

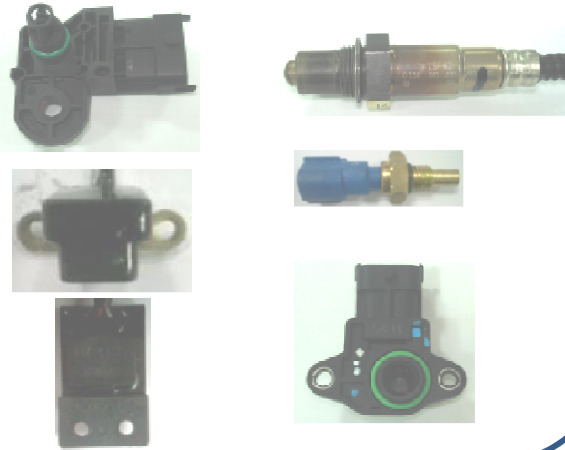
D I Y

KTM SERVICE

Know your Duke Better..... Digital fuel injection System :

Sensors

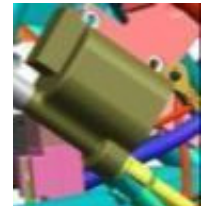
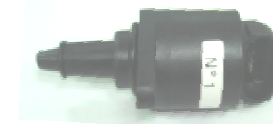
1. Temperature /Manifold pressure sensor.
2. Oxygen (lambda) Sensor.
3. Ignition Pulse Sensor.
4. Coolant Temperature Sensor.
5. Front wheel Speed Sensor.
6. Vehicle Down (Roll Over) sensor.
7. Throttle position Sensor.



ECU The
brain
(Controls
Ignition
advance & Fuel
Metering)

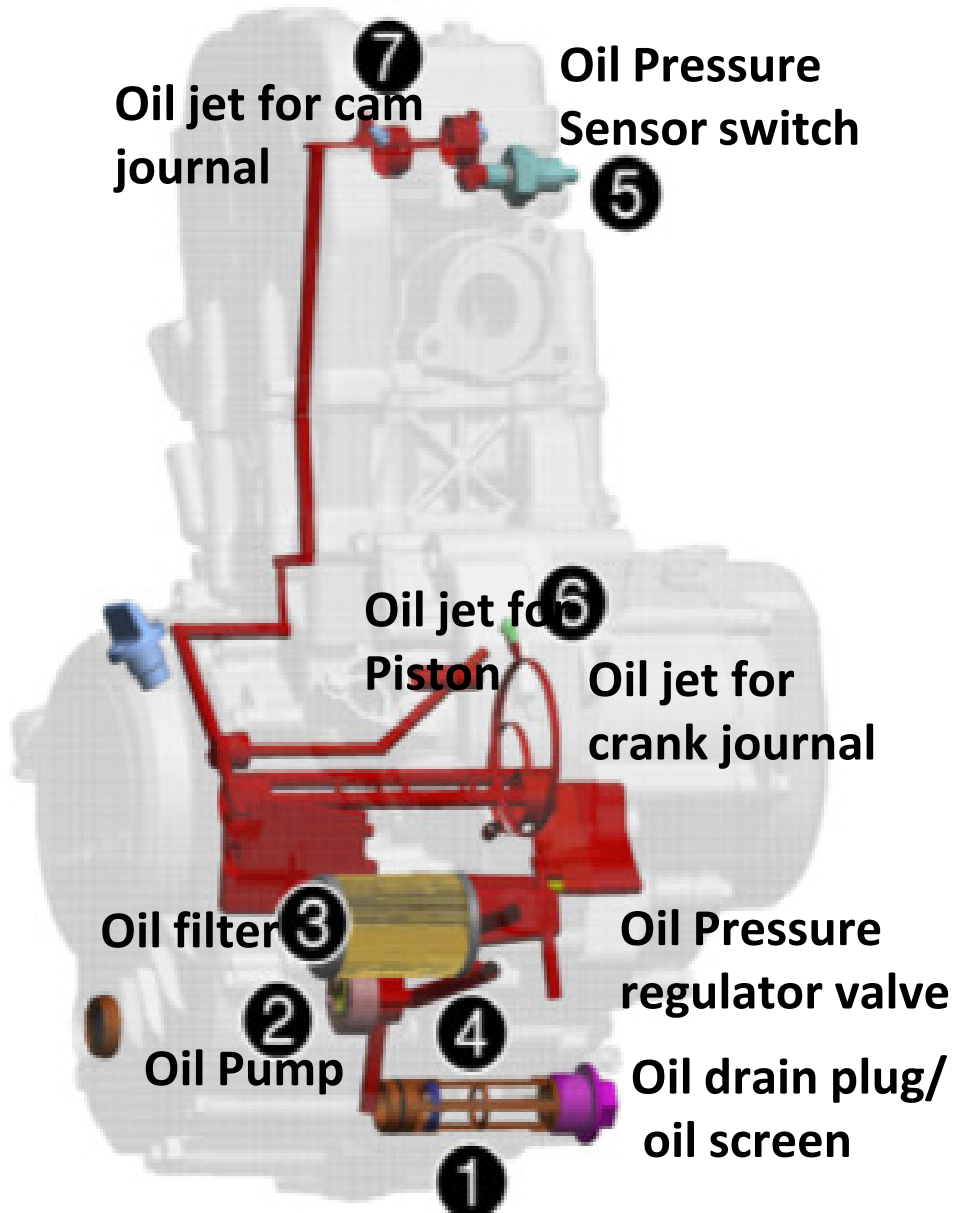
Actuators

1. Fuel pump.
2. Injector.
3. HT coil.
4. Idle speed Actuator.
5. Malfunction light.
6. Diagnostic coupler.
7. Fan.
8. Water Temp gauge.



