YAMAHA

⚠ Read this manual carefully before operating this vehicle.

OWNER'S MANUAL

YZF600W

BN6-28199-EA ●

EAU81563

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

EAUE5801

Compliance with Regulation (EU) 2023/1542 concerning batteries and wasted batteries

Importer:
YAMAHA MOTOR EUROPE N.V.
Koolhovenlaan 101, 1119 NC Schiphol-Rijk, 1117 ZN, Schiphol, the Netherlands

EAU10103

Welcome to the Yamaha world of motorcycling!
As the owner of the YZF600W, 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 YZF600W. The Owner's Manual does not only instruct you in how to operate, inspect and maintain your motorcycle, but also in how to safeguard yourself and others from trouble and injury.
In addition, the many tips given in this manual will help keep your motorcycle in the best possible condition. If you have any further questions, do not hesitate to contact your Yamaha dealer.
The Yamaha team wishes you many safe and pleasant rides. So, remember to put safety first!
Yamaha continually seeks advancements in product design and quality. Therefore, while this manual contains the most current product information available at the time of printing, there may be minor discrepancies between your motorcycle and this manual. If there is any question concerning this manual, please consult a Yamaha dealer.

EWA10032

⚠ WARNING

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

Important manual information

EAU10134

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

⚠	**This is the safety alert symbol. It is used to alert you to potential personal injury hazards. Obey all safety messages that follow this symbol to avoid possible injury or death.**
⚠ 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.

*Product and specifications are subject to change without notice.

EAU10202

YZF600W
OWNER'S MANUAL

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Be a Responsible Owner

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

Motorcycles 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 motorcycle.

He or she should:

- Obtain thorough instructions from a competent source on all aspects of motorcycle 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 motorcycle without proper training or instruction. Take a training course. Beginners should receive training from a certified instructor. Contact an authorized motorcycle 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 motorcycle is designed to carry the operator only.
- The failure of motorists to detect and recognize motorcycles in traffic is the predominating cause of automobile/motorcycle accidents. Many accidents have been caused by an automobile driver who did not see the motorcycle. 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 motorcycle accidents to occur.
- Ride where other motorists can see you. Avoid riding in another motorist's blind spot.
- Never maintain a motorcycle without proper knowledge. Contact an authorized motorcycle dealer to inform you on basic motorcycle 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 motorcycle license.
  - Make sure that you are qualified and that you only lend your motorcycle 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 motorcycle where there is no traffic until you have become thoroughly familiar with the motorcycle and all of its controls.
- Many accidents have been caused by error of the motorcycle 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 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 motorcycle.
- Never ride under the influence of alcohol or other drugs.
- This motorcycle is intended for closed circuit use only. It is not suitable for use on public roads.

Protective Apparel

The majority of fatalities from motorcycle 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, heavy boots, 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, footrests, 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.

Avoid Carbon Monoxide Poisoning

All engine exhaust contains carbon monoxide, a deadly gas. Breathing carbon monoxide can cause headaches, dizziness, drowsiness, nausea, confusion, and eventually death.
Carbon Monoxide is a colorless, odorless, tasteless gas which may be present even if you do not see or smell any engine exhaust. Deadly levels of carbon monoxide can collect rapidly and you can quickly be overcome and unable to save yourself. Also, deadly levels of carbon monoxide can linger for

hours or days in enclosed or poorly ventilated areas. If you experience any symptoms of carbon monoxide poisoning, leave the area immediately, get fresh air, and SEEK MEDICAL TREATMENT.

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

Loading

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

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

Maximum load:
190 kg (419 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 motorcycle 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 motorcycle to minimize imbalance or instability.
- Shifting weights can create a sudden imbalance. Make sure that accessories and cargo are securely attached to the motorcycle 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. These items, including such cargo as sleeping bags, duffel bags, or tents, can create unstable handling or a slow steering response.
- **This vehicle is not designed to pull a trailer or to be attached to a sidecar.**

Genuine Yamaha Accessories

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

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

Aftermarket Parts, Accessories, and Modifications

While you may find aftermarket products similar in design and quality to genuine Yamaha accessories, recognize that some aftermarket accessories or modifications are not suitable because of potential safety hazards to you or others. Installing aftermarket products or having other modifications performed to your vehicle that change any of the vehicle's design or operation characteristics can put you and others at greater risk of serious injury or death. You are responsible for injuries related to changes in the vehicle.

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

- Never install accessories or carry cargo that would impair the performance of your motorcycle. 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 motorcycle due to aerodynamic effects. Wind may attempt to lift the motorcycle, or the motorcycle 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 motorcycle'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 motorcycle were designed to match the performance capabilities and to provide the best combination of handling, braking, and comfort. Other tires, rims, sizes, and combinations may not be appropriate. See page 7-20

for tire specifications and for information on servicing and replacing your tires.

Transporting the Motorcycle

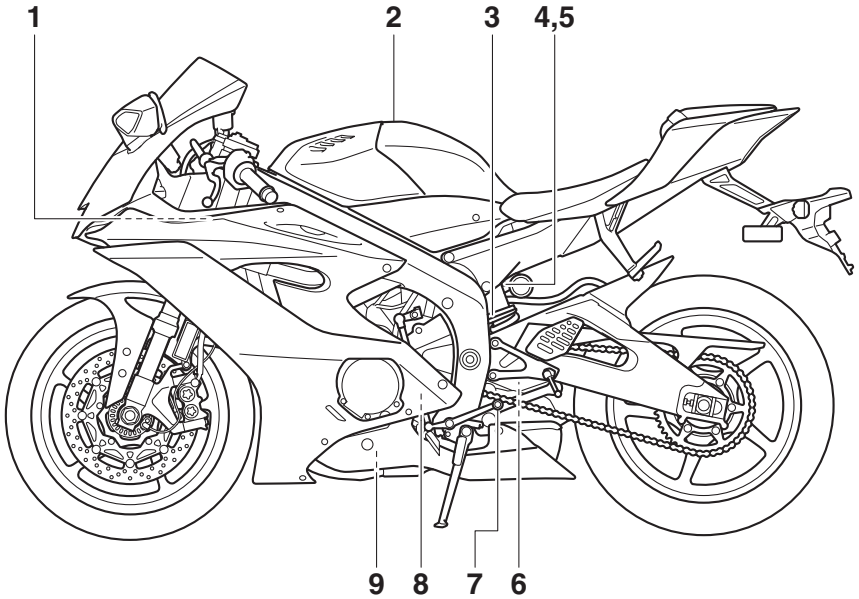
Be sure to observe following instructions before transporting the motorcycle in another vehicle.

- Remove all loose items from the motorcycle.
- Check that the fuel cock (if equipped) is in the off position and that there are no fuel leaks.
- Shift the transmission into gear (for models with a manual transmission).
- Secure the motorcycle with tie-downs or suitable straps that are attached to solid parts of the motorcycle, such as the frame or upper front fork triple clamp (and not, for example, to rubber-mounted handlebars or turn signals, or parts that could break). Choose the location for the straps carefully so the straps will not rub against painted surfaces during transport.
- The suspension should be compressed somewhat by the tie-downs, if possible, so that the motorcycle will not bounce excessively during transport.

EAU94540

Left view

(This image is of the street legal version and is for reference only.)

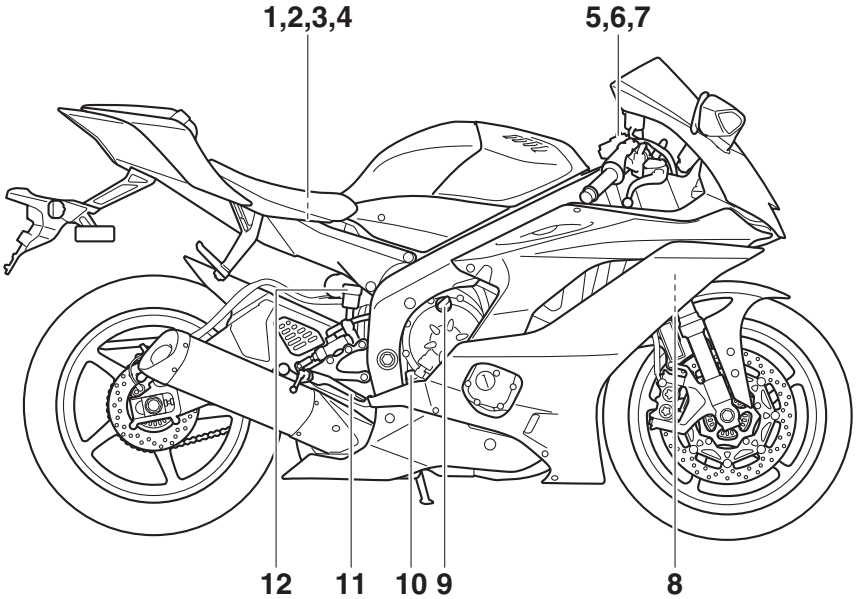


1. Fuse box 2 (page 7-35)
2. Fuel tank cap (page 4-17)
3. Spring preload adjuster (page 4-23)
4. Fast compression damping force adjuster (page 4-23)
5. Slow compression damping force adjuster (page 4-23)
6. Rebound damping force adjuster (page 4-23)
7. Shift pedal (page 4-15)
8. Engine oil filter cartridge (page 7-14)
9. Engine oil drain bolt (page 7-14)

EAU94550

Right view

(This image is of the street legal version and is for reference only.)



1. Fuse box 1 (page 7-35)
2. Main fuse (page 7-35)
3. ABS motor fuse (page 7-35)
4. Battery (page 7-34)
5. Spring preload adjuster (page 4-21)
6. Rebound damping force adjuster (page 4-21)
7. Compression damping force adjuster (page 4-21)
8. Coolant reservoir (page 7-18)
9. Engine oil filler cap (page 7-14)
10. Engine oil dipstick (page 7-14)
11. Brake pedal (page 4-16)
12. Rear brake fluid reservoir (page 7-26)

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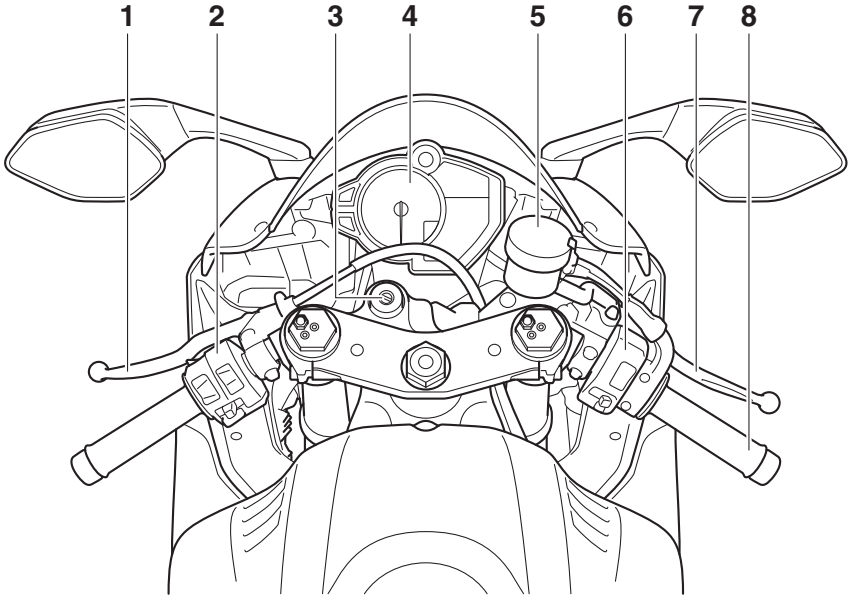
Controls and instruments

(This image is of the street legal version and is for reference only.)



1. Clutch lever (page 4-15)
2. Left handlebar switches (page 4-3)
3. Main switch/steering lock (page 4-2)
4. Multi-function meter unit (page 4-7)
5. Front brake fluid reservoir (page 7-26)
6. Right handlebar switches (page 4-3)
7. Brake lever (page 4-16)
8. Throttle grip (page 7-20)

EAU76422

D-mode (drive mode)

D-mode is an electronically controlled engine performance system. This model has three mode selections: “STD”, “A”, and “B”.

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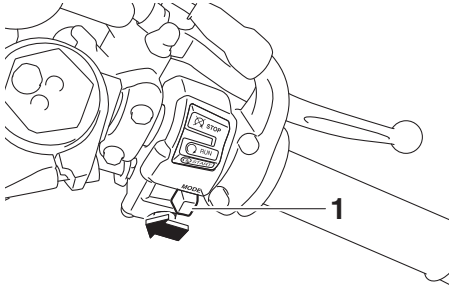
⚠ WARNING

Do not change the drive mode while the vehicle is moving.



1. Drive mode switch “MODE”

With the throttle grip closed, push this switch to change the drive mode in the following order:
STD → A → B → STD

TIP

- Make sure you understand each drive mode before operating the drive mode switch.
- The current drive mode is shown in the drive mode display (page 4-10).
- The current drive mode is saved when the vehicle is turned off.

Mode “STD”
Mode “STD” is suitable for various riding conditions.
This mode allows the rider to enjoy smooth and sporty drivability from the low-speed range to the high-speed range.

Mode “A”
Mode “A” offers a sportier engine response in the low- to mid-speed range compared to mode “STD”.

Mode “B”
Mode “B” offers response that is somewhat less sharp compared to mode “STD” for riding situations that require especially sensitive throttle operation.

EAU79735

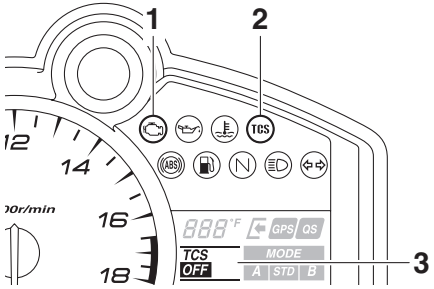
Traction control system

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

EWA15433

⚠ WARNING

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



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

The "TCS" indicator light flashes when traction control has engaged. You may notice slight changes in engine and exhaust sounds when the system has engaged.

When the traction control system is turned off, the "TCS" indicator light will come on.

TIP

- When the vehicle is turned on, the traction control system is turned on and set to the last used traction control system setting.
- The current traction control system setting is shown on the traction control system display (page 4-11).

Traction control system settings

"TCS OFF"

"TCS OFF" turns the traction control system off.

"TCS 1"

"TCS 1" minimizes traction control system assist.

"TCS 2, 3, 4, 5"

"TCS 2" through "5" sequentially increase traction control system assist.

"TCS 6"

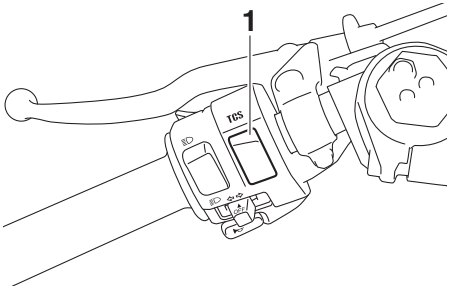
"TCS 6" maximizes traction control assist; wheel spin is most strongly controlled.

ECA16801

NOTICE

Use only the specified tires. (See page 7-20.) Using different sized tires will prevent the traction control system from controlling tire rotation accurately.

Setting the traction control system



1. Traction control system switch "TCS"

To turn the traction control system off

Stop the vehicle and:

- push up on the traction control system switch for two seconds to turn the traction control system off.
- push down on the traction control system switch to turn the traction control system back on.

TIP

Turn the traction control system off to help free the rear wheel if it is stuck in mud or sand, etc.

To change the traction control system settings

Stop the vehicle or close the throttle and:

- push up on the traction control system switch to decrease traction control (6→5→4→3→2→1).
- push down on the traction control system switch to increase traction control (1→2→3→4→5→6).

TIP

The traction control system settings can also be changed when moving in straight line if the throttle grip is held in a fixed position for two seconds while in 4th, 5th, or 6th gear.

EWA18940

⚠ WARNING

Take extra precaution when changing modes while riding.

Resetting the traction control system

The traction control system will automatically disable when:

- the front wheel or rear wheel comes off the ground while riding.
- excessive rear wheel spin is detected while riding.
- either wheel is rotated with the main switch turned on (such as when performing maintenance).

If the traction control system is disabled, both the "TCS" indicator light and the "" warning light will come on. Should this occur, try resetting the system as follows.

1. Stop the vehicle and turn the main switch off.
2. Wait a few seconds and then turn the main switch back on.
3. The "TCS" indicator light should turn off and the system be enabled.

TIP

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

4. Have a Yamaha dealer check the vehicle and turn off the "" warning light.

EAU79482

Quick shifter

The quick shifter allows for full-throttle, clutch lever-less upshifts. When the shift switch detects motion in the shift pedal, engine power and drive torque are momentarily adjusted to allow the upshift to occur.

TIP

The quick shifter operates when traveling at least 20 km/h (12 mi/h) with an engine speed of 2000 r/min or higher, and only when accelerating. It does not operate when the clutch lever is pulled.

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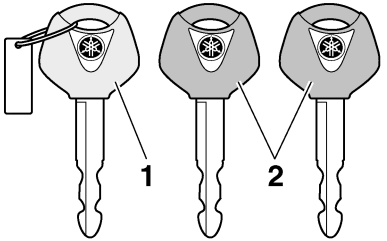
NOTICE

To prevent drivetrain damage, always use the clutch lever to shift when riding at slow speed, when downshifting, or if the quick shifter is off.

