

A Read this manual carefully before operating this vehicle.



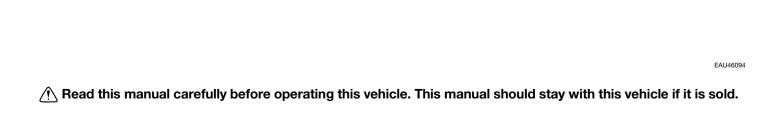
**MOTORCYCLE** 

LTS125-C

Salety information
Description
Stop and Start System
Instrument and control functions
For your safety – pre-operation checks
Operation and important riding points
Periodic maintenance and adjustment
Scooter care and storage
Specifications
Consumer information

Safety information
Description
Stop and Start System
ent and control functions
ty - pre-operation checks
nd important riding points
ntenance and adjustment

Index



## Introduction

EAU10114

Welcome to the Yamaha world of motorcycling!

As the owner of the LTS125-C, 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 LTS125-C. The Owner's Manual does not only instruct you in how to operate, inspect and maintain your scooter, but also in how to safeguard yourself and others from trouble and injury.

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

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

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

**WARNING** 

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

EWA12412

## **Important manual information**

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

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

<sup>\*</sup>Product and specifications are subject to change without notice.

## **Important manual information**

EAUV0012

LTS125-C
OWNER'S MANUAL
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# Table of contents

Safety information1-1	For your safety - pre-	Valve clearance7-17
Further safe-riding points1-5	operation checks5-1	Tires7-18
		Cast wheels 7-19
<b>Description</b> 2-1	Operation and important	Checking the front brake
Left view 2-1	riding points6-1	lever free play 7-20
Right view2-2	Engine break-in6-1	Adjusting the rear brake
Controls and instruments 2-3	Starting the engine6-2	lever free play7-20
	Starting off6-2	Checking the front brake pads
Stop and Start System3-1	Acceleration and deceleration6-3	and rear brake shoes7-21
Stop and Start System 3-1	Braking6-3	Checking the brake fluid level 7-22
Stop and Start System operation 3-1	Tips for reducing fuel	Changing the brake fluid 7-23
	consumption6-3	Checking the V-belt7-23
Instrument and control functions 4-1	Parking6-4	Checking and lubricating
Main switch/steering lock 4-1	C	the cables7-23
Keyhole shutter 4-2	Periodic maintenance	Checking and lubricating the
Indicator lights and	and adjustment7-1	throttle grip and cable 7-24
warning lights4-2	Tool kit7-1	Lubricating the front and
Multi-function meter unit 4-4	Periodic maintenance chart for	rear brake levers7-24
Handlebar switches4-7	the emission control system7-2	Checking and lubricating the
Front brake lever 4-8	General maintenance and	centerstand and sidestand 7-25
Rear brake lever 4-8	lubrication chart7-3	Checking the front fork7-25
Fuel tank cap 4-9	Removing and installing the	Checking the steering7-26
Fuel 4-9	cowlings and panel7-7	Checking the wheel bearings 7-26
Catalytic converter 4-11	Checking the spark plug7-9	Battery 7-27
Seat 4-11	Engine oil and oil strainer7-11	Replacing the fuses 7-28
Helmet holders 4-12	Why Yamalube7-13	Replacing the headlight bulb 7-29
Storage compartment 4-12	Final transmission oil7-13	Auxiliary light7-30
Luggage hook 4-13	Air filter and V-belt case	Tail/brake light 7-30
Sidestand 4-13	air filter elements7-14	Replacing a front turn
Ignition circuit cut-off system 4-14	Adjusting the throttle	signal light bulb 7-31
-	grip free play7-17	Rear turn signal light bulb7-31

# Table of contents

Troubleshooting Troubleshooting chart	
Scooter care and storage  Matte color caution  Care  Storage	8-1 8-1
Specifications	9-1
Consumer information Identification numbers Diagnostic connector Vehicle data recording	10-1 10-2
ndex	11-1

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#### 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 5-1 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 onroad 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.

#### **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 TREAT-MENT.

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

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

#### Loading

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

The total weight of the operator, passenger, accessories and cargo must not exceed the maximum load limit. Operation of an overloaded vehicle could cause an accident.

Maximum load: 161 kg (355 lb)

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

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

## Safety information

#### **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.

#### **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 7-18 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 tiedowns, if possible, so that the scooter will not bounce excessively during transport.

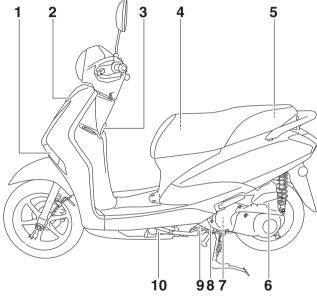
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## Further safe-riding points

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

- Always wear a helmet, gloves, trousers (tapered around the cuff and ankle so they do not flap), and a brightly colored jacket.
- Do not carry too much luggage on the scooter. An overloaded scooter is unstable. Use a strong cord to secure any luggage to the carrier (if equipped). A loose load will affect the stability of the scooter and could divert your attention from the road. (See page 1-3.)

Left view

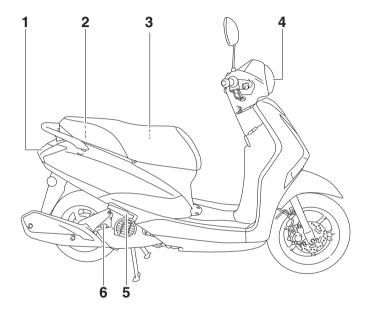


- 1. Front turn signal light (page 7-31)
- 2. Auxiliary light (page 7-30)
- 3. Luggage hook (page 4-13)
- 4. Tool kit (page 7-1)
- 5. Fuse box (page 7-28)
- 6. Air filter element (page 7-14)
- 7. V-belt case air filter element (page 7-14)
- 8. Engine oil drain bolt A (page 7-11)

- 9. Engine oil drain bolt B (page 7-11)
- 10.Sidestand (page 4-13)

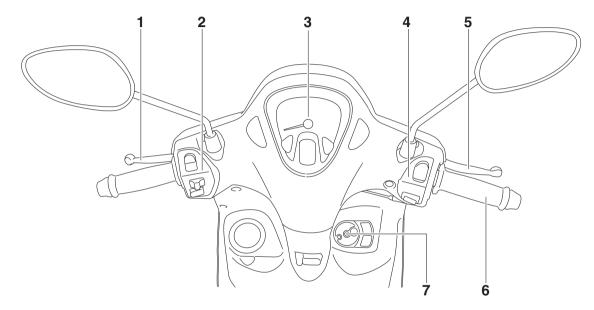
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## **Right view**



- 1. Tail/brake light (page 7-30)
- 2. Battery (page 7-27)
- 3. Storage compartment (page 4-12)
- 4. Headlight (page 7-29)
- 5. Passenger footrest
- 6. Engine oil filler cap (page 7-11)

### **Controls and instruments**



- 1. Rear brake lever (page 4-8)
- 2. Left handlebar switches (page 4-7)
- 3. Multi-function meter unit (page 4-4)
- 4. Right handlebar switches (page 4-7)
- 5. Front brake lever (page 4-8)
- 6. Throttle grip (page 7-17)
- 7. Main switch/steering lock (page 4-1)

## **Stop and Start System**

**Stop and Start System** 

EAU76825



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.

FCA23961

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

#### TIP \_\_\_\_

- Although the engine normally stops at the same time 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.

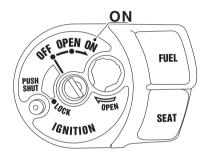
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# **Stop and Start System operation**

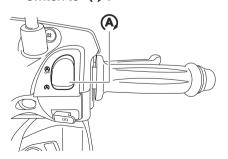
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# Activating the Stop and Start System

1. Turn the main switch on.



2. Set the Stop and Start System switch to "A".

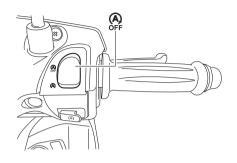


## Stop and Start System

- 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. Stop and Start System indicator light "A"
- 4. To turn off the Stop and Start System, set the Stop and Start System switch to "."



#### 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.

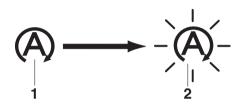
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#### Stop the engine

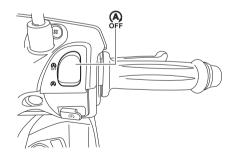
The engine will stop automatically when the following conditions are met:

- 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

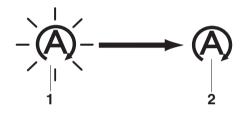


## **Stop and Start System**

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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 stop flashing.



