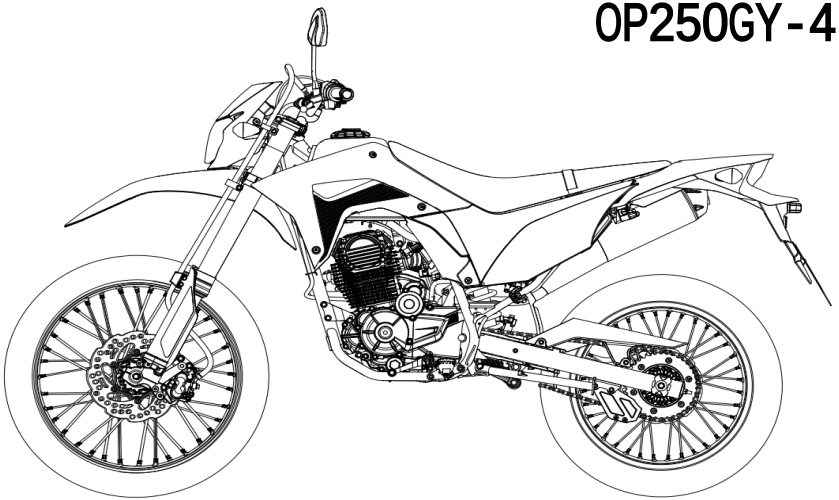
# Service Manual

**Harmony**

Science&Technology

**Read this manual carefully before operating this vehicle.**
Baca manual ini dengan teliti sebelum mengendalikan kenderaan.



## OP250GY-4

# Harmony

Science&Technology

https://www.orangepowerengineering.com

# WELCOME

Congratulations and thank you for selecting **Aveta Global Marketing Sdn Bhd** product!

This manual should be considered a permanent part of the vehicle and should remain with the vehicle when it is resold.

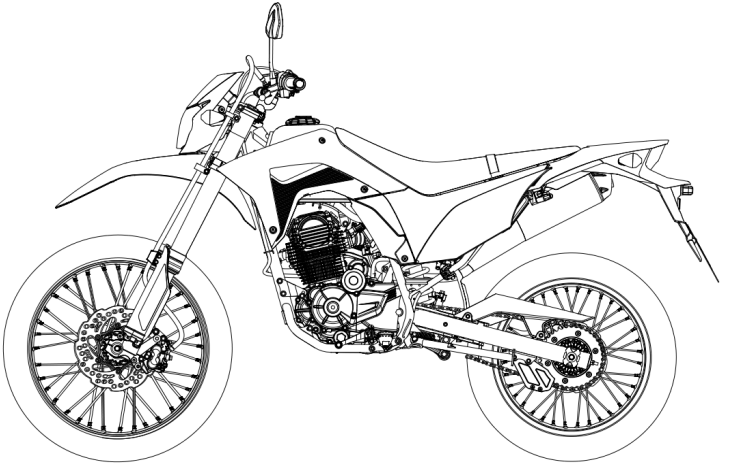
This publication includes the latest production information on the primary data, basic structure, and main procedures for operating, maintaining, and troubleshooting the motorcycle.

Please note that ongoing product enhancements may result in variations between the vehicle and this manual. **Aveta Global Marketing Sdn Bhd** reserves the right to make changes at any time without incurring any obligation.

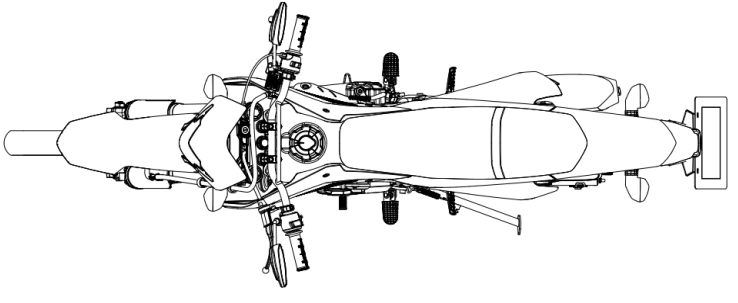
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View 1



View 2



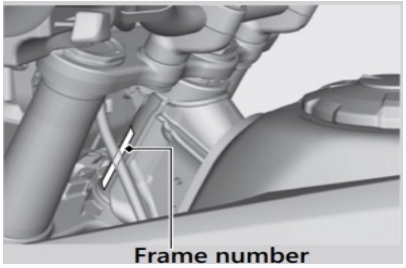
# MOTORCYCLE SAFETY

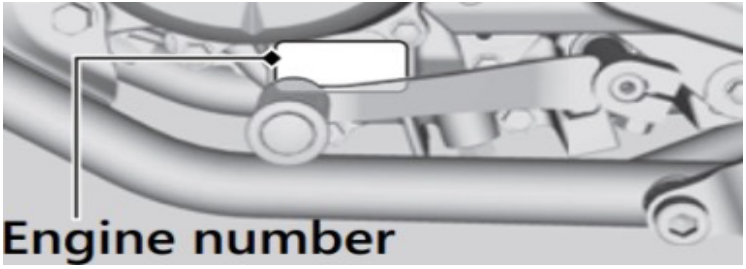
**To ensure your safety and riding pleasure :**

- Read this owner's manual carefully.
- Follow all recommendations and procedures contained in this manual.
- Pay close attention to safety messages contained in this manual and on the motorcycle.

**Serial Numbers**

The frame and engine serial numbers uniquely identify your motorcycle and are required in order to register your motorcycle. They may also be required when ordering replacement parts.
You should record these numbers and keep them in a safe place.



# MOTORCYCLE SAFETY

Your safety, and the safety of others, is very important. Operating this motorcycle safely is an important responsibility.

To help you make informed decisions about safety, we have provided operating procedures and other information on safety labels and in this manual. This information alerts you to potential hazards that could hurt you or others. Of course, it is not practical or possible to warn you about all hazards associated with operating or maintaining a motorcycle. You must use your own good judgement.

You will find important safety information in a variety of forms, including:

- Safety labels on the motorcycle
- Safety Messages preceded by a safety alert symbol and one of three signal words : **DANGER**, **WARNING**, or **Caution**.

These signal words mean:

**⚠ DANGER**

You **WILL** be **KILLED** or **SERIOUSLY HURT** if you don't follow instructions.

**⚠ WARNING**

You CAN be **KILLED** or **SERIOUSLY HURT** if you don't follow instructions.

**⚠ CAUTION**

You CAN be **HURT** if you don't follow instructions.

Other important information is provided under the following titles:
**NOTICE** Information to help you avoid damage to your motorcycle, other property, or the environment.

# MOTORCYCLE SAFETY

## Safety Guidelines

**Follow these guidelines to enhance your safety:**

- Perform all routine and regular inspections specified in this manual.
- Stop the engine and keep sparks and flame away before filling the fuel tank.
- Do not run the engine in enclosed or partly enclosed areas. Carbon monoxide in exhaust gases is toxic and can kill you.
- Always Wear a Helmet
  It's a proven fact: helmets and protective apparel significantly reduce the number and severity of head and other injuries. So always wear an approved motorcycle helmet and protective apparel.

**Before riding**
Make sure that you are physically fit, mentally focused and free of alcohol and drugs. Check that you and your passenger are both wearing an approved motorcycle helmet and protective apparel. Instruct your passenger on holding onto the seat strap or your waist, leaning with you in turns, and keeping their feet on the footpegs, even when the motorcycle is stopped.

**Take Time to Learn & Practice**
Even if you have ridden other motorcycles, practice riding in a safe area to become familiar with how this motorcycle works and handles, and to become accustomed to the motorcycle's size and weight.

**Ride Defensively**
Always pay attention to other vehicles around you, and do not assume that other drivers see you. Be prepared to stop quickly or perform an evasive maneuver.

Make Yourself Easy to See Don't Drink and Ride
Make yourself more visible, especially at night, by wearing bright reflective clothing, positioning yourself so other drivers can see you, signaling before turning or changing lanes, and using your horn when necessary.

**Be Alert for Off-road Hazards**
The terrain can be present a variety of challenges when you ride off-road. Continually “read” the terrain for unexpected turns, drop-offs, rocks, ruts and other hazards.
Always keep your speed low enough to allow time to see and react to hazards.

# MOTORCYCLE SAFETY

**Ride within Your Limits**
Never ride beyond your personal abilities or faster than conditions warrant. Fatigue and inattention can impair your ability to use good judgement and ride safely.

**Don't Drink and Ride**
Alcohol and riding don't mix. Even one alcoholic drink can reduce your ability to respond to changing conditions, and your reaction time gets worse with every additional drink. Don't drink and ride, and don't let your friends drink and ride either.

**Keep Your bike in Safe Condition**
It's important to keep your motorcycle properly maintained and in safe riding condition. Having a breakdown can be difficult, especially if you are stranded off-road far from your base. Inspect your motorcycle before every ride and perform all recommended maintenance. Never exceed load limit sand do not modify your motorcycle or install accessories that would make your motorcycle unsafe.

**If You are Involved in a Crash**
Personal safety is your first priority. If you or anyone else has been injured, take time to assess the severity of the injuries and whether it is safe to continue riding. Call for emergency assistance if needed. Also follow applicable laws and regulations if another person or vehicle is involved in the crash.

If you decide to continue riding, first turn the ignition switch to the (Off) position, and evaluate the condition of your motorcycle. Inspect for fluid leaks, check the tightness of critical nuts and bolts, and check the handlebar, control levers, brakes, and wheels. Ride slowly and cautiously.

Your motorcycle may have suffered damage that is not immediately apparent. Have your motorcycle thoroughly checked at a qualified service facility as soon as possible.

# MOTORCYCLE SAFETY

**Carbon Monoxide Hazard**
Exhaust contains poisonous carbon monoxide, a colourless, odorless gas. Breathing carbon monoxide can cause loss of consciousness and may lead to death. If you run the engine in confined or even partly enclosed area, the air you breathe could contain a dangerous amount of carbon monoxide. Never run your motorcycle inside a garage or other enclosure.

**Electrical sparks**
The electric arc spark can cause petrol in the tank to catch fire. Make sure proper wire earthing, disconnect battery, and isolate fuel in the tank. The electric spark may not be seen in side the electrical tool.

Wool cloth will cause sparks and cause fire in high density petrol gas environment. do not wear wool cloth while serving the bike.

**⚠ WARNING**

Running the engine of your motorcycle while in an enclosed or even partially enclosed area can cause a rapid build-up of toxic carbon monoxide gas.

Breathing this colourless, odorless gas can quickly cause unconsciousness and lead to death. Only run your motorcycle's engine when it is located in a well ventilated area outdoors.

# MOTORCYCLE SAFETY

## Safety Precautions

- Ride cautiously and keep your hands on the handlebar and feet on the footpegs.
- Keep passenger's hands onto the seat strap or your waist, passenger's feet on the footpegs while riding.

- Always consider the safety of your passenger, as well as other drivers and riders. Protective Apparel Make sure that you and any passenger are wearing an approved motorcycle helmet, eye protection, and high-visibility protective clothing. Ride defensively in response to weather and road conditions.

**Helmet**
Safety-standard certified, high-visibility, correct size for your head.

- Must fit comfortably but securely, with the chin strap fastened.
- Face shield with unobstructed field of vision or other approved eye protection

**⚠ WARNING**
Not wearing a helmet increases the chance of serious injury or death in a crash. Make sure that you and any passenger always wear an approved helmet and protective apparel.

**Gloves**
Full-finger leather gloves with high abrasion resistance.

**Boots or Riding Shoes**
Sturdy boots with non-slip soles and ankle protection.

**Jacket and Trousers**
Protective, highly visible, long-sleeved jacket and durable trousers for riding (or a protective suit).

