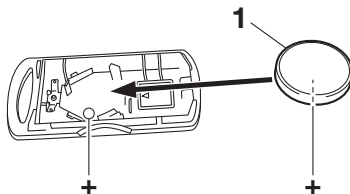


1. Battery

TIP _____
Dispose of the removed battery in accordance with local regulations.

3. Note the polarity of the battery and install it with the “+” side facing downwards as shown.

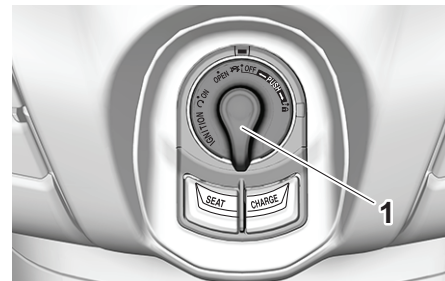
Specified battery:
CR2032



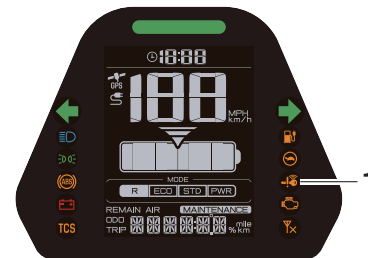
1. Battery
4. Gently snap the smart key case closed.

Main switch

EAU96830



1. 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 and the charging plug lid. After pushing the

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

EWA18720

WARNING

Never turn the main switch to “OFF”, “

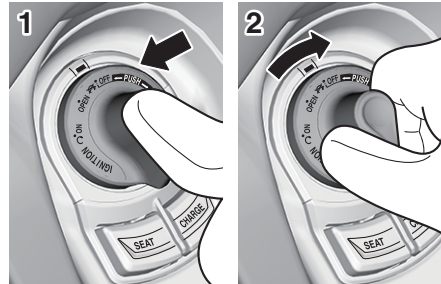
TIP

Do not push the main switch knob repeatedly or turn the main switch back and forth excessively (beyond normal use). 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, and then operate the main switch.

The main switch positions are described below.

ON

EAU96711



1. Push.
2. Turn.

All electrical circuits are supplied with power.

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”.

TIP

See “Emergency mode” on page 10-23

for information on turning the vehicle power on without the smart key.

OFF

EAU96721



1. Turn.

All electrical systems are off.

To turn the vehicle power off

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

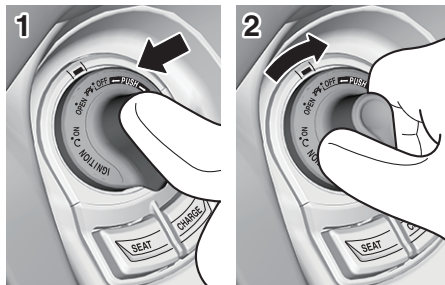
TIP

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 sec-

Smart key system

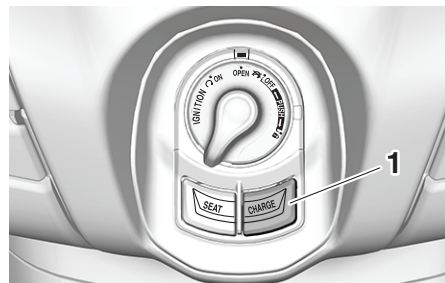
onds and the smart key system indicator light will flash for 30 seconds.

- 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.



1. Push.
2. Turn.

To open the charging plug lid



1. "CHARGE" button

Push the "CHARGE" button to open the charging plug lid.

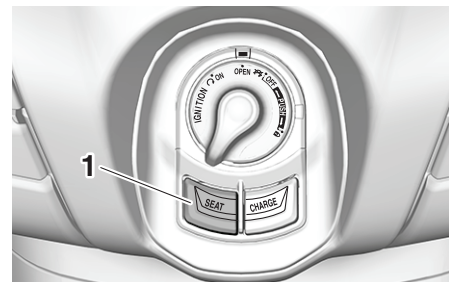
When finished charging the lithium-ion battery, push the charging plug lid until

it is closed.

TIP

See page 8-4 for the charging procedure.

To open the seat



1. "SEAT" button

Push the "SEAT" button, and then lift the rear of the seat.

To close the seat, push down on the rear to lock it in position.

TIP

- Make sure that the seat is securely closed before starting off.
- The seat can also be opened with the mechanical key. (See

OPEN


The charging plug lid and the seat can be opened:

1. With the smart key 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".

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 “

TIP


The beeper will turn off after 1 minute.

“

1. Push.
2. Turn.

The steering is locked and all electrical systems are off.

To lock the steering

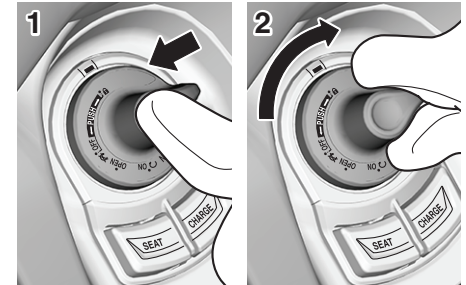
1. Turn the handlebar all the way to the left.
2. With the smart key turned on and within operating range, push the main switch knob.
3. While the smart key system indicator light is on, push and turn the main switch to “

TIP

If the steering will not lock, try turning

the handlebar back to the right slightly.

To unlock the steering



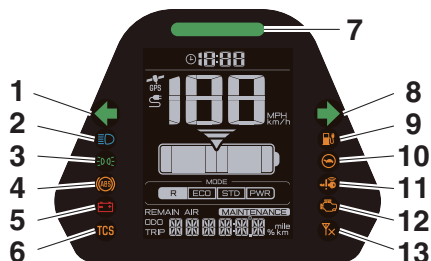
1. Push.
2. Turn.












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.

Instrument and control functions

Indicator lights and warning lights

EAU4939X



1. Left turn signal indicator light “”
2. High beam indicator light “”
3. Position light indicator light “”
4. ABS warning light “”
5. 12V battery voltage warning light “”
6. Traction control system indicator light “**TCS**”
7. Operating status indicator
8. Right turn signal indicator light “”
9. Lithium-ion battery level warning light “”
10. Limited output indicator light “”
11. Smart key system indicator light “”
12. Malfunction indicator light “”
13. SIM communication indicator light “”

Turn signal indicator lights “” and “”

EAU88900

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

High beam indicator light “”

EAU88910

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

Position light indicator light “”

EAU97091

This indicator light comes on when both the position light and the taillight are on.

Lithium-ion battery level warning light “”

EAU95102

This warning light comes on when the lithium-ion battery level drops below 20 %. When this occurs, charge the lithium-ion battery as soon as possible.

TIP

When the vehicle is turned on, the light should come on for a few seconds and then go off (unless the vehicle’s status dictates the light should be on, ie. lithium-ion battery level is low). Otherwise, have a Yamaha dealer check the electrical circuit.

Otherwise, have a Yamaha dealer check the electrical circuit.

Malfunction indicator light (MIL)

EAU96732




This light comes on if a problem is detected in the EV system or other vehicle control system. If this occurs, have a Yamaha dealer check the on-board diagnostic system. The electrical circuit of the warning light can be checked by turning the vehicle power on. The light should come on for a few seconds, and then go off. If the light does not come on initially when the vehicle power is turned on, or if the light remains on, have a Yamaha dealer check the vehicle.

12V battery voltage warning light “”

EAU96010

This warning light comes on when the 12V battery voltage gets low. If this occurs, have a Yamaha dealer check the battery for charging.

TIP _____
When the vehicle is turned on, the light will come on for a few seconds, and then go off. Otherwise, have a Yamaha dealer check the electrical circuit.

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.

EAU95081

EWA16043

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.
- Have a Yamaha dealer check the vehicle as soon as possible.

TIP _____
The ABS warning light may come on while applying the accelerator with the

vehicle on its centerstand, but this does not indicate a malfunction.

EAU88930

Traction control system indicator light “”

This indicator light will flash when traction control has engaged. If the traction control system is turned off, this indicator light will come on. (See page 6-16.)

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

EAUN2772

Smart key system indicator light “”

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.

EAU96742

Operating status indicator light

This indicator light comes on in green when the vehicle is in run mode and ready to start off. This indicator light flashes in orange when the vehicle is in reverse mode. (See page 6-13 for the details of the reverse mode.)

6

EAU95092

SIM communication indicator light “”

This warning light comes on when the SIM has no network connectivity.

TIP _____
After the vehicle power is turned on, this indicator light will remain on for about 30 seconds until the SIM connection is established. If the light remains on, even in locations where the signal strength should be strong, have a Yamaha dealer inspect the vehicle.

Instrument and control functions

Limited output indicator light “”

EAU95114

This indicator light comes on when the lithium-ion battery level is too low. When this light comes on, the output of EV system is restricted.

This indicator light also comes on if:

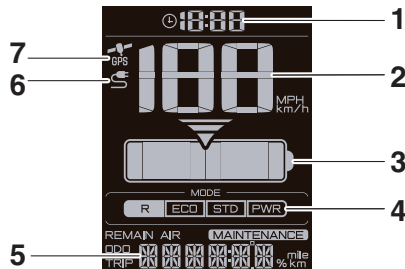
- the motor or controller are too hot
- the lithium-ion battery is too hot/cold
- there is a minor malfunction in the EV system (a malfunction that does not completely disable the EV system)

TIP

- When the vehicle is turned on, the light should come on for a few seconds and then go off (unless the vehicle's status dictates the light should be on, ie. lithium-ion battery level is low). Otherwise, have a Yamaha dealer check the vehicle.
- While this light is on, the accelerator response is reduced, but it is not a malfunction.

Multi-function display

EAU95194




1. Clock
2. Speedometer
3. Lithium-ion battery level meter
4. Drive mode display
5. Information display
6. Charging indicator
7. GPS indicator

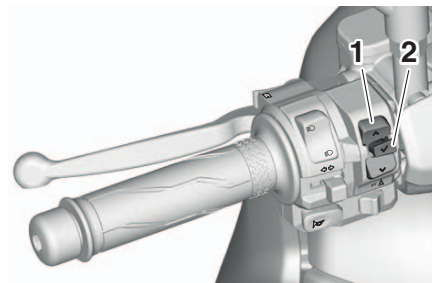




EWA12423

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

The menu switch “” and select

switches “/” are located on the left handle. They allow you to control/change settings on the multi-function display.



1. Select switch “/”
2. Menu switch “”

The multi-function display unit has the following items:

- speedometer
- clock
- lithium-ion battery level meter
- drive mode display
- GPS indicator
- charging indicator
- information display

TIP

Be sure to turn the main switch on be-

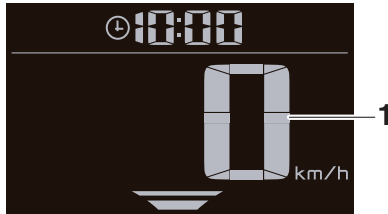
fore using the menu switch “ ✓ ”.

EAU95200

EAU95223

Speedometer

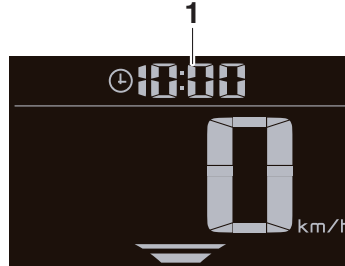
EAU86831



1. Speedometer

The speedometer shows the vehicle's traveling speed.

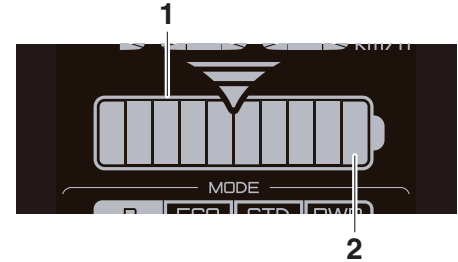
Clock



1. Clock

The clock uses a 12-hour time system. See page 6-8 to set the clock.

Lithium-ion battery level meter



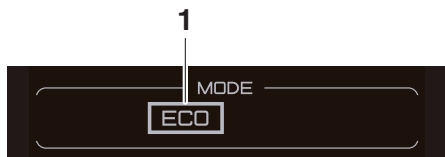
1. Lithium-ion battery level meter
2. Segment

Shows the current charge in the lithium-ion battery. The display segments of the indicator go off from the right to the left as the battery level decreases. For more information about the battery level meter, see page 4-6.

Instrument and control functions

EAU95232

Drive mode display



1. Drive mode display

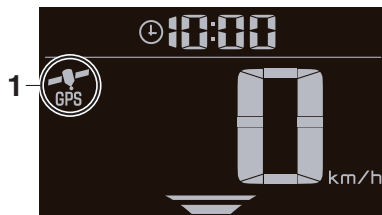
Displays the current drive mode (“R”, “ECO”, “STD” or “PWR”).

For more details of the drive modes, see page 4-2.

For more details on selecting drive modes, see page 6-13.

EAU95243

GPS indicator



1. GPS indicator

This icon is displayed when a GPS connection is established by the CCU.