- 1. Flashing
- 2. Off

EWA18731

## **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.



#### TIP

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

EAU76711

# Precautions when using the Stop and Start System

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

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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.



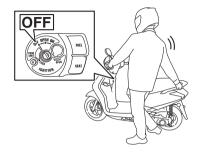
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## **WARNING**

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.

## **WARNING**

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



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.



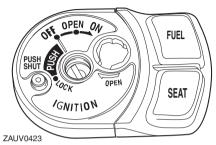
**MARNING** 

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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.



Main switch/steering lock EAUN0264



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

#### TIP

The main switch/steering lock is equipped with a keyhole shutter. (See page 4-2 for keyhole shutter opening and closing procedures.)

EAU85031

#### ON

All electrical circuits are supplied with power and the vehicle lights are turned on. The engine can be started. The key cannot be removed. TIP

**OFF** 

- To prevent battery discharge, do not leave the key in the "ON" position without the engine running.
- This model is equipped with a fuel pump. When the vehicle is first turned on, a noise from the fuel pump can be heard, but this is not a malfunction.

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

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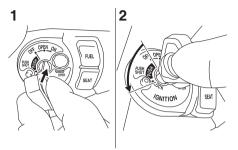
**WARNING** 

Never turn the key to "OFF" or "LOCK" while the vehicle is moving. Otherwise the electrical systems will be switched off, which may result in loss of control or an accident.

LOCK

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

To lock the steering

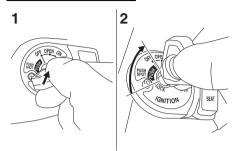


- 1. Push.
- 2. Turn.
  - 1. Turn the handlebars all the way to the left.
  - 2. Push the key in from the "OFF" position, and then turn it to "LOCK" while still pushing it.
- 3. Remove the key.

#### TIP \_\_\_\_\_

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

#### To unlock the steering



- 1. Push.
- 2. Turn.

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

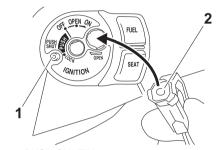
EWAU0042

## **WARNING**

- Never turn the key to "OFF" or "LOCK" while the vehicle is moving; otherwise, the electrical systems will be switched off, which may result in loss of control or an accident.
- If the vehicle turns over, and after placing it upright, ensure that there is no fuel leakage. If fuel is leaking, have a Yamaha dealer check the vehicle.

## **Keyhole shutter**

To open the keyhole shutter



- 1. "PUSH SHUT" button
- 2. Shutter key

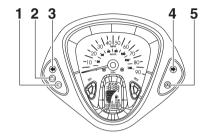
Insert the shutter key into the keyhole shutter receptacle as shown, and then turn the key to the right to open the keyhole shutter.

### To close the keyhole shutter

Press the "PUSH SHUT" button to close the keyhole shutter.

EAUN0354

## Indicator lights and warning liahts



- 1. High beam indicator light "≣()"
- 2. Malfunction indicator light "点"
- 3. Left turn signal indicator light "<□"
- 5. Stop and Start System indicator light "A"

#### Turn signal indicator lights "<>" and "➪"

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

High beam indicator light "≣⊙"

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

EAU88711

# Malfunction indicator light (MIL) " ""

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

ECA26820

#### NOTICE

If the MIL starts flashing, reduce engine speed to prevent exhaust system damage.

#### TIP

The engine is sensitively controlled for the on-board diagnostic system to detect deterioration and malfunction of the emission control system. Due to this specification, the MIL may come on or flash for vehicle modifications, lack of maintenance, or excessive or improper use of the vehicle. To prevent this, observe these precautions.

- Do not attempt to modify the software of the engine control unit.
- Do not add any electrical accessories that interfere with engine control.
- Do not use aftermarket accessories or parts such as suspension, spark plugs, injectors, exhaust system, etc.
- Do not change drivetrain specifications (chain, sprockets, wheels, tires, etc.).
- Do not remove or alter the O2 sensor, air induction system, or exhaust parts (catalysts or EXUP, etc.).
- Maintain proper V-belt and drive belt (if equipped).

- Maintain correct tire pressure.
- Do not operate the vehicle in an extreme manner. For example, repeated or excessive opening and closing of the throttle, racing, burnouts, wheelies, etc.

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# Stop and Start System indicator light "A"

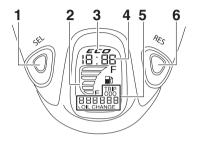
This indicator light comes on when the Stop and Start System activates. The indicator light will flash when the engine is automatically stopped by the Stop and Start System.

#### TIP

Even if the Stop and Start Switch is set to "A", this indicator light may not come on. (See page 3-1.)

#### **Multi-function meter unit**

EAU86811



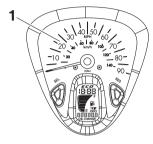
- 1. Select button
- 2. Fuel meter
- 3. Eco indicator "ECO"
- 4. Clock
- 5. Multi-function display
- 6. Reset button

EWA12423

## **WARNING**

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

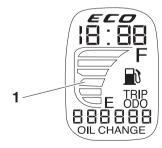
### **Speedometer**



1. Speedometer

The speedometer shows the vehicle's traveling speed.

#### **Fuel meter**



1. Fuel meter

EAU86831

FAU87220

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

FALIV0890

#### Clock



1. Clock

The clock uses a 12-hour time system.

#### To set the clock

- 1. Push both the select button and the reset button until the hour digits start flashing.
- 2. Use the reset button to set the hours.

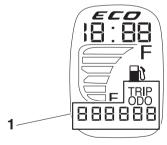
- 3. Push the select button and the minute digits start flashing.
- 4. Use the reset button to set the minutes.
- 5. Push the select button to confirm the settings.

#### TIP \_\_\_\_\_

You must complete the clock setting procedure in its entirety. If you do not push any buttons for some time, or turn the vehicle power off before the procedure is completed, clock setting changes will not be saved.

FAUV0900

#### **Multi-function display**



1. Multi-function display

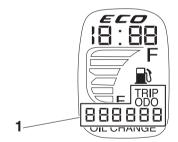
The multi-function display is equipped with the following:

- an odometer (ODO)
- a tripmeter (TRIP)
- an oil tripmeter (OIL TRIP METER)
- an oil change indicator (OIL CHANGE)

Push the "SEL" button to change the display in the following order:

ODO →TRIP →OIL TRIP METER →ODO

#### Odometer



1. Odometer

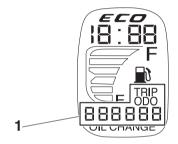
The odometer shows the total distance traveled by the vehicle.

#### TIP

The odometer will lock at 999999 and cannot be reset.

EAU88020

## **Tripmeter**



1. Tripmeter

EAU86890

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

To reset the tripmeter, change the display to the tripmeter, and then push the "RESET" button until it is reset.

#### TIP

The tripmeter will reset and continue counting after 9999.9 is reached.

#### Oil change tripmeter



- 1. Oil change indicator "OIL CHANGE"
- 2. Oil change tripmeter

This tripmeter shows the distance traveled since the last engine oil change. The oil change indicator "OIL CHANGE" will flash at the initial 1000 km (600 mi), and then at every 3000 km (1800 mi) thereafter.

To reset the oil change tripmeter and oil change indicator, select the oil change tripmeter, and then push the "RESET" button until "OIL CHANGE" starts flashing. While "OIL CHANGE" is flashing, push the "RESET" button until the tripmeter is reset.

EAU87650

Push the "SELECT" button to start the oil change tripmeter and change the display to the odometer mode.

TIP\_

When the engine oil has been changed, the oil change tripmeter and the oil change indicator must be reset. Otherwise, the oil change indicator will not come on at the correct time.

EAU87930

## TIP\_

Consider the following tips to reduce fuel consumption:

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

#### **ECO** indicator

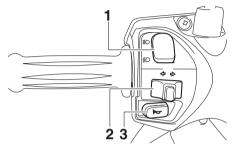


#### 1. ECO meter

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

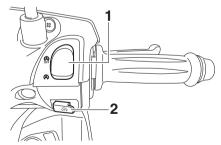
#### Handlebar switches

#### Left



- 1. Dimmer switch "≣O/≣O"
- 2. Turn signal switch "⟨¬/¬)"
- 3. Horn switch "

#### Right



- 1. Stop and Start System switch "(A)/(A)"
- 2. Start switch "(§)"

#### Dimmer switch "≣○/ (€○)"

EAU1234R

Set this switch to "≣O" for the high beam and to "≣O" for the low beam.