**Additional Off-road Gear**
On-road apparel may also be suitable for casual off-road riding. But if you plan on any serious off-road riding you will need more serious off- road gear. In addition to your helmet and eye protection, we recommend off-road motorcycle boots and gloves, riding pants with knee and hip pads, a jersey with elbow pads, and a chest/ shoulder protector.

# MOTORCYCLE SAFETY

## Riding Precautions

**Running-in Period**
During the first 500 km (300 miles) of running, follow these guidelines to ensure your motorcycle's future reliability and performance.

- Avoid full-throttle starts and rapid acceleration.
- Avoid hard braking and rapid down-shifts.
- Ride conservatively.

**Brakes**
Observe the following guidelines:

- Avoid excessively hard braking and downshifting.
- Sudden braking can reduce the motorcycle's stability.
  Where possible, reduce speed before turning; otherwise you risk sliding out.
- Exercise caution on low traction surfaces.
- The tyres slip more easily on such surfaces and braking distances are longer.
- Avoid continuous braking.
- Repeated braking, such as when descending long, steep slopes can seriously overheat the brakes, reducing their effectiveness. Use engine braking with intermittent use of the brakes to reduce speed.
- For full braking effectiveness, operate both the front and rear brakes together.

**Engine Braking**
Engine braking helps slow your motorcycle down when you release the throttle. For further slowing action, downshift to a lower gear. Use engine braking with intermittent use of the brakes to reduce speed when descending long, steep slopes.

**Wet or Rainy Conditions**
Road surfaces are slippery when wet, and wet brakes further reduce braking efficiency. Exercise extra caution when braking in wet conditions. If the brakes get wet, apply the brakes while riding at low speed to help them dry.

# MOTORCYCLE SAFETY

## Parking

- Park on a firm, level surface.
- If you must park on a slight incline or loose surface, park so that the motorcycle cannot move or fall over.
- Make sure that high-temperature parts cannot come into contact with flammable materials.
- Do not touch the engine, muffler, brakes and other high-temperature parts until they cool down.
- To reduce the likelihood of theft, always lock the handlebar and remove the key when leaving the motorcycle unattended. Use of an anti-theft device is also recommended.

**Parking with the Side Stand**

**1.** Stop the engine.
**2**. Push the side stand down.
**3.** Slowly lean the motorcycle to the left until its weight rests on the side stand.
**4.** Turn the handlebar fully to the left.
*Turning the handlebar to the right reduces stability and may cause the motorcycle to fall.
**5.** Turn the ignition switch to the (Lock) position and remove the key.

**Refuelling and Fuel Guidelines**

Follow these guidelines to protect the engine, fuel system and catalytic converter:

- Use only unleaded petrol.
- Use recommended octane number. Using lower octane petrol will result in decreased engine performance.
- Do not use fuels containing a high concentration of alcohol.
- Do not use stale or contaminated petrol or an oil/petrol mixture.
- Avoid getting dirt or water in the fuel tank.

# MOTORCYCLE SAFETY

## Accessories & Modifications

We strongly advise that you do not add any accessories that were not specifically designed for your motorcycle by Aveta or make modifications to your motorcycle from its original design. Doing so can make it unsafe. Modifying your motorcycle may also void your warranty and make your motorcycle illegal to operate on public roads and highways. Before deciding to install accessories on your motorcycle be certain the modification is safe and legal.

**⚠ WARNING**

Improper accessories or modifications can cause a crash in which you can be seriously hurt or killed. Follow all instructions in this owner's manual regarding accessories and modifications.
Do not pull a trailer with, or attach a sidecar to, your motorcycle. Your motorcycle was not designed for these attachments, and their use can seriously impair your motorcycle's handling.

## Off-Road Safety

Learn to ride in an uncongested off-road area free of obstacles before venturing onto unfamiliar terrain.

- Always obey local off-road riding laws and regulations.
- Obtain permission to ride on private property. Avoid posted areas and obey “NO Trespassing” signs.
- Ride with a friend on another motorcycle so that you can assist each other in case of trouble.
- Familiarity with your motorcycle is critically important should a problem occur far from help.
- Never ride beyond your ability and experience or faster than conditions warrant.
- If you are not familiar with the terrain, ride cautiously. Hidden rocks, holes, or ravines could spell disaster.
- A muffler is required in most off-road areas. Don't modify your exhaust system. Remember that excessive noise bothers everyone and creates a bad image for motorcycling.

# MOTORCYCLE SAFETY

## Loading

- Carrying extra weight affects your motorcycle's handling, braking and stability. Always ride at a safe speed for the load you are carrying.

- Avoid carrying an excessive load and keep within specified load limits. Maximum weight capacity
- Tie all luggage securely, evenly balanced and close to the centre of the motorcycle. Unbalanced luggage or box will cause bike dangerous wobble or weaver on high speed.

- Do not place objects near the lights or the muffler. Also follow these guidelines when you ride off-road on rough terrain:

- Do not carry a passenger.
- Keep cargo small and light weight. Make sure it cannot easily be caught on brush or other objects, and that it does not interfere with your ability to shift position to maintain balance and stability.

**⚠ WARNING**

Overloading or improper loading can cause a crash and you can be seriously hurt or killed. Follow all load limits and other loading guidelines in this manual.

## Caring for Your Motorcycle

Frequent cleaning and polishing is important to ensure the life of your Orange Power. A clean motorcycle makes it easier to spot potential problems. In particular, seawater and salts used to prevent ice on roads promote the formation of corrosion.

Always wash your motorcycle thoroughly after riding on coastal or treated roads. Dirt can damage the suspension oil seal quickly and cause suspension failure.

**Washing**

Allow the engine, muffler, brakes, and other high-temperature parts to cool before washing.

**1.** Rinse your motorcycle thoroughly using a low pressure garden hose to remove loose dirt.

**2**. If necessary, use a sponge or a soft towel with mild cleaner to remove road grime.

Clean the headlight lens, panels, and other plastic components with extra care to avoid scratching them.Avoid directing water into the air cleaner, muffler, and electrical parts.

**3.** Thoroughly rinse your motorcycle with plenty of clean water and dry with a soft, clean cloth.

**4.** After the motorcycle dries, lubricate any moving parts.

Make sure that no lubricant spills onto the brakes or tyres. Brake discs, pads, drum or shoes contaminated with oil will suffer greatly reduced braking effectiveness and can lead to a crash.

**5.** Lubricate the drive chain immediately after washing and drying the motorcycle.

**6.** Apply a coat of wax to prevent corrosion.

- Avoid products that contain harsh detergents or chemical solvents. These can damage the metal, paint, and plastic on your motorcycle. Keep the wax clear of the tyres and brakes.
- If your motorcycle has any mat painted parts, do not apply a coat of wax to the mat painted surface.
- Water in the under seat compartment can damage your documents and other belongings.
- Do not direct water at the air cleaner:
- Water in the air cleaner can prevent the engine from starting.
- Do not direct water near the headlight:
- The headlights inside lens may fog temporarily after washing or while riding in the rain. This does not impact the headlight function.
- Any condensation inside the headlight should dissipate after a few minutes of running the engine with the headlight(s) on. However, if you see a large amount of water or ice accumulated inside the lens(es), have your vehicle inspected by your dealer.
- Do not use wax or polishing compounds on mat painted surface:
- Use a soft cloth or sponge, plenty of water, and a mild detergent to clean mat painted surfaces. Dry with a soft clean cloth.

**Aluminium Components**
Aluminium will corrode from contact with dirt, mud, or road salt. Clean aluminium parts regularly and follow these guidelines to avoid scratches:

- Do not use stiff brushes, steel wool, or cleaners containing abrasives.
- Avoid riding over or scraping against curbs.

**Panels**
Follow these guidelines to prevent scratches and blemishes:

- Wash gently using a soft sponge and plenty of water.
- To remove stubborn stains, use diluted detergent and rinse thoroughly with plenty of water.
- Avoid getting petrol, brake fluid, or detergents on the instruments, panels, or headlight.

**Exhaust Pipe and Muffler**
When the exhaust pipe and muffler are painted, do not use a commercially available abrasive kitchen cleaning compound. Use a neutral detergent to clean the painted surface on the exhaust pipe and muffler. If you are not sure if your exhaust pipe and muffler are painted, contact your dealer.

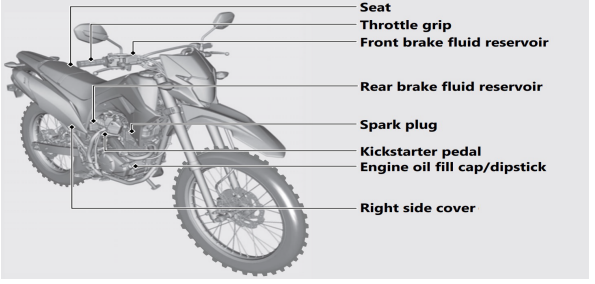
## Storing Your Motorcycle

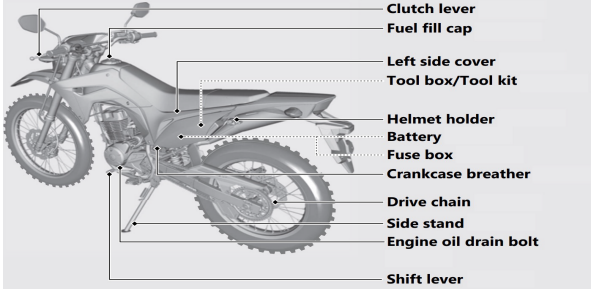
If you store your motorcycle outdoors, you should consider using a full-body motorcycle cover.
If you won't be riding for an extended period, follow these guidelines:

- Wash your motorcycle and wax all painted surfaces (except mat painted surfaces). Coat chrome pieces with rust-inhibiting oil.
- Lubricate the drive chain.
- Place your motorcycle on a maintenance stand and position a block so that both tyres are off the ground.
- After rain, remove the body cover and allow the motorcycle to dry.
- Remove the battery to prevent discharge. Fully charge the battery and then place it in a shaded, well-ventilated area.
- if you leave the battery in place, disconnect the negative - terminal to prevent discharge. After removing your motorcycle from storage, inspect all maintenance items required by the Maintenance Schedule.

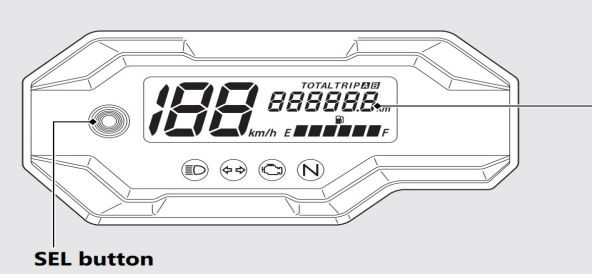
# OPERATION GUIDE

## Parts Location




## Instruments




### Display Check

When the ignition switch is turned to the (On) position, all the mode and digital segments will show. If any part of these displays does not come on when it should, have your dealer check for problems.

# OPERATION GUIDE




**Speedometer**

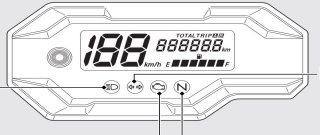
**Odometer [TOTAL] & Tripmeter[TRIP A/B]**
SEL button switches between the odometer and tripmeters.
- Odometer: Total distance ridden.
  When "- - - - - -" is displayed, go to your dealer for service.
- Tripmeter: Distance ridden since tripmeter was reset (press and hold SEL button to reset to 0.0 km at the tripmeter display).
  When "- - - - -" is displayed, go to your dealer for service.