Immobilizer system

EAU1097B



1. Code re-registering key (red bow)
2. Standard keys (black bow)

This vehicle is equipped with an immobilizer system to help prevent theft by re-registering codes in the standard keys. This system consists of the following:

- a code re-registering key
- two standard keys
- a transponder (in each key)
- an immobilizer unit (on the vehicle)
- an ECU (on the vehicle)
- a system indicator light (page 4-6)

About the keys

The code re-registering key is used to register codes in each standard key. Store the code re-registering key in a safe place. Use a standard key for daily operation.

When key replacement or re-registering is necessary, bring the vehicle and the code re-registering key along with any remaining standard keys to a Yamaha dealer to have them re-registered.

TIP

- Keep the standard keys as well as keys of other immobilizer systems away from the code re-registering key.
- Keep other immobilizer system keys away from the main switch as they may cause signal interference.

ECA11823

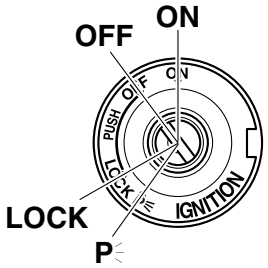
NOTICE

DO NOT LOSE THE CODE RE-REGISTERING KEY! CONTACT YOUR DEALER IMMEDIATELY IF IT IS LOST! If the code re-registering key is lost, the existing standard keys can still be used to start the vehicle. However, registering a new standard key is impossible. If all keys have been lost or damaged, the entire immobilizer system must be replaced. Therefore, handle the keys carefully.

- **Do not submerse in water.**
- **Do not expose to high temperatures.**
- **Do not place near magnets.**
- **Do not place near items that transmit electrical signals.**
- **Do not handle roughly.**
- **Do not grind or alter.**
- **Do not disassemble.**
- **Do not put two keys of any immobilizer system on the same key ring.**

EAU10474

Main switch/steering lock



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

TIP

Be sure to use the standard key (black bow) for regular use of the vehicle. To minimize the risk of losing the code re-registering key (red bow), keep it in a safe place and only use it for code re-registering.

EAU85050

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

- To prevent battery discharge, do not leave the key in the on position without the engine running.
- The headlight comes on automatically when the engine is started.
- The headlight will stay on until the key is turned to “OFF”, even if the engine stalls.

EAU10664

OFF

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

EWA10062

⚠ WARNING

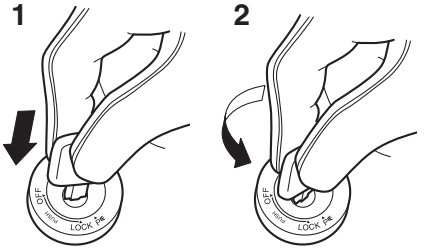
Never turn the key to “OFF” or “LOCK” while the vehicle is moving. Otherwise the electrical systems will be switched off, which may result in loss of control or an accident.

EAU1068B

LOCK

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

To lock the steering



1. Push.
2. Turn.

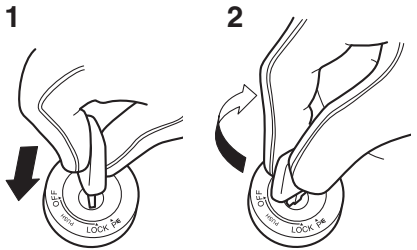
1. Turn the handlebars all the way to the left.
2. With the key in the “OFF” position, push the key in and turn it to “LOCK”.
3. Remove the key.

4

TIP

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

To unlock the steering



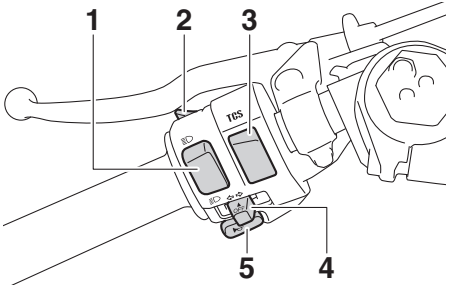
1. Push.
2. Turn.

From the “LOCK” position, push the key in and turn it to “OFF”.

EAU66057

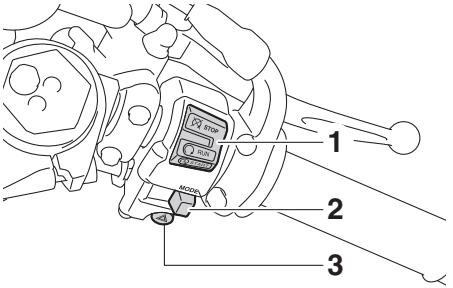
Handlebar switches

Left



1. Dimmer switch “≣D/≣D”
2. Pass switch “≣D”
3. Traction control system switch “TCS”
4. Turn signal switch “⇦/⇨”
5. Horn switch “”

Right



1. Stop/Run/Start switch “⊗/◯/(≋)”
2. Drive mode switch “MODE”
3. Hazard switch “⚠”

EAU79740

Pass switch “≣D”

Press this switch to flash the headlight and to mark the start of each lap when using the lap timer.

TIP

When the dimmer switch is set to “≣D”, the passing switch has no effect.

EAU66030

Horn switch “”

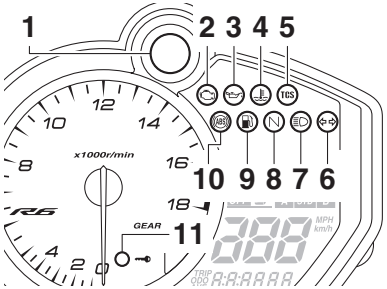
Press this switch to sound the horn.

EAU73961
Traction control system switch "TCS"
See page 3-2 for an explanation of the traction control system.

EAU66061
Stop/Run/Start switch "⊠/○/🏍"
To crank the engine with the starter, set this switch to "○", and then push the switch down towards "🏍". See page 6-2 for starting instructions prior to starting the engine.
Set this switch to "⊠" to stop the engine in case of an emergency, such as when the vehicle overturns or when the throttle cable is stuck.

EAU73931
Drive mode switch "MODE"
See page 3-1 for an explanation of the drive mode.

EAU4939T
Indicator lights and warning lights



1. Shift light
2. Engine trouble warning light "🔧"
3. Oil level warning light "🛢"
4. Coolant temperature warning light "🌡"
5. Traction control system indicator light "TCS"
6. Turn signal indicator light "⇦ ⇨"
7. High beam indicator light "≡○"
8. Neutral indicator light "N"
9. Fuel level warning light "⛽"
10. ABS warning light "(ABS)"
11. Immobilizer system indicator light

EAU11022
Turn signal indicator light "⇦ ⇨"
This indicator light flashes when a turn signal light is flashing.

EAU11061
Neutral indicator light "N"
This indicator light comes on when the transmission is in the neutral position.

EAU11081
High beam indicator light "≡○"
This indicator light comes on when the high beam of the headlight is switched on.

EAU11259
Oil level warning light "🛢"
This warning light comes on when the engine oil level is low. To prevent engine damage, replenish the engine oil as soon as possible.
Even if the oil level is sufficient, the warning light may flicker when riding on a slope or during sudden acceleration or deceleration, but this is not a malfunction. If a problem is detected in the oil level detection circuit, the oil level warning light will flash repeatedly. If this occurs, have a Yamaha dealer check the vehicle.

TIP
When the vehicle is turned on, the light will come on for a few seconds and then go off. If the light does not come

on, or if the light remains on after confirming that the oil level is correct (see page 7-14), have a Yamaha dealer check the vehicle.

EAU1136A

Fuel level warning light "⛽"

This warning light comes on when the fuel level drops below approximately 3.4 L (0.90 US gal, 0.75 Imp.gal). When this occurs, refuel as soon as possible. If a malfunction is detected, the fuel level warning light will flash repeatedly. Have a Yamaha dealer check the vehicle.

TIP

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

EAU72931

Coolant temperature warning light "🌡"

This warning light comes on if the engine overheats. If this occurs, reduce the load on the engine immediately. If message "HI" flashes in the coolant temperature display, stop the vehicle, then stop the engine and let the engine cool.

The electrical circuit of the warning light can be checked by turning the vehicle on. The warning light should come on for a few seconds, and then go off.

If the warning light does not come on initially when the vehicle is turned on, or if the warning light remains on, have a Yamaha dealer check the electrical circuit.

ECA10022

NOTICE

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

TIP

- For radiator-fan-equipped vehicles, the radiator fan(s) automatically switch on or off according to the coolant temperature in the radiator.
- If the engine overheats, see page 7-40 for further instructions.

EAU73172

Engine trouble warning light "🔧"

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

TIP

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

EAU69895

ABS warning light "(ABS)"

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

EWA16043

⚠ WARNING

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

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

EAU86020

Traction control system indicator light "TCS"

This indicator light will flash when traction control has engaged.

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

TIP

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

EAU80372

Shift light

This light can be set to come on and go off at select engine speeds. (See page 4-13.)

TIP

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

EAU80300

Immobilizer system indicator light

When the key is turned to "OFF" and 30 seconds have passed, the indicator light will flash steadily to indicate the immobilizer system is enabled. After 24 hours have passed, the indicator light will stop flashing, however the immobilizer system is still enabled.

The electrical circuit of the indicator light can be checked by turning the key to "ON". The indicator light should come on for a few seconds, and then go off.

If the indicator light does not come on initially when the key is turned to "ON", if the indicator light remains on, or if the indicator light flashes in a pattern (if a problem is detected in the immobilizer system, the immobilizer system indicator light will flash in a pattern), have a Yamaha dealer check the vehicle.

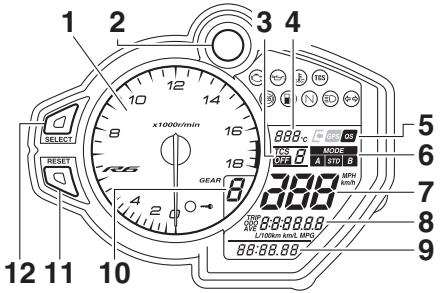
TIP

If the immobilizer system indicator light flashes in the pattern, slowly 5 times then quickly 2 times, this could be caused by transponder interference. If this occurs, try the following.

1. Make sure there are no other immobilizer keys close to the main switch. Other immobilizer system keys may cause signal interference and prevent the engine from starting.
2. Use the code re-registering key to start the engine.
3. If the engine starts, turn it off, and try starting the engine with the standard keys.
4. If one or both of the standard keys do not start the engine, take the vehicle and all 3 keys to a Yamaha dealer to have the standard keys re-registered.

Multi-function meter unit

EAU3904H



1. Tachometer
2. Shift light
3. Traction control system display
4. Coolant/Air intake temperature display
5. Quick shifter icon
6. Drive mode display
7. Speedometer
8. Multi-function display
9. Clock/Lap timer
10. Transmission gear display
11. "RESET" button
12. "SELECT" 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.

The multi-function meter unit is equipped with the following:

- speedometer
- tachometer
- clock
- lap timer
- coolant temperature display
- air temperature display
- transmission gear display
- drive mode display
- traction control system display
- quick shifter icon
- multi-function display
- display brightness and shift light control mode

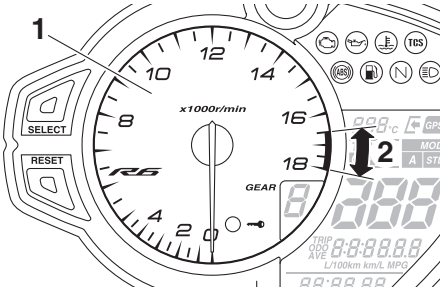
TIP

- To switch the multi-function meter unit between kilometers and miles, push the "SELECT" button for one second.
- The "" and "GPS" icons require accessory parts to function.

Speedometer

The speedometer shows the vehicle's traveling speed.

Tachometer



1. Tachometer
2. Tachometer red zone

The electric tachometer shows the engine speed, as measured by the rotational velocity of the crankshaft, in revolutions per minute (r/min). When the vehicle is first powered on, the tachometer needle will sweep once across the r/min range and then return to zero.

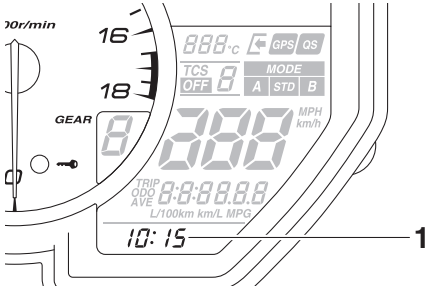
ECA10032

NOTICE

Do not operate the engine in the tachometer red zone.

Red zone: 16500 r/min and above

Clock and lap timer



1. Clock

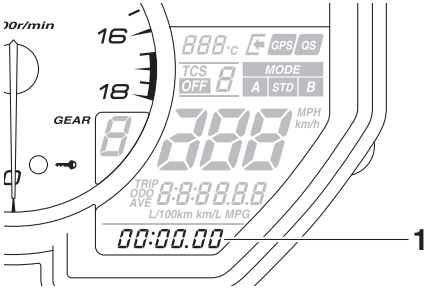
The clock uses a 12-hour time system.

To set the clock

1. Turn the key to “ON”.
2. Push the “SELECT” button and the “RESET” button for two seconds. The hour digits will start flashing.
3. Push the “RESET” button to set the hours.
4. Push the “SELECT” button, and the minute digits will start flashing.
5. Push the “RESET” button to set the minutes.
6. Push the “SELECT” button to confirm the settings and start the clock.

To switch between the clock and lap timer

Push and release the “SELECT” button and the “RESET” button at the same time.



1. Lap timer

The lap timer records and stores up to 20 lap times. The lap time history records are divided into two groups, “L” for lap order and “F” for fastest order. For lap order, the most recent lap is designated L1 (and L19 will become L20). In the case of fast lap history, any new fast lap within the top 20 will be inserted and the previous F20 will be pushed out of the history.

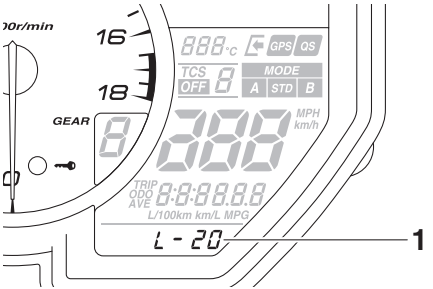
To use the lap timer

1. Push the “RESET” button for one second to set the lap timer to the counting-ready state (the colon “:” and period “.” will flash).
2. Push the pass switch “≣○” to start the lap timer.
3. Push the pass switch “≣○” to mark the start of each new lap.
4. Push the “SELECT” button to stop the lap timer.
5. Push the “SELECT” button again to reset the lap timer (or push the “RESET” button for one second to reset the lap timer and set it to the counting-ready state).

To view the lap time history

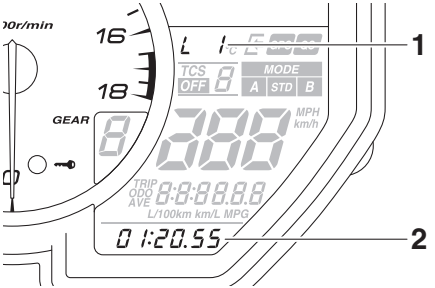
1. Push the “SELECT” button for one second. Lap order history is selected (indicated by “L-20” in the lower part of the display), or push the “SELECT” button again to select fast lap history (indicated by “F-20”).

- "L-20" = lap order (most recent is L1)
- "F-20" = fastest order (fastest lap time is F1)



1. History type (L-20 or F-20)

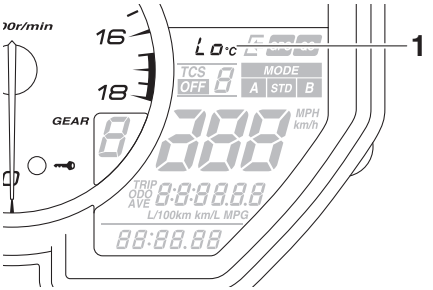
2. Push the "RESET" button and the 1st lap time of that history group (indicated by "L1" or "F1") is shown.



1. Lap number/Fastest rank
2. Lap time

3. Use the "SELECT" button to scroll the history in ascending order, or use the "RESET" button to scroll the history in descending order.
4. When you have finished viewing the lap records you can:
   - push the "RESET" button for one second to delete that group of lap records.
   - push the "SELECT" button for one second to exit and return to the lap timer.

Coolant temperature display



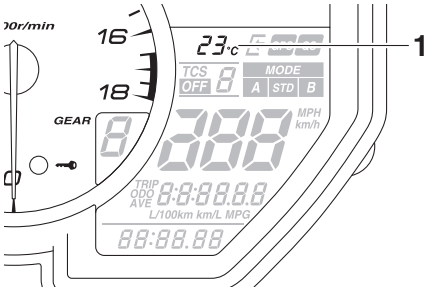
1. Coolant temperature display

This display indicates the temperature of the coolant from 41 °C to 124 °C in 1 °C increments.
If the coolant temperature is between 117 and 124 °C, the coolant temperature display flashes and the coolant temperature warning light comes on. If this occurs, reduce the load on the engine by riding at a moderate pace, at low rpm, until the coolant temperature goes down. If the temperature does not go down, or if the message "HI" flashes, stop the engine and let it cool. (See page 7-40.)

TIP

- When the vehicle is turned on, the coolant temperature display is automatically selected.
- When the coolant temperature is below 41 °C, “Lo” will be displayed.

