



JAMINAR
400

Service Station Manual



All information contained in this service station manual is based on the latest product information at the time of publication. Bajaj Auto Limited accepts no liability for any inaccuracies or omissions in this publication, although every possible care has been taken to make it as complete and accurate as possible. All procedures and specifications subject to change without prior notice. The right is reserved to make such changes at any time without prior notice.

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Forward

This manual is designed primarily for use by trained mechanics in a properly equipped shop.

A basic knowledge of mechanics, the proper use of tools, & workshop procedures must be understood in order to carry out maintenance & repair satisfactorily.

In order to perform the work efficiently and to avoid costly mistakes, read the text, thoroughly; familiarize yourself with the procedures before starting work, and then do the work carefully in a clean area. Whenever special tools or equipment are specified, do not use makeshift tools or equipment. Precision measurements can only be made if the proper instruments are used, and the use of substitute tools may adversely affect safe operation.

For the duration of the warranty period, we recommend that all repairs & scheduled maintenance be performed in accordance with this service manual. Any repair procedure not performed in accordance with this manual may void the warranty.

To get the longest life out the vehicle.

- Follow the Periodic Maintenance Chart in the Service Manual.
- Be alert for problems & non-scheduled maintenance.
- Use proper tools and genuine Bajaj motorcycle parts. Special tools, gauges, and testers that are necessary when servicing Bajaj motorcycles are introduced by the Service Manual. Genuine parts provided as spare parts are listed in the Parts Catalogue.
- Follow the procedures in this manual carefully. Don't take shortcuts.
- Remember to keep complete records of maintenance and repair with dates and any new parts installed.

How to Use This Manual

In this manual, the produce is divided into its major systems and these systems make up the manual's chapters. The contents / index guide shows you all of the product's system and assists in locating their chapters. Each chapter in turn has its own comprehensive table of contents.

For example, if you want battery information, to locate the Electrical Chapter.

Whenever you see these WARNINGS and CAUTION symbols, heed their instructions! Always follow safe operating and maintenance practices.

WARNING

This manual symbol identifies special instructions or procedures which, if not correctly followed, could result in personal injury, or loss of life.

CAUTION

This caution symbol identifies special instructions or procedures which, if not strictly observed, could result in damage to or destruction of equipment.

SKILL TIP / NOTE

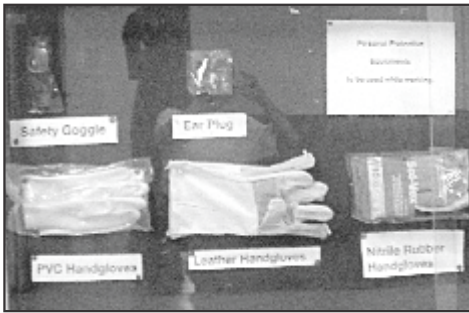
This symbol indicates points of particular interest for more efficient and convenient operation.

★ Indicates a conditional step or what action to take based on the results of the test or inspection in the procedural step or sub-step it follows.

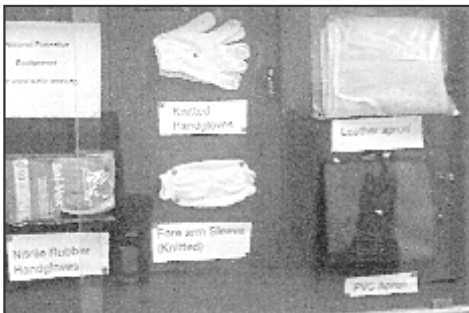
In most chapters an exploded view illustration of the system components are incorporated.

In these illustrations you will find the instructions indicating which parts require specified tightening torque, oil, grease or a locking agent during assembly.

Workshop Safety



- Technicians must put on shoes & dressing should not be very loose.
- Technicians must use Personnel Protective Equipment (PPE) like - Hand Gloves
 - Mask
 - Safety Goggle
 - Ear Plug
- Wear Nitrile Rubber Hand Gloves while handling petrochemicals like petrol, Oil, Kerosene etc.



- Precautions to be taken while handling CO Gas Analyser
 - Use hand gloves for protection from hot silencer.
 - Use mask for protection from exhaust gases.
 - Ensure proper ventilation.
- Fire Extinguisher
 - Install 'ISI' approved. Fire extinguishers - CO₂ gas cylinders.
 - Refill CO₂ before the gas expires.
 - Install CO₂ gas cylinder at appropriate place so that there is no obstruction / good accessibility.



- Safety Precautions while Operating Air Tools

Air tools operate on compressed air supplied by the shop air system (Compressor & Air supply system).

Observe the following safety related precautions when using an air tool.

- It is advisable to fit a pressure regulator (FRL:- Filter Regulator Lubricator) in the pneumatic line which supplies air pressure to the air tool. It regulates the outlet pressure to @6.5 Kg/cm². This avoids the risk of personal injury.
- Never use the blow gun to blow dust off your clothes and never point it at anyone. The air pressure can drive dust particles at high speed. These particles can penetrate into the flesh or eyes. High pressure air hitting on open wound can force air into the blood stream. This can result in death.
- Never look into the air outlet of a pneumatic tool.
- Never blow-clean brake or clutch parts. This could put asbestos dust particles into the air which are harmful to inhale. (These particles are cancerous - can lead to Cancer).



- Hand Tools

- Do not use worn out hand tools.

- Calibration of Workshop Equipment

- Calibrate all Workshop and M & T Equipment once in a year.

- Avoid direct body contact with Petrol, Kerosene.

Caution : Prolonged contact of used oil may cause cancer.

- Waste Oil Disposal

- Sell used oil to Government approved re-cycle agencies.
- Collect used oil in oil disposer / barrel.
- Don't throw oil into sewage line.
- Don't spill oil on the floor.



- **Precautions to be taken while handling Hydro-Electric Lift**

- While raising / lowering the lifter bay ensure that vehicle is firmly hold on the lifter bay to avoid accident.
- After raising the lifter bay, lock the lift.
- Don't put leg/hand in between while raising / lowering the lifter Bay.

- **Safety Tips**

- Do not lower the lifter bay table without unlocking the mechanical lift lock.
- Do not keep your leg between the top and bottom frame while lowering the lifter bay.
- Do not work with loose clothing while working on the lifter bay.
- Do not keep hydraulic joints loose.
- Do not stand on the lifter bay's top, when it is being operated.
- Special care is to be adopted to avoid injuries if either leg or hand is entangled between.
- Keep off direct fire near the power pack.
- Avoid oil spillage around the working area for safety reasons.

- **Electrical Wiring**

- Carry out periodic checks & repairs
- Electrical board & Main Switch must be located such that they are easily accessible.

General Information

General precautions to be taken while opening, assembling & storage of engine parts.

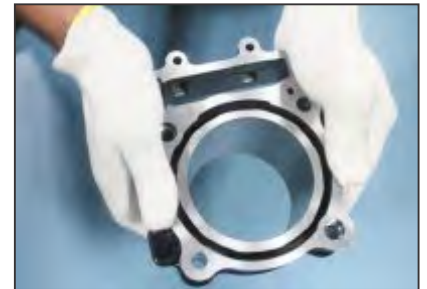
Battery Ground

Before completing any service on the motorcycle, disconnect the battery cables from the battery to prevent the engine from accidentally turning over. Disconnect the ground cable (-) first and then the positive (+). When completed with the service, first connect the positive (+) cable to the positive (+) terminal of the battery then the negative (-) cable to the negative terminal.



Edges of Parts

Lift large or heavy parts wearing gloves to prevent injury from possible sharp edges on the parts.



Cleaning Vehicle before Disassembly

Clean the vehicle thoroughly before disassembly. Dirt or other foreign materials entering into sealed areas during vehicle disassembly can cause excessive wear and decrease performance of the vehicle.



Arrangement and Cleaning of Removed Parts

Use engine parts handling trays for storage of engine parts.



Storage of Removed Parts

After all the parts including subassembly parts have been cleaned, store the parts in a clean area. Put a clean cloth or plastic sheet over the parts to protect from any foreign materials that may collect before reassembly.



Inspection

Reuse of worn or damaged parts may lead to serious accident. Visually inspect removed parts for corrosion, discoloration, or other damage. Refer to the appropriate sections of this manual for service limits on individual parts. Replace the parts if any damage has been found or if the part is beyond its service limit.

Visual Inspection of Removed Parts



Replacement Parts

Replacement parts must be BAJAJ genuine or recommended by BAJAJ. Gaskets, O-rings, Oil seals, Grease seals, Circlips or Cotter pins must be replaced with new ones whenever disassembled.



Assembly Order

In most cases assembly order is the reverse of disassembly, however, if assembly order is provided in this Service Manual, follow the procedures given.



Tightening Sequence

Generally, when installing a part with several bolts, nuts, or screws, start them all in their holes and tighten them to a snug fit. Then tighten them according to the specified sequence to prevent case warpage or deformation which can lead to malfunction. Conversely when loosening the bolts, nuts or screws, first loosen all of them by about a quarter turn and then remove them.

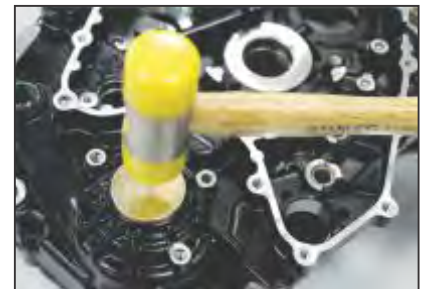
Tightening Torque

Incorrect torque applied to a bolt, nut, or screw may lead to serious damage. Tighten fasteners to the specified torque using a good quality torque wrench.



Force

Use common sense during disassembly and assembly, excessive force can cause expensive or hard to repair damage. When necessary, remove screws that have a non-permanent locking agent applied using an impact driver. Use a plastic-faced mallet whenever tapping is necessary.



Gasket, O-ring

Hardening, shrinkage, or damage of both gaskets and O-rings after disassembly can reduce sealing performance. Remove old gaskets and clean the sealing surfaces thoroughly so that no gasket material or other material remains. Install the new gaskets and replace the used O-rings when re-assembling.



Liquid Gasket, Non-permanent Locking Agent

For applications that require liquid gasket or a non-permanent locking agent, clean the surfaces so that no oil residue remains before applying liquid gasket or non-permanent locking agent. Do not apply them excessively. Excessive application can clog oil passages and cause serious damage.



Press

For items such as bearings or oil seals that must be pressed into place, apply small amount of oil to the contact area. Be sure to maintain proper alignment and use smooth movements when installing.

Ball Bearing and Needle Bearing

Do not remove pressed ball or needle unless removal is absolutely necessary. Replace with new ones whenever removed. Press bearings with the manufacturer and size marks facing out. Press the bearing into place by putting pressure on the correct bearing race as shown.

Pressing the incorrect race can cause pressure between the inner and outer race and result in bearing damage.

Press inner race - when bearing is to be fitted on shaft.

Press outer race - when bearing is to be fitted in the bore.

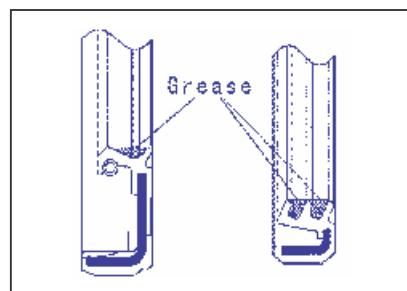


Oil Seal, Grease Seal

Do not remove pressed oil or grease seals unless removal is necessary. Replace with new ones whenever removed. Press new oil seals with manufacture and size marks facing out. Make sure the seal is aligned properly when installing.

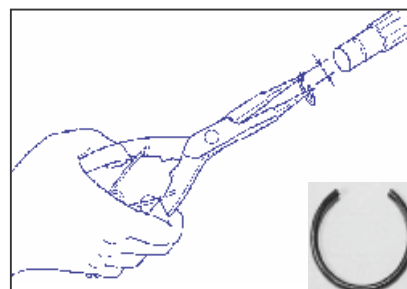


Apply specified grease to the lip of seal before installing the seal.



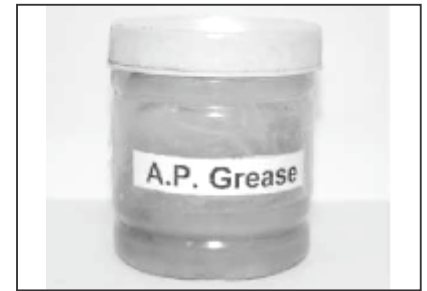
Circlips, Cotter Pins

Replace the circlips or cotter pins that were removed with new ones. Take care not to open the clip excessively when installing to prevent deformation.



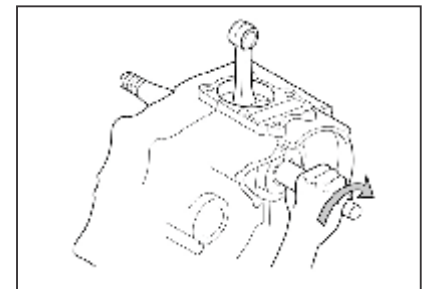
Lubrication

It is most important to lubricate rotating or sliding parts during assembly to minimize wear during initial operation. Apply the specific oil or grease as specified.



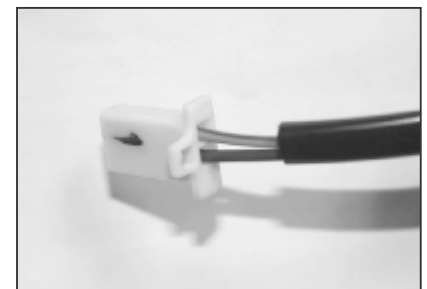
Direction of Engine Rotation

When rotating the crankshaft by hand, the free play amount of rotating direction will affect the adjustment. Rotate the crankshaft to positive direction (clockwise viewed from clutch cover side).



Electrical Wires

A two-colour wire is identified first by the primary colour and then the stripe colour. Unless instructed otherwise, electrical wires must be connected to those of the same colour.



Instrument

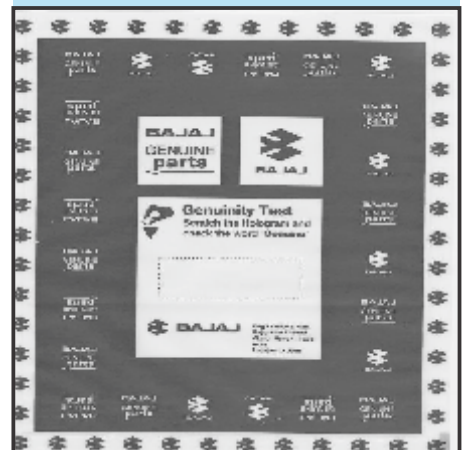
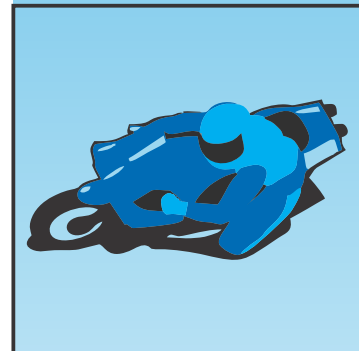
Use a meter that has enough accuracy for an accurate measurement. Read the manufacturer's instructions thoroughly before using the meter. Incorrect values may lead to improper adjustments.



General Precautions

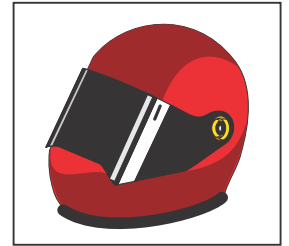
- To avoid damage to head of fasteners do not use over size or worn out tools.
- To avoid damage to painted parts, prevent spillage of battery acid & brake fluid.
- To avoid damage of machined face & color of the components store the parts in a clean plastic bin having compartments to avoid components touching to each other.
- To avoid warpage of mating / sealing faces, mounting bolts should be tightened in a criss-cross pattern.
- To avoid slippage of threads leading to components damage, do not over torque bolts, nuts or screws.
- Always install new gasket & O rings when reassembling.
- Always apply grease to the lip of seal before installing.
- Always replace circlips / cotter pins & radiator hose clamps with new ones.
- Take care not to excessively spread open circlips with tool during installing to prevent deformation.
- Always use appropriate special tool for opening & assembling parts to avoid damages.
- To avoid dust / muck entry inside the engine wash vehicle thoroughly before executing any repair work related to engine or otherwise this may lead to early failure of parts.
- Always use lint free cloth while handling engine parts.
- Always apply few oil drops between two moving parts to avoid dry run.
- Always blow high pressure compressed air through oil passage holes in reverse direction of flow of oil & ensure that the passages are clear.
- Always apply loctite to bolts, screws or nuts wherever recommended to avoid loosening & subsequent break down.
- Confirm proper seating of circlips by rotating them to avoid it from coming out.
- Do not tap engine components by hammer in order to avoid damage. Engine components are precisely machined.
- Do not fit extra electrical accessories otherwise wiring would get short & battery would get discharged.

Customer Information



Safe Riding Tips

- Always wear ISI helmets while driving or riding. Your helmets should conform to appropriate Indian standards.
- Read thoroughly the instructions in this manual and follow them carefully.
- Avoid unnecessary accessories for the safety of both rider and other motorists.
- Get familiar and follow traffic rules and regulations in your states as well as general traffic signs.
- Do not overload your vehicle.
- Familiarise yourself well with starting, acceleration and braking of the vehicle.
- When applying the brakes, use both, the front and rear brakes. Applying only one brake may cause the vehicle to loose control.
- During monsoon drive the vehicle more cautiously. Remember vehicles skid more easily during light showers.
- Always carry vehicle registration papers, insurance and a valid driving licence with you.



MONSOON CARE : Fit & Finish Parts

- The appropriate surface preventive coat to be applied to avoid rusting on account of adverse atmospheric conditions.
- Clean & lubricate all the important parts as detailed in a periodic maintenance chart.
- Do not obstruct engine cooling by adding mud protection sheet from front.
- Vehicle cleaning to be done with soft & clean wet cloth to avoid scratches on painted parts.
- Do not apply direct water jet on painted, electrical / electronic parts.

Daily Safety Checks

Before riding the motorcycle be sure to check the following items. If any irregularities are found during these checks, refer to the Maintenance chapter and see your dealer for the action required to return the motorcycle to a safe operating condition.

⚠ WARNING

Failure to perform these checks every day before you ride may result in serious damage or severe accident.

What to check	Check for
Fuel	Enough fuel for the planned distance of operation, no leaks in the fuel lines.
Engine	Oil level between upper and lower marks in vehicle upright on a level surface position
Throttle	1. Correct free play in the throttle cable (2 to 3 mm) 2. Smooth operation and positive return of the throttle grip to the closed position.
Steering Lock	Correct operation.
Coolant level	Coolant level between MAX & MIN marks in vehicle upright on a level surface position

What to check	Check for
Brakes	1. No dragging.
Drive chain	1. Proper slack (20 ~ 30 mm) 2. Adequate lubrication.
Lighting	Operation of all lights.
Horn	Correct functions.
Steering	1. Smoothness. 2. No restriction of movement. 3. Loose or Tight.
Clutch	1. Correct lever play. (2 to 3 mm). 2. Smooth operation of lever.
Side Stand	Return to their fully up position.
Tyres	1. Correct pressure. 2. Adequate tread depth. 3. No cracks or cuts.
Mirrors	Correct view position.

Running In

Proper running-in is important for the better life and trouble free performance of the vehicle.

- During first 2000 kms running-in period do not exceed following speed limits.

Kms	1st	2nd	3rd	4th	5th	6th
0 - 1000	13	24	37	50	56	73
1000 - 2000	20	32	42	56	62	85

- Always keep the speed below the limits mentioned in the table.
- Do not race the engine excessively.
- Do not start moving or race the engine immediately after starting. Run the engine for a minute at idle speed to give the oil a chance to work up into the engine.

Fuel Saving Tips

A well maintained vehicle and good driving can contribute a lot to the saving of petrol. Following are a few simple fuel saving tips.

- Avoid harsh braking.
- Change the gear judiciously according to the speed requirement.
- Don't overload the vehicle above the specified payload.
- Use the accelerator judiciously.
- Cut off the engine if you want to stop for more than two minutes.

Non - Use Maintenance

Non-use maintenance is necessary if a vehicle remains off road for a longer duration (more than 15 days**). The correct and careful non-use maintenance carried out before storing the vehicle will prevent the vehicle from rusting and from such other non-operational damages like fire hazards.

- Clean the entire vehicle thoroughly.
- Empty the fuel from the fuel tank (if fuel is left in for a longer time, the fuel will break and gummy substance could clog the throttle body).
- Remove the spark plug and put several drops of engine oil into the cylinder. Self start the engine a few times to coat the cylinder wall with oil and install back the spark plug.
- Set the vehicle on a box or a stand so that both the wheels are raised off the ground.
- Ensure vehicle cleanliness & apply antirust oil (Parco Lubricant PL 101 of M/s.Hankle) on fasteners & completely cover the vehicle (It is mandatory to cover the vehicle after application of anti rust oil).
- Cover the entire vehicle neatly. Ensure that the storage area is well ventilated & free from any source of flames or spark.
- Fill 10% excess air pressure in both wheels.

** For Battery:

- a. Remove battery and keep it on wooden plank, in properly ventilated area.
- b. Before taking the vehicle for use.
 - Get the battery recharged from the Authorised Service Center / Battery Dealer.
 - Apply petroleum jelly on terminals.

Preparation for regular use after storage :

- Clean the vehicle
- Make sure the spark plugs are tightly fitted.
- Fill the fuel tank with fuel.
- Change the engine oil.
- Check all the points listed in the Daily Safety Checks section.
- Check and inflate tyres to the proper tyre pressure

Customer Awareness Points

Customer awareness to be developed on following points for trouble free performance of vehicle :

1) Regular Checks :

- Always ensure tyres are inflated to specified air pressure.
- Keep vehicle clean regularly.
- Ensure engine oil / Coolant level between MAX. - MIN. mark.
- Use both brakes simultaneously while braking.
- Do not ignore brake & engine oil leakage.
- Do not ignore worn out / cut tyre condition, if found replace immediately.
- Do not ignore fuel leakage.
- Ensure specified brake free play.
- **Ensure minimum 3 Liters fuel is available in fuel tank, otherwise it may result into hesitation issue above 40 Kmph speed.**

2) Vehicle usage :

- Gear shifting pattern is 1 DOWN, 5 UP.
- During running in period, do not exceed speed limits mentioned in owners manual. It may lead to failure of engine components.
- Do not drive vehicle above its rated payload.
- Do not drive vehicle with brake pedal / lever partially pressed.
- Do not drive vehicle with clutch lever half pressed.
- Avoid harsh braking & do not drive the vehicle by keeping brake pedal pressed.
- Always ensure tyres are inflated to specified air pressure.
- Do not add extra electrical accessories e.g remote, horn, buzzer etc.
- Disconnect battery terminals, if vehicle is not being used for long time (more than 2 weeks)
- To take help of BAJAJ authorized workshop, bring vehicle to the workshop for repair if coolant leakage is noticed through coolant system & "ABS" icon gets ON continuously.

3) Vehicle maintenance (PM schedule / service at authorized locations) :

- During periodic service replace mandatory periodic parts as per PM schedule given in owners manual.
- Follow periodic service schedule strictly for optimum engine & vehicle performance.
- Carry out any service/repairs at Bajaj authorized service centers only for quality service & genuine parts.
- Always insist on Bajaj Genuine Spare Parts in case of replacement.
- Always insist on Bajaj Genuine Oil (10W50) for optimum engine performance & warranty benefits.
- Do not repair front fork inner pipe for bend removal & rear suspension for oil leakages in local workshop.
- Always fill petrol from reputed petrol pumps. Use petrol of Octane number 91.
- Do not add additives in engine oil / petrol.
- Drive chain cleaning & lubrication by OKS spray at every 500 Kms. This spray is available with BAL dealer for sale.

4) Accessories :

- Do not fit extra electrical accessories, otherwise wiring would get short & battery would get discharged. Few e.g. -
 - Remote / central locking system.
 - Extra & bigger size horns.
 - Musical brake light.
 - Buzzer.
 - Higher wattage Headlamp bulb.
 - Flasher operating all 4 side indicators simultaneously
- Do not replace fuse with higher capacity fuse.
- Never bypass fuse.
- Do not cut wiring conduit / wires midway.
- Never remove conduit from wiring harness.
- Do not repair wiring harness instead replace for safety.
- Do not ground any wire for checking current-spark.
- Wiring harness failure due any one of the reason mentioned above is not covered under warranty replacement.
- Do not fit splash guard in front of the engine.
- Do not fit accessories to carry extra load.

5) BAL warranty policy - (Fuel adulteration / local accessories fitment & vehicle maintenance as per PM schedule) :

Warranty is applicable for manufacturing defects with in a period of 2years or 30,000 kms whichever occurs earlier.

Warranty is not applicable to -

- Parts subjected to normal wear & tear like Clutch Plates, Brake Shoes, Chain, Sprockets, Fork Oil Seal, Spark Plug, Control Cables, Brake Pads.
- Replacement of bulbs, rubber components like grommets, 'O' rings, bellows & filters, packings, gaskets, fasteners etc.
- Parts of the vehicle that have been altered and modified or replaced in unauthorized manner like use of wider tyres, loud silencers etc and which in the sole judgement of the Bajaj Auto Limited affects its performance and reliability.
- Vehicles which are not being serviced at recommended dealers as per the service schedule described or which have not been operated or maintained in accordance with the instructions maintained in the Owner's Manual.
- Vehicles used for any competition or race and/or for attempting to set up any kind of record.
- Any failure arising due to use of adulterated or bad quality fuel. Parts affected due to bad fuel quality are not covered Under warranty.

Bajaj Genuine Parts

For optimum performance of vehicle

For prolonged life of components & vehicle

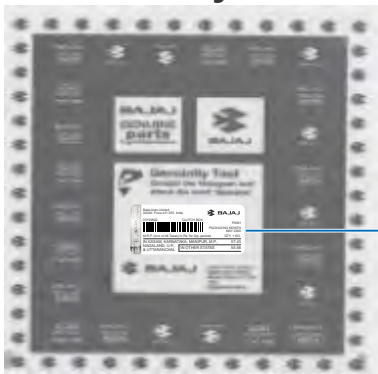
For economical maintenance cost

For rider's safety

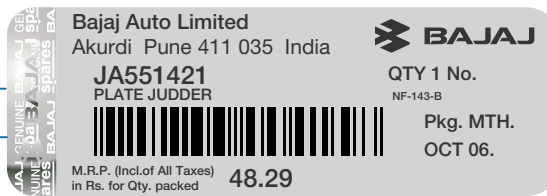
Always Insist on

BAJAJ GENUINE parts

Genuinity Test



Scratch Hologram to find 'Genuine'



Hologram

Price Label



Maintenance Tips



Carry out all free & paid services as per recommendations.



Follow 'Running-in' instructions & other riding tips for proper riding habits.



Insist on replacement of periodic parts as recommended in 'Scheduled for Periodic Part Replacement'.



Follow Periodic Maintenance & Lubrication Chart for specific repairs / parts replacements & lubrication.



Always use engine oil of recommended grade in specified quantity.

Technical Specification

ENGINE & TRANSMISSION

Engine	:	4 Stroke, Single Cylinder
Bore	:	89.0 mm
Stroke	:	60.0 mm
Engine displacement	:	373.27 cc
Idling Speed	:	1600 ± 100 RPM
Max. net power	:	35 PS (25.74 KW) @ 8000 RPM
Max. net torque	:	35 N.m @ 6500 RPM
Ignition System	:	12V DC
Fuel system	:	Fuel injection
Spark Plug	:	3 nos
Spark Plug Gap	:	0.8 ~ 0.9 mm
Lubrication	:	Wet sump forced Lubrication
Transmission	:	6 Speed constant mesh
Gear shifting pattern	:	1 Down 5 Up
Engine oil grade	:	Bajaj DTS-I 10000 (SAE 10W50 API 'SJ' or JASO 'MA2')
Drain & Refill quantity	:	1500 ml
Overhaul quantity	:	1800 ml

CHASSIS & BODY

Frame Type	:	Perimeter
Suspension	Front	: Telescopic front fork
	Rear	: Nitrox mono shock absorber
Brakes	Front & Rear	: Twin channel ABS / Non ABS
Tyres	Front	: 110 / 70 - R17, Tubeless
	Rear	: 150 / 60 - R17, Tubeless
Tyre Pressure	Front	: 2.04 Kg/Cm ² (29 PSI)
	Rear (Solo)	: 2.25 Kg/Cm ² (32 PSI)
	Rear (with Pillion)	: 2.25 Kg/Cm ² (32 PSI)
Rim Size	Front	: 3.0 x 17"
	Rear	: 4.0 x 17"
Fuel Tank Capacity	:	13 Liters
Reserve	:	Nil
Fuel Grade	:	Super Unleaded RON - 91 (Research Octane Number)

ELECTRICALS

System	: 12 V (DC)
Battery	: 12V 8Ah, VRLA
Head Lamp	: LED
Position Lamp	: LED
Tail / Stop Lamp	: LED
Side Indicator Lamp	: LED (4 nos, Orange)
Neutral Indicator	: LED, Green
Hi Beam Indicator	: LED, Blue
Turn Signal Indicator	: LED, Green
Speedometer back light	: LCD, Blue
Fuel Level Indicator	: LCD Bar
Low Oil Pressure Indicator	: LED, Red
Malfunction Indicator	: LED, Yellow
Coolant Temperature Indicator	: LED, Red
Low Battery Indicator	: LED, Red
Bajaj Logo	: LED, Blue
RPM Limit	: LED, Amber
Service Reminder	: LCD
Side Stand Indicator	: LED, Red
ABS Indicator	: LED, Yellow
Rear Number Plate Lamp	: LED
Horn	: 12V, DC

DIMENSIONS

Length	: 2156 mm
Width	: 813 mm
Height	: 1112 mm
Wheel Base	: 1453 mm
Ground Clearance	: 157 mm

WEIGHTS

	ABS	Non- ABS
Vehicle Kerb Weight	: 182 Kg	180 Kg
Gross Vehicle Weight	: 332 Kg	330 Kg

Note :

- Values given above are nominal & for guidance only, 15% variations is allowed to center for production & measurement.
- All dimensions are under un-laden condition.
- Definitions of terminologies wherever applicable are as per relevant IS / ISO Standards.
- Specifications are subject to change without notice.

Oil / Grease / Loctite Application Matrix

Sr. No.	Lubricant / Loctite	Grade	Application
1.	Engine oil	Bajaj DTS-I 10000 (SAE 10W50 API 'SJ' or JASO 'MA2')	Quantity : Drain & Refill at Service - 1500 ml / Engine O/H - 1800 ml
2.	Fork oil	SAE 10W20	Quantity / fork leg : 420 ml
3.	Gasket	Liquid Gasket (Loctite 5910)	• Crankcase joining surface.
4.	Grease	HP Lihton RR-3 Grease	Steering races & balls
5.	Spray	OKS Spray	Sealed type drive chain
6.	Grease	All purpose	<ul style="list-style-type: none"> • Fr. & rear wheel axle. • Swing arm shaft • Brake pedal pivot pin • Center stand shaft • Side stand U bracket • Gear shifter pivot • Clutch lever
		PETAMO GHY441	• Water pump oil seals
7	Electrical contact cleaning spray	WD-40 Spray	Ignition switch / Brake & clutch switch / LH / RH control switch.
8	Loctite	Thread locker 243	<ul style="list-style-type: none"> • Cam sprocket allen bolt • Pick up coil screws • Gear starter clutch stopper plate screws • Kick guide bolts • Cam sprocket allen bolt • Output sprocket bolts • Oil pump mtg bolt • I/P Shaft bearing stopper screws • Chain guide bolt • Inhibitor nut • Clutch nut • Bolt shift change • Neutral switch • Stator mtg bolts • Stator harness clamp screws

Sr. No.	Lubricant / Loctite	Grade	Application
9	Engine Oil	Bajaj DTS-I 10000 (SAE 10W50 API 'SJ' or JASO 'MA2')	<ul style="list-style-type: none"> • All ball bearings & needle roller brg. • Crank shaft big end bearing • Transmission shaft & gear teeth • Fork shaft • Drum groove & cam drum change • Block /piston skirt • Cam shaft lobes • Clutch damper spring • Cam chain • Oil pump rotor while assly.

I Read... I learn

- Vehicle Identification & Controls
- Periodic Maintenance & Lubrication Chart
- Preventive Maintenance Schedule Execution
- Pre - Delivery Inspection Checklist
- Information to be explained to customer at the time of vehicle delivery.
- Preventive Maintenance SOP

Vehicle Identification

The Frame and Engine serial numbers are used to register the motorcycle. They are the unique alpha-numeric codes to identify your particular vehicle from others of the same model and type.

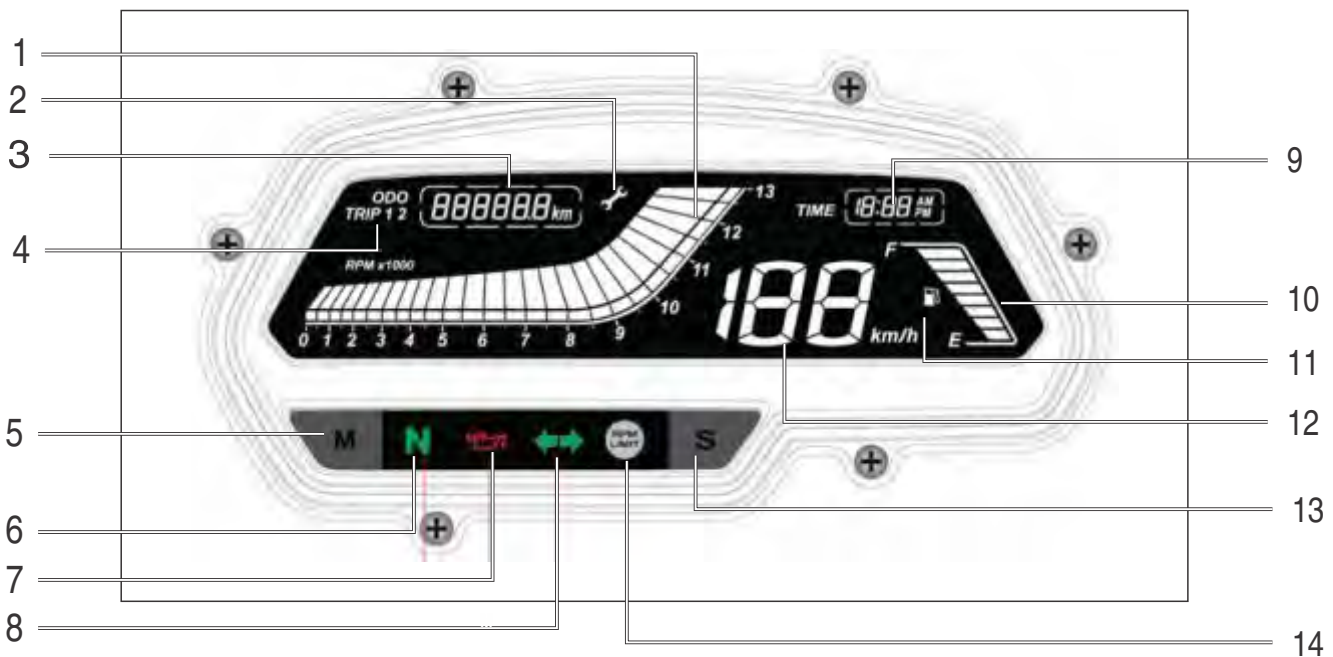


▶ Frame Number Location
On Seal Lock Mounting Bracket
(Alpha-Numeric - 17 Digits)

Engine Number Location
On LH Side Crankcase Near Gear
Change Lever (Alpha-Numeric - 11 Digits)



Primary Speedometer details



Speedometer display will work when Ignition switch is in 'ON' position.

1. **Tachometer Dial:** It shows engine speed in RPM.
2. **Service Reminder (wrench icon):** 'Wrench' symbol glows when ODO meter reading reaches to set Kms. It indicates vehicle is due for periodic service.
This Icon will flash at -
1st : 450 km 2nd : 4450 km,
3rd : 9450 km, 4th : 14450 km
and subsequently at each 5000 kms. Icon will continue to glow till it is reset. This icon is to be reset after service is carried out.
3. **Odometer :** The Odometer shows the total distance that the vehicle has covered. Odometer can not be reset to 'Zero'.
4. **Trip Meter :** Trip 1 & Trip 2 shows the distance traveled since it was last reset to zero. Rolls over to zero after 999.9 km & continue updating.
5. **Mode Button :** Mode button used for changing the mode while selecting & setting Trip1, Trip2, ODO, Clock & Service reminder.
6. **Neutral Indicator:** When the transmission is in Neutral, Neutral indicator will glow.

7. **Low Oil Pressure Indicator (oil can icon) :** It **glows** when engine oil pressure is low.
8. **Turn Signal Indicator (LH & RH):** When Turn signal switch is pushed to Left or Right, Turn Signal Indicator - LH or RH will flash.
9. **Digital Clock :** It indicates **time in HR : MM (AM/PM)**
10. **Fuel Level Indicator:** It shows approximate fuel level in fuel tank.
11. **Low Fuel Level Indicator :** It blinks incase of low fuel level (1 bar or less)
12. **Speedometer:** Vehicle speed will be displayed in digital form in Km / Hr.
13. **Set Button :** Set button used for setting Clock & Service reminder.
14. **Engine RPM Limit :** It blinks when engine RPM is more than 9500 RPM.

Note :

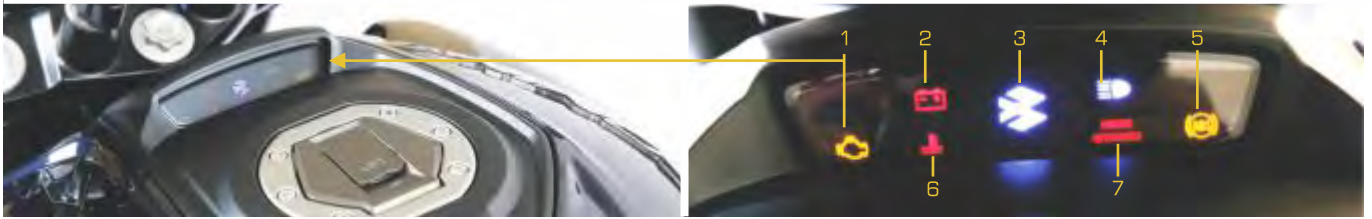
After switching 'ON' the ignition switch, the following indications will remain 'ON' till engine is started.

- Coolant Temperature Indicator
- Low Battery Indicator
- Low Oil Pressure
- Multifunction Indicator



Instructions :

Incuse, Malfunction indicator / ABS indicator gets ON during vehicle running, bring the vehicle to nearest BAL dealership for inspection / repair.


Secondary Speedometer details



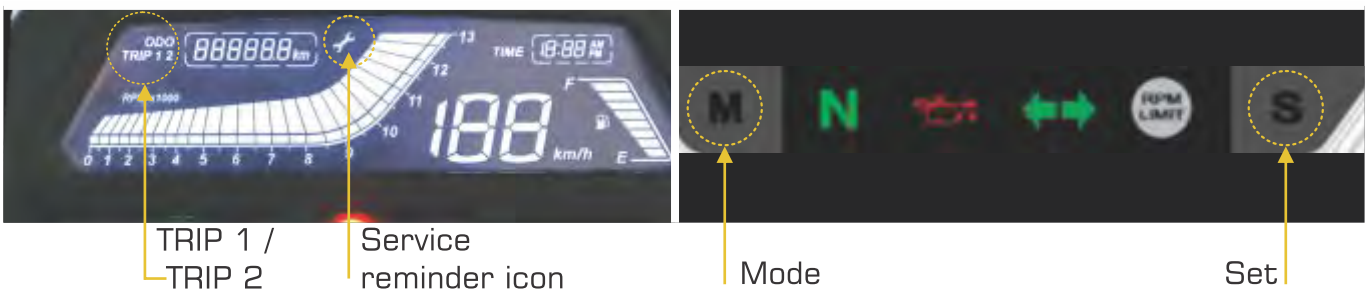
Speedometer display will work when Ignition switch is in 'ON' position.

1. **Malfunction Indicator ()** : It glows whenever any abnormality is noticed in functioning of FI system components.
2. **Low Battery Indicator** : It indicates battery needs charging.
3. **Bajaj Logo** : Bajaj logo flying 'B' glows continuously.
4. **Hi Beam Indicator**: When Headlight is 'ON' & Hi beam is selected , Hi beam indicator will glow.
5. **ABS Indicator (Yellow) ()** : With Ignition switch ON the ABS indicator glows.

When vehicle speed is more than 10 Km/hr the ABS indicator goes off, if this indicator glows while vehicle is running, it means there is problem in ABS unit.

6. **Coolant Temperature Indicator ()** : It glows when engine coolant Temperature is more than 110° C.
7. **Side Stand Indicator** : When Side stand is down, the Side stand indicator will glow (Ignition switch 'ON').

Speedometer Settings



1. Trip Meter Reset :

- Mode & Set push button is provided for selecting & resetting 'ODO/TRIP1/TRIP2'.

1	Press mode push button for less than 2 sec.	Mode changes from 'ODO/TRIP1/TRIP2'
2	Press set push button for more than 5 sec.	Selected 'TRIP1/TRIP2' will reset. Other TRIP mode will continue updating.

2. Service Reminder Reset ()

- 'Wrench' symbol glows when ODO meter reading reached to set Kms.

This icon will glow at-
 1st : 450 Kms 2nd : 4450 Kms
 3rd : 9450 Kms 4th : 14450 Kms
 & subsequently at each 5000 Kms.

Note : Bring the motorcycle at authorised BAL dealership for re-setting the service reminder.

Service Reminder Reset :- (Same as Pulsar RS 200)

- Note :- 1. To reset the service reminder icon, vehicle speed & engine rpm should be zero.
 2. Service reminder reset can be done in ODO / TRIP 1 / TRIP 2.

Sr.No .	Step	Result
1	Press 'MODE' push button & Turn ON ignition switch, Hold MODE push button for more than 10 seconds.	Service reminder icon will start blinking.
2	Release mode push button & within the 10 seconds, press SET button for more than 5 second	Service reminder icon will get reset (Service reminder symbol turn off).
3		Next service schedule in Km. is displayed as shown in photo. ODO / TRIP 1/ TRIP 2 (text) will turn OFF for 5 sec.
4		After 5 sec. text will reappear with respective Km reading.

3. Clock Reset :

- Digital clock indicates time in HR & MM separated by colon ':'
- It is 12 hour clock.
- Initially ':' will be blinking
- Clock setting is possible in TRIP 1 mode only.



1.	Press mode push button for less than 2 sec.	TRIP1 Mode selected
2.	Press mode & set push button together for more than 2 sec.	'.' stops blinking Digits starts blinking
3.	Press mode button for less than 1 sec.	Hour digits will increase.
4.	Press set button for less than 1 sec.	Minutes digits will increase.

5.	Press mode & set button together for more than 2 sec.	Set value will be saved Exit clock setting mode Digits stop blinking '.' start blinking
6.	Clock set mode is selected & no editing is carried out for more than 5 sec.	Auto exit without saving set value. If engine/vehicle rpm is given then system will exit from clock set mode without saving set value.

Steering Cum Ignition Lock



Steering cum Ignition Lock :

It has three positions.

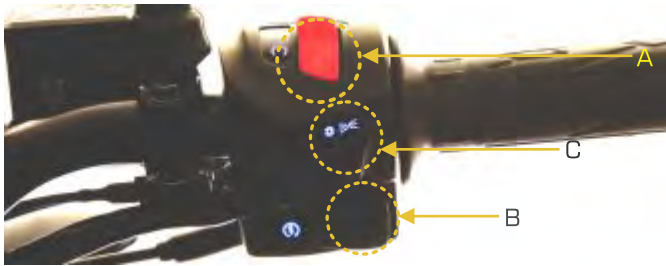
- LOCK: Steering locked. Ignition OFF.
- ⊗ OFF: Steering unlock. Ignition OFF.
- ⊙ ON: Steering unlock. Ignition ON.

To Lock the Steering : To lock the steering, turn the handle bar to the left side. Turn the handle bar to the left or right. Push & Rotate the key to "LOCK" position & remove the key. **Steering locking on handle position left hand side only.**

To Unlock the Steering : Insert the key in steering cum ignition lock. Push & Rotate it clockwise to "OFF" or "ON" position.

Key : A common key is used for 'Steering cum Ignition lock', 'Fuel tank cap' & 'Rear Seat'.

Control Switches



Control Switch RH

A. Engine Kill Switch :

The engine kill switch is used for switching ON & OFF the engine

	Engine OFF
	Engine ON

CAUTION : While starting ensure that engine kill switch is in ON () position. Keeping the kill switch in OFF position, engine will not start.

B. Starter Button :

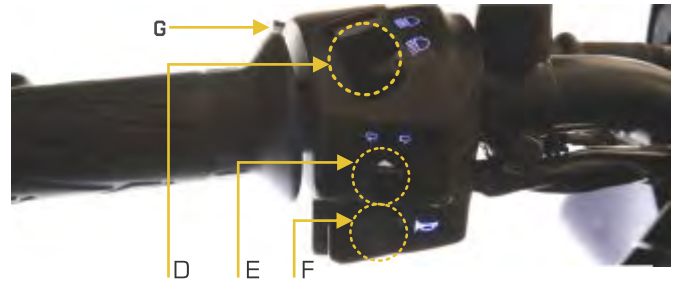
Starter button operates the electric starter. It is recommended to start the engine with the transmission in neutral.

Vehicle in Gear - Press clutch lever & operate starter button to start the engine.

C. Head Light Switch :

It has 2 positions.

	Pilot Mode
	Headlight Mode



Control Switch LH

D. Hi / Lo Beam Switch :

When headlight is ON, High or Low beam can be selected with this switch. Hi beam indicator light located on Speedo console will glow when high beam is selected.

: High Beam : Low beam

E. Turn Signal Switch :

When the turn signal knob is pushed to Left () or Right () respective indicator will start blinking. To stop blinking push the knob in & release.