**Fuel gauge**
Remaining fuel when only 1st (E) segment starts flashing:
approximately 1.6 L (0.42 US gal, 0.35 Imp gal)
**If the fuel gauge indicator flashes in a repeat pattern or turns off:**




## Indicators

If one of these indicators does not come on when it should, have your dealer check for problems.



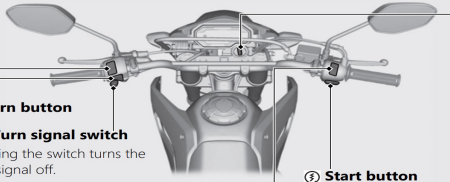

**High beam indicator**

**Turn signal indicator**

**Malfunction indicator lamp (MIL)**
Comes on briefly when the ignition switch is turned to the ▌(On) position.
**If it comes on while engine is running:**

**Neutral indicator**
Comes on when the transmission is in Neutral.

## Switches



**Horn button**

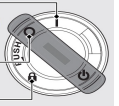
**Turn signal switch**
► Pressing the switch turns the turn signal off.

**Start button**

**Headlight dimmer switch/Passing light control switch**
- : High beam
- : Low beam
- **PASS** : Flashes the high beam headlight

**Engine stop switch**
Should normally remain in the ○ (run) position.
► In an emergency, switch to the ⊠ (Stop) position to stop the engine.

**Ignition switch**
Switches the electrical system on/off, locks the steering.
► Key can be removed when in the ○ (Off) or 🔒 (Lock) position.
**Steering Lock:** P.24



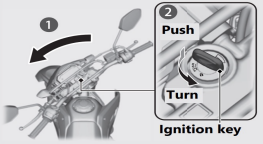

**▌(On)**
Turns electrical system on for starting/riding.

**○ (Off)**
Turns engine off.

**🔒 (Lock)**
Locks steering.

**Steering Lock**

Lock the steering when parking to help prevent theft.
A U-shaped wheel lock or similar device is also recommended.




**Locking**

1. Turn the handlebar all the way to the left.
2. Push the key down, and turn the ignition switch to the (Lock) position.
   - Jiggle the handlebar if the lock is difficult to engage.
3. Remove the ignition key.

**Unlocking**

Insert the key, and turn the ignition switch to the (Off) position.

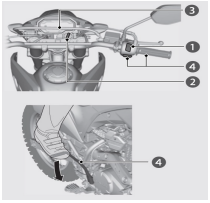
## Starting the Engine

Start your engine using the following procedure, regardless of whether the engine is cold or warm.

**NOTICE**

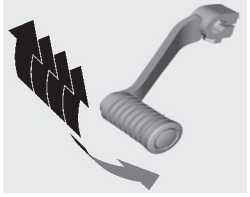
- If the engine does not start within 5 seconds, turn the ignition switch to the (Off) position and wait 10 seconds before trying to start the engine again to recover battery voltage.
- Extended fast idling and revving the engine can damage the engine, and the exhaust system.

1. Make sure the engine stop switch is in the (Run) position.
2. Turn the ignition switch to the (On) position.
3. Shift the transmission to Neutral ( N indicator to come on).
4. Using the start button Press the start button with the throttle completely closed.




## Shifting Gears

Your motorcycle transmission has 6 forward gears in a one-down, four-up shift pattern.



## Refuelling

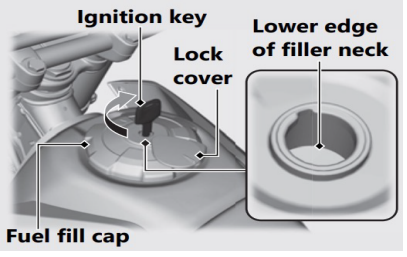
Do not fill with fuel above the lower edge of the filler neck. Fuel type: Unleaded petrol only Fuel octane number: Your motorcycle is designed to use Research Octane Number (RON 95) and above. Tank capacity: 8 Liter

**Refuelling and Fuel Guidelines**
Opening the Fuel Fill Cap
Open the lock cover, insert the ignition key, and turn it clockwise to open the fuel fill cap.
Closing the Fuel Fill Cap

①After refuelling, align the fuel cap latch with the slot in the filler neck. Push the fuel fill cap into the filler neck until it snaps closed and locks.

② Remove the ignition key and close the lock cover.

*The ignition key cannot be removed if the fuel fill cap is not locked.




**⚠ WARNING**
Petrol is highly flammable and explosive. You can be burned or seriously injured when handling fuel.

- Stop the engine, and keep heat, sparks, and flame away.
- Handle fuel only outdoors.
- Wipe up spills immediately.

## Storage Equipment

**Helmet Holder**
The helmet holder is located on the left side of the motorcycle.

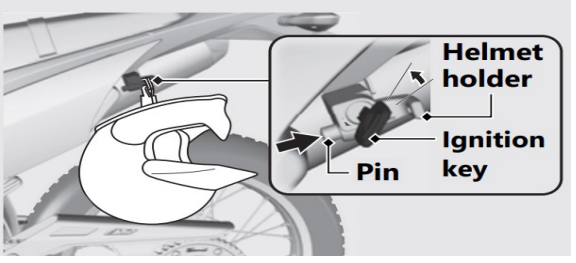
**Unlocking**
Insert the ignition key and turn it anti-clockwise.

**Locking**
① Hang your helmet on the holder pin and push it in to lock.
②Remove the ignition key.
*Use the helmet holder only when parked.

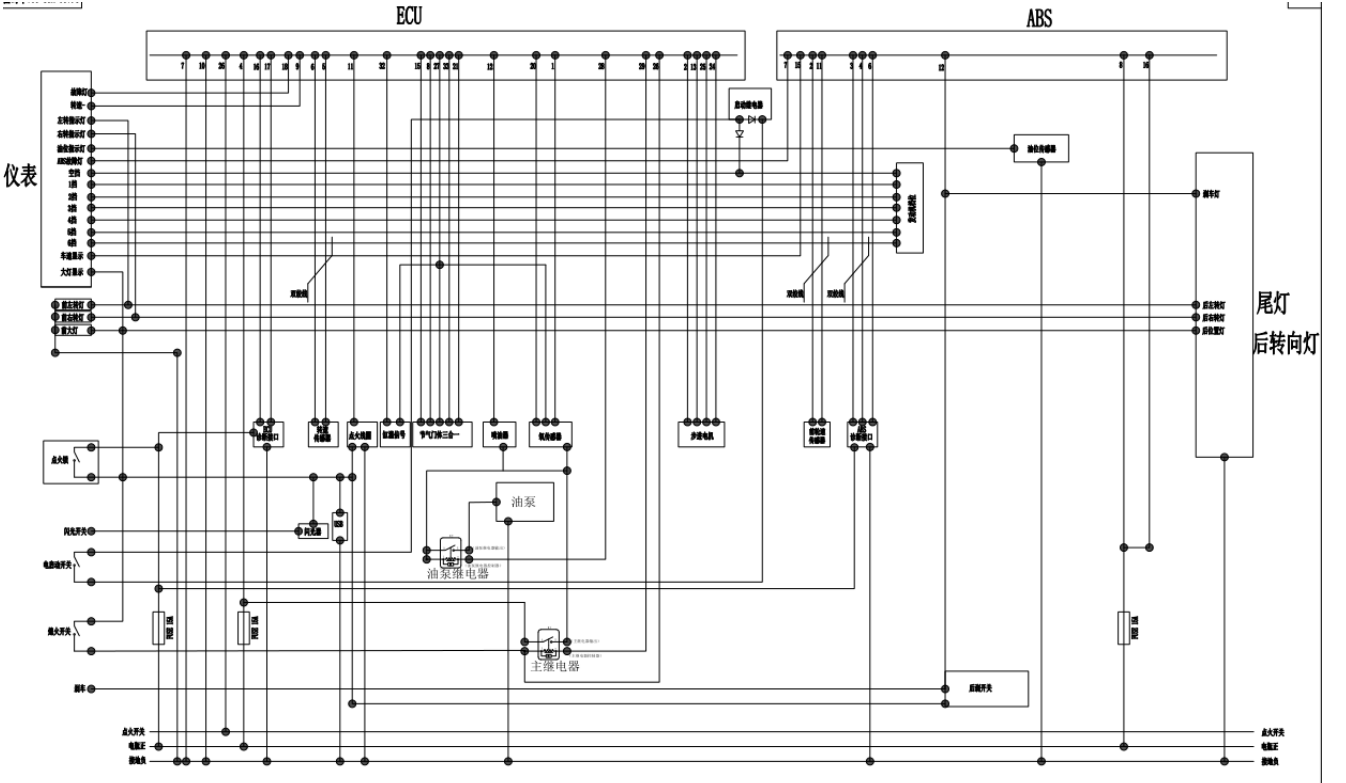
**⚠ WARNING**

Riding with a helmet attached to the holder can interfere with the rear wheel or suspension and could cause a crash in which you can be seriously hurt or killed.

Use the helmet holder only while parked. Do not ride with a helmet secured by the holder.



# OP250GY-4 Electrical Diagram



# MAINTENANCE

## Importance of Maintenance

Importance of Maintenance Maintenance
Keeping your motorcycle well-maintained is absolutely essential to your safety and to protect your investment, obtain maximum performance, avoid breakdowns, and reduce air pollution. Maintenance is the owner's responsibility. Be sure to inspect your motorcycle before each ride, and perform the periodic checks specified in the Maintenance Schedule.

**⚠ WARNING**

Improperly maintaining your motorcycle or failing to correct a problem before you ride can cause a crash in which you can be seriously hurt or killed. Always follow the inspection and maintenance recommendations and schedules in this owner's manual.

### Maintenance Safety

Always read the maintenance instructions before you begin each task, and make sure that you have the tools, parts, and skills required. We cannot warn you of every conceivable hazard that can arise in performing maintenance. Only you can decide whether or not you should perform a given task. Follow these guidelines when performing maintenance.

- Stop the engine and remove the key.
- Place your motorcycle on a firm, level surface using the side stand or a maintenance stand to provide support.
- Allow the engine, muffler, brakes, and other high-temperature parts to cool before servicing as you can get burned.
- Run the engine only when instructed, and do so in a well-ventilated area.

# MAINTENANCE

## Maintenance Schedule

The maintenance schedule specifies the maintenance requirements necessary to ensure safe, dependable performance, and proper emission control. Maintenance work should be performed in accordance with Orange Power's standards and specifications by properly trained and equipped technicians. Your dealer meets all of these requirements. Keep an accurate record of maintenance to help ensure that your motorcycle is properly maintained. Make sure that whomever performs the maintenance completes this record.

All scheduled maintenance is considered a normal owner operating cost and will be charged to you by your dealer. Retain all receipts. If you sell the motorcycle, these receipts should be transferred with the motorcycle to the new owner. Orange Power recommends that your dealer should road test your motorcycle after each periodic maintenance is carried out.

## Maintenance Schedule

| Items | | Pre-ride Check P. 36 | Frequency*1 × 1,000 km | 1 | 4 | 8 | 12 | 16 | 20 | 24 | Annual Check | Regular Replace |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | × 1,000 mi | 0.6 | 2.5 | 5 | 7.5 | 10 | 12.5 | 15 | | |
| Fuel Line | 🔧 | | | | I | I | I | I | I | I | I | |
| Fuel Level | | I | | | | | | | | | | |
| Throttle Operation | 🔧 | I | | | I | I | I | I | I | I | I | |
| Air Cleaner*2 | 🔧 | | | | | | | R | | | | |
| Crankcase Breather*3 | | | | | C | C | C | C | C | C | C | |
| Spark Plug | | | | | I | R | I | R | I | R | | |
| Valve Clearance | 🔧 | | | I | I | I | I | I | I | I | | |
| Engine Oil*4 | | I | | R | R | R | R | R | R | R | R | |
| Engine Oil Strainer Screen | 🔧 | | | | | | C | | | C | | |
| Engine Oil Centrifugal Filter | 🔧 | | | | | | C | | | C | | |
| Engine Idle Speed | 🔧 | | | I | I | I | I | I | I | I | I | |

**Maintenance Level**

🔧 : Intermediate. We recommend service by your dealer, unless you have the necessary tools and are mechanically skilled. Procedures are provided in an official Honda Shop Manual.

