

**WARNING**

To avoid damage from the electronic fuel injection system, do not remove or install the battery when the ignition switch is in the "ON" position.

The long-term storage of the vehicle could cause fuel and engine oil deterioration and probably get into a non-start situation.

Service more frequently when operating in severe conditions such as dusty area, high speed riding, frequent start and stop or extreme riding habit.

Make sure to keep away from any flammable materials such as dry grasses or leaves, avoid them in contact with the exhaust pipe or muffler when parking the vehicle.



## Read this manual carefully.

This Owner's Manual contains important information on safety, operation and maintenance of MODENAS **Elegan 250**. Anyone who is going to ride should carefully read and understand the contents of this manual before riding. For personal safety, understand and follow all of the warnings contained in this Owner's Manual and the labels attached on vehicle. This Owner's Manual should be considered a permanent part of the vehicle, keep it with the motorcycle. ON-ROAD USE ONLY for this motorcycle.

**Particularly important information is provided in this manual by the following symbols and signal words:**



The SAFETY ALERT symbol means ATTENTION! BE ALERT!  
YOUR SAFETY CAN BE AFFECTED.

### **WARNING**

Failure to follow these instructions can result in severe injury or death.

### **CAUTION**

These instructions point out the special precautions must be followed to avoid damage.

### **NOTE:**

The NOTE indicates the additional important information.

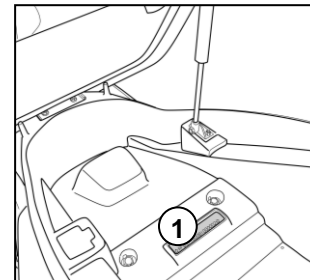
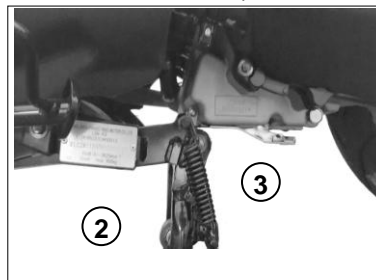


# Identification Numbers Record

Vehicle Identification Number (VIN)

Engine Serial Number (ESN)

Record the Vehicle Identification Number ① or ②, Engine Serial Number ③, in the blanks above for a reference to assist you in ordering parts from the authorized MODENAS dealer or in case the vehicle is stolen.





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# **SECTION 1 - FORWARD & SAFETY INTRODUCTION**

Thanks for purchasing this MODENAS **Elegan 250**, and welcome to the MODENAS family.

Please read this owner's manual carefully before riding so that you will be thoroughly familiar with the proper operation of controls, features, capabilities, and limitations.

To ensure a long, trouble-free life for using the vehicle, provide it with the proper care and maintenance as described in this manual.

For replacement parts and accessories, you should always use genuine MODENAS products, as they have been specially designed for the vehicle and manufactured to meet the standards. Keep this owner's manual with the motorcycle at all times so that you can refer to it whenever you need information. This manual should be considered a permanent part of the motorcycle and should remain with the vehicle when it is sold.

All information, illustrations, photographs and specifications contained in this manual are based on the latest product information available at the time of publication. Due to improvements or other changes, there may be slightly different from the vehicle. MODENAS reserves the right to make product and publication changes at any time without notice or obligation.



# SCOOTER SAFETY

## IMPORTANT SAFETY INFORMATION

It will be used longer and pleasure if you take responsibility for your safety and understand the challenges that you could face on the road. There is much that you can do to protect yourself.

Here are many helpful recommendations and some very important tips in this manual.

### **Wear a helmet**

The safety equipment starts with a quality helmet. One of the most serious injuries in a crash is a head injury. Always wear a properly approved helmet and also wear suitable eyes protection.

### **Make you easy to see**

To make yourself more visible, wear bright reflective clothing to position yourself clearly, so other drivers can see you, signal before turning or changing lanes, and use your horn when it will help others notice you.

### **Know your limits**

Always ride within the limitation of personal skill. Know these limits and stay within them will help you to avoid accidents.

## **Keep the vehicle in safe condition**

For safe riding, it's important to inspect the vehicle before every ride and perform all recommended maintenance. Never exceed load limits, and only use the approved accessories.

### **Inspect the vehicle before riding**

Do not forget to perform an entire safety inspection to ensure safety for all riders before riding.

### **Be very conscious on bad weather**

Riding on bad weather requires extra caution especially it's wet. Braking distance is longer on a rainy day. Keep off the painted surfaces, manhole covers and greasy spots on the paved road as it could be especially slippery. Use extreme caution on the railway crossing or on the metal surface. Whenever in doubt about the road condition, please slow down.

## **Modification**

Modification on the vehicle or removal of original equipment may have the vehicle become unsafe or illegal. Obey all the related equipment regulations from the authority.



# SCOOTER SAFETY

## PROTECTIVE CLOTHING

For your safety, always wear an approved motorcycle or scooter helmet, eyes protection, boots, gloves, long pants, and a long-sleeve shirt or jacket during a ride.

## Helmets and protection

The helmet is the most important gear because it offers the best protection against head injury. The helmet should fit your head comfortably and securely. Always wear a face shield or goggles to protect eyes, but not to interfere with the vision.

## Additional riding gears

In addition to the head and eyes protection, you should also use:

Sturdy boots with non-slip soles to help protect feet and ankles.

Leather gloves to keep your hands warm and prevent blisters, cuts, burns and bruises.

A motorcycle suit is designed for comfort as well as protection. Bright color with reflection strips can make you more noticeable. Be sure to avoid loose clothes that could get caught on any part of the vehicle.

The recommended riding gears:

- ① Wear gloves
- ② Clothes should be fit properly
- ③ Always wear a helmet with eye protection
- ④ Wear bright or reflective clothing
- ⑤ Footwear should be the proper size, have low heels, and offer ankle protection.

## WARNING

- Not wearing a helmet increases your chance of serious injury or death in an accident.
- Be sure you and your passenger always wear an approved motorcycle helmet that fits properly. You should also wear eyes protection and other protective clothing during a ride.



## ACCESSORIES & MODIFICATION

There is a large variety of accessories available to MODENAS vehicle owners. MODENAS cannot have direct control over the quality or suitability of accessories you may wish to purchase. The addition of unsuitable accessories can lead to unsafe operation. It is not possible for MODENAS to test each accessory on the market or combinations of all the available accessories; however, the MODENAS dealer can assist you in selecting quality accessories and then install them correctly.

**Use extreme caution when selecting and installing the accessories.**

### **No modifications:**

MODENAS strongly advises you against removing any original equipment or modifying the vehicle in any way that would change its design or operation.

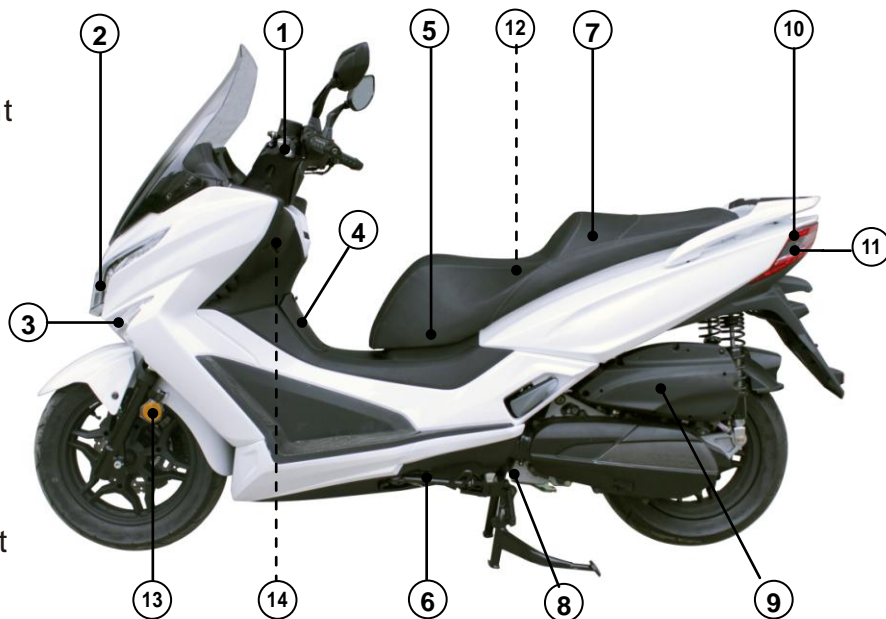
### **WARNING**

Improper accessories or modifications can make the vehicle unsafe and can lead to an accident. Never modify the vehicle through the improper installation or use of accessories. All parts and accessories added to this vehicle should be genuine MODENAS parts or equivalent components designed for use on this vehicle and should be installed and used according to the correct instruction. If you have any questions, consult the authorized MODENAS dealer.