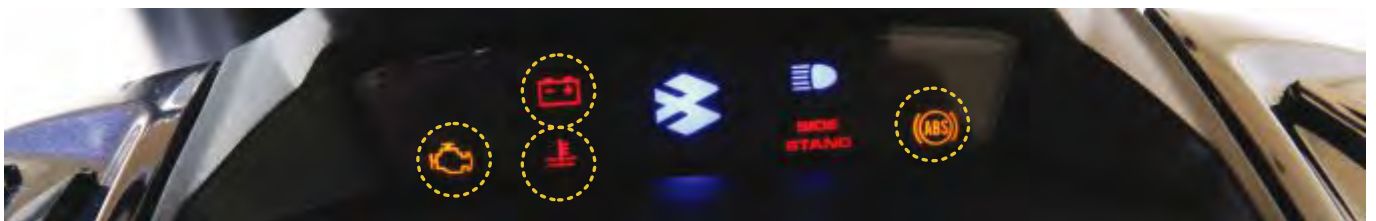
F. Horn Button :

() Press button for sounding horn.

G. Pass Switch :

Press the switch to put on Hi Beam filament of head light. It is used to give signal to vehicles coming from opposite side while overtaking.

Twin channel ABS system



Twin channel ABS system

Always maintain a safe distance between you and objects ahead. Vehicle speeds should always be reduced during extreme road conditions. The braking distance for motorcycle equipped with an anti-lock braking system may be longer than for those without it on rough road conditions. During these conditions the vehicle should be driven at reduced speeds.

When you apply Front / Rear brake under conditions which may lock the wheels, you feel a corresponding sensation (pulsation) in Front brake lever / Rear brake pedal. This is normal and it means your ABS is active.

Also it is recommended to use both front & rear brakes simultaneously.

Always slow down when cornering. The anti-lock brake system cannot prevent accidents resulting from excessive speeds.

If the ABS warning light is ON and stays ON, you may have a problem with the ABS. In this case, however, your regular brakes will work normally.











INSTRUCTION

Incase, Malfunction indicator, BS indicator, coolant temperature indicator, low battery & low engine oil pressure indicator glows in speedometer, bring the vehicle to nearest BAL dealership for inspection / repair.

Automatic Headlamp & Lights Operation

Note :

- Your vehicle has a safety feature which turns ON the headlamp automatically, once the engine is started. This provides better visibility to other road users.
- While riding, low beam or hi beam mode can be switched ON by operating the low/hi beam selector switch, keeping the light switch in head light mode.

Ignition Switch	Engine	Light Switch	Low/Hi Beam Selector Switch	The Following Lights will glow	Effect if Pass Switch is Pressed
	OFF	Any Position ← → 	Any Mode 	Front Position lamp Tail Lamp Rear Number Plate Lamp Control Switch Illumination Both speedometer illumination	Headlamp Hi beam & Low beam will glow.
ON (?)	Started	 Toward right (Pilot mode)	Any Mode 	Front Position lamp Tail Lamp Rear Number Plate Lamp Control Switch Illumination Both speedometer illumination Headlamp Hi beam	Headlamp Low beam will also glow.
		 Toward Left (Headlight mode)	Low beam mode () 	Front Position lamp Tail Lamp Rear Number Plate Lamp Control Switch Illumination Both speedometer illumination Headlamp low beam	Headlamp Hi beam will also glow.
			Hi beam mode () 	Front Position lamp Tail Lamp Rear Number Plate Lamp Control Switch Illumination Both speedometer illumination Headlamp Hi beam & low beam	No effect

Petrol tank cap locking

- Lock the petrol tank cap as follows -



- Insert the vehicle ignition key in petrol tank cap lock.



- Turn the vehicle ignition key clockwise.



- Press the fuel tank cap as shown in photograph. Ensure "TUK" sound to confirm the proper locking of petrol tank cap



- Take out vehicle ignition key clockwise.



- Press the flap of petrol tank cap lock.

- Do not attach metal key chain to vehicle ignition key as it may cause scratch / damage marks on painted part.



Sr. No.	PM Check Points	Servicing Kms	RECOMMENDED FREQUENCY							Remarks
			1st	2nd	3rd	4th	5th	6th	7th	
			500 750	4500 5000	9500 10000	14500 15000	19500 20000	24500 25000	29500 30000	
1.	Servicing with water wash		✓	✓	✓	✓	✓	✓	✓	Ensure to prevent water dry completely entry in petrol tank, silencer and electrical parts. Use caustic free detergent for washing.
2.	Engine oil & engine oil filter	C,R	R	Top-up	R	Top-up	R	Top-up	R	BGO 10W50
3.	Oil strainer & Evacuation strainer	CL	CL		CL		CL		CL	Strainer cleaning at the time of oil change.
4.	Spark plug	CL,C,A					CL,A			C&A at 20,000 kms. Replace after 40,000 kms.
5.	Air cleaner element	R					R			Cleaning not required. Replace after every 20,000 kms.
6.	In line fuel filter	R					R			Replace after every 20,000 kms
7.	Fuel pipe	C,R					C,R			Replace if required.
8.	Valve tappet clearance	C, A					C, A			Check & adjust at every 20,000 kms
9.	Sealed drive chain cleaning & lubrication	CL,L,A	CL,L,A	CL,L,A	CL,L,A	CL,L,A	CL,L,A	CL,L,A	CL,L,A	Customer to apply OKS lubrication chain lub spray at every 500 Kms.
10.	Air filter drain tube	CL					CL			Clean at every 20000kms.
11.	Silencer drain hole cleaning	CL		CL	CL	CL	CL	CL	CL	
12.	End chamber tail pipe cleaning	CL		CL	CL	CL	CL	CL	CL	End chamber to be cleaned using brush.
13.	Brake pedal pivot pin	C,L,R	C	C,L,R	C,L,R	C,L,R	C,L,R	C,L,R	C,L,R	Use recommended AP grease.
14.	Brake lining or pad - Check wear indicator	C,R	C,R	C,R	C,R	R	C,R	C,R	R	Replace brake shoes / pad at every 15000 Kms.
15.	Brake fluid level - top up / replace	C,A,R				C,A			R	Use recommended brake fluid (DOT3/DOT4)
16.	Disc brake assly -- Check functionality, leakage or any other damage.	C	C	C	C	C	C	C	C	
17.	All cables free play	C,A	C,A	C,A	C,A	C,A	C,A	C,A	C,A	
18.	Wiring harness & Battery connections- routing, tie bands & clamps tightness.	C,A,T	C,A,T	C,A,T	C,A,T	C,A,T	C,A,T	C,A,T	C,A,T	
19.	Steering play	C,A	C,A	C,A	C,A	C,A	C,A	C,A	C,A	
20.	Ignition switch barrel cleaning & handle bar control switches contacts cleaning.	C,CL	C,CL	C,CL	C,CL	C,CL	C,CL	C,CL	C,CL	Use recommended WD40 spray
21.	Steering stem bearing & Cap steering bearing (Plastic)	C,CL, L,R			C,CL, L,R		C,CL, L,R		C,CL, L,R	Check & replace if damaged Use HP Lithon RR3 grease for lubrication.
22.	Side stand pin	CL,L			CL,L		CL,L		CL,L	Use recommended AP grease.
23.	All fasteners tightness	C,T	C,T	C,T	C,T	C,T	C,T	C,T	C,T	

Sr. No.	PM Check Points	RECOMMENDED FREQUENCY								Remarks
		Servicing	1st	2nd	3rd	4th	5th	6th	7th	
		Kms	500 750	4500 5000	9500 10000	14500 15000	19500 20000	24500 25000	29500 30000	
23.	All fasteners tightness	C,T	C,T	C,T	C,T	C,T	C,T	C,T	C,T	
24.	General lubrication - Clutch lever, front brake lever	L	L	L	L	L	L	L	L	Use recommended AP grease
25.	Coolant level in expansion tank	C,A	C,A	C,A	C,A	C,A	C,A	C,A	C,A	Use recommended 'Ready to use coolant'.
26.	Coolant hose damage/clamps/leakage	C		C	C	C	C	C	C	
27.	Radiator fins	C		C	C	C	C	C	C	
28.	EVAP Drain tube cleaning	CL	CL	CL	CL	CL	CL	CL	CL	
29.	EVAP Hoses - Check functionality, leakage or any other damage **						C,R			At every 20,000 Kms

Newly added point for model with EVAP

* It is strongly recommended to use only Bajaj genuine oil.

C: Check, A: Adjust, CL: Clean, R: Replace, T: Tighten, L: Lubricate

Following items are chargeable to Customer.

Oil, Coolant, Filters, All types of greases, Cleaning agents, Cables, Wear & tear parts, Rubber O rings/oil seals/pipes, Gaskets etc.

Why Preventive Maintenance

1. What is Preventive Maintenance ?

Preventive maintenance (PM) is scheduled maintenance activity aimed at the prevention of brake downs & failures. The primary goal of PM is to up keep health of product through out it's life.

2. Why Preventive Maintenance ?

Preventive Maintenance is predetermined work to -

- a. Ensure safe functioning of product with intended reliability.
- b. Reduce cost of repairs & replacement.
- c. Protect assets & prolong the useful life of component / product.

3. How to perform ?

- a. Clean / Inspect / Lubricate / Adjust / Replace as per the PM chart & encyclopedia guidelines.
- b. To correct deficiencies found through testing & inspection.

4. How to ensure execution & competency ?

- a. Training programs, encourage & appreciates for abnormality identification & prevention.
- b. Audit & review to assure quality performance.
- c. For better understanding show "Periodic Service DVD" to technicians at suitable interval.

5. How to promote compliance to PM schedule ?

- a. Work shop side -
 1. Ensure adherence to S.O.P. while carrying out repairs through stage wise, service wise check sheet deployment.
 2. Monitor effectiveness of technicians through final inspection.
 3. Monitor consumption of Periodic parts vis a vis vehicle serviced month wise.
- b. Customer side -
 1. Display periodic parts replacement chart in customer interaction explaining adverse effects, if not done.

6. Preventive Maintenance effectiveness - Indicators to be monitor by WM at service station

- a. Reduction in repeat complaint.
- b. Parts, components performing to intended life.
- c. Reduction in brake down.
- d. Increase in service volume through AMC engagement.

Importance Of PREVENTIVE MAINTENANCE Schedule Execution

Preventive maintenance (PM) is scheduled maintenance activity aimed at the prevention of brake downs & failures. The primary goal of PM is to up keep health of product through out it's life.

PM Activity	Benefits
<ul style="list-style-type: none"> • Engine oil replacement / top up. • Engine oil filter replacement • Oil strainer cleaning. 	Better lubrication of engine components. Smooth functioning of engine parts.
<ul style="list-style-type: none"> • Spark plug cleaning. • Air filter element replacement 	Better drive ability. consistency in mileage.
<ul style="list-style-type: none"> • Petroleum jelly application on battery terminals. • Battery terminals connection tightening. • Battery charge / condition checking by battery tester. • Charging of battery on BAL recommended battery charger. 	Easy & smooth functioning of DC system.
<ul style="list-style-type: none"> • Clutch free play setting • Accelerator free play setting 	Smooth gear shifting, effective braking
<ul style="list-style-type: none"> • Drive chain (Sealed Type') lubrication on vehicle • Drive chain (Sealed Type) overhaul • Drive chain slackness checking & adjustment 	No chain noise issues. Optimum performance of drive chain.
<ul style="list-style-type: none"> • Wiring harness checking • Ignition switch contacts checking & cleaning • LH & RH Control Switch contacts cleaning 	Smooth functioning of electrical controls.
<ul style="list-style-type: none"> • General lubrication / greasing. 	No noise / wear & tear of parts.
<ul style="list-style-type: none"> • Fasteners tightening by torque wrench. 	No vibration related issues.

PDI Check sheet common for all models (Torque Values given for Dominar 400)			
Dealer's Name		Dealer's code	
Model		City	
Frame No		Date of PDI	
Engine No		PDI done by	
1. Check points before starting of the vehicle			
Check & correct the below check points before starting the vehicle			
To Check	Check for	✓ If Ok	
		X If Not Ok	
Engine oil	Oil level between lower & upper mark / Top up if required in vehicle upright on a level surface position		
Fuel tank / pipes	No leakage / Correct fitment		
Mirror	Fitment & adjustment to ensure clear rear view		
Coolant	Coolant level between MIN & MAX mark, top up if required in cold condition in vehicle upright on a level surface position		
	Ensure no leakage		
Lock Operation	Steering cum Ignition lock, Seat lock, LH side cover lock, Petrol tank cap lock		
Battery	Terminal voltage 12.4 V D.C for MF battery & 12.8 V DC for VRLA Battery using battery tester		
	Tightness of battery terminals / cables / Petroleum Jelly application		
Tyre Pressure	Front : 29 PSI (2.03 Kg / cm ²)		
	Rear (with pillion) : 32 PSI (2.25 Kg / cm ²)		
Brakes	Front brake cable free play 4 ~ 5 mm		
	Rear brake pedal free play 20 ~ 30 mm		
Clutch / throttle cable	Free play 2 ~ 3 mm		
Drive chain	Slackness 20 ~ 30 mm		
	Equal marking of chain adjusters on both side		
	No touching to chain case		

<p>Fasteners (Check torque)</p> <p>Recommended torque wrench to be used for applying torque on nut - bolts as mentioned in PDI check sheet using reference torque chart given in Annexure 4.</p> <p>However if any major parts are required to be removed (Except side cover & seat) for accessibility of torque wrench, in those cases the tightness can be ensured using open end / ring spanner / box type spanner as applicable without removing those major parts</p>	<p>Engine foundation bolts :</p> <p>Front :- Top - 3.5 Kg.m (34.3 N.m), Bottom :- 6.5 Kg.m (63.7 N.m)</p> <p>Rear (Top & Bottom) :- 6.5 Kg.m (63.7 N.m)</p>	
	<p>Front axle nut - 10 Kg.m (98.1 N.m)</p>	
	<p>Rear axle nut - 10 Kg.m (98.1 N.m)</p>	
	<p>Swing arm shaft nut - 13 ~ 15 Kg.m (127.5 ~ 147.2 N.m)</p>	
	<p>RSA Mounting Upper / Lower nut - 4.5 Kg.m (44.1 N.m)</p>	
	<p>Front fork top/ side bolts - 2.5 ~ 3.0 Kg.m (24.5 ~ 29.4 N.m)</p>	
	<p>Front fork under bracket bolts - 2.5 ~ 3.0 Kg.m (24.5 ~ 29.4 N.m)</p>	
	<p>LH / RH Stay bolts - 1.8 ~ 2.0 Kg.m (17.6 ~ 19.6 N.m)</p>	

2. Check points during / after starting the vehicle

Check & correct the below check points during / after starting the vehicle

Switch operation	RH & LH control switch, ignition switch, clutch switch & brake switch (Front & Rear)	
Horn	Ensure no distorted sound	
All lights working (As applicable)	Headlight, Tail / Stop lamp, Side indicators, Speedo bulbs, Number plate lamp,	
Speedometer (As applicable)	Working of speedometer, Odometer, Trip meter, Fuel gauge , Clock	
	<p>Working of all signal indicators icons (Neutral, Turn signal, High beam, Clock, Low battery indicator, Service reminder & Bajaj Logo)</p> <p>Important :- Do not disconnect speed sensor cable. If the vehicle is driven in speed sensor cable disconnected condition, it may result into complaints of Less pick up & other drive-ability issues like hesitation etc as the ECU can not correctly provide the map.</p>	
Headlamps	Focus confirmation	

3. Check points during Test ride

Check & correct the below check points during Test ride

Gear shifting	Smooth operation	
Drive-ability	Throttle response	
	Brake effectiveness - Front & Rear	

To Check	Check for	✓ If Ok
		X If Not Ok
Engine noise	No abnormal noise	
Front fork / steering	Smooth working by pumping movement & smooth operation (No play / No Sticky movement)	
Oil / Coolant leakages	Specify source of leakages	
4. Idling RPM / CO%		
Check & correct the below check points in engine warm condition		
Idling RPM	Check in warm up condition at 60°C – 1600 ± 100 RPM	
CO% Check	CO should be 1.5 – 2.5% in engine warm condition at idling RPM	
5. Visual inspection for dent, scratches, rust ...		
6. Clean the vehicle thoroughly before delivery to customer.		

Strike out Points Not Applicable for this model

Note :-

- Ensure availability of dial type torque wrench for ensuring torque up to 20 kg-m in workshop & PDI area.
- Ensure availability of rear wheel stand at PDI area.
- Vehicle checking & repair work to be carried out only by company trained mechanic.

Information to be explained to customer at the time of vehicle delivery.

- Vehicle is to be serviced / repaired at BAL Dealership only.

Running In

Proper running-in is important for the better life & trouble free performance of the vehicle.

- During first 2000 kms running-in period do not exceed following speed limits.

Kms	1st	2nd	3rd	4th	5th	6th
0 - 1000	13	24	37	50	56	73
1000 - 2000	20	32	42	56	62	85

- Always keep the speed below the limits mentioned in the table.
- Do not race the engine excessively.
- Do not start moving or race the engine immediately after starting. Run the engine for a minute at idle speed to give the oil a chance to workup into the engine.
- Drive chain must be cleaned & lubricated at every 500 kms for best performance.
Lubrication of chain can easily be done by owners using Bajaj 'Chain Lube Spray Can' available with Bajaj dealers on chargeable basis. SOP is given in Owner's Manual on Page No. 29.
- This vehicle is environment friendly & complying with BS IV standards.
- Speedometer will work only if ignition switch is ON.
- Headlight is AHO (Automatic headlight ON).
- RH control switch has two position for headlight – Pilot mode & headlight mode. When engine is started, high beam will get ON even if headlight switch is at Pilot position & if Pass switch is pressed additionally Low beam will gets ON.
- Power output of headlight is only 20W max & hence continuously glowing headlight will not damage/reduce life of battery.
- Always maintain Min 3.00 Liters fuel in fuel tank for smooth functioning of fuel pump.
- Always insist for use of 91 Octane number fuel for smooth functioning of bike.
- Engine Kill switch is used only for engine ON & OFF operation.
- Steering locking is possible on LH side only.
- MIL (⚠️) will glow if there in any malfunction in FI system.
- ABS ((ABS)) indicator will get ON when ignition switch is ON & will get OFF if vehicle speed is >10 km / hr.
- In case, Malfunction indicator / ABS indicator starts glowing during vehicle running, bring the vehicle to nearest BAL dealership for inspection / repair.
- After switching 'ON' the ignition switch, the following indications will remain 'ON' in speedo console till engine gets started.

- Coolant Temperature Indicator
- Low Battery Indicator
- Low Oil Pressure
- Malfunction Indicator



- If battery is discharged or battery icon starts blinking, bring the vehicle to BAL Dealership for repairs.
- Always ensure side stand is UP while starting off. Ignition will be cut off if vehicle is attempted to be driven in Side stand down condition.

- If engine coolant temperature crosses 110°C, Coolant Temperature Indicator (⚠) will get ON indicating engine is overheated & if vehicle is further driven in such a condition coolant temperature will increase up to 115°C & ECU will not allow engine to run above 4500 rpm.
- This vehicle has new A & S clutch (Assist & sleeper). Due to this, very little force is required for clutch lever operation. You won't feel jerks while sudden down shifting. Slight pulsation is felt at clutch lever. This is normal & indicates A & S clutch is working well.

- **Twin channel ABS**

Even though vehicle control is improved during emergency braking, always maintain a safe distance between rider and objects ahead.

Vehicle speeds should always be reduced during extreme road conditions.

Always slow down when cornering. The anti-lock brake system cannot prevent accidents resulting from excessive speeds.

The braking distance for motorcycle equipped with an anti-lock braking system may be longer than for those without it on rough road conditions. During these conditions the vehicle should be driven at reduced speeds.

When you apply front brake / rear brake under conditions which may lock the wheels, you feel a corresponding sensation (pulsation) in Front brake lever & rear brake pedal. This is normal and it means your ABS is active.

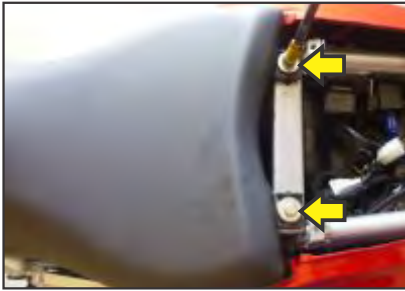
If the ABS warning light glows and stays ON, you may have a problem with the ABS. In this case, however, your regular brakes will work normally.

It is recommended to use both front & rear brakes simultaneously.

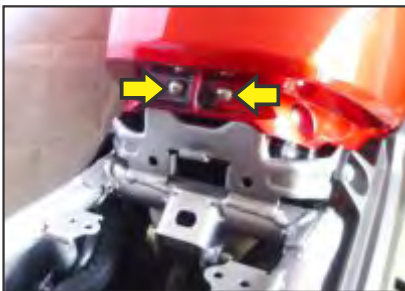
Preventive Maintenance SOP

- Inline Fuel Filter Replacement
- Air Filter Element Replacement
- Air Filter Drain Tube Cleaning
- Engine Oil replacement
- Engine Oil Top Up
- Spark Plug Cleaning
- Tappet Clearance Setting
- Silencer Drain Hole Cleaning
- End Chamber Cleaning
- Coolant Level Check & Adjust
- Sealed Drive Chain Cleaning & Lubrication on Vehicle
- Sealed Drive Chain Lubrication by Removing from Vehicle
- Drive Chain Slackness Check & Adjust
- Brake Pad Wear Check & Replace
- Brake Pedal Pivot Pin Lubrication
- Clutch Cable Free Play Check & Adjust
- Throttle Cable Free Play Check & Adjust
- Side Stand Pin Clean & Lubrication
- Brake Fluid Replacement
- Brake Fluid Top Up
- Steering Overhaul
- Steering Play Check & Adjust
- EVAP Drain Tube Cleaning
- Ignition Switch Contacts Cleaning
- Control Switch Contacts Cleaning
- Wiring Harness Routing - ABS
- Wiring Harness Routing - Non ABS
- Battering Charge Condition Checking
- Battering Charging

Inline Fuel Filter Replacement



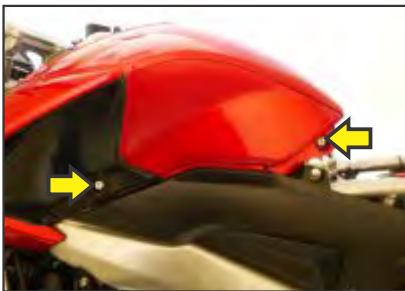
- Remove pillion rider seat & rider seat as explained in battery removal SOP.



- Remove petrol tank cover mounting bolts as follows -

◀ **Rear -**

- Remove 2 screws with plastic washer using phillips head screw driver.



◀ **LH Side-**

- Remove 2 bolts with metal collar using 5 mm allen key.

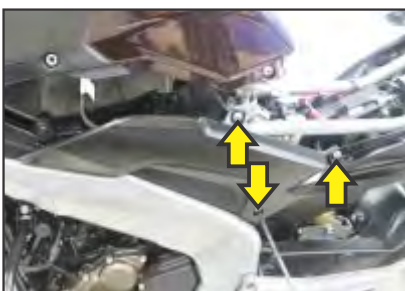
RH Side-

- Remove 2 bolts with metal collar using 5 mm allen key. ▶



Front Side-

- Remove 2 bolts with metal collar using 5 mm allen key.



- ◀ • Remove side cover LH mtg screws (3 nos).

- Lift petrol tank cover. Pull out side cover LH front lug from hole as shown in photograph. Cut the cable tie of wiring harness. Use new cable tie while fitment ▶





- ◀ • Remove secondary speedometer coupler connection.
- Take out petrol tank cover. ▶



- Remove petrol tank mounting bolts (3 nos.) with 12 mm spanner.



- ◀ • Lift petrol tank, remove fuel pump module coupler.
- Remove injector pipe from inline fuel filter. ▶



- ◀ • Using coolant clamp plier, remove EVAP pipe from petrol tank.
- Take out petrol tank. ▶





- ◀ • Remove tube fuel pump to inline fuel filter.
- Remove tube inline fuel filter to fuel pump.

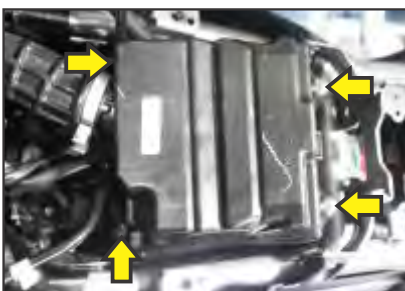


- Take out inline fuel filter.

Air filter element replacement



- Remove petrol tank.



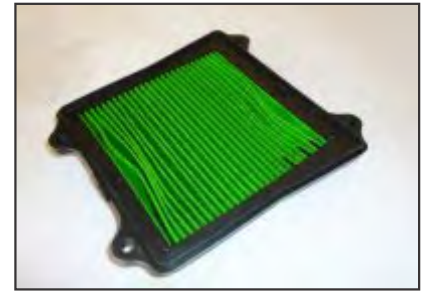
- Remove air filter cover mounting screws (4 nos.) with phillips head screw driver



- Remove intake pipe from metal wire hook.



- Take out air filter cover & air filter element.



Air Filter Drain Tube Cleaning



- ◀ • Pull out air filter drain tube locking clip.
- Pull our drain tube. ▶



- Press drain tube towards engine side & take out air filter drain tube.



- ◀ • Remove clamp using coolant clampplier.
- Take out drain tube plug & drain accumulated oil. ▶



- Check drain tube for crack / damage.
- Refit drain tube plug & its clip.
- Refit drain tube on vehicle

Engine Oil replacement



- Park the vehicle on side stand.
- Ensure Vehicle is thoroughly clean.
- Ensure engine is in warm condition before opening engine drain bolt.
- Ensure that side stand is not bend.



- Remove engine drain bolt with 18 mm spanner & take out drain bolt



- Drain the engine oil



- Take out oil strainer.



- Drain the engine oil in a clean container till last oil drop.
- ◀ • Measure the quantity of drained engine oil using calibrated measuring jar. (Use measuring jar of 1.5 to 2 Liters capacity)



- Check the quality of engine oil.
- Clean the ferrous burr accumulated on the top magnetic drain bolt. ▶



- Replace 'O' ring on drain bolt with new one once opened.



Engine Oil Strainer Cleaning

- Clean the oil strainer by kerosene / diesel & blow air of 2 bar pressure from inside.



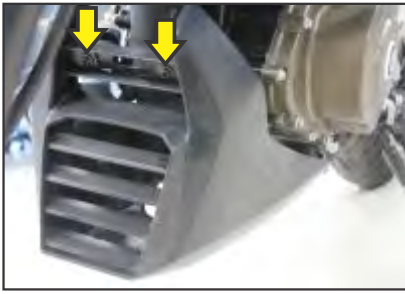
- Ensure that 'O' ring is in good condition.
- Ensure that oil strainer is in good condition.
- Do not use abrasive material / tool to clean oil strainer.



Evacuation Strainer Cleaning

- Remove under belly pan mounting bolts (4 nos.) with paper washers using 4 mm allen key.
 - LH & RH side bolt 2 paper washer per bolt.

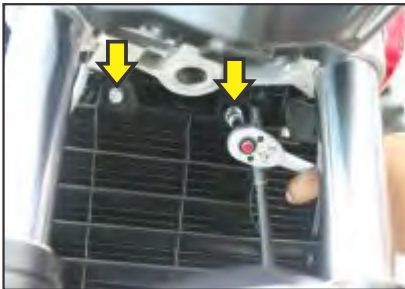




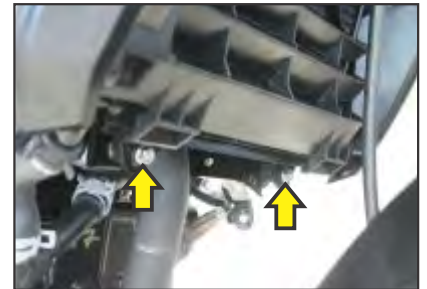
- ◀ - Front side 2 nos bolts
- Take out underbelly pan. ▶



- ◀ • Remove terminals from horn.
- Remove horn mounting bolt with 12 mm spanner. ▶



- Remove radiator mounting nuts (4 nos.) with metal washers using 10 mm spanner.



- Pull radiator assembly towards front wheel side.



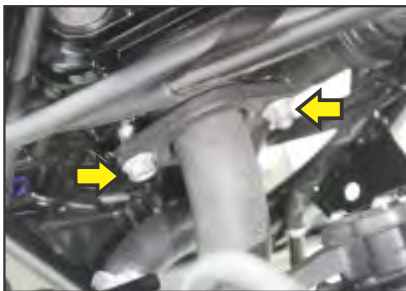
- ◀ • Remove underbelly pan structure front mounting bolts (2 nos. - allen bolt & 1 nos bolt) with 5 mm allen key & 8 mm spanner ▶





- ◀ • Take out underbelly pan structure front.

- Cut the cable tie & remove Oxygen sensor coupler connection.
Note :- Use new cable tie during fitment



- Remove exhaust pipe - A mouth flange nuts (2 nos.) & clamp bolt. with 12 mm spanner



- ◀ • Take out exhaust pipe - A from vehicle. Use new silencer gasket during fitment. ▶

- Remove evacuation strainer plug using 13 mm spanner & take out evacuation strainer along with plug.



- Pull plug from evacuation strainer.



- Clean evacuation strainer by kerosene / diesel & blow air of 2 bar pressure.



- ◀ • Ensure that evacuation strainer 'O' rings are in good condition.
- Clean evacuation strainer plug. ▶



- Replace O ring on evacuation strainer plug with new one once opened.



- ◀ • Fit evacuation strainer on evacuation strainer fitment tool as shown in photograph. ▶



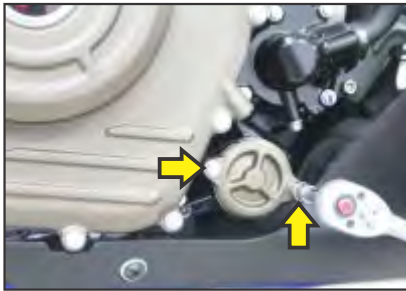
- ◀ • Fit evacuation strainer in crankcase LH.
- Take out evacuation strainer fitment tool. ▶





- Pre - fit evacuation strainer plug & tighten it to recommended torque by torque wrench.
- Re - fit all removed parts.

Engine Oil Filter Replacement



- Remove engine oil filter cover mounting bolts (2 nos) with 8 mm spanner.



- Rotate engine oil filter cover & take out engine oil filter cover.



- ◀ • Replace engine oil filter cover 'O' ring with new one once opened.
 - Take out engine oil filter using circlip plier & replace it with new one. ▶
- Important :- Ensure that engine oil filter is dipped in engine oil (10W50) before fitment.



- ◀ • Pre - fit engine oil filter cover mounting bolts & tighten it to recommended torque by torque wrench.
- Fit oil strainer. ▶





- Pre-Fit drain bolt & Tighten it to recommended torque by torque wrench.

- It is important to measure oil quantity after draining. This is important to understand the oil consumption pattern.
- During interval - from oil change to next oil change, engine oil consumption quantity should not be more than 50 ml per 1000 kms. if oil drop is more, check for external oil leakage, smokey exhaust & piston ring wear.
- Use Bajaj genuine oil only as per recommended grade (10W50).



- ◀ • Measure fresh 1500 ml of 10W50 engine oil in calibrated measuring jar.
- Remove engine oil filler cap.



- ◀ • Ensure that engine oil filler cap 'O' ring is in good condition.
- Fill 1500 ml of 10W50 engine oil in engine with funnel.



- Ensure that engine oil filler cap is fully tighten.

Engine Oil Top Up



- Wash the vehicle thoroughly.
- Ensure oil filling & drain quantity get measured in calibrated measuring jar.



- Plastic measuring jar level marking to be verified by transferring oil in borosile make measuring jar



- Warm up engine, ensure engine oil temperature is 60°C.

OR

- Run Vehicle MRTB for 3 mins @ 50 kmph speed.



- ◀ • Drain the engine oil as explained in engine oil replacement SOP.



- ◀ • Measuring engine oil drained quantity (while measurement jar to be kept on flat surface).

- Check the quality of drained engine oil. ▶





- Refit oil strainer & pre - fit drain bolt followed by tightening to recommended torque by torque wrench.



- ◀ • Remove engine oil filler cap.
- Ensure that oil filler cap 'O' ring is in good condition. ▶



- Top up drained engine oil with fresh 10W50 engine oil so as to match 1500 ml volume(Considering @150 ml engine oil is available at evacuation chamber side)

Example :-

Drained engine oil - 1150 ml ,

Engine oil in evacuation side chamber - 150 ml

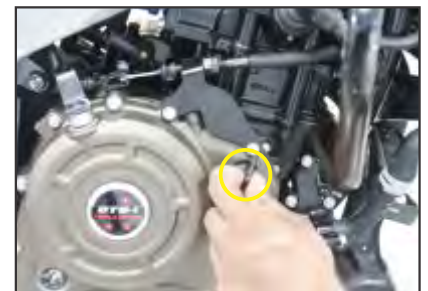
Engine oil to be top up = 1500 - (1150 + 150)

= 1500 - 1300

= 200 ml



- ◀ • Refill the engine oil in engine.
- Ensure that engine oil filler cap is fully tighten. ▶
- Reconfirm engine oil level in vehicle upright position, it should be in between MIN & MAX level.



Spark Plug Cleaning



- Remove LH & RH side spark plug caps





- Remove LH spark plug using spark plug removing special tool (Part No. 37254034)



- Remove RH spark plug using spark plug removing special tool (Part No. 37254038)



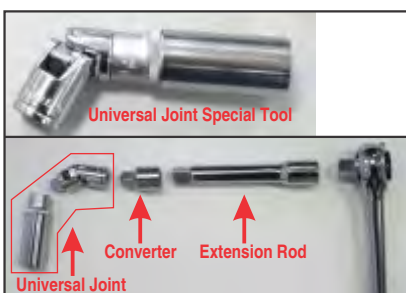
Note :

- Do not remove spark plugs in engine hot condition.



Central Spark Plug Removal

- Remove petrol tank.
- Remove central spark plug cap.



- ◀ • Use central spark plug removing universal joint along with converter & extension rod.
- Remove central spark plug using attachment as shown in photograph ▶



- ◀ • Fit central spark plug in spark plug pre - fitment pipe.

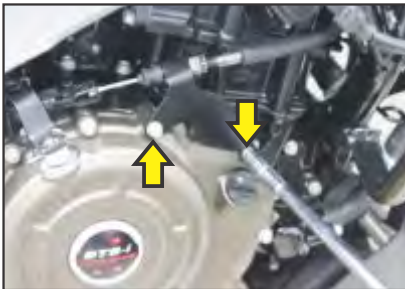


- Use central spark plug pre - fitment pipe tool for spark plug pre - fitment.

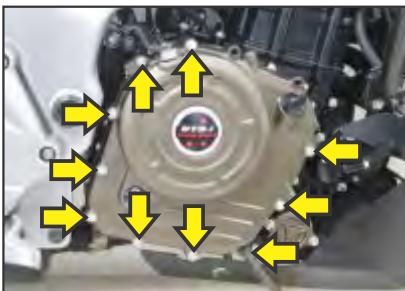
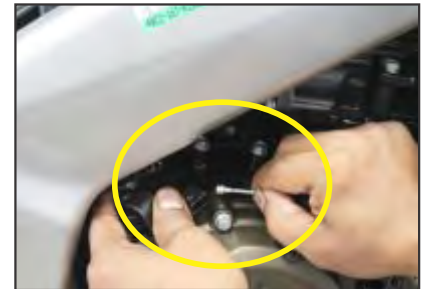


- For spark plug cleaning & adjust, refer SOP given in Preventive Maintenance Encyclopedia Page No. 45 to 47.

Tappet Clearance Setting



- ◀ • Remove clutch cable bracket mounting bolts (2 nos) with 8 mm spanner
- Remove clutch cable from clutch release shaft ▶



- ◀ • Remove clutch cover mounting bolts (10 nos.) with 8 mm spanner & take out clutch cover ▶



- ◀ • Ensure the piston is at TDC by aligning primary gear mark with crankcase mark using 24 mm spanner
- Ensure "T" mark on cam sprocket should be upwards.



Piston at TDC confirmation :-

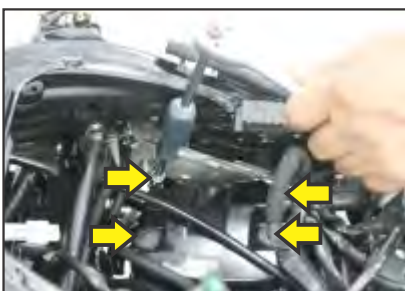
- Remove dummy bolt from crankcase.
- ◀ • If the crankshaft locker tool fits in crankshaft, it means that piston is at TDC.



- ◀ • Remove air filter element.
- Remove heat resistant rubber cover slots from clamps. ▶



- Pull out breather pipe clip & take out breather pipe.



- Remove cylinder head cover mounting bolts (4 nos.) using universal joints in criss - cross pattern & take out head cover.

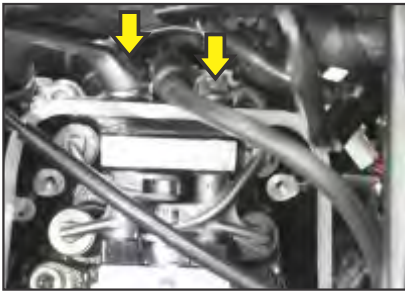


Note -

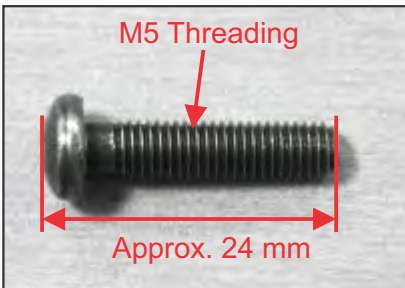
Use extension from force socket box as shown in photograph.



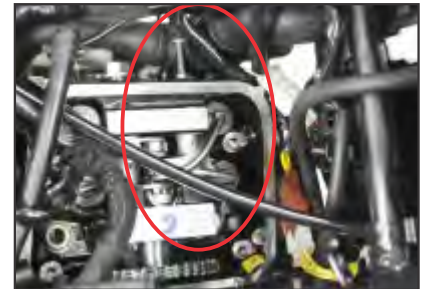
- With the help of filler gauge check tappet clearance.



- If tappet clearance is not as per specification (In - 0.05mm, Ex. - 0.10 mm), Remove plug rocker arm shaft using 14 mm spanner.



- Use bolt/screw for removing shaft rocker arm removal



- After taking out shaft rocker arm, remove screw/bolt from shaft rocker arm holding shaft rocker arm with one hand.



- Press rocker arm with one hand firmly towards cam sprocket to avoid falling of washers & take out rocker arm shaft as shown in photograph.
- Take out rocker arm shaft & washers carefully.

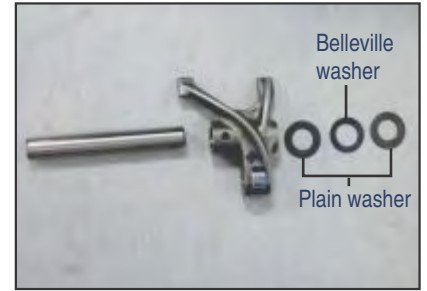




- If the washer(3 nos) falls down during rocker arm removal & take out fallen washers using flexible wire with magnetic tip.

Note :-

If washers(3 nos) are not found at cylinder head area, check washers in clutch cover side.

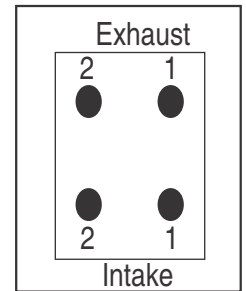


- **At a time ,take out one shim** only using flexible wire with magnetic tip.

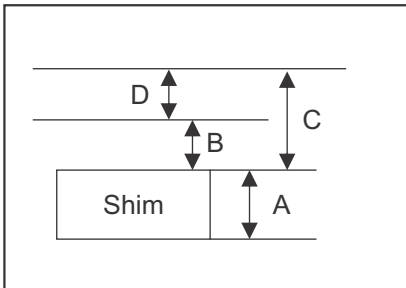
Note down shim sizes removed from vehicle as follows-

Intake 1 : _____, Intake 2 : _____

Exhaust 1 : _____, Exhaust 2 : _____



- **Shim thickness to be checked with calibrated Micrometer.**

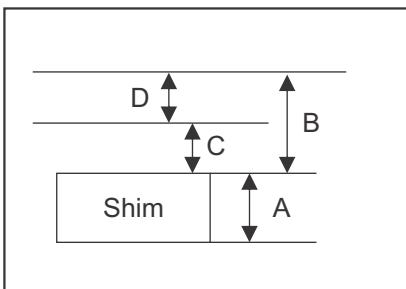


Shim calculation for increased tappet clearance :-

- A - Existing Shim thickness
- B - Standard Tappet Clearance
- C - Measured Tappet Clearance
- D - Increase in Tappet clearance = C - B
- E - Shim to be used = A+D

Shim to be used :-

For Exhaust valve -
 A - 2.40 mm , B - 0.10 mm
 C - 0.14 mm, D - 0.04 mm
 E - Shim to be used = A +D
 = 2.40 + 0.04
 = 2.44 mm



Shim calculation for decreased tappet clearance :-

- A - Existing Shim thickness
- B - Standard Tappet Clearance
- C - Measured Tappet Clearance
- D - Decrease in Tappet clearance = B - C
- E - Shim to be used = A - D

Shim to be used :-

For Exhaust valve -
 A - 2.40 mm , B - 0.10 mm
 C - 0.06 mm, D - 0.04 mm
 E - Shim to be used = A - D
 = 2.40 - 0.04
 = 2.36 mm

- Shims are dispatched as part of initial kit.
- Fit new shim on valve spring retainer.
- Fit shaft rocker arm, rocker arm & washers (3 nos).
- Refit plug rocker arm shaft.
- Filler gauge should have a mild resistance when being slide out after setting the tappet clearance.
- Complete one rotation of engine & recheck the tappet clearance.
- Pre - fit cylinder head cover mounting bolts, tighten the cylinder head cover mounting bolts to recommended torque by torque wrench.
- Refit heat resistant rubber cover & ensure the proper fitment of rubber cover slots in clamps.
- Refit all removed parts.

Silencer Drain Hole Cleaning



- Clean the silencer hole using silencer drain hole cleaning tool as shown in photograph.



End Chamber Cleaning



- Clean end chamber using silencer end chamber cleaning brush as shown in photograph.



Coolant Level Check & Adjust



Coolant Level Check & Adjust

- Ensure vehicle position upright on a level surface.
- Check the coolant level as shown in photograph & Ensure that coolant level is in between MIN & MAX level.



- If coolant level is below MIN mark, then Top-Up with recommended coolant using funnel.
- Remove RH shroud mounting bolts (2 nos.) with 4 mm allen key & 2 nos. plastic plugs with screw driver.



- Remove expansion tank cap.



- Top up with recommended coolant using funnel.

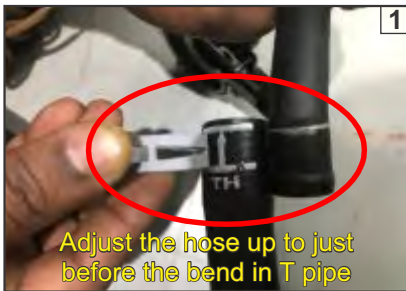
SOP for repairing "Coolant Seepage from T Pipe bypass joint"



- ◀ • **Note** : Please conform coolant seepage from T pipe bypass joint before doing following procedure . See the below photo for reference.
- Before doing rework ensure engine is cold condition. (Do not rework when engine is in hot condition)



- ◀ • Open the T pipe by-pass hose clamp using coolant clamp plier.



- Adjust the clamp and hose pipe position as shown in photograph 1,2 & 3.



- After adjustment remove coolant clamp plier from clamp. ▶



- ◀ • Check the flaring just after the clamp(Ensure clamp should not be rest on the T pipe flaring portion & T pipe bend portion) ▶
- After adjustment of hose & clamp run the vehicle on road and confirm no seepage from T pipe by-pass joint.



Sealed Drive Chain Cleaning & Lubrication on Vehicle



- Apply rear wheel stand. Normal dust should be wiped clean using a lint free cloth.
- Hold the Chain Lube Spray Can (OKS Spray) vertically upright & shake it vigorously till the noise of steel ball inside the can is heard uniformly. Fix the extension tube (red pipe provided with the can).



- Hold the can at the back of the rear sprocket in line with chain rotation and keep the nose of the extension tube at about 5~10 cms away from the chain.
- Rotate the wheel in reverse direction & spray the lube on the middle portion of the chain so that lubricant will get spread on roller & bushes and on both sides of the chain. Spray the lube on full length of chain by rotating the wheel to a complete rotation.
- Rotate the wheel 3 ~ 4 times so that the lubricant spreads & settles. Wipe out any excess lubricant if it has dripped down or sprayed on the wheel / tyre.

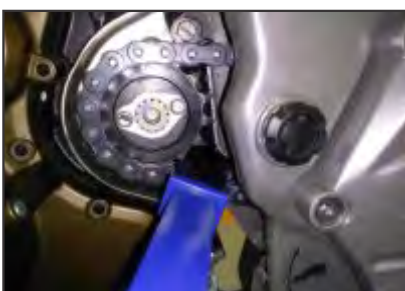
If the drive chain is excessively dirty, then clean the drive chain using chain cleaning brush as follows (applicable for models with sealed drive chain) :-



1. Keep vehicle vertically upright using main stand or rear wheel stand.
2. Hold chain in chain cleaning brush as shown in photograph.
3. While cleaning use mixture of diesel & SAE 90 oil (50:50).
4. Rotate wheel slowly.



5. Hold the brush at rear wheel sprocket for cleaning rear wheel sprocket area.
6. Rotate wheel slowly.



7. Remove mud / muck from engine sprocket area by applying low pressure water jet.
8. Clean small sprocket area using other end of brush as shown in photograph. While cleaning use mixture of diesel & SAE 90 oil (50:50)
9. Lubricate drive chain by OKS chain spray. ▶

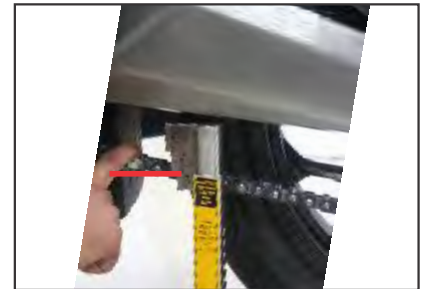


Drive Chain Slackness Check & Adjust

- Hold the vehicle in such way that bike is perpendicular to surface & both wheels are touched to surface.
- Rotate rear wheel slowly in one direction to find out the position at which chain is getting tight.



