



OWNER'S MANUAL

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

AEROX

MOTORCYCLE

GPR155D-A (AEROX)

D13-F8199-E0

Location of important labels	1
Safety information	2
Description	3
Special features	4
Smartphone Connectivity System	5
Instrument and control functions	6
For your safety – pre-operation checks	7
Operation and important riding points	8
Periodic maintenance and adjustment	9
Scooter care and storage	10
Specifications	11
Consumer information	12
Index	13

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

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Welcome to the Yamaha world of motorcycling!

As the owner of the GPR155D-A, you are benefiting from Yamaha's vast experience and newest technology regarding the design and manufacture of high-quality products, which have earned Yamaha a reputation for dependability.

Please take the time to read this manual thoroughly, so as to enjoy all advantages of your GPR155D-A. The Owner's Manual does not only instruct you in how to operate, inspect and maintain your motorcycle, but also in how to safeguard yourself and others from trouble and injury.

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

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

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

 WARNING

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

Important manual information

EAU10134

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

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

*Product and specifications are subject to change without notice.

EALV0012

**GPR155D-A
OWNER'S MANUAL**
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Table of contents

Location of important labels	1-1	Smartphone Connectivity System	5-1	Operation and important riding points	8-1
Safety information	2-1	Smart features: Introduction	5-1	Engine break-in.....	8-1
Further safe-riding points	2-5	Initial Setup (Yamaha Motorcycle		Starting the engine	8-2
Helmets	2-6	Connect app).....	5-2	Starting off	8-3
Description	3-1	Instrument and control functions ...	6-1	Acceleration and deceleration.....	8-3
Left view	3-1	Indicator lights and warning		Braking	8-4
Right view	3-2	lights	6-1	Tips for reducing fuel	
Controls and instruments	3-3	Display	6-3	consumption	8-4
Special features	4-1	Main display screen	6-4	Parking	8-4
YECVT (Yamaha Electric		Menu system.....	6-9	Periodic maintenance and	
Continuously Variable		Handlebar switches	6-16	adjustment	9-1
Transmission).....	4-1	Front brake lever	6-18	Tool kit	9-1
ESS (emergency stop signaling)		Rear brake lever	6-19	Periodic maintenance chart for	
system.....	4-3	ABS	6-19	the emission control system	9-2
Smart key system	4-4	Traction control system	6-20	General maintenance and	
Operating range of the smart		Fuel tank cap	6-22	lubrication chart	9-3
key system	4-5	Fuel	6-22	Removing and installing panels.....	9-7
Handling of the smart key and		Fuel tank overflow hose	6-23	Checking the spark plug.....	9-8
mechanical keys	4-6	Catalytic converter	6-24	Engine oil and oil strainer	9-10
Smart key	4-8	Seat	6-24	Final transmission oil	9-12
Replacing the smart key battery....	4-9	Helmet holders.....	6-25	Coolant	9-13
Main switch	4-11	Storage compartments	6-25	Air filter and V-belt case air	
Stop and Start System	4-15	USB Type-C jack	6-27	filter elements.....	9-15
Stop and Start System		Sidestand	6-28	Checking the throttle grip	
operation.....	4-15	Ignition circuit cut-off system	6-28	free play.....	9-17
		For your safety – pre-operation		Valve clearance.....	9-18
		checks	7-1	Tires	9-18
				Cast wheels	9-20

Table of contents

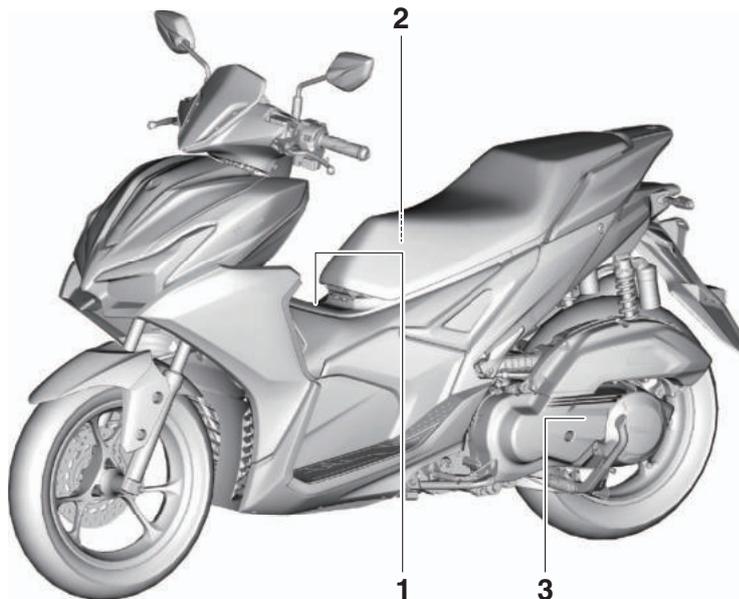
Checking the front and rear brake lever free play.....9-20	Storage 10-3
Checking the front and rear brake pads9-21	Specifications 11-1
Checking the brake fluid level9-21	Consumer information 12-1
Changing the brake fluid9-23	Identification numbers 12-1
Checking the V-belt.....9-23	Use of your data 12-2
Checking and lubricating the cables9-23	Index 13-1
Checking and lubricating the throttle grip and cable.....9-24	
Lubricating the front and rear brake levers9-24	
Checking and lubricating the centerstand and sidestand9-25	
Checking the front fork.....9-25	
Checking the steering9-26	
Checking the wheel bearings9-26	
Removing the battery cover9-27	
Battery9-27	
Replacing the fuses.....9-28	
Vehicle lights9-30	
Replacing the license plate light bulb9-30	
Troubleshooting9-31	
Troubleshooting chart9-34	
Emergency mode9-36	
Scooter care and storage10-1	
Matte color caution10-1	
Care.....10-1	

Location of important labels

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1

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



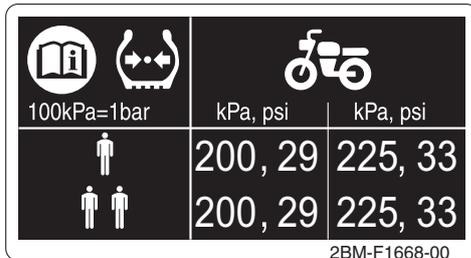
1.



3.



2.



EAU1026B

2 Be a Responsible Owner

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

Scooters are single-track vehicles.

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

He or she should:

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

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

Safe Riding

Perform the pre-operation checks each time you use the vehicle to make sure it is in safe operating condition. Failure to inspect or maintain the vehicle properly increases the possibility of an accident or equipment damage. See page 7-1 for a list of pre-operation checks.

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

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

Therefore:

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

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

Protective Apparel

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

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

Safety information

2

Avoid Carbon Monoxide Poisoning

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

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

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

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

Loading

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

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

Operation of an overloaded vehicle could cause an accident.

<p>Maximum load: 153 kg (338 lb)</p>

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

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

Genuine Yamaha Accessories

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

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

Aftermarket Parts, Accessories, and Modifications

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

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

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

- Never install accessories or carry cargo that would impair the performance of your scooter. Carefully inspect the accessory before using it to make sure that it does not in any way reduce ground clearance or cornering clearance, limit suspension travel, steering travel or control operation, or obscure lights or reflectors.
- Accessories fitted to the handlebar or the front fork area can create instability due to improper weight distribution or aerodynamic changes. If accessories are added to the handlebar or front fork area, they must be as lightweight as possible and should be kept to a minimum.

- Bulky or large accessories may seriously affect the stability of the scooter due to aerodynamic effects. Wind may attempt to lift the scooter, or the scooter may become unstable in cross winds. These accessories may also cause instability when passing or being passed by large vehicles.
- Certain accessories can displace the operator from his or her normal riding position. This improper position limits the freedom of movement of the operator and may limit control ability, therefore, such accessories are not recommended.
- Use caution when adding electrical accessories. If electrical accessories exceed the capacity of the scooter's electrical system, an electric failure could result, which could cause a dangerous loss of lights or engine power.

Safety information

2

Aftermarket Tires and Rims

The tires and rims that came with your scooter were designed to match the performance capabilities and to provide the best combination of handling, braking, and comfort. Other tires, rims, sizes, and combinations may not be appropriate. Refer to page 9-18 for tire specifications and more information on replacing your tires.

Transporting the Scooter

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

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

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

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

EAU57600

Further safe-riding points

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

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

Helmets

EAUU0033

Operating this vehicle without an approved motorcycle helmet increases your chances of a severe head injury or death in the event of an accident. The majority of fatalities from motorcycle or scooter accidents are the result of head injuries. The use of a safety helmet is the single most critical factor in the prevention or reduction of head injuries.

Always select an approved motorcycle helmet

Pay attention to the following when choosing a motorcycle helmet.

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

Wearing the helmet correctly

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

Correct usage



ZAUU0003

Wrong usage



ZAUU0007

Types of helmets and their usage

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

Safety information

2



ZAUU0004

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



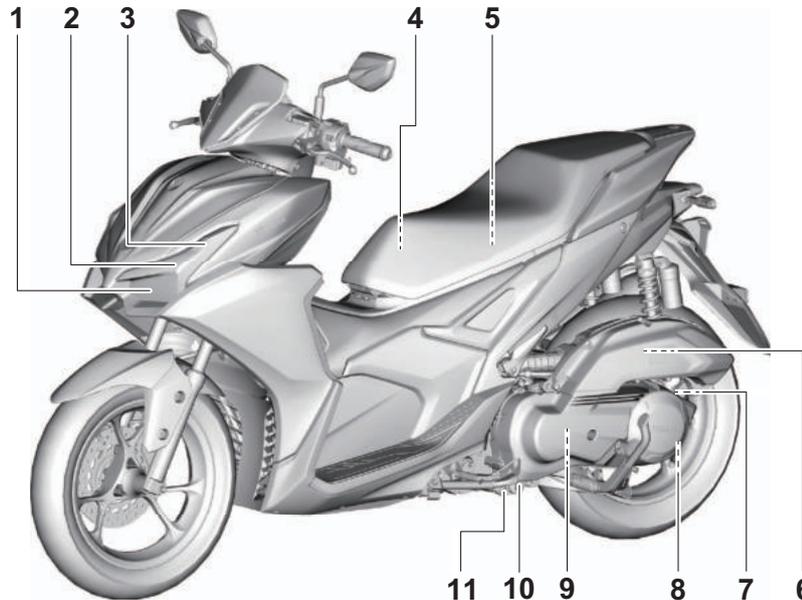
ZAUU0006



ZAUU0005

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

Left view



1. Headlight (page 9-30)
2. Auxiliary light (page 9-30)
3. Front turn signal light
4. Tool kit (page 9-1)
5. Rear storage compartment (page 6-25)
6. Air filter element (page 9-15)
7. Final transmission oil filler cap (page 9-12)
8. Final transmission oil drain bolt (page 9-12)

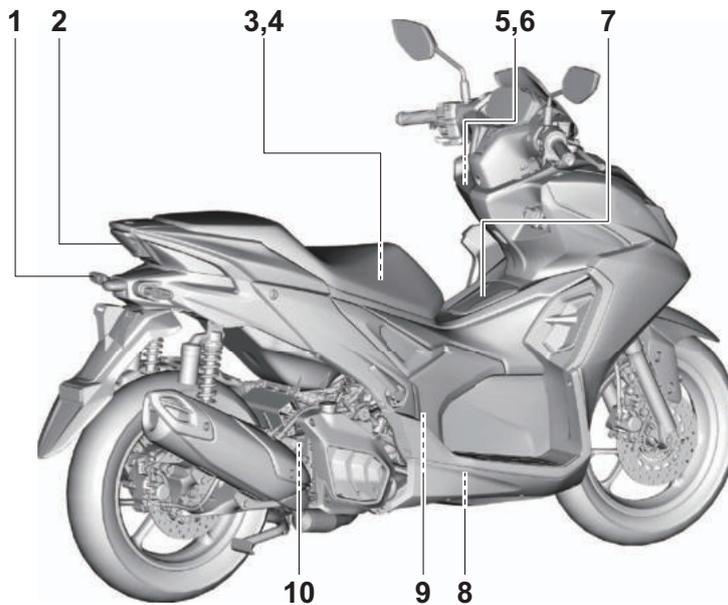
9. V-belt case air filter element (page 9-15)
10. Engine oil drain bolt A (page 9-10)
11. Engine oil drain bolt B (page 9-10)

Description

EAU10421

Right view

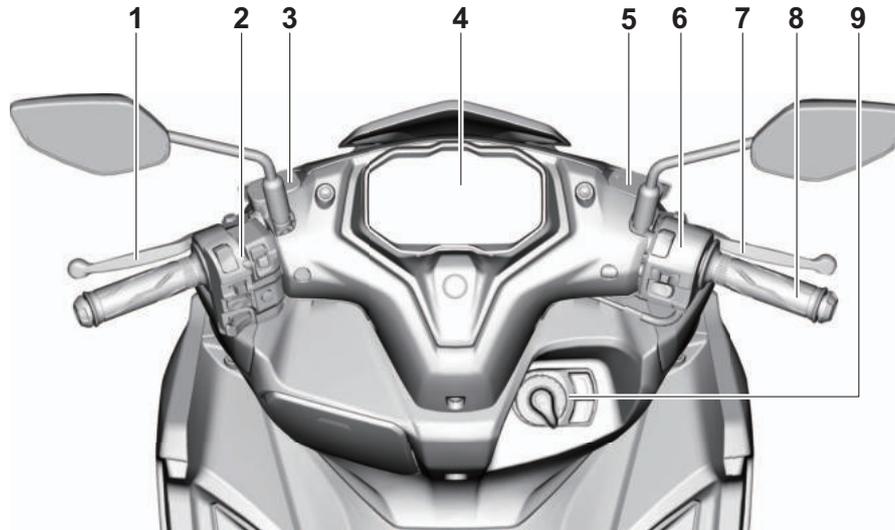
3



1. Rear turn signal light
2. Tail/brake light
3. Battery (page 9-27)
4. Fuse box (page 9-28)
5. Front storage compartment (page 6-25)
6. USB Type-C jack (page 6-27)
7. Fuel tank cap (page 6-22)
8. Coolant reservoir (page 9-13)

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

Controls and instruments



1. Rear brake lever (page 6-19)
2. Left handlebar switches (page 6-16)
3. Rear brake fluid reservoir (page 9-21)
4. Display (page 6-4/6-3)
5. Front brake fluid reservoir (page 9-21)
6. Right handlebar switches (page 6-16)
7. Front brake lever (page 6-18)
8. Throttle grip (page 9-17)

9. Main switch (page 4-11)

Special features

4

YECVT (Yamaha Electric Continuously Variable Transmission)

EAN4740

This vehicle is equipped with YECVT, an electronically controlled continuously variable transmission. Users can choose between two different driving modes based on their preferences and driving conditions. The YECVT can also be induced to quickly lower its ratio by a set amount hereafter referred to as a “step”, producing an effect that mimics downshifting gears in a geared vehicle. It can downshift by a maximum of 3 steps at a time. Users can initiate downshifts in two ways when stronger acceleration or engine braking is desired.

NOTICE

ECAN0230

- **Carefully check and understand the operation contents of each switch before operating. (See page 6-18.)**

- **Have a Yamaha dealer service the YECVT. The YECVT contains sensitive components. Improper maintenance could cause damage.**

Driving Mode

S mode

Higher engine speeds and suitable for sporty riding.

T mode

Lower engine speeds and suitable for normal riding.

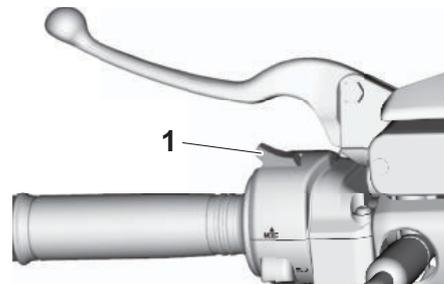
Downshifts

A downshift can be initiated by: opening the throttle quickly or pressing the “SHIFT” switch on the handlebar.

Switching driving modes

The driving mode can be switched by operating the “MODE” switch. Each time you press the “MODE” switch, the driving mode switches between S mode and T mode.

EAN4750



1. “MODE” switch

The current driving mode is indicated by the driving mode indicator.



1

1. Driving mode indicator

TIP

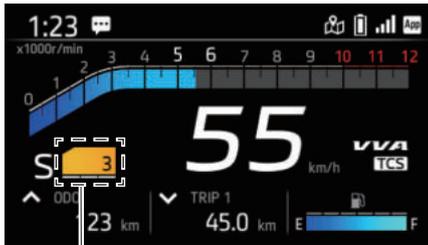
- When the vehicle power is turned on, the previously selected riding mode is selected again.

- If you press the “MODE” switch while the transmission is already downshifted, the driving mode will not be switched but the downshifted state will be canceled.

Downshifting

The transmission can downshift in both S mode and T mode. There are two different methods for downshifting; accelerator downshift and switch downshift.

The current downshift step level is indicated by the downshift status display.



1. Downshift status display

EAUN4760

Accelerator downshift

Quickly open the throttle to downshift one step for stronger acceleration. This method is useful for starting off from a stop.

TIP

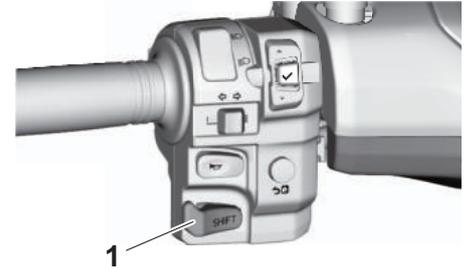
This method can only downshift one step. To downshift further, the switch downshift must be used.

Switch downshift

Press the “SHIFT” switch to downshift 1 step, you can downshift to a maximum of 3 steps.

Use the switch downshift when you want to accelerate quickly, climb uphill or apply engine braking.

The “SHIFT” switch can be operated while either accelerating or decelerating.



1. “SHIFT” switch

TIP

If the “SHIFT” switch is operated in the following situations, the YECVT will prevent the downshift from occurring and the downshift status display will flash.

- When a downshift will cause the engine to overrev.
- When an accelerator downshift has not already been performed and the vehicle speed is 15 km/h (9.0 mi/h) or less.
- If the ECU cannot detect whether engine rpm is increasing or decreasing.

Special features

How to downshift for stronger acceleration

While riding, quickly open the throttle or press the “SHIFT” switch once to downshift 1 step.

After downshifting the first step, you can press the “SHIFT” switch to downshift more for additional acceleration.