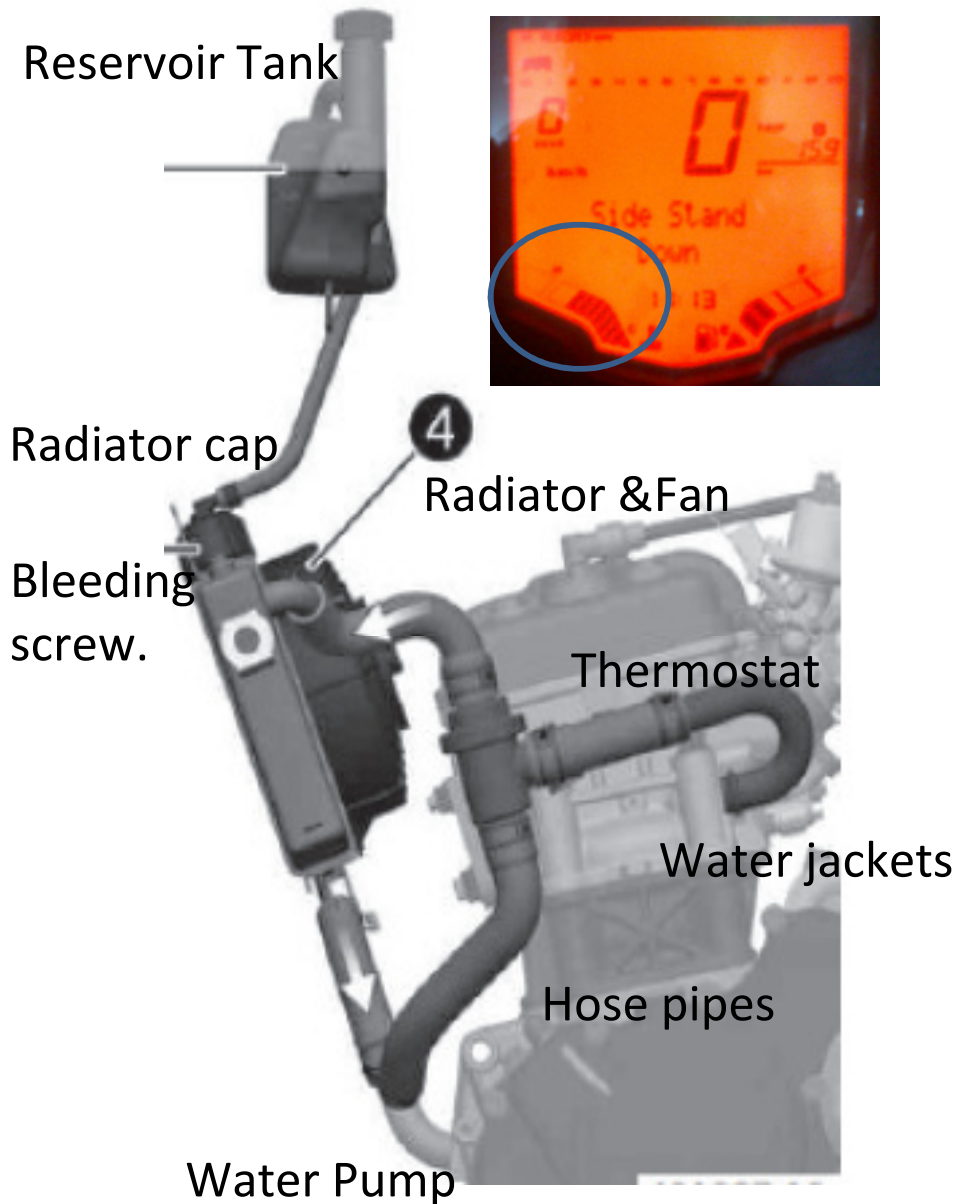
- “Intelligent engine management” by ECU based on inputs from different sensors.
 - Better Power/fuel efficiency/less emissions.
 - Razor sharp throttle response at all speed/load/environmental conditions.
 - Superb cold starting ability.
- Do device, which would fiddle with DFi system.
- Do not allow any external ECU mis-management.
- Protect sensors/actuators during pressure washing.