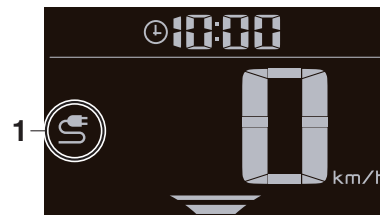
After the vehicle power is turned on, this indicator will remain on for a few minutes until the GPS connection is established. If the light remains on, even in locations where the signal strength should be strong, have a Yamaha dealer inspect the vehicle.

TIP

This icon goes off when the connection is lost in locations such as tunnels, underground areas, etc. But it is not a malfunction.

EAU95251

Charging indicator

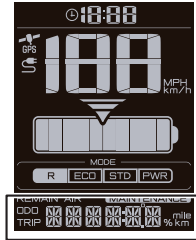


1. Charging indicator

This indicator comes on while the charging plug is connected to the charging connector.

EAU95265

Information display



1. Information display

The information display consists of the standard mode and menu mode. Use the select switches “ \wedge / \vee ” to cycle the display items and press the menu switch “ \checkmark ” to select it (if able). The following display items are available in standard mode:

- Odometer
- Tripmeter
- Lithium-ion battery level display
- Estimated traveling range display
- Remaining charging time display
- 12V battery voltage display
- Air temperature display
- Enter menu mode “MENU”

The menu mode is accessed by cycling

to the “MENU” item on the information display and pressing the menu switch “ \checkmark ”.

The following items are available in menu mode:

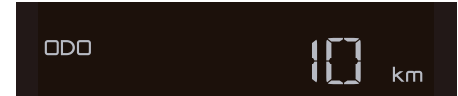
- Clock setting
- Display brightness setting
- Traction control system setting
- Maintenance tripmeter
- Display units setting
- Exit menu mode “EXIT”

TIP

- You can also enter/exit the menu mode by holding either of the select switches “ \wedge / \vee ” until the information display changes to the menu mode.
- Various other status notices will appear on the information display in certain situations.

EAU86891

Odometer



The odometer shows the total distance traveled by the vehicle.

TIP

The odometer will lock at “999999” and cannot be reset.

Instrument and control functions

Tripmeter

EAU95272



6 The tripmeter shows the distance traveled since it was last reset. To reset a tripmeter, set the display to the tripmeter, and then hold the menu switch “✓” until it is reset.

TIP _____
The tripmeter will reset and continue counting after “9999.9” is reached.

Lithium-ion battery level display

EAU95283



Shows the remaining lithium-ion battery level as a percentage. If the level drops below 5 %, “LOW%” will be displayed.

Estimated traveling range display

EAU95292



Shows the estimated remaining travel-

ing range according to the lithium-ion battery level.

If the level drops below 20 %, “LOW km” will be displayed.

TIP _____
The displayed remaining travel range may differ from the actual range.

Remaining charging time display

EAU95302



Shows the estimated remaining time to fully charge the lithium-ion battery.

TIP _____

- This display is available only while the lithium-ion battery is being charged.
- The estimated remaining time may differ from the actual charging

time.

- If the remaining charging time displays “0:00”, charging may continue.

12V battery voltage display

EAU95313



This display shows the current voltage of the 12V battery.

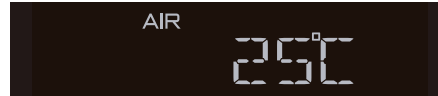
- Over 12.8V = Full charge.
- Under 12.7V = Charging is required.

TIP

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

Air temperature display

EAU93223



This display shows the air temperature from -9°C to 50°C in 1°C increments. The temperature displayed may vary from the actual ambient temperature.

TIP

When the temperature is over 51°C or below -9°C , “_ _” will be displayed.

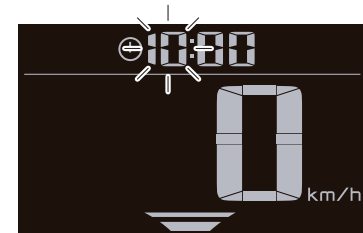
Clock setting

EAU95324



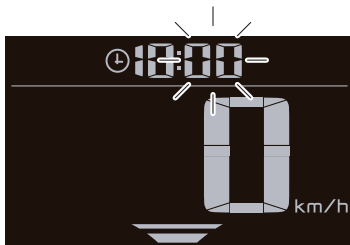
To set the clock

1. Select “CLOCK” in the menu screen, and then press the menu switch “ \checkmark ” to enter the module.
2. The hours start flashing. Use the select switches “ \wedge/\vee ” to set the hours.



Instrument and control functions

3. Press the menu switch “✓” to confirm the hours, and then proceed to set the minutes.
4. The minutes start flashing. Use the select switches “^/∨” to set the minutes.



5. Press the menu switch “✓” to confirm the setting.

Display brightness setting

EAU95334

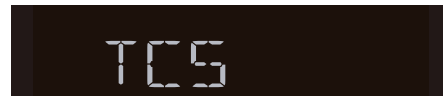


The multi-function display has 6 brightness levels.

Adjust the brightness with the select switches “^/∨”, and then confirm the setting by pressing the menu switch “✓”.

Traction control system setting

EAU95341



Set the traction control system on or off. To set the traction control system on or off, see page 6-16.

Maintenance tripmeter

EAU95351



This tripmeter shows the distance traveled since the last maintenance. The

Instrument and control functions

maintenance indicator “MAINTENANCE” will come on at the initial 1000 km (600 mi), the next 5000 km (3100 mi), and then every 6000 km (3700 mi) thereafter. To reset the maintenance tripmeter “MAINT”, select the maintenance tripmeter “MAINT” in the information display, and then press the menu switch “✓” to display the mileage. When the mileage is displayed, press and hold the menu switch “✓” until the tripmeter resets to 0 and the “MAINTENANCE” indicator goes off.

EAU95364

Display units setting



You can switch the display units between “km/h” and “MPH”. Use the select switches “^/√” to se-

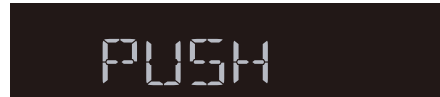
lect the desired unit, and then confirm the setting by pressing the menu switch “✓”.

EAU95378

Status notices

In particular situations, the following notices are displayed:

- “PUSH”



When the power of the vehicle is on, this message indicates that the EV system is ready to enter run mode using the RUN switch “⊞”.

- “COLD”



The power output of the vehicle is restricted due to low battery temperature. Operate the vehicle in the prescribed temperature range. See page 4-3 for more details. If this notice is displayed while charging the lithium-ion battery, see page 4-3.

- “HOT”



Instrument and control functions

The EV system components are too hot.

The power output of the vehicle may be restricted due to high temperature of the EV system components.

See page 4-3 for more details. If this notice is displayed while charging the lithium-ion battery, see page 4-3.

- “KEYOFF” (the vehicle power is on while charging the lithium-ion battery)



This is displayed when the vehicle power is on while the charging plug is connected to the charging connector. Turn off the vehicle power.

- “CHGErr” (error during lithium-ion battery charging)



Battery charging has failed, or the lithium-ion battery may not have been charged fully due to a failure while charging. Wait a few hours and try charging again. If “CHGErr” is still displayed then have a Yamaha dealer inspect the vehicle.

TIP

- Even if the error is resolved, “CHGErr” may continue to be displayed. Confirm that the error has been resolved by turning the vehicle power off and on again.
- When the charging plug is unplugged while charging, “CHGErr” is also displayed. To restart charging,

press the “STOP” button on the battery charger and then the “START” button.

- “Err” (error detection)

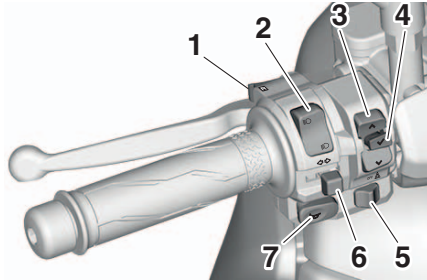


An error has been detected. Have your Yamaha dealer check the vehicle.

Handlebar switches

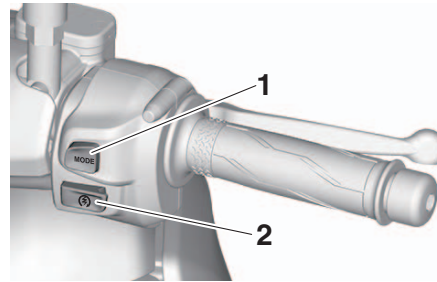
EAU1234S

Left



1. Reverse switch “R”
2. Dimmer switch “ \equiv ○/ \equiv ○”
3. Select switch “ \wedge / \vee ”
4. Menu switch “ \checkmark ”
5. Hazard switch “ Δ ”
6. Turn signal switch “ \leftarrow / \rightarrow ”
7. Horn switch “ H ”

Right



1. Mode switch “MODE”
2. RUN switch “ R ”

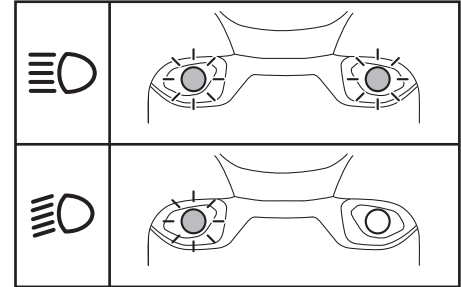
EAU62542

Dimmer switch “ \equiv ○/ \equiv ○”

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

TIP

When the switch is set to low beam, only the right headlight comes on.
When the switch is set to high beam, both headlights come on.



EAU12461

Turn signal switch “ \leftarrow / \rightarrow ”

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

EAU12501

Horn switch “ H ”

Press this switch to sound the horn.

EAU96034

RUN switch “ R ”

With the sidestand up, push this switch while applying the front or rear brake to enter run mode and the operating sta-

Instrument and control functions

tus indicator light will come on in green. See page 9-1 for starting instructions prior to starting off.

EAU96762

Hazard switch “ 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.

ECA27870

NOTICE

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

EAU96771

Menu switch “ This switch is used to perform selections in the setting mode of the multi-function display.

See “Multi-function display” on page 6-3 for detailed information.

EAU96780

Select switch “ This switch is used to make setting changes within the multi-function display. (See page 6-3.)

EAU95062

Mode switch “MODE”

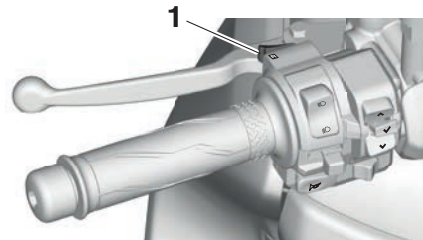
Press the mode switch “MODE” to change the drive mode in the following order: “ECO” → “STD” → “PWR” → “ECO”

TIP

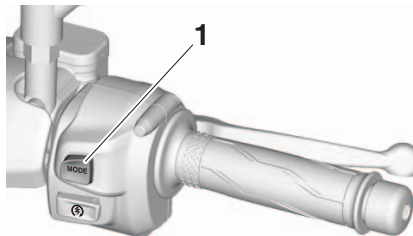
- The drive mode can also be changed while the vehicle is moving with the accelerator fully returned.
- See page 4-2 for more information on the drive mode.

EAU95076

Reverse switch “R”



1. Reverse switch “R”



1. Mode switch “MODE”

Press and hold the reverse switch “R” to enter reverse mode. The operating status indicator will flash orange and the drive mode display will change to

“R”. While in reverse mode, the motor provides a holding effect so that the vehicle does not easily roll even if the brakes are released. While holding the reverse switch “R”, use the mode switch “MODE” to move the vehicle backwards at 1 km/h (0.6 mph). If either the reverse switch “R” or the mode switch “MODE” are released, the vehicle will stop.

EWA21730

WARNING

The reverse mode holding effect is not a substitute for conventional brakes.

TIP

- When the reverse mode is activated, the operating status indicator on the multi-function meter unit flashes orange.
- When activating reverse function while the vehicle is on the centerstand, the rear wheel may vibrate but this is not a malfunction.
- Entering reverse mode cancels run mode. When the reverse switch “R” is released, the operating status indicator will go off. Acti-

vate run mode by pressing the RUN switch to start off again after reversing.

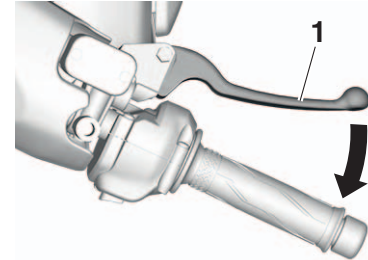
EWA21290

WARNING

To avoid loss of balance and possible injury;

- Never operate the reverse mode if not straddling the vehicle.
- Have the passenger disembark before using the reverse mode.
- Double-check the surrounding area for people and obstructions.

Front brake lever



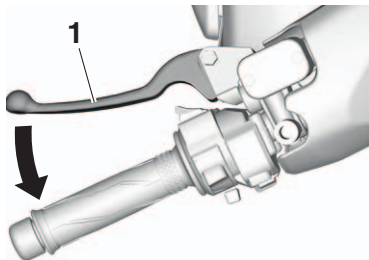
1. Front brake lever

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

Instrument and control functions

EAU12952

Rear brake lever



1. Rear brake lever

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

EAU96791

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.