TIP

Downshifted status while accelerating will be canceled if the following conditions occur:

- Throttle is closed completely
- “MODE” switch is pressed

How to downshift for stronger deceleration

While riding with the throttle completely closed, press the “SHIFT” switch to decelerate by engine braking.

TIP

Downshifted status while decelerating will be canceled if the following conditions occur:

- Throttle is closed completely after being opened once
- “MODE” switch is pressed

- Vehicle speed decreases to 15 km/h (9.0 mi/h) or less
-

ESS (emergency stop signaling) system

EAU1773

When sudden deceleration occurs this system automatically activates to cause all turn signal lights to flash rapidly.

This provides additional warning to surrounding vehicles that your vehicle is decelerating rapidly.

The ESS system then deactivates under the following conditions:

- When the brakes are released.
- When sudden deceleration is no longer detected.

EWA22680

⚠ WARNING

The ESS system is not a collision prevention system. Avoid unnecessary hard braking and prioritize safe driving.

TIP

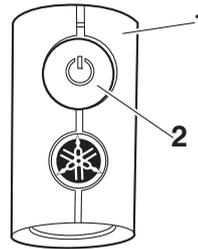
- The ESS system only activates when it detects sudden braking while the vehicle is traveling at speeds of 50 km/h (31 mi/h) or higher.

- ESS does not activate when the hazard lights are already activated.
- If the ESS is activated while one of the turn signal lights is already flashing, the ESS takes priority, causing all turn signals to flash rapidly.
- ESS does not operate when the ABS indicator light is on.

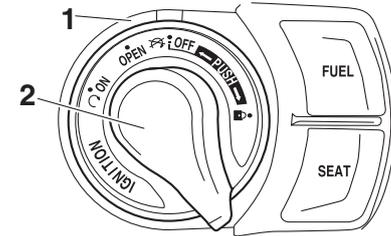
Smart key system

EAUA3610

The smart key system enables you to operate the vehicle without using a mechanical key. In addition, there is an answer-back function to help you locate the vehicle in a parking lot. (See page 4-8.)



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.**

Special features

4



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 9-36.)

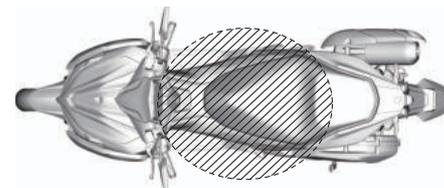
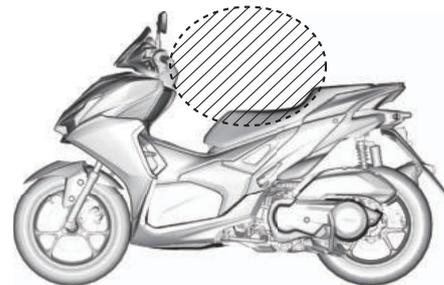
TIP

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

EAU2140

Operating range of the smart key system

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



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

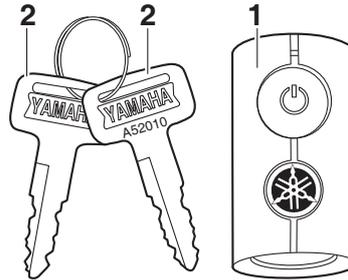
smart key system may not work or its operating range may become very short.

TIP

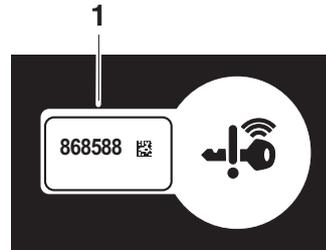
- Do not place the smart key in a storage compartment.
- Always carry the smart key with you.
- Turn the smart key off when leaving the vehicle.

Handling of the smart key and mechanical keys

EAUA2260



1. Smart key
2. Mechanical key



1. Identification number card

⚠ WARNING

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

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

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

If the smart key is lost or the smart key battery has discharged, the identification number can be used to operate the vehicle in emergency mode. (See page 9-36.) **Write down the identification number in case of emergency.**

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

Special features

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

ECA21573

NOTICE

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

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

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

TIP

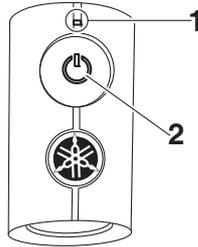
- The smart key battery life is approximately two years, but this may vary according to operating conditions.
- Replace the smart key battery when the smart key system indicator light flashes for 20 seconds when the vehicle is turned on, or when the smart key indicator light does not come on when the smart key button is pushed. (See page 4-9.) After changing the smart key battery, if the smart key system

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

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

Smart key

EAUJA2151



1. Smart key indicator light
2. Smart key button

WARNING

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

EWA17952

To turn the smart key on or off

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

To check whether the smart key is turned on or off

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

If the smart key indicator light:

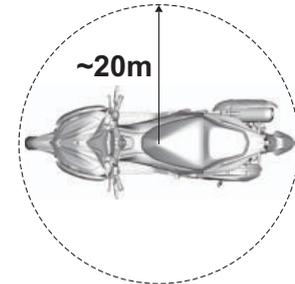
- Comes on quickly for 0.1 seconds: The smart key is turned on.
- Comes on slowly for 0.5 seconds: The smart key is turned off.

Remote answer-back function

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

Operating range of the answer-back function

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



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

To turn the answer-back beeper on or off

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

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

Special features

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.

4

Replacing the smart key battery

EAUJ2271

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 “”

EWA22830

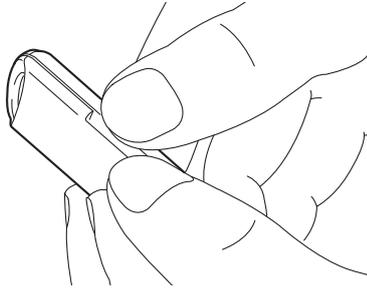
WARNING

This battery contains combustible materials such as lithium metal and organic electrolyte. The following cautions should be followed in order to use this battery safely:

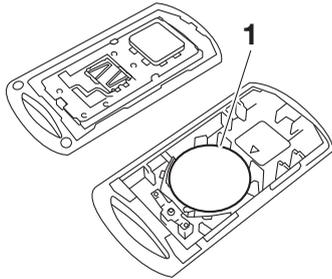
- Do not short circuit the battery
- Do not charge the battery
- Do not soak the battery in water
- Do not deform or damage the battery
- Do not modify the battery in any way

To replace the smart key battery

1. Gently pry open the smart key case as shown. Otherwise, have a Yamaha dealer replace the battery.



2. Remove the battery.



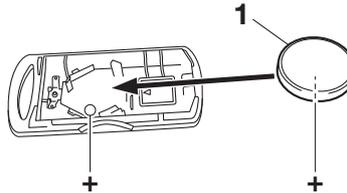
1. Battery

TIP

Dispose of the removed battery in accordance with local regulations.

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

Specified battery:
CR2032



1. Battery

4. Gently snap the smart key case closed.

ECA15785

NOTICE

- Use a cloth when opening the smart key case with a screwdriver. Direct contact with hard objects may damage or scratch the smart key.
- Take precautions to prevent the waterproof seal from being damaged or contaminated by dirt.

- Do not touch the internal circuits and terminals. This may cause malfunctions.
- Do not apply excessive force to the smart key when replacing the battery.
- Make sure the battery is installed correctly. Confirm the direction of the positive “+” side of the battery.

EWA20632

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

Special features

leak, internal short circuit, heat generation, explosion and violent flaring.

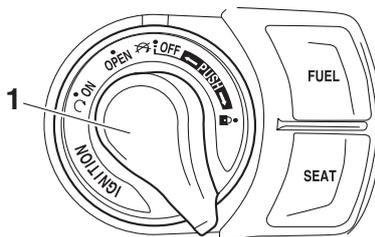
Do not expose Hand Unit to excessive heat such as sunshine, fire or the like.

Do not ingest the battery, Chemical Burn Hazard

- This product contains a coin/button cell battery. If the coin/button cell battery is swallowed or placed inside any part of the body, 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.

Main switch

EUAJ2280



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/fuel tank 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”, “

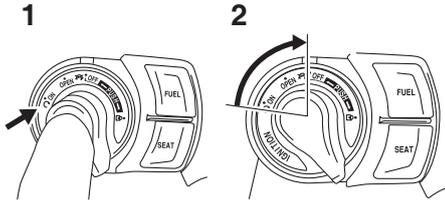
TIP

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

The main switch positions are described below.

ON

EUA2160



1. Push.
2. Turn.

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

To turn the vehicle power on

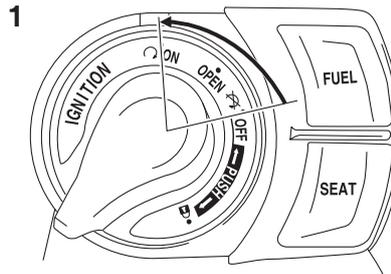
1. Turn the smart key on and bring it within operating range.
2. Push the main switch knob and the smart key indicator light will come on for approximately 4 seconds.
3. While the smart key system indicator light is on, turn the main switch to “ON”. All of the turn signal lights will flash twice and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

TIP

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

OFF

EUA2170



1. Turn.

All electrical systems are off.

To turn the vehicle power off

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

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

TIP

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

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

OPEN

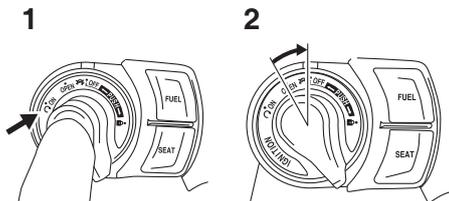
EUA2310

The fuel tank cap 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”.

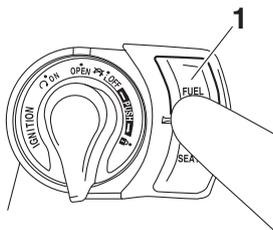
Special features

4



1. Push.
2. Turn.

To open the fuel tank cap lid



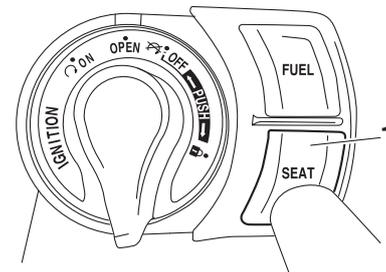
1. "FUEL" button



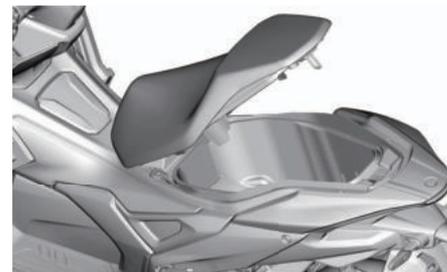
Push the "FUEL" button to open the fuel tank cap lid.
After refueling, push the fuel tank cap lid until it is closed.

TIP _____
See page 6-22 for fuel tank cap removal and installation procedures.

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 page 6-25.)

Open position reminder

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

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

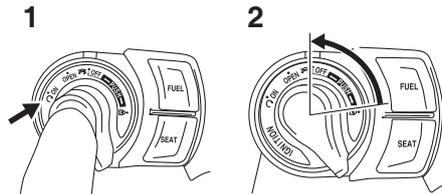
If the beeper sounds after 3 minutes, turn the main switch to “OFF” or “”. If the beeper sounds because the smart key was turned off or moved out of range, turn the smart key on and walk back into range.

TIP

- The beeper will turn off after 1 minute.

“” (lock)

EAUA2180



1. Push.
2. Turn.

The steering is locked and all electrical systems are off.

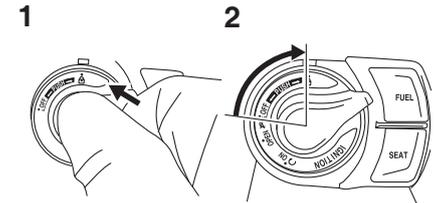
To lock the steering

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.

Special features

Stop and Start System

EAU2241



4

1

1. Stop and Start System indicator light “A”

The Stop and Start System stops the engine automatically when the vehicle is stopped in order to prevent noise, control exhaust emissions, and reduce fuel consumption.

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

ECA23961

NOTICE

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

charged and it may not be possible to restart the engine due to insufficient battery voltage.

TIP

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

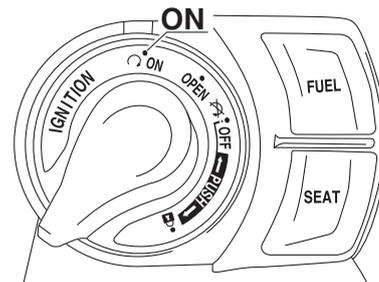
Stop and Start System operation

EAU2190

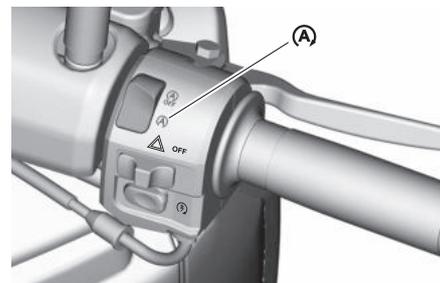
Activating the Stop and Start System

EAU2210

1. Turn the main switch on.



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



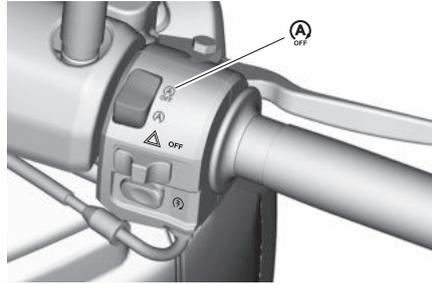
3. The Stop and Start System activates and the indicator light comes on when the following conditions are met:

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



1. On

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



TIP

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

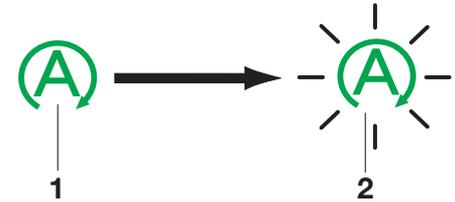
EAUUA2250

Stop the engine

The engine will stop automatically when the following conditions are met:

- The Stop and Start System switch is set to “(A)”.
- The “(A)” indicator light on the multi-function meter is on.
- The vehicle is stopped with the throttle grip fully returned.

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



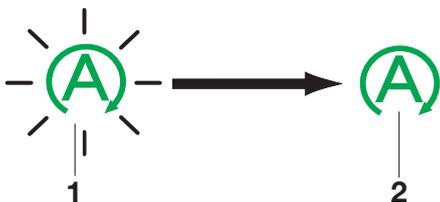
1. On
2. Flashing

Restart the engine

If the throttle grip is turned while the Stop and Start System indicator light is flashing, the engine will automatically restart and the “(A)” indicator light will go off.

EAUUA2222

Special features

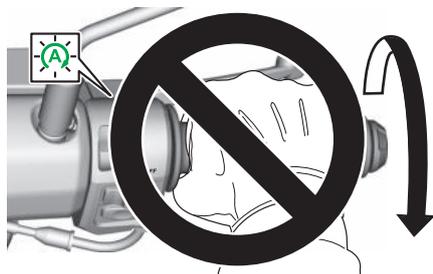


1. Flashing
2. On

WARNING

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

EWA18731



TIP

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

EAUA2230

Precautions when using the Stop and Start System

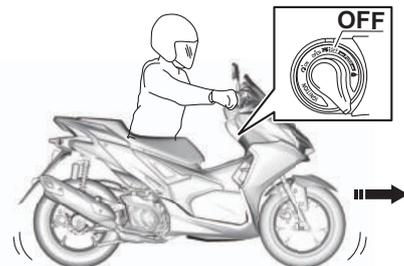
In order to prevent accidents due to improper operation, carefully read and observe the following precautions.

EWA18741

WARNING

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

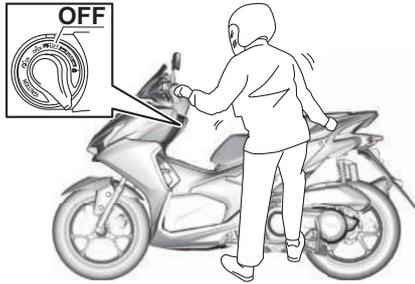
Stop and Start System is left turned on, the engine could start and the vehicle could start moving if the throttle grip is turned accidentally.



EWA18751

WARNING

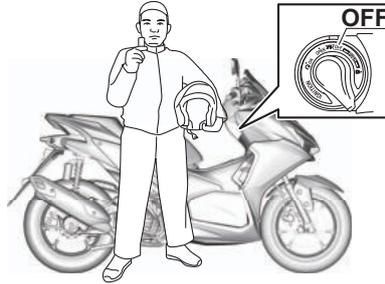
When placing the vehicle on the centerstand, be sure to turn the main switch off. If the vehicle is placed on the centerstand while the Stop and Start System is left turned on, the engine could start and the vehicle could start moving if the throttle grip is turned accidentally.



EWA18771

⚠ WARNING

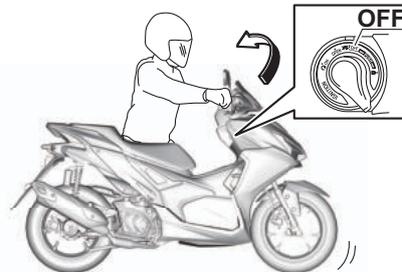
- When leaving the vehicle unattended, be sure to turn the main switch off.
- Do not leave the Stop and Start System turned on when parking the vehicle. Otherwise, the engine could start and the vehicle could start moving if the throttle grip is turned accidentally.



EWA18781

⚠ WARNING

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



Smartphone Connectivity System

Smart features: Introduction

EAUN4804

EWA21412

WARNING

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

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

- Turn by Turn GPS navigation (page 6-10)
- Telephone (page 6-9)

- Audio player (page 6-10)
- Smartphone notifications (page 6-12)
- Weather information (page 6-12)
- Clock automatic update (page 6-14)

TIP

- The CCU takes some time to initiate and stabilize the Bluetooth connection after the vehicle power is turned on or the battery is re-connected.
- Some connectivity features need to be activated on the connected smartphone before they become functional in the menu system.
- Some features may not be available depending on your smartphone and/or OS version.
- Some music, SNS, and other smartphone applications and headsets devices may not function and/or display properly.
- The following may interfere with connectivity functions:
 - Smartphone network connection is too busy.

- The smartphone GPS signal is unstable.
- Bluetooth connection is unstable.
- Too many other devices connected to the smartphone at once.

ECAN0150

NOTICE

The Bluetooth connection may not work in the following situations.

