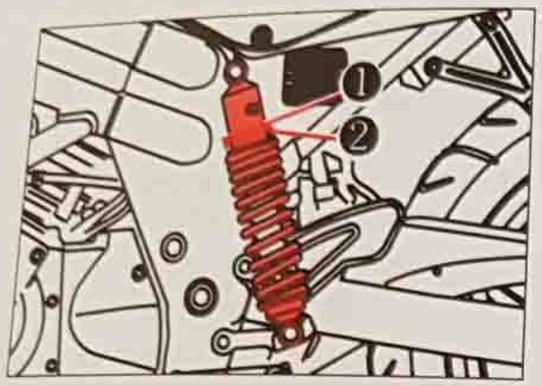
REAR SHOCK ABSORBER



To adjust the spring pre-load :

1. Loosen the lock nut ① counter-clockwise using the clamp wrench.
2. Turn the adjuster ② clockwise or counter-clockwise to the disired position (the length of the spring) using the clamp wrench.
3. After end of adjustment, tighten the lock nut ① clockwise.

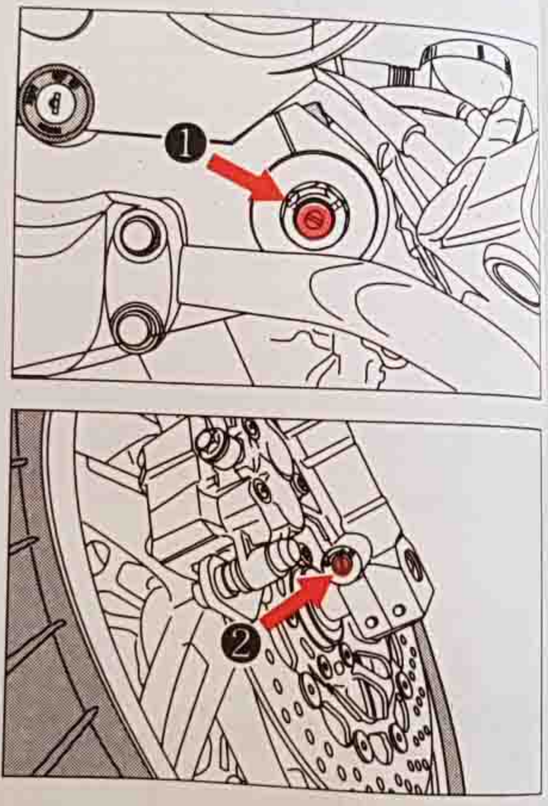
The length of the long spring provides the soft spring preload and the length of the short spring provides the stiff spring pre-load.

FRONT FORK

The standard settings of front forks are selected to meet various riding conditions such as low to high motorcycle speed and light to heavy load on the motorcycle.

The front forks settings can be adjusted for your preference and fine-tuning.

⊙ DAMPING FORCE ADJUSTMENT



The rebound and compression damping force can be individually adjusted by turning the respective adjusters.

The rebound damping force adjuster ① is located at the top of the front fork.

The compression damping force adjuster ② is located at the bottom of the front fork.

To adjust the damping force turn in the adjuster fully for "S" or "H" direction.

Count the number of clicks from the fully turned-in position.

Fully turned-in "H" direction provides stiffest damping force and turning "S" direction the adjuster will soften damping force.

The rebound and compression damping force is set on "Solo riding standard (refer to below chart)" position at the factory.

⚠ WARNING

Be sure to adjust the damping force on both front forks equally. Setting one front fork harder than the other will interfere the stability of the motorcycle.

GT650SEi & GT650PEi & GT650Ei

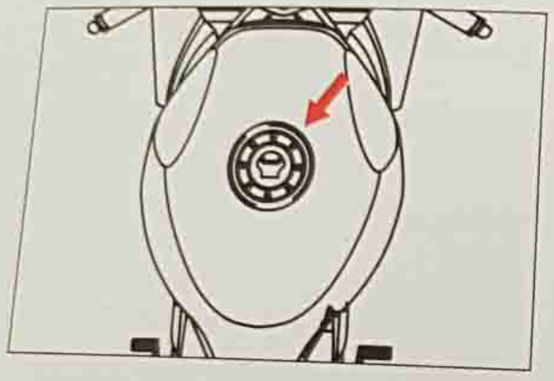
STANDARD FRONT FORK DAMPING FORCE			
		Rebound	Compression
Solo riding	Softer	Turn to "S" direction	Turn to "S" direction
	Standard	3 clicks out from end of "H" direction	End of "S" direction
	Stiffer	Turn to "H" direction	Turn to "H" direction
Dual riding		3 clicks out from end of "H" direction	2 clicks out from end of "S" direction

GT650REi

STANDARD FRONT FORK DAMPING FORCE			
		Rebound	Compression
Solo riding	Softer	Turn to "S" direction	Turn to "S" direction
	Standard	12 clicks out from end of "H" direction	10 clicks out from end of "H" direction
	Stiffer	Turn to "H" direction	Turn to "H" direction
Dual riding		12 clicks out from end of "H" direction	10 clicks out from end of "H" direction

SUPPLY OF GASOLINE, ENGINE OIL AND ENGINE COOLANT

GASOLINE



To open the fuel tank cap, insert the ignition key into the cap lock and turn it clockwise. With the key inserted, pull back the fuel tank cap.

To close the fuel tank cap, push down the fuel tank cap until the locking pin click into position.

The key must be in the cap lock before installing the cap.

⚠ WARNING

Do not overfill the fuel tank. Stop adding fuel when the fuel level reaches the bottom of the filler neck. If you fill the tank beyond this level, fuel may overflow when it expands due to engine heat or heating by the sun.

⚠ WARNING

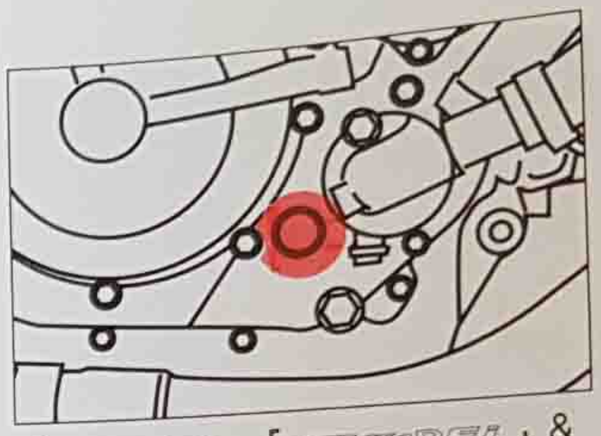
Gasoline is extremely flammable and toxic. Always observe the following precautions when refueling your 「GT650iP/S/REi」.

- **Never permit motorcycle refueling by anyone other than an adult.**
- **Refuel in a well ventilated area.**
- **Make sure the engine is off and avoid spilling fuel on a hot engine.**
- **Do not smoke, and make sure there are no open flames or sparks in the area.**
- **Avoid prolonged contact with skin and breathing of gasoline vapors.**
- **Keep children and pets away during refueling.**

ENGINE OIL

Long engine life depends much on the selection of quality oil and the periodic changing of the oil.

Daily oil level checks and periodic changes are two of the most important maintenances to be performed.



「GT650i」, 「GT650iP」 & 「GT650iS」

⊙ ENGINE OIL LEVEL CHECK

Follow the procedure below to inspect the engine oil level.

1. Start the engine and run it for a few minutes.
2. Stop the engine and wait three minutes.

⚠ WARNING

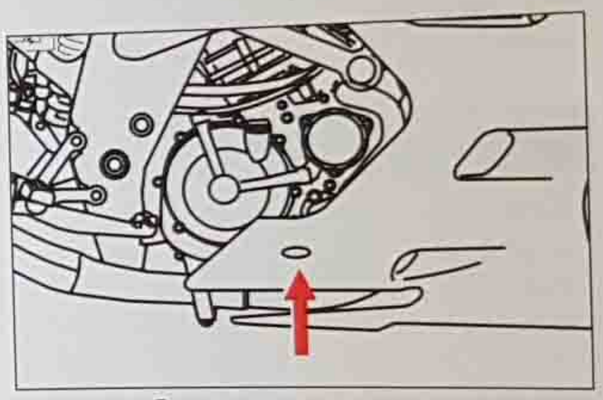
The engine and the components of the exhaust system become very hot and remain hot for some time after the engine has been stopped. Before handling these components, wear insulating gloves or wait until the engine and the exhaust system have cooled down.

3. Hold the motorcycle vertically.

NOTE

Position the motorcycle on firm and flat ground.

4. Inspect the engine oil level through the engine oil level lens on the right side on the engine.



「GT650iS」

NOTE

Engine oil expands and oil level increases when the engine oil is hot.
Check and adjust engine oil level when the engine oil is not hot.

⚠ CAUTION

Be sure to use the engine oil specified in the FUEL, ENGINE OIL AND ENGINE COOLANT RECOMMENDATION section.

⚠ CAUTION

Operating the motorcycle with an incorrect amount of engine oil can damage your motorcycle.

Too little or too much engine oil can damage your engine.

Place the motorcycle on level ground. Check the engine oil level with the engine oil level lens before each use of the motorcycle.

⚠ CAUTION

Never operate the motorcycle if the engine oil level is below the "Lower line mark (L)" in the engine oil level lens. Never fill the engine oil above the "Upper line mark (F)". Engine oil level being most suitable about 1 mm under the "Upper line mark (F)" of the engine oil level lens. In case of the engine oil pouring excessively, the engine output being made insufficient.
Be careful not to pour the engine oil excessively.

◉ ENGINE OIL AND FILTER CHANGE

⚠ CAUTION

More frequent servicing may be performed on motorcycles that are used under severe conditions, inspect
① Quantity of Engine oil,
② Pollution degree of Engine oil
before riding the motorcycle and then supplement and replace at any time to prevent damage of the engine.

Change the engine oil and filter, after first running 1,000 km and every running 6,000 km.

The engine oil should always be changed when the engine is hot so that the engine oil will be drained thoroughly from the engine.

The procedure is as follows.

ENGINE OIL CAPACITY	
Oil change	3,000 mℓ
Oil and filter change	3,200 mℓ
Engine overhaul	3,400 mℓ

⚠ CAUTION

In case of the engine oil being over filled, the engine output will be reduced. Be careful not to over fill the engine oil.

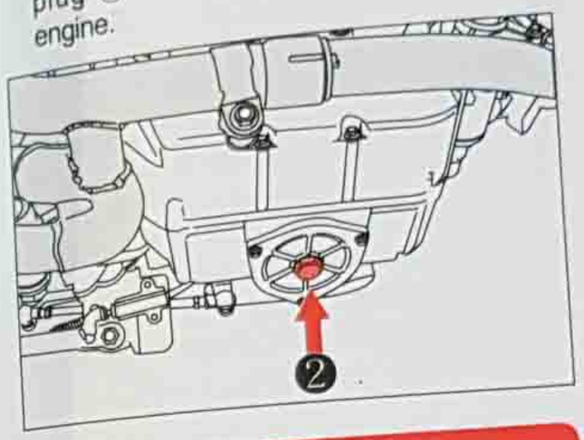
1. Place the motorcycle on the jack or block.

⚠ CAUTION

Improper jacking may cause damage to the frame or engine.

2. Place a drain pan under the engine.
3. Remove the engine oil filler plug ①.

4. Drain the engine oil by removing the drain plug ② located on the bottom of the engine.



⚠ WARNING

New and used oil can be hazardous.

Children and pets may be harmed by swallowing new or used oil.
Continuous contact with used engine oil has been found to cause skin cancer in laboratory animals. Brief contact with used oil may irritate skin.

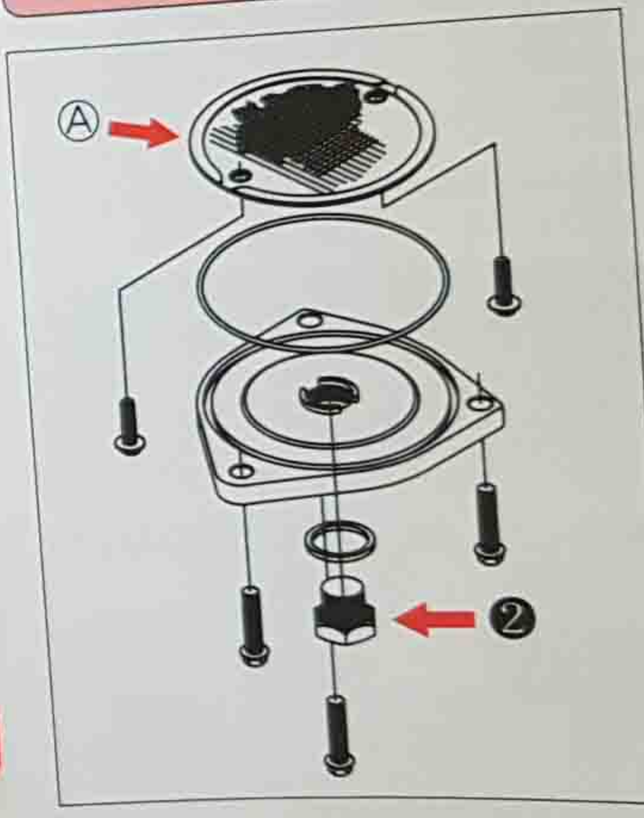
Keep new and used oil and used oil filters away from children and pets. To minimize your exposure to used oil, wear a long-sleeve shirt and moisture-proof gloves (such as dishwashing gloves) when changing oil. If oil contacts your skin, wash thoroughly with soap and water. Launder any clothing or rags if wet with oil. Recycle or properly dispose of used oil and filters.

⚠ WARNING

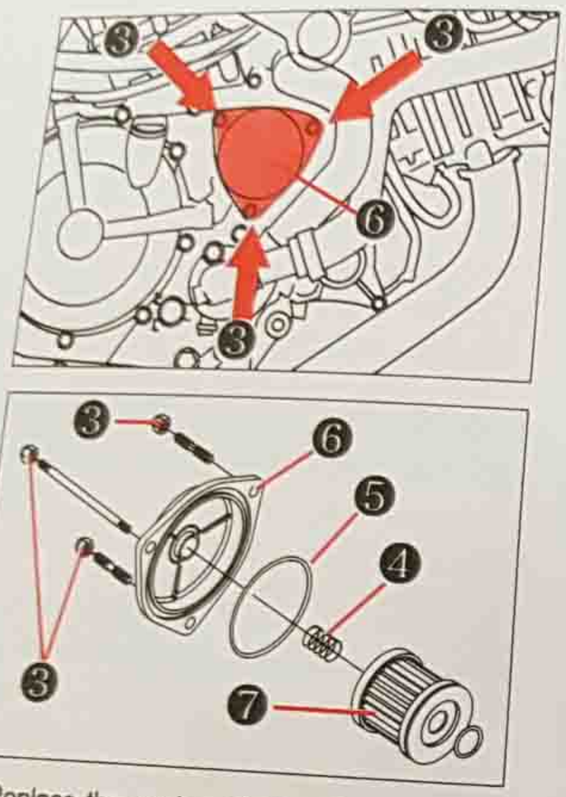
- The engine oil temperature may be high enough to burn you when the drain plug is loosened. Wait until the drain plug is cool enough to touch with bare hands before draining oil.
- Do not touch the hot muffler, or the hot muffler can burn you.

⚠ CAUTION

Remove, inspect and clean the oil strainer Ⓐ when replacing the Engine oil (specially, when first replacing).



5. Remove the three nuts ③ holding the engine oil filter cap ⑥ in place.

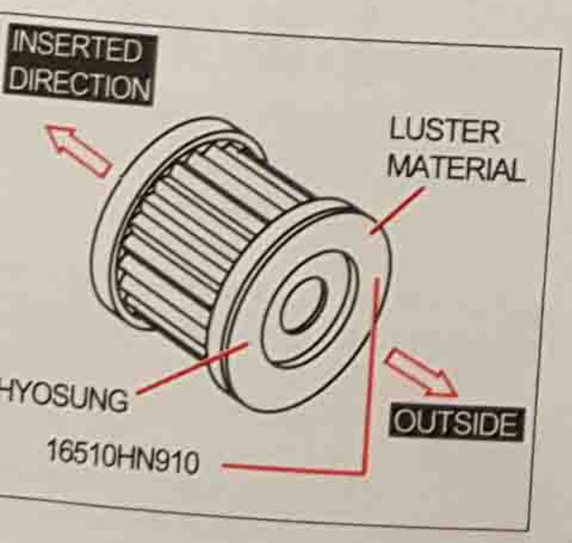


6. Replace the engine oil filter ⑦ with a new one.

⚠ CAUTION

Insert the filter so that surface of the filter hole turn toward the engine.