#### Turn signal switch "⟨⇒/⟨⇒"

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

#### Horn switch " → "

Press this switch to sound the horn.

#### Start switch "(\$)"

With the sidestand up, push this switch while applying the front or rear brake to crank the engine with the starter. See page 6-2 for starting instructions prior to starting the engine.

EAU12402

EAU12461

EAU12501

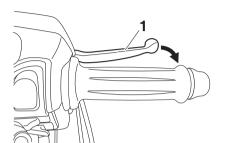
EAU12722

# Stop and Start System switch "A/A"

To turn on the Stop and Start System, set the switch to "A". To turn off the Stop and Start System, set this switch to "A".

EAU76391

#### Front brake lever

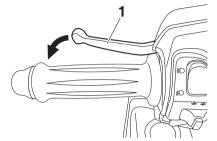


1. Front brake lever

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.

EAU12902

### Rear brake lever



1. Rear brake lever

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

This model is equipped with a unified brake system.

When pulling the rear brake lever, the rear brake and a portion of the front brake are applied. For full braking performance, apply both brake levers simultaneously.

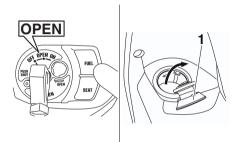
## EAUS1964

- As the unified brake system is mechanical, additional free play can be felt in the front brake lever when the rear brake lever is being pulled.
- The unified brake system does not function when the front brake is applied alone.

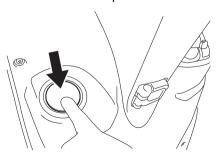
Fuel tank cap

## To remove the fuel tank cap

1. Insert the key into main switch and then turn it to "OPEN" position.



- 1. Fuel tank cap
  - 2. Push the "FUEL" button to open the fuel tank cap.



#### To install the fuel tank cap

Push the fuel tank cap down into its original position. A clicking sound can be heard when the fuel tank cap is locked.

EWA10132

**WARNING** 

EAU62370

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

#### **Fuel**

Make sure there is sufficient gasoline in the tank.

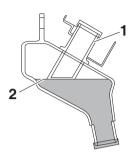
EWA10882

EAU13213

### **⚠** 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.

- 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.
- Do not overfill the fuel tank. Stop filling when the fuel reaches the bottom of the filler tube. Because fuel expands when it heats up, heat from the engine or the sun can cause fuel to spill out of the fuel tank.



- 1. Fuel tank filler tube
- 2. Maximum fuel level
- 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

## **MARNING**

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.

EAU76750

FCA11401

#### Recommended fuel:

Regular unleaded gasoline (E10 acceptable)

### Fuel tank capacity:

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

#### **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.



#### TIP

- This mark identifies the recommended fuel for this vehicle as specified by European regulation (EN228).
- Check that gasoline nozzle has the same identifier when fueling.

Your Yamaha engine has been designed to use regular unleaded gasoline with a research octane number of 95 or higher. If knocking (or pinging) occurs, use a gasoline of a different brand or premium unleaded fuel. Use of unleaded fuel will extend spark plug life and reduce maintenance costs.

EAU62381

## Instrument and control functions

#### Gasohol

There are two types of gasohol: gasohol containing ethanol and that containing methanol. Gasohol containing ethanol can be used if the ethanol content does not exceed 10% (E10). Gasohol containing methanol is not recommended by Yamaha because it can cause damage to the fuel system or vehicle performance problems.

Catalytic converter

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

**WARNING** 

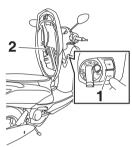
EWA10863

EAU13435

## Seat

To open the seat

1. Insert the key into main switch and then turn it to "OPEN" position.



- 1. Seat lock
- 2. Seat
- 2. Push the "SEAT" button to open the seat.

#### To close the seat

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

TIP

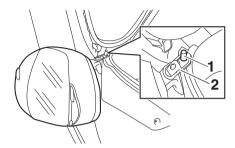
Make sure that the seat is properly secured before riding.

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.

EAUV0850

#### **Helmet holders**



- 1. Helmet holder
- 2. D-ring

The helmet holders are located under the seat.

# To secure a helmet to a helmet holder

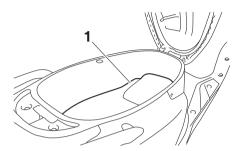
- 1. Open the seat. (See page 4-11.)
- 2. Attach the D-ring of the helmet strap to a helmet holder, and then securely close the seat. WARNING! Never ride with a helmet attached to the helmet holder, since the helmet may hit objects, causing loss of control and possibly an accident. [EWA10162]

# To release a helmet from a helmet holder

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

## Storage compartment





1. Storage compartment

There is a storage compartment under the seat. (See page 4-11.)

EWA10962

## **WARNING**

- Do not exceed the load limit of 3 kg (6.6 lb) for the storage compartment.
- Do not exceed the maximum load of 161 kg (355 lb) for the vehicle.

ECA21150

### **NOTICE**

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

EAU76780

## Instrument and control functions

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

#### TIP

- Some helmets cannot be stored in the storage compartment because of their size or shape.
- Do not leave your vehicle unattended with the seat open.

## Luggage hook

To use the luggage hook, pull it out as shown.

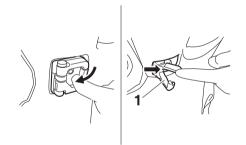
To retract the luggage hook, push it back to its original position.

EWAT1032

EAU61380

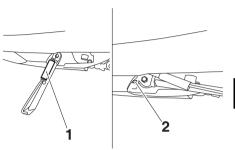
### **WARNING**

- Do not exceed the load limit of 1 kg (2.2 lb) for the luggage hook.
- Do not exceed the maximum load of 161 kg (355 lb) for the vehicle.



1. Luggage hook

### **Sidestand**



- 1. Sidestand
- 2. Sidestand switch

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

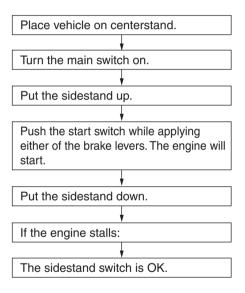
### **⚠** WARNING

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

FAUT1098

### Ignition circuit cut-off system

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



### **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.

FWA11152

## **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	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.	4-9
Engine oil	<ul> <li>Check oil level in engine.</li> <li>If necessary, add recommended oil to specified level.</li> <li>Check vehicle for oil leakage.</li> </ul>	7-11
Final transmission oil	Check vehicle for oil leakage.	7-13
Front brake	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.	7-21, 7-22
Rear brake	Check operation.  Lubricate cable if necessary.  Check lever free play.  Adjust if necessary.	7-20, 7-21

# For your safety – pre-operation checks

ITEM	CHECKS	PAGE
Throttle grip	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.	7-17, 7-24
Control cables	<ul><li>Make sure that operation is smooth.</li><li>Lubricate if necessary.</li></ul>	7-23
Wheels and tires	Check for damage. Check tire condition and tread depth. Check air pressure. Correct if necessary.	7-18, 7-19
Brake levers	<ul><li>Make sure that operation is smooth.</li><li>Lubricate lever pivoting points if necessary.</li></ul>	7-24
Centerstand, sidestand	Make sure that operation is smooth.     Lubricate pivots if necessary.	7-25
Chassis fasteners	Make sure that all nuts, bolts and screws are properly tightened.     Tighten if necessary.	-
Instruments, lights, signals and switches	Check operation.     Correct if necessary.	-
Sidestand switch	Check operation of ignition circuit cut-off system.     If system is not working correctly, have Yamaha dealer check vehicle.	4-13

# Operation and important riding points

EAU15952

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

EWA10272

### **WARNING**

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

Engine break-in

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

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

EAUM2012

#### 0-1000 km (0-600 mi)

Avoid prolonged operation above 1/3 throttle. *NOTICE:* After 1000 km (600 mi) of operation, be sure to replace the engine oil and final transmission oil. ECA116621

1000-1600 km (600-1000 mi)

Avoid prolonged operation above 1/2 throttle.

<sup>EAU16842</sup> 1600 km (1000 mi) and beyond

The vehicle can now be operated normally.

ECA10271

#### **NOTICE**

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

EAU45093

# **Operation and important riding points**

Starting the engine

 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.

FCA11043

The ignition circuit cut-off system will enable starting when the sidestand is be up.

### NOTICE

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

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 the go off. (See page 4-2.)

#### TIP\_\_

Do not start the engine if the engine trouble warning light remains on.

