SWM

Manual - Operation – Maintenan

STORMBREAKER

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PRESENTATION

Welcome to the SWM motorcycling Family!

Your new SWM motorcycle is designed and manufactured to be the best in its category. The instructions in this manual have been prepared to provide a simple and understandable guide for your motorcycle's operation and care. Follow the instructions carefully to enjoy maximum performance.

It contains instructions to carry out the required maintenance operations. More specific or major repair or maintenance operations require the attention of a skilled mechanic and the use of special tools and equipment. Your SWM Dealer has the original spare parts, the experience and all equipment necessary to provide a valuable service.

Finally, please remember that the "Use and Maintenance Manual" is an integral part of the motorcycle, hence, it shall remain with the motorcycle even when sold to another user.

This motorcycle is fitted with components designed and constructed using cutting-edge systems and technologies.

To ensure proper operation of the motorcycle, it is necessary to follow the maintenance and inspection table available in Appendix A.

IMPORTANT NOTICES

The **STORMBREAKER** model is a motorcycle for ROAD use, guaranteed and free of defects and covered by legal warranty provided that the STANDARD CONFIGURATION IS MAINTAINED and the maintenance table in Appendix A is complied with.

IMPORTANT

In order to maintain the vehicle's "Operation Guarantee", the customer must follow the maintenance programme indicated in the use and maintenance manual by having scheduled maintenance carried out at authorised SWM workshops.

The cost for changing parts and for the labour necessary in order to comply with the maintenance plan is charged to the customer.

The warranty is NULL AND VOID if the motorcycle is rented.

IMPORTANT NOTICE

A Few Words About Safety

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

To help you make informed decisions about safety, we have provided operating procedures and other information on safety labels and in this manual. This information alerts you to potential hazards that could hurt you or others.

Of course, it is not practical or possible to warn you about all hazards associated with operating or maintaining a motorcycle. You must use your own good judgment.

Read this manual carefully and pay special attention to statements preceded by the following words:

WARNING

Indicates the possibility of severe personal injury or death if instructions are not followed.

CAUTION

Indicates the possibility of personal injury or vehicle damage if instructions are not followed.

NOTE

It gives useful information.

PRECAUTIONS FOR CHILDREN

WARNING

Park the vehicle where it cannot be easily bumped or damaged.

Even slight or involuntary bumps can cause the vehicle to tip over, with subsequent risk of serious harm to people or children.

To prevent the vehicle from tipping over, never park it on soft or uneven ground, nor on asphalt strongly.

Engine and exhaust system may become very hot. Park your motorcycle where pedestrians or children cannot easily reach these parts.

RISKS RELATED TO CARBON MONOXIDE

Exhaust gas contains carbon monoxide, a colorless and odorless gas. Breathing in carbon monoxide may cause loss of consciousness and death.

If you start the engine in a fully or partially closed environment, the air you breathe in may contain a hazardous amount of carbon monoxide. Never start the motorcycle in a garage or other closed places.

WARNING

Carbon monoxide is a toxic gas.
Breathing in carbon monoxide may cause loss of consciousness and death.
Avoid any areas or activities where you may be exposed to carbon monoxide.

SAFETY GUIDELINES

Here are some basic principles for riding your motorcycle safely.

- Remember that your safety and the safety of your passenger come first. Reaching your destination safely must be your main aim.
- The rider and the passenger must wear appropriate protective clothing, such as suit, gloves, shoes and helmet homologated for motorcycle use.
- The rider must be seated on the motorcycle in a position that gives the best possible visibility of the road ahead.
- Ride the motorcycle carefully and set the speed according to traffic and the type of road.
  Smooth riding helps you to assess danger and enter bends more precisely.
- Always observe road signs and adjust your speed accordingly.
- Always observe speed limits.
- Always assess the road conditions and adjust your speed accordingly.
- Keep a safe distance from the vehicles in front of you.
- Before overtaking, check there are no obstacles in front of the vehicle you want to overtake and always check in the rear-view mirrors that there are no vehicles coming up from behind.
- Brake using both the front and the rear brake at the same time: this helps to maintain the stability of the vehicle.
- Release the clutch gradually when downshifting.
- If you feel tired or sleepy, take a break.

Downshift in the following instances:
When going downhill and when braking to increase the braking action through engine compression; using only brakes when going downhill could cause the brake pads to overheat and reduce the braking action;
When going uphill or on the flat when the gear does not match the speed of the motorcycle (high gear and low speed);

WARNING

Downshift one gear at a time; downshifting more than one gear at a time may cause the engine to over-rev and/or block the rear wheel.

- Do not switch off the engine when going downhill.
- When you ride with a passenger, increase the distance from the vehicles in front of you and bear in mind his/her weight when you brake and when you have to take a bend or overtake.
- The riding position of both the rider and the passenger is important for motorcycle control.
- While riding, the rider must keep both hands on the handlebar and both feet on the footrests in order to keep the motorcycle under control.
- The passenger must always hold on to the rider or the passenger handle with both hands and keep both feet on the passenger footrests. Never carry a passenger that is unable to firmly place both feet on the passenger footrests.
- Never ride under the influence of alcohol or drugs.

ANTI-LOCK BRAKING SYSTEM -ABS

The ABS is an electromechanical braking-aid system:

- It prevents the wheels from locking during braking and helps keep the vehicle stable whenever the road surface is slippery, wet or dirty.
- When road-holding conditions are bad, the system can operate to extend the braking distance (e.g., whenever there is gravel on the road or the road surface is slippery). In any case, it provides the minimum distance required for that particular road surface.
- Nor should the fact that an ABS system is fitted provoke careless riding. The rider should always take every care on the road.
- Always use the recommended pads and tyres to ensure the ABS system's proper functionality.

ACCESSORIES & MODIFICATIONS

We strongly advise that you do not add any accessories that were not specifically designed or approved for your motorcycle by SWM or make modifications to your motorcycle from its original design. Doing so can make it unsafe.

Modifying your motorcycle may also void your warranty and make your motorcycle illegal to operate on public roads and highways. Before deciding to install accessories on your motorcycle be certain the modification is safe and legal.

WARNING

Improper accessories or modifications can cause a crash in which you can be seriously hurt or killed.

Follow all instructions in this owner's manual regarding accessories and modifications.

LOADING

Carrying extra weight affects your motorcycle's handling, braking and stability.

Always ride at a safe speed for the load you are carrying.

Avoid carrying an excessive load and keep within specified load limits.

The maximum load carried (rider, passenger and luggage) may not exceed 412 kg.

The luggage weight may never exceed 10 kg.

Tie all luggage securely, evenly balanced and close to the center of the motorcycle.

Do not use straps, cords, etc. to fasten luggage.

Do not place objects near the lights or the muffler.

WARNING

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

MOTORCYCLE IDENTIFICATION DATA

The VIN number is stamped on the right side of the steering head. The VIN number also appears on a label affixed to the right, front frame downtube.

The engine serial number is stamped on a pad at the left side surface of the crankcase between the cylinders. The engine serial number consists of digits used in the VIN number.

Always quote the number stamped on the frame when ordering spare parts or requesting further details about your vehicle and note it on this booklet.

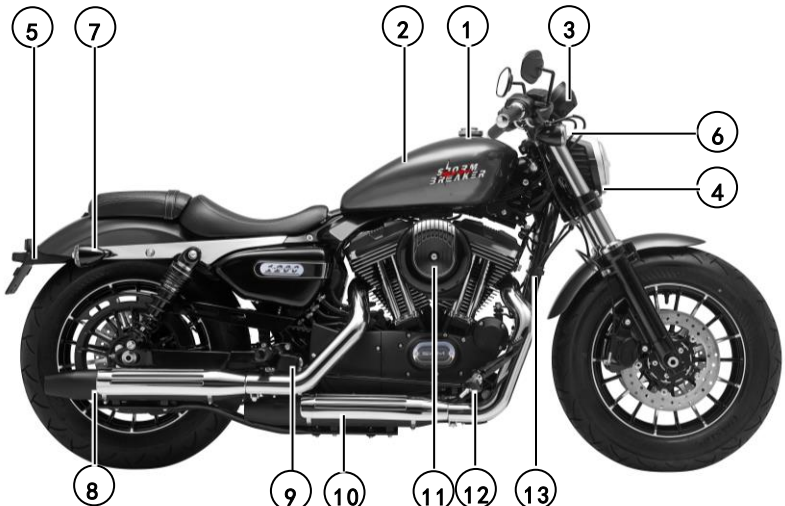
VIN

★ZN0C80000P0000000★

ENGINE NUMBER

C8/0P00000

CONTROL LOCATION



1) Fuel tank cap 2) Fuel tank 3) Instrument panel 4) Headlight 5) Plate lighting device 6) Front turning indicators 7) Rear turning indicators &Taillight 8) Rear Exhaust muffler 9) Rear brake pump 10) Front Exhaust muffler 11) Air filter assembly 12) Brake control pedal 13) Horn

1) Rider seat 2) Battery 3) Passenger seat 4) Front brake disc 5) Front brake caliper 6) Engine oil filter 7) Gear shift pedal 8) Throttle body 9) Side stand 10) ABS control unit. 11) Rear brake caliper 12) Rear brake disc

TECHNICAL DATA

DIMENSION & WEIGHT

Overall length	2180mm
Overall width	830mm
Overall height	1100mm
Wheelbase	1500 mm
Saddle height	710 mm
Min. ground clearance	110 mm
Dry weight.	252kg

VEHICLE BODY

Frame type	cradle type
Front suspension device	Sleeve type, spring & hydraulic composite damping
Rear suspension device	adjustable spring & hydraulic composite central damping
Front Tire size	130/90 - 16
Rear Tire size	150/80 -16
Front wheel pressure	250 kPa
Rear wheel pressure	250 kPa
Front brake	dual disc type, float disc Ø 280 mm. with hydraulic control and floating caliper
Rear brake	single disc type, fixed disc Ø 260mm with hydraulic control and floating caliper
Fuel grade	95#
Fuel tank capacity	14L

DRIVING SYSTEM

Clutch	Wet clutch multidisc
Clutch operating system	Manual mechanical
Variable speed gear	5-speed constant mesh gear type
Primary reduction ratio	1.500
1st gear	2.648
2nd gear	1.892
3rd gear	1.407
4th gear	1.166
5th gear	1,000
Final reduction ratio	2.267

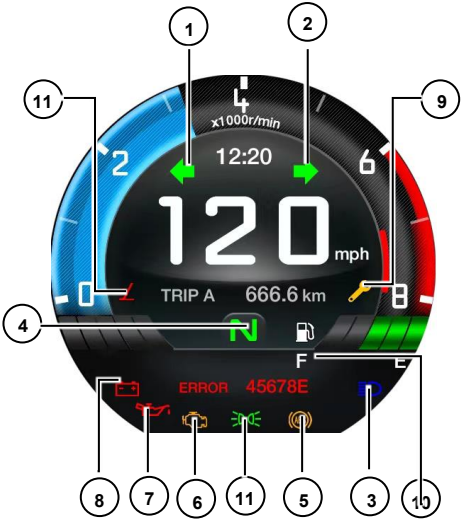
ELECTRICAL SYSTEM

Electric generator	ermanent magnet DC magneto
Accumulator capacity	12V/8Ah
Ignition type	electronic, inductive discharge
Spark plug type	"NGK" DPR8Z
Spark plug gap	0.6 - 0.8 mm
Ignition coil type	electronic, inductive discharge
Fuel system	Electronic injection feed

ENGINE

Mode	V-shaped twin cylinder, 4 stroke
Bore	88.9mm
Stroke.	96.7 mm
Displacement	600*2ml
Compression ratio	10.0:1
Max. power	45/5500kW/r/min
Max. orque	91/4000N·m/r/min
Air filter	Oilpaper filter
Cooling method	Air-cooling
Lubrication method	Pressure / Splash
Engine, gearbox lubricating oil	MOTUL SN7100 10W/50
Primary drive lubricating oil	SHELL SL10W/40
Oil replacement	2.4 l
Oil and oil filter replacement.	2.52 l
Oil Primary drive replacement	1.0L
Engine oil filter element	Oilpaper filter

DIGITAL INSTRUMENT



WARNING AND SIGNAL LIGHTS

① Left turn indicator light

② Right turn indicator light

③ High-beam light.

