



Benelli

Owner's Manual

PURE PASSION SINCE 1911



ZAFFFERANO
250EFI

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Attention

Tips for Breaking-in your Benelli Scooter

The initial mileage of 1000 mi. plays the most important role for the whole service life of your scooter. During this period, proper break-in is vital to ensure the maximum service life as well as its optimized performance.

Preface

We sincerely appreciate you choosing the Benelli ZAFFERANO 250 scooter. By observation and application of advanced technology both at home and abroad, we are producing a motor scooter designed to bring you both a safe and pleasurable riding experience.

Riding a scooter is one of the most exciting sports. Prior to driving your scooter, you should fully understand the regulations and requirements proposed in this operation and maintenance manual.

This manual outlines the proper methods of repairing and maintenance of your scooter. The optimum performance and durability of your scooter can be ensured by following the suggestions outlined in this manual.

Specially trained personnel are available at any authorized Benelli/SSR Dealer to provide you with service, parts and accessories. With the persistent pursuit of quality tenet – “making consumers more satisfied”, the company has been continuously improving both the quality and performance of the product.

However, due to such changes, some color appearance differences and structural differences may be possible to cause inconsistency with this manual. We hereby ask for and appreciating your understanding.

Attention/Caution/Warning

Please read this manual carefully and heed it cautions. The words “Warning”, “Caution” and “Notice” are described in this manual to classify the severity of events, please fully understand each definition.



Attention: refers to the explanation as to facilitate maintenance or make clear important notes.



Caution: refers to events being related to operation of the scooter, to prevent damage to the scooter.



Warning: refers to events involved with the personnel safety of the driver, injury may be caused if it is ignored.

Motorcycle Safety Guidelines

Safe Driving Rules

1. The vehicle shall be checked before driving, to prevent any accidents or damage to the vehicle.

2. The scooter should be ridden only by a rider who has passed the required rider safety course and has obtained an applicable driving license. The vehicle should not be operated by any person(s) not in possession of an applicable driving license.
3. The driver should be as visible as possible to prevent any accidents caused by other vehicles, follow these rules:
 - Dress with bright tight-fitting clothes;
 - DO NOT follow other vehicles closely.
4. Strictly follow the traffic regulations, DO NOT try to cut in and out of traffic or race.
5. Do not exceed the recommended speed limit, which is the cause for many traffic accidents.
6. The turn signals shall be turned on when making a turn or changing lanes, so as to attract other people's attention.
7. The driver should pay special attention when approaching intersections, to the entry and exit of parking lots, and on the freeway.
8. Please drive with both hands, driving with a single hand is extremely dangerous. The passenger shall grasp the safety rail or clasp the driver, with feet placed on the footrests.
9. Your safety cannot be ensured if there is any modification to your scooter or disassembly of original fittings, which will impact the warranty.
10. Any accessory equipped shall not affect the safety and performance of the scooter. Overloading of the electrical system is especially dangerous.



Warning

Wear a Safety Helmet

The helmet is the most important piece of motorcycle/scooter safety equipment. Be sure to purchase a helmet that meets at least the minimum DOT regulations and wear it at all times when riding.

Dress when Driving

Your riding gear should be comfortable and highly visible. The cuffs should be buckled before driving, to prevent your sleeve becoming caught on the brake lever. For driving safety, please wear shoes with flat heels.

Notes on Rainy-day Driving

Drive with caution on slippery roads and on rainy days, because the braking distance of the vehicle on a wet road is at least twice as that of on a dry road. Please avoid riding on marked road paint, manhole covers, and surfaces with greasy dirt, to avoid skidding. Take special care when going through railway crossings, railings and bridges. Reduce your speed when you fail to verify the road conditions ahead visually.

Loading

If any loads placed on the scooter change how the steering play in the handlebars feels, remove said load or move it to a different location. Overloading may cause accidents or damage to the scooter, please make sure the following:

- The max. load of front loading box is: 3.3 lbs.;
- The max. load of rear luggage rack is: 6.6 lbs.;
- The max. load of helmet container is: 22 lbs.;

Motorcycle Serial Number

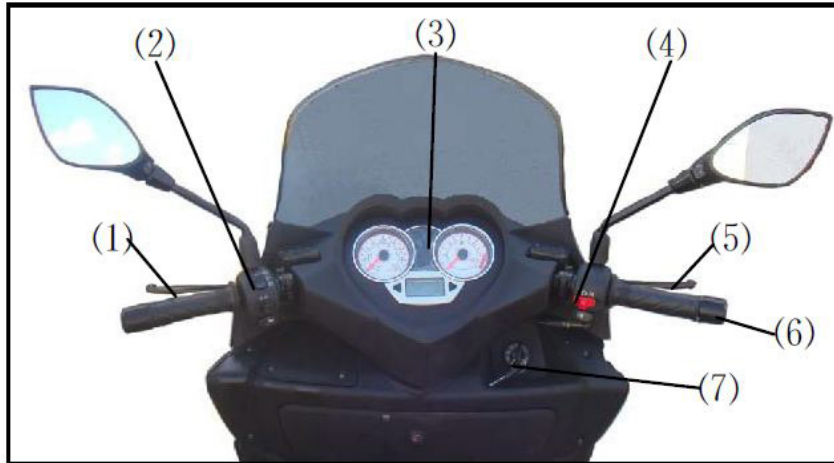
The Frame No. and Engine No. are used for the registration of the scooter. When you need to order spare parts or ask for special service, those numbers make it easier for the dealership to offer better service. Please record those numbers for future reference. Frame No. is shown on the main frame beam on the middle of the frame as in position ① (it can be seen by opening the front glove box, and removing the right inspection cover), and the Engine No. is shown at the left side of the gearbox as in position ②. The brand label is shown at the left side of frame front as position ③ (it can be seen by opening the front load box and removing the left inspection cover).

Frame No. : _____

Engine No. : _____



Name of Each Part

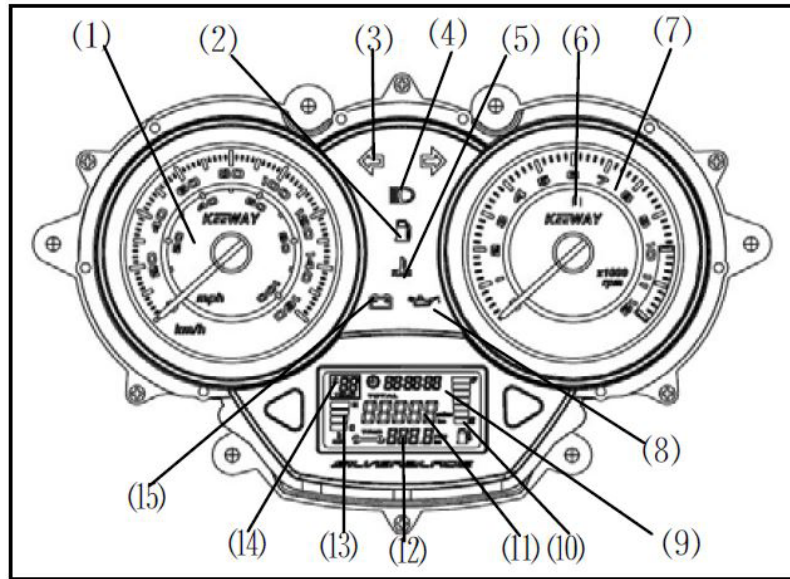


- (1) Rear Brake Lever
- (3) Instrument Cluster
- (5) Front Brake Lever
- (6) Throttle Grip
- (7) Ignition Switch
- (9) Underseat Storage
- (11) Center Stand
- (13) Passenger Grab Rail
- (15) Fuel Tank

- (2) Left Handlebar Switch
- (4) Right Handlebar Switch
- (8) Front Loading Box
- (10) Air Filter
- (12) Side Stand
- (14) Storage Battery
- (16) Exhaust Muffler



Meters and Indicators



- (1) Speedometer
- (2) Low Fuel Warning Lamp
- (3) Turn Signal Indicator Lamp
- (4) High Beam Indicator Lamp
- (5) Water Temperature Indicator Lamp
- (6) F.I. Indicator Lamp
- (7) Engine Tachometer
- (8) Engine Oil Indicator Lamp
- (9) Clock
- (10) Fuel Level Indicator
- (11) Odometer
- (12) Odometer
- (13) Water Temperature Indicator
- (14) Thermometer
- (15) Battery Power Indicator Lamp

(1) Speedometer

The speedometer indicates the driving speed. The outer circle refers to kilometers per hour while the inner circle refers to miles per hour.