Know your Duke Better..... Lubrication system :



- Oil pump maintain pressure in the system.
 - Oil Qty : 1.4 liters /Oil Grade : SAE 20 W 50.
 - JASO MA/MA1 – SG/SL grade.
 - Replacement interval : 1000 kms – every 5000 kms.
 - Replace oil filter with each oil change.
 - Recommended oil :
 1. Bajaj DTSi 10000.
 2. Motul 7100
-
- In case of Low oil pressure alarm is seen report to nearest KTM service centre.
 - Workshops would insist for oil change at specified intervals.

Know your Duke Better..... Water cooling system :



- Engine starts.
- Water pump impeller forces coolant.
- Coolant runs through jackets.
- Enters in to thermostat.
- Closed thermostat by passes radiator.
- Coolant flows to pump.
- Engine warms up quickly.
- At 72 degrees thermostat opens.
- Coolant flows through radiator – cools down.
- Engine load increases – temp goes up further.
- Fan switches ON at 96 degrees.
- Brings down temp to 88 degrees.
- Fan switches off at 88 degrees.
- When pressure is above 1.4 Kg.cm2.
 - Radiator cap valve opens.
 - Coolant enters in res tank – releasing pressure.
- After cooling down, pressure reduces.
 - Vacuum valve inside cap opens.
 - Coolant flows back in system.
- **When coolant alarm message is ON – Do not drive as it is.**
- **Do not open radiator cap in hot condition.**
- **No mixing of different brands of coolant/ ordinary water.**
- **In case of coolant leak on run – Pour ordinary water before continuing drive.**

Know your Duke Better..... The Cockpit :



- Shift RPM 1 & 2 at 5000 & 7500 during running in. Rev limiter -10500 to 11000 rpm.
- Distance to empty would be shown after min of 0.8 kms drive, in ignition switch ON mode.
- Calculation of fuel consumption would vary based on speed/load/road conditions.
- Report to nearest KTM workshop in case of Alarm signal/MIL light remain ON.

Know your Duke Better..... Read before you ride :

1	Please read Owner's Manual before riding.
2	Use unleaded fuel with octane rating equal to or more than 91. Do not use any additives.
3	"Break in" period : Do not allow engine rpm to raise beyond 7500 rpm for first 1000 kms.
4	"Periodic Maintenance Schedule" - Follow as recommended in Owner's manual. First service - 1000 kms and next services at every 5000 kms. Kilometers remaining before next service would be indicated on speedometer.
5	Get the vehicle inspected from an authorized KTM workshop in case any one of the alarm message is being flashed at Speedometer.
6	Daily safety checks - Observe the daily safety checks as specified in owner's manual.
7	Maintaining Battery charge level is very essential, for starting of vehicle. Addition of distilled water is not required. In case of low usage bench charge the battery at periodic interval. Ensure that the Ignition switch is in OFF position when engine is not running, otherwise it would drain the battery.
8	Do not add any additional electrical / electronic gadgets on the vehicle, as they would disturb functioning of engine management system.
9	Use both the brakes at a time. Use of front brake for dead stop would give better control. Do not apply front brake while cornering.
10	Tyres fitted on this vehicle are tubeless. Do not allow anybody to open them by using wrong tools. Go to authorized MRF tyre dealers.
11	Chain with built in O ring is fitted on this vehicle. The lubrication is at every 600 kms with SAE 90 oil and adjustment at every 1000 kms. Pl see to it that the chain never runs in dry condition.
12	During washing of the vehicle, do not direct the jet of water towards electrical parts/sensors and radiator. Radiator fins will have to be protected from damage during washing.
13	Follow the instructions given in storage section of owner's manual in case of vehicle is not to be used for longer period.

Do it yourself – Periodic Maintenance Chart.

KTM 200 DUKE : Service Checks & Schedule.				
S N	Description	1000	5000	10000
1	Check the functioning of the electrical equipment.	•	•	•
2	Read out the fault memory using the KTM diagnostics tool.	•	•	•
3	Change the engine oil and oil filter, clean the oil screen.	•	•	•
4	Check the front & Rear brake linings.	•	•	•
5	Check the Inline fuel filter.	•	•	•
5A	Replace inline fuel filter		•	•
6	Check the brake discs.	•	•	•
7	Check the brake lines for damage & leakage.	•	•	•
8	Check & top up the rear brake fluid level. (Use Only DOT 4 grade fluid)	•	•	•
9	Check the shock absorber and fork for leaks. Perform a fork and shock absorber service if needed and depending on vehicle use.	•	•	•
10	Check the swing arm bearing.		•	•
11	Check the wheel bearing for play.		•	•
12	Check the tire condition.	•	•	•
13	Check the tire air pressure.	•	•	•
14	Check , clean & lubricate the chain, rear sprocket, and engine sprocket.	•	•	•
15	Check & Adjust the chain tension.	•	•	•
16	Grease all moving parts (e.g. side stand, hand lever, chain.....) and check for smooth operation.	•	•	•
17	Clean the dust boots of the fork legs.	•	•	•

Do it yourself – Periodic Maintenance Chart.