- At this lowest point of chain slackness, lift & press down the chain to measure chain slackness by steel rule or chain slackness checking tool.



- If chain slackness is not as per specification then -
- Loosen rear axle nut using 22 mm spanner holding rear axle with 17 mm spanner.



- ◀ • Hold the left side chain adjuster lock nut with 12 mm spanner & adjust the adjuster nut with 10 mm spanner to adjust chain slackness.
- Repeat the same procedure for RH chain adjuster.



- Ensure that LH & RH chain adjuster marks are equally aligned with marks on swing arm.

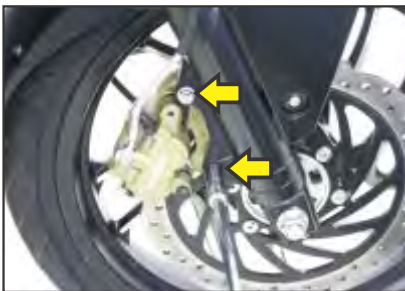


- Tighten rear axle nut to specified torque(10 Kg.m).
- Check & ensure that rear wheel is rotating freely.

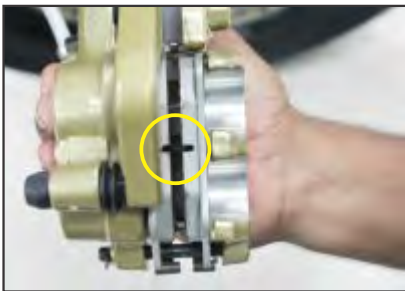
Brake Pad Wear Check & Replace



- Apply rear wheel stand.



- Remove caliper mounting bolts (2 nos) with 12 mm spanner & take out caliper assembly.



- Check brake pads "U" slot for wear, if "U" slot is worn out then remove brake pads as explained in next steps.
- If "U" slot is ok, clean the brake pads by polish / sand paper & refit removed parts.

Note :-

If "U" slot is not present then check brake pad thickness. As a precautionary measure, it is recommended to apply silicon grease on caliper anchor pin.



- Remove brake pad mounting pin locks (2 nos.) with plier.



- Take out brake pad mounting pin and brake pads.





- Replace worn out brake pads with new ones.



- ◀ • Remove anchor pin holder bracket as shown in photograph.
- Clean anchor pins by clean lint free cotton cloth. ▶

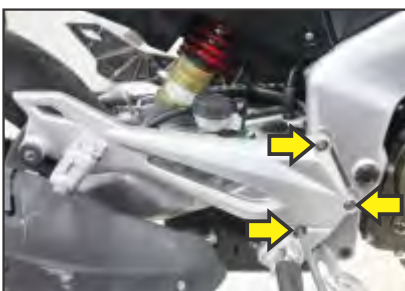


- ◀ • Smear Silicon grease on caliper anchor pin.
- Refit all the parts

Brake Pedal Pivot Pin Lubrication



- Apply rear wheel stand.
- ◀ • Remove end chamber mounting bolt with 14 mm spanner holding nut with 17 mm spanner.



- Remove rear brake switch spring connection from brake pedal.
- ◀ • Remove RH stay mounting bolts (3 nos.) with 6 mm allen key & take out RH stay. ▶





- ◀ • Put cotton cloth as shown in photograph in order to avoid scratches on painted parts.



- ◀ • Hold RH stay as shown in photograph & remove brake pedal pivot bolt using 17 mm spanner



- ◀ • Take out brake pedal pivot pin



- Clean brake pedal pivot pin by diesel.

Note :- Use emery paper for removing solid grease with dust / rust before grease application.



- Apply adequate quantity of AP grease.



- Remove excess grease with lint free cotton cloth.

- Refit all the parts.

Clutch Cable Free Play Check & Adjust



- Press and release the clutch lever to confirm smooth operation of clutch.
- If clutch operation is jammed or sticky, replace clutch cable



- Slide clutch lever rubber boot & check clutch lever free play by scale or free play gauge.



- If free play is not as per specification(2 ~ 3 mm), set it by using adjuster provided at clutch cover end.

Throttle Cable Free Play Check & Adjust



- Check for smooth rotation of throttle grip.



- Check throttle free play by scale or free play gauge.



- Adjust throttle free play if not as per specification(2 ~ 3 mm), set it using adjuster provided at throttle grip end.

Side Stand Pin Clean & Lubrication



- Apply rear wheel stand.
- Remove side stand spring.
- Remove side stand mounting nut with 17 mm spanner.



- Take out side stand.



- Clean side stand mounting bolt & side stand mounting bracket with diesel / kerosine & apply AP grease.

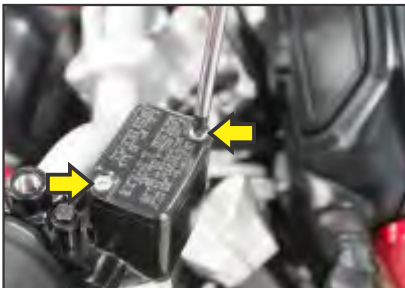


- Refit all the removed parts.

Brake Fluid Replacement



- Clean the surface area of a master cylinder.
- Drain the brake fluid from caliper assembly by loosening air bleeder screw and using transparent PVC tube which will avoid spillage of brake fluid on caliper body / disc pads & powder coating peel off / inefficient braking.



- Remove master cylinder cover mounting screws (2 nos) with phillips head screw driver
- Take out Master cylinder cover.

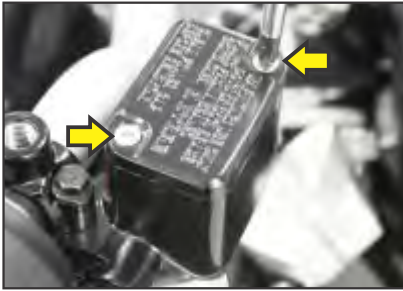


- PVC cap & Rubber diaphragm.





- ◀ • Fill master cylinder reservoir by recommended Brake fluid(DOT-4).
- Conduct air bleeding as given in preventive maintenance encyclopedia & maintain brake fluid level above "MIN" mark.



- ◀ • Fit rubber diaphragm, PVC cap & master cylinder cover.
- Press the front brake lever & check the operation of disc brake. ▶
- In a same manner, carry out rear brake fluid replacement.



Brake Fluid Top Up

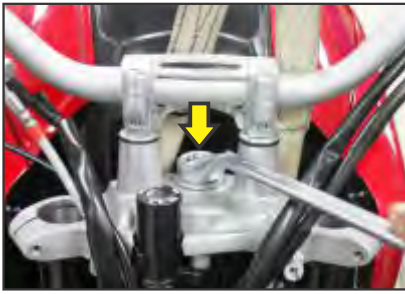


- Check brake fluid level in master cylinder.
- Ensure that brake fluid level is above "MIN" mark.
- If brake fluid level is below "MIN" mark.
 - Remove master cylinder cover, PVC cap & rubber diaphragm.
 - Top-UP with recommended brake fluid such that brake fluid level is above "MIN" mark.
 - Refit all removed parts.
 - Check braking efficiency. If found spongy, do the air bleeding activity.

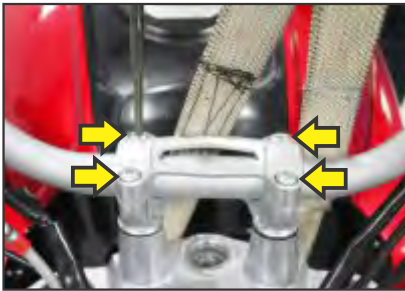
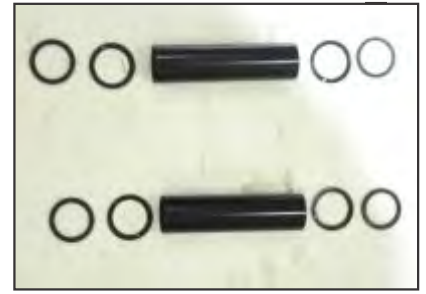
Steering Overhaul



- Remove speedo flap along with speedometer from vehicle(For detailed SOP, refer speedo flap removal SOP given in electrical section).
- Remove fork legs from vehicle (For detailed SOP, refer fork overhaul SOP given in frame section).



- ◀ • Remove fork center nut using 24 mm spanner.
- Lift handle bar assembly along with upper bracket & take out fork covers along with dampers. ▶



- ◀ • Remove handle upper holder bolts (4 nos.) with 5 mm allen key.
- Remove ignition switch coupler & take out handle bar upper holder, handle bar & upper bracket. ▶



- ◀ • Remove front brake hose routing clamp bolt with 8 mm spanner.
- Remove steering slotted nut with Special Tool (Part No. - 37004301) ▶



- ◀ • Take out under bracket assembly & slotted nut.



- ◀ • Take out upper cone & bearing cage. ▶
- For cleaning & lubrication refer PM encyclopedia Page No. 243 to 246.



Steering Play Check & Adjust

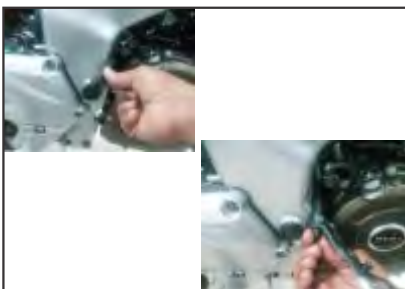


- Lift the vehicle from front side using overhead structure.
- Slightly turn the handle bar to the left hand side & leave the steering handle. Check whether the steering moves by it's own weight till the end stopper position.
- Also check the movement of steering by turning the handle on right hand side. This conforms free & smooth operation of steering.



- Check steering free play by pushing & pulling the front fork from bottom side.
- If the steering is sticky -jam or having play, remove upper bracket as explained in steering overhaul.
- Tighten steering slotted nut using steering slotted nut tightening special tool to recommended torque (0.5 Kg.m)
- Check & confirm that steering play is zero.
- Refit all the removed parts.

EVAP Drain Tube Cleaning



- Remove EVAP drain tube & remove it's clamp using coolant clamp plier.
- Take out plug from EVAP drain tube & drain accumulated petrol if any.



Ignition Switch Contacts Cleaning



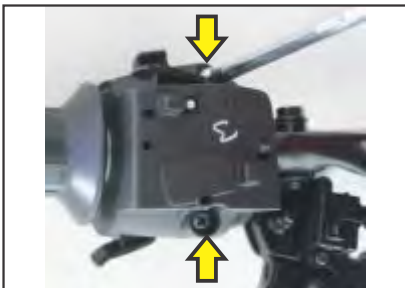
- Clean the top surface of ignition switch by clean lint / fiber free cotton cloth.



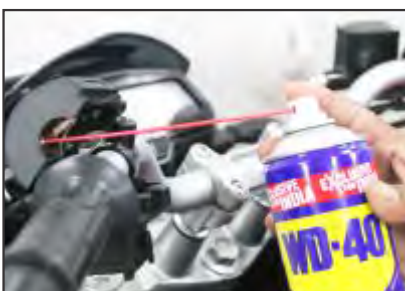
- Use only WD40 electrical contact cleaning spray for ignition switch contact cleaning.

Note :- Do not lubricate ignition switch by oil.

Control Switch Contacts Cleaning

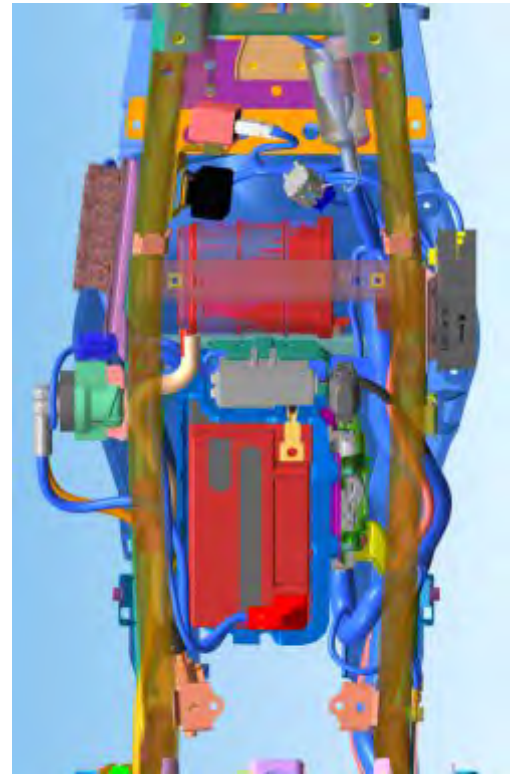


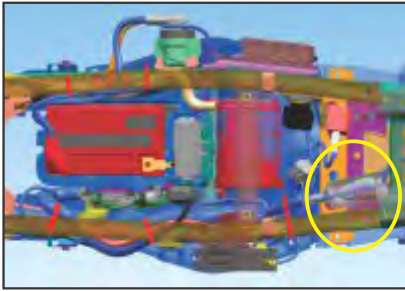
- Remove control switch mounting screws (2 nos) with phillips head screw driver & open control switch.



- Use only WD40 electrical contact cleaning spray for control switch contacts cleaning.
- Remove excess spray with lint free cotton cloth.

Wiring Harness Routing - ABS

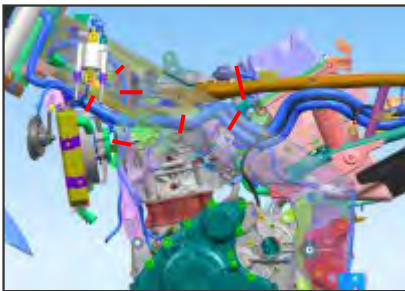




- Route the wiring harness as shown in photograph & ensures that all the couplers are properly placed inside rubber bellow.



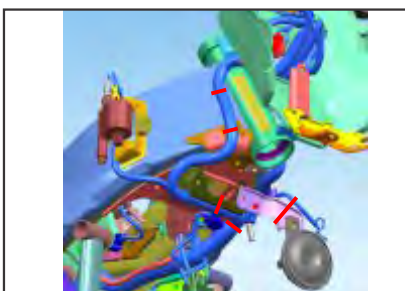
- Route the wiring harness as shown in photograph & ensure that it is tied with 6 nos cable ties (Shown by red color)



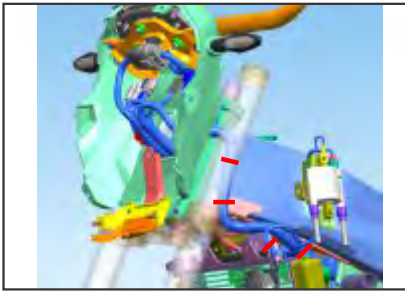
- Route the wiring harness as shown in photograph & ensure that it is tied with 7 nos cable ties.



- Route the wiring harness as shown in photograph & ensure that it is tied with 4 nos cable ties.



- Route the wiring harness as shown in photograph & ensure that it is tied with 5 nos cable ties.



- Route the wiring harness as shown in photograph & ensure that it is tied with 5 nos cable ties.



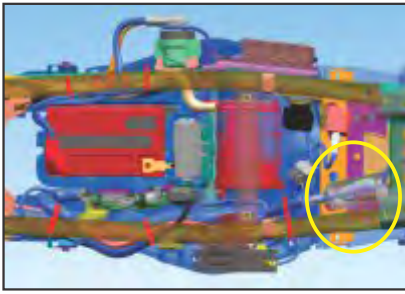
- Route the wiring harness as shown in photograph & ensure that it is tied with 3 nos cable ties.



- Route the wiring harness as shown in photograph & ensure that it is tied with 6 nos cable ties.

Wiring Harness Routing - Non ABS





- Route the wiring harness as shown in photograph & ensures that all the couplers are properly placed inside rubber bellow.



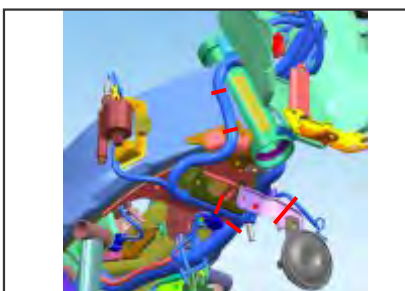
- Route the wiring harness as shown in photograph & ensure that it is tied with 6 nos cable ties (Shown by red color)



- Route the wiring harness as shown in photograph & ensure that it is tied with 7 nos cable ties.



- Route the wiring harness as shown in photograph & ensure that it is tied with 4 nos cable ties.



- Route the wiring harness as shown in photograph & ensure that it is tied with 5 nos cable ties.



- Route the wiring harness as shown in photograph & ensure that it is tied with 5 nos cable ties.



- Route the wiring harness as shown in photograph & ensure that it is tied with 3 nos cable ties.



- Route the wiring harness as shown in photograph & ensure that it is tied with 6 nos cable ties.

Battery Charge Condition Checking

- For battery charge condition checking using MIDTRONICS battery tester, refer SOP given in Pulsar 200 NS-AS 200 Service station manual.

Battery Charging

- For battery charging procedure, refer SOP given in Pulsar 200 NS-AS 200 Service station manual.

Engine & Transmission

- Tightening Torque
- Service Limits
- Important bolts tightening sequence
- Exclusive Special Tools
- Common Special Tools
- Important SOP
- Engine Removal From Frame
- Engine Dismantling
- Engine Oil Flow Path
- Evacuation System
- Engine Assembly Skill Tips
- Part Comparison

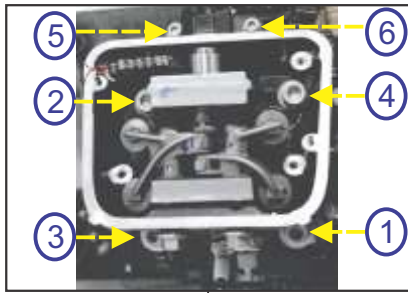
Sr.No.	Parameter	Torque Values	
		Kg.m	N.m
1	Chain tension bolts	1.0 - 1.2	9.8 - 11.8
2	Cylinder head cover bolts	1.0 - 1.2	9.8 - 11.8
3	Cylinder head bolts	6.0 - 6.5	58.9 - 63.8
4	Sprocket drive lock nut (Crankshaft sprocket nut)	12.0 - 12.2	117.7 - 119.7
5	Rotor bolt	10.0 - 10.5	98.1 - 103.0
6	Gear indicator bolt	0.5 - 0.6	4.9 - 5.9
7	Pick up coil bolt	0.5 - 0.6	4.9 - 5.9
8	Pick up coil harness plate bolt	0.5 - 0.6	4.9 - 5.9
9	Plug Evacuation strainer	1.0 - 1.2	9.8 - 11.8
10	Crankcase joining bolts	1.0 - 1.2	9.8 - 11.8
11	Chain guard screws	0.5 - 0.7	4.9 - 6.9
12	Slack side chain guide bolt	1.0 - 1.2	9.8 - 11.8
13	Stopper drum complete (Inhibitor) bolt	1.0 - 1.2	9.8 - 11.8
14	TDC Locking hole dummy bolt	1.0 - 1.2	9.8 - 11.8
15	Position plate oil seal bolts	0.6 - 0.8	5.9 - 7.8
16	Clutch cover bolts	1.0 - 1.2	9.8 - 11.8
17	Magneto cover bolts	1.0 - 1.2	9.8 - 11.8
18	Cover LH RR bolts	1.0 - 1.2	9.8 - 11.8
19	Stator mounting bolts	0.7 - 0.8	6.9 - 7.8

Sr.No.	Parameter	Torque Values	
		Kg.m	N.m
20	Balancer driven gear bolt	3.9 - 4.1	38.3 - 40.2
21	Rotor water pump nut	0.7 - 0.9	6.9 - 8.8
22	Clutch spring bolts	0.9 - 1.1	8.8 - 10.8
23	Clutch nut - LH Threading	12.0 - 12.2	117.7 - 119.7
24	Output sprocket bolts	1.0 - 1.2	9.8 - 11.8
25	Guide gear shift bolt	1.0 - 1.2	9.8 - 11.8
26	Pipe coolant T Assembly bolts	1.0 - 1.2	9.8 - 11.8
27	Water pump drain bolt	1.0 - 1.2	9.8 - 11.8
28	Water pump cover bolts	1.0 - 1.2	9.8 - 11.8
29	Oil pump bolts	1.0 - 1.2	9.8 - 11.8
30	Evacuation pump bolts	1.0 - 1.2	9.8 - 11.8
31	Engine oil filter cover	0.7 - 0.9	6.9 - 8.8
32	Starter motor bolts	1.0 - 1.2	9.8 - 11.8
33	Balancer drive gear lock nut	14.5 - 15.0	142.2 - 147.2
34	Air filter assembly bolts	0.9 - 1.1	8.8 - 10.8
35	Exhaust pipe A & Muffler assembly band clip bolt	1.8 - 2.0	17.7 - 19.6
36	Silencer mouth flange nuts	2.0 - 2.2	19.6 - 21.6
37	Engine Foundation Bolts Rear - Top & Bottom	6.5	63.7
	Engine Foundation Bolts - Front Top	3.5	34.3
	Engine Foundation Bolt - Front Bottom	6.5	63.7
38	Cam shaft sprocket mounting bolt	3.0 - 3.2	29.4 - 31.4

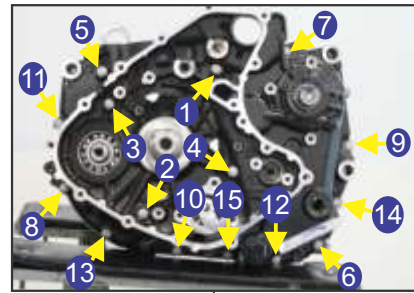
Sr. No.	Parameter	Standard Specification (mm)	Service Limits (mm)
1	Engine compression pressure	10 - 12 kg/cm ²	8 kg / cm ²
2	Valve tappet clearance-Intake	0.05	0.03 - 0.070
	Valve tappet clearance-Exhaust	0.08	0.080 - 0.120
3	Rocker arm shaft diameter	10	9.97
4	Cam sprocket root diameter	70.84 mm OD & 72.762 mm PCD	--
5	Cam lobe height (intake)	31.283	31.233
6	Cam lobe height (Exhaust)	31.3176	31.268
7	Valve spring free length	44.98	43.98
8	Valve stem diameter intake	4.978	4.96
9	Valve stem diameter exhaust	4.963	4.95
10	Valve stem to valve guide clearance (intake)	0.037 - 0.052	0.062
11	Valve stem to valve guide clearance (Exhaust)	0.03 - 0.057	0.067
12	Valve stem bent	TIR 0.01	TIR 0.015
13	Cylinder head warp	0.05	--
14	Cam chain 20 links length	129.4	129.85
15	Cylinder inside diameter	89.01 - 89.024	89.054
16	Piston diameter	88.942 - 88.958	88.978
17	Piston cylinder clearance	0.060 - 0.075	0.115

Sr. No.	Parameter	Standard Specification (mm)	Service Limits (mm)
18	Clearance between Ring & Piston groove (Top ring)	0.030 - 0.070	0.15
19	Clearance between Ring & Piston groove (Second ring)	0.030 - 0.070	0.15
20	Clearance between Ring & Piston groove (Oil ring)	0.060 - 0.140	0.16
21	Piston Ring end gap (Top ring)	0.20 - 0.35	0.55
22	Piston Ring end gap (Second ring)	0.40 - 0.55	0.75
23	Piston Ring end gap (Oil ring)	0.2 - 0.70	1
24	Clutch spring free length	52.1	51
25	Friction plate thickness	2.92 - 3.08	2.72
26	Steel plate thickness	1.6	1.5
27	Friction plate warp	0.1	0.2
28	Steel plate warp	0.1	0.15
29	Gear shift fork guide pin diameter	4.960 - 4.990	4.91
30	Gear shift drum groove width	5.050 - 5.150	5.155
31	Crankshaft run out	0.02	0.1
32	Connecting rod side (axial) clearance	--	0.4
33	Clutch hub height	27.3 - 27.7	27.9
34	Shaft fork shift OD	9.966 - 9.984	9.922
35	Fork shift ID	10 - 10.027	10.067
36	Clutch stackup height	32.936 - 33.34	30.6

Cylinder Head Mounting bolts

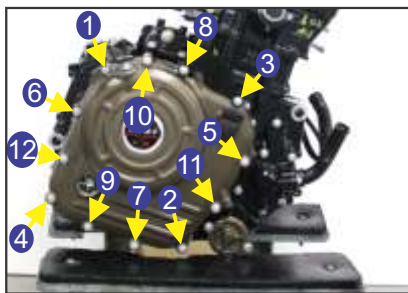


Crankcase Joining Bolts

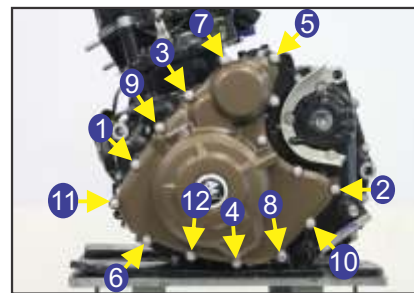


Tightening Torque : 1.0 - 1.2 Kg.m. (9.8 - 11.8 N.m)

Clutch Cover Mounting Bolt

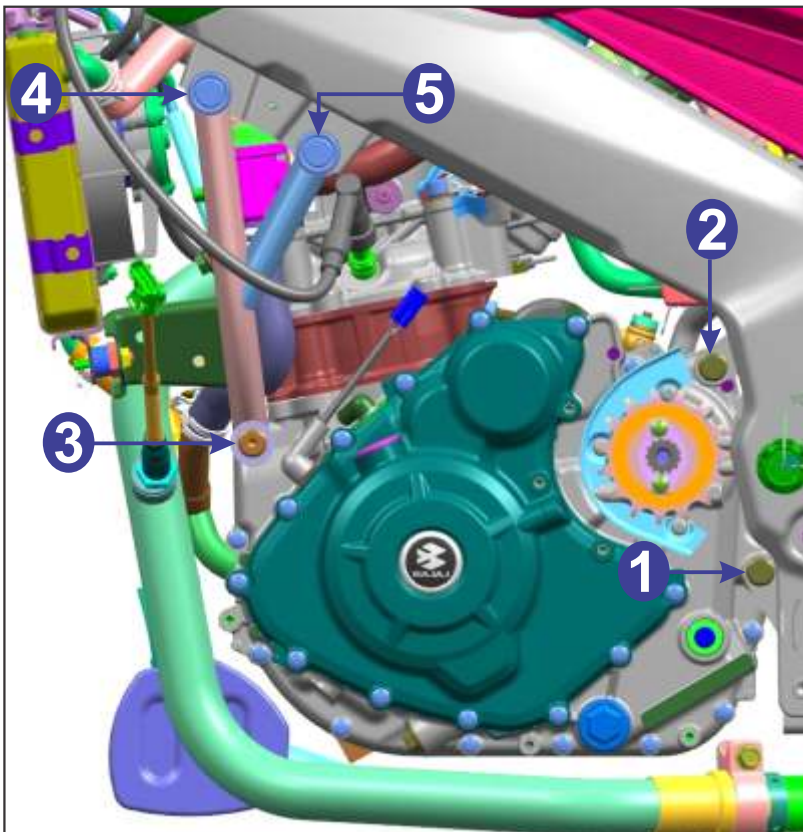


Magneto Cover Mounting Bolt



Tightening Torque : 1.0 - 1.2 Kg.m. (9.8 - 11.8 N.m)

Engine Mounting Bolts



Bolt tightening steps to be followed :-

- Step 1) All bolts should be prefit first (1 to 5)
- Step 2) Bolts of frame should be tightened first (1, 2)
 - 1) 6.5 Kg.m (63.7 N.m)
 - 2) 6.5 Kg.m (63.7 N.m)
- Step 3) Bolts on engine Stay (3, 4, 5)
 - 3) 6.5 Kg.m (63.7 N.m)
 - 4) 3.5 Kg.m (34.3 N.m)
 - 5) 3.5 Kg.m (34.3 N.m)



Crankshaft Locking Tool

Part No. : 37 1043 32

Application : For locking crank shaft



Evacuation Strainer Fitment Tool

Part No. : 37 0042 82

Application : For fitting evacuation oil strainer



Universal Joint - Central spark plug

Part No. : 37 1043 33

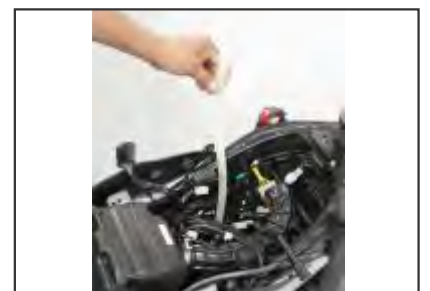
Application : For central spark plug removal & fitment-ON Vehicle.



Rubber Tube - Central spark plug

Part No. : 37 1043 34

Application : For pre-fitment of central spark plug -ON Vehicle



Universal Joint - Cylinder Head Cover

Part No. : 37 1043 35

Application : For cylinder head cover RH side bolts removal & fitment-ON Vehicle.





8mm Allen Key With Socket

Part No. : 37 1043 36

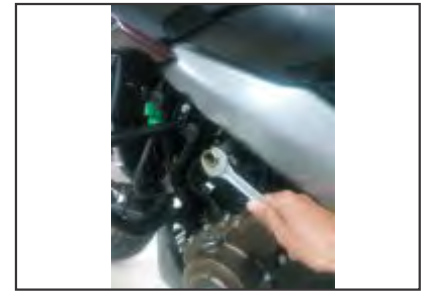
Application : For removal & fitment of cylinder head LH side bolts



21mm Tube Spanner

Part No. : 37 1043 37

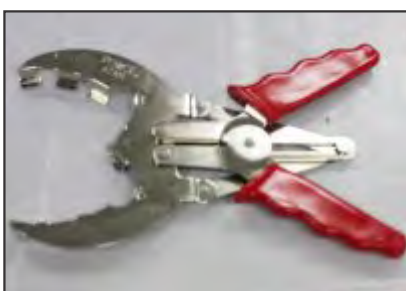
Application : For oil pressure sensor removal & fitment on vehicle.



Clutch Centre Holding Tool

Part No. : 37 1043 38

Application : For holding clutch centre while removing & fitting clutch nut



Piston Rings Expander Tool

Part No. : 37 1043 39

Application : For expanding piston rings while removing & fitting piston rings on piston.



Piston Pin Circlip Fitting Tool

Part No. : 37 1043 40

Application : For fitment piston pin circlip.





Piston Pin Removal Tool

Part No. : 37 1043 41

Application : For removing piston pin from piston.



Primary Gear Extractor

Part No. : 37 1043 42

Application : For removing primary gear.

Note:- To be used in case of removing jammed primary gear



Balancer Driven Gear Extractor

Part No. : 37 1043 43

Application : For removing balancer driven gear.

Note :- To be used in case of removing jammed primary gear



Engine Jack For Fitment Of Engine On Frame

Part No. : 37 1043 44

Application : For taking down engine from frame & while refitting engine on frame.



Flexible Wire With Magnetic Tip

Part No. : 37 1043 45

Application : For shim removal from cylinder head For removing small hardware items fallen inside engine

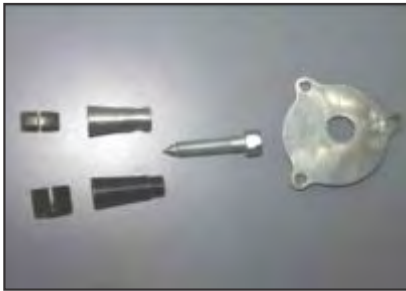




Coolant Temperature Sensor Removal Tool

Part No. : 37 1043 46

Application : For removing & fitting coolant temperature sensor.



Water pump seals removal tool

Part No. : 37 1043 49

Application : For removal of water pump oil seals.



Water pump seals fitment tool

Part No. : 37 1043 50

Application : For fitment of water pump oil seals.





Magneto Rotor Puller

Part No. : 37 0042 76

Application : For removing magneto rotor from crankshaft.



LH Spark plug removal

Part No. : 37 2540 34

Application : For removing LH spark plug from cylinder head.



Balancer Lock Nut Tightening / Removing Tool

Part No. : 37 0041 60

Application : For balancer lock nut removing & torque application while tightening.



Output Shaft Oil Seal Fitment Tool.

Part No. : 37 1042 56

Application : For fitment of output shaft oil seal tool.



Balancer + Radiator Pump Oil Seal Fitting Tool

Part No. : 37 0041 56

Application : For fitment of balancer & radiator pump oil seal.





Rocker Shaft Remover Tool

Part No. : 37 10DH 35

Application : For removing of rocker shaft tool.



Bearing Driver Set

Part No. : 37 1030 61

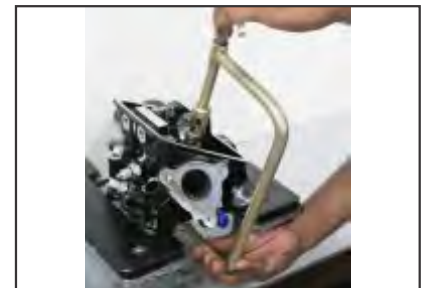
Application : For pressing bearings in crankcase.



Adaptor & Valve Spring Compressor

Part No. : Compressor - 37 1031 07
Adaptor - 37 1031 08

Application : For compressing inlet & exhaust valve springs.



Input Shaft Bearing Extractor

Part No. : 37 10DJ 76

Application : For removing bearing of input shaft.



Cam Sprocket Holder

Part No. : 37 1043 07

Application : For holding cam sprocket while removing cam sprocket allen bolt.





Spark Plug Sleeve Removal Tool

Part No. : 37 1043 09

Application : For removing sleeve of spark plug.



RH Spark Plug Removal Tool

Part No. : 37 254038

Application : For removing RH spark plug.



Coolant Clamp Plier

Part No. : 37 2540 35

Application : For removing & fitting of coolant hose clamps.

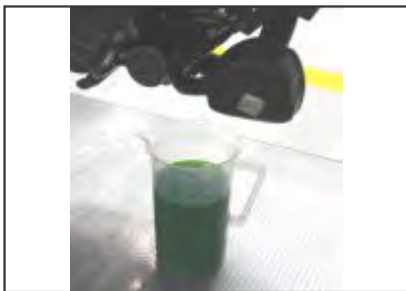
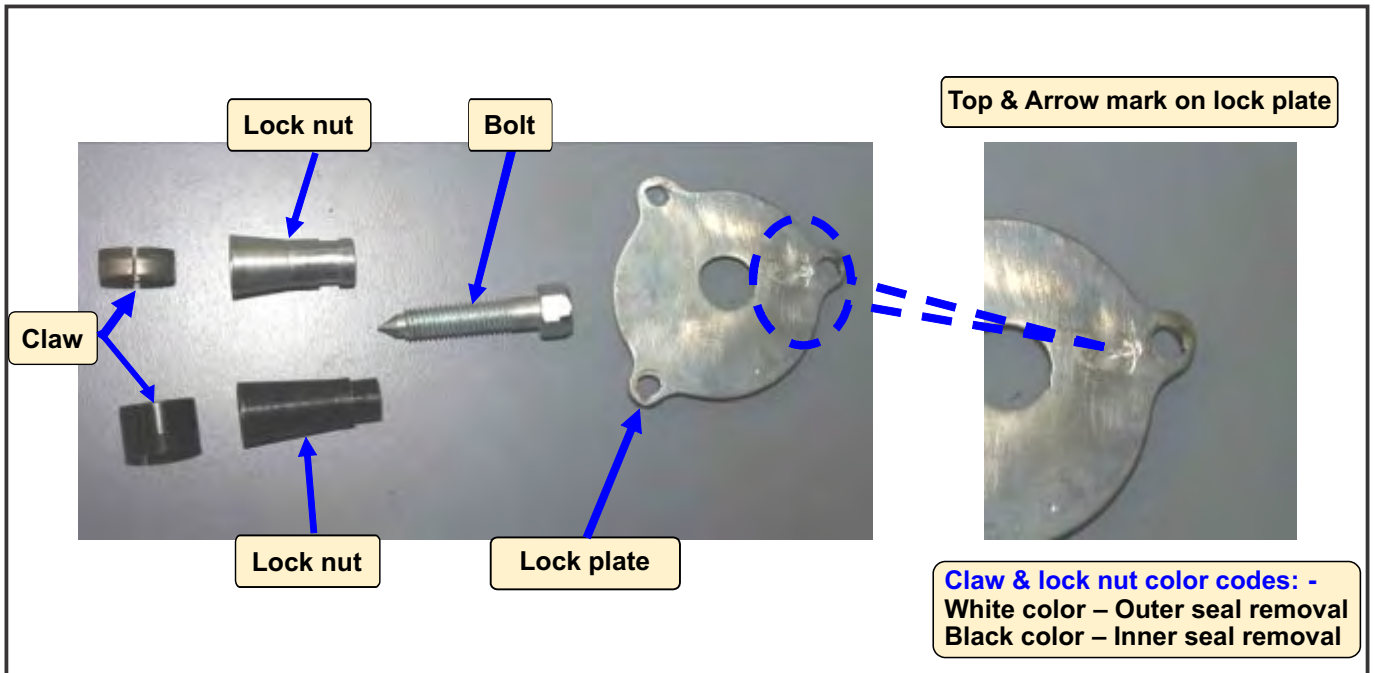


Engine Oil Pressure Checking Unit

Part No : 37 2040 31

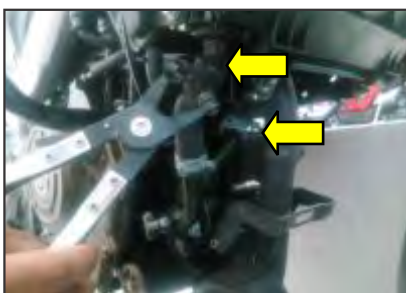
Application : For checking engine oil pressure.

Water Pump Seals Replacement (Applicable for models with liquid cooled engines)



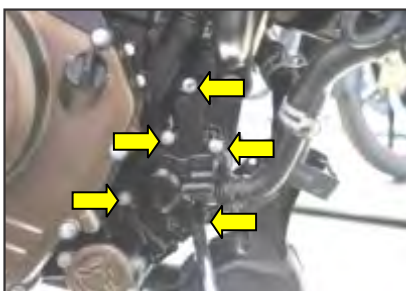
Outer seal water pump removal :-

1. Drain the coolant.



2. Using coolant clamp plier, remove clamps of bypass hose & Radiator to T pipe hose as shown in photograph.

Note :- For Pulsar RS 200, Radiator cowl & horn Need to be removed to make access to hose clamps.



3. Remove cover water pump mounting bolts (5 nos) With 8 mm T spanner.

4. Take out cover water pump along with T pipe.





5. Remove rotor water pump mounting dome nut along with washer using 10 mm spanner.



6. Take out rotor water pump.

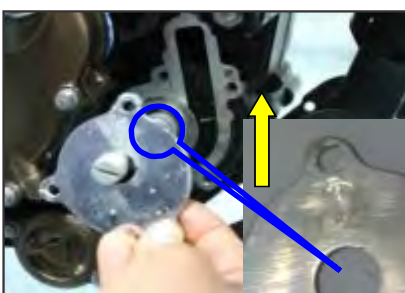


7. Fit claw on lock nut.

8. Insert the bolt as shown in photograph in lock nut.



9. Insert lock nut along with claw as shown in photograph.



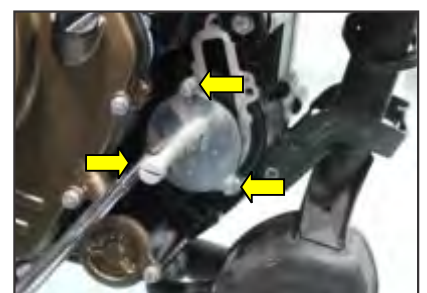
10. Insert the lock plate.

NOTE : - "Top mark on lock plate" should be towards up side (In the direction of arrow)



11. Pre tighten lock plate using 3 nos bolts of cover water pump.

12. Tighten the 3 bolts securing lock plate fully.





◀ 13. Tighten the bolt as shown in photograph.

14. Remove 3 bolts of lock plate & take out lock plate. ▶



15. Take out lock nut & claw along with outer water pump seal as shown in photograph.

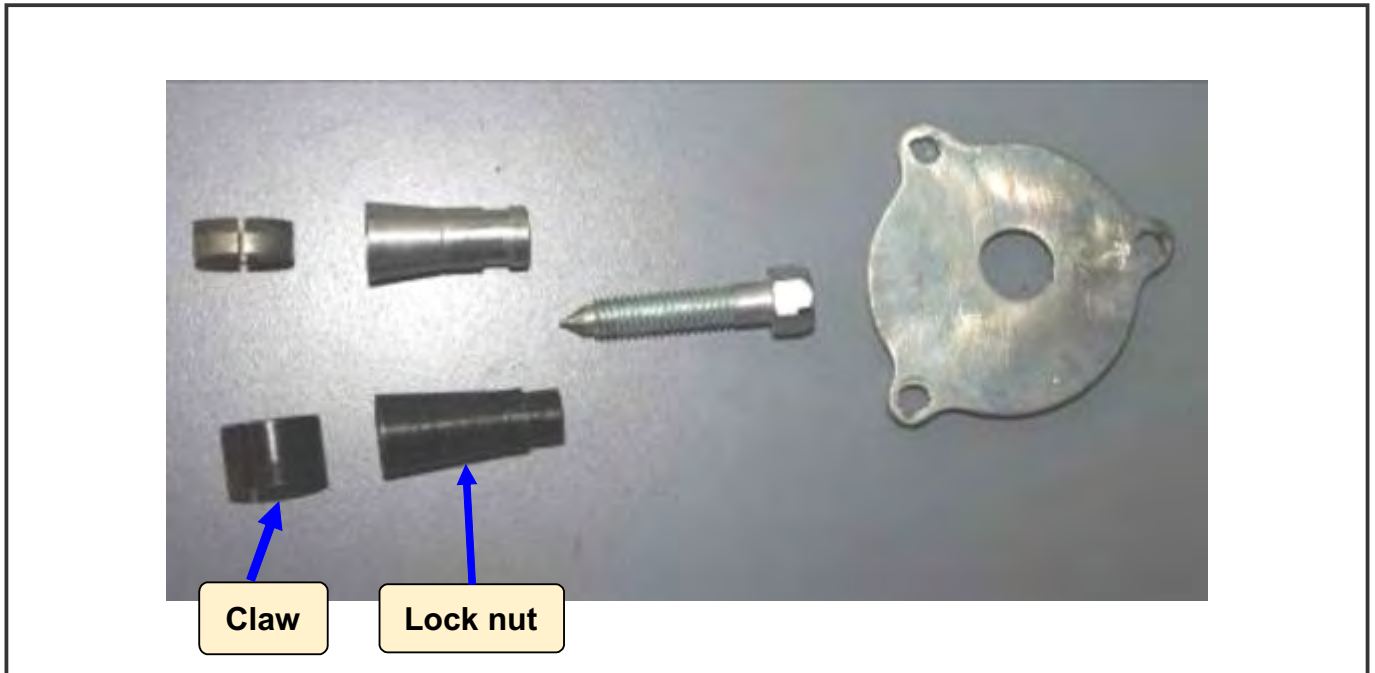


16. Take out bolt from lock nut.

17. Take out seal water pump from claw.



18. Take out claw from lock nut.



Inner seal water pump removal: -

Follow steps from 7 to 18 given in inner seal water pump removal process.

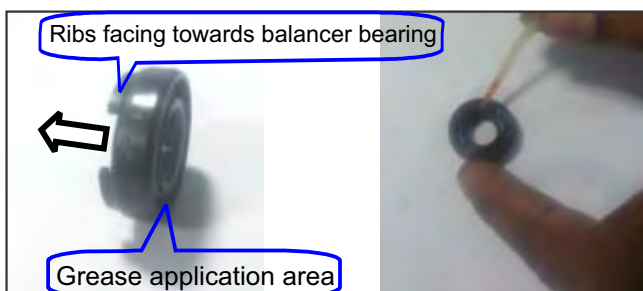
Use black color claw & lock nut for removing inner seal water pump



Water pump seals fitment tool :-

Seal fitment punch color codes :-

White color – Outer seal fitment
Black color – Inner seal fitment



• Inner seal water pump fitment :-

1. Apply Kluber make “PETAMO Grease GHY441” in groove of inner seal water pump as shown in photograph using any non-metallic thing like cable tie before fitment in engine Kluber grease part no.83020473 is available in 3 gm pouch in spare parts.



2. Insert guide shaft as shown in photograph.

Ensure that guide shaft is inserted as per arrow shown in photographs.



3. Fit inner seal water pump on seal fitment punch as shown in photograph.



4. Insert seal fitment punch along with inner seal water pump as shown in photograph.



5. Holding seal fitment punch, tap on seal fitment punch with mallet.

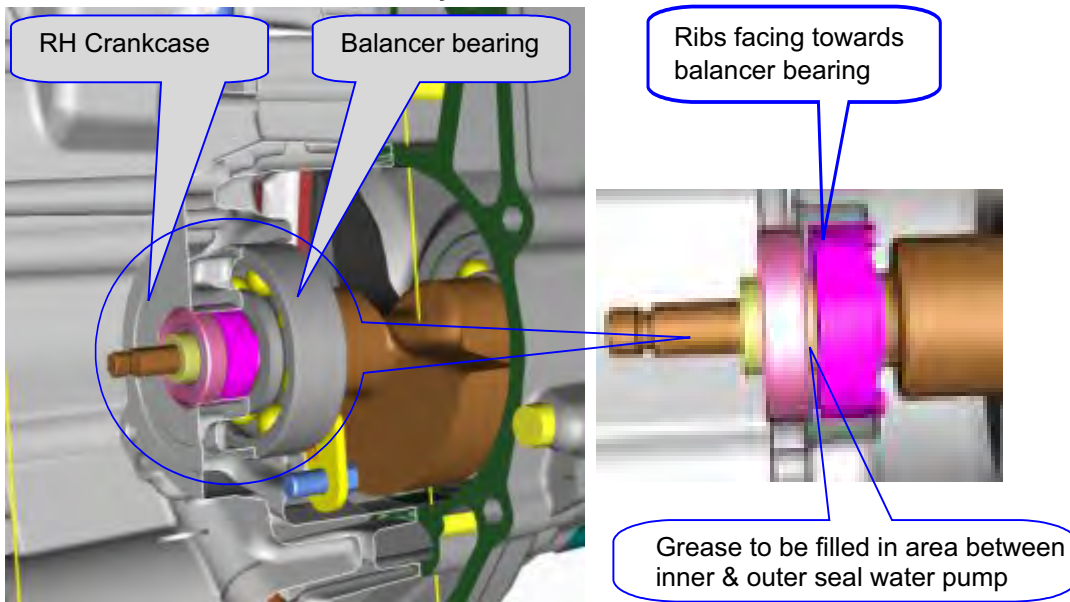
Take out seal fitment punch.