■ ENGINE OIL FILTER INSTALLATION



⚠ CAUTION

When installing the engine oil filter, the "HYOSUNG" character and "16510HN910" part's NO. must be installed toward the outside, otherwise the engine may be damaged.

7. Before replacing the engine oil filter cap ⑥, be sure to check that the engine oil filter spring ④ and the "O" ring ⑤ are installed correctly. Use new "O" ring each time the engine oil filter element is replaced.
8. Replace the oil filter cap ⑥ and tighten the nuts securely but do not over tighten them.
9. Replace the engine oil drain plug ② and tighten it securely. At this time, insert the gasket necessarily.
10. Pour the fresh engine oil through the engine oil filler hole. Approximately 3,200 mℓ of the engine oil will be required.

⚠ CAUTION

Approximately 3,000 mℓ of the engine oil must be required when changing the engine oil only without replacing the engine oil filter.

⚠ CAUTION

In case of the engine oil being over filled, the engine output will be reduced. Be careful not to over fill the engine oil.

⚠ CAUTION

Failure to use the correct oil can damage your motorcycle.

Engine damage may occur if you use the engine oil that does not meet Hyosung's specifications.

Be sure to use the engine oil specified in the FUEL, ENGINE OIL AND ENGINE COOLANT RECOMMENDATION section.

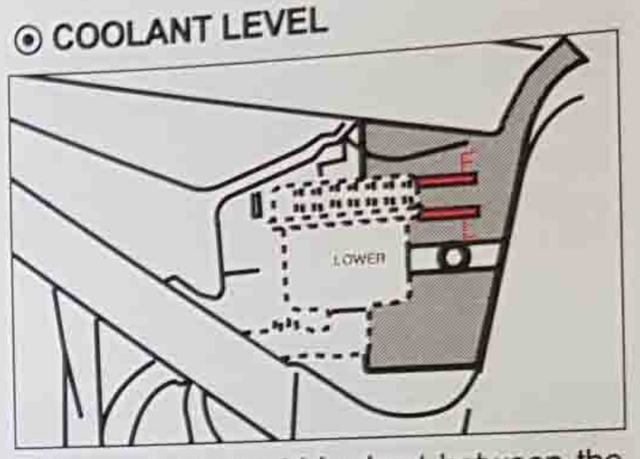
11. Install the engine oil filler plug ①.
12. Start the engine and allow it idle for a few minutes. Check to see that no the engine oil is leaking from the engine oil filter cap ⑥ and engine oil drain plug ②.
13. Check the engine oil level according to Engine Oil Level Check procedure.

⚠ CAUTION

Engine oil leaks from around the engine oil filter cap or drain plug indicate incorrect installation or the "O" ring / gasket damage. If you find any leaks or are not sure that the engine oil filter cap / drain plug has been properly installed, have the motorcycle inspected by your Hyosung dealer or qualified mechanic.

ENGINE COOLANT

⊙ COOLANT LEVEL



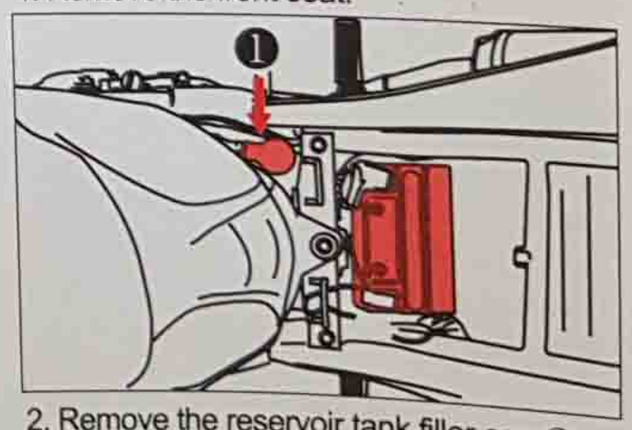
The coolant should be kept between the "F"(FULL) and "L"(LOW) level lines in the reservoir tank at all times. Inspect the level every time before riding while the motorcycle vertically. If the coolant is found lower than the "L" level line, add properly mixed coolant in the following way :

If the reservoir tank is emptied, pour the engine coolant to the reservoir tank and radiator.

⚠ WARNING

Wait for the engine to cool down before checking or topping up coolant level.

1. Remove the front seat.



2. Remove the reservoir tank filler cap ①.
3. Add properly mixed coolant through the filler hole until it reaches the "F" line of the reservoir tank.

Refer to the FUEL, ENGINE OIL AND ENGINE COOLANT RECOMMENDATION section (17 page).

⚠ CAUTION

Never top up beyond the "F" line or coolant will leak out when the engine is running.

4. Install the reservoir tank filler cap ①.

⚠ CAUTION

If coolant level drops too quickly or the reservoir tank is empty, check the cooling circuit for leaks. Have the repair carried out at an authorized Hyosung dealer.

⚠ WARNING

Engine coolant is harmful or fatal if swallowed or inhaled.

Do not drink anti-freeze or coolant solution. If swallowed, do induce vomiting. Immediately contact a poison control center or a physician.
Avoid inhaling mist or hot vapors ; if inhaled, remove to fresh air.
If coolant gets in eyes, flush eyes with water and seek medical attention.
Wash thoroughly after handling.
Solution can be poisonous to animals. Keep out of the reach of children and aminals.

N O T E

Adding only water will dilute the engine coolant and reduce its effectiveness. Add 50 : 50 mixture of engine coolant and water.

⊙ CHANGING THE COOLANT

Change the coolant every two years.

N O T E

About 1.6 ℓ of coolant will required when filling the radiator and reservoir tank.

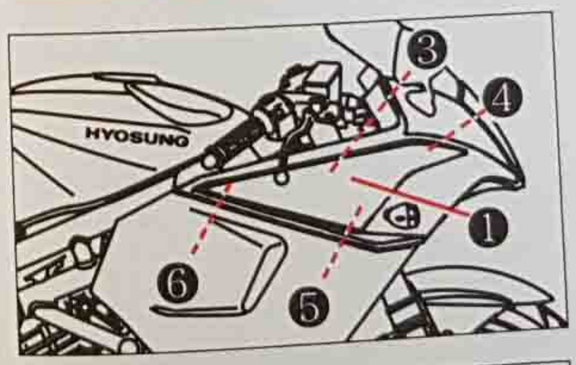
⊙ SIDE COWLING INNER [FOR 「GT650 SEi」 & 「GT650 REi」]

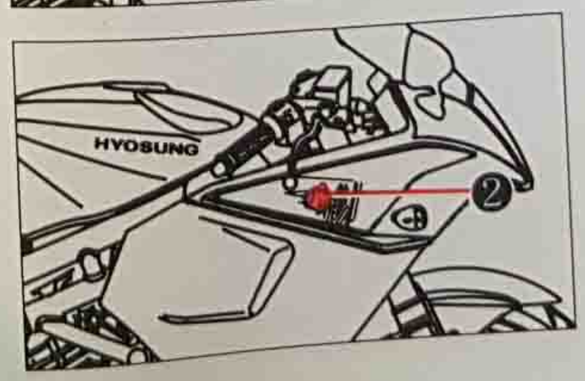
The 「GT650 SEi」 & 「GT650 REi」 have the "side cowling inner ①" at the rightside and leftside.
Use the "side cowling inner RH (Right Hand)" to operate the radiator cap ②.

To disassemble the "side cowling inner RH (Right Hand)", remove the scrivet ③ from the inside and unhook the hook ④, ⑤, ⑥.

⚠ WARNING

You can be injured by scalding fluid or steam if you open the radiator cap when the engine is hot.
After the engine cools, wrap a thick cloth around cap and carefully remove the cap by turning it a quarter to allow pressure to escape and then turn the cap all the way off.





RIDING TIPS

STARTING THE ENGINE

Before attempting to start the engine make sure :

1. Inspect every day once before riding the motorcycle.
2. The transmission is in neutral.
3. The ignition switch is in the "ON" position.
4. The engine stop switch is in the "◯" position.
5. Moving the side stand to the fully upper position.
6. Squeeze the clutch lever.

⚠ WARNING

Running the engine indoors or in a garage can be hazardous.
Exhaust gas contains carbon monoxide, a gas that is colorless and odorless and can cause death or severe injury.
Only run the engine outdoors where there is a fresh air.

⚠ CAUTION

Running the engine too long without riding may cause the engine to overheat.
Overheating can result in damage to internal engine components and discoloration of exhaust pipes.
Shut the engine off if you cannot begin your ride promptly.

⚠ WARNING

The 「 GT650I/P/S/REi 」 are equipped with the side stand ignition interlock system.
If the transmission is in neutral or the side stand up, you can only start the engine by squeezing in the clutch lever.
This side stand ignition interlock system prevents the motorcycle from being started with the side stand down.
Make sure that the side stand ignition interlock system is working properly before riding.

⚠ CAUTION

The position lamp, meter lamp, tail lamp and license plate lamp on this motorcycle always comes on when the ignition switch is turned to the "ON" position.
The head lamp is always lit when starting the engine.

⚠ CAUTION

- Release the starter switch immediately after the motorcycle has started.
- Avoid pressing the starter switch when the engine is running, or the starting motor damage.
- Do not engage the starting motor for more than five seconds at a time as it may overheat the wiring harness and starting motor.

If the engine does not start after several attempts, check the fuel supply and ignition system.
(Refer for Page 94)

When the ignition switch is set to "ON" position with the engine stopped, the meter lamp will come on and the needle of the tachometer will turn once to the end as a test of electric system operation.
Push the starter switch after the needle of the tachometer turn back.

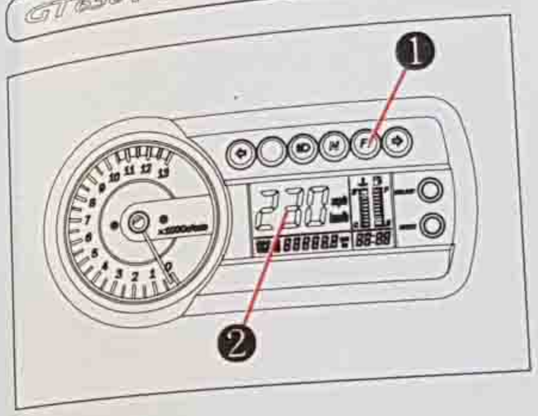
⚠ CAUTION

Do not attempt the start the engine until the needle of the tachometer completes a full sweep and returns to the rest position otherwise the engine will start badly.
If the engine does not start or runs badly, turn the ignition switch to the "OFF" position. After 8 seconds, turn the ignition switch on, allow the tachometer needle to complete it's sweep and return to the rest position and then attempt to restart.
This allows the ISC (Idling Speed Control) solenoid to be initialized.

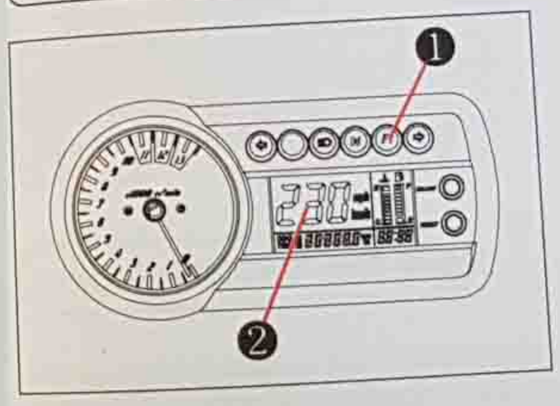
⚠ CAUTION

If the "FI" check lamp does not come on when the ignition switch is set to "ON" position with the engine stopped or fail to go out after the engine start, contact an authorized Hyosung dealer.

GT650PEi & GT650EEi



GT650REi & GT650SEi



If the fuel injection system fails, the LCD display panel ② indicates "FI" letters and speedometer alternately, and the "FI" check lamp ① comes on and remains lit.

Riding the motorcycle with the LCD display panel indicating a problem with electric fuel injection system and with the "FI" check lamp lit after starting the engine can damage the engine and transmission.

Whenever the "FI" check lamp is lit and the LCD display panel indicates "FI" while riding the motorcycle, have your authorized Hyosung dealer or a qualified mechanic inspect the electric fuel injection system as soon as possible.

⚠ CAUTION

The LCD display panel ② indicates "FI" letters and speedometer alternately, and the "FI" check lamp ① comes on and remains lit when the ignition switch is set to "ON" position with the engine stopped as a test of injection system operation.
As soon as the engine starts, the LCD display panel ② indicates speedometer continuously and the "FI" check lamp ① should go out.

STARTING OFF

⚠ WARNING

Sudden side winds, which can occur when being passed by large vehicles, at tunnel exits or in hilly areas, can upset your control.
Reduce your speed and be alert to side winds.

⚠ WARNING

- *Riding these motorcycles at excessive speed increases your chances of losing control of the motorcycle. This may result in an accident. Always ride within the limits of your skills, your motorcycle, and the riding conditions.*
- *Removing your hands from the handlebars or feet from the footrests during operation can be hazardous. If you remove even one hand or foot from the motorcycle, you can reduce your ability to control the motorcycle. Always keep both hands on the handlebars and both feet on the footrests of your motorcycle during operation.*

Squeeze the clutch lever and pause momentarily. Engage first gear by depressing the gearshift lever downward.

Turn the throttle grip toward you and at the same time release the clutch lever gently and smoothly. As the clutch engages, the motorcycle will start moving forward.

To shift to the next higher gear, accelerate gently, then close the throttle and squeeze the clutch lever simultaneously. Lift the gearshift lever upward to select the next gear and release the clutch lever and open the throttle again.

Select the gears in this manner until sixth gear is reached.

⚠ WARNING

Do not turn for the ignition switch to its "OFF" or "LOCK" position or the engine stop switch to its "⊘" position while riding the motorcycle.

⚠ WARNING

Downshifting while the motorcycle is leaned over in a corner may cause rear wheel skid and loss of control.
Reduce your speed and downshift before entering corner.

⚠ WARNING

Opening the throttle suddenly can be hazardous.
The front wheel can lift off the ground and cause loss of control of the motorcycle.
Always open the throttle gradually when you accelerate.

USING THE TRANSMISSION

The transmission is provided to keep the engine operating smoothly in its normal operating speed range. The gear ratios have been carefully chosen to meet the characteristics of the engine. The rider should always select the most suitable gear for the prevailing conditions.

⚠ WARNING

Downshifting when engine speed is too high can ;

- **cause the rear wheel to skid and lose traction due to increased engine braking, resulting in an accident ; or**
- **force the engine to overrev in the lower gear, resulting in engine damage.**

⚠ WARNING

Shifting incorrectly can be hazardous.

Engine and drive chain damage can occur if you do not shift correctly.

Slow down before downshifting and always release the throttle every time you shift gears.

⚠ CAUTION

Revving the engine into the red zone of the tachometer can cause severe engine damage.

Never allow the engine to rev into the red zone of the tachometer in any gear.

RIDING ON HILLS

When climbing steep hills, the motorcycle may begin to slow down and show lack of power. At this point, you should shift to a lower gear so that the engine will again be operating in its normal power range. Shift gear rapidly to prevent the motorcycle from losing momentum.

When riding down a steep hill, the engine may be used for braking by shifting to a lower gear.

Be careful, however, not to allow the engine to overrev.

⚠ WARNING

Operating this motorcycle on steep hills can be hazardous.
Never operate this motorcycle on steep hills.

STOPPING AND PARKING

1. Turn the throttle grip away from you to close the throttle completely.
2. Apply the front and rear brakes evenly at the same time.
3. Downshift through the gears as road speed decreases.
4. Select neutral with the clutch lever squeezed towards the grip (disengaged position) just before the motorcycle stops. Neutral position can be confirmed by observing the neutral indicator lamp.

⚠ WARNING

Inexperienced riders tend to underutilize the front brake. This can cause excessive stopping distance and lead to a collision. Using only the front or rear brake can cause skidding and loss of control.

Apply both brakes evenly and at the same time.

⚠ WARNING

Hard braking while turning may cause wheel skid and loss of control.

Brake before you begin to turn.

⚠ WARNING

Hard braking on wet, loose, rough, or other slippery surfaces can cause wheel skid and loss of control.

Brake lightly and carefully on slippery or irregular surfaces.

⚠ WARNING

Following another vehicle too closely can lead to a collision. As vehicle speeds increase, stopping distance increases progressively.

Be sure you have a safe stopping distance between you and the vehicle in front of you.

5. Park the motorcycle on a firm, flat surface where it will not fall over.

⚠ WARNING

A hot muffler can burn you. The muffler will be hot enough to burn you for some time after stopping the engine.

Park the motorcycle where pedestrians or children are not likely to touch the muffler.

6. Turn the ignition key to the "OFF" position.
7. Push down the ignition key from the "OFF" position, come up again and turn it to the "LOCK" position.
8. Remove the ignition key.

