PREFACE

No : IB14D

Thank you for selecting a HMCL Niloy Bangladesh Ltd. **Passion XPRO**. We wish you many miles of continued riding pleasure in the years ahead.

We at HMCL Niloy Bangladesh Ltd., are committed to demonstrate excellence in our environment performance on a continual basis, as an intrinsic element of our corporate philosophy. To achieve this we commit ourselves to continue product innovations to improve environment compatibility, comply with all applicable environment legislation and strengthen the green supply chain.

This booklet is your guide to the basic operation and maintenance of your new HMCL Niloy Bangladesh Ltd. **Passion XPRO**. Please take time to read it carefully. As with any fine machine, proper care and maintenance are essential for trouble-free operation and optimum performance.

Authorised Distributor or the authorised dealer(s) of the Distributor (**"Dealer"**) will be glad to provide further information or assistance and to handle your future service needs.

Let us make this world a safer, healthier and more environment friendly place.

NOTE

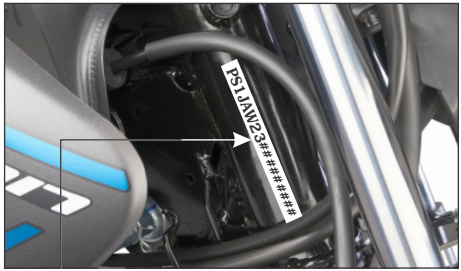
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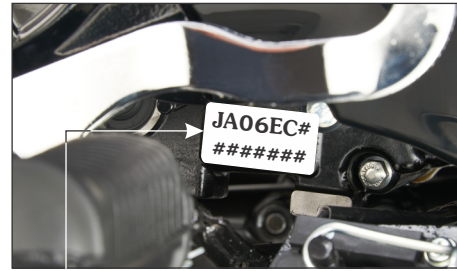
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VEHICLE IDENTIFICATION



Vehicle Identification Number (VIN)

Location: Stamped on the right side of the steering head tube.



Engine No.

Location: Stamped on the lower side of the left crankcase.

VIN: PS1JAW23#########

PS1	JAW23	#	#	#	#	#####
Manufacturer code	Vehicle Description	Check Digit	Model Year	Plant Code	Month of Manufacturing	Production Serial Number

Engine No.: JA06EC########

JA06EC	#	#	#	#####
Engine Description	Year of Manufacturing	Assembly Plant	Month of Manufacturing	Serial Number

Model: Passion XPRO

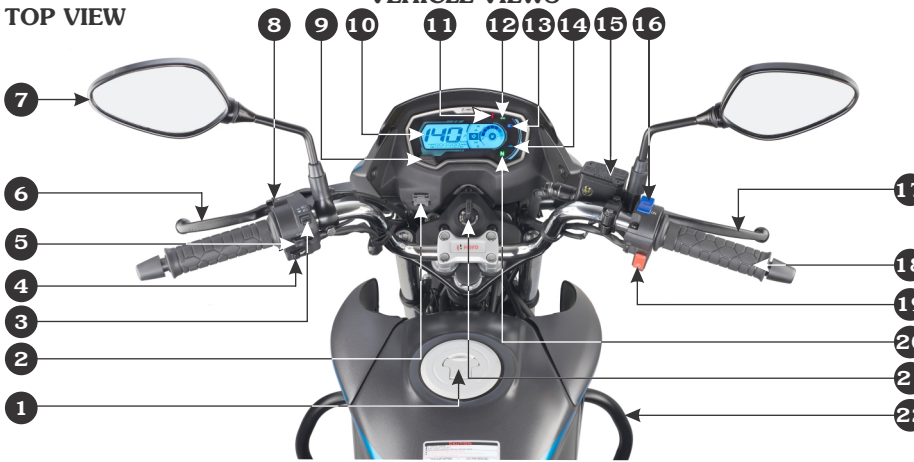
Variants	VIN	Engine
Cast wheel/Electric start/Disc/IBS	JAW23	JA06EC

VIN and Engine No. may be required:

1. During registration of the vehicle.
2. For dealing with legal & insurance departments.

VEHICLE VIEWS

TOP VIEW



(1) Fuel tank cap
(2) USB charger
(3) Dimmer switch
(4) Horn switch
(5) Turn signal switch
(6) Clutch lever
(7) Rear view mirror
(8) Pass lamp switch
(9) Mode button
(10) LCD panel of Meter console. Refer instruments and indicators **(page 15)** for fuel gauge, speedometer and other features of console
(11) Side stand indicator
(12) Turn signal indicator
(13) High beam indicator
(14) i3s indicator
(15) Master cylinder/Reservoir
(16) i3s switch
(17) Front brake lever
(18) Throttle grip
(19) Electric starter switch
(20) Neutral indicator
(21) Ignition switch with steering lock
(22) Leg guard

***Accessories and features shown may not be part of standard fitment.**

LEFT SIDE VIEW



(1) Air suction valve (inside)
(2) Fuel valve
(3) Carburetor
(4) Gearshift pedal
(5) Rider footrest
(6) Side stand switch
(7) Main stand
(8) Side stand
(9) Saree guard with women pillion step
(10) Seat lock/Helmet hanger
(11) Reflex reflector
(12) Rear turn signal lamp
(13) Licence plate lamp
(14) Tail/Stop lamp
(15) Rear grip
(16) Seat
(17) Left side cover
(18) Front turn signal lamp

***Accessories and features shown may not be part of standard fitment.**

RIGHT SIDE VIEW



(1) Exhaust muffler
(2) Pillion footrest
(3) Rear master cylinder (inside)
(4) Brake fluid reservoir (inside)
(5) Kick starter pedal
(6) Rider footrest
(7) Starter motor
(8) Rear brake pedal
(9) Oil level dipstick
(10) Caliper assembly
(11) Front disc
(12) Side reflex reflector
(13) Front suspension
(14) Headlamp
(15) Front visor
(16) Battery compartment (inside)
(17) Rear shock absorber

***Accessories and features shown may not be part of standard fitment.**

VEHICLE SPECIFICATION

ITEM		SPECIFICATIONS
Dimensions		
Overall length		1967 mm
Overall width		768 mm
Overall height		1075mm
Wheelbase		1249 mm
Saddle height		798 mm
Ground clearance		165 mm
Weight		
Kerb weight		121 kg (Self/Cast/Disc)
Payload		130kg (Rider 75Kg+ Pillion 55Kg)
Capacities		
Engine oil		1.25 liters at disassembly and 1.1 liters at draining
Fuel tank		9.2 litres (Minimum)
Fuel reserve capacity		1.3 litre (Usable)
Front fork oil disassembly		163±1.75 ml
Engine		
Maximum power		6.70 kW (9.11 Ps) @ 7500 rpm
Maximum torque		0.92 kgf-m (9.0 N-m) @ 5500 rpm
Bore and stroke		50.3x49.5 mm
Compression ratio		10:1
Displacement		109.15 cc
Spark plug		NGK-CR7HSA, BOSCH-UR4AC
Spark plug gap		0.6-0.7 mm
Valve clearance (cold)	Intake (cold)	0.10 mm
	Exhaust (cold)	0.12 mm
Idle speed		1400±100 rpm
Chassis and suspension		
Front suspension		Telescopic hydraulic shock absorbers
Rear suspension		Swingarm with 5 step adjustable hydraulic shock absorbers
Caster angle		26°
Trail length		90.3 mm

VEHICLE SPECIFICATION

ITEM		SPECIFICATIONS
Tyre size	Front	80/100-18 M/C 47P (Tubeless Tyre)
	Rear	90/90-18 M/C 51P (Tubeless Tyre)
Brakes	Front (Disc variant)	Dia. 240 mm
	Rear (Drum variant)	Dia. 130 mm (Internal Expanding Shoe Type) (Integrated Braking System)
Front wheel		Cast wheel
Rear wheel		Cast wheel
Transmission		
Primary reduction		3.722 (67/18)
Final reduction		2.857 (40/14)
Gear ratio, 1st		3.182 (35/11)
2nd		1.706 (29/17)
3rd		1.238 (26/21)
4th		0.958 (23/24)
Electricals		
Battery		*MF Battery 12V-3Ah/ETZ4
Alternator		120 W @ 5000 rpm
Headlamp (High/Low)		LED
Tail/Stop lamp		LED
Turn signal lamp		12V-10Wx4 Nos.(Amber bulb) with clear lens-**MFR
Meter illumination		LED
Neutral indicator		LED
Turn signal indicator		LED
Hi beam indicator		LED
Licence plate lamp		12V-5.0W
i3s indicator		LED
Side stand indicator		LED
Fuse		20A,15Ax2

***MF stands for Maintenance Free**
****MFR stands for Multi-Focal Reflector**

ACCESSORIES & MODIFICATIONS

Modifying your vehicle or using non-genuine accessories can make your vehicle unsafe. Before you consider making any modifications or adding an accessory, be sure to read the following information.

⚠ 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.***

Accessories

- Make sure that the accessory does not obscure any lamps, reduce ground clearance, limit suspension travel or steering travel, affect your riding position or interfere with operating any controls.
- Be sure electrical equipment does not exceed the vehicle's electrical system capacity **(page 6).** A blown fuse can cause a loss of lights.
- Do not pull a trailer or sidecar with your vehicle. This vehicle was not designed for these attachments, and their use can seriously impair your vehicle's handling.

Modifications

We strongly advise you not to remove any original equipment or modify your vehicle in any way that would change its design or operation. Such changes could seriously impair your vehicle's handling, stability and braking, making it unsafe to ride. Removing or modifying your lamps, mufflers, emission control system or other equipment can also make your vehicle illegal.

ANTI-THEFT TIPS

- Always lock the steering and never leave the key in the ignition switch. This sounds simple but people do forgets.
- Be sure the registration information for your vehicle is accurate and correct.
- Park your vehicle in a locked garage whenever possible.
- Use an additional anti-theft device of good quality.
- Never park your vehicle in an isolated area. Park as for as possible in a designated area.
- Enter your name, address and phone number in this Owner's Manual and keep it in your vehicle at all times. Many times stolen vehicles are identified by information in the Owner's Manuals that are still with them.

NAME: _____

ADDRESS: _____

_____

_____

_____

PHONE NO : _____

VEHICLE SAFETY

IMPORTANT SAFETY INFORMATION

Your vehicle can provide many years of service and pleasure if you take responsibility for your own safety and understand the challenges you can meet on the road.

There is much that you can do to protect yourself when you ride. You will find many helpful recommendations through out this manual. Following are a few that we consider most important.

Always wear a helmet

It is a proven fact, Helmet significantly reduces the number and severity of head injuries. So always wear a helmet and make sure your pillion rider does the same. We also recommend that you wear eye protection, sturdy boots, gloves and other protective gear.

Before riding your vehicle

Make sure that you are physically fit, mentally focused and free of alcohol and drugs. Check that you and your pillion are both wearing an approved vehicle helmet and protective apparel. Instruct your pillion on holding onto the grab rail or your waist, leaning with you in turns, and keeping their feet on the footrest, even when the vehicle is stopped.

Take time to learn & practice your vehicle

Even if you have ridden other vehicles, practice riding in a safe area to become familiar with how this vehicle works and handles, and to become accustomed to the vehicle's size and weight.

Ride defensively

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

Make yourself easily visible

Some drivers do not see vehicles because they are not looking for them. To make yourself more visible, wear bright reflective clothing, position yourself so that others can see you, signal before turning or changing lanes, and use horn which will help others to notice you.

Ride within your limits

Pushing the limits is another major cause of vehicle accidents. Never ride beyond your personal abilities or faster than conditions demand. Remember that fatigue and negligence can significantly reduce your ability to make good judgements and ride safely.

Do not drink and ride

Riding under the influence of alcohol or drugs is dangerous. Alcohol can reduce your ability to respond to changing conditions and reduce the reaction time. Do not drink and ride.

Keep your vehicle in safe condition

For safe riding, its important to inspect your vehicle before every ride and perform all recommended maintenance. Never exceed load limits, and only use accessories that have been approved by HMCL Niloy Bangladesh Ltd. for this vehicle.

If you are involved in a crash

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

If you decide to continue riding, first evaluate the condition of your vehicle. If the engine is still running, turn it off. Inspect for fluid leaks, check the tightness of critical nuts and bolts, and check the handlebar, brake levers, brakes, and wheels. Ride slowly and cautiously. Your vehicle may have suffered damage that is not immediately apparent. Have your vehicle thoroughly checked at a qualified service facility as soon as possible.

PROTECTIVE APPAREL

For your safety, we strongly recommend that you always wear a helmet which should conform as per your country standards, in addition to eye protection, boots, gloves, long pants and a long sleeve shirt or jacket whenever you ride. Take care of loose/ hanging clothes while solo/pillion riding. Although complete protection is not possible, wearing proper gear can reduce the chance of injury when you ride.

Following are suggestions to help you choose proper riding gear.

⚠ WARNING

- ***Not wearing a helmet increases the chance of serious injury or death in a crash.***
- ***Be sure you and your pillion always wear a helmet, eye protection and other protective apparel when you ride.***

Helmets and eye protection

Your helmet is your most important piece of riding gear because it offers the best protection against head injuries. A helmet should fit your head comfortably and securely. A bright coloured helmet can make you more noticeable in traffic, as can reflective strips.

An open-face helmet offers some protection, but a full-face helmet offers more. Always were face shield or goggles to protect your eyes and help your vision.

Additional riding gear

In addition to a helmet and eye protection, we also recommend:

- Sturdy boots with non-slip soles to help protect your feet and ankles.
- Leather gloves to keep your hands warm and help prevent blisters, cuts, burns, and bruises.
- A two wheeler riding suit or jacket for comfort as well as protection. Bright coloured reflective clothing can help make you more noticeable in traffic. Be sure to avoid loose clothes that could get caught on any part of your vehicle.

SAFE RIDING TIPS

Do's:

- Always conduct simple pre-ride inspection **(page 28)**.
- Always wear a helmet with chinstrap securely fastened and insist on a helmet for your pillion rider. Helmet should conform as per safety standards applicable in your country.
- While riding, sit in a comfortable position with your legs close to fuel tank.
- Ride defensively and at a steady speed (between 40-50 km/hr).
- To stop the vehicle (in IBS), press the rear brake pedal for the application of front and rear brakes simultaneously. However, for more effective braking, it is advised to apply , both brakes simultaneously, keeping the throttle in the close position.
- During night time, dip headlamps of your vehicle for oncoming traffic, or when following another vehicle.
- Give way to others on the road and signal before you make a turn.
- To make yourself more visible, wear bright reflective clothing that fits well.
- Tightly wrap loose/hanging clothes & avoid entangling with moving parts.
- Get your vehicle serviced regularly by the Authorised Distributor/ Dealer.
- Before riding make sure in which mode you are riding whether with i3s switch "ON' or "OFF".

Don't

- Never use cell phone while riding the vehicle.
- Avoid sudden acceleration, braking and turning of your vehicle.
- Never shift gears without disengaging the clutch and closing the throttle.
- Never touch any part of the hot exhaust system like muffler.
- Never ride under the influence of alcohol or drugs.
- Concentrate on the road and avoid talking to the pillion rider or others on the road.
- Do not litter the road.
- Do not cross the continuous white/yellow line in the center of the road, while overtaking.
- Do not attach large or heavy items to the handlebars, front forks, or fenders.
- Never take your hands off the steering handle while riding.

TIPS FOR HEALTHY ENVIRONMENT

The following tips shall ensure a healthy vehicle, healthy environment, and a healthy you.