Air temperature display



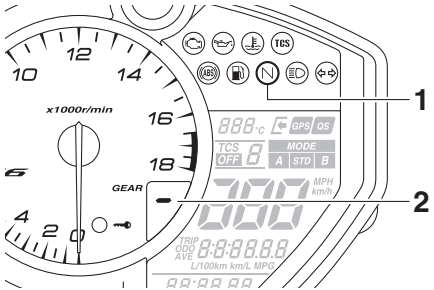
1. Air temperature display

This display indicates the temperature of the air drawn into the air intake duct. Push the “RESET” button to switch the display between the coolant temperature and the air temperature.

TIP

- When the coolant temperature display is selected, “C” is displayed for one second, and then the coolant temperature is displayed.
- When the air temperature display is selected, “A” is displayed for one second, and then the air temperature is displayed.
- When the air temperature is below –9 °C, “–9 °C” will be displayed.
- The temperature displayed may vary from the actual ambient temperature.

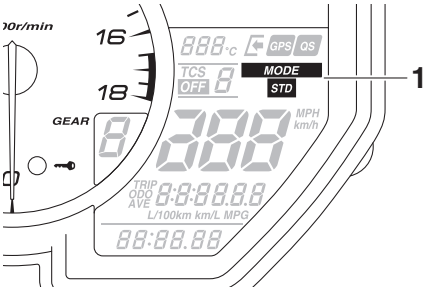
Transmission gear display



1. Neutral indicator light “ **N** ”
2. Transmission gear display

This display shows the selected gear. The neutral position is indicated by “ **–** ” and by the neutral indicator light.

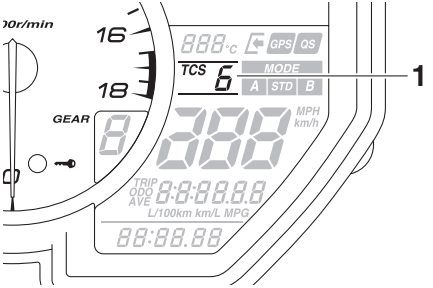
Drive mode display



1. Drive mode display

This display indicates which drive mode has been selected: “STD”, “A” or “B”. For more details on the modes and on how to select them, see page 3-1.

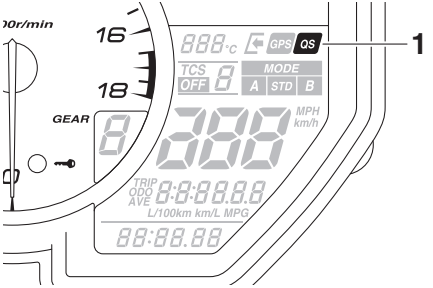
Traction control system display



1. Traction control system display

This display indicates which traction control system setting has been selected: “1” through “6” or “OFF”. For more details on the traction control system settings and on how to select them, see page 3-2.

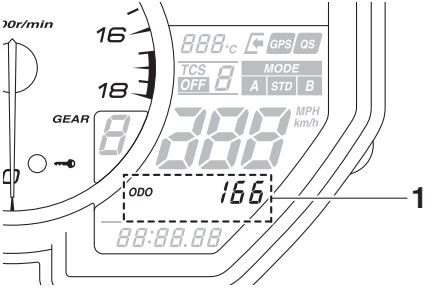
Quick shifter icon



1. Quick shifter icon

When the quick shifter is set to on (i.e. when the shift switch is connected), this icon will turn on. See page 3-4 for quick shifter information.

Multi-function display



1. Multi-function display

The multi-function display is equipped with the following:

- odometer
- two tripmeters
- fuel reserve tripmeter
- instantaneous fuel consumption
- average fuel consumption
- total fuel used

Navigating the multi-function display

Push the “SELECT” button to change between the odometer “ODO”, tripmeters “TRIP 1” and “TRIP 2”, instantaneous fuel consumption “km/L”, “L/100 km” or “MPG”, average fuel consumption “AVE _ _ _._ km/L”, “AVE _ _ _._ L/100 km” or “AVE _ _ _._ MPG”, and total fuel used “_ _._” in the following order:

ODO → TRIP 1 → TRIP 2 → km/L, L/100 km or MPG → AVE _ _ _._ km/L, AVE _ _ _._ L/100 km or AVE _ _ _._ MPG → _ _._ → ODO

Odometer and tripmeters

The odometer shows the total distance traveled by the vehicle.

The tripmeters show the distance traveled since they were last reset. To reset a tripmeter, push the "RESET" button for one second.

TIP

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

Fuel reserve tripmeter

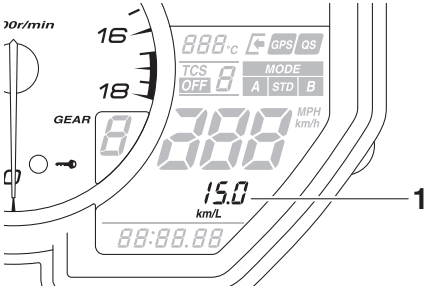
If the fuel level warning light comes on, the display will automatically change to the fuel reserve tripmeter "TRIP F" and start counting the distance traveled from that point. In this case, push the "SELECT" button to switch the display in the following order:

TRIP F → km/L, L/100 km or MPG → AVE _ _ _._ km/L, AVE _ _ _._ L/100 km or AVE _ _ _._ MPG → _ _._ → ODO → TRIP 1 → TRIP 2 → TRIP F

TIP

If you do not reset the fuel reserve tripmeter manually, after refueling and traveling 5 km (3 mi), it will reset automatically and disappear from the display.

Instantaneous fuel consumption



1. Instantaneous fuel consumption display

This function calculates the fuel consumption under current riding conditions.

The instantaneous fuel consumption display can be set to either "km/L" or "L/100 km" when using kilometers, or to "MPG" when using miles. When using kilometers, push the "SELECT" button for one second to switch between "km/L" and "L/100 km".

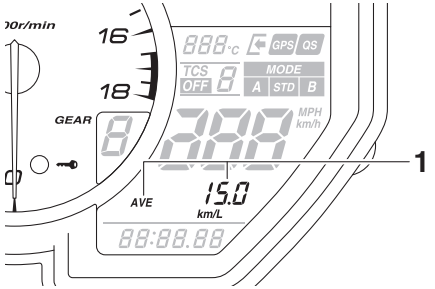
- "km/L": The distance that can be traveled on 1.0 L of fuel under the current riding conditions is shown.
- "L/100 km": The amount of fuel necessary to travel 100 km under the current riding conditions is shown.
- "MPG": The distance that can be traveled on 1.0 US gal of fuel under the current riding conditions is shown.

TIP

If traveling at speeds under 20 km/h (12 mi/h), "_ _ _._" is displayed.

4

Average fuel consumption



1. Average fuel consumption display

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

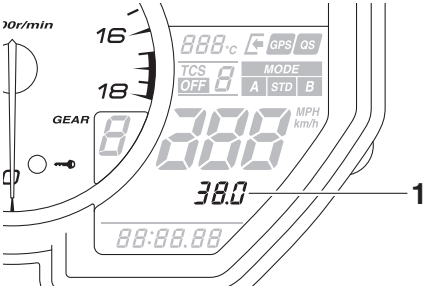
The average fuel consumption display can be set to either "AVE _ _ _._ km/L" or "AVE _ _ _._ L/100 km" when using kilometers, or to "AVE _ _ _._ MPG" when using miles. When using kilometers, push the "SELECT" button for one second to switch between "AVE _ _ _._ km/L" and "AVE _ _ _._ L/100 km".

- "AVE _ _ _._ km/L": The average distance that can be traveled on 1.0 L of fuel is shown.
- "AVE _ _ _._ L/100 km": The average amount of fuel necessary to travel 100 km is shown.
- "AVE _ _ _._ MPG": The average distance that can be traveled on 1.0 US gal of fuel is shown.

TIP

- To reset the average fuel consumption display, push the "RESET" button for one second.
- After resetting the average fuel consumption display, "_ _ _._" will be shown until the vehicle has traveled 1 km (0.6 mi).

Total fuel used



1. Total fuel used display

This display shows the total amount of fuel that has been used since it was last reset.

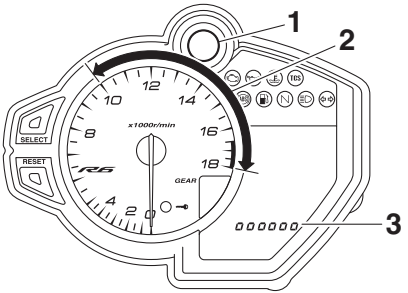
When using kilometers, this figure is shown in liters. When using miles, this figure is shown in gallons.

To reset the total fuel used display, push the "RESET" button for one second.

TIP

After the total fuel used display is reset, "_ _ . _" will be shown until the vehicle has traveled a sufficient distance.

Display brightness and shift light control mode



1. Shift light
2. Shift light activation range
3. Brightness level display

This mode cycles through five control functions, allowing you to make the following settings in the order listed below.

- Display brightness - adjust the brightness of the displays and tachometer.
- Shift light activity function - set the shift light to on, flash, or off.
- Shift light activation - set the engine speed at which the shift light will be come on.
- Shift light deactivation - set the engine speed at which the shift light will be go off.
- Shift light brightness - adjust the brightness of the shift light.

TIP

Refer to the brightness level display when adjusting brightness levels.

To adjust the display and tachometer brightness

1. Turn the key to "OFF".
2. Push and hold the "SELECT" button.
3. Turn the key to "ON", and then release the "SELECT" button after five seconds.
4. Push the "RESET" button to set the brightness level.
5. Push the "SELECT" button to confirm the setting. The control mode changes to the shift light activity function.

To set the shift light activity function

1. Push the "RESET" button to select one of the following shift light activity settings:
   - On - the shift light will come on when activated. (This setting is selected when the shift light stays on.)
   - Flash - the shift light will flash when activated. (This setting is selected when the shift light flashes four times per second.)
   - Off - the shift light is deactivated; in other words, it will not come on or flash. (This setting is selected when the shift light flashes once every two seconds.)
2. Push the "SELECT" button to confirm the selected shift light activity. The control mode changes to the shift light activation point setting function.

To set the shift light activation point

TIP

The shift light activation point can be set between 10000 r/min and 18000 r/min. From 10000 r/min to 13000 r/min, the shift light can be set in increments of 500 r/min. From 13000 r/min to 18000 r/min, the shift light can be set in increments of 200 r/min.

1. Push the "RESET" button to set the activation point engine speed.
2. Push the "SELECT" button to confirm the setting. The control mode changes to the shift light deactivation point setting function.

To set the shift light deactivation point

TIP

The deactivation range is the same as the activation range. However, be sure to set the deactivation point to a higher

engine speed than the activation point, otherwise the shift light will not come on.

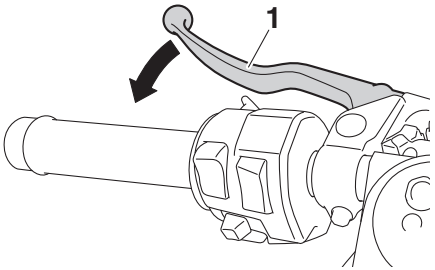
1. Push the “RESET” button to set the deactivation point engine speed.
2. Push the “SELECT” button to confirm the setting. The control mode changes to the shift light brightness function.

To adjust the shift light brightness

1. Push the “RESET” button to set the shift light brightness level.
2. Push the “SELECT” button to confirm the setting and exit the display brightness and shift light control mode.

EAU12823

Clutch lever



1. Clutch lever

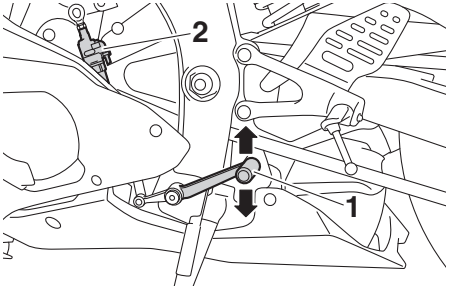
To disengage the drivetrain from the engine, such as when shifting gears, pull the clutch lever toward to the handlebar. Release the lever to engage the clutch and transmit power to the rear wheel.

TIP

The lever should be pulled rapidly and released slowly for smooth shifting. (See page 6-3.)

EAU12876

Shift pedal

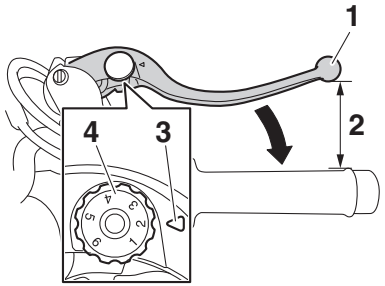


1. Shift pedal
2. Shift switch

The shift pedal is located on the left side of the motorcycle. To shift the transmission to a higher gear, move the shift pedal up. To shift the transmission to a lower gear, move the shift pedal down. (See page 6-3.)

EAU26827

Brake lever



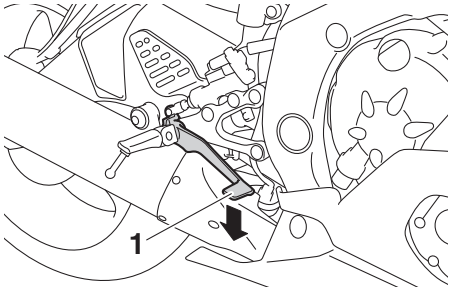
1. Brake lever
2. Distance
3. Match mark
4. Brake lever position adjusting dial

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

The brake lever is equipped with a brake lever position adjusting dial. To adjust the distance between the brake lever and the throttle grip, push the brake lever away from the throttle grip and rotate the adjusting dial. Make sure the setting number on the adjusting dial aligns with the match mark on the brake lever.

EAU12944

Brake pedal



1. Brake pedal

The brake pedal is located on the right side of the motorcycle. To apply the rear brake, press down on the brake pedal.

EAU63041

ABS

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

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

EWA16051

⚠ WARNING

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

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

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

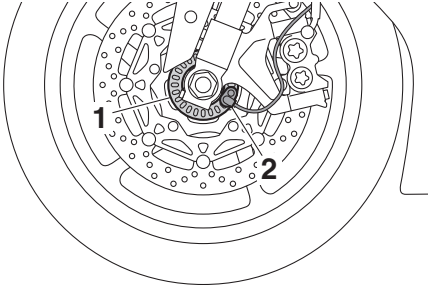
TIP

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

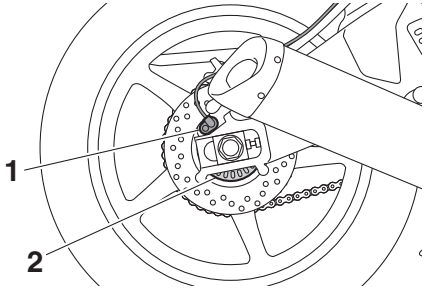
ECA20100

NOTICE

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



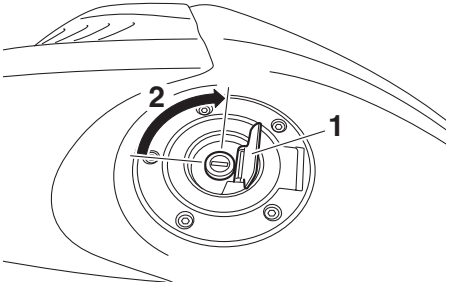
1. Front wheel sensor rotor
2. Front wheel sensor



1. Rear wheel sensor
2. Rear wheel sensor rotor

EAU13077

Fuel tank cap



1. Fuel tank cap lock cover
2. Unlock.

To open the fuel tank cap

Open the fuel tank cap lock cover, insert the key, and then turn it 1/4 turn clockwise. The lock will be released and the fuel tank cap can be opened.

To close the fuel tank cap

With the key still inserted, push down the fuel tank cap. Turn the key 1/4 turn counterclockwise, remove it, and then close the lock cover.

TIP

The fuel tank cap cannot be closed unless the key is in the lock. In addition, the key cannot be removed if the cap is not properly closed and locked.

EWA11092

⚠ WARNING

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

EAU13222

Fuel

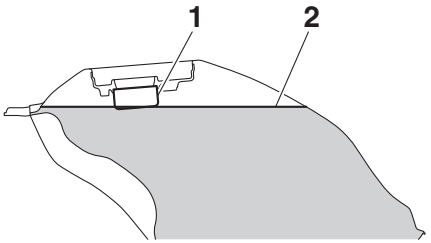
Make sure there is sufficient gasoline in the tank.

EWA10882

⚠ WARNING

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

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



1. Fuel tank filler tube
2. Maximum fuel level

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

EWA15152

⚠ WARNING

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

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

EAU86072

Your Yamaha engine was designed to use unleaded gasoline with a research octane number of 95 or higher. If engine knocking or pinging occurs, use a gasoline of a different brand or higher octane rating.

Recommended fuel:
Unleaded gasoline (E10 acceptable)
Octane number (RON):
95
Fuel tank capacity:
17 L (4.5 US gal, 3.7 Imp.gal)
Fuel tank reserve:
3.4 L (0.90 US gal, 0.75 Imp.gal)

TIP

- This mark identifies the recommended fuel for this vehicle as specified by European regulation (EN228).
- Confirm the gasoline pump nozzle has the same fuel identification mark.

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.

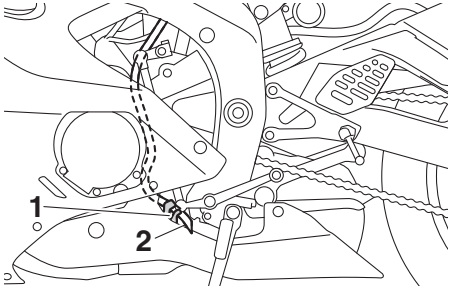
ECA11401

NOTICE

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

EAU86160

Fuel tank overflow hose



1. Guide
2. Fuel tank overflow hose

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

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

TIP

See page 7-14 for canister information.