(2) Fuel Indicator Lamp

When the fuel level is less than 0.5 gallons, the amber fuel indicator lamp starts to blink, when this happens, please refuel in time to ensure the normal operation of your vehicle.

(3) Turn Signal Indicator Lamp

When operating the turn signal light for turning left or right, the turn signal indicator lamp on the dash panel will blink green correspondingly.

(4) High Beam Indicator Lamp

When the headlight high beam is switched on, the blue high beam indicator lamp will light up.

(5) Water Temperature Indicator Lamp

When the temperature of the cooling liquid is higher than a range of 240F°-250F°, the water temperature indicator lamp will light up a red alarm light.

(6) F.I. Indicator Lamp

When the ignition switch is on and the side stand is retracted, the FI lamp will light up, and the lamp will shut off when the engine is started normally. The lamp will stay lit if the engine fails to start up properly or a FI problem is present.

(7) Engine Tachometer

The tachometer indicates the speed of the engine as revolutions per minute.

(8) Engine Oil Indicator Lamp

When the initial mileage reaches 600mi, the red oil alarm will light up to remind you to replace the oil. Afterwards, the red alarm will light up when the mileage reaches each increment of 1,800mi. Press the right dash key for a long time after oil replacement and the indicator will turn off.

(9) Clock

It displays the time. To set the time, press the left key for a long time. Adjust the digit position by pressing the left key and adjust the value by pressing the right key.

(10) Fuel Level Indicator

Fuel level indicator records the quantity of fuel, the more squares on the display, the more fuel quantity left. Please refuel according to your schedule.

(11) Odometer

The odometer records the total driving kilometers and miles, and the kilometer system and mile system can be switched freely by pressing the left button for a short time.

(12) Trip Meter

The trip meter records mileage for a certain time, which can be zeroed. Press the right key for three seconds, the mileage will be cleared.

(13) Water Temperature Indicator

This indicates the temperature of the cooling liquid. When the pointer is in between C and H, the temperature is normal. You should pull over and discontinue use if the indicator reaches over the H mark.

(14) Thermometer

The thermometer indicates the ambient air temperature.

(15) Battery Power Indicator

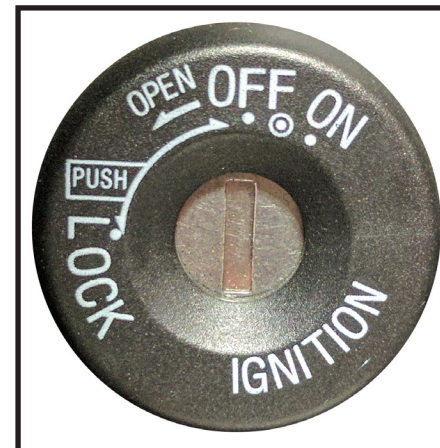
When the battery power is lower than 10.5V, the red indicator lamp will light up.

Operation of Each Part

1. Key

Two keys are provided for your scooter. Please keep one as a spare.

2. Ignition Lock



“ON”.....when the key is turned to the **“ON”** position, power is on, the engine can be started, and the key cannot be removed; **“OFF”**.....when the key is turned to the **“OFF”** position, power is off, the engine cannot be started, and the key can be removed.

“OPEN”.....when the key turns to **“OPEN”**, you’ll hear a “pop”, the helmet container opens.

“LOCK”.....turn the handlebars to left, press in the key and turn it to the **“LOCK”** position, remove the key, the handlebars are locked. When you need to unlock the handlebars, insert the key and turn it to the **“OFF”** position, and the steering lock is released.



Attention

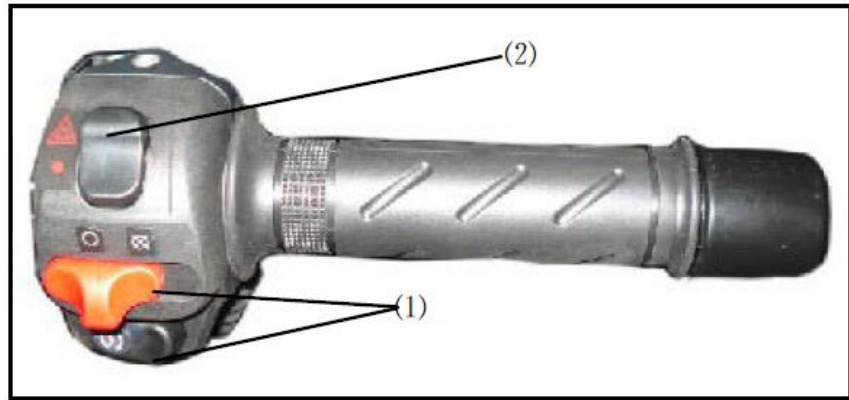
In case of theft, please lock the steering and remove the key when parking. Wiggle the handlebars back and forth to verify if it is locked. Please DO NOT park in places blocking traffic.



Warning

DO NOT turn the key to the **“LOCK”** position while riding, otherwise it may cause an accident due to the fact that the handlebars are locked and cannot be turned.

3. Right Handlebar Switch



(1) Electric-start Switch

“ON”.....when the switch is put to the **“ON”** position, power-on, and the engine can be started;

“OFF”.....when the switch is put to the **“OFF”** position, power-off, and the engine cannot be started;



“START”.....when grasping the front brake handle or rear break handle, press in the starter button, and the engine will start.



Attention:

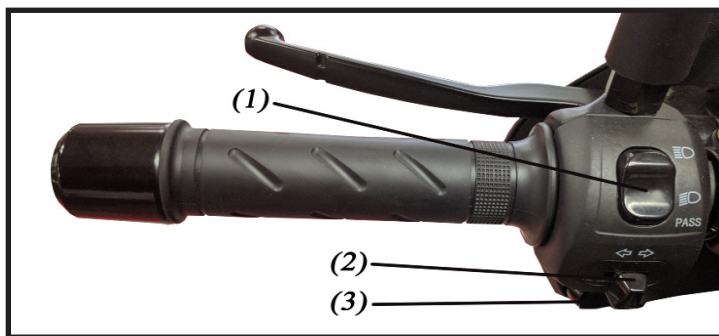
Immediately remove your finger from the starter button after the engine starts, DO NOT press the starter button when the engine is running. The starting time should not exceed 3 seconds with 10 second pauses between starting attempts. If the engine fails to start 5 times in a row stop attempting to electrically start in order to keep the battery from discharging. You can use the electric starter again once the failure or problem has been eliminated.



(2) Hazard Light Switch



“”.....when the switch is turned to the “” position, all four turn signal lights will turn on; “●”.....when the knob for light switch is moved to the “●” position, all of the turn signal lights will turn off.

4. Left Handlebar Switch

(1) Switch for High Beam Headlight, Low Beam Headlight and Passing Light.



“”.....when the switch is pressed up in “” position, the high beam headlight will be on as well as the blue indicator lamp for the high beam on the instrument panel.

“”.....when the switch is in “” position, the low beam headlight will be on. The low beam headlight cannot be turned off when the engine is running, to avoid disturbance of the line of sight.



“**PASS**”.....when the switch is in “**PASS**” position, both the high beam headlight and the low beam

headlights will be on, to warn a pedestrian or other vehicle. The high beam headlight will go off when the button is released.

(2) Horn Switch

When the ignition switch is turned to the “**ON**” position, press the horn switch, the horn sounds.

(3) Turn Signal Switch

When the switch is flipped to the “” position, the left side turn signal will blink, while flipped to “” position, the right side turn signal will blink. As the turn signal lights up, the green turn signal indicator lamp on the instrument panel will also blink accordingly. To turn off the turn signal, move the switch to the middle position.