BREAK-IN

This section explains how important proper break-in is to achieve maximum life and performance from your new **Hyosung**.

The following guidelines explain proper break-in procedures.

★ MAXIMUM THROTTLE OPENING RECOMMENDATIONS

The table below shows the maximum throttle opening recommendation during the break-in period.

Initial 800 km (500 miles)	Less than 1/2 throttle
Up to 1,600 km (1,000 miles)	Less than 3/4 throttle

★ AVOID CONSTANT LOW SPEED

Operating the engine at constant low speed (light load) can cause parts to glaze and not seat in. Allow the engine to accelerate freely through the gears, without exceeding the recommended maximum limits. Do not, however, use full throttle for the first 1,600 km (1,000 miles).

★ VARY THE ENGINE SPEED

The engine speed should be varied and not held at a constant speed.

This allows the parts to be "loaded" with pressure and then unloaded, allowing the parts to cool.

This aids the mating process of the parts. It is essential that some stress be placed on the engine components during break-in to ensure this mating process.

Do not, though, apply excessive load on the engine.

★ BREAKING IN THE NEW TIRES

New tires need proper break-in to assure maximum performance, just as the engine does.

Wear in the tread surface by gradually increasing your cornering lean angles over the first 160 km (100 miles) before attempting maximum performance. Avoid hard acceleration, hard cornering, and hard braking for the first 160 km (100 miles).

⚠ WARNING

Failure to perform break-in of the tires could cause tire slip and loss of control. Use extra care when riding on new tire. Perform proper break-in of the tire as described in this section and avoid hard acceleration, hard cornering, and hard braking for the first 160 km (100 miles).

★ ALLOW THE ENGINE OIL TO CIRCULATE BEFORE RIDING

Allow sufficient idling time after warm or cold engine start up before applying load or revving the engine. This allows time for the lubricating oil to reach all critical engine components.

★ OBSERVE YOUR FIRST, AND MOST IMPORTANT 1,000 km SERVICE

The 1,000 km (600 miles) service is the most important service your motorcycle will receive.

During break-in procedures, all of the engine components will have worn in and all of the other parts will have seated in.

All adjustments will be restored, all fasteners will be tightened, and the dirty engine oil and engine oil filter will be replaced.

Timely performance of the 1,000 km (600 miles) service will ensure optimum service life and performance from the engine.

⚠ CAUTION

Service should may be peformed before 1,000 km (600 miles) on motorcycle that are used under severe conditions.

⚠ CAUTION

The 1,000 km (600 miles) service should be performed as outlined in the INSPECTION AND MAINTENANCE section of this Owner's Manual. Pay particular attention to the 「CAUTION」 and 「WARNING」 in that section.

INSPECTION BEFORE RIDING

⚠ WARNING

Failure to inspect the motorcycle before operating it can be hazardous.
Failure to perform proper maintenance can also be hazardous.

Failure to inspect and maintain your motorcycle increases the chances of an accident or equipment damage.

Always inspect your motorcycle each time you use it to make sure it is in safe operating condition. Refer to the INSPECTION AND MAINTENANCE section in this owner's manual.

⚠ WARNING

Operating this motorcycle with improper tires, or with improper or uneven tire pressure can be hazardous.

If you use improper tires or improper or uneven tire pressure, you may lose control of the motorcycle.
This will increase your risk of an accident.

Always use the size and type tires specified in this owner's manual.
Always maintain proper tire pressure as described in the INSPECTION AND MAINTENANCE section.

⚠ WARNING

Operating this motorcycle with improper modifications can be hazardous.

Improper installation of accessories or modification of this motorcycle may cause changes in handling. In some situations, this could lead to an accident.

Never modify this motorcycle through improper installation or use of accessories.

⚠ WARNING

Overloading this motorcycle or carrying or towing cargo improperly can be hazardous.

Overloading or improper towing could cause changes in motorcycle handling which could lead to an accident.

Never exceed the stated load capacity for this motorcycle.

Check the condition of the motorcycle to help make sure that you do not have mechanical problems, or you might get stranded somewhere when you ride. Before riding the motorcycle, be sure to check the following items. Be sure your motorcycle is in good condition for the personal safety of the rider and protection of the motorcycle.

⚠ WARNING

Checking maintenance items when the engine is running can be hazardous.

You could be severely injured if your hands or clothing gets caught in moving engine parts.

Shut the engine off when performing maintenance checks, except when checking the lamp, engine stop switch and throttle.

WHAT TO CHECK	CHECK FOR :
Steering	• Smoothness • No restriction of movement • No play or looseness
Throttle	• Correct play in the throttle cable • Smooth operation and positive return of the throttle grip to the closed position
Clutch	• Correct lever play • Smooth and progressive action
Brakes	• Proper operation • Fluid level in the reservoir to be above "LOWER" line • Correct pedal and lever play • No "sponginess" • No fluid leakage • Brake pads not to be worn down to the limit line
Suspension	Smooth movement
Fuel	• Enough fuel for the planned distance of operation • Fuel hoses connected securely • No damage to fuel tank or cap • Tank cap closed securely
Gerashift lever	• No damage lever • Smooth operation
Drive chain	• Correct tension or slack • Adequate lubrication • No excessive wear or damage
Tires	• Correct pressure • Adequate tread depth • No cracks or cuts
Engine oil	• Correct level and pollution degree of engine oil • No engine oil leakage
Cooling system	• Proper coolant lever • No coolant leakage
Lamp	Operation of all lamps and indicators
Horn	Correct function
Rear-view mirror & Reflector	No dust or damage
Engine stop switch	Correct function
Side stand / Ignition interlock switch	Proper operation
General condition	• Bolts and nuts are tight • No rattle from any parts of motorcycle with the engine running • No visible evidence of damage

⚠ CAUTION

- The engine and muffler are too hot right after engine stopped, please be careful not to be burned.
- Don't inspect the engine indoor where there is little or no ventilation available. The exhaust gas is extremely poisonous.

PERIODIC MAINTENANCE

The chart indicates the intervals between periodic service in kilometers.

At the end of each interval, be sure to inspect, check, lubricate and service as instructed.

If your motorcycle is used under high stress conditions such as continuous full throttle operation, or is operated in a dusty climate, certain services should be performed more often to ensure reliability of the machine as explained in the maintenance section.

Your **Hyosung** dealer can provide you with further guide lines.

Steering components, suspensions and require very special and careful servicing. For maximum safety we suggest that you have these items inspected and serviced by your authorized **Hyosung** dealer or a qualified service mechanic.

⚠ WARNING

Improper maintenance or failure to perform recommended maintenance increases the chance of an accident or motorcycle damage.
Always follow the inspection and maintenance recommendations and schedules in this owner's manual.
Ask your Hyosung dealer or a qualified mechanic to do the maintenance items marked with a pentagram (★).
You may perform the unmarked maintenance items by referring to the instructions in this section, if you have mechanical experience.
If you are not sure how to do any of the jobs, have your Hyosung dealer or a qualified mechanic do them.

⚠ WARNING

Running the engine indoors or in a garage can be hazardous.
Exhaust gas contains carbon monoxide, a gas that is colorless and odorless and can cause death or severe injury.
Only run the engine outdoors where there is fresh air.

⚠ CAUTION

Using poor quality replacement parts can cause your motorcycle to wear more quickly and may shorten its useful life.
Use only genuine Hyosung replacement parts or their equivalent.

N O T E

The MAINTENANCE CHART specifies the minimun requirements for maintenance. If you use your motorcycle under severe conditions, perform maintenance more often than shown in the chart. If you have any questions regarding maintenance intervals, consult your Hyosung dealer or a qualified mechanic.

⊙ LUBRICATION POINTS

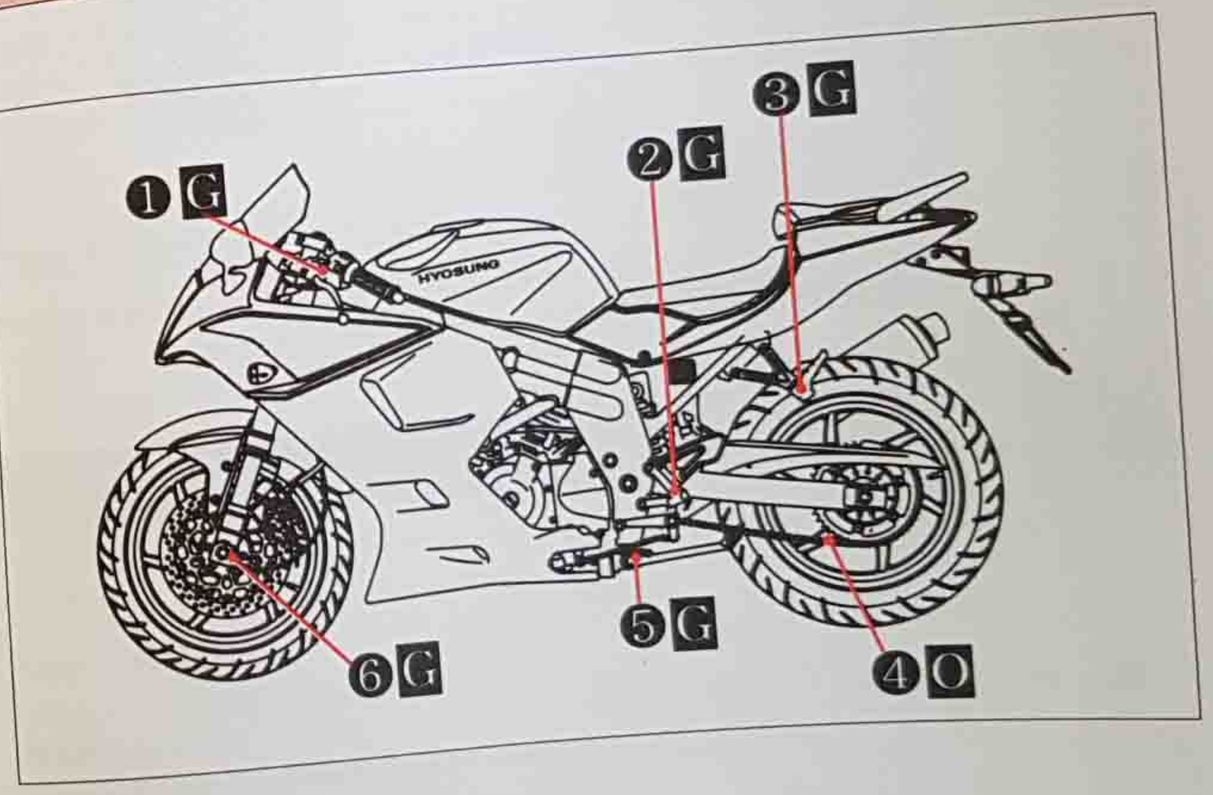
Proper lubrication is important for smooth and long life of each working part of your motorcycle and also for safe riding.

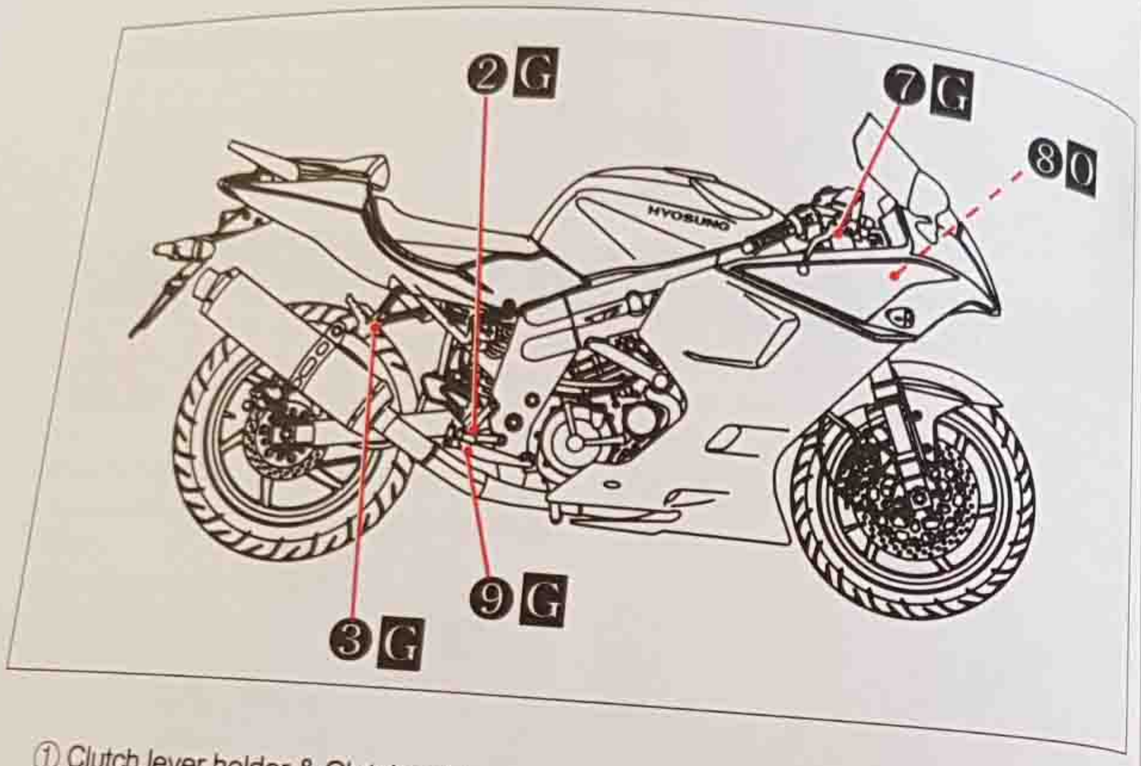
It is a good practice to lubricate the motorcycle after a long rough ride or after it gets wet in the rain or after washing it.

Major lubrication points are indicated as follows.

⚠ CAUTION

Lubricating switches can damage the switches.
Do not apply grease and oil to the switches.





① Clutch lever holder & Clutch cable
② Footrests pivot
③ Passenger footrests pivot
④ Drive chain
⑤ Side stand pivot and spring hook
⑥ Speedo sensor
⑦ Front brake lever holder
⑧ Throttle cable
⑨ Rear brake pedal pivot

O - Motor oil, G - Grease

NOTE

"- - - - -" : means the invisable parts.

⊙ ENGINE

Item \ Interval	First 1,000 km	Every 6,000 km	Every 12,000 km
Air cleaner element	Clean every 3,000 km · Replace every 12,000 km		
Exhaust pipe nuts and muffler mounting bolts ★	Tighten	Tighten	—
Valve clearance adjust ★	Inspect	Inspect	—
Cylinder head bolt ★	Tighten	Tighten	—
Spark plug	Clean	Clean	Replace
Fuel hose	Inspect	Inspect	—
Engine oil	Replace every 4 years		
Engine oil filter	Replace	Replace	—
Throttle cable	Replace	Replace	—
Idle speed ★	Inspect	Inspect	—
Clutch ★	Inspect	Inspect	—
Engine coolant ★	Inspect	Inspect	—
Radiator hose ★	Replace every 2 years		
	—	Inspect	—
	Replace every 4 years		

⊙ CHASSIS

Item \ Interval	First 1,000 km	Every 6,000 km	Every 12,000 km
Drive chain ★	Clean and lubricate every 1,000 km		
Brake ★	Inspect	Inspect	—
Brake hose ★	Inspect	Inspect	—
	Replace every 4 years		
Brake fluid ★	Inspect	Inspect	—
	Replace every 2 years		
Tire	Inspect	Inspect	—
Steering ★	Inspect	Inspect	—
Front forks ★	—	Inspect	—
Rear shock absorber ★	—	Inspect	—
Chassis nuts and bolts ★	Tighten	Tighten	—
General lubrication	Lubricate	Lubricate	—

NOTE

"★" : Ask your Hyosung dealer or qualified mechanic to do the maintenance items marked.

INSPECTION AND MAINTENANCE

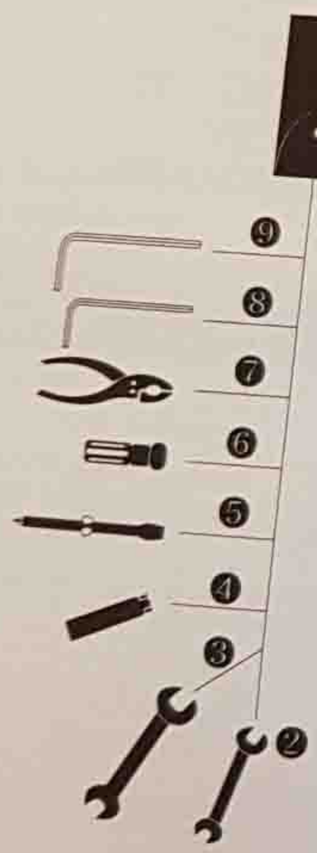
TOOL

To assist you in the performance of periodic maintenance, a tool kit is supplied.