EWA16051

WARNING

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

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

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

TIP

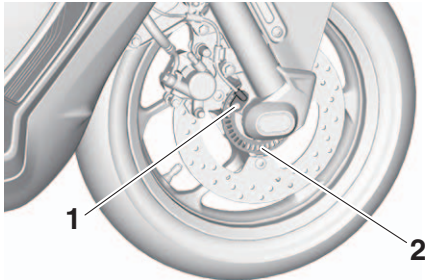
- The ABS performs a self-diagnostic test each time the vehicle first starts off after the key is turned to “ON” and the vehicle has traveled at a speed of 10 km/h (6 mi/h) or higher. During this test, a “clicking” noise can be heard from the front of the vehicle, and if either brake lever is even slightly 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.
- When the 12V battery voltage warning light comes on, the ABS warning light also comes on and the ABS becomes disabled. However this is not a malfunction. If the ABS warning light remains on after the 12V battery voltage warning light goes off, have a Yamaha

dealer inspect the vehicle.

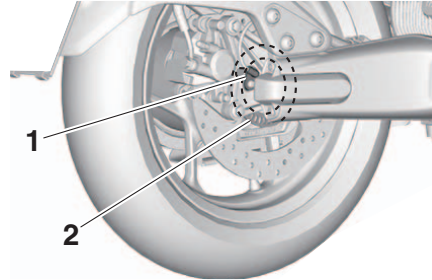
ECA20100

NOTICE

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



1. Front wheel sensor
2. Front wheel sensor rotor



1. Rear wheel sensor
2. Rear wheel sensor rotor

Traction control system

The traction control system 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 EV system power until traction is restored.

When traction control has engaged, the “**TCS**” indicator light will flash. You may notice changes in EV system response.

WARNING

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

EUA95155

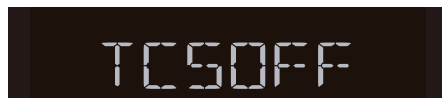
EWA18860

Instrument and control functions


Setting the traction control system



changes. The “TCS” indicator light will come on when the traction control system is turned off.








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.

6

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

To turn the traction control system off/on:

1. Use the select switches “/” to cycle the information display to “MENU” and press the menu switch “” to enter the menu mode.
2. Use the select switches “/” to cycle to “TCS” and press the menu switch “”. The current traction control setting (“TCS ON”/“TCSOFF”) will be displayed.
3. Hold the menu switch “” for one second until the traction control setting (“TCS ON”/“TCSOFF”)

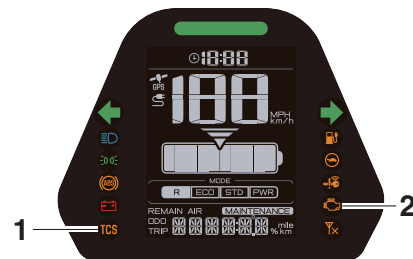
TIP


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

ECA16801

NOTICE

Use only the specified tires. (See page 10-6.) Using different sized tires will prevent the traction control system from controlling tire rotation accurately.



1. Traction control system indicator light “TCS”
2. Malfunction indicator light “”

TIP

When the vehicle is on the centerstand, do not apply the accelerator for an extended period of time. Otherwise, the traction control system will automatical-


ly 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.

Seat

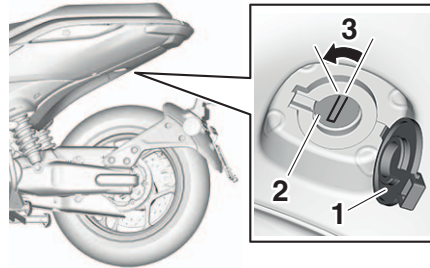
To open the seat

Via the main switch

Turn the main switch to “OPEN”, and then push the “SEAT” button. (See page 5-9.)

With the mechanical key

1. Open the keyhole cover.



1. Keyhole cover
2. Seat lock
3. Unlock.

2. Insert the mechanical key into the seat lock, and then turn it counter-clockwise.
3. Lift the rear of the seat.

NOTICE

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

To close the seat

Push the rear of the seat down to lock it in place.

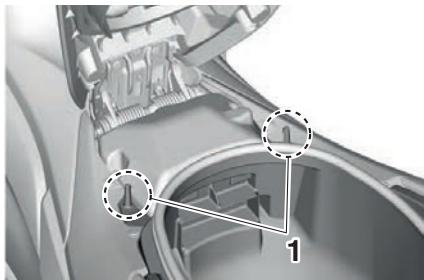
TIP

Make sure that the seat is properly secured before riding.

Instrument and control functions

Helmet holders

EAU37482



1. Helmet holder

The helmet holders are located under the seat.

To secure a helmet to a helmet holder

1. Open the seat. (See page 6-18.)
2. Attach a helmet to a helmet holder, and then securely close the seat.

WARNING! Never ride with a helmet attached to the helmet holder, since the helmet may hit objects, causing loss of control and possibly an accident.[EWA10162]

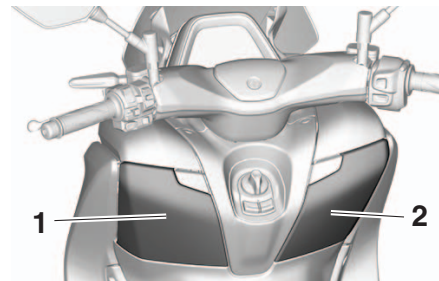
To release a helmet from a helmet holder

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

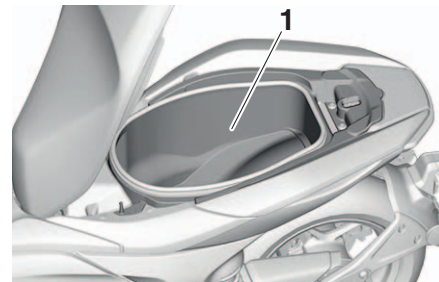
Storage compartments

EAU95164

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

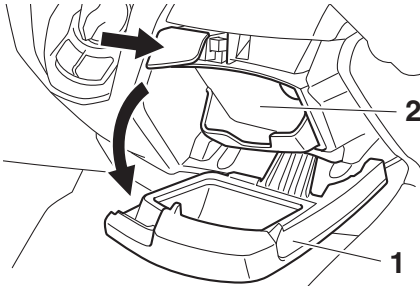


1. Rear storage compartment

TIP _____
Some helmets cannot be stored in the rear storage compartment because of their size or shape.

Storage compartment A and B

To open storage compartment A and B, push the button on the storage compartment lids to unlock the lid, and then pull out the lid to open.



1. Lid
2. Storage compartment B

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

Rear storage compartment

To open the rear storage compartment,

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

- TIP** _____
- Do not leave your vehicle unattended with the seat open.
 - To store the portable battery charger, see page 8-10.

ECA27880

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 EV system heat, do not store anything susceptible to heat, consumables or flammable items inside it.
- To avoid humidity from spreading through the storage compartment, wrap wet articles in a plastic bag before storing them in the compartment.
- Since the storage compartment may get wet while the vehicle is being washed, wrap any articles stored in the compartment in a

plastic bag.

- Do not keep anything valuable or breakable in the storage compartment.

EWA18950

WARNING

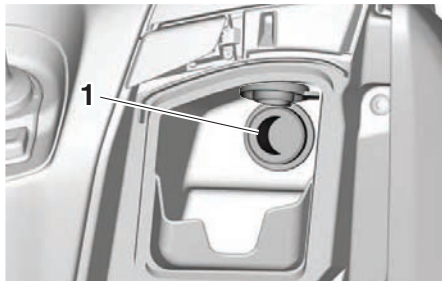
- Do not exceed the load limit of 0.5 kg (1.1 lb) for storage compartment A.
- Do not exceed the load limit of 0.5 kg (1.1 lb) for storage compartment B.
- Do not exceed the load limit of 5 kg (11 lb) for the rear storage compartment.
- Do not exceed the maximum load of 166 kg (366 lb) for the vehicle.

Instrument and control functions

EAU95123

Power outlet

This model is equipped with a 12V DC power outlet in storage compartment B.



1. Power outlet

ECA27890

NOTICE

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

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

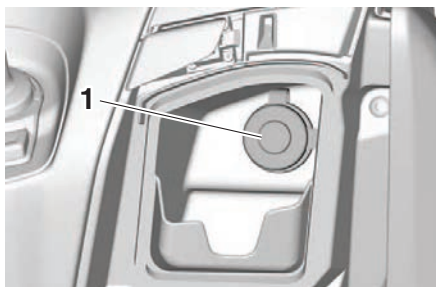
**Maximum electrical load:
12 W (1.0 A)**

To use the power outlet

1. Turn the vehicle power off.
2. Open the storage compartment B. (See page 6-19)
3. Remove the power outlet cap.
4. Turn the accessory off.
5. Insert the accessory plug into the power outlet.
6. Turn the vehicle power on and start the EV system.
7. Turn the accessory on.

TIP

When finished riding, turn off the accessory and disconnect it from the power outlet, and then install the cap. Also, close the storage compartment lid.



1. Power outlet cap

EWAN0050

! WARNING

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

EAU96800

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 cuts off power to the EV system when the sidestand is down.

EWA21630



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. Therefore, check the sidestand switch regularly and have a Yamaha dealer repair it if it does not function properly.

For your safety – pre-operation checks

EAU1559B

Inspect your vehicle each time you use it to make sure the vehicle is in safe operating condition. Always follow the inspection and maintenance procedures and schedules described in the Owner's Manual.

EWA11152

WARNING

Failure to inspect or maintain the vehicle properly increases the possibility of an accident or equipment damage. Do not operate the vehicle if you find any problem. If a problem cannot be corrected by the procedures provided in this manual, have the vehicle inspected by a Yamaha dealer.

Before using this vehicle, check the following points:

ITEM	CHECKS	PAGE
Final transmission oil	<ul style="list-style-type: none">• Check vehicle for oil leakage.	10-6
Front brake	<ul style="list-style-type: none">• Check operation.• If soft or spongy, have Yamaha dealer bleed hydraulic system.• Check brake pads for wear.• Replace if necessary.• Check fluid level in reservoir.• If necessary, add specified brake fluid to specified level.• Check hydraulic system for leakage.	10-8, 10-9, 10-10
Rear brake	<ul style="list-style-type: none">• Check operation.• If soft or spongy, have Yamaha dealer bleed hydraulic system.• Check brake pads for wear.• Replace if necessary.• Check fluid level in reservoir.• If necessary, add specified brake fluid to specified level.• Check hydraulic system for leakage.	10-8, 10-9, 10-10
Control cables	<ul style="list-style-type: none">• Make sure that operation is smooth.• Lubricate if necessary.	10-12
Wheels and tires	<ul style="list-style-type: none">• Check for damage.• Check tire condition and tread depth.• Check air pressure.• Correct if necessary.	10-6, 10-8

For your safety – pre-operation checks

ITEM	CHECKS	PAGE
Brake levers	<ul style="list-style-type: none">• Make sure that operation is smooth.• Lubricate lever pivoting points if necessary.	10-12
Centerstand, sidestand	<ul style="list-style-type: none">• Make sure that operation is smooth.• Lubricate pivots if necessary.	10-13
Chassis fasteners	<ul style="list-style-type: none">• Make sure that all nuts, bolts and screws are properly tightened.• Tighten if necessary.	—
Instruments, lights, signals and switches	<ul style="list-style-type: none">• Check operation.• Correct if necessary.	—
Sidestand switch	Check if the EV system turns off when the sidestand is lowered. Otherwise have Yamaha dealer check the vehicle.	6-22

Lithium-ion battery

Safety information

EUA96155


Avoiding electric shock or fire while handling the portable battery charger

EWA21442

WARNING

- Never use this battery charger to charge other electrical appliances.
- Do not use any other battery charger or charging method to recharge the special batteries. Using any other battery charger could result in fire, explosion, or damage the batteries.
- This battery charger can be used by children aged from 8 years and above and persons with reduced physical, sensory or mental capabilities or lack of experience and knowledge if they are supervised or have been given instruction concerning the use of the battery charger in a safe way and with understanding of the hazards involved. Children shall not play

with the battery charger. Cleaning and user maintenance shall not be done by children without supervision.

-  For indoor use only, do not use this battery charger outdoors or in wet condition. Although the battery charger is waterproof, never allow it to become immersed in water or other fluids. In addition, never use the battery charger if the terminals are wet.
- Never handle the power plug, charging plug or touch the battery charger contacts with wet hands. This could result in electric shock.
- Do not touch the battery charger contacts with metallic objects. Do not allow foreign material to cause short circuit of the contacts. This could result in electric shock, fire, or damage the battery charger.
- Never disassemble or modify the battery charger. This could result in fire or electric shock.
- Do not use with a power strip or extension cable. Using a power strip or similar methods may exceed rated current and can result in fire.
- Do not use with the cable tied or rolled up. Cable damage can result in fire or electric shock.
- Firmly insert the power plug and the charging plug into the connectors. Failure to insert the power plug or the charging plug completely can result in fire caused by electric shock or overheating.
- Do not drop the battery charger or expose it to strong impacts. Otherwise, it could cause a fire or electric shock.
- Never use a high-pressure washer to clean the battery charger. It could result in electric shock or damage to the device.
- Do not drop the charging cable/plug or expose them to strong impacts. This could cause a fire, electric shock or short circuit.
- Do not unplug the device by

pulling on the charging cable or power cable, this could cause an electric shock, short circuit or fire.