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

Smart features are accessed via the menu system (page 6-9).



Yamaha Motorcycle Connect app



Yamaha Motorcycle Connect is a free app which is needed to complete the connection between the CCU and your smartphone.

TIP

- Use of Yamaha Motorcycle Connect is subject to your agreement to the Yamaha Motorcycle Connect terms of use.

- The Yamaha Motorcycle Connect app may not function on all smartphones or OS (operating system) versions.
- Navigation and other features require GPS access permissions to be set as “Always allow” on your smartphone.
- Every smartphone operates differently; refer to your individual device instructions regarding connectivity, Bluetooth discovery, app permissions, and other settings.
- Some connectivity and/or display functions may change with later updates to the Yamaha Motorcycle Connect app and therefore differ from the contents of this manual.

Initial Setup (Yamaha Motorcycle Connect app)

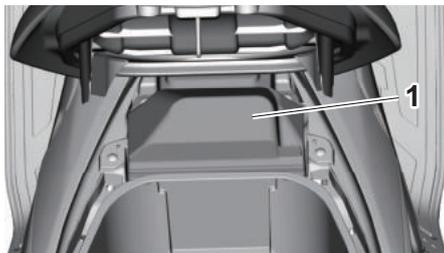
Pairing the CCU and your smartphone

1. Scan the QR code below and download the Yamaha Motorcycle Connect app, or search for it by name in an app store.



2. Open the seat. (See page 6-24.)
3. Remove the battery cover. (See page 9-27.)

Smartphone Connectivity System



5

1. Battery cover

4. Find the CCU and scan its QR code with the Yamaha Motorcycle Connect app.



1. CCU (Communication Control Unit)
2. CCU QR Code

TIP

The CCU can also be paired by entering the VIN (vehicle identification number) in the Yamaha Motorcycle Connect app. (See page 12-1.)

5. When pairing is complete, the smartphone battery level indicator “” and the Yamaha Motorcycle Connect app indicator “” will come on.



1. Smartphone battery level indicator “”
2. Yamaha Motorcycle Connect indicator

TIP

- Once paired, the smartphone is registered in the CCU. The next time the vehicle is turned on and

the Yamaha Motorcycle Connect app is active, the connection will be automatically established.

- Only one smartphone can be connected to the CCU at one time.
- If more than one phone has been registered in the CCU, then the first phone within reach will be connected.

Initial setup: Turn by Turn navigation

EWA21401

WARNING

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

This vehicle is equipped with a Turn by Turn navigation system that provides route guidance through visual and textual prompts. To use the Turn by Turn navigation system, follow the prompts within the Yamaha Motorcycle Connect app to set GPS permissions and agree to Google terms of service.

TIP

- Navigation data in the Yamaha Motorcycle Connect app is obtained via Google Maps. Use of Google Maps is subject to your agreement to the Google Maps terms of use. Yamaha shall not be liable for any damages resulting from the use of Google.
 - The Yamaha Motorcycle Connect app's GPS access permissions must be set to "Always allow" on your smartphone's settings.
 - While route guidance is active, the weather information at the destination will be displayed.
-

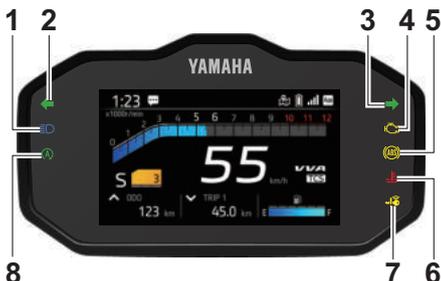
Bluetooth headset pairing

Follow your headsets manufacturer instructions to pair/connect to your smartphone.

Instrument and control functions

Indicator lights and warning lights

EAU7712B



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

EAU88690

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

Coolant temperature warning light “”

EAU88880

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

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

TIP

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

NOTICE

ECA10022

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

Engine trouble warning light “”

EAU89430

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

TIP

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

ABS warning light “”

EAU2010

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.

EWAZ21120

WARNING

If the ABS warning light does not turn off after reaching 5 km/h (3 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 revving the engine with the vehicle on its centerstand, but this does not indicate a malfunction.

Smart key system indicator light

EAUN2772



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.

EAUN2831

Stop and Start System indicator light “”

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

TIP

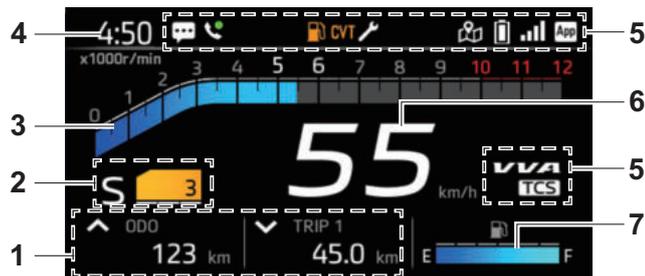
Even if the Stop and Start Switch is set to “”, this indicator light may not come on. (See page 4-15.)

Instrument and control functions

EAUM5280

Display

Theme1



Theme2



Track Theme



1. Vehicle information display
2. Driving mode indicator
3. Tachometer
4. Clock
5. Indicator icons
6. Speedometer
7. Fuel meter
8. Tachometer visualizer

Main display screen

EAJN4646

EWA18210

WARNING

Stop the vehicle before making any setting changes. Changing settings while riding can distract the operator and increase the risk of an accident.

TIP

- This model uses a thin-film-transistor liquid-crystal display (TFT LCD) for good contrast and readability in various lighting conditions. However, due to the nature of this technology, it is normal for a small number of pixels to be inactive.
- The display units can be switched between kilometers/miles and Celsius/Fahrenheit.

Display system controls

The display user interface is controlled with the “”/“”/“” switches and the “” button. (See page 6-17.)

The main screen of the display has three visual themes: “Theme1”, “Theme2” and “TRACK”. Some functions are not available in all themes. Long press the “” button to cycle between the display themes. The theme can also be selected in the menu system.

Speedometer

The speedometer shows the vehicle’s traveling speed.

Tachometer (Theme1, TRACK)

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

ECA23050

NOTICE

Do not operate the engine in the tachometer high-r/min zone.

High-r/min zone: 10000 r/min and above

Tachometer visualizer (Theme2)

The tachometer visualizer extends as the engine speed is increased.

TIP

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

Clock “ The clock uses a 12-hour time system.

TIP

The clock can be adjusted in the menu system.

Driving mode indicator

Indicates the currently selected driving mode (“S MODE” or “T MODE”) and the current downshift status. Depending on the number of downshifted steps, the number increases (1-3).

TIP

When the YECVT prevents a downshift from occurring, the current step number will flash.

VVA indicator

This model is equipped with variable valve actuation (VVA) for good fuel economy and acceleration in both the

Instrument and control functions

low-speed and high-speed ranges. The VVA indicator comes on when the variable valve actuation system has switched to the high-speed range.

Traction control system indicator “TCS”/“TCS”/“TCS”

This indicator will come on in white when the traction control system is ON, it will flash green for a few seconds when traction control has engaged while riding, and it will come on in amber when the traction control system is turned OFF.

YECVT warning indicator “CVT”

The YECVT warning indicator comes on under the following conditions:

- If a malfunction occurs with the YECVT system
- If the battery voltage drops below 10 V
- If a malfunction occurs in the FI (fuel injection) system
- If the engine stops due to a communication error between the smart key and the vehicle

- When the engine stops due to lowering the sidestand while the engine is running

TIP

- When the vehicle power is turned ON, the YECVT warning indicator comes on for a few seconds and then goes off. If the light does not turn on or remains on, have a Yamaha dealer check the vehicle.
- If the vehicle power is turned off while riding, or if the engine stops due to any malfunction while riding, the YECVT warning indicator will come on or flash.

ECA28570

NOTICE

If the YECVT warning light comes on, stop the vehicle immediately in a safe place and have a Yamaha dealer check the vehicle.

Smartphone battery level indicator “”

This icon displays the connected smartphone’s current battery level.

- Icon off: No smartphone connected.

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

When the battery level is low, the center bar will turn red.

TIP

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

Yamaha Motorcycle Connect app indicator “”

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

Phone indicator “”/“”

This icon comes on green when there is an active call and red when there is a missed call. The missed call icon will disappear when the vehicle power is turned OFF.

Notification indicator “”

This icon flashes for 10 seconds and then remains on when the connected smartphone receives an SNS, E-mail or other notification. It will remain on

Instrument and control functions

until the vehicle power is turned off or until the “Notification” list is opened in the menu system.

TIP _____

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

Network connectivity indicator “”

This icon indicates the connected smartphone’s network connection status.

Icon off: No smartphone connected.

: A smartphone is connected but has no network connectivity.

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

TIP _____

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

Navigation indicator “”

This icon comes on when the turn by turn navigation is active.

Maintenance tripmeter indicator “”

This icon comes on when one of the maintenance trip meters has reached the interval.

Oil change intervals: 1000 km (600 mi), and then every 4000 km (2500 mi) thereafter.

V-belt change intervals: every 25000 km (15500 mi).

Fuel meter

The fuel meter indicates the amount of fuel in the fuel tank. The display segments of the meter disappear from “F” (full) towards “E” (empty) as the fuel level decreases.

When the last segment starts flashing, refuel as soon as possible.

ECAE0121

NOTICE _____

Do not let the vehicle run completely out of fuel. This may cause damage to the catalytic converter.

TIP _____

If all the fuel meter display segments flash repeatedly, have a Yamaha dealer inspect the vehicle.

Vehicle Information display

The vehicle information display can be set to show the following items:

- “ODO”: odometer
- “TRIP 1”: tripmeter 1
- “TRIP 2”: tripmeter 2
- “TRIP F”: fuel reserve tripmeter
- “COOLANT”: Coolant temperature
- “INST FUEL”: Instant fuel consumption
- “AVG FUEL”: average fuel consumption
- “AVG SPEED”: average speed
- “TRIP TIME”: trip timer
- “BATTERY”: battery voltage

Instrument and control functions

Theme1

Use the “^” switch to cycle the left side information display items. Use the “v” switch to cycle the right side information display items.

Long press the “^” switch to reset the currently displayed left side information display item (if able). Long press the “v” switch to reset the currently displayed right side information display item (if able).

Theme2

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

Long press the “^” switch or “v” switch to reset the currently displayed information display item (if able).

TIP

The “TRIP 1”, “TRIP 2”, “TRIP F”, “AVG FUEL”, “AVG SPEED” and “TRIP TIME” items can be individually reset. Short press the “v” switch to open the menu system and navigate to “Settings” → “Information / Reset” → “Vehicle Information” to reset individual items. (See page 6-15.)

Odometer “ODO”:

The odometer shows the total distance traveled by the vehicle.

TIP

The odometer will lock at 999999 and cannot be reset.

Tripmeters “TRIP 1” / “TRIP 2”:

“TRIP 1” and “TRIP 2” show the distance traveled since they were last reset.

TIP

“TRIP 1” and “TRIP 2” will reset to 0.0 and begin counting again after 9999.9 has been reached.

Fuel reserve tripmeter “TRIP F”:

When the fuel tank reserve level has been reached, “TRIP F” begins recording distance traveled from that point. After refueling and traveling some distance, “TRIP F” will reset.

Coolant temperature “COOLANT”:

The coolant temperature is displayed from -30 °C (-22 °F) to 130 °C (266 °F) in 1 °C (1 °F) increments.

TIP

- When using Celsius, the coolant temperature display will read “-30” when the vehicle coolant temperature is below -30 °C.
 - When using Fahrenheit, the coolant temperature display will read “-22” when the vehicle coolant temperature is below -22 °F.
 - If the vehicle coolant temperature is too high the coolant temperature display will read “Hi”.
-

Instantaneous fuel consumption (INST FUEL)

When using kilometers, the instantaneous fuel consumption display can be set to “km/L” or “L/100km”. (See page 6-14.)

When using miles, the instantaneous fuel consumption is displayed in “MPG”.

Average fuel consumption “AVG FUEL”:

The average fuel consumption display can be set to “km/L”, “L/100km” or “MPG” in the menu system.

TIP

After resetting the average fuel consumption display, “--.-” will be shown until the vehicle has traveled 1 km.

Average speed “AVG SPEED”

Displays the average travelling speed since last reset.

Trip timer “TRIP TIME”

Displays engine running time.

Battery voltage “BATTERY”

This display shows the current charge state of the battery.

TIP

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

“Track” theme lap timer



1. Lap timer

This theme has a lap timer which measures and records up to 40 laps. There is a lap counter, lap information display and current lap timer.

To use the lap timer:

1. Enter “Track” theme. The lap timer is now on standby.
2. Short press “✓” to start/stop the timer.

TIP

When the timer is stopped and then started again, the lap count will increase by one and the current lap timer will reset and start running.

3. Short press the “^” switch to increase the lap count by 1 and reset the current lap timer. The latest lap time will show for 5 seconds and then be replaced with the running lap timer.
4. After the timer is stopped, short press the “^” switch to view each recorded lap time one by one.
5. While the lap timer is stopped, long press the “^” switch to reset the lap timer and all lap data completely.

Lap information display

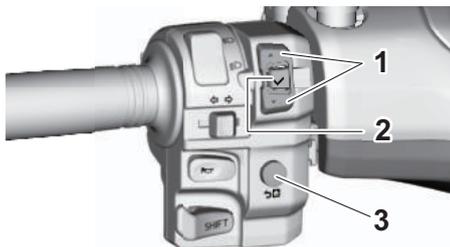
Use the “∨” switch to cycle the following lap information display items:

- “ODO”: odometer
- “FASTEST”: fastest lap time since reset.
- “AVERAGE”: average lap time since reset.
- “LATEST”: latest lap time since reset.

Instrument and control functions

Menu system

EAUN4658



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

The menu system for this vehicle is controlled with the “^”/“v”/“✓” switches and “↶” button. (See page 6-17.)

Menu system basic operations:

- Theme1-2: From the main display screen, short press “✓” to open the side menu.
- Track: From the main display screen, short press the “↶” button to open the side menu.

- With the menu system open, short press the “✓” switch to execute a selection.
- Short press the “^”/“v” switches to highlight and adjust menu items.
- Short press the “↶” button to return to the previous screen.
- Long press the “↶” button to exit the menu system and return to the home screen.



1. Side menu

Phone

EWA21420

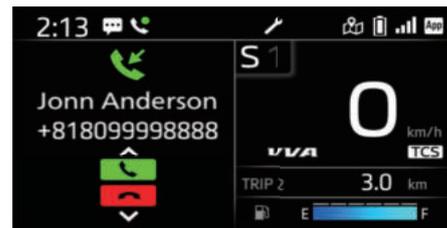


WARNING

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

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

Incoming call



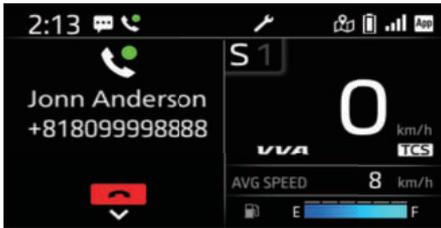
When a phone call is received to a connected smartphone, the ringtone will play through the connected headset and the phone side menu will pop up automatically.

Short press “^” to answer the call. The phone indicator “☎” (green) will appear for the duration of the call. Short press “v” to reject the call.

Instrument and control functions

If a call is not answered or rejected, the phone indicator “☎” (red) will appear.

Active call



When a phone call is active, short press “∨” to end the call.

Short press the “☎” button to exit the phone side menu without ending the call. When a call is active, the “☎ Phone” item will be visible in the menu. Select it to resume the active call side menu.

TIP

- It is recommended to use the side menu phone function instead of operating the smartphone directly. Otherwise, it may not display and/or function properly.

- For some smartphones, rejecting a call will not function correctly. The end call icon may be grayed out or using the end call icon will accept the call instead. If an error occurs, select the back icon to exit the error screen.
- If too many contacts are registered in the smartphone, only the phone number may be displayed.

“🎵 Music”



The music player utilizes your smartphone’s audio player app.

Short press “∧” to increase the volume.

Long press “∧” to skip ahead.

Short press “∨” to play/pause.

Short press “∨” to decrease the volume.

Long press “∨” to skip back.

TIP

- All audio track information is imported from the music player application on your smartphone.
- Depending on the smartphone and music player application, the audio player may start playing automatically, the track information may not display, or the next/previous track and volume adjustment may not function.

“🗺️ Navigation”



The turn by turn navigation function provides real time route guidance by displaying essential navigation information in the side menu. Use the “∧”/“∨” switches to change the

Instrument and control functions

visible information in the bottom section of the display. The following information can be shown if it is available:

- Top section: navigation icon and distance for the next navigation point.



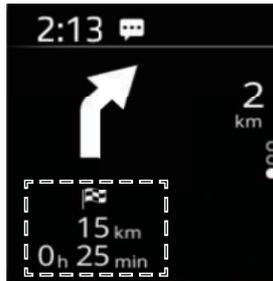
- Bottom section 1: instructions for next navigation point.



- Bottom section 2: navigation icon and distance for the navigation point following the next (2 points ahead).



- Bottom section 3: distance/time to destination.



Navigation must be first be set using the Yamaha Motorcycle Connect app.

While the navigation side menu is active, short press “✓” to open the navigation menu.



- “Back”: goes back to the navigation side menu.
- “Stop navigation” cancels turn by turn navigation and returns to the main display
- “Skip next stop”: skips ahead to the next set waypoint (if a waypoint is set) and returns to the navigation side menu.

TIP

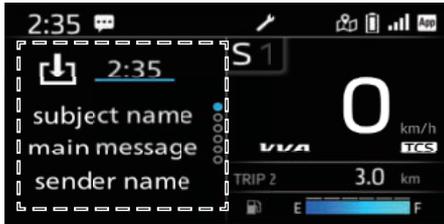
Until the waypoint function is implemented in the Yamaha Motorcycle Connect app, this menu item will be grayed out.

EWA21420

WARNING

- **Do not use your smartphone while the vehicle is in motion.**
- **Never take your hands off the handlebars while riding.**
- **Always concentrate on riding by keeping your eyes and mind on the road.**
- **Keep volume levels low enough to maintain awareness of your surroundings and ensure safety.**

“ Notification”



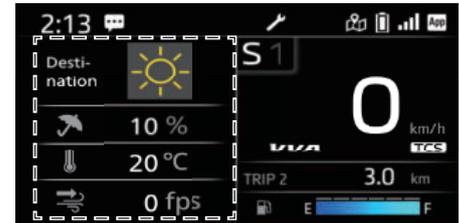
When a notification is received to a connected smartphone, the notification indicator “” comes on and flashes for 10 seconds. Select “Notification” in the side menu to display messages.