- **Healthy engine:** The engine is the lifeline of every vehicle. To keep it healthy, it should be tuned regularly, which will also help reduce pollution and improve vehicle performance & fuel efficiency.

- **Regular servicing:** Get your vehicle serviced at an Authorised Distributor/Dealer, as per the service schedule, for an optimum performance and keep the emission level under check.

- **Genuine spares:** Always insist on genuine parts as spurious or incompatible spares and accessories can upset or deteriorate your vehicle's running condition.

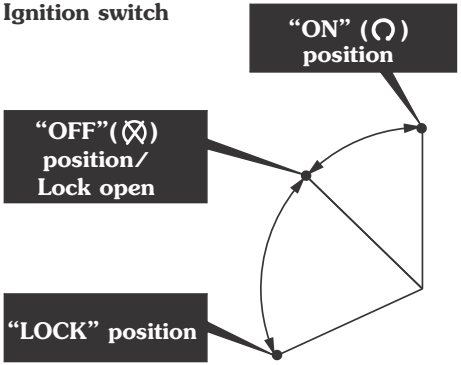
- **Genuine engine oil:** Hero 4T Plus SAE 10W 30 SL grade (JASO MA2) engine oil recommended by HMCL Niloy Bangladesh Ltd. and make sure you change it every 6000 kms. (with top up every 3000 kilometres) to keep the engine fit and environment healthy.

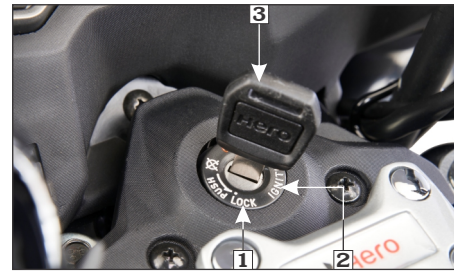
- **Noise pollution :** Noise beyond a certain decibel is pollution. Whether it is from horns or defective mufflers, excessive noise will cause headaches and discomfort.

- **Fuel saving & Reduce pollution :** Switch "OFF" the engine while waiting at traffic signal points to save fuel and reduce pollution, if the waiting period is long.

PARTS FUNCTION

Ignition switch



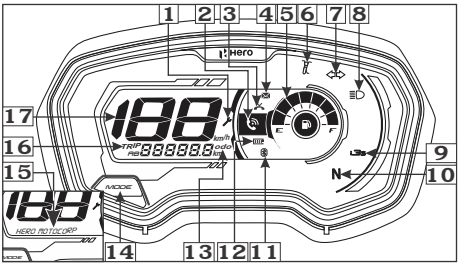


(1) Steering lock position
(2) Ignition switch
(3) Ignition key

Key position	Function	Key removal
"ON" (○)	The LCD panel illuminates & initial display of multi function digital segments are displayed. The fuel gauge segment will swing to the maximum scale once and back to its normal position. The speedometer and odometer will go to their maximum values and will come back to its their normal readings. Scroll message will appear in LCD panel. The engine can be started. Turn signal lamp, horn, tail/stop lamp, fuel gauge, passing switch & neutral indicator will be functional.	Key cannot be removed
"OFF"(⊗)	Engine cannot be started and no electrical system will be functional.	Key can be removed
"LOCK"	Steering can be locked.	Key can be removed

Instruments and Indicators

The indicators are in the speedometer panel above the headlamp. The functions are as below.



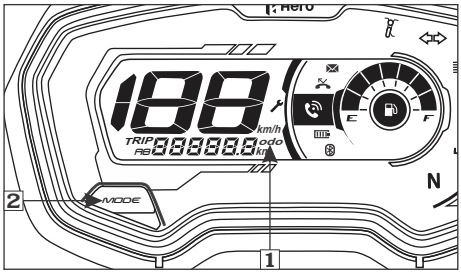
Sl. No.	Description	Function
1	Service reminder indicator	Displays when the next service is due **(page 16).**
2	Incoming call alert	If your smartphone is paired with the meter console of your vehicle via bluetooth **(page 17)**, then you will get all the incoming call alert on the meter console **(page 19)**.
3	Missed call alert	If your smartphone is paired with the meter console of your vehicle via bluetooth **(page 17)**, then you will get all the missed call alert on the meter console **(page 20)**.
4	Message alert	If your smartphone (android) is paired with the meter console of your vehicle via bluetooth **(page 17)**, then you will get all the message alert on the meter console **(page 20)**.
5	Fuel gauge	Indicates approximate fuel available in the form of digital segments. The digital segments will swing to maximum scale on the meter console once the ignition switch is turned "ON" (⏻) **(page 15).**
6	Side stand indicator	Light glows when the vehicle is parked on the side stand.
7	Turn signal indicators	Flashes when turn signal switch is operated.
8	High beam indicator	Light glows when headlamp is in "Hi" beam.

Sl. No.	Description	Function
9	i3s indicator	Indicator glows for 2 seconds and turns "OFF" indicating that i3s system is functional.
10	Neutral indicator	Light glows when vehicle is in neutral position.
11	Bluetooth	On pairing **(page 17)**, meter console display bluetooth symbol in bluetooth connected.
12	Phone battery status	If your smartphone is paired with the meter console of your vehicle via bluetooth **(page 17)**, then it will display battery status of smartphone on the meter console **(page 20)**.
13	Odometer	Shows accumulated distance travelled **(page 15)**.
14	Mode button	Switches display between odometer, tripmeter-A & B, and bluetooth connectivity.
15	Scroll display	Displays a scrolling "HELLO HERO MOTOCORP" message for few seconds when the ignition key is turned "ON" **(page 16).**
16	Tripmeter	Shows the distance travelled during a trip after setting to zero **(page 15).**
17	Speedometer	Indicates driving speed.

LCD PANEL

(a) Odometer

The odometer (1) shows accumulated distance travelled. The odometer can be selected by pressing the mode button (2).



(1) Odometer (2) Mode button

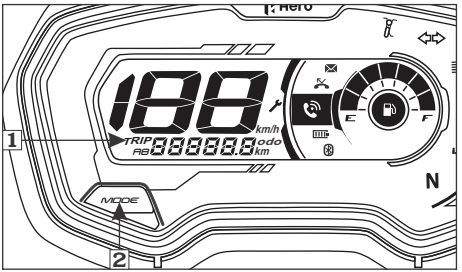
(b) Tripmeter

The tripmeter (1) shows distance travelled per trip. The tripmeter can be reset to zero by pressing the mode button (2) for more than 2 seconds. The tripmeter can be selected by pressing the mode button.

The tripmeter (1) shows distance travelled since trip meter was reset last time. There are two tripmeters, "Trip-A" and "Trip-B".

Push the mode button (2) to select "Trip-A" and "Trip-B". "Trip-A" and "Trip-B" can be displayed upto "999.9" km.

If the tripmeter exceeds "999.9" km it will return to "0.0" km automatically.

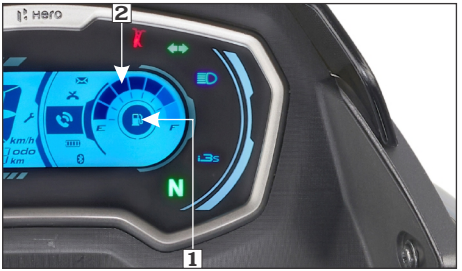


(1) Tripmeter (2) Mode button

(c) Fuel gauge

The fuel gauge (1) indicates approximate fuel available in the form of digital segments.

The digital segments (2) will swing to maximum scale on the meter console once the ignition switch is turned "ON" ( ). If all the segments are displayed it means fuel quantity in the fuel tank is 10 litres.



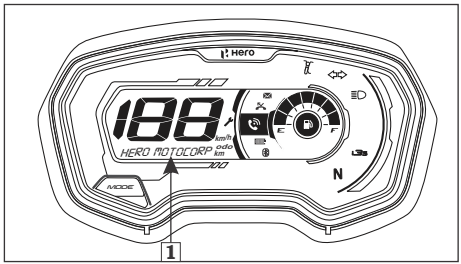
(1) Fuel gauge (2) Segments

(d) Scroll message

The scroll (1) display a message "HELLO HERO MOTOCORP" after for few seconds whenever the ignition is turned "ON".

NOTE

If the user name "VIJAY" is assigned in hero ride guide application (page 18) then user name will come as "HELLO VIJAY", instead of "HELLO HERO MOTOCORP"



(1) Scroll message

(e) Service reminder indicator

The service reminder indicator (1) is to indicate user to bring the vehicle to an Authorised Distributor/Dealer for service. The indicator shall start blinking when the vehicle covers kilometers as specified in the maintenance schedule. The indicator will keep on blinking throughout the kilometer interval for a particular service and will stay "ON" thereafter. The service reminder indicator can be reset at an Authorised Distributor/Dealer.

NOTE

After getting the vehicle serviced, make sure that the service reminder indicator has been reset.

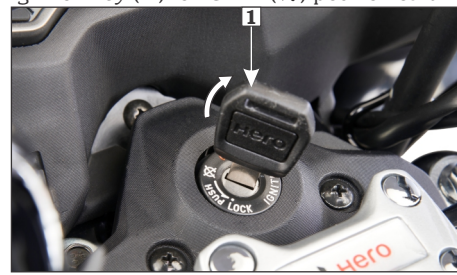


(1) Service reminder indicator

FEATURES

(a) Steering lock

Steering lock with ignition switch, turn the ignition key (1) to "OFF" (⊠) position & turn



(1) Ignition key

the handlebar towards left or right & push the key downwards & turn towards "LOCK" position. After locking take out the ignition key.

(b) Hero ride guide

Application:

Hero ride guide is available in the google play store (for androids) or App Store (for iOS), which can be installed in your device to access bluetooth, incoming calls alerts, missed call alerts, mobile battery status and message alert.

NOTE

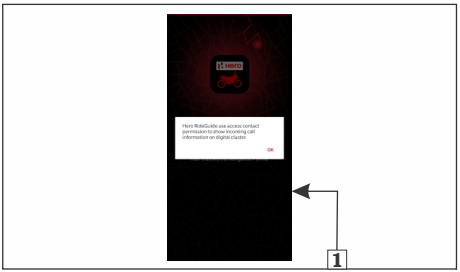
- ***Compatibility and performance of hero ride guide application may vary based on your device and software version.***
- ***Application needs GPS signal, internet and bluetooth connectivity to perform the desired functionality.***

Bluetooth:

Your vehicle is equipped with bluetooth connectivity feature by which you can pair your smartphone with the meter console of your **Passion XPRO** vehicle through hero ride guide application.

To connect your device proceed as follows:

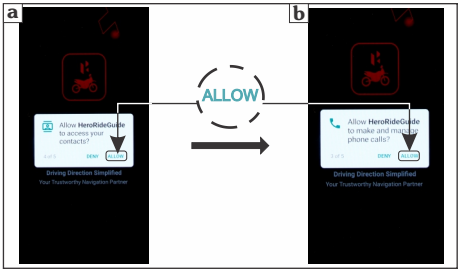
- Turn the ignition switch "ON".
- Open hero ride guide application on your smartphone.
- Give access to show incoming call information on digital cluster (1).

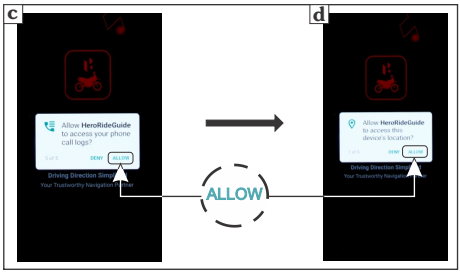


(1) Access for incoming call information on digital cluster

- For first time pairing, allow the application to access:

a. Contacts
b. Make & manage phone calls
c. Phone call logs on your device
d. Device's location if GPS is not enabled in your device

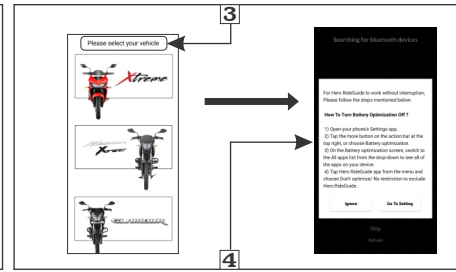






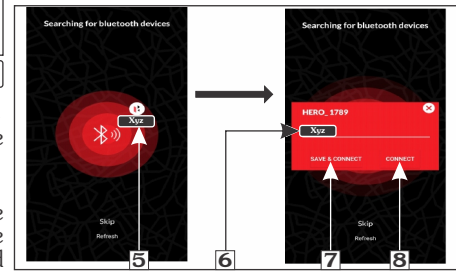
(2) Accept terms of use

- Then the application will automatically start.
- Application also asks you to accept (2) the terms of use to proceed.
- Now select your vehicle (3).
- Now application asks the user to turn the battery optimization off (4). It can be done by following the steps which are mentioned in the application or the user can ignore this step.



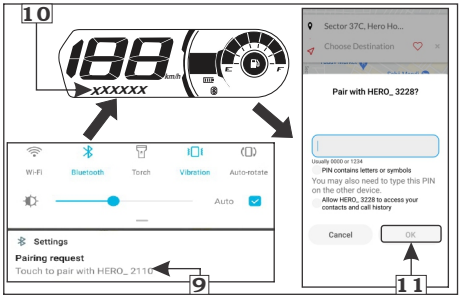
(3) Select your vehicle
(4) Battery optimization

- The application searches for a while and displays all compatible nearby devices. Select the device with your name (5).
- Update your name (6) (if required) and select either save and connect (7) or connect (8) to proceed.



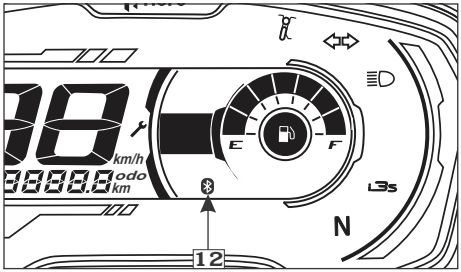
(5) Select your device (6) Update your name
(7) Save and connect (8) Connect

- Now application will send paring request notification (9). Click on the notification.
- Now meter console will display paring pin (10) in place of odometer reading.
- Enter the pin in application screen and select “OK” (11).



(9) Pairing request notification
(10) Pin **(11) “OK”**

- On pairing, meter console displays bluetooth symbol (12) which indicates that bluetooth is connected .
- If any error occurs during the course of pairing process, then meter console will not display bluetooth symbol. Repeat the above steps and keep your smartphone closer to the vehicle to reconnect.



(12) Bluetooth symbol

Autopairing

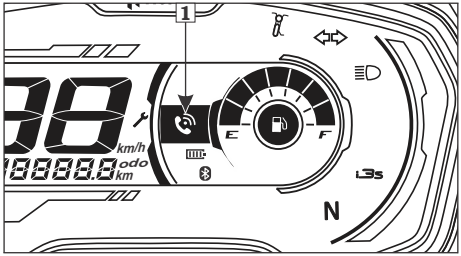
Your vehicle is equipped with autopairing feature by which if you turn ″OFF″ vehicle’s ignition switch after successful pairing with hero ride guide application, it will reconnect automatically once ignition switch is turned ″ON″.

NOTE

- ***Always keep your smartphone close to your vehicle during the course of pairing, autopairing.***
- ***Application need to be running in the background.***

Incoming call alert

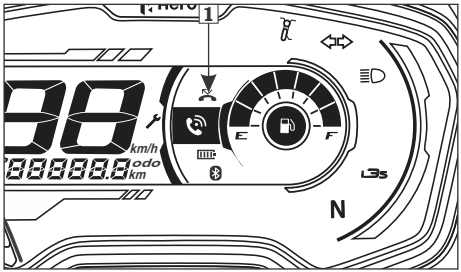
If your smartphone is paired with the meter console of your vehicle via bluetooth **(page 17)**, then you will get all the incoming calls alerts (1) on the meter console.