Kluber make "PETAMO Grease GHY441 Application

Apply Kluber make "PETAMO Grease GHY441" in groove of outer seal water pump as shown in photograph using any non-metallic thing like cable tie before fitment in engine.

Seals fitment on Balancer assembly :-



Also fill Kluber make “PETAMO Grease GHY441 in area between inner & outer seal water pump as shown in photograph using any non-metallic thing like cable tie.



Outer seal water pump fitment :-

Follow the same steps for fitment outer seal water Pump as given in inner seal water pump fitment process.

Replace “O Ring” of cover water pump with AP grease application.

Guideline for field in case of coolant mixing with engine oil for replacement of seal water pump

Model	Before Cut off	After Cut off
Pulsar NS200	Engine to be opened. (In earlier design at water seal resting area step in between sleeve & balance shaft.	1.Engine opening not Required
Pulsar RS 200	If water seals are replaced without opening engine there is a possibility of repeat complaint of coolant mix with engine oil)	(In modified design sleeve length is increased & step in between sleeve & balance shaft is removed)
Dominar 400	N/A	2. Consumables to be claimed through Special sanction only.

Engine oil flushing on vehicle



“Engine oil flushing procedure” to be followed in case of coolant mixing in engine oil.

1. Drain the engine oil.
2. Remove oil strainer, evacuation strainer (As applicable to model) & engine oil filter.



3. Refit the drain bolt.
4. Clean both oil strainer & evacuation strainer (As applicable to model). Refit both strainers.
5. Refit new engine oil filter.



6. Fill fresh engine oil as model applicability.

Model	Engine oil grade	Qty (ml)
Dominar 400	10W50	1500
Pulsar RS 200 / NS 200	20W50	1250

7. Start the vehicle & run the engine at idling rpm for 2 Minutes.
Further rev up the engine up to 4000 – 5000 rpm for 30 seconds.
Keep the engine running in idling condition for 2 minutes.
Stop the engine & wait for 5 minutes.
8. Drain the engine oil.
9. Measure the drained engine quantity.
Ensure that drained engine oil quantity is approximately equal to refilled quantity.
10. Refill fresh engine oil as model applicability.
11. Refit new engine oil filter

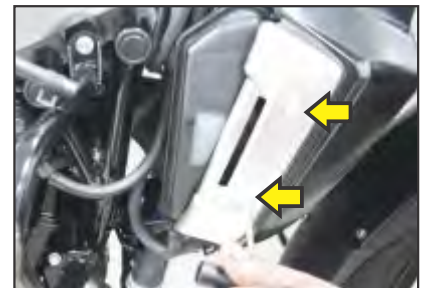
- Remove throttle body(For detailed SOP, refer throttle body removal SOP given in frame section)
- Remove leg guards.
- Remove under bally pan structure.
- Remove clutch cable from release shaft & clutch cable bracket



- Drain the coolant by removing coolant drain bolt along with copper washer using 8 mm spanner.



- ◀ • Refit coolant drain bolt along with new cooper washer.
- Remove RH shroud assembly 2 bolt along with plastic washer using 4 mm allen key. ▶



- Remove RH shroud snap clip (2 nos.) & take out RH shroud assembly.



- Remove expansion tank to radiator hose pipe clamp using coolant clamp plier & take out hose pipe.





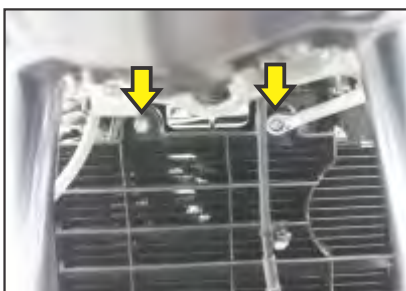
- ◀ • Remove expansion tank mounting bracket bolt 2 nos. with 8 mm spanner.
- Remove expansion tank to radiator hose pipe from clamp provided on expansion tank. ▶



- ◀ • Take out expansion tank along with its mounting bracket.
- Remove LH shroud assembly as explained in RH shroud assembly.



- ◀ • Remove horn terminal.
- Remove horn mounting bolt 12 mm spanner & take out horn. ▶



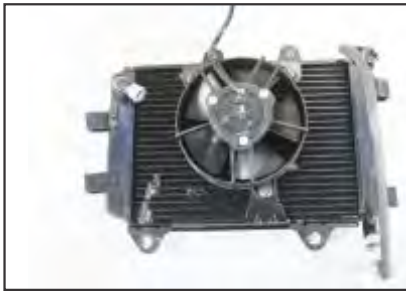
- ◀ • Remove radiator cowl mounting nuts (2 nos.) with 10 mm spanner.
- Take out radiator cowl. ▶



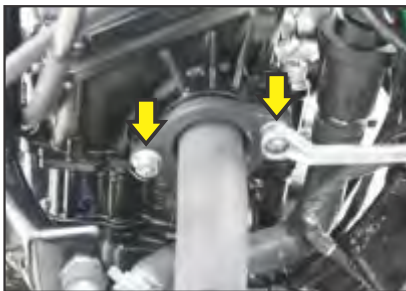
- Remove radiator mounting nuts (2 nos.) 10 mm spanner.



- ◀ • Remove all hoses clamp using coolant clamp plier & all hoses from radiator.



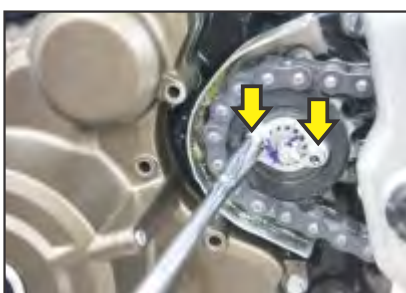
- ◀ • Take out radiator assembly along with radiator fan.
- Remove oxygen sensor coupler connection ▶



- ◀ • Remove exhaust pipe mouth flange nuts (2 nos) with 12 mm spanner.
- Remove all spark plug (3 nos.)



- Remove clutch cable from clutch release shaft.
- ◀ • Remove gear change arm bolt 10 mm & take out gear change arm from lever complete gear shift. ▶



- Remove cover LH RR.
- ◀ • Loosen drive chain & remove output sprocket mounting bolt (2 nos.) with 8 mm spanner & take out output sprocket. ▶





- Pull out oil pressure switch rubber grommet.
- Remove oil pressure switch ring terminal using 10 mm spanner.



- Remove coolant temperature sensor coupler.
- Pull out starter motor wire rubber boot.



- Remove starter motor wire using 10 mm spanner.
- Remove clutch cable from clamp provided on RH engine stay.



- Remove earthing cable using 8 mm spanner.
- Remove stator plate coupler.



- Remove engine foundation nuts as follows -

Front

- Remove LH & RH engine stay bolts (2 nos each - 12 mm spanner) & nut (1 nos each - 14 mm spanner)

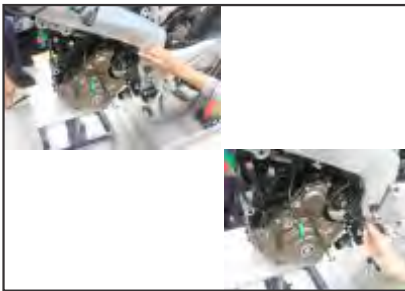
Rear

- Nut (2 nos) with 14 mm spanner holding head

- Remove stator plate coupler connection.



- ◀ • Put the engine jack (P/N - 37104344) below engine as shown in photograph.
- Lift the jack using lifting rod till it's base touches to engine.

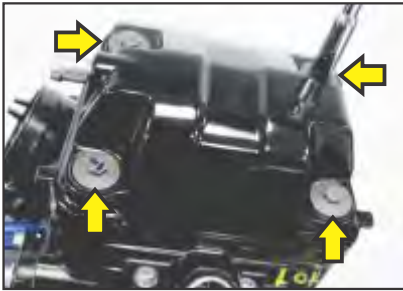


- ◀ • Take out engine foundation rear bolts.
- Lower down the engine jack using lifting rod ▶



- Take out engine assembly along with jack from bay.

Top Side Dismantling



- Remove Cylinder head cover mounting bolts (4 nos.) in criss - cross pattern with 10 mm spanner & take out Cylinder head cover.



- Remove clutch cover mounting bolts (10 nos.) with 8 mm spanner & take out clutch cover.



- Ensure that piston is at TDC by -
- ◀ - Ensuring cam sprocket T mark is upward as shown in photograph.
- Primary gear mark is matching with crankcase RH mark. ▶

Note :-
It can be also done by matching rotor mark with crankcase LH mark. ▶



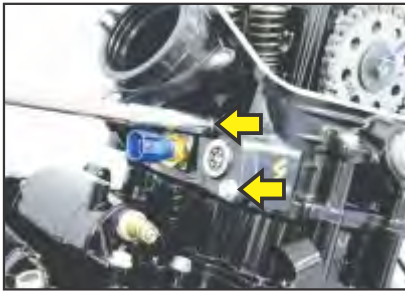
- Remove dummy bolt with 10 mm spanner.
- Lock crankshaft using crankshaft locking tool(P/N - 37104332)



- ◀ • Remove chain tensioner bolt with 10 mm spanner.

- ▶ • Using small screw driver, rotate chain tension screw to take plunger backward & lock it.

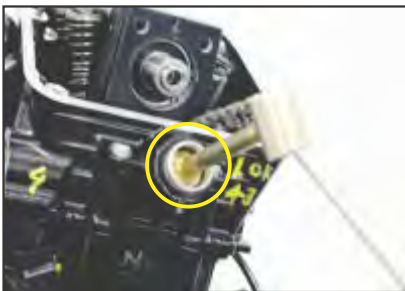




- ◀ • Remove chain tensioner mounting bolts (2 nos.) with 8 mm spanner & take out chain tensioner along with gasket.
- Remove cam sprocket mounting bolt with 12 mm spanner.



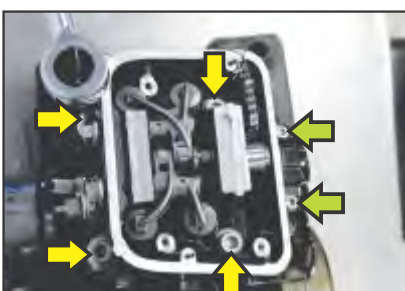
- ◀ • Take out cam sprocket & collar cam shaft.
- Tie cam chain with copper wire.



- Remove spark plug RH by using spark plug removing special tool.



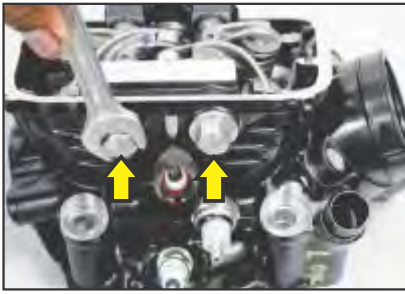
- ◀ • Remove grub screw with 2.5 mm allen key.
- Remove spark plug sleeve with using spark plug sleeve removing special tool.



- ◀ • Remove cylinder head mounting bolts (8 mm - 4 nos. & 5 mm - 2 nos.) with 8 mm & 5 mm allen key.
- Take out cylinder head.



Cylinder head assembly dismantling



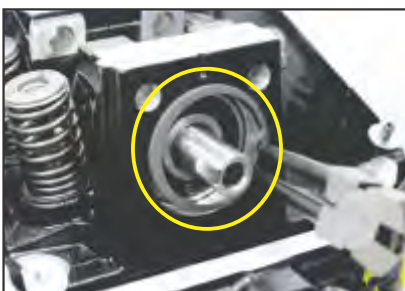
- Remove intake & exhaust rocker arm shaft plugs (2 nos.) with 14 mm spanner.



- Remove intake & exhaust rocker arm shaft with using rocker arm shafts removing special tool.



- Take out intake & exhaust rocker arms
- Remove belleville washer (1 nos) & plain washer (2 nos).

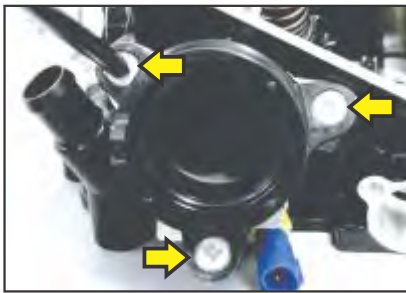


- ◀ • Remove camshaft circlip.
- Take out camshaft assembly.

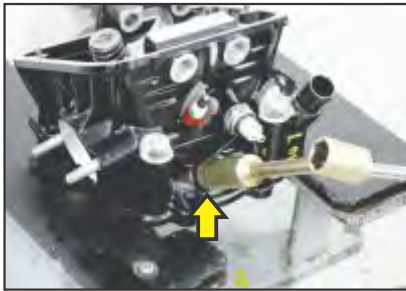


- Using valve spring compressor & adapter, take out valve & valve repair kit.

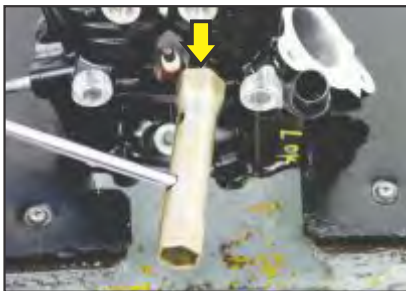




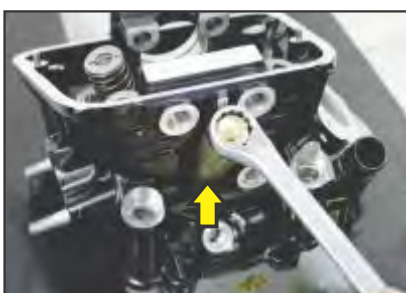
- ◀ Remove intake pipe screws (3 nos) with philips head screw driver & take out intake pipe.
- Ensure that intake pipe 'O' ring is in good condition. ▶



- Remove RH side spark plug.



- Remove oil pressure sensor using oil pressure sensor removing special tool (P/N - 37104337) & take out oil pressure sensor.
- Ensure that oil pressure sensor 'O' ring is in good condition.



- ◀ Remove central spark plug.
- Remove coolant temperature sensor using 18 mm spanner. ▶



- Take out cylinder head gasket & dowels (2 nos.)





- Remove cylinder block.



- Remove cylinder block gasket & dowels (2 nos.)



- ◀ • Cover crankcase bore with clean cotton cloth.

- Remove piston pin circlip.



- Using piston pin removal special tool (P/N - 37104341), remove piston pin & piston.



Clutch Side Dismantling



- ◀ • Remove oil filter cover mounting bolts (2 nos.) with 8 mm spanner & take out oil filter cover.



- ◀ • Ensure that oil filter cover 'O' ring is in good condition.
- Take out engine oil filter. ▶

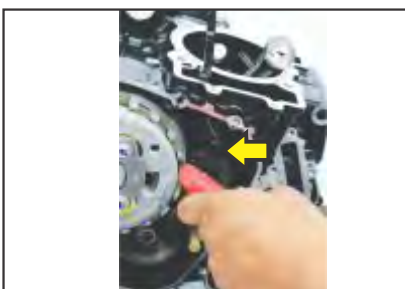


Clutch cover dismantling

- Remove clutch release shaft along with washer & torsion spring.



- Remove clutch cover gasket & dowels (2 nos.)
- ◀ • Take out timing chain

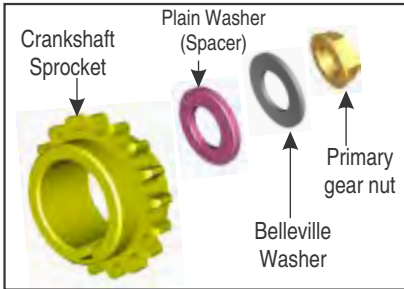


- Remove chain guide mounting bolt with 5 mm allen key & take out chain guide.

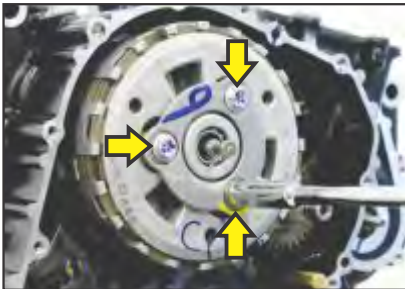




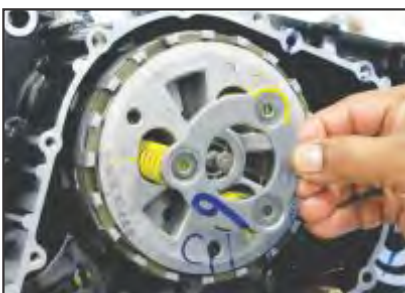
- ◀ • Remove primary gear nut with 24 mm spanner.



- Take out :-
 - Primary gear nut
 - Belleville washer
 - Plain washer (Spacer)
 - Crankshaft sprocket



- ◀ • Remove plate stopper mounting bolt (3 nos.) with 10 mm spanner.



- Take out plate stopper



- ◀ • Take out clutch springs (3 nos.) & wheel clutch.





- ◀ • Take out pull Rod
- Take out friction & pressure plates ▶



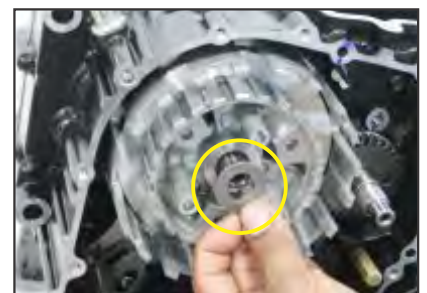
- ◀ • Take out belleville washer
- Take out plain washer ▶



- Using clutch center holding tool(P/N - 37104338) , remove clutch nut using 24 mm spanner.



- Take out belleville washer & plain washer.



- Take out clutch center along with thick washer.





- Take out clutch housing & clutch spacer.



- Take out primary gear & key.



- Remove oil pump drive gear circlip & washer.

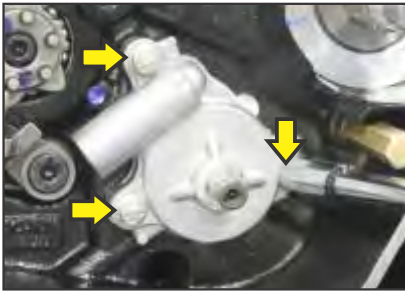


- Remove oil pump drive gear.



- Remove oil pump drive gear lock pin & washer.

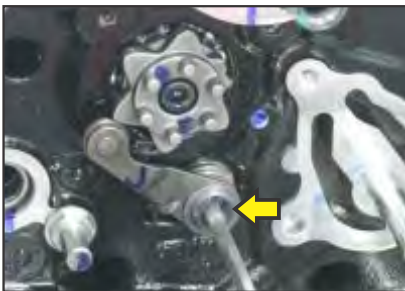




- Remove oil pump mounting bolt (3 nos.) with 8 mm spanner & take out oil pump assembly.



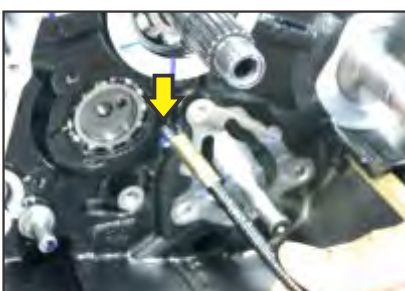
- ◀ • Remove oil pump driven gear pin & dowels (2 nos.)
- Take out lever complete gear shift. ▶



- ◀ • Remove inhibitor mounting bolt with 5 mm allen key.
- Take out inhibitor, washer (2 nos.) & spring. ▶

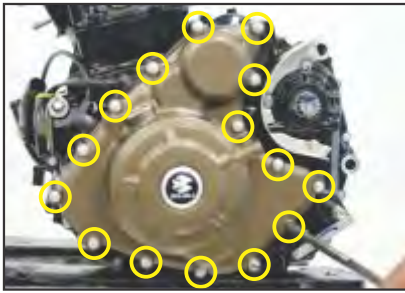


- ◀ • Remove guide gear shift mounting bolt with 5 mm allen key.
- Take out guide gear shift along with bush. ▶

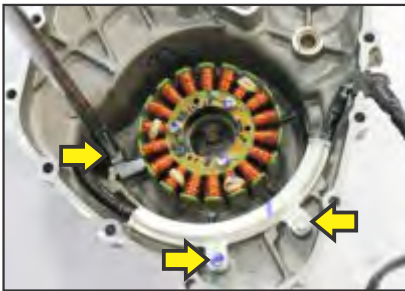


- Remove parallel pin from gear change drum using flexible magnetic wire.

Magneto Side Dismantling

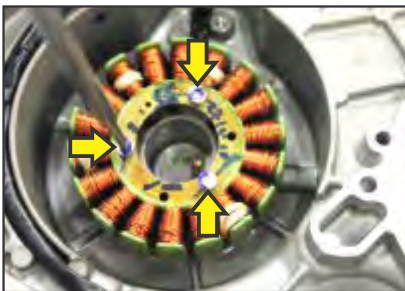


- Remove magneto cover mounting bolts (15 nos.) with 8 mm spanner & take out magneto cover.



Magnetor cover dismantling

- Remove stator plate wiring branch guide plates mounting bolts (3 nos.) with 8 mm spanner & take out guide plates.



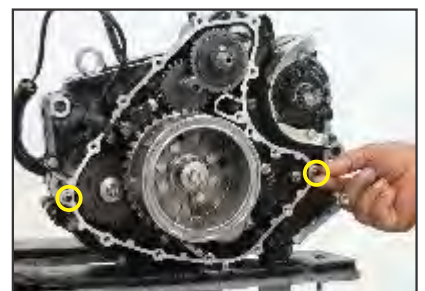
- Remove stator plate mounting bolts (3 nos.) with 4 mm allen key.



- Remove grommet from magneto plate & take out stator plate.



- Remove magneto cover gasket.
- Remove dowels (2 nos.).





- Remove gear starter clutch guide plate mounting bolt with 8 mm spanner & take out guide plate gear starter clutch.



- Remove rotor mounting bolt with 14 mm spanner.



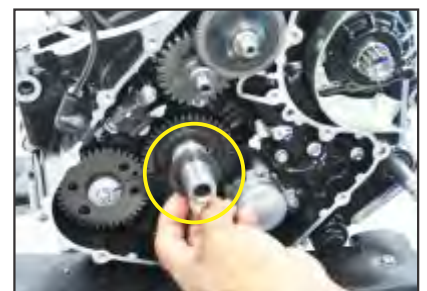
- Using magneto rotor puller (Part No. 3700 4276) remove magneto rotor.

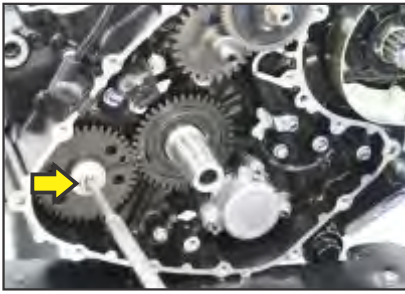


- Using balancer driving gear nut removing tool (Part No. 37 0041 60), removing balancer driving gear nut.



- Take out belleville washer & plain washer.





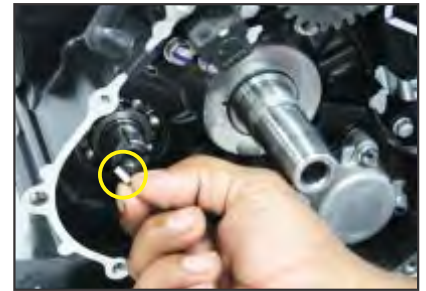
- Remove balancer driving gear bolt along with washer using 6 mm allen key.



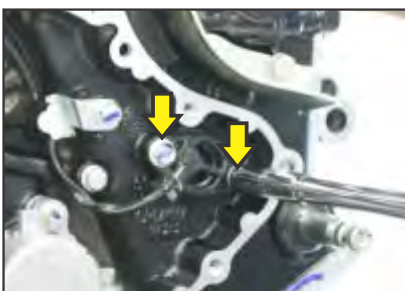
- Take out balancer drive gear.



- Take out balancer driven gear & key.

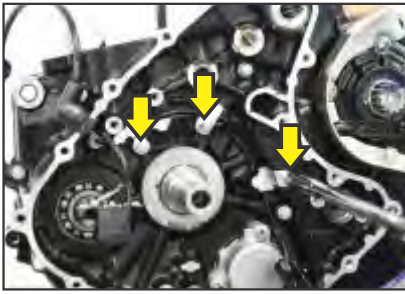


- ◀ • Remove starter counter gear assembly.
- Remove crank angle sensor mounting bolts (2 nos.) with 8 mm spanner ▶



- Remove neutral switch mounting bolt (2 nos.) with 8 mm spanner & take out neutral switch.

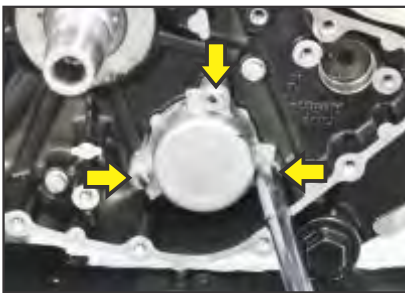




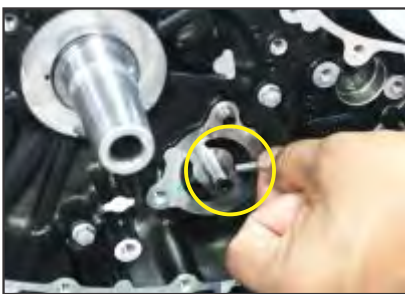
- Remove crank angle sensor cum neutral switch wiring branch guide plates mounting bolts at 3 places with 8 mm 'T' spanner.



- Remove grommet from crankcase & take out crank angle sensor cum neutral switch.



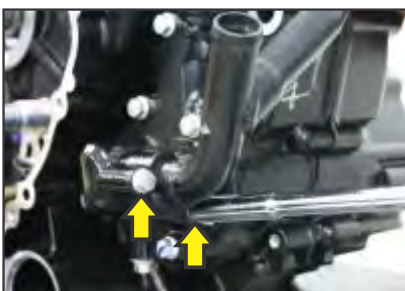
- Remove evacuation pump mounting bolts (3 nos.) with 8 mm spanner & take out evacuation pump.



- Remove lock pin & take out shaft.



Crankcase Splitting

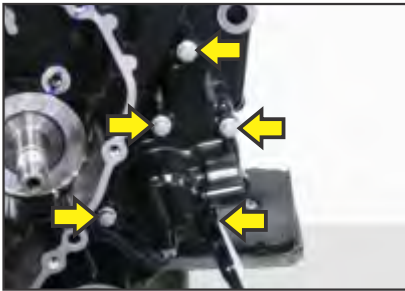


- Remove 'T' pipe mounting bolts (2 nos.) with 8 mm spanner & take out 'T' pipe alongwith 'O' ring.





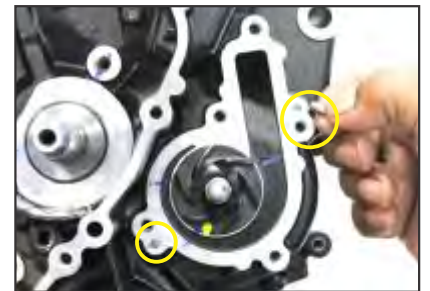
- Ensure that 'T' pipe 'O' ring is in good condition.



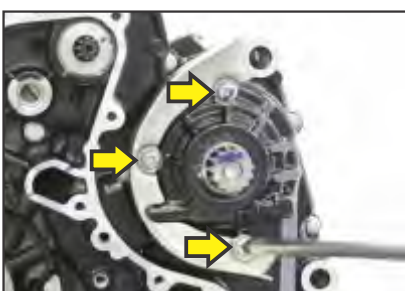
- Remove water pump cover mounting bolt (5 nos.) with 8 mm spanner & take out water pump cover along with 'O' ring.



- ◀ • Ensure that water pump 'O' ring is in good condition.
- Remove dowel pins (2 nos.) ▶

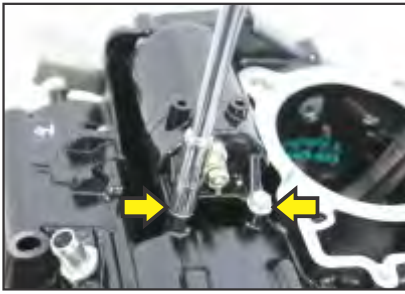


- Remove water pump mounting bolt with 10 mm spanner & take out water pump.

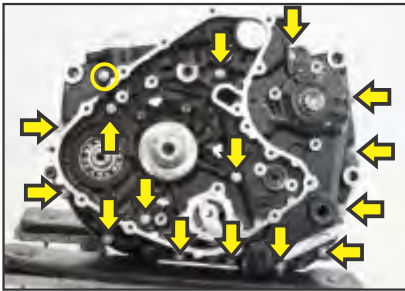


- Remove chain guard mounting screws (3 nos.) with phillips head screw driver & take out chain guard.

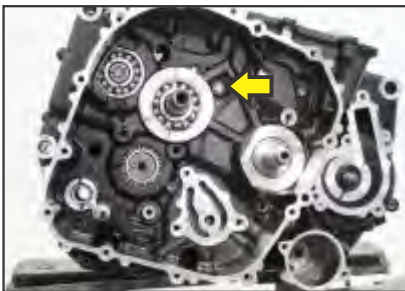




- Remove starter motor mounting bolts (2 nos.) with 10 mm spanner & take out starter motor.



- Remove LH side crankcase mounting bolts (16 nos.) with 8 mm spanner.
- Bolt shown by circle in photograph is long in length than others.



- Remove RH side crankcase mounting bolt (1 nos.) with 8 mm spanner.

Note :- Open this bolt before splitting crankcase.

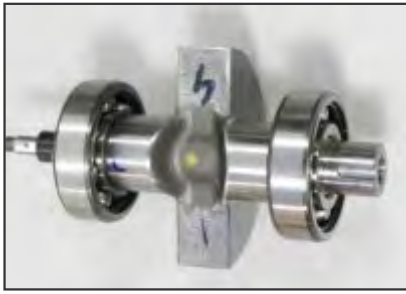


- ◀ • Take out LH side crankcase assembly.
- Remove crankshaft assembly. ▶



- ◀ • Remove dowels (2 nos.)
- Remove balancer bearing lock plate mounting bolt with 8 mm 'T' spanner. ▶





- Take out balancer assembly & balancer bearing lock plat.
- Remove output fork gear shift shaft along with springs.



- ◀ • Remove output fork gear shift (2 nos.)
- Remove input fork gear shift shaft.



- ◀ • Remove input fork gear shift.
- Remove gear change drum.



- ◀ • Remove input & output shaft assembly.
- Remove oil rail.



Crankcase LH dismantling



- ◀ • Remove input shaft bearing using bearing extractor. (Part No. 37 10DT 77)
- Remove output shaft bush.





- Remove output shaft oil seal lock.
- Remove output shaft oil seal.

Note : Use oil seal fitment tool (Part No. 37 1042 56) for oil seal fitment.



- Using bearing driver set remove output shaft bearing.
- Remove lever complete gear shift oil seal.

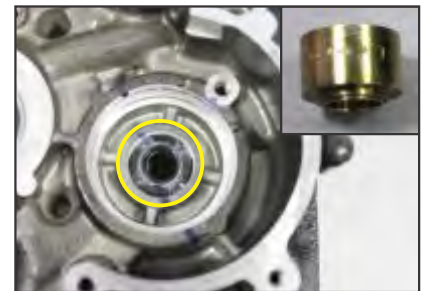


Crankcase RH dismantling



- Remove water pump oil seal (2 nos)

Note :- Use water pump oil seal fitment tool (Part No. 37 0041 56) for oil seal fitment.



- Remove input shaft bearing lock plate bolt with 8 mm spanner & take out input shaft bearing lock plate.



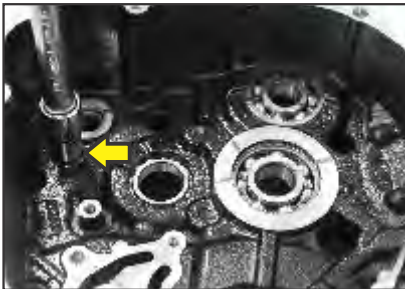
- Remove gear change drum bearing lock plate bolt with 8 mm spanner & take out gear change drum bearing lock plate.



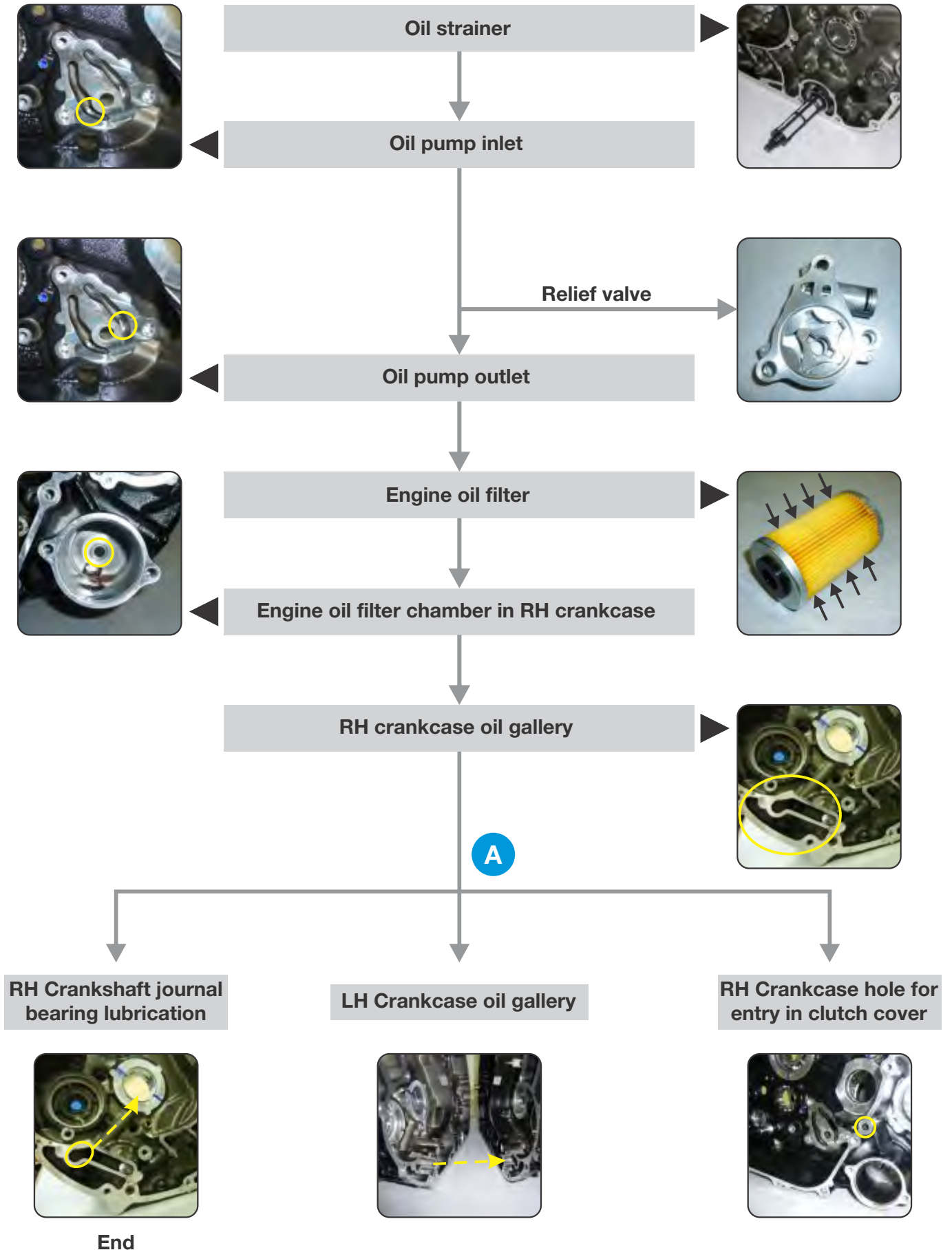
- Using bearing driver set :-
 - ◀ - Input shaft bearing.
 - Output shaft bearing.



- Gear change drum bearing.



- Remove lever complete gear shift stopper using 12 mm spanner.



CONTINUE FROM **A**

Clutch cover



B

Towards crankshaft



Connecting rod lubrication



End

2 nos. oil jet for clutch lubrication

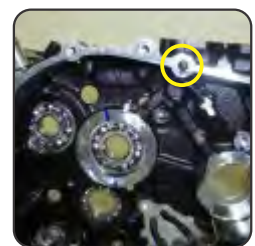


End

Clutch cover top side



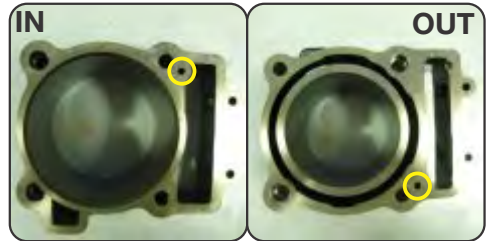
RH Crankcase hole



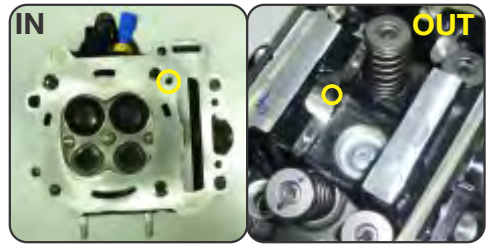
Top side hole in RH crankcase



CONTINUE FROM **B**



Cylinder head In & out



CONTINUE FROM **A**



To oil jet

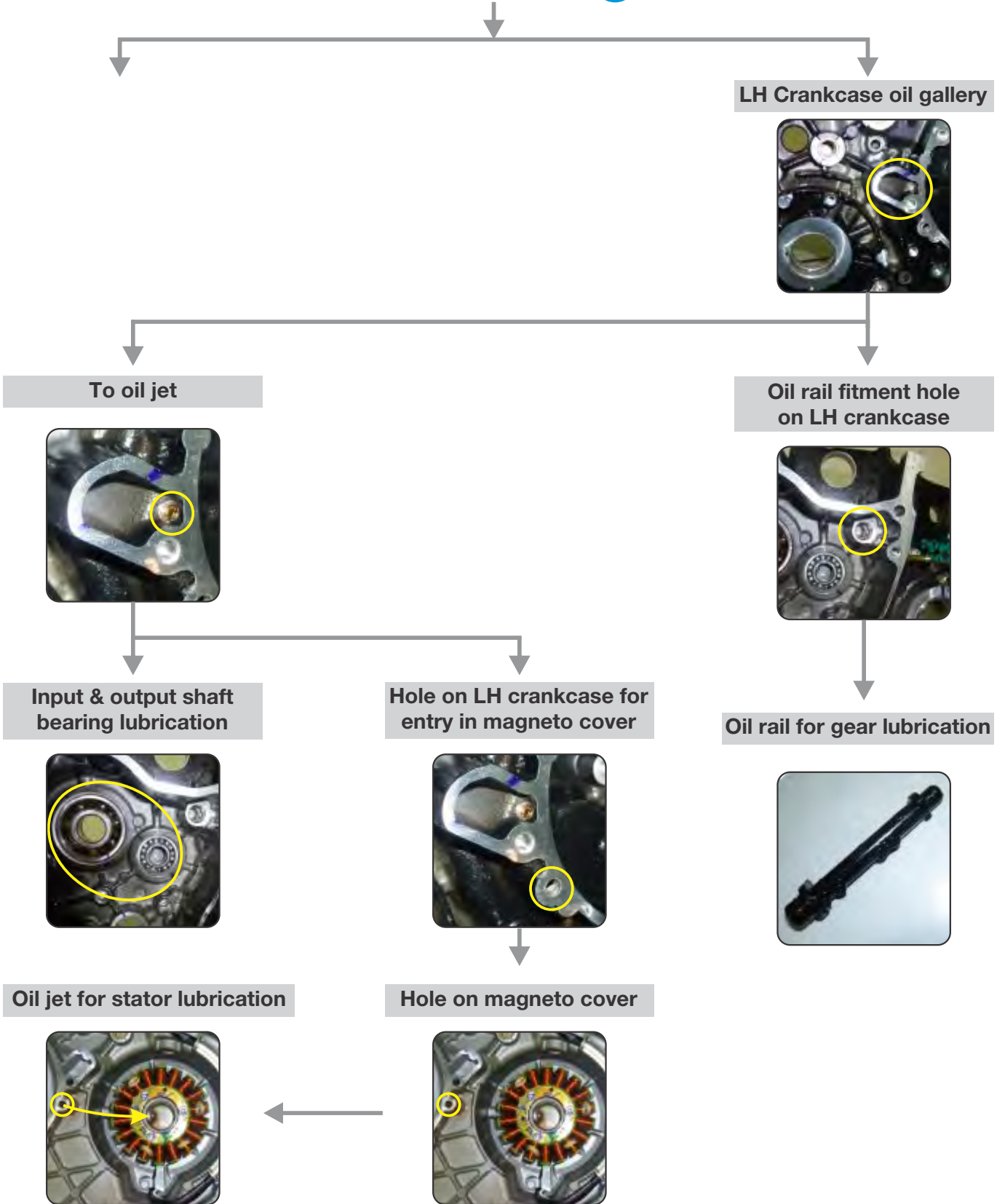


End

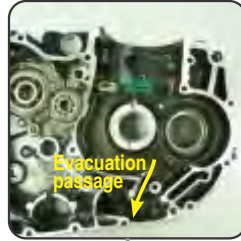
To nozzle



CONTINUE FROM **C**



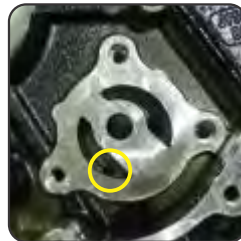
Crankshaft chamber



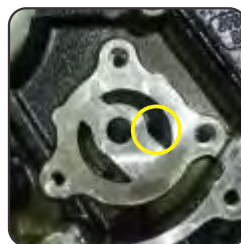
Evacuation strainer



Evacuation pump inlet



Evacuation pump outlet



Release engine oil in gear box chamber through evacuation pipe



➤ **Crankcase oil passages :-**

- Ensure that oil passages are clear by pumping engine oil into passage.
- Apply low compressed air through the oil passage in reverse direction of flow of oil for cleaning.

➤ **Gear assembly on shaft :-**

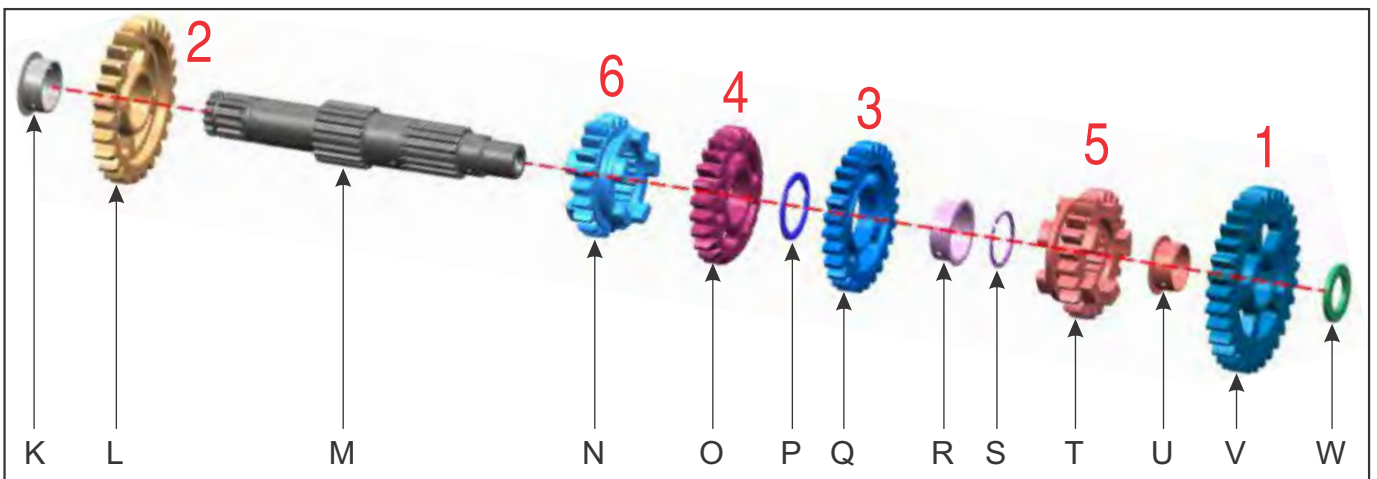
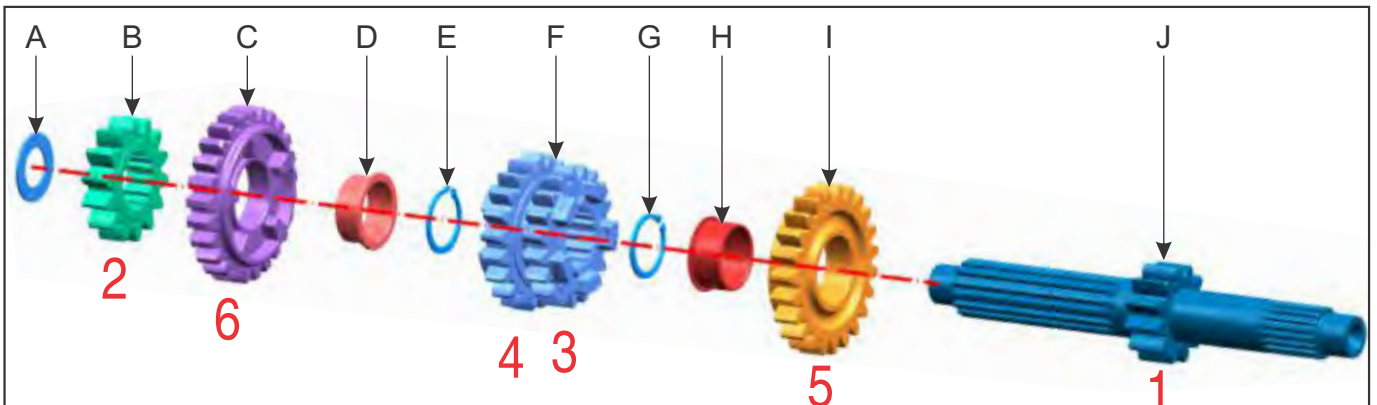
- Assemble gear & hardware as shown in photograph.

