Thank you for selecting a HMCL Niloy Bangladesh Ltd. **THRILLER 160R PROGRAMMED FI.** 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 and strengthen the green supply chain. We are also using non asbestos brake shoes and engine gaskets which are environment friendly in nature.

This booklet is your guide to the basic operation and maintenance of your new HMCL Niloy Bangladesh Ltd. **THRILLER 160R PROGRAMMED FI.** 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 dealer(s) of the Distributor **("Dealer")** will be glad to provide you 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

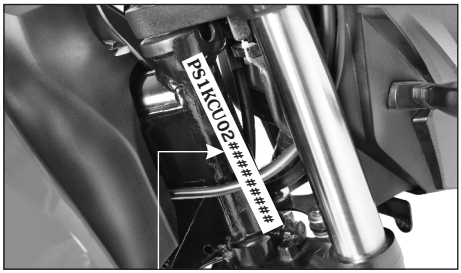
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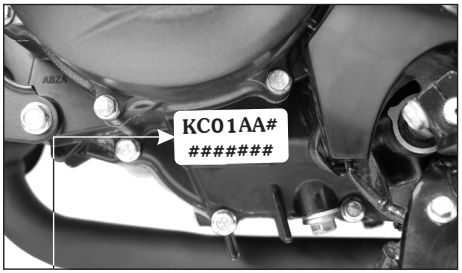
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VEHICLE IDENTIFICATION



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: PS1KCU02#########

PS1	KCU02	#	#	#	#	#####
Manufacturer code	Vehicle Description	Check Digit	Model Year	Plant Code	Month of Manufacturing	Production Serial Number

Engine No.: KC01AA########

KC01AA	#	#	#	#####
Engine Description	Year of Manufacturing	Assembly Plant	Month of Manufacturing	Serial Number

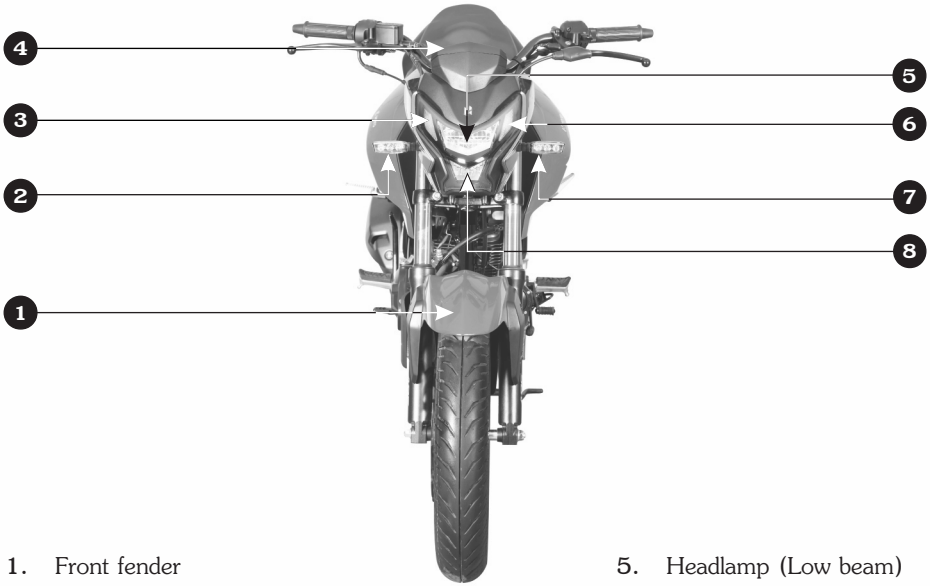
Model: THRILLER 160R PROGRAMMED FI

Variants	VIN	Engine
Electric start/Front disc with ABS/Rear disc/Cast wheel	KCU02	KC01AA
Electric start/Front disc with ABS/Rear drum/Cast wheel	KCU03	KC01AA

VIN and Engine No. may be required:

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

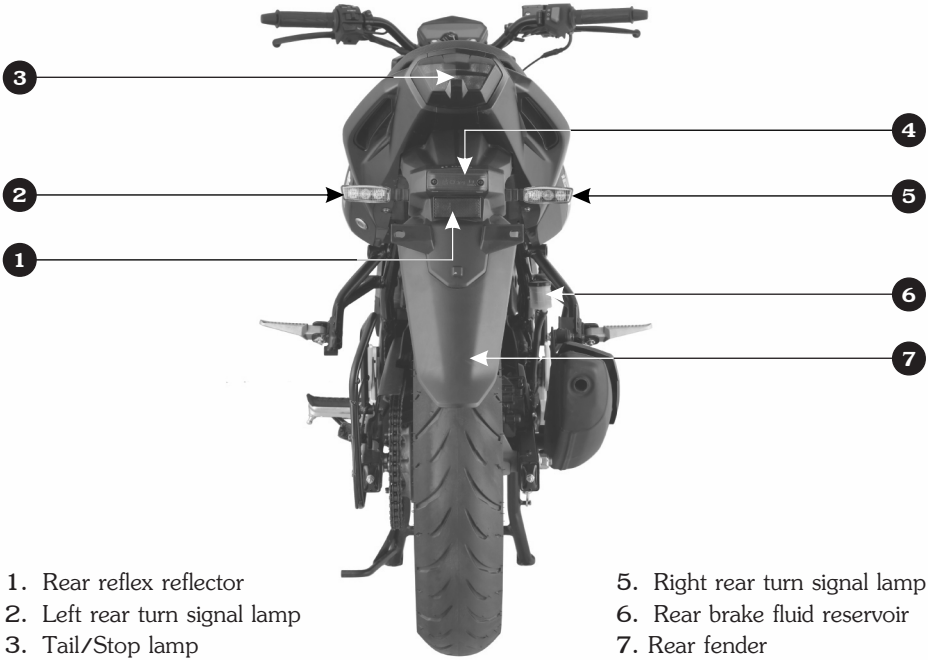
FRONT VIEW



1. Front fender
2. Front right turn signal lamp
3. Right position lamp
4. Front visor
5. Headlamp (Low beam)
6. Left position lamp
7. Front left turn signal lamp
8. Headlamp (High beam)

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

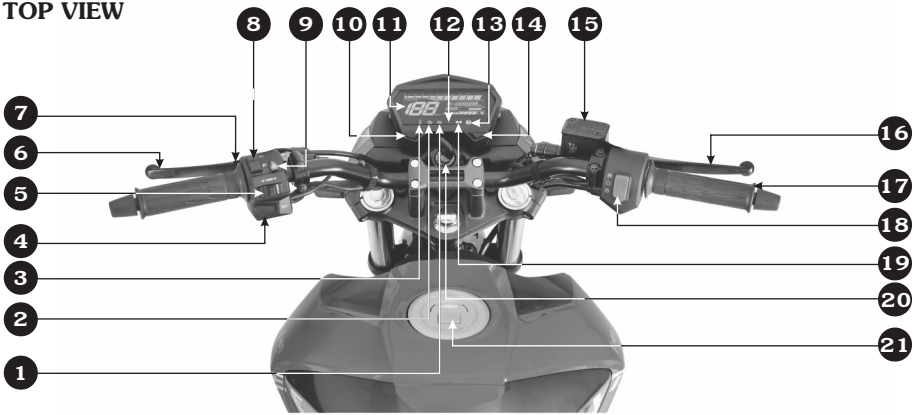
REAR VIEW



1. Rear reflex reflector
2. Left rear turn signal lamp
3. Tail/Stop lamp
4. Licence plate lamp
5. Right rear turn signal lamp
6. Rear brake fluid reservoir
7. Rear fender

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

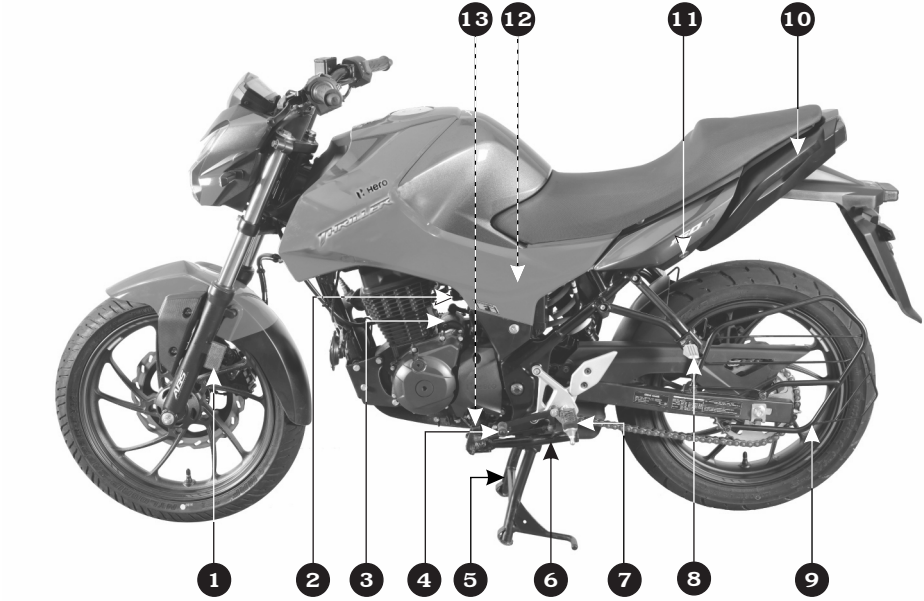
TOP VIEW



(1) Neutral indicator
(2) Programmed FI malfunction indicator lamp (MIL)
(3) Side stand indicator
(4) Horn switch
(5) Turn signal switch
(6) Clutch lever
(7) Passing switch
(8) Headlamp dimmer switch
(9) Hazard switch
(10) Set button
(11) LCD panel of meter console, refer instruments and indicators **(page 15)** for fuel gauge, speedometer and other features of console
(12) High beam indicator
(13) ABS indicator
(14) Mode button
(15) Front brake master cylinder/Reservoir
(16) Front brake lever
(17) Throttle grip
(18) Integrated start-kill switch
(19) Turn signal indicators
(20) Ignition switch with key
(21) Fuel tank cap

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

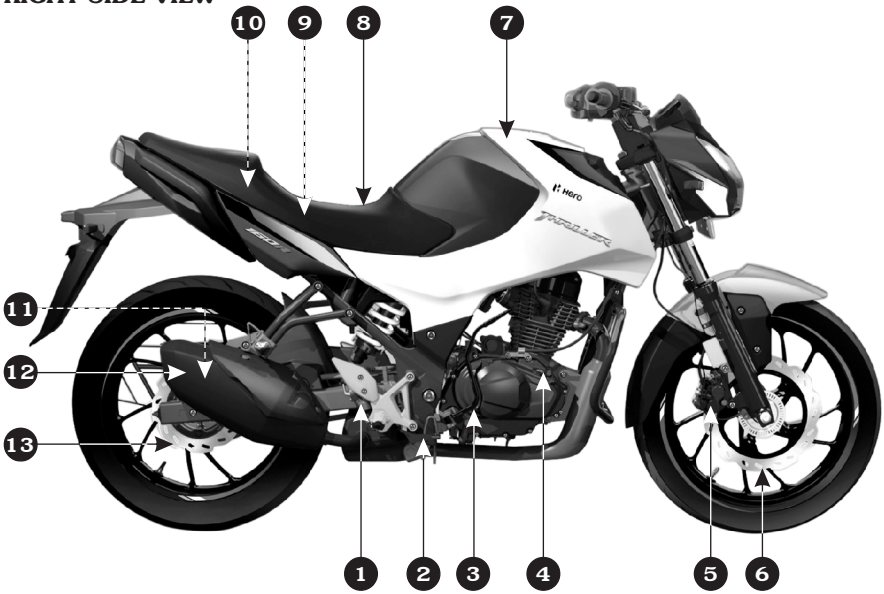
LEFT SIDE VIEW



(1) Side reflex reflector
(2) Throttle body/ECU (inside)
(3) Starter motor
(4) Gear shift pedal
(5) Main stand
(6) Side stand
(7) Rider foot rest
(8) Pillion foot rest
(9) Saree guard
(10) Rear grip
(11) Seat lock
(12) Battery compartment (inside)
(13) Side stand switch

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

RIGHT SIDE VIEW



(1) Rear master cylinder
(2) Brake pedal
(3) Kick starter pedal
(4) Oil level dipstick
(5) Front caliper assembly
(6) Front disc
(7) Fuel tank cover
(8) Seat
(9) Fuse box (inside)
(10) Document & Tool kit compartment
(11) Rear caliper assembly
(12) Exhaust muffler
(13) Rear disc

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

VEHICLE SPECIFICATION

ITEM		SPECIFICATIONS
Dimensions		
Overall length		2029 mm
Overall width		793 mm
Overall height		1052 mm
Wheelbase		1327 mm
Saddle height		795 mm
Ground clearance		165 mm
Weight		
Kerb weight	Disc-Disc	139.5 kg
	Disc-Drum	138.5 kg
Capacities		
Engine oil		1.3 litres at disassembly and 1.09 litres at draining
Fuel tank		12 litres (Minimum fuel to be maintained above one segment blinking of fuel level indicator)
Hydraulic brake fluid		DoT-3 or DoT-4
Engine		
Maximum power		11.2 kW @ 8500±500 rpm
Maximum torque		14 N-m @ 6500±500 rpm
Bore and stroke		57.3x63.3 mm
Compression ratio		9.8:1
Displacement		163.23 cc
Spark plug		NGK-CPR 8 EA 9, BOSCH UR5DC
Spark plug gap		0.8-0.9 mm
Valve clearance	Intake (cold)	0.12 mm
	Exhaust (cold)	0.13 mm
Idle speed		1400±100 rpm
Chassis and suspension		
Front suspension		Telescopic hydraulic
Rear suspension		Rectangular swingarm with mono shock
Caster angle		25.5°
Trail length		98 mm
Tyre size	Front	100/80 17 52 P (Tubeless tyre)
	Rear	130/70 R17 62 P (Radial tubeless tyre)