ECA26710

EAU86760

#### **NOTICE**

Do not continue to operate the vehicle if a warning light remains on. Have a Yamaha dealer check the vehicle.

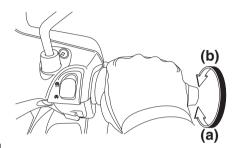
- 3. Close the throttle completely.
- 4. While applying the front or rear brake, push the start switch.

## **Starting off**

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

# Operation and important riding points

### **Acceleration and deceleration**



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

## **Braking**

# **WARNING**

EWA17790

EAU60650

### 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 con-

EAU16821

# sumption

Fuel consumption depends largely on vour 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).

# Operation and important riding points

EAU76802

### **Parking**

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



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.

EAU17246

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

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

EWA10322

### **WARNING**

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

**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 1-3 for more information about carbon monoxide.

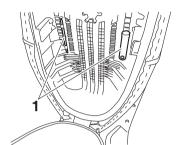
EWA15461

### **WARNING**

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

Tool kit

EWA15123



EAU85230

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.

EAU71021

#### TIF

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

### Periodic maintenance chart for the emission control system

EAU71041

					ANNUAL				
NO.		ITEM	CHECK OR MAINTENANCE JOB	1000 km (600 mi)	6000 km (3500 mi)	12000 km (7000 mi)	18000 km (10500 mi)	24000 km (14000 mi)	CHECK
1	*	Fuel line	Check fuel hoses for cracks or damage.     Replace if necessary.		<b>√</b>	V	V	<b>√</b>	<b>√</b>
2	*	Spark plug  • Check condition. • Adjust gap and clean. • Replace.		<b>√</b>		√			
			Replace.			$\sqrt{}$		√	
3	*	Valve clearance	Check and adjust.		√	√	√	√	
4	*	Fuel injection	Check engine idle speed.	√	√	√	√	√	<b>V</b>
5	*	Exhaust system	Check for leakage.     Tighten if necessary.     Replace gasket if necessary.	V	<b>√</b>	V	<b>√</b>	V	

EAU71342

### **General maintenance and lubrication chart**

		ITEM	CHECK OR MAINTENANCE JOB	ODOMETER READING					ANNUAL	
NO	Ο.			1000 km (600 mi)	6000 km (3500 mi)	12000 km (7000 mi)	18000 km (10500 mi)	24000 km (14000 mi)	CHECK	
1	*	Diagnostic system check	<ul> <li>Perform dynamic inspection using Yamaha diagnostic tool.</li> <li>Check the error codes.</li> </ul>	<b>√</b>	<b>√</b>	<b>√</b>	<b>√</b>	V	<b>√</b>	
2	*	Air filter element	• Replace.	Every 18000 km (10500 mi)						
3		Air filter case check hose	• Clean.	V	<b>V</b>	<b>√</b>	<b>V</b>	V		
4	*	V-belt case air filter element	Clean.     Replace if necessary.		<b>V</b>	<b>√</b>	<b>V</b>	V	<b>√</b>	
5	*	Battery	<ul><li>Check voltage.</li><li>Charge if necessary.</li></ul>	<b>V</b>	V	<b>√</b>	V	V	<b>√</b>	
6	*	Front brake	Check operation, fluid level, and for fluid leakage.     Replace brake pads if necessary.	<b>√</b>	V	V	V	V	<b>√</b>	
7	*	Rear brake	Check operation.     Adjust cable.     Replace brake shoes if necessary.	<b>√</b>	<b>V</b>	<b>V</b>	<b>V</b>	V	<b>√</b>	
	*	Duales have	Check for cracks or damage.		√	√	√	√	$\checkmark$	
8		Brake hose	• Replace.	Every 4 years						
9	*	Brake fluid	Change.	Every 2 years						
10	*	Wheels	Check runout and for damage.     Replace if necessary.		V	√	V	√		

				ODOMETER READING					ANNUAL
N	0.	ITEM	CHECK OR MAINTENANCE JOB	1000 km (600 mi)	6000 km (3500 mi)	12000 km (7000 mi)	18000 km (10500 mi)	24000 km (14000 mi)	CHECK
11	*	Tires	Check tread depth and for damage. Replace if necessary. Check air pressure. Correct if necessary.		V	<b>√</b>	V	7	V
12	*	Wheel bearings	Check bearing for looseness or damage.		V	V	V	V	
	*	01	Check bearing assemblies for looseness.	$\sqrt{}$	V	<b>√</b>	√		
13		Steering bearings	Moderately repack with lithium- soap-based grease.					√	
14	*	Chassis fasteners	Make sure that all nuts, bolts and screws are properly tightened.		V	V	<b>V</b>	<b>√</b>	V
15		Front brake lever pivot shaft	Lubricate with silicone grease.		V	V	<b>V</b>	<b>√</b>	V
16		Rear brake lever pivot shaft	Lubricate with silicone grease.		<b>V</b>	V	V	<b>V</b>	V
17	*	Unified brake system	Lubricate link pivots and moving parts with silicone grease.     Lubricate cable end with lithium-soap-based grease.		<b>V</b>	<b>√</b>	<b>√</b>	<b>√</b>	
18		Sidestand, center- stand	Check operation.     Lubricate with lithium-soap-based grease.		V	<b>V</b>	<b>V</b>	<b>√</b>	V
19	*	Sidestand switch	Check operation and replace if necessary.	<b>V</b>	√	<b>√</b>	<b>V</b>	<b>√</b>	√

		ITEM	CHECK OR MAINTENANCE JOB	ODOMETER READING					ANNUAL
NC	).			1000 km (600 mi)	6000 km (3500 mi)	12000 km (7000 mi)	18000 km (10500 mi)	24000 km (14000 mi)	CHECK
20	*	Front fork	Check operation and for oil leakage.     Replace if necessary.		V	V	<b>√</b>	<b>√</b>	
21	*	Shock absorber assembly	Check operation and for oil leakage.     Replace if necessary.		<b>√</b>	V	<b>√</b>	<b>√</b>	
22		Engine oil	Change (warm engine before draining).     Check oil level and vehicle for oil leakage.	At the init	At the initial interval and every 3000 km (1800 mi) thereafter.				
23	*	Engine oil strainer	Clean.	$\sqrt{}$					
24	*	Final transmission oil	Check vehicle for oil leakage.	√	$\sqrt{}$	√	$\checkmark$	$\sqrt{}$	
24			Change.	$\sqrt{}$		√		√	
25	*	V-belt	Replace.	Every 18000 km (10500 mi)					
26	*	Front and rear brake switches	Check operation.	V	√	<b>√</b>	<b>V</b>	V	<b>√</b>
27	*	Moving parts and cables	• Lubricate.		V	√	V	V	$\checkmark$
28	*	Throttle grip hous- ing and cable	<ul> <li>Check operation and free play.</li> <li>Adjust the throttle cable free play if necessary.</li> <li>Lubricate the throttle grip housing and cable.</li> </ul>		٧	V	٧	٧	<b>√</b>
29	*	Lights, signals and switches	<ul><li>Check operation.</li><li>Adjust headlight beam.</li></ul>	V	V	V	<b>√</b>	<b>√</b>	<b>√</b>

EAU72720

#### 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.
- Hydraulic brake service
  - Regularly check and, if necessary, correct the brake fluid level.
  - Every two years replace the internal components of the brake master cylinder and caliper, and change the brake fluid.
  - Replace the brake hose every four years and if cracked or damaged.

FAI 118732

Removing and installing the cowlings and panel



- 1. Cowling A
- 2. Cowling B
- 3. Panel A

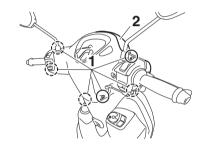
The cowlings and panel shown need to be removed to perform some of the maintenance jobs described in this chapter. Refer to this section each time a cowling or panel needs to be removed and installed.

EAUV0871

### **Cowling A**

#### To remove the cowling

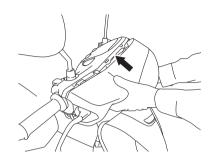
Remove the screws, pull the cowling outward on the areas shown, and then disconnect the headlight coupler.



- 1. Screw
- 2. Cowling A

### To install the cowling

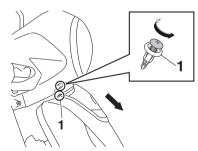
Connect the headlight coupler, place the cowling in the original position, and then install the screws.