KTM 200 DUKE : Service Checks & Schedule.				
S N	Description	1000	5000	10000
18	Check & Top up the brake fluid level of the front brake (Use Only DOT 4 grade fluid) .	•	•	•
19	Check the steering head bearing play.	•	•	•
20	Change the spark plugs.		•	•
21	Check the valve clearance. (If required)	•		•
22	Check all hoses (e.g. fuel, cooling, bleeder, drainage, etc.) and bellows for cracking, leaks, and correct routing.	•		•
23	Check the antifreeze and coolant level.	•	•	•
24	Check the cables for damage and routing without sharp bends.		•	•
25	Check that the throttle cables are undamaged, routed without sharp bends, and set correctly.			
26	Change the air filter. Clean the air filter box.		•	•
27	Check the screws and nuts for tightness.	•	•	•
28	Change the front brake fluid.			•
29	Change the rear brake fluid.			•
30	Check the head light setting.	•	•	•
31	Check that the radiator fan is functioning properly.	•	•	•
32	Final check; Check the vehicle for roadworthiness and take a test ride.	•	•	•
33	Read out the fault memory using the KTM diagnosis tool after a test ride.	•	•	•
34	Make the service entry in service record.	•	•	•

Do it yourself – Air Filter element cleaning.



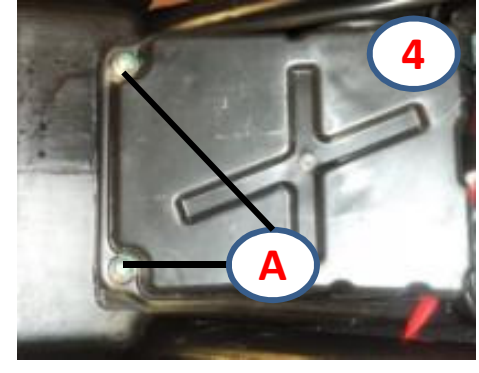
Remove Pillion seat by unlocking.



Remove Rider seat bolts (2 nos.) using spanner.



Remove Rider seat by pulling from front.



Remove Air filter cap bolts (A) 2 nos. by spanner.



Lift cap of Air filter



Pull out Air filter element gently

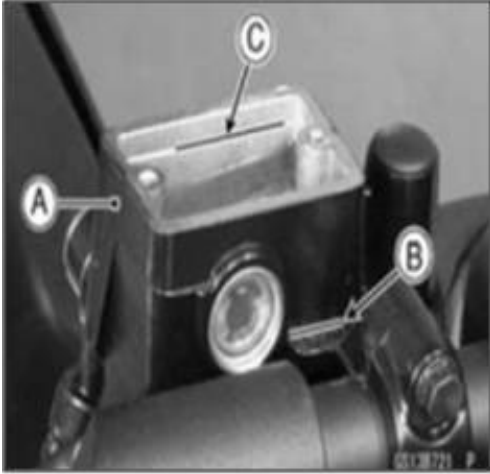


Dust the Air filter element outside in by tapping

- Do not direct compressed air at filter as it may damage the paper element.
- Replace Air Filter element at every 5000 kms. or if observed torn / punctured during cleaning.
- In dusty areas, the element should be cleaned more frequently than the recommended interval.
- Fit the lugs of filter cover snugly in to the body of filter cover while installation.

Do it yourself – Oil Level inspection.

Brake Oil level inspection Front & Rear :



- Check that the brake fluid level in the front brake reservoir [A] is above the lower level line [B].
 - If the fluid level is lower than the lower level line, top up the reservoir to the upper level line [C] in the reservoir.
- * Note: Hold the reservoir horizontal by turning the handlebar when checking brake fluid level.



- Check that the brake fluid level in the rear brake reservoir [A] is above the lower level line [B]
- If the fluid level is lower than the lower level line, top -up the reservoir to the upper line [C].



WARNING

Mixing of different brand/ types of brake fluid can reduce the effectiveness of braking system and cause an accident. Do not mix two brands of brake fluid. In case the type and brand of the brake fluid that is already in the reservoir are not known, replace the brake fluid in the brake line completely instead of topping up. Always use **DOT4 Grade** brake fluid.

Engine oil level inspection :

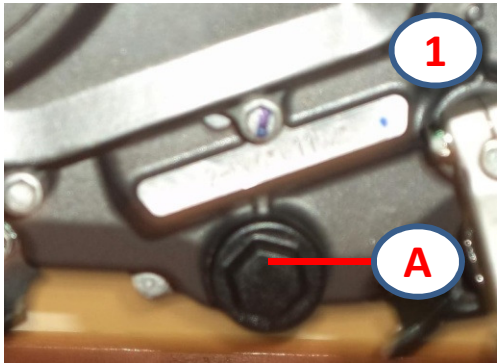


Ensure that Engine oil level is in between upper [A] and lower [B] levels of the gauge.