Warning:

The turn signals shall be used when the vehicle is turning or changing lanes. After turning, the turn signal shall be switched off in time to avoid any disturbance to the normal running of other vehicles, preventing accidents from happening.

5. Helmet Container

The helmet container is under the seat. There is not a special keyhole for the helmet container for this scooter. The ignition lock is the switch. When the switch turns to the “**OPEN**” position, the container can



be opened. It can be locked by lowering the seat cushion and slightly pressing the rear of the seat.



Attention:

The load of the helmet container shall NOT exceed 22 lbs. DO NOT put goods, food with low heat-resistance, or inflammable items into the container, due to the high temperature of engine. Do NOT put valuables into the box. When cleaning the motorcycle, water may go in, take great care if there are any important articles inside. The jaw of helmet (open-face helmet) should be placed downward inside the container.

6. Front Storage Box

Insert the key into the lock and rotate the key to the right to open the front storage box. To close, insert the key and close the front storage box, then rotate the key leftwards, once closed, remove the key after locking.



Attention:

The load of the front storage box shall NOT exceed 3.3 lbs. DO NOT put valuables into the box. When cleaning the motorcycle, water may go in, take great care if there are any important articles inside. Remove valuables from the box when parking.

7. Battery



- (1) The battery specifications are 12V/8AH (YTX9-BS).
- (2) The battery is equipped in the front of the helmet container.
- (3) To remove the battery: the ignition switch shall be turned off, then remove the mounting screw on the battery cover with a screwdriver, remove the cover and loosen the mounting bolts for the battery positive and negative terminals, then remove the battery. The fuses is also installed inside the battery box area.



Warning:

The battery will produce explosive gas, beware of using open flames or sparks near the battery. Your battery is sealed and should not be opened at any time. The battery contains sulfuric acid (electrolyte) which can cause eye damage or skin burns.

Check Before Driving

The vehicle shall be inspected before driving to prevent accidents caused by failure during driving, so as to ensure safe driving.

1. Check the Front and Rear Brake System

- (1) The freeplay of the front brake handle and rear brake handle:
Front Brake Lever Freeplay: **10-20mm**.
Rear Brake Lever Freeplay: **10-20mm**.

“Free Play” refers to a travel distance of the end of brake handle. The brake handle should be provided with proper free play and operated smoothly with instant response.



(2) Check if the brake works normally

When driving on a dry road surface, reduce your speed, to check if the front and rear brake systems work well. It should be adjusted accordingly to make sure of optimized performance.

(3) Brake Fluid

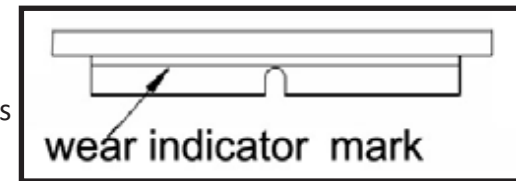
DOT 4 Brake fluid is used for this motorcycle. Only use brake fluid from a sealed container when topping off or replacing the brake fluid. Brake fluid from an open container may absorb atmospheric moisture which will cause the premature break down of the brake fluid. Take care not to spill brake fluid on plastic or painted surfaces as it can damage them.

Use caution when checking the level of brake fluid in the master cylinder. If the level is lower than the limit ①, the brake fluid shall be refilled to the upper limit. When the brake pads are worn, the liquid in the master cylinder will automatically feed into the brake line which will reduce the level.



(4) Brake Pads

The brake pads shall be inspected periodically to check if the wear reaches the wear limit.



If it reaches, the brake pads shall be replaced immediately to ensure optimized brake performance. If the brake system or brake pads require repair, we advise you ask your local dealership for service. Your scooter utilizes a high pressure hydraulic brake system for braking. To ensure proper safety, the hydraulic brake lines should be replaced every 4 years, and the brake fluid should be replaced every 2 years. Do not ride immediately after replacing the brake pads. First squeeze the front brake lever several times to restore proper braking pressure and to fully push the brake pistons into their normal position. Also, when riding the first time after replacing the brake pads apply the brakes a few times at low speeds to optimize brake performance.

2.Fuel Check and Filling

Ensure the fuel quantity in the fuel tank is sufficient for driving the miles planned.

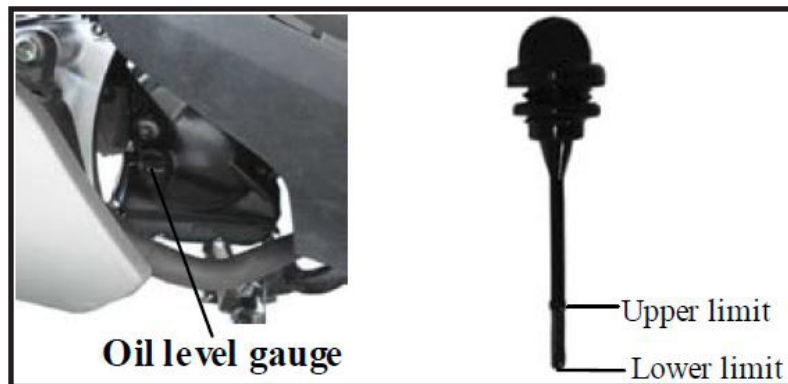
When the fuel gauge reaches the final bar it will begin blinking and it will light the amber low fuel warning light in the center of the gauge cluster. When this happens approximately 0.5 gallons of fuel remain in the fuel tank. When refueling use #91 octane for optimum engine performance and service life of the engine. Low octane fuels will cause damage to the engine or could lead to engine failure.

**Warning:**

The engine should be turned off, ignition switch in the off position, and away from heat sources and fire during refueling.

Use caution not to overfill the fuel tank when refilling. DO NOT fill the fuel level in the fuel tank above the filler neck.

3. Check and Replacement of Engine Oil



Using a high quality engine oil and replacing it frequently are vital to the long term performance and durability of the engine. The engine oil level should be checked prior to vehicle use each day and should be maintained at the upper dipstick mark between preventative maintenance inspections.

Start the engine and allow it to idle for a few minutes to warm up the engine oil, then turn off the engine and allow it to sit for one minute:

- ① Place the scooter on the center stand, remove the dipstick and wipe it using a clean rag.
- ② Reinsert the dipstick (DO NOT screw it in)
- ③ Remove the dipstick and check the oil level on the dipstick, refill the engine if the level is below the upper level mark.
- ④ During the break-in period, the engine oil should be changed at 200mi, 400mi, 600mi and 1000mi after this period, you should change it every 2000mi.
- ⑤ The oil volume is 1.4 L, and 1.3L when replacing.
- ⑥ The oil volume shall not fall below the lower limit on the dipstick.
- ⑦ Driving on dusty roads, cold environments and places with poor traffic conditions, may cause the degradation of the engine oil. Please replace more frequently if used in these conditions.
- ⑧ Please use a high quality oil with high purity and performance which complies with SF grade or super grade. The type is SAE10W/40.

**Attention:**

The oil level should be checked frequently during use, please refill in a timely fashion if the oil level is low. The oil level will be inaccurate if checked while the scooter is on an incline or other uneven surface. Only check the engine oil when the engine has been shut off and take care not to get burned by the hot engine surfaces.

The oil replacement procedure is as follows: (the replacement should be performed after the engine has warmed up)

- (1) Support the scooter using the center stand on level ground;
- (2) Remove the engine oil dipstick once the engine has been shut off;
- (3) Place an oil pan below the engine oil drain bolt;
- (4) Remove the engine oil drain bolt and completely drain the oil;
- (5) Reinstall the oil drain bolt and tighten;
- (6) Fill the engine with new oil of the proper specification and place the dipstick into the filler hole. Remove the dipstick and check the oil level, if sufficient install the dipstick and screw it in;
- (7) Start the engine and let it run for 2-3 minutes at different speeds and verify no oil leaks are present;
- (8) Turn off the engine and wait 1 minute, remove the dipstick and verify the oil is at the upper mark, if not add oil until the level is correct.

4. Steering Stem Bearing Adjustment Inspection


Place the unit on the center stand and have someone sit on the passenger seat to lift the front wheel off the ground. Check the steering by turning the handlebars from left to right, and right to left. Check if the steering is too tight or too loose, check for clunking by lifting the front wheel slowly. If an abnormality is detected contact your local dealership for repair.