VEHICLE SPECIFICATION

ITEM		SPECIFICATIONS
Brakes	Front (Disc type)	Dia. 276 mm
	Rear (Disc type)	Dia. 220 mm
	Rear (Drum type)	Dia. 130 mm
Transmission		
Primary reduction		3.136 (69/22)
Final reduction		3.077 (40/13)
Gear box		5 Speed constant mesh
Gear ratio, 1st		3.077 (40/13)
2nd		1.789 (34/19)
3rd		1.304 (30/23)
4th		1.1 (22/20)
5th		0.958 (23/24)
Electricals		
Battery		*MF Battery-12V-4 Ah/ETZ5
Alternator		120 W @ 5000 rpm (Single phase full DC system)
Headlamp (High/Low)		LED
Position lamp		LED
Tail/Stop lamp		LED
Turn signal lamp		LED
Meter illumination		Module illuminated LCD
Neutral indicator		LED
Turn signal indicator (RH/LH)		LED
Hi beam indicator		LED
ABS indicator		LED
Service reminder indicator		Module illuminated LCD
Licence plate lamp		12V-5W
Side stand indicator		LED
Programmed-Fi Malfunction indicator lamp (MIL)		LED
Fuse	Starter magnetic switch	20A (Circuit fuse) & 20A (Spare fuse)
	Fuse box	15A, 10A, 10A & 10A (Main fuse)
		15A & 10A (Spare fuse)

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

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. See **(page 11)** for more details.

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 wear 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.

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 8).** 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 far 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 : _____

SAFE RIDING TIPS

Do's:

- Always conduct simple pre-ride inspection **(page 25).**
- 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).
- For stopping vehicle, use both brakes simultaneously, keeping 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.
- Take care of loose/hanging clothes while solo/pillion riding.
- Get your vehicle serviced regularly by the Authorised Distributor/Dealer.
- Before riding make sure that integrated start-kill switch is in "ON" (Ω) position.
- Keep checking the ABS indicator. At any point if indicator remains on, then ABS is not working **(page 22).**
- Keep checking speedometer. In case of ABS malfunction, speed display may go to zero.
- It is suggested to go through the do's & dont's of ABS **(page 29)** and practice your ABS vehicle initially in low-traffic condition unless you are thoroughly familiar with your vehicle and its controls.

Don'ts

- 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.
- Do not attempt to apply the front brake lever intermittently for ABS vehicle.
- Do not panic by mechanical noises or slight pedal pulses while applying the brake in vehicle. These conditions are normal and indicates that ABS is working.
- Don't apply hard braking on loose, wet or slippery road surfaces.
- Do not switch off the integrated start-kill switch (⊗) while riding the vehicle **(page 21).**
- Do not move the side stand down while riding, as engine will stop while vehicle is in gear **(page 23).**

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.

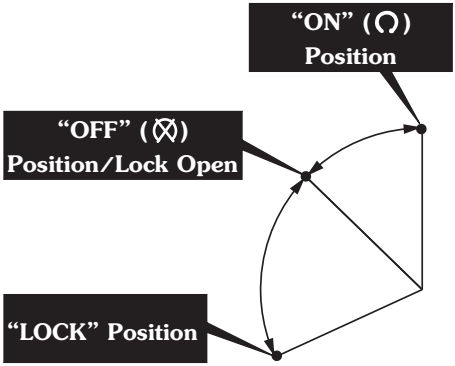
- **Genuine engine oil:** Hero 4T Plus SAE 10W 30 SL grade (JASO MA2) engine oil recommended by HMCL Niloy Bangladesh Ltd. and make sure you change it every 6000 km. (with top up every 3000 kilometres) to keep the engine fit and environment healthy.

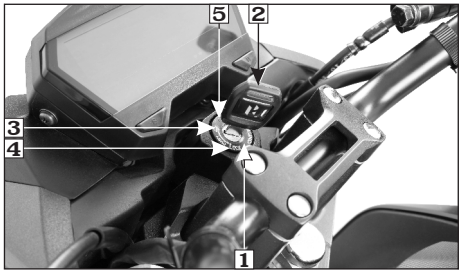
- **Noise pollution:** Noise beyond a certain decibel is pollution. Whether it is from horns or defective mufflers, excessive noise will cause headaches and discomfort.

- **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.

- **BS-VI grade fuel :** Always use BS-VI grade fuel to adhere BS-VI norms **(page 25)**.

PARTS FUNCTION
Ignition switch



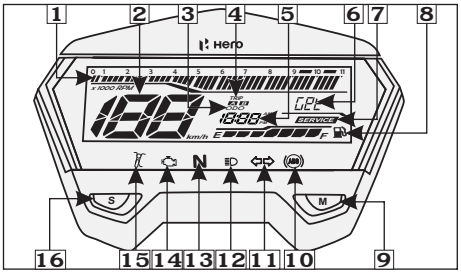


1. Ignition switch
2. Ignition key
3. "OFF" (⊗) position
4. Steering lock position
5. "ON" (⏻) position

Key position	Function	Key removal
"ON" (⏻)	The LCD panel illuminates & initial display of multi function digital segments are displayed. The tachometer segment and the fuel gauge segment will swing to the maximum scale once and back to its normal position. Scroll message and odometer will appear. The engine can be started. Turn signal lamp, horn, tail/stop lamp, fuel gauge, passing switch, position lamp, programmed FI malfunction indicator lamp (MIL) illuminates continuously, neutral indicator & hazard switch 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	Tachometer	Shows engine revolution per minute. The tachometer digital segments will swing to maximum scale on the meter console once the ignition switch is turned "ON".
2	Speedometer	Indicates riding speed.
3	Odometer	Shows accumulated distance travelled **(page 20).**
4	Tripmeter A & B	Shows the distance travelled during a trip after setting to zero **(page 18).**
5	Digital clock	Indicates hours & minutes **(page 17).**
6	Scroll display	Displays a scrolling "GET SET GO" message for few seconds when the ignition switch is turned "ON" **(page 18)**.
7	Service reminder indicator	Display when the next service is due **(page 19).**
8	Fuel gauge	Indicates approximate fuel quantity in the form of digital segments. The fuel gauge segments will display its maximum scale on the fuel gauge LCD panel once when the ignition switch it turned "ON" **(page 19)**.

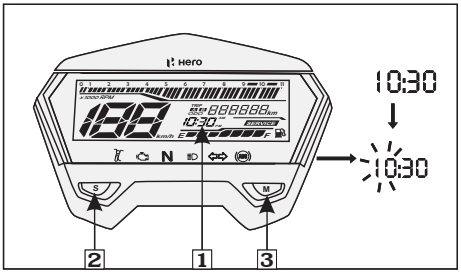
Sl. No.	Description	Function
9	Mode button	Switches display between odometer, tripmeter-A & B.
10	Anti-lock braking system (ABS) indicator	This indicator normally comes on for approx 1.8 seconds when the ignition switch is turned "ON" (Ω) & then keeps blinking until the vehicle attains speed of 5 km/h. If there is a problem with the anti-lock brake system, ABS indicator turns on **(page 22).**
11	Turn signal indicators	Flashes when turn signal switch is operated.
12	High beam indicator	Light glows when headlamp is in high beam.
13	Neutral indicator	Light glows when vehicle is in neutral position.
14	Programmed-FI malfunction indicator lamp (MIL)	When the ignition switch is turned "ON" the programmed FI malfunction indicator lamp (MIL) glows continuously and then should go "OFF" once the engine is started. It indicates that programmed FI system is OK. If it glows continuously there is an abnormality in the programmed FI system, it is recommended to reduce the speed and drive to the Authorised Distributor/Dealer for check-up.
15	Side stand indicator	Light glows when the vehicle is parked on the side stand.
16	Set button	To adjust clock, date & tripmeter. When long pressed resets tripmeter to zero.

LCD PANEL

(a) Digital clock

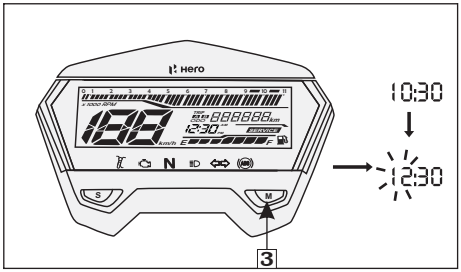
Digital clock (1) shows hour and minute. To adjust the time, proceed as follows :

- Turn the ignition switch "ON" (Ω).
- Press and hold set button (2) and mode button (3) simultaneously for more than 2 seconds. The clock will be set in the adjust mode with the hour's digit display blinking.



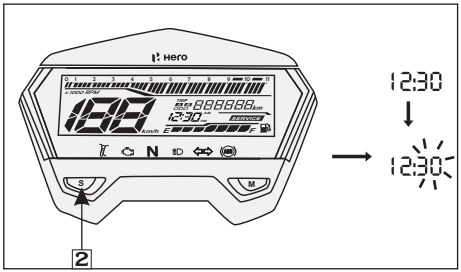
(1) Digital clock (2) Set button
(3) Mode button

- To set the hour, press mode button (3) until the desired hour is displayed.
  - The time is advanced by 1 hour each time the button is pressed.
  - The time advances fast when the button is pressed and held.
  - "AM" will change to "PM" after 12.



(3) Mode button

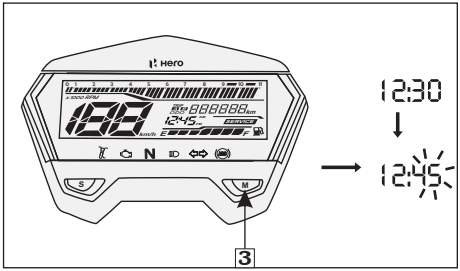
- Press the set button (2). The minutes display starts blinking.



(2) Set button

- To set the minute press mode button (3) until the desired minute is displayed. The minute display will return to "00" when "60" is reached without affecting the hour display.
  - The time advances by 1 minute, each time the button is pressed.

- The time advances fast when the button is pressed and held.



(3) Set button

- To end the adjustment press set button (2). The display will stop flashing automatically and it will return to its pervious value if the button is not pressed for 30 seconds or more.

NOTE

The clock will reset "AM: 1:00" if the battery is disconnected.

(b) Odometer/Tripmeter

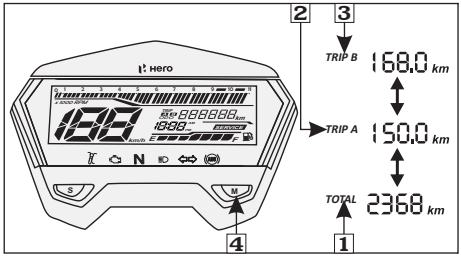
The odometer (1) shows accumulated distance travelled.

The tripmeter shows distance travelled since trip meter was reset last time. There are two tripmeters, tripmeter-A (2) and tripmeter-B (3).

Push the mode button (4) to select odometer, tripmeter-A or tripmeter-B. Tripmeter-A or tripmeter-B can be displayed upto "99999.9" km.

If the tripmeter exceeds "99999.9" km it will return to "0.0" km automatically. When tripmeter is selected long press the set button to reset tripmeter to zero.

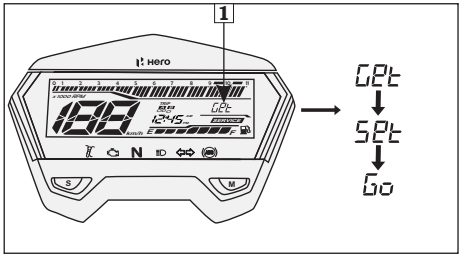
The odometer can be displayed from "0 to 999999" km.



(1) Odometer **(2) Tripmeter-A**
(3) Tripmeter-B **(4) Mode button**

(c) Scroll message

The scroll (1) displays a message "GET SET GO" for few seconds whenever the ignition switch is turned "ON".



(1) Scroll

(d) Service reminder indicator

The service reminder indicator (1) is to indicate the 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 only be reset at an Authorised Distributor/Dealer.



(1) Service reminder indicator

NOTE

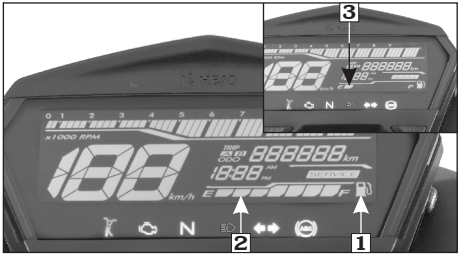
After getting the vehicle serviced, make sure that the service reminder indicator has been reset.

(e) 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 12.0 litres.

If only one segment (3) is displayed and blinks, this indicates the fuel quantity is low and the fuel tank should be refilled as soon as possible.