(1) Incoming call alert

Missed call alert:

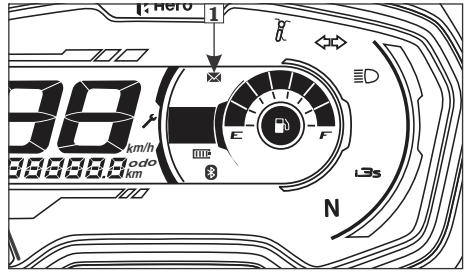
If your smartphone is paired with the meter console of your vehicle via bluetooth **(page 17)**, then you will get all the missed calls alerts (1) on the meter console.



(1) Missed call alert

Message alert:

If your smartphone (android) is paired with the meter console of your vehicle via bluetooth **(page 17)**, then you will get all the message alerts (1) on the meter console.

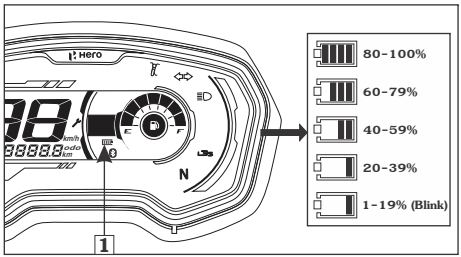


(1) Message alert

Phone battery status:

If your smartphone is paired with the meter console of your vehicle via bluetooth **(page 17)**, then it will display phone battery status (1) of your smartphone on the meter console.

4 bar display – 80-100%
3 bar display – 60-79%
2 bar display – 40-59%
1 bar display – 20-39%
1 bar blinks with outer line display – 1-19%.



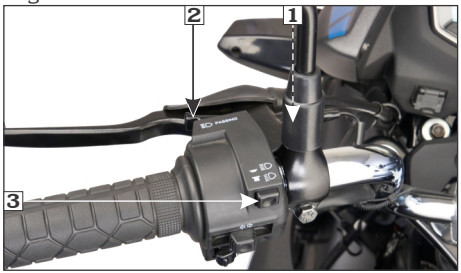
(1) Phone battery status

HANDLEBAR SWITCHES CONTROL

Left handlebar controls

1. Clutch switch

There is a clutch switch (1) provided for the safety of the rider. The vehicle cannot be started by electric starter switch until the clutch lever is operated when the vehicle is engaged in gear.



(1) Clutch switch **(2) Passing switch**
(3) Dimmer switch

2. Passing switch

Gives an indication for passing ahead.
Press passing lamp switch (2) to operate the passing lamp.

3. Dimmer switch

Select " " for high beam and " " for low beam.

4. Turn signal lamp switch ( )

Shift the turn signal lamp switch (4) sideways for right/left indications and leave it to come back to its normal position on its own.

IMPORTANT: To switch "OFF" the turn signal after completing the turn, gently push inside.

5. Horn switch ( )

Press the horn switch (5) to operate the horn.



(4) Turn signal lamp switch
(5) Horn switch

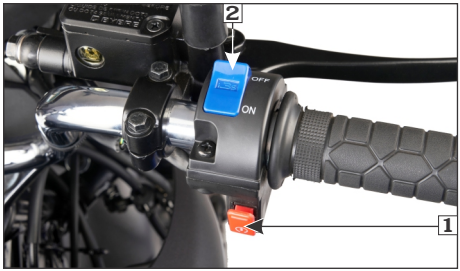
Right handlebar controls

1. Electric starter switch (⟳)

Ensure starter switch (1) is operated when the vehicle is in neutral gear. If the vehicle is engaged in gear press the clutch lever before operating the starter switch. Release starter switch after the engine has started.

! CAUTION

- ***Never hold electric starter switch continuously more than 5 seconds as continuous cranking of engine will drain the battery.***
- ***During electric or clutch start, the engine will cut-off if engine reaches 900 rpm if the relay is engaged for more than 5 seconds.***



(1) Electric starter switch (2) i3s switch

2. i3s switch

There is an i3s switch (2) provided to enable the rider for turning i3s mode "ON" or "OFF" based on the traffic conditions.

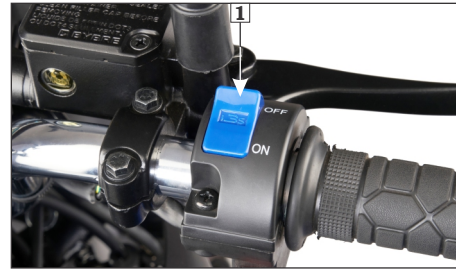
i3s (IDLE STOP START SYSTEM)

Starting & Warm up the engine:

Keep the i3s switch (1) to "OFF" position. Turn the ignition key to "ON" (○) position. the i3s indicator (2) will glow on the speedometer console for 2 seconds and turn "OFF". Start the engine and let it idle for 2-3 minutes.

NOTE

- ***The engine will stall if the i3s switch is in "ON" position during warmup.***
- ***Use choke during cold conditions.***



(1) i3s switch



(2) i3s indicator

Initial Activation of the i3s system:

Keep the i3s switch (1) to "ON" position. Turn the Ignition key to "ON" (Ω) position. The i3s indicator (2) on the speedometer console will glow for 2 seconds and turn "OFF". Start the vehicle and allow the engine transmission to run in neutral with the rpm less than 2000 rpm. The engine will cut off in 30 secs. After the first stop start every subsequent stop will be in 5 secs.

In this condition, the engine can be restarted either with kick or electric start only.

Driving with i3s Switch in "ON" position:

While driving, if the engine is kept idling (while waiting in a traffic signal), the engine will cut off in 5 secs. (The vehicle should be in neutral at less then 2000 rpm with clutch lever/throttle is in released position). By pressing the clutch lever, the engine will start again and gear can be engaged to move the vehicle.

Driving with i3s Switch in "OFF" position:

While driving in a traffic jam/or very dense traffic where the vehicle has to encounter a stop and go situation, the i3s switch can be changed to "OFF" position. Once this is done, the i3s system will not work and the vehicle will be in normal operating conditions as other vehicles and no special functions will be performed.

NOTE

- ***If the battery voltage is low, the i3s system will not work. The i3s indicator on the speedometer console will start to blink, if the rpm is less than 2000 rpm and the i3s indicator goes off if the rpm is more than 2000 rpm. The vehicle will be in normal operating conditions as other vehicles and no special functions will be performed.***
- ***If the vehicle is driven without battery or with the dead battery, the i3s system will not work. The i3s indicator on the speedometer console will start to glow continuously. The vehicle will be in normal operating conditions as other vehicles and no special functions will be performed.***
- ***During electric or clutch start, the engine will cut-off***
  - ***if engine reaches 900 rpm***
  - ***if the relay is engaged for more than 5 seconds.***

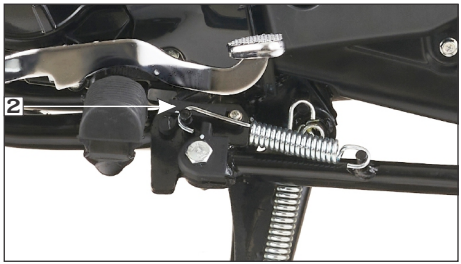
SIDE STAND INDICATOR/SWITCH

For the safety of the customer a side stand indicator (1) is provided.



(1) Side stand indicator

A side stand switch (2) is provided in the side stand, when the vehicle is parked on side stand (Ignition switch "ON"), the switch enables the side stand indicator lamp to glow on the speedometer panel.

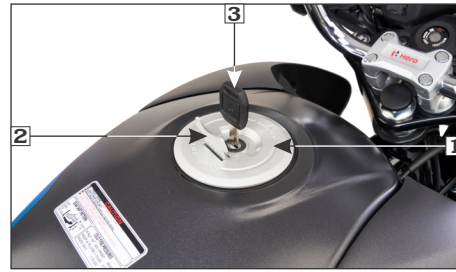


(2) Side stand switch

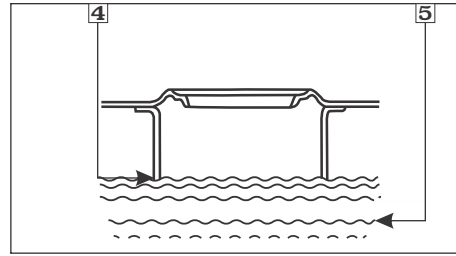
FUEL TANK

Fuel tank capacity is 9.2 litres including reserve supply of 1.3 litres (usable reserve).

- To remove the fuel tank cap (1), open the key hole cover (2) and insert the ignition key (3) turn it clockwise and remove the cap.



(1) Fuel tank cap **(2) Key hole cover**
(3) Ignition key



(4) Filler Neck **(5) Fuel**

- Do not overfill the tank, there should be no fuel in the filler neck (4). Fill the tank with fuel (5) as shown.
- For locking, position the cap back on the opening and press gently. The key springs back to the normal position and the cap gets locked.

CAUTION

Do not park the vehicle under direct sunlight as it causes evaporation of petrol due to heat and deterioration of paint gloss due to ultra violet rays.

WARNING

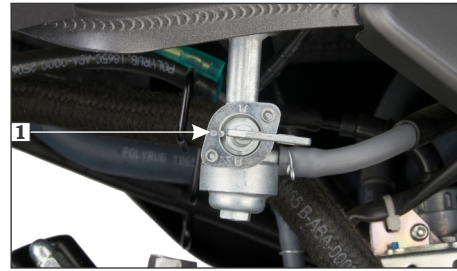
Petrol is extremely flammable and is explosive under certain conditions. Refill in a well ventilated area with the engine stopped. Do not smoke or allow flames or sparks in the area where the vehicle is refilled or where petrol is stored.

FUEL VALVE

The three way fuel valve is on the left side of the carburetor.

"OFF" (○) position

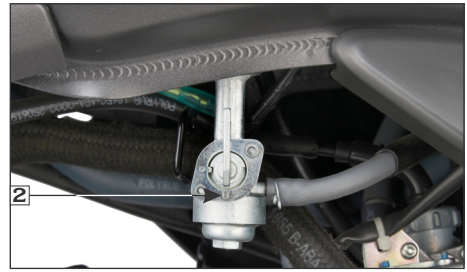
At "OFF" position (1), fuel cannot flow from the tank to the carburetor. Turn the valve "OFF" whenever the vehicle is not in use.



(1) "OFF" (○) position

"ON" (⊔) position

At "ON" position (2), fuel will flow from the tank to the carburetor.

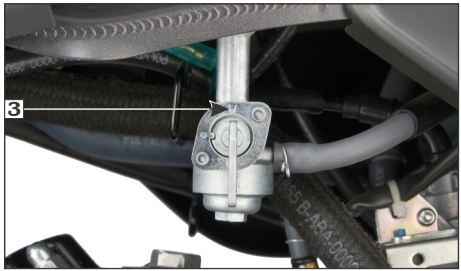


(2) "ON" (⊔) position

"RES" (⊔) position

At "RES" position (3), fuel will flow from the reserve fuel supply to the carburetor.

Use the reserve fuel only when the main supply is exhausted. Refill the tank as soon as possible after switching to "RES". The reserve fuel supply is 1.3 litres (usable reserve).



(3) "RES" (⊔) Position

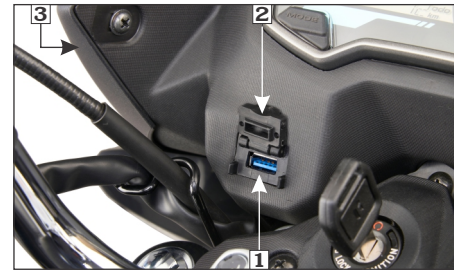
NOTE

- ***Do not operate the vehicle with the fuel valve in the "RES" (⊔) position after refilling. You may run out of fuel, with no reserve.***
- ***Do not keep the fuel valve between "ON" (⊔) and "OFF" (○) position while driving, since this may drain reserve fuel from the tank.***

USB CHARGER

A USB charger (1) with a cap (2) located on the left side of the front cowl (3) near meter console to charge your mobile phone safely while riding.

Use of non-standard USB cable may cause damage to the mobile phones.



(1) USB charger (2) Cap (3) Front cowl

To connect a mobile phone to the charger, first open the cap from the USB charger and then plug in the charger cable to it. HMCL Niloy Bangladesh Ltd. will not be responsible for damages caused due to use of non standard USB cable.

! CAUTION

- ***Always place the device in a soft clean cloth/towel to avoid any damage due to road shocks while riding.***
- ***Multiple charging of USB devices has to be avoided, simultaneous charging may lead to slow or no charging.***
- ***USB port is for charging compatible USB devices.***

- ***Do not leave the USB device and USB cable in the fuel tank cover when the vehicle is parked.***
- ***Charge your device when the engine is operational/while riding.***
- ***USB charger will not be covered under warranty in case of USB charger cap damage.***

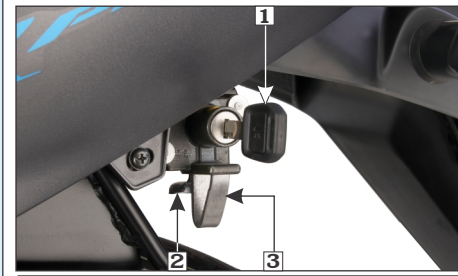
NOTE

- ***Do not apply any soap solution, oil or grease inside the USB charger.***
- ***Any personal belongings have to be removed before water washing to avoid damage.***
- ***Always keep the USB port cap closed after use to prevent dust or water entry during rains/water wash.***
- ***Do not direct water jet towards the port even with cap closed to avoid any short circuit. Always dry the area using a dry cloth or moisture free compressed air before use.***
- ***Press the cap slightly for proper locking of USB charger cap.***
- ***The charging time of mobile may vary, depending on the mobile's battery state of the charge, mobile make and conditions.***

SEAT LOCK/HELMET HANGER

Location: On the rear left side of the seat, below the rear cowl.

Operation: Insert the key (1) and turn it clockwise. Pull the knob (2) downwards to release the seat. To install, engage the hook on the underside of the seat with the frame and push on the top rear side of the seat until the lock clicks.



(1) Key (2) Knob (3) Helmet Hanger

The helmet can be hung and locked in the helmet hanger (3) provided with the seat lock by rotating the key.

PRE-RIDE INSPECTION

You should conduct pre-ride inspection before riding the vehicle to enhance riding comfort and safety.

Clean your vehicle regularly. It protects the surface finish. Avoid cleaning with products that are not specifically designed for vehicle surfaces. Inspect your vehicle very day before you start the engine.