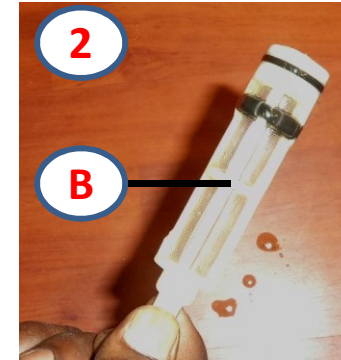
NOTE: -

- Park the motorcycle perpendicular to the ground level.
- If the motorcycle is just been used, wait few minutes to drain down the engine oil inside the engine.
- If the oil has just been changed, start the engine and run it for several minutes at idle speed. This will allow the engine to fill the oil in filter. Again stop the engine then wait several minutes until the oil settles.

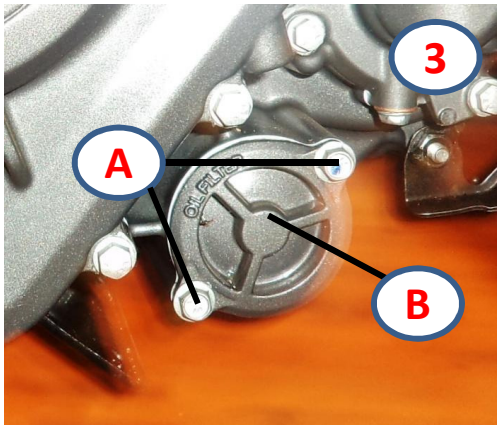
Do it yourself – Engine oil replacement.



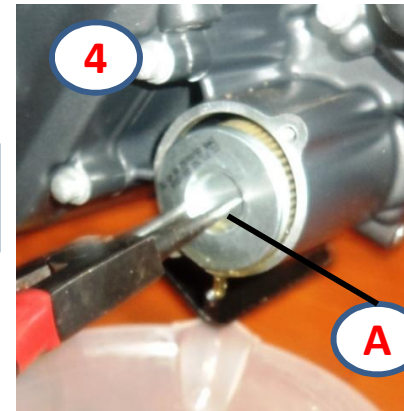
1. Take bike off side stand .
2. Put Vehicle on Wheel Stand & Lock front brake
3. Remove Lower belly Pan.
4. Start & off the engine after 10-15 seconds.
5. Drain oil by opening drain Plug(A) & Pull out the screen with help of a pliers.



Clean drain plug & screen thoroughly
Position oil screen(B) inside the drain passage & then mount & tighten oil drain plug(A) with the "o" ring.
TORQUE: 0.8 kgm



Remove two screws(A) of filter cover(B) & remove cover with "o" ring



Pull out filter (A).
Completely remove oil & clean the parts & sealing areas.
Insert Oil filter (A).
Oil the "o" ring of the oil filter cover. Mount oil filter cover & tighten screws.



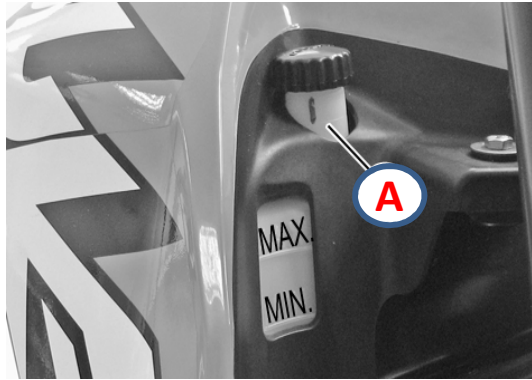
Fill the 1.4 Liter recommended Engine oil

Recommended Oil :-
SAE 20W50 of API, "SL" or above with JASO 'MA', 'MA1 or 'MA2'

For Better performance use "Bajaj DTS-i 10,000" Genuine Engine Oil.




Do it yourself – Coolant level inspection/ Disc pad wear Inspection

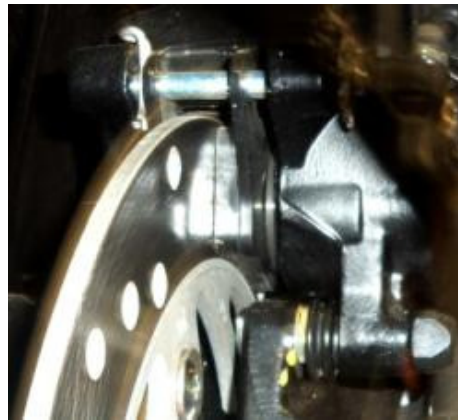
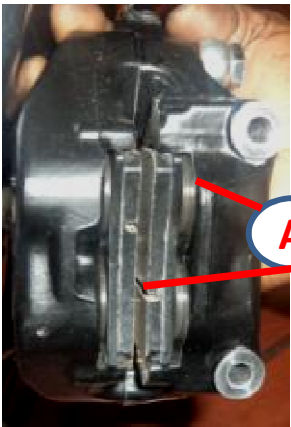


With bike on upright position on a horizontal surface and engine in cold condition:

- Coolant Level must be between MIN & MAX.
- If less then top up with Coolant (mixed ready to use) through plug (A)
- Always use Recommended Premix permanent type Anti freeze coolant for top up. Eg. Castrol Radicool series