🔧 : Technical. In the interest of safety, have your motorcycle serviced by your dealer.

**Maintenance Legend**

I : Inspect (clean, adjust, lubricate, or replace, if necessary)
L : Lubricate
R : Replace
C : Clean

### Attention

- In desert area the air filter need to be clean every 2000km and replaced no more than 4000km.
- Engine oil must be semi synthetic 15W-40 or 15W-50 due to climate condition.
- Suspension system must be clean after each riding. Replace seal and bearing no more than 1 year or 10,000km.

## Importance of Maintenance

| Items | | Pre-ride Check ☑ P. 36 | Frequency*1 × 1,000 km | 1 | 4 | 8 | 12 | 16 | 20 | 24 | Annual Check | Regular Replace |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | × 1,000 mi | 0.6 | 2.5 | 5 | 7.5 | 10 | 12.5 | 15 | | |
| Drive Chain*4 | | I | Every 500 km (300 mi): I L | | | | | | | | | |
| Drive Chain Slider | | | | | I | I | I | I | I | I | | |
| Brake Fluid*5 | | I | | | I | I | I | I | I | I | I | 2 Years |
| Brake Pads Wear | | I | | | I | I | I | I | I | I | I | |
| Brake System | | | | I | I | I | I | I | I | I | I | |
| Brakelight Switch | | | | | I | I | I | I | I | I | I | |
| Headlight Aim | | | | | I | I | I | I | I | I | I | |
| Lights/Horn | | I | | | | | | | | | | |
| Engine Stop Switch | | I | | | | | | | | | | |
| Clutch System | | I | | I | I | I | I | I | I | I | I | |
| Side Stand | | | | | I | I | I | I | I | I | I | |
| Suspension | 🔧 | | | | I | I | I | I | I | I | I | |
| Nuts, Bolts, Fasteners*4 | 🔧 | | | I | | I | | I | | I | I | |
| Wheels/Tyres*4 | 🔧 | I | | I | I | I | I | I | I | I | I | |
| Steering Head Bearings | 🔧 | | | I | | | I | | | I | I | |

**Notes:**

**1.** At higher odometer reading, repeat at the frequency interval established here.
**2.** Service more frequently when riding in unusually wet or dusty areas.
**3.** Service more frequently when riding in rain or at full throttle.
**4.** Service more frequently when riding OFF-ROAD.
**5.** Replacement requires mechanical skill.

## Maintenance Fundamentals

### Pre-ride Inspection

To ensure safety, it is your responsibility to perform a pre-ride inspection and make sure that any problem you find is corrected. A pre-ride inspection is a must, not only for safety, but because having a breakdown, or even a flat tyre, can be a major inconvenience. Check the following items before you get on your motorcycle:

- Fuel level - Fill fuel tank when necessary.
- Throttle - Check for smooth opening and full closing in all steering positions.
- Engine oil level - Add engine oil if necessary. Check for leaks.
- Drive chain - Check condition and slack, adjust and lubricate if necessary.
- Brakes - Check operation; Front and Rear: check brake fluid level and pads wear.
- Lights and horn - Check that lights, indicators and horn function properly.
- Engine stop switch - Check for proper function.
- Clutch - Check operation : Adjust freeplay if necessary.

# MAINTENANCE

- Wheels and tyres - Check condition, air pressure and adjust if necessary. Before riding off-road check all of the preceding plus the following:
- Make sure spokes are tight. Check the rims for any damage or runout.
- Be sure the fuel fill cap is securely fastened. Check for loose cables and other parts, and anything that appears abnormal.
- Use a wrench to check the tightness of all accessible nuts, bolts and fasteners.

**Replacing Parts**
Always use Aveta Genuine Parts or their equivalents to ensure reliability and safety.

**⚠ WARNING**
Installing non Aveta parts may make your motorcycle unsafe and cause a crash in which you can be seriously hurt or killed.
Always use Aveta Genuine Parts or equivalents that have been designed and approved for your motorcycle.

**Battery**
Your motorcycle has a maintenance-free type battery. You do not have to check the battery electrolyte level or add distilled water. Clean the battery terminals if they become dirty or corroded. Do not remove the battery cap seals. There is no need to remove the cap when charging.

**NOTICE**
Your battery is a maintenance-free type and can be permanently damaged if the cap strip is removed..



This symbol on the battery means that this product must not be treated as household waste.

**NOTICE**
An improperly disposed of battery can be harmful to the environment and human health. Always confirm local regulations for proper battery disposal instruction.

**What to do in an emergency**
If any of the following occur, immediately see your doctor.

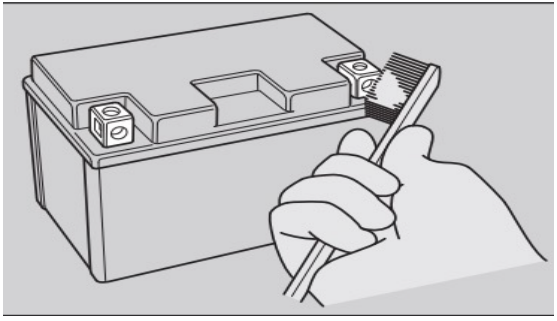
- Electrolyte splashes into your eyes:
- Wash your eyes repeatedly with cool water for at least 15 minutes. Using water under pressure can damage your eyes.
- Electrolyte splashes onto your skin:
- Remove affected clothing and wash your skin thoroughly using water.
- Electrolyte splashes into your mouth:
- Rinse mouth thoroughly with water, and do not swallow.

**⚠ WARNING**

The battery gives off explosive hydrogen gas during normal operation. A spark or flame can cause the battery to explode with enough force to kill or seriously hurt you. Wear protective clothing and a face shield, or have a skilled mechanic do the battery servicing.

## Cleaning the Battery Terminals

**1.** Remove the battery.
**2.** If the terminals are starting to corrode and are coated with a white substance, wash with warm water and wipe clean.
**3.** If the terminals are heavily corroded, clean and polish the terminals with a wire brush or sandpaper. Wear safety glasses.
**4**. After cleaning, reinstall the battery.
The battery has a limited life span. Consult your dealer about when you should replace the battery. Always replace the battery with another maintenance-free battery of the same type

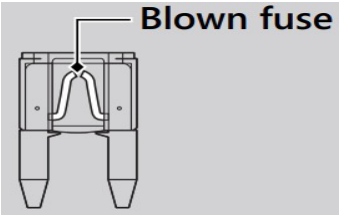


**Fuse**
Fuses protect the electrical circuits on your motorcycle. If something electrical on your motorcycle stops working, check for and replace any blown fuses.

**Inspecting and Replacing Fuses**

Turn the ignition switch to the (Off) position to remove and inspect fuses. If a fuse is blown, replace with a fuse of the same rating. For fuse ratings, see "Specifications."

**NOTICE**
Replacing a fuse with one that has a higher rating greatly increases the chance of damage to the electrical system. If a fuse fails repeatedly, you likely have an electrical fault. Have your motorcycle inspected by your dealer.




**Engine Oil**
Engine oil consumption varies and oil quality deteriorates according to riding conditions and time elapsed. Check the engine oil level regularly, and add the recommended engine oil if necessary. Dirty oil or old oil should be changed as soon as possible.

- Selecting the Engine Oil
  For recommended engine oil, see "Specifications." check the label to make sure that the oil satisfies all of the following standards:
- JASO T 903 standard∗1: MA
- SAE standard∗2: recommended 15w-40 or 15w-50
- API classification∗3: SG or higher
- Semi Synthetic

**Brake Fluid**
Do not add or replace brake fluid, except in an emergency. Use only fresh brake fluid from a sealed container. If you do add fluid, have the brake system serviced by your dealer as soon as possible.

**NOTICE**
Brake fluid can damage plastic and painted surfaces. Wipe up spills immediately and wash thoroughly.

Recommended brake fluid: DOT 4 Brake Fluid or above.

**Drive Chain**
The drive chain must be inspected and lubricated regularly. Inspect the chain more frequently if you often ride on bad roads, ride at high speed, or ride with repeated fast acceleration. If the chain does not move smoothly, makes strange noises, has damaged rollers, has loose pins, or kinks, have the chain inspected by your dealer.

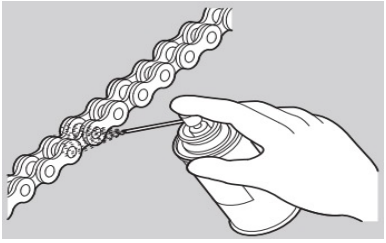
Also inspect the drive sprocket and driven sprocket. If either has worn or damaged teeth, have the sprocket replaced by your dealer.




**NOTICE**
Use of a new chain with worn sprockets will cause rapid chain wear.

**Cleaning and Lubricating**
After inspecting the slack, clean the chain and sprockets while rotating the rear wheel. Use a dry cloth with high flash-point solvent. Use a soft brush if the chain is dirty. After cleaning, wipe dry and lubricate with the recommended lubricant.

Recommended lubricant: Drive chain lubricant If not available, use SAE 80 or 90 gear oil.

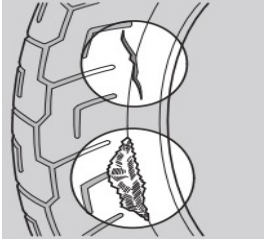


Never use petrol or low flash point solvents for cleaning the drive chain. A fire or explosion could result. Avoid getting lubricant on the brakes or tyres. Avoid applying excess chain lubricant to prevent spray onto your clothes and the motorcycle.

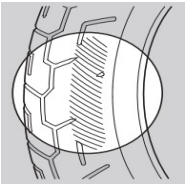
**Crankcase Breather**
Service more frequently when riding in rain, at full throttle, or after the motorcycle is washed or overturned. Service if the deposit level can be seen in the transparent section of the drain tube. If the drain tube overflows, the air filter may become contaminated with engine oil causing poor engine performance.

**Tyres (Inspecting/Replacing)**
**Checking the Air Pressure**
Visually inspect your tyres and use an air pressure gauge to measure the air pressure before each off-road ride and whenever you return to pavement after riding off-road. If you only ride on pavement, check the pressure at least once a month or any time you think the tyres look low. Always check air pressure when your tyres are cold. If you decide to adjust the tyre pressure for a particular off-road riding condition, make changes a little at a time.

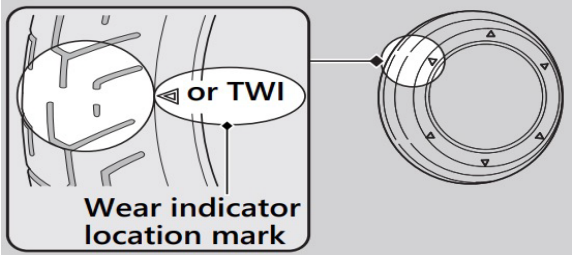
**Inspecting for Damage**
Inspect the tyres for cuts, slits, or cracks that exposes fabric or cords, or nails or other foreign objects embedded in the side of the tyre or the tread. Also inspect for any unusual bumps or bulges in the side walls of the tyres.



**Inspecting for Abnormal Wear**
Inspect the tyres for signs of abnormal wear on the contact surface.



**Inspecting Tread Depth**
Inspect the tread wear indicators. If they become visible, replace the tyres immediately. For safe riding, you should replace the tyres when the minimum tread depth is reached.