INPUT SHAFT ASSEMBLY

- | | | | |
|--------------------|--------------------|--------------------------|--------------------|
| A : Thrust washer | C : Gear 6th drive | E, G : Circlip | H : Bush 5th drive |
| B : Gear 2nd Drive | D : Bush 6th drive | F : Gear 3rd - 4th drive | I : Gear 5th drive |
| | | | J : Shaft input |

OUTPUT SHAFT ASSEMBLY

- | | | | |
|---------------------|------------------------------|---------------------|---------------------|
| K : Bush 2nd driven | N : Gear 6th driven | Q : Gear 3rd driven | T : Gear 5th driven |
| L : Gear 2nd driven | O : Gear 4th driven | R : bush 3rd driven | U : Bush 1st driven |
| M : Shaft output | P : Thrust washer 3rd driven | S : Circlip | V : Gear 1st driven |
| | | | W : Thrust washer |





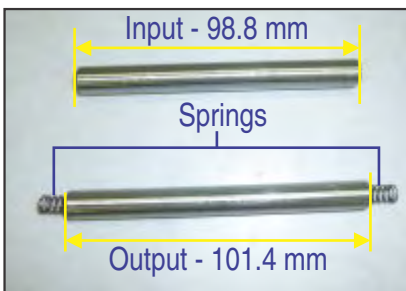
➤ **Input shaft & output shaft assembly fitment :-**

- ◀ • Ensure output shaft thick washer fitment as shown in photograph.
- Ensure input shaft thin washer fitment as shown in photograph. ▶
- Lubricate gears/Shafts/Bearings/Block piston assembly/Camshaft/Rotor with recommended engine oil by rotating the parts.



➤ **Fork gear shift :-**

- ◀ • 2 nos. fork gear shift for output which are bigger in size.
- 1 nos. fork gear shift for input which is small as compared to output. ▶



➤ **Shaft fork gear shift:-**

- Ensure the availability of 2 nos springs on shaft fork gear shift.
- Output shaft fork gear shift is longer than input fork gear shift.



➤ **Crankshaft oil passage :-**

- Ensure that crankshaft oil passage is clear.



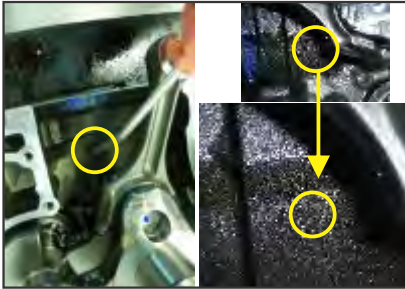
➤ **Piston pin circlip:-**

- Always replace piston pin circlip with new one whenever removed.



➤ **Transmission neutral position :-**

- Before joining crankcase LH & RH ensure that transmission gears are in neutral position.



➤ **Cleaning of crankcase RH leak hole :-**

- Blow low compressed air through crankcase RH leak hole.

➤ **Crankcase joining :-**

- Using Diesel & oil stone to remove all traces of liquid gasket from crankcase joining surface.
- Use liquid gasket loctite 5910 for crankcase joining.
- Important :- Apply liquid gasket to crankcase outer mating machined face only.



➤ **Crankcase bolts tightening :-**

- ◀ • Ensure fitment of bolt shown in photograph which was not provided in Pulsar RS 200.

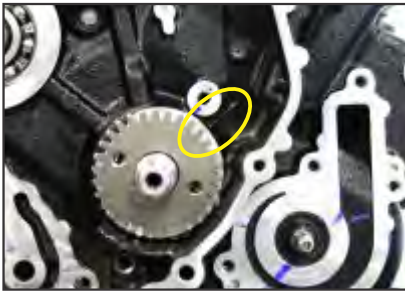


- Ensure bolt as shown in photograph is fitted on crankcase RH.



➤ **Crankshaft locking :-**

- Assemble primary gear key & primary gear on crankshaft.



- ◀ • Align primary gear mark with crankcase mark, to confirm that crankshaft is at TDC.

- Using crankshaft locking tool, lock the crankshaft before starting assembly of clutch side / magneto side parts. ▶

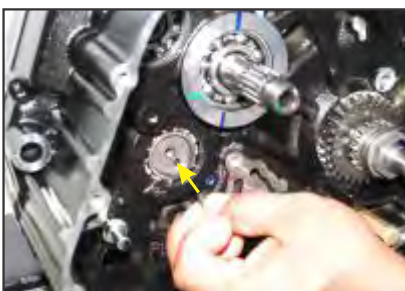


Note :- Always remove crankshaft locking tool & fit dummy bolt before refitting clutch cover.



➤ **Primary gear washer sequence :-**

- Ensure fitment plain washer (spacer) & belleville washer.



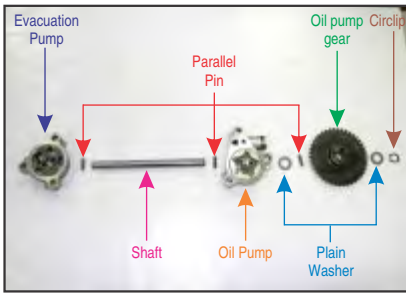
➤ **Guide gear Shift fitment :-**

- ◀ • Ensure fitment of parallel pin fitment in gear change drum
- Ensure the spacer fitment on guide gear shift. ▶

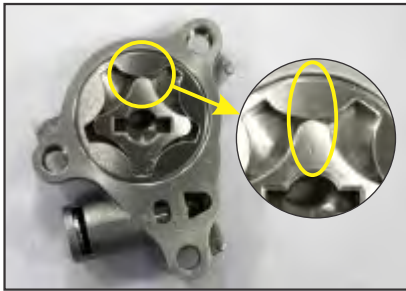


➤ **Washer fitment on Lever complete gear shift :-**

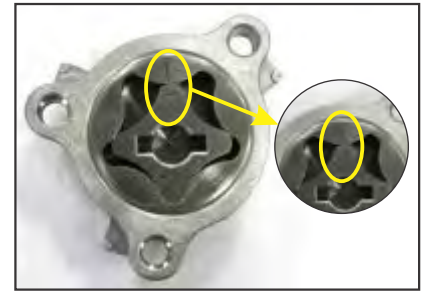
- Ensure washer fitment on Lever complete gear shift.



- **Oil pump & evacuation pump fitment :-**
 - Ensure fitment of
 - Plain washer (2 nos.)
 - Pins (3 nos.)
 - Circlip
 - Shaft
 - Oil pump assembly
 - Evacuation pump assembly
 - Oil pump gear



- ◀ • Fit inner & outer rotor of oil pump into its body such that dot marks on both the rotors face outwards.
- Fit inner & outer rotor of evacuation pump into its body such that 'T' marks on both the rotors face outwards.



- **Clutch collar & thick washer fitment :-**
 - ◀ • Ensure the fitment of clutch collar before assembling clutch housing.
 - Ensure the fitment of thick washer after clutch housing fitment.



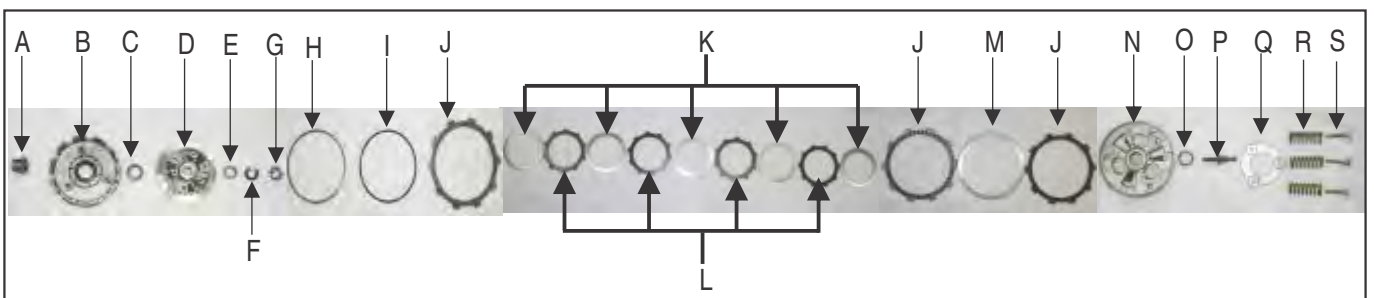
➤ **Clutch assembly sequence :-**

- Ensure assembly of clutch as per photograph.

Note : For New friction plate fitment case only

Friction plates to be immersed in engine oil for min 2 hrs. before doing clutch assembly.

- | | | | |
|--------------------|----------------------------------|-----------------------------------|---------------------|
| A - Collar | F - Belleville washer | K - Pressure plates (5 Nos - Big) | P - Pull rod |
| B - Clutch Housing | G - Clutch Nut | L - Friction plates (4 Nos- Big) | Q - Plate Stopper |
| C - Thick Washer | H - Plain Washer | M - Pressure Plate (1 Nos- Small) | R - Springs (3 Nos) |
| D - Clutch Center | I - Belleville Center | N - Wheel clutch | S - Bolts (3 Nos) |
| E - Plain Washer | J - Friction plate (3 Nos-Small) | O - Thrust bearing | |





- Always use clutch holding tool, while tightening clutch nut.



➤ Piston ring removal & fitment :-

- Use piston ring expander, for piston ring removal & fitment.
- Lubricate piston & block with recommended engine oil.



➤ New engine oil filter fitment :-

- Ensure that engine oil filter is immersed in engine oil before fitment.



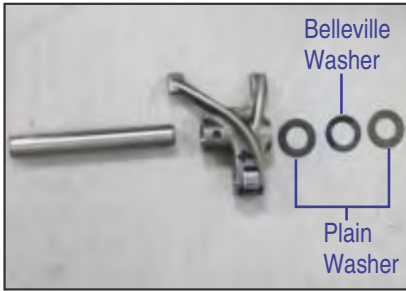
➤ Magneto cover oil passage :-

- Before assembling magneto cover, ensure that its oil passage is clear. This is to be checked & confirmed by pumping engine oil into passage.
- ◀ • Apply low compressed air as shown in photograph.



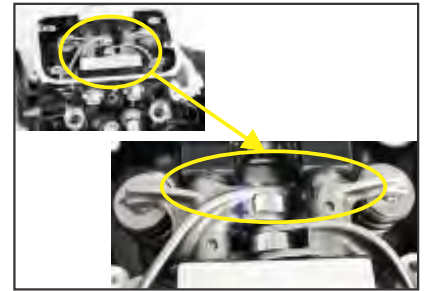
➤ Clutch cover oil passages :-

- Before assembling clutch cover, ensure that its oil passage is clear. This is to be checked & confirmed by pumping engine oil into passage.
- Apply low compressed air as shown in photograph.



➤ **Washer sequence on shaft rocker arm :-**

- Ensure fitment of 1 belleville washer & plain washer (2 nos.) during arm & shaft rocker arm fitment.



➤ **Cylinder head LH side 8 mm bolts tightening with recommended torque. :-**

- Use 8 mm allen key with socket for tightening cylinder head LH side allen bolts with recommended torque



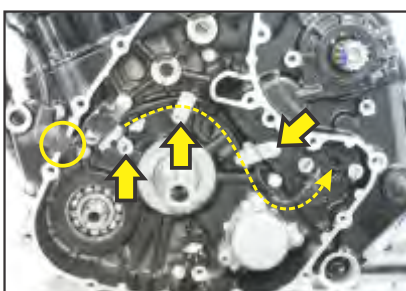
➤ **Cylinder head cover breather passage :-**

- Before assembly of cylinder head cover, check & confirm that engine breather passage is clear by blowing light pressure compressed air.



➤ **Stator plate wiring harness routing:-**

- While assembling stator plate on magneto cover, apply loctite on stator plate mounting bolts & guide plates mounting bolts.
- Ensure that 2 nos. wiring harness guide plates are fitted & grommet is fitted on magneto cover.



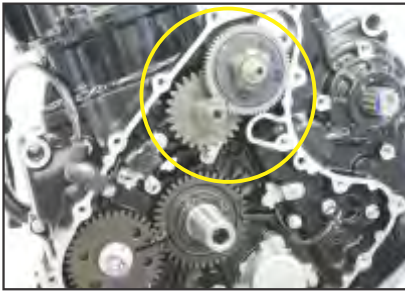
➤ **Crank angle sensor cum neutral switch wiring harness routing. :-**

- Apply loctite to guide plates mounting bolts.
- Route crank angle sensor cum neutral switch wiring harness routing as shown in photograph.



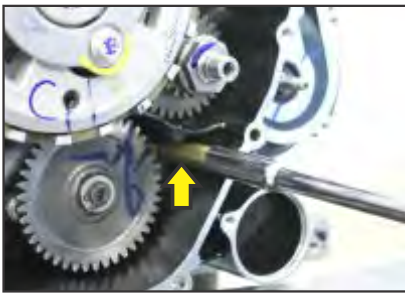
➤ **Balancer drive & driven gear alignment :-**

- Always match etching mark on balancer drive & driven gear



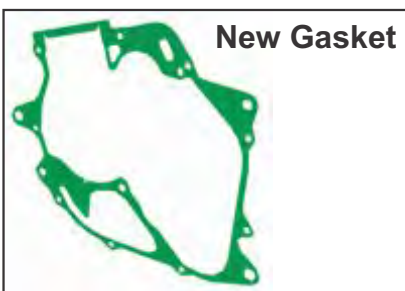
➤ **Starter counter gear assembly fitment. :-**

- Before magneto rotor fitment, fit starter counter gear assembly.



➤ **Crankshaft locking tool removal :-**

- After assembling magneto side, Top side & clutch side parts -
- ◀ - Remove crankshaft locking tool.
- Fit dummy bolt & Clutch cover.



➤ **Gasket / O Rings / Oil seals replacement :-**

- ◀ • Always replace gasket / O rings / Oil seals with new one whenever engine is dismantled.



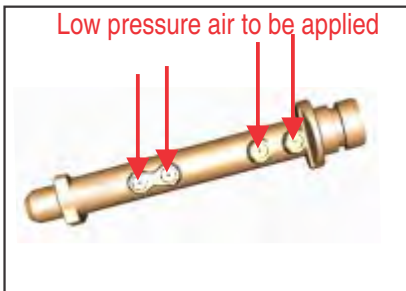
➤ **Jets Cleaning :-**

- Always clean the jets by applying low pressure air in direction opposite to engine oil flow **during engine overhaul.**
- ◀



➤ Evacuation bypass Hole Cleaning :-

- Always ensure that evacuation bypass hole is clear & clean the evacuation bypass hole by applying low pressure air **during engine overhaul.**



➤ Cleaning & fitment oil rail :-

- Blow the low compressed air through oil rail as shown in photograph.

- Ensure that oil rail lug is fitted in slot provided in LH crankcase. ▶

- Always ensure that oil rail is fitted in crankcase before joining crankcase.



➤ Output sprocket collar fitment :-

- Fit the output sprocket collar as shown in photograph. Slots direction pointing downwards.



➤ Balancer gears fitment :-

- Fit the balancer drive gear on crankshaft.



- Fit the balancer driven gear in such a way that etching marks on drive & driven gear are slightly mismatched as shown in photograph.





- Using plier, turn balancer driven gear(outer) slightly in clockwise direction in such a way that etching marks on both drive & driven gears gets perfectly matched/aligned.

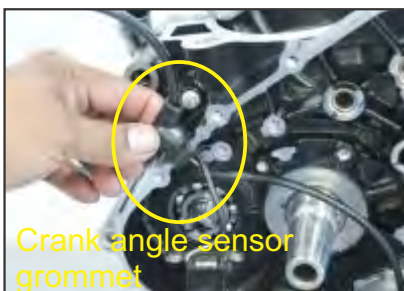


- Fit the balancer driven gear key.



➤ Evacuation Pump Assembly :-

- Fit evacuation pump assembly first & then oil pump assembly for easy assembly during engine overhaul





➤ Crank angle + Neutral switch grommet & Stator plate grommet sealing with Crankcase :-



- Always ensure that both grommets are in good condition & properly sealed with crankcase face. Use Loctite 5910 liquid gasket for sealing.
- If dust enters through both cracked grommets, then this dust will be sucked by evacuation pump leading to evacuation strainer choke up. This will result into engine seizure.



Model	Dominar 400	Duke 390
Photograph		
Part Name	Air Filter Assembly	Air Filter Assembly
Part No	DT581079	JY581011
Description	<ul style="list-style-type: none"> • Profile is different than Duke 390 	<ul style="list-style-type: none"> • Profile is different than Dominar 400
Identification	Visual	Visual

Model	Dominar 400	Duke 390
Photograph		
Part Name	Rocker Arm	Rocker Arm
Part No	IN - JF511233, EX - JF511234	IN - JU511204, EX - JY511212
Description	<ul style="list-style-type: none"> • Profile is different than Duke 390 	<ul style="list-style-type: none"> • Profile is different than Dominar 400
Identification	Visual - "JL I" on Intake & "JL E" on Exhaust	Visual

Model	Dominar 400	Duke 390
Photograph		
Part Name	Cover LH RR	Cover LH RR
Part No	DT541202	JY541227
Description	<ul style="list-style-type: none"> • Profile is different than Duke 390 	<ul style="list-style-type: none"> • Profile is different than Dominar 400
Identification	Visual	Visual

Model	Dominar 400	Duke 390
Photograph		
Part Name	Radiator	Radiator
Part No	JF601205	JY601234
Description	<ul style="list-style-type: none"> • Radiator fan bottom mounting bracket big • Tube orientation is different than Duke 390 	<ul style="list-style-type: none"> • Radiator fan bottom mounting bracket small • Tube orientation is different than Dominar 400
Identification	Visual	Visual

Model	Dominar 400	Duke 390
Photograph		
Part Name	Cylinder Head	Cylinder Head
Part No	JF511016	JY511067
Description	<ul style="list-style-type: none"> • Profile is different than Duke 390 	<ul style="list-style-type: none"> • Profile is different than Dominar 400
Identification	Visual	Visual

Model	Dominar 400	Duke 390
Photograph		
Part Name	Shaft Rocker Arm	Shaft Rocker Arm
Part No	JF511042	JY511226
Description	<ul style="list-style-type: none"> • Length is 71.5 mm 	<ul style="list-style-type: none"> • Length is 62.3 mm
Identification	Visual	Visual

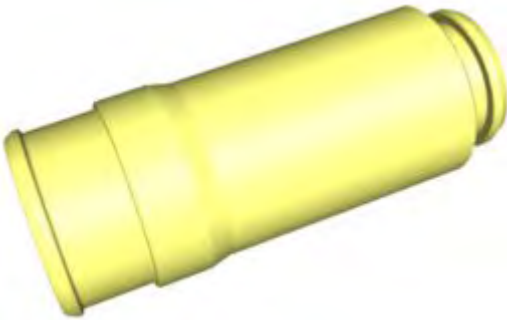
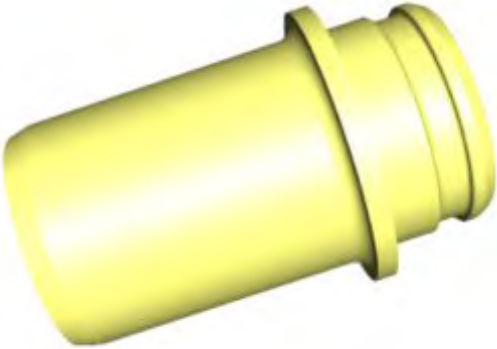
Model	Dominar 400	Duke 390
Photograph		
Part Name	Cam Shaft	Cam Shaft
Part No	JF511222	In - JY511265, Ex - JY511267
Description	<ul style="list-style-type: none"> • Single Cam shaft 	<ul style="list-style-type: none"> • Twin cam shaft
Identification	Visual	Visual

Model	Dominar 400	Duke 390
Photograph		
Part Name	Gasket Cylinder Head	Gasket Cylinder Head
Part No	JF511049	JY511070
Description	<ul style="list-style-type: none"> • Profile is different than Duke 390 	<ul style="list-style-type: none"> • Profile is different than Dominar 400
Identification	Visual	Visual

Model	Dominar 400	Duke 390
Photograph		
Part Name	Cover Cylinder Head	Cover Cylinder Head
Part No	JF511041	JY511066
Description	<ul style="list-style-type: none"> • Profile is different than Duke 390 	<ul style="list-style-type: none"> • Profile is different than Dominar 400
Identification	Visual	Visual


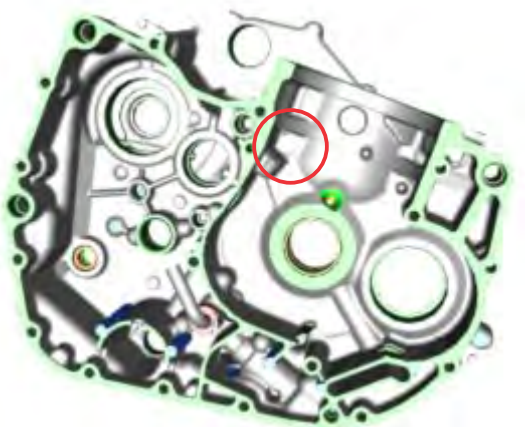
Model	Dominar 400	Duke 390
Photograph		
Part Name	Gasket Cover Cylinder Head	Gasket Cover Cylinder Head
Part No	JF511046	JY511069
Description	<ul style="list-style-type: none"> • Profile is different than Duke 390 	<ul style="list-style-type: none"> • Profile is different than Dominar 400
Identification	Visual	Visual

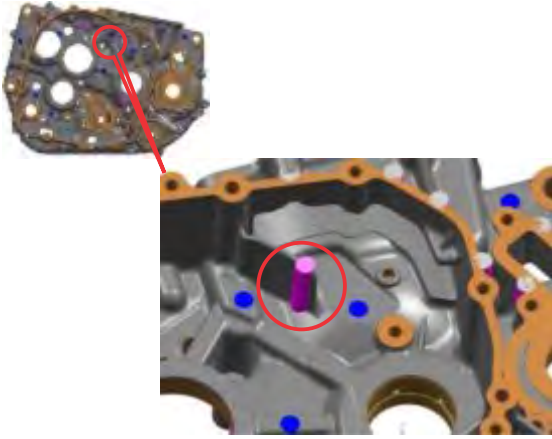
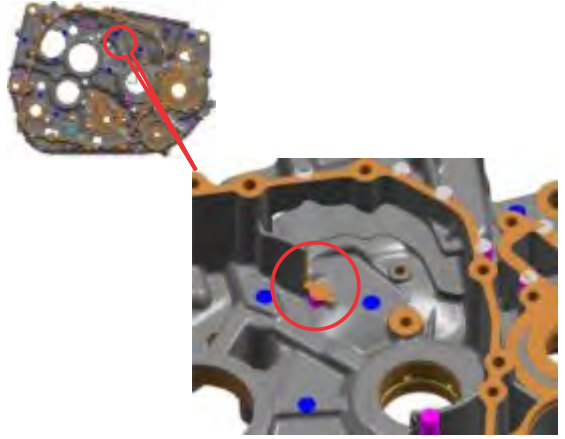
Model	Dominar 400	Duke 390
Photograph		
Part Name	Cam Sprocket	Cam Sprocket
Part No	JF511235	JY511219
Description	<ul style="list-style-type: none"> • Profile is different than Duke 390 • Qty :- 1 Nos 	<ul style="list-style-type: none"> • Profile is different than Dominar 400 • Qty :- 2 Nos
Identification	Visual	Visual

Model	Dominar 400	Duke 390
Photograph		
Part Name	Sleeve Spark Plug	Sleeve Spark Plug
Part No	JF511052	JY511068
Description	<ul style="list-style-type: none"> • Profile is different than Duke 390 	<ul style="list-style-type: none"> • Profile is different than Dominar 400
Identification	Visual	Visual

Model	Dominar 400	Duke 390
Photograph		
Part Name	Sprocket Crankshaft	Sprocket Crankshaft
Part No	JF531017	JY531026
Description	<ul style="list-style-type: none"> • Radius :- 2.52 mm 	<ul style="list-style-type: none"> • Radius :- 3.1 mm
Identification	-	-

Model	Dominar 400	Duke 390
Photograph		
Part Name	Balancer Drive Gear	Balancer Drive Gear
Part No	JF531021	JY551220
Description	<ul style="list-style-type: none"> • Profile is different than Duke 390 	<ul style="list-style-type: none"> • Profile is different than Dominar 400
Identification	Visual	Visual

Model	Dominar 400	Duke 390
Photograph		
Part Name	Crankcase LH	Crankcase LH
Part No	DT541014	JY541061
Description	<ul style="list-style-type: none"> • With Nozzle 	<ul style="list-style-type: none"> • Without Nozzle
Identification	Visual	Visual

Model	Dominar 400	Duke 390
Photograph		
Part Name	Crankcase RH	Crankcase RH
Part No	JF541013	JY541063
Description	<ul style="list-style-type: none"> • With rib cut for chain guide fitment 	<ul style="list-style-type: none"> • Without rib cut
Identification	Visual	Visual

Model	Dominar 400	Duke 390
Photograph		
Part Name	Balancer Assembly	Balancer Assembly
Part No	DT531200	JY531213
Description	<ul style="list-style-type: none"> • Profile is different than Duke 390 	<ul style="list-style-type: none"> • Profile is different than Dominar 400
Identification	Visual	Visual

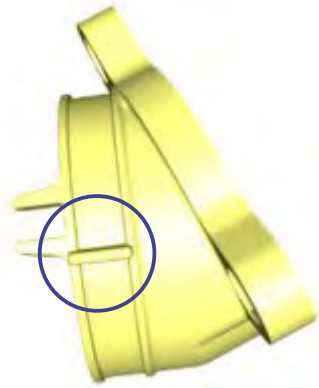

Model	Dominar 400	Duke 390
Photograph		
Part Name	Clutch Cover	Clutch Cover
Part No	DT541204	JY541236
Description	<ul style="list-style-type: none"> • Profile is different than Duke 390 	<ul style="list-style-type: none"> • Profile is different than Dominar 400
Identification	Visual	Visual

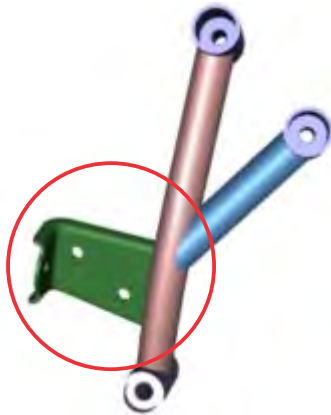

Model	Dominar 400	Duke 390
Photograph		
Part Name	Shaft Clutch Release	Shaft Clutch Release
Part No	JF541208	JY541217
Description	<ul style="list-style-type: none"> • Profile is different than Duke 390 	<ul style="list-style-type: none"> • Profile is different than Dominar 400
Identification	Visual	Visual

Model	Dominar 400	Duke 390
Photograph		
Part Name	Magneto Cover	Magneto Cover
Part No	DT541209	JY541240
Description	<ul style="list-style-type: none"> • Profile is different than Duke 390 	<ul style="list-style-type: none"> • Profile is different than Dominar 400
Identification	Visual	Visual

Model	Dominar 400	Duke 390
Photograph		
Part Name	Cover Oil Filter	Cover Oil Filter
Part No	JL571001	JG571015
Description	<ul style="list-style-type: none"> • Profile is different than Duke 390 	<ul style="list-style-type: none"> • Profile is different than Dominar 400
Identification	Visual	Visual

Model	Dominar 400	Duke 390
Photograph		
Part Name	Starter Motor	Starter Motor
Part No	JF351600	JY351604
Description	<ul style="list-style-type: none"> • Power output - 900 W • Profile is different than Duke 390 	<ul style="list-style-type: none"> • Power output - 900 W • Profile is different than Dominar 400
Identification	Visual	Visual

Model	Dominar 400	Duke 390
Photograph		
Part Name	Intake Pipe	Intake Pipe
Part No	DT581401	JY581200
Description	<ul style="list-style-type: none"> • Rib location different than Duke 390 	<ul style="list-style-type: none"> • Rib location different than Dominar 400
Identification	Visual	Visual


Model	Dominar 400	Duke 390
Photograph		
Part Name	Engine Hanger	Engine Hanger
Part No	LH - JF113414 , RH - JF113415	LH – JY113400, RH - 113401
Description	<ul style="list-style-type: none"> • With radiator mounting bracket • Profile is different than Duke 390 	<ul style="list-style-type: none"> • Without radiator mounting bracket • Profile is different than Dominar 400
Identification	Visual	Visual

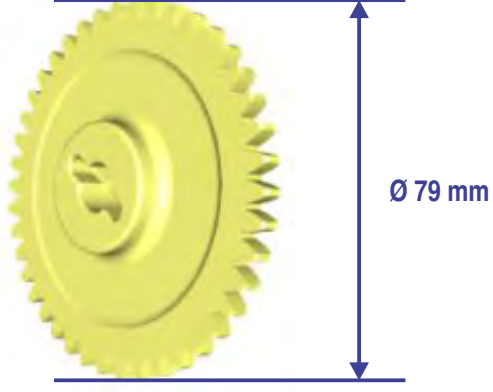
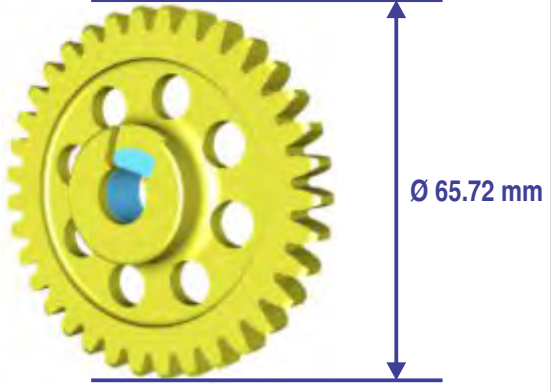
Model	Dominar 400	Duke 390
Photograph		
Part Name	Belly Pan	Belly Pan
Part No	JF181314	JY181201
Description	<ul style="list-style-type: none"> • Profile is different than Duke 390 	<ul style="list-style-type: none"> • Profile is different than Dominar 400
Identification	Visual	Visual



Model	Dominar 400	Duke 390
Photograph	<p>Front</p> <p>Rear</p>	<p>Top</p> <p>Center</p> <p>Rear</p>
Part Name	Bracket Belly Pan Mounting	Bracket Belly Pan Mounting
Part No	Front - DT181307, Rear - JF181309	Top – JY181217, Center – JY181218 & Rear – JY181219
Description	<ul style="list-style-type: none"> • Profile is different than Duke 390 	<ul style="list-style-type: none"> • Profile is different than Dominar 400
Identification	Visual	Visual

Model	Dominar 400	Duke 390
Photograph		
Part Name	Shroud Central	Shroud Central
Part No	JF181257	JY601224
Description	<ul style="list-style-type: none"> • Profile is different than Duke 390 	<ul style="list-style-type: none"> • Profile is different than Dominar 400
Identification	Visual	Visual

Model	KTM / Dominar 400	Pulsar RS 200
Photograph		
Part Name	Gear Starter Clutch	Gear Starter Clutch
Part No	JY551221	JG621417
Description	<ul style="list-style-type: none"> • No of teeth – 57 • Outer diameter is 119 mm 	<ul style="list-style-type: none"> • No of teeth – 59 • Outer diameter is 122.4 mm
Identification	Visual	-

Model	KTM / Dominar 400	Pulsar RS 200
Photograph		
Part Name	Evacuation Pump	-
Part No	JY571015	-
Description	<ul style="list-style-type: none"> • Additional pump provided on Crankcase LH 	<ul style="list-style-type: none"> • Without evacuation pump
Identification	Visual	-

Model	KTM / Dominar 400	Pulsar RS 200
Photograph		
Part Name	Gear Oil Pump Drive	Gear Oil Pump Drive
Part No	JY571023	JG571018
Description	<ul style="list-style-type: none"> • No of teeth – 42 • Outer diameter is 79 mm • Profile is different than Pulsar RS 200 	<ul style="list-style-type: none"> • No of teeth – 35 • Outer diameter is 65.72 mm • Profile is different than Dominar 400/Duke 390
Identification	Visual	Visual

Model	KTM / Dominar 400	Pulsar RS 200
Photograph		
Part Name	Crankshaft Assembly	Crankshaft Assembly
Part No	JY531039	JU531027
Description	<ul style="list-style-type: none"> • With groove for Crankshaft locking • Profile is different than Pulsar RS 200 	<ul style="list-style-type: none"> • Without groove for Crankshaft locking • Profile is different than Dominar 400/Duke 390
Identification	Visual	Visual

Model	KTM / Dominar 400	Pulsar RS 200
Photograph		
Part Name	Oil Pump Assembly	Oil Pump Assembly
Part No	JY571012	JU571000
Description	<ul style="list-style-type: none"> • 3 ribs • Profile is different than Pulsar RS 200 	<ul style="list-style-type: none"> • 4 ribs • Profile is different than Dominar 400/Duke 390
Identification	Visual	Visual

Model	KTM / Dominar 400	Pulsar RS 200
Photograph	<p>Ø 10 mm Ø 7 mm</p>	<p>Ø 12 mm Ø 9 mm</p>
Part Name	Shaft Output Fork Shift	Shaft Output Fork Shift
Part No	JY561007	JG561225
Description	<ul style="list-style-type: none"> • Outer diameter is 10 mm • Inner diameter is 7 mm 	<ul style="list-style-type: none"> • Outer diameter is 12 mm • Inner diameter is 9 mm
Identification	Visual	Visual

Model	KTM / Dominar 400	Pulsar RS 200
Photograph	<p>Ø 10 mm 98.8 mm</p>	<p>Ø 12 mm 104 mm</p>
Part Name	Shaft Input Fork Shift	Shaft Input Fork Shift
Part No	JY561004	JG561016
Description	<ul style="list-style-type: none"> • Outer diameter is 10 mm • Length is 98.8 mm 	<ul style="list-style-type: none"> • Outer diameter is 12 mm • Length is 104 mm
Identification	Visual	Visual

Model	KTM / Dominar 400	Pulsar RS 200
Photograph		
Part Name	Drum Gear Shift	Drum Gear Shift
Part No	JY561001	JG561011
Description	<ul style="list-style-type: none"> • Profile is different than Pulsar RS 200 	<ul style="list-style-type: none"> • Profile is different than Dominar 400/Duke 390
Identification	Visual	Visual

Model	KTM / Dominar 400	Pulsar RS 200
Photograph		
Part Name	Collar Sprocket	Collar Sprocket
Part No	JY551033	JL511221
Description	<ul style="list-style-type: none"> • Profile is different than Pulsar RS 200 	<ul style="list-style-type: none"> • Profile is different than Dominar 400/Duke 390
Identification	Visual	Visual

Model	KTM / Dominar 400	Pulsar RS 200
Photograph		
Part Name	Gear 1st Driven	Gear 1st Driven
Part No	JY551232	JG551225
Description	<ul style="list-style-type: none"> • Outer diameter is 88.4 mm • No of teeth - 32 	<ul style="list-style-type: none"> • Outer diameter is 72.5 mm • No of teeth - 34
Identification	Visual	Visual

Model	KTM / Dominar 400	Pulsar RS 200
Photograph		
Part Name	Gear 5th Driven	Gear 5th Driven
Part No	JY551236	JG551222
Description	<ul style="list-style-type: none"> • Profile is different than Pulsar RS 200 	<ul style="list-style-type: none"> • Profile is different than Dominar 400/Duke 390
Identification	Visual	Visual

Model	KTM / Dominar 400	Pulsar RS 200
Photograph		
Part Name	Gear 3rd Driven	Gear 3rd Driven
Part No	JY551234	JG551223
Description	<ul style="list-style-type: none"> • Outer diameter is 71.8 mm • No of teeth - 27 	<ul style="list-style-type: none"> • Outer diameter is 60.3 mm • No of teeth - 28
Identification	Visual	Visual

Model	KTM / Dominar 400	Pulsar RS 200
Photograph		
Part Name	Gear 4th Driven	Gear 4th Driven
Part No	JY551235	JG551215
Description	<ul style="list-style-type: none"> • Outer diameter is 66 mm • No of teeth – 24 • Slots are through 	<ul style="list-style-type: none"> • Outer diameter is 55.2 mm • No of teeth – 26 • Slots are not through
Identification	Visual	Visual

Model	KTM / Dominar 400	Pulsar RS 200
Photograph		
Part Name	Gear 6th Driven	Gear 6th Driven
Part No	JY551237	JG551224
Description	<ul style="list-style-type: none"> • Outer diameter is 58.9 mm • No of teeth – 21 • No of splines - 19 	<ul style="list-style-type: none"> • Outer diameter is 49 mm • No of teeth – 22 • No of splines - 6
Identification	Visual	Visual

Model	KTM / Dominar 400	Pulsar RS 200
Photograph		
Part Name	Gear 2nd Driven	Gear 2nd Driven
Part No	JY551233	JG551228
Description	<ul style="list-style-type: none"> • Slots profile is different than Pulsar RS 200 • No of teeth – 26 	<ul style="list-style-type: none"> • Slots profile is different than Dominar 400 / Duke 390 • No of teeth – 31
Identification	Visual	Visual

Model	KTM / Dominar 400	Pulsar RS 200
Photograph		
Part Name	Output Shaft	Output Shaft
Part No	JY551008	JG551224
Description	<ul style="list-style-type: none"> • No of Lubrication holes – 5 holes • Length is 159 mm 	<ul style="list-style-type: none"> • No of Lubrication holes – 4 holes • Length is 156.2 mm
Identification	Visual	Visual



Model	KTM / Dominar 400	Pulsar RS 200
Photograph		
Part Name	Gear 2nd Drive	Gear 2nd Drive
Part No	JY551228	JG551227
Description	<ul style="list-style-type: none"> • Outer diameter is 46.8 mm • No of splines – 14 • No of teeth - 14 	<ul style="list-style-type: none"> • Outer diameter is 34.6 mm • No of splines – 6 • No of teeth - 15
Identification	Visual	Visual


Model	KTM / Dominar 400	Pulsar RS 200
Photograph		
Part Name	Gear 6th Drive	Gear 6th Drive
Part No	JY551231	JG551213
Description	<ul style="list-style-type: none"> • No of slots - 5 • No of teeth - 25 	<ul style="list-style-type: none"> • No of lugs - 5 • No of teeth - 24
Identification	Visual	Visual

Model	KTM / Dominar 400	Pulsar RS 200
Photograph		
Part Name	Gear 3rd - 4th Drive	Gear 3rd - 4th Drive
Part No	JY551229	JG551214
Description	<ul style="list-style-type: none"> • No of 3rd gear teeth - 19 • No of splines – 14 • Lug profile is different than Pulsar RS 200 	<ul style="list-style-type: none"> • No of 3rd gear teeth - 18 • No of splines – 6 • Lug profile is different than Dominar 400 / Duke 390
Identification	Visual	Visual

Model	KTM / Dominar 400	Pulsar RS 200
Photograph		
Part Name	Gear 5th drive	Gear 5th drive
Part No	JY551230	JG551220
Description	<ul style="list-style-type: none"> No of slots – 5 No of teeth - 23 	<ul style="list-style-type: none"> No of slots – 6 No of teeth - 22
Identification	Visual	Visual

Model	KTM / Dominar 400	Pulsar RS 200
Photograph		
Part Name	Shaft Input	Shaft Input
Part No	JY551022	JG551027
Description	<ul style="list-style-type: none"> Profile is different than Pulsar RS 200 Length is 181.2 mm 	<ul style="list-style-type: none"> Profile is different than Dominar 400 / Duke 390 Length is 175.5 mm
Identification	Visual	Visual

Model	KTM / Dominar 400	Pulsar RS 200
Photograph		
Part Name	Pull Rod	Push Rod
Part No	JY551404	JU551401
Description	<ul style="list-style-type: none"> • Profile is different than Pulsar RS 200 	<ul style="list-style-type: none"> • Profile is different than Dominar 400 / Duke 390
Identification	Visual	Visual

Model	KTM / Dominar 400	Pulsar RS 200
Photograph		
Part Name	Evacuation Strainer	-
Part No	JY571008	-
Description	<ul style="list-style-type: none"> • With Evacuation strainer 	<ul style="list-style-type: none"> • Without Evacuation strainer
Identification	Visual	Visual

Model	KTM / Dominar 400	Pulsar RS 200
Photograph		
Part Name	Chain Guard	Chain Guard
Part No	-	-
Description	<ul style="list-style-type: none"> • Profile is different than Pulsar RS 200 	<ul style="list-style-type: none"> • Profile is different than Dominar 400 / Duke 390
Identification	Visual	Visual

Model	KTM / Dominar 400	Pulsar RS 200
Photograph		
Part Name	Thermostat	Thermostat
Part No	JG601014	JL601237
Description	<ul style="list-style-type: none"> • Profile is different than Pulsar RS 200 	<ul style="list-style-type: none"> • Profile is different than Dominar 400 / Duke 390
Identification	Visual	Visual

Frame & Suspension

- Tightening torque
- Service limit
- Special tools
- Twin Channel ABS
- Cable routing
- Evaporative Emission System
- Important Standard Operating Procedures (SOP's)
- Part Comparison

Sr.No.	Parameter	Torque Values	
		Kg.m	N.m
1	Front Axle Nut	10.0	98.1
2	Rear Axle Nut	10.0	98.1
3	Rear Sprocket Mounting Nut	3.5 - 3.8	34.3 - 37.3
4	Handle Bar Holder Bolts	2.0 - 2.2	19.6 - 21.6
5	Fork Centre Bolt	5.0	49.1
6	Steering Stem Nut(Slotted)	0.5	4.9
7	Fork Pipe Top Bolts	2.5 - 3.0	24.5 - 29.4
8	Fork Under Bracket Bolts	2.5 - 3.0	24.5 - 29.4
9	RSA Mounting Nut (Upper)	4.5	44.1
10	Swing Arm Shaft	13.0 - 15.0	127.5 - 147.2
11	RSA Lower Bolt	4.5	44.1
12	Rider Foot Rest Mounting	2.8	27.5
13	LH & RH stay Bolts	1.8 - 2.0	17.7 - 19.6

Sr. No.	Parameter	Standard Specification (mm)	Service Limits (mm)
1	Axle Run Out, mm	TIR 0.1 mm or less	TIR 0.2 mm or less
2	Axial Wheel Run Out, mm	0.8	TIR 2.0
3	Radial Wheel Run Out, mm	0.8	TIR 2.0
4	Drive Chain Slack, mm	20 - 30	35 - 40
5	Drive Chain 20 Link length, mm	317.5	323.8
6	Rear sprocket Warp, mm	0.2	0.5
7	Rear Tyre Tread depth	6 mm	Upto TWI
8	Front Tyre Tread depth	4 mm	Upto TWI



Fork pipe splitting tool

Part No. : 37 1740 26

Application : For splitting fork inner pipe & outer pipe



Fork seat pipe holder

Part No. : 37 1740 25

Application : For holding fork seat pipe during removal of outer tube bottom bolt



Front fork Oil seal fitment punch

Part No. : 37 1740 24

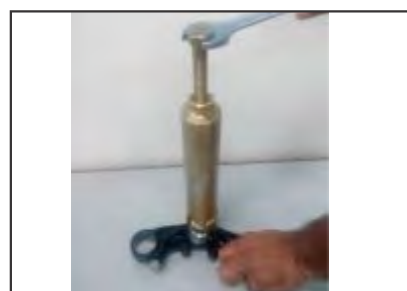
Application : For fitment of fork oil seal



Under bracket cone removal tool

Part No. : 37 1840 14

Application : For removing under bracket cone

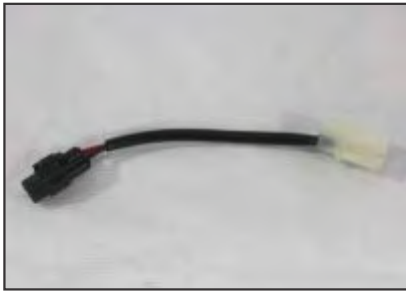


Under bracket cone fitment tool

Part No. : 37 1840 15

Application : For cone fitment on under bracket





Pigtail 4 Pole to 2 Pole converter :

Part No. : 37 2040 35

Application : For connecting fuel pump delivery checking unit to fuel pump.



Fork Special Bolt Tightening Tool

Part No. : 37 0043 40

Application : For tightening & loosening fork bolt



Function

To prevent the wheels of vehicle from sudden locking during braking situations.

Benefits

- Increase motorcycle stability & riding comfort.
- Best possible deceleration without wheel lock up.
- Reduced braking distance.

ABS Indication

ABS Indicator (Yellow) ((ABS)) : With Ignition switch ON & Kill switch ON the ABS indicator glows.

When vehicle speed is more than 10 Km/hr the ABS indicator goes off, if this indicator glows while vehicle is running, it means there is problem in ABS unit.