The items listed here will only take a few minutes, and in the long run they can save time, expense and possibly your life. Please follow the tips as given below:

- **Engine oil level-**Check and top up engine oil if required **(page 38).** Check for leaks.
- **Fuel level-**Ensure sufficient fuel is available in your fuel tank for journey **(page 24)**. Check for leaks.
- **Front brake (Disc variant)-**Check for correct brake fluid level in the master cylinder **(page 48).**
- **Rear brakes (For IBS):** Check for correct brake fluid level in the reservoir **(page49).**
- **Tyres-**Check condition and pressure **(page 54).**
- **Clutch-**Check for smooth operation. Adjust free play **(page 44)**.
- **Drive chain-**Check condition and slackness **(page 46).** Adjust and lubricate if necessary.
- **Throttle-**Check for smooth opening and closing in all steering positions **(page 45)**.
- **Lamps and Horn-**Check that headlamp, tail/stop lamp, turn signal lamps and horn function properly.
- **Rear view mirror-**Ensure that the rear view mirror gives a good rear view when you are sitting on the vehicle.
- **i3s switch-**Make sure whether the i3s switch is in "ON" or "OFF" position **(page 22).**
- **i3s system-**Make sure that i3s system is functional properly **(page 22).**
- **Fitting & Fasteners-**Check & tighten if necessary.
- **Steering-**Check for smooth action for easy maneuverability.
- **Side stand indicator-**Make sure that the side stand is up. If it is in down position the side stand indicator **(page24)** will glow on the speedometer panel.
- **Air suction valve (ASV)-**make sure all tube connections are secured properly **(page 61).**

STARTING THE ENGINE



1. Turn the ignition switch "ON" (Ω).



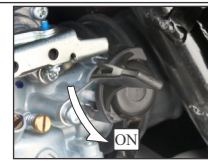
3. Select neutral position & check N indicator glows on instrument cluster with ignition "ON" (Ω).



2. Turn the fuel valve "ON" (⊟).



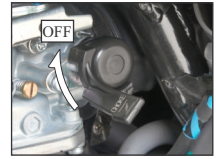
4. Make sure whether the i3s switch is in "ON" or "OFF" position.



5. Push the choke lever downward to "ON" position as indicated (Use choke during cold conditions).



6. Open the throttle slightly & press the starter switch. (Alternatively kick pedal can be used for starting).



7. Pull the choke lever upward to "OFF" position as indicated, after the engine gets sufficiently warmed-up to have a stable throttle response.

⚠ WARNING

Never run the engine in a closed area, the exhaust contains poisonous gases.

NOTE

- ***To start the engine in any gear position using the electric starter, press the clutch lever and push the starter switch.***
- ***Kick starting will not be possible when the transmission gears are engaged. Shift the transmission into neutral before kick starting.***
- ***Never attempt to kick start while vehicle is moving forward or backward. This may lead to damage to the product and is not safe as well.***

Flooded engine

If the engine fails to start after repeated attempts, it may be flooded with excess fuel. To clear a flooded engine, turn the ignition switch "OFF" (⊗) and turn the choke lever to "OFF". Close the throttle fully and crank the engine several times with the kick starter. Turn the ignition switch "ON" (Ω) and start the engine without using choke.

Running in

During first 1000 km, do not operate the vehicle at more than 60 km/hr speed in top gear, 45 km/hr in third gear, 30 km/hr in second gear and 15 km/hr in first gear. Avoid full throttle operation.

During initial running in, newly machined surfaces will be in contact with each other and these surfaces will wear in quickly. Running in precautions till 1000 km will reduce initial wear of engine components and increase its service life.

RIDING

- After the engine has been warmed up, the vehicle is ready for riding.
- While the engine is idling, press the clutch lever and depress the gearshift pedal to shift into 1st (low) gear.
- Slowly release the clutch lever and at the same time, gradually increase engine speed by opening the throttle. Coordination of the throttle and clutch lever will assure a smooth positive start.
- When the vehicle attains a moderate speed, close the throttle, press the clutch lever and shift to 2nd gear by depressing the gearshift pedal.
- The sequence is repeated progressively to shift 3rd and 4th (top gear).



Recommended max. operating speed in each gear.

1st	20 km/hr	3rd	70 km/hr
2nd	45 km/hr	4th	100 km/hr

! CAUTION

Do not shift gears without operation of clutch and without closing the throttle otherwise this would lead to damage of gears.

BRAKING

- For normal braking, close the throttle and gradually apply both front and rear brakes simultaneously while shifting down gears to suit your road speed.
- For sudden deceleration/quick stopping, close the throttle and apply the front and rear brakes simultaneously.

For integrated braking system (IBS)

To stop the vehicle, press the rear brake pedal for the application of front and rear brakes simultaneously. However, for more effective braking, it is advised to apply front and rear brake simultaneously, keeping the throttle in closed position.

⚠ WARNING

- ***When riding in wet or rainy conditions, or on loose surfaces, apply front brake carefully after applying rear brake to avoid wheel slip.***
- ***Extreme braking may cause wheel locking and reduce control over the vehicle.***
- ***Wherever possible, reduce speed or apply brake before entering a turn, closing the throttle or braking in mid turn may cause wheel slip. Wheel slip will reduce control over the vehicle.***
- ***When riding in wet or rainy conditions, or on loose surfaces the ability to stop the vehicle reduces.***
- ***All your actions should be smooth under these conditions. Sudden acceleration, braking or turning may cause loss of control. For your safety, exercise extreme caution when braking, accelerating or turning.***
- ***When descending a long steep slope use engine braking (power) by changing to lower gears, with intermittent use of both brakes. Continuous brake application can overheat the brakes and reduce their effectiveness.***

PARKING

After stopping the vehicle, shift the transmission to neutral, turn the fuel valve "OFF", turn the ignition switch "OFF", park the vehicle on main stand, lock the steering and remove the key.

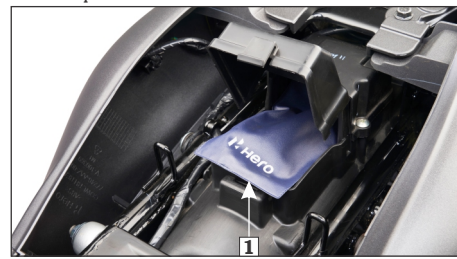
! CAUTION

- ***Park the vehicle on firm level ground to prevent overturning.***
- ***While parking vehicle on side stand engage the first gear.***

TOOL KIT

The tool kit (1) is located below the seat in the rear. Some emergency repairs, minor adjustments and parts replacement can be performed with the tools contained in the kit. Kit consists of following tool:

- Tool Bag
- +, – No. 2 driver
- Grip
- Box wrench P 16 X 14
- Pin spanner



(1) Tool kit

CLEANING AND WASHING OF VEHICLE

- Follow the below mentioned steps for washing the vehicle.
- Wet the vehicle with light water spray. Avoid directing water to muffler outlets and electrical parts.
- Clean the headlamp lens and other plastic parts using a cloth or sponge dampened with a solution of mild detergent and water.
- Rub the soiled area gently rinsing it frequently with fresh water.
- After cleaning spray water thoroughly.
- Dry the vehicle by wiping with dry soft cloth.

NOTE

- ***We at Authorised Distributor/Dealer take all above mentioned precautions like recommended detergents and usage of muffler caps/plugs during wash to ensure quality wash.***
- ***Do not use high pressure water (or air). It can damage certain parts of the vehicle.***

MAINTENANCE

The importance of maintenance

A well-maintained vehicle is essential for safe economical and trouble-free riding. It will also help reduce pollution.

To help you, take proper care of your vehicle, the following pages include a maintenance schedule and a maintenance record for regular scheduled maintenance.

These instructions are based on the assumption that the vehicle will be used exclusively for its designed purpose. Sustained high speed operation or operation in unusually wet or dusty conditions will require more frequent service than specified in the maintenance schedule.

Consult your Authorised Distributor/ Dealer for recommendation applicable to your individual needs and use.

WARNING

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

Maintenance safety

This section includes instructions on some important maintenance tasks. You can perform some of these tasks with the tools provided (if you have basic mechanical skills).

Other tasks that are more difficult and require special tools are best performed by professionals. Wheel removal should normally be handled only by a Authorised Distributor/ Dealer skilled technician or other qualified technician; instructions are included in this manual only to assist in emergency service.

You will come across some of the most important safety precautions in the following pages of this manual.
However, we cannot warn you of every conceivable hazard that can arise in performing maintenance. Only you can decide whether or not you should perform a given task.

⚠ WARNING

- ***Failure to follow maintenance instructions and precautions properly can seriously injure you.***
- ***Always follow the procedures and precautions in this owner's manual.***

SAFETY PRECAUTIONS

- Make sure the engine is "OFF" before you begin any maintenance or repair. This will help to eliminate several potential hazards:
  - **Carbon monoxide poisoning from engine exhaust.**
    Be sure there is adequate ventilation whenever you operate the engine.
  - **Burns from hot parts.**
    Let the engine and exhaust system cool before touching.
  - **Injury from moving parts.**
    Do not run the engine unless instructed to do so.
- Read the instruction before you begin and make sure you have the tools and skills required.
- To help prevent the vehicle from falling over, park it on a firm, level surface on the main stand.
- To reduce the possibility of a fire or explosion, be careful when working around petrol or batteries. Use only nonflammable solvent, not petrol, to clean parts. Keep cigarettes, sparks and flames away from the battery and all fuel-related parts.

Remember that your Authorised Distributor/ Dealer knows your vehicle best and is fully equipped to maintain and repair it.
To ensure best quality and reliability, use only new genuine Parts for repair and replacement.

MAINTENANCE SCHEDULE

Perform the Pre-ride inspection **(page 28)** at each scheduled maintenance period.

I: INSPECT C: CLEAN R: REPLACE A: ADJUST O: OIL CHANGE
L: LUBRICATE T: TOP UP E: EMISSION CHECK

The following maintenance schedule specifies all maintenance required to keep your vehicle in peak operating condition. Maintenance work should be performed in accordance with standards and specifications of HMCL Niloy Bangladesh Ltd. by properly trained and equipped technicians. Your Authorised Distributor/Dealer meets all of these requirements.

Ensure that each paid service is availed within 90 days or 3000 km from the date of previous service, whichever is earlier.

- To be serviced by your Authorised Distributor/Dealer unless the owner has the relevant tools, technical information and is technically qualified.
- In the interest of safety, we recommend that these jobs are carried out only by your Authorised Distributor/Dealer.

Note-1 : At higher odometer readings, repeat the frequency interval established here.

Note-2 : Replace air cleaner element once in every 15000 km or early replacement may be required when riding in dusty areas.

Note-3 : Replace engine oil once in every 6000 km. Top up once in every 3000 km.

Note-4 : Visit Authorised Distributor/Dealer for inspection, cleaning, lubrication and adjustment of drive chain at every 2000 km.

Note-5 : Replace once in a every 2 years or 30000 km, whichever is earlier.

Note-6 : Inspect & maintain specified torque.

Note-7 : Inspect the wheel bearings free play, replace if necessary.

Note-8 : Replace front fork oil once in a every 2 years or 30000 km, whichever is earlier.

Note-9 : Inspect for any play in the mounting bushes, replace if necessary.

Note-10: Check idle CO emission along with idle rpm/idle CO adjustment (if required).

Note-11: Inspect the canister hoses for deterioration, damage or loose connections and canister for cracks or other damages.

Note: Always wipe the water from the vehicle after washing. Use clean soft cloth or pressurized air for completely drying the water.

MAINTENANCE SCHEDULE

Dear Customer,

We would strongly recommend the following schedule, to keep your vehicle in perfect running condition and healthy environment. Vehicle subjected to severe use or ridden in dusty area will require more frequent servicing.

	ITEMS	SERVICE	1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th	11th
		DAYS	1st 60	Next 90	Next 90	Next 90	Next 90	Next 90	Next 90	Next 90	Next 90	Next 90	Next 90
		Km Note-1	500-750	3000-3500	6000-6500	9000-9500	12000-12500	15000-15500	18000-18500	21000-21500	24000-24500	27000-27500	30000-30500
	Fuel Line		I	I	I	I	I	I	I	I	I	I	I
	Throttle Operation		I, A	I, A	I, A	I, A	I, A	I, A	I, A	I, A	I, A	I, A	I, A
	Carburetor/Engine Idle Speed		C, A	A	C, A	A	C, A	A	C, A	A	C, A	A	C, A
	Air Cleaner Element	Note-2	Do not open air cleaner element unless there is a drivability problem					R					R
	Spark Plug		I, C, A	I, C, A	I, C, A	I, C, A	R	I, C, A	I, C, A	I, C, A	I, C, A	R	I, C, A
	Valve Clearance		I, A	I, A	I, A	I, A	I, A	I, A	I, A	I, A	I, A	I, A	I, A
	Engine Oil	Note-3	O	I, T	O	I, T	O	I, T	O	I, T	O	I, T	O
	Engine Oil Strainer Screen		C		C		C		C		C		C
	Engine Oil Centrifugal Filter		C		C		C		C		C		C
	Electric Starter		I	I	I	I	I	I	I	I	I	I	I
	Starter Reduction Gear Shaft				I, L		I, L		I, L		I, L		I, L
	Oil Circulation		I	I	I	I	I	I	I	I	I	I	I
	Drive Chain	Note-4	I,C,L,A at every 2000 km					I,C,L,A at every 2000 km					
	Drive Chain Slider			I	I	I	I	I	I	I	I	I	I
	Battery Voltage		I	I	I	I	I	I	I	I	I	I	I
	Brake Shoe		I, A	I, A	I, A	I, A	I, A	I, A	I, A	I, A	I, A	I, A	I, A

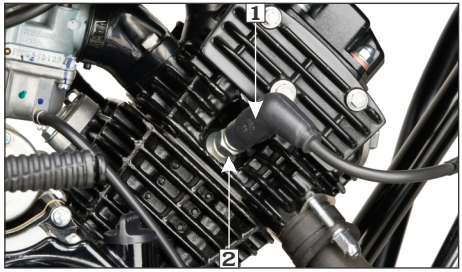
	ITEMS	SERVICE	1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th	11th
		DAYS	1st 60	Next 90	Next 90	Next 90	Next 90	Next 90	Next 90	Next 90	Next 90	Next 90	Next 90
		Km Note-1	500-750	3000-3500	6000-6500	9000-9500	12000-12500	15000-15500	18000-18500	21000-21500	24000-24500	27000-27500	30000-30500
	Disc Wear/Pad Wear (For disc and IBS)		I	I	I	I	I	I	I	I	I	I	I
	Brake Fluid (For disc and IBS)	Note-5	I, T	I, T	I, T	I, T	I, T	I, T	I, T	I, T	I, T	I, T	I, T
	Brake System (Brake Cam & Brake Pedal)			C, L		C, L		C, L		C, L		C, L	
	Stop Lamp Switch		I, A	I, A	I, A	I, A	I, A	I, A	I, A	I, A	I, A	I, A	I, A
	Headlamp Focus		I, A	I, A	I, A	I, A	I, A	I, A	I, A	I, A	I, A	I, A	I, A
	Clutch Lever Free Play		I, A	I, A	I, A	I, A	I, A	I, A	I, A	I, A	I, A	I, A	I, A
	Side Stand/Main Stand		L	L	L	L	L	L	L	L	L	L	L
	Side Stand Switch		I, C	I, C	I, C	I, C	I, C	I, C	I, C	I, C	I, C	I, C	I, C
	i3s System		I	I	I	I	I	I	I	I	I	I	I
	Nut, Bolts & Fasteners	Note-6	I	I	I	I	I	I	I	I	I	I	I
	Wheels Bearings	Note-7	I	I	I	I	I	I	I	I	I	I	I
	Wheels/Tyres		I	I	I	I	I	I	I	I	I	I	I
	Steering Head Bearing		I	I, A	I	I, A	I, L, A	I	I, A	I	I, L, A	I	I, A
	Front Suspension/Oil Leakage	Note-8	I	I	I	I	I	I	I	I	I	I	R
	Rear Suspension	Note-9	I	I	I	I	I	I	I	I	I	I	I
	Secondary Air Injection				I		I		I		I		I
	Muffler (Catalytic Converter)	Note-10			I, E		I, E		I, E		I, E		I, E
	Evaporative Emission Control System	Note-11	I	I	I	I	I	I	I	I	I	I	I

SPARK PLUG INSPECTION

Recommended spark plugs:
NGK-CR7HSA, BOSCH-UR4AC

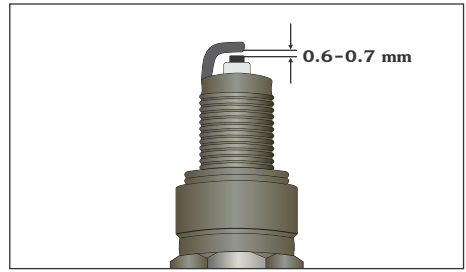
For most riding conditions this spark plug heat range number is satisfactory. However, if the vehicle is going to be operated for extended periods at high speeds or near maximum power in hot climates, the spark plug should be changed to a cold heat range number, consult Authorised Distributor/Dealer on this if required.