The tool kit is attached on the back of the rear seat with a rubber band.

The tool kit consists of the following items.

NO.	NAME
1	Tool bag
2	10 × 12 mm open end spanner
3	14 × 17 mm open end spanner
4	Spark plug wrench
5	Combination screw driver
6	Screw driver handle
7	Pliers
8	Hexagon wrench 4 mm
9	Hexagon wrench 6 mm



ENGINE OIL

Check if there is leakage from crankcase.

FUEL HOSE

Inspect the fuel hoses for damage and fuel leakage. If any defect are found the fuel hoses must be replaced.

Replace the fuel hoses every 4 years.

GASOLINE

Check if there is leakage from fuel tank, fuel pump, hoses and electric fuel injection system.

ENGINE COOLANT

Check if there is leakage from the radiator, coolant hose.

RADIATOR

Check if there is damage from the radiator.

RADIATOR HOSE

Check to see the radiator hoses for crack, damage or engine coolant leakage.

If any defects are found, replace the radiator hoses with new ones.

Replace the radiator hoses every 4 years.

RUBBER CAP OF CABLES

Wipe them up with a cloth or towel when washing.

EXHAUST PIPE AND MUFFLER

Inspect the exhaust pipe and muffler joint for loosening.

FRONT AND REAR SUSPENSIONS

Periodically check for the following :

- Keep the front brake lever pulled in and push down on the handlebars repeatedly to compress the front fork.

The fork should compress in a smooth movement and must show no traces of oil on the legs.

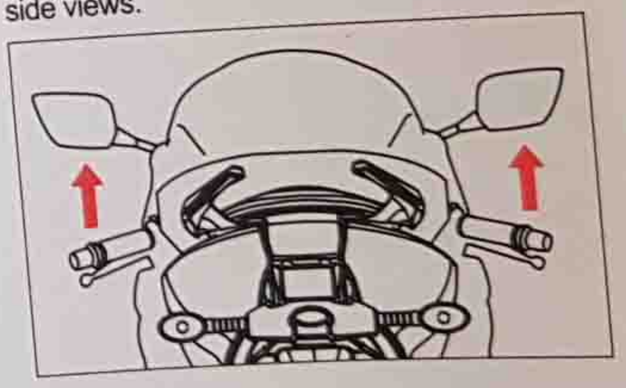
- Inspect the rear shock absorber for oil leakage and spring condition.
- Ensure that all components are properly tightened and check the front and rear suspension articulated joints for correct operation.
- Inspect whether the steering stem is well assembled while moving front fork up/downwards and/or foreward/backward.

⚠ CAUTION

In the event of malfunction or if the suspension needs expert servicing, contact an authorised Hyosung dealer.

REAR-VIEW MIRROR

Check if the mirror shows the rear and/or side views.



REFLECTOR

Check if the reflector is dusty or damaged.

BATTERY

⊙ INSPECTION OF BATTERY SOLUTION LEVEL

The battery is located under the front seat.

MF (Maintenance Free) battery of airtight type is used for this motorcycle.

It is not necessary to inspect or supplement battery fluid.

However, have your dealer check the charging condition of the battery periodically.

⚠ CAUTION

- **Do not remove airtight cover as it is a permanently sealed type battery.**
- **Keep separate from the motorcycle if not used for a long time to reduce electric discharge and electric leakage.**
- **Remove the ⊖ negative terminal when storing the motorcycle.**

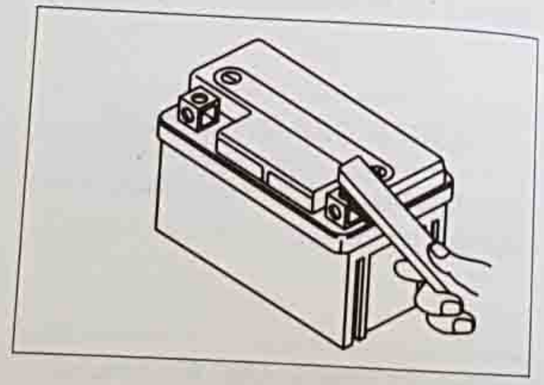
⚠ WARNING

Never invert the battery cables.
Ensure that the ignition switch is in position "OFF" before connecting or disconnecting the battery, otherwise some components might damage.

⊙ CHECK AND CLEAN OF BATTERY TERMINAL

Clean the battery terminal when it is dusty or rusted.

1. Set the ignition switch "OFF" position.
2. Remove the front seat.
3. Check the battery lead wire and terminal.
4. If necessary : disconnect the negative ⊖ battery wire first, then disconnect the positive ⊕ battery wire.
   Remove the battery.
5. Clean the terminal.
   If there is white dust, clean it with warm water.
6. Connect the battery wires and grease the terminal lightly.
   When reinstalling the battery, be sure to connect the positive ⊕ battery wire first, then connect the negative ⊖ battery wire.



⚠ CAUTION

- **Keep the battery away from fires.**
- **When disconnecting the battery wire, be sure to remove the negative ⊖ battery wire first with the ignition switch "OFF" position, then remove the positive ⊕ battery wire.**
  When reinstalling the battery, be sure to connect the positive ⊕ battery wire first, then connect the negative ⊖ battery wire.
- **Ensure the battery wires are fastened tightly.**
- **Incorrect installation of the battery will reverse the terminal position resulting in possible electrical system damage due to incorrect battery lead connection.**
  The red lead wire must go to the positive ⊕ terminal and the black (or black with white tracer) lead wire must go to the negative ⊖ terminal.
- **Never charge a battery while still in the machine as damage may result to the battery or regulator / rectifier.**

AIR CLEANER

The air cleaner is located under the fuel tank.

If the air cleaner element has become clogged with dust, intake resistance will increase with a resultant decrease in power output and an increase in fuel consumption. If riding under severe conditions must be cleaned or replaced more frequently than maintenance schedule. Check and clean the air cleaner element periodically according to the following procedure.

⚠ CAUTION

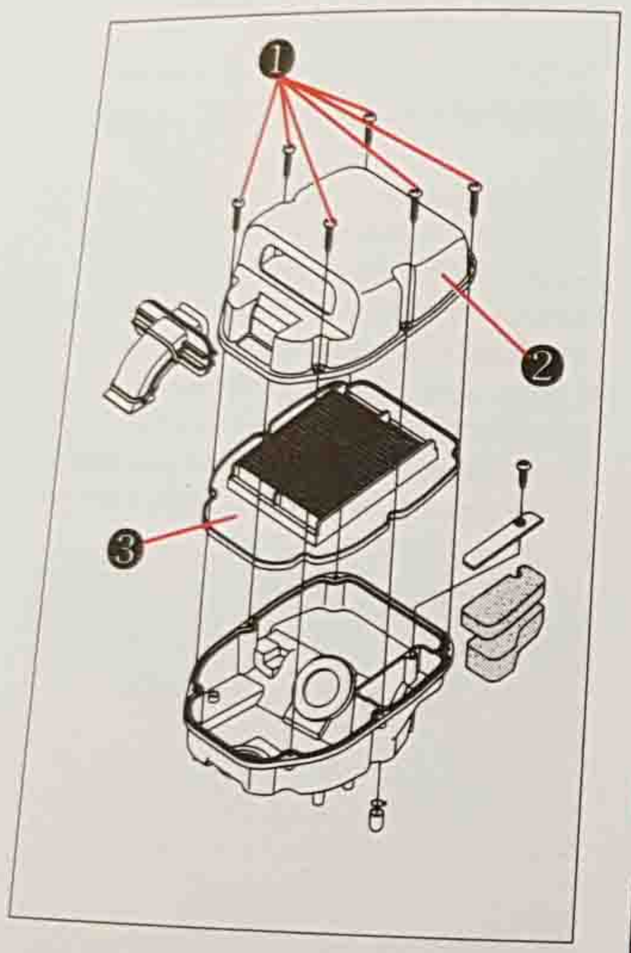
Never operate the engine without the element in position.
Operating the engine without the air cleaner element will increase engine wear. Always be sure that the air cleaner element is in excellent operational condition.
The life of the engine depends largely on this single component.

⚠ CAUTION

If the air cleaner element is polluted it will result in starting difficulty, engine output reduced, combustion efficiency decline, and sooty smoke (black smoke). At this time, inspect and clean the air cleaner element and confirm.

To remove the air cleaner element :

1. Remove the fuel tank.
2. Remove the six screws ①.
3. Pull up the air cleaner cap ②, and the air cleaner element ③.



4. Clean the air cleaner element for the following :
   1) When the air cleaner element clean with the air gun, necessarily blow at the inside by compressed air.
   2) Carefully examine the air cleaner element for tears during cleaning.
   Replace it with a new one if it is torn.
   3) Assemble the element completely or damage severely the engine.
   4) Be careful not to allow water to go inside the air cleaner element.

⚠ CAUTION

Before and during the cleaning operation, inspect the element for tears.
A torn element must be replaced.
Be sure to install the element snugly and correctly, so that no incoming air will bypass it.
Remember, rapid wear of the piston rings and cylinder bore is often caused by a defective or poorly fitted element.

⚠ CAUTION

- **When the air cleaner element is not installed correctly, dust can go inside and severely damage the engine.**
- **Be careful not to allow water to go into the element while washing.**

⚠ CAUTION

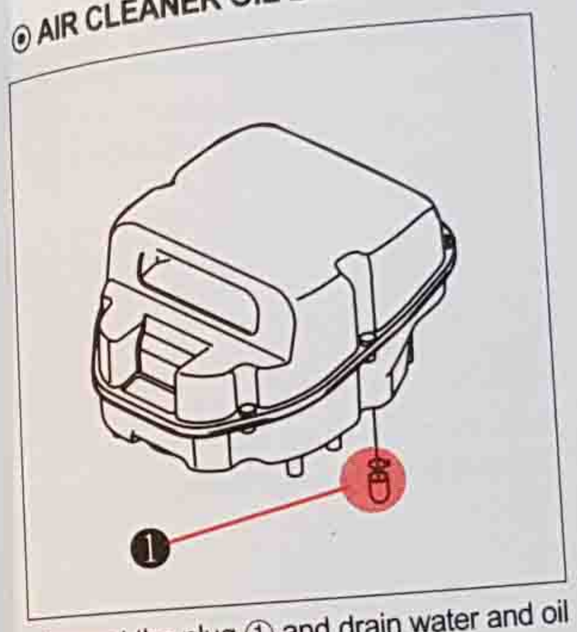
More frequent servicing may be performed on the motorcycle that are used under severe conditions, also clean the air cleaner element when replacing the oil to prevent damage of the engine.

⚠ WARNING

Operating the engine without the air cleaner element in place can be hazardous.

Never run the engine without the air cleaner element in place.

⊙ AIR CLEANER OIL DRAIN PLUG

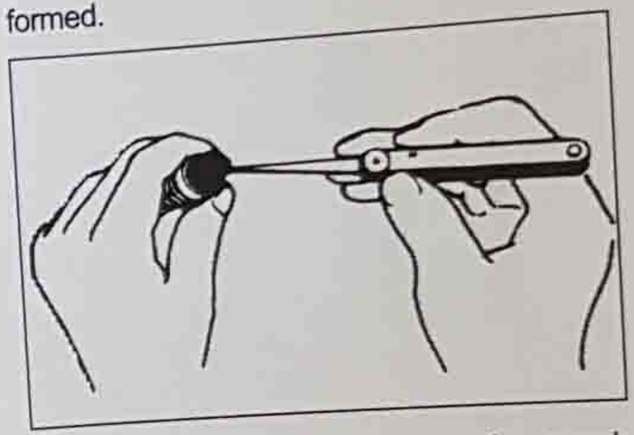


Inspect the plug ① and drain water and oil at the periodic maintenance interval.

The air cleaner oil drain plug ① is located beneath the air cleaner case.

SPARK PLUG

Check the spark plugs every time a scheduled maintenance service is performed.



At regular intervals, remove the spark plugs and clean off any carbon deposits or replace as required.

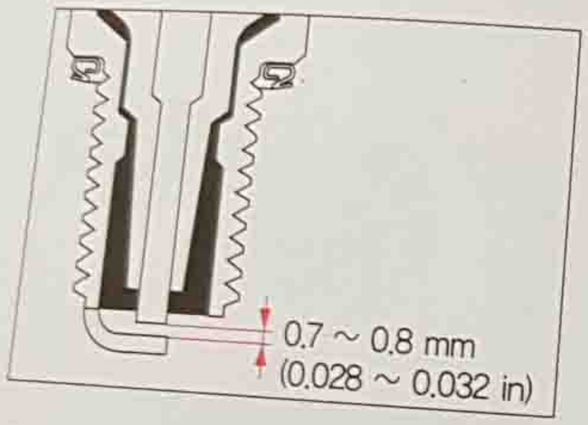
To remove and clean the spark plugs :

⚠ WARNING

Before carrying out the following operations, let the engine and the muffler cool down to ambient temperature, in order to avoid burns.

1. Disconnect spark plug caps.
2. Remove all the dirt from the base of the spark plugs, then unscrew it and extract it from its seat, taking care that neither dust nor other substances enter the cylinder.
3. Make sure that there are neither carbon deposits, nor corrosion marks on the electrode and on the central part : if necessary, clean them with the special cleaners for spark plugs, with an iron wire and / or a metal brush.
4. Energetically blow some air, in order to prevent the removed residues from get-

ting into the engine. Change the spark plugs if it shows cracks on the insulating material, corroded electrodes or excessive deposits.



5. Check the electrode gap with a thickness gauge. The gap must be 0.7 ~ 0.8 mm (0.028 ~ 0.032 in) if necessary, adjust it.
6. Make sure that the washer is in good condition. Fit the washer and screw the spark plug finger-tight to avoid damaging the thread.
7. Tighten using the spanner supplied with the tool kit. Screw in each spark plug by one half turn to compress the washer.

TIGHTENING TORQUE	
SPARK PLUG	11 N · m (1.1 kgf · m)

PLUG REPLACEMENT GUIDE	
Hotter type	CR7E
Standard type	CR8E
Colder type	CR9E

⚠ CAUTION

The spark plug must be tightened firmly, otherwise the engine may overheat and severe damage may occur.

Use recommended spark plugs only. A spark plug of the wrong rating may shorten engine life and cause loss of performance.

8. Fit the spark plugs cap properly, to prevent it coming off due to engine vibration.

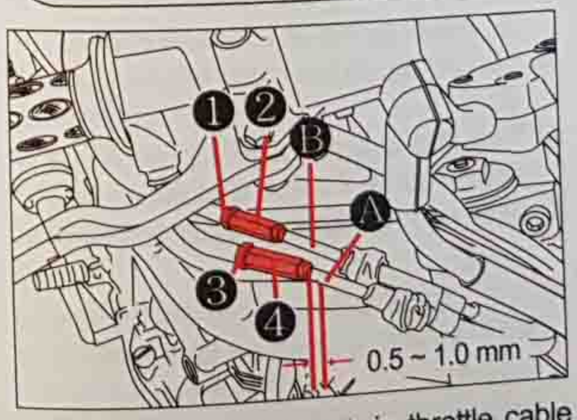
IDLING ADJUSTMENT

This engine features EFI (electronic fuel injection). The idle speed is not adjustable.

⚠ CAUTION

Do not attempt to make any adjustment to the idle speed as it may permanently damage the EFI system.

THROTTLE CABLE PLAY ADJUSTMENT



This motorcycle has a twin throttle cable system. Cable Ⓐ is for throttle cable and cable Ⓑ is for returning cable.

To adjust the cable play :
1. Hold the motorcycle vertically.
2. Uncover the protection.
3. Loosen the lock nut ①.
4. Turn in the adjuster ② fully.
5. Loosen the lock nut ③.
6. Turn the adjuster ④ in or out until the throttle cable play is between 0.5 ~ 1.0 mm (0.02 ~ 0.04 in).
7. Tighten the lock nut ③ while holding the adjuster ④.
8. While holding the throttle grip at the fully closed position, slowly turn out the adjuster ② to feel resistance.
9. Tighten the lock nut ① while holding the adjuster ②.
10. Check free play again.
11. Cover the protection.

⚠ WARNING

Inadequate throttle cable play can cause engine speed to rise suddenly when you turn the throttle grip.
This can lead to loss of rider control.

Adjust the throttle cable play so that engine idle speed does not rise due to throttle grip movement.