(1) Fuel gauge **(2) Segments**
(3) One segment

CAUTION

Please ensure the vehicle is not used continuously when the fuel level indicator reaches the one segment blinking. It will not only result in the vehicle running out of fuel, it may also cause serious damage to the fuel pump. Please ensure fuel is filled up as soon as the fuel level indicator reaches one segment blinking.

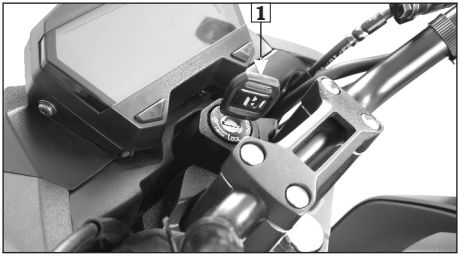
NOTE

To check the fuel level indication, the vehicle should be on levelled surface and in stationary condition.

FEATURES

Steering lock

Steering lock is with the ignition switch, turn the key (1) to "OFF" (⊗) position & turn the handle bar towards left or right & push the key downwards & turn towards "Lock" position. After locking take out the key.



(1) Ignition key

HANDLEBAR SWITCHES CONTROL

Left handlebar controls

1. Headlamp dimmer switch

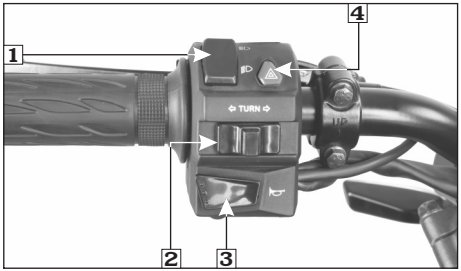
The headlamp operates only when the engine is running or when passing switch is operated.

Press the switch (1) upwards for high beam "≡D" downwards for low beam "≡D".

2. Turn signal lamp switch (⇦ ⇨)

Shift the turn signal switch (2) 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 the switch inside.



(1) Headlamp dimmer switch
(2) Turn signal switch (3) Horn switch
(4) Hazard switch

3. Horn switch (⊂⊃)

Press the switch to operate the horn (3).

4. Hazard switch (⚠)

Press the hazard switch (4) in ignition "ON" condition whenever your vehicle becomes a temporary hazard for other road users and it is necessary to park the vehicle due to breakdown or other unavoidable problems.

Upon pressing the hazard switch, all turn signal lamps start flashing simultaneously to warn other road users behind you of a hazard or obstruction ahead.

To turn "OFF" the indicator lamps in hazard switch "ON" condition, press the hazard switch again.

NOTE

Use hazard lights only when your vehicle becomes a temporary hazard for other road users.

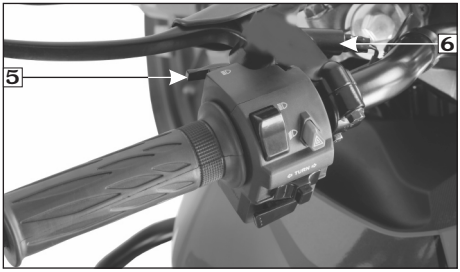
5. Passing switch

Gives an indication for passing ahead.

Press passing lamp switch (5) to operate the passing lamp.

6. Clutch switch

There is a clutch switch (6) 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.



(5) Passing switch (6) Clutch switch

Right handlebar controls

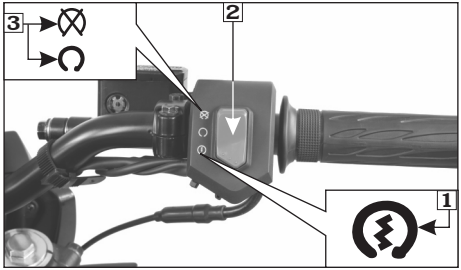
1. Integrated start-kill switch

(a) Electric starter operation ( )

Press the electric starter ( ) (1) of integrated start-kill switch (2) downwards to start the vehicle. Ensure the electric starter operation is done when the vehicle transmission is in neutral. If the vehicle is engaged in gear, press the clutch lever before electric starter ( ) operation. Release switch after the engine has started.

! CAUTION

Never hold electric starter ( ) of integrated start-kill switch continuously more than 5 seconds as continuous cranking of engine will discharge the battery.



(1) Electric starter
(2) Integrated start-kill switch
(3) Engine stop (ON/OFF)

(b) Engine stop switch operation

For engine stop operation (3) integrated start-kill switch (1) has two positions. In "ON" ( ) position, engine will operate and in "OFF" ( ) position, engine will not operate. The prime function of it is to stop the engine during emergency (Vehicle tip over, throttle cable stuck etc.). The switch should normally remain in "ON" ( ) position. During emergency, put the switch to "OFF" ( ) position.

⚠ WARNING

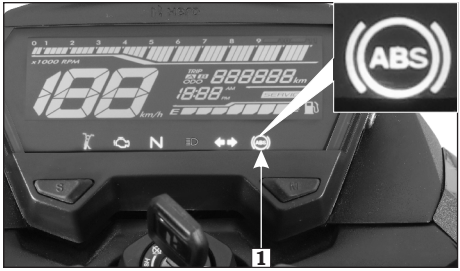
While riding the vehicle in normal condition, do not press the "Integrated start-kill switch to "OFF" (⊗) position to avoid any damage (Wheel locking leading to accident, part damage, battery discharge etc.).

ABS INDICATOR

The ABS indicator (1) on speedometer come "ON" for approx 1.8 seconds when the ignition switch is turned "ON" (⏻) & then keeps blinking until the vehicle attains a speed of 5 km/h.

When the system functions normally indicator goes "OFF" (Ⓐ) once vehicle speed exceeds 5 km/h.

At any point if ABS indicator remains "ON" then ABS is not working, but the brakes still work normally. Reduce your vehicle speed and visit your Authorised Distributor/Dealer.

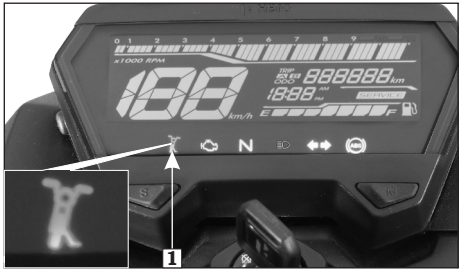


(1) ABS indicator

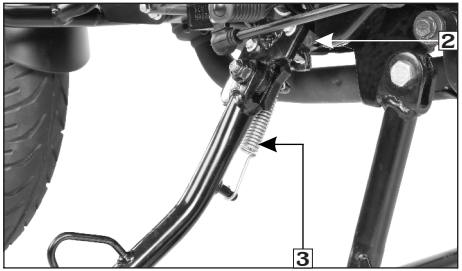
SIDE STAND INDICATOR/SWITCH

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

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



(1) Side stand indicator



(2) Side stand switch (3) Side stand spring

- Check the side stand for proper function and the spring (3) for damage or loss of tension and the side stand assembly for free movement.
- Check whether the side stand indicator (1) glows when the side stand is down.
- While the side stand is up, the side stand indicator (1) should not glow.
- If the side stand indicator (1) does not operate as described in above steps, please visit your Authorised Distributor/Dealer.

CAUTION

Ensure that adequate care should be taken while cleaning the side stand switch.

Your vehicle is equipped with "Side stand engine kill" feature for safety purpose.

This feature has following functions:

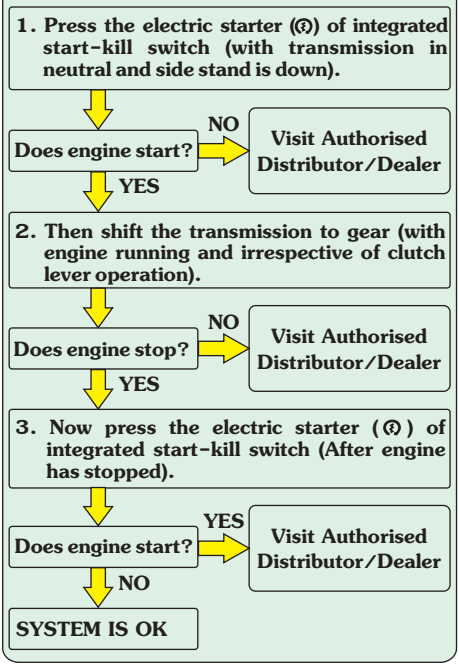
- It prevents starting the engine when transmission is in gear (irrespective of clutch lever operation) and side stand is down.
- It stops the running engine when transmission is in gear (irrespective of clutch lever operation) and side stand is moved down.

WARNING

"Side stand engine kill" system is not affected by clutch lever operation.

To inspect the functionality of this feature, park the vehicle on its main stand and check all the conditions described in the inspection flow diagram:

INSPECTION FLOW DIAGRAM



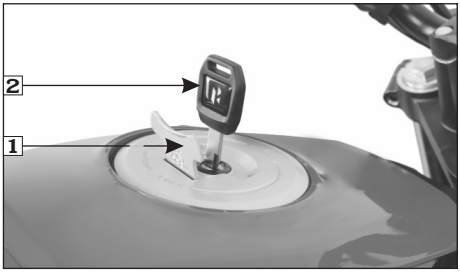
If your vehicle doesn't operate as described in above flow diagram, please visit your Authorised Distributor/Dealer.

WARNING

Regularly inspect the functionality of "Side stand engine kill" feature and in case of any malfunction visit Authorised Distributor/Dealer.

FUEL TANK

Fuel tank capacity is 12 litres (Minimum fuel to be maintained above one segment blinking of fuel level indicator).

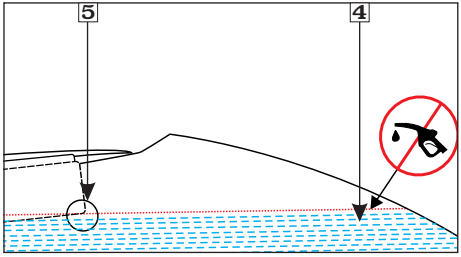


(1) Key hole cover **(2) Ignition key**

- To unlock fuel tank cap, lift the key hole cover (1), insert key (2) turn it clockwise and lift open the cap (3).
- Do not overfill the tank. There should be no fuel (4) in filler neck (5). Fill the tank with fuel as shown.
- To lock fuel tank cap, close the cap back on the opening and press gently. The key springs back to the normal position and cap gets locked.



(3) Fuel tank cap



(4) Fuel **(5) Filler neck**

- Remove the key and put back the keyhole cover.

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.

BS6 FUEL

BS6 fuel specification are as follows:

PARAMETER	VALUE
Vapour lock index: Summers Other Months	 1050 1100
Ethanol content % volume	10
Sulphur content, total, mg/kg	10
Oxygen content (% Concentration by mass)	3.7 (Regular) 4.5 (Premium)

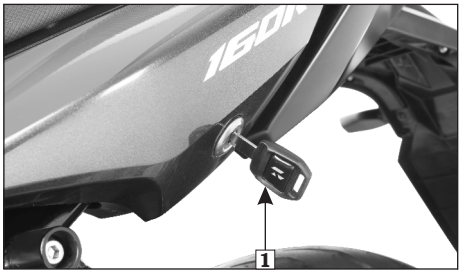
NOTE

- ***The octane number of gasoline is a measure of fuel's ability to resist auto-ignition, which can lead to engine knocking and engine damage.***
- ***Octane rating calculation:***
  RON(Research Octane Number)+
  MON (Motor Octane Number)/2
- ***Do not use less than 91 Octane fuel.***

SEAT LOCK

Location : On the left side of the rear cowl, above rear wheel.

Operation : Insert the ignition key (1) and turn in clockwise to unlock the seat. To install, engage the seat hooks with frame and press the seat until the lock clicks.



(1) Ignition 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 every 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 37).** Check for leaks.
- **Programmed FI malfunction indicator lamp (MIL)-**When the ignition switch is turned "ON" the programmed FI malfunction indicator lamp (MIL) glows continuously and then should go "OFF" once the engine is started.

- **Fuel level–**Ensure sufficient fuel is available in the fuel tank for your journey. Fuel level segment should be above one segment blinking **(page 19)**. Check for leaks.
- **Front brake–**Check for correct brake fluid level in master cylinder/reservoir **(page 47).**
- **ABS indicator–**Check ABS indicator for proper functioning of ABS **(page 22).**
- **Rear brake (Disc type)–**Check for correct brake fluid level in the reservoir **(page 48).**
- **Rear brake (Drum type)–**Check operation. Adjust free play, if necessary **(page 50)**.
- **Tyres–**Check condition and pressure **(page 55).**
- **Clutch–**Check for smooth operation. Adjust free play if necessary **(page 42).**
- **Drive chain–**Check condition and slackness **(page 44).** Lubricate if necessary.
- **Throttle–**Check for smooth opening and closing in all steering positions **(page 43)**.
- **Lamps & Horn–**Check that headlamp, position lamps, tail/stop lamp, turn signal lamps, indicators 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.
- **Integrated start-kill switch–**Check for proper functionality **(page 21)**.
- **Fitting & Fasteners–**Check & tighten if necessary.
- **Steering–**Check for smooth action and for easy maneuverability.
- **Side stand–**Check for proper functionality **(page 22).**

STARTING THE ENGINE

Always follow the proper starting procedure described below :

- To protect the catalytic converter in your vehicle's exhaust system, avoid extended idling and the use of leaded petrol.
- Your vehicle's exhaust contains poisonous carbon monoxide gas. High levels of carbon monoxide can collect rapidly in enclosed areas such as garage. Do not run the engine with the garage door closed.