# LOCATION OF PARTS & CONTROLS

- ① Rear Brake Lever
- ② Headlight
- ③ Front Left Turn Signal Light
- ④ Fuel Filler Cap
- ⑤ Helmet Hook
- ⑥ Side Stand
- ⑦ Seat
- ⑧ Engine Number
- ⑨ Air Cleaner
- ⑩ Rear Left Turn Signal Light
- ⑪ Tail/Brake Light
- ⑫ Luggage Box
- ⑬ Reflector
- ⑭ Left Storage Compartment(Accessory Socket)



**NOTE:** Your scooter may differ slightly in appearance from the images in this manual.



# LOCATION OF PARTS & CONTROLS

- ⑮ Rear Right Turn Signal Light
- ⑯ Muffler
- ⑰ Oil Filler Cap/dipstick
- ⑱ Center Stand
- ⑲ Rear Passenger Foot Peg
- ⑳ Front Right Turn Signal Light
- ㉑ Front Brake Lever
- ㉒ Right Handlebar Switch
- ㉓ Ignition Switch
- ㉔ Vehicle Identification Number (VIN)
- ㉕ Right Storage Compartment



**NOTE:** Your scooter may differ slightly in appearance from the images in this manual.



## SECTION 2 - CONTROLS&FEATURES

### IGNITION SWITCH

To operate the ignition switch and its functions:


#### “” Position:

All electrical circuits are off. The engine will not start or run.




#### “” Position:




The ignition circuit is "ON" and engine can be started. The key can not be removed from the ignition switch in this position.

#### “” Position:

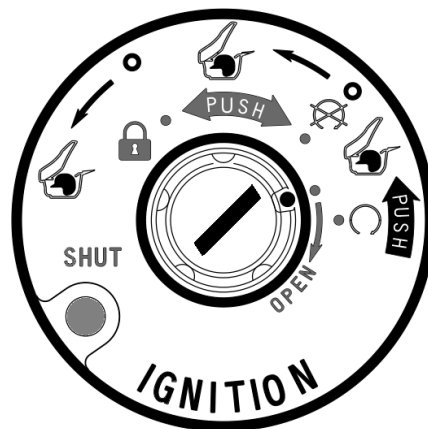
To lock the steering, turn the handlebar all the way to the left, push down and turn the key to the “” position and remove the key. All electrical circuits are off.

#### “” Position:

With the ignition key at the “” position (the engine is running), push the key in and turn it counterclockwise from “” to the “” position.

With the ignition key in the “” position (the engine is not running), turn the counter-clockwise from the “” to the “” position.

Pull up on the back portion of the seat to lift it up.





# CONTROLS & FEATURES

## SECURITY SHUTTER

### To open the ignition switch security shutter:

Push the shut button ① on the ignition switch panel to close the security shutter.

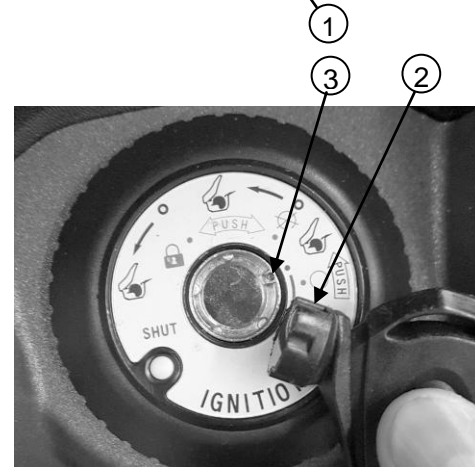
### To shut the ignition switch security shutter:

Insert the specific key until the notch ② is aligned with the pin ③.

Turn clockwise to open the security shutter.

The keys have a unique code that is stamped on the tab with the keys. This code is required if you need to duplicate the key. Record this important code on the blank column below.


Security shutter key code:



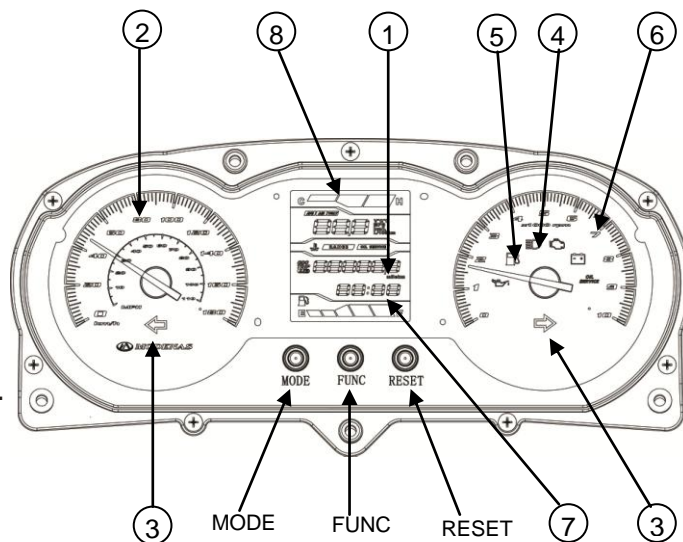


# CONTROLS & FEATURES

## INSTRUMENTS

- ① Odometer/Trip meter: Press the mode button to toggle between the overall and trip mileage, or to reset the trip meter.
  - Press the “MODE” button to enter the ODO, Trip A/B, Oil Service or Empty mode.
  - Press the “RESET” button for 3 seconds to reset on the Trip A/B, Oil Service mode.
  - Press the “MODE” and “RESET” buttons for 3 seconds to set the unit of km/h or MPH.
- ② Speedometer: Indicates the road speed in Km/h (kilometers per hour).
- ③ Turn Signal Indicator Light: Flashes when either turn signal is being used.
- ④ High Beam Indicator Light: This light is illuminated when the headlight high beam is on.
- ⑤ Fuel Warning Indicator “”: This indicator lights when the fuel tank is near empty to alert the rider to refill the fuel tank as soon as possible.
- ⑥ Tachometer: Indicates the engine speed in the revolutions per minute (RPM)

- ⑦ Clock
- ⑧ Coolant temperature gauge





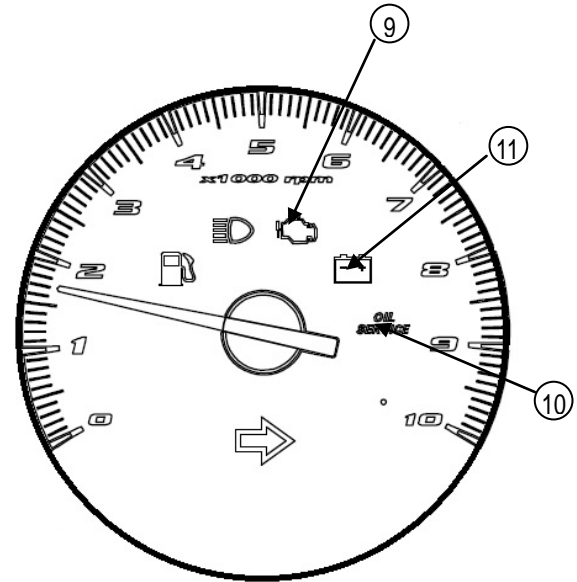
## CONTROLS & FEATURES

- ⑨ CELP indicator: If flashing, it indicates that a fault has been detected in the EFI or electrical system. Need to have immediate inspection by the authorized MODENAS dealer.