④ Gear indicator light

⑤ ABS warning light

⑥ Engine failure warning light.

⑦ Engine Oil-Pressure

⑧ Battery Charge indicator

⑨ Maintenance indicator

⑩ Fuel reserve warning light.

⑪ Side stand indicator light

⑫ Parking light indicator

DIRECTION INDICATOR LIGHTS

The light flashes when activating the left or right hand turning indicator using the control lever on the left-hand switch.

HIGH-BEAM LIGHT

The light comes on when activating the high-beam light using the control on the left-hand switch.

ENGINE FAILURE WARNING LIGHT

When the ignition key is turned, the engine control unit runs a self-test, the light comes on for a few seconds and then goes off if no fault is found.

If the light comes on while the engine is running, itmeans that there is an engine or injection system failure.

- Stop and turn off the engine.
- Wait a few minutes and restart the engine;

If the light comes on again, contact your nearest SWM dealer to have the self-test system checked.

GEAR INDICATOR LIGHT

The gear position is displayed.

ENGINE OIL PRESSURE WARNING LIGHT

The Engine Failure Light comes on (amber light) when you turn on the ignition switch. Starting the engine, the engine failure light extinguishment. This light comes on when the engine oil level is insufficient. It also alarms when the oil viscosity is low or the oil circuit is clogged.

When the warning light comes on, shut down the engine immediately and check for faults before restarting.

MAINTENANCE INDICATOR LIGHT

When the mileage reaches the specified maintenance mileage, the indicator light will light up and turn off after resetting.

FUEL RESERVE WARNING LIGHT

The fuel level display will indicate the fuel volume. When the pointer of the fuel level indicator rests near the last scale the fuel pump symbol will flash. Refuel with 95 unleaded gasoline as early as possibl.

ABS SYSTEM FAULT WARNING LIGHT

When the key is turned, the ABS control unit runs a self-test, the light comes on for a few seconds and then goes off indicating there is no fault.

If instead the light comes on while the motorbike isrunning, it means that there is a fault of the ABS braking system:

- Stop and turn off the engine.
- Wait for a few minutes and restart the engine.

If the light turns on again, see the closest SWM dealer to check the ABS system.

PARKING LIGHT INDICATOR

When the light switch is in the parking light position "", this indicator is lighted.

MULTIFUNCTION DISPLAY

Short press the start button on the right hand switch to power on the vehide, and the instrument panel will begin to animated display.
Other information symbols light up on the display.

Speed scale indication

Speedometer digital display, display range (0-199km/h). When the speed exceeds 199 km/h, the speed display value is 199 km/h; please do not drive the vehicle beyond the specified maximum speed of 165 km/h. shows riding speed in miles per hour(mph) and kilometer per hour(km/h).

Evolution counter

The rev. counter allows the driver to monitor the number of engine revs.
Maintain the engine speed within 6000rpm.

Mileage display

ODO displays the total mileage, and TRIP displays the small mileage.
When the vehicle speed is less than 5km/h, in ODO state, long press SET to enter the setting interface; in TRIP A/B state, long press SET, the corresponding TRIP will be cleared; short press SET to switch the mileage display: ODO->TRIP A->TRIP B.

SET BUTTON DESCRIPTION

Button: In ODO mode, short press time: less than 1s; long press time: more than 2s.

Input through the two buttons on the instrument: up key ①and down key②;

In the setting interface: short press the down key②to move the cursor or modify parameters, short press the up key ① to confirm, long press the down key②or up key ① to return to the previous menu.

THEME SETTINGS

In ODO mode, long press①key to enter the theme settings.

Display theme status,Short press the②key to switch between "Setting"、 "My vehicle"and"Exite". Short press the"SET"key toconfirm or please return to the main interface after with no operaton in 8s.

VEHICLE SETTINGS

LANGUAGE SELECTION

In "Setting" mode, Short press the①key to enter language settings. Short press ②key to switch languages.

The languages are: Chinese and ENGLISH. Short press the SET button to confirm the selection and return to the secondary menu. The language settings will be saved when the power is turned off.

UNIT SETTINGS

In "Setting" mode, Short press the ① key to enter the unit settings interface.

Short press the ②key to switch between metric and imperial systems. Short press ① key to confirm the selection and return to the secondary menu. The default metric unit is ;

SUBTOTAL MILEAGE RESET

In "Setting" mode, Short press the ① key to enter the subtotal mileage reset interface.

Short press the ②key to switch to select OK or Back, short press the ① key to confirm the selection and return to the secondary menu. This reset is to clear both TRIP A or TRIP B.

CLOCK SETTINGS

In “Setting” mode, Short press the ① key to enter the clock settings interface. the current time is displayed, and the tens digit of the hour is highlighted. At this time, Short press ②key to switch: 0~2.

Short press the ① key to set the position to move to the ones digit of the hour, and the ones digit of the hour is highlighted display. At this time, Short press ②key to switch: 0~9.

Short press the ① key. Minutes setting tens digit. Short press ②key to switch: 0~5.Short press the ①key. Minutes setting units' digit. Short press ②key to switch: 0~9.

Short press the ① key to the time interface after with. Please return to the main interface after with no operaton in 8s. ;

BRIGHTNESS SETTINGS

In “Setting” mode, Short press the ① key to enter the brightness setting, and the up and down arrows will appear on the right side. Then press the ②key to switch the brightness. The brightness is divided into six options: automatic, 20%, 40%, 60%, 80%, and 100%. Short press ① key to return to the secondary menu;

MAINTENANCE SETTINGS

-When the mileage reaches 1,000 kilometers, the maintenance indicator light lights up for the first time. You can reset the maintenance mileage by pressing the button to turn off the light. After resetting the maintenance mileage, the indicator light lights up every 3,000 kilometers. After that, the maintenance indicator light is reset. It lights up every 3000 kilometers after mileage.

-Only when the maintenance alarm indicator light is on, in the main interface and in the ODO display state, press and hold the ②key and ① key buttons at the same time to turn off the light.

VEHICLE INFORMATION

A. Short press①key to enter the vehicle status information, which displays parameters such as average fuel consumption, driving time, remaining maintenance mileage, water temperature, voltage, etc. Short press ②key to switch options (next page or return), and short press ① key to confirm;

B. Display instrument version information, display software version and hardware version, short press ② key to switch options (previous page or next page), short press①key to confirm;

C. In the event of a fault, the relevant “ABS” error code and the relevant “ECU” error code is indicated on the display; Find the nearest SWM ealer to check the fault.

ECU FAULT CODE

Index	Fault Path	DTC	Description of DTC	Active MIL
1	CDCDK	P0122	Throttle/Pedal Pos.Sensor Circ. Low Input	√
2		P0123	Throttle/Pedal Pos.Sensor Circ. High Input	√
3	CDCEV1	P0201	Cylinder 1- Injector Circuit open	√
4		P0261	Cylinder 1- Injector Circuit Low	√
5		P0262	Cylinder 1- Injector Circuit High	√
6	CDCEV2	P0202	Cylinder 2- Injector Circuit open	√
7		P0264	Cylinder 2- Injector Circuit Low	√
8		P0265	Cylinder 2- Injector Circuit High	√
9	CDCFRAU	P2177	System Too Lean bank1	√
10		P2178	System Too Rich bank1	√
11	CDCFRAU2	P2179	System Too Lean bank2	√
12		P2180	System Too Rich bank2	√
13	CDCHSV	P0053	O2 Sensor Heater Resistance(Bank ② Sensor 2)	√

Index	Fault Path	DTC	Description of DTC	Active MIL
14	CDCHSV2	P0059	O2 Sensor Heater Resistance(Bank ② Sensor 2)	√
15	CDCHSVE	P0030	O2 Sensor Heater Resistance(Bank ② Sensor 2)	√
16		P0031	O2 Sensor Heater Resistance(Bank ② Sensor 2)	√
17		P0032	O2 Sensor Heater Resistance(Bank ② Sensor 2)	√
18	CDCHSVE2	P0050	O2 Sensor Heater Resistance(Bank ② Sensor 2)	√
19		P0051	O2 Sensor Heater Resistance(Bank ② Sensor 2)	√
20		P0052	O2 Sensor Heater Resistance(Bank ② Sensor 2)	√
21	CDCKPE	P0627	Fuel Pump "A" Control Circuit /Open	√
22		P0628	Fuel Pump "A" Control Circuit Low	√
23		P0629	Fuel Pump "A" Control Circuit High	√
24	CDCLATP	P0133	O2 Sensor Circ.,Bank1 -Sensor1 Slow Response	√
25	CDCLATP2	P0153	O2 Sensor Circ.,Bank1 -Sensor2Slow Response	√
26	CDCLM	P0105	Manifold Abs.Pressure or Bar.Pressure Circuit	√
27		P0106	Manifold Abs.Pressure or Bar.Pressure Range/Performance	√

Index	Fault Path	DTC	Description of DTC	Active MIL
28		P0107	Manifold Abs.Pressure or Bar.Pressure Low Input	√
29		P0108	Manifold Abs.Pressure or Bar.Pressure High Input	√
30	CDCLSV	P0130	O2 Sensor Circ.,Bank1-Sensor1 Malfunction	√
31		P0131	O2 Sensor Circ.,Bank1-Sensor1 Low Voltage	√
32		P0132	O2 Sensor Circ.,Bank1-Sensor1 High Voltage	√
33		P0134	O2 Sensor Circ.,Bank1-Sensor1 No Activity Detected	√
34	CDCLSV2	P0150	O2 Sensor Circ.,Bank1-Sensor2 Malfunction	√
35		P0151	O2 Sensor Circ.,Bank1-Sensor2 Low Voltage	√
36		P0152	O2 Sensor Circ.,Bank1-Sensor2 High Voltage	√
37		P0154	O2 Sensor Circ.,Bank1-Sensor2 No Activity Detected	√
38	CDCMD_00	P0301	Cyl.1 Misfire Detected	√ or Blink
39	CDCMD_01	P0302	Cyl.2 Misfire Detected	√ or Blink
40	CDCSTPE	P0511	Idle Air Control Circuit	√
41	CDCSVSE	P0650	Malfunction Indicator Lamp Control Circ.	×

Index	Fault Path	DTC	Description of DTC	Active MIL
42	CDCTA	P0111	Intake Air Temp.Circ. struck/Performance	√
43		P0112	Intake Air Temp.Circ. Low Input/range	√
44		P0113	Intake Air Temp.Circ. High Input	√
45	CDCTEVE	P0444	Canister purge valve Circuit open	√
46		P0458	Canister purge valve Circuit low	√
47		P0459	Canister purge valve Circuit high	√
48	CDCTM	P0116	Engine Coolant Temp.Circ Range/Performance	√
49		P0117	Engine Coolant Temp.Circ Low Input	√
50		P0118	Engine Coolant Temp.Circ High Input	√
51		P0119	Engine Coolant Temperature Sensor 1 Circuit Intermittent	√
52	CDCTOX	U0198	Lost Communication With Telematic Control Module	×
53	CDCDASH	U0155	Lost Communication With Instrument Panel Cluster (IPC) Control Module	×
54	CDCCIF	U0073	Control Module Communication Bus Off	×

ABS FAULT CODE

DTC	Malfunction	Possible Causes	Recommended Measures
C1101	ECU Voltage supply: high voltage	Poor connect of battery terminal.	Clean the terminal.
C1102	ECU Voltage supply: low voltage	Poor connect of battery terminal.	Clean the terminal.
C1200	Wheel-speed sensor, front: signal cable is short or open circuit; power supply cable is open circuit	Poor connect of sensor cable.	Check the cable connection.
C1201	Wheel-speed sensor, front: (signal failure) out of range, lost, noise, Intermittent	Dirt on the sensor probe or tone wheel.	Clean the probe and tone wheel.
C1202	Wheel-speed sensor, front: general error	Too much gap between the sensor probe with tone wheel.	Check the distance between the sensor probe with tone wheel.
C1206	Wheel-speed sensor, rear: signal cable is short or open circuit; power supply cable is open circuit	Poor connect of sensor cable.	Check the cable connection.
C1207	Wheel-speed sensor, rear: (signal failure) out of range, lost, noise, Intermittent	Dirt on the sensor probe or tone wheel.	Clean the probe and tone wheel.