EAU13435

Catalytic converter

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

EWA10863

⚠ WARNING

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

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

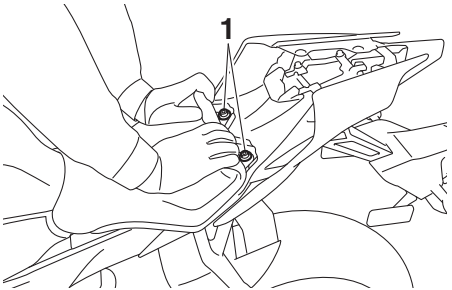
4

EAU94580

Seat

To remove the rider seat

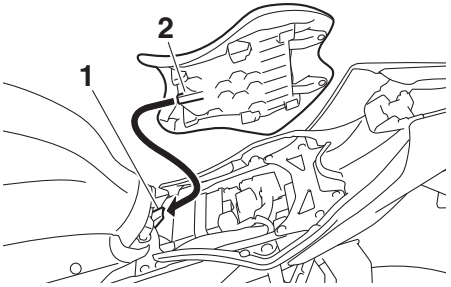
Pull up the corners on the rear of the rider seat, remove the bolts with a hexagon wrench, and then pull the seat off.



1. Bolt

To install the rider seat

1. Insert the projection into the seat holder as shown, then place the seat in the original position.



1. Seat holder
2. Projection

2. Install the bolts with a hexagon wrench.

TIP

Make sure that the seat is properly secured before riding.

EAU79923

Adjusting the front fork

This model is equipped with adjustable suspension. The spring preload, rebound damping force, and compression damping force of each leg can be adjusted.

EWA10181

⚠ WARNING

Always adjust both fork legs equally, otherwise poor handling and loss of stability may result.

ECA24120

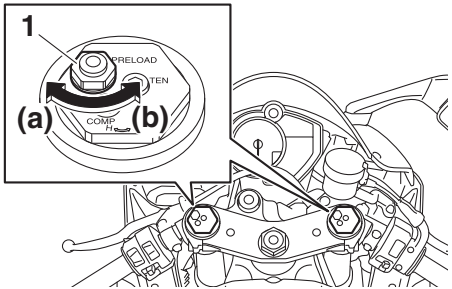
NOTICE

- **Use extra care to avoid scratching the anodized finish of the adjusting nuts and bolts when making suspension adjustments.**
- **To avoid damaging the suspension's internal mechanisms, do not attempt to turn beyond the maximum or minimum settings.**

Spring preload

Turn the adjusting nut in direction (a) to increase the spring preload.

Turn the adjusting nut in direction (b) to decrease the spring preload.
To set the spring preload, turn the adjuster in direction (b) until it stops, and then count the turns in direction (a).



1. Spring preload adjusting nut

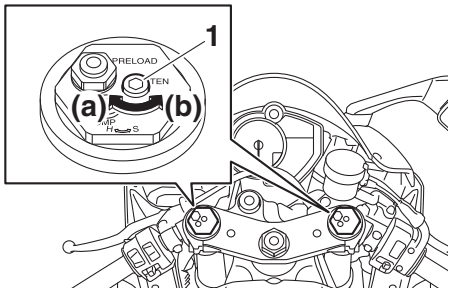
Spring preload setting:
Minimum (soft):
0 turn(s) in direction (a)
Standard:
6 turn(s) in direction (a)
Maximum (hard):
15 turn(s) in direction (a)

TIP

When turning the spring preload adjuster in direction (a), it may turn beyond the stated specifications, however such adjustments are ineffective and may damage the suspension.

Rebound damping force

Turn the adjusting bolt in direction (a) to increase the rebound damping force.
Turn the adjusting bolt in direction (b) to decrease the rebound damping force.
To set the rebound damping force, turn the adjuster in direction (a) until it stops, and then count the clicks in direction (b).



1. Rebound damping force adjusting bolt

Rebound damping setting:
Minimum (soft):
14 click(s) in direction (b)
Standard:
7 click(s) in direction (b)
Maximum (hard):
1 click(s) in direction (b)

TIP

- When turning the damping force adjuster in direction (a), the 0 click position and the 1 click position may be the same.
- When turning the damping force adjuster in direction (b), it may click beyond the stated specifica-

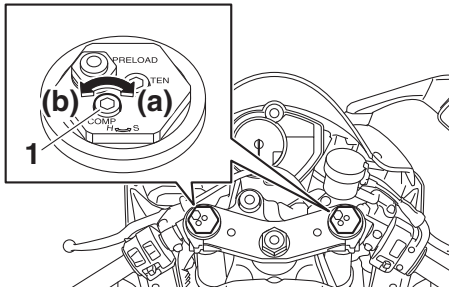
tions, however such adjustments are ineffective and may damage the suspension.

Compression damping force

Turn the adjusting bolt in direction (a) to increase the compression damping force.

Turn the adjusting bolt in direction (b) to decrease the compression damping force.

To set the compression damping force, turn the adjuster in direction (a) until it stops, and then count the clicks in direction (b).



1. Compression damping force adjusting bolt

Compression damping setting:
Minimum (soft):
23 click(s) in direction (b)
Standard:
14 click(s) in direction (b)
Maximum (hard):
1 click(s) in direction (b)

TIP

- When turning the damping force adjuster in direction (a), the 0 click position and the 1 click position may be the same.
- When turning the damping force adjuster in direction (b), it may click beyond the stated specifications, however such adjustments are ineffective and may damage the suspension.

EAU79933

Adjusting the shock absorber assembly

This model is equipped with adjustable suspension. The spring preload, rebound damping force, fast compression damping force, and slow compression damping force can be adjusted.

ECA10102

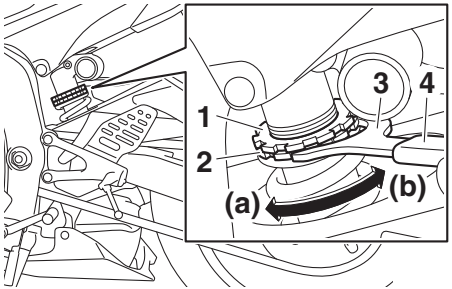
NOTICE

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

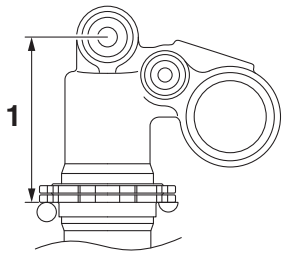
Spring preload

1. Loosen the locknut.
2. Turn the adjusting nut in direction (a) to increase the spring preload. Turn the adjusting nut in direction (b) to decrease the spring preload. The spring preload setting is determined by measuring distance A. The longer distance A is, the higher the spring preload; the shorter distance A is, the lower the spring preload.

- Use the special wrench and the extension bar included in the tool kit to make the adjustment.



1. Locknut
2. Spring preload adjusting nut
3. Special wrench
4. Extension bar



1. Distance A

Spring preload:
Minimum (soft):
Distance A = 84.9 mm (3.34 in)
Standard:
Distance A = 89.9 mm (3.54 in)
Maximum (hard):
Distance A = 92.9 mm (3.66 in)

3. Tighten the locknut to the specified torque. ***NOTICE:*** **Always tighten the locknut against the adjusting nut, and then tighten the locknut to the specified torque.** [ECA10122]

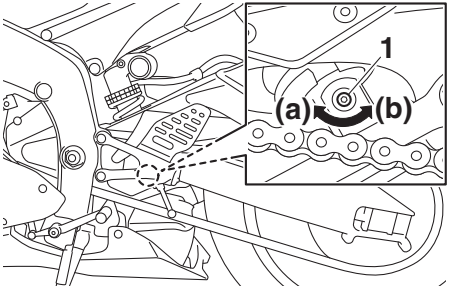
Tightening torque:
Locknut:
28 N·m (2.8 kgf·m, 21 lb·ft)

Rebound damping force

Turn the adjusting bolt in direction (a) to increase the rebound damping force.

Turn the adjusting bolt in direction (b) to decrease the rebound damping force.

To set the rebound damping force, turn the adjuster in direction (a) until it stops, and then count the clicks in direction (b).



1. Rebound damping force adjusting bolt

Rebound damping setting:
Minimum (soft):
23 click(s) in direction (b)
Standard:
12 click(s) in direction (b)
Maximum (hard):
1 click(s) in direction (b)

TIP

- When turning the damping force adjuster in direction (a), the 0 click position and the 1 click position may be the same.
- When turning the damping force adjuster in direction (b), it may click beyond the stated specifica-

tions, however such adjustments are ineffective and may damage the suspension.

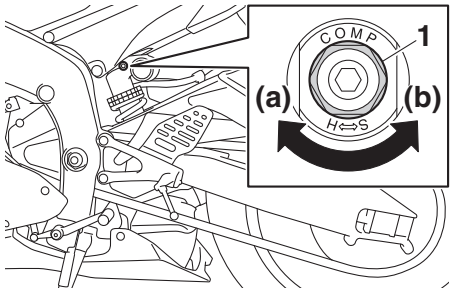
Compression damping force

Fast compression damping force

Turn the adjusting bolt in direction (a) to increase the compression damping force.

Turn the adjusting bolt in direction (b) to decrease the compression damping force.

To set the compression damping force, turn the adjuster in direction (a) until it stops, and then count the turns in direction (b).



1. Fast compression damping force adjusting bolt

Fast compression damping setting
Minimum (soft):
5.5 turn(s) in direction (b)
Standard:
3 turn(s) in direction (b)
Maximum (hard):
0 turn(s) in direction (b)

TIP

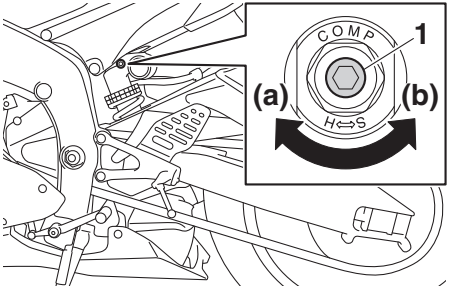
When turning the damping force adjuster in direction (b), it may turn beyond the stated specifications, however such adjustments are ineffective and may damage the suspension.

Slow compression damping force

Turn the adjusting bolt in direction (a) to increase the compression damping force.

Turn the adjusting bolt in direction (b) to decrease the compression damping force.

To set the compression damping force, turn the adjuster in direction (a) until it stops, and then count the clicks in direction (b).



1. Slow compression damping force adjusting bolt

Slow compression damping setting
Minimum (soft):
18 click(s) in direction (b)
Standard:
14 click(s) in direction (b)
Maximum (hard):
1 click(s) in direction (b)

TIP

- When turning the damping force adjuster in direction (a), the 0 click position and the 1 click position may be the same.
- When turning the damping force adjuster in direction (b), it may click beyond the stated specifica-

tions, however such adjustments are ineffective and may damage the suspension.

EWA10222

⚠ WARNING

This shock absorber assembly contains highly pressurized nitrogen gas. Read and understand the following information before handling the shock absorber assembly.

- **Do not tamper with or attempt to open the cylinder assembly.**
- **Do not subject the shock absorber assembly to an open flame or other high heat source. This may cause the unit to explode due to excessive gas pressure.**
- **Do not deform or damage the cylinder in any way. Cylinder damage will result in poor damping performance.**
- **Do not dispose of a damaged or worn-out shock absorber assembly yourself. Take the shock absorber assembly to a Yamaha dealer for any service.**

EAU15283

EXUP system

This model is equipped with Yamaha's EXUP (EXhaust Ultimate Power valve) system. This system boosts engine power by means of a valve that regulates the inner diameter of the exhaust pipe. The EXUP system valve is constantly adjusted in accordance with the engine speed by a computer-controlled servomotor.

ECA10192

NOTICE

- **The EXUP system has been set and extensively tested at the Yamaha factory. Changing these settings without sufficient technical knowledge may result in poor performance of or damage to the engine.**
- **If the EXUP system cannot be heard when the main switch is turned on, have a Yamaha dealer check it.**

EAU70641

Auxiliary DC connector

This vehicle is equipped with an auxiliary DC connector. Consult your Yamaha dealer before installing any accessories.

EAU15306

Sidestand

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

TIP

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

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.

EAU57952

Ignition circuit cut-off system

This system prevents in-gear engine starts unless the clutch lever is pulled and the sidestand is up. Also, it will stop the running engine should the sidestand be lowered while the transmission is in gear.

Periodically check this system via the following procedure.

TIP

- This check is most reliable if performed with a warmed-up engine.
- See pages 4-2 and 4-3 for switch operation information.

With the engine turned off:
1. Move the sidestand down.
2. Set engine stop switch to run position.
3. Turn main switch to on position.
4. Shift transmission into neutral.
5. Push the start switch.

Does the engine start?

YES **NO** → The neutral switch may not be working. **The motorcycle should not be ridden** until checked by a Yamaha dealer.

With the engine still running:
6. Move the sidestand up.
7. Pull the clutch lever.
8. Shift transmission into gear.
9. Move the sidestand down.

Does the engine stall?

YES **NO** → The sidestand switch may not be working. **The motorcycle should not be ridden** until checked by a Yamaha dealer.

After the engine has stalled:
10. Move the sidestand up.
11. Pull the clutch lever.
12. Push the start switch.

Does the engine start?

YES **NO** → The clutch switch may not be working. **The motorcycle should not be ridden** until checked by a Yamaha dealer.

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

⚠ WARNING

If a malfunction is found, have the vehicle inspected before riding.

For your safety – pre-operation checks

EAU1559B

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

EWA11152

⚠ WARNING

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

Before using this vehicle, check the following points:

ITEM	CHECKS	PAGE
Fuel	• Check fuel level in fuel tank. • Refuel if necessary. • Check fuel line for leakage. • Check fuel tank breather hose and overflow hose for obstructions, cracks or damage, and check hose connections.	4-18, 4-20
Engine oil	• Check oil level in engine. • If necessary, add recommended oil to specified level. • Check vehicle for oil leakage.	7-14
Coolant	• Check coolant level in reservoir. • If necessary, add recommended coolant to specified level. • Check cooling system for leakage.	7-18
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.	7-25, 7-26

ITEM	CHECKS	PAGE
Rear 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.	7-25, 7-26
Clutch	• Check operation. • Lubricate cable if necessary. • Check lever free play. • Adjust if necessary.	7-23
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.	7-20, 7-30
Control cables	• Make sure that operation is smooth. • Lubricate if necessary.	7-30
Drive chain	• Check chain slack. • Adjust if necessary. • Check chain condition. • Lubricate if necessary.	7-28, 7-29
Wheels and tires	• Check for damage. • Check tire condition and tread depth. • Check air pressure. • Correct if necessary.	7-20, 7-23
Brake and shift pedals	• Make sure that operation is smooth. • Lubricate pedal pivoting points if necessary.	7-31
Brake and clutch levers	• Make sure that operation is smooth. • Lubricate lever pivoting points if necessary.	7-31
Sidestand	• Make sure that operation is smooth. • Lubricate pivot if necessary.	7-32

For your safety – pre-operation checks

ITEM	CHECKS	PAGE
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.	4-27

EAU15952

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

EWA10272

⚠ WARNING

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

EAU16842

Engine break-in

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

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

EAU17085

0–1000 km (0–600 mi)

Avoid prolonged operation above 8300 r/min. ***NOTICE:*** **After 1000 km (600 mi) of operation, the engine oil must be changed and the oil filter cartridge or element replaced.** [ECA10303]

1000–1600 km (600–1000 mi)

Avoid prolonged operation above 9900 r/min.

1600 km (1000 mi) and beyond

The vehicle can now be operated normally.

ECA10311

NOTICE

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

TIP

During and after the engine break-in period, the exhaust heat may cause discoloration of the exhaust pipe, but this is normal.

EAU86591

Starting the engine

The ignition circuit cut-off system will enable starting when:

- the transmission is in the neutral position or
- the transmission is in gear, the sidestand is up, and the clutch lever is pulled.

To start the engine

1. Turn the main switch on and set the engine stop switch to the run position.
2. Confirm the indicator and warning light(s) come on for a few seconds, and then go off. (See page 4-4.)

TIP

- Do not start the engine if the engine trouble warning light or the oil level warning light remains on.
- The ABS warning light should come on and stay on until the vehicle reaches a speed of 10 km/h (6 mi/h).

ECA24110

NOTICE

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

3. Shift the transmission into the neutral position.
4. Start the engine by pushing the start switch.
5. Release the start switch when the engine starts, or after 5 seconds. Wait 10 seconds before pressing the switch again to allow battery voltage to restore.

ECA11043

NOTICE

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

EAU73452

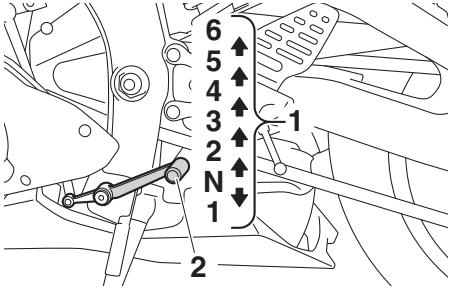
TIP

This model is equipped with:

- a lean angle sensor. This sensor stops the engine in case of a turnover. In this case, turn the main switch off and then on. Failing to do so will prevent the engine from starting even though the engine will crank when pushing the start switch.
- an engine auto-stop system. The engine stops automatically if left idling for 20 minutes. If the engine stops, simply push the start switch to restart the engine.