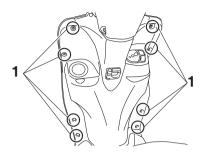
### **Cowling B**

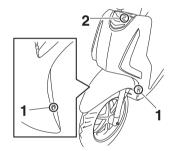
#### To remove the cowling

1. Remove the quick fasteners, take the front cowling off as shown.

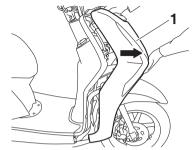


- 1. Quick fastener
  - Remove the nut and screws, and then pull the cowling away from the vehicle.





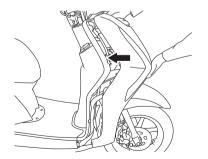
- 1. Screw
- 2. Nut
  - 3. Disconnect the auxiliary light coupler, turn signal coupler, and then remove the cowling as shown.



1. Cowling B

#### To install the cowling

- 1. Connect the auxiliary light coupler and turn signal coupler.
- 2. Place the cowling in the original position, and then install the nut and screws.



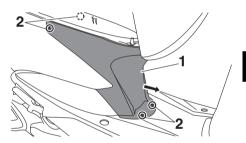
3. Place the front cowling in their original position, and then install the quick fasteners.

EAU19253

#### Panel A

### To remove the panel

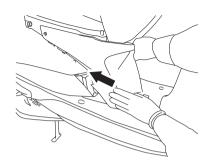
Remove the screws, and then pull the panel out at the area shown.



- 1. Panel A
- 2. Screw

#### To install the panel

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

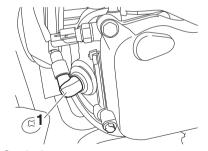


### Checking the spark plug

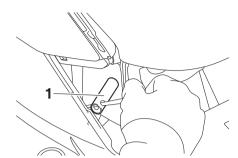
The spark plug is an important engine component, which is easy to check. Since heat and deposits will cause any spark plug to slowly erode, the spark plug should be removed and checked in accordance with the periodic maintenance and lubrication chart. In addition, the condition of the spark plug can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

### To remove the spark plug

- 1. Remove panel A. (See page 7-7.)
- 2. Remove the spark plug cap.



- 1. Spark plug cap
  - 3. 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

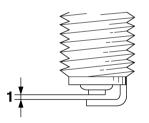
EAUT2077

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/CR6HSA

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



1. Spark plug gap

### Spark plug gap:

0.6-0.7 mm (0.024-0.028 in)

#### To install the spark plug

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

#### **Tightening torque:**

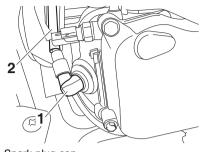
Spark plug:

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.

3. Install the spark plug cap.



- 1. Spark plug cap
- 2. Spark plug lead
  - 4. Install the panel A.

FAI 162846

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

- Place the vehicle on the centerstand. A slight tilt to the side can result in a false reading.
- Start the engine, warm it up for several minutes, and then turn it off.
- Wait a few minutes until the oil settles, remove the oil filler cap, wipe the dipstick clean, insert it back into the oil filler hole (without screwing it in), and then remove it again to check the oil level.

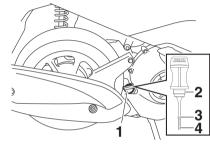
EWAU0031

### **WARNING**

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

#### TIP

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



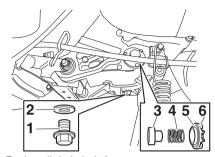
- 1. Engine oil filler cap
- 2. Engine oil dipstick
- 3. Maximum level mark
- 4. Tip of the engine oil dipstick
- 4. If the engine oil is at or below the minimum level mark, add sufficient oil of the recommended type to raise it to the correct level.
- Insert the dipstick into the oil filler hole, and then tighten the oil filler cap.

# To change the engine oil and clean the oil strainer

- Start the engine, warm it up for several minutes, and then turn it off.
- 2. Place an oil pan under the engine to collect the used oil.
- 3. Remove the engine oil filler cap and drain bolt B to drain the oil from the crankcase. *NOTICE:* When removing the engine oil drain bolt, the O-ring, compression spring, and oil strainer will fall out. Take care not to lose these parts. [ECA11002]

ECA24060

# Periodic maintenance and adjustment



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

#### TIP

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

 Clean the engine oil strainer with solvent, and then check it for damage and replace it if necessary. Install the engine oil strainer, compression spring, engine oil drain bolt with new O-ring, and then tighten the drain bolt to the specified torque.

#### TIP

Make sure that the O-ring is properly seated.

#### **Tightening torque:**

Engine oil drain bolt A: 20 N·m (2.0 kgf·m, 15 lb·ft) Engine oil drain bolt B: 32 N·m (3.2 kgf·m, 24 lb·ft)

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

#### Recommended engine oil:

See page 9-1.

#### Oil quantity:

0.80 L (0.85 US qt, 0.70 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.

- Start the engine, and then let it idle for several minutes while checking it for oil leakage. If oil is leaking, immediately turn the engine off and check for the cause.
- 8. Turn the engine off, and then check the oil level and correct it if necessary.

Why Yamalube

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

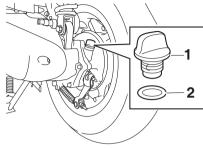


Final transmission oil

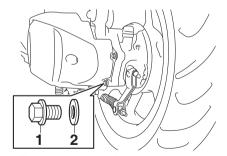
The final transmission case must be checked for oil leakage before each ride. If any leakage is found, have a Yamaha dealer check and repair your motorcycle. In addition, the final transmission oil must be changed as follows at the intervals specified in the periodic maintenance and lubrication chart.

- Start the engine and warm up the final transmission oil by riding the motorcycle for several minutes.
- Stop the engine and then place the motorcycle on the centerstand.
- 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.

EAU67822



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

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. [FWALIGIZ]

# Recommended final transmission oil:

See page 9-1.

#### Oil quantity:

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

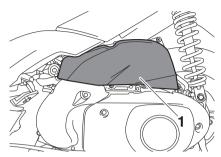
- 8. Install the final transmission oil filler cap and its new O-ring, and then tighten the oil filler cap.
- Check the final transmission case for oil leakage. If oil is leaking, check for the cause.

# Air filter and V-belt case air filter elements

The air filter element should be replaced every 16000 km (10000 mi) 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.

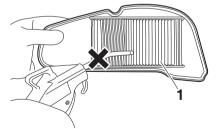
# Checking and replacing the air filter element

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



1. Air filter case cover

- 4. Remove the air filter element by pulling it out.
- 5. Check the air filter element for excessive dirt or damage and replace it if necessary.



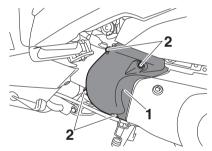
1. Air filter element

6. Place the air filter element in its original position.

- 7. Install the air filter case cover by installing the screws.
- 8. Install the left rear panel.

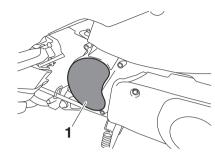
#### Cleaning the V-belt case air filter element

- 1. Place the vehicle on the centerstand.
- 2. Remove the V-belt air filter case cover by removing the bolts.



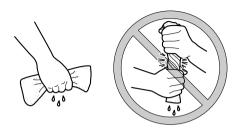
1. V-belt air filter case cover

- 2. Bolt
  - 3. Remove the element by pulling it out.



1. V-belt case air filter element

- Clean the element with solvent, and then squeeze the remaining solvent out.
- Check the element for damage and replace it if necessary.
- 6. Apply oil of the recommended type to the entire surface of the element, and then squeeze the excess oil out. 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]



#### TIP \_\_\_

The element should be wet but not dripping.

#### Recommended oil:

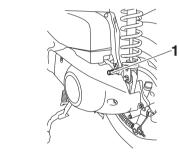
Yamaha foam air filter oil or other quality foam air filter oil

- 7. Install the element into the filter case.
- 8. Place the air filter case cover in its original position, and then install the bolts. *NOTICE:* Make sure that each filter element is properly seated in its case. The engine should never be operated without the filter elements in-

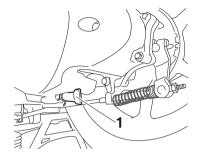
stalled, otherwise the piston(s) and/or cylinder(s) may become excessively worn. [ECA10532]

# Cleaning the air filter check hose and caps

 Check each cap at the bottom left side of the air filter case and the hose at the bottom of the V-belt case for accumulated dirt or water.



1. Air filter check hose



1. V-belt case check hose

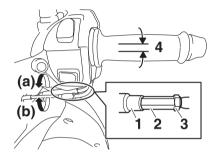
- 2. If dirt or water is visible, remove the hose or caps from their clamp.
- 3. Drain dirt or water into a proper container.
- 4. Install the air filter check hose or caps to the original position.