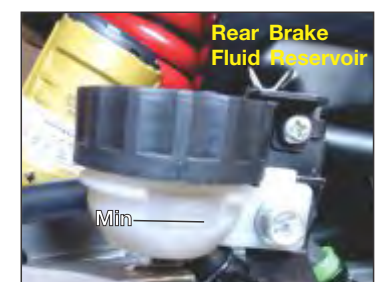


Notes :

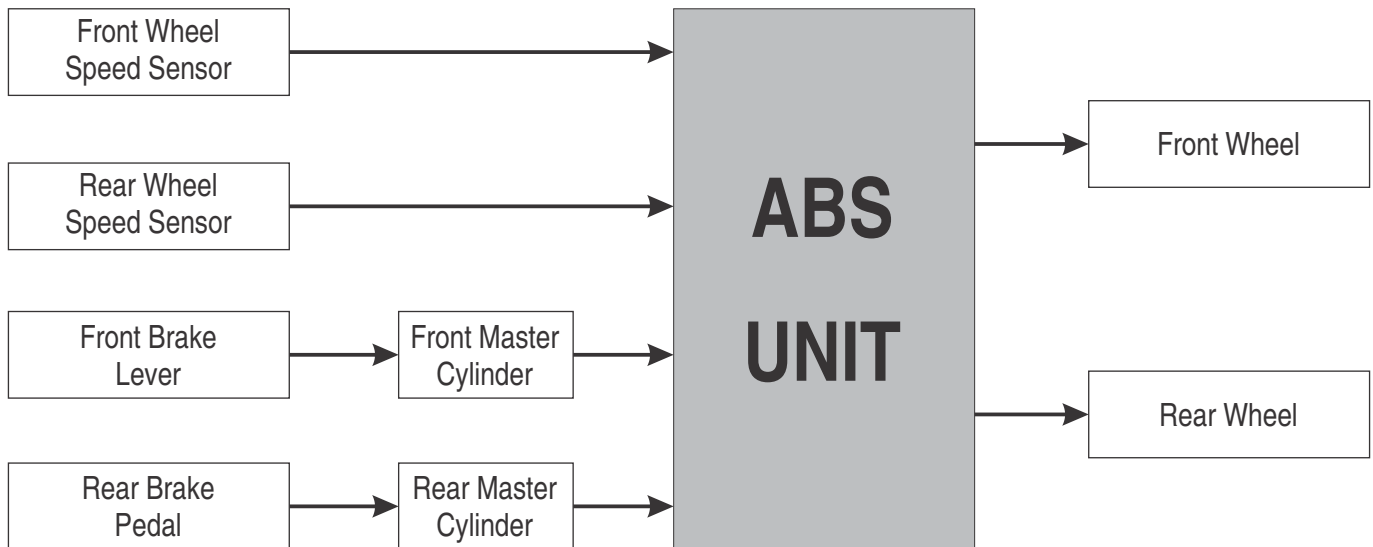
- In case ABS indicator gets ON during vehicle running, bring the vehicle to nearest BAL dealership for inspection / repair.
- Always maintain a safe distance between you and objects ahead. Vehicle speeds should always be reduced during extreme road conditions. The braking distance for motorcycle equipped with twin channel anti-lock braking system may be longer than for those without it on rough road conditions. During these conditions the vehicle should be driven at reduced speeds.
- When you apply Front brake / Rear brake under conditions which may lock the wheels, you feel a corresponding sensation (pulsation) in Front brake lever / Rear brake pedal. This is normal and it means your ABS is active.
- It is recommended to use both front & rear brakes simultaneously.
- Always slow down when cornering. The anti-lock brake system cannot prevent accidents resulting from excessive speeds.

Front & Rear Brake Fluid Level

- Front brake fluid reservoir is located on RH side of Handle bar.
- Rear brake fluid reservoir is located behind RH pillion holder bracket.
- To check the brake fluid level, Park the vehicle using rear wheel stand.
- Always ensure that brake fluid level is above 'MIN' mark given on inspection Window.
- In case of level drop, use only DOT-4 brake fluid (from sealed container) for top up & replacement.



Block Diagram



Working :

In ABS system, the ABS unit detects the possibility of wheels getting locked by taking input from speed sensor located at both wheels, When the wheels are about to lock, the hydro-electricals controller controls brake caliper fluid pressure & thus prevent wheels from getting locked, avoiding possibility of accident.

ABS Unit :

ABA unit is a combination of Electrical & hydraulic controls. The ABS ECU receives pulse signal from both wheel speed sensors, accordingly it controls flow of brake fluid to caliper.

ABS unit is located on frame below fuel tank. The master cylinder to caliper assembly hydraulic connections are routed through ABS unit. The signal from the front & rear wheel sensor opens or closes the solenoid valves in ABS unit there by controls flow of hydraulic oil to caliper assembly.

Solenoid Valve (Inlet) :

It allows flow of brake fluid to caliper while braking.

Solenoid Valve (Outlet) :

In case of wheel locking situation, it releases braking force applied on disc by allowing brake fluid to flow back to reservoir.

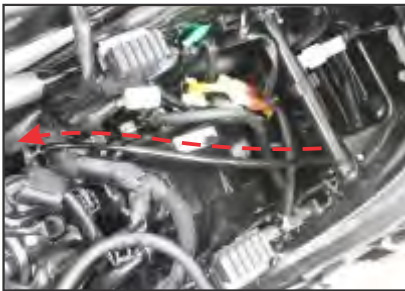
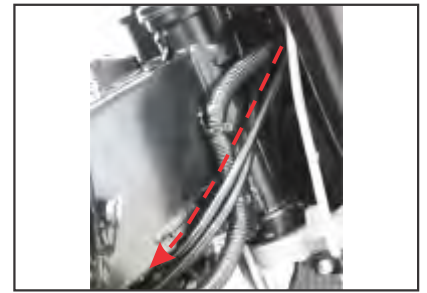
Wheel Speed Sensors :

Theses are HALL effect type speed sensor. They sense the pulse from sensor disc mounted on wheels & convey it to ABS unit.

Throttle cable routing



- ◀ • Route throttle cable from control switch RH as shown in photograph.
- Route throttle cable as shown in photograph. ▶



- ◀ • Route throttle cable from clamp mounted on bottom side of clamp.

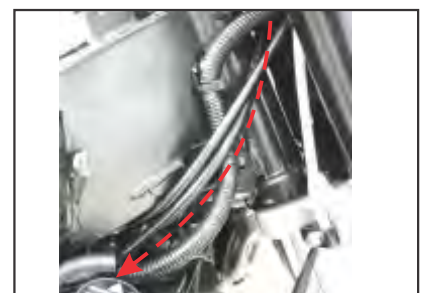


- ◀ • Route throttle cable beneath tube till throttle body as shown in photograph.

Clutch cable routing



- ◀ • Route clutch cable from clutch lever as shown in photograph.
- Route clutch cable as shown in photograph. ▶



- Route clutch cable as shown in photograph & ensure that it is routed through clamp provided on RH engine stay.



Front Brake Hose Routing (Non - ABS)



- Route front brake hose route from master cylinder as shown in photograph.



- Ensure that front brake hose is routed through clamp provided on under bracket assembly.



- Route front brake hose through clamp provided on outer tube as shown in photograph.

Rear Brake Hose Routing (Non - ABS)

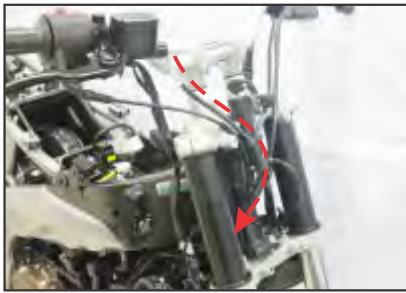


- Route rear brake hose from master cylinder as shown in photograph.



- Route rear brake hose through clamp provided on swing arm assembly as shown in photograph.

Front Brake Hose Routing (ABS)



- Route front brake hose as shown in photograph.
- Route front brake hose as shown in photograph ensure that clamp provided beneath frame.



- Route front brake hose as shown in photograph
- Route front brake hose from ABS unit as show in photograph.



- Route front brake hose as shown in photograph.
- Ensure that front brake hose is routed through clamp provided beneath underbracket assembly as shown in photograph.



Rear Brake Hose Routing (ABS)



- Route rear brake hose from rear master cylinder as shown in photograph & ensure that it is routed through clamp provided on frame.

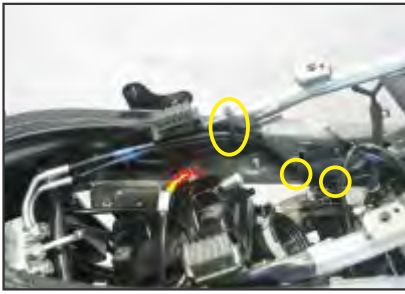


- Route brake hose as shown in photograph & ensure that it is tied with cable ties at three locations.
- Route rear brake hose from ABS as shown in photograph.



CABLE ROUTING

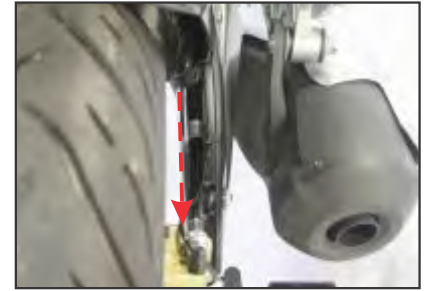
JAMINAR
400



- ◀ • Route brake hose from ABS unit as shown in photograph & ensure that it is tied with cable ties at three locations.
- Ensure that brake hose is routed through clamp. ▶



- ◀ • Route brake hose as shown in photograph.
- Route brake hose as shown in photograph. ▶



Front Wheel Sensor Routing (ABS)



- Route front wheel sensor cable as shown in photograph.



- Ensure that sensor cable is routed through clamp provided beneath underbracket assembly & it is clamp together with brake hose at two locations.

Rear Wheel Sensor Routing (ABS)



- ◀ • Route rear wheel sensor cable as shown in photograph & ensure it is tied with cable tie.
- Ensure that sensor cable is tied to rear brake hose with cable tie & it is routed along with brake hose through clamps provided on swing arm. ▶



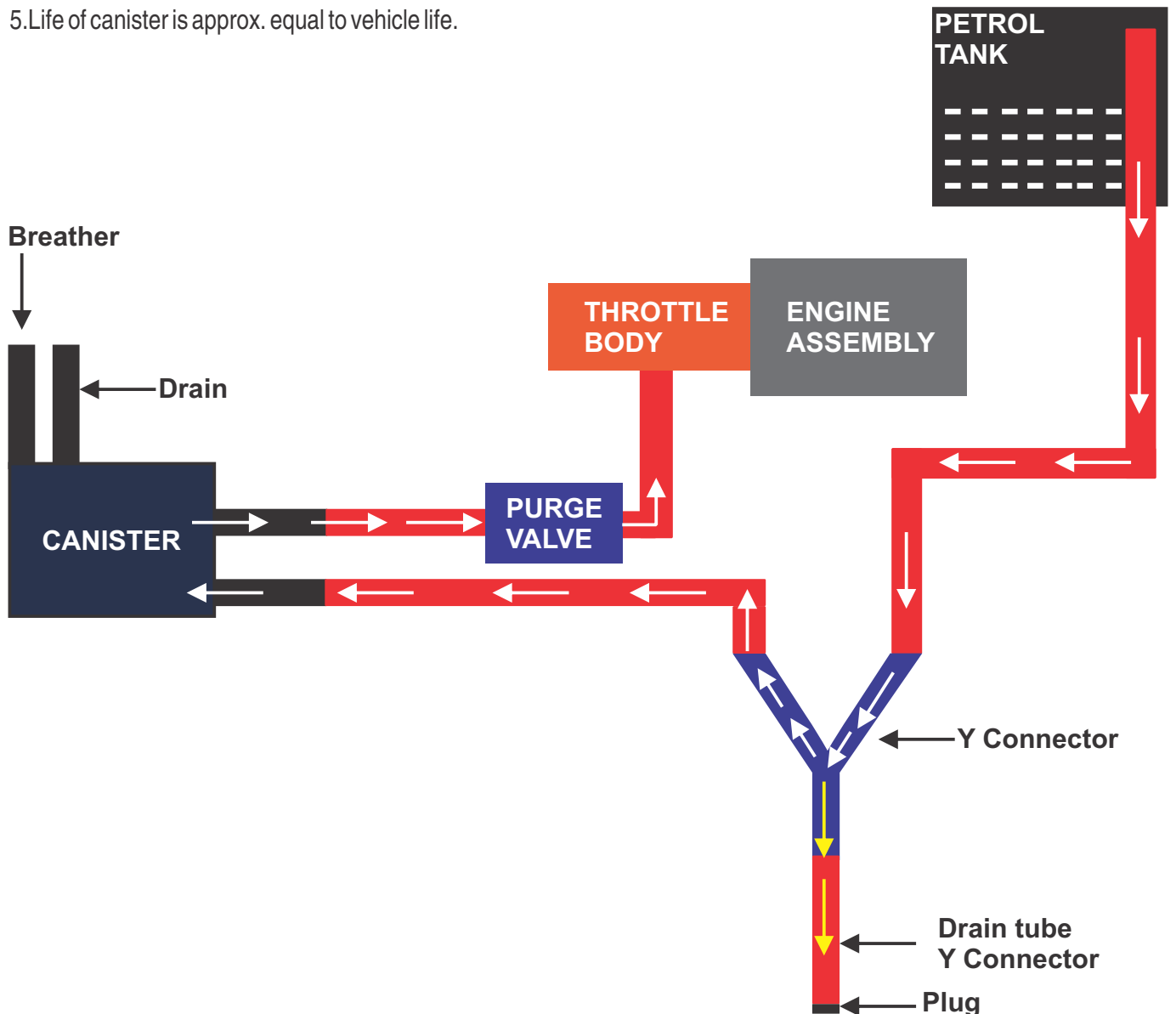
Evaporative Emission System & Working

EVAP is a evaporative Emission system which prevents fuel vapors going to atmosphere by converting fuel vapors into fuel droplets through canister.

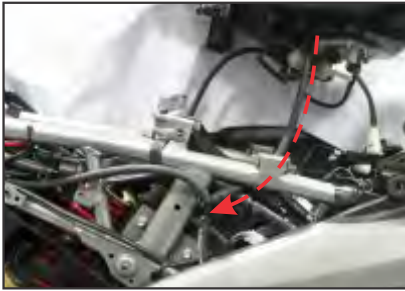
These fuel droplets are feed to engine through one way electrically operated Purge valve

Working of EVAP-

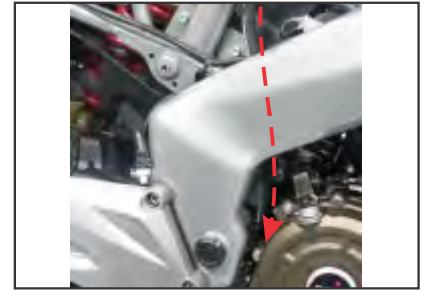
1. Petrol vapours from petrol tank reaches canister assembly through Y connector
2. Vapours are absorbed in canister & while engine running vapours are sucked in engine through electrically operated purge valve (one way type)
3. Excess vapours in canister are released to atmosphere (Rare case)
4. Y connector has drain plug to collect petrol in case vehicle falls off or due to condensation.
5. Life of canister is approx. equal to vehicle life.



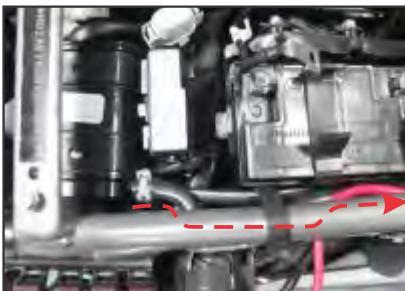
Evaporative Emission System - Routing



- Route EVAP hose from petrol tank to Y connected as shown in photograph.
- Route Y connector drain tube as shown in photograph. ▶



- Route hose from Y connector to canister as shown in photograph & ensure that it is tied along with canister to purge valve hose to frame with rubber clamp.



- Route canister to purge valve as shown in photograph.



- Route hose pipe from purge valve to throttle body as shown in photograph & ensure that it is tied with rubber clamp to frame.



Air Filter Box / Throttle Body with Sensors removal



- ◀ • Remove RH seat cowl.
- RH side cover screw (4 nos.) with metal washer & take out RH side cover. ▶



- Remove RH side cover lug from grommet & take out RH side cover.



- Remove LH seat cowl & LH side cover as explained in RH seat cowl & RH side cover removal.



- Remove Air filter box mounting bolts (3 nos.) with 5 mm allen key.



- Remove breather pipe clip & pull breather pipe from head cover.

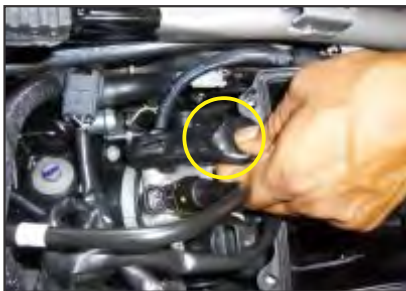




- ◀ • Remove drain pipe clip & pull drain pipe from crankcase end -
- Remove throttle body clips bolts (2 nos.) with 3 mm allen key. ▶



- Remove all coupler connection from throttle body sensor -
- ◀ - Stepper motor
- Injector ▶



- ◀ - TMAP ▶



- ◀ • Lift air filter & throttle body .
- Pull out canister to throttle body hose pipe clip & take out canister to throttle body hose pipe. ▶



- After removal of throttle body from engine, remove throttle cable & TPS coupler from TPS.

Fork Overhaul



- ◀ • Align overhead structure as shown in photograph.
- Insert belt below frame tube as shown in photograph. ▶



- ◀ • Hook the belt as shown in photograph.
- Lift the vehicle by pulling chain. ▶



- Remove caliper mounting bolts (2 nos.) with 12 mm spanner & take out caliper assembly.



- Remove plastic clamp mounting bolts (2 nos.) with 10 mm spanner

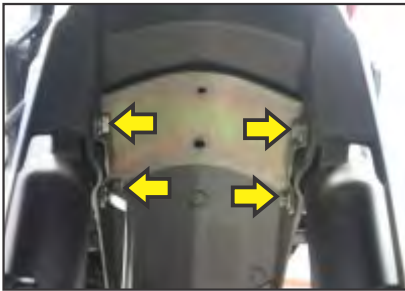


- ◀ • Remove front axle nut with 22 mm spanner.
- Remove bolt from outer tube using 13 mm spanner. ▶





- Take out front axle & front wheel.



- Remove front fender bolts (4 nos.) with 12 mm spanner.



- Remove front fender LH & RH mounting bolt with 5 mm allen key.



- ◀ • Take out front fender along with brace fender & plastic clamp mounting bracket.

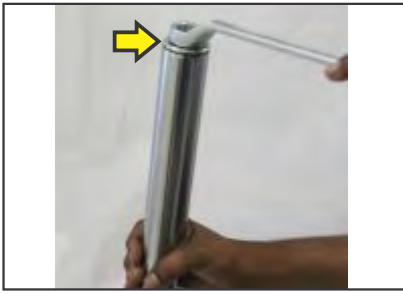
- Loosen upper bracket side bolt with 6 mm allen key. ▶



- ◀ • Loosen under bracket bolt with 17 mm spanner.

- Take out fork leg assembly from vehicle. ▶





- Remove front fork top bolt with 22 mm spanner.
- Take out :-
- Spacer tube.



- Washer.
- Main spring.



- Collect fork oil in clean measuring jar.
- Using fork seat pipe holder (P/N - 37174025), remove outer tube bottom bolt using 8 mm allen key with socket.



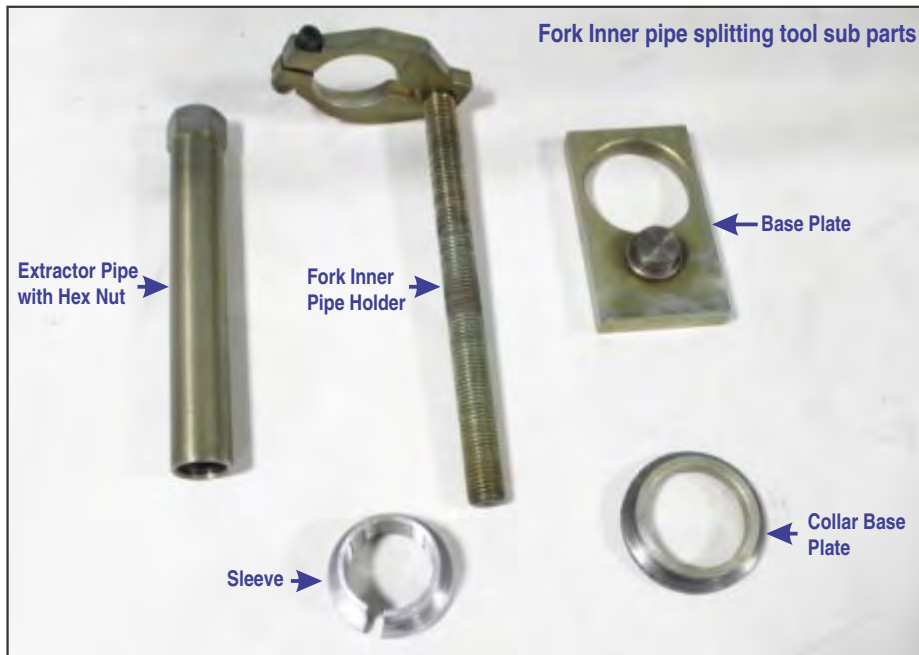
- Remove fork seat pipe holder & keep fork assembly as shown in photograph.



- Remove dust seal & oil seal lock.



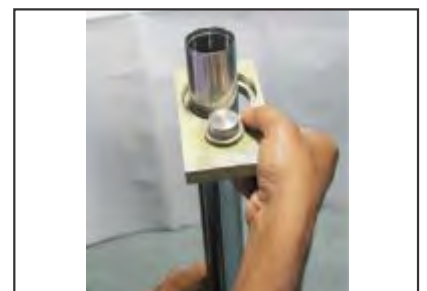
Fork oil seal removal using inner pipe splitting special tool :- (Part No. - 37174026)



- Assembly extractor pipe on fork inner pipe holder as shown in photograph.
- Fit Sleeve in fork inner pipe holder as shown in photograph.



- Insert collar base plate in base plate.
- Insert base plate with collar as shown in photograph.

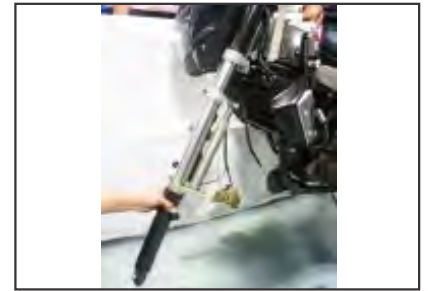


- Ensure that collar base plate is properly fitted on outer tube as shown in photograph.
- Insert fork inner pipe holder as shown in photograph.

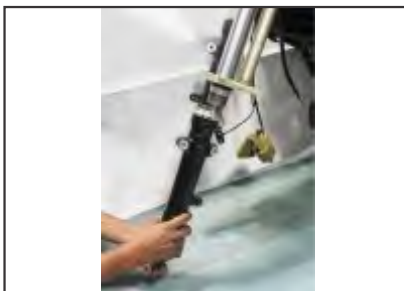




- ◀ • Using 6 mm allen key, tighten fork inner pipe holder clamp bolt.
- ▶ • Insert fork leg along with special tool in under bracket till fork inner pipe holder clamp touches to under bracket assembly.



- ◀ • Tighten under bracket bolt using 17 mm spanner.
- ▶ • Using 32 mm spanner, split fork inner pipe from outer tube along with guide bush & oil seal.



- ◀ • Take out outer tube.
- ▶ • Loosen fork inner pipe holder clamp bolt using 6 mm allen key.



- ◀ • Loosen under bracket bolt using 17 mm spanner.
- ▶ • Take out fork inner pipe along with special tool as shown in photograph.



- ◀ • Remove fork inner pipe holder as shown in photograph.



- ◀ • Remove oil seal.
- Remove washer.



- ◀ • Remove anti - friction bush.
- Take out seat pipe & oil cap lock.

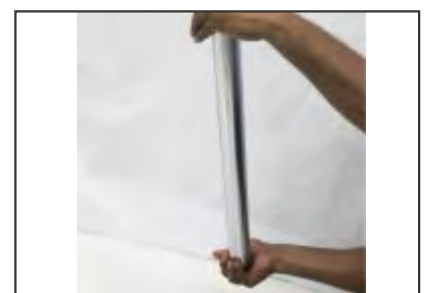


Clean Fork Outer Tube & Inner Pipe as given below before assembly.

- Clean the fork inner pipe & outer tube with.



- ◀ • Pour diesel in fork inner pipe by closing other end with hand.
- After pouring diesel, close both ends of fork inner pipe with hands & shake inner pipe.



- ◀ • Pour diesel, in fork outer tube by closing other end with hard.
- After pouring diesel, close both ends of fork outer tube with hands & shake outer tube.





- Nylon brush can be used for removing burr / muck particles for inner / outer tube.



- ◀ • Blow compressed air through from inner pipe & fork outer tubes. ▶



- Hold seat pipe along with spring on seat pipe.



- ◀ • Insert fork inner pipe & cap oil lock ▶



- Insert outer tube & tighten allen bolt using 8 mm allen key with socket (P/N - 37104336)

- Apply loctite thread locker 243 on allen bolt.



- Take out seat pipe holder & hold fork leg as shown in photograph.



- Insert guide bush (Anti - friction bush & washer).



- Insert oil seal & fit oil seal using oil seal fitment punch (P/N - 37174024).



Note :-

- Never reuse oil seal.
- Always replace oil seal along with dust seal of same manufacturer.
- Always replace oil seal fitment punch if nylon sleeve is found damaged.



- Insert oil seal lock & dust seal.



- Insert fork spring, washer & spacer tube.
- Fill correct qty. (420 ± 5 ml) of recommended fork oil (SAE 10W20)





- Tighten fork top bolt using 22 mm spanner.
- Fit fork leg assembly on vehicle & all removed parts.
- Avoids dent & scratches while handling fork leg assembly
- Ensure that front axle should be free in both outer tube holes.



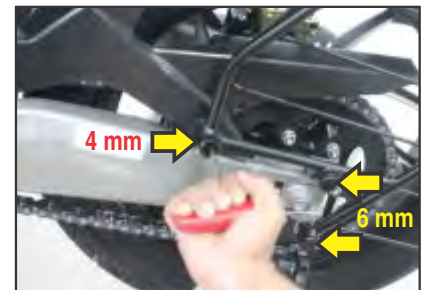
Cover Chain Assembly Replacement



- Remove LH stay.



- Remove saree guards caps (3 nos.) & remove saree guard mounting bolts (3 nos.) with 4 mm & 6 mm allen key & take out saree guard

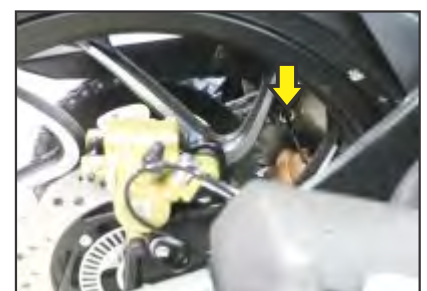


- Remove cover chain assembly mounting bolts along with metal collar using 4 mm allen key as follows.

- ◀ - Center bolt near RSA lower bolt.



- RH side bolts (3 nos.)





- ◀ • LH side bolt.
- Take out cover chain assembly. ▶



RSA Replacement



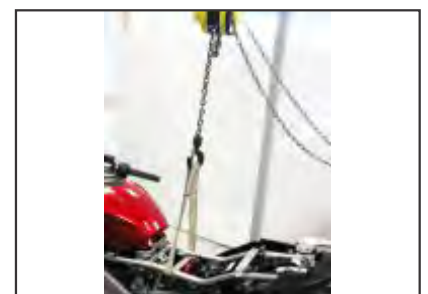
- Remove LH seat cowl & LH side cover.
- Remove gear change lever mounting bolt with 6 mm allen key & take out gear change lever from LH stay.



- Remove LH stay mounting bolts (3 nos.) with 6 mm allen key & take out LH stay.



- ◀ • Remove chain cover cap as shown in photograph.
- Lift vehicle as shown in photograph. ▶



- Remove RSA top & bottom nut using 8 mm allen key with socket tool.





- Take out RSA assembly.

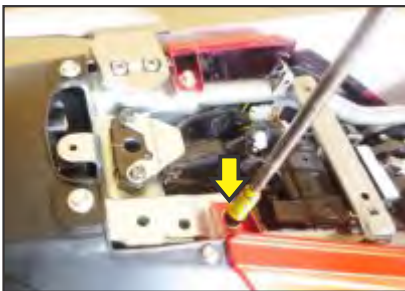
Skill Tip :-

- Remove RSA from top bracket.
- Lift RSA upward, for removal from lower bracket.
- Take out RSA as shown in photograph.

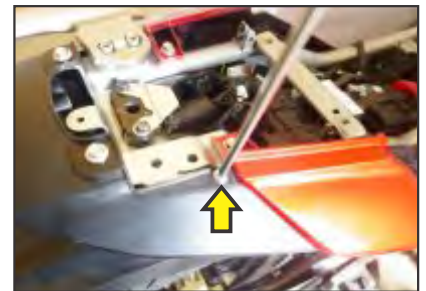
Seat Cowl Removal (Explained for RH seat cowl)



- Remove rider seat.
- ◀ • Remove RH grab handle mounting bolts (2 nos.) with 6 mm allen key & take out grab handles. ▶



- Remove seat cowl mounting bolts as follows :-
- ◀ a) Remove 1 bolt with metal washer by 10 mm spanner & 1 screw by phillips head screw driver. ▶



- ◀ b) Remove RH side screw with plastic washer by phillips head screw driver.
- c) Remove bottom side screws (2 nos.) with phillips head screw driver. ▶



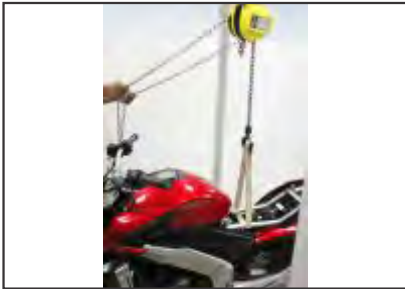
- ◀ • Remove rear side lugs (3 nos.) from seat cowl slots.
- Remove seat cowl lug from central bottom cover slot. ▶





- Take out RH seat cowl.

Swing Arm Replacement



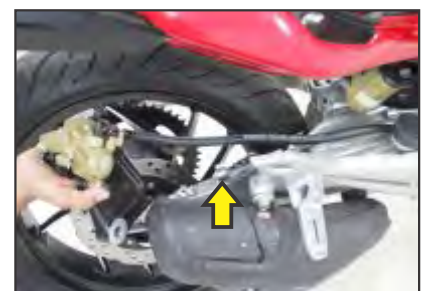
- Remove rider seat.
- ◀ • Lift the vehicle using overhead structure.
- Remove cover chain assembly.



- ◀ • Remove rear axle nut using 22 mm spanner holding axle with 17 mm spanner.
- Take out rear axle. ▶



- Take out caliper assembly from rear disc & remove brake hose from clamps.

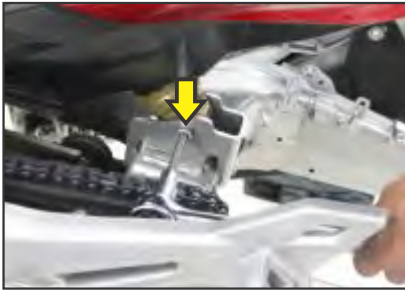


- ◀ • Keep caliper assembly as shown in photograph.
- Take out coupling along with rear sprocket from wheel. ▶





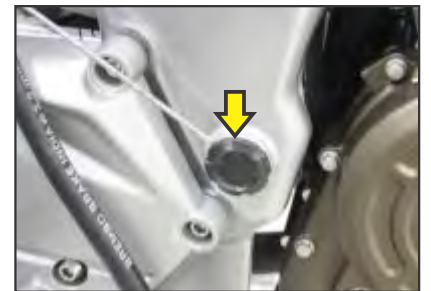
- ◀ • Take out rear wheel.
- Take out coupling from drive chain. ▶



- ◀ • Remove RSA lower bolt with 8 mm allen key.
- Remove muffler assembly top mounting using 12 mm spanner. ▶



- Remove swing arm shaft plastic caps.



- Remove swing arm shaft nut using 19 mm spanner.
- Take out swing arm shaft.



- ◀ • Take out swing arm from its base.
- Remove drive chain from swing arm. ▶





- Take out swing arm assembly.
- Remove chain slider lugs from holes on swing arm.



- ◀ • Remove chain slider slot from bracket on swing arm.
- Take out chain slider. ▶



- Take out dust seal & bush.



- Take out dust seal & bush.



Take out muffler mounting bracket.



- Take out dust seals.



- Apply AP grease on bush.
- Refit all removed parts.

SOP for addressing issue of foot peg vibrations



- Drive the vehicle & ensure Vibrations at Footrest.
- Check & confirm Foot peg is touching to Step Holder.
- Remove RH side 'Foot peg assembly' from vehicle.



- Rub the Foot peg on rough emery paper to remove / clear the high point (white patches seen in the photo)



- Reassemble RH side Foot peg on vehicle.
- Ride the vehicle and confirm for smooth operation / No vibrations.
- Repeat the procedure for LH side Foot peg.

SOP for addressing issue of vibrations from fuel tank cover



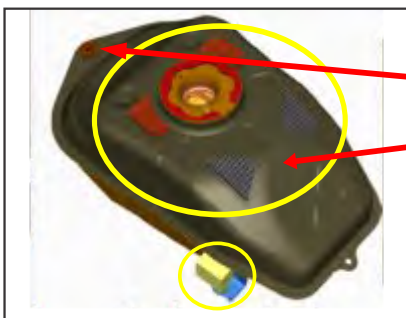
• **Fuel tank cover touching to bracket.**

1. Remove seat rear & seat front.
2. Check for gap between fuel tank cover & chassis bracket as shown by arrow on both sides.
3. In case of tank, cover is touching to bracket: provide smooth relieve to fuel tank cover at touch points along the white line shown. Create a gap of min 2mm. Ensure that there are no sharp corners.



• **Fuel tank cover hardware loose.**

4. Remove bolts securing fuel tank cover & take out fuel tank cover
5. Single sided tape on tank cover & foams on speedo to be pasted if found missing. Refer image on page No.4
6. Tighten 4 nos. bolts. securing secondary speedometer.
7. Tighten all screws & bolts securing brackets and tank side cover LH & RH mounting.



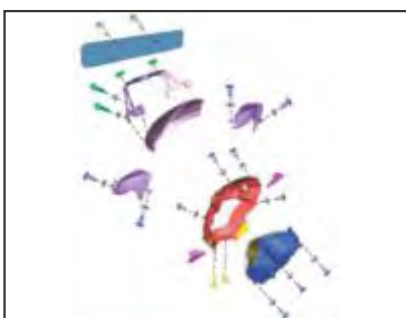
• **Fuel tank damper / foam dislocation.**

8. Ensure 4 nos. dampers are firmly pasted on fuel tank top side.
9. Ensure 2 nos. foam (Square shaped) are firmly pasted on fuel tank one each on either side.
10. Replace dampers/foams by new one if required.
11. Confirm torque at rear mtg (LH & RH).



• **Frame cover-rattling noise.**

1. Frame cover top is not touching to tank cover.
2. Ensure frame cover 'mounting bolt' is tightened to specified torque.
3. After removal of cover, confirm presence of foam as per design location. If missing, add foams.
4. Push the cover towards headstock and tighten.



• **SOP for addressing issue of Fairing vibrations**

1. Ensure side mask LH & RH are fully tight (2 each screws)
2. Ensure windshield & front number plate bracket is firmly fitted with 4 nos. screws.
3. Ensure 2 nos. rubber pads located on front number plate bracket are intact.
4. Ensure headlight fairing (Mask carrier) is firmly fitted with 6 nos. screws & washers.
5. Confirm gap of visor, if touching / less gap, then gap is to be maintained.

- **SOP for addressing issue of Handle bar vibrations**

1. Loosen engine foundation bolts, fire the engine – hold on for few seconds and shutit down. Then retighten bolts to specified torque.

Front Top bolt - 2.6Kgm.

Bottom bolt - 4.5 Kgm.

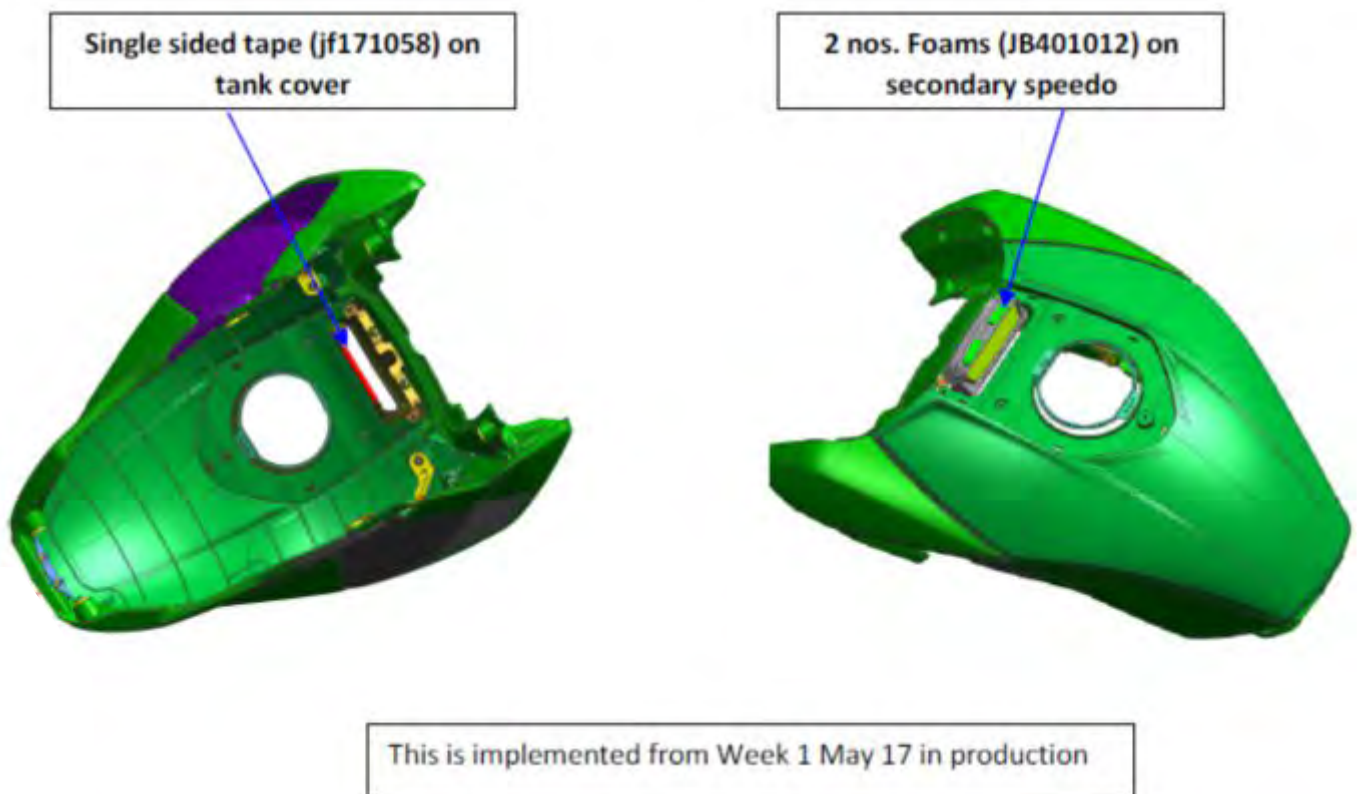
Rear side bolt - 4.5 Kgm

2. Ensure handle bar weight mounting bolt is tightened to specified torque.

Recommended Torque - 0.8 to 1 Kgm



3. Ensure handle bar holder bolts are tightened to specified torque.

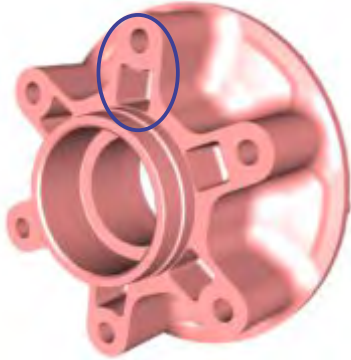
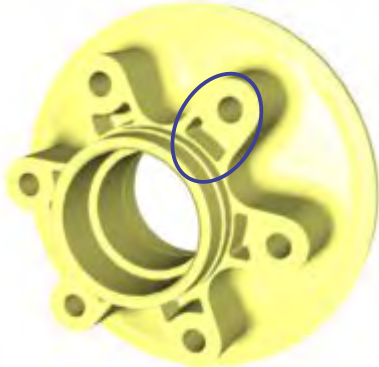
Recommended Torque - 2.5 to 2.8 Kgm



Model	Dominar 400	Pulsar RS 200	
Photograph		LH	LH
		RH	RH
Part Name	Step Holder	Step Holder	
Part No	LH - JF113003, RH - JF113015	Front LH - DT113002, Front RH - DT113001 Rear LH - DT113006, Rear RH - DT113008	
Description	<ul style="list-style-type: none"> • Combined step holder for Rider & Pillion rider 	<ul style="list-style-type: none"> • Separate step holders for Rider & Pillion rider 	
Identification	Visual	Visual	

Model	Dominar 400	Pulsar RS 200
Photograph		
Part Name	Brake Pedal	Brake Pedal
Part No	JF161006	DT161011
Description	<ul style="list-style-type: none"> • Profile is different than Pulsar RS 200 	<ul style="list-style-type: none"> • Profile is different than Dominar 400
Identification	Visual	Visual

Model	Dominar 400	Pulsar RS 200
Photograph		
Part Name	Mirror	Mirror
Part No	LH - JF231600, RH - JF231601	LH - DT231600, RH - DT231601
Description	<ul style="list-style-type: none"> • Profile is different than Pulsar RS200 	<ul style="list-style-type: none"> • Profile is different than Dominar 400
Identification	Visual	Visual

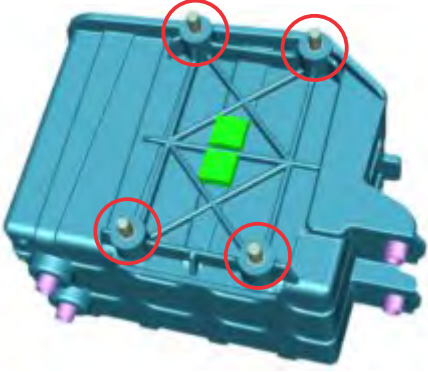
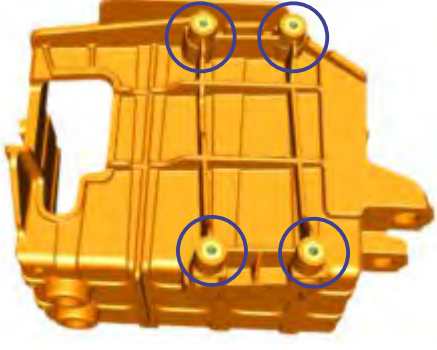
Model	Dominar 400	Pulsar RS 200
Photograph		
Part Name	Coupling	Coupling
Part No	DT131213	JL131225
Description	<ul style="list-style-type: none"> • Profile is different than Pulsar RS 200 	<ul style="list-style-type: none"> • Profile is different than Dominar 400
Identification	Visual	Visual

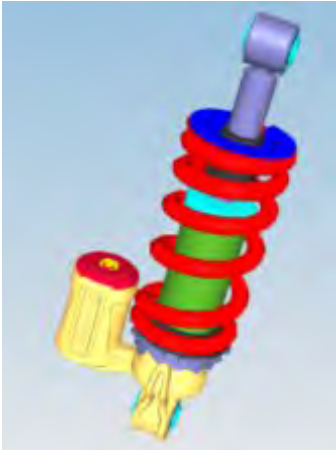

Model	Dominar 400	Pulsar RS 200
Photograph		
Part Name	Fuel Tank	Fuel Tank
Part No	JF171033	DT171001
Description	<ul style="list-style-type: none"> • Without fuel lever sensor mounting hole • Fuel pump module mounting hole Profile is different than Pulsar RS 200 • Without bracket Fuel level sensor wire routing • EVAP Compatible 	<ul style="list-style-type: none"> • With fuel lever sensor mounting hole • Fuel pump module mounting hole Profile is different than Dominar 400 • Without bracket Fuel level sensor wire routing • Without EVAP
Identification	Visual	Visual

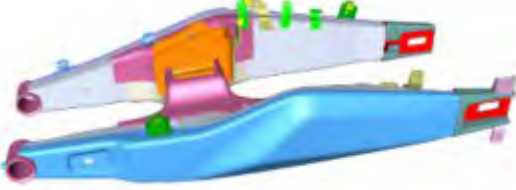
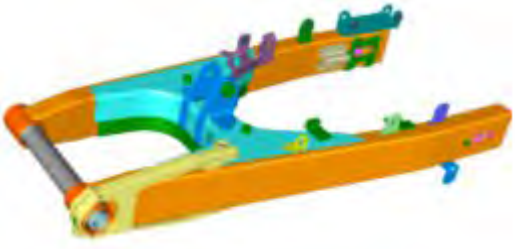
Model	Dominar 400	Pulsar RS 200
Photograph		
Part Name	Canister	-
Part No	JY171077	-
Description	<ul style="list-style-type: none"> • With Canister 	<ul style="list-style-type: none"> • Without Canister
Identification	Visual	-

Model	Dominar 400	Pulsar RS 200
Photograph		
Part Name	Bracket Secondary Speedo	-
Part No	JF171043	-
Description	<ul style="list-style-type: none"> • With bracket for Secondary speedo mounting 	-
Identification	Visual	-

Model	Dominar 400	Pulsar RS 200
Photograph		
Part Name	Frame	Frame
Part No	DT111134	DT111163
Description	<ul style="list-style-type: none"> • Without Bracket for front Lairing structure mounting. • Rear side Profile is different than Pulsar RS 200. 	<ul style="list-style-type: none"> • With Bracket for front Lairing structure mounting. • Rear side Profile is different than Dominar 400.
Identification	Visual	Visual

Model	Dominar 400	Pulsar RS 200
Photograph		
Part Name	Battery Case	Battery Case
Part No	JF181273	DT181020
Description	<ul style="list-style-type: none"> • With lugs 	<ul style="list-style-type: none"> • With holes
Identification	Visual	Visual



Model	Dominar 400	Pulsar RS 200
Photograph		
Part Name	Rear Shock Absorber	Rear Shock Absorber
Part No	JF122013	DT122019
Description	<ul style="list-style-type: none"> • Top spring locator - Matt gold color 	<ul style="list-style-type: none"> • Top spring locator - Wine red color
Identification	Visual	Visual

Model	Dominar 400	Pulsar RS 200
Photograph		
Part Name	Swing Arm Assembly	Swing Arm Assembly
Part No	DT122017	JL122014
Description	<ul style="list-style-type: none"> • Profile is different than Pulsar RS200 	<ul style="list-style-type: none"> • Profile is different than Dominar 400
Identification	Visual	Visual



Model	Dominar 400	Pulsar RS 200
Photograph		
Part Name	Chain Slider	Chain Slider
Part No	JF122016	JL122003
Description	<ul style="list-style-type: none"> • Profile is different than Pulsar RS200 	<ul style="list-style-type: none"> • Profile is different than Dominar 400
Identification	Visual	Visual