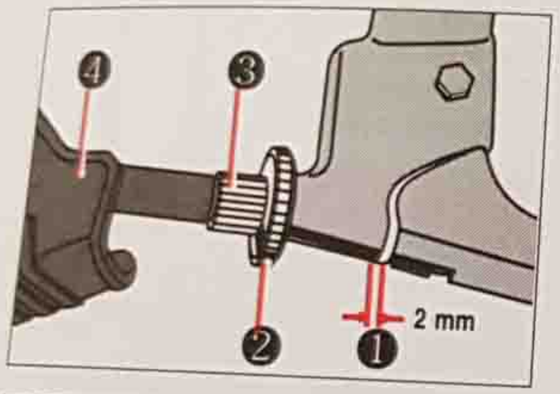
⚠ CAUTION

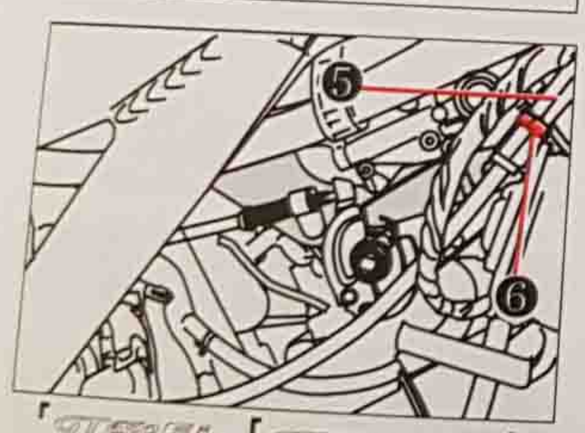
When finished, turn the handlebars to make sure its movement does not affect the engine idle rpm and check that the throttle grip - when opened and then released - returns smoothly to the closed position.

CLUTCH CABLE ADJUSTMENT

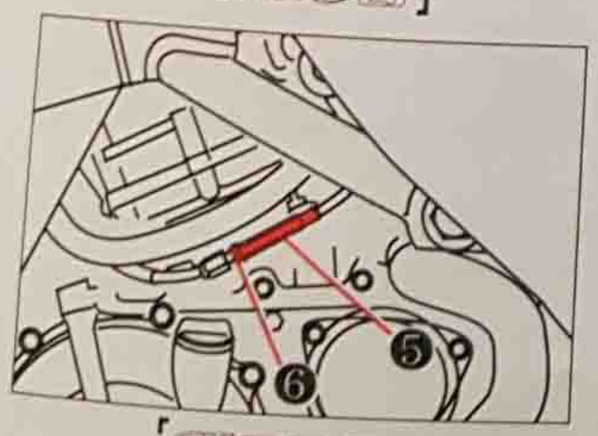
At each maintenance interval, adjust the clutch cable play by means of clutch cable adjuster.

The cable play should be 2 mm (0.08 in) as measured at the clutch lever holder before the clutch begins to disengage.





「GT650」, 「GT650T」 &
「GT650S」



「GT650R」

① Clutch lever play
② Clutch lever adjuster lock nut
③ Clutch lever adjuster
④ Rubber boot
⑤ Clutch cable adjuster
⑥ Clutch cable adjuster lock nut

If you find the play of the clutch lever incorrect, adjust it in the following way :

⊙ CLUTCH CABLE PLAY ADJUSTMENT

- A basis adjustment be allowed by the clutch lever adjuster ③.
- Uncover the rubber boot ④.
- Loosen the lock nut ② counter-clockwise.
- Turn the clutch lever adjuster ③ in or out to acquire the specified play.
- After end of adjustment, tighten the lock nut ② clockwise fully and cover the rubber boot ④.
- If not adjust by the clutch lever adjuster ③, adjust by the clutch cable adjuster ⑤.
- Loosen the clutch cable adjuster lock nut ⑥.
- Turn the clutch cable adjuster ⑤ in or out to acquire the specified play.
- After end of adjustment, tighten the lock nut ⑥.
- The clutch cable should be lubricated with a light weight oil whenever it is adjusted.

Clutch cable play ①	2 mm (0.08 in)

DRIVE CHAIN

The chain may require more frequent adjustment that it is with periodic maintenance depending upon your riding conditions.

Check the chain every 1,000 km.

! WARNING

Riding with the chain in poor condition or improperly adjusted can lead to an accident.

Inspect, adjust, and maintain the chain properly before each ride, according to this section.

⊙ INSPECTING THE DRIVE CHAIN

When inspecting the chain, look for the following:

- Loose pins
- Damaged rollers
- Dry or rusted links
- Missing X-O ring seals
- Kinked or binding links
- Excessive wear
- Improper chain adjustment

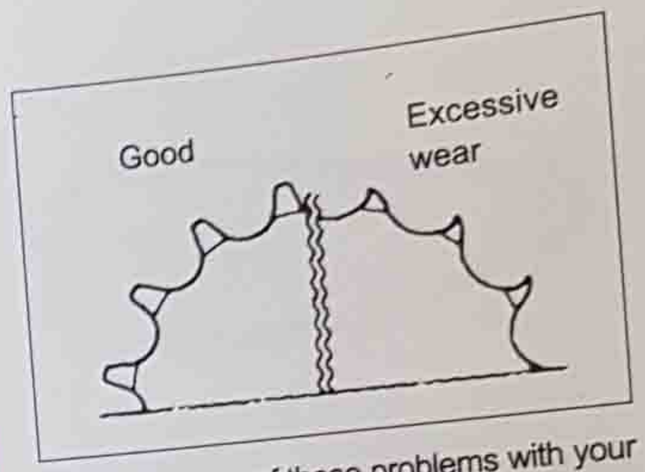
If you find something wrong with the drive chain condition or adjustment, correct the problem if you know how.

If necessary, consult your authorized **Hyosung** dealer.

Damage to the drive chain means that the sprockets may also be damaged.

Inspect the sprockets for the following :

- Excessively worn teeth
- Broken or damaged teeth
- Loose sprocket mounting nuts



If you find any of these problems with your sprocket, consult your **Hyosung** dealer.

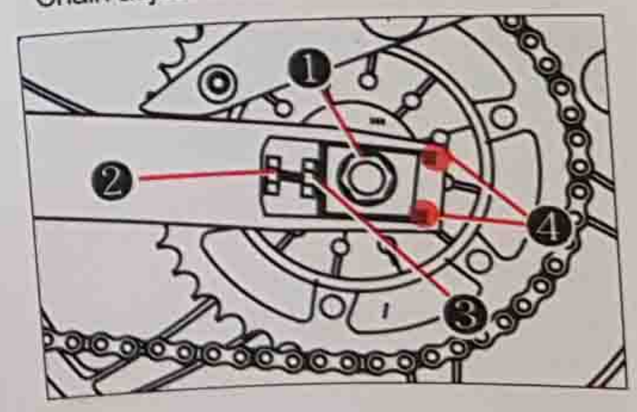
⚠ CAUTION

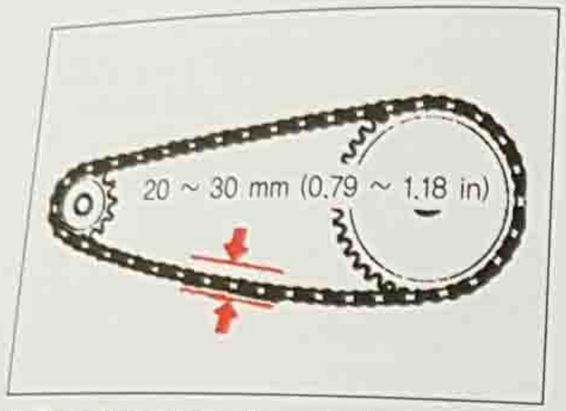
The two sprockets should be inspected for wear when a new chain is installed and replace them if necessary.

⊙ DRIVE CHAIN ADJUSTMENT

Adjust the drive chain slack to the proper specification. The chain may require more frequent adjustments than periodic maintenance schedule depending upon your riding conditions.

Chain adjust in the following way.





1. Place the motorcycle on the jack or block.

⚠ CAUTION

Improper jacking may cause damage to the frame or engine.

2. Loosen the rear axle ①.
3. Loosen the lock nut ②, right and left.
4. Adjust the slack in the drive chain by chain adjuster ③, right and left, as turning toward the clockwise or counterclockwise.
5. For alignment of the front wheel and rear wheel, there are reference mark ④ on the same position, right and left.

Aligning and adjusting the slack in the drive chain to 20 ~ 30 mm (0.79 ~ 1.18 in), retighten the lock nut and rear axle securely and perform a final inspection.

⚠ CAUTION

The drive chain for this motorcycle is made of the special material.
The chain should be replaced with a RK525XSO for 「GT650iP/iS/iREi」.
Use of another chain may lead to premature chain failure.

⚠ CAUTION

The drive chain should be inspected every time before riding.
Excessive chain slack could cause the chain to come off the sprockets and result in accident or serious engine damage.

⚠ WARNING

Be careful not to touch the muffler when it is hot : a hot muffler can burn you.

⊙ DRIVE CHAIN CLEANING AND OILING

This drive chain has special "X-O rings".
Clean and oil the chain periodically, as follows :

1. Clean the chain with kerosene. If the chain tends to rust, the interval must be shortened. Kerosene is a petroleum product and will provide some lubrication as well as cleaning action.

⚠ WARNING

Kerosene can be hazardous. Kerosene is flammable. Children or pets may be harmed from contact with kerosene.

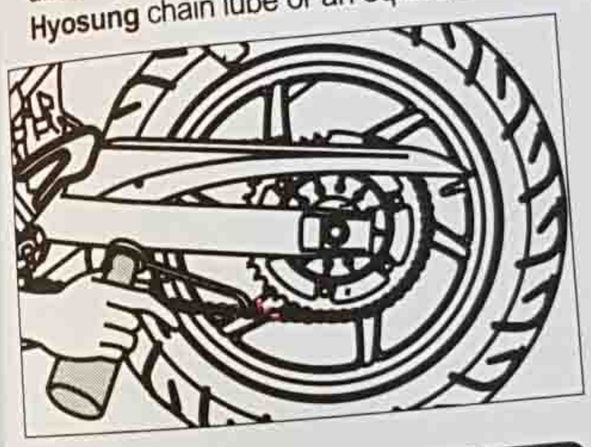
Keep flames and smoking materials away from kerosene. Keep children and pets away from kerosene.
If swallowed, do induce vomiting. Call a physician immediately.
Dispose of used kerosene properly.

⚠ CAUTION

Cleaning the chain with gasoline or commercial cleaning solvents can damage "X-O rings" and ruin the chain.

Clean the drive chain with kerosene only.

2. After thoroughly washing the chain and allowing it to dry, oil the links with a **Hyosung** chain lube or an equivalent.



⚠ CAUTION

Some drive chain lubricants contain solvents and additives which could damage the "X-O rings" in your chain.

Use Hyosung chain lube or an equivalent that is specifically intended for use with "X-O rings" chains.

BRAKES

The 「GT650iP/iS/iREi」 utilize front and rear disk brakes.

Properly operating the brake systems are vital to safe riding. Be sure to perform the brake inspection requirements as schedules.

The brakes should be inspected at periodic inspection by your authorized Hyosung dealer.

⚠ WARNING

Failure to properly inspect and maintain your motorcycle brake systems can be hazardous.

Improper maintenance of the brakes increases your chances of having an accident.

Be sure to inspect the brakes before each use of the motorcycle according to the INSPECTION BEFORE RIDING section. Always maintain your brakes according to the MAINTENANCE SCHEDULE.

⚠ WARNING

Operating the motorcycle in harsh condition can be hazardous if you do not inspect brake wear often.

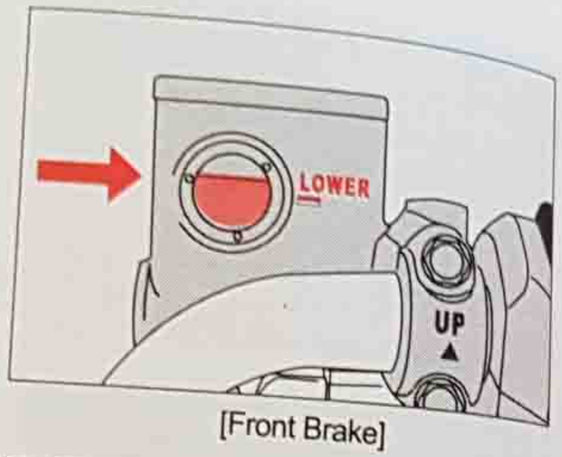
Operating in mud, water, sand, or other extreme conditions can cause accelerated brake wear. This could lead to an accident.

If you operate your motorcycle under these conditions, the brakes must be inspected more often than recommended in the MAINTENANCE SCHEDULE.

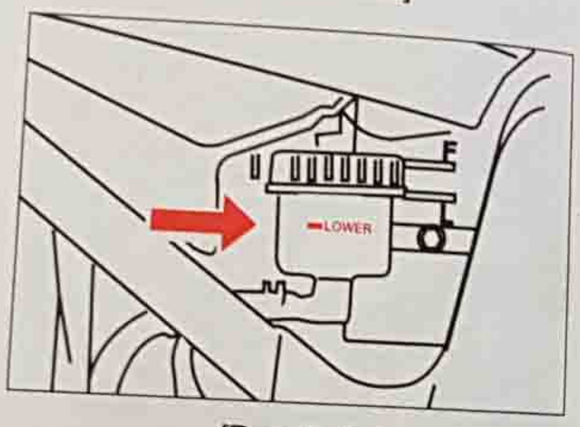
⊙ BRAKE FLUID

Be sure to check the brake fluid level in the master cylinder. If the level was found to be lower than the lower mark holding the motorcycle upright, inspect the brake pad's wear condition.

If the brake pad's wear condition is good, replenish with the proper brake fluid that meets Hyosung's requirements.



[Front Brake]



[Rear Brake]

As the brake pads wear, the fluid level will drop to compensate for the new position of barke pads.

Replenishing the master cylinder to considered normal periodic maintenance.

⚠ WARNING

Brake fluid may be harmful if swallowed or if it comes in contact with skin or eyes. Contact your doctor immediately if brake fluid is swallowed and induce vomiting. If brake fluid gets into the eyes or in contact with the skin, flush thoroughly with plenty of water.

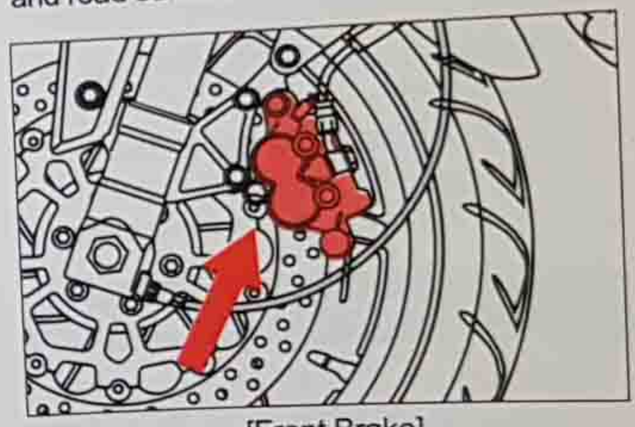
⚠ CAUTION

This motorcycle uses glycol-based brake fluid.
Do not use or mix different types of brake fluid, otherwise serious damage will result in the brake system.
Use Only DOT4 brake fluid.
Do not spill any brake fluid on painted or plastic surfaces as it will damage the surface severely.
Never use any brake fluid that has been stored in a used or unsealed container. Never reuse brake fluid left over from the last servicing and stored for long period as it absorbs moisture from the air.

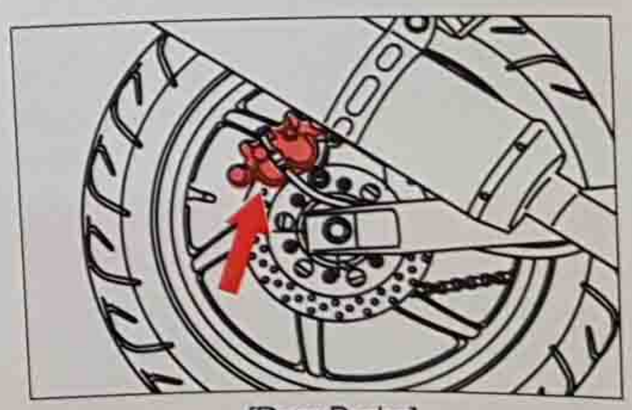
⊙ BRAKE PADS

Inspect the front and rear brake pads to determine whether or not the friction pads are worn down to the grooved limit line. If a pad is worn to the grooved limit line it must be replaced with a new one by your authorized Hyosung dealer or qualified service mechanic.

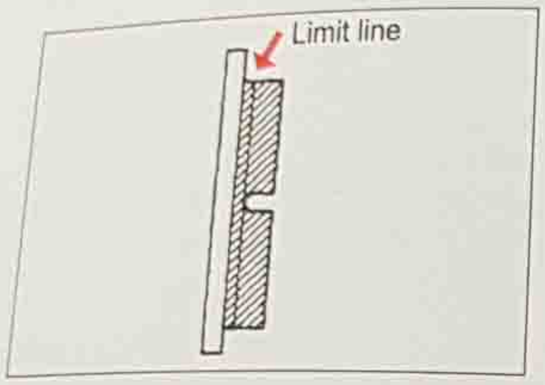
The rate at which brake pads will wear depends on motorcycle usage, riding style and road surface condition.