DTC	Malfunction	Possible Causes	Recommended Measures
C1208	Wheel-speed sensor, rear: general error	Too much gap between the sensor probe with tone wheel.	Check the distance between the sensor probe with tone wheel.
C1604	ECU error (hardware, Micro-controller error)	ABS Internal damange	Replace ABS
C2308	Valve fault, inlet valve front	ABS Internal damange	Replace ABS
C2312	Valve fault, outlet valve front	ABS Internal damange	Replace ABS
C2324	Valve fault, inlet valve rear	ABS Internal damange	Replace ABS
C2328	Valve fault, outlet valve rear	ABS Internal damange	Replace ABS
C2112	Valve relay error	ABS Internal damange	Replace ABS
C2402	Reflux pump fault	ABS Internal damange	Replace ABS
C2501	Brake pedal switch error	Poor connection of ABS brake pedal signal cable. Too much ground resistance.	Check the cable connection. Check the ground resistance of brake pedal cable.

CONTROLS

HANDLEBAR SWITCH

The right-hand switch features the following controls:

1) Keyless start function/logic

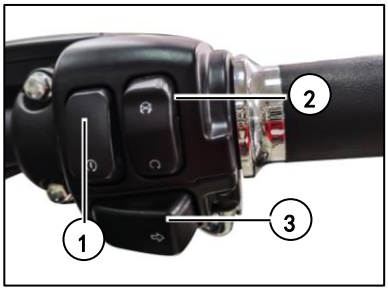
Key: keyless integrated mechanical key with sensing distance of 1 meter.

Control logic:

- When the bike is not powered on, press①in a short time to verify the validity of the key and verify that the bike is powered on;
- When the bike is not powered on, press①in a long time to verify the legitimacy of the key, verify that the vehicle is powered on, and start the engine if the vehicle clutches or neutral signal is effective and the EFI power is connected;(fast)
- When the vehicle has been powered on and the engine has not started, press①in a long time to verify the legitimacy of the key, and start the engine if the vehicle clutches or neutral signal is effective and the EFI power is connected;
- When the engine speed is >1000 and the bike speed is 0 (idle state), press①in a long time to forcibly power off the bike; (fast)
- When the bike is powered on and the bike speed is 0, engine speed < 500 (flamed state), press①in a short time to power off the bike;
- When the bike is powered on and the bike speed is 0, engine speed < 500 (flamed state), if the key leaves 180 seconds, the bike will automatically powers off;
- When the bike is powered on and the bike speed > 0, engine speed > 1000 且 (driving state), even if the key leaves, the engine does not turn off; After manual shutdown, the bike will be powered off 180 seconds after detecting no key.

NOTE

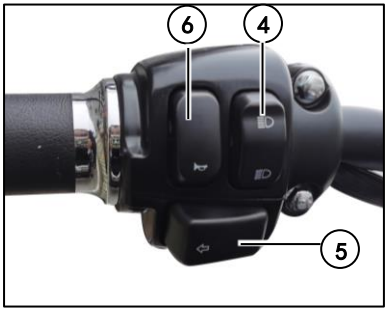
Long press default time is 1 second;
If no communication message is sent by the EFI ECU, the engine can also be considered to have stalled;
If the ABS has no packet, press in a short time and power off;
When fault occurs both on the front wheel speed and rear wheel speed of the ABS at the same time, press power off in a short time.



2) Engine KILL SWITCH.
Flicked to position, disables engine starting and running.
Flicked to position, enables engine starting and running.

3) Right-hand turning indicators (self-cancelling).
To deactivate the turning indicators, press the control lever after it is returned to the center.

The left-hand switch features the following controls:



4) Far and Near Light Lamp Instruction

Press the button, the use of far and near light switch can control the distance light.

Set the switch to "≡D" to turn on the low beams.

Set the switch to "≡D" to turn on the high beams.

5) Left-hand turning indicators (self-cancelling).

To deactivate the turning indicators, press the control lever after it is returned to the center.

6) Warning horn.

Press this button. The horn will sound.

7) Hazard Light

Simultaneously press the Right/ Left-hand turning indicators, the signals continue flashing with. Press and release simultaneousl.

CLUTCH CONTROL

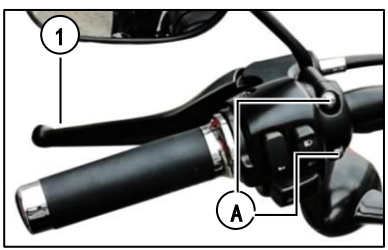
The clutch control lever①is located on the left-hand side of the handlebar and is equipped with a protection.

The clutch control position on the handlebar can be adjusted by loosening the retaining screws (A).

⚠ CAUTION

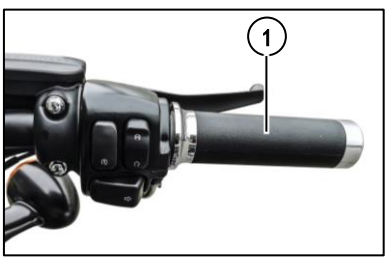
Do not forget to tighten the screws (A) after adjustment.

.



THROTTLE CONTROL

The throttle twistgrip①is located on the right-hand side of the handlebar.

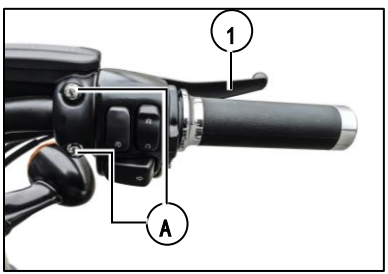


FRONT BRAKE CONTROL

The brake control lever① is located on the right-hand side of the handlebar. A stop switch, during the braking action, causes the stop light on the tail light to come on. The control position can be adjusted by loosening the two retaining screws (A).

CAUTION

Do not forget to tighten the screws (A) after adjustment.



REAR BRAKE CONTROL

The rear brake control pedal① is placed on the right-hand side of the motorcycle. A stop switch, during the braking action, causes the stop light on the tail light to come on.

GEAR SHIFT CONTROL

The lever① is placed on the left-hand side of the engine.

The rider must release the lever after each gear change to allow it to return to its central position. Neutral position (N) is between the first and second gears.

First gear is engaged by pushing the lever downwards; the other gears are engaged in a sequence by pushing the lever upwards.

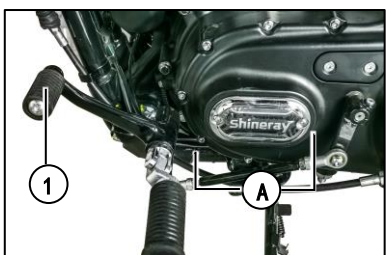
The lever position on the shaft can be changed. To carry out this operation, loosen the screw(A)), Tighten the screw(A) once operation is completed.

CAUTION

Do not downshift when travelling at a speed that would force the engine to "overrev" or cause the rear wheel to lose grip, if the immediately lower gear is selected.

WARNING

Do not shift gears without disengaging the clutch and closing the throttle. The engine could be damaged by "over-revving".



SIDE STAND

A side stand①is supplied with every motorcycle.

Periodically check the side stand; make sure that the springs are not damaged and the side stand moves freely. If the side stand is noisy, lubricate the fastening pivot.

WARNING

The stand is designed to support the WEIGHT of the MOTORCYCLE ONLY. Do not sit astride the motorcycle using the stand for support as this could cause structural failure to the stand resulting in serious injury.

WARNING

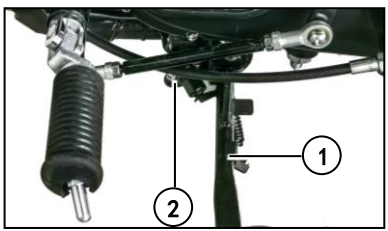
The motorcycle must be placed on its side stand ONLY AFTER the rider has dismounted.

WARNING

A safety sensor ② is fitted on the motorbike, which allows starting it with the stand lowered and the gear in neutral If a gear is engaged with the stand lowered, the engine turns off.

NOTE

Lower the stand with your right foot keeping the motorcycle balanced. When the stand has been lowered, make the bike rest on it. Once the motorbike has been brought from its rest position on the ground to vertical position, the rider has to raise the stand from the lowered to the raised position with his/her left foot.



STEERING LOCK

The motorcycle is equipped with a steering lock①on the right side of the steering head tube.

Lock the steering as follows:

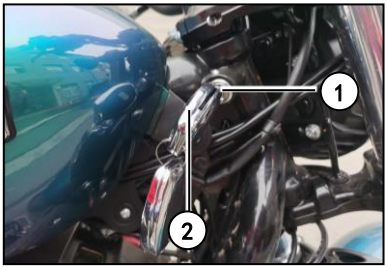
Turn the handlebar to the left;

Insert the key②into the lock and turn it counterclock-wise;

Push it inside and, if necessary, turn the handlebar in both directions;

Turn the key②clockwise and remove it from the lock.

To unlock the steering, follow the above procedure in reverse order.



WARNING

Do not turn the handlebar with the key into the steering lock, to avoid breaking it.

USING THE MOTORCYCLE

⚠ NOTE

If you are not familiar with the motorcycle operation, read paragraphs on "CONTROLS" before riding this motorcycle.

PRELIMINARY CHECKS

Any time you ride your motorcycle, make a general inspection first and proceed to check the following:

-Check fuel level and engine oil level;

-Check the brake fluid level;

-Check the steering by turning the handlebar both ways, fully home;

-Check the tyre pressure;

-Check the chain tension;

-Check and if necessary adjust the throttle control;

-Turn the ignition switch to position: check the lighting of instrument display and, with gearbox in neutral, make sure that the neutral warning light comes on;

-Turn on the high-beam light and check that the relative warning light comes on;

-Operate the turning indicators and check that the warning light comes on;

-Check if the rear stop light is functioning;

-Check that, after starting, the " "Engine fault" and the" " "ABS fault" lights are not on.

INSTRUCTIONS FOR RUNNING-IN

The exclusivity of the design, with the high quality of the materials used and the accuracy of the assembly, guarantee the highest comfort right from the start.

However, when running for the first 1000 Km, SCRUPULOUSLY follow the rules mentioned below. Please note that FAILURE TO COMPLY WITH THESE RULES MAY COMPROMISE THE LIFE AND THE PERFORMANCE OF THE MOTORCYCLE:

-Warm up the engine by running at low rpm before using the motorcycle;

-Avoid quick starts and never rev up the engine when in low gear;

-Ride at low speed until the engine is warmed up;

-Apply both brakes several times to run-in the pads and the discs;

-Do not maintain the same speed for a long time;

-Do not ride for a long time without stopping;

-NEVER ride downhill with GEARBOX IN NEUTRAL, but shift into gear in order to use the engine braking, thus preventing the fast wear of the brake pads.

OPERATION PROBLEMS

The following list is used for troubleshooting and to find the necessary remedies

The engine does not start

-The starting procedures are not correctly followed: follow the instructions given on paragraph "Starting the engine".
-Dirty spark plug: clean;
-The spark plug does not spark: adjust the electrodes gap;
-Faulty starter motor: repair or replace;
-Faulty start button: replace the switch;
-Side stand lowered.