■ NOTE: The CELP indicator lights momentarily when the ignition switch is turned on before starting engine.

- ⑩ Oil service indicator: It lights up when reaching the oil service mileage interval. Whenever the ignition switch is turned on, it goes on then off at once after starting engine.
- Press the “MODE” button to enter the ODO, Trip A/B, Empty display ( Service Mode )
  - Press the “RESET” button for 3 seconds to reset on the Oil Service mode.

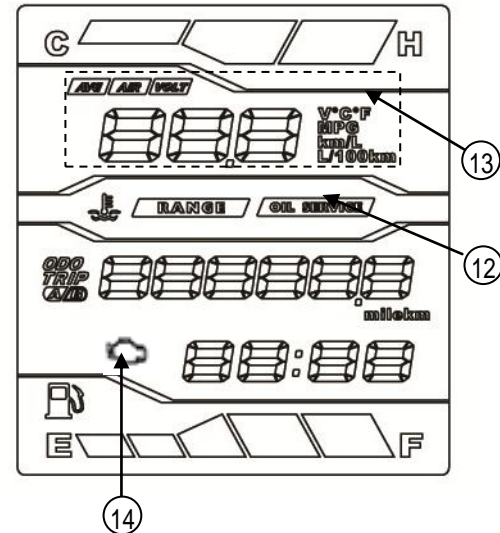
- ⑪ Battery Warning Indicator:  
If the battery voltage is too low while starting the engine. The indicator can be lighting. The engine fails to be restarted unless the battery should be recharged completely.





## CONTROLS & FEATURES

- ⑫ Oil service trip meter: It shows mileages from last reset after oil service.
- ⑬ Cruise information: Press the “FUNC” button to switch the mode for battery voltage, ambient temperature
- ⑭ Engine Warning Indicator: It goes with the Fi error code.

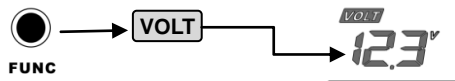




# CONTROLS & FEATURES

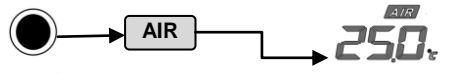
## The battery voltage

Display the prompt battery voltage to get the information without need to check battery directly.



## The ambient temperature mode

Display the surrounding temperature, Press the “FUNC” and “RESET” buttons for 3 seconds to select the unit of “°C” Celsius or “°F” Fahrenheit.



## The oil service trip meter

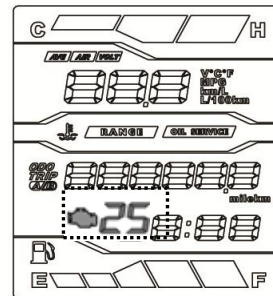
Display the accumulated driving distance from the previous reset after the oil service.

Press the “RESET” button for 3 seconds to reset the oil service indicator and the oil service trip meter.



## The Fi error code indicator

Display the error code of fuel injection system. If appear any error codes and display continuously, have the MODENAS authorized dealer check the vehicle.



**NOTE:** If any error codes show up for a moment then goes off and not repeat, it could result from an electrical interference.

## ⚠ WARNING

If any error codes always show up, the vehicle should be checked immediately.



# CONTROLS & FEATURES

## Adjust clock

### The setting procedure:

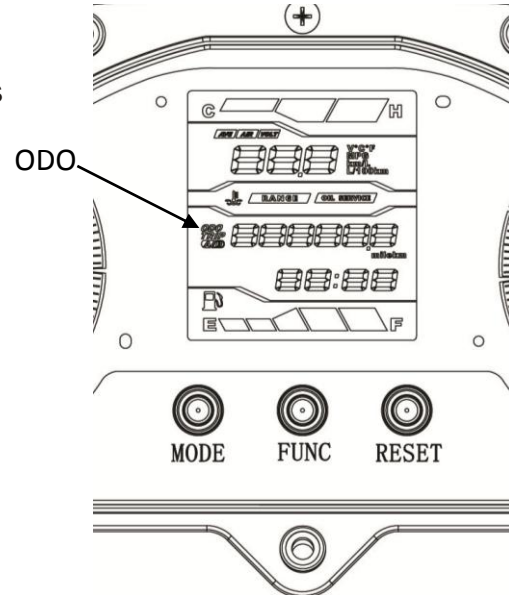
1. Turn the ignition switch to the ON position.
2. Push the MODE button for more than 2 seconds to select the ODO mode.

**NOTE:** The digital clock can be only adjusted in ODO mode.

3. Push the MODE button for more than 2 seconds. The “hour” digits will be flashing and the hour can be adjusted at that moment.



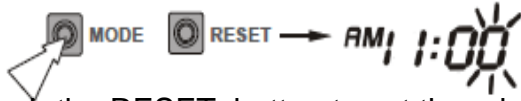
4. Push the RESET button to set the hour.





## CONTROLS & FEATURES

5. Push the MODE button; it will change to make the “minute” digits be flashing.



6. Push the RESET button to set the minute.

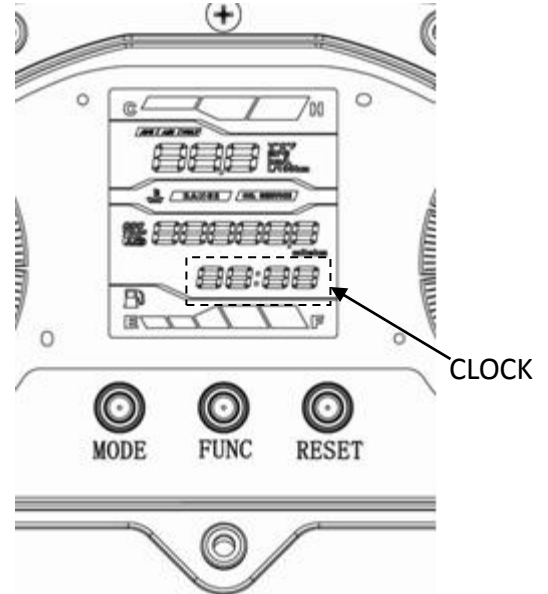


7. Push both the MODE and RESET buttons at the same time to finish the clock setting.



**NOTE:** The adjustment will be cancelled if any button is not pressed within approximately ten seconds.

**NOTE:** The clock will be reset to 12:00 when the battery is disconnected.



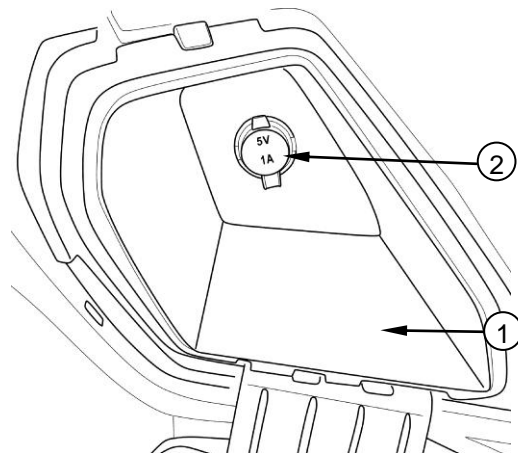


# CONTROLS & FEATURES

## Accessory Socket

This vehicle is equipped with the accessory USB power socket which provides a function to charge the mobile phone with capacity compliance as below.

- To use the accessory USB power supply, turn on the ignition switch, and then start the engine.
- Open the door of the left storage compartment ①.
- Open the USB power socket cap ②.
- Plug the charge connector into the USB socket.



### The rated capacity:

Output voltage: DC 5V

Maximum output current: 1A



## CAUTION

For battery charge of mobile phone only.  
Use other electronic appliances may  
cause damage on electrical system.



## CONTROLS & FEATURES


### Right handlebar switch


#### Starter button ①:

Press starter button " " and pull brake lever in the meantime to actuate the starter motor.

■ **NOTE:** The starter motor will not operate unless the side-stand is fully stored up.