[Front Brake]



[Rear Brake]



Inspect every day in the following point at the brake system.

① Brake fluid leakage of the front and rear brake system.
② Leak or damage of the brake hose.
③ Operating of the brake lever and pedal.
④ Wear of the front and rear brake pads.

⚠ CAUTION

The front and rear brake system requires the brake hose or the brake fluid to be replaced according to periodic inspection chart by your authorized Hyosung dealer for safety as they operate at high pressure.

⚠ WARNING

Riding with worn brake pads will reduce braking performance and will increase your chance of having accident. Inspect brake pad wear before each use. Ask your Hyosung dealer or qualified mechanic to replace brake pads if any pad is worn to the limit.

⚠ WARNING

If brake pads are allowed to wear down to the metal substrate, metal-to-metal contact with the brake disk would lead to noise and the brake caliper sparking ; this would result in loss of braking and brake disk damage, cousing a dangerous riding condition.

⚠ CAUTION

After replaced the front or rear brake pads, squeeze/depress and release several times the brake lever/pedal so that it is setting at the original place. Then, check that the brakes are operating correctly.

⚠ WARNING

Replacing only one of the two brake pads can be hazardous.

Replacing only one brake pads can result in uneven braking action.

Replace both pads together.

⊙ BRAKE DISK INSPECTION

Check the brake disk for damage or cracks.

⊙ FRONT BRAKE FLUID SUPPLY

1. Place the motorcycle on a level surface and keep the handlebars straight.
2. Clean the front brake fluid reservior around not to allow dust to get inside of it.
3. Loosen the screw and open the cap.
4. Replenish with brake fluid to the upper line.

N O T E

The recommended brake fluid : DOT4

⚠ CAUTION

- **Don't replenish with brake fluid over the limit line. It will leak out of the brake fluid reservoir.**
- **Be careful not to allow dusts or water to go inside when it is replenished.**
- **Don't use the unrecommended brake fluid.**
- **Brake fluid can damage severely the plastics or rubbers. When it is spilt on the parts, wipe them up immediately.**

5. Fasten the cap.

⊙ REAR BRAKE FLUID SUPPLY

1. Place the motorcycle on a level surface and keep the handlebars straight.
2. Clean the rear brake fluid reservior around not to allow dust to get inside of it.
3. Turn the cap to the counter - clockwise.
4. Replenish with brake fluid to the upper line.

N O T E

The recommended brake fluid : DOT4

5. Fasten the cap.

⊙ FRONT BRAKE LAMP SWITCH

The front brake lamp switch is located the inside of the front brake lever. Loosen the switch fitting screws and adjust the timing by moving the switch body forward or backward.

⊙ REAL BRAKE LAMP SWITCH

The rear brake lamp switch is located at right-side of the engine.

Move the switch up or down to adjust it until the switch operates and turns on the brake lamp after the brake pedal begins to be depressed.

TIRE

Inspect the tire pressure and the tire thread depth periodically.

Inspect frequently the tire pressure for the safety and the tire life.

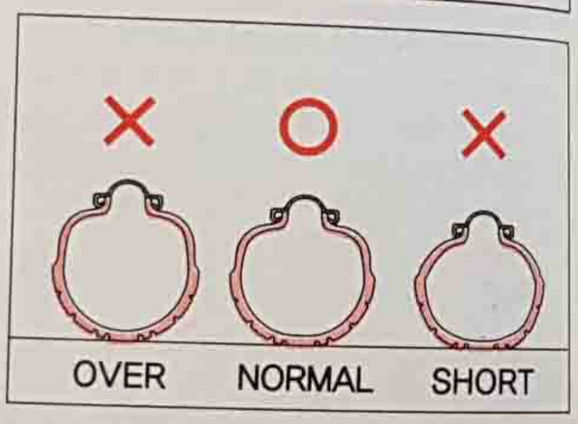
⚠ WARNING

Failure to follow these warnings may result in an accident due to tire failure. The tires on your motorcycle form the crucial link between your motorcycle and the road.

Follow these instructions ;

- **Check tire condition and pressure, and adjust pressure before each ride.**
- **Avoid overloading your motorcycle.**
- **Replace a tire when worn to the specified limit, or if you find damage such as cuts or cracks.**
- **Always use the size and type of tires specified in this owner's manual.**

TIRE PRESSURE (COLD INFLATION)	NORMAL RIDING	
	SOLO RIDING	DUAL RIDING
FRONT	2.25 kgf/㎠ 221 kpa 33.0 psi	2.25 kgf/㎠ 221 kpa 33.0 psi
REAR	2.50 kgf/㎠ 245 kpa 36.0 psi	2.50 kgf/㎠ 245 kpa 36.0 psi



⚠ CAUTION

If there are some problem with the tire pressure or cracks and cuts, it will decrease the riding stability and lead to flat tire.

⊙ TIRE PRESSURE

Insufficient air pressure in the tires not only hasten tire wear but also seriously affects the stability of the motorcycle.

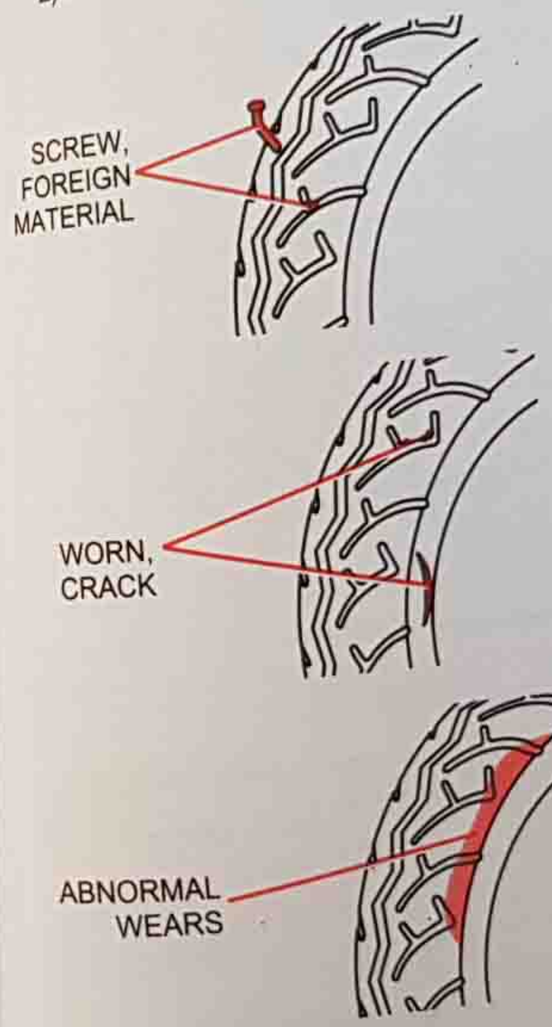
Under-inflated tires make smooth cornering difficult and over-inflated tires decrease the amount of tire in contact with the ground which can lead to skids and loss of control. Be sure that the tire pressure is within the specified limits at all times.

Tire pressure should only be adjusted when the tire is cold.

If you see the problem with the tire, adjust the pressure with the pressure gauge.

⊙ CRACKS AND CUTS

Check if
1) there are visible cracks and cuts.
2) there are abnormal wears.



⊙ TIRE TREAD CONDITION

Operating the motorcycle with excessively worn tire will decrease riding stability and can lead to loss of control.

Inspect storage of tire thread's depth by the 「tire wear indicator」.

Replace the front and rear tires at once when appear the 「tire wear indicator」.

⚠ CAUTION

The standard tire on
「 GT650I/P/S/REI 」 are
120/60 - ZR 17 55W for front, and
160/60 - ZR 17 69W for rear.

The use of a tire other than standard may cause trouble.
It is highly recommended to use the standard tire supplied by Hyosung.

⊙ REAR AXLE NUT

Inspect the rear axle shaft and jointing n for loosening.

⊙ TIRE REPLACEMENT

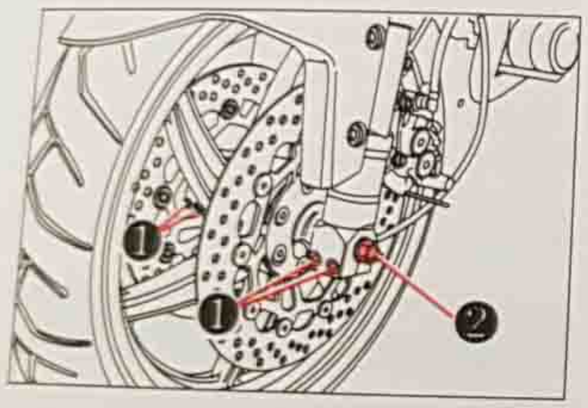
■ FRONT TIRE REPLACEMENT

1. Place the motorcycle on the jack or block vertically.

⚠ CAUTION

Improper jacking may cause damage to the frame or engine.

2. Loosen the four front axle pinch bolts ① (right and left).
3. Loosen the front axle nut ②.



4. Carefully position a jack or block under engine and raise until the front wheel is slightly off the ground.
5. Draw out the front axle .
6. Slide the front wheel forward.
7. To reinstall the front wheel assembly, reverse the sequence as described.

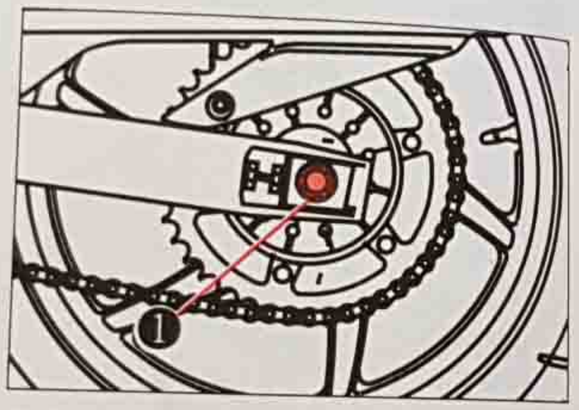
■ REAR TIRE REPLACEMENT

1. Place the motorcycle on the jack or block vertically.

⚠ CAUTION

Improper jacking may cause damage to the frame or engine.

2. Loosen the rear axle nut .



3. Carefully position a jack or block under engine and raise until the rear wheel is slightly off the ground.

⚠ WARNING

A hot muffler can burn you.
The muffler will be hot enough to burn yor for some time after stopping the engine.
Wait until the muffler cools to avoid burns.

4. Draw out the rear axle ① .
5. Pull the rear wheel assembly rear ward.
6. To reinstall the rear wheel assembly, reverse the complete sequence listed.

BULBS

⚠ WARNING

Keep fuel and other flammable substances away from electric components.

⚠ CAUTION

Before changing a bulb, set the ignition switch to position "OFF" and allow a few minutes for the bulb to cool down.
Wear clean gloves or use a clean, dry cloth to handle the new bulb.
Do not put your fingerprints on the bulb, as this may lead to overheating and failure.
If you have handled the bulb with bare hands, clean it with alcohol to avoid any damage.

DO NOT PULL ON THE WIRES.

N O T E

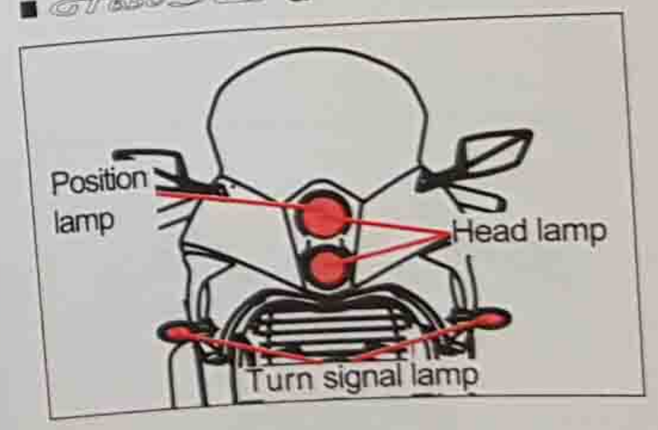
Before changing a bulb, check the fuses.

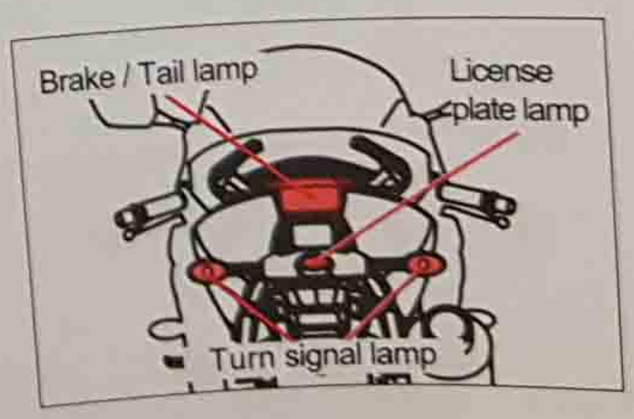
⊙ INSPECTION OF LAMPS

- Check if the position lamp, meter lamp, tail lamp and license plate lamp work well when the ignition switch was turned to the "ON" position.

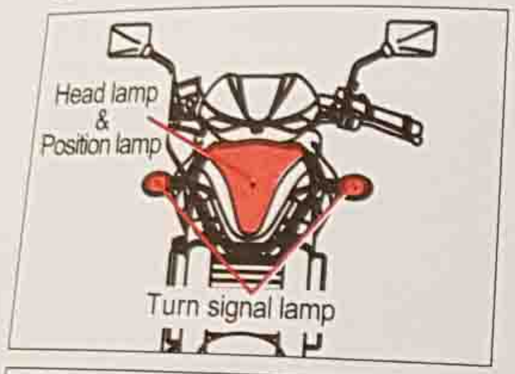
  Check if the head lamp work well when starting the engine.
- Check if the brake lamp work well when the front brak lever or rear brake pedal was operated.
- Check if the turn signal lamp work well when the turn signal switch was operated.
- Check if the head lamp, tail lamp, turn signal lamp and brake lamp are dusty or damaged.

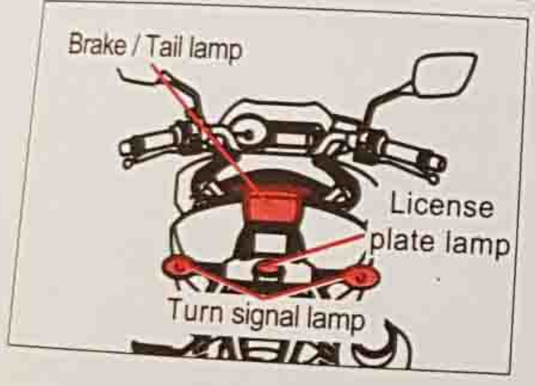
■ GT650SEi & GT650REi





■ GT650EI





⚠ CAUTION

The position lamp, meter lamp, tail lamp and license plate lamp on this motorcycle always comes on when the ignition switch is turned to the "ON" position. The head lamp is always lit when starting the engine.

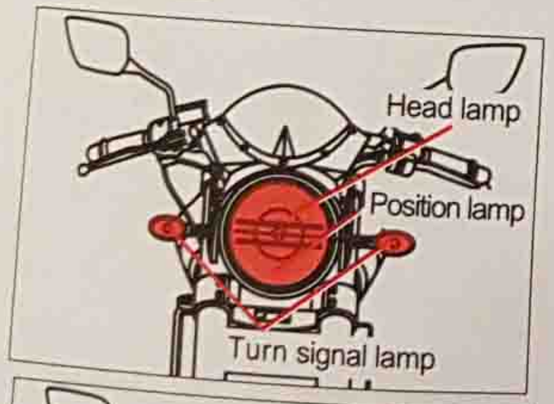
⊙ REPLACEMENT OF THE LAMP

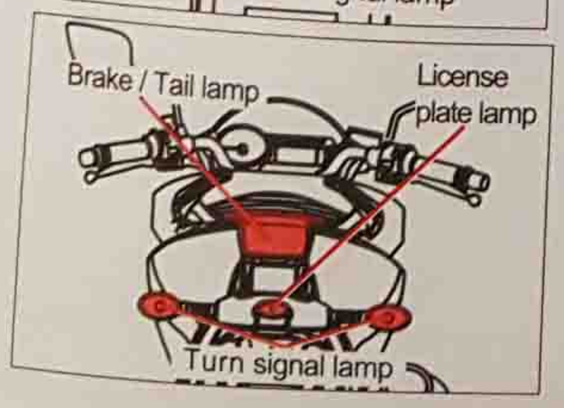
Requirement electric power of the lamp shown in the following chart.

When replace the damaged lamp, always use the equal capacity.