The engine has starting troubles

-Dirty or worn out spark plug: clean or replace;

The engine starts, but it is erratic

-Dirty or worn out spark plug: clean or replace;
-Faulty spark plug electrode gap: adjust;

The spark plug gets easily dirt:

-Unfit spark plug: replace;

The engine lacks power

-Dirty air filter: clean
-The spark plug electrode gap is too large: adjust;
-Incorrect valve clearance: adjust;
-Insufficient compression: check for the cause;
-Fuel pump protection filter or injector protection filter dirty; clean or replace the filters;

The engine knocks

-Excessive carbon deposit on the piston crown, or in the combustion chamber: clean;
-Faulty spark plug or wrong heat rating: replace;

The alternator fails to charge, or its charge is insufficient

-The cables on the voltage regulator are badly connected, or in short-circuit: correctly connect, or replace;
-Faulty alternator coil: replace;
-De-magnetised alternator rotor: replace;
-Faulty voltage regulator: replace;

The battery overheats

-Faulty voltage regulator: replace;

Difficulty in shifting gears

-Engine oil with too high viscosity rating: replace with the recommended oil;

The clutch slips

-Insufficient spring load: replace;
-Worn-out clutch plates: replace;

Faulty brakes

-Worn-out pads: replace;

RIDING PRECAUTIONS

Break-in Period

- During the first 600 miles (1000 km) of running, follow these guidelines to ensure your motorcycle's future reliability and performance.
- Avoid full-throttle starts and rapid acceleration.
- Avoid hard braking and rapid downshifts.
- Ride conservatively.

Brakes

Observe the following guidelines:

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

Engine Braking

Engine braking helps slow your motorcycle down hen you release the throttle. For further slowingaction, down-shift to a lower gear. Use engine braking with intermit-tent use of the brakes to reducespeed when descending long, steep slopes.

Wet or Rainy Conditions

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

Riding in Bad Weather

- If you decide to ride your motorcycle in the rain, fog, or other bad-weather conditions, ride carefully. Wet road surfaces reduce traction, especially in turns, and increase stopping distances when you brake.
- If the weather turns bad while you are riding, take extra care and do not use cruise control.

Parking

- Park on a firm, level surface.
- If you must park on a slight incline or loose surface, park so that the motorcycle cannot move or fall over.
- Make sure that high-temperature parts cannot come into contact with flammable materials.
- Do not touch the engine, muffler, brakes and other high-temperature parts until they cool down.

Parking with the Side Stand

- Stop the engine.
- Using the side standPush the side stand down.
- Slowly lean the motorcycle to the left until its weight rests on the side stand.

LAUNCH AND SHIFTING GEARS

- While sitting on the motorcycle with the engine running at idle in neutral, raise the side-stand and place both feet firmly on the ground. Pull the clutch lever to the handlebar and push the gear shift pedal down with your left foot to change the gear from neutral to 1st gear.

- Gradually turn the throttle twist grip to increase the speed of the engine to about 3000 r/min, and SLOWLY release the clutch lever until the motorcycle starts to move. DO NOT release the clutch lever suddenly once movement begins. CAREFULLY modulate both throttle and clutch to ensure a smooth start as your vehicle accelerates.

- When the motorcycle reaches a balanced state of operation and the engine rpm rises, close the throttle, pull in the clutch lever, and then lift up the shifting pedal to shift from 1st to 2nd gear.

- Use the same up-shift procedure for 3rd-5th gear.

- Engage the clutch and the shift pedal downward to down-shift the motorcycle. Release clutch slowly.

Down shifting for more power if you want to accelerate quickly, for example, when passing another vehicle, down-shifting can often provide more power and faster acceleration.

! CAUTION

Always start the vehicle from 1st gear, and make the starting process as slow and smooth as possible.

- **Shift gears prior to reaching the engine redline RPM.**

- **Do not downshift gears too quickly into the redline RPM range as this may cause damage to the engine by over- revving the engine.**

- **Operate at speeds under the legal limit.**

MOUNTING/DISMOUNTING OF RIDER AND PASSENGER

General

Carefully read the instructions below as they provide important information for rider and passenger safety and to prevent harm to persons or damage to the motorcycle.

The motorcycle must always be mounted or dismounted from the left-hand side with your hands free, no obstacles in the way and with the stand down.

The rider must be the first to get on and the last to get off the motorcycle and must control the stability of the motorcycle while the passengers mounts and dismounts.

Do not get off the vehicle by jumping or extending your legs and always dismount by following the instructions given in the relevant section.

Mounting of rider

With the motorcycle on the side stand, do the following:

-From the left side, hold the handlebar correctly with both hands and extend your right leg over the saddle.

-Sit on the motorcycle and place both feet on the ground. Balance the vehicle without putting all your weight on the side stand.

-Start the motorcycle as described in the relevant section.

-Using your left leg, fully retract the stand.

! CAUTION

If you are unable to place both feet on the ground, put your right leg down with your left leg poised.

Mounting of passenger

Get the rider to mount first as described in the relevant section without starting the engine.

-Get the passenger to put the passenger footrests down.

CAUTION

When in a riding position, the rider must not pull out or attempt to pull out the rear passenger footrests since this may unbalance the vehicle.

-Place your left hand on the rider's shoulder, your left foot on the footrest and then mount the motorcycle by lifting your right leg and moving carefully to avoid unbalancing the vehicle and the rider.

-Hold onto the special handles.

-Using your left leg, fully retract the stand.

-Start the motorcycle as described in the relevant section.

Dismounting the motorcycle

-Stop the vehicle and switch off the engine.

CAUTION

Make sure that the area where you want to park the vehicle is stable and level.

Place both feet on the ground.

Switch off the motorcycle as described in the relevant section.

Using your left leg, fully extend the stand.

Get the passenger to dismount first from the left-hand side of the vehicle by placing their foot on the left-hand footrest and raising their right leg.

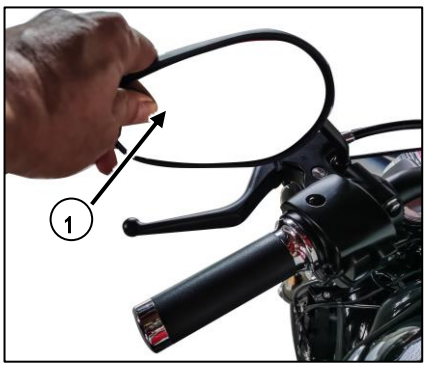
Tilt the motorcycle to the left until it rests on the stand.

Firmly grasp the handlebar and dismount on the left-hand side by lifting your right leg.

ADJUSTING THE REAR-VIEW MIRRORS

Sit on the motorcycle as described in the relative paragraph.

Adjust both mirrors①so that you can clearly see the road behind you when seated.



FUELLING

Recommended fuel: premium grade UNLEADED fuel (R.O.N 95).

WARNING

Fuel is extremely flammable and can be explosive under certain conditions.

Always stop the engine and do not smoke or allow flames or sparks in the area where the motorcycle is refuelled or fuel is stored.

Proceed as follows:

-Turn off the engine.

- Move laterally, the lid①of the greenhouse culture.

-Insert the key②and turn it clockwise to release the plug.

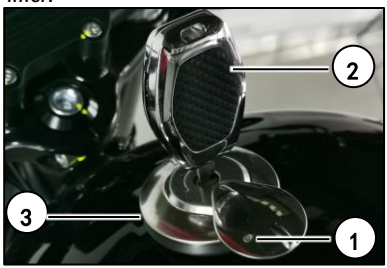
-Lift the plug ②.

-Refuel through the filler neck.

-Close the plug ② again, following the removal procedure in reverse order, then remove the key②and lower the protection tab①.

CAUTION

Do not overfill the tank. Refer to the lower mark on filler.

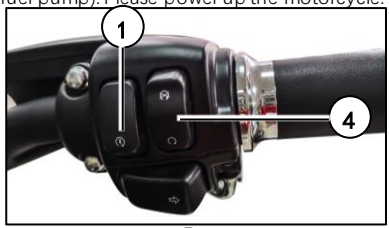


CAUTION

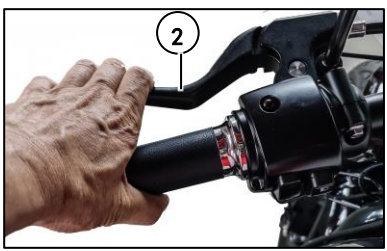
To ensure the engine is stopped and far away from fire before adding fuel.
Fuel will spill if the fuel is up to the underline of level card.

STARTING THE ENGINE

-Short press the right handle start button①you will hear a puffing sound, which is caused by the pressure of the fuel pump). Please power up the motorcycle.



-Pull the clutch lever②.



-Shift gear pedal ② to neutral, neutral warning light "N" comes on.

-Check that the button④is in position and then press the start button⑤.

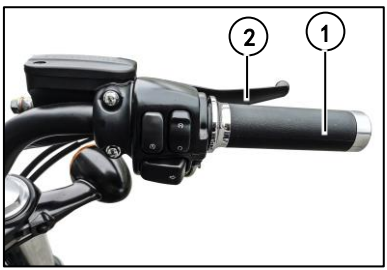
When a cold engine has just been started, do not increase revs, to ensure an adequate oil warmup and circulation.

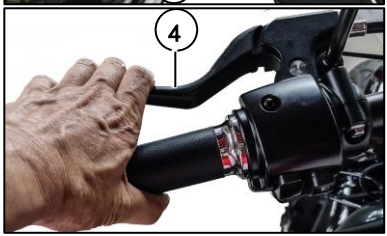
WARNING

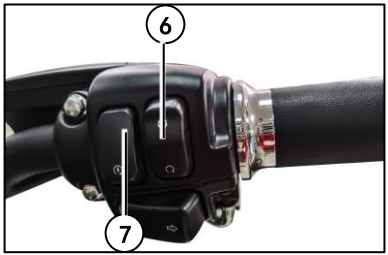
Do not run the cold motor with a high number of revs.

STOPPING THE MOTORCYCLE AND THE ENGINE

- Fully close the throttle twist grip①to decelerate the motorcycle.
- Apply both front②and rear③brakes whiledownshifting (for sharp deceleration, operate in a decided manner on the brake lever and pedal).
- When stopped, pull the clutch lever④and shift gear lever⑤into the neutral position.







- long press the the start button⑦, Flick the red switch ⑥to stop the engine and then flick it back to ⊠ position.

When the bike is off, place it on its side stand.

WARNING

If the throttle locks in open position or another malfunction occurs that causes the engine to run uncontrolled, IMMEDIATELY press the button⑦, keep the motorcycle under control using the brakes and steering.

PERIODIC MAINTENANCE AND ADJUSTMENTS

Carry out proper maintenance according to the table given in Appendix A in this manual, which indicates the periodic maintenance intervals. The intervals indicated in the maintenance table refer to normal use. Nevertheless, it may be necessary to reduce these intervals in relation to the climatic conditions and individual use.

CAUTION

Before carrying out any maintenance operation, check that you have the necessary tools, components and technical skills.

-Turn off the engine and park the motorcycle on a flat and solid surface.

-Wait for the engine, the silencers and the brake discs to cool down.

REMOVING THE SIDE PANELS

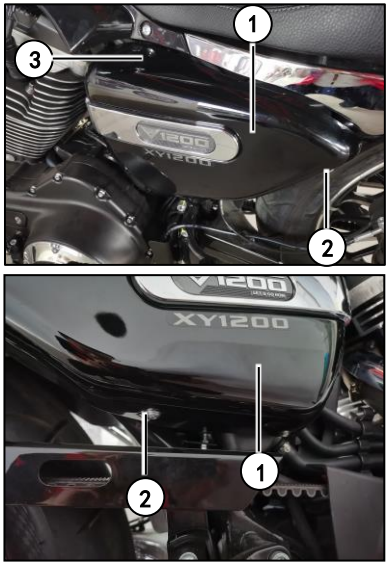
For some maintenance operations, one or both the side panels need to be removed.

To remove the left- and right-hand side panels, operate as follows:

-Unscrew the screw②and the snap fastener③.

-Lift the panel①releasing it from the upper hooks.

For refitting, operate in reverse order from removal.



SPARK PLUG CHECK

Spark plug gap must be 0.6 ~ 0.8 mm.

A wider gap may cause difficulties in starting the engine and overload the coil.