#### TIP \_\_\_\_\_

The air filter check hose or caps need more frequent cleaning after riding in the rain, washing the vehicle, or in case of overturn. If the check hose or caps are clogged, have a Yamaha dealer service the vehicle.

Adjusting the throttle grip free play

Measure the throttle grip free play as shown.



- 1. Rubber cover
- 2. Throttle grip free play adjusting nut
- 3. Locknut
- 4. Throttle grip free play

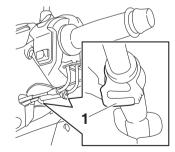
Throttle grip free play:

3.0-7.0 mm (0.12-0.28 in)

Periodically check the throttle grip free play and, if necessary, adjust it as follows. TIP

The engine idling speed must be correctly adjusted before checking and adjusting the throttle grip free play.

- 1. Remove the clamp.
- 2. Slide the rubber cover back.
- 3. Loosen the locknut.
- To increase the throttle grip free play, turn the adjusting nut in direction (a). To decrease the throttle grip free play, turn the adjusting nut in direction (b).
- Tighten the locknut and then slide the rubber cover to its original position.



- 1. Clamp
- Install the clamp to its original position.

### 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.

EAU21403

TIP\_\_\_\_

This service must be performed when the engine is cold.

EAU69761

#### **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:

175 kPa (1.75 kgf/cm<sup>2</sup>, 25 psi)

Rear:

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

2 persons: Front:

175 kPa (1.75 kgf/cm<sup>2</sup>, 25 psi)

Rear:

200 kPa (2.00 kgf/cm², 29 psi)

#### Maximum load:

Vehicle:

161 kg (355 lb)

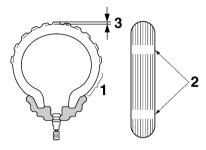
The vehicle's maximum load is the combined weight of the rider, passenger, cargo, and any accessories.

EWA10512

### **WARNING**

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

#### Tire inspection



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

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

# Minimum tire tread depth (front and rear):

1.6 mm (0.06 in)

#### TIP

The tire tread depth limits may differ from country to country. Always comply with the local regulations.

EWA10472

### **WARNING**

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

#### Tire information

This model is equipped with tubeless tires and rubber tire air valves.

Tires age, even if they have not been used or have only been used occasionally. Cracking of the tread and sidewall rubber, sometimes accompanied by carcass deformation, is an evidence of

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

**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: 90/90-12 44J Manufacturer/model: MAXXIS/M-6219-X

#### Rear tire:

Size: 100/90-10 56J Manufacturer/model: MAXXIS/M-6220-X EAU21963

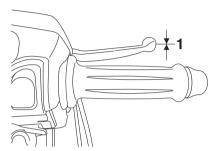
### **Cast wheels**

FWA10462

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 brake lever free play



1. No brake lever free play

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

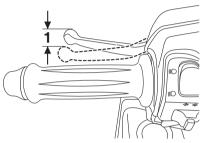
FWA14212

### **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.

# Adjusting the rear brake lever free play

Measure the rear brake lever free play as shown.

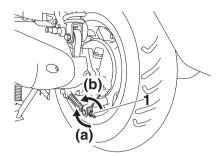


1. Rear brake lever free play

**Rear brake lever free play:** 10.0–20.0 mm (0.39–0.79 in)

Periodically check the brake lever free play and, if necessary, adjust it as follows.

To increase the brake lever free play, turn the adjusting nut at the brake shoe plate in direction (a). To decrease the brake lever free play, turn the adjusting nut in direction (b).



1. Rear brake lever free play adjusting nut

**⚠** WARNING

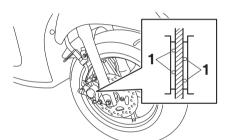
EWA10651

If proper adjustment cannot be obtained as described, have a Yamaha dealer make this adjustment.

Checking the front brake pads and rear brake shoes

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

Front brake pads



1. Brake pad wear indicator groove

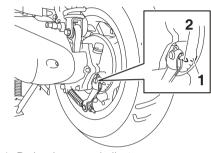
Each front brake pad is provided with wear indicator grooves, which allow you to check the brake pad wear without having to disassemble the brake. To check the brake pad wear, check the wear indicator grooves. If a brake pad has worn to the point that the wear

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

Rear brake shoes

FAU22434





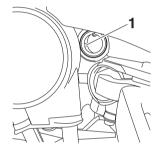
- 1. Brake shoe wear indicator
- 2. Brake shoe wear limit line

The rear brake is provided with a wear indicator, which allows you to check the brake shoe wear without having to disassemble the brake. To check the brake shoe wear, check the position of the wear indicator while applying the brake. If a brake shoe has worn to the point that the wear indicator reaches the wear limit line, have a Yamaha dealer replace the brake shoes as a set.

EAU3700

# Checking the brake fluid level

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



1. Minimum level mark

Specified brake fluid: DOT 3 or DOT 4

EWA15981

### **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 3 or 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 3 or DOT 4 may result in a harmful chemical reaction.
- Be careful that water does not enter the brake fluid reservoir when refilling. Water will significantly lower the boiling point of the fluid and may result in vapor lock.

ECA17641

### **NOTICE**

Brake fluid may damage painted surfaces or plastic parts. Always clean up spilled fluid immediately. As the brake pads wear, it is normal for the brake fluid level to gradually go down. A low brake fluid level may indicate worn brake pads and/or brake system leakage; therefore, be sure to check the brake pads for wear and the brake system for leakage. If the brake fluid level goes down suddenly, have a Yamaha dealer check the cause before further riding.

Changing the brake fluid

Have a Yamaha dealer change the brake fluid at the intervals specified in the periodic maintenance and lubrication chart. In addition, have the oil seals of the brake master cylinder and caliper as well as the brake hose replaced at the intervals listed below or whenever they are damaged or leaking.

- Oil seals: Replace every two years.
- Brake hose: Replace every four years.

EAU22724

### **Checking the V-belt**

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

EAUU0311

# Checking and lubricating the cables

FAI 123098

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

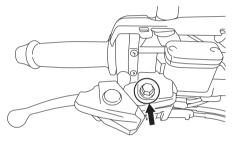
Checking and lubricating the throttle grip and cable

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

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

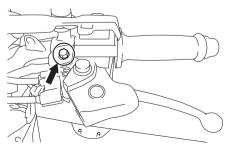
#### Front brake lever



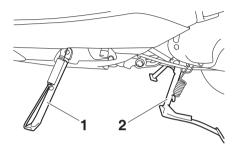
#### Recommended lubricants: Front brake lever:

Silicone grease Rear brake lever: Lithium-soap-based grease

#### Rear brake lever



# Checking and lubricating the centerstand and sidestand



- 1. Sidestand
- 2. Centerstand

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.

FWA10742

## **WARNING**

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

## Checking the front fork

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

EAU23273

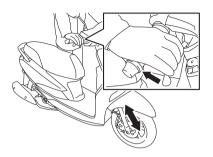
#### To check the condition

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

#### To check the operation

- 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]
- While applying the front brake, push down hard on the handlebars several times to check if the front fork compresses and rebounds smoothly.

7-25



ECA10591

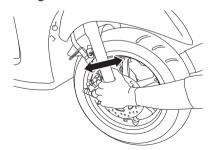
#### NOTICE

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

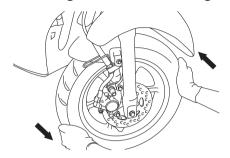
### Checking the steering

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.

- Place the vehicle on the centerstand. WARNING! To avoid injury, securely support the vehicle so there is no danger of it falling over. [EWA10752]
- 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.



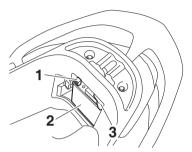
Checking the wheel bearings



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.

**Battery** 

EAU50292



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

The battery is located under the seat. (See page 4-11.)

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

EWA10761

**WARNING** 

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

- 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. [ECA16504]
- If the battery will be stored for more than two months, check it at least once a month and fully charge it if necessary.
- Fully charge the battery before installation. NOTICE: When installing the battery, be sure to turn the main switch off, then con-

EAUN2391

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.

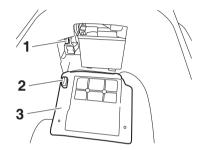
CA16531

### **NOTICE**

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

### Replacing the fuses

The fuse boxes, which contain the fuses for the individual circuits, are located under the seat. (See page 4-11.)



- 1. Main fuse
- 2. Spare fuse
- 3. Battery cover

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 4-11.)
- 3. Remove the battery cover by removing the quick fasteners.