Up to six push notifications from the connected smartphone can be displayed. Each received notification shows the following information if it is available: time received, notification title, a preview of the notification contents and the sender name.

TIP

- If too many notifications are received at once, some of them may not show in the list.
- Depending on the smartphone and/or applications, notifications may be disabled or messages displayed on the side menu may differ from the contents on the connected smartphone.
- If the Bluetooth connection is unstable, notifications may be delayed in appearing or may not function properly.
- Time stamps for notifications may differ from the time stamps displayed on the smartphone.
- The message data is cleared every time the vehicle power is turned OFF.

“ Weather”



Activates local weather information in the side menu, showing the following information if it is available: precipitation chance, weather type, temperature, location, and windspeed. See the following chart for the various weather type pictograms and their meanings.

“ Setting”



Instrument and control functions

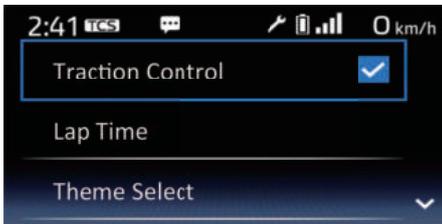
TIP

This section of the menu system cannot be accessed while the vehicle is in motion. If this occurs while it is already open, it will exit automatically to the home screen.

This menu contains the following:

“Traction Control”	Turn OFF/ON the traction control system. (See page 6-13.)
“Lap time”	View/reset lap time records. (See page 6-13.)
“Theme select”	Select the main display theme.
“Display setting”	Change display brightness settings.
“Clock”	Adjust time/set automatic update. (See page 6-13.)
“Unit”	Change the display units.
“Information / Reset”	Reset vehicle information.

“Traction Control”



Short press the “✓” switch to turn the traction control system ON/OFF. The checkmark indicates ON. See page 6-20 for more information about the traction control system.

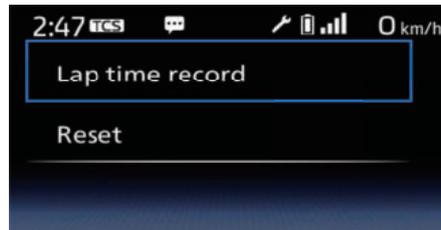
TIP

The traction control system will turn ON automatically and the checkmark beside this setting will reappear after each time the vehicle power is turned ON.

“Lap time”

This menu contains recorded lap times and allows you to reset the recorded lap time data.

Lap time record

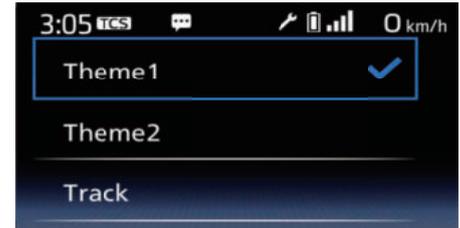


This module shows the latest recorded lap times up to 40 laps.

Reset

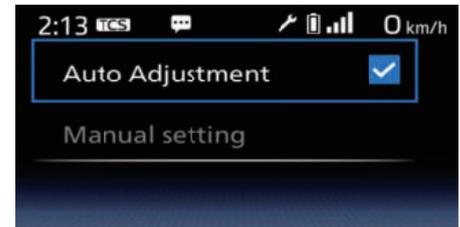
Short press the “✓” switch to reset all of the recorded lap times. Confirm by selecting “OK”.

“Theme”



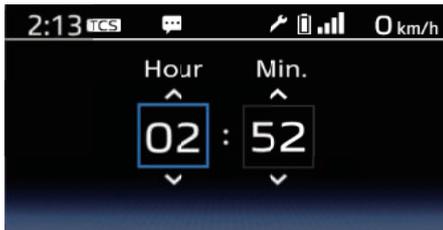
This menu allows you to select the visual theme of the main display from three options. (See page 6-3.)

“Clock”



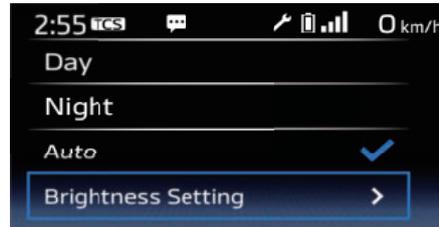
Instrument and control functions

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



To manually adjust the clock, Short press the “^”/“v” switches to adjust “Hour” up/down. Short press the “✓” switch to set “Hour” and continue to “Min.” in line. Select “OK” and the display will return to the previous menu.

“Display”



This module allows you to change the display between day/night .

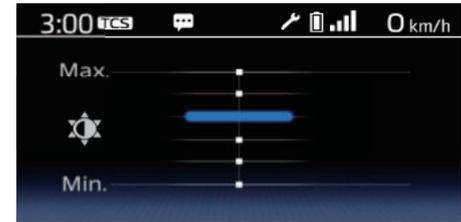
This display is equipped with a sensor to detect ambient lighting conditions and adjust the display between day/night presets. Select “Day” (white) or “Night” (black) to keep the display in that preset. Select “Auto” to enable automatic switching between presets depending on the ambient light levels.

This module also allows you to adjust the screen brightness of the display.

TIP

- As the brightness settings are adjusted in the menu, the screen brightness will change in real time.
- If the temperature of the display becomes too high, the screen brightness will reduce automati-

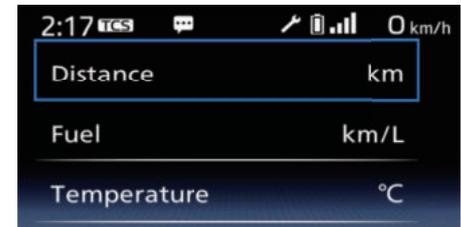
cally and cannot be adjusted. When the temperature lowers, the screen brightness will return to the previous setting.



The display brightness setting has 6 levels.

Short press the “^”/“v” switches to adjust the brightness setting up/down. Short press the “✓” switch to confirm the setting and return to the previous menu.

“Unit”



Instrument and control functions

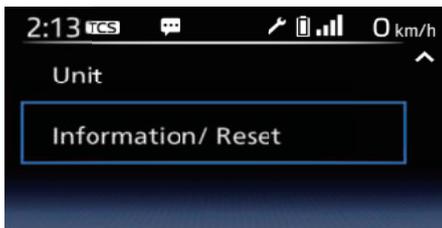
The selected display units are shown. The display units can be selected as follows:

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

TIP

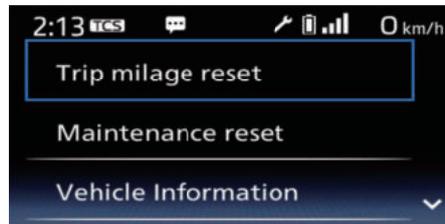
When “mile” is selected for the “Mileage” unit, the “Fuel” unit is automatically changed to “MPG”. At this time, the “Fuel” item is grayed out and cannot be selected.

“Information / Reset”



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

“Trip mileage reset”

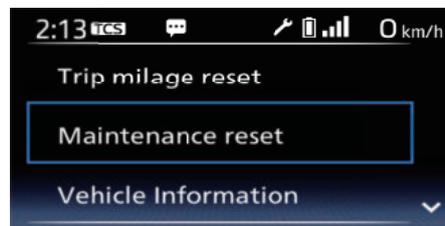


This module allows reset of the tripmeters on the main display. Short press the “^”/“v” switches to highlight an item. Short press the “v” switch to reset the item. Confirm by selecting “OK”.

TIP

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

“Maintenance reset”



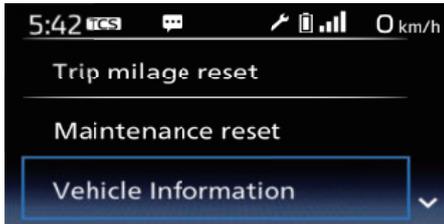
This module allows reset of the maintenance tripmeters and the maintenance tripmeter indicator. Short press the “^”/“v” switches to highlight an item. Short press the “v” switch to reset the item. Confirm by selecting “Reset” and the next maintenance interval will be displayed. Short press the “v” to select “OK” or “Custom” to set a custom interval. If “Custom” is selected, short press the “^”/“v” switches to adjust the interval mileage and then short press “v” to confirm and the new interval will be set.

TIP

When all maintenance tripmeters which have passed their intervals have been reset, the maintenance tripmeter indicator “” will go off.

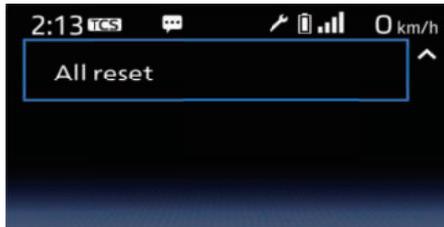
“Periodic Maintenance” is unassigned to any specific maintenance item. You can set it to any interval of your choice for your own maintenance schedule.

“Vehicle Information”



This module allows reset of the vehicle information display items. Short press the “^”/“v” switches to highlight an item. Short press the “v” switch to reset the item. Confirm by selecting “OK”.

“All reset”



This module mass resets the following to the default settings:

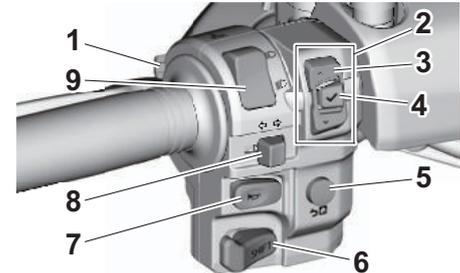
- Tripmeters

- Average speed, Average fuel consumption and Trip timer
- order of visible items in vehicle display
- display theme selection
- notification list
- Display brightness settings
- Unit settings
- all lap time information
- clock

Confirm by selecting “OK”.

Handlebar switches

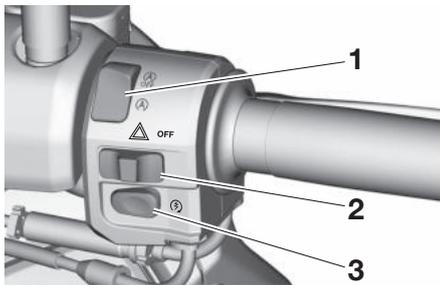
Left



1. “MODE” switch
2. Meter switches
3. “^”/“v” switches
4. “✓” switch
5. “→□” button
6. “SHIFT” switch
7. Horn switch “📢”
8. Turn signal switch “←/→”
9. Dimmer switch “☰/☲”

Instrument and control functions

Right

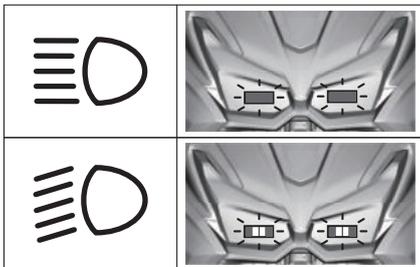


1. Stop and Start System switch “/OFF”
2. Hazard lights switch “/OFF”
3. Start switch “”

Dimmer switch “/”

EAU12402

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



Turn signal switch “/”

EAU12461

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

Horn switch “”

EAU12501

Press this switch to sound the horn.

Start switch “”

EAU12722

With the sidestand up, push this switch while applying the front or rear brake to crank the engine with the starter. See page 8-2 for starting instructions prior to starting the engine.

Hazard lights switch “/OFF”

EAU99171

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

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

might be a traffic hazard. Hazard lights can be turned on/off only when the vehicle power is on.

ECA10062

NOTICE

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

Meter switches and “” button

EAU4770

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

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

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

Menu system basic operations:

- Use the “”/“” switches to highlight and adjust menu items.
- Short press the “” switch to open the menu system from the home screen or execute a selection in the menu system.

- Short press the “” button to return to the previous screen in the menu system.
- Long press the “” button to exit the menu system and return to the home screen.

EAU2331

“MODE” switch

Press this switch to toggle between the two driving modes S mode and T mode.

TIP

- When the vehicle power is turned on, the previously selected riding mode is selected again.
- If the “MODE” switch is pressed while YECVT is already downshifted, the driving mode will not be switched but the downshift status will be canceled.

See page 4-1 for more information on driving modes.

“SHIFT” switch

Press this switch to downshift the YECVT one step. See page 4-2 for more information on YECVT and shifting.

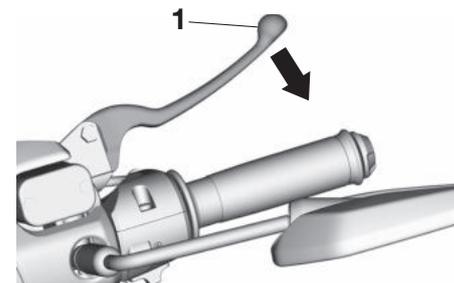
EAU2340

Stop and Start System switch “/“”

To turn on the Stop and Start System, set the switch to “”. To turn off the Stop and Start System, set this switch to “”.

EAU76391

Front brake lever



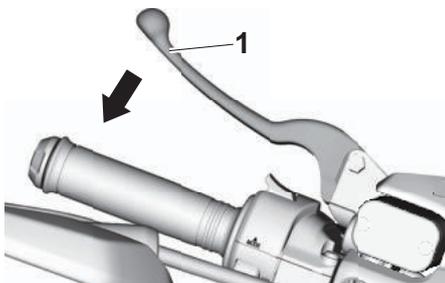
1. Front brake lever

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

Instrument and control functions

Rear brake lever

EAU12952



1. Rear brake lever

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

ABS

EAUV2040

This model's ABS (anti-lock brake system) acts on the front brake system. Operate the brakes as you normally would with a conventional brake system. If the ABS is activated, a pulsating sensation may be felt at the front brake lever. In this situation, continue to apply the brakes and let the ABS work; do not release and re-apply the brakes (i.e., pump the brakes) as this will reduce braking effectiveness.

WARNING

EWA16051

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

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

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

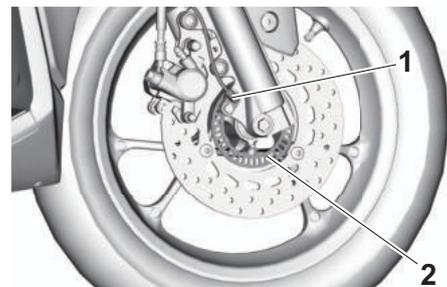
TIP

The ABS performs a self-diagnosis test each time the vehicle first starts off after the main switch is turned on and the vehicle has traveled at a speed of 5 km/h (3 mi/h) or higher. During this test, a clicking noise may be audible, and a vibration may be felt at the brake lever, but these do not indicate a malfunction.

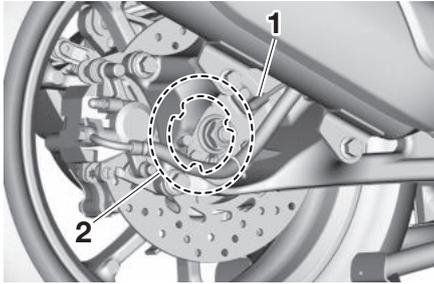
NOTICE

ECA20100

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

EAUN4781

The traction control system helps maintain traction when accelerating on slippery surfaces, such as unpaved or wet roads. If sensors detect that the rear wheel is starting to slip (uncontrolled spinning), the traction control system assists by regulating engine power until traction is restored.

When traction control has engaged, the “TCS” indicator icon will flash green for a few seconds. You may notice changes in engine response or exhaust sound.

WARNING

EWA18860

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

Setting the traction control system



1

1. Traction control system indicator icon

When the vehicle is turned on, traction control is automatically turned on. To turn the traction control system off, see page 6-13.

TIP

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

Instrument and control functions

ECA16801

NOTICE

Use only the specified tires. (See page 9-18.) Using different sized tires will prevent the traction control system from controlling tire rotation accurately.

Resetting the traction control system

The traction control system will automatically disable under certain conditions; such as when a sensor fault is detected, or when only one wheel is allowed to rotate for more than a few seconds. Should this happen, the “TCS” indicator icon will come on in amber, and possibly the “A photograph of a Yamaha motorcycle instrument cluster. The display shows a speedometer with a needle pointing to 55 km/h, a tachometer, and various indicator lights. Two callout lines point to specific icons: line 1 points to the TCS indicator icon (a sun-like symbol with a horizontal bar) and line 2 points to the engine trouble warning light icon (a yellow checkered flag).

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

TIP

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

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

1. Stop the vehicle and turn it off completely.
2. Wait a few seconds and then turn the vehicle power on.
3. The “TCS” indicator icon should come on in white and the system be enabled.

TIP

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

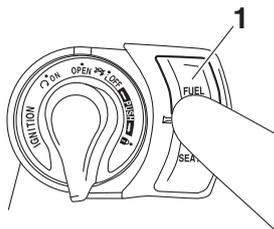
4. Have a Yamaha dealer check the vehicle and turn off the “

6

Fuel tank cap

EAUN2572

To open the fuel tank cap lid, turn the main switch to “OPEN” position and push the “FUEL” button.



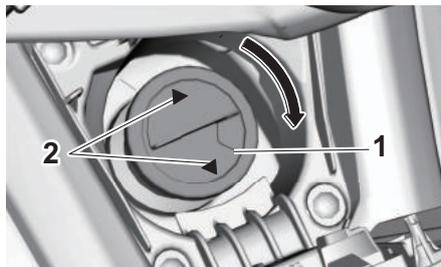
1. “FUEL” button

To open the fuel tank cap, turn it counterclockwise and pull it off.



1. Fuel tank cap lid
2. Fuel tank cap

To install the fuel tank cap, turn it clockwise until the “△” mark is facing forward. Close the fuel tank cap lid.



1. Fuel tank cap
2. “△” mark

⚠ WARNING

Make sure that the fuel tank cap is properly installed before riding. Leaking fuel is a fire hazard.

EWA10132

Fuel

EAU13213

Make sure there is sufficient gasoline in the tank.

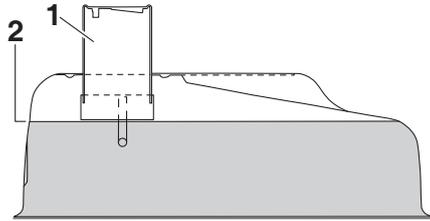
EWA10882

⚠ WARNING

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

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

Instrument and control functions



1. Fuel tank filler tube
2. Maximum fuel level

6

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

EWA15152

WARNING

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

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

EAJN0750

Recommended fuel:

Regular unleaded gasoline (E10 to E20 only)

Fuel tank capacity:

5.5 L (1.5 US gal, 1.2 Imp.gal)

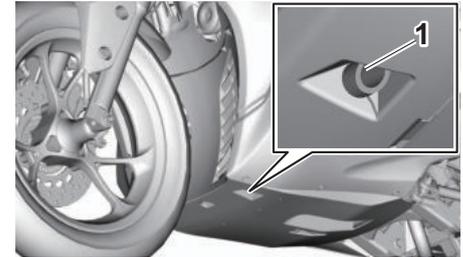
ECA11401

NOTICE

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

EAU86150

Fuel tank overflow hose



1. Fuel tank overflow hose

The overflow hose drains excess gasoline and directs it safely away from the vehicle.