#### Engine stop switch ②:

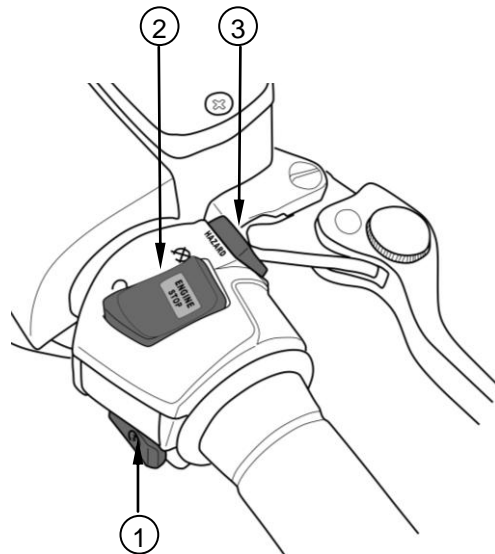
Switch button to "  ", the ignition system is on before turning on the ignition switch.

Switch button to "  ", the ignition system is off after turning off the ignition switch.

■ **NOTE:** If the ignition system is on, which might cause the battery to discharge gradually

#### Hazard switch ③:

Switch button to "  ", all the turn signals and turn signal indicator will blink to warn other drivers.





# CONTROLS & FEATURES

## Left handlebar switch

### Turn signal switch ②:

Push to signal other drivers for an intention to make turn or change lane. The turn signal light is blinking while the switch is pushed left or right.

" ← " for left turn.

" → " for right turn.

To stop the turn signal, push the switch again.

### Horn button ③:

Press the horn button to sound the horn.

### Dimmer switch ④:

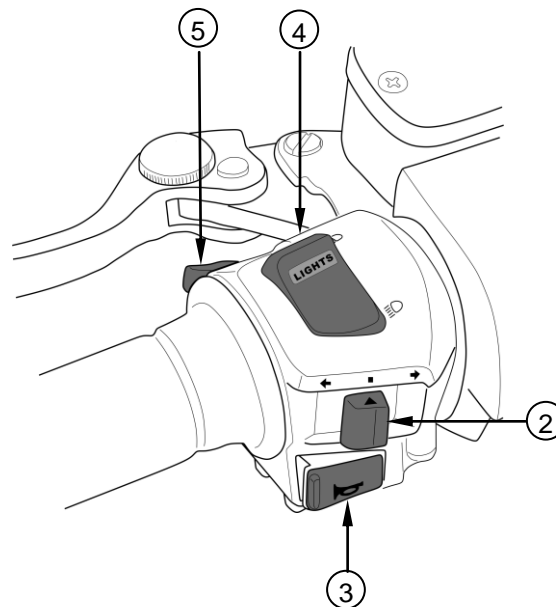
Switch to select the light with high or low beam

" ≡ D " for low beam.

" ≡ D " for high beam.

### Passing button ⑤:

Press this button to flash the headlight with high beam to signal other drivers ahead for an intention to overtake





# CONTROLS & FEATURES

## Fuel level inspection / Refilling

If the low fuel indicator blinks, quickly refill the fuel tank with the specified unleaded gasoline.

### Fuel tank filler:

To refuel, do the following:

1. Open the fuel tank filler cover.
2. Use the ignition key to unlock the fuel cap.
3. Turn the key clockwise to unlock the fuel cap.
4. Once unlock, it's able to take the fuel cap away.

To install the fuel cap, do the following:

1. Press it back into place on the fuel filler neck.
2. Push back the fuel cap with key inserted.
3. Make sure the triangle mark is toward front side.
3. Remove the key and close the fuel tank filler cover.

■ NOTE: Don't push key while installing the fuel cap.

### Fuel recommendation

Use unleaded gasoline with a research octane number (RON) 92 or higher to prevent damage on spark plug and catalytic converter.





# CONTROLS & FEATURES

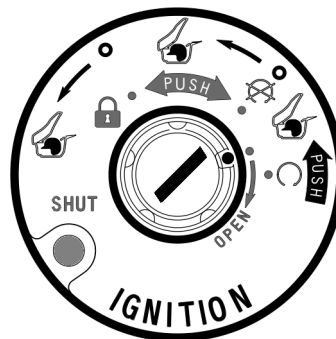
## Seat

### To unlock the seat

With the ignition key at the "🔑" position (the engine is running), push the key in and turn it counterclockwise from "🔑" to the "👉" position.

With the ignition key in the "🔒" position (the engine is not running), turn the counterclockwise from the "🔒" to the "👉" position.

Open the seat by pulling up the rear end of seat.

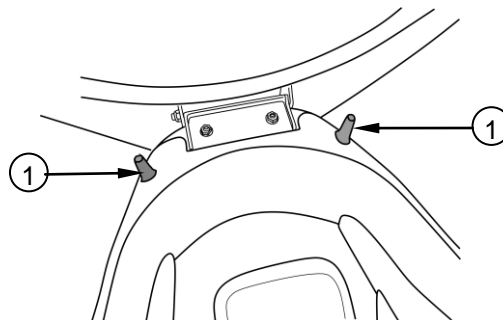


## Helmet holder

To use the helmet holders, open the seat and hang the helmet on the holder hook①, then lock the seat securely.

### **WARNING**

Use the helmet holder only on parking. Do not ride with a helmet hanged on the holder.





## CONTROLS & FEATURES

### To lock the seat

Lower and push down the seat securely on the right side where a lift rod supported and above the lock hook.

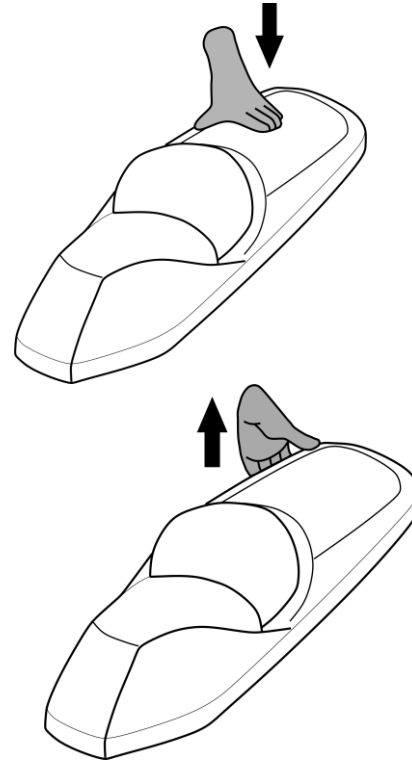
■ **NOTE:** It's no good to push down on the rear end of the seat due to there are no the lock hooks beneath, therefore, the seat is possibly not locked securely that will make stolen more easily.

Before riding, pull the seat edge on the right side to make sure the seat is locked securely.



### CAUTION

Do not put any objects may interfere the lock catch that might get caught while closing; it will lead to lock insecurely or fail to open.





# CONTROLS & FEATURES

## Suspension

Each shock absorber on your scooter has 5 spring preload adjustment positions for different load or riding conditions.

Use a fitting wrench to turn the adjuster's boss ① .

Position 1 is for light loads and smooth road conditions.

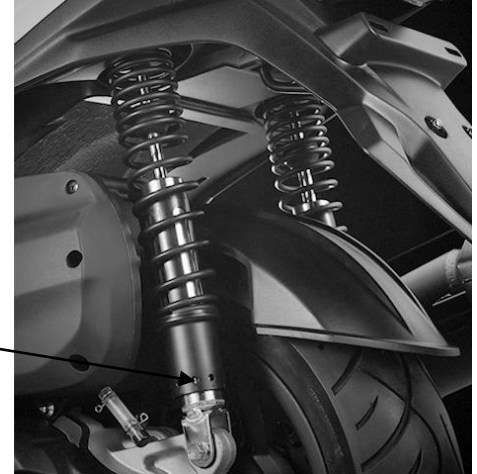
Position 3 to 5 increase spring preload for a more stiff rear suspension and can be used under heavy loading.

**NOTE:** Always adjust the shock absorber pre-load position in sequence (1-2-3-4-5 or 5-4-3-2-1).

Attempting to adjust directly from 1 to 5 or 5 to 1 may damage the shock absorber.