- Do not use the AC outlet of a car or a generator to charge the battery as this could cause a malfunction.
- Always store the battery charger under the seat when carrying it with the vehicle.
- When charging, place the battery charger securely on a flat surface and with the indicator light facing up. Pulling the cables with excessive force or using the charger upside down could result in electric shock or fire.

Avoiding electric shock or fire while charging

EWA21452



- Periodically remove dust from the power plug. Dampness or other issues could reduce the effectiveness of the insulation

and result in fire.

- Do not use the battery charger near flammable material or gas. This could result in fire or explosion.
- Never cover the battery charger or place other objects on top of it while charging. This could result in internal overheating leading to fire.
- Do not touch the battery charger while it is charging. As the battery charger reaches 40–70 °C (104–158 °F) during charging, touching it could result in burns.
- If the power cable and/or plug is damaged, stop using the battery charger and have it inspected at a Yamaha dealer.
- Do not move the vehicle while the battery charger is connected. Doing so could cause the damage to the battery charger, power cable, or plug.
- Handle the power cable and plug with care. Connecting the battery charger indoors while the vehicle is outdoors could re-

sult in the power cable becoming pinched and damaged in a doorway or window.

- Do not run over the power cable or plug with the wheels of a vehicle. Doing so could result in damage to the power cable or plug.
- Avoid using the battery charger in dusty areas, as it could result in damage to the device.
- Do not use the battery charger while it is stored under the seat. Doing so could result in damage.
- If the vehicle or the battery charger become submerged while charging, do not touch either due to risk of electrical shock. Have the vehicle and charger inspected by a Yamaha dealer.

Avoiding injury or damage while storing the portable battery charger

EWA21460



- Store the battery charger out of reach of children.

Lithium-ion battery

- Do not store the battery charger where it may get wet as this could cause short circuits.
-

EAU96164

Charging the battery

Appropriate charging environments

For safe and efficient charging, charge the lithium-ion battery in a location that is:

- Flat and stable
- Free of rain or moisture
- Out of direct sunlight
- Well-ventilated and dry
- Not accessible to children or pets
- Temperature between 15–25 °C (59–77 °F)

Inappropriate charging environments and solutions

The hot and cold environments described below can cause charging to enter standby or suspension without fully charging the battery.

- **Summertime charging standby/suspension**
If charging in a location receiving direct summer sunlight or immediately after riding, the lithium-ion battery might enter charging standby (Indicator light flashes

green). See “Checking the charging status of the battery” on page 8-8. This is to automatically stop charging in order to protect the battery from exceeding the specified temperature while charging. You can avoid charging suspension by starting to charge with the battery at a temperature of 15–25 °C (59–77 °F). If charging suspension occurs, move the vehicle to a cool location to reduce the charging standby time.

- **Wintertime charging standby/suspension**
Charging standby will occur if the temperature is less than 0 °C (32 °F). If charging is started and the temperature drops below this level due to late-night cooling or other factors, charging is suspended and standby mode is entered to protect the battery. In such cases, restart charging at a temperature of 15–25 °C (59–77 °F).
- **Interference with televisions/radios/computers**
Charging next to televisions, radios, or similar appliances might

cause static, flickering images, and other interference. If this occurs, recharge in a location further away from the television or radio.

EWA21471

WARNING

If a problem occurs during charging, remove the power plug of the battery charger from the socket and wait for the lithium-ion battery and/or the battery charger to cool.

EAU94968

Charging procedure

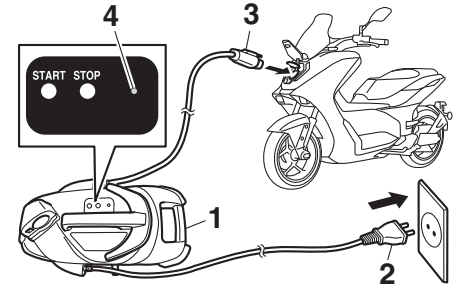
EWA21740

WARNING

Before plugging anything in, check all of the plugs and cables. Failure to check may result in electric shock or short circuit.

- Check that there is no damage to the plugs and cables. If a problem is detected, have a Yamaha dealer check the battery charger.
- Check that there is no dirt or foreign material on the plugs and cables. Wipe off any dirt with a dry cloth.

1. Place the vehicle on the center-stand.



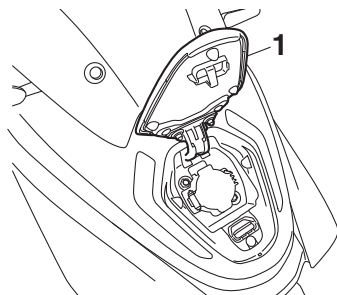
1. Portable battery charger
2. Power plug
3. Charging plug
4. Indicator light

2. Open the charging plug lid.

TIP

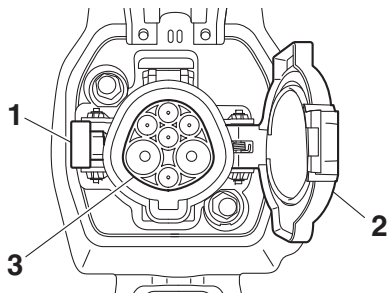
Turn the main switch off after the lid is opened.

Lithium-ion battery



1. Charging plug lid

3. Connect the power plug into an appropriate AC outlet.
4. Push the clip and open the charging connector cap.



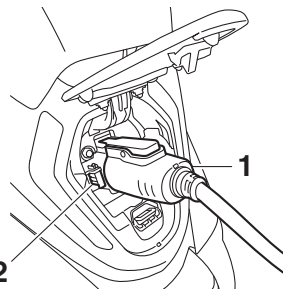
1. Clip
2. Charging connector cap
3. Charging connector

5. Insert the charging plug into the charging connector until it locks into place.

ECA27411

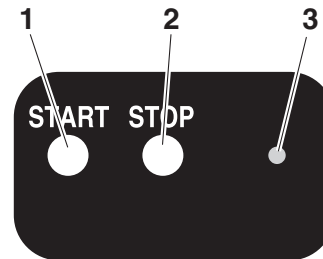
NOTICE

- Make sure that the charging plug and charging connector are not wet before connecting, as it could cause damage.
- Never apply excessive stress to the charging plug or pull the plug while it is locked with the connector.
- Never move the vehicle while the charging plug is connected, as it could cause damage.



1. Charging plug
2. Clip

6. Push the “START” button on the portable battery charger. A green light will come on and the battery will start charging.



1. “START” button
2. “STOP” button
3. Green light

7. Confirm the charging status on the multi-function display. See “Checking the charging status of the battery” on page 8-8.

TIP

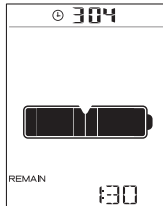
While charging, the vehicle’s multi-function display can be turned on by pressing the select switches “ \wedge ”/“ \vee ” or the menu switch “ \checkmark ” on the left handlebar. The multi-function display will turn

off again after 1 minute.

EWA21271

WARNING

If the battery charger emits abnormal noises, foul odors or smoke, press the “STOP” button on the battery charger and unplug the charging plug and the power plug.



8. When the battery is fully charged, the green light on the portable battery charger will go off. Make sure the indicator light is off and unplug the charging plug from the charging connector.

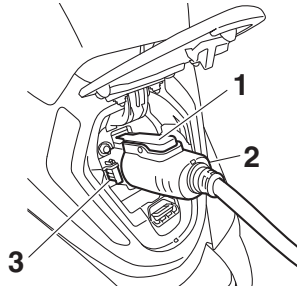
ECA27420

NOTICE

● When unplugging the charging plug, make sure to unlock it and

pull straight out.

- When plugging/unplugging the charging plug, keep your hand away from the charging connector cap to avoid damaging the cap.



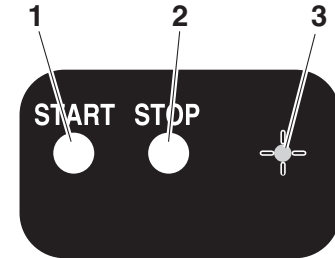
1. Unlock button
2. Charging plug
3. Clip

When stopping charging before completion, press the “STOP” button. The green light will start flashing, unplug the charging plug after the green light stops flashing.

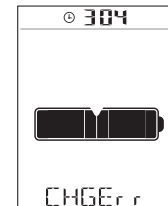
TIP

When stopping charging before it is completed, press the “STOP” button

and make sure the green light is off before unplugging the charging plug. Otherwise, the red light will start flashing and the information display will show “CHGEr”.



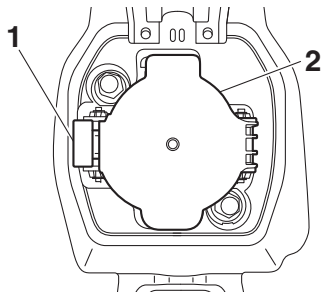
1. “START” button
2. “STOP” button
3. Green/Red light



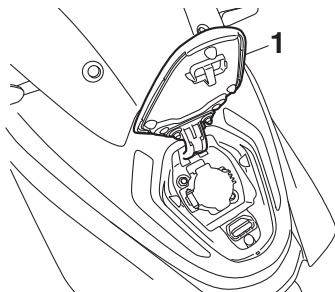
Lithium-ion battery

EAU96853

9. Close the charging connector cap and the charging plug lid.



1. Clip
2. Charging connector cap

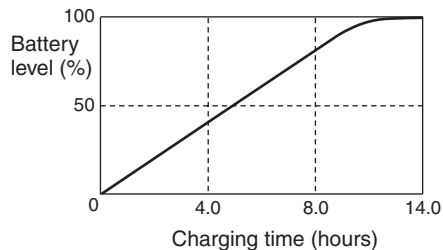


1. Charging plug lid

Charging time

Normal charging

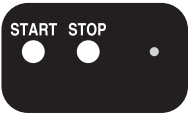


Charging time varies depending on the riding conditions before charging, remaining battery level, and ambient temperature. It takes approximately 14 hours to charge the battery from a 0 % charged level in the optimum ambient temperature range of 15–25 °C.





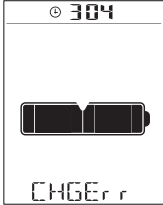
TIP

When the charging process is completed, the power from the battery charger is cut off automatically.

Checking the charging status of the battery

Indicator light	Current status	Battery level meter and warning light on the multi-function display	Details
 <p>ON [Green]</p>	<p>Charging</p>	<ul style="list-style-type: none"> Charging progress is represented by the flashing segment on the battery level meter. When the battery is fully charged, all of the segments turn on.  <p>(Example: Battery is approximately 91–100 % charged.)</p>	<p>Only one of the segments flashes at a time.</p>
 <p>Flashing [Green]</p>	<p>Shutdown</p>		<p>The light flashes green while the charger is shutting down. After the shutdown is complete, the light turns off and the charger can be unplugged safely.</p>
	<p>Standby</p>	<p>The right-most segment of the lithium-ion battery level meter will not flash.</p>	<p>Charging is on standby. If the ambient temperature goes outside the operating temperature range, the light will flash green. When the ambient temperature returns to within the operating range, the light will stop flashing and the charging restarts automatically.</p>

Lithium-ion battery

Indicator light	Current status	Battery level meter and warning light on the multi-function display	Details
 <p>OFF</p>	Completed	<ul style="list-style-type: none"> Indicator light is off. 	When the battery is fully charged, the indicator light on the battery charger and the battery level meter on the vehicle will both turn off.
 <p>Flashing [Red]</p>	Malfunction	<ul style="list-style-type: none"> “CHGEr” comes on. 	<p>Make sure that the correct charging procedure (as described in this manual) has been followed. If “CHGEr” occurs even with the correct charging procedure, the battery charging system has experienced a malfunction during charging. Have a Yamaha dealer check the charger.</p> <p>TIP</p> <p>If “CHGEr” is displayed while the vehicle is charging, the charging system/multi-function display will turn off automatically within 1 minute. Unplugging the charging plug will turn them off immediately.</p>

Storing the portable battery charger in the storage compartment

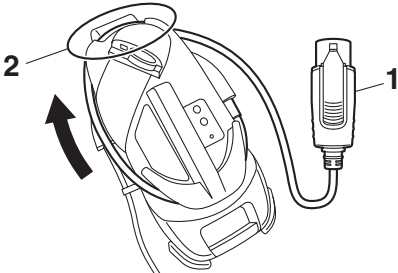
EAU97411

EWA21820

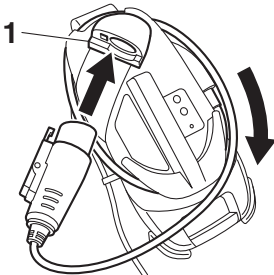
WARNING

- The charging cable and the power cable must be wrapped onto the battery charger, otherwise the cable may become damaged and cause electric shock and short circuit.
- Do not charge while storing the battery charger in the storage compartment, otherwise the power cable may be pinched under the seat and causes electric shock and short circuit.