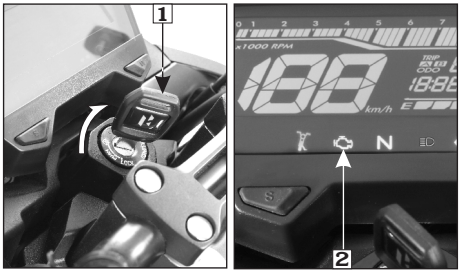
! CAUTION

- ***Never hold electric starter (⟳) of integrated start-kill switch continuously more than 5 seconds as continuous cranking of engine will discharge the battery.***
- ***This vehicle is equipped with a side stand engine kill feature (page 22).***

Preparation

Before starting insert the key and follow the below mentioned procedure :

- Turn the ignition switch (1) to "ON" (○) position.
- Confirm that the programmed FI malfunction indicator lamp (MIL) (2) glows continuously and then should go "OFF" once the engine is started.

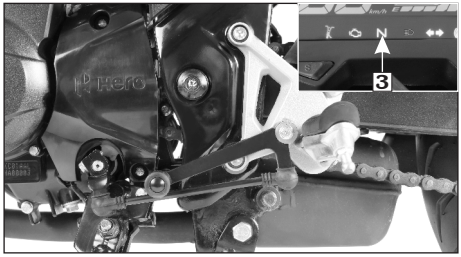


(1) Ignition switch
(2) Malfunction indicator lamp (MIL)

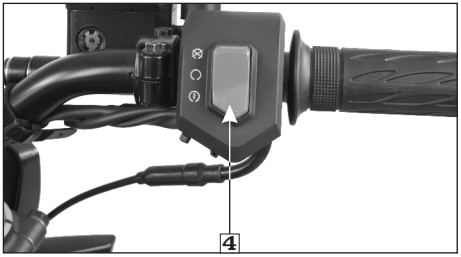
NOTE

If MIL remains "ON" even if the vehicle is started, there is an abnormality in the programmed FI system. It is recommended to reduce the speed and drive to the Authorised Distributor/Dealer for check-up.

- Find neutral position & check neutral (N) indicator (3) on instrument console with ignition "ON".



(3) Neutral indicator



(4) Integrated start-kill switch

- Make sure that the integrated start-kill switch (4) is at "ON" (🔑) position.
- **Electric start :** Press the electric starter (🏍) of integrated start-kill switch with fully closed throttle.
- **Kick start :** Depress the kick starter until resistance is felt. Then let the kick starter return to the top of its stroke. Kick from the top of the stroke through to the bottom with a rapid, continuous motion.

Starting procedure

At any ambient temperature, Press the electric starter (🏍) of integrated start-kill switch with the throttle completely closed.

NOTE

This vehicle has a fuel-injected engine with an idle air control valve (IACV).

Flooded engine

If the engine fails to start after repeated attempts, it may be flooded with excess fuel.

- If the engine does not start wait for 15–20 seconds, and try restarting the engine with throttle completely closed.
- If the engine starts with unstable idle, open the throttle slightly.

Ignition cut off

Your vehicle is designed to automatically stop the engine & fuel pump, if vehicle falls down.

(Bank angle sensor cuts off the ignition).

NOTE

If the vehicle has fallen down, before restarting the engine you must turn the ignition switch to "OFF" (⊗) position and then back to "ON" (○) position.

Running in

Help assure your vehicle's future reliability and performance by paying extra attention to how you ride during the first 500 km.

During this period, avoid full–throttle starts and rapid acceleration.

NOTE

- ***To start the engine if any gear is engaged, press the clutch lever and press the integrated start–kill switch.***
- ***Do not open the throttle during starting the vehicle.***

WARNING

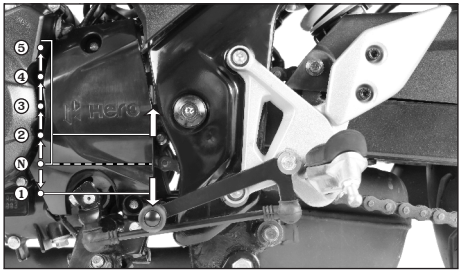
Never run the engine in a closed area, the exhaust contains poisonous gases.

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 downwards using the toe to shift into 1st 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 placing the toe on the underside of gear pedal and lift upwards.
- This sequence is repeated progressively to shift to 3rd, 4th and 5th gear.

CAUTION

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



BRAKING

Anti-lock braking system (ABS)

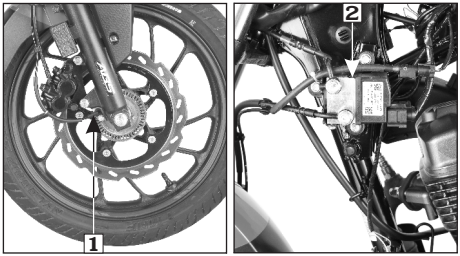
This model is equipped with Anti-lock braking system (ABS). ABS enhances active safety by helping to prevent the wheels from locking under braking.

ABS is designed to meet two essential requirements during every brake application:

- To help provide vehicle stability.
- To help maintain steering control and manoeuvrability–on road surfaces.

The ABS system is self-regulating and always active once vehicle speed exceeds 5 km/h.

- The ABS computer acts on the basis of the comparative speeds of the front wheel. The use of non-approved tyres can affect the speed of the wheels and supply incorrect information to the ABS computer.



(1) Wheel speed sensor
(2) Hydraulic electronic control unit (HECU)



(3) ABS indicator

The system has a wheel speed sensor (1), hydraulic electronic control unit (HECU) (2), and an ABS indicator lamp (3) on meter console.

Whenever you ride your vehicle, **Wheel speed sensor** monitors the speed of the wheel and sends the input to **Hydraulic Electronic control unit (HECU).** Then **HECU** monitors your bike and takes control when vehicle speed exceeds 5 km/h.

Now whenever you will apply front brake, ABS will come into picture and based on the input from wheel speed sensor, HECU will modulate the pressure at front caliper thus avoiding wheel to lock and in turn resulting safe stop of the vehicle.

Do's and Dont's

Do's

- Check your brake pads and be sure you have clean brake fluid. ABS systems can also fail due to worn brake pads or air or dirt in brake fluid.

- Use the recommended brake fluid.
- If brake gets wet, apply the brake while riding at low speed to help them dry.
- ABS should be serviced only at Authorised Distributor/Dealer.
- Read your owner's manual for additional riding instructions.
- Carefully remove the wheel during the puncture/tyre replacement to prevent the Sensing ring damage/bend.
- Use only the recommended make, type, size of tyre and maintain specified tyre pressure **(page 55).**
- Keep checking speedometer. In case of ABS malfunction, speed display may go to zero.
- Always maintain sufficient distance from the objects/vehicles ahead, for proper braking and to match riding speed.
- On certain surfaces, such as rough road or gravel road, brake lever may have hard/pulsating feel. Apply full braking on the lever even on the hard or pulsating feel of the lever to get the optimum performance.
- In case of ABS malfunction, the brake system will work as conventional (Non-ABS) brake. Rider is recommended not to apply hard brake to prevent wheel lock and visit Authorised Distributor/Dealer.

Don't's

- Don't panic by mechanical noises or slight lever pulses while applying the brake (whenever ABS actuates) in vehicle. These conditions are normal and indicates that ABS is working.
- Don't apply the hard braking in wet or rainy conditions and while taking a turn.
- Do not adjust the wheel speed sensor air gap yourself.
- Do not attempt to correct the encoder teeth by bending manually or by using any other mode. Do not use a different encoder teeth
- Do not insert any metallic part near wheel speed sensor.
- Don't try to service HECU or open to separate the parts.
- Don't use the non-genuine spares like pads, discs, tyres etc.

NOTE

- ***ABS may get activated without brake application while riding on uneven road surfaces (sharp drop or rise on the road level). This is normal functioning of ABS and won't be having any impact on performance.***
- ***ABS may not work if the battery is discharged.***
- ***ABS operation is also affected by road conditions, vehicle handling and brake operation. It is the rider's responsibility to ride at reasonable speed and to leave a margin of safety.***
- ***ABS consists of an electric motor, from which sound can be heard.***

PARKING

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

! CAUTION

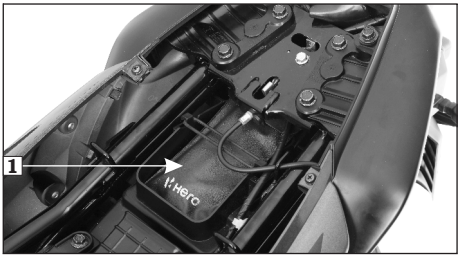
- ***Park the vehicle on firm level ground to prevent overturning.***
- ***While parking on side stand engage the first gear.***

TOOL KIT

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

Kit consists of following tool:

- Tool bag
- Driver No.2 + , –
- Grip
- Box wrench P16 x 14
- Handle pin spanner
- Pin spanner
- No.3 cross point screw driver



(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 meter console, 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 dealership 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. If your vehicle overturns or is involved in a crash, be sure your Authorised Distributor/Dealer inspects all major parts, even if you are able to make some repairs.

⚠ 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 25)** at each scheduled maintenance period.

I: INSPECT C: CLEAN R: REPLACE A: ADJUST L: LUBRICATE O: OIL CHANGE 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 if the oil level is at or near the lower level mark.

Note-4 : Visit Authorised Distributor/Dealer for inspection, cleaning, lubrication and adjustment of drive chain at every 1000 km.

Note-5 : Replace brake fluid once in every two 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 rear suspension mounting bushes play, replace rear shock absorber if necessary.

Note-10 : Check CO emission at idle.

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
	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	R	I, C, A	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	I, T	O	I, T	O	I, T
	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
	Oil Circulation		I	I	I	I	I	I	I	I	I	I	I
	Drive Chain	Note-4	I,C,L,A at every 1000 km						I,C,L,A at every 1000 km				
	Drive Chain Slider			I	I	I	I	I	I	I	I	I	I
	Battery Voltage Inspection with Midtronics tester		I	I	I	I	I	I	I	I	I	I	I
	Brake Shoe (Drum type)		I, A	I, A	I, A	I, A	I, A	I, A	I, A	I, A	I, A	I, A	I, A

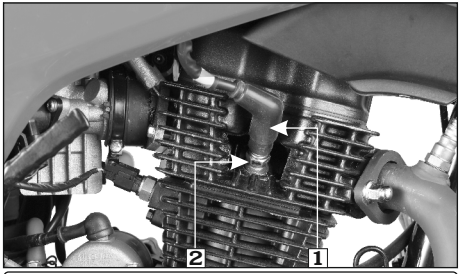
ITEMS		SERVICE	1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th	11th
		DAYS	1st 60	Next 90	Next 90	Next 90	Next 90	Next 90	Next 90	Next 90	Next 90	Next 90	Next 90
		KM Note-1	500-750	3000-3500	6000-6500	9000-9500	12000-12500	15000-15500	18000-18500	21000-21500	24000-24500	27000-27500	30000-30500
	Disc Wear/ Pad Wear (Disc type)		I	I	I	I	I	I	I	I	I	I	I
	Brake Fluid (Disc type)	Note-5	I	I	I	I	I	I	I	I	I	I	I
	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
	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	I, A	I, L, A	I	I, A
	Front Suspension/Oil	Note-8	I	I	I	I	I	I	I	I	I	I	I
	Rear Suspension	Note-9	I	I	I	I	I	I	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 plugs:
NGK-CPR 8 EA9, BOSCH UR5DC

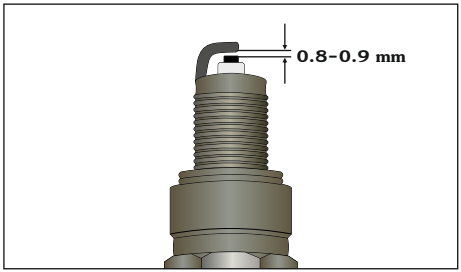
For most riding conditions this spark plug heat range number is satisfactory. However, if the vehicle is going to be operated for extended periods at high speeds or near maximum power in hot climates, the spark plug should be changed to a cold heat range number, consult Authorised Distributor/Dealer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

- Clean 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 **0.8-0.9 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 after the plug seats, with a spark plug box wrench to compress the washer. If you are reusing a plug, it should only take 1/8-1/4 turn after the plug seats.

! CAUTION

- ***Do not remove the spark plug and test for spark on the vehicle by cranking the engine as this could lead to fire or explosion***
- ***Install a dummy spark plug in the cylinder head and test for spark.***
- ***Never use a spark plug with improper heat range.***
- ***Always use resistor type spark plug.***

ENGINE OIL

Use only genuine engine oil.

BRAND: Hero 4T plus

GRADE: SAE 10W 30 SL Grade (JASO MA2).