Before operating the vehicle:

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

Catalytic converter

EAU13435

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

EWA10863

WARNING

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

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

Seat

EAU89401

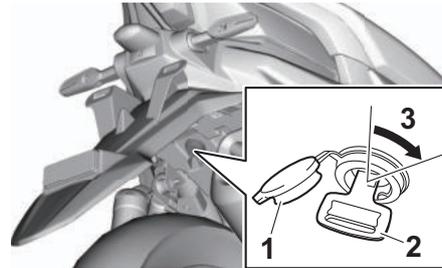
To open the seat

Via the main switch

Turn the main switch to “OPEN”, and then push the “SEAT” button. (See page 4-12.)

With the mechanical key

1. Open the keyhole cover.
2. Insert the mechanical key into the seat lock, and then turn it clockwise.



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

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.

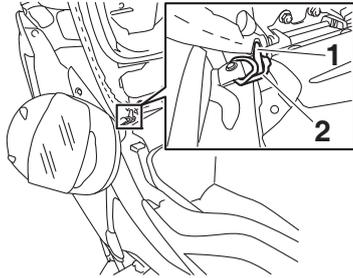
TIP

Make sure that the seat is properly secured before riding.

Instrument and control functions

Helmet holders

EAUJ0850



6

1. Helmet holder
2. D-ring

The helmet holders are located under the seat.

To secure a helmet to a helmet holder

1. Open the seat. (See page 6-24.)
2. Attach the D-ring of the helmet strap 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

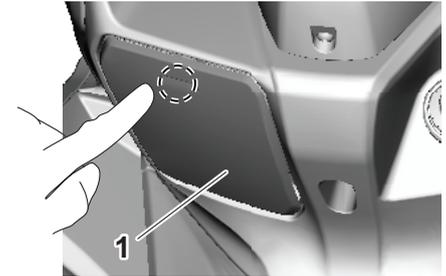
Open the seat, remove the helmet from the helmet holder, and then close the seat.

EAUN2980

Storage compartments

This model is equipped with 2 storage compartments. The front storage compartment and rear storage compartment are located as shown.

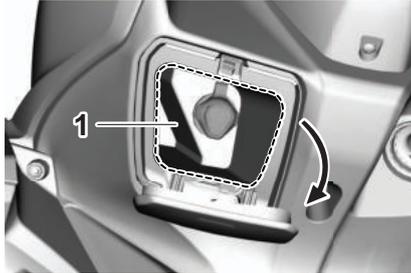
Front storage compartment



1. Front storage compartment lid

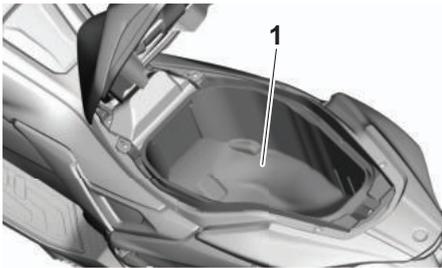
To open the storage compartment, push the front storage compartment lid as shown.

Instrument and control functions



1. Front storage compartment

Rear storage compartment



1. 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.
- Some helmets cannot be stored in the rear storage compartment because of their size or shape.

ECA21150

NOTICE

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

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

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

EWA15861

⚠ WARNING

Do not exceed the following loading limits:

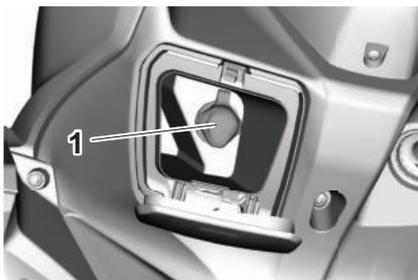
- Front storage compartment: 0.3 kg (1 lb)
- Rear storage compartment: 5.0 kg (11 lb)
- Maximum load for the vehicle: 153 kg (338 lb)

Instrument and control functions

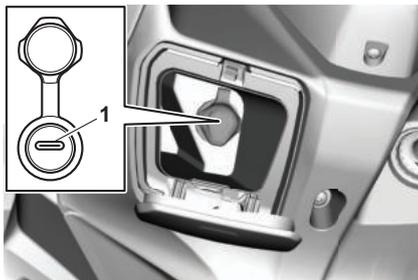
EUA1832

USB Type-C jack

This model is equipped with a 5V 3A USB Type-C jack. The USB Type-C jack can be used when the main switch is on.



1. USB jack cap



1. USB Type-C jack

TIP

- Do not use the USB Type-C jack when the engine is off or it will drain the battery.
- Under some conditions, the device battery level may drop even while the USB is plugged in.

ECA28531

NOTICE

- To protect the USB Type-C jack from water and collisions, install the cap when the jack is not being used.
- To prevent damage, avoid applying excessive force when opening and closing the USB jack cap.
- Ensure the USB jack cap is properly installed and do not use the USB Type-C jack when it rains or when washing the vehicle. If the USB Type-C jack gets wet, please dry it with the vehicle turned off before using it.

- Do not put tension or apply force to cables attached to the USB Type-C jack as it may cause damage.

Sidestand

EAU76780

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

TIP

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

EWA10242

WARNING

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

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

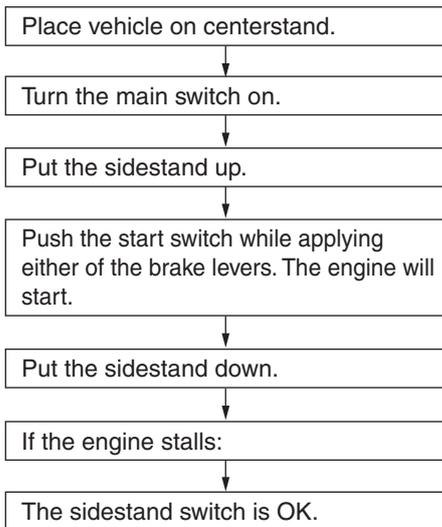
Ignition circuit cut-off system

EAUT1098

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

Instrument and control functions

6



WARNING

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

For your safety – pre-operation checks

EAU1559B

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

EWA11152

WARNING

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

Before using this vehicle, check the following points:

ITEM	CHECKS	PAGE
Fuel	<ul style="list-style-type: none">• Check fuel level in fuel tank.• Refuel if necessary.• Check fuel line for leakage.• Check fuel tank overflow hose for obstructions, cracks or damage, and check hose connection.	6-22, 6-23
Engine oil	<ul style="list-style-type: none">• Check oil level in engine.• If necessary, add recommended oil to specified level.• Check vehicle for oil leakage.	9-10
Final transmission oil	<ul style="list-style-type: none">• Check vehicle for oil leakage.	9-12
Coolant	<ul style="list-style-type: none">• Check coolant level in reservoir.• If necessary, add recommended coolant to specified level.• Check cooling system for leakage.	9-13
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.	9-20, 9-21, 9-21

For your safety – pre-operation checks

ITEM	CHECKS	PAGE
Rear brake	<ul style="list-style-type: none"> • Check operation. • If soft or spongy, have Yamaha dealer bleed hydraulic system. • Check brake pads for wear. • Replace if necessary. • Check fluid level in reservoir. • If necessary, add specified brake fluid to specified level. • Check hydraulic system for leakage. 	9-20, 9-21, 9-21
Throttle grip	<ul style="list-style-type: none"> • Make sure that operation is smooth. • Check throttle grip free play. • If necessary, have Yamaha dealer adjust throttle grip free play and lubricate cable and grip housing. 	9-17, 9-24
Control cables	<ul style="list-style-type: none"> • Make sure that operation is smooth. • Lubricate if necessary. 	9-23
Wheels and tires	<ul style="list-style-type: none"> • Check for damage. • Check tire condition and tread depth. • Check air pressure. • Correct if necessary. 	9-18, 9-20
Brake levers	<ul style="list-style-type: none"> • Make sure that operation is smooth. • Lubricate lever pivoting points if necessary. 	9-24
Centerstand, sidestand	<ul style="list-style-type: none"> • Make sure that operation is smooth. • Lubricate pivots if necessary. 	9-25
Chassis fasteners	<ul style="list-style-type: none"> • Make sure that all nuts, bolts and screws are properly tightened. • Tighten if necessary. 	—
Instruments, lights, signals and switches	<ul style="list-style-type: none"> • Check operation. • Correct if necessary. 	—
Sidestand switch	<ul style="list-style-type: none"> • Check operation of ignition circuit cut-off system. • If system is not working correctly, have Yamaha dealer check vehicle. 	6-28

EAU15952

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

EWA10272



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

EAU16842

Engine break-in

There is never a more important period in the life of your engine than the period between 0 and 1600 km (1000 mi). For this reason, you should read the following material carefully.

Since the engine is brand new, do not put an excessive load on it for the first 1600 km (1000 mi). The various parts in the engine wear and polish themselves to the correct operating clearances. During this period, prolonged full-throttle operation or any condition that might result in engine overheating must be avoided.

EAU34323

0–1000 km (0–600 mi)

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

1000–1600 km (600–1000 mi)

Avoid prolonged operation above 5500 r/min.

1600 km (1000 mi) and beyond

The vehicle can now be operated normally.

ECA10311

NOTICE

- **Keep the engine speed out of the tachometer red zone.**
- **If any engine trouble should occur during the engine break-in period, immediately have a Yamaha dealer check the vehicle.**

Operation and important riding points

Starting the engine

EAUJ2050

The ignition circuit cut-off system will enable starting only when the side-stand is up.

To start the engine

1. Turn the main switch on.
2. Confirm the indicator and warning light(s) come on for a few seconds, and then go off. (See page 6-1.)

TIP

- Do not start the engine if the engine trouble warning light remains on.
- The ABS warning light should come on and stay on until the vehicle reaches a speed of 5 km/h (3 mi/h).

ECA24110

NOTICE

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

3. Close the throttle completely.
4. While applying the front or rear brake, push the start switch.

5. Release the start switch when the engine starts, or after 5 seconds. Wait 10 seconds before pressing the switch again to allow battery voltage to restore.

ECA11043

NOTICE

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

EAUN0073

ECAN0072

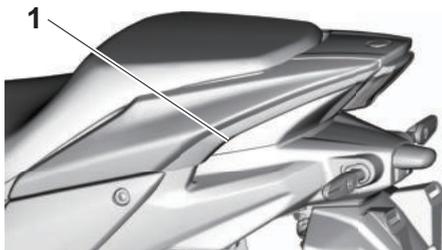
NOTICE

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

Starting off

EAU45093

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

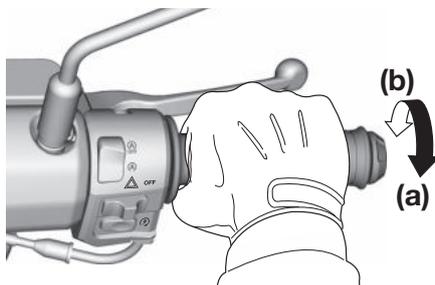


1. Grab bar

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

Acceleration and deceleration

EAU16783



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

- Do not rev the throttle unnecessarily, otherwise the malfunction indicator light (MIL)/engine trouble warning light may come on.

NOTICE

ECA12682

- Use the brake when stopping on an uphill slope. Holding the vehicle at a stop with throttle operation will cause the clutch to heat up, causing damage to the clutch.

Operation and important riding points

Braking

EAU60650

EWA17790

WARNING

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

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

Tips for reducing fuel consumption

EAU16821

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

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

Parking

EAUW4893

When parking, turn the vehicle power off. After turning off the main switch, be sure to turn off the smart key and take it with you.

EWA18840

WARNING

- **Since the engine and exhaust system can become very hot, park in a place where pedestrians or children are not likely to touch them and be burned.**
- **Do not park on a slope or on soft ground, otherwise the vehicle may overturn, increasing the risk of a fuel leak and fire.**
- **Do not park near grass or other flammable materials which might catch fire.**
- **If the Stop and Start System is left turned on, the battery could become discharged and it may not be possible to restart the engine due to insufficient battery voltage.**

TIP

Even when the vehicle is parked in a location partitioned by a fence or the glass window of a shop, if the smart key is within operating range, other people will be able to start the engine and operate the vehicle. Please turn the smart key off when leaving the vehicle. (See page 4-12.)

Periodic maintenance and adjustment

EAU17246

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

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

9

WARNING

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

EWA10322

EWA15123

WARNING

Turn off the engine when performing maintenance unless otherwise specified.

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

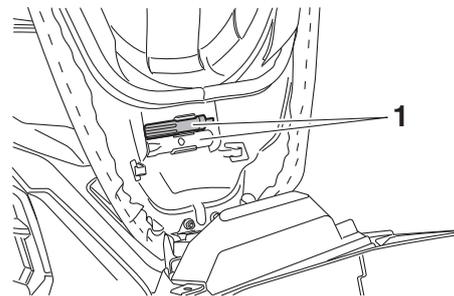
EWA15461

WARNING

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

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

EAUU0621

- TIP**
- The annual checks must be performed every year, except if a kilometer-based maintenance is performed instead.
 - From 20000 km, repeat the maintenance intervals starting from 4000 km.
 - Items marked with an asterisk should be performed by a Yamaha dealer as they require special tools, data and technical skills.

EAUU2431

Periodic maintenance chart for the emission control system

NO.	ITEM	CHECK OR MAINTENANCE JOB	ODOMETER READING (whichever comes first)					ANNUAL CHECK
			1000 km or 1 month	4000 km or 4 months	8000 km or 8 months	12000 km or 12 months	16000 km or 16 months	
1	* Fuel line	<ul style="list-style-type: none"> • Check fuel hoses for cracks or damage. 		√	√	√	√	√
2	* Fuel filter	<ul style="list-style-type: none"> • Check condition. • Replace if necessary. 	Every 12000 km (7500 mi)					
3	* Spark plugs	<ul style="list-style-type: none"> • Check condition. • Clean and regap. 		√	√	√	√	
		<ul style="list-style-type: none"> • Replace. 	Every 8000 km (5000 mi)					
4	* Valves	<ul style="list-style-type: none"> • Check valve clearance. • Adjust if necessary. 			√		√	
5	* Fuel injection	<ul style="list-style-type: none"> • Check engine idle speed. 		√	√	√	√	√
6	* Exhaust system	<ul style="list-style-type: none"> • Check for leakage. • Tighten if necessary. • Replace gasket(s) if necessary. 		√	√	√	√	√

Periodic maintenance and adjustment

EAUU2441

General maintenance and lubrication chart

NO.	ITEM	CHECK OR MAINTENANCE JOB	ODOMETER READING (whichever comes first)					ANNUAL CHECK
			1000 km or 1 month	4000 km or 4 months	8000 km or 8 months	12000 km or 12 months	16000 km or 16 months	
1	* Diagnostic system check	<ul style="list-style-type: none"> Perform dynamic inspection using Yamaha diagnostic tool. Check the error codes. 	√	√	√	√	√	√
2	Air filter element	<ul style="list-style-type: none"> Replace. 	Every 16000 km (10000 mi)					
3	Air filter check hose	<ul style="list-style-type: none"> Clean. 	√	√	√	√	√	
4	* V-belt case air filter element	<ul style="list-style-type: none"> Clean. Replace if necessary. 		√	√	√	√	
5	* Battery	<ul style="list-style-type: none"> Check voltage. Charge if necessary. 	√	√	√	√	√	√
6	* Front brake	<ul style="list-style-type: none"> Check operation, fluid level and vehicle for fluid leakage. 	√	√	√	√	√	√
		<ul style="list-style-type: none"> Replace brake pads. 	Whenever worn to the limit					
7	* Rear brake	<ul style="list-style-type: none"> Check operation, fluid level and vehicle for fluid leakage. 	√	√	√	√	√	√
		<ul style="list-style-type: none"> Replace brake pads. 	Whenever worn to the limit					
8	* Brake hoses	<ul style="list-style-type: none"> Check for cracks or damage. Check for correct routing and clamping. 		√	√	√	√	√
		<ul style="list-style-type: none"> Replace. 	Every 4 years					
9	* Brake fluid	<ul style="list-style-type: none"> Change. 	Every 2 years					
10	* Wheels	<ul style="list-style-type: none"> Check runout and for damage. 		√	√	√	√	

Periodic maintenance and adjustment

NO.	ITEM	CHECK OR MAINTENANCE JOB	ODOMETER READING (whichever comes first)					ANNUAL CHECK
			1000 km or 1 month	4000 km or 4 months	8000 km or 8 months	12000 km or 12 months	16000 km or 16 months	
11	* Tires	<ul style="list-style-type: none"> • Check tread depth and for damage. • Replace if necessary. • Check air pressure. • Correct if necessary. 		√	√	√	√	√
12	* Wheel bearings	<ul style="list-style-type: none"> • Check bearings for looseness or damage. 		√	√	√	√	
13	* Steering bearings	<ul style="list-style-type: none"> • Check bearing play and steering for roughness. 	√	√	√	√	√	
		<ul style="list-style-type: none"> • Lubricate with lithium-soap-based grease. 	Every 24000 km (15000 mi)					
14	* Chassis fasteners	<ul style="list-style-type: none"> • Make sure that all nuts, bolts and screws are properly tightened. 		√	√	√	√	√
15	Front brake lever pivot shaft	<ul style="list-style-type: none"> • Lubricate with silicone grease. 		√	√	√	√	√
16	Rear brake lever pivot shaft	<ul style="list-style-type: none"> • Lubricate with silicone grease. 		√	√	√	√	√
17	Sidestand, center-stand	<ul style="list-style-type: none"> • Check operation. • Lubricate with lithium-soap-based grease. 		√	√	√	√	√
18	* Sidestand switch	<ul style="list-style-type: none"> • Check operation. 	√	√	√	√	√	√
19	* Front fork	<ul style="list-style-type: none"> • Check operation and for oil leakage. 		√	√	√	√	
		<ul style="list-style-type: none"> • Change the front fork oil. 	Every 20000 km (12000 mi)					
20	* Shock absorber assemblies	<ul style="list-style-type: none"> • Check operation and shock absorbers for oil leakage. 		√	√	√	√	