**Inspecting Rims and Valve Stems**
Inspect the rims for damage and loose spokes. Also inspect the valve stems for their positions. A tilted valve stem indicates the tube is slipping inside the tyre or the tyre is slipping on the rim. See your dealer.

**⚠ WARNING**
Riding on tyres that are excessively worn or improperly inflated can cause a crash in which you can be seriously hurt or killed. Follow all instructions in this owner's manual regarding tyre inflation and maintenance.

Have your tyres replaced by your dealer. For recommended tyres, air pressure and minimum tread depth, see “Specifications.”
Follow these guidelines whenever you replace tyres.

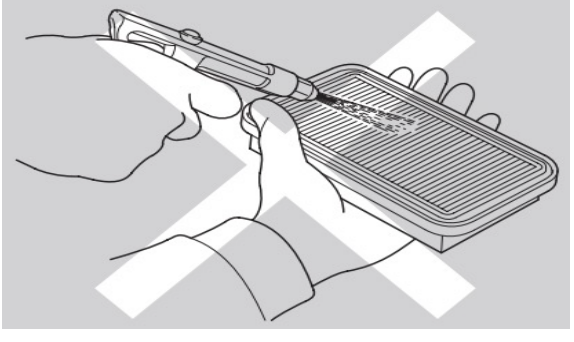
- Use the recommended tyres or equivalents of the same size, construction, speed rating, and load range.
- Remember to replace the inner tube whenever you replace a tyre. The old tube will probably be stretched, and it could fail if installed in a new tyre.

**⚠ WARNING**

Installing improper tyres on your motorcycle can adversely affect handling and stability, and can cause a crash in which you can be seriously hurt or killed. Always use the size and type of tyres recommended in this owner's manual.

**Air Cleaner**

This motorcycle is equipped with a viscous type air cleaner element. Air blow cleaning or any other cleaning can degrade the viscous element performance and cause the intake of dust. Do not perform the maintenance. Should be serviced by your dealer. The filter element can only be replaced.



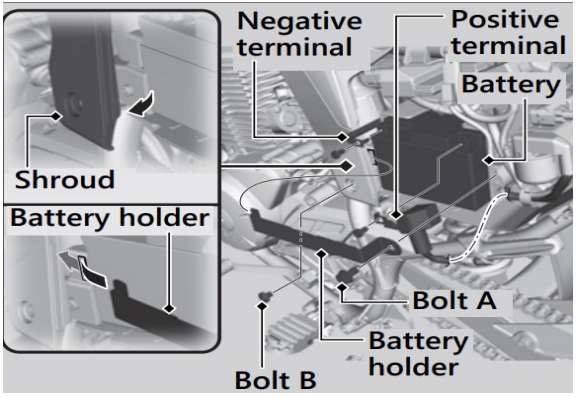
## Battery

**Removal**
Make sure the ignition switch is in the (Off) position.

**1.** Remove the left side cover.
**2.** Remove the bolt A.
**3.** Remove the bolt B.
**4.** Remove the battery holder while pulling the shroud to the outside.
**5.** Disconnect the negative - terminal from the battery.
**6.** Disconnect the positive + terminal from the battery.
**7**. Remove the battery taking care not to drop the terminal nuts.

**Installation**
Install the parts in the reverse order of removal. Always connect the positive + terminal first. Make sure that bolts and nuts are tight.

For proper handling of the battery, see “Maintenance Fundamentals.” “Battery Goes Dead.”



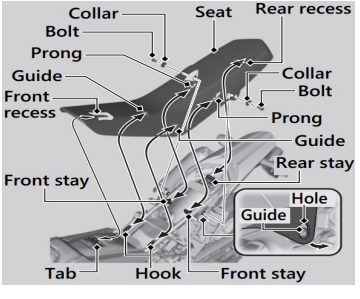
# REMOVING & INSTALLING BODY COMPONENTS

## Removal

**1.** Remove both side covers. Rear recess Collar Seat
**2.** Remove the bolts and collars. Bolt
**3.** Release the hole of seat stay from the Prong guide on both sides
**4.** Pull the seat back and up.

**Installation recess Prong**

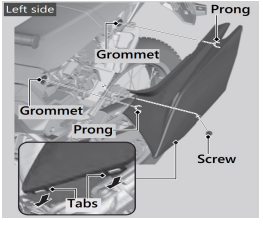
**1.** Align the front recess with the tab and Guide align the hooks with the guides and insert the prongs into the front stays and rear Front stay recess to the rear stay.
**2.** Install the collars onto the bolts.
**3.** Tighten the bolts securely.

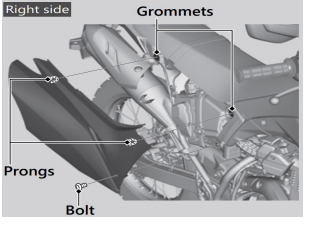



## Side Cover

**Removal**
Left side
**1.** Remove the screw.
**2.**Release the tabs from the prongs on the battery box.
**3.** Remove the prongs from the grommets.

**Installation**
Install the parts in the reverse order of removal.
Right side
**1.** Remove the bolt.
**2.** Remove the prongs from the grommets.



## Spark Plug

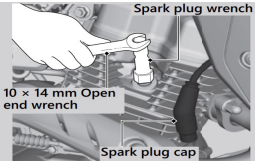
**Checking Spark Plug**
For the recommended spark plug, see "Specifications."
Use only the recommended type of spark plug in the recommended heat range.

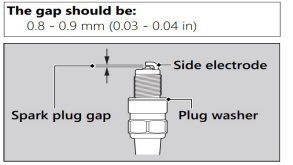
**NOTICE**
Using a spark plug with an improper heat range can cause engine damage.

**1.** Disconnect the spark plug cap from the spark plug.
**2.**Cleananydirtfromaroundthesparkplug base. 3. Remove the spark plug using provided spark plug wrench.
∗Use the open end wrench provided in the tool kit to remove the spark plug.
**4.** Inspect the electrodes and centre porcelain for deposits, erosion or carbon fouling.
∗If the erosion or deposit is heavy, replace the plug.
∗Clean a carbon or wet-fouled plug with a plug cleaner, otherwise use a wire brush.

**5.** Check the spark plug gap using a wire type feeler gauge.
∗If adjustment is necessary, bend the side electrode carefully.
**6**.Makesuretheplugwasherisingood condition. 7. Install the spark plug. With the plug washer attached, thread the spark plug in by hand to prevent cross-threading.
**8.** Tighten the spark plug: ∗If the old plug is good: 1/8 turn after it seats.
∗If installing a new plug, tighten it twice to prevent loosening:

**a**) First, tighten the plug:
NGK: 1/2 turn after it seats.
DENSO: 3/4 turn after it seats.
**b**) Then loosen the plug.
**c**) Next, tighten the plug again:



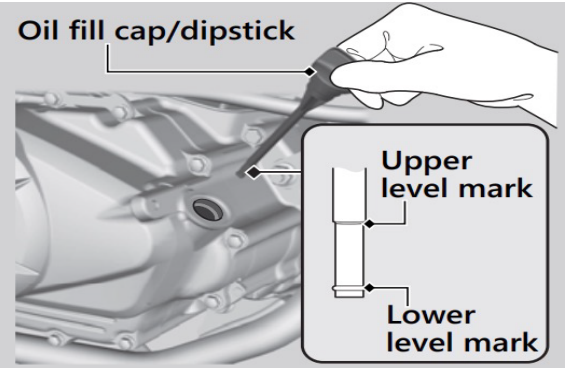
1/8 turn after it seats.

**NOTICE**
An improperly tightened spark plug can damage the engine. If a plug is too loose, a piston may be damaged. If a plug is too tight, the threads may be damaged.

**9.** Install the parts in the reverse order of removal.
*When reinstalling the spark plug cap, take care to avoid pinching any cables

## Engine Oil

**Checking the Engine Oil**
**1.** If the engine is cold, idle the engine for 5 to 10 minutes. To let engine warm.
**2.** Turn the ignition switch to the (Off) position and wait for 2 to 3 minutes.
**3.** Place your motorcycle in an upright position on a firm, level surface.
**4.** Remove the oil fill cap/dipstick and wipe it clean.
**5.** Insert the oil fill cap/dipstick until it seats, but don't screw it in.
**6.** Check that the oil level is between the upper level and lower level marks on the oil fill cap/dipstick.
**7.** Securely install the oil fill cap/dipstick.




**Adding Engine Oil**
If the engine oil is below or near the lower level mark, add the recommended engine oil.

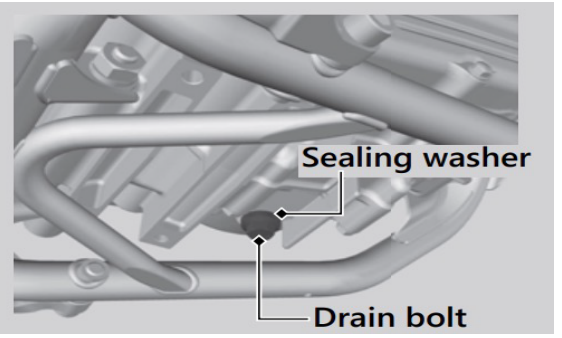
**1.** Remove the oil fill cap/dipstick. Add the recommended oil until it reaches the upper level mark.
- Place your motorcycle in an upright position on a firm, level surface when checking the oil level.
- Do not overfill above the upper level mark.
- Make sure no foreign objects enter the oil filler opening.

**NOTICE**
Overfilling with oil or operating with insufficient oil can cause damage to your engine. Do not mix different brands and grades of oil. They may affect lubrication and clutch operation. For the recommended oil and oil selection guidelines, see "Maintenance Fundamentals."

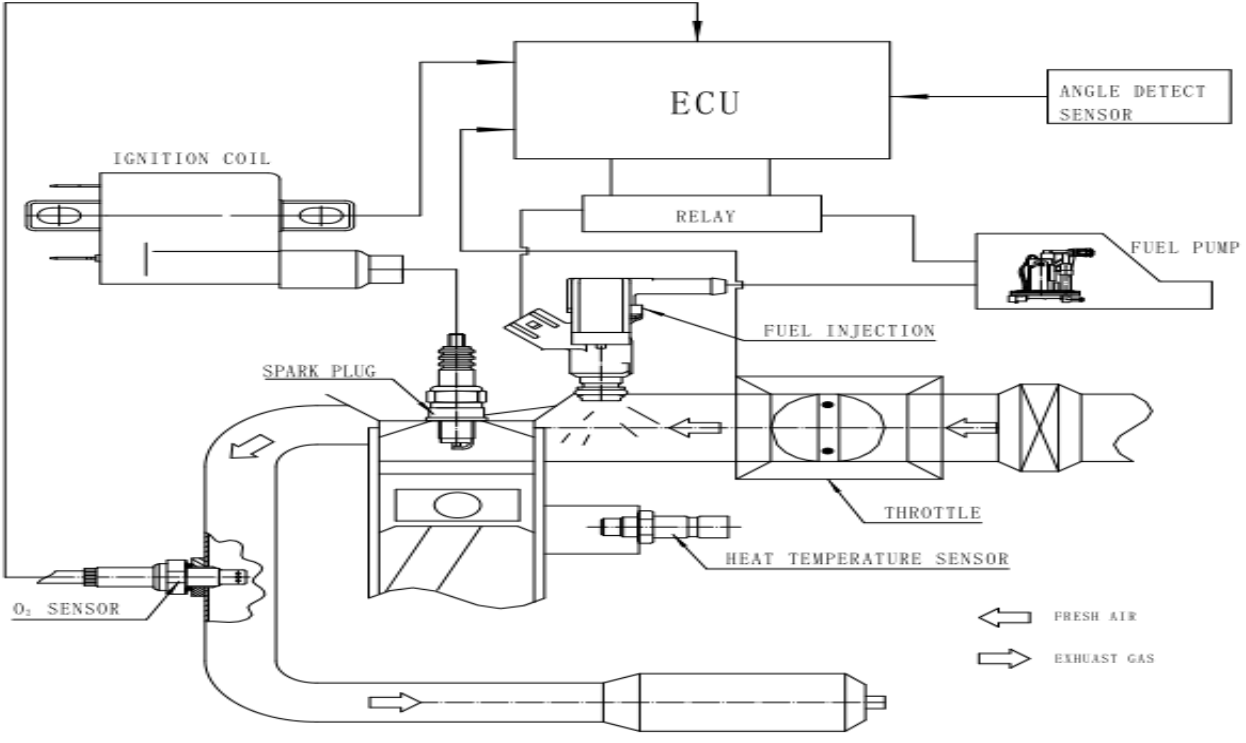
**Changing Engine Oil**
Changing the oil requires special tools. We recommend that you have your motorcycle serviced by your dealer.