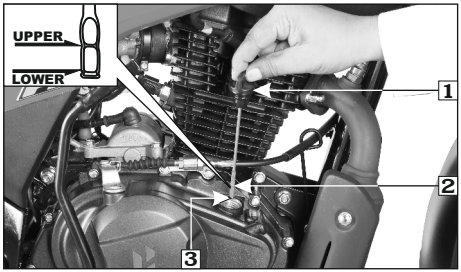
Manufactured by:

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

OIL CAPACITY : 1.3 litres

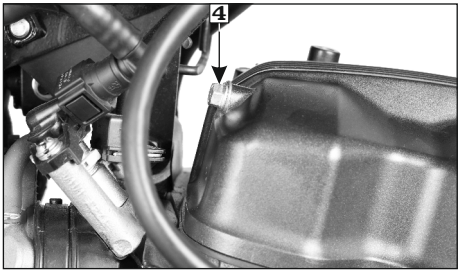
Engine oil level inspection/ Top up process

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.



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

- Do top up if oil level reaches towards the lower level mark or every 3000 km whichever is earlier.
- Park the vehicle on its main stand.
- Start the engine & let it idle for 3-5 minutes.
- Slightly loosen the engine oil check bolt (4) and check the engine oil entry into the cylinder head cover.



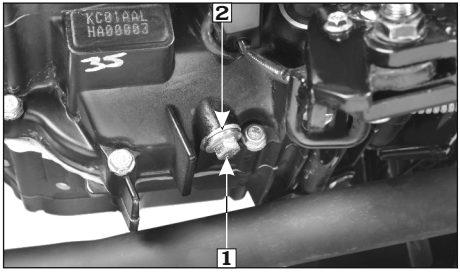
(4) Engine oil check bolt

- After checking the oil circulation, tighten the engine oil check bolt.
- 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 1.09 litres (approx.) during oil change (when right crankcase cover is not removed).

- Reinstall the oil level dipstick with new O-ring and check for oil leaks.

Engine oil replacement / Oil circulation inspection

- Start the engine, warm it up for several minutes and then turn it off.
- Wait a few minute until the oil settles down.
- To drain the oil, remove the oil level dipstick, drain bolt (1) and sealing washer (2).



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

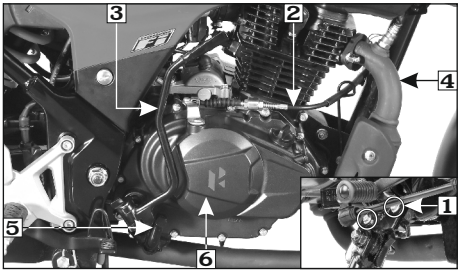
- After the oil has completely drained, reinstall the drain bolt (1) with a new sealing washer (2).
- Fill the crankcase through the oil filler hole with 1.09 liters (approximately) of recommended grade oil during oil change when right crankcase cover is not removed.
- Reinstall the oil level dipstick with a new O-ring.
- Start the engine and allow it to idle for few minutes.
- Stop the engine and let the engine oil settle down.
- 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.

! CAUTION

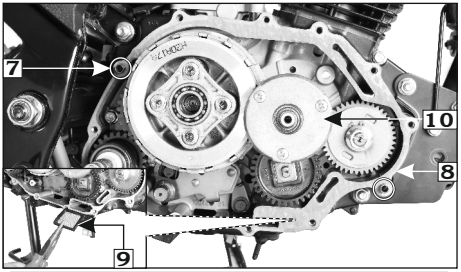
- ***Running the engine with insufficient oil can cause serious engine damage.***
- ***Running the engine with excessive oil can cause spark plug fouling & loss in performance.***
- ***Engine oil is a major factor affecting the performance and service life of the engine. Non-detergent, vegetable or castor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

OIL FILTER SCREEN & CENTRIFUGAL FILTER CLEANING

- Drain the engine oil throughly.
- Remove the side stand switch bolts (1).
- Disconnect the clutch cable (2), remove the kick start pedal (3) and exhaust muffler (4).
- Remove the kick stopper with side stand (5) and right crankcase cover (6).
- Remove the dowel pins (7) and gasket (8).
- Remove the oil filter screen (9) and wash it in clean non flammable or high flash point solvent (kerosene).

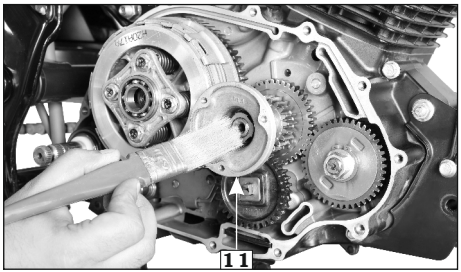


(1) Side stand switch bolts (2) Clutch cable
(3) Kick start pedal (4) Exhaust muffler
(5) Kick stopper with side stand
(6) Right crankcase cover



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

- Reinstall the filter screen with the tapered end facing in.
- Remove centrifugal filter cover (10) & clean the centrifugal filter (11) with non flammable or high flash point solvent (kerosene).



(11) Centrifugal filter

- Reinstall the centrifugal filter cover with new gasket.
- Install the new dowel pins & gasket, right crankcase cover and connect the clutch cable.
- Install kick stopper with side stand, kick start pedal and exhaust muffler.
- Install the side stand switch bolts.
- Fill the crankcase with clean engine oil as per specification **(page 36).**

NOTE

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

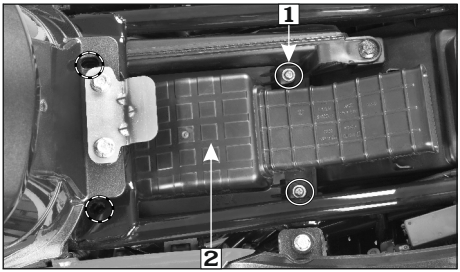
AIR CLEANER

Air cleaner element inspection

The air cleaner is wet paper pleated type filter which has enhances filtering efficiency. The air cleaner should be replaced at regular intervals **(page 33).** When riding in dusty

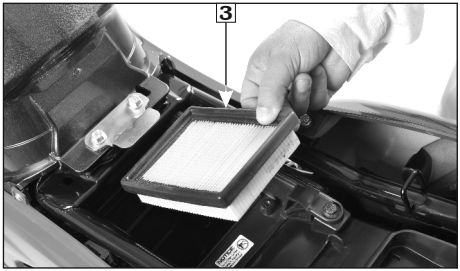
areas, more frequent replacement may be necessary.

- Remove the seat assembly **(page 25).**
- Remove the air cleaner cover screws (1) and the cover (2).



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

- Remove the air cleaner element (3).

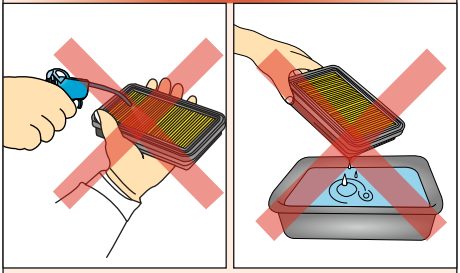


(3) Air cleaner element

NOTE

Align the tabs of air cleaner cover before installing screws & the cover.

CAUTION



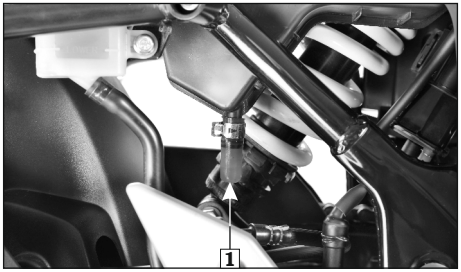
- ***Never wash or clean the wet, paper pleated type filter. Replace filter element once in every 15000 km.***
- ***Replace it earlier if it becomes very dirty, damage on surface or on the sealing area.***

- Clean the air cleaner housing using a shop towel.
- Install the new air cleaner element.
- Install the air cleaner element cover.
- Install the seat **(page 25)**.

Air cleaner drain tube cleaning

Remove the drain tube (1) and drain the deposit into a container.

Follow the above process more frequently when riding in rain or at full throttle.



(1) Drain tube

NOTE

Always ensure to reinstall the drain tube after draining the deposit.

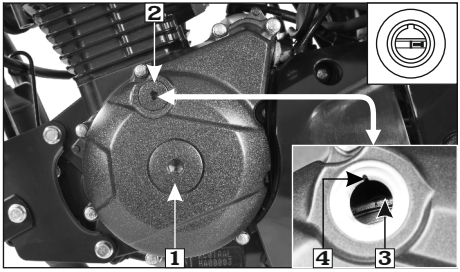
VALVE CLEARANCE ADJUSTMENT

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 33).**

NOTE

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

- Remove the fuel tank cover **(page 59)**.
- Remove the crankshaft hole cap (1) and timing hole cap (2).
- Remove the cylinder head cover.



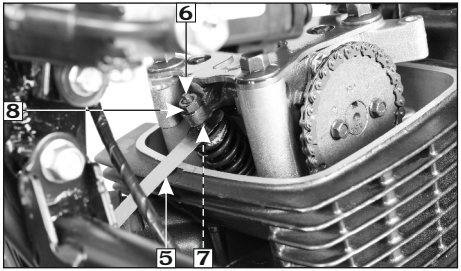
(1) Crankshaft hole cap (2) Timing hole cap
(3) 'T' mark (4) Index mark

- Rotate the flywheel anticlockwise until the "T" mark (3) on the flywheel coincides with the index mark (4) on the left crankcase cover. In this position the piston will either be on the compression or exhaust stroke.

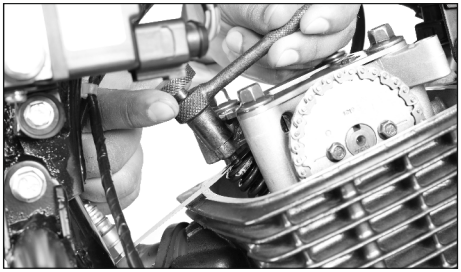
The adjustment must be made when the piston is at top dead center and both the inlet and exhaust valves are closed.

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 flywheel 360° anticlockwise and realign the "T" mark with the index mark.

- Check the clearance by inserting the feeler gauge (5) between the adjusting screw (6) and valve stem (7).



(5) Feeler gauge (6) Adjusting screw
(7) Valve stem (8) Lock nut



Standard clearance (cold condition)
Intake: 0.12 mm
Exhaust: 0.13 mm

- If adjustment is required, adjust by loosening the lock nut (8) and turning the adjusting screw until there is a slight drag on the feeler gauge.
- After tightening the lock nut, check the clearance again.
- Installation is in the reverse order of removal.

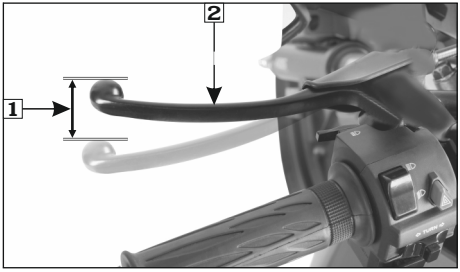
NOTE

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

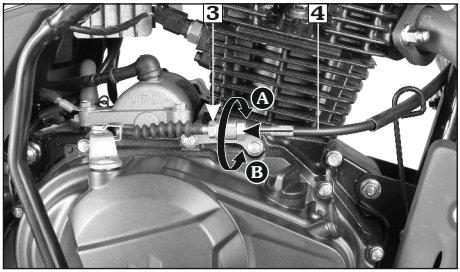
Adjustment

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 the vehicle does not creep. Gradually release the clutch lever and open the throttle. The vehicle should start smoothly and accelerate.

NOTE

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

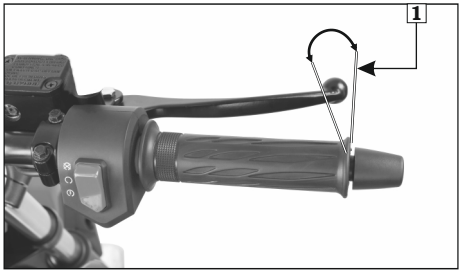
Other checks

- 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.

THROTTLE OPERATION

Cable inspection

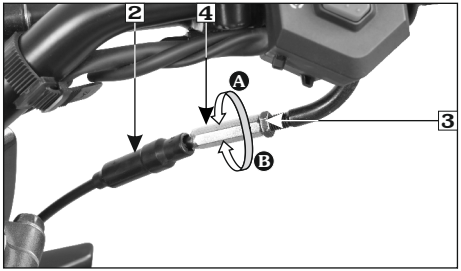
Check for smooth rotation of the throttle grip from the fully open to the fully closed position. Check at full left and full right steering positions. Inspect the condition of the throttle cable from the throttle grip down to the throttle body. If the cable is kinked, chafed or improperly routed, it 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

To adjust the free play, slide the boot (2), then loosen the lock nut (3). Turn the adjuster (4) to adjust free play. After adjustment, tighten the lock nut and slide the boot on the adjuster and locknut securely.



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

DRIVE CHAIN SLACKNESS

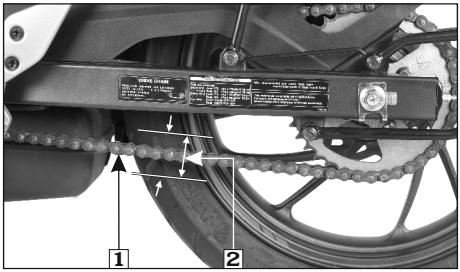
The service life of the drive chain depends upon proper lubrication and adjustment.