Periodic maintenance and adjustment

NO.	ITEM	CHECK OR MAINTENANCE JOB	ODOMETER READING (whichever comes first)					ANNUAL CHECK
			1000 km or 1 month	4000 km or 4 months	8000 km or 8 months	12000 km or 12 months	16000 km or 16 months	
21	Engine oil	• Change.	√	When the oil change indicator flashes				
		• Check oil level and vehicle for oil leakage.	Every 4000 km (2500 mi)					√
22	* Engine oil strainer	• Clean.	√					√
23	* Cooling system	• Check coolant level and vehicle for coolant leakage.		√	√	√	√	√
		• Change.	Every 3 years					
24	Final transmission oil	• Check vehicle for oil leakage.	√	√	√	√	√	
		• Change.	√	Every 12000 km (7200 mi)				
25	* V-belt	• Check for damage and wear.			√	√	√	
		• Replace.	When the V-belt replacement indicator flashes [every 25000 km]					
26	* V-belt secondary sheave	• Lubricate.	Every 12000 km (7500 mi)					
27	* Front and rear brake switches	• Check operation.	√	√	√	√	√	√
28	Moving parts and cables	• Lubricate.		√	√	√	√	√
29	* Throttle grip	• Check operation. • Check throttle grip free play, and adjust if necessary. • Lubricate cable and grip housing.		√	√	√	√	√
30	* Lights, signals and switches	• Check operation. • Adjust headlight beam.	√	√	√	√	√	√

TIP

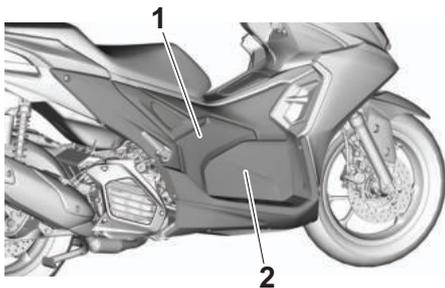
- Air filter
 - This model's air filter is equipped with a disposable oil-coated paper element, which must not be cleaned with compressed air to avoid damaging it.
 - The air filter element needs to be replaced more frequently when riding in unusually wet or dusty areas.
- V-belt case air filter
 - The air filter needs more frequent service if you are riding in unusually wet or dusty areas.
- V-belt
 - The V-belt should be checked at the initial 8000 km (5000 mi) and every 4000 km (2500 mi) thereafter. Replace the V-belt if any damage or excessive wear is found. The V-belt needs to be replaced every 25000 km (15500 mi) even if there is not wear or damage.
- Hydraulic brake service
 - Regularly check and, if necessary, correct the brake fluid level.
 - Every two years replace the internal components of the brake master cylinders and calipers, and change the brake fluid.
 - Replace the brake hoses every four years and if cracked or damaged.
- Fuel system service
 - Use only unleaded gasoline. The use of leaded gasoline will cause severe damage to internal engine parts, such as the valves and piston rings, as well as to the exhaust system.
 - Replace the fuel filler cover every two years or if cracked or damaged.
 - Check the fuel filter for clogging or damage every 12000 km (7500 mi).
- Battery service
 - Check the condition and service the battery every 3 months.
 - Recharge the battery immediately if the voltage is less than 12.4 V.
 - If the battery tends to discharge, replace it immediately.

Periodic maintenance and adjustment

Removing and installing panels

EAU18773

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



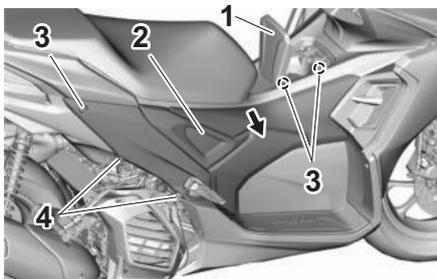
1. Panel A
2. Panel B

EAUN4681

Panel A

To remove the panel

1. Open the fuel tank cap lid.
2. Remove the screws and quick fasteners.

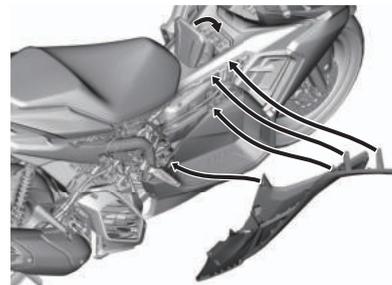


1. Fuel tank cap lid
2. Panel A
3. Screw
4. Quick fastener

3. Extend the right passenger footrest, and then pull the panel outward.

To install the panel

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



2. Retract the right passenger footrest to its original position.
3. Close the fuel tank cap lid.

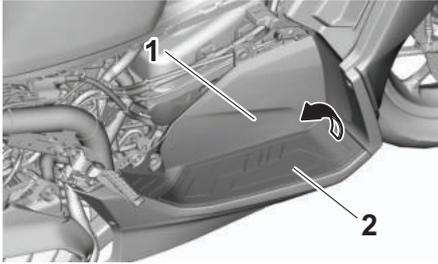
Panel B

To remove the panel

1. Remove panel A.
2. Remove the right floorboard mat by pulling it up.

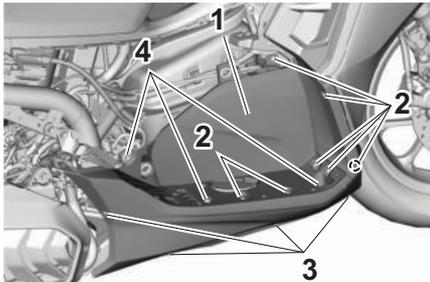
Periodic maintenance and adjustment

EAUA3760



1. Panel B
2. Footboard mat

3. Remove the screws, quick fasteners and bolts, and then pull the panel outward.



1. Panel B
2. Screw
3. Quick fastener
4. Bolt

To install the panel

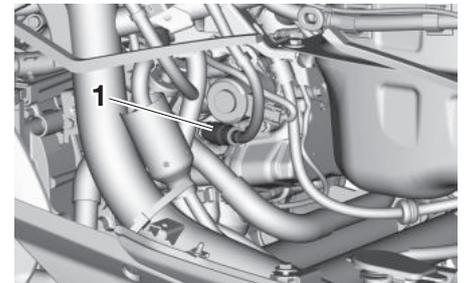
1. Place the panel in the original position, and then install the screws, quick fasteners and bolts.
2. Place the right floorboard mat in the original position and push it downward to secure it.
3. Install panel A.

Checking the spark plug

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

To remove the spark plug

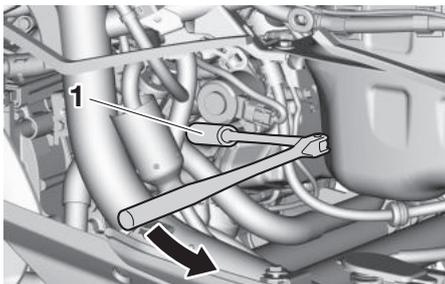
1. Place the vehicle on the center-stand.
2. Remove panels A and B. (See page 9-7.)
3. Remove the spark plug cap.



1. Spark plug cap

Periodic maintenance and adjustment

- Remove the spark plug as shown, with a spark plug wrench available at a Yamaha dealer.



1. Spark plug wrench

To check the spark plug

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

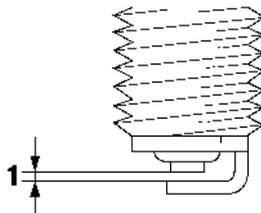
TIP

If the spark plug shows a distinctly different color, the engine could be operating improperly. Do not attempt to diagnose such problems yourself. Instead, have a Yamaha dealer check the vehicle.

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

Specified spark plug:
NGK/CPR8EA-9

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



1. Spark plug gap

Spark plug gap:
0.8–0.9 mm (0.031–0.035 in)

To install the spark plug

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

Tightening torque:

Spark plug:
13 N·m (1.3 kgf·m, 9.6 lb·ft)

TIP

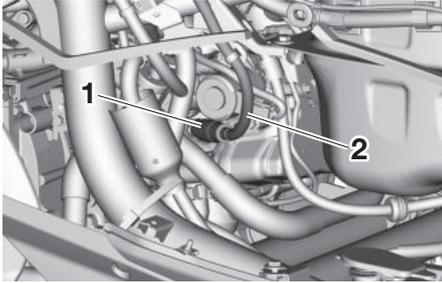
If a torque wrench is not available when installing a spark plug, a good estimate of the correct torque is 1/4–1/2 turn past finger tight. However, the spark plug should be tightened to the specified torque as soon as possible.

- Install the spark plug cap.

TIP

Install the spark plug cap so that it is positioned as shown in the illustration and the spark plug lead does not contact any surrounding parts.

EAU66996



1. Spark plug cap
2. Spark plug lead
4. Install the panels.

Engine oil and oil strainer

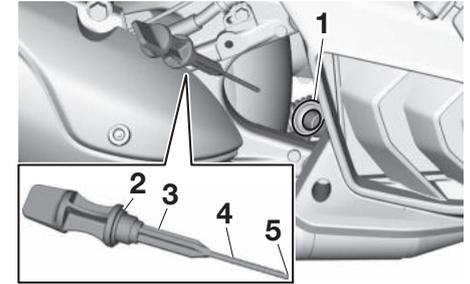
The engine oil level should be checked before each ride. In addition, the oil must be changed and the oil strainer cleaned at the intervals specified in the periodic maintenance and lubrication chart.

To check the engine oil level

1. Place the vehicle on the center-stand. A slight tilt to the side can result in a false reading.
2. Start the engine, warm it up for several minutes, and then turn it off.
3. Wait a few minutes until the oil settles, remove the engine oil filler cap, wipe the engine oil dipstick clean, insert it back into the oil filler hole (without screwing it in), and then remove it again to check the oil level. **WARNING! The muffler and muffler protector become very hot during use. To avoid possible burns, let the muffler and protector cool before removing the oil filler cap.** [EWA17810]

TIP

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



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

4. If the engine oil is not between the tip of the dipstick and the maximum level mark, add sufficient oil of the recommended type to raise it to the correct level.
5. Insert the dipstick into the oil filler hole, and then tighten the oil filler cap.

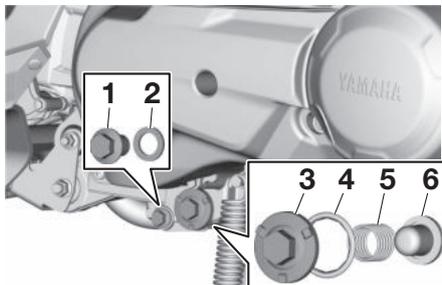
Periodic maintenance and adjustment

To change the engine oil and clean the oil strainer

1. Start the engine, warm it up for several minutes, and then turn it off.
2. Place an oil pan under the engine to collect the used oil.
3. Remove the engine oil filler cap and engine oil drain bolts A and B to drain the oil from the crankcase.

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

[ECAT1022]



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

4. Clean the engine oil strainer with solvent, and then check it for damage and replace it if necessary.
5. Install the engine oil strainer, compression spring, new O-ring and engine oil drain bolt B.

TIP _____
Make sure that the O-ring is properly seated.

6. Install engine oil drain bolt A and its new gasket, and then tighten both drain bolts to their specified torques.

Tightening torque:

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

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

Recommended engine oil:

See page 11-1.

Oil quantity:

1.00 L (1.06 US qt, 0.88 Imp.qt)

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

NOTICE

Make sure that no foreign material enters the crankcase.

ECA24060

Periodic maintenance and adjustment

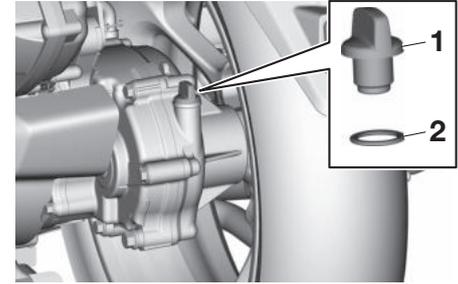
EAU67822

8. Start the engine, and then let it idle for several minutes while checking it for oil leakage. If oil is leaking, immediately turn the engine off and check for the cause.
9. Turn the engine off, and then check the oil level and correct it if necessary.
10. Reset the oil change tripmeter and oil change indicator "OIL". (See page 6-15 for reset procedures.)

Final transmission oil

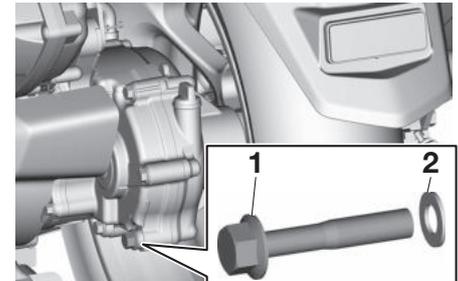
The final transmission case must be checked for oil leakage before each ride. If any leakage is found, have a Yamaha dealer check and repair your motorcycle. In addition, the final transmission oil must be changed as follows at the intervals specified in the periodic maintenance and lubrication chart.

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



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

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



1. Final transmission oil drain bolt
2. Gasket

Periodic maintenance and adjustment

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

TIP

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

Tightening torque:

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

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

Recommended final transmission oil:

See page 11-1.

Oil quantity:

0.10 L (0.11 US qt, 0.09 Imp.qt)

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

EAU20071

Coolant

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

EAUN2930

To check the coolant level

1. Place the vehicle on the centerstand.

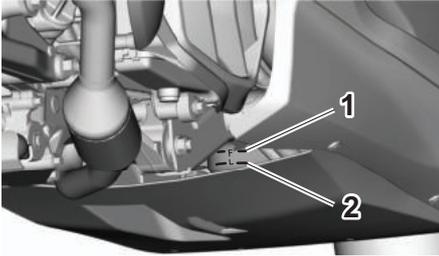
TIP

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

TIP

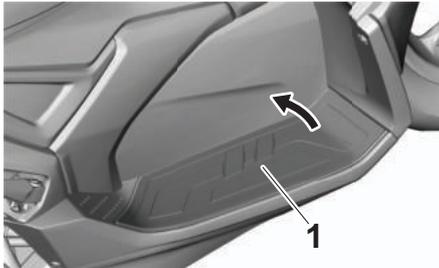
The coolant should be between the minimum and maximum level marks.

Periodic maintenance and adjustment



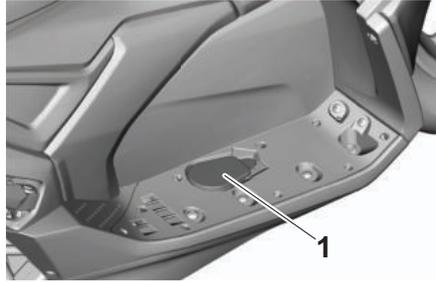
1. Maximum level mark
2. Minimum level mark

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



1. Floorboard mat

4. Remove the coolant reservoir cover.

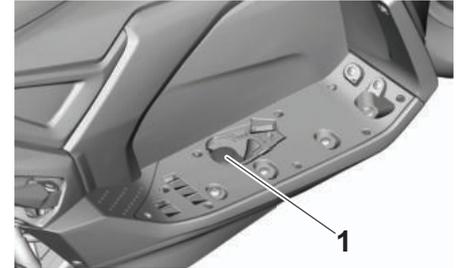


1. Coolant reservoir cover

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

[EWA15162] **NOTICE:** If coolant is not available, use distilled water or soft tap water instead. Do not use hard water or salt water since it is harmful to the engine. If water has been used instead of coolant, replace it with coolant as soon as possible, otherwise the cooling system will not be protected against frost and corrosion. If water has been

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



1. Coolant reservoir cap

Coolant reservoir capacity (up to the maximum level mark):
0.13 L (0.14 US qt, 0.11 Imp.qt)

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

Periodic maintenance and adjustment

Changing the coolant

EAUJ33032

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

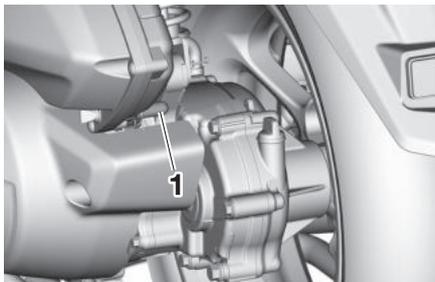
WARNING! Never attempt to remove the radiator cap when the engine is hot. [EWA10382]

Air filter and V-belt case air filter elements

EAUN2380

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

Cleaning the air filter check hose



1. Air filter check hose

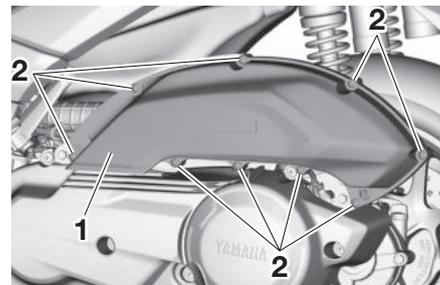
1. Check the hose on the rear side of the air filter case for accumulated dirt or water.
2. If dirt or water is visible, remove the hose from the clamp, clean it, and then install it.

TIP

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

Replacing the air filter element

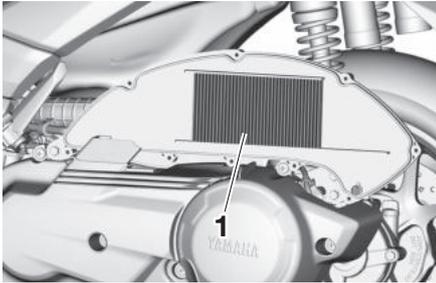
1. Place the vehicle on the center-stand.
2. Remove the air filter case cover by removing the screws.



1. Air filter case cover
2. Screw

Periodic maintenance and adjustment

3. Pull the air filter element out.



1. Air filter element

4. Insert a new air filter element into the air filter case. **NOTICE: Make sure that the air filter element is properly seated in the air filter case. The engine should never be operated without the air filter element installed, otherwise the piston(s) and/or cylinder(s) may become excessively worn.**

[ECA10482]

ECA21220

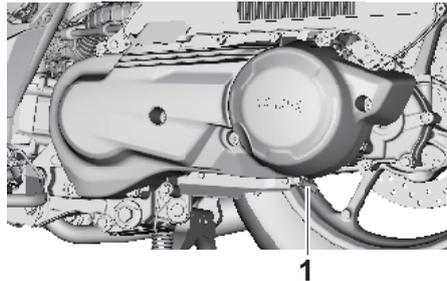
NOTICE

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

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

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

Cleaning the V-belt case check hose



1. V-belt case check hose

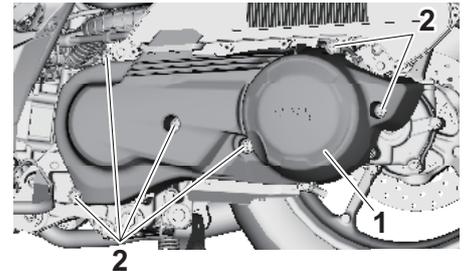
1. Check the hose on the rear side of the V-belt case for accumulated dirt or water.
2. If dirt or water is visible, remove the hose from the clamp, clean it, and then install it.