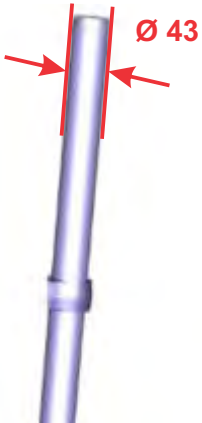

Model	Dominar 400	Pulsar RS 200
Photograph	<p>LHS View</p> <p>RHS View</p>	<p>LHS View</p> <p>RHS View</p>
Part Name	Chain Cover Assembly	Chain Cover Assembly
Part No	DT181308	JL181205
Description	<ul style="list-style-type: none"> • Profile is different than Pulsar RS200 	<ul style="list-style-type: none"> • Profile is different than Dominar 400
Identification	Visual	Visual

Model	Dominar 400	Pulsar RS 200
Photograph		
Part Name	Saree Guard	Saree Guard
Part No	JF231208	JL231202
Description	<ul style="list-style-type: none"> • Profile is different than Pulsar RS200 	<ul style="list-style-type: none"> • Profile is different than Dominar 400
Identification	Visual	Visual

Model	Dominar 400	Pulsar RS 200
Photograph		
Part Name	Wheel Rim	Wheel Rim
Part No	Front - JF131012 , Rear - JF131217	Front - JL131004, Rear - JL131209
Description	<ul style="list-style-type: none"> • Profile is different than Pulsar RS200 	<ul style="list-style-type: none"> • Profile is different than Dominar 400
Identification	Visual	Visual

Model	Dominar 400	Pulsar RS 200
Photograph		
Part Name	Chain Adjuster	Chain Adjuster
Part No	JF122014	LH - JL122001, RH - JL122009
Description	<ul style="list-style-type: none"> • Profile is different than Pulsar RS200 	<ul style="list-style-type: none"> • Profile is different than Dominar 400
Identification	Visual	Visual

Model	Dominar 400	Pulsar RS 200
Photograph		
Part Name	Outer tube	Outer tube
Part No	LH - DT121001, RH - DT121002	LH - DT121048, RH - DT121040
Description	<ul style="list-style-type: none"> • Outer diameter is 63 mm. 	<ul style="list-style-type: none"> • Outer diameter is 57 mm.
Identification	Visual	Visual



Model	Dominar 400	Pulsar RS 200
Photograph		
Part Name	Fork Inner Pipe	Fork Inner Pipe
Part No	JF121036	DT151040
Description	<ul style="list-style-type: none"> • Outer diameter is 43 mm. 	<ul style="list-style-type: none"> • Outer diameter is 37 mm.
Identification	Visual	Visual



Model	Dominar 400	Pulsar RS 200
Photograph		
Part Name	Under bracket Assembly	Under bracket Assembly
Part No	JF121033	DT121035
Description	<ul style="list-style-type: none"> Fork leg tightening bolt is towards engine side Profile is different than Pulsar RS 200 	<ul style="list-style-type: none"> Fork leg tightening bolt is opposite to engine side Profile is different than Dominar 400
Identification	Visual	Visual

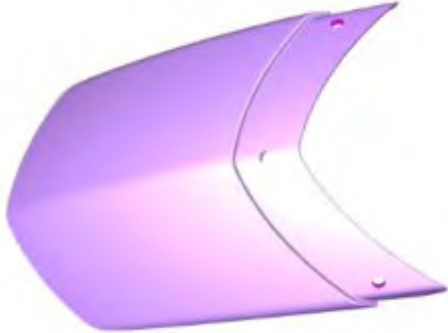
Model	Dominar 400	Pulsar RS 200
Photograph		
Part Name	Tube Fork Cover	-
Part No	JF181283	-
Description	<ul style="list-style-type: none"> With tube fork cover 	-
Identification	Visual	-

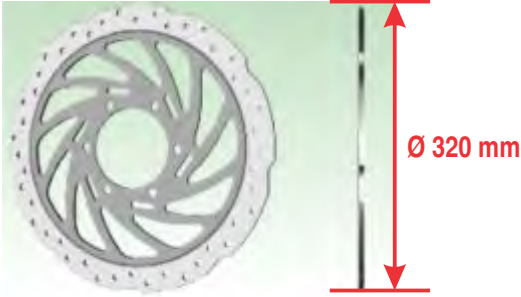
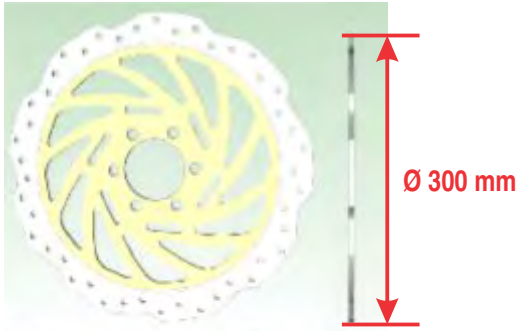
Model	Dominar 400	Pulsar RS 200
Photograph		
Part Name	Upper Bracket	Upper Bracket
Part No	JF121030	DT121030
Description	<ul style="list-style-type: none"> • Profile is different than Pulsar RS 200 	<ul style="list-style-type: none"> • Profile is different than Dominar 400
Identification	Visual	Visual

Model	Dominar 400	Pulsar RS 200
Photograph		
Part Name	Handle Holder Bottom	-
Part No	JF151045	-
Description	<ul style="list-style-type: none"> • With handle holder bottom 	-
Identification	Visual	-

Model	Dominar 400	Pulsar RS 200
Photograph		
Part Name	Cap Petrol Tank	Cap Petrol Tank
Part No	JF171662	JL171600
Description	<ul style="list-style-type: none"> • Profile is different than Pulsar RS 200 	<ul style="list-style-type: none"> • Profile is different than Dominar 400
Identification	Visual	Visual

Model	Dominar 400	Pulsar RS 200
Photograph		
Part Name	Handle Bar	Handle Bar
Part No	JF151041	LH - DT151010, RH - DT151012-
Description	<ul style="list-style-type: none"> • Profile is different than Pulsar RS 200 	<ul style="list-style-type: none"> • Profile is different than Dominar 400
Identification	Visual	Visual

Model	Dominar 400	Pulsar RS 200
Photograph		
Part Name	Flap Mud Front Fender	-
Part No	JF181434	-
Description	<ul style="list-style-type: none"> • With flap mud front fender 	-
Identification	Visual	-

Model	Dominar 400	Pulsar RS 200
Photograph		
Part Name	Front Disc	Front Disc
Part No	JF131817	DT131802
Description	<ul style="list-style-type: none"> • Outer diameter is 320 mm 	<ul style="list-style-type: none"> • Outer diameter is 300 mm
Identification	Visual	Visual

Model	Dominar 400	Pulsar RS 200
Photograph		
Part Name	Sensor Disc Front	Sensor Disc Front
Part No	DT131867	JU131801
Description	<ul style="list-style-type: none"> • Diameter is 124 mm 	<ul style="list-style-type: none"> • Diameter is 104 mm
Identification	Visual	Visual


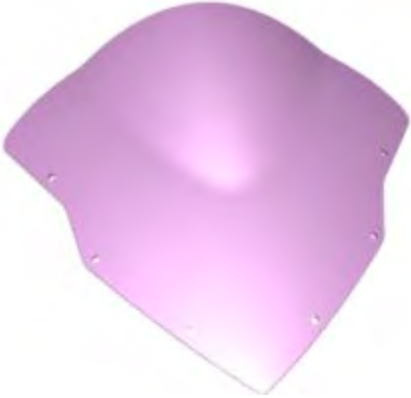
Model	Dominar 400	Pulsar RS 200
Photograph		
Part Name	Front Axle	Front Axle
Part No	DT131009	JL131001
Description	<ul style="list-style-type: none"> • Without hex head. 	<ul style="list-style-type: none"> • With hex head.
Identification	Visual	Visual

Model	Dominar 400	Pulsar RS 200
Photograph	<p>Front</p> <p>Rear</p>	
Part Name	Under Tray	Under Tray
Part No	DT181007	DT181256
Description	<ul style="list-style-type: none"> • Profile is different than Pulsar RS 200 	<ul style="list-style-type: none"> • Profile is different than Dominar 400
Identification	Visual	Visual

Model	Dominar 400	Pulsar RS 200
Photograph		
Part Name	Rear Fender	-
Part No	JF181420	-
Description	<ul style="list-style-type: none"> • With rear fender 	-
Identification	Visual	-

Model	Dominar 400	Pulsar RS 200
Photograph	<p>LH</p> <p>RH</p>	<p>LH</p> <p>RH</p>
Part Name	Grab Handle	Grab Handle
Part No	LH - DT231407, RH - DT231410	LH - DT231404, RH - DT231405
Description	<ul style="list-style-type: none"> • Profile is different than Pulsar RS 200 	<ul style="list-style-type: none"> • Profile is different than Dominar 400
Identification	Visual	Visual

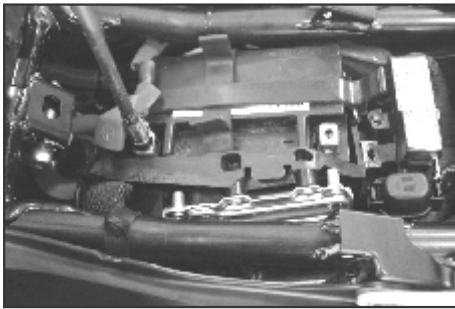
Model	Dominar 400	Pulsar RS 200
Photograph		
Part Name	Speedo Flap	Speedo Flap
Part No	JF181265	DT181233
Description	<ul style="list-style-type: none"> • Profile is different than Pulsar RS 200 	<ul style="list-style-type: none"> • Profile is different than Dominar 400
Identification	Visual	Visual

Model	Dominar 400	Pulsar RS 200
Photograph		
Part Name	Wind Shield	Grab Handle
Part No	DT181306	DT181232
Description	<ul style="list-style-type: none"> • Profile is different than Pulsar RS 200 	<ul style="list-style-type: none"> • Profile is different than Dominar 400
Identification	Visual	Visual

ELECTRICAL

- Battery
- Dos & Don'ts - Generic
- Electrical Checking procedure
- Fuel Injection System
- Relay Checking Procedure
- Standard Operating Procedure
- ECU Flashing
- Part Comparison
- Electrical Circuit Diagrams

Location of Battery



Battery is located beneath rider seat.

Battery Technical Specification



• Make	Exide
• Terminal Voltage	12 Volt
• Type	VRLA Battery
• Capacity	8 Ah
• Charging Current Specification	4.0 Amp
• Charging Voltage Specification	14.5 ± 0.1 V
• Battery Charger	Metafab / Apple Energy Make

Battery Charge Condition Checking



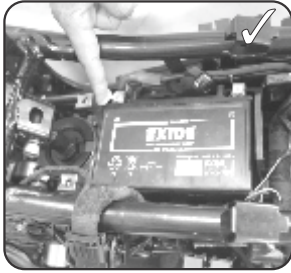
- For Battery charge condition checking using Midtronics Battery Tester, refer **SOP given in Pulsar 200 NS Service Station Manual Page no- 153 & 154 / Tools & Equipment bulletin - TE 33 dated 20.03.2012 .**

Battery Charging Procedure

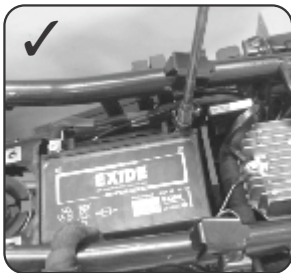
- For Battery charging procedure, refer **SOP given in Pulsar 200 NS Service Station Manual Page no- 157 to 159 / Tools & Equipment bulletin - TE 33 dated 20.03.2012.**

Dos & Don'ts

✓ Dos



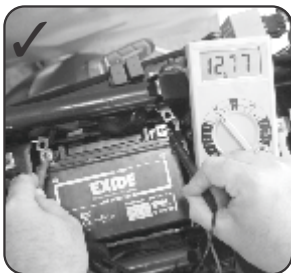
- Apply petroleum jelly to battery terminals.



- Use proper tools. (10 mm T spanner or phillips screw driver).



- Always charge the battery with the help of BAL recommended VRLA battery charger.

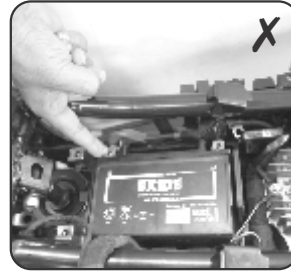


- Check open circuit voltage by multimeter.

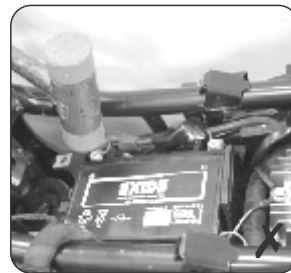


- Always use Midtronics battery tester for checking condition of VRLA battery.

✗ Don'ts



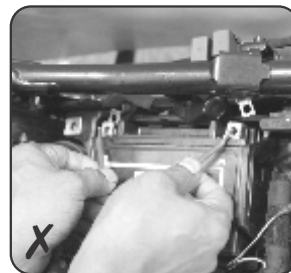
- Do not apply grease to poles / terminals.



- Do not hammer battery terminals.



- Do not use any other battery charger for charging VRLA battery.



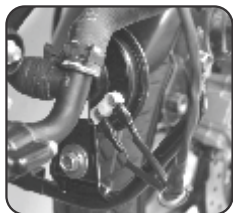
- Do not short circuits the poles to check battery condition.



- Do not fit extra electrical accessories. This will result in wiring getting short & battery would get discharged. This will shorten life of battery.

Horn

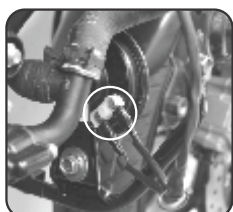
✓ Dos



Ensure that horn is firmly fitted on fairing structure central.



Ensure that horn is free from dust and mud accumulation.



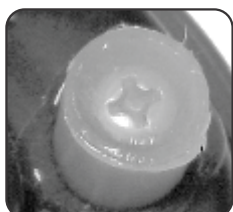
Ensure that horn wires are intact.



Ensure that horn switch button is operating freely.



Ensure that battery is fully charged.

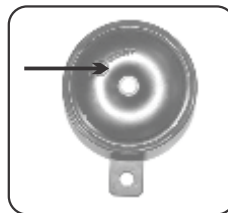


- Adjust horn by phillips screw driver
 - without removing silicon sealant from the adjustment screw.
 - by rotating the screw in the direction of arrow provided in the screw.



Ensure that resonator is not pressed by any portion of cables or wiring harness as it will result in distorted sound.

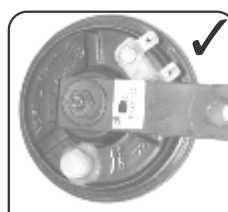
✗ Don'ts



Do not apply pressurised water jet directly on horn resonator.



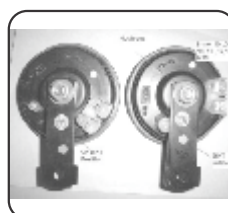
Never adjust nut on horn cap side & bracket end (back side) as it will result in horn malfunctioning & failure.



Do not remove silicon sealant from adjustment screw as it will result in water entry in horn.



Do not hit by mallet / screw driver on horn resonator.



Ignition System

✓ *Do's*



- Always install recommended capacity of battery on the bike.
- Always replace spark plug by correct heat range plug.
- Check & adjust spark plug gap periodically. Adjust it to 0.7~0.9 mm by wire gauge.
- Replace spark plug at every 40,000 kms.
- Check for firm fitment of spark plug in cylinder head - Tightening torque 1.3 ~ 1.5 Kgm.
- Ensure H.T. cable secondary connection is firmly fitted in spark plug cap and H.T. coil.
- Ensure that magneto coupler is firmly fitted.
- Always use a right size socket during removal and re-installation of spark plug.
- During periodic service make use of spark plug cleaning machine to clean spark plug electrodes & check proper functioning of all spark plugs.

✗ *Don'ts*

- Do not replace spark plug by non recommended one (different heat range).
- Never short circuit H.T. coil primary wire to ground. It could lead to ECU failure.
- Do not adjust the spark plug gap with any instruments like screw driver, pliers etc.

Lights

✓ *Do's*

- Ensure that there is no dust and water entry in bulb housing.
- Ensure that all fixing screw of bulb housing are intact.
- Ensure that Reflector / Glass of Head Lamp, Tail Lamp, Side indicator is intact.
- Check DC Voltage Regulator's output voltage periodically. Ensure that voltage is within specified limits.
- Check that couplers and wires of bulbs are in good condition.

✗ *Don'ts*

- Do not install a lower / higher capacity battery than what is recommended.
- While washing vehicle do not direct pressurized water jet on Head Light, Tail Light, Indicators.
- Do not drive the vehicle by keeping brake pedal pressed.
- Do not start Vehicle with light control switch in ON condition.

Switches

✔ *Do's*

- Always clean switch assembly with soft cloth.
- After washing the vehicle ensure to apply dry air on switches before operation.
- Ensure that rear brake switch is free from dust, dirt and mud Accumulation.
- Always ensure that grommets provided on clutch switch, front brake switch and rear brake switch are intact.
- Always apply WD-40 electrical contact cleaning spray to sticky switches.

✘ *Don'ts*

- Do not apply direct pressurized water jet on control switches.
- Do not lubricate electrical switches by oil or grease.
- Do not over tighten the switches.
- Do not add extra electrical loads e.g. musical horns, additional horns, buzzers as it will reduce switch contact life & battery life & battery life.
- Do not tamper / alter rear brake switch spring.
- Do not operate switch immediately after water servicing.

Applicability Matrix & Malfunctioning Effect

Effect if Main Fuse (30A) is blown off

Location : Near battery

Effect : Vehicle do not start, Speedometer indication do not glows. All electrical circuit off.



Effect if ABS Fuse (10A) & (25A) is blown off

ABS Fuse 10A - for Solenoid

ABS Fuse 25A - for Pump Motor

Location :

Effect : ABS do not work. ABS indication continuous ON in speedometer. Vehicle will work as a normal disc brake vehicle.



Effect if Fuse in (Fuse Box Assembly) is blown off

Sr.No.	Fuse		Effect of Fuse blowing
	No & Rating	Description	
1	F1-30 Amp	Main Fuse	All electrical circuit off
2	F2-7.5 Amp	Electrical cluster	Primary Speedo cluster will not work. Secondary Speedo work.
3	F3-15 Amp	Main relay Contacts + ECU	ECU function OFF & Main relay do not get ON.
4	F4-15 Amp	H.T. Coils Supply	12V Supply to H.T. coils is disconnected ignition system will not work.
5	F5-7.5 Amp	Radiator Fan	Radiator fan motor not working
6	F6-15 Amp	Lighting	All lighting (Head light, indicator, tail light, horn) do not work & vehicle get start.
7	F7-7.5 Amp	Engine Kill Switch Input	Engine Kill Switch & ECU is disabled engine cannot start
8	F8-7.5 Amp	Speedometer	Primary, Secondary Speedometer don't work.
9	F9-7.5 Amp	ABS 9MECU	ABS System will not work, ABS indicator remains ON & vehicle speed is not indicated in speedometer.



Checking Procedure

Fuse 30A, 7.5A, 10A & 15A are located inside the main fuse box as shown in photograph.



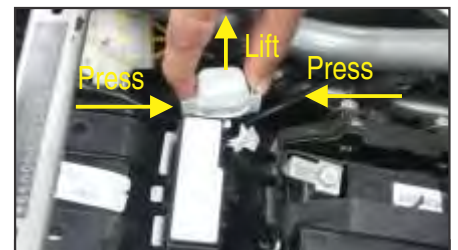
ABS Fuse 10A & 25A Location : It is located near main fuse box.



1. To open main fuse box cover.
Press lock provided on RH side of fuse box & lift the fuse box cover.
All fuses will be accessible.



To open ABS fuse box cover :
Press both sides simultaneously and lift ABS fuse box cover. Now ABS fuses will be accessible.



2. Remove fuse by nose plier & check continuity as shown in photograph.



OR

2. On vehicle
Check the continuity of fuse with Digital multi meter
Continuity shown – Fuse ok
No Continuity – Fuse blown off
If it is blown off, replace by new one of same capacity.



Caution : When replacing a fuse, be sure the new fuse matches with specified fuse rating for that circuit. Installing a fuse with a higher rating may cause damage to wiring & components.

Ignition Switch



Measuring & Testing Equipment : Multimeter

Meter Range	Connections		Continuity Check
Continuity Mode	Meter +ve	Meter -ve	OFF - No continuity
	Brown	White wire	ON - Continuity

SOP :

- Switch OFF Ignition key.
- Disconnect Ignition switch's coupler.
- Check continuity between wires in 'ON' & 'OFF' position.

Standard Value :

- Beep Sound & Continuity in 'ON' position. No continuity in 'OFF' position.

Kill Switch



Location : On control switch RH.

SOP :

- Put ignition switch OFF.
- Put kill switch OFF.
- Set multimeter at continuity range.
- Connect multimeter as shown in the table given below.

Meter Range	Connections		Condition	Result
		Meter +ve	Meter -ve	Engine ON condition
Continuity	Gray/Red	Brown/Blue	Engine OFF condition	No continuity

Front Brake Light Switch



Location : On bottom side of front brake lever connected to front master cylinder actuator.

SOP :

- Turn 'ON' the ignition switch.
- The brake light LED bank should glow brightly when the front brake lever is pressed.
- If it does not, check the front brake switch.

	Brown	Blue	Continuity check by multimeter
Lever Pressed	●—●	●—●	Continuity is shown
Lever Released	●	●	No continuity

Rear Brake Light Switch



Location : Connected to rear master cylinder actuator. Located inner side of rider footrest.

SOP :

- Turn 'ON' the ignition switch.
- Check the operation of the rear brake light switch by depressing the brake pedal.
- If it does not operate check continuity of rear brake switch.

	Brown	Blue	Continuity check by multimeter
Brake Pedal Pressed	●—●	●—●	Continuity is shown
Brake Pedal Released	●	●	No continuity

Clutch Switch



Location : On bottom side of clutch lever.

SOP :

- Check continuity of clutch switch as follows.

Meter Range	Yellow / Green	Black / Yellow
OFF - Clutch lever not pressed	●	●
ON - Clutch lever pressed	●—●	●—●

Termination Unit



Location : Located on frame bellow pillion rider seat.

Identification : Black color case with 6 pole white coupler.

Function :

- The unit houses a transit diode which is used for filtration of voltage surge / ripple in mains supply line thereby protects ECU from voltage fluctuations.

Checking :

No checking method.

Replace unit by new one if clutch switch contacts are burnt.

Horn



Location : On radiator cowling

SOP :

- Encircle clamp meter jaws around Brown wire of Horn.
- Press horn switch & check instantaneous current drawn by horn.



Clamp Meter Range	Connections	Standard Value
200 DC A	Encircle clamp meter jaws around Brown wire of horn	2.2 Amps

Fuel Gauge - Tank Unit

Empty Tank



Measuring & Testing Equipment : Multi meter

Meter Range	Connections		Standard Value
	Meter +ve	Meter -ve	
200 Ohms	Pink / Red	Green / Red	As per chart given below

Standard Value :



Resistance (± 2 ohm)	Bars on Speedometer
12	8
32	7
42	6
52	5
62	4
72	3
82	2
92	1

Note: If display in speedo console is not proper then please check following -

- Battery Voltage
- Speedometer coupler & fuel gauge tank unit coupler connection is firm.

Starter Relay



Location : Mounted on chassis in RHS seat cowling near relays.



Starter Relay Coil Resistance Checking

Measuring & Testing Equipment : Multi meter

Meter Range	Connections		Standard Value
200 Ohms	Meter +ve	Meter -ve	3.9 Ohms \pm 10%
	Starter Relay Coil Red - Yellow Wire	Starter Relay Coil Black Wire	

SOP :

- Switch OFF engine.
- Disconnect coupler from Relay.
- Connect multi meter to Starter Relay coil terminals.
- Check resistance.



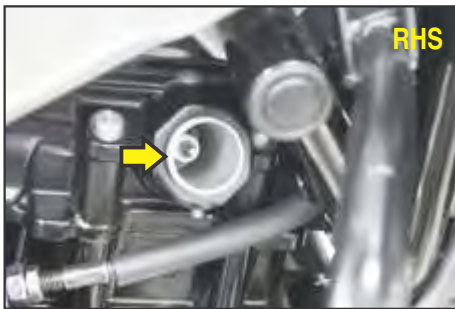
Starter Relay Continuity Checking

Measuring & Testing Equipment : Multi meter

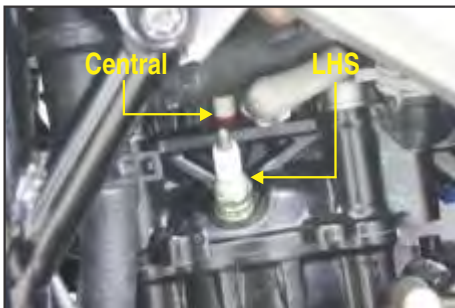
SOP :

- Connect external 12V DC supply to starter relay coil terminals.
- 'Tuk' sound will be heard.
- Set multi meter on continuity mode.
- Connect multi meter at relay contact terminals.
- Continuity (beep sound) indicates starter relay is OK.

Spark Plug



- LHS & RHS spark plug - Make - Champion - Type - RG6HCC
Signal from twin output HT coil.
- Central spark plug - Make - Champion - Type - RER6YCA
Signal from single output (central) HT coil.
- Spark Plug Gap 0.8 ~ 0.9 mm
- Clean & adjust frequency - every 20,000 Kms.
- Replacement frequency 40,000 Kms.



Spark Plug Cap



- Central spark plug cap.



- RHS spark plug cap.
- LHS spark plug cap.



SOP :

- Remove spark plug cap from HT coil cable.
- Set multi meter on 2 K Ohm range.
- Connect multi meter probes as shown in photograph.
- Standard value, 1 K Ohm \pm 150 Ohm.

Stator Plate



Battery Charging Coil

This is 3 phase starter winding (oil dipped type)

Number of poles - 18

Coils : Battery charging coil

SOP

- Disconnect magneto coupler.
- Set multimeter at 200 Ohm range.
- Connect multimeter as shown in table & note reading.



Sr.	Meter Range	Connections		Standard Resistance Value
		Meter +ve	Meter -ve	
1	200 Ohm	Y1	Y2	1 Ohm
2		Y2	Y3	
3		Y3	Y1	

Regulator Rectifier (RR) Unit



Location : On frame LH side (Inside LH seat cowl)

Function :

- This is 3 phase RR unit & it convert 3 phase AC voltage generated by magneto to DC voltage & also DC voltage is regulate at $14.5 \text{ V} \pm 0.2 \text{ V}$ DC at all engine speeds.
- This voltage is used for charging of 8 Ah VRLA battery.

Starter Motor - Current Drawn



Location : Above crankcase joining area.

Meter Range	Connections	Standard Value
200 DC A	Encircle clamp meter transformer jaws around thick Red wire of starter motor	75 ~ 80 Amps Spark plug caps removed

SOP :

- Remove lower fairing LH & RH by removing 6 nos. each phillips screws.
- Disconnect all 3 spark plug caps (care to be taken so that spark plug does not jump to metal part)
- Switch 'ON' Ignition switch & kill switch.
- Select range & set clamp meter zero reading.
- Encircle red input wire of starter motor by clamp meter jaws.
- Crank the engine by pressing self starter button.
- Press self starter button for 3 seconds & check cranking current displayed on clamp meter LCD display.



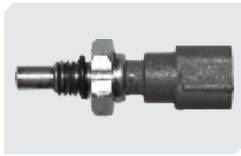
Flasher



Location : Beneath pillion seat near termination unit.
No checking method.
Try by replacement

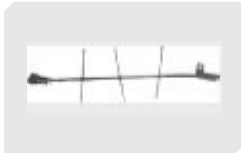


Measure the Coolant Temperature and assist ECU to adjust the fuel injection volume



COOLANT TEMP SENSOR

It detects the side stand position and gives signal to ECU..



Side Stand Switch

Detect the tilt angle of motorcycle & if it is more than 60° ECU disable the ignition and fuel supply



ROLLOVER SENSOR

Measure the oxygen proportion in exhaust & assist ECU to adjust the amount of fuel to be injected.



OXYGEN SENSOR

Measure the rotational speed of crankshaft & assist ECU to determine injection & Ignition timing



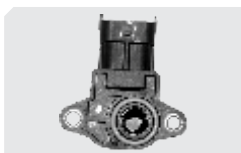
CRANK ANGLE SENSOR

Measures the intake air temperature & pressure and assist the ECU to adjust the fuel injection volume.



TEMPERATURE / MANIFOLD PRESSURE SENSOR

Detect the throttle position.



THROTTLE POSITION SENSOR



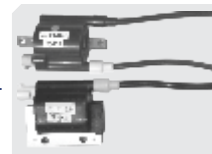
FUEL PUMP

Supply pressurized fuel to injector.



FUEL INJECTOR

Injects the precise amount of fuel based on the ECU data.



H.T. COIL

Ignites appropriately based on the ECU data



ECU calculates & determines the volume of fuel to be injected and the injection & ignition timing.



STEPPER MOTOR

Adjust the idle speed of engine base on input from ECU.



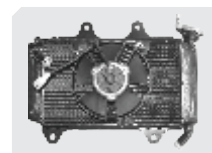
MALFUNCTION INDICATOR

Blinks if there is any malfunctioning in FI system



DIAGNOSTIC TOOL COUPLER

For connecting the diagnostic tool.



RADIATOR FAN

Start when coolant temp reach 98 & stop at 88 degree

Sensors - Working & Malfunction Effect

Sr.No	Input to ECU	Input Details	How ECU Uses Input	Effect incase of abnormality
1	Coolant Temperature Sensor	Temperature of coolant	Radiator fan operation control. Ignition timing will be affected.	<ol style="list-style-type: none"> 1. Radiator fan will not work & coolant temperature may shoot up affecting engine performance. 2. High coolant temperature icon may not blink. 3. Start ability, fuel consumption & power-pickup will be affected.
2	Engine Oil Pressure Sensor	Engine oil pressure	Glowing of Engine oil pressure icon	Running of engine on low oil level may result in early wear of engine parts.
3	Roll over sensor	Voltage of 2 VDC in vehicle tilted condition	ECU cuts off main relay & ignition is cut off	Engine will keep running in case of accident or vehicle slips & may result in serious injury to rider and damage to vehicle.
4	Side stand switch	Voltage of 5 VDC in case when vehicle is parked on side stand	ECU will switch ON side stand indication in speedo console & will cut off ignition system.	No indication of side stand ON in speedo console. Vehicle will not run in gear.
5	Oxygen Sensor	Voltage signal depending on amount of oxygen in exhaust	ECU determines how rich or lean the air fuel mixture is & adjusts accordingly.	Malfunctioning of Oxygen sensor will result in either rich mixture causing black smoke or lean mixture resulting in vehicle driveability.
6	Crank angle sensor	It senses rotation of crank shaft & gives pulse input to ECU	ECU calculates no.of pulses per revolution & indicates engine RPM on Tachometer dial. Gives input to ECU for ignition circuit	Wrong indication of Engine RPM in speedo. Malfunction in Ignition system. No start situation in case of open circuit.

Sr.No	Input to ECU	Input Details	How ECU Uses Input	Effect incase of abnormality
7	Throttle Position Sensor	Monitors position of throttle & gives voltage input to ECU in POT to WOT modes.	ECU calculates no.of pulses per revolution & indicates engine RPM on Tachometer dial. Gives input to ECU for ignition circuit	Wrong indication of Engine RPM in speedo. Malfunction in Ignition system. No start situation in case of open circuit.
8	TMAP Sensor	Monitors temperature & pressure of air entering manifold & gives 5VDC signal to ECU.	ECU increases or reduces Air supply rate to Engine suitably	Startability, Fuel consumption & power- pickup will be affected.

Actuators - Working & Malfunction Effect

Sr.No	Output from ECU	Input Details	Effect incase of abnormality
1	Fuel Pump	Fuel pump relay gets ON through ECU	Malfunctioning of fuel pump will result in intermittent fuel supply causing hesitation /misfiring, no start.
2	Fuel Injector	Earthing signal from ECU	Malfunctioning of fuel Injector will result in either rich or lean mixture causing smokey exhaust / misfiring problems. Knocking / Combustion noise.
3	HT Coils	Earthing signal from ECU	Misfiring or hesitation problems. No spark resulting in no start.
4	Radiator Fan	Radiator fan motor relay gets ON	Radiator fan will not work & coolant temp.may increase excessively affecting engine components. Icon glows in speedometer at 110 deg. Cen. & Vehicle can not be accelerated above 4500 rpm. At 115 Deg. Cen. Engine will get cut-Off

Sr.No	Output from ECU	Input Details	Effect incase of abnormability
5	Malfunction Indicator	Malfunction in FI system signal from ECU	Malfunctioning in FI system will go un noticed
6	Stepper Motor	Signal from ECU	Unstable idling RPM. Startability will be affected.
7	Diagnostic tool port	CAN high /Low input from ECU	No communication with BOSCH Diagnostic tool- show link error

Sensors

1. Coolant Temperature Sensor

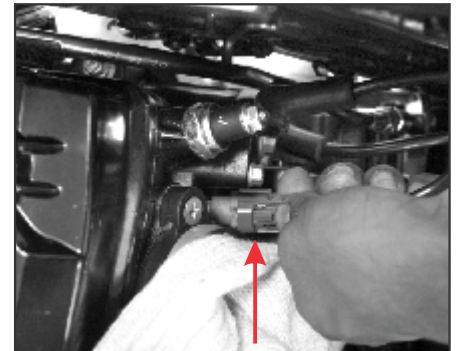
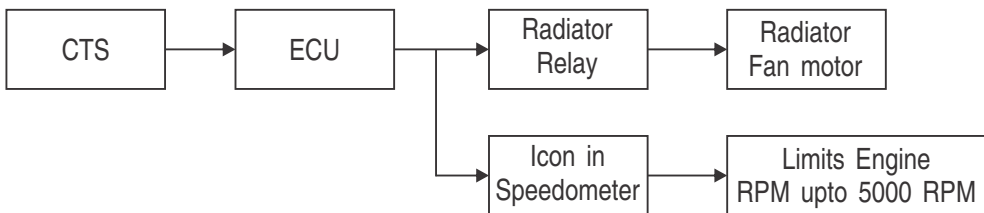
Location :

It is located on cylinder head near chain tensioner.

Function :

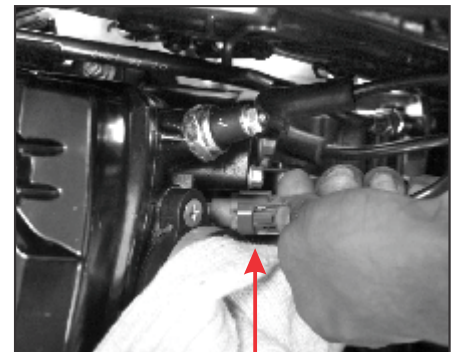
It senses temperature of coolant circulated through cylinder head & gives input to ECU.

Working :



Checking Procedure :

1. Ensure the engine is in "OFF" condition.
2. Remove coupler connection of coolant temperature sensor
3. Connect digital multi meter as shown in table below and check resistance value.

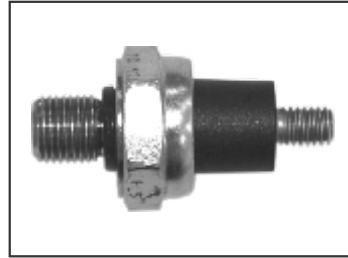


Meter Range	Wire Connections		Standard Value	
	Meter +ve	Meter -ve	Temperature	Resistance K Ohms
20 K Ohms	Coupler Pin 1	Coupler Pin 2	0	5.30 ~ 6.11
			10	3.44 ~ 3.92
			20	2.28 ~ 2.58
			25	1.88 ~ 2.12
			30	1.55 ~ 1.75
			40	1.06 ~ 1.21
			50	0.75 ~ 0.86

2. Engine Oil Pressure Sensor

Location :

It is mounted on cylinder head.



Conditions for Blinking Icon :

The low oil pressure icon in speedometer console will blink if -

- Engine oil pressure is less than 1 bar
&
- Coolant temperature is 55°C ~ 65°C
&
- Engine RPM is more than 3500.

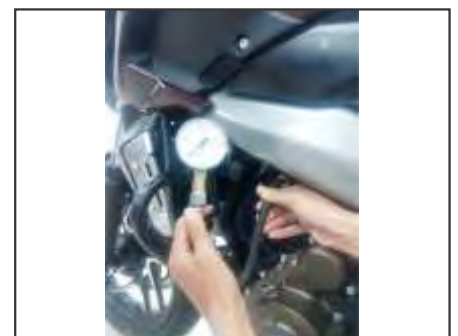


Checking Procedure :

1. Use special tool (Part Number : 37204031) for checking engine oil pressure.

2. Ensure ignition switch and Kill switch are "OFF".
3. Removal of Oil pressure switch ring terminal rubber cap & ring terminal with 10 mm spanner.
4. Remove Oil pressure switch with special tool for oil pressure switch removal.

5. Fit adaptor with pressure gage in place of engine oil pressure sensor & tighten it with 19mm spanner.



6. Now switch 'ON' ignition switch & kill switch. Start the engine by pressing self start button.



7. Pressure gauge should read oil pressure more than 1 bar (1.019 Kg/Cm²) at idling rpm. This confirms engine oil pressure & oil circulation is Ok.

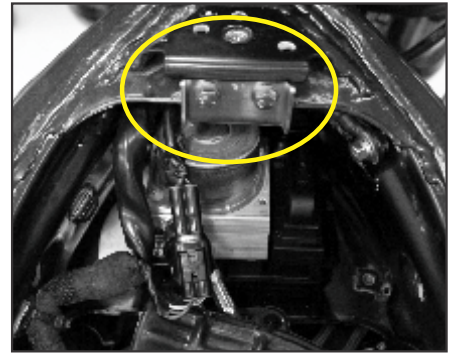


8. If oil pressure is less than specs then further check following : -
- Engine oil level.
 - Replace oil filter if clogged.
 - Ensure jet in clutch cover is fully tight.
 - Clean oil passages & rectify leakage if any through oil seal in clutch cover.
 - Check oil pump mounting bolts.

3. Roll Over Sensor

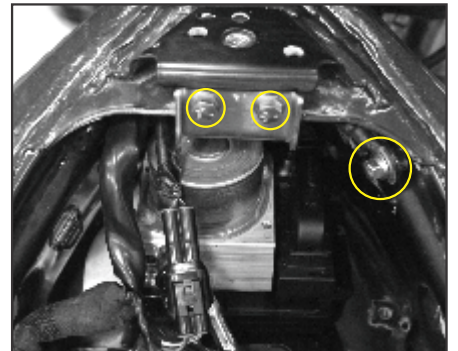
Location :

It is located below petrol tank & just above the H.T. coils.



Checking Procedure :

1. Remove Roll over sensor



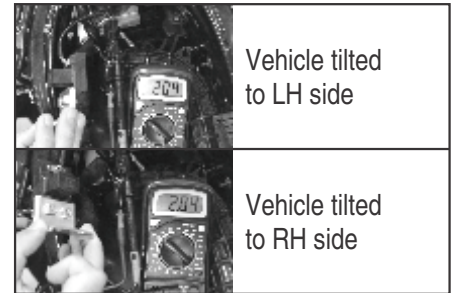
2. Switch "ON" ignition switch and kill switch.



3. Connect digital multi meter to roll over sensor coupler as shown in the table given below.



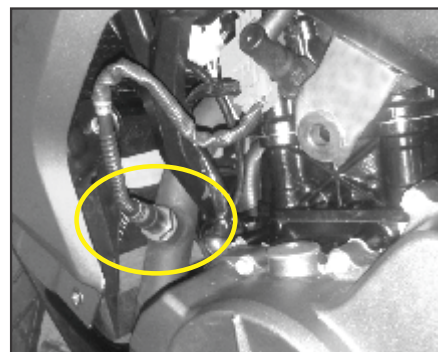
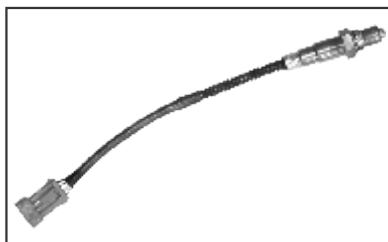
Sr.	Parameter	Vehicle Position	Wire Connections		Standard Reading
			Meter +ve	Meter -ve	
1.	Input voltage	-- NA --	R / L	Y / B	5 VDC
2.	Output voltage	Normal (Vehicle mounted condition)	Br / G	Y / B	4.8 ~ 4.9 VDC
		Tilted (More than 60° on either side)	Br / G	Y / B	2.0 ~ 2.2 VDC



4. Oxygen / Lambda Sensor

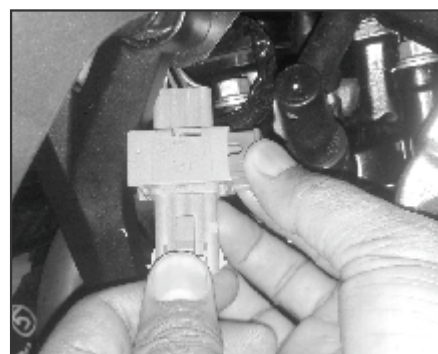
Location :

It is mounted on silencer exhaust pipe.

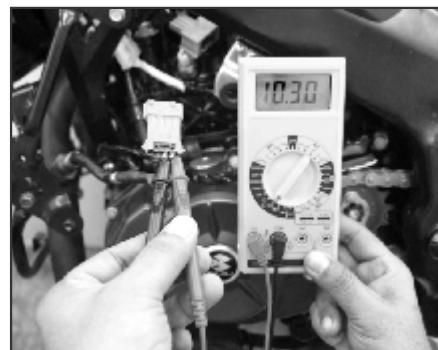


Checking Procedure :

1. Ensure ignition switch is in "OFF" condition.
2. Remove Oxygen (Lambda) Sensor coupler connection by pulling out Red lock of the coupler.



3. Set the digital multi meter on 200 Ω range & connect the digital multi meter as shown in the table given below.



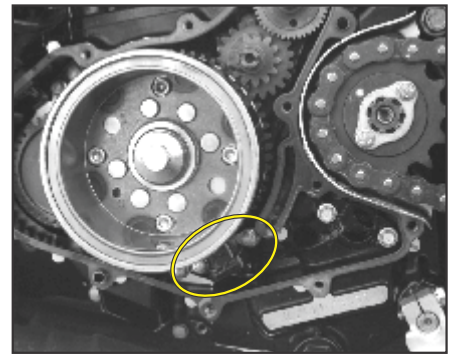
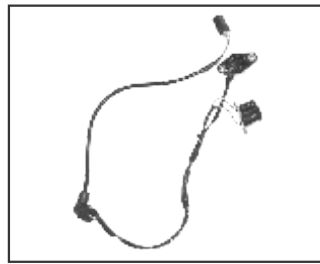
Meter Range	Wire Connections		Standard Value
	Meter +ve	Meter -ve	
200 Ω	Pin 1	Pin 2	9 ~ 10 Ω @ 25°C
	Pin 3	Pin 4	Meter displays 1 on LHS (Open @ 25°C



5. Crank Angle Sensor

Location :

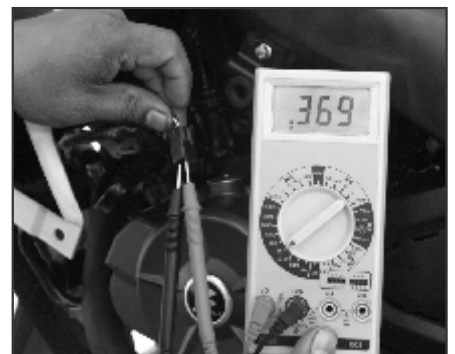
It is located below magneto cover.



Checking Procedure :

1. Switch "OFF" ignition switch & kill switch.
2. Connect digital multi meter as shown in the table below.

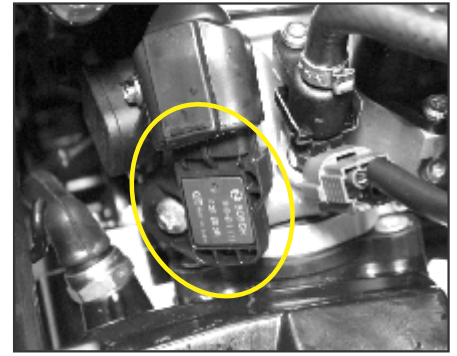
Sr.	Parameter	Magnet Position	Wire Connections		Standard Reading	Results
			Meter +ve	Meter -ve		
1.	Crank angle sensor	Resistance 2 K Ohm	W / R	B / Y	345~385 Ohm	OK
2.	Neutral switch	Continuity	Gr	B / Y	Beep sound	OK
					No beep sound	Defective



6. Temperature / Manifold Pressure Sensor

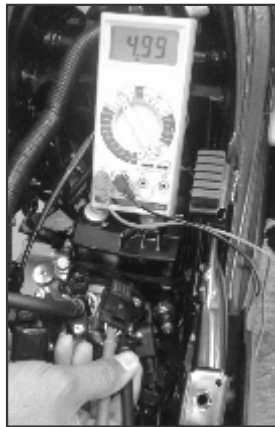
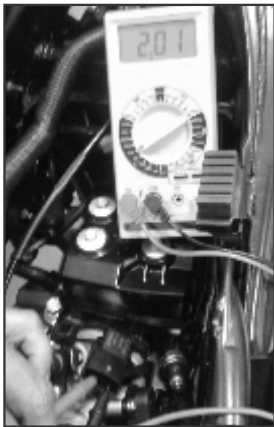
Location :

It is mounted on throttle body.



Checking Procedure :

2. Connection digital multi meter as shown in the table given below.



Sr.	Parameter	Meter Range	Wire Connections		Standard Reading
			Meter +ve	Meter -ve	
1.	Resistance	20 K Ohm	Pin 1	Pin 2	1.5 ~ 2.5 K Ohm
2.	Input voltage	20 VDC	R / L	Y / B	5 VDC
3.	Output voltage	20 VDC	W / R	Y / B	3.15 ~ 4.45 VDC

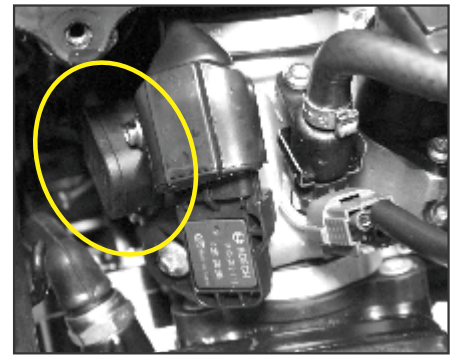
Note :

- For resistance checking, remove coupler of TMAP sensor.
- For Input & Output voltage checking, connect the TMAP sensor coupler.