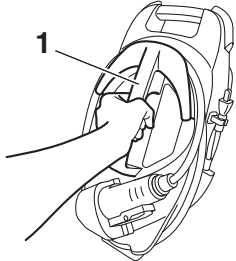
1. Place the battery charger on a flat surface.
2. While holding the charging plug, wrap the charging cable onto the upper groove of the battery charger.



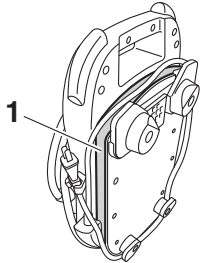
1. Charging plug
2. Upper groove
3. After wrapping, insert the charging plug into the socket of the charger until it locks.



1. Socket
4. Hold the charger handle.



1. Charger handle
5. Wrap the power cable onto the lower groove and the rubber feet on the bottom side of the battery charger.



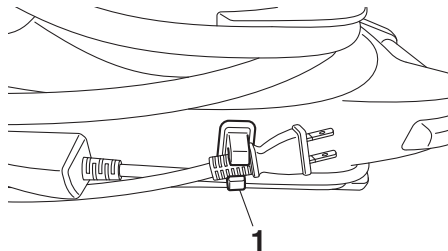
1. Rubber feet
- (For EUR) Pinch the end of the power plug in the clamp.

Lithium-ion battery

ECA27930

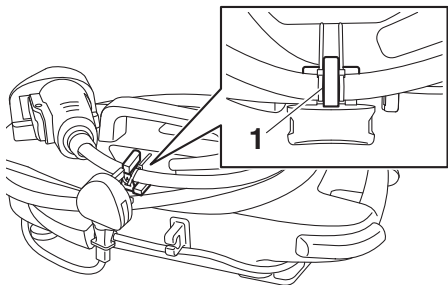
NOTICE

- Confirm each cable is securely wrapped on the battery charger. Otherwise, it may cause damage.
- Confirm each plug is securely inserted in the required position. Otherwise, it may cause damage.

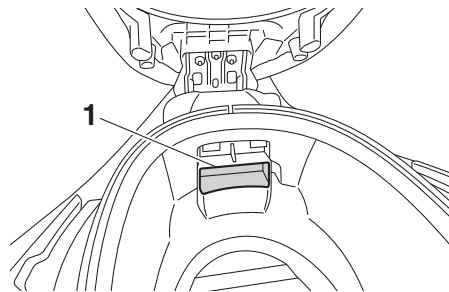


1. Clamp

(For GBR) Insert the power plug into the plug case on the charging cable after it has been wrapped around the battery charger correctly.

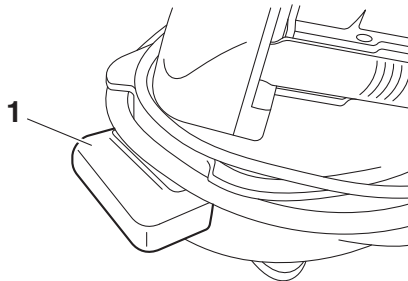


1. Plug case



1. Indent

6. Open the storage compartment. (See page 6-19.)
7. Grab the charger handle. Insert the projection of the battery charger into the indent on the front side of the storage compartment.



1. Projection

8. Close the storage compartment completely.

EAU95864

About the battery

Lithium-ion battery

The lithium-ion battery used in the vehicle features high energy density and has a high voltage (approximately three times that of nickel-cadmium (Ni-Cd) or nickel-hydrogen (Ni-MH) batteries), meaning it can be made both compact and lightweight.

Nickel-cadmium and nickel-hydrogen batteries have a memory effect that causes their capacity to degrade quickly as a result of repeated partial discharging and charging, so that they need to be completely discharged periodically. Lithium-ion batteries can be repeatedly partially charged without needing to be fully discharged.

Lithium-ion battery degradation

The charge capacity of the lithium-ion battery gradually decreases over time and usage. The rate of capacity degradation varies based on the usage conditions.

TIP

- It is not necessary to use up the battery before charging.
- Storing the vehicle in an extremely hot or cold place could degrade the lithium-ion battery capacity more quickly.
- Even if the lithium-ion battery is not used, it discharges and degrades gradually over time.

Recycling the battery

Lithium-ion batteries can be recycled. If the capacity decreases excessively due to degradation, have a Yamaha dealer replace the battery. Always follow local regulations regarding the disposal of batteries.

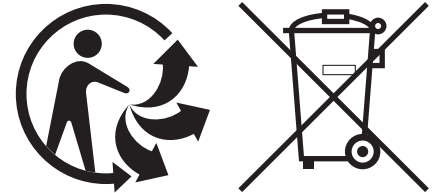
Disposal

The battery charger and packaging should be stored for environmental-friendly recycling. Do not dispose of the charger as household waste.

For EU countries:

According to the European Guideline


2012/19/EU, electrical devices/tools that are no longer usable must be collected separately and disposed of in an environmentally correct manner.



Lithium-ion battery

EAU97711

Battery specifications

Battery charger	Type	BATTERY CHARGER 2
	Input voltage	AC100-240 V / 50 Hz/60 Hz
	Maximum output voltage	DC120 V
	Maximum output current	DC6.0 A
	Applicable type battery	ESB5
Battery	Type	ESB5 (Lithium-ion battery)
	Voltage	87.6 V
	Capacity	56.3 Ah
	Number of battery cells	24
Battery Charger (Product information)	Manufacturer	YAMAHA MOTOR CO., LTD. 2500 Shingai, Iwata, Shizuoka 438-8501, Japan
	Importer (EU)	YAMAHA MOTOR EUROPE N.V. Koolhovenlaan 101, 1119 NC Schiphol-Rijk, 1117 ZN, Schiphol, the netherlands
	Importer (UK)	YAMAHA MOTOR EUROPE N.V., BRANCH UK Units A2-A3, Kingswey Business Park, Forsyth Road, Woking, Surrey. GU21 5SA. United Kingdom.
	Trademark/Trade Name	 YAMAHA



Operation and important riding points

EAU96594

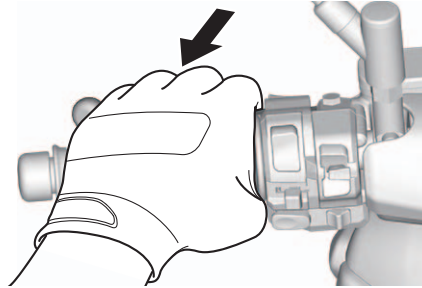
Preparations for starting off

The EV system will enter run mode only when the sidestand is up.

1. Stand on the left side of the vehicle.
2. While pulling the rear brake lever with your left hand and holding the grab bar with your right hand, push the vehicle off the centerstand.



3. Squeeze the rear brake with your left hand to prevent the vehicle from moving.



To enter run mode for starting off

1. Turn the vehicle power on. (See page 5-8.)

TIP

- This vehicle is equipped with the self-diagnostic function. When the vehicle power is turned on, all of the indicators and warning lights come on for few seconds. (The SIM communication indicator light remains on until the connection is established.)
- Do not enter run mode if the malfunction indicator light (MIL) remains on.
- The ABS warning light should come on and stay on until the vehicle reaches a speed of 10 km/h (6

mi/h).

ECA24110

NOTICE

If a warning or indicator light does not work as described above, have a Yamaha dealer check the vehicle.

2. After the self-diagnostic is complete, "PUSH" will flash on the information display.




TIP

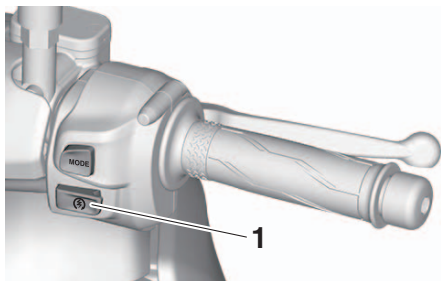
"PUSH" will not flash under the following conditions:


- Sidestand is down.
- Accelerator grip is turned.
- Charging plug is inserted.
- Rear wheel is rotating.
- Any warning lights are on.

Operation and important riding points

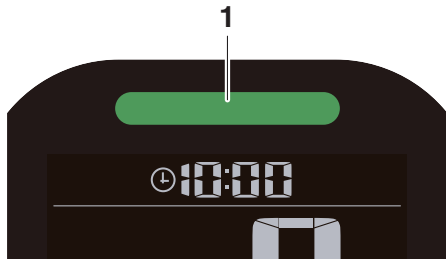
EAU96601

3. While applying the front or rear brake and press the RUN switch “”.



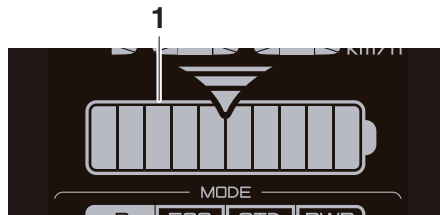
1. RUN switch “”

4. The operating status indicator comes on in green and the vehicle is now ready to start off.



1. Operating status indicator

5. Check the lithium-ion battery level meter to make sure that the remaining charge is sufficient. (See page 4-6 for more information about the charge level.)



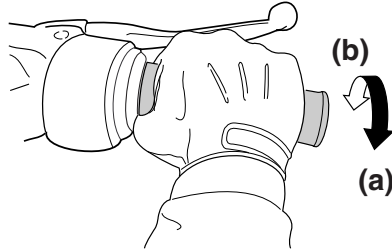
1. Lithium-ion battery level meter

Starting off

1. Check that the operating status indicator is on in green.
2. Switch a turn signal on.
3. Check for oncoming traffic, and then slowly turn the accelerator in order to take off.
4. Switch the turn signal off.

EAU97110

Acceleration and deceleration



ZALIM0199

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

EAU97120

Braking

EWA17790

⚠ WARNING

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

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

EAU96615

Parking

When parking, turn the vehicle's power off and place it on the sidestand or centerstand.

EWA21600

⚠ WARNING

Before getting off the vehicle, be sure to turn the vehicle power 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 enter run mode and operate the vehicle. Please turn the smart key off when leaving the vehicle in locations where vehicle theft may be a concern. (See page 5-4.)

If the sidestand is lowered when the EV system is running, the EV system 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

Operation and important riding points

turn the main switch to “OFF” or “”. Otherwise, the battery may discharge.

EWA21610

WARNING

- Since some components of the EV 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.
- Do not park near grass or other flammable materials which might catch fire.

Periodic maintenance and adjustment

EAU96052

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.

EWA21391

WARNING

Turn off the EV system when performing maintenance unless otherwise specified.

- **A running motor has moving parts that can catch on body parts or clothing and electrical parts that can cause shocks or fires.**
- **Running the EV system while servicing can lead to eye injury, burns or fire.**

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.

EWA21660

WARNING

- **Do not check or repair the vehicle with the charging plug plugged in to the outlet. This could cause an electric shock or short circuit.**
- **Replace the charging cable and/**

or charging plug if damaged. Otherwise fire, electric shock, or short circuits could result.

ECA27910

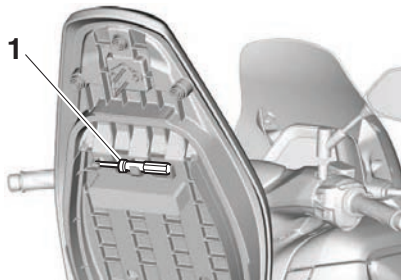
NOTICE

Make sure that corrosion inhibitors, solvents or oil do not come in contact with the charging cord or charging plug while checking the vehicle.