Special Attention

The valve clearance should be checked and adjusted when the initial mileage reaches 200mi. The final drive oil doesn't need to be changed often, it should be changed every year or every 3,000mi of use whichever comes first. However, the cleanliness of the oil should be checked frequently. The oil level should also be checked frequently and topped off when low between replacement.

5. Brake Lamp Inspection

Turn the ignition switch to “” position. Apply the front and rear brakes respectively to make sure the brake lamp will light up. Check if the brake lamp cover is dirty or damaged.

6. Turn Signal Inspection

Turn the ignition switch to “” position. Operate the turn signal switch to confirm if the left and right turn signal lamps work and the steering indicator blinks. Check if the lamp cover is damaged or dirty.

7. Check the Headlight, Taillight and Headlight High Beam

After the engine is started, confirm that the lights come on and that the headlight high beam can be activated. Check if the light covers are damaged or dirty.

8. Tire Pressure Check

Check the pressure of the front and rear tires.

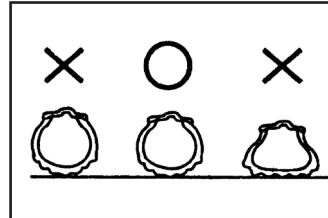
Normal pressure (single rider):

Front wheel: 36 ± 1 psi;

Rear wheel: 36 ± 1 psi.

Check if any metal fragments or broken stones are caught in the tire grooves, if observed, please remove them before driving.

When tire cracks or the tire wear reaches the limit, please replace the tire(s) with new. An abnormally worn tire is extremely easy to cause accidents.



9. Front and Rear Suspension Check

Sit on the scooter and apply the front brake, push the scooter forward to compress the front suspension. Keep applying the front brake and sit in the saddle abruptly from a standing position to compress the rear suspension to check if the front and rear suspension is in good condition.

10. Speedometer Function Check

Check if each function of speedometer works properly.

11. Horn Check

Turn the ignition switch to “” position, press the horn button to confirm the horn sounds.

12. Rearview Mirror Check

Sit on the seat cushion in your normal driving position to view the rear-view mirror perspective and confirm the angles are

appropriate, you should be able to clearly see objects behind you, and check if the mirrors are damaged or contaminated.

13. License Plate Check

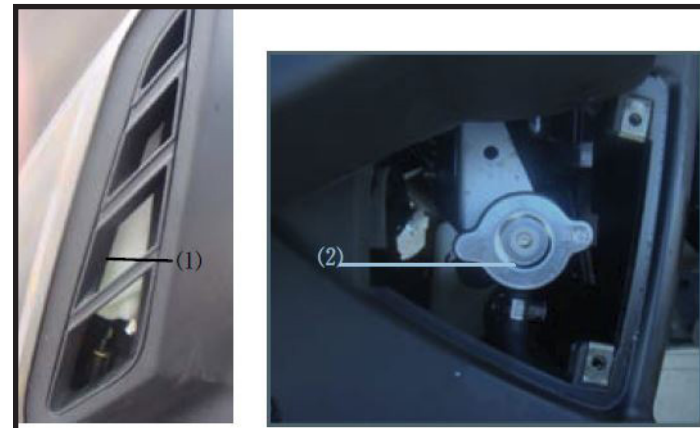
Check if the license plate is damaged or loose.

14. Exhaust Check

Check if the exhaust pipe is loose or if it is making excessive noise.

15. Check if the Previous Abnormality is Eliminated

16. Cooling Liquid Check and Supply



Coolant is critical to your liquid cooled scooter engine. If there is no coolant in the engine during operation it may cause severe damage to the engine. The piston, cylinder and cylinder head could all become damaged if the engine is run without coolant. Therefore, the coolant level should be checked prior to use. If low, add coolant and bring the level up to the proper level. The coolant is green and can be observed by looking through the leg shield vent on the left hand side. Add coolant when the level is at or below the MIN mark.


To add coolant: support your scooter on the center stand, open the glove box and remove the left inspection cover, remove the coolant filler cover from the top left of the leg shield. Rotate the cap (2) counterclockwise to remove it and using a funnel add coolant to the cooling system observing the coolant level (1) until it reaches the MAX mark.



Warning:

When the scooter engine is warm, DO NOT remove the radiator cap, the coolant temperature is still very high and it will spray out under pressure and can cause burns if done so. Wait until the engine has cooled to check/add coolant to the cooling system. .

Starting your Scooter

1. The fuel, engine oil, and coolant levels should be checked prior to the engine being started and the fuel quantity should be sufficient to satisfy the driven mileage planned. The engine oil and coolant levels should be between the lower and upper level. If they are low, top off the levels to the MAX/Upper mark before use.
2. Place the scooter on the center stand with the rear wheel off of the ground.
3. Insert the key into the ignition switch and turn it to the “” position.
4. If starting electrically, pull in the front or rear brake handle.
5. If operating in cold temperatures and especially during the winter start the engine and allow it to warm up before riding, then wait for the coolant temperature gauge to read “C” before riding.



Attention:

After your FI scooter has started at low temperatures wait for at least 2 minutes before exceeding 5,000RPM. This will reduce the chances of lubrication drag causing internal engine damage.

**Warning:**

Improper starting may pose a safety risk. When starting the engine if the scooter is not on the center stand it may rush forward. Before starting the engine, place the scooter on the center stand and do not drop it from the center stand until the engine is on and idling. DO NOT twist the throttle until the scooter is ready to be ridden away.

DO NOT start the engine in poorly ventilated places as it poses a carbon monoxide poisoning risk. The engine should be off when no one is around the scooter.

Scooter Operation

1. Lift the side stand or center stand

Push the scooter forward and the center stand will automatically return to the up position.

If using the side stand, lift the scooter to the vertical position then push the side stand to the up position. When stopping the scooter, put down the side stand with your left foot and lean the scooter to the left onto the stand.

Keep your foot on the side stand until it touches the ground before getting off of the scooter.

**Caution:**

After the scooter starts and before riding, the brakes should be kept applied.

**Warning:**

Before riding your scooter, check the position of the side stand carefully. If the side stand is not returned to the original position it may touch the ground when making a left hand turn, this could cause the scooter to lose traction/balance which is dangerous.

2. Release the brake lever.

**Warning:**

After the brake lever is released, DO NOT abruptly rotate the accelerator to avoid the scooter suddenly rushing forward.

3. Slowly rotating the throttle, the scooter will start to move forward.

**Warning:**

DO NOT abruptly rotate the accelerator to avoid the scooter suddenly rushing forward.

4. Drive Safely

Before riding, turn on the turn signals to confirm safety and then drive.

5. Speed is adjusted by the throttle:

- Rotate the throttle rearward.....

Rotate the throttle rearward and the engine will accelerate. Rotate the throttle slowly to accelerate smoothly and slowly.

- Reset to the original position.....
Rotate the throttle forward, the speed will decrease. Return the throttle slowly to avoid abrupt deceleration.

6. Proper riding can prolong the service life of your scooter. The initial mileage of 1,000mi is the break-in period of your new scooter, please keep the speeds at 38mph or below and avoid sharp acceleration. For details please refer to the table below:

Mileage (miles)	0-300	300-500	500-1,000	1,000-1,500
Speed (MPH)	25	35-40	45-50	55-60

During the break-in period, the gearbox oil should be replaced under thermal condition.

7. Use the Front and Rear Brakes when stopping
Please use the front and rear brakes at the same time to ensure better braking.



Warning:

Braking distances are proportional to the speed traveled. You must estimate the distance between vehicles in front of you and keep a safe distance to allow enough room for braking. Inexperienced riders often use the rear brake only. Using only the rear brake can cause the scooter to become unstable when braking and will accelerate brake wear.


8. Emergency braking and sharp turns NOT recommended
Emergency braking and/or sharp turns are the main reasons for wheel lock or low side crashes.

9. Take special care when riding on rainy road surfaces
Rainy days produce slippery wet roads, this will increase braking distances. Reduce your riding speed and keep adequate distance between yourself and the vehicles in front of you. On downhill roads, close the throttle when operating the brakes and modulate them to keep your scooter under control.