A gap that is too narrow may cause difficulties when accelerating, when idling or poor performance at low speed.

To reach the spark plug, carry out the following removal operations:

-Clean the scale away from the base of the spark plug before removing it from the cylinder, after removing the cap.

It is very useful to examine the state of the spark plug just after it has been removed from the engine since the scale deposits on the plug and the colour of the insulator provide useful indications.

CAUTION

Carefully change the spark plug, if necessary, using one having the same rating.

Correct heat rating:

The tip of the insulator should be dry and the colour should be light brown or Gray.

High heat rating:

In this case, the insulator tip is dry and covered with dark deposits.

Low heat rating:

In this case, the spark plug has overheated and insulator tip is vitrified (glazed), white or Gray in colour.

WARNING

If the spark plug is replaced, use one with the same rating.

WARNING

A spark plug with heat rating too high can cause pre-ignition and possible engine damage A spark plug with heat rating too low can cause a significant increase in carbon deposits.

CAUTION

Carefully change the spark plug, if necessary, using one having the same rating.

Before refitting the plug, thoroughly clean the electrodes and the insulator using a metal brush. Smear graphite grease on spark plug thread, manually screw it fully home, then tighten it to a torque of 10~12 Nm. Loosen the spark plug then tighten it again to 10~12 Nm.

Spark plugs with cracked insulators or corroded electrodes should be replaced.

MACHINE OIL CHECKING

As an important factor that influences the engine's performance and life span, the lubricating oil must be selected as per regulations; ordinary engine oil, gear oil, vegetable oil, etc. are not allowed to be used instead of it. This oil tank was filled with gasoline engine oil of MOTUL SN7100 10W/50 grade when leaving factory for sale. This engine-transmission oil was filled with gasoline engine oil of SHELL SL10W/40 grade when leaving factory for sale. If you want to use other lubricating oil, its quality scale must reach Grade SN.

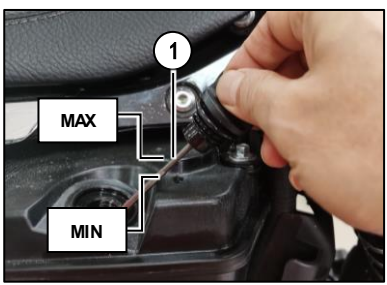
OIL LEVEL CHECK

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

- Start a cold engine for idle running with 3-5 minutes., otherwise level may not be accurate.

- Stopping the motorcycle and the engine, wait for 5-10 minutes.

- Remove the RH side panel.

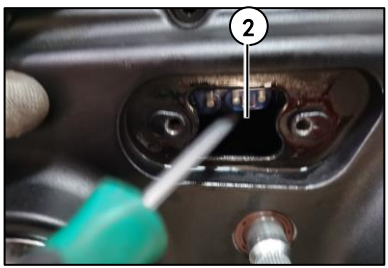


-Park the motorcycle on a flat surface look over the engine oil dipstick①on the oil pot, if the engine oil level is under the lower scale line, refill the recommended lubricating oil until the oil level reaches the upper-middle limit.

-Keeping the motorbike level and upright, check the oil level through the inspection window②on the right crankcase.

CAUTION

The insufficiency or poor quality of the engine oil will lead to the premature wear-out of the engine.



SUBSTITUTION OF THE ENGINE OIL

NOTE

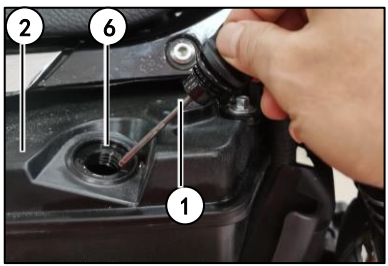
Carry out this operation with the engine hot.

WARNING

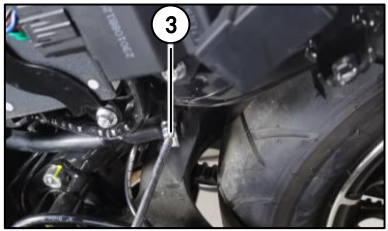
Be careful not to touch hot engine oil.

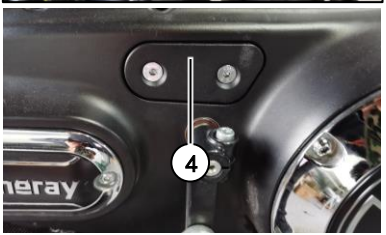
- Position the motorcycle on a flat surface in vertical position.

- Start the engine. Warm it up for 30 second, and then turn it off.



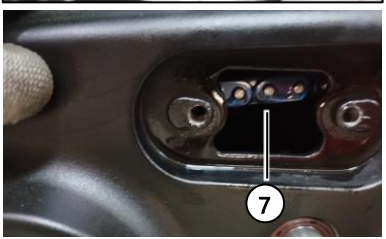
- Remove the oil dipstick (1). Place an oil tank②under the engine to collect the used oil.
- Remove the drain plug ② to drain the oil from the crankcase.
- Remove the cover plate, left crankcase④. Place a basin underneath the engine in correspondence to the drain plug ⑤.
- Refit the drain plug ② and the drain plug ⑤ replacing the sealing washer.





- Pour about 2.4 L of oil into the oil tank through the filler neck ⑥.

- Pour about 1.0 L of oil into the transmission case through the filler neck (7)



CLEANING THE OIL PAN AND THE PRIMARY FILTER

Remove the oil filter cap with an oil filter wrench. Cleaning the installation surface, Install the new oil filter with an oil filter wrench, Pour about 0.12 L of oil into the oil filter, and then tighten it to the specified torque with a torque wrench.

Remove the oil pan and the primary filter, Cleaning the primary filter, Install the oil primary filter and the oil pan.

CAUTION

Contact your genuine motorcycles dealer for service.
Check the primary filter and the oil seal for damage, replace it with a new one as required.
Replace it with a new one seal washer.

CHECK-UP, CHAIN

- First remove the negative cable.
- Position the motorcycle in such a way that the rear wheel is lifted from the ground.
- Loosen the lock nuts①on the chain tensioners.
- Remove the cover plate, left crankcase②.
- Turn the chain, find the tightest point on the chain, and measure the free gap of the chain at this time;
- Check the chain free clearance where the chain runs in the middle upper part of the sprocket;

Clearance when the engine is cold: 9.6 ~ 12.7mm

Clearance when the engine is hot: 6.4 ~ 9.6mm

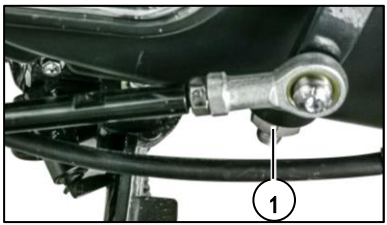
If the clearance is not correct, adjust it.

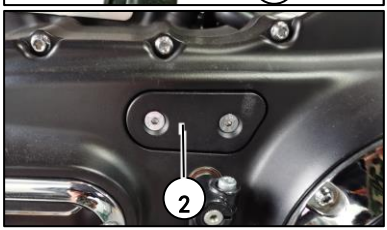
- Rotate the chain tensioner to obtain the desired chain free clearance;
- Tighten the chain tensioner lock nut to a torque value at 28 ~ 34N.m.

NOTE

If the specified free clearance cannot be obtained with the tensioner, the chain or chain tensioner is excessively worn and should be removed for inspection or replaced with a new one.

Reinstall chain viewing hole cover and seal ring.





AIR FILTER CHECK AND/OR REPLACEMENT

-Undo the screws①and remove the filter cover②.

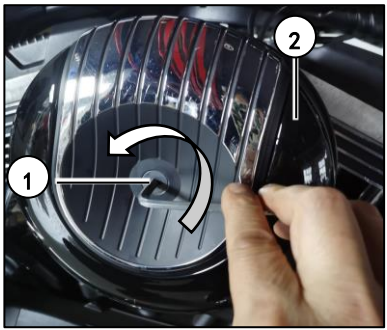
-Undo the screws ② and remove the filter bracket④.

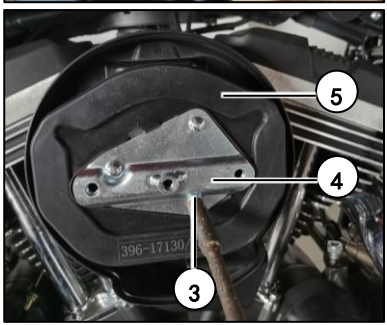
-Remove the filter⑤element and check whether it is in normal condition. This is a paper filter element, of which the surface can be cleaned with compressed air; if the filter element is too dirty, broken or damaged, replace it;

While driving in a dustier area, the time period for cleaning and replacing air filter element shall be shorter.

Keeping the cleanness of the air filter may improve the engine's operating efficiency and prolong its life span.it.

-Refit everything operating in reverse order from removal.





TYRE CHECK AND/OR REPLACEMENT

Check the condition of the tyres, they should not have any cracks, abrasions, etc; also check the state of wear of the tread by means of the indicators on the tyre.

Check the tyre pressure which should be as indicated under TECHNICAL DATA.

WARNING

The front and rear tyre must be of the same brand and model. Using different types of tyre for the front and rear will compromise motorcycle stability and handling.

NOTE

Tyres age even if they do not visibly appear worn; cracks in the sides or deformation of the tyre body are a sign of ageing. Have the tyres checked by a tyre dealer before using the motorcycle.

WARNING

Using the motorcycle with the tyres inflated to an incorrect pressure or with worn or deteriorated tyres may cause serious injury or death if losing control of the motorcycle.

THROTTLE CONTROL CABLE ADJUSTMENT

To check proper adjustment of the throttle control transmission, operate as follows:

-Turn throttle twistgrip①and make sure it has a clearance of approx. 2 -6mm;

-Should this not be the case, move the two protective rubber elements②;

-Loosen the lock nuts ② and act on the adjuster④ to adjust the clearance;

-Tighten back the lock nuts ②;

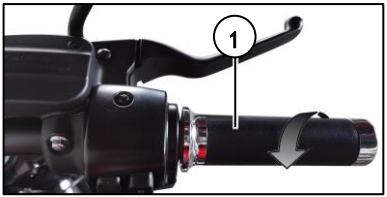
-Reassemble all parts, proceeding in reverse order.

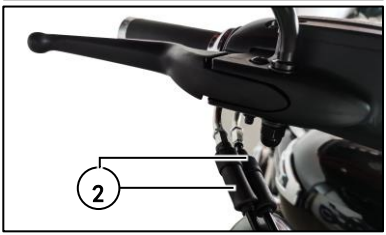
WARNING

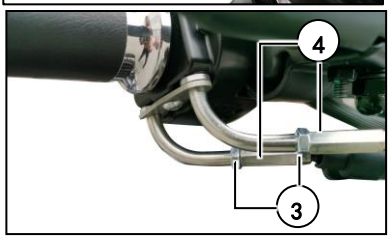
Using the motorcycle with a damaged throttle control cable considerably compromises safe riding.

WARNING

Exhaust gas contains poisonous carbon monoxide never run the engine indoors.







CLUTCH ADJUSTMENT

Normally, the clutch is adjusted by only stretching the cable using the adjusting unit positioned on the handlebar. As a rule, it is sufficient to operate on the handlebar adjuster to restore the clearance due to the flexible transmission stretch.

-The control lever must always have a free play (C) (about 5-15 mm) before starting to disengage the clutch.

-Should this not be the case, move the two protective rubber elements (1);

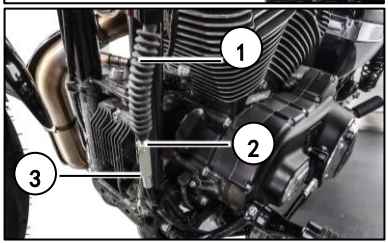
-Loosen the lock nuts②and act on the adjuster ② to adjust the clearance;

-Tighten back the lock nuts②;

-Reassemble all parts, proceeding in reverse order.

If the clutch slips under load or drags in disengaged position after play has been adjusted, it must be taken apart for inspection.