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

EAU71021

TIP

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

EAU71343

General maintenance and lubrication chart

NO.	ITEM	CHECK OR MAINTENANCE JOB	ODOMETER READING					ANNUAL CHECK
			1000 km (600 mi)	6000 km (3500 mi)	12000 km (7000 mi)	18000 km (10500 mi)	24000 km (14000 mi)	
1	* Diagnostic system check	<ul style="list-style-type: none"> • Perform inspection using Yamaha diagnostic tool. • Check the error codes. 	√	√	√	√	√	√
2	* Front brake	<ul style="list-style-type: none"> • Check operation, fluid level, and for fluid leakage. • Replace brake pads if necessary. 	√	√	√	√	√	√
3	* Rear brake	<ul style="list-style-type: none"> • Check operation, fluid level, and for fluid leakage. • Replace brake pads if necessary. 	√	√	√	√	√	√
4	* Brake hoses	<ul style="list-style-type: none"> • Check for cracks or damage. • Replace. 		√	√	√	√	√
5	* Brake fluid	<ul style="list-style-type: none"> • Change. 						Every 2 years
6	* Wheels	<ul style="list-style-type: none"> • Check runout and for damage. • Replace if necessary. 		√	√	√	√	

10

Periodic maintenance and adjustment

NO.	ITEM	CHECK OR MAINTENANCE JOB	ODOMETER READING					ANNUAL CHECK
			1000 km (600 mi)	6000 km (3500 mi)	12000 km (7000 mi)	18000 km (10500 mi)	24000 km (14000 mi)	
7	* Tires	<ul style="list-style-type: none"> • Check tread depth and for damage. • Replace if necessary. • Check air pressure. • Correct if necessary. 		√	√	√	√	√
8	* Wheel bearings	<ul style="list-style-type: none"> • Check bearing for looseness or damage. 		√	√	√	√	
9	* Drive belt	<ul style="list-style-type: none"> • Check belt condition. • Replace if damaged. • Check belt tension. • Adjust if necessary. 	At the initial interval and every 6000 km (3500 mi) thereafter.					
10	* Steering bearings	<ul style="list-style-type: none"> • Check bearing assemblies for looseness. 	√	√	√	√		
		<ul style="list-style-type: none"> • Moderately repack with lithium-soap-based grease. 					√	
11	* Chassis fasteners	<ul style="list-style-type: none"> • Make sure that all nuts, bolts and screws are properly tightened. 		√	√	√	√	√
12	Front and rear brake lever pivot shaft	<ul style="list-style-type: none"> • Lubricate with silicone grease. 		√	√	√	√	√
13	Sidestand, centerstand	<ul style="list-style-type: none"> • Check operation. • Lubricate with lithium-soap-based grease. 		√	√	√	√	√
14	* Sidestand switch	<ul style="list-style-type: none"> • Check operation and replace if necessary. 	√	√	√	√	√	√
15	* Front fork	<ul style="list-style-type: none"> • Check operation and for oil leakage. • Replace if necessary. 		√	√	√	√	
16	* Shock absorber assemblies	<ul style="list-style-type: none"> • Check operation and for oil leakage. • Replace if necessary. 		√	√	√	√	
17	* Final transmission oil	<ul style="list-style-type: none"> • Check vehicle for oil leakage. 	√	√	√	√	√	
		<ul style="list-style-type: none"> • Change. 	√		√		√	

Periodic maintenance and adjustment

NO.	ITEM	CHECK OR MAINTENANCE JOB	ODOMETER READING					ANNUAL CHECK
			1000 km (600 mi)	6000 km (3500 mi)	12000 km (7000 mi)	18000 km (10500 mi)	24000 km (14000 mi)	
18	* Front and rear brake switches	• Check operation.	√	√	√	√	√	√
19	* Moving parts and cables	• Lubricate.		√	√	√	√	√
20	* Accelerator	• Check operation. • Lubricate accelerator housing tube guides.		√	√	√	√	√
21	* Lights, signals and switches	• Check operation. • Adjust headlight beam.	√	√	√	√	√	√
22	* Motor noise	• Check for irregular noise coming from the motor. • Correct if necessary.	√	√	√	√	√	√

EAU96820

TIP

Hydraulic brake service

- Regularly check and, if necessary, correct the brake fluid level.
- Every two years replace the internal components of the brake master cylinders and calipers, and change the brake fluid.
- Replace the brake hoses every four years and if cracked or damaged.

Periodic maintenance and adjustment

EAU85450

Why Yamalube

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



Final transmission oil

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

Recommended final transmission oil:

See page 12-1.

Oil quantity:

0.12 L (0.13 US qt, 0.11 Imp.qt)

EAU95172

Tires

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

Tire air pressure

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

EWA10504

WARNING

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

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

Periodic maintenance and adjustment

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

Cold tire air pressure:

1 person:

Front:

225 kPa (2.25 kgf/cm², 33 psi)

Rear:

225 kPa (2.25 kgf/cm², 33 psi)

2 persons:

Front:

225 kPa (2.25 kgf/cm², 33 psi)

Rear:

225 kPa (2.25 kgf/cm², 33 psi)

Maximum load:

Vehicle:

166 kg (366 lb)

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

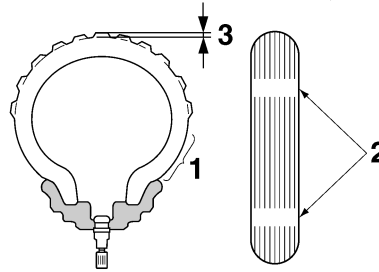
EWA10512



WARNING

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

Tire inspection



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

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

Minimum tire tread depth (front and rear):

1.6 mm (0.06 in)

TIP

The tire tread depth limits may differ from country to country. Always comply

with the local regulations.

EWA10472



WARNING

- Have a Yamaha dealer replace excessively worn tires. Besides being illegal, operating the vehicle with excessively worn tires decreases riding stability and can lead to loss of control.
- The replacement of all wheel and brake-related parts, including the tires, should be left to a Yamaha dealer, who has the necessary professional knowledge and experience to do so.
- Ride at moderate speeds after changing a tire since the tire surface must first be “broken in” for it to develop its optimal characteristics.

Tire information

This model is equipped with tubeless tires and rubber 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

Periodic maintenance and adjustment

carcass deformation, is an evidence of ageing. Old and aged tires shall be checked by tire specialists to ascertain their suitability for further use.

EWA10462

⚠ WARNING

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

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

Front tire:

Size:

110/70-13M/C 48P

Manufacturer/model:

IRC/SS-570F

Rear tire:

Size:

130/70-13M/C 63P

Manufacturer/model:

IRC/SS-560R

EAU21963

Cast wheels

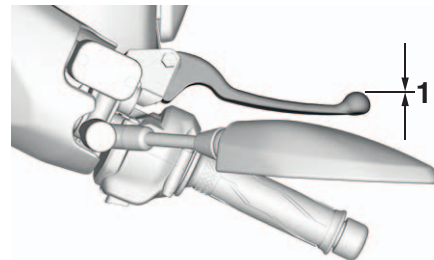
To maximize the performance, durability, and safe operation of your vehicle, note the following points regarding the specified wheels.

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

EAU50861

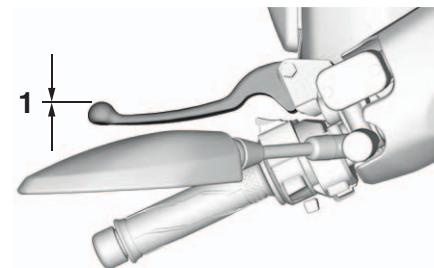
Checking the front and rear brake lever free play

Front



1. No brake lever free play

Rear



1. No brake lever free play

There should be no free play at the

Periodic maintenance and adjustment

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.

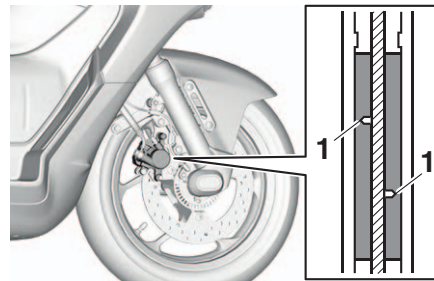
Checking the front and rear brake pads

EAU22393

The front and rear brake pads must be checked for wear at the intervals specified in the periodic maintenance and lubrication chart.

Front brake pads

EAU22411



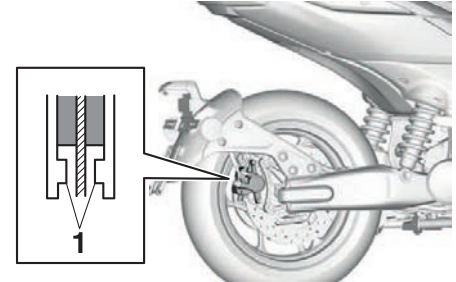
1. Brake pad wear indicator groove

Each front 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.

Rear brake pads

EAU22461



1. Brake pad wear indicator

Each rear 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.

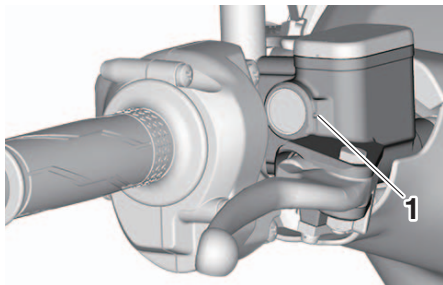
Periodic maintenance and adjustment

EAU40262

Checking the brake fluid level

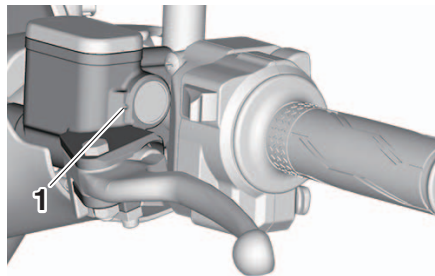
Before riding, check that the brake fluid is above the minimum level mark. Check the brake fluid level with the top of the reservoir level. Replenish the brake fluid if necessary.

Front brake



1. Minimum level mark

Rear brake



1. Minimum level mark

Specified brake fluid:
DOT 4

EWA16011

WARNING

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

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

may deteriorate, causing leakage.

- Refill with the same type of brake fluid. Adding a brake fluid other than DOT 4 may result in a harmful chemical reaction.
- Be careful that water or dust does not enter the brake fluid reservoir when refilling. Water will significantly lower the boiling point of the fluid and may result in vapor lock, and dirt may clog the ABS hydraulic unit valves.

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

further riding.

EAU22734

EAU51991

Changing the brake fluid

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

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

Drive belt slack

The drive belt slack should be checked and adjusted by a Yamaha dealer at the intervals specified in the periodic maintenance and lubrication chart.

Periodic maintenance and adjustment

EAU23098

Checking and lubricating the cables

The operation of all control cables and the condition of the cables should be checked before each ride, and the cables and cable ends should be lubricated if necessary. If a cable is damaged or does not move smoothly, have a Yamaha dealer check or replace it.

WARNING! Damage to the outer housing of cables may result in internal rusting and cause interference with cable movement. Replace damaged cables as soon as possible to prevent unsafe conditions.^[EWA10712]

Recommended lubricant:

Yamaha cable lubricant or other suitable cable lubricant

EAU97150

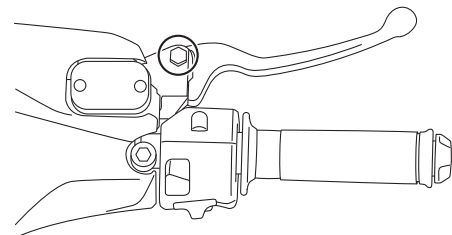
Checking and lubricating the accelerator grip

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

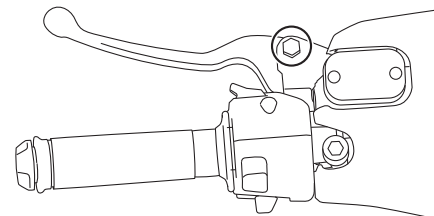
EAU23173

Lubricating the front and rear brake levers

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.

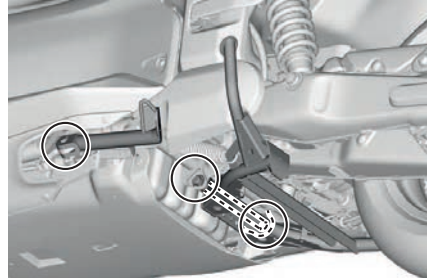
Periodic maintenance and adjustment

Recommended lubricant:
Silicone grease

Checking and lubricating the centerstand and sidestand

EAU23215

Recommended lubricant:
Lithium-soap-based grease



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

EWA10742

⚠ WARNING

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

Periodic maintenance and adjustment

EAU23273

Checking the front fork

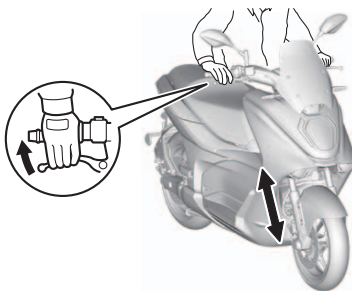
The condition and operation of the front fork must be checked as follows at the intervals specified in the periodic maintenance and lubrication chart.

To check the condition

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

To check the operation

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



ECA10591

NOTICE

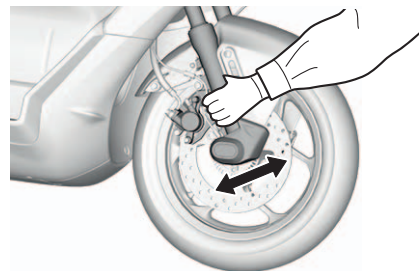
If any damage is found or the front fork does not operate smoothly, have a Yamaha dealer check or repair it.

EAU45512

Checking the steering

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

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



EAU23292

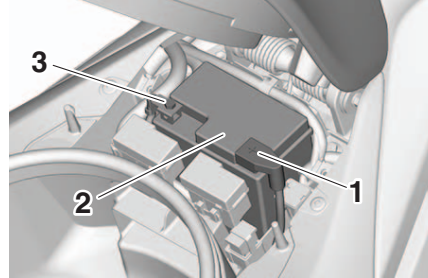
Checking the wheel bearings



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

EAU96621

12V battery



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

The battery is located under the seat, and the battery cover. (See page 10-16.)