TIP

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

Cleaning the V-belt case air filter element

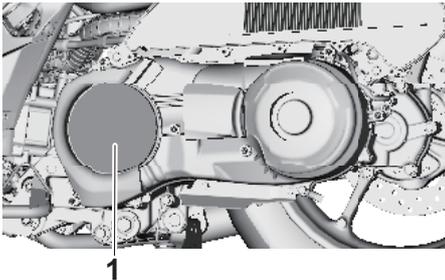
1. Place the vehicle on the center-stand.
2. Remove the bolts, and then pull the V-belt case air filter element cover outward and away from the V-belt case.



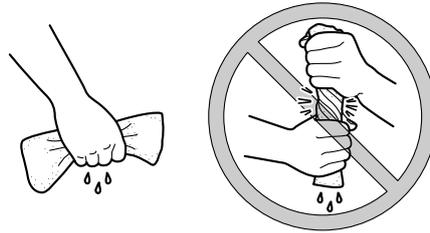
1. V-belt case air filter element cover
2. Bolt

Periodic maintenance and adjustment

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



1. V-belt case air filter element



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

TIP

- The air filter element should be wet but not dripping.
- Check the air filter element for excessive dirt or damage and replace it if necessary.

Recommended oil:

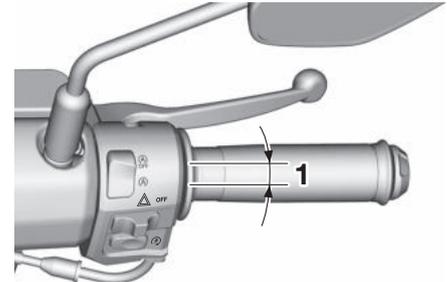
Yamaha foam air filter oil or other quality foam air filter oil

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

EAU21386

Checking the throttle grip free play

Measure the throttle grip free play as shown.



1. Throttle grip free play

Throttle grip free play:

3.0–5.0 mm (0.12–0.20 in)

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

EAU21403

EAU82721

Valve clearance

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

TIP

This service must be performed when the engine is cold.

Tires

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

Tire air pressure

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

EWA10504



WARNING

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

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

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

Cold tire air pressure:

1 person:

Front:

200 kPa (2.00 kgf/cm², 29 psi)

Rear:

225 kPa (2.25 kgf/cm², 33 psi)

2 persons:

Front:

200 kPa (2.00 kgf/cm², 29 psi)

Rear:

225 kPa (2.25 kgf/cm², 33 psi)

Maximum load:

Vehicle:

153 kg (338 lb)

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

EWA10512

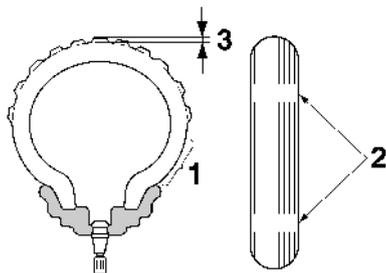


WARNING

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

Periodic maintenance and adjustment

Tire inspection



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

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

Minimum tire tread depth (front and rear):
1.0 mm (0.04 in)

WARNING

EWA10583

- It is dangerous to ride with a worn-out tire. When a tire tread begins to show crosswise lines, have a Yamaha dealer replace the tire immediately.
- The replacement of all wheel and brake-related parts, including the tires, should be left to a Yamaha dealer, who has the necessary professional knowledge and experience to do so.
- Ride at moderate speeds after changing a tire since the tire surface must first be “broken in” for it to develop its optimal characteristics.

Tire information

This model is equipped with tubeless tires and tire air valves. Tires age, even if they have not been used or have only been used occasionally. Cracking of the tread and sidewall rubber, sometimes accompanied by carcass deformation, is an evidence of

ageing. Old and aged tires shall be checked by tire specialists to ascertain their suitability for further use.

EWA10462

WARNING

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

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

Front tire:

Size:
110/80-14M/C 53P
Manufacturer/model:
IRC/SCT-005F

Rear tire:

Size:
140/70-14M/C 62P
Manufacturer/model:
IRC/SCT-005R

Cast wheels

EAU21963

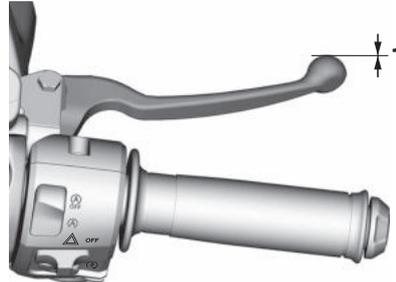
To maximize the performance, durability, and safe operation of your vehicle, note the following points regarding the specified wheels.

- 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.

Checking the front and rear brake lever free play

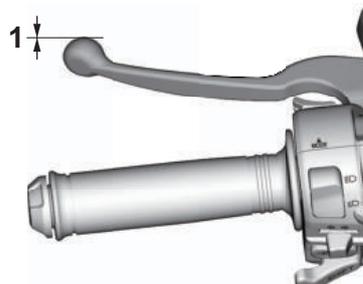
EAU50861

Front



1. No brake lever free play

Rear



1. No brake lever free play

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

EWA14212

⚠ WARNING

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

Periodic maintenance and adjustment

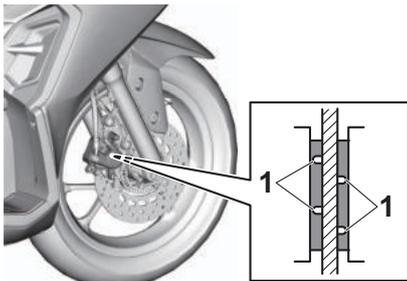
Checking the front and rear brake pads

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

EAU22434



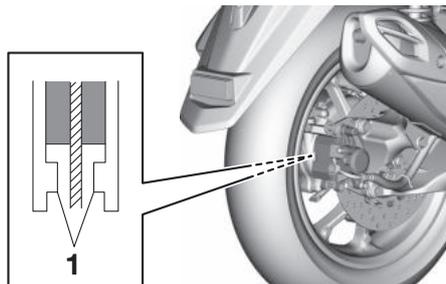
1. Brake pad wear indicator groove

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

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

Rear brake pads

EAU22461



1. Brake pad wear indicator

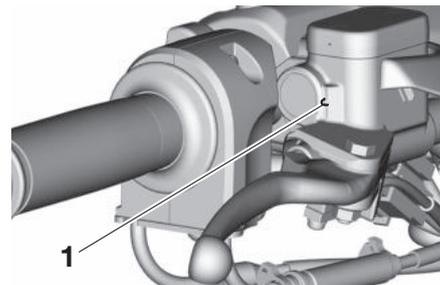
Each rear brake pad is provided with a wear indicator, which allows you to check the brake pad wear without having to disassemble the brake. To check the brake pad wear, check the position of the wear indicator while applying the brake. If a brake pad has worn to the point that the wear indicator almost touches the brake disc, have a Yamaha dealer replace the brake pads as a set.

Checking the brake fluid level

EAU78792

Before starting off, confirm that the brake fluid is above the minimum level mark. (Position the handlebars so the brake fluid in the reservoir is level to the ground.) Replenish the brake fluid if necessary.

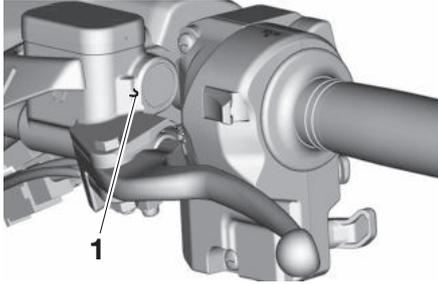
Front brake



1. Minimum level mark

Periodic maintenance and adjustment

Rear brake



1. Minimum level mark

Specified brake fluid:
YAMAHA GENUINE BRAKE FLUID
DOT 4

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.

level goes down suddenly, have a Yamaha dealer check the vehicle before further operation.

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 or brake system leakage. Therefore, be sure to check the brake pads for wear and the brake system for leakage. If the brake fluid

ECA17641

Periodic maintenance and adjustment

Changing the brake fluid

EAU22734

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

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

Checking the V-belt

EAU00311

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

Checking and lubricating the cables

EAU23098

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

Recommended lubricant:

Yamaha cable lubricant or other suitable cable lubricant

Periodic maintenance and adjustment

Checking and lubricating the throttle grip and cable

EAU49921

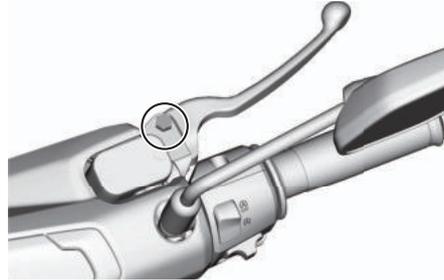
The operation of the throttle grip should be checked before each ride. In addition, the cable should be lubricated by a Yamaha dealer at the intervals specified in the periodic maintenance chart.

Lubricating the front and rear brake levers

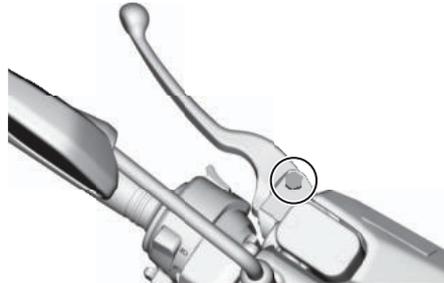
EAU23173

Recommended lubricant:
Silicone grease

Front brake lever



Rear brake lever

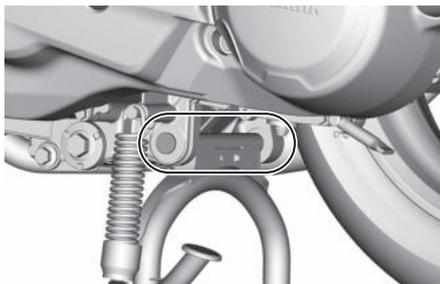
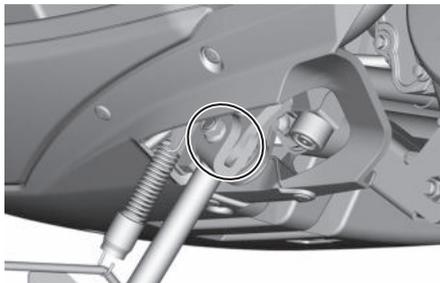


The pivoting points of the front and rear brake levers must be lubricated at the intervals specified in the periodic maintenance and lubrication chart.

Periodic maintenance and adjustment

Checking and lubricating the centerstand and sidestand

EAU23215



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

WARNING

EWA10742

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

Recommended lubricant:
Lithium-soap-based grease

EAU23273

Checking the front fork

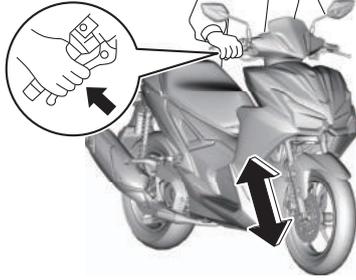
The condition and operation of the front fork must be checked as follows at the intervals specified in the periodic maintenance and lubrication chart.

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

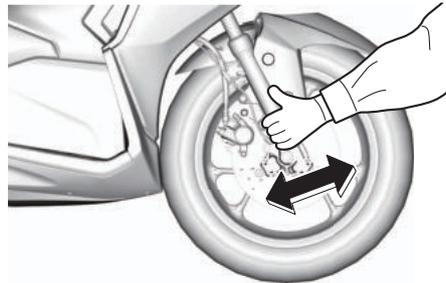
If any damage is found or the front fork does not operate smoothly, have a Yamaha dealer check or repair it.

Checking the steering

EAU45512

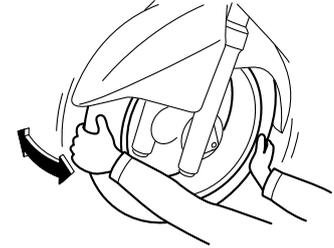
Worn or loose steering bearings may cause danger. Therefore, the operation of the steering must be checked as follows at the intervals specified in the periodic maintenance and lubrication chart.

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



Checking the wheel bearings

EAU23292



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

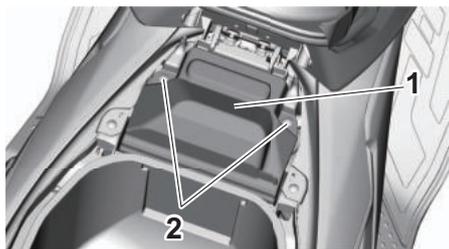
Periodic maintenance and adjustment

Removing the battery cover

EAUM1391

To remove the battery cover

1. Open the seat. (See page 6-24.)
2. Remove the screws, and then take the cover off.



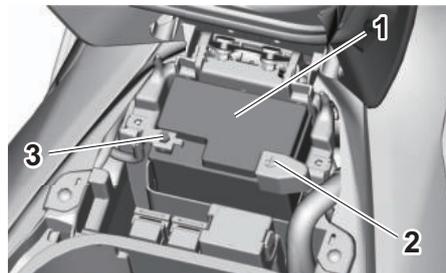
1. Battery cover
2. Screw

To install the cover

1. Place the cover in the original position, and then install the screws.
2. Close the seat.

Battery

EAU50292



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

The battery is located under the seat. (See page 6-24.)

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

EWA10761



WARNING

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

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

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

To charge the battery

Have a Yamaha dealer charge the battery as soon as possible if it seems to have discharged. Keep in mind that the

battery tends to discharge more quickly if the vehicle is equipped with optional electrical accessories.

ECA16522

NOTICE

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

To store the battery

1. If the vehicle will not be used for more than one month, remove the battery, fully charge it, and then place it in a cool, dry place.
NOTICE: When removing the battery, be sure to turn the main switch off, then disconnect the negative lead before disconnecting the positive lead. [ECA16304]
2. If the battery will be stored for more than two months, check it at least once a month and fully charge it if necessary.
3. Fully charge the battery before installation. **NOTICE: When installing the battery, be sure to turn the main switch off, then con-**

nect the positive lead before connecting the negative lead.

[ECA16842]

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

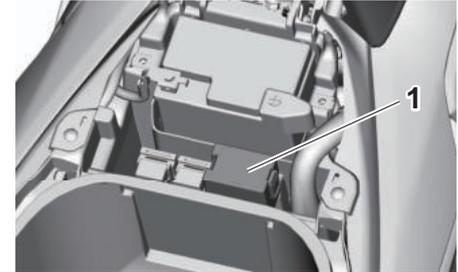
ECA16531

NOTICE

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

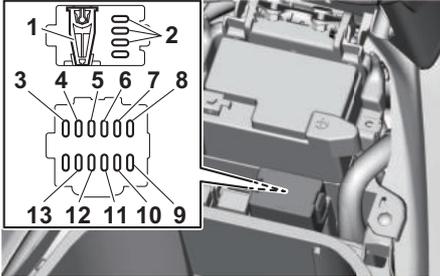
Replacing the fuses

The fuse box, which contain the fuses for the individual circuits, is located under the seat. (See page 6-24.)



1. Fuse box

Periodic maintenance and adjustment



1. Fuse puller
2. Spare fuse
3. USB jack fuse
4. Smart key system fuse
5. ABS solenoid fuse
6. ABS motor fuse
7. Backup fuse
8. Main fuse
9. TCU motor fuse
10. ABS control unit fuse
11. Signaling system fuse
12. Ignition fuse
13. Headlight fuse

TIP

- There is a spare fuse on the back side of the fuse box cover.
- Use the fuse puller to remove fuses.

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 6-24.)
3. Remove the battery cover by removing the screws. (See page 9-27.)
4. Remove the blown fuse using the fuse puller, 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]

Specified fuses:

- Main fuse:
30.0 A
- Headlight fuse:
7.5 A
- Signaling system fuse:
7.5 A
- Ignition fuse:
7.5 A
- Smart key system fuse:
7.5 A
- ABS motor fuse:
10.0 A
- ABS solenoid fuse:
7.5 A
- ABS control unit fuse:
7.5 A
- Backup fuse:
7.5 A
- TCU motor fuse:
30.0 A
- USB fuse:
7.5 A

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

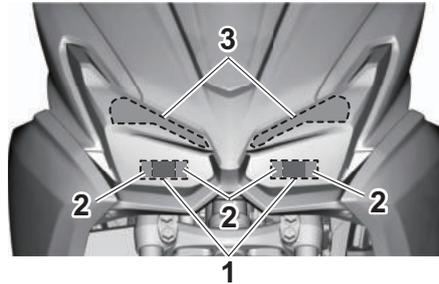
Periodic maintenance and adjustment

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

EAM80380



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

Except for the license plate light bulb, this model's lights are all LED.

If an LED light does not come on, check the fuses and then have a Yamaha dealer check the vehicle. If the license plate light does not come on, check and replace the bulb. (See page 9-30.)

ECA16581

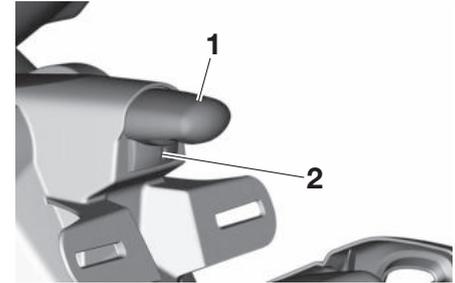
NOTICE _____

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

Replacing the license plate light bulb

EAM3511

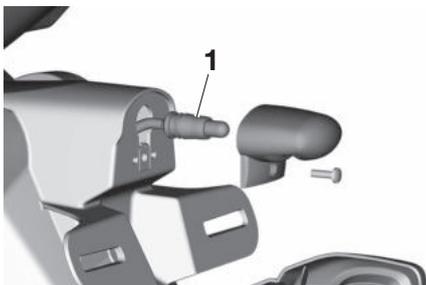
1. Remove the license plate light unit by removing the screw.