- Clean any dirt around the spark plug base.
- Disconnect the noise suppressor cap (1) and remove the spark plug (2) with the help of spark plug box wrench provided in the tool bag.



(1) Noise suppressor cap (2) Spark plug

- Visually inspect the spark plug electrodes for wear. The center electrode should have square edges and the side electrode should not be eroded. Discard the spark plug if there is apparent wear or if the insulator is cracked or chipped.



- Make sure that the spark plug gap is **0.6-0.7 mm** using a wire-type feeler gauge. If adjustment is necessary, bend the side electrode carefully. Make sure the plug washer is in good conditions.
- With the plug washer attached, thread the spark plug in by hand to prevent cross-threading.
- Tighten a new spark plug 1/2 turn with spark plug wrench to compress the washer. If you are reusing a plug, it should only take 1/8-1/4 turn after the plug seats.

ENGINE OIL

Use only genuine engine oil.

BRAND: Hero 4T plus
GRADE: SAE 10W 30 SL Grade (JASO MA2).

Manufactured by:

- Tide Water Oil Co. (India) Ltd.
- Savita Oil Technologies Limited.
- Bharat Petroleum Corporation Limited.

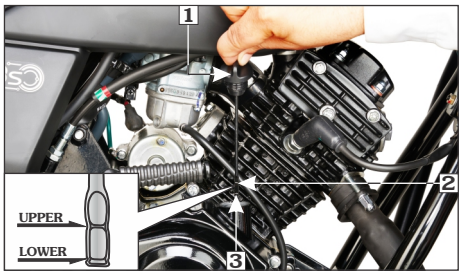
OIL CAPACITY: 1.25 liters

Engine oil level inspection/Top up process

Check engine oil level each day before operating the vehicle.

The oil level dipstick (1) is on the right crankcase cover for measuring oil level. Oil level must be maintained between the upper (2) and lower (3) level marks on the oil level dipstick.

Do top up if oil level reaches towards the lower level mark or every 3000 km whichever is earlier.



(1) Oil level dipstick (2) Upper level mark
(3) Lower level mark

- Park the vehicle on its main stand.
- Start the engine & let it idle for 3-5 minutes.
- Stop the engine and wait for 2-3 minutes.
- Remove the oil level dipstick, wipe it clean and insert without screwing it in.
- Remove the oil level dipstick and check the oil level.
- If required, add the specified oil up to the upper level mark. Do not overfill.
- Quantity of oil to be filled is 1.1 liters (approx.) during oil change when right crankcase cover is not removed.
- Reinstall the oil level dipstick and check for oil leaks.

Engine oil replacement process/ Oil circulation inspection

Drain engine oil with the engine warm and the vehicle on its main stand.

- To drain the oil, remove the oil level dipstick and drain bolt (1).
- After the oil has completely drained, reinstall the drain bolt with a new sealing washer (2).
- Fill the crankcase through the oil filler hole with 1.25 liters (approximately) of the recommended grade oil.
- Reinstall the oil level dipstick with a new O-ring.
- Start the engine and allow it to idle for few minutes.
- Remove the tappet inspection cover. Slowly accelerate and check the engine oil entry into the cylinder head, engine oil will splash out from the tappet inspection cover opening.
- After checking the oil circulation, install the tappet inspection cover.
- Stop the engine, let the engine oil settle down and recheck the oil level.

- Make sure that oil level is at the "UPPER" level mark of the oil level dipstick with the vehicle in an upright position and that there are no oil leaks.



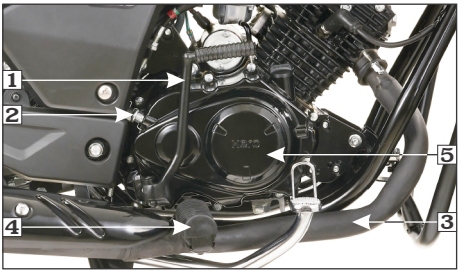
(1) Drain bolt **(2) Sealing washer**

! CAUTION

- ***Running the engine with insufficient oil can cause serious engine damage.***
- ***Running the engine with excessive oil can cause spark plug fouling & loss in performance.***
- ***Engine oil is a major factor affecting the performance and service life of the engine. Non-detergent, vegetable or castor based racing oils are not recommended.***

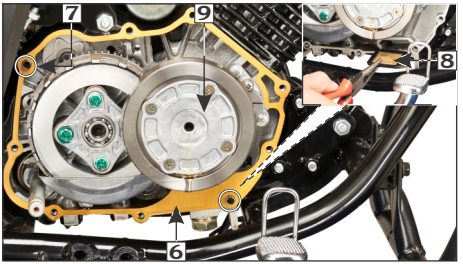
OIL FILTER SCREEN & CENTRIFUGAL FILTER

- Drain the engine oil thoroughly.
- Remove the kick starter pedal (1), disconnect the clutch cable (2), remove the muffler (3), remove the right side rider footrest (4) and remove the right crankcase cover (5).



(1) Kick starter pedal **(2) Clutch cable**
(3) Muffler **(4) Rider foot rest**
(5) Right crankcase cover

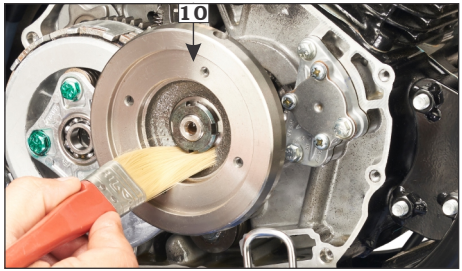
- Remove the gasket (6) and dowel pins (7).



(6) Gasket **(7) Dowel pins**
(8) Oil filter screen **(9) Centrifugal filter cover**

- Remove the oil filter screen (8) and wash it in clean non flammable or high flash point solvent (kerosene).
- Reinstall the oil filter screen with the sharp edged side facing inwards.

- Remove centrifugal filter cover (9) & clean the centrifugal filter (10) with non flammable or high flash point solvent (kerosene).



(10) Centrifugal filter

- Reinstall the dowel pins and gasket.
- Reinstall the centrifugal filter cover, right crankcase cover, kick start pedal & clutch cable.
- Fill the crankcase with clean engine oil as per specification.

NOTE

- ***Clean filters as specified in the maintenance schedule.***
- ***Ensure to replace gasket with new one once removed.***

AIR CLEANER

Air cleaner element inspection

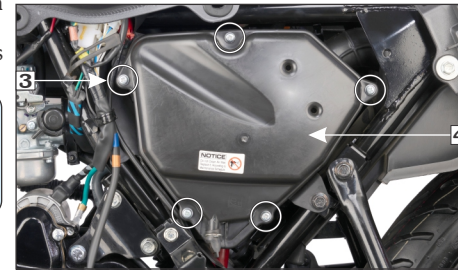
The air cleaner element is viscous type, it should be replaced at regular intervals **(page 34).** Early replacement may be required when riding in unusually wet or dusty area.

- Remove the seat **(page 27).**
- Remove the left side cover (1) by removing side cover screws (2).



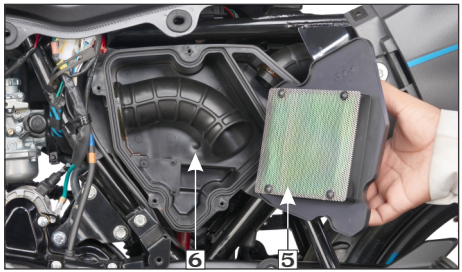
(1) Side cover **(2) Side cover screws**

- Remove the air cleaner cover screws (3) and the cover (4).

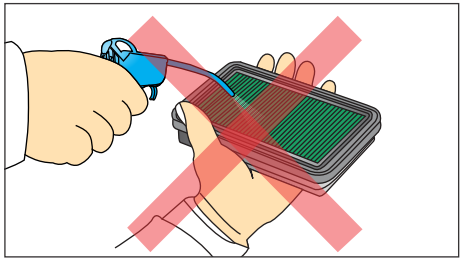


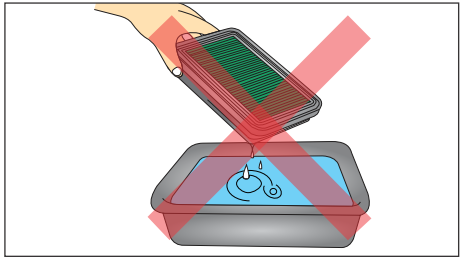
(3) Air cleaner cover screws
(4) Air cleaner cover

- Remove the air cleaner element (5) from air cleaner housing (6).



(5) Air cleaner element (6) Air cleaner housing





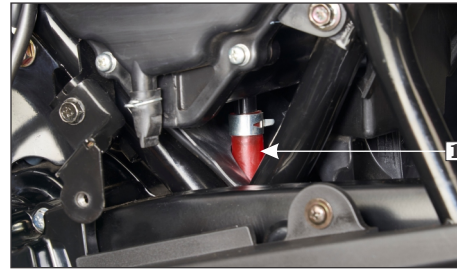
- Clean the air cleaner housing using a shop towel.
- Install the new air cleaner element
- Install the air cleaner element cover.
- Install the left side cover.
- Install the seat.

! CAUTION

- ***Never wash or clean the viscous filter. Replace filter element once in every 15000 km.***
- ***Replace it earlier if it becomes very dirty, damage on surface or on the sealing area.***

Air cleaner drain tube cleaning

Drain the deposit into a suitable container. Follow the above process more frequently when riding in rain or at full throttle. Always ensure to reinstall the drain tube after draining the deposit.



(1) Drain tube

CARBURETOR

Idle speed adjustment

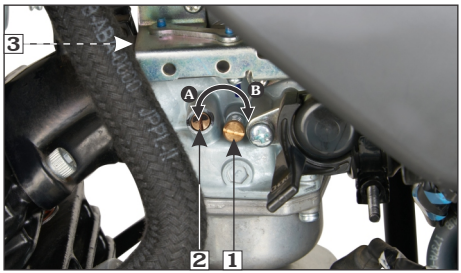
The carburetor is factory pre-set in order to achieve optimum performance and meet emission standards.

However in case of specific requirement of tuning due to engine stalling in idle speed, please follow the instructions given here under:

Warm up the engine and park the vehicle on the main stand.

Adjust idle speed with the throttle stop screw (1).

IDLE SPEED: 1400 ± 100 RPM



(1) Throttle stop screw (A) Decrease rpm
(2) Air screw (B) Increase rpm
(3) Throttle position sensor switch

NOTE

Always adjust the idle speed in i3s switch "OFF" position.

CAUTION

Never adjust air screw (2). Air screw adjustment is to be done only by Authorised Distributor/Dealer.

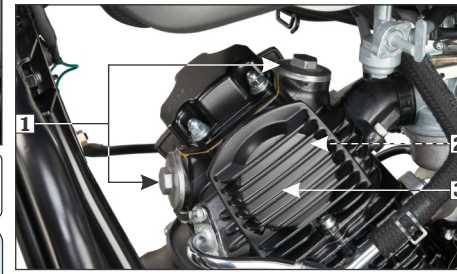
If air screw is tampered it affects the overall performance characteristics of the vehicle.

Throttle position sensor switch (3) alters the ignition timing as per the throttle operation and ensures optimum driving performance.

VALVE CLEARANCE ADJUSTMENT

Excessive valve clearance will cause noise, and little or no clearance will prevent the valve from closing and cause valve damage and power loss. Check valve clearance at the specified intervals **(page 34).**

- Remove the tappet covers (1) and cylinder head left side cover (3) with gasket (2) by removing the bolt/sealing washer.

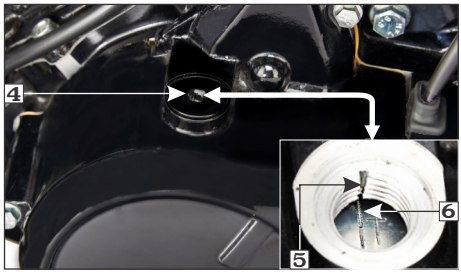


(1) Tappet covers (2) Gasket
(3) Cylinder head left side cover

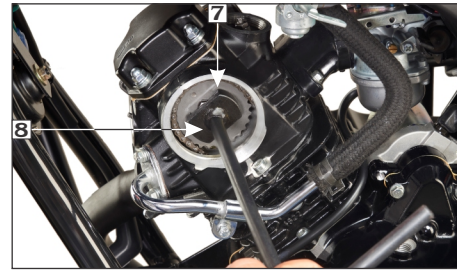
NOTE

The checking or adjusting of valve clearance should be performed while the engine is cold. The clearance will change as the engine temperature rises.

- Remove the timing hole cap (4) and tappet covers. Rotate the cam sprocket (7) clockwise using the special tool (8) until the 'T' mark (5) on the flywheel coincides with the index mark (6) on the left crankcase cover. In this position, the piston will either be on the compression or exhaust stroke.



(4) Timing hole cap (5) 'T' mark
(6) Index mark



(7) Cam sprocket (8) Special tool

The adjustment must be made when the piston is at top dead center and both the inlet and exhaust valves are closed.

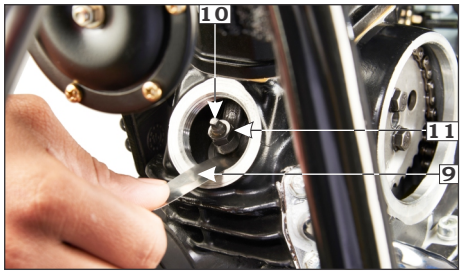
This condition can be determined by moving the rocker arms. If they are free, it is an indication that the valves are closed and the piston is in compression stroke. If they are tight, the valves are open, rotate the cam sprocket (7) 360° clockwise and realign the 'T' mark with the index mark.

- Check the clearance by inserting the feeler gauge (9) between the adjusting screw (10) and valve stem.

Standard clearance (cold condition)

Intake : 0.10 mm

Exhaust: 0.12 mm



(9) Feeler gauge (10) Adjusting screw (11) Lock nut

- Adjust by loosening the lock nut (11) and turning the adjusting screw (10) until there is a slight drag on the feeler gauge (9). After tightening the lock nut, check again the clearance.
- Install all parts in the reverse order of disassembly.

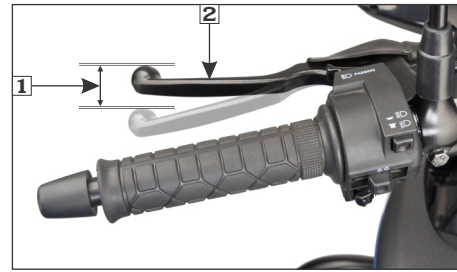
NOTE

Before inserting the feeler gauge, smear a bit of engine oil on the feeler gauge to avoid damage to the feeler gauge.