EAU77403

Shifting



1. Gear positions
2. Shift pedal

Shifting gears lets you control the amount of engine power available for starting off, accelerating, climbing hills, etc. The gear positions are shown in the illustration.

TIP

- To shift the transmission into the neutral position (**N**), press the shift pedal down repeatedly until it reaches the end of its travel, and then slightly raise it.
- This model is equipped with a quick shifter. (See page 3-4.)

ECA22523

NOTICE

- **When shifting, press the shift pedal firmly until you feel the gear shift is complete.**
- **Even with the transmission in the neutral position, do not coast for long periods of time with the engine off, nor tow the motorcycle for long distances. The transmission is properly lubricated only when the engine is running. Inadequate lubrication may damage the transmission.**
- **Except when using the quick shifter, always pull the clutch lever when changing gears to avoid damaging the engine, transmission, and drivetrain.**

EAU85370

To start out and accelerate

1. Pull the clutch lever to disengage the clutch.
2. Shift the transmission into first gear. The neutral indicator light should go out.
3. Open the throttle gradually, and at the same time, release the clutch lever slowly.
4. After starting out, close the throttle, and at the same time, quickly pull the clutch lever in.
5. Shift the transmission into second gear. (Make sure not to shift the transmission into the neutral position.)
6. Open the throttle part way and gradually release the clutch lever.
7. Follow the same procedure when shifting to the next higher gear.

EAU85380

To decelerate

1. Release the throttle and apply both the front and the rear brakes smoothly to slow the motorcycle.
2. As the vehicle decelerates, shift to a lower gear.
3. When the engine is about to stall or runs roughly, pull the clutch lever in, use the brakes to slow the motorcycle, and continue to downshift as necessary.

4. Once the motorcycle has stopped, the transmission can be shifted into the neutral position. The neutral indicator light should come on and then the clutch lever can be released.

EWA17380

WARNING

- **Improper braking can cause loss of control or traction. Always use both brakes and apply them smoothly.**
- **Make sure that the motorcycle and the engine have sufficiently slowed before shifting to a lower gear. Engaging a lower gear when the vehicle or engine speed is too high could make the rear wheel lose traction or the engine to over-rev. This could cause loss of control, an accident and injury. It could also cause engine or drive train damage.**

EAU17214

Parking

When parking, stop the engine, and then remove the key from the main switch.

EWA10312

WARNING

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

EAU17246

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

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

EWA10322

⚠ WARNING

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

EWA15123

⚠ WARNING

Turn off the engine when performing maintenance unless otherwise specified.

- **A running engine has moving parts that can catch on body parts or clothing and electrical parts that can cause shocks or fires.**
- **Running the engine while servicing can lead to eye injury, burns, fire, or carbon monoxide poisoning – possibly leading to death. See page 1-2 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.

EAU17303

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

EAU94590

Tool kit

The tool kit should be stored separately from the vehicle.
The information included in this manual and the tools provided 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.

EAU71033

Periodic maintenance charts

TIP

- Items marked with an asterisk should be performed by your Yamaha dealer because these items require special tools, data, and technical skills.
- From 50000 km (30000 mi), repeat the maintenance intervals starting from 10000 km (6000 mi).
- **The annual checks must be performed every year, except if a distance-based maintenance is performed instead.**

EAU71051

Periodic maintenance chart for the emission control system

NO.		ITEM	CHECK OR MAINTENANCE JOB	ODOMETER READING					ANNUAL CHECK
				1000 km (600 mi)	10000 km (6000 mi)	20000 km (12000 mi)	30000 km (18000 mi)	40000 km (24000 mi)	
1	*	**Fuel line**	• Check fuel hoses for cracks or damage. • Replace if necessary.		√	√	√	√	√
2	*	**Spark plugs**	• Check condition. • Adjust gap and clean.		√		√		
			• Replace.			√		√	
3	*	**Valve clearance**	• Check and adjust.	Every 40000 km (24000 mi)					
4	*	**Fuel injection**	• Check engine idle speed.	√	√	√	√	√	√
			• Check and adjust synchronization.		√	√	√	√	√
5	*	**Exhaust system**	• Check for leakage. • Tighten if necessary. • Replace gaskets if necessary.	√	√	√	√	√	

NO.		ITEM	CHECK OR MAINTENANCE JOB	ODOMETER READING					ANNUAL CHECK
				1000 km (600 mi)	10000 km (6000 mi)	20000 km (12000 mi)	30000 km (18000 mi)	40000 km (24000 mi)	
6	*	**Evaporative emission control system**	• Check control system for damage. • Replace if necessary.			√		√	
7	*	**Air induction system**	• Check the air cut-off valve, reed valve, and hose for damage. • Replace any damaged parts if necessary.		√	√	√	√	√

EAU71353

General maintenance and lubrication chart

NO.		ITEM	CHECK OR MAINTENANCE JOB	ODOMETER READING					ANNUAL CHECK
				1000 km (600 mi)	10000 km (6000 mi)	20000 km (12000 mi)	30000 km (18000 mi)	40000 km (24000 mi)	
1	*	**Diagnostic system check**	• Perform dynamic inspection using Yamaha diagnostic tool. • Check the error codes.	√	√	√	√	√	√
2	*	**Air filter element**	• Replace.	Every 40000 km (24000 mi)					
3		**Clutch**	• Check operation. • Adjust.	√	√	√	√	√	
4	*	**Front brake**	• Check operation, fluid level, and for fluid leakage. • Replace brake pads if necessary.	√	√	√	√	√	√
5	*	**Rear brake**	• Check operation, fluid level, and for fluid leakage. • Replace brake pads if necessary.	√	√	√	√	√	√
6	*	**Brake hoses**	• Check for cracks or damage.		√	√	√	√	√
			• Replace.	Every 4 years					
7	*	**Brake fluid**	• Change.	Every 2 years					
8	*	**Wheels**	• Check runout and for damage. • Replace if necessary.		√	√	√	√	
9	*	**Tires**	• Check tread depth and for damage. • Replace if necessary. • Check air pressure. • Correct if necessary.		√	√	√	√	√
10	*	**Wheel bearings**	• Check bearing for looseness or damage.		√	√	√	√	

NO.		ITEM	CHECK OR MAINTENANCE JOB	ODOMETER READING					ANNUAL CHECK
				1000 km (600 mi)	10000 km (6000 mi)	20000 km (12000 mi)	30000 km (18000 mi)	40000 km (24000 mi)	
11	*	**Swingarm pivot bearings**	• Check operation and for excessive play.		√	√	√	√	
			• Lubricate with lithium-soap-based grease.	Every 50000 km (30000 mi)					
12		**Drive chain**	• Check chain slack, alignment and condition. • Adjust and lubricate chain with a special O-ring chain lubricant thoroughly.	Every 800 km (500 mi) and after washing the motorcycle, riding in the rain or riding in wet areas					
13	*	**Steering bearings**	• Check bearing assemblies for looseness.	√	√		√		
			• Moderately repack with lithium-soap-based grease.			√		√	
14	*	**Chassis fasteners**	• Make sure that all nuts, bolts and screws are properly tightened.		√	√	√	√	√
15		**Brake lever pivot shaft**	• Lubricate with silicone grease.		√	√	√	√	√
16		**Brake pedal pivot shaft**	• Lubricate with lithium-soap-based grease.		√	√	√	√	√
17		**Clutch lever pivot shaft**	• Lubricate with lithium-soap-based grease.		√	√	√	√	√
18		**Shift pedal pivot shaft**	• Lubricate with lithium-soap-based grease.		√	√	√	√	√
19		**Sidestand**	• Check operation. • Lubricate with lithium-soap-based grease.		√	√	√	√	√

NO.		ITEM	CHECK OR MAINTENANCE JOB	ODOMETER READING					ANNUAL CHECK
				1000 km (600 mi)	10000 km (6000 mi)	20000 km (12000 mi)	30000 km (18000 mi)	40000 km (24000 mi)	
20	*	**Sidestand switch**	• Check operation and replace if necessary.	√	√	√	√	√	√
21	*	**Front fork**	• Check operation and for oil leakage. • Replace if necessary.		√	√	√	√	
22	*	**Shock absorber assembly**	• Check operation and for oil leakage. • Replace if necessary.		√	√	√	√	
23	*	**Rear suspension relay arm and connecting arm pivoting points**	• Check operation.		√	√	√	√	
24		**Engine oil**	• Change (warm engine before draining). • Check oil level and vehicle for oil leakage.	√	√	√	√	√	√
25		**Engine oil filter cartridge**	• Replace.	√		√		√	
26	*	**Cooling system**	• Check coolant level and vehicle for coolant leakage.		√	√	√	√	√
			• Change.	Every 3 years					
27	*	**EXUP system**	• Check operation, cable free play and pulley position.	√		√		√	
28	*	**Front and rear brake switches**	• Check operation.	√	√	√	√	√	√
29	*	**Moving parts and cables**	• Lubricate.		√	√	√	√	√

7

NO.		ITEM	CHECK OR MAINTENANCE JOB	ODOMETER READING					ANNUAL CHECK
				1000 km (600 mi)	10000 km (6000 mi)	20000 km (12000 mi)	30000 km (18000 mi)	40000 km (24000 mi)	
30	*	**Throttle grip housing and cable**	• Check operation and free play. • Adjust the throttle cable free play if necessary. • Lubricate the throttle grip housing and cable.		√	√	√	√	√
31	*	**Lights, signals and switches**	• Check operation. • Adjust headlight beam.	√	√	√	√	√	√

EAU80531

TIP

Air filter

- This model's air filter uses a disposable oil-coated paper element. This element cannot be cleaned with compressed air, doing so will only damage it.
- The air filter element needs to be replaced more frequently when riding in unusually wet or dusty areas.

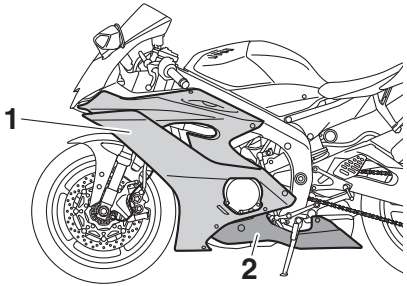
Hydraulic brake service

- Regularly check the front and rear brake fluid levels. Replenish if necessary.
- Every two years replace the rear brake master cylinder, the internal components of the front brake master cylinder, the brake calipers, and change the brake fluid.
- Replace the brake hoses every four years or sooner if cracked or damaged.

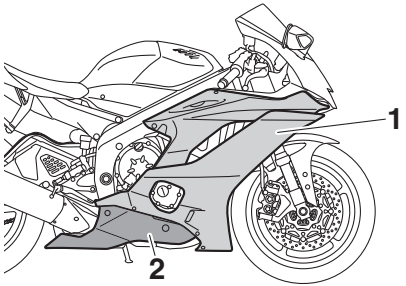
EAU18782

Removing and installing cowlings

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



1. Cowling A
2. Cowling B



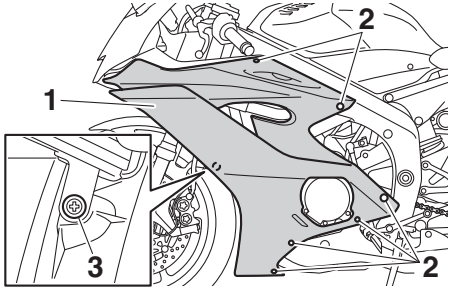
1. Cowling C
2. Cowling D

EAU94601

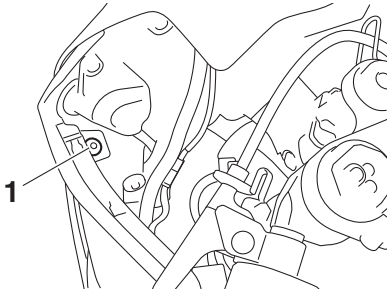
Cowling A

To remove the cowling

1. Remove the bolts, quick fasteners, and quick fastener screw.

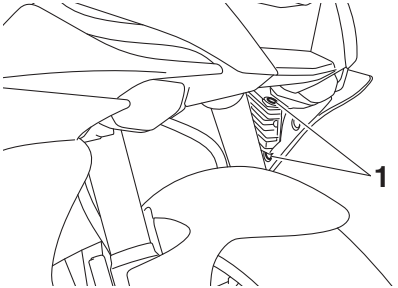


1. Cowling A
2. Bolt
3. Quick fastener screw



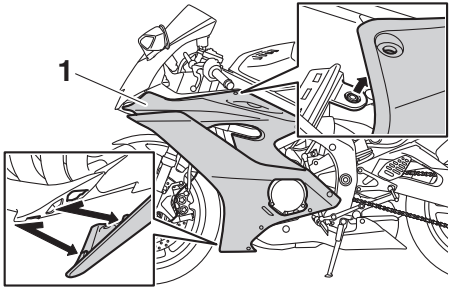
1. Bolt

7



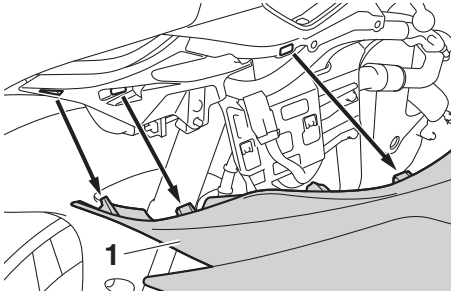
1. Quick fastener

2. Slide the cowling as shown.



1. Cowling A

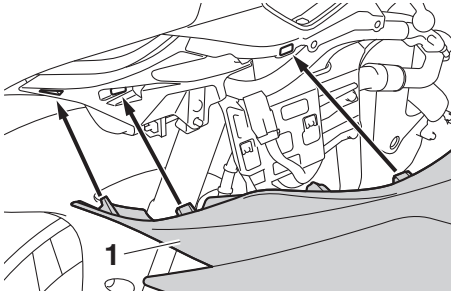
3. Remove the upper projections from the slots, and then slide the cowling forward.



1. Cowling A

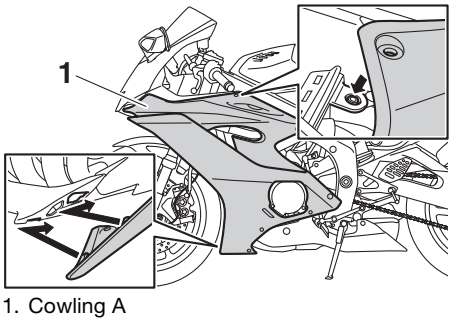
To install the cowling

1. Slide the cowling rearward, and then fit the upper projections into the slots.



1. Cowling A

2. Slide the cowling as shown.



1. Cowling A

3. Install the bolts, quick fasteners, and quick fastener screw.

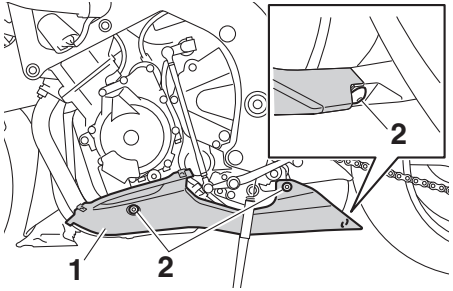
TIP

Install the bolts loosely, then install the quick fasteners and quick fastener screw, and then tighten the bolts.

Cowling B

To remove the cowling

1. Remove cowling A.
2. Remove cowling B by removing the bolts.



1. Cowling B
2. Bolt

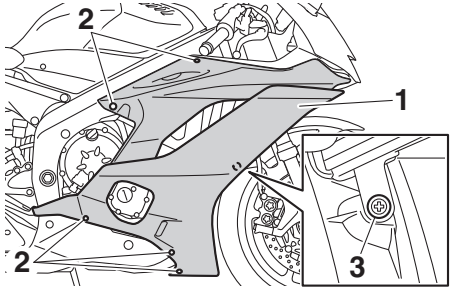
To install the cowling

1. Place cowling B in its original position, and then install the bolts.
2. Install cowling A.

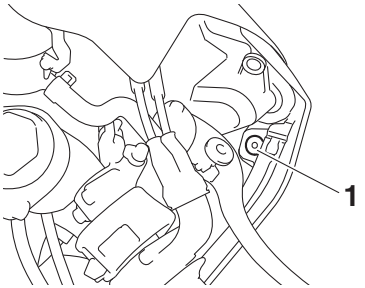
Cowling C

To remove the cowling

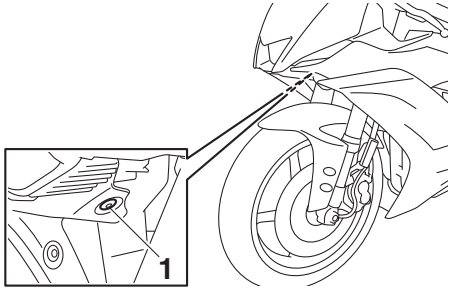
1. Remove the bolts, quick fastener, and quick fastener screw.