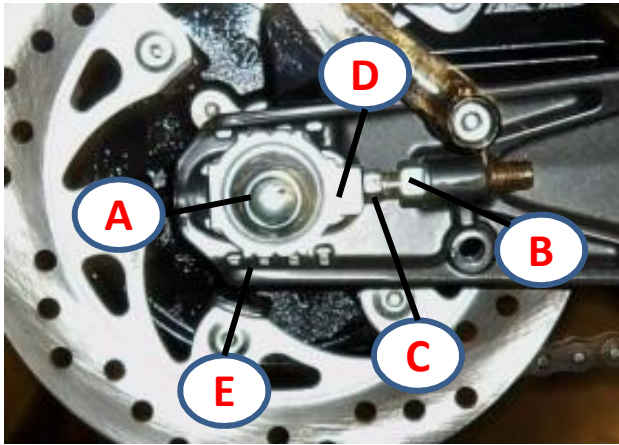
 Warning : Danger of poisoning Coolant is poisonous and a health hazard. Avoid contact between coolant and eyes and clothing. If it gets into your eyes, rinse immediately with water and contact a doctor. Wash affected skin areas immediately with soap and water.

- Tighten reservoir tank cap completely to ensure sealing of cap/tank joint.
- Do not drive the vehicle at high speeds in case of coolant loss, contact nearest workshop.
- A drop of @ 50 ml post filling would be natural. If drop is more than that get the vehicle inspected.
- Check Coolant level only after the bike has cooled down. For coolant top up do not add tap water.

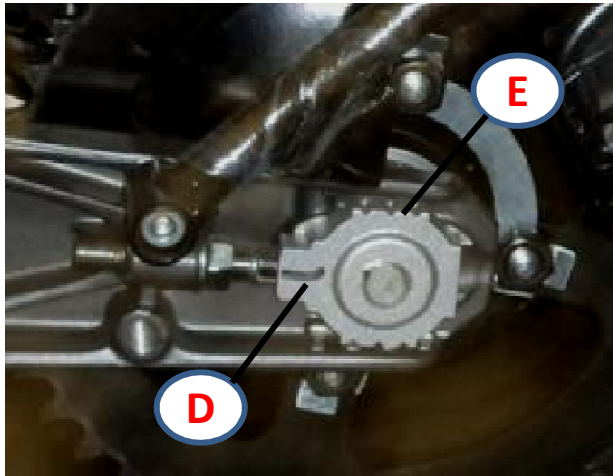


- Remove the brake pads and check the lining thickness [A] of the pads in each caliper.
- If the lining thickness of either pad is less than the service limit, replace both pads in the caliper as a set.
- Pad lining thickness Service limit: 1mm

Do it yourself – Drive chain slack inspection/adjustment & lubrication.

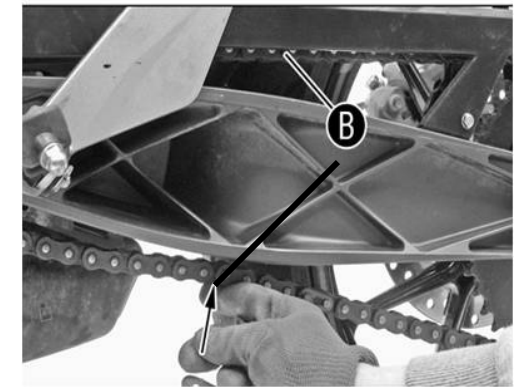


1. First loosen nut (A) and then loosen nuts (B) on either side.
2. Turn the adjustment screw (C) on the left & right so that the markings on left & Right chain adjuster (D) are in the same position in relation to reference marks (E).
3. Upper chain must be tight.
4. Chain wear is always not even, so please check the settings at different locations..
5. Tighten the nuts (B).
6. Ensure that chain adjusters(D) are fitted correctly on adjusting screws(C).

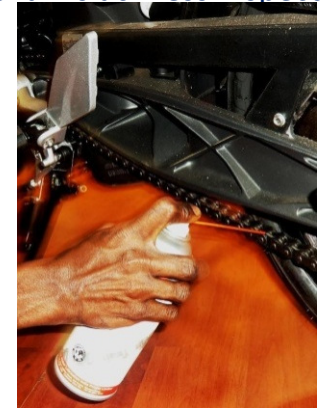


- . Check that the markings on left & Right chain adjuster (D) are in the same position in relation to reference marks (E) on swing arm.
- . If they do not, adjust the chain slack and align the wheel alignment,

Misalignment of wheel will result in abnormal wear and may result in an unsafe riding condition. Be sure the wheel is properly aligned