The use of a lamp other than rules may cause to excessive at the electric system or to damage the lamp.

■ GT650EI





■ GT650SEI & GT650REI

NAMES		CAPACITY
Head lamp	HI	12V - H1 : 55W × 1
	LO	12V - H3 : 55W × 1
	Position	12V - W5W × 1
Brake / Tail lamp		LED type
Turn signal lamp		12V - RY10W × 4
License plate lamp		12V - W5W × 1

■ GT650PEI

NAMES		CAPACITY
Head lamp	HI/LO	12V - H4 : 60/55W × 1
	Position	12V - W5W × 2
Brake / Tail lamp		LED type
Turn signal lamp		12V - RY10W × 4
License plate lamp		12V - W5W × 1

■ GT650EI

NAMES		CAPACITY
Head lamp	HI/LO	12V - H4 : 60/55W × 1
	Position	12V - W5W × 1
Brake / Tail lamp		LED type
Turn signal lamp		12V - RY10W × 4
License plate lamp		12V - W5W × 1

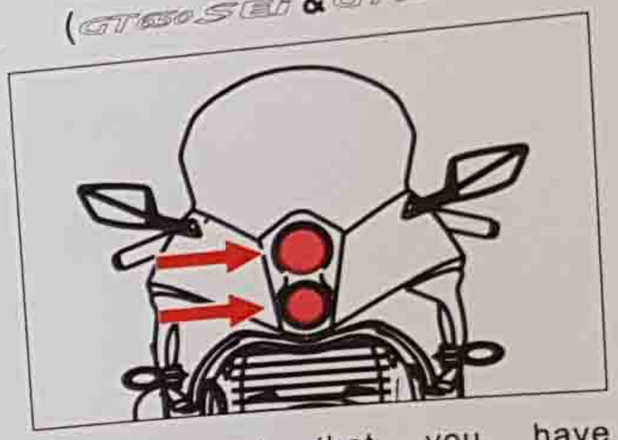
※ **LED : Light Emitting Diode**

⚠ CAUTION

Using a lamp bulb with the wrong wattage rating can cause electrical system damage or shorten bulb life.

Always use the specified lamp bulb.

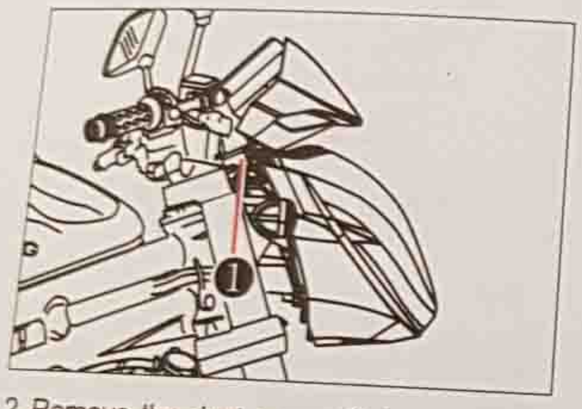
⊙ HEAD LAMP'S BULB REPLACEMENT (GT650SEI & GT650REI)



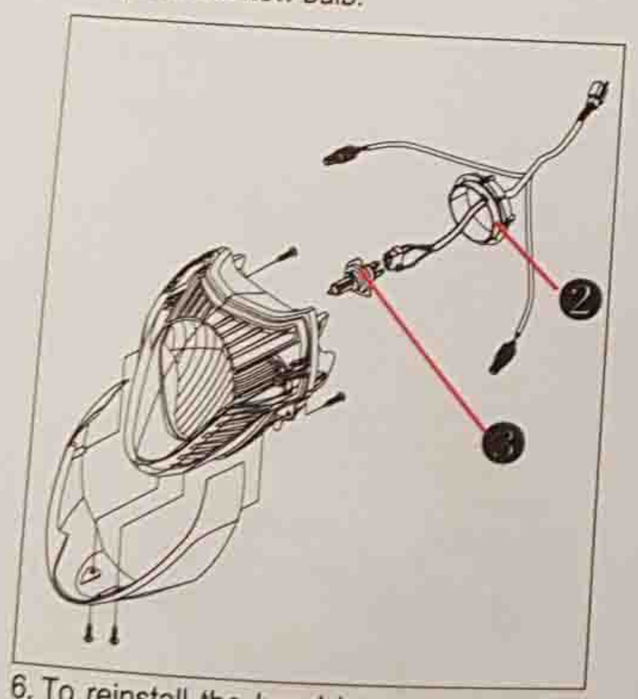
We suggest that you have 「GT650SEI」& 「GT650REI」's head lamp bulb replaced by your authorized **Hyosung** dealer or a qualified service machanic.

⊙ HEAD LAMP'S BULB REPLACEMENT
(GT650P/EI)

1. Remove the two bolts ① (right and left) and the head lamp assembly.



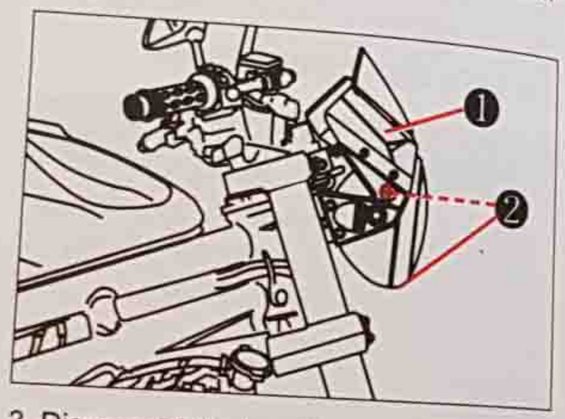
2. Remove the dust cover ② by turning to the counter-clockwise.
3. Remove the bulb socket spring by pressing it.
4. After removing the bulb ③ at the socket, replace the new bulb.



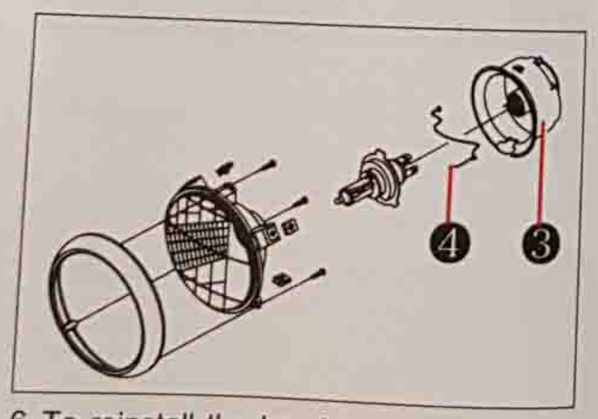
6. To reinstall the head lamp, reverse the above sequence.

⊙ HEAD LAMP'S BULB REPLACEMENT
(GT650EI)

1. Remove the head lamp cowling ①.
2. Remove the three screw ② (right, left and bottom) and the head lamp assembly.



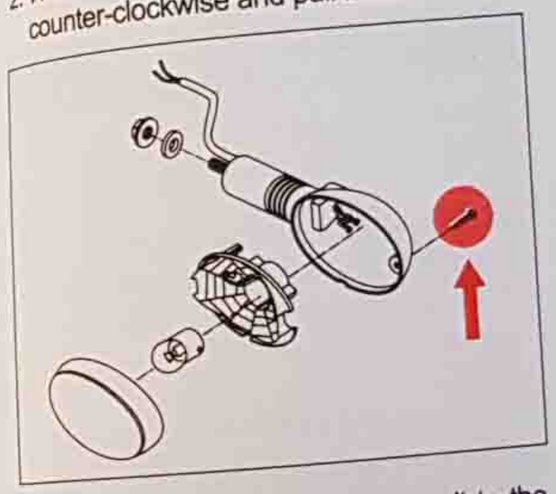
3. Disconnect the head lamp coupler.
4. Remove the dust cover ③ and socket spring ④.
5. After removing the bulb at the socket, replace the new bulb.



6. To reinstall the head lamp, reverse the above sequence.

⊙ TURN SIGNAL LAMP'S BULB REPLACEMENT

1. Remove the lens by removing the screw.
2. While pushing the bulb, turn it to the counter-clockwise and pull it out.



3. After stick in the new bulb, turn it to the clockwise.
4. To reinstall the lens, reverse the above sequence.

⚠ CAUTION

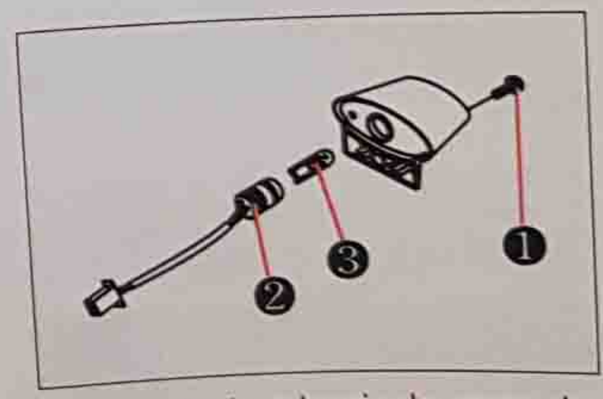
Overtightening the screws may cause the lens to crack.

⊙ BRAKE / TAIL LAMP'S BULB REPLACEMENT

The 「GT650P/SI/REI」's brake / tail lamp are LED (Light Emitting Diode) type.

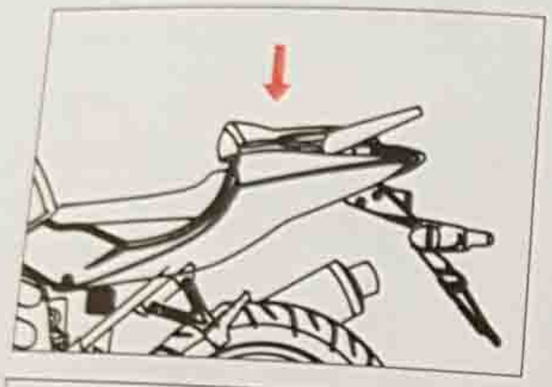
If any abnormal condition are found, replace the brake / tail lamp assembly.

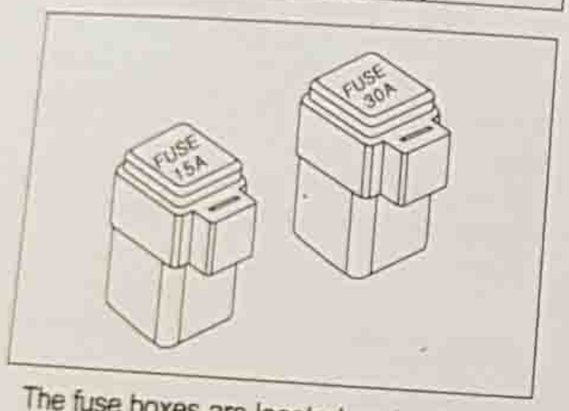
⊙ LICENSE PLATE LAMP'S BULB REPLACEMENT



1. Remove the lamp housing by unscrewing the screw ①.
2. Pull out the socket ② from the lamp housing.
3. Pull out the bulb ③ at the socket ②.
4. Replace the new bulb.
5. To reinstall the license plate lamp, reverse the above sequence.

⊙ FUSE





The fuse boxes are located under the rear seat. If the engine suddenly stops running or any electrical system fails to operate then the fuses must be checked.

In case the fuses blow, there is a 30 A for main spare fuse and 15 A for ECU spare fuse.

- 30 A main fuse protects all electrical circuits.
- 15 A ECU fuse protects the ECU.

⚠ CAUTION

Never use other than specified 30 A or 15 A fuse.
Installing a fuse of incorrect rating may seriously damage the electrical system.
You should consult your Hyosung dealer or a qualified service mechanic immediately.

TROUBLESHOOTING

This troubleshooting guide is provided to help you find the cause of some common complaints.

⚠ CAUTION

Failure to troubleshoot a problem correctly can damage your motorcycle.

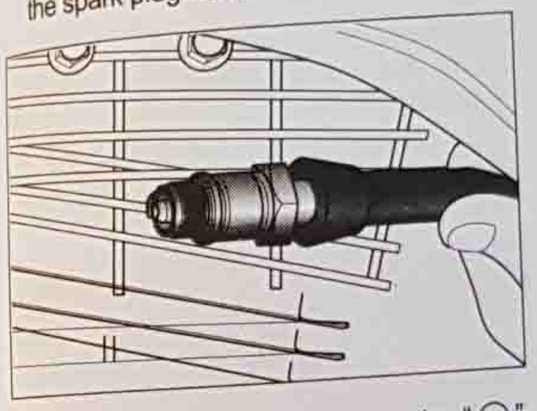
Improper repairs or adjustments may damage the motorcycle instead of fixing it. Such damage may not be covered under warranty.

If you are not sure about the proper action, consult your Hyosung dealer about the problem.

★ WHEN THE ENGINE REFUSES TO START

⊙ IGNITION SYSTEM CHECK

1. Remove the spark plug and reattach it to the spark plug lead.



2. Put the engine stop switch in the "○" position and the ignition switch in the "ON" position. Holding the spark plug base firmly against the engine, the transmission in neutral, the side stand up, the clutch disengaged and push the electric starter switch.
   If the ignition system is operating properly, a blue spark should jump across the spark plug gap.

   When the ignition switch is set to "ON" position with the engine stopped, the meter lamp will come on and the needle of the tachometer will turn once to the end as a test of electric system operation.
   Push the starter switch after the needle of the tachometer turn back.

3. If there is no spark, clean the spark plug. Replace it if necessary. Retry the above procedure with the cleaned spark plug or new one.
4. If there is still no spark, consult your **Hyosung** dealer for repairs.

⚠ WARNING

Performing the spark test improperly can be hazardous.

You could get a high voltage electrical shock or an explosion if you are not familiar with this procedure.
Do not perform this check if you are not familiar with the procedure.

Keep the spark plug away from the spark plug hole during this test. Do not this test if you have a heart condition or wear a pacemaker.

★ ENGINE STALLING

1. Check the fuel supply in the fuel tank.
2. Check the ignition system for intermittent spark.
3. Check the idle speed.

⚠ CAUTION

When occur any trouble, the best way is to consult your Hyosung dealer for repairs.

TRANSPORT

⚠ WARNING

Before transporting the motorcycle, it is necessary to empty the fuel tank completely, making sure that it is completely dry.
During transport, the motorcycle must be firmly secured in an upright position to avoid fuel and oil leaks.

★ DRAINING THE FUEL TANK

⚠ WARNING

Keep the fuel tank away from fires.
Allow some time for the engine and muffler to cool down completely.
Fuel vapours are harmful to human health.
Ensure the area is well ventilated before proceeding.
Do not inhale fuel vapours.
Do not smoke, nor use naked flames.

- Place the motorcycle on firm and level ground.
- Stop the engine and wait until it has cooled down.
- Prepare a container large enough to hold the fuel in the tank and place it on the floor on the left side of the motorcycle.
- Remove the fuel tank cap.
- Drain fuel using a manual tank or similar system.
  Do not damage the fuel tank assembly (fuel level gauge accommodated inside the tank).

⚠ WARNING

Refit the fuel tank cap after draining all fuel.

CLEANING PROCEDURE

A thorough cleaning of your motorcycle is a necessary part of maintenance and will help keep your motorcycle looking and performing its best. Proper cleaning can also extend the life of your motorcycle.

It is important to clean and inspect your motorcycle after every ride if it is used in mud, brush, grass, water, salt water, or very dusty conditions.

The build-up of mud, brush, grass, etc, especially on the engine and exhaust system, can reduce engine cooling, conceal damage, or increase wear of certain parts. It is important to remove all debris during cleaning.

⚠ CAUTION

High pressure washers can damage your motorcycle (especially the radiator pin).
High pressure washers such as those found at coin-operated car washes have enough pressure to damage the parts of your motorcycle. It may cause rust, corrosion and increase wear.
Do not use high pressure washers to clean your motorcycle.

★ WASHING YOUR motorcycle

With some care, your motorcycle can be washed in a similar manner to washing an automobile.

N O T E

Avoid spraying or allowing water to flow over the following places :

- ***Ignition switch***
- ***Spark plugs***
- ***Fuel tank cap***
- ***Electric fuel injection system***
- ***Brake master cylinders***
- ***Radiator fins***
- ***Snorkel air intake for air cleaner***

⚠ CAUTION

Do not use parts cleaner to throttle body and electric fuel injection sensors.

Use a garden hose at low pressure to remove the majority of dirt or other debris. Wash your motorcycle by hand with a mild soap or detergent and water. Try to thoroughly remove all dirt and debris without excessive water pressure. Cloth rags, washing mitts or cleaning brushes can be used, be careful with brushes as they may scratch plastic or painted surfaces. Rinse the motorcycle thoroughly with clean water. Dry all areas using a chamois or soft absorbent cloth.

★ WINDSHIELD CLEANING

Clean the windshield with a soft cloth and warm water with a mild detergent.