10. Parking methods

- When approaching a parking lot or driveway turn on your turn signal early, check your mirrors, pay attention to passing vehicles and gradually slow down.
Close the throttle, use the front and rear brakes so the tail lamp will light up to warn the vehicles behind you.

- When parking

Turn off the turn signal, turn the ignition switch to the “” position. Place the scooter on a flat surface and support it on the center stand.

Use your left hand to grasp the left handlebar and your right hand on the passenger grab handle, step down on the center stand lever and then pull back with your right hand. To use the side stand, it is suggested that you get off of the scooter and slide the side stand support down with your right foot to the down position. After your scooter has been stability parked lock the handlebars and remove the key to prevent theft.



Warning:

When the engine is in operation the muffler will become hot. Avoid being burned. Once the scooter is parked, DO NOT touch the muffler and related parts of the engine, and pay attention that the muffler side of the scooter cannot easily burn passers by.

11. Trouble Shooting

If the engine can not start normally, please check the following items:

- a. If there is sufficient fuel in the fuel tank.
- b. Start the engine electrically several times, and check if fuel sprays normally from the fuel injector.

c. If the fuel injector works normally, the ignition system should be checked.

d. Remove the spark plug and touch it to the metal body of the engine, then turn over the engine to check if any spark appears on the spark plug, if no spark, please take your scooter to a dealership for inspection and repair.



Warning:

The proper maintenance procedure must be followed after your new scooter mileage reaches 600 miles. Please make sure to perform the periodical maintenance carefully and according to the instruction manual.



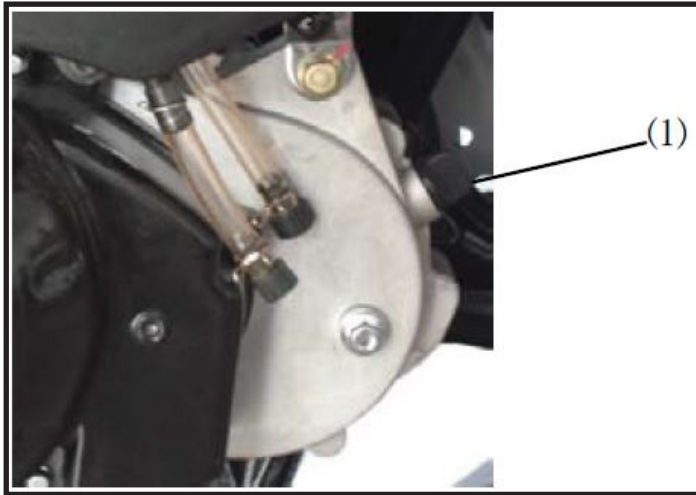
Attention:

If you are unable/unaware of the failure on your scooter return to your local authorized dealership for repairs. The dealership is in the best position to provide you with service and parts, especially when your scooter is under warranty. DO NOT disassemble your scooter if under warranty, simply return to an authorized dealership.

Periodic Maintenance

In order to keep your scooter in optimum operational condition please perform periodical inspection and maintenance. Any authorized Benelli dealership can provide you with any service or maintenance needs you will have. For the time schedule and item inspection list please refer to the maintenance schedule.

1. Transmission Oil Replacement



Park your scooter on the center stand and allow it to sit for 2-3 minutes after shutting the engine off. Loosen the gear oil filler plug.

If the gear oil level is insufficient, refill with the appropriate amount of gear oil via the filler plug hole (1). Replace the transmission oil every year or 3,000 miles, whichever comes first.

GL-5 85W/90 gear oil is recommended.

Full capacity of gear oil is 0.3L, 0.25L for replacement. When done check if the gear drive box has any oil leakage.



Attention:

Add gear oil via the oil filler.

Too much or too little gear oil will affect engine performance. DO NOT use gear oil of other brands or oil of poor quality.

If the scooter is used in bad conditions the gear oil should be replaced more frequently.

2. Parts Lubrication

Proper lubrication is very important to keep every part of motorcycle in normal operation, prolong the service life and maintain safe driving. After the scooter has been used for some time or has become wet from rainfall or cleaning, we recommend that you perform lubrication maintenance. For specific key lubrication points please refer to the pictures below:



Y: Motorcycle lubrication oil

Z: Grease

(1) Rear brake lever pivot bolt Z

(2) Side stand pivot bolt and spring hook Z

(3) Center stand pivot bolts and spring hook Z

(4) Speedometer gear and gear shaft bearings Z ♦

(5) Throttle cable Y

(6) Front brake lever pivot bolt Z

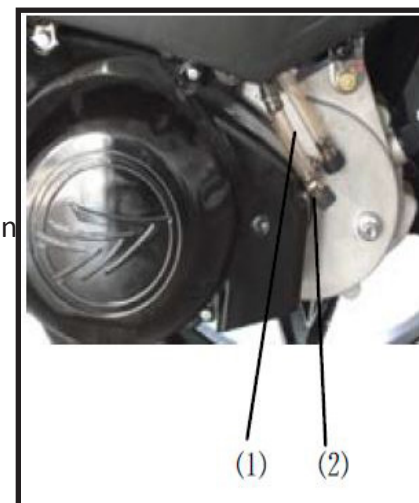


Attention:

The above lubrication items with the “♦” sign should be performed by an authorized Benelli/SSR motorcycle dealership.

3. Airbox Drain

The airbox blow-by drain should be checked periodically. If oil is present in the drain hose, release the hose clamp (2) and slide it up, then remove the drain line plug. Allow the oil to drain into a rag before replacing the drain plug and hose clamp.



4. Spark Plug

When the initial mileage reaches 600 miles and again at 2,500 miles remove the spark plug and use a small wire brush or spark plug cleaner to remove the carbon build-up from the spark plug,

then readjust the electrode clearance and measure it with a gap gauge to ensure the clearance is between 0.6 ~ 0.7mm. The spark plug should be replaced every 5,000 miles of use.

Spark Plug Type: NGK CR8E.



Caution:

The standard spark plug used in this scooter is carefully selected, it is also applicable to a wide range of working conditions, if replacing please replace with a plug of the same type and quality. An improper spark plug can cause serious damage to the engine.



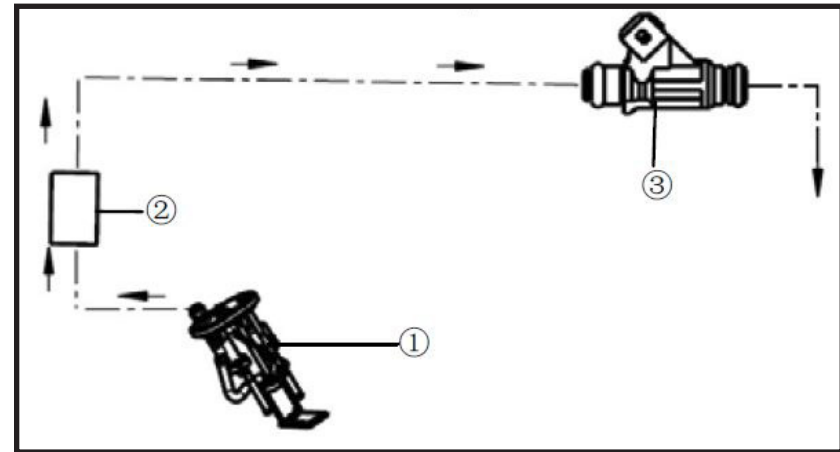
Caution:

Use caution when installing the spark plug not to cross-thread it which will damage the cylinder head. Install the spark plug by hand then tighten using a wrench, DO NOT over tighten the spark plug as this can also damage the cylinder head. Use caution when the spark plug is removed not to allow impurities into the engine through the spark plug hole.