CLUTCH LEVER FREE PLAY

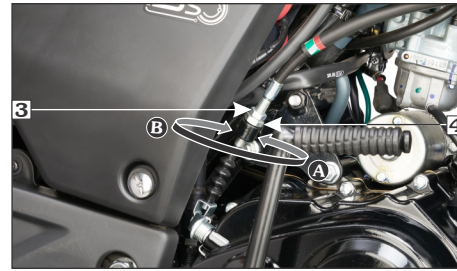
Adjustment

Clutch adjustment may be required if the vehicle stalls when shifting into gear or tends to creep or if the clutch slips, causing acceleration to lag behind engine speed. Normal clutch lever free play (1) is 10–20 mm at the lever (2).



(1) Free play: 10–20 mm (2) Clutch lever

- To adjust the free play, loosen the lock nut (3). Turn the adjusting nut (4) to obtain the specified free play. Tighten the lock nut and check the adjustment.



(3) Lock nut (4) Clutch cable adjusting nut (A) Decrease free play (B) Increase free play

- Start the engine, press the clutch lever and shift into gear. Make sure the engine does not stall, and vehicle does not creep. Gradually release the clutch lever and open the throttle. The vehicle should start smoothly and accelerate specified free play. Tighten the lock nut and check the adjustment.
- Start the engine, press the clutch lever and shift into gear. Make sure the engine does not stall, and vehicle does not creep. Gradually release the clutch lever and open the throttle. The vehicle should start smoothly and accelerate.

Other checks

- Check the clutch cable for kinks or signs of wear that could cause sticking or failure.
- Check for clutch cable model. Use genuine clutch cables.
- Check for clutch cable routing.

NOTE

If proper adjustment cannot be obtained or the clutch does not work correctly, visit your Authorised Distributor/Dealer.

THROTTLE OPERATION

Cable inspection

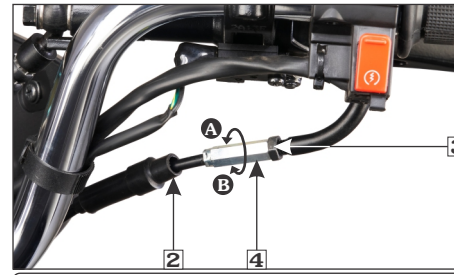
Check for smooth rotation of the throttle grip from the fully open to the fully closed position. Check at full left and full right steering positions. Inspect the condition of the throttle cable from the throttle grip down to the carburetor. If the cable is kinked, chafed or improperly routed, it should be replaced or rerouted. Standard throttle grip free play (1) is approximately 2-6 mm of grip rotation.



(1) Free play: 2-6 mm

Free play adjustment

Slide the boot (2), loosen the lock nut (3) and turn the adjuster (4).



(2) Boot
(3) Lock nut
(4) Adjuster
(A) Decrease free play
(B) Increase free play

DRIVE CHAIN SLACKNESS

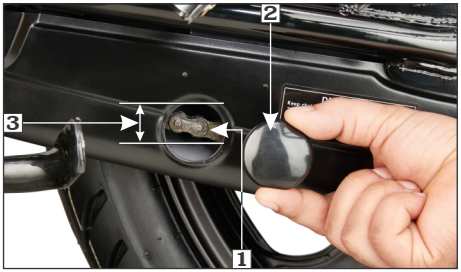
The service life of the drive chain depends upon proper lubrication and adjustment.

Poor maintenance can cause premature wear or damage to the drive chain and sprockets.

The drive chain (1) should be checked and lubricated as part of the Pre-ride Inspection **(page 28)**. Under severe usage, or when the vehicle is ridden in unusually dusty areas more frequent maintenance will be necessary.

Inspection

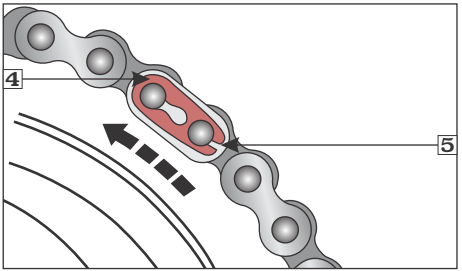
- Turn the engine "OFF", park the vehicle on its main stand and shift the transmission to neutral. Remove hole cap (2).
- Drive chain slack (3) should be adjusted to allow approximately 30 mm vertical movement by hand.



(1) Drive chain (2) Hole cap
(3) Drive chain slack: 30 mm

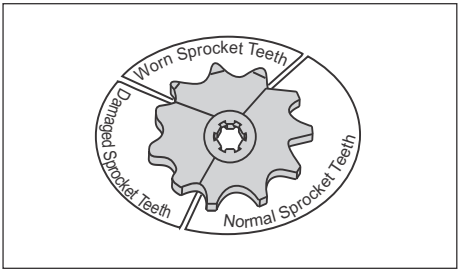
Rotate the wheel and check drive chain slack as the wheel rotates. Drive chain slack should remain constant as the wheel rotates.

If the chain is slack in one section and tight in another, some links are kinked and binding. Binding can be eliminated by frequent lubrication.



(4) Chain lock plate (5) Open end

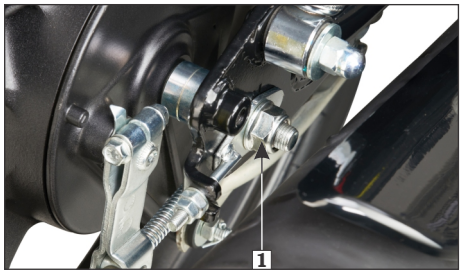
- Turn the chain to view chain lock plate (4) inside the hole. Ensure that the chain lock plate open end (5) is installed in the opposite direction of the chain rotation.



- Inspect the sprocket teeth for wear or damage.
- If the drive chain or sprockets are excessively worn or damaged, they should be replaced. Never use a new chain with worn out sprockets since this will result in rapid chain wear.

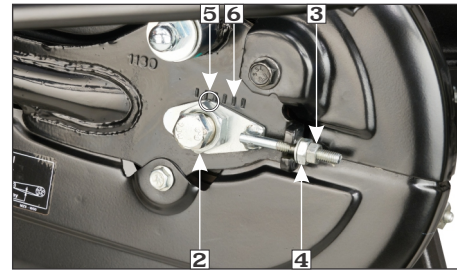
Adjustment

- Park the vehicle on its main stand with the transmission in neutral and the ignition switch in "OFF" position.
- Loosen the rear axle nut (1) and sleeve nut (2). Loosen both the drive chain lock nuts (3).



(1) Rear axle nut

- Turn both the adjusting nuts (4) in an equal number of turns until the correct drive chain slack is obtained. Turn the adjusting nut clockwise to decrease the slack or anticlockwise to increase the slack of the chain.



(2) Sleeve nut (3) Drive chain lock nut
(4) Drive chain adjusting nut (5) Index mark
(6) Scale graduation

- Align the chain adjuster index mark (5) with the corresponding scale graduations (6) on both the sides of the swing arm equally.
- If the drive chain slack is excessive when the rear axle is moved to the farthest limit of adjustment, the drive chain is worn and must be replaced. Tighten the rear axle nut and sleeve nut.
  - **Rear axle nut torque: 5.0–6.0 kgf–m**
  - **Sleeve nut torque : 4.5–5.0 kgf–m**
- Check the drive chain slack again.
- Rear brake pedal free play and stop lamp switch free play are affected when repositioning the rear wheel to adjust drive chain slack. Check rear brake pedal free play and adjust as necessary **(page 50)**.

Lubrication

- Turn the engine "OFF", park the vehicle on its main stand and shift the transmission into neutral.

- Lubricate the drive chain by applying liberal amount of SAE#90 oil.

CAUTION

Regular adjustment and lubrication as per the maintenance schedule would ensure high performance and longer life.

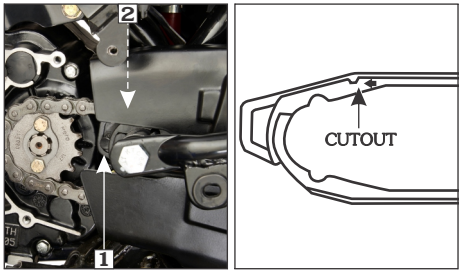
NOTE

Visit Authorised Distributor/Dealer for inspection, cleaning, lubrication and adjustment of drive chain at every 2000 km.

DRIVE CHAIN SLIDER INSPECTION

(Refer to "Maintenance Schedule" on **(page 34)**.

Check the drive chain slider (1) for wear, the chain slider must be replaced if it is worn to the bottom of the cutout or wear limit (2) is reached. For replacement, visit your Authorised Distributor/Dealer.



(1) Drive chain slider **(2) Wear limit**

BRAKES

Brakes (Integrated braking system)

Brakes are items of personal safety and should always be maintained with proper adjustments.

When one applies the Integrated/Rear brake pedal, front & rear brakes activate jointly.

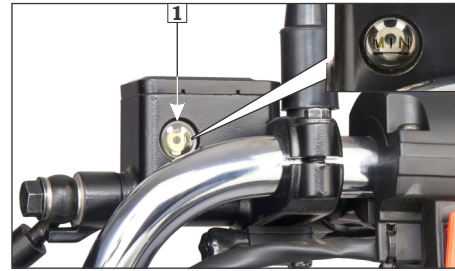
(a) Front brake inspection (Disc variant)

Master Cylinder/Reservoir

Location: Right handlebar

Brake fluid recommended: DoT 3 or DoT 4

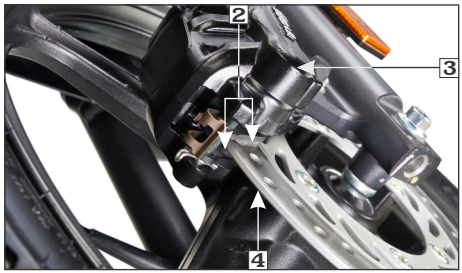
Fluid level-Ensure that the brake fluid level does not fall below "MIN" mark (1) on the master cylinder, when checked with the master cylinder parallel to the ground. The level decreases gradually due to piston movement to compensate pad wear. If the level decreases abruptly, check for leakage in the brake system and contact your Authorised Distributor/Dealer.



(1) "MIN" mark

NOTE

- ***Clean the dirt and mud accumulation between the brake pads (2), caliper (3) and the disc (4) by using a water jet.***
- ***Always contact your Authorised Distributor/Dealer for refilling of master cylinder when necessary. Do not mix DoT 3 and DoT 4 brake fluid.***



(2) Brake pads (3) Caliper (4) Brake disc

(B) Rear brake fluid (For IBS)

Refer to the safety precautions on **(page 33).**

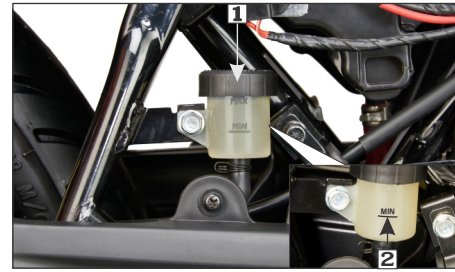
Reservoir (1)

Location : Near the right side pillion footrest.

Brake fluid recommended :

DoT-4/DoT-3.

Fluid level – Ensure that the brake fluid level does not fall below "MIN" mark (2) on the reservoir parallel to the ground. The level decreases gradually due to piston movement to compensate pad wear. If the level decreases abruptly, check for the leakages in the brake system and consult your Authorised Distributor/Dealer



(1) Reservoir (2) "MIN" mark

(c) Brake pad wear (Disc variant)

Brake pad wear depends upon the severity of usage, the type of riding & road conditions. Generally, the pads will wear faster on wet & dirty roads. Inspect the pads at each regular maintenance interval.

Inspection

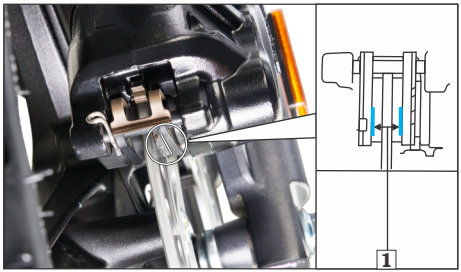
Check the wear indicator grooves (1) on each pad.

Check the brake pads for wear by examining the wear limit grooves on each pad.

Replace the pads if worn out to the bottom of the groove.

Always replace both the pads as a set.

Visit your Authorised Distributor/Dealer for the brake pad replacement.



(1) Wear indicator groove

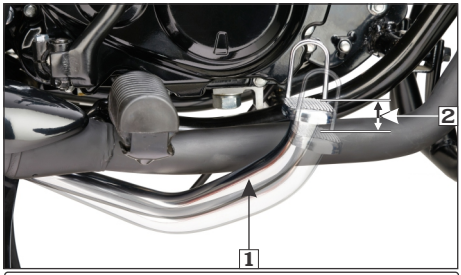
⚠ WARNING

Always apply front and rear brakes simultaneously to avoid skidding of vehicle.

(d) Rear brake inspection

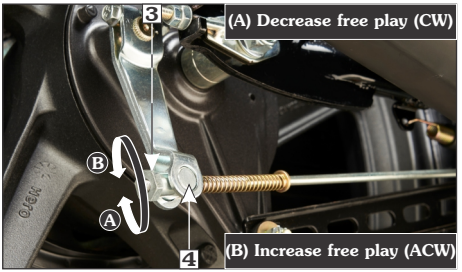
Adjustment

- Park the vehicle on its main stand.

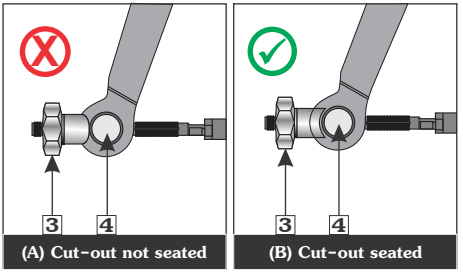


(1) Rear brake pedal (2) Free play:20-30 mm

- Measure the brake pedal free play (1) moves before the brake starts to take hold. Free play (2) should be 20-30 mm.
- If adjustment is necessary, turn the rear brake adjusting nut (3).
- Make sure that the cut-out on the adjusting nut is seated on the brake joint pin (4) after the final adjustment has been made.



(3) Adjusting nut (4) Brake joint pin



(3) Adjusting nut (4) Brake joint pin

CW- Clockwise, ACW- Anticlockwise

- Apply the brake several times and check for free wheel rotation when released.

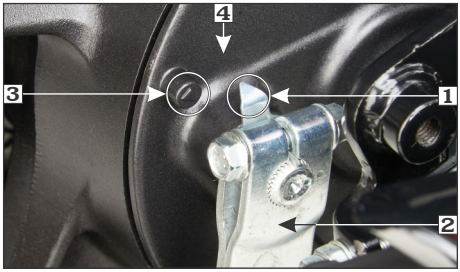
NOTE

If proper adjustment cannot be obtained by this method, visit your Authorised Distributor /Dealer.

(e) Brake wear indicators

When the brake is applied, an arrow (1), fixed to the brake arm (2), moves towards a reference mark (3) on the brake panel (4). If the arrow aligns with the reference mark on full application of the brake, the brake shoes must be replaced.

Rear brake wear indication



(1) Arrow	**(2) Brake arm**
(3) Reference mark	**(4) Brake panel**

SUSPENSION

Front and rear suspension inspection

- Check the front forks by locking the front brake and pumping the front fork up and down vigorously. The suspension action should be smooth and there should be no oil leakage.