**Standard spring preload position: 3**

①



## **WARNING**

Be certain to adjust both shock absorbers to the same spring preload positions. Improper setting of shock absorber will cause unstable handling and might lead to an accident.



# CONTROLS & FEATURES

## Side Stand

The side stand is not only necessary for parking, but also it contains an important safety feature. This feature can cut off the ignition when the side stand is put down.

Perform the following side stand inspection for interlock function check.

Check the ignition cut-off on the side stand:

- Position the vehicle on the level ground by using the center stand ①.
- Put the side stand up and start the engine.
- Lower the side stand ②. The engine should stop as doing.

**NOTE:** If the side stand system does not operate as described, see your MODENAS dealer for service.





## SECTION 3 - OPERATION

### Pre-ride inspection

For your safety, it is very important to take a few moments before each ride to walk around the motorcycle and check its condition. If you detect any problem, be sure to deal with it, or have the MODENAS dealer to fix it.



### WARNING

Improperly maintain the motorcycle or fail to solve a problem before riding can cause a crash in which you could be seriously hurt or killed. Always perform a pre-ride inspection before every ride and correct any problems.

#### 1. Engine oil level:

Add engine oil if required .  
Check if there's a kind of leakage.

#### 2. Fuel level:

Fill fuel tank when necessary. Check if there's a kind of leakage.

#### 3. Front and rear brakes:

Check operation; make sure there is no brake fluid leakage.

#### 4. Tires:

Check condition and inflation pressure.

#### 5. Throttle:

Check for smooth operation and that it can be closed completely in all steering positions.

#### 6. Lights and horn:

Check that headlight, tail/brake light, turn signals, indicators and horn function properly.

#### 7. Steering:

Check for condition and smoothness.



# OPERATION

## Break-In

The first 1600km (1000 miles) of riding is very important to the life of usage. Proper break-in operation during this period will help ensure maximum life and performance. The reliability and performance depend on a special care and limited operation during the break-in period.

The following limitations should be complied during the break-in period:

### **Initial 800km (500 miles):**

Less than 1/2 throttle or not over

### **Up to 1600km (1000 miles):**

Less than 3/4 throttle

## Vary the engine speed

The engine speed should be varied and not held constantly for a long time and also prohibited to have heavy load during the break-in period.

## Avoid constant low speed

Operate the engine at constant low speed even of light load may cause the running part a fit-in problem. Be sure to start up the engine gently during the break-in period.

## Avoid full throttle operation

Operate the engine at high speed may cause running part a lubrication problem. Be sure to keep in the limited speed range during the break-in period.



## WARNING

The 1000km (600 miles) initial service is very important to ensure an optimum vehicle condition in the future.



# OPERATION

## Starting the engine

Always follow the proper starting procedure described here and on the following pages.




### CAUTION

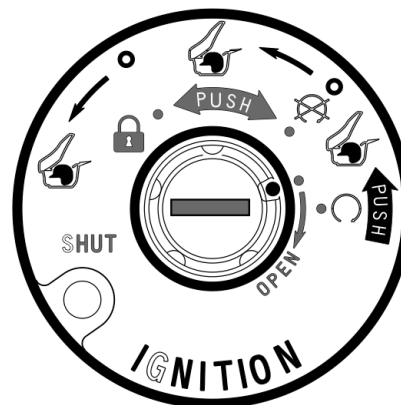
To protect the catalytic converter in the engine's exhaust muffler, avoid idling too long and do not use leaded gasoline.



### CAUTION

To prevent damage to the starter motor, do not operate the starter motor for more than 5 seconds at a time. If fail to start successfully, check the fuel level and the battery condition, and waiting for 15 seconds between each fail to start.

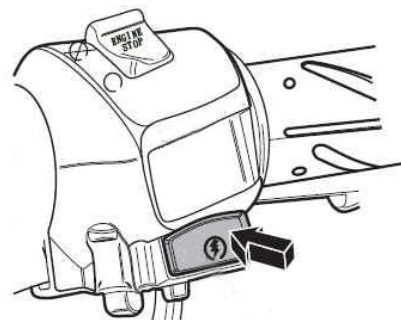
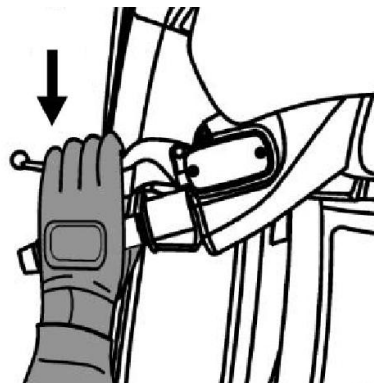
1. Position the motorcycle by the center stand and put the side stand up.
2. Insert the ignition key and turn it to "  ".





## OPERATION

3. Squeeze the left (rear) brake lever to connect electric power for ready to start engine .
4. Press the starter button with the throttle closed, releases it at once as the engine starts.
5. Keep the throttle closed while warming up the engine.
6. Keep the engine warming up thoroughly before each ride.



### CAUTION

If the engine is running with insufficient oil pressure can cause serious engine damage.



## SECTION 4 - MAINTENANCE

### The importance of maintenance

Maintaining the motorcycle properly is essential for safe, economical and trouble-free riding. It will also help reduce air pollution and maximize fuel economy.

To properly take care of the motorcycle, the following pages in this Owner's Manual include a maintenance schedule to help you make sure the motorcycle is serviced at the appropriate intervals.

These instructions are based on the assumption that the motorcycle will be used normally on the design purpose. Usually under high speed driving or riding in unusually wet or dusty area will require more frequent service than specified in the maintenance schedule. Consult with the MODENAS dealer for recommendations about your personal needs.

**NOTE:** Always follow the inspections, service recommendations and schedules on later pages.



### WARNING

If the motorcycle turnovers or becomes involved in a crash, be sure to have the MODENAS dealer inspect all major parts, even if you are able to make some repairs.

Improperly maintain the motorcycle or fail to solve a problem before next riding could result in a crash in which you could be seriously hurt or dead.



### WARNING

When performing maintenance service on the motorcycle you may need to start the engine. Running the engine indoors can be hazardous. Exhaust gas contains carbon monoxide which is colorless and odorless, and can cause death or severe injury. Start the engine only where is ventilated well, preferably operate outdoors.



# MAINTENANCE

## Maintenance schedule

Perform the pre-ride inspection at each scheduled maintenance period. This interval should be judged by odometer reading or by months, whichever comes first.

## Maintenance schedule chart:

I: INSPECT AND CLEAN, ADJUST, LUBRICATE OR REPLACE IF NECESSARY

C: CLEAN

R: REPLACE

A: ADJUST

L: LUBRICATE

D: DIAGNOSE

The maintenance schedule on the following two pages specifies the maintenance required to keep the motorcycle in good running condition. Maintenance should be performed according to the design standards and specifications by the authorized MODENAS dealer.

- \* Be serviced by the MODENAS dealer, unless you have the proper tools, service data and are technically qualified.
- \*\* For safety reason, we recommend these items be serviced only by the MODENAS dealer. MODENAS recommends that the MODENAS dealer should take a road test after each maintenance service.

## NOTES:

1. For higher odometer readings, repeat by the service interval illustrated here.
2. Service more frequently for long-term riding in unusually wet or dusty areas.
3. Service more frequently for long-term riding in rain or with full throttle.
4. Inspect every 5000 km (3000 mi) after replacement and replace every 10000 km (6000 mi).
5. Replace every 5000km (3000mi) or every 6 months. Replacement requires mechanical skill.
6. Replace every 2 years. Replacement requires mechanical skill.