5. Fuel Injector and Fuel Circuit

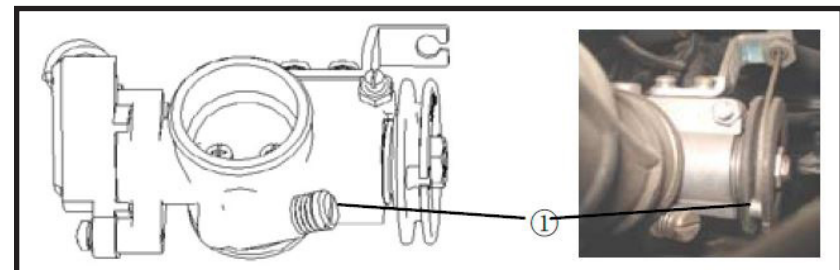
Fuel starts in the fuel tank and is pumped by the fuel pump ①, into the fuel filter ② and then into the fuel injector ③, before it is injected in the cylinder for combustion.

Please use the diagram below when reconnecting the fuel injection system hoses. This picture shows the connections between the fuel injection system and the fuel pump assembly in the fuel tank.



• Idle Speed Adjustment

Start the engine and allow it to warm up adequately. After the engine has warmed up, ensure the throttle is closed, then adjust the idle screw ①, the engine should maintain an engine RPM of between 1,400-1,600 RPM. The idle adjustment screw is on the right side of the throttle body between the valve body and airbox connection.

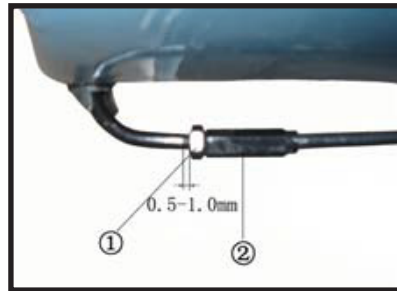


**Caution:**

The engine idle speed should only be adjusted once the engine has been properly warmed up.

● Throttle Cable Adjustment

- a. Loosen the lock nut ①;
- b. Rotate the adjuster ② to adjust the clearance of the cable to be between 0.5-1.0mm;
- c. Tighten the lock nut ① after the clearance adjustment.

**6. Tires**

The air pressure and tread depth of the tires should be checked periodically. This will ensure the maximum safety and prolong the service life, it should also be checked frequently to ensure proper inflation which will keep the tires wearing evenly.

7. Tire Pressure

Insufficient tire pressure will not only accelerate the wear of your tires, but will also affect the driving stability. Insufficient air pressure will cause steering difficulties, while excessive pressure will reduce the tires contact patch with the roads surface which can lead to loss of grip which can lead to accidents. The tire pressures must be maintained within the prescribed limits. The tire pressures should be checked when cold (not immediately after riding).

**Warning:**

Tire pressure and wear state are very important for motorcycle function and safety. Please check the measurement of tread depth and pressure condition.

8. Lamp Specifications

The rated power for all of the light bulbs are listed below. When replacing damaged bulbs, make sure to use bulbs with the same rated power and specifications as the damaged one. If a bulb or differing power or specifications is used it could lead to system overload or premature failure.

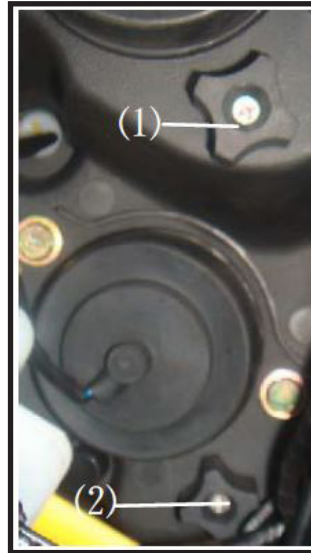
Headlight	12V 35W
Front Lamp	12V 5W
Taillight/Rear Light	12V 2.5/0.2W
Front/Rear Turn Signal	12V 2.5W/12V 2.5W
License Plate Light	12V 5W

9. Headlight Beam Adjustment

The headlight beam can be adjusted up and down in the vertical direction.

The headlight beam adjustment bolts are located in the top left corner and top right corner of the glove box. To adjust, open the glove box and using a screwdriver turn the screw to adjust the headlight beam. Turn clockwise to lower the headlight turn counterclockwise to raise the headlight beam.

- ① Adjuster bolt for the high beam
- ② Adjuster bolt for the low beam



10. Headlight Bulb Replacement

Prior to replacement, follow the instructions below:

- a. Remove the screws from the headlight access panel;
- b. Remove the headlight access panel;
- c. Remove the rubber cover from the backside of the headlight ①;
- d. Disconnect the wiring plug ②;
- e. Release the headlight bulb retainer clip and remove the bulb ③;
- f. Install the new bulb without touching the glass surface of the bulb.

Reinstall the loose parts in reverse order of above.



11. Parking Lamp Replacement

The parking lamp bulbs should be replaced as follows:

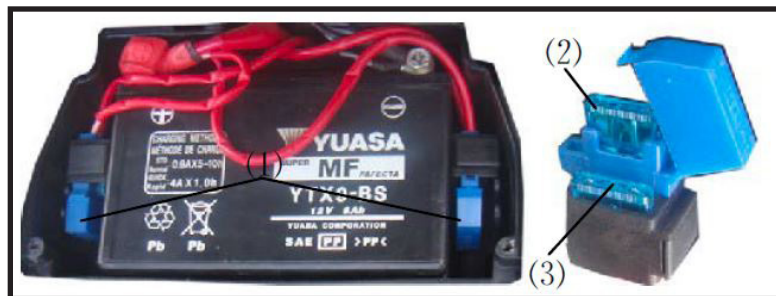
- a. Gently pull the rubber bulb holder from between the high beam and low beam headlights.
- b. Remove the bulb from the holder ①, insert a new bulb and reinsert the bulb holder into the headlight.



Caution:

Remove any grease or dust on the bulb with a clean cloth during bulb replacement.

12. Fuse Replacement



The fuse holders are located next to the battery. When a fuse is blown, remove the battery box cover, remove and open the fuse holder, remove the blown fuse (2), then insert the spare fuse (3). If the fuse blows instantly it indicates that there is a short circuit or overload. Return to an authorized Benelli dealership for inspection and repair.



Warning:

Do not use fuses of improper amperage or non fuse objects for fuse replacement as this could cause serious problems like fire or bulb failure or could even lead to electrical shock. ONLY USE FUSES OF THE CORRECT AMPERAGE AND TYPE WHEN REPLACING.

13. Battery

This scooter uses a maintenance free battery. To activate a new maintenance free battery first fill it with electrolyte matched to the battery that is being filled and prepared. Please have an authorized Benelli dealer assist you in the filling and charging of your maintenance free battery for safety.

The battery is located in the battery box in the foot-well of the scooter. To remove the battery, follow the procedures below:

- a. Turn off the ignition switch;
 - b. Open the seat;
 - c. Remove the battery cover screws and then remove the cover;
 - d. Remove the negative terminal (-) bolt, and then remove the positive terminal (+) bolt;
 - e. Gently remove the battery from the battery box.
- Install the battery in reverse order of removal.



Caution:

When reinstalling the battery, make sure that the battery terminals are connected properly. If the battery wires are connected in reverse, it will cause damage to the electrical system and the battery itself. The red terminal needs to be connected to the positive terminal (+), the black terminal needs to be connected to the negative terminal (-). Make sure the ignition switch (key) is shut off when replacing the battery.

When filling electrolyte for maintenance-free batteries, please follow these requirements:

- a. Place the battery on a clean, flat surface, then tear off the sealing tape;

b. Remove the electrolyte container from the plastic bag, remove the black plastic cap from the electrolyte container and set it aside. Attention: DO NOT remove or pin prick the sealing film on the liquid electrolyte container. Keep the black plastic cap to seal the battery once the electrolyte is filled and the battery is prepared;

c. Flip the electrolyte container upside down and align the 6 ports on the battery with the 6 electrolyte containers. Press the electrolyte container down firmly to pierce the foil film and begin filling the battery;

If no bubbles appear, squeeze the container slightly to begin filling the cell in question. Note: DO NOT place the battery and electrolyte container on an angle as it will effect the flow of electrolyte into the battery.

d. Confirm that at least one filler pipe on each half of the battery has bubbles coming out of it. Allow the electrolyte to drain for at least 20 minutes.