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

EWA10761

WARNING

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

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

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

To charge the battery

Have a Yamaha dealer charge the battery as soon as possible if it seems to

Periodic maintenance and adjustment

have discharged. Keep in mind that the battery tends to discharge more quickly if the vehicle is equipped with optional electrical accessories.

ECA16522

NOTICE

To charge a VRLA (Valve Regulated Lead Acid) battery, a special (constant-voltage) battery charger is required. Using a conventional battery charger will damage the battery.

To store the battery

1. If the vehicle will not be used for more than one month, remove the battery, fully charge it, and then place it in a cool, dry place.

NOTICE: When removing the battery, be sure to turn the main switch off, then disconnect the negative lead before disconnecting the positive lead.^[ECA16304]

2. If the battery will be stored for more than two months, check it at least once a month and fully charge it if necessary.
3. Fully charge the battery before installation. **NOTICE: When install-**

ing the battery, be sure to turn the main switch off, then connect the positive lead before connecting the negative lead.^[ECA16842]

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

ECA16531

NOTICE

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

Replacing the fuses

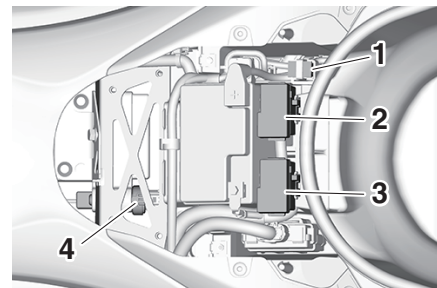
EAU97720

The fuse boxes, which contain the fuses for the individual circuits, are located under the seat. (See page 6-18.)

EWA21930

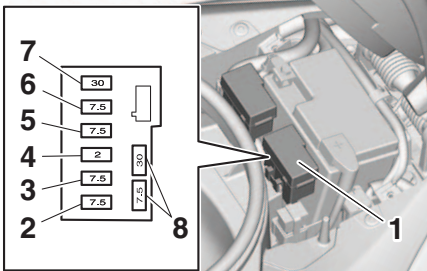
⚠ WARNING

Do not touch the HV fuse box or its electrical wiring as this may cause electric shock.

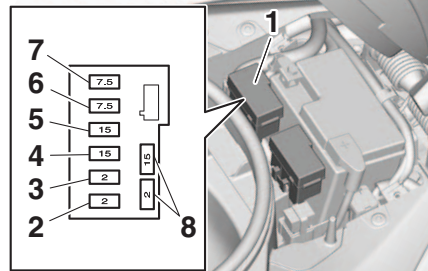


1. Main fuse
2. Fuse box 2
3. Fuse box 1
4. HV fuse box

Periodic maintenance and adjustment



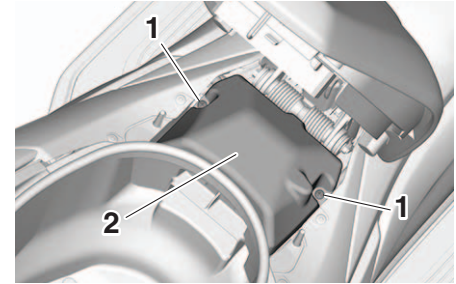
1. Fuse box 2
2. Signaling system fuse
3. Sub fuse
4. ABS control unit fuse
5. Headlight fuse
6. Taillight fuse
7. ABS motor fuse
8. Spare fuse



1. Fuse box 1
2. Sub fuse 2
3. Terminal fuse
4. ABS solenoid fuse
5. Main fuse 2
6. Backup fuse
7. Backup fuse 2
8. Spare fuse

If a fuse is blown, replace it as follows.

1. Turn off the electrical circuit in question, and then turn off the main switch.
2. Open the seat. (See page 6-18.)
3. Remove the battery cover by removing the screws.



1. Screw
2. Battery cover

4. Remove the blown fuse, and then install a new fuse of the specified amperage. **WARNING! Do not use a fuse of a higher amperage rating than recommended to avoid causing extensive damage to the electrical system and possibly a fire.**_[EWA15132]

Periodic maintenance and adjustment

EAU97290

Specified fuses:

- Main fuse:
50.0 A
- Main fuse 2:
15.0 A
- Sub fuse:
7.5 A
- Sub fuse_2:
2.0 A
- Terminal fuse 1:
2.0 A
- Headlight fuse:
7.5 A
- Taillight fuse:
7.5 A
- Signaling system fuse:
7.5 A
- ABS motor fuse:
30.0 A
- ABS solenoid fuse:
15.0 A
- ABS control unit fuse:
2.0 A
- Backup fuse:
7.5 A
- Backup fuse 2:
7.5 A

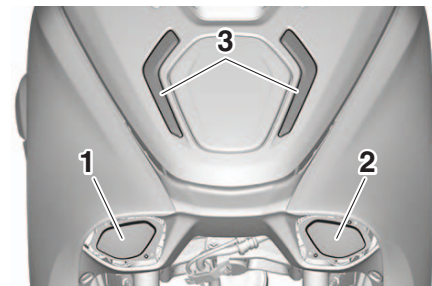
TIP

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

6. Install the battery cover by installing the screws.
7. Close the seat.

Vehicle lights

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



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

ECA16581

NOTICE

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

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

EAU97163

Troubleshooting

If a problem occurs, check the following before taking the vehicle to a Yamaha dealer. However, if no electric power is supplied (nothing appears in the display), have a Yamaha dealer inspect the vehicle.

After the vehicle power is turned on, the vehicle does not enter run mode (the operating status indicator does not turn green) even though the RUN switch is pressed?

Confirm that none of the following are true:

- The sidestand is down
- The accelerator is turned
- The charging plug is inserted
- The rear wheel is rotating
- Any of the warning lights are on
- The lithium-ion battery level is low (Lithium-ion battery level warning light is on)

If you are still not able to enter run mode after checking the above items, have the vehicle inspected by a Yamaha dealer.

The vehicle does not start off

Is the vehicle in run mode? (the operating status indicator is green)

The vehicle cannot be ridden unless it is in run mode.

After checking the above, try starting off again by following the procedures described on pages 9-1 and 9-2 to restart the vehicle.

If the vehicle still does not start off, have a Yamaha dealer inspect it.

“Err” is displayed on the information display

Turn the main switch to “OFF” and then back to “ON”.

If “Err” remains displayed, have a Yamaha dealer inspect the vehicle.


TIP

Even if “Err” is displayed, the vehicle can still be ridden if the operating status indicator turns green when the RUN switch is pressed.

The malfunction indicator light (MIL) “” comes on

Have a Yamaha dealer inspect the vehicle.

TIP

Even if the MIL “” is on, the vehicle can still be ridden if the operating status indicator turns green when the RUN switch is pressed.

Any of the running lights (headlight, tail light, etc.) do not come on

Check the following:

1. Is the vehicle currently being charged? Lights do not come on if the vehicle is being charged.
2. Is the vehicle power turned on? (Does anything appear on the display?)
Are the light switches turned off?
3. Are all switches working properly?

After checking the above, and a light does still not come on, have the vehicle inspected by a Yamaha dealer.


The motor stops while riding

Check the following:

1. Is the lithium-ion battery sufficiently charged?
Check the lithium-ion battery level warning light and the lithium-ion battery level meter. If the remain-

Periodic maintenance and adjustment

ing charge is insufficient, charge the battery before continuing to ride.

2. Is “HOT” displayed on the information display with the limited output indicator light “

The temperature protection function has been activated. Turn the vehicle power off, and allow the vehicle to cool down.

EWA21710

WARNING

- When pushing the vehicle, turn the vehicle power off.
- When possible, push the vehicle on a sidewalk.

After checking the above, if the vehicle still does not run, have a Yamaha dealer inspect the vehicle.

The display and headlight go off while the vehicle power is on

Check the following:

Is the lithium-ion battery sufficiently charged?

If the remaining charge is insufficient, charge the lithium-ion battery before

continuing to ride.

After checking the above, turn main switch “OFF” and then “ON” again. If the display and headlight do not come on, have a Yamaha dealer inspect the vehicle.

EWA21720

WARNING

- When pushing the vehicle, turn the vehicle power off.
- When possible, push the vehicle on a sidewalk.

“CHGEr” appears on the information display while charging

This error is displayed if there is an abnormality detected while charging or if the charging plug is disconnected without first pressing the “STOP” button on the charger.

When “CHGEr” is displayed during charging, stop charging and wait for a while before charging again. If “CHGEr” is displayed again, the equipment may be faulty. Unplug the charging plug from the outlet and stop using the vehicle. Have the product inspected by a Yamaha dealer.

TIP

When “CHGEr” is displayed, the multi-function display will turn off after 1 minute to save power.

“CHGEr” appears on the information display after turning the vehicle power on

This occurs when charging has not been completed normally. While “CHGEr” is displayed, the vehicle cannot enter run mode or be operated.

Turn the main switch to “OFF” and then back to “ON”, to remove the error message and resume normal function. In order to charge again, push the “START” button on the battery charger. If the error persists, have the vehicle inspected by a Yamaha dealer.

“KEYOFF” appears on the information display after turning the vehicle power on

This occurs when the charging plug has not been disconnected. While “KEYOFF” is displayed, the vehicle cannot enter run mode or be operated. Turn the vehicle power to off discon-

Periodic maintenance and adjustment

nect the charging plug and then turn the vehicle power back to on. If the error persists, have the vehicle inspected by a Yamaha dealer.

When the vehicle power is turned on while charging, "KEYOFF" will also appear on the information display. To resume charging, turn the vehicle power to off and push the "START" button on the battery charger.


"HOT" appears on the information display and the rightmost segment of the lithium-ion battery level meter is flashing while charging


This is not a malfunction. Due to the high temperature of the battery, the battery is being charged with limited current. In this case, the charging time becomes longer, but still continues. When the battery temperature is reduced to within the normal range, "HOT" turns off and charging resumes at normal speed.

"HOT" appears on the information display and the right-most segment of the lithium-ion battery level meter is not flashing while charging

This is not a malfunction. Due to the high temperature of the battery, the charger has entered standby mode. When the battery temperature is reduced to within the normal range, "HOT" turns off and charging resumes automatically.

"HOT" and "CHGErr" appear alternately on the information display while charging


If the malfunction indicator light "" does not come on at the same time then this is not a malfunction. Due to the high temperature of the battery, the battery charging has been stopped. In this case, disconnect the charger and resume charging when the battery has cooled down.


If the malfunction indicator light "" comes on at the same time, have the vehicle inspected by a Yamaha dealer.

"COLD" appears on the information display while charging

This is not a malfunction. Due to the low temperature of the battery, the charger has entered standby mode. When the battery temperature is increased to within the normal range, "COLD" turns off and charging resumes automatically.

"COLD" and "CHGErr" appear alternately on the information display while charging

If the malfunction indicator light "" does not come on at the same time then this is not a malfunction. Due to the low temperature of the battery, the battery charging has been stopped. In this case, disconnect the charger and resume charging when the battery has warmed up.

If the malfunction indicator light "" comes on at the same time, have the vehicle inspected by a Yamaha dealer.

The battery cannot be charged (the lithium-ion battery level meter doesn't increase after charging)

- Is the charging plug properly

Periodic maintenance and adjustment

plugged into the charging connector?

- Is the power plug firmly inserted into the AC outlet?
- Is there power coming to the AC outlet?

After checking, charge the battery again by the procedures described in “Charging procedure” on page 8-4.

If the battery still cannot be charged after checking the above, have a Yamaha dealer inspect the vehicle.

Unusual odor or smoke emerges from the battery charger

Unplug the charger from the AC outlet immediately. Have a Yamaha dealer inspect the vehicle.

The riding distance on a single charge has become significantly shorter

The battery has reached the end of its service life.

Have a Yamaha dealer replace the battery.

The battery cannot be charged because the residual-current device (RCD) protection has been activated

Stop charging and have a Yamaha dealer check the vehicle.

EAU97171

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 5-4.)
- Is the smart key battery discharged? (See page 5-6.)
- Is the smart key battery installed correctly? (See page 5-6.)
- Is the smart key being used in a location with strong radio waves or other electromagnetic noise? (See page 5-1.)
- 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 10-15.)

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 10-23 for information on starting the EV system without the smart key.

Periodic maintenance and adjustment

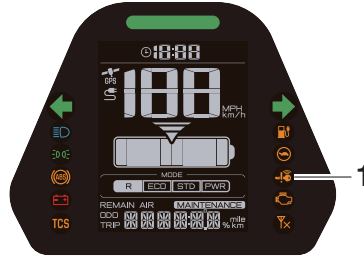
EAU96631


Emergency mode

When the smart key is lost or damaged, or its battery has discharged, the vehicle can still be turned on and the EV system 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 3 seconds to indicate the transition to emergency mode.



1. Smart key system indicator light “The image shows a black identification number card. On the left, there is a white rectangular box containing the number '868588'. To the right of the box is a circular icon containing a white smart key system indicator light (a key icon with a signal wave). A white arrow labeled '1' points to the top of the card.