1. Cowling C
2. Bolt
3. Quick fastener screw

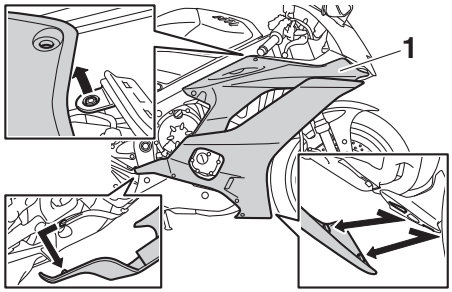


1. Bolt



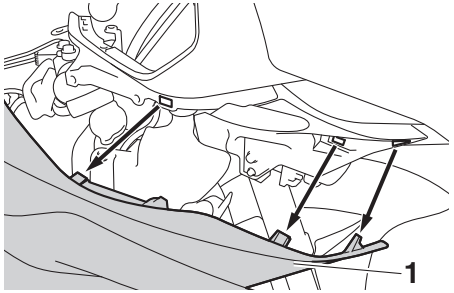
1. Quick fastener

2. Slide the cowling as shown.



1. Cowling C

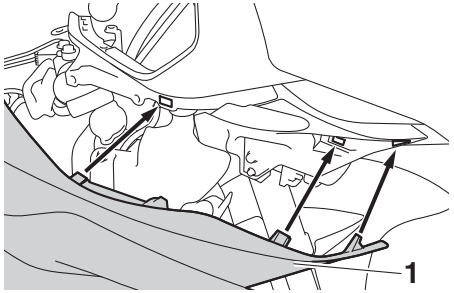
3. Remove the cowling by removing the upper projections from the slots.



1. Cowling C

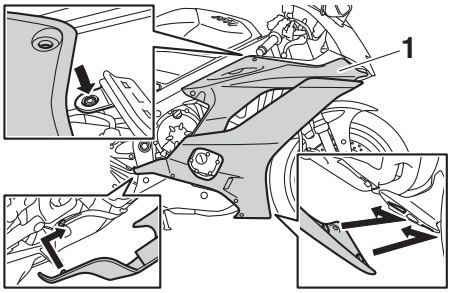
To install the cowling

1. Fit the upper projections into the slots.



1. Cowling C

2. Slide the cowling as shown.



1. Cowling C

3. Install the bolts, quick fastener, and quick fastener screw.

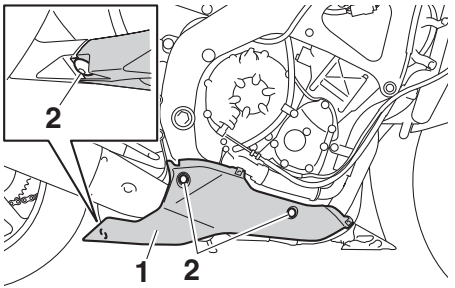
TIP

Install the bolts loosely, then install the quick fastener and quick fastener screw, and then tighten the bolts.

Cowling D

To remove the cowling

1. Remove cowling C.
2. Remove cowling D by removing the bolts.



1. Cowling D
2. Bolt

To install the cowling

1. Place cowling D in its original position, and then install the bolts.
2. Install cowling C.

EAU19653

Checking the spark plugs

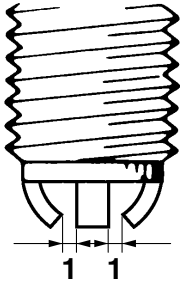
The spark plugs are important engine components, which should be checked periodically, preferably by a Yamaha dealer. Since heat and deposits will cause any spark plug to slowly erode, they should be removed and checked in accordance with the periodic maintenance and lubrication chart. In addition, the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

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

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

Specified spark plug:
NGK/CR10EK

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



1. Spark plug gap

Spark plug gap:
0.6–0.7 mm (0.024–0.028 in)

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

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

TIP

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

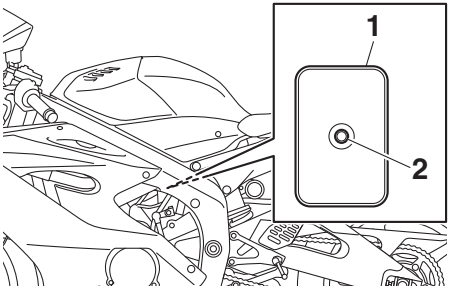
ECA10841

NOTICE

Do not use any tools to remove or install the spark plug cap, otherwise the ignition coil coupler may get damaged. The spark plug cap may be difficult to remove because the rubber seal on the end of the cap fits tightly. To remove the spark plug cap, simply twist it back and forth while pulling it out; to install it, twist it back and forth while pushing it in.

EAU36113

Canister



1. Canister
2. Canister breather

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

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

EAU3899J

Engine oil and oil filter cartridge

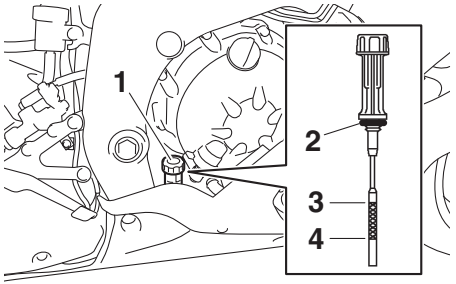
The engine oil level should be checked before each ride. In addition, the oil must be changed and the oil filter cartridge replaced at the intervals specified in the periodic maintenance and lubrication chart.

To check the engine oil level

1. Place the vehicle on a level surface and hold it in an upright position. A slight tilt to the side can result in a false reading.
2. Start the engine, warm it up for several minutes, and then turn it off.
3. Wait a few minutes for the oil level to settle for an accurate reading.
4. Remove the engine oil dipstick and wipe it clean, insert it back into the hole (without screwing it in), and then remove it again to check the oil level.

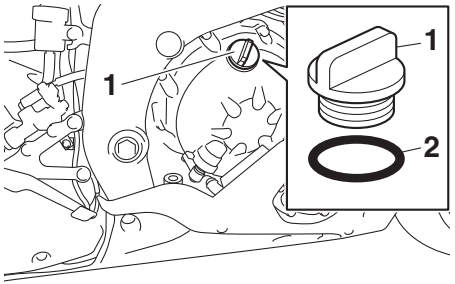
TIP

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



1. Engine oil dipstick
2. O-ring
3. Maximum level mark
4. Minimum level mark

5. Check the dipstick O-ring for damage, and replace it if necessary.
6. If the engine oil is at or below the minimum level mark, remove the engine oil filler cap, and then add sufficient oil of the recommended type to raise it to the correct level.

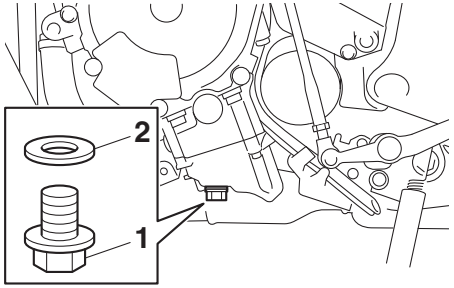


1. Engine oil filler cap
2. O-ring

7. Check the filler cap O-ring for damage, and replace it if necessary.
8. Insert and tighten the engine oil dipstick, and then install and tighten the oil filler cap.

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

1. Place the vehicle on a level surface.
2. Remove cowlings A and B. (See page 7-9.)
3. Start the engine, warm it up for several minutes, and then turn it off.
4. Place an oil pan under the engine to collect the used oil.
5. Remove the engine oil filler cap, the engine oil drain bolt and its gasket to drain the oil from the crankcase.

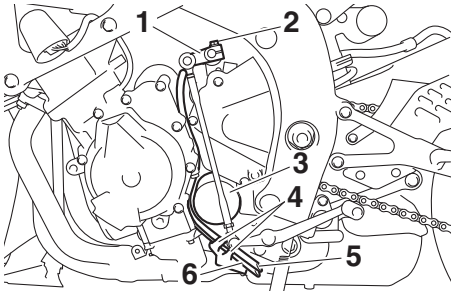


1. Engine oil drain bolt
2. Gasket

TIP

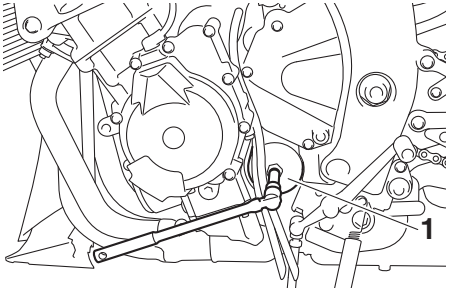
Skip steps 6–12 if the oil filter cartridge is not being replaced.

6. Remove the shift arm bolt, and then pull the shift arm off the shift shaft.
7. Remove the fuel tank breather hose and overflow hose from the guides.



1. Shift arm
2. Shift arm bolt
3. Oil filter cartridge
4. Guide
5. Fuel tank breather hose (U49 models)
6. Fuel tank overflow hose

8. Remove the oil filter cartridge with an oil filter wrench.



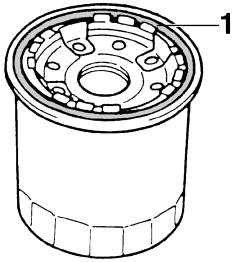
1. Oil filter wrench

7

TIP

An oil filter wrench is available at a Yamaha dealer.

9. Apply a thin coat of clean engine oil to the O-ring of the new oil filter cartridge.

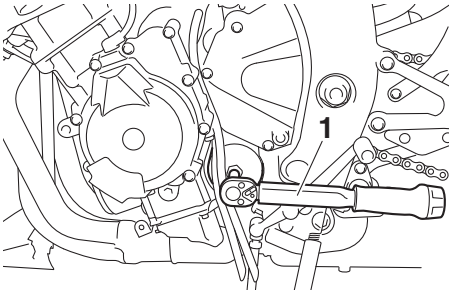


1. O-ring

TIP

Make sure that the O-ring is properly seated.

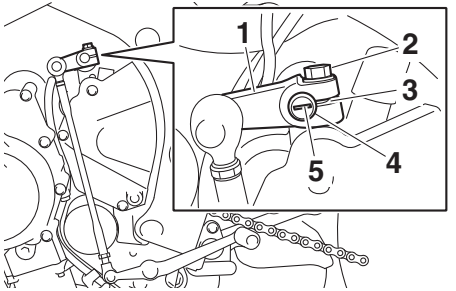
10. Install the new oil filter cartridge with an oil filter wrench, and then tighten it to the specified torque with a torque wrench.



1. Torque wrench

Tightening torque:
Oil filter cartridge:
17 N·m (1.7 kgf·m, 13 lb·ft)

11. Install the fuel tank breather hose and overflow hose into the guides, then place them in their original position.
12. Install the shift arm by aligning the slot in the shift arm with the mark on the shift shaft and installing the shift arm bolt, then tightening it to the specified torque. ***NOTICE:*** **Be sure to align the slot and mark to ensure proper shifting. If the slot and mark are not aligned, the shift arm will not move correctly and you may not be able to shift up or down.** [ECA24140]



1. Shift arm
2. Shift arm bolt
3. Slot
4. Shift shaft
5. Mark

Tightening torque:
Shift arm bolt:
10 N·m (1.0 kgf·m, 7.4 lb·ft)

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

Tightening torque:
Engine oil drain bolt:
43 N·m (4.3 kgf·m, 32 lb·ft)

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

Recommended engine oil:
See page 9-1.
Oil quantity:
Oil change:
2.40 L (2.54 US qt, 2.11 Imp.qt)
With oil filter removal:
2.60 L (2.75 US qt, 2.29 Imp.qt)

TIP

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

ECA11621

NOTICE

- **In order to prevent clutch slippage (since the engine oil also lubricates the clutch), do not mix any chemical additives. Do not use oils with a diesel specification of "CD" or oils of a higher quality than specified. In addition, do not use oils labeled "ENERGY CONSERVING II" or higher.**
- **Make sure that no foreign material enters the crankcase.**

15. Check the filler cap O-ring for damage, and replace it if necessary.
16. Install and tighten the oil filler cap.
17. 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.

TIP

After the engine is started, the engine oil level warning light should go off if the oil level is sufficient.

ECA10402

NOTICE

If the oil level warning light flickers or remains on even if the oil level is correct, immediately turn the engine off and have a Yamaha dealer check the vehicle.

18. Turn the engine off, and then check the oil level and correct it if necessary.
19. Check the dipstick O-ring for damage, and replace it if necessary.
20. Install the cowlings.

EAU85450

Why Yamalube

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

YAMALUBE®

EAUS1203

Coolant

The coolant level should be checked regularly. In addition, the coolant must be changed at the intervals specified in the periodic maintenance chart.

Recommended coolant:
YAMALUBE coolant
Coolant quantity:
Coolant reservoir (max level mark):
0.25 L (0.26 US qt, 0.22 Imp.qt)
Radiator (including all routes):
2.30 L (2.43 US qt, 2.02 Imp.qt)

TIP

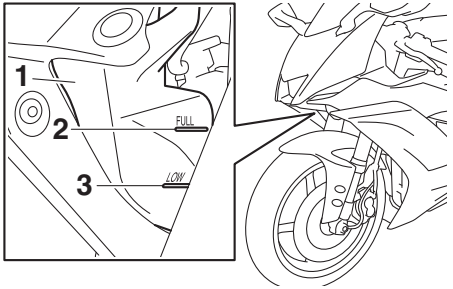
If genuine Yamaha coolant is not available, use an ethylene glycol antifreeze containing corrosion inhibitors for aluminum engines and mix with distilled water at a 1:1 ratio.

EAU94610

To check the coolant level

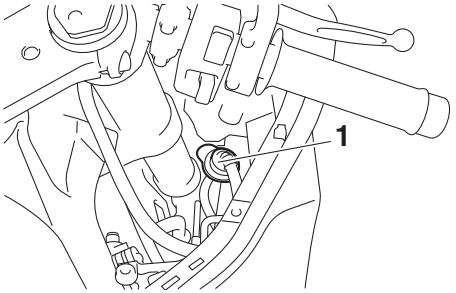
Since the coolant level varies with engine temperature, check when the engine is cold.

1. Park the vehicle on a level surface.
2. With the vehicle in an upright position, look at the coolant level in the reservoir.



1. Coolant reservoir
2. Maximum level mark
3. Minimum level mark

3. If the coolant is at or below the minimum level mark, access the coolant reservoir.
4. Remove the coolant reservoir cap. **WARNING! Remove only the coolant reservoir cap. Never attempt to remove the radiator cap when the engine is hot.** [EWA15162]



1. Coolant reservoir cap

5. Add coolant to the maximum level mark. ***NOTICE:*** **If coolant is not available, use distilled water or soft tap water instead. Do not use hard water or salt water since it is harmful to the engine. If water has been used instead of coolant, replace it with coolant as soon as possible, otherwise the cooling system will not be protected against frost and corrosion. If water has been added to the coolant, have a Yamaha dealer check the antifreeze content of the coolant as soon as possible, otherwise the effectiveness of the coolant will be reduced.** [ECA10473]

6. Install the coolant reservoir cap.

EAU33032

Changing the coolant

The coolant must be changed at the intervals specified in the periodic maintenance and lubrication chart. Have a Yamaha dealer change the coolant. **WARNING! Never attempt to remove the radiator cap when the engine is hot.** [EWA10382]

EAU36765

Air filter element

The air filter element must be replaced at the intervals specified in the periodic maintenance and lubrication chart. Have a Yamaha dealer replace the air filter element.

EAU44735

Checking the engine idling speed

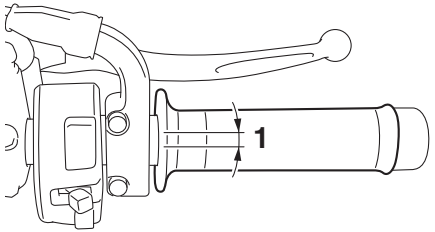
Check the engine idling speed and, if necessary, have it corrected by a Yamaha dealer.

Engine idling speed:
1250–1350 r/min

EAU21386

Checking the throttle grip free play

Measure the throttle grip free play as shown.



1. Throttle grip free play

Throttle grip free play:
3.0–5.0 mm (0.12–0.20 in)

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

EAU21403

Valve clearance

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

TIP

This service must be performed when the engine is cold.

EAU73595

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.

EWA18370

⚠ WARNING

- **Operation of this vehicle with improper tire air 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).**

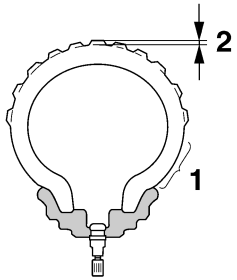
Cold tire air pressure:
1 person:
Front:
250 kPa (2.50 kgf/cm², 36 psi)
Rear:
290 kPa (2.90 kgf/cm², 42 psi)
Maximum load:
Vehicle:
190 kg (419 lb)
The vehicle's maximum load is the combined weight of the rider, cargo, and any accessories.

EWA10512

⚠ WARNING

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

Tire inspection



1. Tire sidewall
2. Tire 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

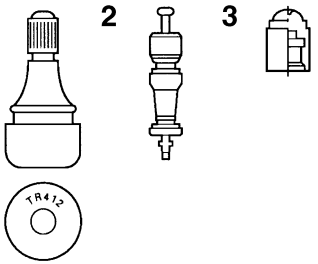
The tire tread depth limits may differ from country to country. Always comply with the local regulations.

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



1. Tire air valve
2. Tire air valve core
3. Tire air valve cap with seal

7

This model is equipped with tubeless tires and tire air valves.
Tires age, even if they have not been used or have only been used occasionally. Cracking of the tread and sidewall rubber, sometimes accompanied by carcass deformation, is an evidence of ageing. Old and aged tires should be checked by tire specialists to ascertain their suitability for further use.