# MAINTENANCE

FREQUENCY          ITEM		WHICHEVER COMES FIRST	ODOMETER READING (NOTE1)								
		→									REFER TO PAGE
		↓	X 1000 km	1	3	6	9	12	15	18	
		↓	X 1000 mi	0.6	2	4	6	8	10	12	
		MONTH		3	6	9	12	15	18		
*	AIR CLEANER			R	R	R	R	R	R		
	SPARK PLUG				I		R		I		
*	THROTTLE OPERATION			I	I	I	I	I	I		
*	VALVE CLEARANCE		A				A				
*	FUEL LINE						I				
	CRANKCASE BREATHER		C	C	C	C	C	C	C		
	ENGINE OIL		R	R	R	R	R	R	R		
*	ENGINE OIL SCREEN		C	C	C	R	C	C	R		
*	ENGINE IDLE SPEED				I		I		I		
*	TRANSMISSION OIL		R		R		R		R		
*	DRIVE BELT				I	I	I	R	I		
**	RADIATOR COOLANT		Replace at every10000km or every year								



# MAINTENANCE

FREQUENCY       ITEM		WHICHEVER COMES FIRST →	ODOMETER READING (NOTE1)							REFER TO PAGE
		X 1000 km	1	3	6	9	12	15	18	
		X 1000 mi	0.6	2	4	6	8	10	12	
		MONTH		3	6	9	12	15	18	
**	CLUTCH SHOE WEAR				I		I		I	
	BRAKE FLUID		Replace at every 10000km or every year							
	BRAKE PAD WEAR			I	I	I	I	I	I	
	BRAKE SYSTEM			I	I	I	I	I	I	
*	BRAKE LIGHT SWITCH			I	I	I	I	I	I	
**	STEERING BEARINGS			I	I	I	I	I	I	
*	HEADLIGHT AIM			I	I	I	I	I	I	
*	NUTS,BOLTS,FASTENERS			I	I	I	I	I	I	
**	WHEEL/TIRES			I	I	I	I	I	I	
*	CVT FILTER				C		C		C	
**	INJECTOR			D	D	C	D	D	C	



# MAINTENANCE

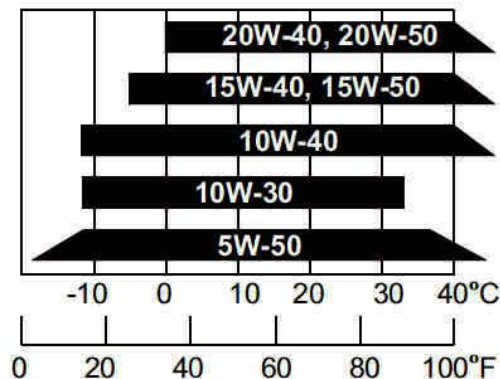
## Engine oil

### Engine oil recommendation

Use a high quality 4-stroke engine oil to ensure longer life. Choose oil with the classification API SJ or higher.

### Engine oil viscosity: SAE 5W-50

If the viscosity grade is not compliable, choose alternative engine oil according to the following chart.

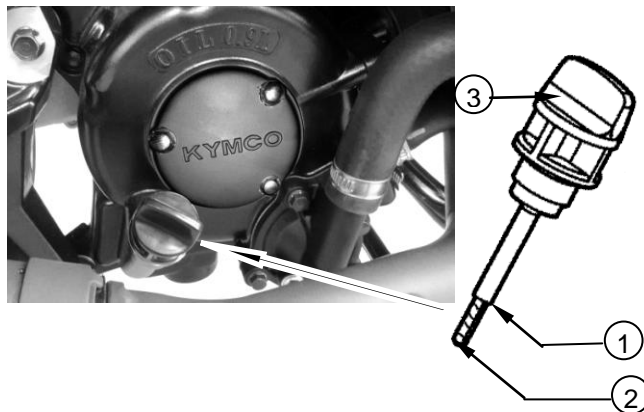


**Full capacity:** 1.1 L

**Exchange capacity:** 0.9L

### Engine oil level inspection

Check the engine oil level each day before riding. The oil level must be between the high line ① and low line ② on the oil level dipstick ③.



## CAUTION

Running the engine with insufficient oil pressure can cause serious engine parts burnout.



# MAINTENANCE

- Start engine and keep idling for a few minutes.
- Stop the engine and stand the scooter on level ground by center stand.
- Wait a while, remove the oil level dipstick.
- Wipe oil off, then reinsert the oil level dipstick without screwing in.
- Remove the oil level dipstick. The oil level should be between the high and low lines on the dipstick.
- If required, add the specified oil so the oil level reaches the high level line on the dipstick. Do not overfill.
- Reinstall the oil level dipstick. Check for oil leaks.



## WARNING

The engine and related parts can become very hot. Be careful when inspecting the oil level so not to suffer burns. Make the engine and exhaust system cool down before inspection.

## Engine oil replacement

Engine oil quality is the major factor that affects engine life. Change your scooter's engine oil as specified in the maintenance schedule.

- Warm engine up thoroughly then stop.
- Stand vehicle by using the center stand
- Place an oil container beneath the drain hole.
- Remove the oil level dipstick.
- Remove the drain bolt and drain off thoroughly
- Tighten the drain bolt to the specified torque.
- Add oil to reach the high line on the dipstick
- Screw the oil level dipstick into place securely.

Tightening torque

Engine oil drain bolt: 25N·m (2.5kg·m, 18ft·lb)



## CAUTION

Use the genuine engine oil or another with the same quality and grade to avoid burnout on the engine parts.



# MAINTENANCE

## Transmission Gear Oil change

1. Stand the scooter by the center stand.
2. Remove the gear oil drain bolt ①.
3. Remove the gear oil filler bolt ②, and then slowly rotate the rear wheel to drain the gear oil off.
4. Fill with the recommended oil to reach the capacity listed below.
5. Install the transmission filler bolt and tighten it to the specified torque.

**Gear oil type:** SAE 90

**Full capacity:** 0.23 L

**Exchange capacity:** 0.18L



### CAUTION

Use the genuine engine oil or another with the same quality and grade to avoid burnout on the bearing or damage on the gear set.



### CAUTION

Must follow the local regulation and obey the related prohibition about the disposal of oil.



# MAINTENANCE

## Air cleaner filter element

The air cleaner filter element ① should be serviced at regular intervals by the MODENAS dealer.

■ **NOTE:** Have the element serviced more often when riding in unusually wet or dusty areas.



## CAUTION

Using the wrong MODENAS air cleaner element or a non-MODENAS air cleaner element which is not of equivalent quality may cause engine wear quickly or performance problems.

## Throttle operation

1. Before riding, check for smooth rotation from fully open to fully closed at both full end of steering.
2. Measure the throttle free play ② as shown at right.

**Throttle free play:** 2.0 - 6.0 mm









# MAINTENANCE

## Spark plug

Remove the carbon deposits from the spark plug with a nonmetal brush and the suitable solvent. After cleaning, check to adjust the spark plug gap to specified limit by using a spark plug gap thickness gauge. The spark plug should be replaced periodically.

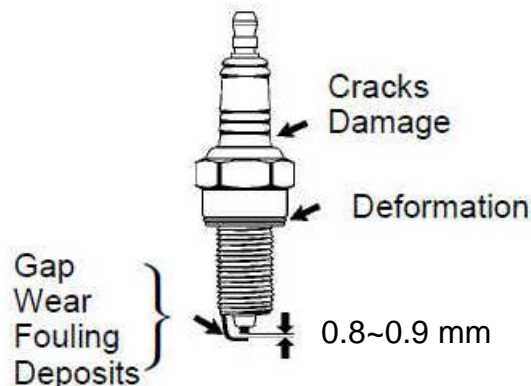
Recommend to consult with the MODENAS dealer when choosing an alternative spark plug instead.

**Recommended spark plug:** DPR6EA-9



## CAUTION

An improper spark plug may have an incorrect fit or heat range for your engine. This may cause severe engine damage which will not be covered under warranty. Never use a spark plug with an improper heat range, as it could result in severe engine damage.



**Spark plug gap:** 0.8~0.9 mm



# MAINTENANCE

## Brake fluid

### Brake fluid level inspection

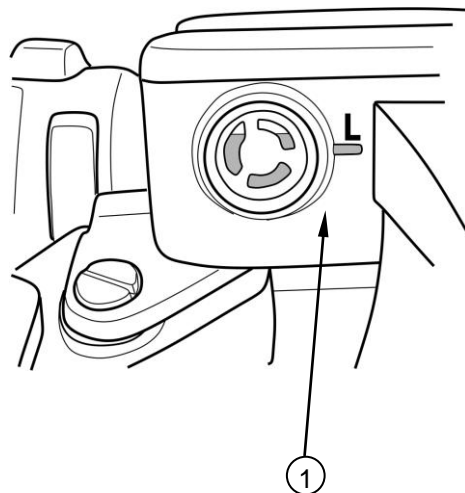
With the scooter in an upright position, check the front and rear fluid level.