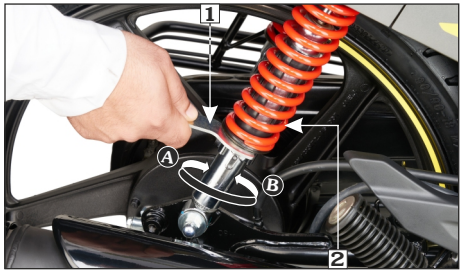


- Check the rear shock absorber by pushing hard downwards on rear grip while the vehicle is not parked on stand. The suspension action should be smooth and there should be no oil leakage.

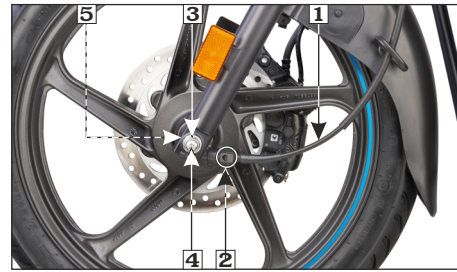
Rear shock absorber adjustment

Rear shock absorber adjustment can be made according to the load/road conditions.

- In direction A: Stiffer
- In direction B: Softer



(1) Pin spanner (2) Rear shock absorber
(A) Stiffer (B) Softer



(1) Speedometer cable (2) Tab (3) Axle nut
(4) Axle (5) Side collar

NOTE

Always adjust both the rear shock absorbers to the same position. To adjust the rear shock absorber (2), use the rear shock absorber adjustment tool (Pin spanner) (1) available in the tool kit.

WHEEL

(a) Front wheel

Removal

- Support the vehicle securely on the main stand and raise the front wheel off the ground.
- Remove the speedometer cable (1) by pressing the tab (2) & pulling cable out from the speedometer gearbox.
- Remove the front axle nut (3).
- Remove the axle (4) and the wheel.
- Remove the side collar (5) from the wheel.

! CAUTION

Do not operate front brake lever when the wheel is removed.

Installation

- Install the side collar (1) to the right side of the wheel hub and then install the speedometer drive gear (2) on the left side of the wheel hub.
- Position the front wheel between the fork legs by aligning the slot on the speedometer gear box with the lug on the fork leg and the disc between the brake pads to avoid damage to the pads. Insert the axle from the right side through the fork legs and wheel hub.
- Tighten the front axle nut to the specified torque.

TORQUE : 5.0-6.0 kgf-m



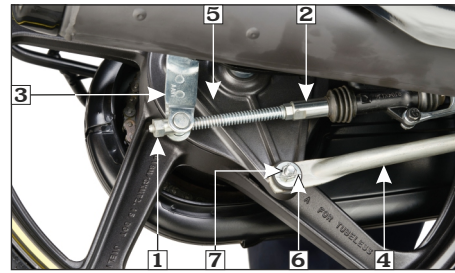
(1) Side collar (2) Speedometer drive gear

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

(b) Rear wheel

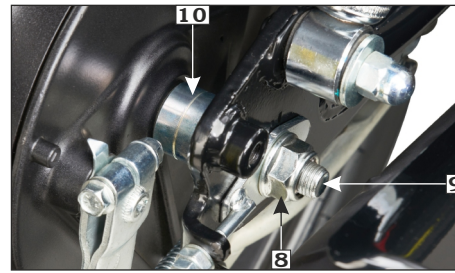
Removal

- Support the vehicle securely on the main stand and raise the rear wheel off the ground.
- Remove the rear brake adjusting nut (1) and disconnect the brake rod (2) from the brake arm (3) by pushing down the brake pedal. Disconnect the brake stopper arm (4) from the brake panel (5) by removing split pin (6) and lock nut (7).



(1) Rear brake adjusting nut (2) Brake rod
(3) Brake arm (4) Brake stopper arm
(5) Brake panel (6) Split pin (7) Lock nut

- Remove the rear axle nut (8).
- Pull out the axle (9) and collar (10).
- Remove the wheel.



(8) Axle nut (9) Axle (10) Collar

Installation

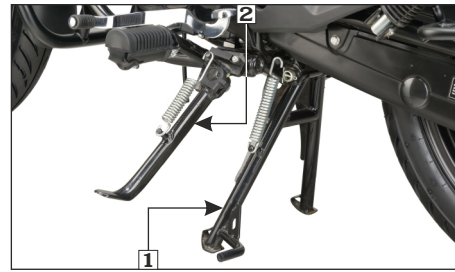
- Reverse the removal procedure
  Axle nut torque: 5.4 kgf-m
  Brake stopper arm nut torque: 1.8-2.5 kgf-m
- Adjust the rear brake free play **(page 50)** and drive chain slackness **(page 46)**.
- After installing the wheel, apply the brake several times and check for free wheel rotation when released.

! CAUTION

Always replace used split pins with new ones.

MAIN/SIDE STAND LUBRICATION

- Park the vehicle on the level surface.
- Check the main/side stand return spring for damage or loss of tension.
- Check the main stand (1)/side stand (2) for freedom of movement.
- Lubricate the side stand pivot if necessary.
- Make sure the side/main stand is not bent.



(1) Main stand **(2) Side stand**

TUBELESS TYRES

The tyres fitted on your vehicle are of TUBELESS type.

To safely operate your vehicle, your tyres must be of the proper type and size, in good condition with adequate tread, and correctly inflated for the load you are carrying.

The following pages give more detailed information on how and when to check the air pressure, how to inspect your tyres for damage, and what to do when your tyres need to be repaired or replaced.

Front	80/100-18 M/C 47P (Tubeless tyre)
Rear	90/90-18 M/C 51P (Tubeless tyre)

⚠ WARNING

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

Air pressure

Keeping your tyres properly inflated provides the best combination of handling, tread life and riding comfort.

Generally, under-inflated tyres wear unevenly, adversely affect handling and are more likely to fail from being overheated.

Under inflated tyres can also cause wheel damage in rocky terrain.

Over-inflated tyres make your vehicle ride harshly, are more prone to damage from road hazards, and wear unevenly.

We recommend that you visually check your tyres before every ride and use a gauge to measure air pressure at least once a month or any time you think the tyres pressure might be low. Tubeless tyres have some self-sealing ability if they are punctured. However, because leakage is often very slow, you should look closely for punctures whenever a tyre is not fully inflated.

Always check air pressure when your tyres are "cold"-when the vehicle has been parked for at least three hours. If you check air pressure when your tyres are "warm"-when the vehicle has been ridden for even a few km-the readings will be higher than if the tyres were "cold". This is normal, so do not let air out of the tyres to match the recommended cold air pressures given below. If you do, the tyres will be under-inflated.

The recommended "cold" tyre pressures are:

	Rider only	Rider and Pillion
Front	1.75 kgf/cm^2 (25 psi)	1.75 kgf/cm^2 (25 psi)
Rear	2.00 kgf/cm^2 (29 psi)	2.25 kgf/cm^2 (33 psi)



(1) Air pressure gauge

! CAUTION

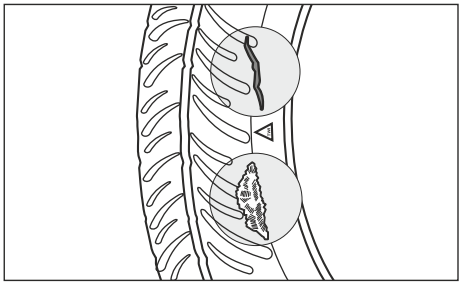
Over inflation/Under inflation will affect the performance.

Inspection

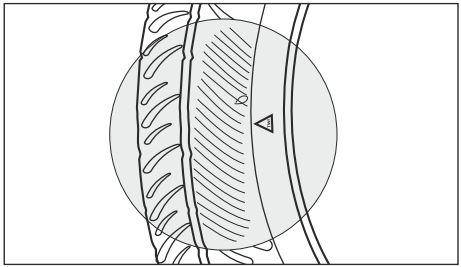
Whenever you check the tyre pressure, you should also examine tyre treads & side walls for wear, damage & foreign objects.

Look for:

- Bumps or bulges in the side of the tyre or the tread. Replace the tyre if you find any bumps or bulges.
- Cuts, splits or cracks in the tyre. Replace the tyre if you can see fabric or cord.



• Excessive tread wear.



• Carefully inspect the tyres for any damage, if the vehicle hits a pothole or hard object.

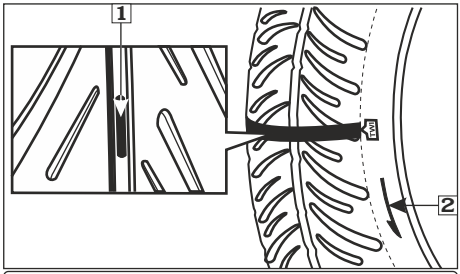
Tread wear

Replace tyres immediately when the tread wear indicator (1) appears on the tyre. The tread limits are:

MINIMUM TREAD DEPTH:

Front: 0.8 mm **Rear:** 0.8 mm

Check the tread wear indicator for tyre wear.



(1) Wear indicator **(2) Arrow mark**

Unidirectional tyres

Whenever the tyre is removed and put back in case of puncture, ensure the arrow mark (2) on the tyre is in the same direction as that of forward rotation of wheel.

Tyre repair

If a tyre is punctured or damaged, you should replace it, not repair it. As mentioned below, a tyre that is repaired either temporarily or permanently, will have lower speed and performance limits than a new tyre.

A temporarily repaired, such as an external tubeless tyre plug, may not be safe for normal speeds and riding conditions. If a temporary or emergency repair is made to a tyre, you should ride slowly cautiously to your Authorised Distributor/Dealer and have the tyre replaced. If possible you should not carry a pillion or load until a new tyre is installed.

Even if a tyre is professionally repaired with a permanent internal patch plug, it will not be as good as a new tyre.

You should not exceed 70 km/hour for the 1st 24 hours or 105 km/hour at any time thereafter. In addition you may not be able to safely carry as much load as with a new tyre. Therefore, we strongly recommend that you replace a damaged tyre.

If you decide to have a tyre replace be sure the wheel is balanced before you ride.

Tyre replacement

The tyres that were installed on your vehicle were designed to match the performance capabilities of your vehicle and provide the best combination of handling, braking, durability and comfort.

WARNING

- ***Operation with excessively worn tyres is hazardous and will adversely affect traction and handling.***
- ***Under-inflation may result in the tyre slipping on or tyre coming off the rim.***
- ***Always use the size and type of tyres recommended in this owner's manual.***

NOTE

For repair and replacement of tyre it is advised to visit your Authorised Distributor/Dealer.

Important safety reminders

- Do not install a tube inside a tubeless tyre on this vehicle. Excessive heat buildup can cause the tube to burst.
- Use only tubeless tyres on this vehicle. The rims are designed for tubeless tyres, and during hard acceleration or braking, a tube-type tyre could slip on the rim and cause the tyre to rapidly deflate.

NUTS, BOLTS & FASTENERS

- Tighten bolts and nuts at regular interval shown in the maintenance schedule.
- Check that all chassis nuts and bolts are tightened to correct torque values.
- Check that all cotter pins, safety clips, hose clamps and cable stays are in place.



BATTERY

Location

The battery is located behind the right side cover.

Specification

***MF Battery: 12V-3Ah/ETZ4**

It is not necessary to check the battery electrolyte level or add distilled water as the battery is a **Maintenance Free (sealed)** type. If your battery seems weak and electrolyte is leaking (causing hard starting or other electrical troubles), contact your Authorised Distributor/Dealer.

NOTE

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

This symbol on the battery means the old battery must be returned to your Authorised Distributor/Dealer as it must be treated as recyclable material.

- ***Battery is a Maintenance-Free (sealed) type and can be permanently damaged if the sealing strip is removed.***
- ***An improperly disposed battery can be harmful to the environment and human health. Always confirm local regulations for battery disposal.***

Battery charging

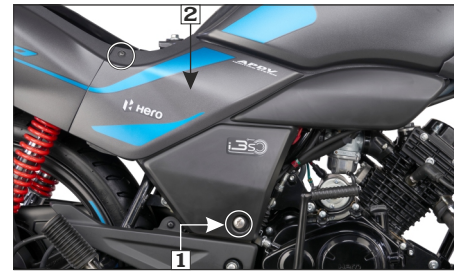
Always visit your Authorised Distributor/Dealer if you see any symptom of battery discharge as earliest as possible to get the battery charged. The battery has a tendency to discharge rapidly if optional electrical accessories are fitted on the vehicle.

Battery storage

- If in case your vehicle is not used for more than a month remove the battery, fully charge and store in a cool and dry place.
- If the battery is expected to be stored for more then two months, ensure to fully charge the battery once in a month.
- Always ensure the battery is fully charged before installation.
- Ensure the battery leads are properly connected to the battery terminals during installation.

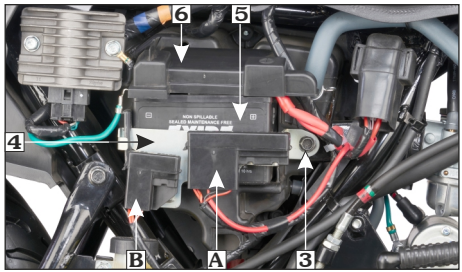
Battery removal

- Make sure the ignition switch is "OFF" position (⊗).
- Remove the seat **(pages 27)**.
- Remove the right side cover screws (1) and remove the side cover (2).



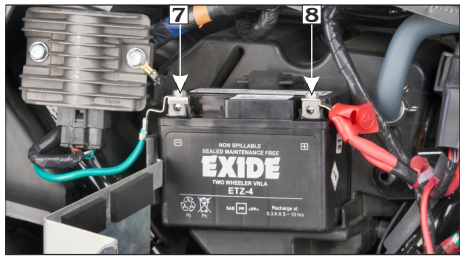
(1) Screws **(2) Side cover**

- Remove the fuse box A and fuse box B from the battery clamp (4).
- Remove the battery clamp bolt (3) and the battery clamp (4).
- Pull the battery (5) out slightly and remove the battery terminal case cover (6).



(3) Battery clamp bolt (4) Battery clamp
(5) Battery (6) Battery terminal case cover
(A) Fuse box A (B) Fuse box B

- Disconnect the negative (–)ve terminal lead (7) from the battery first, then disconnect the positive (+)ve terminal lead (8).
- Pullout the battery from the battery box.



(7) (–)ve terminal (8) (+)ve terminal

Battery installation

- Reinstall in the reverse order of removal. Be sure to connect the positive (+)ve terminal first, then the negative (–)ve terminal.
- Check all fasteners are secured properly.

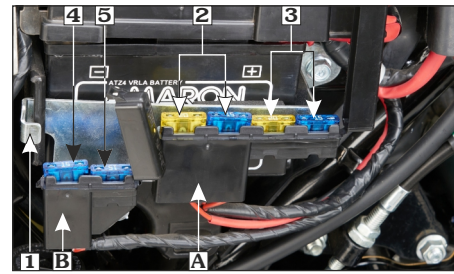
FUSE REPLACEMENT

Fuse Box (A): Location: Mounted on the battery clamp (1). The specified fuses are 20A and 15A (2) with spare fuses 20A and 15 A (3).

Fuse Box (B): Location: Mounted on the battery clamp (1). The specified fuse are 15A (4) with spare fuse 15A (5).