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 24).** 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.
- Drive chain slack (2) should be checked in the lower run midway between the sprockets. Move the drive chain up and down by hand and chain slack should be adjusted to 20-25 mm vertical movement by hand.
- Rotate the wheel and check the drive chain slack. Repeat this procedure several times. Drive chain slack should remain constant (20-25 mm). If the chain is slack only in certain sections, some links are kinked or binding. Binding and kinking can be eliminated by frequent lubrication.

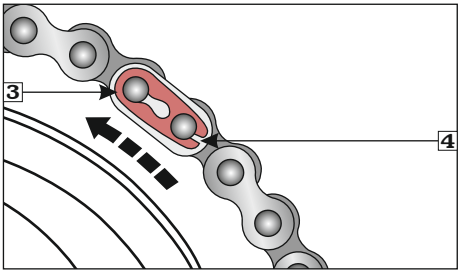


(1) Drive chain
(2) Drive chain slack: 20-25 mm

NOTE

Drive chain slack should be adjusted at your Authorised Distributor/Dealer as per the specification.

- Turn the chain to view chain lock plate (3). Ensure that the chain lock plate open end (4) is installed in the opposite direction of the chain rotation.
- Rotate the rear wheel slowly and inspect the drive chain and sprockets for any of the following conditions.



(3) Chain lock plate **(4) Open end**

Drive chain

- Damaged rollers
- Loose pins
- Dry or rusted links
- Kinked or binding links
- Excessive wear
- Improper adjustment
- Damaged or missing O-rings.

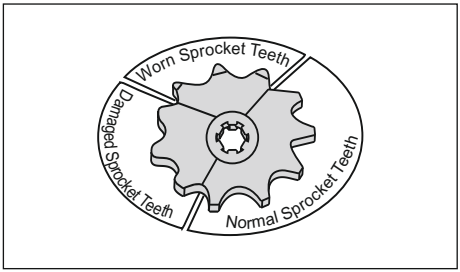
Sprockets

- Excessively worn teeth
- Broken or damaged teeth.

If the drive chain has damaged rollers, loose links or missing O-rings, replace it. If the chain is dry or rusted, it should be lubricated.

Lubricate the chain if the links are kinked or binding. If the problem is not solved after lubrication, replace the chain.

If the drive chain or sprockets are excessively worn or damaged, they should be replaced.



! CAUTION

Always replace the drive chain and sprockets as a set. Otherwise the new part will wear prematurely.

Adjustment

Drive chain slack should be checked and adjusted, if necessary at every 1000 km.

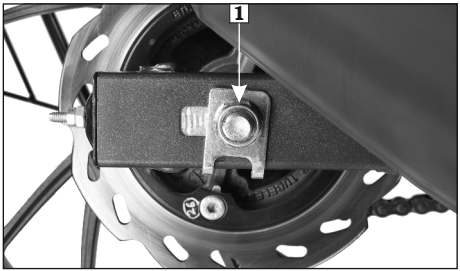
When operated at sustained high speeds or under conditions of frequent rapid acceleration, the chain may require more frequent adjustments.

If the drive chain requires adjustment, follow the procedures below:

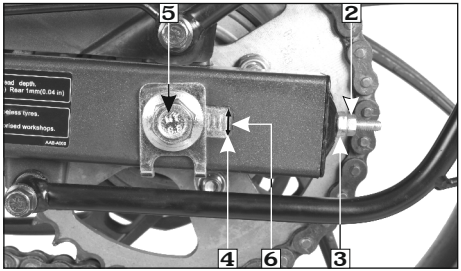
- Park the vehicle on its main stand with the transmission in neutral and the ignition switch in "OFF" position.
- Loosen the rear axle nut (1).
- Loosen the drive chain lock nut (2).
- Turn the adjusting nut (3) in an equal number of turns until the correct drive chain slack is obtained. Turn the adjusting nut clockwise to decrease the slack or

anticlockwise to increase the slack of the chain.

- Align the chain adjuster index mark (4) with the rear edge (5) of the adjusting slots on both sides of the swingarm equally.



(1) Rear axle nut



(2) Drive chain lock nut
(3) Drive chain adjusting nut (4) Index mark
(5) Axle (6) Rear edge of adjusting slot

- Tighten the rear axle nut.
  Torque: 6.8 kgf-m
- Check the drive chain slack again.
- If after adjustment of drive chain slack, axle (5) touches to the rear edge of adjustment slot (6). Chain kit has to be replaced.

WARNING

If a torque wrench is not used for installation, see your Authorised Distributor/Dealer as soon as possible to check for proper assembly.

Cleaning and Lubrication

Lubricate every 1000 km or sooner if the chain appears dry.

- Turn the engine off, park the vehicle on its main stand and shift the transmission into neutral. Open side stand to facilitate cleaning.
- Spray a commercially available chain cleaner for cleaning the drive chain over its entire length.

NOTE

Ensure that the chain cleaner and lubricant used is the one recommended for use on an O-ring chain, otherwise the O-rings may deteriorate, fail and lose their sealing properties.

- Rotate the rear wheel backwards to expose the next section of the drive chain and repeat second step until all of the drive chain is cleaned.
- Let the spray dry for about five minutes.
- To remove stubborn dirt, scrub the rollers and side plates with soft nylon brush.

- Apply SAE 90 grade oil on the hanger side of the entire length of the chain using an oil can.
- Wait for 7–10 minutes for penetration of lubricant inside the bush and roller wipe the excessive lubricant from the chain and nearby parts using a clean rag.

NOTE

Excessive lubricant if not wiped off, will aid in accumulation of dust, sand and dirt on the drive chain, increasing its wear and will also be sprayed on the vehicle as well due to chain movement.

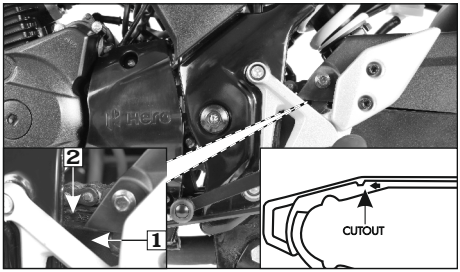
CAUTION

- ***Steam cleaning, high pressure washers and certain solvents can damage the drive chain O-rings.***
- ***While lubricating and cleaning hold the rear wheel with one hand to prevent the possibility of your finger being trapped between the chain and sprocket.***
- ***Clean and lubricate the chain, whenever possible, after riding the vehicle under rain or in terrain with excessive dust, mud or sand.***
- ***The drive chain is fitted with O-rings between the link plates. These O-rings retain grease inside the chain to improve its service life. However, special precautions must be taken when adjusting, lubricating, washing and replacing the chain.***
- ***If the chain is excessively dirty, it should be removed and cleaned before lubrication. For your own safety, we recommend that service be performed by an Authorised Distributor/Dealer.***

DRIVE CHAIN SLIDER INSPECTION

(Refer to "Maintenance schedule" on **page 32**).

Check the chain slider (1) for wear, The chain slider must be replaced if wear limit is reached. For replacement, see your Authorised Distributor/Dealer.



(1) Chain slider **(2) Wear limit**

BRAKES

Refer to the safety precautions on **(page 31).**

(a) Front brake

Master Cylinder/Reservoir (1)

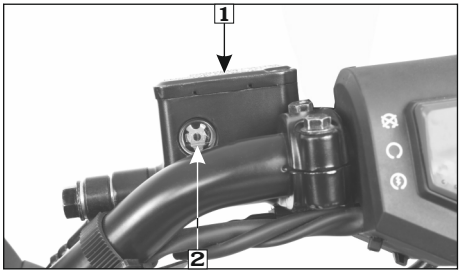
Location : Right handlebar.

Brake fluid recommended:

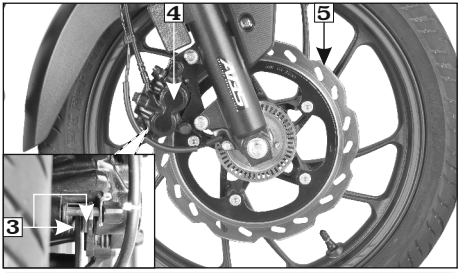
DoT3 or DoT-4.

Fluid level – Ensure that the brake fluid level does not fall below "LWR" (lower) mark (2) on 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 the leakages in the brake system and consult your Authorised Distributor/Dealer.



(1) Master cylinder (2) "Lower" mark



(3) Brake pad (4) Caliper (5) Disc

NOTE

- ***Clean the dirt and mud accumulation between the front brake caliper (3), brake pads (4) and the disc (5) by using a water jet.***

- ***Always contact your Authorised Distributor/ Dealer for refilling of master cylinder/ reservoir when necessary. Do not mix DoT 3 and DoT 4 brake fluid.***
- ***Always use recommended tyres (page 55) for better braking performance.***

(b) Rear brake (Disc type)

Refer to the safety precautions on **(page 32).**

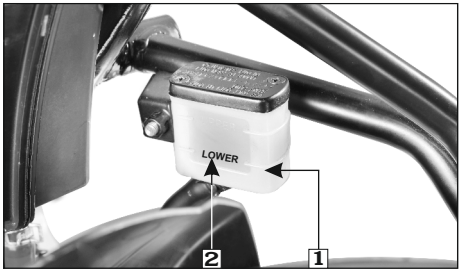
Reservoir (1)

Location : Near pillion footrest.

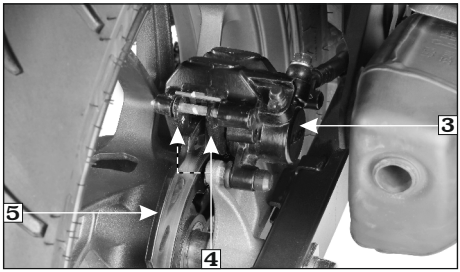
Brake fluid recommended:

DoT3 or DoT-4.

Fluid level – Ensure that the brake fluid level does not fall below "LOWER" 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) "Lower" mark



(3) Rear caliper (4) Brake pads (5) Disc

NOTE

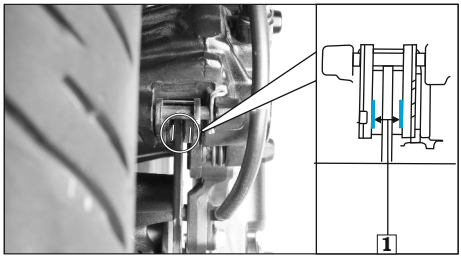
- ***Clean the dirt and mud accumulation between the rear brake caliper (3), brake pads (4) and the disc (5) by using a water jet.***
- ***Always contact your Authorised Distributor /Dealer for refilling of reservoir when necessary. Do not mix DoT 3 and DoT 4 brake fluid.***

(c) Brake pad wear

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

Front brake

- Check the brake pads for wear by examining the wear indicator groove (1) on each pad.
- If either pad is worn to the bottom of the grooves replace both pads as a set. Visit your Authorised Distributor/Dealer for this service.

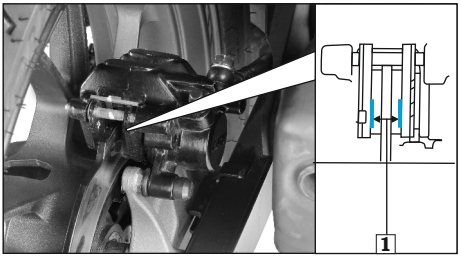


(1) Wear indicator groove

Rear brake (Disc type)

Check the wear indicator groove (1) in each pad.

If either pad is worn to the bottom of the groove, replace both as a set. Visit your Authorised Distributor/Dealer for this service.



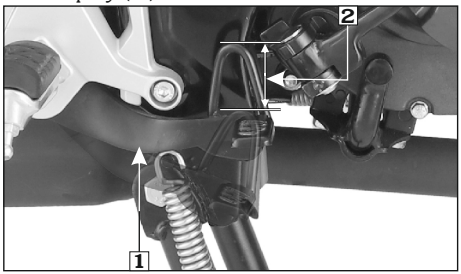
(1) Wear indicator groove

WARNING

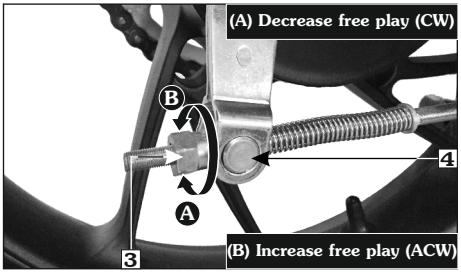
Always apply front and rear brakes simultaneously to avoid skidding of vehicle.

(d) Rear brake (Drum type)

- Park the vehicle on its main stand.
- Measure the distance brake pedal (1) moves before the brake starts to take hole. Free play (2) should be 20-30 mm.



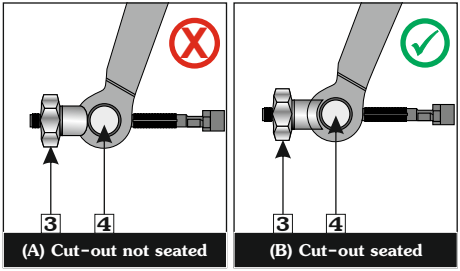
(1) Rear brake pedal
(2) Free play 20-30 mm



(3) Adjusting nut (4) Brake joint pin

CW- Clockwise ACW- Anticlockwise

- 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 arm pin (4) after the final adjustment has been made.
- Apply the brake several times and check for free wheel rotation when released.