For this operation, please contact a Dealer.



CAUTION

Always ensure the clutch operating handle has the proper free- play! A loose clutch cable will prevent the clutch from disengaging. A tight clutch cable will cause poor clutch engagement and damage the clutch.

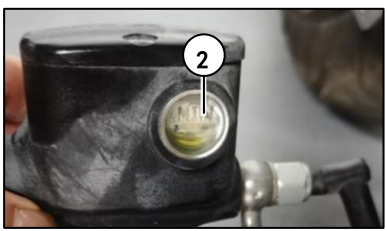
BRAKES

The key components of the braking systems are:
brake master cylinder with its lever (front) or pedal (rear), brake lines, calliper assembly, disc and the ABS control unit.

Brake fluid level

The level of fluid in the pump reservoir must never be below the minimum value that can be seen through the inspection glass①or②.

A decrease of the fluid level will let air into the system, hence an extension of the lever stroke.



WARNING

If the brake lever feels too "soft" when pulled, there may be air in the brake lines or the brake may be defective. Since it is dangerous to ride the motorcycle under such conditions, have the brake system immediately checked by the Dealer.

CAUTION

Do not spill brake fluid onto any painted surface or light lens.
Do not mix two brands of fluid.
Completely change the brake fluid in the brake system if you wish to switch to another fluid brand.
Brake fluid may cause pungency.

CAUTION

Avoid contact with skin or eyes. In case of contact, flush thoroughly with water and call a doctor if your eyes were exposed.

If the brake fluid inside the cylinder is found cloudy, impure or smelt, Drain and refill the brake fluid.
If the brake fluid in both the front and the rear cylinders is drained, bleed air from the deflating valve of the brake caliper with a vacuum pump, and then refill brake fluid into the cylinder.

Brake hydraulic system bleeding

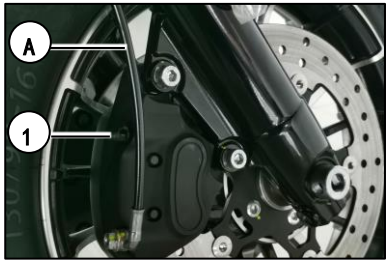
It is very important to do this at the intervals stated on the "Scheduled Maintenance Chart". Carry out the operation even if the lever or the control pedal free play increases.

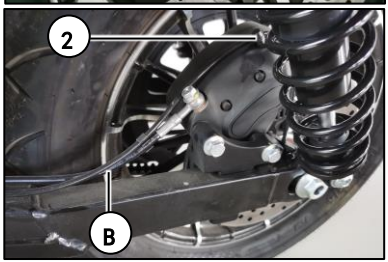
NOTE

The braking system bleeding operation must be performed at a SWM service centre, using the relevant bleeding fittings①and②.

WARNING

Periodically check the connecting hoses, if the hoses (A) and (B) are worn or cracked, their replacement is advised.





Refilling the brake fluid reservoir

Loosen bolt, then remove the bolt and membrane. Place the hand brake pump in a horizontal position and fill the brake fluid reservoir to 5 mm. tighten the bolts, and rinse off spilled or overflowing brake fluid with water.

Brake pad wear check

There is no recommended mileage interval for chang - ing thefrontbrakepads. Pad wear dependson riding hab- its and conditions.

Replace the brake pads if they are worn to 1.6mm or less. Replace both pads as a set.

Inspect the caliper upper mounting mounting pin. If ei- ther part has damaged threads or is worn or badly cor- roded, replace the damaged part.

! CAUTION

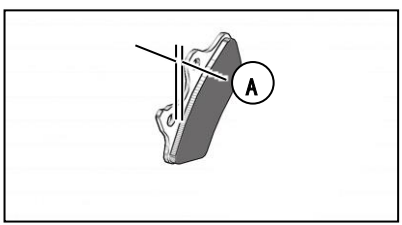
Contact an SWM dealer to have the brake pads re- placed.

WARNING

After the brake pads have been replaced, Tighten the mounting pin to 35-40 N•m，ride carefully and brake gradually in order to allow the brake pads to properly run in/couple to the relative discs.

WARNING

When it is replaced with a new brake strip or brake disc, do not drive it immediately; instead, drive it after holding and releasing the front brake handle until the brake strip and the brake disc are well engaged.

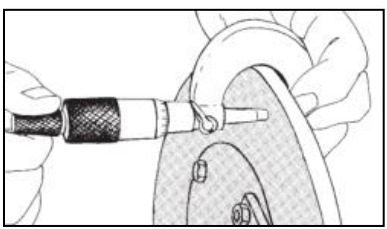


Brake disc wear

It is not necessary to remove the disc from the wheel to inspect it. Small marks on the disc are not important, but radial scratches deep enough to snag a fingernail reduce braking effectiveness and increase brake pad wear. If these grooves are found, the disc should be resurfaced or replaced.

Measure the thickness of each disc in the point of maximum wear an outside micrometer; if it fronts brake disc is no more than 4.0mm, rear brake disc is no more than 5.0mm replace the brake disc.

Measure the runout of the brake disc with a dial gauge; if the runout is no less than 0.2mm, replace the brake disc.



Disc cleaning

Be careful that no brake fluid or any oil gets on brake pads or discs. Clean off with alcohol any fluid or oil that inadvertently gets on the pads or disc.

Replace the pads with new ones if they cannot be cleaned satisfactorily.

Brake handle idling

Pull brake handle lightly till to when you feel the tension, then check the free stroke (A), if brake handle has no free stroke or too loose, that is the sign of brake system fault.

free stroke of brake handle : 0 – 3mm

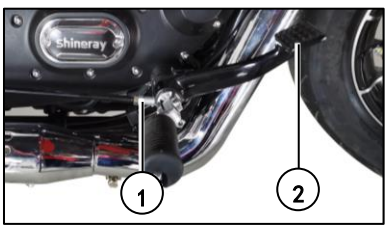
Braking pedal position adjustment

The position of the rear brake pedal with respect to the footrest may be adjusted according to the individual needs.

To adjust, proceed as follows.

- Act on the nut① to adjust the pedal position②.

Once this adjustment is completed, and then fasten the nut, (1).



BELT INSPECTION AND ADJUSTMENT

Affet running the belt for 3000~4000km, to ensure safety and prevent excessive wear. If the Belt wears excessively or is poorly adjusted, it could escape from the rear sprocket or break.

BELT TENSION

1. Enough tension to keep the belt from skipping in the worst case;
2. Low enough tension so that the bike does not make too much noise;

1) The above tension parameters are suitable for most ordinary users, if there are special conditions (ejection, cocking, etc.) riders, please contact the store, and appropriately increase the installation frequency of 2 ~ 3.5HZ to ensure that the belt has enough tension, and it will not skip teeth in the limit circumstance.
2) The belt tension is best checked after the belt and pulley are fully bonded (no load, low speed operation for 5 Min).
3) Changes in the rear fork angle (no load, with one person and with two peoples) will cause drastic changes in belt tension, and it is recommended to adjust according to the recommended specifications.
4) It is recommended to retest the tension every 3000-5000KM.
5) Initial belt frequency (or tension) reading

- Use a sonic tensiometer or equivalent (Gates sonic tensiometer 508C)
- Required input varies with belt length and width: (not recommended)
- Belt span length (nominal)=604.2 (tangent length)
- Belt width (nominal) =25
- Belt mass constant (nominal) =8.4

Standard frequency (tension)

	New belt		Used belt	
Measuring condition	Frequency (HZ)	Tolerance±HZ	Frequency (HZ)	Toleranc±HZ
No load & rear tires hanging	50	2	45	2.3

Adjusting methods:

Stand the motorcycle with a jack to lift the rear wheel above the ground.

Shift gear pedal to neutral.

Stopping the engine.

Unscrew the rear wheel spindle nut①and turn the adjusting nut②on the belt adjuster until the specified tension is achieved, and then fasten the rear wheel spindle nut (1), and check the flexibility for free rotation of the rear wheel and the consistency of the front and rear wheels.

The alignment of the rear wheel and belts must be visually monitored.

Recheck belt tension.

If the specified frequency range is exceeded, readjust the rear wheel regulator position to set the belt frequency within the target.

Turn the rear wheel a quarter turn (90°), a half a turn (180°), three fourths (270°) to check belt frequency.

Verify that the target frequency or tension of the belt in all 4 positions is within the mean range.

Return the rocker arm and suspension to the designed load position, then visually check the rear pulley and belt alignment.

⚠ NOTE

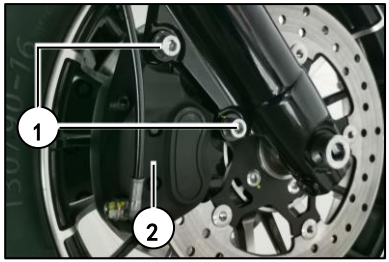
Adjust both left and right belt tensioner.

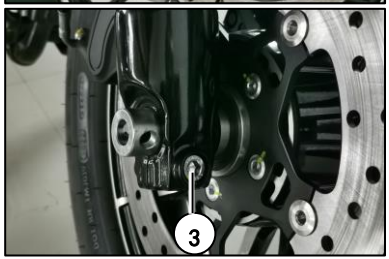
This inspection and maintenance needs to be carried out in professional stores to ensure product quality.

REMOVING & INSTALLATION OF FRONT WHEEL

Removing the front wheel

- Support the motorcycle so the front wheel clears the ground.
- Remove the brake caliper mounting bolts①and lift the caliper away from the brake disc. Support the caliper so it is not hanging from the brake line. Place a spacer between the brake pads in place of the disc.
- Loosen the bolts ② holding the wheel shaft ⑤ to the fork leg supports.

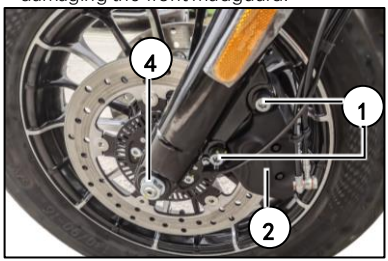


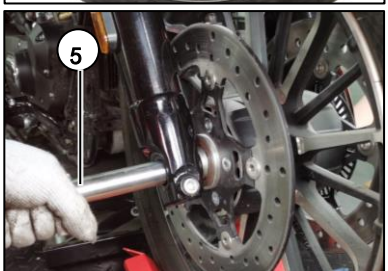


⚠ NOTE

Do not operate the brake lever when the wheel has been removed; this causes the calliper pistons to move outwards. After removal, lay down the wheel with brake disc facing up.

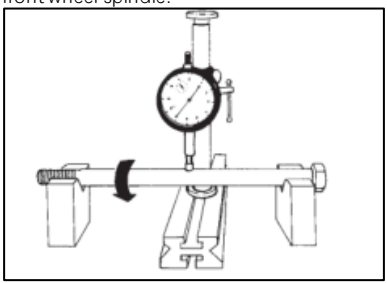
- Remove the axle nut④, Tap the end of the shaft ⑤ with a soft-faced mallet,draw the wheel shaft ⑤ out.
- Take out the front wheel. Lift the front fork as high as possible while taking out the front wheel, to avoid damaging the front mudguard.





Front wheel spindle inspection

Place the front wheel spindle on the V-holder, and measure the deflection of the wheel spindle with a dial gauge; if the reading is no less than 0.3mm, replace the front wheel spindle.



Front wheel bearing inspection

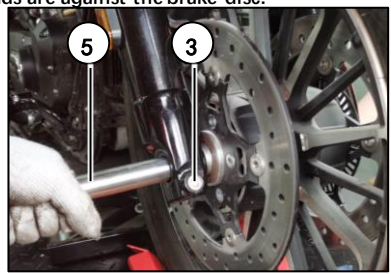
Place the front wheel on the calibration table, inspect the rim's deflection, and then manually rotate the wheel and measure its deflection value with a dial gauge; if the reading is no less than 2mm, replace the wheel bearing.