1. Identification number card
4. Inputting the identification number is done by counting the number of flashes of the smart key system in-

dicator light.

For example, if the identification number is 123456:

Push and hold the knob.



The smart key system indicator light will start to flash.



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



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



Push and hold the knob again.



Release the knob after the smart

Periodic maintenance and adjustment

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.

EAU37834

EAU97193

ECA26280

Matte color caution

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

- The roads of heavy snowfall areas may be sprayed with salt as a de-icing method. This salt can stay on the roads well into spring, so be sure to wash the underside and chassis parts after riding in such areas.
- Genuine Yamaha care and maintenance products are sold under the YAMALUBE brand in many markets worldwide.
- See your Yamaha dealer for additional cleaning tips.

NOTICE

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

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

Care and storage

gasoline, rust removers, brake fluid, or antifreeze, etc.

Before washing

EWA21750

WARNING

Before washing, check to make sure that all lids and storage compartments are completely closed. If the electrical components inside become wet, electric shock and/or short circuits could result.

1. Park the vehicle out of direct sunlight and allow it to cool. This will help avoid water spots.
2. Make sure all caps, covers, electrical couplers and connectors are tightly installed.
3. Pre-soak stubborn stains like insects or bird droppings with a wet towel for a few minutes.
4. 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. Fol-**

low 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 instrument panel, breather hose, and 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 the vehicle. **NOTICE: Never use any strong chemicals to clean the**

windshield. Additionally, some cleaning compounds for plastic may scratch the windshield, so be sure to test all cleaning products before general application.^{_[ECA26310]}

4. Rinse off thoroughly with clean water. Be sure to remove all detergent residues, as they can be harmful to plastic parts.

After washing

1. Dry the vehicle with a chamois or absorbent towel, preferably microfiber terrycloth.
2. For drive chain-equipped models: Dry and then lubricate the drive chain to prevent rust.
3. Use a chrome polish to shine chrome, aluminum, and stainless steel parts. Often the thermally induced discoloring of stainless steel exhaust systems can be removed through polishing.
4. Apply a corrosion protection spray on all metal parts including chrome or nickel-plated surfaces. **WARNING! Do not apply silicone or oil spray to seats,**

hand grips, rubber foot pegs or tire treads. Otherwise these parts will become slippery, which could cause loss of control. Thoroughly clean the surfaces of these parts before operating the vehicle.

[EWA20651]

5. Treat rubber, vinyl, and unpainted plastic parts with a suitable care product.
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 the vehicle.
8. When finished cleaning, start the EV system for several minutes to help dry any remaining moisture.
9. If the headlight lens has fogged up, start the EV system 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 EV components are cool before covering the vehicle.

ECA21170

NOTICE

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

Long term storage

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

1. Make all necessary repairs and perform any outstanding maintenance.
2. Follow all instructions in the Care section of this chapter.

Care and storage

3. Lubricate all control cables, pivots, levers and pedals, as well as the sidestand and centerstand (if equipped).
4. Check and correct the tire air pressure, and then lift the vehicle so that all wheels are off the ground. Otherwise, turn the wheels a little once a month in order to prevent the tires from becoming degraded in one spot.
5. Regarding long term storage of the lithium-ion battery, follow the instructions, see page 4-7.
6. Remove the 12V 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]

tion on charging and storing the 12V battery.

11

TIP

- If the 12V 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 10-15 for more informa-

Dimensions:

Overall length:
1955 mm (77.0 in)
Overall width:
740 mm (29.1 in)
Overall height:
1230 mm (48.4 in)
Seat height:
755 mm (29.7 in)
Wheelbase:
1380 mm (54.3 in)
Ground clearance:
140 mm (5.51 in)
Minimum turning radius:
2.1 m (6.89 ft)

Weight:

Curb weight:
158 kg (348 lb)

Power unit:

Electric motor type:
Excitation 3 phase synchronized motor
Cooling system:
Air cooled

Final transmission oil:

Type:
Motor oil SAE 10W-40 type SG or higher
Quantity:
0.12 L (0.13 US qt, 0.11 Imp.qt)

Front tire:

Type:
Tubeless
Size:
110/70-13M/C 48P

Manufacturer/model:
IRC/SS-570F

Rear tire:

Type:
Tubeless
Size:
130/70-13M/C 63P
Manufacturer/model:
IRC/SS-560R

Loading:

Maximum load:
166 kg (366 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:
Swingarm

Main battery:

Type:
Lithium-ion battery
Model:
ESB5
Voltage, capacity:
87 V, 56 Ah

Battery:

Model:
YTZ7V
Voltage, capacity:
12 V, 6.0 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:
LED

Consumer information

EAU96640

Identification numbers

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

VEHICLE IDENTIFICATION NUMBER:

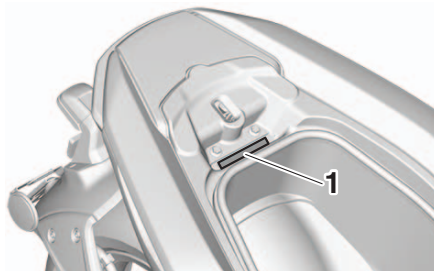
EV SYSTEM SERIAL NUMBER:

MODEL LABEL INFORMATION:

○
●

Vehicle identification number

EAU26411



1. Vehicle identification number

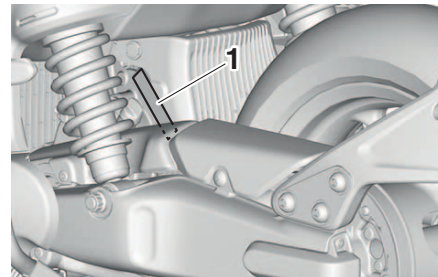
The vehicle identification number is stamped into the frame.

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.

EV system serial number

EAU96060

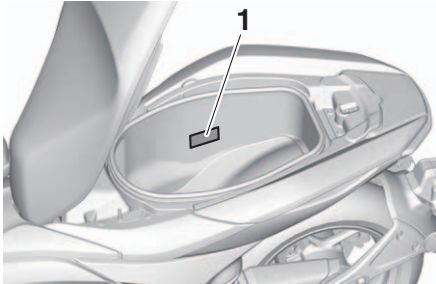


1. EV system serial number

The EV system serial number is stamped into the power unit case.

EAU26501

Model label

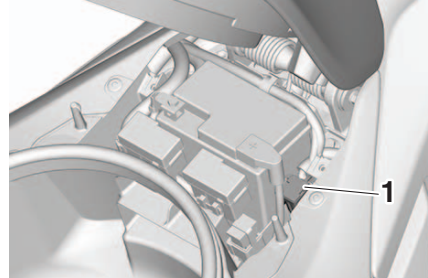


1. Model label

The model label is affixed to the inside of the rear storage compartment. (See page 6-19.) Record the information on this label in the space provided. This information will be needed when ordering spare parts from a Yamaha dealer.

EAU69910

Diagnostic connector



1. Diagnostic connector

The diagnostic connector is located as shown.

EAU97592

Use of your data

What data we collect? and How we collect your data?

This vehicle (ETS110) collects and transmits four types of data through integrated Vehicle Control Units (VCU) and communication module of ETS110: (1) Vehicle Identification Number (VIN); (2) GPS locational data; (3) live data showing the performance of the vehicle such as voltage, mileage, or load on the motor; and (4) other data showing the status of the vehicle such as diagnostic trouble code (DTC) to Yamaha Motor Co., Ltd. (“We”). The transmission is made through Internet of Things (IoT) service provider by communication module using SIM, and the data is encrypted for the further protection. IoT service provider only provides the means of the transmission and has no access to the data itself. In addition, the above data excluding GPS locational data may also be collected at the dealer for the purpose of diagnostics through Yamaha diagnostic tool.

Consumer information

How will we use your data?

We use collected data from your ETS110, (1) to conduct research and development of electronic vehicle, (2) to provide and improve quality of products, features, and services, (3) to provide WEB service disclosing part of acquired data to the qualified leasing owner of the vehicle, (4) to ensure our business purpose, and (5) to comply with requirements of laws and regulations.

How we share your data?

We may share your data with our subsidiaries, affiliates, business partners, dealers in your country or region, and contractors within the scope necessary to achieve the purpose of use described above.

Privacy Notice

For more details, please refer to the privacy notice attached to the Lease Agreement of ETS110.

How to contact us

We are the sole data controller regarding your data collected. If you have any

questions about the processing of your data, the data we acquired from you, or if you choose to exercise one of your data protection rights based on the law of your jurisdiction, please contact us.

Yamaha Motor Co., Ltd. [ETS110 DATA PROCESSING SERVICE]

2500 Shingai, Iwata-Shi, Shizuoka-Ken, 438-8501, Japan
support.y-connect.k006@yamaha-motor.co.jp

[The SOLE PURPOSE of above provided contact information is TO RESPOND DATA PROCESSING INQUIRY.

ETS110 DATA PROCESSING SERVICE at YAMAHA MOTOR CO., LTD. **WILL NOT RESPOND TO ANY OTHER KINDS OF INQUIRY.** Please provide the following information for the proper handling of your inquiry: **(1) Your Name; (2) Your Email Address; (3) Your Country of Residence; (4) Your Yamaha ID; and (5) Your ETS110 VIN.** We will use your personal information provided only for the purpose of supporting your data processing inquiry. If you have any other

inquiries regarding your ETS110, please contact our local Yamaha dealers in your area.

1	12V battery 10-15	D	Diagnostic connector..... 13-2	L	Labels, location 1-1
	12V battery voltage warning light 6-1		Dimmer switch..... 6-12		Limited output indicator light 6-3
A			Drive belt slack..... 10-11		Lithium-ion battery, effective use of 4-7
	ABS 6-15		Drive mode display..... 6-5		Lithium-ion battery level 4-6
	ABS warning light 6-2		Drive modes 4-2		Lithium-ion battery level meter 6-4
	Acceleration and deceleration 9-3	E			Lithium-ion battery level warning light..... 6-1
	Accelerator grip, checking and lubricating..... 10-12		Emergency mode 10-23	M	
	Air temperature display..... 6-8		ETS110 features 4-1		Main switch 5-7
	Available battery chargers 4-4		EV system serial number 13-1		Maintenance and lubrication, periodic 10-3
B		F			Malfunction indicator light (MIL) 6-1
	Battery, charging 8-3		Features 4-1		Matte color, caution 11-1
	Battery, charging procedure 8-4		Final transmission oil..... 10-6		Menu switch 6-13
	Battery, charging time..... 8-7		Front and rear brake lever free play, checking..... 10-8		Model label 13-2
	Battery, checking the charging status..... 8-8		Front and rear brake pads, checking 10-9		Mode switch..... 6-13
	Battery, safety information..... 8-1		Front fork, checking..... 10-14		Multi-function display 6-3
	Battery specifications..... 8-13		Fuses, replacing..... 10-16	O	
	Battery type, about 8-12	G			Operating range of the smart key system 5-2
	Brake fluid, changing 10-11		GPS indicator 6-5		Operating status indicator light 6-2
	Brake fluid level, checking 10-10	H		P	
	Brake lever, front 6-14		Handlebar switches 6-12		Parking..... 9-3
	Brake lever, rear 6-15		Hazard switch..... 6-13		Part locations 3-1
	Brake levers, lubricating 10-12		Helmet holders 6-19		Position light indicator light 6-1
	Braking 9-3		High beam indicator light..... 6-1		Power outlet..... 6-21
C			Horn switch 6-12		Precautions for high-voltage components 4-1
	Cables, checking and lubricating..... 10-12	I			Preparations for starting off 9-1
	Care..... 11-1		Identification numbers 13-1	R	
	CCU (Communication Control Unit) 4-8		Indicator lights and warning lights 6-1		Regenerative brake 4-4
	Centerstand and sidestand, checking and lubricating..... 10-13		Information display 6-6		Reverse switch 6-13
	Charging indicator 6-5	K			RUN switch 6-12
	Clock..... 6-4		Key, handling of smart and mechanical keys..... 5-3		

Index

S	
Safe-riding points	2-5
Safety information	2-1
Seat.....	6-18
Select switch	6-13
Sidestand	6-22
SIM communication indicator light	6-2
Smart key	5-4
Smart key battery, replacing	5-6
Smart key system	5-1
Smart key system indicator light	6-2
Smart key system, troubleshooting.....	10-22
Specifications.....	12-1
Speedometer	6-4
Starting off.....	9-2
Steering, checking	10-14
Storage	11-3
Storage compartments.....	6-19
Storing the portable battery charger in the storage compartment.....	8-10
T	
Temperature warning function to protect EV system	4-3
Tires	10-6
Tool kit	10-2
Traction control system.....	4-7, 6-16
Traction control system indicator light	6-2
Traveling range.....	4-2
Troubleshooting	10-19
Turn signal indicator lights	6-1
Turn signal switch	6-12
V	
Vehicle identification number	13-1
Vehicle lights	10-18
W	
Wheel bearings, checking	10-15
Wheels.....	10-8
Y	
Yamalube	10-6