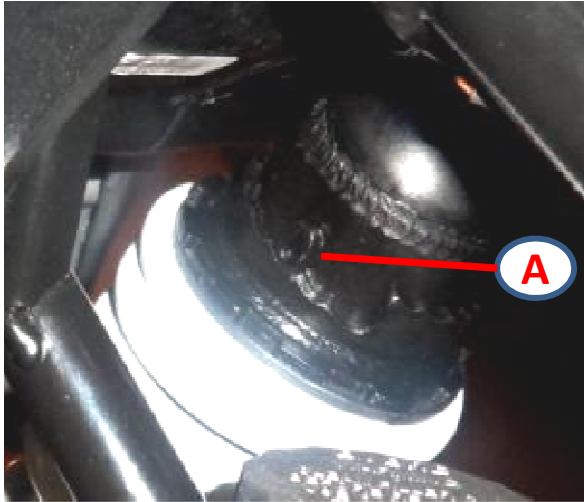
Chain slackness 5~ 7mm
Position of Chain slackness inspection (B)



36DH4029 - OKS Chain Spray

- Sports vehicles use open chains.
- `O` rings are used aside roller case on open chains to prevent dust entry inside chain.
- `O` rings must always be in wet condition to ensure better performance /longer life of chain.
- Lubricate chain every 500km & get slack adjusted every 1000kms.
- For better retention of lubricant ``chain lubrication spray`` can be used.

Do it yourself – Rear Shock absorber setting adjustment.



The standard adjuster setting is 3rd position (A).

Adjuster Position	Damping force	Shock Absorber Hardness	Load	Road Conditions	Driving Speed
1 st	Weak	Soft	Light	Good	Low
↑	↑	↑	↑	↑	↑
↓	↓	↓	↓	↓	↓
10th	Strong	Hard	Heavy	Bad	Highway

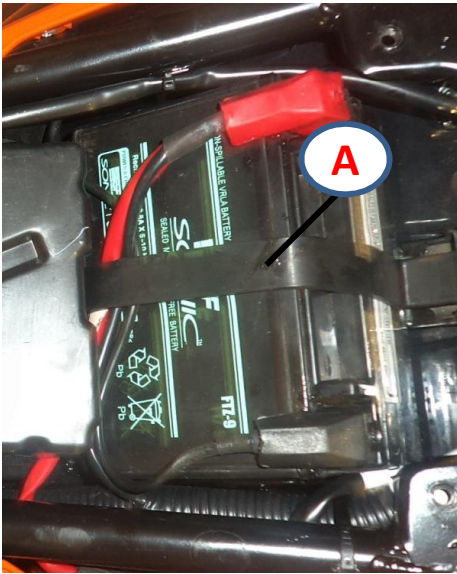


Rear Shocker Spring pre load can be adjusted by using special wrench.

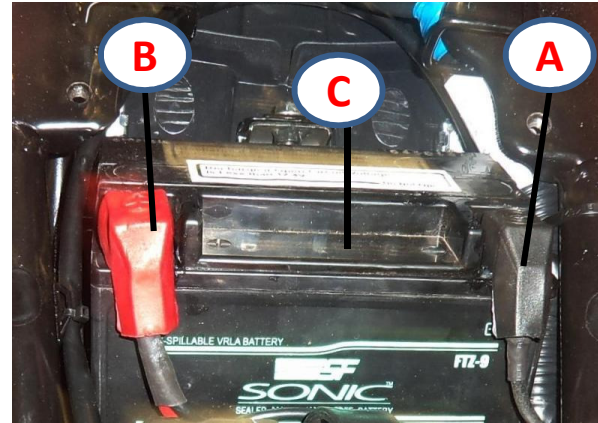
If the compression of the spring is not suited to the operating conditions, adjust it to an appropriate position by referring to the table above.



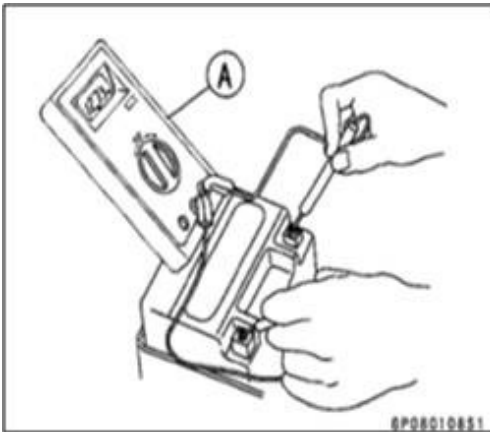
Do it yourself – Battery : 12 V 8 AH VRLA



- Remove Pillion seat.
- Remove Rider seat.
- Remove Battery Band [A]



- Slide out the (-) terminal cap [A] & disconnect the negative (-) cable first.
- Slide out the (+) terminal cap [B] & disconnect the positive (+) cable.
- Remove the battery [C]

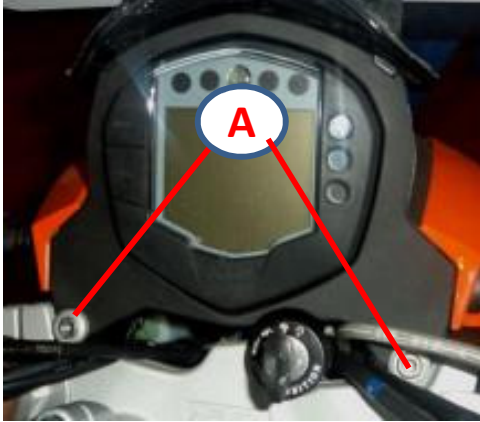


- Battery charging condition can be checked by measuring battery terminal voltage with a digital voltmeter (A).
- If the reading is 12.4V or more, no refresh charge is required, However, if the reading is below the specified, refresh charge is required
- A Constant Voltage battery charger having the capacity to charge 8 Amp hours battery should be used for charging the battery