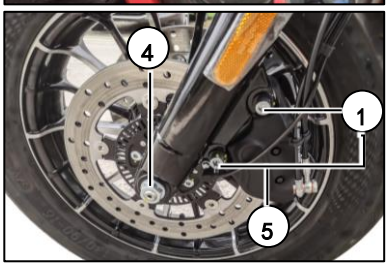
Refitting the front wheel

- Fit the LH spacer on the wheel hub.
- Fit the wheel between the fork legs.
- Fit the previously greased wheel shaft ⑤ from the right-hand side until it is fully home on the wheel bearing; it is advisable to turn the wheel while carrying
- Out this operation. Tighten the screw ② on the fork RH side but do not lock it.
- Pump for a while, pushing the handlebar downwards until you are sure that the fork legs are perfectly aligned. fasten the screw ② to the required torque of 45 ~ 55N.m, and the front wheel nuts④ to the required torque of 85 ~ 95N.m
- Fit the brake calliper②on the disc assemble it on the relevant support and tighten the four screws①to 35 ~ 45 Nm. Ensure that the brake disc slides between the calliper pads without any friction or hard spots.

⚠ NOTE

After reassembly, pull the brake control lever until the pads are against the brake disc.





REMOVING & INSTALLATION OF REAR WHEEL

Removing the rear wheel

Support the motorcycle so the rear wheel is off the ground.

Unscrew the rear wheel nuts①of the wheel shaft ② and extract it. It is not necessary to loosen the belt tensioners②; in this way, the belt tension will remain unchanged after reassembly.

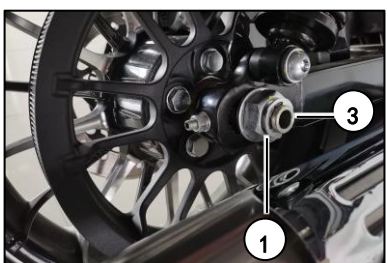
Lift the drive chain or belt off the sprocket and remove

the rear wheel, Extract the complete wheel, paying attention to the bush at the hub sides.

⚠ NOTE

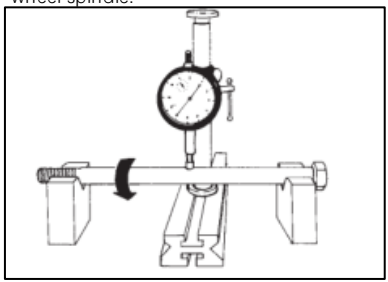
Do not operate the rear brake pedal when he wheel has been removed; this causes the caliper pistons to move forwards.

After removal, lay down the wheel with brake disc acing up.



Rear wheel spindle inspection

Place the rear wheel spindle on the V-holder, and measure the deflection of the wheel spindle with a dial gauge; if the reading is no less than 0.3mm, replace the rear wheel spindle.



Rear wheel bearing inspection

Place the front wheel on the calibration table, inspect the rim's deflection, and then manually rotate the wheel and measure its deflection value with a dial gauge; if the reading is no less than 2mm, replace the wheel bearing.

Refitting the rear wheel

To reassemble, reverse the above procedure remembering to insert the brake disc into the caliper. (Adjust the chain tensioners lock nuts②to a tightening torque of 22 Nm and the wheel shaft nut①to a tightening torque of 120 ~ 140 N.m.).

⚠ NOTE

After reassembling the wheel, depress the brake pedal until the pads are against the disc.

REAR SHOCK ABSORBER ADJUSTMENT

Adjustment dimension: Distance between upper connector and upper end of adjustment nut. The left and right rear shock absorber should be adjusted at the same time.

The adjustment method is as follows:

- Insert a round tool with an outer diameter of 6mm into the round hole of the upper end adjustment nut, then move it counterclockwise to loosen the adjustment nut and adjust it to the required value.

- Insert a round tool with an outer diameter of 6mm into the round hole of the upper end adjustment nut, then move it counterclockwise to loosen the adjustment nut and tighten it until it is close to the upper adjustment nut and washer.

STEERING BEARING CHECK

Place the motorcycle on a stand in vertical position and secure it so that it cannot overturn.

- Stand in front of the motorcycle.

- Firmly hold the lower part of both fork legs and move the fork forward and backward checking that there is no play.

WARNING

If you feel any play during the movement, have proper tightening of the steering bearings checked by a dealer

SUSPENSION SYSTEM

Front suspension

To check proper operation of front fork, operate as follows:

-Get on the motorcycle;

-Pull the front brake lever and forcefully push the handlebar downwards a few times to check that the fork extends and compresses correctly;

-If you notice oil leaks and jamming, have it checked

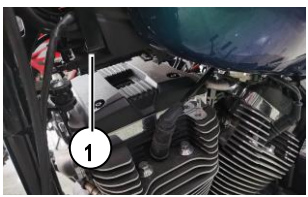
by an SWM dealer;

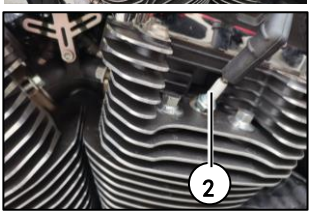
Rear suspension

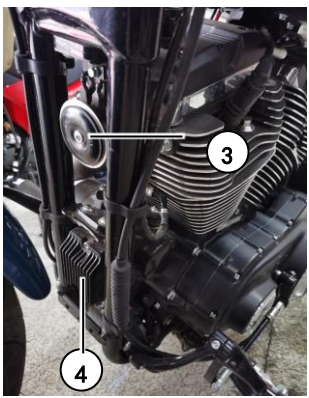
Forcibly press the rear end of the seat cushion with the rear suspension, and check the rear fork spindle sleeve for abrasion or damage. If it is damaged, replace it. Check whether the whole suspension assembly is mounted securely, and whether it is damaged or deformed.

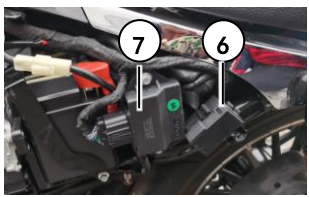
ELECTRICAL COMPONENTS LOCATION

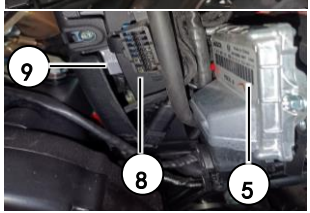
1. Electronic coil①under the fuel tank
2. Ignition spark plug② in the centre of the cylinder head;
3. Horn ② and Voltage regulator④ positioned on the front of the frame;
4. ECU ⑤ under the left panel;
5. Fuse ⑥ under the left panel;
6. Start controller ⑦under the left panel;
7. Diagnostics connector ⑧ under the left panel;
8. Fan control relay ⑨ under the left panel;



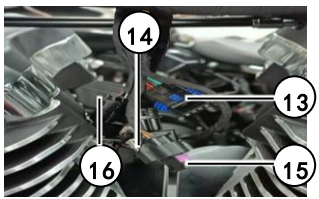


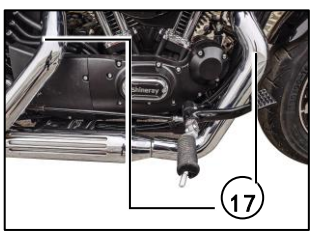






9. Flash relay ⑩ positioned under the seat.
10. Antenna (11) positioned under the seat.
11. Battery (12) under the left panel;
12. Stepping motor (13)
13. TPS sensor (14) on the throttle body;
14. Air pressure temperature sensor (15) ;
15. Fuel Injector (16)
16. Lambda sensor (17) ;



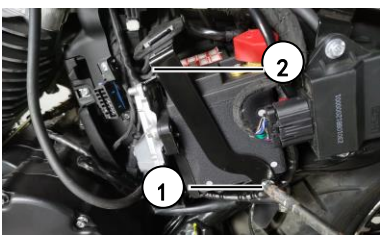


BATTERY

The sealed battery does not require any maintenance. When electrolyte leaks, or other failure of the electrical system is detected, apply to the SWM Dealer.

If the vehicle remains unused for long periods, it is recommended to disconnect the battery from the electrical system and store it in a dry place.

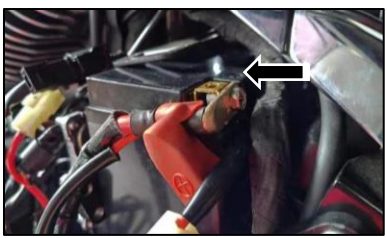
- After an intensive use of the battery, it is advisable to carry out a standard slow charging cycle.
- Quick charging is advised only in situations of extreme necessity since the life of lead elements is drastically reduced by such cycle.



BATTERY CHARGER

To gain access to the battery:

- Remove the left-hand side panel.
- Undo the one screws① that fasten the battery support bracket②.
- Remove the battery from its housing.
- First remove the BLACK negative cable and then the RED positive cable (when refitting, first connect the RED positive cable and then the BLACK negative cable).



Check, using a voltmeter, that battery voltage is not less than 12.5 V.
If it is not so, the battery needs to be charged.

Using a battery charger with a constant voltage, first connect the RED positive cable to the battery positive terminal then the BLACK or BLUE negative cable to the battery negative terminal.

The voltage reaches a constant value only after a few hours, therefore it is suggested NOT to measure it immediately after having charged or discharged the battery.

Always check the battery charge before reinstalling it on the vehicle.

The battery should be kept clean and the terminals coated with grease.

WARNING

The battery contains sulphuric acid. Avoid contact with skin, eyes or clothing.
In the event of contact with the eyes or skin, rinse with running water and seek medical aid immediately.

WARNING

If the battery is unused, it has to be in any case re-charged with slow cycle.

WARNING

Batteries produce explosive gas, ventilate when charging or using the battery indoors. When using a battery charger, always connect the battery to the charger before turning it on. This procedure prevents sparks at the battery terminals which could ignite any battery gases.

FUSES

Fuse malfunction could cause problems for the motorcycle.

To access the fuse box, remove the left-hand side panel ①. and open the protective door②.

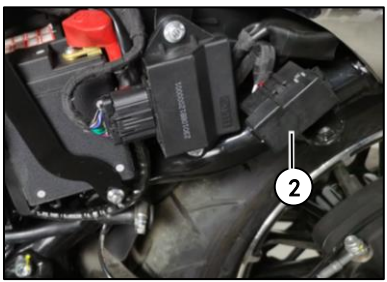
To prevent short circuits, turn the On/Off switch to OFF, BEFORE working on the fuses.

⚠ NOTE

Before operating on the fuses, set the ignition switch to OFF position in order to prevent short circuits.

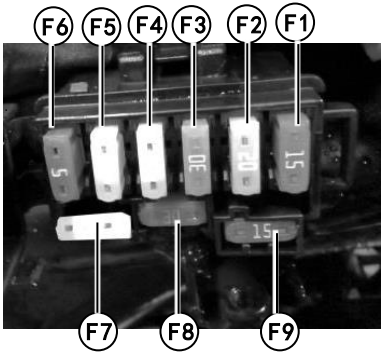
! CAUTION

Do not use fuses with a different capacity from the original on.



FUSE	AMPERE	PROTECTION
F1	15A	ECU
F2	15A	Main protective fuse
F3	30A	Charging
F4	25A	ABS power supply
F5	25A	ABS motor
F6	5A	ABS control
F7	25A	Spare fuse.
F8	30A	Spare fuse.
F9	15A	Spare fuse.

Fuse table



HEADLIGHT BULB REPLACEMENT

The headlight①is of LED type.

In case of fault, contact and SWM dealer.

URNING INDICATOR BULB REPLACEMENT

-The turning indicators light②is of LED type.

In case of fault, contact and SWM dealer.

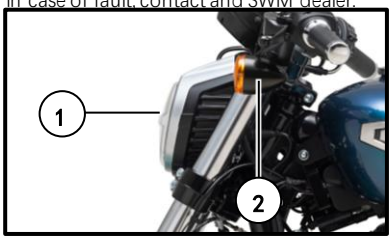


PLATE LIGHT BULB REPLACEMENT

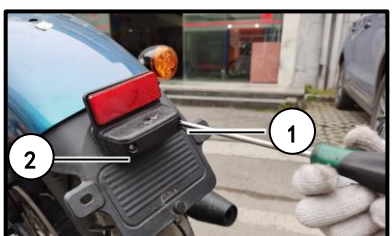
To replace the plate light, proceed as follows:

-Unscrew and remove screws (1);

-Lift the cover②and remove the lamp holder;

-Replace the 12V/5W lamp with a new one, removing it from its lamp holder.