Change the brake fluid at the time specified in the maintenance schedule.

The fluid level should be above the lower level line①. If the fluid level is below the lower level mark "L", check over the worn brake pad or leakage.

**NOTE:** Make sure there is no fluid leaking. Check for fluid deterioration or crack on the brake hoses and fittings.

**Brake fluid type:** DOT 4



## WARNING

Use only DOT4 brake fluid from a sealed container.  
Clean the filler cap before removing.

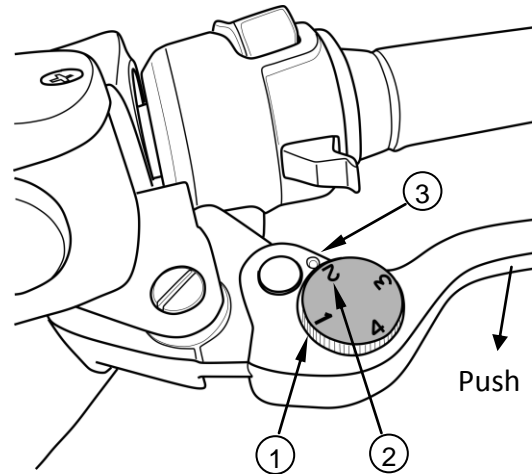


# MAINTENANCE

## Brake lever adjusters

There is an adjuster on each brake lever. Each adjuster has 4 positions so that the released lever position can be adjusted to suit the personal grabbing requirement. To adjust the distance of the lever from the handlebar grip, push the lever forward and turn the adjuster ① to align the number ② with the mark ③ on the brake lever.

**NOTE:** The nearest distance from the grip to the released lever is set at number 1 and the farthest is set at number 4.



[Brake Lever Adjustment]

Adjuster Position	1	2	3	4
Lever Position	Near	← — →		Far



# MAINTENANCE

## Brake Pad Inspection

Inspect the thickness of brake pad to verify if there is enough lining to brake properly.

If the wear indicated groove at the brake pad is no longer visible, this means that the brake pad is worn and requires replacement.

Before riding, apply braking several times to reach the proper lever stroke and firm feel on braking action that will ensure the brake pads are pressed against the brake disks securely



## WARNING

- The brakes will wear quickly if the lever is continually applied during riding.
- The worn brake pad will increase the stop distance and may cause an accident easily.





# MAINTENANCE

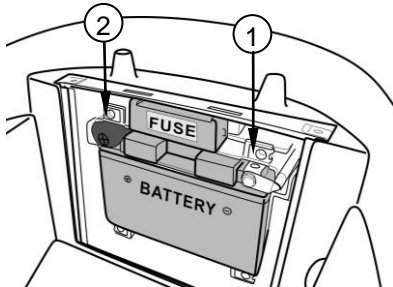
## Battery

The battery is a sealed type, so it is unnecessary to check the battery's electrolyte level or add distilled water any more.

■ **NOTE:** If your battery seems weak and/or the electrolyte is leaking to cause hard start or other electrical troubles, contact the MODENAS dealer immediately.

- Disconnect the negative (-) terminal ①.
- Disconnect the positive (+) terminal ②.
- Remove the disabled battery.
- To reinstall is the reverse sequence of removal.

■ **NOTE:** If the cap strip is removed, the battery will become permanently damaged.



## WARNING

Electrolyte is toxic 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.**



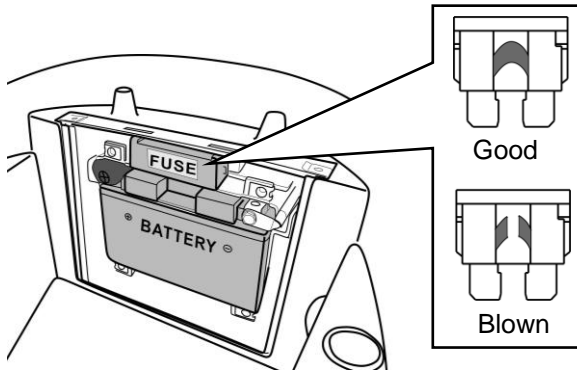
# MAINTENANCE

## Fuse

When fuse fails frequently, it usually indicates a short circuit or an overload in the electrical system.

### **WARNING**

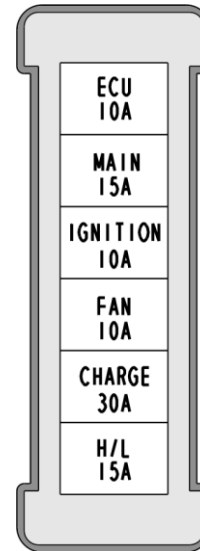
- Never use a fuse of different rating.
- If the new fuse blows in a short time, consult the MODENAS dealer immediately.



## Fuse Allocation

All functional fuses are located in the fuse box, there's a sticker on the back of the fuse box cover. Fuse should be inserted according to this sticker.

Equipped :





# MAINTENANCE

## Tires

### Tire pressure

Insufficient tire pressure not only advances wear but also affects the riding stability. Under-inflated tires make turning not smooth and over-inflated tires decrease the contact area with the ground, which can lead to skid and loss of control. Make sure that the inflation pressure is within the specified limits all the time.

■ **NOTE:** Check the tire inflation pressure and tire tread condition at the interval listed in the periodic maintenance schedule. For maximum safety and better tire life, the tire pressures should be inspected more often.

■ **NOTE:** Tire pressure should only be adjusted when the tires are cold.

Front tire:  $2.00\text{kg/cm}^2$  (one rider)  
                   $2.00\text{kg/cm}^2$  (rider and passenger)  
Rear tire:  $2.25\text{kg/cm}^2$  (one rider)  
                   $2.25\text{kg/cm}^2$  (rider and passenger)

### Tire size:

Front tire: 120/80-14M/C 58S  
Rear tire: 150/70-13M/C 64S



## WARNING

Fail to follow the instruction below may result in an accident due to tire failure. The rider's personal safety is dependent on the condition of the scooter's tires.

- Check tire condition and pressure, and adjust the inflation pressure before each ride.
- Avoid overload on the vehicle.
- Replace tires which have been worn to the specified limit, or have any damages such as cuts or cracks.
- Always use the designated size and type of tires as specified in this Manual.
- Balance the wheel after tire installation.
- Fail to perform the break-in of the tires could cause tire slip and loss of control.
- Be very careful when riding on new tires as the grip is limited between the ground.
- Perform proper break-in of the tires to avoid excessive acceleration, sharp cornering, or hard braking for the first 160 km (100 miles).



# MAINTENANCE

## Tires Inspection

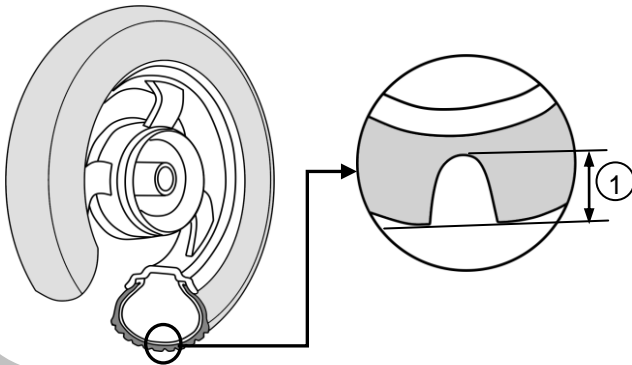
Tire wear changes the tire profile and may affect the vehicle's handling characteristics. Check the tire condition before each riding. Replace the tires if tread depth is less than the following limit:

### Minimum tread depth:

Front: 0.8 mm

Rear: 0.8 mm

■ **NOTE:** Measure the tread depth ①, do not judge by a visual inspection.