EWA10902

⚠ WARNING

- **The front and rear tires should be of the same make and design, otherwise the handling characteristics of the motorcycle may be different, which could lead to an accident.**
- **Always make sure that the valve caps are securely installed to prevent air pressure leakage.**
- **Use only the tire valves and valve cores listed below to avoid tire deflation during a ride.**

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

Front tire:
Size:
120/70ZR17M/C (58W)
Manufacturer/model:
DUNLOP/SPORTMAX D214F
BRIDGESTONE/BATTLAX HYPERSPORT S21F
Rear tire:
Size:
180/55ZR17M/C(73W)
Manufacturer/model:
DUNLOP/SPORTMAX D214
BRIDGESTONE/BATTLAX HYPERSPORT S21R
FRONT and REAR:
Tire air valve:
TR412
Valve core:
#9100 (original)

EWA10601

⚠ WARNING

This motorcycle is fitted with super-high-speed tires. Note the following points in order to make the most efficient use of these tires.

- **Use only the specified replacement tires. Other tires may run the danger of bursting at super high speeds.**

- **Brand-new tires can have a relatively poor grip on certain road surfaces until they have been "broken in". Therefore, it is advisable before doing any high-speed riding to ride conservatively for approximately 100 km (60 mi) after installing a new tire.**
- **The tires must be warmed up before a high-speed run.**
- **Always adjust the tire air pressure according to the operating conditions.**

EAU21963

Cast wheels

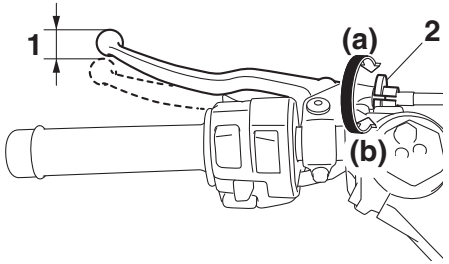
To maximize the performance, durability, and safe operation of your vehicle, note the following points regarding the specified wheels.

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

EAU94630

Adjusting the clutch lever free play

Measure the clutch lever free play as shown.



1. Clutch lever free play
2. Clutch lever free play adjusting bolt

Clutch lever free play:
10.0–15.0 mm (0.39–0.59 in)

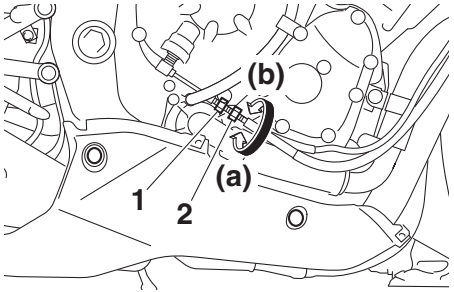
Periodically check the clutch lever free play and, if necessary, adjust it as follows.

To increase the clutch lever free play, turn the clutch lever free play adjusting bolt at the clutch lever in direction (a). To decrease the clutch lever free play, turn the adjusting bolt in direction (b).

TIP

If the specified clutch lever free play cannot be obtained as described above, proceed as follows.

1. Fully turn the adjusting bolt at the clutch lever in direction (a) to loosen the clutch cable.
2. Remove cowling C. (See page 7-9.)
3. Loosen the locknut at the crankcase.

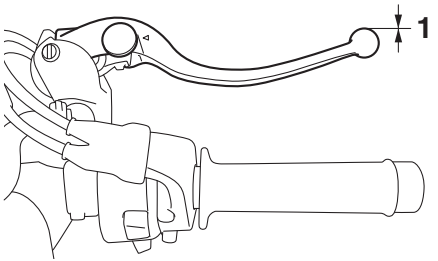


1. Locknut
2. Clutch lever free play adjusting nut

4. To increase the clutch lever free play, turn the clutch lever free play adjusting nut in direction (a). To decrease the clutch lever free play, turn the adjusting nut in direction (b).
5. Tighten the locknut.
6. Install the cowling.

EAU37914

Checking the 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.

EWA14212

⚠ WARNING

A soft or spongy feeling in the brake lever can indicate the presence of air in the hydraulic system. If there is air in the hydraulic system, have a Yamaha dealer bleed the system before operating the vehicle. Air in the hydraulic system will diminish the

braking performance, which may result in loss of control and an accident.

EAU36505

Brake light switches

The brake light should come on just before braking takes effect. The brake light is activated by switches connected to the brake lever and brake pedal. Since the brake light switches are components of the anti-lock brake system, they should only be serviced by a Yamaha dealer.

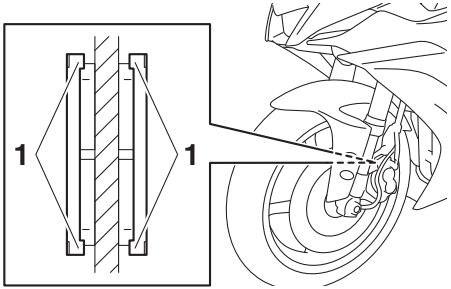
EAU22393

Checking the front and rear brake pads

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

EAU36891

Front brake pads



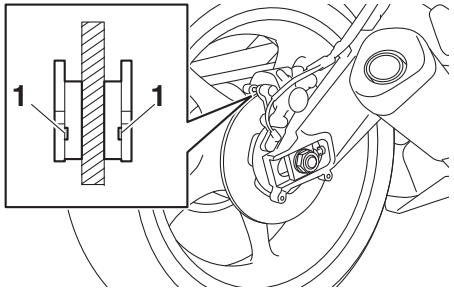
1. Brake pad wear indicator

Each front brake pad is provided with wear indicators, which allows you to check the brake pad wear without having to disassemble the brake. To check the brake pad wear, check the position of the wear indicators while applying the brake. If a brake pad has worn to the point that a wear indicator almost

touches the brake disc, have a Yamaha dealer replace the brake pads as a set.

EAU46292

Rear brake pads



1. Brake pad wear indicator groove

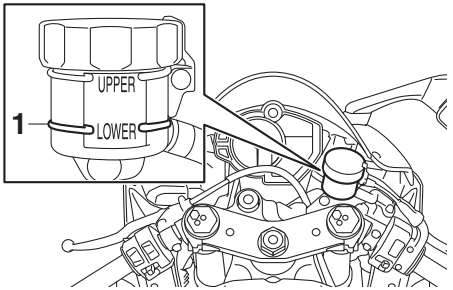
Each rear brake pad is provided with wear indicator grooves, which allow you to check the brake pad wear without having to disassemble the brake. To check the brake pad wear, check the wear indicator grooves. If a brake pad has worn to the point that a wear indicator groove almost appears, have a Yamaha dealer replace the brake pads as a set.

EAU40262

Checking the brake fluid level

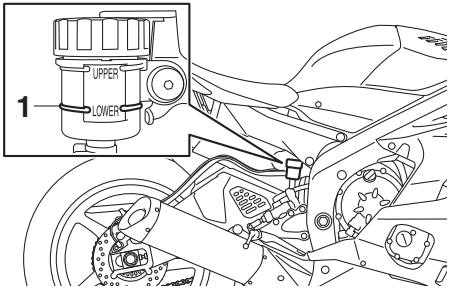
Before riding, check that the brake fluid is above the minimum level mark. Check the brake fluid level with the top of the reservoir level. Replenish the brake fluid if necessary.

Front brake



1. Minimum level mark

Rear brake



1. Minimum level mark

Specified brake fluid:
DOT 4

EWA16011

⚠ WARNING

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

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

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

ECA17641

NOTICE

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

As the brake pads wear, it is normal for the brake fluid level to gradually go down. A low brake fluid level may indicate worn brake pads and/or brake system leakage; therefore, be sure to check the brake pads for wear and the brake system for leakage. If the brake fluid level goes down suddenly, have a Yamaha dealer check the cause before further riding.

EAU22734

Changing the brake fluid

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

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

EAU22762

Drive chain slack

The drive chain slack should be checked before each ride and adjusted if necessary.

EAU74253

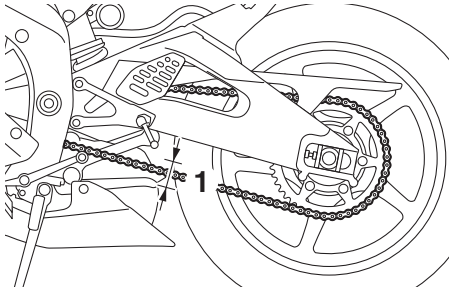
To check the drive chain slack

1. Place the motorcycle on the sidestand.

TIP

When checking and adjusting the drive chain slack, there should be no weight on the motorcycle.

2. Shift the transmission into the neutral position.
3. Measure the drive chain slack as shown.



1. Drive chain slack

Drive chain slack:
30.0–45.0 mm (1.18–1.77 in)

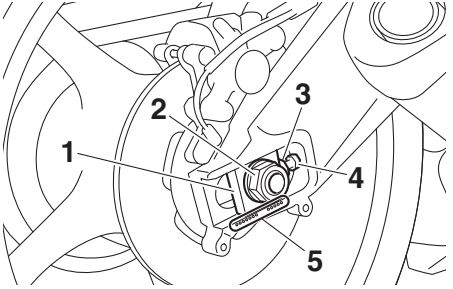
4. If the drive chain slack is incorrect, adjust it as follows. ***NOTICE:*** **Improper drive chain slack will overload the engine as well as other vital parts of the motorcycle and can lead to chain slippage or breakage. To prevent this from occurring, keep the drive chain slack within the specified limits.** [ECA10572]

EAU74260

To adjust the drive chain slack

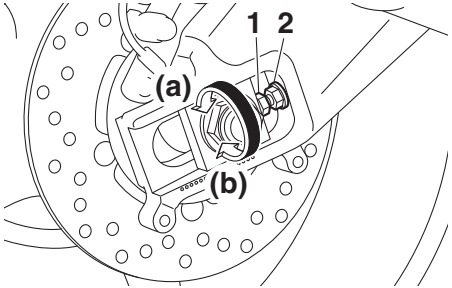
Consult a Yamaha dealer before adjusting the drive chain slack.

1. Loosen the axle nut and the locknut on each side of the swingarm.



1. Drive chain puller
2. Axle nut
3. Drive chain slack adjusting bolt
4. Locknut
5. Alignment marks

2. To tighten the drive chain, turn the drive chain slack adjusting bolt on each side of the swingarm in direction (a). To loosen the drive chain, turn the adjusting bolt on each side of the swingarm in direction (b), and then push the rear wheel forward.



1. Drive chain slack adjusting bolt
2. Locknut

TIP

Using the alignment marks on each side of the swingarm, make sure that both drive chain pullers are in the same position for proper wheel alignment.

3. Tighten the axle nut, then the locknuts to their specified torques.

Tightening torques:
Axle nut:
110 N·m (11 kgf·m, 81 lb·ft)
Locknut:
16 N·m (1.6 kgf·m, 12 lb·ft)

4. Make sure that the drive chain pullers are in the same position, the drive chain slack is correct, and the drive chain moves smoothly.

EAU23027

Cleaning and lubricating the drive chain

The drive chain must be cleaned and lubricated at the intervals specified in the periodic maintenance and lubrication chart, otherwise it will quickly wear out, especially when riding in dusty or wet areas. Service the drive chain as follows.

ECA10584

NOTICE

The drive chain must be lubricated after washing the motorcycle, riding in the rain or riding in wet areas.

1. Clean the drive chain with a drive chain cleaner and a small soft brush. ***NOTICE:*** **To prevent damaging the O-rings, do not clean the drive chain with steam cleaners, high-pressure washers or inappropriate solvents.**
[ECA11122]
2. Wipe the drive chain dry.
3. Thoroughly lubricate the drive chain with a special O-ring chain lubricant. ***NOTICE:*** **Do not use engine oil or any other lubri-**

7

cants for the drive chain, as they may contain substances that could damage the O-rings. [ECA11112]

EAU23098

Checking and lubricating the cables

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

Recommended lubricant:
Yamaha cable lubricant or other suitable cable lubricant

EAU23115

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.

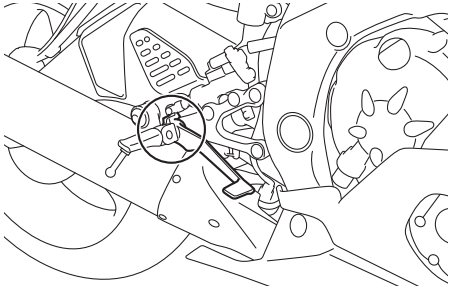
The throttle cable is equipped with a rubber cover. Make sure that the cover is securely installed. Even though the cover is installed correctly, it does not completely protect the cable from water entry. Therefore, use care not to pour water directly onto the cover or cable when washing the vehicle. If the cable or cover becomes dirty, wipe clean with a moist cloth.

EAU44276

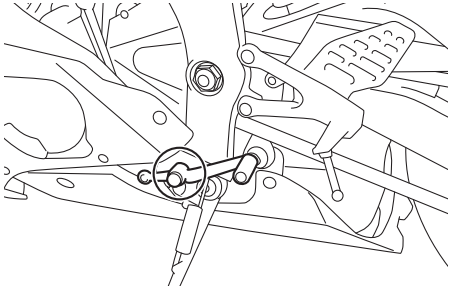
Checking and lubricating the brake and shift pedals

The operation of the brake and shift pedals should be checked before each ride, and the pedal pivots should be lubricated if necessary.

Brake pedal



Shift pedal



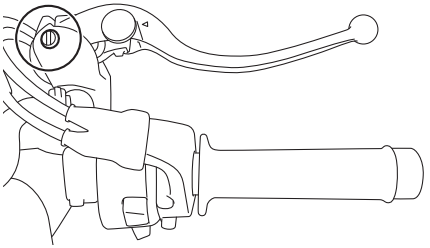
Recommended lubricant:
Lithium-soap-based grease

EAU23144

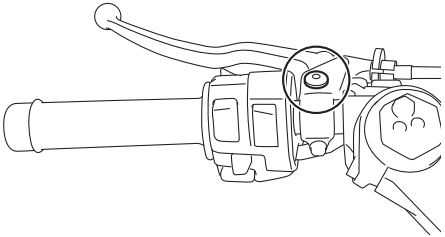
Checking and lubricating the brake and clutch levers

The operation of the brake and clutch levers should be checked before each ride, and the lever pivots should be lubricated if necessary.

Brake lever



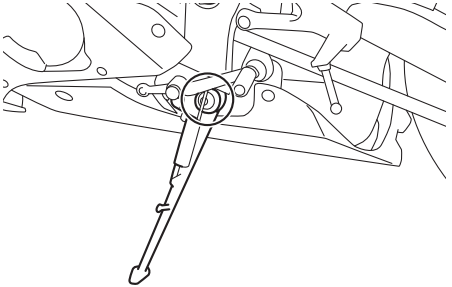
Clutch lever



Recommended lubricants:
Brake lever:
Silicone grease
Clutch lever:
Lithium-soap-based grease

EAU23203

Checking and lubricating the sidestand



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

EWA10732

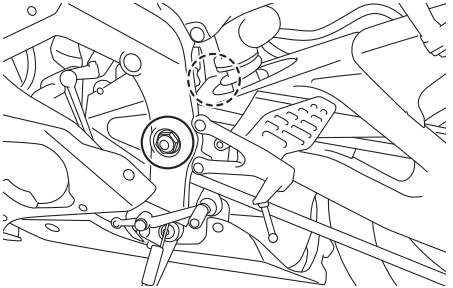
⚠ WARNING

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

Recommended lubricant:
Lithium-soap-based grease

EAUM1653

Lubricating the swingarm pivots



The swingarm pivots must be lubricated by a Yamaha dealer at the intervals specified in the periodic maintenance and lubrication chart.

Recommended lubricant:
Lithium-soap-based grease

EAU23273

Checking the front fork

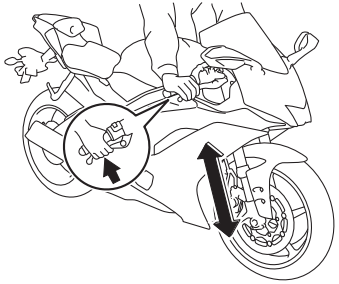
The condition and operation of the front fork must be checked as follows at the intervals specified in the periodic maintenance and lubrication chart.

To check the condition

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

To check the operation

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



ECA10591

NOTICE

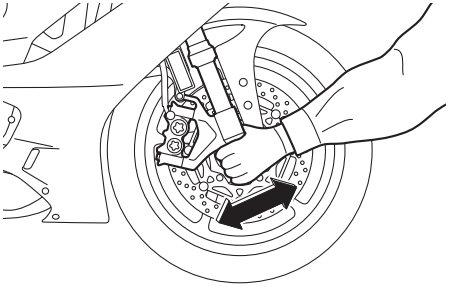
If any damage is found or the front fork does not operate smoothly, have a Yamaha dealer check or repair it.

EAU23285

Checking the steering

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

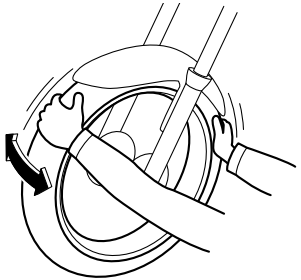
1. Raise the front wheel off the ground. (See page 7-37.) **WARNING! To avoid injury, securely support the vehicle so there is no danger of it falling over.** [EWA10752]
2. Hold the lower ends of the front fork legs and try to move them forward and backward. If any free play can be felt, have a Yamaha dealer check or repair the steering.



7

EAU23292

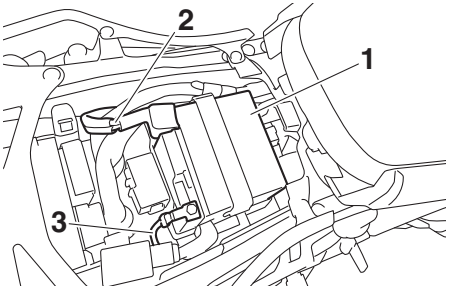
Checking the wheel bearings



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

EAU50292

Battery



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

The battery is located under the seat. (See page 4-21.)
This model is equipped with a VRLA (Valve Regulated Lead Acid) battery. There is no need to check the electrolyte or to add distilled water. However, the battery lead connections need to be checked and, if necessary, tightened.