If neither of the two sides begins to bubble then gently tap on the bottom of the electrolyte container 2-3 times, do not remove the container until it has completely drained;

e. After the electrolyte has completely drained, tap on the container several times to make sure all of the electrolyte liquid has drained into the battery, and then slowly remove the container of electrolyte from the top of the battery; be sure not to drip any electrolyte on your skin or clothing;

f. Once the battery is completely filled, use the black plastic cap we removed earlier from the electrolyte container and affix it to the top of the battery to seal the open electrolyte filling holes. After confirmation that the cap is squarely over the top of the battery press the cap into place until the cap and the top of the battery are flat.

Once this cap is installed in place, DO NOT remove it and DO NOT add any additional fluid to the battery after the cap has been installed.

To replace the battery, please pay attention to the following:

When replacing the battery, confirm the motorcycle model, and verify if the battery specifications are consistent with the original equipment battery. The specifications of your battery are considered to best match with your motorcycle design. If using a battery of different specifications, it may affect the motorcycle's performance and service life, and may also lead to circuit failure.



Warning:

The battery will produce explosive gas from its chemical reaction, beware of sparks and open flames when filling the battery. The battery is filled with sulfuric acid (electrolyte). Skin or eye contact can cause serious burns. Electrolyte is a toxic substance, keep it away from children and pets.

Air Filter Maintenance

The air filter is installed near the left side of the rear wheel. If the air filter is dirty, it will increase intake resistance which will in turn reduce output power from the engine, meanwhile fuel consumption will also increase. To achieve the best filtration the air filter should be maintained as follows:

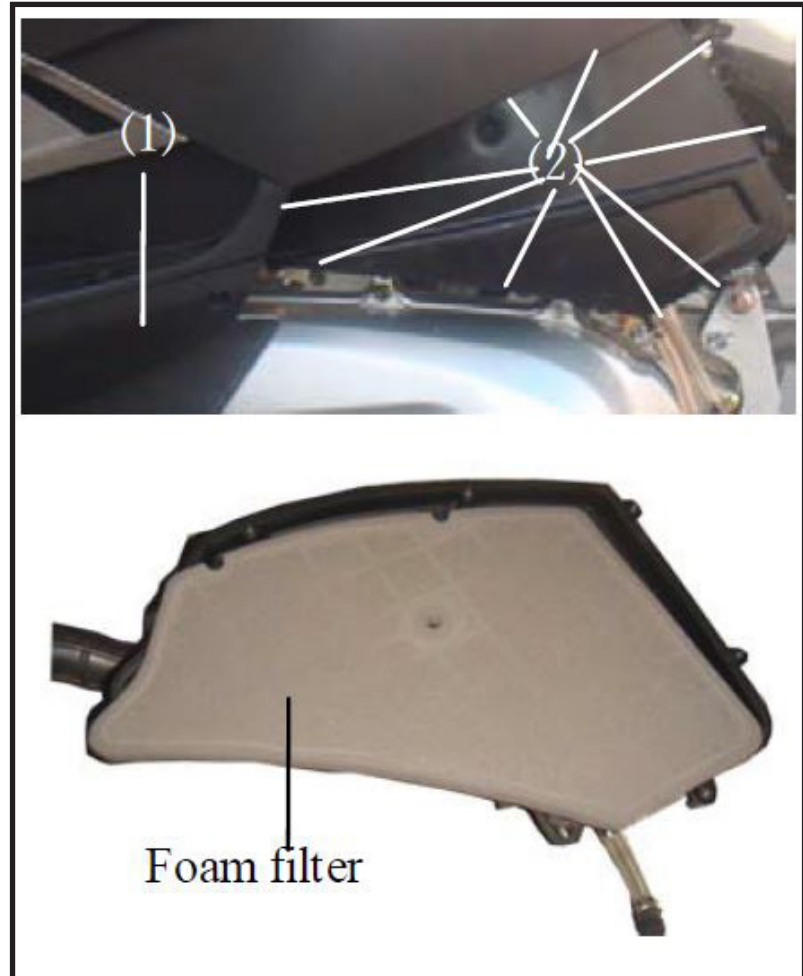
- a.) Remove the left side cover (1), then remove the 10 screws securing the airbox lid to the airbox (2);
- b.) Remove the foam air filter from the airbox;
- c.) Clean the filter using a high quality foam filter cleaner and let it fully dry;
- d.) Oil the air filter using a high quality foam filter oil and wring out any excess oil before installation.

Reinstall the air filter element in reverse order of above.



Caution:

As gasoline and low-flash solvent are highly flammable substances, they shall not be used for cleaning the air filter.



Storage Guide

For long-term storage, clean all parts of the scooter, and remove the battery. If storage is to exceed one month, add about 15ml of oil into the cylinder and turn over the engine several times with the spark plug removed to spread the oil out evenly. Park the scooter in a dark room that maintains a moderate temperature. If the scooter is not stored in this fashion before storage: clean the vehicle, check the battery and conduct a comprehensive inspection before driving.

Specifications and Technical Parameters

Engine	BJ169MM-5A single cylinder, 4 stroke, liquid cooled
Displacement	249.8cc
Nominal Displacement	250cc
Cylinder Bore x Stroke	69mm X 66.8mm
Compression Ratio	10.5:1
Maximum Power	18.1 hp/6500r/ min
Maximum Torque	14.75 ft·lb/6000r/ min
Transmission Type	V-belt drive, infinite variable speed
Clutch	Dry, centrifugal
Ignition Method	TLI
Starting Method	Electric Start
Fuel Tank Capacity	2.93 ±0.1 gallons
Weight	430 lbs.
Length	84.25 in
Width	31.49 in
Height	55.51 in
Wheelbase	58.66 in
Tire	Front Wheel 120/70-14 Rear Wheel 140/60-14
Brake Type	Front Wheel Manual Disc (double) Rear Wheel Single Manual Disc
Max Load Rating	341.7 lbs.
Fuel type	91 unleaded gasoline or above
Max Speed	79 mph

Inspection Item		Odometer Reading			
		600mi	4,000mi	6,000mi	8,000mi
Fuel Lines			I	I	I
Throttle Operation			I	I	I
Air Filter	(Remark 2)	C	C	R	C
Spark Plug			I	R	I
Engine Oil		R	2,000mi/per: R		
Gear Oil		Every 3,000mi			
*Engine Idle Speed		I	I	I	I
Brake Pad Wear			I	I	I
Brake System		I	I	I	I
*Drive Belt		5,000 mi/per: I 15,000mi/per: R			
Brake Light Switches			I	I	I
** Headlight low+high			I	I	I
* Clutch Wear				I	
* Suspension System			I	I	I
** Nuts, Bolts, Fasteners	(Remark 3)	I		I	
** Wheels / Tires	(Remark 3)		I		I
** Steering Bearings		I			I
* Front Brake Hose		I	I	I	I
		Replace Every Four (4) Years			
* Front / Rear Brake Fluid		I	I	I	I
		Replace Every Two (2) Years			

Explanation:

I: Inspection, cleaning, adjustment, lubrication or replacement is required

C: Cleaning

R: Replacement

*: shall be inspected by an authorized Benelli dealer.