(3) Adjusting nut (4) Brake arm pin

NOTE

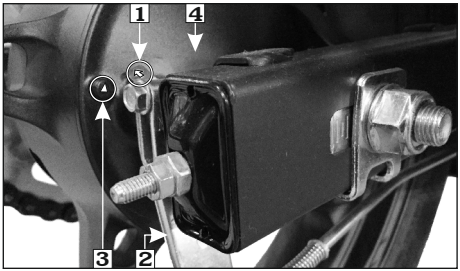
If proper adjustment cannot be obtained by this method, visit your Authorised Distributor /Dealer.

(e) Brake wear indicators (Drum type)

Rear brake wear indication

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.

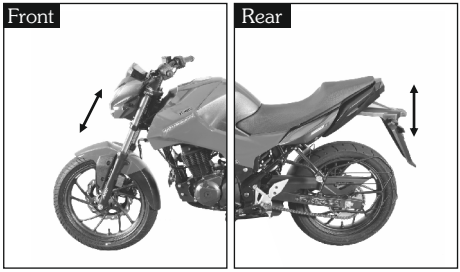


(1) Arrow **(2) Brake arm**
(3) Reference mark **(4) Brake panel**

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.



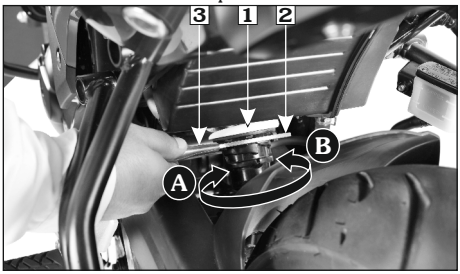
- Check the rear mono shock absorber by pushing hard downwards on rear grip while the vehicle is not parked on stand. The suspension action should be smooth and there should be no oil leakage.

Rear mono shock absorber adjustment

Rear shock absorber adjustment can be made in any position from 1st to 7th according to the load/road conditions or owner's requirement.

Recommend adjustment

- Solo rider : 3rd position
- Rider + Pillion: 7th position



(1) Rear mono shock absorber
(2) Pin spanner **(3) Pin spanner handle**
(A) Softer **(B) Stiffer**

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

NOTE

To adjust the rear mono shock absorber (1), use the rear shock absorber adjustment tool [Pin spanner (2) with handle (3)] available in the tool kit.

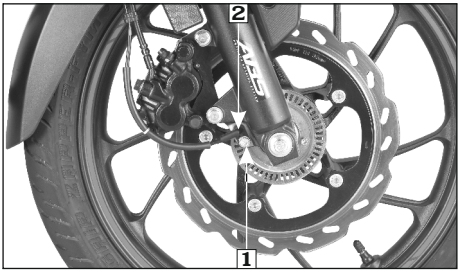
WHEEL

(a) Front wheel

Removal

Refer to the safety precautions on **(page 32).**

- Support the vehicle securely on the main stand and raise the front wheel off the ground.
- Remove the wheel speed sensor bolt (1) from right fork leg and disconnect the wheel speed sensor cable (2).



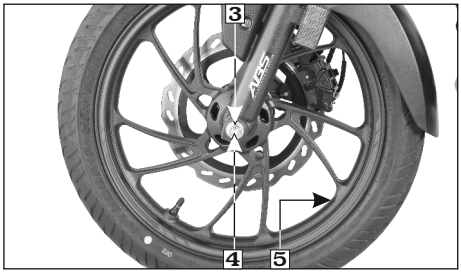
(1) Wheel speed sensor bolt
(2) Wheel speed sensor cable

- Remove the front axle nut (3), remove the axle (4) and wheel (5).

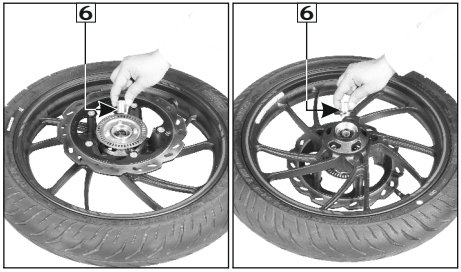
! CAUTION

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

- Remove the side collars (6) from both sides from the wheel.



(3) Axle nut (4) Axle (5) Wheel



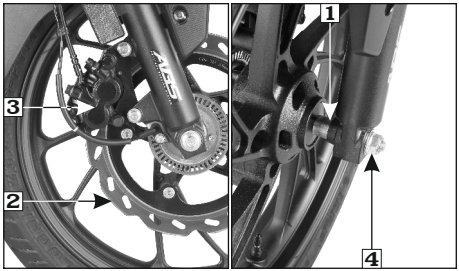
(6) Side collars

Installation

- Install the side collars (1) to both sides of the wheel hub.
- Insert the disc (2) between the pads in the caliper assembly (3). When installing the wheel, carefully fit the brake disc between the brake pads to avoid damage to the pads.
- Tighten the front axle nut (4) to the specified torque.

TORQUE : 5.9 kgf-m

- 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.



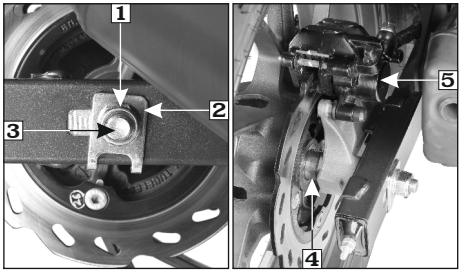
(1) Side collar (2) Disc (3) Caliper (4) Front axle nut

(b) Rear wheel (Disc type)

Removal

Refer safety precautions on **(page 32).**

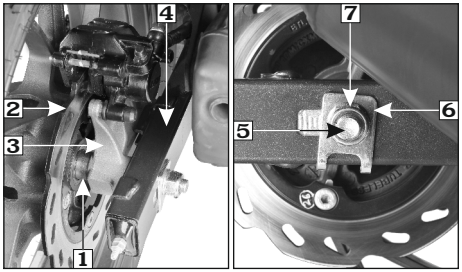
- Support the vehicle securely on the main stand and raise the rear wheel off the ground.
- Remove the rear axle nut (1) and indicator plate (2).
- Remove the axle (3) and the right side collar (4).
- Move the caliper assembly (5) upwards.
- Remove the wheel.



(1) Rear axle nut (2) Indicator plate (3) Axle (4) Side collar (5) Caliper assembly

Installation

- Install the side collar (1) to the right side of the wheel hub.
- Tilt the vehicle and position the rear wheel between the swingarm.
- Insert the disc (2) between the pads in the caliper assembly. When installing the wheel, carefully fit the brake disc between the brake pads to avoid damage to the pads.
- Align the rear caliper holder (3) with the swingarm (4).
- Insert the axle (5) from the left side through the swingarm, wheel hub, collar and rear caliper holder.

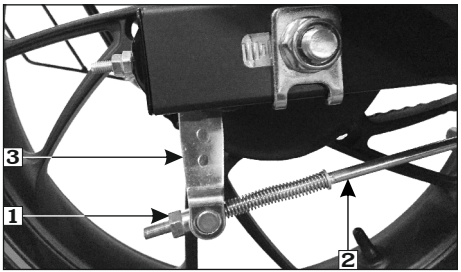


(1) Side collar (2) Disc (3) Caliper holder
(4) Swingarm (5) Rear axle
(6) Indicator plate (7) Rear axle nut

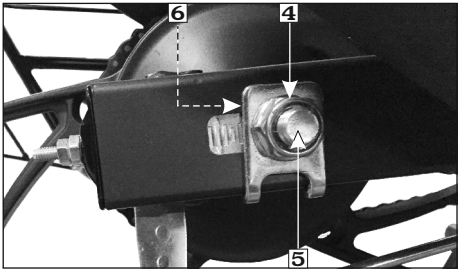
- Install the indicator plate (6) and tighten the rear axle nut (7) to the specified torque.
  TORQUE : 6.8 kgf-m
- Adjust the drive chain slack **(page 44).**

(c) Rear wheel (Drum type)

- 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.
- Remove the rear axle nut (4).
- Pull out the axle (5) and collar (6).
- Remove the wheel.



(1) Rear brake adjusting nut
(2) Rear brake rod (3) Brake arm



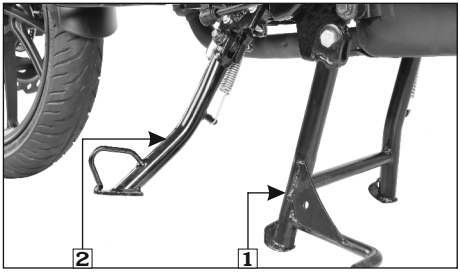
(4) Axle nut (5) Axle (6) Collar

Installation

- Reverse the removal procedure
  Axle nut torque: 6.8 kgf-m.
- Adjust the rear brake free play **(page 50)** and drive chain slackness **(page 44)**.
- After installing the wheel, apply the brake several times and check for free wheel rotation when released.

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 main/side stand is not bent.



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

TUBELESS TYRES

The tyres fitted on your vehicles 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.

⚠ 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.

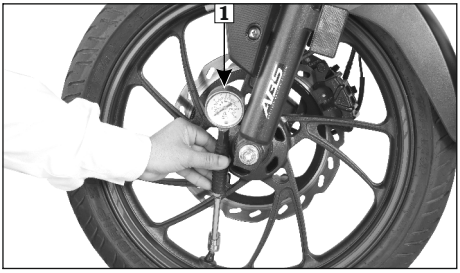
We recommend that you visually check your tyres before every ride and use a gauge to measure air pressure at least once a month or any time you think the tyres pressure might be low. Tubeless tyres have some self-sealing ability if they are punctured. However, because leakage is often very slow, you 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	1.96 kgf/cm^2 (28 psi)	2.10 kgf/cm^2 (30 psi)



(1) Air pressure gauge

! CAUTION

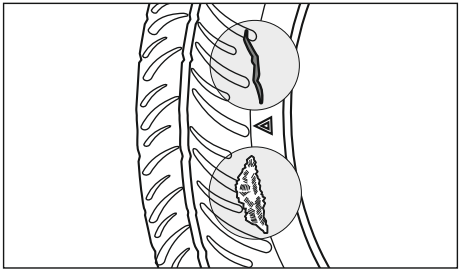
Over inflation/Under inflation will affect the performance.

Inspection

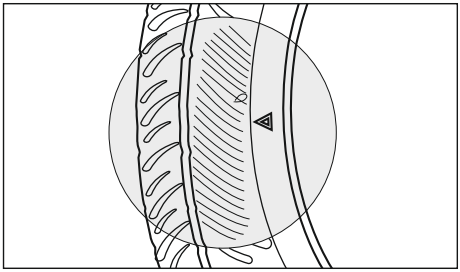
Whenever you check the tyre pressure, you should also examine tyre treads & side walls for wear, damage & foreign objects.

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.

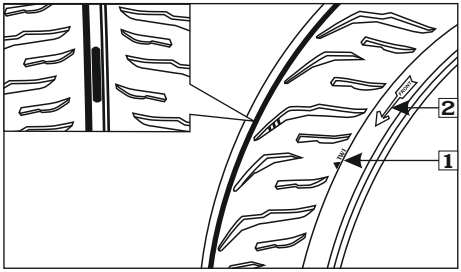
Tread wear

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

MINIMUM TREAD DEPTH:

Front: 0.8 mm **Rear:** 1.0 mm

Check the tread wear indicator for tyre wear.



(1) Tread 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.

The recommended tyre for your vehicle are:

Front	100/80 17 52 P (Tubeless tyre)
Rear	130/70 R17 62 P (Radial tubeless tyre)

NOTE

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

⚠ 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.***

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

Refer to the safety precautions on **(page 32).**

Location

The battery is located behind the left side of fuel tank cover.

Specification

*MF Battery-12V-4 Ah/ETZ5

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/or 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

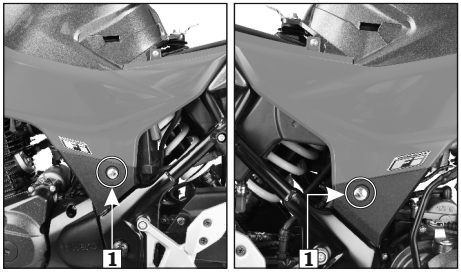
Always visit your Authorised Distributor /Dealer if you see any symptom of battery discharge as earliest as possible to get the battery charged. The battery has a tendency to discharge rapidly if additional electrical accessories are fitted on the vehicle.

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 than 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.

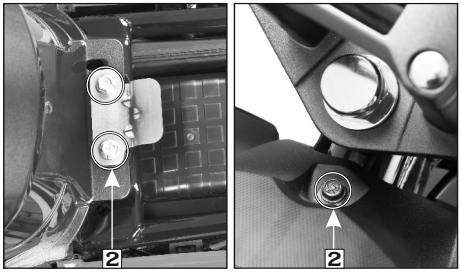
Battery removal

- Make sure the ignition switch is "OFF" (⊗).
- Remove the seat **(page 25).**
- Remove the screws (1) from the both the sides.