EWA10761

⚠ WARNING

- **Electrolyte is poisonous and dangerous since it contains sulfuric acid, which causes severe burns. Avoid any contact with skin, eyes or clothing and always shield your eyes when working near batteries. In case of contact, administer the following FIRST AID.**
  - **EXTERNAL: Flush with plenty of water.**
  - **INTERNAL: Drink large quantities of water or milk and immediately call a physician.**
  - **EYES: Flush with water for 15 minutes and seek prompt medical attention.**
- **Batteries produce explosive hydrogen gas. Therefore, keep sparks, flames, cigarettes, etc., away from the battery and provide sufficient ventilation when charging it in an enclosed space.**
- **KEEP THIS AND ALL BATTERIES OUT OF THE REACH OF CHILDREN.**

To charge the battery

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

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

ECA16522

NOTICE

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

To store the battery

1. If the vehicle will not be used for more than one month, remove the battery, fully charge it, and then place it in a cool, dry place. ***NOTICE:*** **When removing the battery, be sure to turn the main switch off, then disconnect the negative lead before disconnecting the positive lead.** [ECA16304]
2. If the battery will be stored for more than two months, check it at least once a month and fully charge it if necessary.
3. Fully charge the battery before installation. ***NOTICE:*** **When installing the battery, be sure to turn the main switch off, then connect the positive lead before connecting the negative lead.** [ECA16842]
4. After installation, make sure that the battery leads are properly connected to the battery terminals.

ECA16531

NOTICE

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

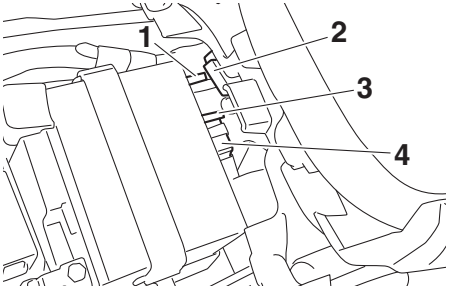
EAU94641

Replacing the fuses

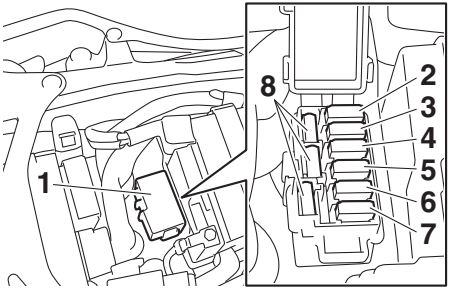
The main fuse, the ABS motor fuse, and fuse box 1 are located under the rider seat. (See page 4-21.)

TIP

To access the ABS motor fuse, remove the starter relay cover by pulling it upward.

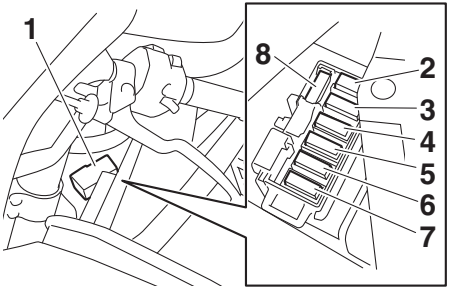


1. ABS motor fuse
2. Starter relay cover
3. ABS motor spare fuse
4. Main fuse



1. Fuse box 1
2. Fuel injection system fuse
3. ABS ECU fuse
4. Terminal fuse 1 (for optional equipment)
5. Electronic throttle valve fuse
6. Backup fuse (for clock and immobilizer system)
7. ABS solenoid fuse
8. Spare fuse

Fuse box 2 is located under the left handlebar switches.



1. Fuse box 2
2. Hazard fuse
3. Headlight fuse
4. Ignition fuse
5. Signaling system fuse
6. Right radiator fan motor fuse
7. Left radiator fan motor fuse
8. Spare fuse

If a fuse is blown, replace it as follows.

1. Turn the key to "OFF" and turn off the electrical circuit in question.
2. Remove the blown fuse, and then install a new fuse of the specified amperage. **WARNING! Do not use a fuse of a higher amperage rating than recommended to avoid causing extensive damage to the electrical system and possibly a fire.** [EWA15132]

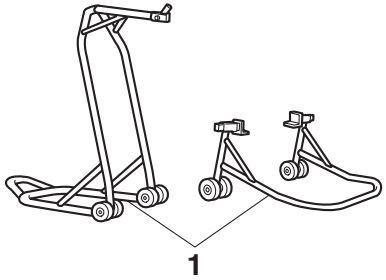
Specified fuses:
Main fuse:
50.0 A
Terminal fuse 1:
2.0 A
Fuel injection system fuse:
15.0 A
ABS motor fuse:
30.0 A
ABS ECU fuse:
7.5 A
ABS solenoid fuse:
10.0 A
Hazard fuse:
7.5 A
Electronic throttle valve fuse:
7.5 A
Backup fuse:
7.5 A
Radiator fan motor fuse:
15.0 A × 2
Ignition fuse:
15.0 A
Signaling system fuse:
10.0 A
Headlight fuse:
7.5 A

3. Turn the key to "ON" and turn on the electrical circuit in question to check if the device operates.

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

EAU67131

Supporting the motorcycle



1. Maintenance stand (example)

Since this model is not equipped with a centerstand, use maintenance stands when removing the front or rear wheel or when performing other maintenance that requires the motorcycle to stand up right.
Check that the motorcycle is in a stable and level position before starting any maintenance.

EAU25872

Troubleshooting

Although Yamaha motorcycles 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 motorcycle require any repair, take it to a Yamaha dealer, whose skilled technicians have the necessary tools, experience, and know-how to service the motorcycle properly.
Use only genuine Yamaha replacement parts. Imitation parts may look like Yamaha parts, but they are often inferior, have a shorter service life and can lead to expensive repair bills.

EWA15142

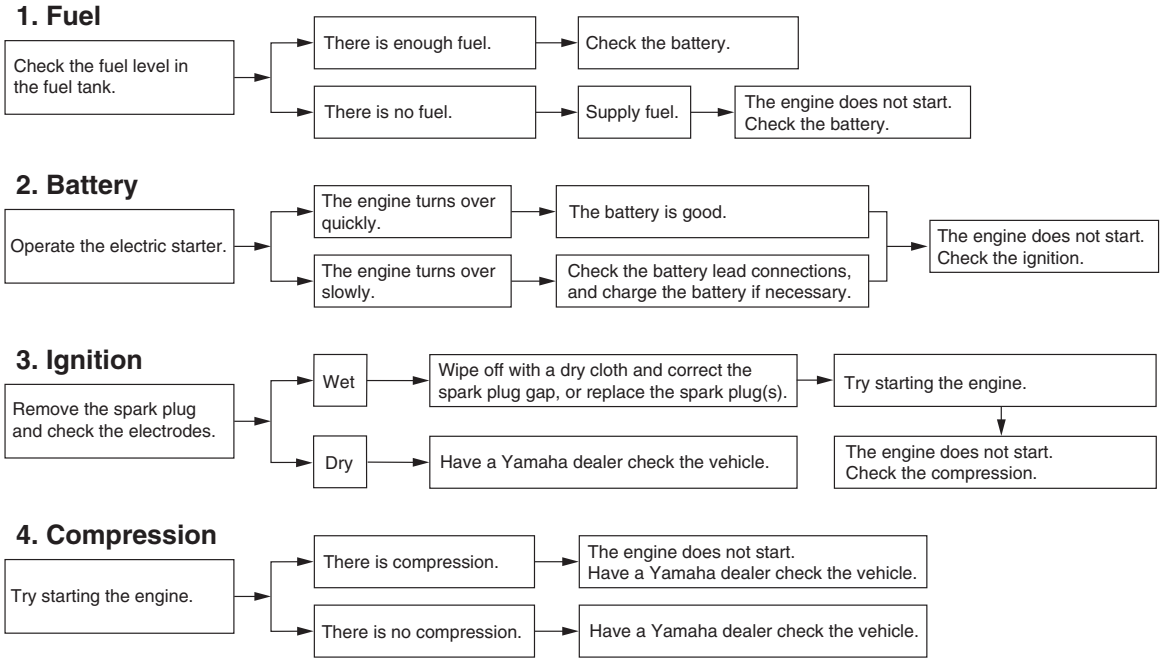
⚠ WARNING

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

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

EAU86350

Troubleshooting chart



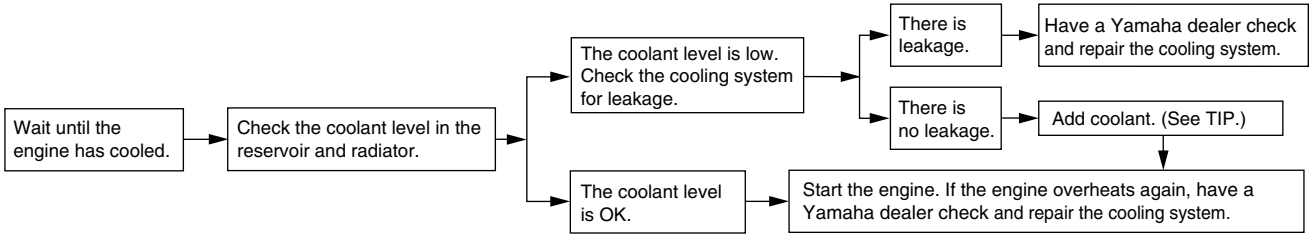
EAU86420

Engine overheating

EWAT1041

⚠ WARNING

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



TIP

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

EAU37834

Matte color caution

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.

EAU83443

Care

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

TIP

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

ECA26280

NOTICE

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

- **high-pressure washers or steam-jet cleaners. Excessive water pressure may cause water seepage and deterioration of wheel bearings, brakes, transmission seals and electrical devices. Avoid high-pressure detergent applications such as those available in coin-operated car washers.**
- **harsh chemicals, including strong acidic wheel cleaners, especially on spoke or magnesium wheels.**
- **harsh chemicals, abrasive cleaning compounds, or wax on matte-finished parts. Brushes can scratch and damage the matte-finish, use soft sponge or towel only.**
- **towels, sponges, or brushes contaminated with abrasive cleaning products or strong**

chemicals such as, solvents, gasoline, rust removers, brake fluid, or antifreeze, etc.

Before washing

1. Park the vehicle out of direct sunlight and allow it to cool. This will help avoid water spots.
2. Make sure all caps, covers, electrical couplers and connectors are tightly installed.
3. Cover the muffler end with a plastic bag and a strong rubber band.
4. Pre-soak stubborn stains like insects or bird droppings with a wet towel for a few minutes.
5. Remove road grime and oil stains with a quality degreasing agent and a plastic-bristle brush or sponge. ***NOTICE:*** **Do not use degreasing agent on areas requiring lubrication such as seals, gaskets, and wheel axles. Follow product instructions.** [ECA26290]

Washing

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

After washing

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

will become slippery, which could cause loss of control. Thoroughly clean the surfaces of these parts before operating the vehicle. [EWA20650]

5. Treat rubber, vinyl, and unpainted plastic parts with a suitable care product.
6. Touch up minor paint damage caused by stones, etc.
7. Wax all painted surfaces using a non-abrasive wax or use a detail spray for motorcycles.
8. When finished cleaning, start the engine and let it idle for several minutes to help dry any remaining moisture.
9. If the headlight lens has fogged up, start the engine and turn on the headlight to help remove the moisture.
10. Let the vehicle dry completely before storing or covering it.

ECA26320

NOTICE

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

EWA20660

⚠ WARNING

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

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

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):

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

TIP

- If the battery will be removed, charge it once a month and store it in a temperate location between 0-30 °C (32-90 °F).
- See page 7-34 for more information on charging and storing the battery.

Dimensions:
Overall length:
1990 mm (78.3 in)
Overall width:
695 mm (27.4 in)
Overall height:
1150 mm (45.3 in)
Seat height:
850 mm (33.5 in)
Wheelbase:
1375 mm (54.1 in)
Ground clearance:
130 mm (5.12 in)
Minimum turning radius:
3.6 m (11.81 ft)

Weight:
Curb weight:
185 kg (408 lb)

Engine:
Combustion cycle:
4-stroke
Cooling system:
Liquid cooled
Valve train:
DOHC
Cylinder arrangement:
Inline
Number of cylinders:
4-cylinder
Displacement:
599 cm^3
Bore × stroke:
67.0 × 42.5 mm (2.64 × 1.67 in)
Starting system:
Electric starter

Engine oil:
Recommended brand:
YAMALUBE®
SAE viscosity grades:
10W-40, 20W-40
Recommended engine oil grade:
API service SG type or higher, JASO standard MA
Engine oil quantity:
Oil change:
2.40 L (2.54 US qt, 2.11 Imp.qt)
With oil filter removal:
2.60 L (2.75 US qt, 2.29 Imp.qt)

Coolant quantity:
Coolant reservoir (up to the maximum level mark):
0.25 L (0.26 US qt, 0.22 Imp.qt)
Radiator (including all routes):
2.30 L (2.43 US qt, 2.02 Imp.qt)

Fuel:
Recommended fuel:
Unleaded gasoline (E10 acceptable)
Octane number (RON):
95
Fuel tank capacity:
17 L (4.5 US gal, 3.7 Imp.gal)
Fuel reserve amount:
3.4 L (0.90 US gal, 0.75 Imp.gal)

Fuel injection:
Throttle body:
ID mark:
BN64

Drivetrain:
Gear ratio:
1st:
2.583 (31/12)
2nd:
2.000 (32/16)
3rd:
1.666 (30/18)
4th:
1.444 (26/18)
5th:
1.285 (27/21)
6th:
1.150 (23/20)

Front tire:
Type:
Tubeless
Size:
120/70ZR17M/C (58W)
Manufacturer/model:
DUNLOP/SPORTMAX D214F
Manufacturer/model:
BRIDGESTONE/BATTLAX HYPERSPORT S21F

Rear tire:
Type:
Tubeless
Size:
180/55ZR17M/C(73W)

Manufacturer/model:
DUNLOP/SPORTMAX D214
Manufacturer/model:
BRIDGESTONE/BATTLAX HYPERSPORT S21R

Loading:
Maximum load:
190 kg (419 lb)
(Total weight of rider, cargo and accessories)

Front brake:
Type:
Hydraulic dual disc brake

Rear brake:
Type:
Hydraulic single disc brake

Front suspension:
Type:
Telescopic fork

Rear suspension:
Type:
Swingarm (link suspension)

Electrical system:
System voltage:
12 V

Battery:
Model:
YTZ7S
Voltage, capacity:
12 V, 6.0 Ah (10 HR)

EAU53562

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.

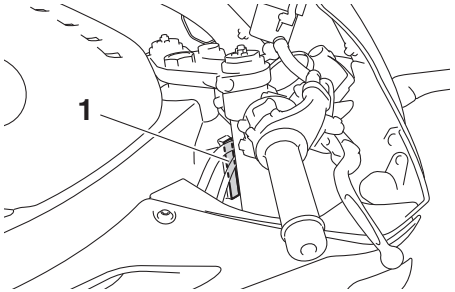
VEHICLE IDENTIFICATION NUMBER:

ENGINE SERIAL NUMBER:

MODEL LABEL INFORMATION:

EAU26401

Vehicle identification number



1. Vehicle identification number

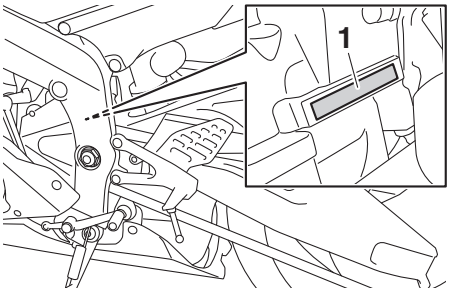
The vehicle identification number is stamped into the steering head pipe. Record this number in the space provided.

TIP

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

EAU26442

Engine serial number

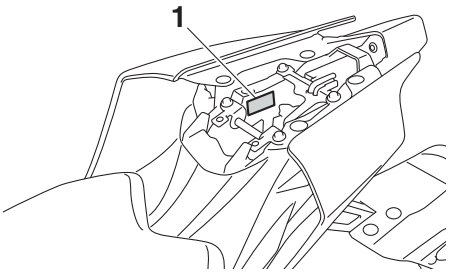


1. Engine serial number

The engine serial number is stamped into the crankcase.

EAU94650

Model label



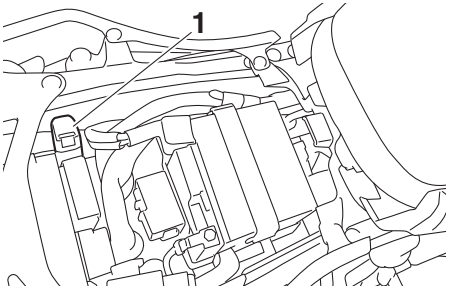
1. Model label

10

The model label is affixed to the frame. Record the information on this label in the space provided. This information will be needed when ordering spare parts from a Yamaha dealer.

EAU69910

Diagnostic connector



1. Diagnostic connector

The diagnostic connector is located as shown.

EAU85300

Vehicle data recording

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/en/privacy/privacy-policy/

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

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

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Original instructions

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