**1.** If the engine is cold, idle the engine for 5 to 10 minutes.
**2.** Turn the ignition switch to the (Off) position and wait for 2 to 3 minutes.
**3.** Place your motorcycle on a firm, level surface. 4. Place a drain pan under the drain bolt.
**5.** Remove the oil fill cap/dipstick, drain bolt and sealing washer to drain the oil.
∗Discard the oil at an approved recycling centre. 6. Install a new sealing washer onto the drain bolt. Tighten the drain bolt.

Torque: 30 N·m (3.1 kgf·m, 22 lbf·ft)
**7.** Fill the crankcase with the recommended oil and install the oil fill cap/dipstick. Required oil.
When changing oil:
**1**.1 L (reassemble engine 1.2L)
**8**. Check the oil level.
**9**. Check that there are no oil leaks.



# OP250GY-4 EFI Diagram

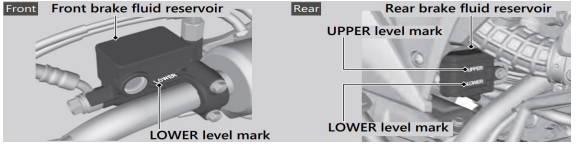


## Brakes

### Checking Brake Fluid

**1.** Place your motorcycle in an upright position on a firm, level surface.
**2.** Front Check that the brake fluid reservoir is horizontal and that the fluid level is above the LOWER level mark. Rear Check that the brake fluid reservoir is horizontal and that the fluid level is between the LOWER level and UPPER level marks.

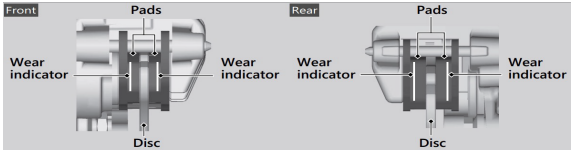
If the brake fluid level in either reservoir is below the LOWER level mark or the brake lever and pedal freeplay becomes excessive, inspect the brake pads for wear. If the brake pads are not worn, you most likely have a leak. Have your motorcycle inspected by your dealer.




### Inspecting the Brake Pads

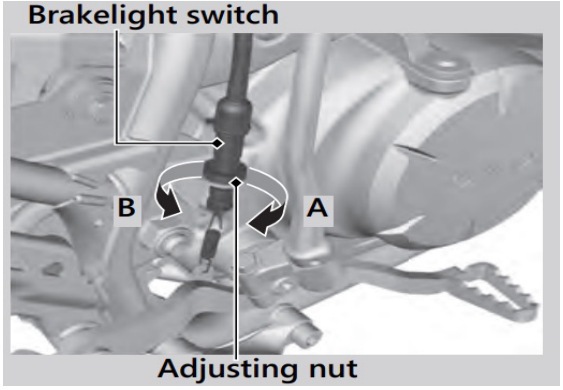
Check the condition of the brake pad wear indicators. The pads need to be replaced if a brake pad is worn to the indicator. Or see uneven wearing, one side is thicker and the other side is thinner.

**1.** Front Inspect the brake pads from below the brake caliper.
**2.** Rear Inspect the brake pads from the rear right of the motorcycle.
If necessary have the pads replaced by your dealer. Always replace both left and right brake pads at the same time.



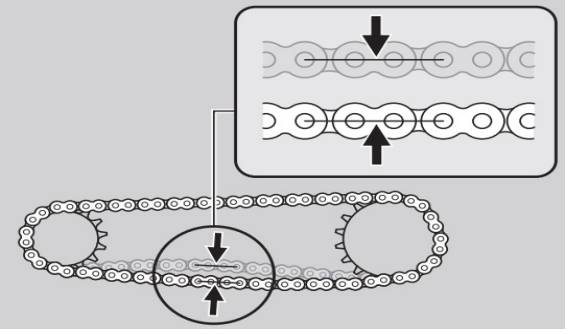
**Adjusting the Brakelight Switch**
Check the operation of the brakelight switch. Hold the brakelight switch and turn the adjusting nut in the direction A if the switch operates too late, or turn the nut in the direction B if the switch operates too soon.

**Brakelight switch**




## Drive Chain

**Inspecting the Drive Chain Slack**
Check the drive chain slack at several points along the chain. If the slack is not constant at all points, some links may be kinked and binding. Have the chain inspected by your dealer.
**1.** Shift the transmission to Neutral. Stop the engine.
**2.** Place your motorcycle on its side stand on a firm, level surface.
**3.** Check the slack in the lower half of the drive chain midway between the sprockets.



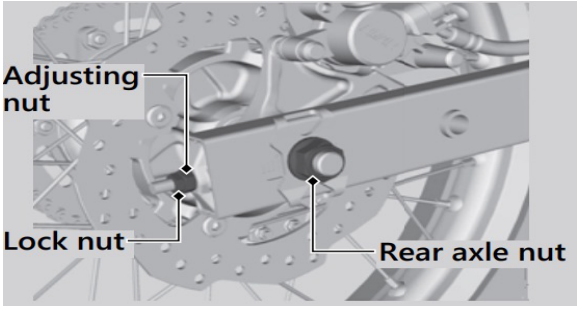
**4.** Roll the motorcycle forward and check that the chain moves smoothly.
**5.** Inspect the sprockets.
**6.** Clean and lubricate the drive chain.
Drive chain slack:
20 - 30 mm (0.8 - 1.2 in)

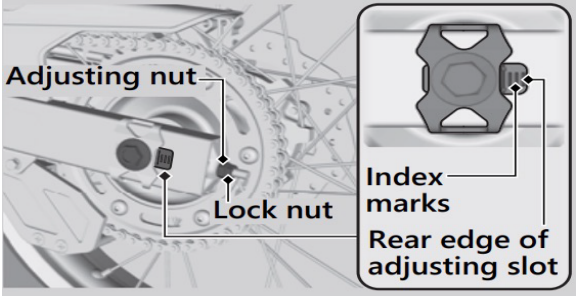
**⚠ WARNING**

Do not ride your motorcycle if the slack exceeds 50 mm (2.0 in).

**Adjusting the Drive Chain Slack**

Adjusting the chain requires special tools. Have the drive chain slack adjusted by your dealer.
**1.** Shift the transmission to Neutral. Stop the engine.
**2.** Place your motorcycle on its side stand on a firm, level surface.
**3.** Loosen the rear axle nut.
**4.** Loosen the lock nuts on both sides of the swingarm.
**5.** Turn both adjusting nuts an equal number of turns until the correct drive chain slack is obtained. Turn the adjusting nuts clockwise to tighten the chain. Turn the adjusting nuts counterclockwise to provide more slack. Adjust the slack at a point midway between the drive sprocket and the driven sprocket. Check the drive chain slack.

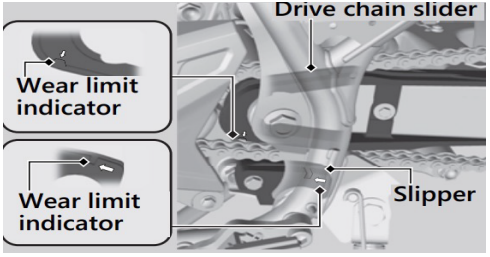


**Checking the Drive Chain Wear**
If the drive chain slack is excessive when the rear axle is moved to the furthest limit of adjustment, the drive chain is worn and must be replaced.

If necessary have the drive chain replaced by your dealer.
Checking the Drive Chain
Slider/Slipper

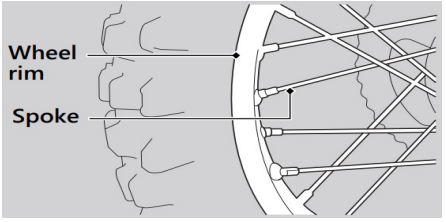
**Check the condition of the drive chain slider and slipper.**
The drive chain slider and slipper will need to be replaced if the chain slider and slipper are worn to the wear limit indicator. If necessary have the drive chain slider and slipper replaced by your dealer.




## Wheels

**Wheels Rims & Spokes**
Keeping the wheels true (round) and maintaining correct spoke tension is critical to safe motorcycle operation. Excessively loose spokes may result in instability at high speeds and possible loss of control. It is not necessary to remove the wheels to perform the recommended service in the Maintenance Schedule. However, information for wheel removal is provided for emergency situations.

**1.** Inspect the wheel rims and spokes for damage.
**2.** Tighten any loose spokes
**3.** Rotate the wheel slowly to see if it appears to "wobble." If it does, the rim is out of round or not "true." If the wobble is noticeable, see your dealer for inspection. Wheel rim Spoke.

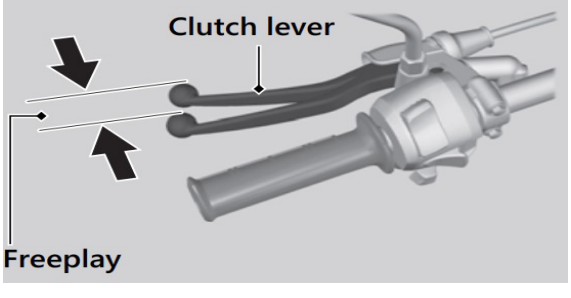


## Clutch

### Checking the Clutch

Checking the Clutch Lever Freeplay
Check the clutch lever freeplay. Freeplay at the clutch lever:
10 - 20 mm (0.4 - 0.8 in)
Check the clutch cable for kinks or signs of wear. If necessary have it replaced by your dealer.
Lubricate the clutch cable with a commercially available cable lubricant to prevent premature wear and corrosion.

**NOTICE**
Improper freeplay adjustment can cause premature clutch wear.

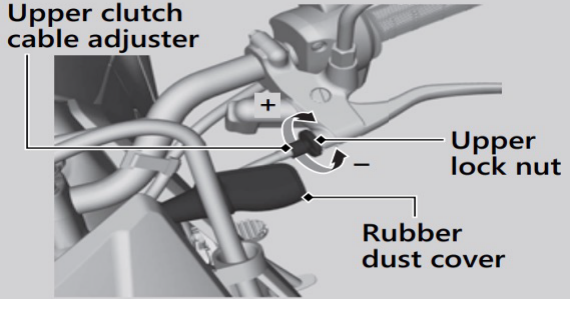



### Adjusting the Clutch Lever Freeplay

#### Upper Adjustment

Attempt adjustment with the upper clutch cable adjuster first.