If scratched, polish with commercially available plastic polish.

Replace the windshield if it becomes scratched or discolored so as to obstruct view.

When replacing the windshield, use a Hyosung replacement windshield.

⚠ CAUTION

Cleaning with any alkaline or strong acid cleaner, gasoline, brake fluid, or any other solvent will damage the windshield.

Clean only with a soft cloth and warm water with a mild detergent.

★ WAXING THE MOTORCYCLE

After washing the motorcycle, waxing and polishing are recommended to further protect and beautify the paint.

- Only use waxes and polishes of good quality.
- When using waxes and polishes, observe the precautions specified by the manufacturers.

★ INSPECTION AFTER CLEANING

Remove the rags or wrapping from the exhaust pipe. For extended life of your motorcycle, lubricate according to "LUBRICATION POINTS" section.

! WARNING

Operating the motorcycle with wet brakes can be hazardous.
Wet brakes may not provide as much stopping power as dry brakes. This could lead to an accident.
Test your brakes after washing motorcycle, riding at slow speed. If necessary, apply brakes several times to let friction dry out the pads.

Follow the procedures in the "INSPECTION BEFORE RIDING" section to check your motorcycle for any problems that may have arisen during your last ride.

STORAGE PROCEDURE

If you don't plan on using your motorcycle for a long time, it will need special servicing requiring appropriate materials, equipment and skill. For this reason, Hyosung recommends that you trust this maintenance work to your dealer. If you wish to service the machine for storage yourself, follow the general guidelines below :

★ MOTORCYCLE

Clean the entire motorcycle.

Place the motorcycle on a firm, flat surface where it will not fall over.

Turn the handlebars all the way to the left and lock the steering, and remove the ignition key.

★ FUEL

Fill the fuel tank to the top with fuel.

★ BATTERY

1. Remove the battery from the motorcycle.

N O T E

Be sure to remove the negative terminal first, then remove the positive terminal.

2. Clean the outside of the battery with mild detergent and remove any corrosion from the terminals and wiring harness connections.
3. Store the battery in a room above freezing.

★ TIRES

Inflate the tires to the normal pressure.

★ EXTERNAL

- Spray all vinyl and rubber parts with rubber protectant.
- Spray the unpainted surfaces with rust preventative.
- Coat the painted surfaces with car wax.

★ MAINTENANCE DURING STORAGE

Once a month, recharge the battery.

The 「GT650I P/I S/I REI」's battery standard charging time is 1.2 A × 10 hours.

★ PROCEDURE FOR RETURNING TO SERVICE

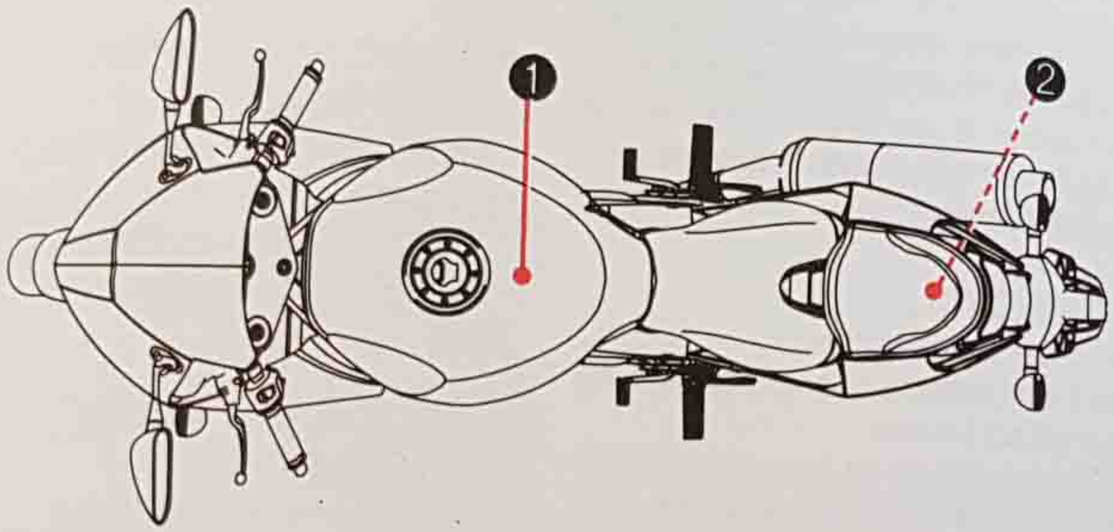
1. Clean the entire motorcycle.
2. Drain the engine oil, and replace the engine oil filter & engine oil with a new one.
3. Reinstall the battery.

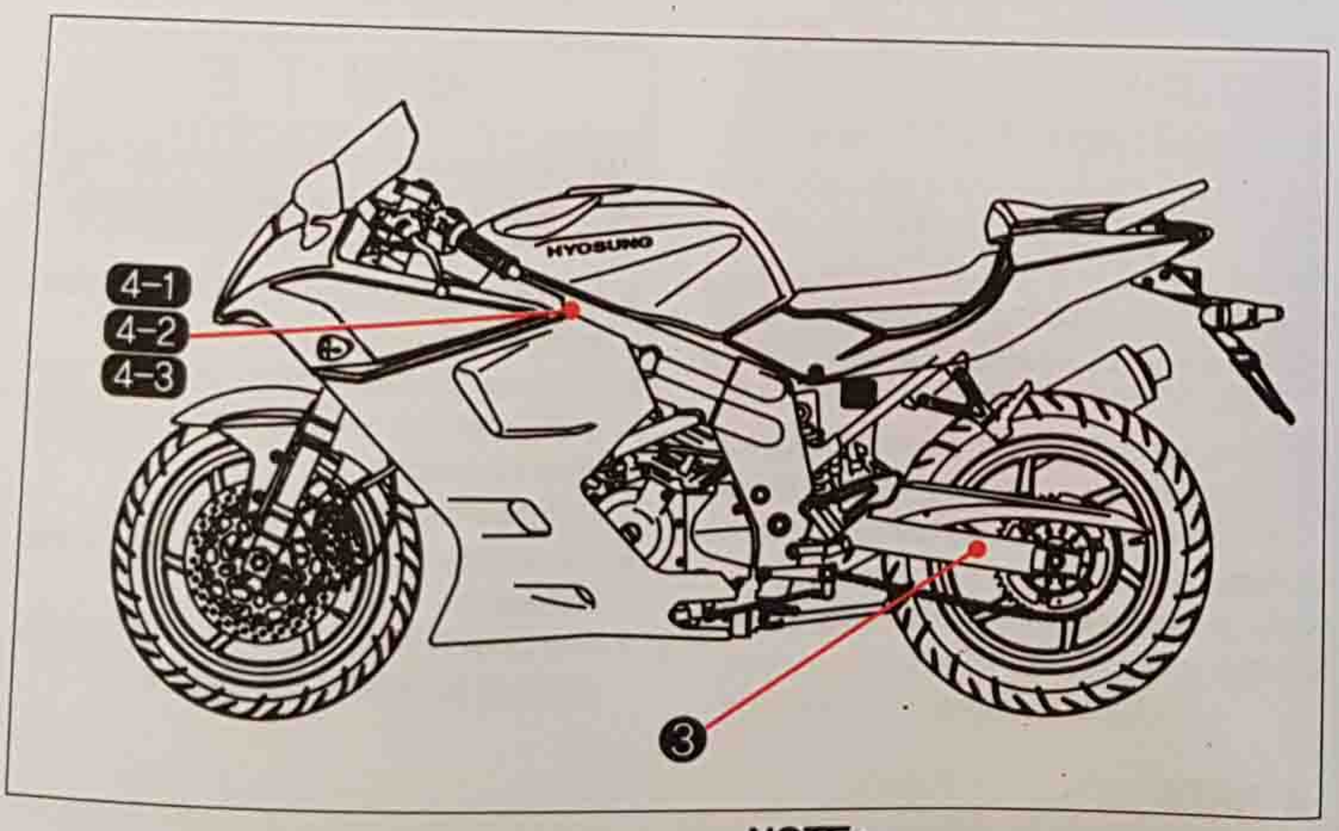
N O T E

Be sure connect the positive terminal first, then connect the negative terminal.

4. Adjust the pressure of tires as described in the TIRE section.
5. Remove the spark plugs and push several times the electric starter switch to start the engine.
   Reinstall the spark plugs.
6. Lubricate all places as instructed in this manual.
7. Perform the INSPECTION BEFORE RIDING as listed in this manual.

LABEL





NOTE :

"- - - - -" = means the invisible parts.

⚠ WARNING

- BE FULLY AWARE OF THE OWNER'S MANUAL BEFORE OPERATING AND RIDING.
- MAKE SURE TO WEAR A HELMET.
- OBSERVE THE RESTRICTED SPEED.
- DO NOT BE TOUCHED ON MUFFLER BECAUSE IT IS HOT.
- DO NOT MAKE ILLEGAL MODIFICATION FOR THE SAFE RIDING.
- TAKE THE INSPECTION AND THE MAINTENANCE ACCORDING TO THE REGULAR CHECKLIST OF THE OWNER'S MANUAL.
- THE CHECKLIST BEFORE RIDING
  - DASHBOARD, HORN, LAMP, OIL, BRAKE, TIRE (AIR PRESSURE, DAMAGE, ABNORMAL WEAR AND ETC.)
- USE THE HYOSUNG GENUINE OIL.

68319H05350-PL

⚠ CAUTION

- DO NOT LOAD OVER MAXIMUM 2kg IN THE TRUNK.
- DO NOT PUT SOMETHING AFFECTED EASILY BY THE HEAT BECAUSE THE INSIDE OF TRUNK MAY BE HEATED.
- DO NOT PUT VALUABLES OR FRAGILES IN THE TRUNK.
- DO NOT PUT VALUABLES OR FRAGILES IN THE TRUNK. IN CASE OF RIDING WITH UN-LOCKED,
- MAKE SURE THE SEAT WERE LOCKED. IN CASE OF RIDING WITH UN-LOCKED, IT CAN CAUSE AN ABNORMAL RIDING OR DANGEROUS IN AN EMERGENCY.
- WATER CAN COME INTO THE TRUNK ON WASHING AND ALSO BE CAREFUL WHEN SOMETHING IMPORTANT IS PUT IN THE TRUNK. DO NOT LAY CLOTH PIECE IN THE TRUNK UNDER THE SEAT. IT CAN BE A CAUSE OF UNEXPECTED ACCIDENT.

68350HM8150-PL

⚠ WARNING

- AN IMPROPER TIRE PRESSURE CAN CAUSE DIFFICULTIES IN HANDLING, SERIOUS INJURIES OR DEATH.
- BEFORE RIDING, INSPECT THE TIRE PRESSURE, DAMAGE, ABNORMAL WEAR AND ETC. ACCORDING TO THE "INSPECTION BEFORE RIDING"
- ALWAYS MAINTAIN A PROPER TIRE PRESSURE AS SHOWN IN THE BELOW.

	FRONT	REAR
SOLO RIDING	33psi (2.25kg/cm²)	36psi (2.50kg/cm²)
DUAL RIDING	33psi (2.25kg/cm²)	36psi (2.50kg/cm²)
TIRE SIZE	120/60-17 55W	160/60-17 69W

68320HM8150-R

❸

S&T MOTORS CO.,LTD.
e9*2002/24*0002
KM4MP58A
90dB(A) – 4625 min⁻¹

4-1
(GT650EFi & GT650PEFi)

S&T MOTORS CO.,LTD.
e9*2002/24*0002
KM4MP58B
90dB(A) – 4625 min⁻¹

4-2
(GT650SEFi

S&T MOTORS CO.,LTD.
e9*2002/24*0002
KM4MP58C
90dB(A) – 4625 min⁻¹

4-3
(GT650REFi

SPECIFICATIONS

★ DIMENSIONS AND DRY MASS

	GT650EJ	GT650PEJ
Overall length	2,090 mm (82.3 in)	←
Overall width	785 mm (30.9 in)	←
Overall height	1,125 mm (44.3 in)	1,095 mm (43.1 in)
Wheelbase	1,435 mm (56.5 in)	←
Ground clearance	175 mm (6.9 in)	←
Mass	210 kg (463 lbs)	←

★ ENGINE

	GT650EJ	GT650PEJ
Type	Four-stroke, DOHC, Liquid-cooled	←
Number of cylinder	V-2 cylinder	←
Bore	81.5 mm (3.21 in)	←
Stroke	62.0 mm (2.44 in)	←
Piston displacement	647 ㎤ (39.5 in³)	←
Fuel system	Electric fuel injection	←
Starter system	ELECTRIC STARTER	←

★ TRANSMISSION

	GT650EJ	GT650PEJ
Clutch	Wet multi-plate type	←
Reduction ratio	2.93	←
Drive chain	RK525XSO, 108 Links	←
Transmission	1st : 2.46	←
	2nd : 1.60	←
	3rd : 1.32	←
	4th : 1.13	←
	5th : 0.96	←
	6th : 0.85	←

★ CHASSIS

	GT650EJ	GT650PEJ
Front suspension	Telescopic type	←
Rear suspension	Swing arm type	←
Caster	25.5°	←
Trail	85 mm (3.35 in)	←
Steering angle	30° (right & left)	←
Front tire size	120/60 - ZR 17 55W	←
Rear tire size	160/60 - ZR 17 69W	←
Front brake	Double disk	←
Rear brake	Disk	←

★ ELECTRICAL

	GT650EJ	GT650PEJ
Ignition type	ECU	←
Ignition timing	5° B.T.D.C. at 2,000 rpm	←
Spark plug	CR8E	←
Battery	12V 12Ah (MF)	←
Fuse	Main : 30A, Head lamp : 15A	←
Head lamp	[HI/LO] : 12V - H4 : 60/55W×1 [Position] : 12V - W5W×1	[HI/LO] : 12V - H4 : 60/55W×1 [Position] : 12V - W5W×2
License plate lamp	12V - W5W×1	←
Turn signal lamp	12V - RY10W×4	←
Brake / Tail lamp	LED type	←

★ CAPACITIES

	GT650EJ	GT650PEJ
Fuel tank	17.0 ℓ	←
Engine oil	3,000 ㎖ (Oil change) 3,200 ㎖ (Oil and filter change) 3,400 ㎖ (Engine overhaul)	← ← ←

★ DIMENSIONS AND DRY MASS

	GT650SEi	GT650REi
Overall length	2,090 mm (82.3 in)	←
Overall width	785 mm (30.9 in)	700 mm (27.6 in)
Overall height	1,135 mm (44.7 in)	←
Wheelbase	1,435 mm (56.5 in)	←
Ground clearance	175 mm (6.9 in)	165 mm (6.5 in)
Mass	210 kg (463 lbs)	215 kg (474 lbs)

★ ENGINE

	GT650SEi	GT650REi
Type	Four-stroke, DOHC, Liquid-cooled	←
Number of cylinder	V-2 cylinder	←
Bore	81.5 mm (3.21 in)	←
Stroke	62.0 mm (2.44 in)	←
Piston displacement	647 ㎤ (39.5 in³)	←
Fuel system	Electric fuel injection	←
Starter system	ELECTRIC STARTER	←

★ TRANSMISSION

	GT650SEi	GT650REi
Clutch	Wet multi-plate type	←
Reduction ratio	2.93	←
Drive chain	RK525XSO, 108 Links	←
Transmission	1st : 2.46 2nd : 1.60 3rd : 1.32 4th : 1.13 5th : 0.96 6th : 0.85	← ← ← ← ← ←

★ CHASSIS

	GT650SEi	GT650REi
Front suspension	Telescopic type	←
Rear suspension	Swing arm type	←
Caster	25.5°	←
Trail	74 mm (2.91 in)	←
Steering angle	27° (right & left)	←
Front tire size	120/60 - ZR 17 55W	←
Rear tire size	160/60 - ZR 17 69W	←
Front brake	Double disk	←
Rear brake	Disk	←

★ ELECTRICAL

	GT650SEi	GT650REi
Ignition type	ECU	←
Ignition timing	5° B.T.D.C. at 2,000 rpm	←
Spark plug	CR8E	←
Battery	12V 12Ah (MF)	←
Fuse	Main : 30A, Head lamp : 15A	←
Head lamp	[HI] : 12V - H4 : 60W×1 [LO] : 12V - H4 : 55W×1 [Position] : 12V - W5W×1	←
License plate lamp	12V - W5W×1	←
Turn signal lamp	12V - RY10W×4	←
Brake / Tail lamp	LED type	←

★ CAPACITIES

	GT650SEi	GT650REi
Fuel tank	17.0 ℓ	←
Engine oil	3,000 mℓ (Oil change) 3,200 mℓ (Oil and filter change) 3,400 mℓ (Engine overhaul)	← ← ←