1. License plate light unit
2. Screw

2. Remove the license plate light bulb socket (together with the bulb) by pulling it out.

Periodic maintenance and adjustment



1. Socket
3. Remove the burnt-out bulb by pulling it out.
4. Insert a new bulb into the socket.
5. Install the socket (together with the bulb) by pushing it in.
6. Install the license plate light unit by installing the screw.

Troubleshooting

EAU60701

Although Yamaha vehicles receive a thorough inspection before shipment from the factory, trouble may occur during operation. Any problem in the fuel, compression, or ignition systems, for example, can cause poor starting and loss of power.

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

Use only genuine Yamaha replacement parts. Imitation parts may look like Yamaha parts, but they are often inferior, have a shorter service life and can lead to expensive repair bills.

EWA15142

WARNING

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

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

EAU76552

Smart key system troubleshooting

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

- Is the smart key turned on? (See page 4-8.)
- Is the smart key battery discharged? (See page 4-9.)
- Is the smart key battery installed correctly? (See page 4-9.)
- Is the smart key being used in a location with strong radio waves or other electromagnetic noise? (See page 4-4.)
- Are you using the smart key that is registered to the vehicle?
- Is the vehicle battery discharged? When the vehicle battery is discharged, the smart key system will not operate. Please have the vehicle battery charged or replaced. (See page 9-27.)

Periodic maintenance and adjustment

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

TIP

See Emergency mode on page 9-36 for information on starting the engine without the smart key.

EAU76843

Stop and Start System troubleshooting

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

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

1. Is the main switch turned on?
2. Is the Stop and Start System switch set to “**A**”?
3. Was the engine warmed up sufficiently after starting?
4. After the engine was warmed up, was the engine left idling for a certain period of time?
5. Did the vehicle travel at a speed of 10 km/h or higher?

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

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

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

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

1. Was the vehicle stopped completely?
The engine may not stop automatically until the vehicle is stopped for a certain period of time. Try bringing the vehicle to a complete stop.
2. Is the throttle grip turned?
The engine does not stop automatically if the throttle grip is not in the fully closed position.

Turn the throttle grip to the fully closed position.

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

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

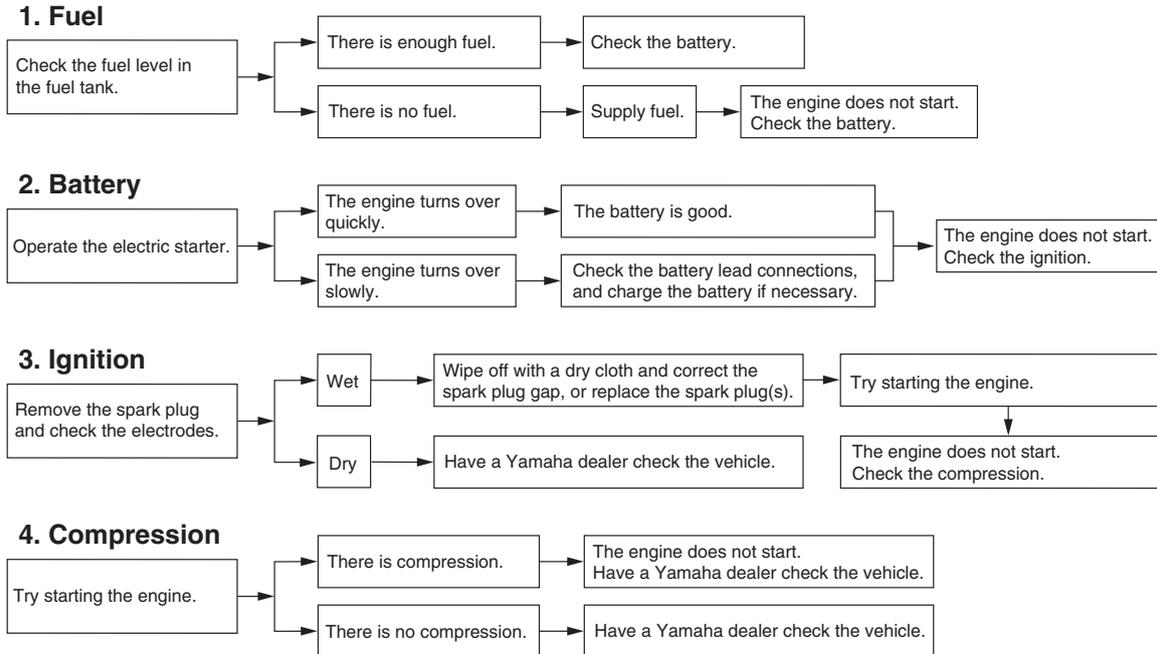
1. Is the Stop and Start System switch set to “**A_{OFF}**”?
If the Stop and Start System switch is set to “**A_{OFF}**” while the Stop and Start System is activated, the Stop and Start System will be turned off.
2. Was the sidestand operated?
When the sidestand is lowered, the Stop and Start System is deactivated.
3. Was the engine left stopped by the Stop and Start System for a long period of time?

Periodic maintenance and adjustment

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

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

Troubleshooting chart



Periodic maintenance and adjustment

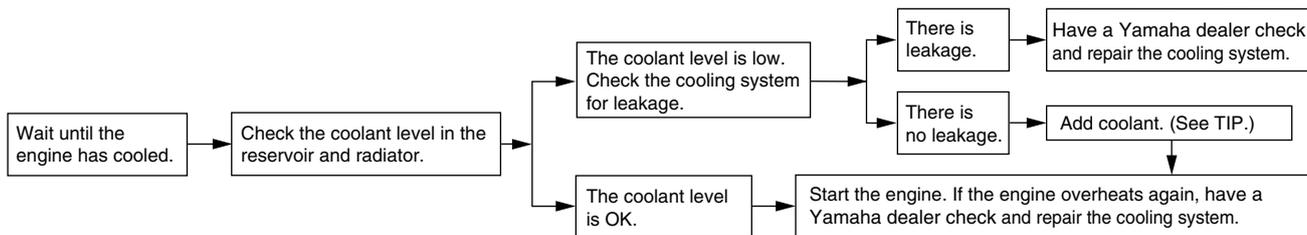
EAU86420

Engine overheating

EWAT1041

⚠ WARNING

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



9

TIP

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

Periodic maintenance and adjustment

EAUN4730

Emergency mode

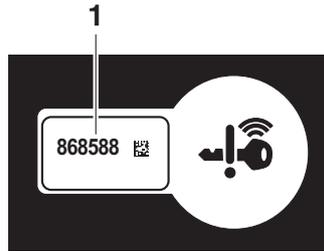
When the smart key is lost or damaged, or its battery has discharged, the vehicle can still be turned on and the engine started. You will need the smart key system identification number.

To operate the vehicle in emergency mode

1. Stop the vehicle in a safe place and confirm the main switch is set to "OFF".
2. Push the main switch knob for 5 seconds until the smart key system indicator light flashes once, then release it. Repeat two more times. The smart key system indicator light will come on for three seconds to indicate the transition to emergency mode.



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



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

For example, if the identification number is 123456:

Push and hold the knob.



The smart key system indicator light will start to flash.



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



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



Push and hold the knob again.



Periodic maintenance and adjustment

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



The second digit has been set as “2”.



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

TIP

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

- When there are no knob operations for 10 seconds during the identification number input process.
- When the smart key system indicator light is allowed to flash nine or more times.

- The identification number is not entered correctly.
-

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

Matte color caution

EAU37834

EAU0990

NOTICE

ECA15193

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

Care

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

TIP

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

ECA26280

NOTICE

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

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

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

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

Before washing

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

Scooter care and storage

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

[ECA26290]

Washing

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

After washing

1. Dry the vehicle with a chamois or absorbent towel, preferably microfiber 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 motorcycles.
- 8. When finished cleaning, start the engine and let it idle for several minutes to help dry any remaining moisture.
- 9. If the headlight lens has fogged up, start the engine and turn on the headlight to help remove the moisture.
- 10. Let the vehicle dry completely before storing or covering it.

ECA26320

NOTICE

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

EWA20660

WARNING

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

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

Storage

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

ECA21170

NOTICE

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

Long term storage

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

Scooter care and storage

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

TIP

- If the battery will be removed, charge it once a month and store it in a temperate location between 0-30 °C (32-90 °F).
 - See page 9-27 for more information on charging and storing the battery.
-

Dimensions:

- Overall length:
1980 mm (78.0 in)
- Overall width:
710 mm (28.0 in)
- Overall height:
1170 mm (46.1 in)
- Seat height:
790 mm (31.1 in)
- Wheelbase:
1350 mm (53.1 in)
- Ground clearance:
145 mm (5.71 in)
- Minimum turning radius:
2.0 m (6.56 ft)

Weight:

- Curb weight:
130 kg (288 lb)

Engine:

- Combustion cycle:
4-stroke
- Cooling system:
Liquid cooled
- Valve train:
SOHC
- Number of cylinders:
Single cylinder
- Displacement:
155 cm³
- Bore × stroke:
58.0 × 58.7 mm (2.28 × 2.31 in)
- Starting system:
Electric starter

Engine oil:

- Recommended brand:
- SAE viscosity grades:
10W-40
- Recommended engine oil grade:
API service SG type or higher, JASO
standard MA or MB
- Engine oil quantity:
Oil change:
1.00 L (1.06 US qt, 0.88 Imp.qt)

Final transmission oil:

- Type:
Motor oil SAE 10W-40 type SG or higher
- Quantity:
0.10 L (0.11 US qt, 0.09 Imp.qt)

Coolant quantity:

- Coolant reservoir (up to the maximum level
mark):
0.13 L (0.14 US qt, 0.11 Imp.qt)
- Radiator (including all routes):
0.50 L (0.53 US qt, 0.44 Imp.qt)

Fuel:

- Recommended fuel:
Unleaded gasoline (E10 to E20 only)
- Octane number (RON):
90
- Fuel tank capacity:
5.5 L (1.5 US gal, 1.2 Imp.gal)
- Fuel reserve amount:
1.1 L (0.29 US gal, 0.24 Imp.gal)

Fuel injection:

- Throttle body:
ID mark:
B651

Front tire:

- Type:
Tubeless
- Size:
110/80-14M/C 53P
- Manufacturer/model:
IRC/SCT-005F

Rear tire:

- Type:
Tubeless
- Size:
140/70-14M/C 62P
- Manufacturer/model:
IRC/SCT-005F

Loading:

- Maximum load:
153 kg (338 lb)
(Total weight of rider, passenger, cargo and
accessories)

Front brake:

- Type:
Hydraulic single disc brake

Rear brake:

- Type:
Hydraulic single disc brake

Front suspension:

- Type:
Telescopic fork

Rear suspension:

- Type:
Unit swing

Electrical system:

- System voltage:
12 V

Specifications

Battery:

Model:

GTZ7V

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:

5.0 W

Meter lighting:

LED

Identification numbers

EAU26366

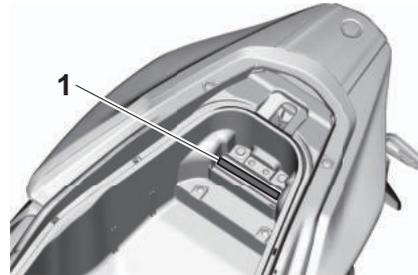
Record the vehicle identification number and the engine serial number in the spaces provided below for assistance when ordering spare parts from a Yamaha dealer or for reference in case the vehicle is stolen.

VEHICLE IDENTIFICATION NUMBER:

ENGINE SERIAL NUMBER:

Vehicle identification number

EAUE1922



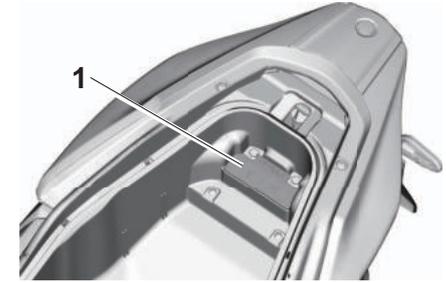
1. Vehicle identification number

The vehicle identification number is stamped into the frame.

TIP _____
The vehicle identification number is used to identify your scooter and may be used to register your scooter with the licensing authority in your area.

To check the vehicle identification number

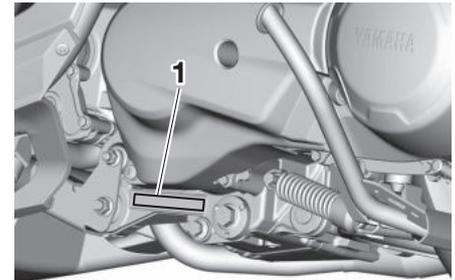
1. Open the seat. (See page 6-24.)
2. Remove the rubber cap.



1. Rubber cap

Engine serial number

EAU26442



1. Engine serial number

The engine serial number is stamped into the crankcase.

Consumer information

EAU1021

Use of your data

This is a brief summary of how Yamaha (Yamaha Motor Co., Ltd., and the local subsidiaries) uses your data. For more details for Yamaha's use of your data, please see our Privacy Policy.

<https://global.yamaha-motor.com/en/privacy/>

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

This vehicle collects three types of data through integrated Engine Control Units (ECU):

(1) Vehicle Identification Number (VIN); (2) live data showing the performance of the vehicle such as engine/motor operating state, vehicle speed, mileage; and (3) other data showing the status of the vehicle such as diagnostic trouble code (DTC). The collected data will be uploaded to server at Yamaha Motor Co., Ltd. by attaching a special Yamaha diagnostic tool to the vehicle, only when maintenance checks or service procedures are performed.

How will we use your data?

Yamaha use collected data from your vehicle, (1) to conduct adequate maintenance service including diagnostics, (2) to implement proper warranty claim judgement, (3) to conduct research and development of vehicle, (4) to provide and improve quality of products, features, and services, (5) to ensure our business purpose, and (6) to comply with legal obligations or lawful orders, and to establish or defend legal claims.

How we share your data?

We may share your data with: (i) our subsidiaries, affiliates, and business partners; (ii) dealers and distributors in your country or region, and (iii) contractors within the scope necessary to achieve the purpose of use described above.

How to contact us

Any questions or complaints regarding the processing of your Personal Data can be submitted in writing to the local subsidiaries.

<https://global.yamaha-motor.com/link/>

Consumer information

The **SOLE PURPOSE** of above provided contact information is **TO RESPOND DATA PROCESSING INQUIRY AND OTHER KINDS OF INQUIRIES WILL NOT BE RESPONDED**. Please provide the following information for the proper handling of your inquiry: **(1) Your Name; (2) Your Email Address; (3) Your Country of Residence; and (4) Your VIN**. We will use your personal information provided only for the purpose of supporting your data processing inquiry.

Index

- A**
- ABS.....6-19
 - ABS warning light6-1
 - Acceleration and deceleration8-3
 - Activating the Stop and Start System.....4-15
 - Air filter and V-belt case air filter elements9-15
- B**
- Battery9-27
 - Battery cover, removing9-27
 - Brake fluid, changing9-23
 - Brake fluid level, checking9-21
 - Brake lever, front6-18
 - Brake lever, rear6-19
 - Brake levers, lubricating9-24
 - Braking.....8-4
- C**
- Cables, checking and lubricating9-23
 - Care10-1
 - Catalytic converter.....6-24
 - Centerstand and sidestand, checking and lubricating.....9-25
 - Coolant9-13
 - Coolant temperature warning light6-1
- D**
- Dimmer switch6-17
 - Display6-3
 - Display, main screen.....6-4
 - Downshifting4-2
- E**
- Emergency mode.....9-36
 - Engine break-in.....8-1
 - Engine oil and oil strainer.....9-10
 - Engine overheating.....9-35
 - Engine serial number.....12-1
 - Engine trouble warning light.....6-1
 - ESS (emergency stop signaling) system.....4-3
- F**
- Final transmission oil9-12
 - Front and rear brake lever free play, checking.....9-20
 - Front and rear brake pads, checking ...9-21
 - Front fork, checking9-25
 - Fuel.....6-22
 - Fuel consumption, tips for reducing8-4
 - Fuel tank cap.....6-22
 - Fuel tank overflow hose6-23
 - Fuses, replacing9-28
- H**
- Handlebar switches.....6-16
 - Hazard switch.....6-17
 - Helmet holders6-25
 - Helmets2-6
 - High beam indicator light6-1
 - Horn switch6-17
- I**
- Identification numbers.....12-1
 - Ignition circuit cut-off system.....6-28
 - Indicator lights and warning lights6-1
 - Initial setup: Turn by Turn navigation5-3
 - Initial Setup (Yamaha Motorcycle Connect app)5-2
- K**
- Key, handling of smart and mechanical keys.....4-6
- L**
- Labels, location.....1-1
 - License plate light bulb, replacing9-30
- M**
- Main switch4-11
 - Maintenance and lubrication, periodic...9-3
 - Maintenance, emission control system9-2
 - Matte color, caution10-1
 - Menu6-9
 - Meter switches and Home button6-17
 - Mode switch6-18
- O**
- Operating range of the smart key system4-5
- P**
- Panels, removing and installing9-7
 - Parking.....8-4
 - Part locations3-1
 - Precautions when using the Stop and Start System4-17
- S**
- Safe-riding points.....2-5
 - Safety information.....2-1
 - Seat.....6-24
 - Shift switch6-18
 - Sidestand6-28
 - Smart features: Introduction5-1
 - Smart key.....4-8
 - Smart key battery, replacing.....4-9
 - Smart key system4-4
 - Smart key system indicator light.....6-2
 - Smart key system, troubleshooting9-31
 - Spark plug, checking9-8

Special features..... 4-1
Specifications 11-1
Starting off 8-3
Starting the engine 8-2
Start switch..... 6-17
Steering, checking..... 9-26
Stop and Start System 4-15
Stop and Start System indicator light 6-2
Stop and Start System operation 4-15
Stop and Start System switch..... 6-18
Stop and Start System
troubleshooting 9-32
Storage 10-3
Storage compartments..... 6-25
Switching driving modes 4-1

T

Throttle grip and cable, checking
and lubricating 9-24
Throttle grip free play, checking..... 9-17
Tires 9-18
Tool kit..... 9-1
Traction control system..... 6-20
Troubleshooting..... 9-31
Troubleshooting chart 9-34
Turn signal indicator lights 6-1
Turn signal switch..... 6-17

U

USB Type-C jack..... 6-27
Use, your vehicle data..... 12-2

V

Valve clearance 9-18
V-belt, checking..... 9-23
Vehicle identification number 12-1
Vehicle lights 9-30

W

Wheel bearings, checking..... 9-26
Wheels 9-20

Y

Yamaha Motorcycle Connect app 5-2
YECVT (Yamaha Electric Continuously
Variable Transmission)..... 4-1



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