**1.** Pull back the rubber dust cover.
**2.** Loosen the upper lock nut.
**3.** Turn the upper clutch cable adjuster until the freeplay is 10 - 20 mm (0.4 - 0.8 in).
**4.** Tighten the upper lock nut and check the freeplay again.
**5.** Install the rubber dust cover.



**Lower Adjustment**
If the upper clutch cable adjuster is threaded out near its limit, or the correct freeplay cannot be obtained, attempt adjustment with the lower clutch cable adjusting nut.

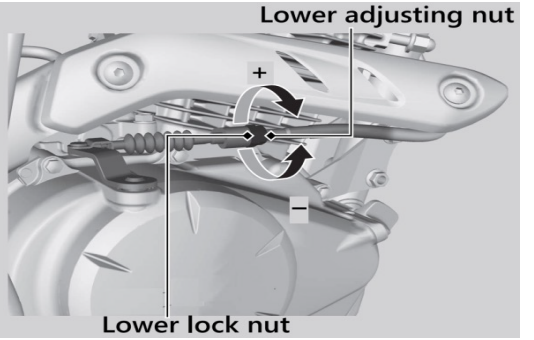
**1.** Pull back the rubber dust cover. Loosen the upper lock nut and turn the upper clutch cable adjuster all the way in (to provide maximum freeplay). Tighten the upper lock nut.

**2.** Loosen the lower lock nut.

**3**. Turn the lower adjusting nut until the clutch lever freeplay is 10 - 20 mm (0.4 - 0.8 in).

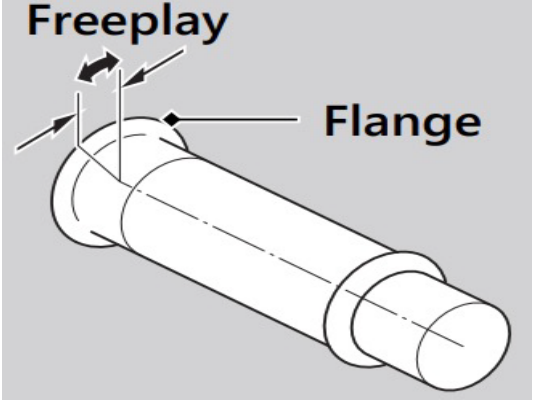
**4.** Tighten the lower lock nut and check the clutch lever freeplay.

5. Start the engine, pull the clutch lever in, and shift into gear. Make sure the engine does not stall and the motorcycle does not creep. Gradually release the clutch If proper adjustment cannot be obtained or the clutch does not work correctly, see your dealer



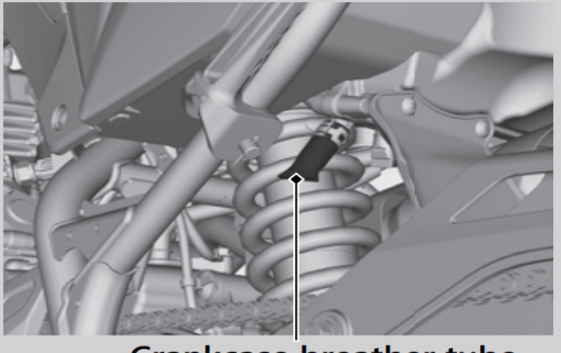
## Throttle

**Checking the Throttle**
With the engine off, check that the throttle rotates smoothly from fully closed to fully open in all steering positions and throttle freeplay is correct. If the throttle does not move smoothly, close automatically, or if the cable is damaged, have the motorcycle inspected by your dealer.
Freeplay at the throttle grip flange:
2 - 6 mm (0.1 - 0.2 in)

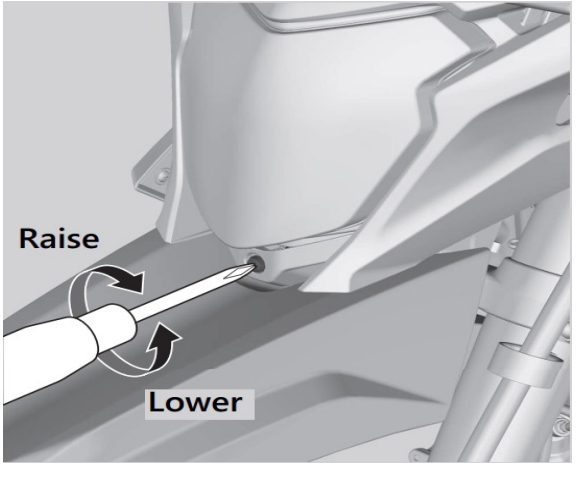



## Crankcase Breather

**Cleaning the Crankcase Breather**
**1.** Place a suitable container under the crankcase breather tube.
**2.** Remove the crankcase breather tube and drain deposits.
**3.** Reinstall the crankcase breather tube.



**Adjusting the Headlight Aim**
You can adjust vertical aim of the headlight for proper alignment. Turn the pinion using a Phillips screwdriver provided in the tool kit in or out as necessary. Obey local laws and regulations.



# TROUBLESHOOTING

## Engine Will Not Start

Check the following items:

- Make sure engine stop switch is in the (Run) position.
- Check the correct engine starting sequence. Check
- that there is petrol in the fuel tank. Check if the
- Malfunction indicator lamp (MIL) is on.
  If the indicator lamp is on, contact your dealer as
- soon as possible.

## Starter Motor Does Not Operate

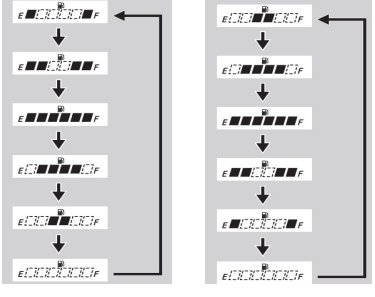
Check the following items:

- Check the correct engine starting sequence. Check
- for a blown fuse.
  Check for a loose battery connection or battery terminal corrosion.
- Check the condition of the battery.

If the problem continues, have your motorcycle inspected by your dealer.

**Malfunction Indicator Lamp (MIL)**
If the indicator comes on while riding, you may have a serious problem with the fuel injection system. Reduce speed and have your motorcycle inspected by your dealer as soon as possible.

**Fuel Gauge Failure Indication**
If the fuel system has an error, the fuel gauge indicators will be displayed as shown in the illustration.
If this occurs, see your dealer as soon as possible.



## Tyre Puncture

Repairing a puncture or removing a wheel requires special tools and technical expertise. We recommend you have this type of service performed by your dealer. After an emergency repair, always have the tyre inspected/replaced by your dealer.

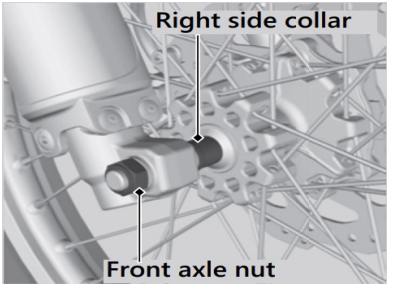
**Tube Repair and Replacement**
If a tube is punctured or damaged, you should replace it as soon as possible. A tube that is repaired may not have the same reliability as a new one, and it may fail while you are riding. If you need to make a temporary repair by patching a tube or using an aerosol sealant, ride cautiously at reduced speed and have the tube replaced before you ride again. Anytime a tube is replaced, the tyre should be carefully inspected as described.

**⚠ WARNING**

Riding your motorcycle with a temporary tyre or tube repair can be risky. If the temporary repair fails, you can crash and be seriously injured or killed. If you must ride with a temporary tyre or tube repair, ride slowly and carefully and do not exceed 50 km/h (30 mph) until the tyre or tube is replaced.

**Removing Wheels**
Follow these procedures if you need to remove a wheel in order to repair a puncture.

**Front Wheel**
**Removal**
**1.** Place your motorcycle on a firm, level surface.
**2.** Remove the front axle nut.
**3.** Support your motorcycle securely and raise the front wheel off the ground using a maintenance stand or a hoist.
**4.** Remove the front axle shaft, right and left side collars and wheel.
*Avoid getting grease, oil, or dirt on the disc or pad surfaces.
*Do not pull the brake lever while the

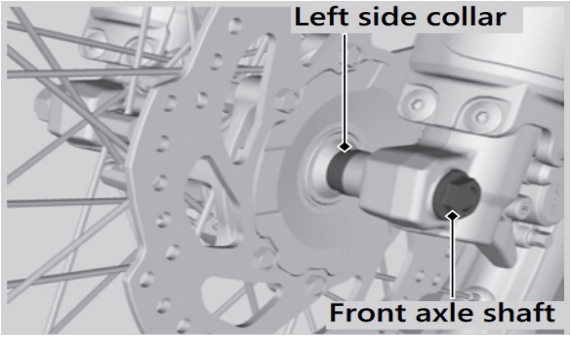


**Installation**

**1.** Attach the right and left side collars in their original locations on the wheel.

**2.** On the left side, place the wheel between the fork legs and insert the front axle shaft, through the left fork leg and wheel hub.

⋆Avoid scratching the brake pads, carefully fit the brake disc between the pads.




**NOTICE**

When installing a wheel or caliper into original position, carefully fit the brake disc between the pads to avoid scratching them.

**3. I**nstall and tighten the front axle nut.
Torque: 69 N·m (7.0 kgf·m, 51 lbf·ft)

**4.** After installing the wheel, apply the brake lever several times and then check if the wheel rotates freely. Recheck the wheel if the brake drags or if the wheel does not rotate freely.

If a torque wrench was not used for installation, see your dealer as soon as possible to verify proper assembly. Improper assembly may lead to loss of braking capacity.

**Rear Wheel**

**Removal**

**1.** Place your motorcycle on a firm, level surface.
**2.** Support your motorcycle securely and raise the rear wheel off the ground using a maintenance stand or a hoist.
**3.** Loosen the rear axle nut and lock nuts, and turn the adjusting nuts so the rear wheel can be moved all the way forward for maximum drive chain slack.
**4.** Remove the rear axle nut and axle washer.
**5.** Remove the drive chain from the driven sprocket by pushing the rear wheel forward.
**6.** Remove the rear axle shaft and axle washer.
**7.** Remove the brake caliper bracket, rear wheel and right and left side collars.

- Support the brake caliper assembly so that it doesn't hang from the brake hose. Do not twist the brake hose.
- Avoid getting grease, oil, or dirt on the disc or pad surfaces.
- Do not push the brake pedal while the rear wheel is removed.

**Installation**

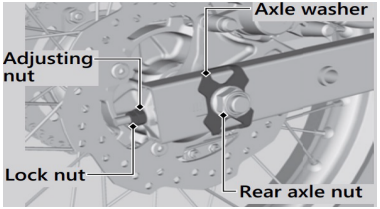
**1.** To install the rear wheel, reverse the removal procedure.
⋆Take care to prevent the brake caliper from scratching the wheel during installation.

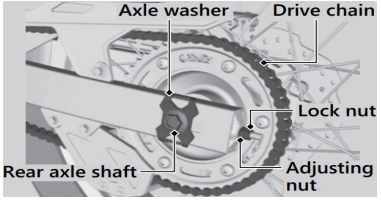
**NOTICE**

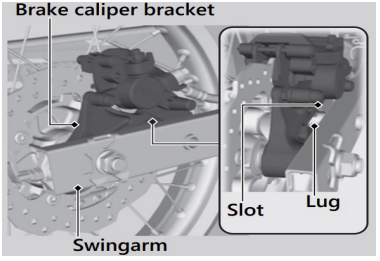
When installing a wheel or caliper into original position, carefully fit the brake disc between the pads to avoid scratching them.

**2.** Make sure that the slot on the brake caliper bracket is positioned in the lug on the swingarm.
**3.** Adjust the drive chain slack.
**4.** Install and tighten the rear axle nut.
Torque: 93 N·m (9.5 kgf·m, 69 lbf·ft)
**5.** After installing the wheel, apply the brake pedal several times, then check if the wheel rotates freely. Recheck the wheel if the brake drags or if the wheel does not rotate freely.