⚠ WARNING

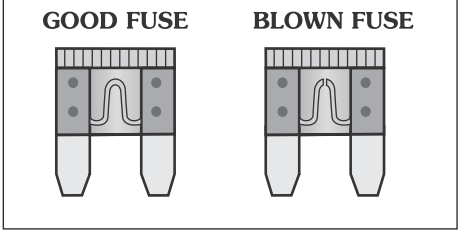
- ***Never use a fuse with a different rating from that specified. It may lead to serious damage to the electrical system or a fire due to short circuit.***
- ***Battery gives off explosive gases. Keep sparks, flames & cigarettes away.***



(1) Battery clamp (2) Blade fuse: 20A &15A
(3) Spare fuse: 20A & 15A
(4) Blade fuse: 15A (5) Spare fuse: 15A
(A) Fuse box A (B) Fuse box B

! CAUTION

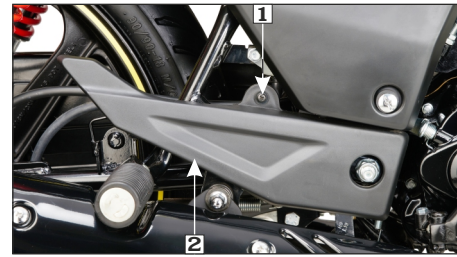
- ***Do not attempt to start or ride the vehicle without a charged battery, it can cause fusing of the bulbs and permanent damage to certain electrical components.***
- ***Turn the ignition switch "OFF" before checking or replacing the fuse to prevent accidental short-circuiting.***



STOP LAMP SWITCH

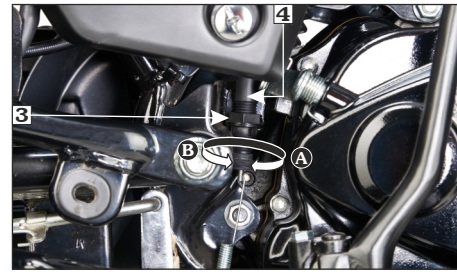
The stop lamp switch must be adjusted so that stop lamp will glow when rear brake is applied. Rear brake free play **(page 50)** should be adjusted before performing stop lamp switch adjustment. The procedure for adjusting stop lamp switch is as follows:

- Turn the ignition switch to the "ON" (○) position.
- Remove the right pillion step cover screw (1) and right pillion step cover (2).



(1) Screw **(2) Right pillion step cover**

- Turn the adjusting nut (3) to position stop lamp switch (4) at a point where the stop lamp will glow just before the brake pedal is depressed to the limit of its free play. Turn the adjusting nut in direction (A) to advance switch timing or in direction (B) to retard switch timing.

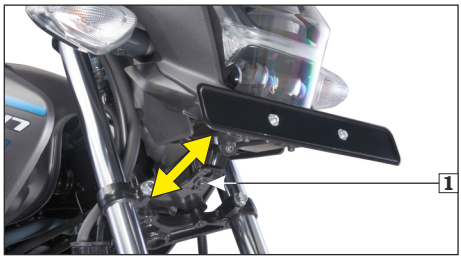


(3) Adjusting nut **(4) Stop lamp switch**
(A) Advance **(B) Retard**

HEADLAMP FOCUS ADJUSTMENT

Headlamp is factory preset. However in case of adjustment required, please follow the steps as given below:

- Headlamp adjustment is done by the headlamp adjusting bolt (1) located below headlamp.
- Park the vehicle on level ground.
- Turn the ignition switch to "ON" position (ʘ) and start the engine.



(1) Headlamp adjusting bolt

- Adjust the headlamp beam vertically by loosening the bolt & move the headlamp unit forward & backward for correct focus adjustment.

⚠ WARNING

An improperly adjust headlamp may blind oncoming rider/driver or it may fail to light the road for a safe distance.

CATALYTIC CONVERTER

This vehicle is equipped with a catalytic converter in the muffler to meet the emission norms. This catalytic converter contains noble metals that serve as catalyst, promoting chemical reactions to convert CO and HC in the exhaust to CO_2 and H_2O (water vapour).

A defective catalytic converter contributes to air pollution and can impair your engine's performance.



(1) Catalytic converter

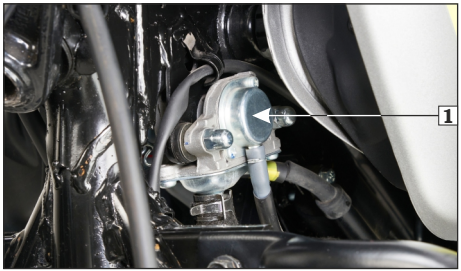
Follow these guidelines to protect your vehicle's catalytic converter.

- Always use unleaded petrol. Even a small amount of leaded petrol can contaminate the catalyst metals, making the catalytic converter ineffective.
- Keep the engine tuned up.

AIR SUCTION VALVE (ASV) (SECONDARY AIR INJECTION SYSTEM)

Further to meet emission standards this vehicle is provided with an air suction valve.

Air suction valve (1) supplies fresh air from the air filter to the exhaust manifold to convert carbon monoxide to carbon dioxide. This reduces the CO% in the vehicle's exhaust.



(1) Air suction valve (ASV)

EVAPORATIVE EMISSION CONTROL SYSTEM

This vehicle is equipped with an evaporative emission control system to meet emission standards. During warm weather, the petrol vapours which contain HC evaporates easily into the atmosphere from the fuel tank, if the fuel system is unsealed or open. The evaporative emission control system is used to prevent petrol vapours from escaping into the atmosphere from fuel tank. The canister (1) collects the fuel vapour from the fuel tank and then the fuel vapour is drawn into the engine for re-burning to avoid pollution caused by the fuel vapour diffused into the air.



(1) Canister

POLISHING OF VEHICLE

After washing your vehicle, wax all painted surfaces (except matte painted surfaces) using a commercially available polish/quality liquid or paste wax to finish the job. Use only a non abrasive polish or wax made specifically for automobiles. Apply the polish or wax according to the instructions on the container.

NOTE

Polishing or waxing is not applicable for models having matte paint.

1. STARTING TROUBLE – ENGINE DOES NOT START

A. Fuel System

Check fuel valve position → "OFF" → Turn to "ON" (⊟) position

↓ "ON" position

Check fuel in fuel tank → No fuel → Refill

↓ Ok

Check fuel lines → Leakage/air lock → Rectify

↓ Ok

Consult Authorised Distributor/Dealer

B. Electric Starter Not Working

Check fuse → Fused → Replace fuse **(ref. Page 59)**

↓ Ok

Inspect battery → Weak → **Consult Authorised Distributor/Dealer**

↓ Ok

Check connections, ignition switch/starter switch → Loose → Secure connections

↓ Ok

Consult Authorised Distributor/Dealer

C. No Spark At Spark Plug

Check ignition switch → "OFF" → Turn ignition switch "ON" (⏼)

↓ Ok

Check spark plug for fouling/ Improper electrode gap → No spark → Replace spark plug/adjust Spark plug gap **(0.6–0.7 mm)**

↓ Ok

Check for poorly connected Or loose spark plug wire → Loose contact → Secure properly

↓ Ok

Consult Authorised Distributor/Dealer

2. ENGINE STARTS BUT STALLS

Check choke lever position → "ON" → Turn to "OFF" position

↓ "OFF" position

Check air cleaner element → Dirty → Replace

↓ Ok

Consult Authorised Distributor/Dealer

3. POOR PICK UP

- Spark plug loose in cylinder head → (Loose) → Tighten the spark plug
- Ok
- Check air cleaner element → (Clogged) → Replace
- Ok
- Check brake binding → (Improper Adjustment) → Readjust free play of rear brake lever/pedal
- Ok
- Check tyre inflation pressure → (Under inflated) → Correct tyre pressure
- Ok
- **Consult Authorised Distributor/Dealer**

4. ELECTRICAL SYSTEM

Feeble horn sound or no light

- Check fuse → (Fused) → Replace fuse
- Ok
- Inspect battery → (Weak) → **Consult Authorised Distributor/Dealer**
- Ok
- Check bulbs → (Fuse/wrong wattage) → Replace bulbs
- Ok
- Check connections → (Loose) → Secure connections
- Ok
- **Consult Authorised Distributor/Dealer**

5. i3s SYSTEM

- Check i3s switch → ("ON"/"OFF" position) → Turn i3s switch "ON"
- Ok
- Inspect fuse → (Fused) → Replace fuse
- Ok
- Inspect battery → (Weak/i3s indicator blinking) → **Consult Authorised Distributor/Dealer**
- Ok
- Check neutral indication → (Loose contact) → Secure connections/replace switch
- Ok
- **Consult Authorised Distributor/Dealer**

CUSTOMER'S COPY

HMCL Niloy Bangladesh Ltd.

DELIVERY CERTIFICATE

No.: IB14D

I certify having taken delivery of one HMCL Niloy Bangladesh Ltd. **Passion XPRO** Vehicle bearing the following particulars:-

Engine No. _____

VIN _____

Colour/Model _____ **Key No.** _____

Allotment No. _____ **Date of Sale** _____

Customer's Name _____

I have been explained by the dealer about correct and safe driving habits, warranty terms and conditions, service schedules and maintenance tips.

Customer's Copy



HMCL Niloy Bangladesh Ltd.

Alongwith the vehicle I have also received the following:-

1. Owner's Manual
2. 2 Nos. Keys
3. 1 Set of tools **(for details see below)**
4. Standard Accessories
5. Battery Make _____ Sr. No. _____
6. Tyre **Front** Make _____ Sr. No. _____
   Rear Make _____ Sr. No. _____

The vehicle has been delivered in factory fresh conditions to my satisfaction & I have understood all terms and conditions of warranty and shall abide by them.

Customer's Name _____

Customer's Address _____

Customer's Signature _____

Authorised Distributor/Dealer Name _____

Authorised Distributor/Dealer Address _____

Details of Tool kit

Tool Bag, +, - No. 2 driver, Grip, Box wrench P 16 X 14, Pin spanner

AUTHORISED DISTRIBUTOR/DEALER COPY



HMCL Niloy Bangladesh Ltd.

DELIVERY CERTIFICATE

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VIN _____

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HMCL Niloy Bangladesh Ltd.

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Authorised Distributor/Dealer Address _____

Details of Tool kit

Tool Bag, +, - No. 2 driver, Grip, Box wrench P 16 X 14, Pin spanner

GENUINE PARTS

WHAT ARE THE BENEFITS OF GENUINE SPARE PARTS ?

- Assures long life
- Ensures economy for a long time
- Safety of vehicle and rider
- Peace of mind
- Value for money
- Assured quality

CONSEQUENTIAL DAMAGES ON USING NON-GENUINE PARTS

Clutch plate	• Material used is inferior • Damages other parts of clutch like, clutch center and outer clutch • Affects fuel efficiency • Poor acceleration
Cam chain kit	• Poor performance • Reduced life
Gasket cylinder head	• Improper sealing • Engine knocking • Leads to leakage and smoky exhaust • Higher emission level

GENUINE PARTS

CONSEQUENTIAL DAMAGES ON USING NON-GENUINE PARTS

Element air cleaner	• Improper air filtration resulting in premature engine failure • Affects fuel efficiency • Poor engine performance
Spark plug	• Frequent stalling of engine • Higher emission level • Poor engine performance • Affects fuel efficiency
Brake pads/Shoes	• Poor braking efficiency • Rider safety-an issue • Discs/Drum wear out, resulting in subsequent repair cost
Chain sprocket kit	• Noisy operation • Failure of chain can cause fatal accident

HMCL Niloy Bangladesh Ltd.

JOBS APPLICABLE TO PERIODIC SERVICES

- Wash the vehicle, blow dry with air.
- Inspect fuel line at every service.
- Inspect throttle free play and operation at every service, adjust if necessary.
- Clean carburetor at first service then every 6000 km, adjust if necessary.
- Replace air cleaner element at every 15000 km.
- Inspect, clean spark plug at every service, adjust if necessary (replace at every 12000 km).
- Inspect the valve clearance at every service, adjust if necessary.
- Replace engine oil or top up as per the maintenance schedule.
- Clean engine oil strainer screen at first service then at every 6000 km.
- Clean engine oil centrifugal filter at first service then at every 6000 km.
- Inspect electric starter operation at every service.
- Inspect and lubricate the starter reduction gear shaft at every 6000 km.
- Inspect oil circulation at every service.
- Inspect, clean, lubricate and adjust the drive chain at every 2000 km.
- Inspect drive chain slider.
- Inspect battery voltage at every service and charge if required.
- Inspect brake shoe wear at every service, adjust if necessary.
- Clean and lubricate brake cam at second service, then at every 6000 km.
- Inspect brake pads, disc wear and brake fluid level at every service. Top-up if necessary. Replace brake fluid once in every two years or 30000 km. whichever is earlier.
- Inspect all lamps, horn and switches at every service, adjust if necessary.
- Inspect headlamp focus at every service, adjust if necessary.
- Inspect clutch free play at every service, adjust if necessary.
- Lubricate the side stand and main stand at every service.
- Inspect and clean the side stand switch at every service.
- Inspect whether i3s system is working properly at every service.
- Inspect all the fasteners and tighten to the specified torque (if required).
- Inspect wheels, wheel bearings and tyre pressure at every service.
- Inspect steering for smooth operation, adjust in every alternate service and lubricate at every 12000 km.
- Inspect front suspension at every service, replace oil once in every 2 year or 30000 km whichever is earlier.
- Inspect rear suspension mounting bushes play, replace if necessary.
- Inspect secondary air injection system at every 6000 km.
- Check idle CO emission along with idle rpm/idle CO adjustment (if required).
- Inspect the canister hoses for deterioration, damage or loose connections and canister for cracks or other damages.
- Polish entire vehicle.

SERVICE RECORD SHEET
To be Filled in by Supervisor

Free/Paid Service	Km. Range	Date	Km. Reading	Job Card No.	Engine Oil Top-up/ Replace	Authorised Distributor/Dealer (Sig. & Stamp)
I	500 - 750					
II	3000 - 3500					
III	6000 - 6500					
IV	9000 - 9500					
V	12000 - 12500					
VI	15000 - 15500					
VII	18000 - 18500					
VIII	21000 - 21500					
IX	24000 - 24500					
X	27000 - 27500					
XI	30000 - 30500					
XII	33000 - 33500					
XIII	36000 - 36500					
XIV	39000 - 39500					
XV	42000 - 42500					
XVI	45000 - 45500					
XVII	48000 - 48500					

NOTE

It is mandatory to avail all free and paid services as per the recommended schedule to be eligible for the warranty benefits. Please ensure that each paid service is availed within 90 days from the date of previous service or as per the recommended schedule, whichever is earlier.

SERVICE RECORD SHEET
To be Filled in by Supervisor

Free/Paid Service	Km. Range	Date	Km. Reading	Job Card No.	Engine Oil Top-up/ Replace	Authorised Distributor/Dealer (Sig. & Stamp)
XVIII	51000 - 51500					
XIX	54000 - 54500					
XX	57000 - 57500					
XXI	60000 - 60500					
XXII	63000 - 63500					
XXIII	66000 - 66500					
XXIV	69000 - 69500					
XXV	72000 - 72500					

REMARKS (IF ANY)

SERVICE ADVICE SHEET

Normal wear and tear components replacement advice

Date	Kms / Job Card No.	Advice	Authorised Distributor/Dealer (Sig. & Stamp)	Completion Dt. / Job Card No.



HMCL Niloy Bangladesh Ltd.

OWNERSHIP RECORD AND DATA

NAME_____

ADDRESS_____

MODEL _____ REGN. NO. _____

ENGINE NO._____ VIN_____

DATE OF PURCHASE _____ KM. READING _____

AUTHORISED DISTRIBUTOR/DEALER NAME _____

ADDRESS _____

_____

BATTERY MAKE_____ SERIAL NO. _____

AUTHORISED DISTRIBUTOR/DEALER
STAMP AND SIGNATURE