■ **NOTE:** Be sure to balance the wheel after repairing a puncture or the tire. Proper wheel balance is important to avoid variable contact between tire and ground, and to avoid uneven tire wear.

■ **NOTE:** Replace the tires if there's visual evidence of damage as cracks or cuts.



## WARNING

An improperly repaired, installed, or balanced tire can cause you to lose control of your scooter or shorten tire life. Ask the authorized MODENAS dealer, or a qualified tire shop to perform tire repair, replacement, and balancing due to the proper tools and experience are required. Always install tires according to the rotation direction shown by arrow on the sidewall of each tire.



# MAINTENANCE

## Coolant

### Coolant level inspection

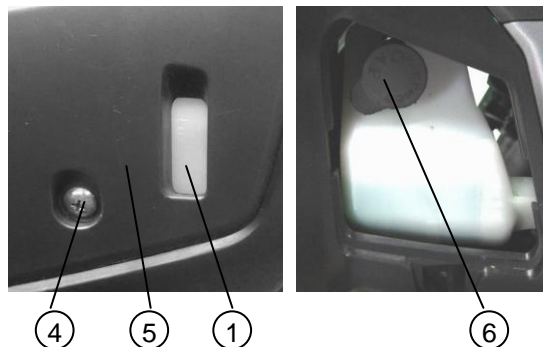
The coolant reservoir is in the front in the box.  
Check the coolant level through the inspection window ① at the left side skirt while the engine is at the normal operating temperature, with the scooter in an upright position..

If the level is below the “LOW” level line ③, remove the left foot mat, remove the lid screw ④, the reservoir lid ⑤, and the reservoir tank cap ⑥ to add coolant until it reaches the “FULL” level line ②.



## WARNING

- Engine coolant is toxic.
- Keep coolant away from children.
- If coolant is swallowed, call for emergency.
- If contact with skin or eyes, wash out with considerable water.





# MAINTENANCE

## Coolant replacement

The coolant should be replaced by an authorized MODENAS dealer.

■ **NOTE:** Always notice coolant level in the reserve tank.  
Do not attempt to add coolant by removing the radiator cap.

## Coolant recommendation

Use the proper type and amount of coolant. The coolant must be in good condition and have the proper ratio of anti-freeze and distilled water to prevent freezing, overheating, and corrosion. Use only high quality ethylene glycol anti-freeze that contains corrosion protection inhibitors and the formula is for aluminum alloy engines. (See the label on the container)

A 50:50 solution of anti-freeze and distilled water is required. It's for most operating temperature and also with good corrosion protection.



## CAUTION

- Use only low-mineral drinking water or distilled water as a part of the anti-freeze solution.
- Use tap-water will cause engine damage.
- Use a higher concentration of anti-freeze in freezing weather and be replaced by the MODENAS dealer. This higher concentration of antifreeze should not exceed 60%. When becoming warm, change the anti-freeze ratio back to the standard ratio.
- A concentration of less than 40:60(40% anti-freeze) will not provide proper corrosion protection.



## WARNING

Removing the radiator cap may have the coolant sprayed out to suffer burns while the engine is hot.



# MAINTENANCE

## Clean the Windshield and Plastic parts

To avoid possible scratches, use only water and a soft cloth or sponge to clean the windshield and other plastic parts with a soft and clean cloth. Avoid using detergents or any kind of chemical cleaner.

For a much dirty condition, use a diluted neutral detergent with a sponge and plenty of water. Make sure to wash off all the detergent, the remaining detergent residue may cause cracks or paint fading.



## CAUTION

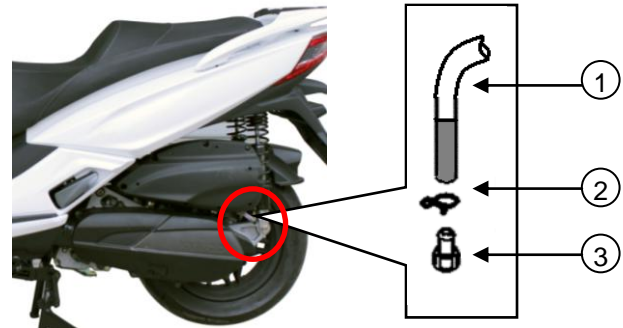
- Don't use organic solvents such as gasoline thinner, etc.
- Use neutral soap to clean windshield and other plastic parts.
- Replace the windshield if scratch level is too severe to have a clear vision.

## Crankcase Blow-by Drain

The air cleaner has a drain tube ① that is for draining the oil condensed fluid from the crankcase.

When the fluid has accumulated to a certain amount in the transparent drain tube, remove the clip ② and plug ③, drain the fluid into a container, and then reinstall in place.

■ **NOTE:** Drain frequently if often riding in the rain, often at full throttle, or the vehicle has been overturned. Follow the oil disposal regulation.





# MAINTENANCE

## STORAGE

Take necessary steps to be in good condition for next use after long storage.

- Perform any necessary periodic maintenance or repairs before storage
- Exchange new oil after warming up the engine.
- Empty the fuel tank and make sure no fuel remaining by idling until the engine stalls.
- Remove the battery and keep from direct sunlight or freezing temperature, it's better to do a slow charge once a month.
- Wash and dry the vehicle thoroughly
- Apply corrosion inhibitor to all unpainted metal.
- Inflate all tires to the rated pressure and put the wheel stands to raise tires off the ground.
- Cover the vehicle, store indoors and keep dry.

## Removal from Storage

- Remove cover from the vehicle
- Check the battery voltage or charge it if necessary, and then install it in the vehicle.
- Fill the fuel tank with fuel.
- Check all the points listed in the Pre-ride Inspection section.



## WARNING

- Gasoline is easily flammable and explosive. It's possible to get burned, even seriously injured when fueling with carelessness.
- Stop the engine and keep away from any heat source, spark fire, and flames.
- Be sure to add fuel outdoors and wipe the spill up at once.



# EMISSION CONTROL

## **Crankcase Emission Control System**

The motorcycle is equipped with a closed crankcase system. Blow-by gas is recycled into the combustion chamber via the intake system. This arrangement is to prevent blow-by gas from spreading to the atmosphere.

## **Exhaust Emission Control System**

The exhaust emission from the motorcycle is controlled by combustion management, fuel delivery, ignition setting and exhaust system. The exhaust system also includes the catalytic converter in the muffler.

## **Noise Exhaust Emission Control System**

The engine, intake and exhaust systems of the motorcycle are designed to comply with federal or local noise regulations. Do not modify the intake or exhaust system; this behavior will offend against the noise regulations.



## **WARNING**

Do not adapt any original factory design and setting, which will deteriorate the sound or emission level.



# SPECIFICATIONS

## Chassis

Overall length.....	2240 mm
Overall width.....	780 mm
Overall height.....	1370 mm
Wheel base.....	1545 mm

## Capacities

Engine oil (Exchange).....	0.9 L
Transmission oil (Exchange).....	0.18 L
Fuel tank.....	13 L
Net weight.....	195kg

## Engine

Type.....	4-stroke, liquid-cooled SOHC
Displacement.....	249.1cc
Bore and stroke.....	72.7 X 60 mm
Compression ratio.....	10.8
Max. Horsepower .....	15.4kw/6500rpm
Spark plug.....	DPR6EA-9
Idle speed.....	1600±100 rpm
Fuel system.....	Fuel injection
Ignition system.....	ECU (full transistor)

Tire size, front.....	120/80-14
Tire size, rear.....	150/70-13
Brake (front).....	DISC(260)
Brake (rear).....	DISC(240)

## Electrical

Ignition type .....	Inductive ignition coil
Battery.....	12V10AH
Headlight.....	12V 35W/35W
Tail light.....	12v/0.7Wx2 LED
Brake light.....	12v/3.5Wx2 LED
Turn signal light.....	Front: 12v 2.2W X 2
	Rear: 12v 10W X 2
Main & H/L Beam fuse.....	15A
ECU & Ignition & Fan fuse.....	10A
Charge fuse.....	30A