If a torque wrench was not used for installation, see your dealer as soon as possible to verify proper assembly. Improper assembly may lead to loss of braking capacity.




**Electrical Trouble**

**Battery Goes Dead**

Charge the battery using a motorcycle battery charger. Remove the battery from the motorcycle before charging. Do not use an automobile-type battery charger, as these can overheat a motorcycle battery and cause permanent damage. If the battery does not recover after recharging, contact your dealer.

**NOTICE**

Jump starting using an automobile battery can damage your motorcycle's electrical system and is not recommended.

**Burned-out Light Bulb**

Follow the procedure below to replace a burned-out light bulb. Turn the ignition switch to the (Off) or(Lock) position. Allow the bulb to cool before replacing it. Do not use bulbs other than those specified.

Check the replacement bulb for correct operation before riding. For the light bulb wattage, see “Specifications.” . Do not touch the glass surface with your fingers. If you touch the bulb with your bare hands, clean it with a cloth moistened with alcohol.

**Headlight Bulb**

**1.** IN type only Remove the number plate bracket and brake hose guide by removing the bolts A.

**2.** Remove the bolts B.

**3.** Remove the headlight assembly, then remove the prongs from the slots.

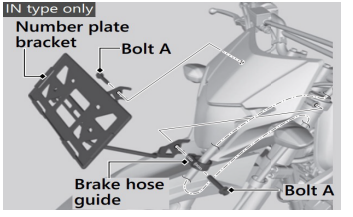
**4.** Disconnect the connector.

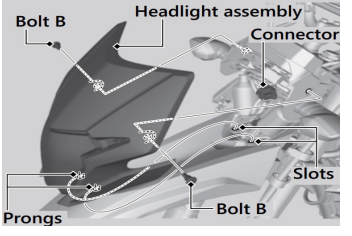
5. Remove the dust cover.

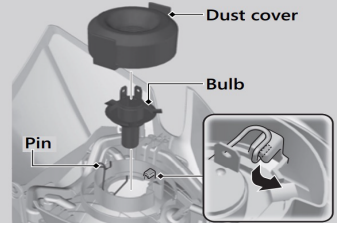
**6.**Press the pin down and pull out the bulb without turning it.

**7.** Install a new bulb and parts in the reverse order of removal.

**8.** IN type only Install and tighten the bolts A.
Torque: 21 N·m (2.1 kgf·m, 15 lbf·ft)
Do not touch the glass surface with your fingers. If you touch the bulb with your bare hands, clean it with a cloth moistened with alcohol.

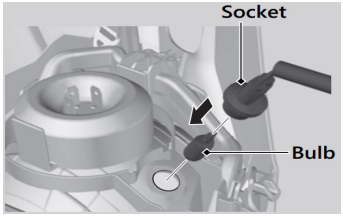


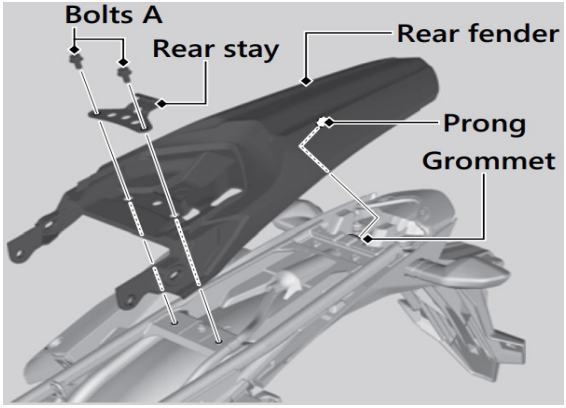
**Position Light Bulb**

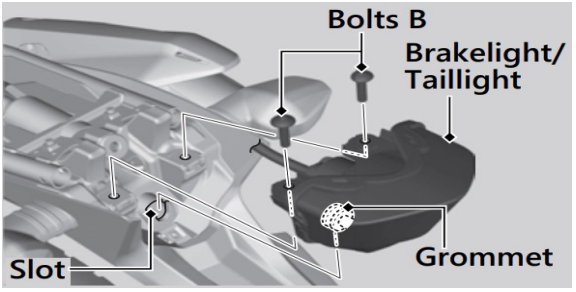
**1.** Remove the headlight assembly. 2 P. 84
**2.** Pull the socket and remove it.
**3.** Pull out the bulb without turning it.
**4.** Install a new bulb and parts in the reverse order of removal.

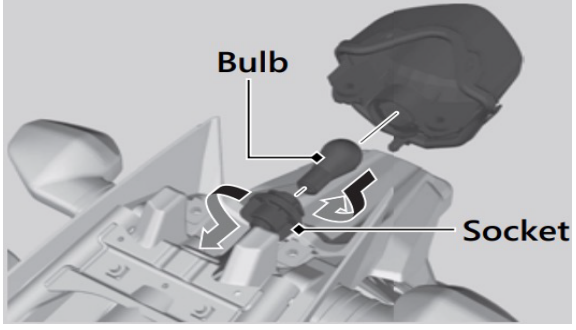



**Brakelight/Taillight Bulb**

**1.** Remove the seat.
**2.** Remove the rear fender by removing the bolts A and rear stay.
**3.** Remove the prong from the grommet.
**4.** Remove the rear fender.
**5.** Remove the bolts B.
**6.** Remove the grommet from the slot.
**7.** Turn the socket counterclockwise, and remove it.
**8.** Slightly press the bulb and turn it counterclockwise.
**9.** Install a new bulb and parts in the reverse order of removal.
**10.** Install and tighten the bolts B.
Torque: 4.5 N·m (0.5 kgf·m, 3.3 lbf·ft)

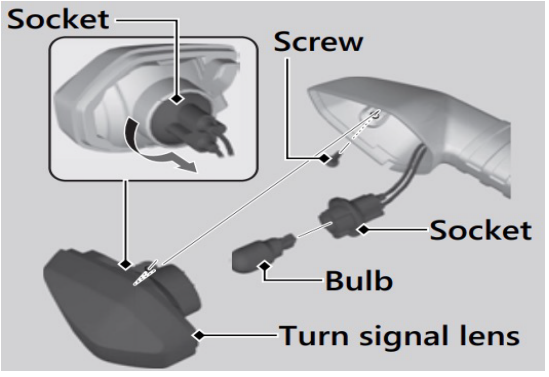




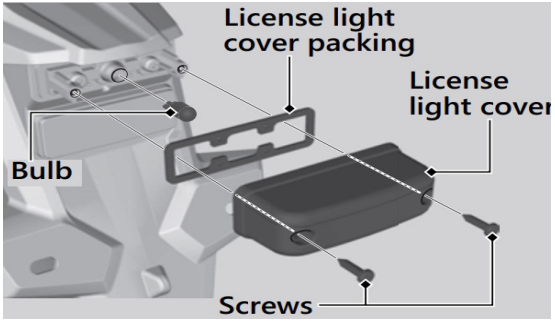

**Front/Rear Turn Signal Light Bulb**

**1.** Remove the turn signal lens by removing the screw.
**2.** Turn the socket counterclockwise, and Remove it.
**3.** Pull out the bulb without turning it.
**4.** Install a new bulb and parts in the reverse order of removal.
*Use only the amber bulb.



**License Plate Light Bulb**

**1.** Remove the screws, license light cover and license light cover packing.
**2.** Pull out the bulb without turning it.
**3.** Install a new bulb and parts in the reverse order of removal.
**4.** Install and tighten the screws.
Torque: 1.0 N·m (0.1 kgf·m, 0.7 lbf·ft)




**Blown Fuse**

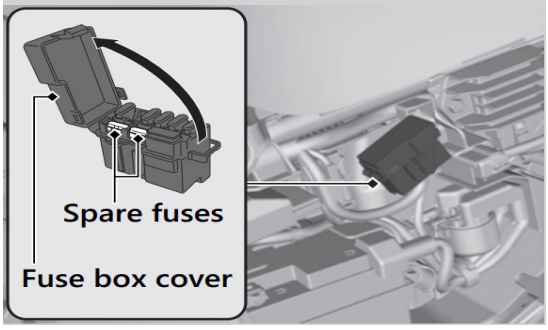
Before handling fuses, see “Inspecting and Replacing Fuses.”

**Fuse Box Fuses**

**1.** Remove the left side cover.
**2.** Open the fuse box cover.
**3.** Pull the fuses out with the fuse puller in the tool kit one by one check for a blown fuse. Always replace a blown fuse with a spare of the same rating.
**4.** Close the fuse box cover.
**5**. Install the left side cover.

**NOTICE**

If a fuse fails repeatedly, you likely have an electrical problem. Have your motorcycle inspected by your dealer.



**Unstable Engine Operation Occurs Intermittently**

If the fuel pump filter is clogged, unstable engine operation will occur intermittently while riding. Even if this symptom occurs, you can continue to ride your motorcycle. If unstable engine operation occurs even if sufficient fuel is available, have your motorcycle inspected by your dealer as soon as possible.

When the fuel level is low, it could show the same symptom.

# SPECIFICATIONS

| VTM250 Specifications | | | |
|---|---|---|---|
| **Item** | **Category** | **Value** | **Unit** |
| 1 | length | 2133 | mm |
| 2 | width | 780 | mm |
| 3 | height | 1195 | mm |
| 4 | wheel base | 1396 | mm |
| 5 | seat high | 908 | mm |
| 6 | min clearance | 303 | mm |
| 7 | caster angle | 27 | o |
| 8 | trail | 108 | mm |
| 9 | dry weight | 111.5 | Kg |
| 10 | curb weight, with oil and battery | 125 | KG |
| 11 | fuel tank capacity | 8 | L |
| 12 | pay load | 150 | Kg |
| 13 | turning radius | 2.1 | m |
| 14 | engine capacity | 249.9 | $cm^3$ |
| 15 | bore / stroke | 72 x 61.4 | cm |
| 16 | compression ratio | 9. 25 : 1 | |
| 17 | spark plug type | NGK DR8EA | |
| 18 | spark plug gap | 0.8 - 0.9 mm | |
| 19 | idle speed | 1500 +- 100 | rpm |
| 20 | engine oil grade | SG or above:<br>Semi Synthetic | |
| 21 | engine oil | 15w-40 or 15w-50 | |

| | | | |
|---|---|---|---|
| 22 | final ratio | 3.09 | |
| 23 | 1st gear | 2.583 | |
| 24 | 2nd gear | 1.857 | |
| 25 | 3rd gear | 1.437 | |
| 26 | 4th gear | 1.167 | |
| 27 | 5th gear | 1 | |
| 28 | 6th gear | 0.857 | |
| 29 | Final drive ratio | LX ver.: 13/40, 520, 106L<br>M ver.: 13/38, 520, 104L | |
| | brake fluid | DOT4 or above | |
| 30 | chain slack | 20-30 | |
| 31 | front tyre size | LX ver: 80/100-21<br>M ver: 100/80-17 | mm |
| 32 | rear tyre size | LX ver.: 120/90-18<br>M ver.: 130/70-17 | |
| 33 | min tread depth FR | 1.5 | mm |
| 34 | min tread depth RR | 2.0 | mm |
| 35 | battery capacity | 12V / 7AH | |
| 36 | front footrest height | 390 | mm |
| 37 | rear footress height | 570 | mm |
| 38 | front shock length | 840 | mm |
| 39 | front shock tube diameter | 41 | mm |
| 40 | front suspension travel | 225 | mm |
| 41 | front suspension travel | 210 | mm |

# Harmony

Science&Technology

Service For You

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