For refitting, repeat the operations described in reverse order.



HEADLIGHT ADJUSTMENT

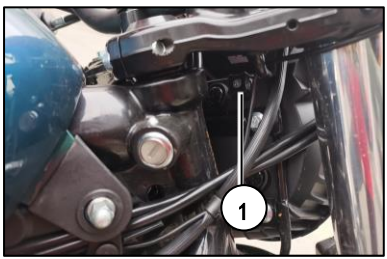
When checking the proper aiming of the headlight beam: inflate tyres at the right pressure, have a person sit astride the motorcycle and set the motorcycle perpendicular to its longitudinal axis at 10 metres from a wall or screen. Then trace a horizontal line at the height of headlight centre and a vertical one, in line with vehicle longitudinal axis.

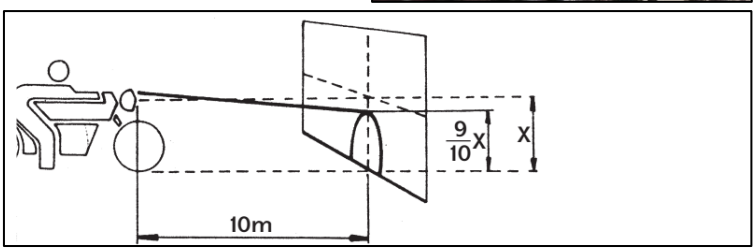
If possible, execute this operation in a shaded place. When the low beam is on, the upper edge between dark and lit zone should be at 9/10 th of headlight centre from ground

Beam height can be adjusted as follows:

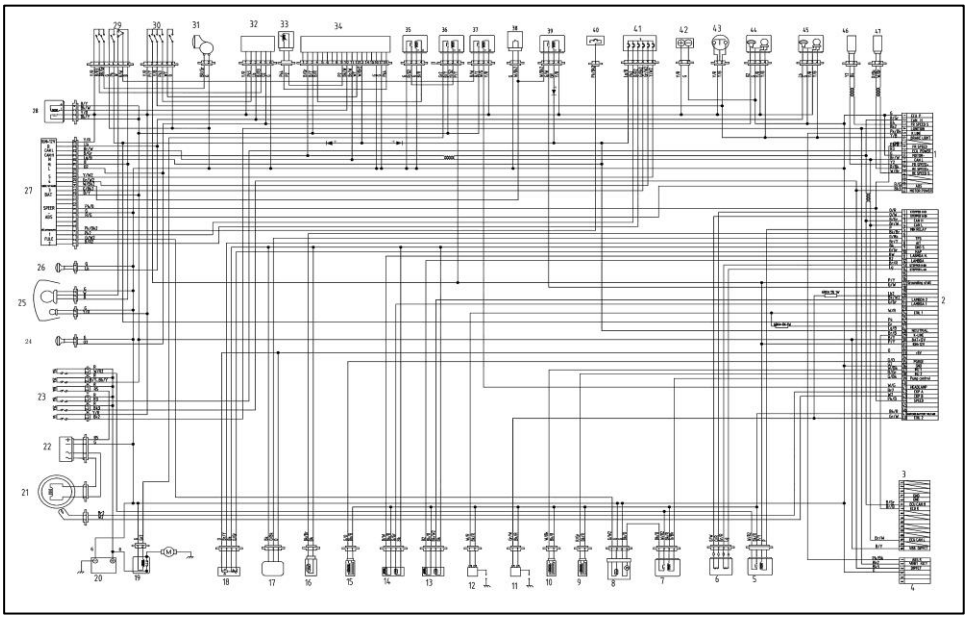
-ratote the knob (1).

-Adjust the position of the headlight ②and then tighten the knob (1).





WIRING DIAGRAM



Cable Colour Coding

B	Blue
B/Y	Blue/Yellow
B/Gr	Blue /Gray
B/R	Blue / Red
B/W	Blue / White
Bk	Black
Bk/R	Black /Red
Bk/O	Black / Orange
Bk/Br	Black / Brown
Bk /Y	Black /Yellow
Bk/W	Black /White
Br	Brown
Br/R	Brown/Red
Br/W	Brown/White
Br/Y	Brown/Yellow
Br/ B	Brown/ Blue
B/W	Blue / White
G	Green
G/Bk	Green/Black
G/Bk	Green/Black
G/O	Green/ Orange
Gr	Gray
G/W	Green/White
Gr/W	Gray/ White
Lb	Light Blue
Lg	Light Green
Lg/W	Light Green/ White
O	Orange
O/Bk	Orange/Black
O/Gr	Orange/ Gray
O/R	Orange/ Red
R	Red
R/G	Red / Green
R/Gr	Red / Gray
R/ Br	Red / Brown
R/ W	Red / Brown
R/ Bk	Red / White
W	White
W/Bk	White/Black
W/Br	White/ Brown
W/G	White/ Green
W/R	White/Red
Y	Yellow
Y/W	Yellow /White
Y/R	Yellow/Red
Y/B	Yellow/ Blue

Pk·····Pink
Pk/ B·····Pink/ Blue
Pk/Bk·····Pink/Black
P·····Purple
P/Y·····Purple/Ye llow

KEY TO WIRING DIAGRAM

1) ABS
2) Electronic power unit
3) OBD unit interface
4) Brake fluid filler
5) ECU relay
6) STEPPER
7) Relay fuel pump
8) Fuel pump
9) Injector 2
10) Injector 1
11) Coil 2
12) Coil 1
13) Lambda sensor 2
14) Lambda sensor 1
15) Purge
16) WTS
17) TPS
18) IAT
19) Starting motor
20) Battery
21) Magneto
22) Voltage regulator
23) Fuses

24) Front LH turning indicator
25) Headlight
26) Front RH turning indicator
27) Instrument
28) ING relay
29) RH Switch
30) LH Switch
31) Horn
32) Flash relay
33) Antenna
34) PEPS
35) CRT
36) Start relay
37) Front headlamp relay
38) Side stand
39) Side stand sensor
40) Oil pressure
41) Gear display
42) Power
43) Rear stop switch
44) Rear RH turning indicato
45) Rear LH turning indicato
46) Front vehicle Speed Sensor
47) Rear vehicle Speed Sensor

APPENDIX

LONG PERIOD OF INACTIVITY

When the motorcycle is to be stored for a certain period, it should be prepared for storage as follows.

-Clean the entire motorcycle thoroughly.

-Drain all fuel from the tank.

-Fill the tank with fuel added with a stabiliser.

-Lubricate the final drive chain and all the wirings and hoses.

-Spray oil on all unpainted metal surfaces to prevent rusting. Avoid getting oil on rubber parts or brakes.

-Set the motorcycle on a support or stand so that both wheels are raised off the ground (if this cannot be done, put boards under the wheels to keep moisture away from the tyres).

-Tie a plastic bag over the exhaust pipe to prevent moisture from entering.

-Put a cover over the motorcycle to keep dust and dirt from collecting on it.

To reactivate the motorcycle after storage, proceed as follows:

-Make sure the spark plug is tightened;

-Fill the fuel tank;

-Run the engine to warm the oil up then drain the oil;

-Refill with fresh oil;

-Check all the points listed under the section "Checksand Adjustments" (Appendix A);

-Lubricate all the points listed under the section

"Lubrication" (Appendix A).

WARNING

Never release fuel into the environment or let the engine run indoors.

CLEANING

Before washing the motorcycle, it is necessary to duly protect the following parts:

a) Rear opening of the muffler;

b) Air filter intake;

CAUTION

Do not clean the motorcycle with highpressure jets!

After washing:

-Lubricate the points listed in the "Maintenance Chart" (Appendix A)

-Briefly warm up the engine

-Test the brakes before riding the motorcycle

WARNING

Never wax or lubricate the brake discs.

Loss of braking efficiency and an accident could result.

Clean the disc with a solvent such as acetone.

Description	Operation	Pre-delivery
Engine oil	Check level	■
Spark plugs	Check / Replace	■
Throttle body	Check / Adjustment	■
Brake and clutch fluid	Level check	■
Brakes / Clutch	Operation check	■
Brakes/ Clutch	Circuit check	■
Throttle control	Check operation	■
Throttle control	Play check/adjustment	■
Flexible controls and transm.	Check / Adjustment	■
Drive chain	Check / Adjustment	■
Tyres	Pressure check	■
Side stand	Operation check	■
Side stand switch	Operation check	■
Electrical equipment	Operation check	■

Description	Operation	Pre-delivery
Instrument panel	Operation check	■
Lights / Visula signals	Operation check	■
Horn	Operation check	■
Headlight	Operation check	■
Keyless start function	Operation check	■
Locks	Operation check	■
Screws and nuts	Check / Tightening	■
Hose clamps Check	Check / Tightening	■
General lubricatio	//	■
General test	//	■

SCHEDULED MAINTENANCE CHART (TO BE CARRIED OUT AT THE SWM DEALER)

STORM-BREAKER	Odometer	FIRST	3000	6000	12000	18000	24000	30000
	Time(month)	FIRST 3	3	6	12	18	24	30
BRAKE HOSES		I	I	I	I	I	I	I
BRAKE FLUID		I	I	I	R	I	R	I
BRAKE SYSTEM		I	I	I	I	I	I	I
BRAKE PADS		Replace the brake pads if they are worn to minimum limit or less						
CABLE FREE STROKE		I	I	I	I	I	I	I
THROTTLE CONTROL ASSY		-	-	-	C	-	C	-
FUEL PUMP		-	-	-	C	-	C	-
EXHAUST SYSTEM		I	I	I	I	I	I	I
OXYGEN SENSOR		-	-	-	I	-	I	-
TYRE PRESSURE AND WEAR		Check the tyre pressure and the state of wear of the tread by means, Replace the tyre if they are worn to minimum limit						
DRIVE BELT		I	I/A	I/A	I/A	I/A	I/A	I/A
FUEL HOSES		-	-	I	I	I	I	R
FUEL FILTER		-	-	-	-	-	-	R

CARBON CANISTER	-	-	-	R	-	R	-
AIR FILTER ELEMENT	-	I/C	I/C	I/C	I/C	I/R	I/C
AIR/OIL SEPARATOR	-	-	-	R	-	R	-
FRONT SHOCK ABSORBER	-	-	I	I	I	I	I
REAR SHOCK ABSORBER	-	-	I	I	I	I	I
FORK BEARINGS	-	-	L	L	L	L	I
STEERING COLUMN BEARING	-	-	-	I	-	I	-
BATTERY	-	-	I	I	I	I	I
HOM	I	I	I	I	I	I	I
SPARK PLUG	-	I	I	I	I	R	I
OIL DIPSTICK	I	I	I	I	I	I	I
ENGINE OIL	R	R	R	R	R	R	R
OIL FILTER CARTRIDGE	R	R	R	R	R	R	R
CLUTCH	I	I	I	I	I	I	I
OIL PUMP	I	I	I	I	I	I	I
CYLINDER TEMPERATURE SENSOR	Clean for every 2,000km driving						
NUT AND BOLT FASTENING	I	I	I/A	I/A	I/A	I/A	I/A

For optimum performance, the motorcycle should be checked and maintained at periodic intervals. The eanings of capitalized letters in the table below are as follows:

I: Inspection - inspect, then clean, lubricate, adjust, refill, repair or replace if necessary.

A: Inspect, then adjust if necessary C: Clean R: Mandatory Replacement L: Lubricate

CAUTION

It is mandatory to replace parts and lubricants according to the maintenance table.

NOTE

Upon every removal replace the gaskets ;

Replace screws and nuts if worn ;

General check after riding on mud or sand.