** : For safety reasons, we recommend these services be performed by an authorized Benelli dealership.

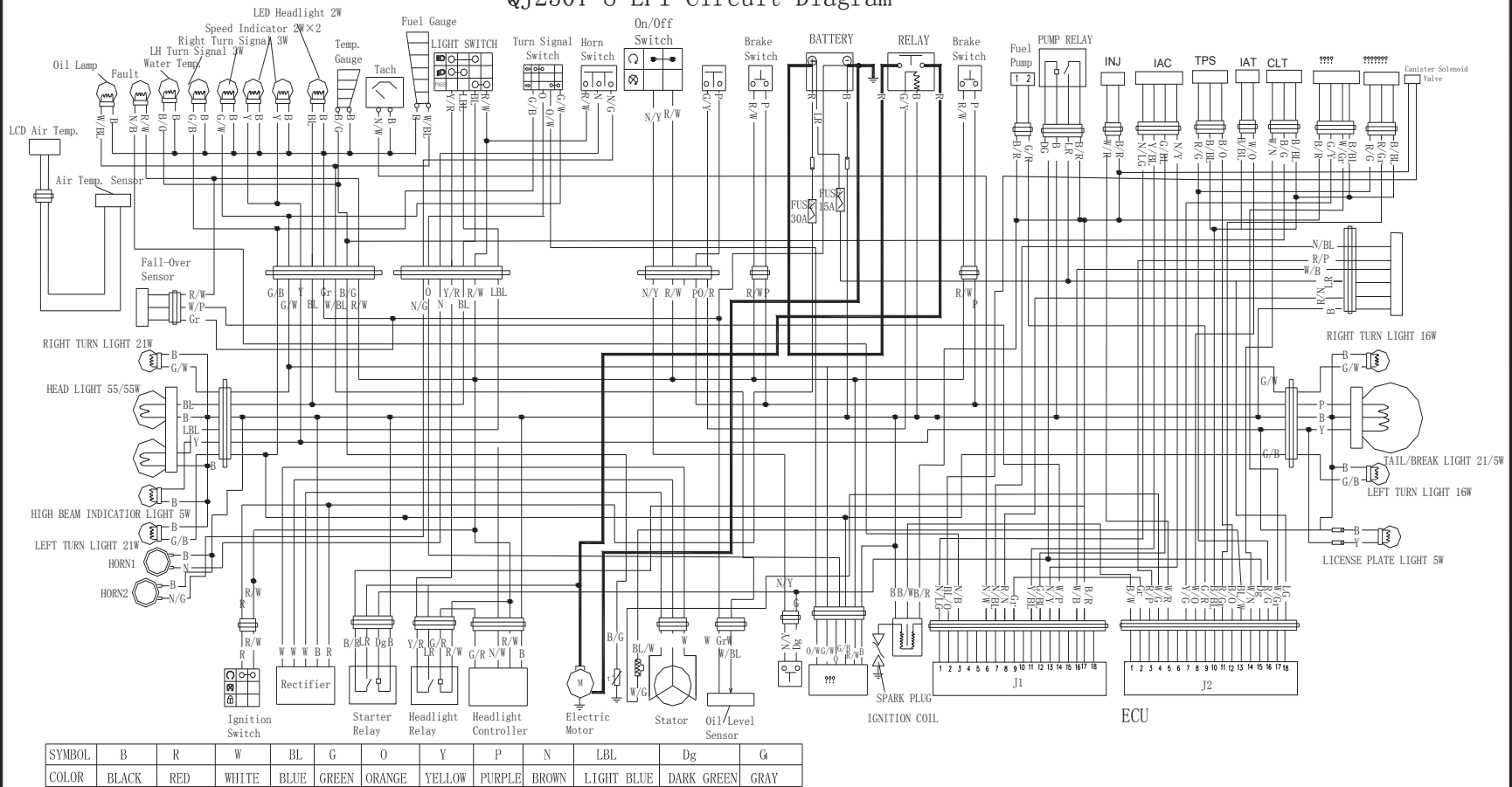
Remark1: If the odometer reading is high, then a repeated maintenance as per the mentioned cycle is required.

Remark2: If driving in particular humid or dusty areas, the required maintenance period should be shortened.

Remark3: If always driving on uneven roads, maintenance should be done more frequently.

WIRING DIAGRAM

QJ250T-8 EFI Circuit Diagram



EMISSION CONTROL SYSTEM WARRANTY

YOUR WARRANTY RIGHTS AND OBLIGATIONS

The California Air Resources Board, the U.S. Environmental Protection Agency, and SSR MOTORSPORTS. (hereinafter "SSR") are pleased to explain the Emission Related Components warranty on your 2019 Highway Motorcycle. New highway motor vehicles must be designed, built and equipped to meet U.S. EPA Federal and California anti-smog standards. SSR must warrant the Emission Related Components on your vehicle for 12,000mi or for 5 years, whichever comes first, provided that there has been no abuse, neglect or improper maintenance of your vehicle. Your emission control system may include parts such as the carburetor or fuel injection system, the ignition system, catalytic converter and engine computer, if it is equipped. Also included may be hoses, belts, connectors and other emission-related assemblies.

Where a warrantable condition exists, SSR will repair your vehicle at no cost to you, including diagnosis, parts and labor. If an emission-related part on your vehicle is defective, the part will be repaired or replaced by SSR. This is your emission control system DEFECTS WARRANTY.

OWNER'S WARRANTY RESPONSIBILITIES

As the vehicle owner, you are responsible for the performance of the required maintenance listed in your owner's manual. SSR recommends that you retain all receipts covering maintenance on your vehicle, but SSR cannot deny warranty solely for the lack

of receipts or for your failure to ensure the performance of all scheduled maintenance.

You are responsible for presenting your vehicle to the SSR' dealer as soon as a problem exists. The warranty repairs should be completed in a reasonable amount of time, not to exceed 30 days. As the vehicle owner, you should be aware that SSR may deny your warranty coverage if your vehicle or a part has failed due to abuse, neglect, improper maintenance or unapproved modifications.

If you use your vehicle in any type of competitive event, this warranty is immediately and completely void.

If you have any questions regarding your warranty rights and responsibilities, you should contact SSR MOTORSPORTS, 12825 Alondra Blvd., Norwalk, CA 90650 TEL: 562-926-2888 or (for California registered highway vehicles only) the California Air Resources Board at 9528 Telstar Avenue, El Monte, CA 91731-8001. SSR warrants that each new 2019 and later SSR highway motorcycle:

A: is designed, built and equipped so as to conform at the time of initial retail purchase with all applicable regulations of the United States Environmental Protection Agency, and the California Air Resources Board;

and

B: is free from defects in material and workmanship which cause such vehicle to fail to conform with applicable regulations of the United States Environmental Protection Agency or the California Air Resources Board for the periods specified above.

I. COVERAGE

Warranty defects shall be remedied during customary business hours at any authorized SSR' dealer located within the United States of America in compliance with the Clean Air Act and applicable regulations of the United States Environmental Protection Agency and the California Air Resources Board. Any part or parts replaced under this warranty shall become the property of SSR.

II. LIMITATIONS

This Emission Control System Warranty shall not cover any of the following:

A. Repair or replacement as a result of

- (1) accident,
- (2) misuse,
- (3) repairs improperly performed or replacements improperly installed,
- (4) use of replacement parts or accessories not conforming to SSR' specifications which adversely affect performance and/or
- (5) use in competitive racing or related events.

B. Inspections, replacement of parts and other services and adjustments required for required maintenance.

C. Any vehicle equipped with an odometer or hour meter on which the odometer mileage or hour meter reading has been changed so that actual mileage cannot be readily determined.

III. LIMITED LIABILITY

A. The liability of SSR under this emission control system warranty is limited solely to the remedying of defects in material or workmanship by an authorized SSR' dealer at its place of business during customary business hours.

This warranty does not cover inconvenience or loss of use of the vehicle or transportation of the vehicle to or from the SSR' dealer. SSR shall not be liable for any other expenses, loss or damage, whether direct, incidental, consequential or exemplary arising in connection with the sale or use of or inability to use the vehicle for any purpose. Some states do not allow the exclusion or limitation of any incidental or consequential damages, so the above limitations may not apply to you.

B. No express emission control system warranty is given by us except as specifically set forth herein. Any emission control system warranty implied by law, including any warranty of merchantability or fitness for a particular purpose, is limited to the express emission control system warranty terms stated in this warranty. The foregoing statements of warranty are exclusive and in line of all other remedies. Some states do not allow limitations on how long an implied warranty lasts so the above limitations may not apply to you.

C. No dealer is authorized to modify this SSR Limited Emission Control System Warranty.

IV. LEGAL RIGHTS

This warranty gives you specific legal rights, and you may also have other rights which vary from state to state.

V. THIS EMISSION CONTROL SYSTEM WARRANTY IS IN ADDITION TO THE STANDARD LIMITED WARRANTY FOR ALL VEHICLES.

VI. ADDITIONAL INFORMATION

Any replacement part that is equivalent in performance and durability may be used in the performance of any maintenance or repairs. However, SSR is not liable for these parts. The owner is responsible for the performance of all required maintenance. Such maintenance may be performed at a service establishment or by any individual. The warranty period begins on the date the motorcycle is delivered to an ultimate purchaser.