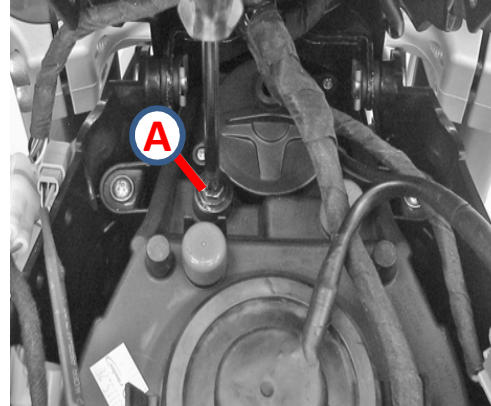
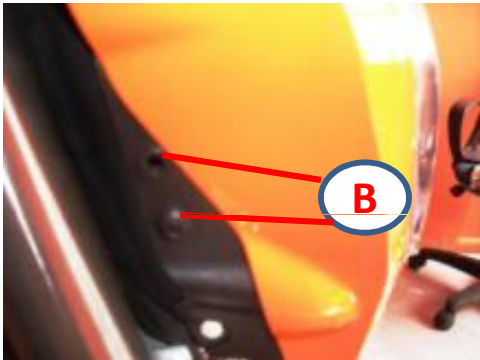


- This battery is sealed type. Never remove sealing cap even at charging. Never add electrolyte / water.
- Use VRLA Battery charger for battery charging.
- Use Battery load tester to correctly gauge Battery charge capacity.

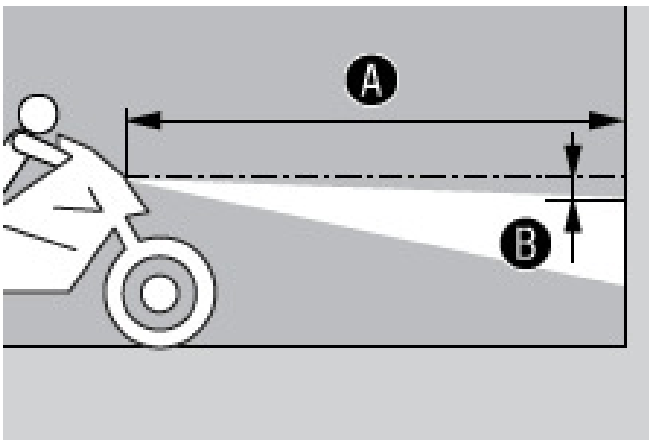
Do it yourself – Head light beam alignment.



- Remove screws (A)
- Remove expanding rivets (B) on both sides
- Fold the head light mask r forward



- The light-dark boundary must lie exactly on the lower mark when the motorcycle is ready to operate with the rider mounted along with luggage & a passenger if applicable.
- Adjust focus if it does not meet specifications by swinging the Headlight mask forward.
- Adjust the beam distance of headlight by turning screw (A).
- **TURN CLOCKWISE TO INCREASE THE HEADLIGHT HEIGHT, ANTICLOCKWISE TO REDUCE HEIGHT.**



- Position the vehicle straight on a horizontal surface in front of a light color wall & make a mark at the height of the centre of low beam headlight.- 890mm
- Make another mark at a distance (B) under first mark. Dist (B) - 9 cm. (800 mm)
- Position the vehicle at a distance (A) in front of the wall & switch on the low beam. Dist (A) - 5 mts
- Make rider sit on Motorcycle. Check the settings.

Do it yourself – Non use maintenance.

Preparation for Storage:

- Clean the entire vehicle thoroughly.
- Run the vehicle for about five minutes to warm the oil, shut it off and drain the engine oil completely.

- Put in Fresh Engine Oil.
- Empty the fuel from the fuel tank by the pump or by external pipe.

- Empty the fuel system by running the engine at idle speed until the engine stalls.(If left in for a longer time , the fuel will break down & could clog the fuel system).
- Reduce both tyre pressure by about 20%.
- Put the bike on a box or stand so that both wheels are raised off the ground.(if this is not possible then put boards under both the wheels to keep dampness away from the tyre rubber).
- Spray oil on all unpainted metal surfaces to prevent rusting. Avoid getting oil on rubber parts or on brake pads.
- Lubricate the drive chain and all the cables.
- Remove the battery and store it where it is not exposed to direct sunlight, moisture or freezing temperatures.During storage it should be given a slow charge (one ampere or less) about once a month. Keep the battery well charged especially during cold weather.
- Tie Plastic bags over the mufflers to prevent moisture from entering.
- Put a cover over the motorcycle to keep dust and dirt from collecting on it.

Wishing all the Kings riding the Duke 200 a very happy ride.