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

#### **Specified fuses:**

Main fuse: 15.0 A

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

TIP \_\_\_\_\_

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

- 6. Install the battery cover by installing the quick fasteners.
- 7. Close the seat.

EAU23856

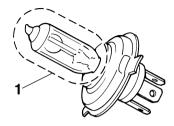
## Replacing the headlight bulb

This model is equipped with a halogen bulb headlight. If the headlight bulb burns out, replace it as follows.

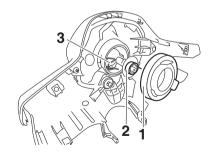
ECA26690

### NOTICE

- Do not touch the glass part of the headlight bulb. Otherwise the luminosity and the life of the bulb may be adversely affected.
- Thoroughly clean off any dirt, oil, or fingerprints from the bulb using a cloth moistened with alcohol or thinner.
- Do not use a headlight bulb of a wattage higher than specified.
- Do not affix any type of tinted film or stickers to the headlight lens.



- 1. Do not touch the glass part of the bulb.
  - 1. Remove cowling A together with the headlight unit. (See page 7-7.)
  - 2. Disconnect the headlight coupler, and then remove the bulb cover.



- 1. Headlight bulb cover
- 2. Headlight bulb
- 3. Headlight bulb holder

#### 7

EAU43041

# Periodic maintenance and adjustment

- 3. Unhook the headlight bulb holder, and then remove the burnt-out bulb.
- 4. Place a new headlight bulb into position, and then secure it with the bulb holder.
- 5. Install the headlight bulb cover, and then connect the coupler.
- 6. Install the cowling together with the headlight unit.
- 7. Have a Yamaha dealer adjust the headlight beam if necessary.

**Auxiliary light** 

This model is equipped with an LED-type auxiliary light.

If the auxiliary light does not come on, have a Yamaha dealer check it.

EAU44941

### Tail/brake light

If the tail/brake light does not come on, have a Yamaha dealer check its electrical circuit or replace the bulb.

Replacing a front turn signal light bulb

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

7. Install the cowling.

Rear turn signal light bulb

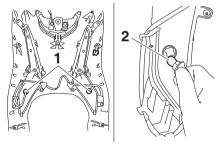
If a rear turn signal light does not come on, have a Yamaha dealer check the electrical circuit or replace the bulb.

#### **NOTICE**

ECA10671

It is advisable to have a Yamaha dealer perform this job.

- 1. Place the vehicle on the centerstand.
- 2. Remove cowling B. (See page 7-7.)
- 3. Remove the turn signal light bulb socket (together with the bulb) by turning it counterclockwise.



- 1. Turn signal light bulb socket
- 2. Turn signal light bulb
  - 4. Remove the burnt-out bulb by pulling it out.
- 5. Insert a new bulb into the socket.

## Periodic maintenance and adjustment

**Troubleshooting** 

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

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

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

EWA15142

EAU60701

#### **WARNING**

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

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.
- 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.

## Periodic maintenance and adjustment

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.

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

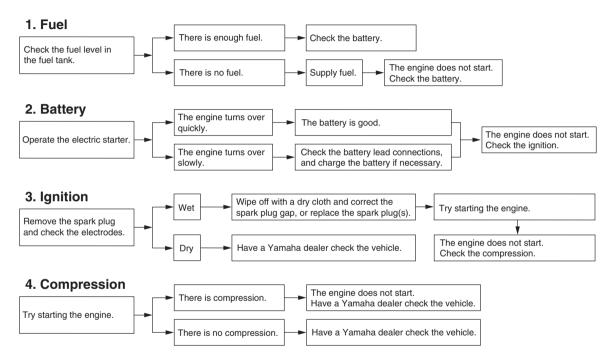
After the engine was stopped by the Stop and Start System, the engine does not restart even if the throttle grip is turned.

- Is the Stop and Start System switch set to "@"?
   If the Stop and Start System switch is set to "@" while the Stop and Start System is activated, the Stop and Start System will be turned off.
- Was the sidestand operated? When the sidestand is lowered, the Stop and Start System is deactivated.
- Was the engine left stopped by the Stop and Start System for a long period of time?
   If the engine is left stopped by the Stop and Start System for a long period of time, the battery could become discharged.

## Periodic maintenance and adjustment

#### **Troubleshooting chart**

EAUT1985



#### Matte color caution

EAU37834

ECA15193

#### **NOTICE**

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

#### Care

While the open design of a motorcycle reveals the attractiveness of the technology, it also makes it more vulnerable. Rust and corrosion can develop even if high-quality components are used. A rusty exhaust pipe may go unnoticed on a car, however, it detracts from the overall appearance of a motorcycle. Frequent and proper care does not only comply with the terms of the warranty, but it will also keep your motorcycle looking good, extend its life and optimize its performance.

#### Before cleaning

- 1. Cover the muffler outlet with a plastic bag after the engine has cooled down.
- Make sure that all caps and covers as well as all electrical couplers and connectors, including the spark plug caps, are tightly installed.
- Remove extremely stubborn dirt, like oil burnt onto the crankcase, with a degreasing agent and a brush, but never apply such prod-

ucts onto seals, gaskets, sprockets, the drive chain and wheel axles. Always rinse the dirt and degreaser off with water.

#### Cleaning

EAU67140

ECA22530

#### **NOTICE**

- Avoid using strong acidic wheel cleaners, especially on spoked or magnesium wheels. If such products are used on hard-toremove dirt, do not leave the cleaner on the affected area any longer than instructed. Also, thoroughly rinse the area off with water, immediately dry it, and then apply a corrosion protection spray.
- Improper cleaning can damage such parts as cowlings and panels, the windshield, the instrument panel and display, wheels, headlight lenses, plastic or carbon fiber parts, etc., and the mufflers. Use only a soft, clean cloth or sponge to clean such parts. However, if such parts cannot be thoroughly cleaned.

water and diluted mild detergent may be used. Be sure to rinse off any detergent residue using plenty of water, as it is harmful to plastic parts.

- Do not use any harsh chemical products on plastic parts or the muffler. Be sure to avoid using cloths or sponges which have been in contact with strong or abrasive cleaning products, solvent or thinner, fuel (gasoline), rust removers or inhibitors, brake fluid, antifreeze or electrolyte.
- Do not use high-pressure washers or steam-jet cleaners since they cause water seepage and deterioration in the following areas: seals (of wheel and swingarm bearings, fork and brakes), storage compartments, electric components (couplers, connectors, instruments, switches and lights), breather hoses and vents.

#### After normal use

Remove dirt with warm water, a mild detergent, and a soft, clean sponge, and then rinse thoroughly with clean water. Use a toothbrush or bottlebrush for hard-to-reach areas. Stubborn dirt and insects will come off more easily if the area is covered with a wet cloth for a few minutes before cleaning.

## After riding in the rain, near the sea or on salt-sprayed roads

Since sea salt or salt sprayed on roads during winter are extremely corrosive in combination with water, carry out the following steps after each ride in the rain, near the sea or on salt-sprayed roads.

#### TIP

Salt sprayed on roads in the winter may remain well into spring.

1. Clean the motorcycle with cold water and a mild detergent, after the engine has cooled down. NOTICE: Do not use warm water since it increases the corrosive action of the salt. ECALOTRO!

 After drying the motorcycle, apply a corrosion protection spray on all metal, including chrome- and nickel-plated, surfaces (except the titanium muffler) to prevent corrosion.

#### Cleaning the windshield

Avoid using any alkaline or strong acid cleaner, gasoline, brake fluid, or any other solvent. Clean the windshield with a cloth or sponge dampened with a neutral detergent, and after cleaning, thoroughly wash it off with water. For additional cleaning, use Yamaha Windshield Cleaner or other quality cleaner. Some cleaning compounds for plastics may leave scratches on surfaces of the windshield. Before using them, make a test by polishing an area which does not affect your visibility.

#### Cleaning the titanium muffler

This model is equipped with a titanium muffler, which requires the following special care.

 Use only a soft, clean cloth or sponge with mild detergent and water to clean the titanium muffler.

However, if the muffler cannot be thoroughly cleaned with mild detergent, alkaline products and a soft brush may be used.

- Never use compounds or other special treatments to clean the titanium muffler, as they will remove the finish on the outer surface of the muffler.
- Even the smallest amounts of oil, such as from oily towels or fingerprints, will leave stains on the titanium muffler, which can be removed with a mild detergent.
- Note that the thermally induced discoloring of the portion of the exhaust pipe leading into the titanium muffler is normal and cannot be removed.