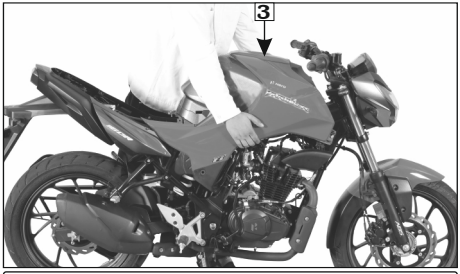
(1) Screws

- Remove the bolts (2) from the both rear and front side of the fuel tank.



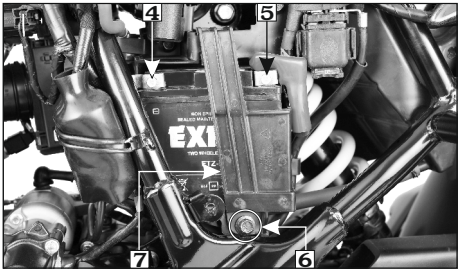
(2) Bolts

• Remove the fuel tank cover (3).



(3) Fuel tank cover

• Disconnect the (–)ve terminal lead (4) from the battery first, then disconnect the (+)ve terminal lead (5).
• Remove the battery clamp bolt (6) and battery clamp (7).



(4) (–)ve terminal **(5) (+)ve terminal**
(6) Battery clamp bolt **(7) Battery clamp**

• Pullout the battery (8) from the battery box.



(8) Battery

Battery installation

• Reinstall in the reverse order of removal. Be sure to connect the (+)ve terminal first, then the (–)ve terminal.
• Check all fasteners are secure.

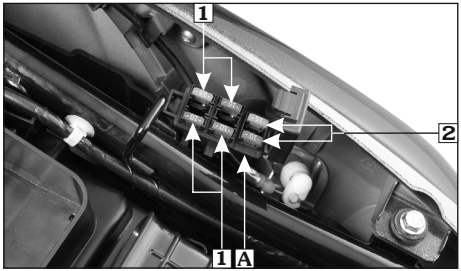
FUSE REPLACEMENT

Refer to the safety precautions on **(page 32).**

The fuse box (A) is below the seat.

Main fuse (1) : 15A, 10A, 10A & 10A

Spare fuse (2) : 15A & 10A



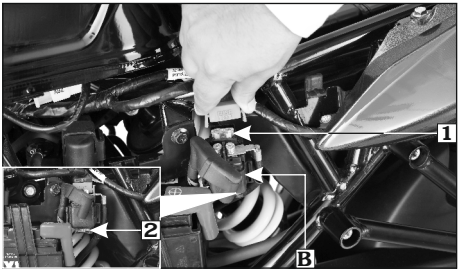
(A) Fuse box
(1) Main fuse:15A, 10A, 10A & 10A
(2) Spare fuse:15A & 10A

Starter magnetic switch (B)

Location : Inside left side of fuel tank cover, below the starter magnetic switch.

Fuse Type: Blade fuse

Main fuse (1) : (20A)
Spare fuse (2) : (20A)



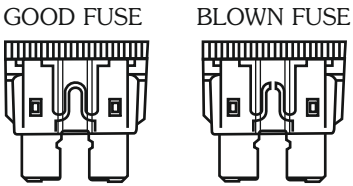
(B) Starter magnetic switch
(1) Main fuse (20A) (2) Spare fuse (20A)

⚠ 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.***

! 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.***

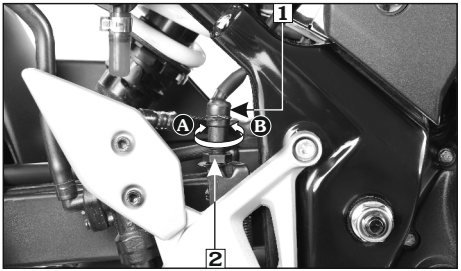


STOP LAMP SWITCH

The stop lamp switch (1) must be adjusted so that stop lamp glows when rear brake is applied. The procedure for adjusting stop lamp is as follows :

- Turn the ignition switch to the "ON" (○) position.

• Turn the adjusting nut (2) to position stop lamp switch at a point where the stop lamp glows once the brake pedal is depressed. Turn the adjusting nut in direction (A) to advance switch timing or in direction (B) to retard switch timing.

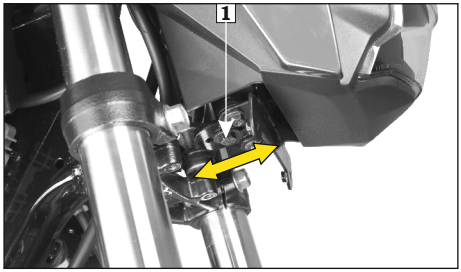


(1) Stop lamp switch **(A) Advance**
(2) Adjusting nut **(B) Retard**

HEADLAMP FOCUS ADJUSTMENT

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

- Headlamp adjustment is done by the loosening the bolt (1) located below the headlamp.
- Park the vehicle on it main stand on level ground.
- Turn the ignition switch to "ON" position (ON) and start the engine.
- Adjust the headlamp beam by loosening the bolt (1) and moving the headlamp unit forward and backward for correct focus adjustment.



(1) Headlamp adjusting bolt

- Tighten the bolt after 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

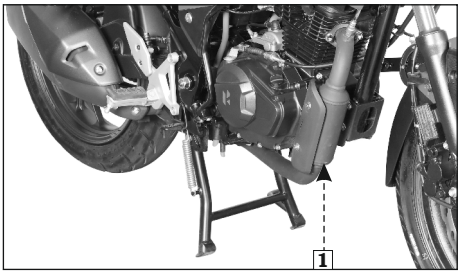
This vehicle is equipped with a catalytic converter (1) in the muffler to meet the emission norms.

The catalytic converter contains precious metals that serve as catalysts, promoting chemical reactions to convert the exhaust gasses without affecting the metals. The catalytic converter acts on HC, CO and NOx. The catalytic converter must operate at a high temperature for the chemical reactions to take place. It can set on fire any combustible material that come near it. Park your vehicle away from high grasses, dry leaves, or other flammable material.

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

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.



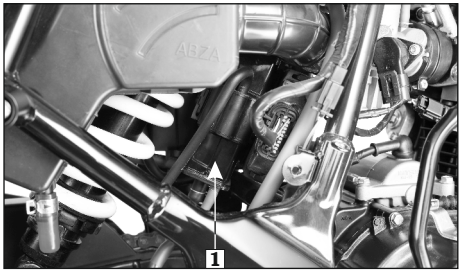
(1) Catalytic converters

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. Integrated Start-Kill Switch

Check engine stop switch position → "OFF" → Turn to "ON" (Ω) position

↓ "ON" (Ω) position

Consult Authorised Distributor/Dealer

B. Side Stand Engine Kill System

Check side stand in gear condition **(page 22)** → Side stand "Down" → Move the side stand up

↓ Side stand "Up"

Consult Authorised Distributor/Dealer

C. Fuel System

Check fuel gauge → Only one segment displayed → Refill the fuel tank

↓ Key "ON" position

Check fuel lines → Leakage → **Consult Authorised Distributor/Dealer**

↓ OK

Check for operating sound of fuel pump → Broken fuel pump wire connector → Secure connections

↓ OK

Consult Authorised Distributor/Dealer

D. Electric Starter Not Working

Check fuse → Fused → Replace fuse **(page 60)**

↓ OK

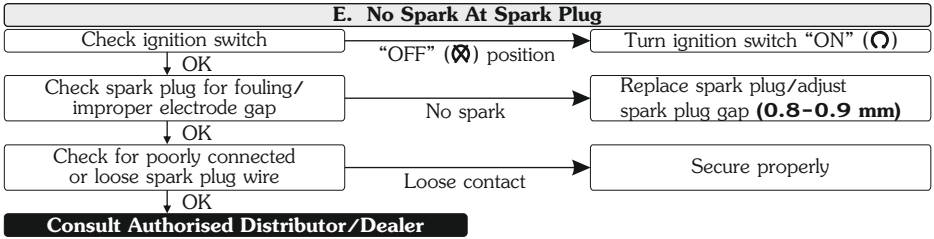
Inspect battery → Weak → **Consult Authorised Distributor/Dealer**

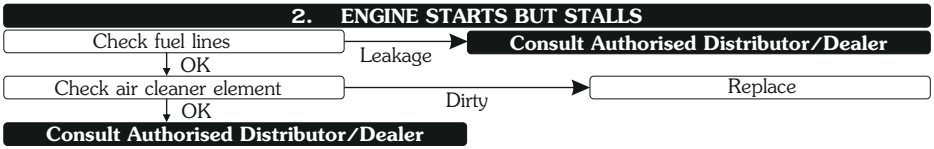
↓ OK

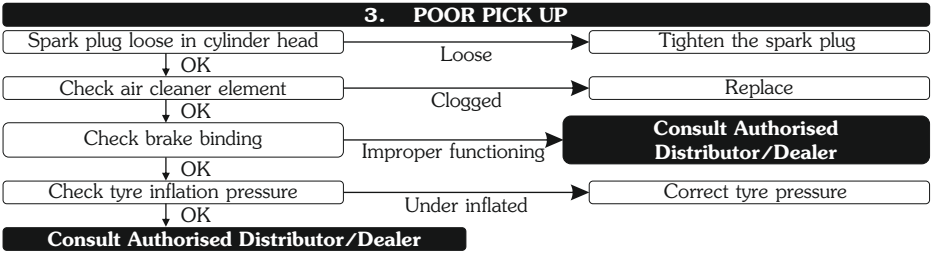
Check connections, ignition switch/integrated start-kill switch → Loose → Secure connections

↓ OK

Consult Authorised Distributor/Dealer

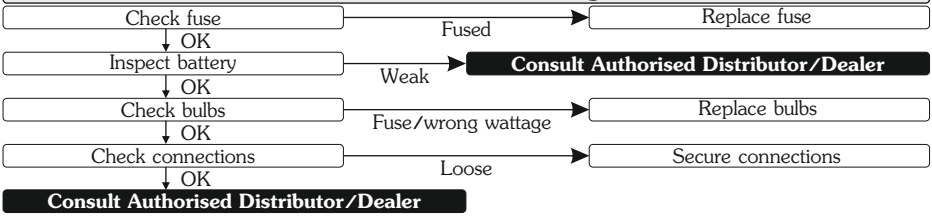

E. No Spark At Spark Plug
Check ignition switch
"OFF" (⊗) position
Turn ignition switch "ON" (○)
OK
Check spark plug for fouling/ improper electrode gap
No spark
Replace spark plug/adjust spark plug gap (0.8–0.9 mm)
OK
Check for poorly connected or loose spark plug wire
Loose contact
Secure properly
OK
Consult Authorised Distributor/Dealer


2. ENGINE STARTS BUT STALLS
Check fuel lines
Leakage
Consult Authorised Distributor/Dealer
OK
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 functioning
Consult Authorised Distributor/Dealer
OK
Check tyre inflation pressure
Under inflated
Correct tyre pressure
OK
Consult Authorised Distributor/Dealer

4. ELECTRICAL SYSTEM

Feeble Horn Sound or No Light



CUSTOMER'S COPY

HMCL Niloy Bangladesh Ltd.

DELIVERY CERTIFICATE

No.: IB41A

I certify having taken delivery of one HMCL Niloy Bangladesh Ltd. **THRILLER 160R PROGRAMMED FI** 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

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 P16 x 14, Handle pin spanner, Pin spanner, No. 3 Cross point screw driver.

AUTHORISED DISTRIBUTOR/DEALER COPY

HMCL Niloy Bangladesh Ltd.

DELIVERY CERTIFICATE

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Customer's Signature _____

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Authorised Distributor/Dealer Address _____

Details of Tool kit

Tool bag, +, - No. 2 Driver, Grip, Box wrench P16 x 14, Handle pin spanner, Pin spanner, No. 3 Cross point screw driver.

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

JOBS APPLICABLE TO PERIODIC SERVICES

- Test drive the vehicle if required for reported troubles, if any.
- Wash the vehicle, blow dry with air at every service.
- Fuel line inspection at every service.
- Inspect throttle free play and operation at every service, adjust if necessary.
- Replace air cleaner element at every 15000 km.
- Inspect, clean the spark plug at every service, adjust if necessary. (replace at every 12000 km).
- Inspect the valve clearance at every service, adjust if necessary.
- Engine oil top up or change as per the maintenance schedule.
- Clean engine oil strainer screen at first service then every 6000 km.
- Clean engine oil centrifugal filter at first service then every 6000 km.
- Inspect oil circulation at every service.
- Inspect electric starter operation at every service.
- Inspect, clean, lubricate and adjust the drive chain at every 1000 km.
- Inspect the drive chain slider.
- Inspect battery voltage at every service and charge if required.
- Inspect brake shoe wear at every service, adjust if necessary.
- Inspect brake pad and brake fluid level at every service, adjust brake pad if necessary.
- Clean and lubricate brake pedal at second service, then every 6000 km.
- Inspect all lamps, horn and switches at every service, adjust if necessary.
- Inspect headlamp focus at every service, adjust if necessary.
- Inspect clutch lever 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 fasteners and tighten to the specified torque (if required).
- Inspect the bearings free play, replace if necessary.
- Inspect wheels/tyres. Inflate tyre to specified pressure at every service.
- Inspect steering for smooth operation, adjust (if necessary) 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 the canister hoses for deterioration, damage or loose connections and canister for cracks or other damages at every service.
- Test drive the vehicle for repair of problems reported.
- 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	Km / 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