#### After cleaning

- 1. Dry the motorcycle with a chamois or an absorbing cloth.
- 2. Immediately dry the drive chain and lubricate it to prevent it from rusting.
- 3. Use a chrome polish to shine chrome, aluminum and stainless-steel parts.

- To prevent corrosion, it is recommended to apply a corrosion protection spray on all metal, including chrome- and nickel-plated, surfaces.
- 5. Use spray oil as a universal cleaner to remove any remaining dirt.
- 6. Touch up minor paint damage caused by stones, etc.
- 7. Wax all painted surfaces.
- 8. Let the motorcycle dry completely before storing or covering it.

EWA11132

### **WARNING**

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

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

#### NOTICE

 Apply spray oil and wax sparingly and make sure to wipe off any excess.

ECA10801

- Never apply oil or wax to any rubber and plastic parts, but treat them with a suitable care product.
- Avoid using abrasive polishing compounds as they will wear away the paint.

#### TIP.

- Consult a Yamaha dealer for advice on what products to use.
- Washing, rainy weather or humid climates can cause the headlight lens to fog. Turning the headlight on for a short period of time will help remove the moisture from the lens.

EAU83472

#### **Storage**

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

ECA21170

#### **NOTICE**

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

#### Long term storage

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

- Make all necessary repairs and perform any outstanding maintenance.
- 2. Follow all instructions in the Care section of this chapter.
- 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.
- 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.
- 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.
- 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 7-27 for more information on charging and storing the battery.

#### **Dimensions:**

Overall length:

1805 mm (71.1 in)

Overall width:

685 mm (27.0 in)

Overall height:

1160 mm (45.7 in)

Seat height:

800 mm (31.5 in)

Wheelbase:

1275 mm (50.2 in)

Ground clearance:

125 mm (4.92 in)

Minimum turning radius:

1.9 m (6.23 ft)

#### Weight:

Curb weight:

101 kg (223 lb)

#### Engine:

Combustion cycle:

4-stroke

Cooling system:

Air cooled

Valve train:

SOHC

Number of cylinders:

Single cylinder

Displacement:

125 cm<sup>3</sup> Bore ×stroke:

52.4 ×57.9 mm (2.06 ×2.28 in)

Starting system:

#### 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:

0.80 L (0.85 US qt, 0.70 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 lmp.qt)

#### Fuel:

Recommended fuel:

Unleaded gasoline (E10 acceptable)

Octane number (RON):

90

Fuel tank capacity:

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

#### Fuel injection:

Throttle body:

ID mark:

B8A1

#### **Drivetrain:**

#### Front tire:

Type:

Tubeless

Size:

90/90-12 44J

Manufacturer/model:

MAXXIS/M-6219-X

#### Rear tire:

Type:

Tubeless

Size:

100/90-10 56J

Manufacturer/model:

MAXXIS/M-6220-X

#### Loading:

Maximum load:

161 kg (355 lb)

(Total weight of rider, passenger, cargo and accessories)

#### Unified brake system:

Operation:

Activated by rear brake

#### Front brake:

Type:

Hydraulic single disc brake

#### Rear brake:

Type:

Mechanical leading trailing drum brake

#### Front suspension:

Type:

Telescopic fork

## **Specifications**

#### **Rear suspension:**

Type:

Unit swing

#### Electrical system:

System voltage:

12 V

#### **Battery:**

Model:

**VRLA** 

Voltage, capacity:

12 V, 6.0 Ah (10 HR)

#### Headlight:

Bulb type:

Halogen bulb

#### Bulb wattage:

Headlight:

HS1, 35.0 W/35.0 W

Brake/tail light:

21.0 W/5.0 W

Front turn signal light:

10.0 W

Rear turn signal light:

10.0 W

Auxiliary light:

LED

## **Consumer information**

**Identification numbers** 

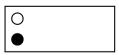
Record the vehicle identification number, engine serial number, and the model label information in the spaces provided below. These identification numbers are needed when registering the vehicle with the authorities in your area and when ordering spare parts from a Yamaha dealer

#### **VEHICLE IDENTIFICATION NUMBER:**

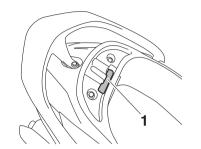
ı				
ı				
ı				
ı				
ı				

#### **ENGINE SERIAL NUMBER:**

#### MODEL LABEL INFORMATION:



#### Vehicle identification number



1. Vehicle identification number

The vehicle identification number is stamped into the frame under the passenger seat.

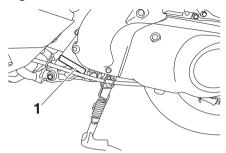
#### TIP

EAU53562

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

#### **Engine serial number**

EAU62971



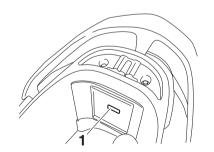
1. Engine serial number

The engine serial number is stamped into the crankcase.

#### FAU26481

EAU26442

#### Model label

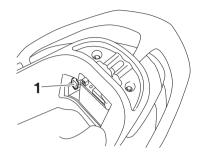


1. Model label

### Consumer information

The model label is affixed to the frame under the seat (See page 4-11.) Record the information on this label in the space provided. This information will be needed when ordering spare parts from a Yamaha dealer.

### **Diagnostic connector**



1. Diagnostic connector

The diagnostic connector is located as shown.

EAU69910 Vehicle data recording

EAU85300

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

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

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

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

Vehicle data uploaded will be handled appropriately according to the following Privacy Policy.

#### **Privacy Policy**

https://www.yamaha-motor.eu/eu/ privacy/privacy-policy.aspx

## **Consumer information**

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

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

## Index

A
Acceleration and deceleration6-3
Activating the Stop and Start System3-1
Air filter and V-belt case
air filter elements7-14
Auxiliary light7-30
В
Battery7-27
Brake fluid, changing7-23
Brake fluid level, checking7-22
Brake lever, front4-8
Brake lever, rear4-8
Brake levers, lubricating7-24
Brake pads and shoes, checking7-21
Braking6-3
С
Cables, checking and lubricating7-23
Care8-1
Catalytic converter4-11
Centerstand and sidestand,
checking and lubricating7-25
Clock4-4
Cowlings and panel,
removing and installing7-7
D
Data recording, vehicle10-2
Diagnostic connector10-2
Dimmer switch4-7
F
Engine break-in6-1
•
Engine oil and oil strainer7-11
Engine serial number10-1
F
Final transmission oil7-13

Front brake lever free play, checking Front fork, checking Fuel	. 7-25
Fuel consumption, tips for reducing Fuel meter	6-3
Fuel tank cap Fuses, replacing	
Н	
Handlebar switches	4-7
Headlight bulb, replacing	. 7-29
Helmet holders	
High beam indicator light	
Horn switch	
1	
Identification numbers	. 10-1
Ignition circuit cut-off system	. 4-14
Indicator lights and warning lights	4-2
K	
Keyhole shutter	4-2
L	
Luggage hook	. 4-13
M	
Main switch/steering lock	4-1
Maintenance and lubrication, periodic	7-3
Maintenance,	
emission control system	
Malfunction indicator light (MIL)	
Matte color, caution	
Model label	
Multi-function display	
Multi-function meter unit	4-4
P	
Parking	
Part locations	2-1

Precautions when using the Stop and Start System3-3	ł
	•
Rear brake lever free play, adjusting7-20	)
Safe-riding points1-5	5
Safety information1-1	
Seat4-11	
Sidestand4-13	
Spark plug, checking7-9	
Specifications9-1	
Speedometer4-4	
Starting off6-2	,
Starting the engine6-2	,
Start switch4-7	
Steering, checking7-26	ò
Stop and Start System3-1	
Stop and Start System indicator light 4-3	š
Stop and Start System operation3-1	
Stop and Start System switch4-7	,
Stop and Start System	
troubleshooting7-32	,
Storage8-4	ŀ
Storage compartment4-12	
Tail/brake light7-30	)
Throttle grip and cable, checking and lubricating7-24	
Throttle grip free play, adjusting7-17 Tires7-18	
Tool kit7-18	
Troubleshooting7-1	
Troubleshooting7-32 Troubleshooting chart7-34	
Turn signal indicator lights4-2	
Tutti signal litulcalul lights4-2	-

## <u>Index</u>

Turn signal light bulb (front),	
replacing	7-31
Turn signal switch	4-7
V	
Valve clearance	7-17
V-belt, checking	7-23
Vehicle identification number	10-1
W	
Wheel bearings, checking	7-26
Wheels	7-19
Υ	
Yamalube	7-13