7. Throttle Position Sensor

Location :

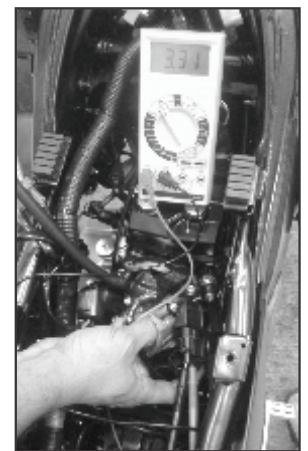
It is mounted on throttle body.



Checking Procedure :

Connection digital multi meter as shown in the table given below.

S.N.	Parameter	Meter Range	Wire Connections		Standard Reading
			Meter +ve	Meter -ve	
1.	Input voltage	20 VDC	R / B	B / G	3.3 V
2.	Output voltage (Idle throttle)	20 VDC	R / B	B / G	0.35~0.65 V
3.	Output voltage (WOT)	20 VDC	R / B	B / G	2.9~3.0 V

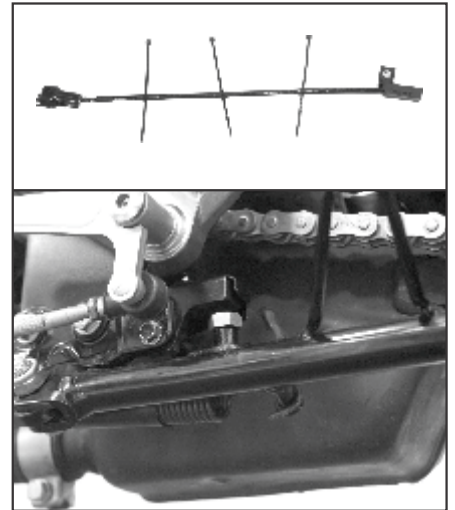


8. Side Stand Switch

Location :

It is located on side stand bracket.

Coupler of side stand switch is located behind perimeter frame arm.

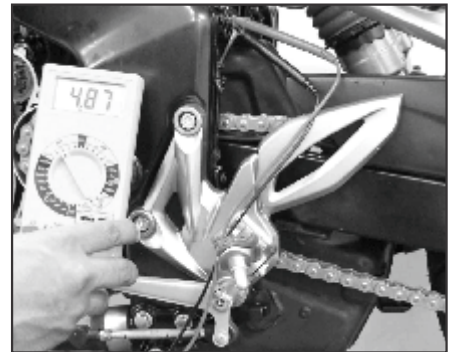


Checking Procedure :

1. Switch "ON" Ignition switch & Kill switch.



2. Connect digital multi meter to side stand switch coupler and check the voltage at various conditions as shown below.



Sr.	Parameter	Magnet Position	Wire Connections		Standard Reading
			Meter +ve	Meter -ve	
1.	Input voltage (Side stand position - any)	N.A.	R / L	Y / B	5.0 VDC
2.	Output voltage (Side stand position - up)	Magnet in front of side stand switch	Pi	Y / B	2 ~ 2.2 VDC
	Side stand position-down	Magnet away from side stand switch	Pi	Y / B	4.8-4.9 VDC

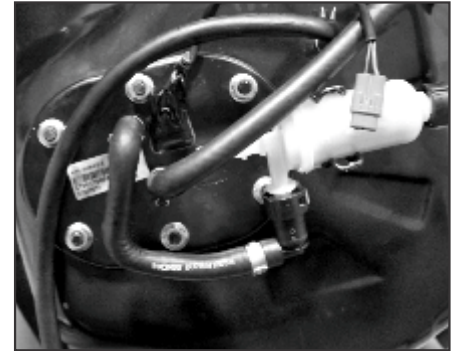


Actuators

1. Fuel Pump

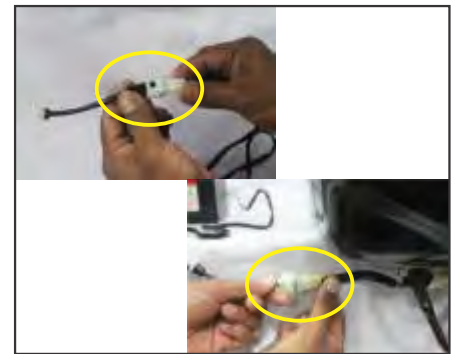
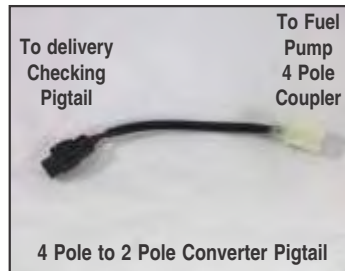
Location :

It is located inside petrol tank mounted from bottom side of petrol tank.



Free Flow Checking Procedure with new inline fuel filter :

1. Remove petrol tank & Inline fuel filter.
2. Fit new inline fuel filter.
3. Keep the petrol tank on flat surface in such way that no pressure is applied on fuel pump.
4. Connect 4 pole to 2 pole converter pigtail to the fuel pump delivery checking pigtail coupler & fuel pump coupler as shown in photograph.



4. Connect the fuel pump delivery checking pigtail crocodile clips to 12V external battery source.
5. Hold the clean and calibrated Borosil jar near inline fuel filter outlet for collecting fuel and put on "ON-OFF" switch provided on fuel pump delivery checking pigtail.



6. Check the fuel qty. collected in Borosil jar in 10 sec.

Standard value : Minimum 220 ml.



If delivery is less than specs in petrol tank cap closed condition, open fuel tank cap and check fuel delivery once again.

Status	Conclusion
If delivery is as per specs	<ul style="list-style-type: none"> • Check Petrol tank cap air vent for blockage
If delivery is not as per specs	<ul style="list-style-type: none"> • Check inline fuel filter for blockage. • Replace fuel pump.

2. Fuel Pump Pressure

Location :

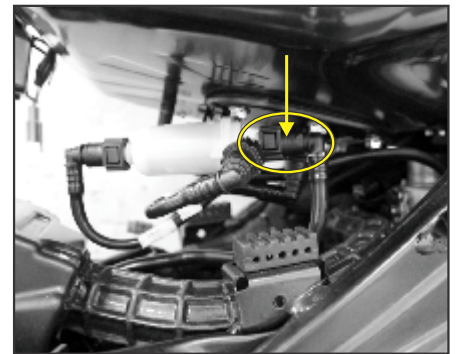
Fuel Pump Pressure Checking Unit

Part Number : 37204032

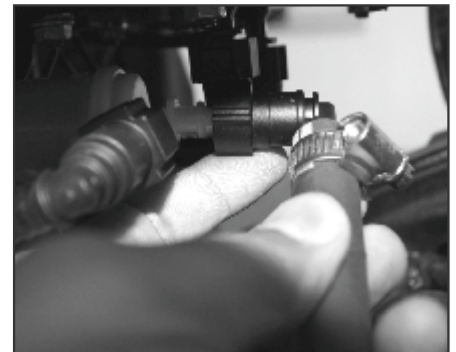
1. Remove petrol tank.



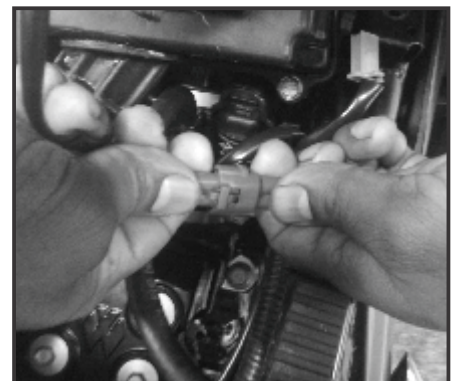
2. Disconnect injector pipe, quick connector from inline fuel filter.



3. Connect the fuel pump pressure checking unit to inline fuel pump outlet firmly.



4. Make fuel pump coupler connection.



- Put Ignition switch . Check pressure reading shown on pressure gauge. Ensure fuel tank cap is closed.

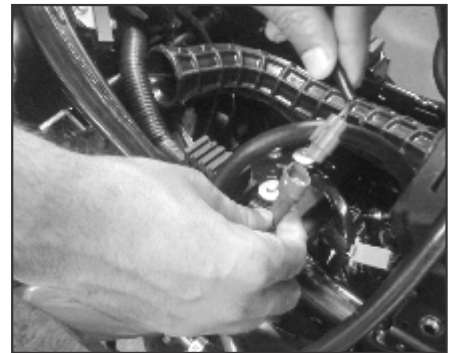
Standard :- 3.1 - 3.6 Kg/cm²

If the specification is not reached, open the fuel tank cap & check the tank air vent system.

Check the fuel pressure with the fuel tank cap open. If the specification is not reached, then check & replace fuel line, fuel filter & fuel pump one after another.



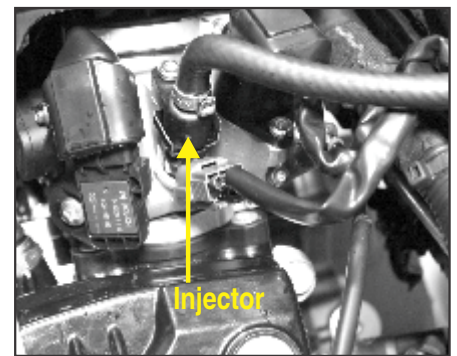
- Disconnect fuel pump coupler connection. Wait till fuel pressure drops to @ 1.5 Kg/cm² as shown in photograph, now we can remove the fuel pump pressure checking unit.



3. Fuel Injector

Location :

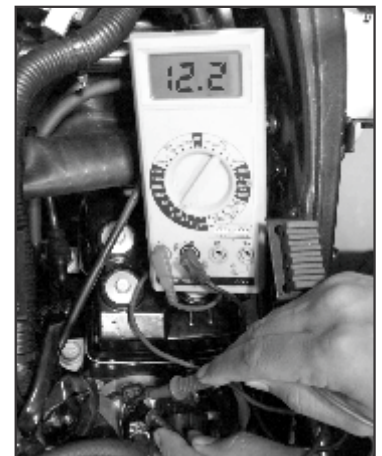
It is fitted on throttle body.



Checking Procedure :

1. Ensure ignition switch is in 'OFF' position.
2. Remove the injector coupler connections.
3. Connect digital multi meter as shown in the table given below.

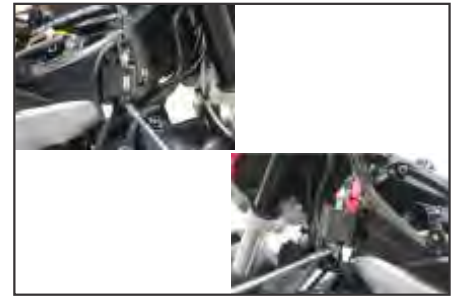
Sr.	Parameter	Meter Range	Wire Connections		Standard Reading
			Meter +ve	Meter -ve	
1.	Resistance	2 K Ω	Pin 1	Pin 2	$12.0 \pm 0.6 \Omega$ @ 25°C



4. H.T. Coil

Location :

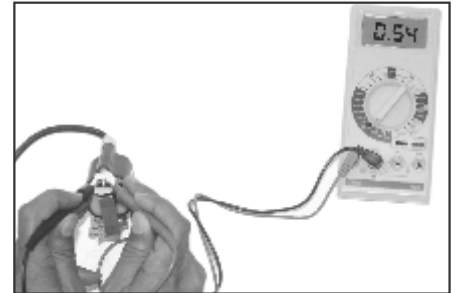
On frame near petrol tank



Checking Procedure :

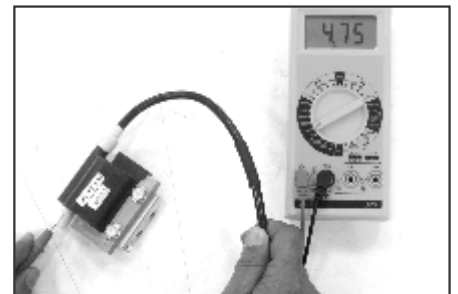
1. Remove H.T. coils.
2. Connect digital multi meter as shown in the table given below and measure primary winding resistance.

Meter Range	Connections		Standard Reading
	Meter +ve	Meter -ve	
200 Ω	O / WH - Pin 1	Black Pin 2	0.513 ~ 0.627 Ω



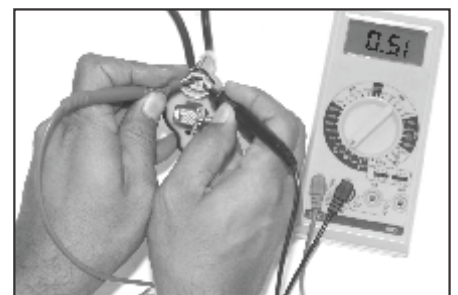
3. Remove spark plug cap by turning it in anti-clockwise direction.
4. Connect digital multimeter as shown in the table given below & measure secondary winding resistance.

Meter Range	Connections		Standard Reading
	Meter +ve	Meter -ve	
20 K Ω	HT Output	Pin of O / WH	4.23 ~ 5.17 Ω



Note :

- If the value does not match as per the specifications, replace the coil.
 - If the meter reads as specified, the ignition coil windings are probably good. However, if the ignition system still does not perform then check spark output of HT coil using CDI / HT coil tester.
5. Connect digital multimeter as shown in table given below & measure twin HT coil primary & secondary winding resistance.

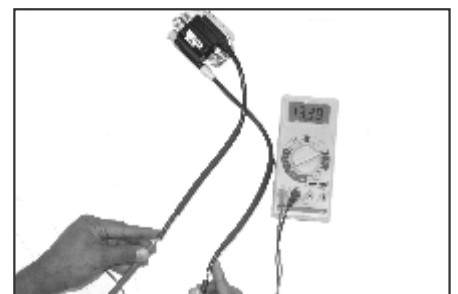


Twin HT Coil Primary Winding Resistance Checking :

Meter Range	Connections		Standard Reading
	Meter +ve	Meter -ve	
200 Ω	B / R	Pin of O / WH	0.63 ~ 0.77 Ω

Twin HT Coil Secondary Winding Resistance Checking :

Meter Range	Connections		Standard Reading
	Meter +ve	Meter -ve	
20 K Ω	HT Output 1	HT Output 2	10.8 ~ 16.2 Ω



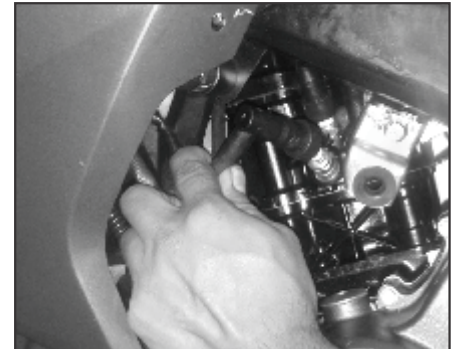
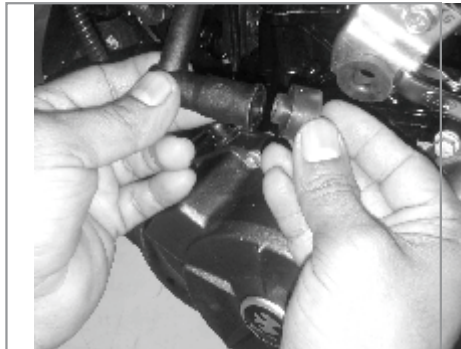
Spark Output Checking

Checking Procedure :

1. Hold the CDI / HT coil tester in hand.



2. Remove the spark plug caps and connect to suitable terminal S1/S2 on the unit.



Note :

Rubber cap needs to be removed from spark plug caps before fitment in terminal S1/S2

3. Connect the black probe to earth.

4. Start the engine.



5. Status of the spark window indicates the results as below.

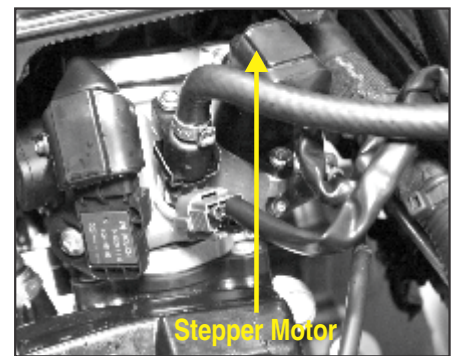
Sr.	Spark Status	Conclusion
1.	Continuous Bluish Spark	Ignition system is OK
2.	No Spark	H.T. Coil / Spark plug / Plug cap may be defective
3.	Intermittent Spark	H.T. Coil / Spark plug / Plug cap may be defective



5. Stepper Motor

Location :

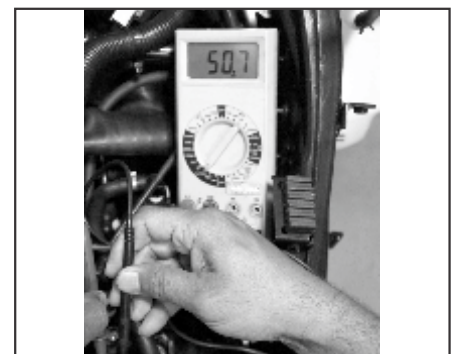
1. It is fitted on throttle body.



Checking Procedure :

1. Ensure ignition switch is in 'OFF' position.
2. Remove the stepper motor connector.
3. Set the multi meter on 200 Ω range and Connect digital multi meter as shown in the table given below.

Tools required : Digital Multi meter

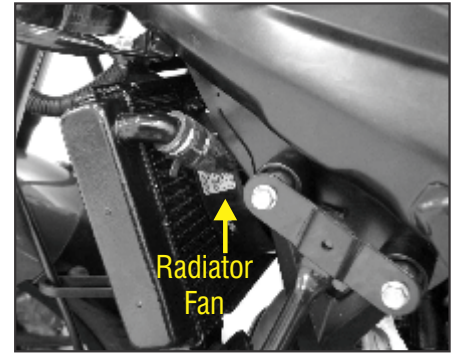


Sr.	Multi meter Connections		Standard Value (Ohm)
	Meter +ve	Meter -ve	
1.	Pin 1	Pin 4	51 $\Omega \pm 10\%$
2.	Pin 2	Pin 3	51 $\Omega \pm 10\%$

6. Radiator Fan

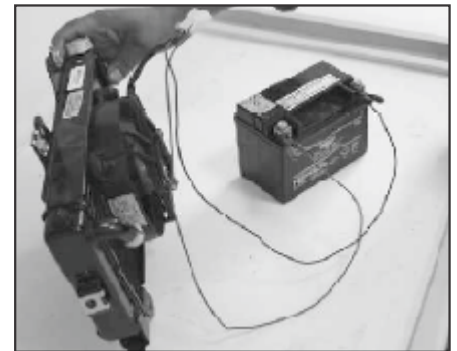
Location :

It is located on radiator assembly & between radiator assembly & engine exhaust side.



Checking Procedure :

1. Connect external 12VDC supply to fan motor terminals.
2. Ensure fan is running smoothly.



Sr. No.	Description	Temperature
1	Fan motor START	95.3°C
2	Fan motor OFF	90°C

7. Malfunction Indicator

Location :

It is located in secondary speedometer extreme left hand corner.

It blinks if there is any malfunctioning in Fi system.

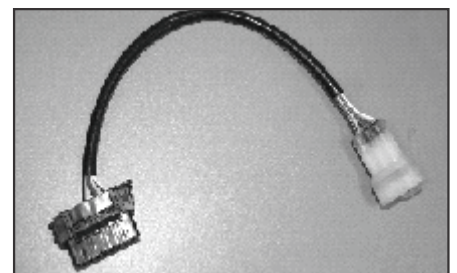


8. Diagnostic Tool Coupler

Location :

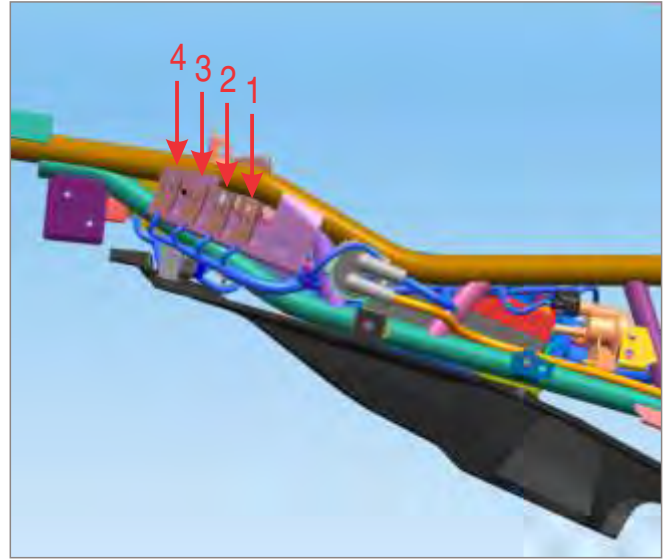
It is located on radiator assembly & between radiator assembly & engine exhaust side.

This is a 4 pin sealed coupler and BOSCH make hand held diagnostic tool is to be connected to this coupler for diagnosing FI / ABS related problems.



Location

Sr. No	Relays	Location
1	Main Relay	Mounted on frame tube
2	Radiator Relay	bracket inside seat cowling
3	Fuel Pump Relay	RHS
4	Intermediate Relay	



Relays :

1. Main Relay :

Main relay is switched ON by ECU giving GND signal to main relay for completing coil circuit. Main relay contacts output is used for -

- Ignition Circuit
- Fuel pump Circuit
- Starter Motor Circuit
- Side Stand Circuit
- Radiator fan Motor Circuit
- Fuel injector Circuit
- Purge Valve Circuit
- MIL Indication Circuit
- Engine RPM Indication Circuit
- Purge Valve Circuit

If this relay fails, then the vehicle will not start.

2. Radiator Fan Motor Relay :

This relay is used for switching ON / OFF radiator fan motor. The fan motor power is 30W & hence to avoid 2.5ADC current flowing through wiring harness, radiator relay is fitted.

3. Fuel Pump Relay :

Fuel pump motor power is 18W. This motor is of continuous duty type & as long as the vehicle is running the fuel pump module will remain ON & 1.6A Max current will continuously flow through wiring harness. To avoid this fuel pump relay is provided.

4. Intermediate Relay :

This relay is used in Starter motor circuit to switch ON starter relay.

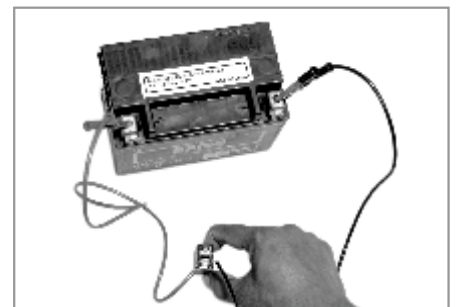
Relay coil resistance checking

Tools required : Digital Multi Meter

- Switch off the engine.
- Remove relay from coupler.
- Connect the digital multi meter to relay coil terminals and check resistance.



Meter Range	Connections		Standard Value
200 Ω	Meter +ve	Meter -ve	80 ~ 140 Ω
	Relay coil terminal 1	Relay coil terminal 2	



Relay continuity checking

Tools required : Digital multi meter

- Connect external 12DC supply to relay coil terminals.
- "TUK" sound will be heard.
- Set digital multimeter on continuity mode & connect the digital multi meter to relay contacts terminals & check continuity.
- Continuity (beep sound) indicated relay is Ok.



Headlight Assembly Removal



- Remove wind shield mounting screws (4 nos.) with metal & plastic washer using phillips head screw driver (Metal washer outside).



- Take out wind shield & front number plate along with its mounting bracket.



- Remove LH & RH side mask mounting screws (2 nos.) each with plastic washer using phillips head screw driver.



- Take out LH & RH side mask.
- Ensure foams on inner side of mask are in good condition.



- Ensure that (4 nos.) well nuts on headlight fairing are in good condition.



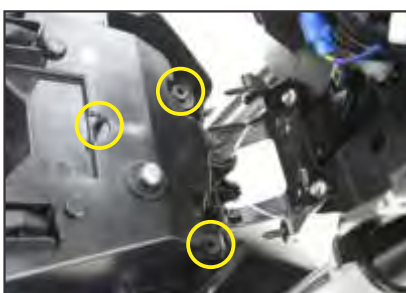
- Remove headlight assembly hardware as follows -
- ◀ - Bottom side bolts (2 nos) with plastic washer using 4 mm allen key.
- Screws (4 nos) with metal washer ▶ using phillips head screw driver.



- ◀ • Pull out headlight assembly from headlight assembly mounting bracket.
- Remove headlight assembly coupler connector & take out headlight assembly. ▶

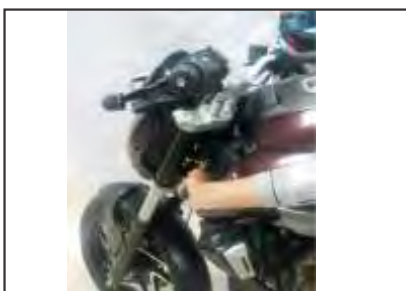


- ◀ • Remove headlight assembly mounting screws(3 nos) with metal washers by phillips head screw driver.
- Take out headlight assembly from ▶

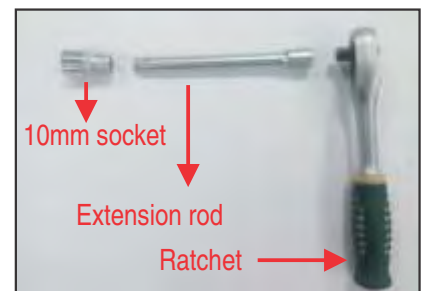


- Ensure that rubber grommets (2 nos.) & 1 lug on headlight assembly is in good condition.

Headligh Focus Adjutment



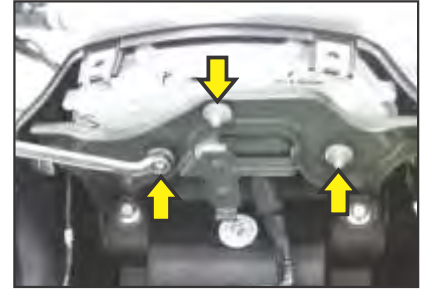
- Adjust headlight adjustment bolt with the help of attachment from FORCE make socket tool box in handle bar turned towards RH side condition.



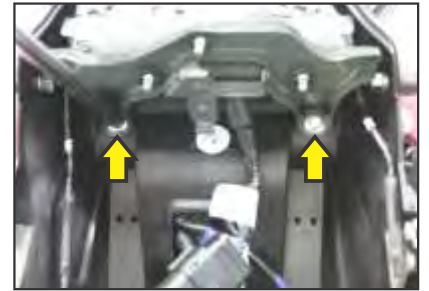
Speedometer Assembly Removal



- ◀ • Remove headlight assembly from vehicle.
- Remove speedometer mounting nuts (3 nos. with metal washers) using 8 mm spanner. ▶



- Remove speedometer mounting bracket screws (2 nos. with metal washer) using phillips head screw driver & bolts (2 nos.) with 8 mm spanner.



- ◀ • Remove speedometer coupler connection.
- Take out speedometer assembly & its mounting bracket. ▶



Front Indicator Removal



- ◀ • Remove speedometer mounting bracket screws & bolts.
- Remove front indicator coupler connection. ▶



- ◀ • Remove front indicator mounting nut along with (2 nos.) metal washer using 14 mm spanner.
- Take out front indicator. ▶



Speedometer Flap Removal



- Remove speedometer mounting bracket along with speedometer.
- ◀ • Remove speedo flap mounting bolts (2 nos.) with 8 mm spanner.

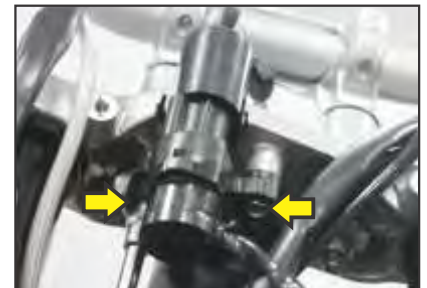


- Take out wiring harness from speedo flap & remove speedo flap.

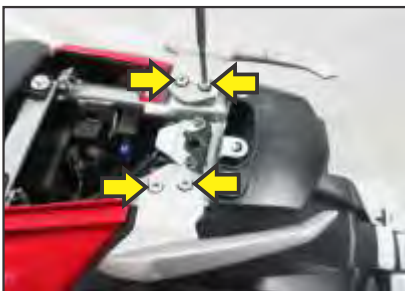
Ignition Switch Removal



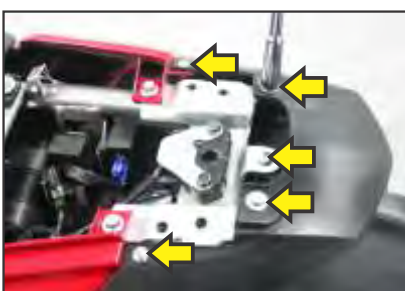
- ◀ • Remove speedometer assembly along with top cover.
- Remove ignition switch mounting bolts (2 nos.) with 10 mm & take out ignition switch . ▶



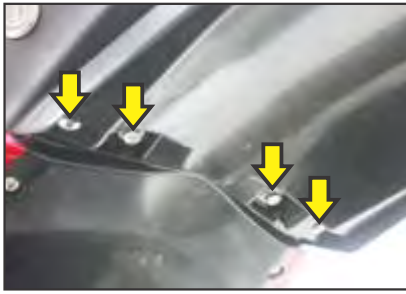
Tail Lamp Assembly Removal



- Remove pillion rider seat.
- ◀ • Remove LH & RH grab handles mounting bolts (4 nos.) with 6 mm allen key & take out grab handle. ▶



- Remove rear fender top side bolts (2 nos.) & screws (3 nos.) with 10 mm spanner & phillips head screw driven.



- Remove rear fender bottom side 2 bolts with metal washer & 2 screws using 10 mm spanner & phillips head screw driver.



- Pull out rubber bellow & remove couplers as follows -



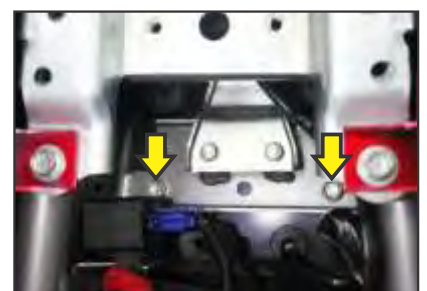
- ◀ • Tail lamp assembly.
- RH side rear indicator.



- ◀ • LH side rear indicator
- Rear number plate lamp.



- ◀ • Remove rear fender reinforcement bracket bolt with 10 mm spanner.
- Remove rear fender mounting bolts (2 nos.) with 10 mm spanner.





- ▶ Pull out rear fender as shown in photograph.
- Remove seat lock cable lock plate.



- ▶ Remove seat lock cable lock plate from cable holder.
- Remove seat lock cable from seat lock.



- Take out rear fender from vehicle.



- Remove tail lamp screw (4 nos.) & take out tail lamp.



Rear Indicator Removal



- Remove pillion rider seat.
- ▶ Remove rear number plate mounting bracket nuts (2 nos.) with 10 mm spanner & take out rear number plate mounting bracket along with mounting bracket.





- Remove rear mud flap mounting screw with phillips head screw driver & take out rear mud flap.



- Remove rear under tray mounting bolts (4 nos. with 10 mm spanner) & screws (2 nos. - with phillips head screw driver.)



- ◀ • Take out rear under tray.
- Remove front under tray mounting screws (2 nos.) with phillips head screw driver for easy removal & fitment of indicator wire. ▶



- Pull out rubber bellow & remove indicator coupler connection.



- ◀ • Take out indicator wire as shown in photograph.
- Take out indicator wire from reinforcement bracket as shown in photograph. ▶





- Remove indicator mounting nut with 14 mm spanner.
- Take out indicator, nut & washers.



Rear Fender Removal



- Remove tail lamp assembly.
- Remove LH & RH rear indicators.
- ◀ • Remove reflector mounting nut with 8 mm spanner & take out reflector.



- Remove rear number plate lamp coupler from rear fender reinforcement bracket grommet.



- Remove rear number plate lamp screw (2 nos.) & take out rear number plate lamp.



- Remove rear fender reinforcement bracket screw & take out rear fender reinforcement bracket.





- ◀ • Remove seat lock plate.
- Take out seat lock with seat lock cable mounting bracket. ▶

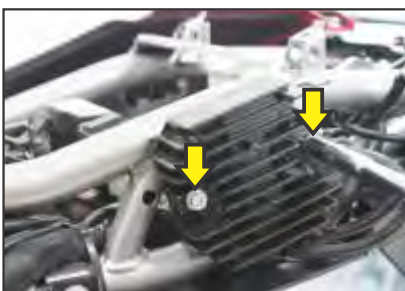


- Rear fender as shown in photograph can be replace with new one.

RR Unit Removal



- ◀ • Remove LH seat cowl.



- Remove RR unit mounting bolts (2 nos.) with 8 mm spanner.



- Cut the RR unit wiring harness branch cable tie.



- Remove RR unit couplers.



- Take out RR unit.

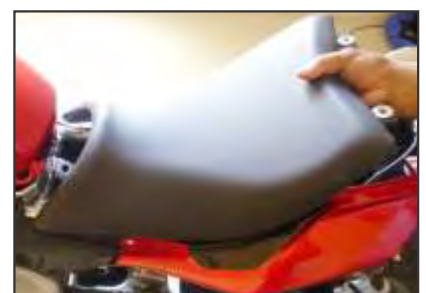
Battery Removal



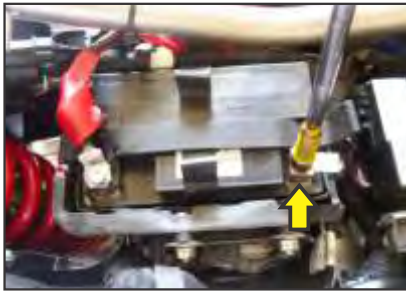
- ◀ • Apply rear wheel stand.
- Remove pillion rider seat lock with vehicle ignition key & take out pillion rider seat. ▶



- Remove rider seat mounting bolts (2 nos.) with 10 mm spanner & take out rider seat.



- Remove "+ve" terminal rubber boot (Red).



- Remove Battery terminal.
- ◀ - "-ve" terminal
- "+ve" terminal ▶



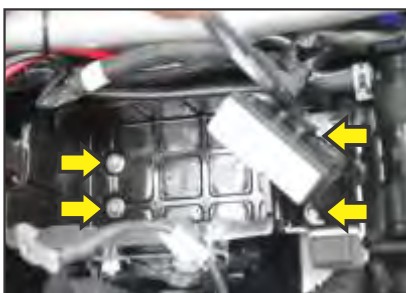
- ◀ • Remove Battery band.
- Take out battery using battery lifting ▶ band.



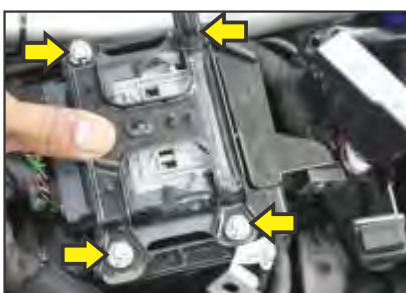
ECU / Battery Case Removal



- ◀ • Remove battery & rubber case.
- Remove fuse box assembly. ▶

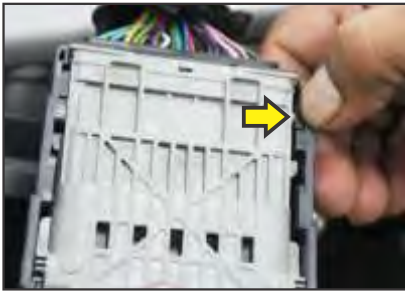


- ◀ • Remove battery case mounting bolts (4 nos.) with 8 mm spanner.
- Lift battery case along with ECU as ▶ shown in photograph.



- ◀ • Remove ECU mounting bracket nut (4 nos.) with 10 mm spanner & take out ECU mounting bracket.
- Remove battery case. ▶





- Pull ECU lock as shown in photograph.



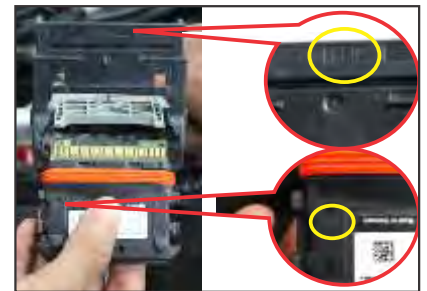
- Pull ECU lock as shown in photograph
- Till it become perpendicular to gray part. ▶



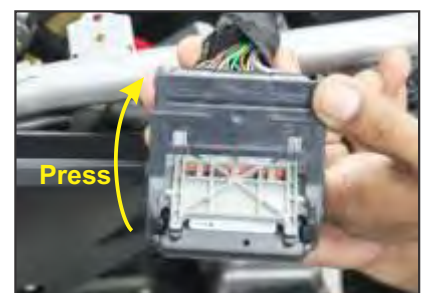
- Take out ECU.

ECU Fitment :-

- Ensure that coupler & ECU "Top" written face should be towards upside.



- Fit ECU in coupler completely & apply lock.



Starter Relay Removal



- Remove RH seat cowl.
- Remove rubber boots. ▶





- ◀ • Remove starter relay wires using 10 mm spanner.
- Remove starter relay coupler & take out starter relay. ▶



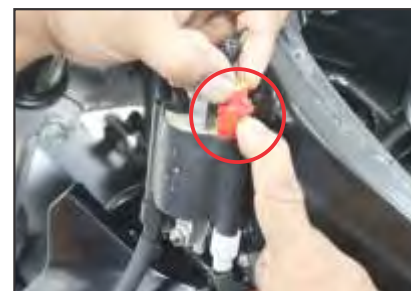
Twin HT Coil (LH) Removal



- Remove petrol tank.
- ◀ • Remove LH side & RH side spark plug cap. ▶



- ◀ • Remove Twin HT Coil (LH) cable for RH side spark plug cable from clamp as shown in photograph.
- Remove twin HT coil (LH) coupler. ▶



- ◀ • Remove twin HT coil (LH) mounting bolts (2 nos.) with 8 mm spanner.
- Remove RH side spark plug cap. ▶

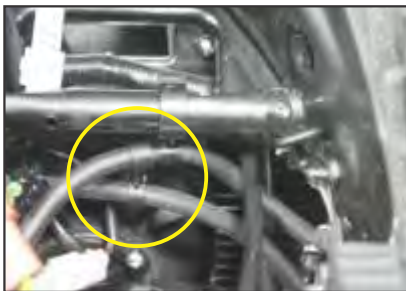


- Take out twin HT coil (LH).

Central HT Coil (RH) Removal



- Remove petrol tank.
- ◀ • Remove central spark plug cap.
- Remove central HT coil (RH) coupler. ▶



- ◀ • Remove central HT coil (RH) cable from clamps.
- Remove central HT coil (RH) mounting bolts (2 nos.) with 8 mm spanner. ▶



- Take out central HT coil (RH).

Fuel Pump Module Removal



- Remove inline fuel filter.
- ◀ • Take out petrol from petrol tank to avoid petrol wastage during fuel pump removal from petrol tank.

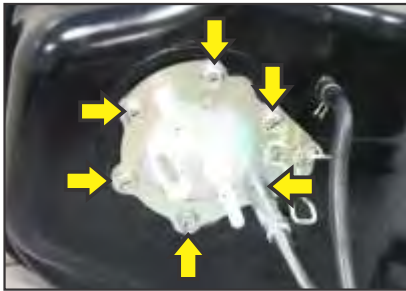


- Remove fuel pipes connected to fuel pump module.





- ◀ • Remove fuel pump module pigtail.



- Remove fuel pump bolts (6 nos.) with 10 mm spanner.



- Take out inline fuel filter mounting bracket & fuel pump module.



Secondary speedometer replacement

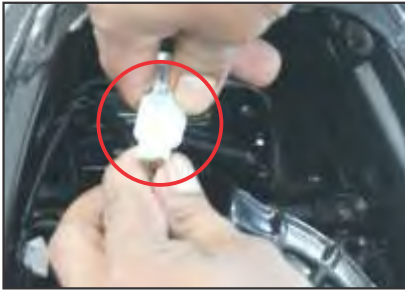


- ◀ • Take out petrol tank cover.
- Remove secondary speedometer mounting bolts (2 nos.) with metal washer 8 mm ring spanner. ▶

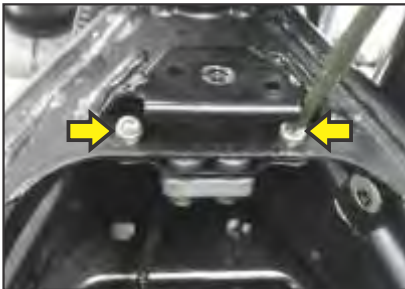


- Take out secondary speedometer.

Roll Over Sensor Removal



- Remove petrol tank.
- ◀ • Remove roll over sensor coupler.



- Remove roll over sensor mounting bracket bolts (2 nos.) with 10 mm allen key.



- Take out roll over sensor mounting bracket.

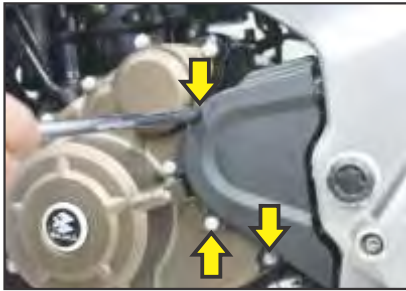


- Remove roll over sensor mounting nuts (2 nos.) holding screw with phillips head screw driver.



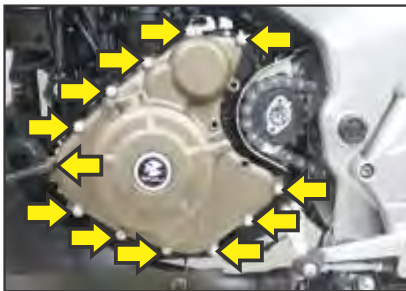
- Separate out roll over sensor & its mounting plate.

Stator Plate Removal



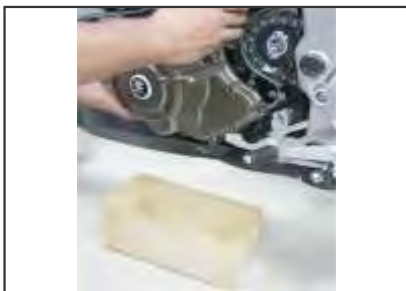
- Drain engine oil as explained in engine oil replacement SOP.

- ◀ • Remove cover LH RR bolt (3 nos.) with 8 mm spanner & take out cover LH RR. ▶



- ◀ • Remove magneto cover bolts (12 nos.) with 8 mm spanner & take out magneto cover.

- Remove stator plate coupler connection.



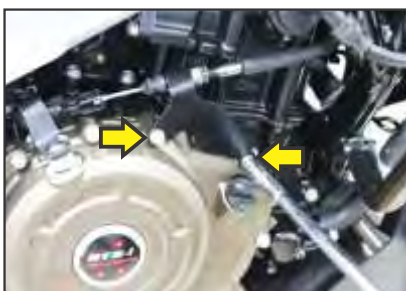
- Take out magneto cover along with stator plate.

Note :-

- Keep tray below engine before removing magneto cover from vehicle.

- Remove stator plate as explained in magneto dismantling section.

Crank Angle Sensor Removal

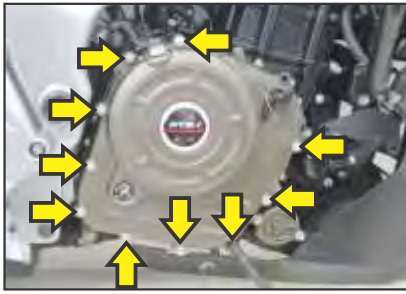


- Remove magneto cover from vehicle.

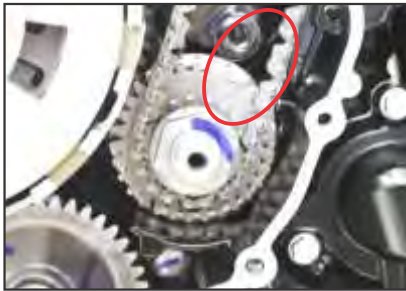
- ◀ • Remove clutch cable bracket bolt (2 nos.) with 8 mm spanner.

- Remove clutch cable from clutch release shaft. ▶





- Remove clutch cover mounting bolt (10 nos.) with 8 mm spanner in criss cross pattern & take out clutch cover.



- ◀ • Ensure that primary gear mark is matching with mark given on crankcase RH to confirm that piston is that TDC.



- Remove crankshaft locker dummy bolt using 10 mm spanner. ▶



- Using crankshaft locker tool, lock the crankshaft.

Note :-

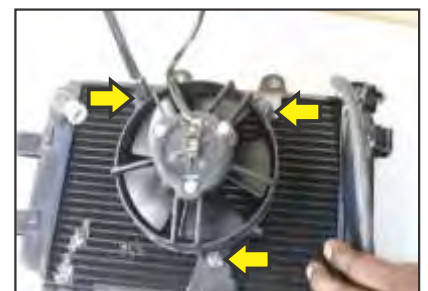
- After work completion, remove crankshaft locker tool & fit dummy bolt.

- Remove crankangle sensor as explained in magneto side dismantling of engine & transmission section

Radiator Fan Removal



- ◀ • Remove radiator assembly.
- Remove fan mounting nuts (3 nos.) with 10 mm spanner & take out radiator fan. ▶



SOP for Handling condensation in Headlamp

Condensation inside headlamp is a natural phenomenon.

Condensation occurs when atmospheric air containing water vapor or humidity enters the headlamp through the vents due to temperature difference. A thin film of fog can form on the inside surface of the headlamp lens. The thin fog will clear and exit through the vents during normal operating condition.

Condensation & fogging of headlamp lens may happen during rain or after washing.

To be done by customer :-

Moisture condensation inside the headlamp lens will disappear gradually by switching ON the headlamp in high beam and driving the vehicle at 30 to 40 Km/h speed for about 15 minutes.

Time for evaporation will vary depending on the humidity of the ambient air.

NOTE :-

If fog inside the headlamp does not evaporate bring the vehicle to Bajaj Authorised service station for inspection.

To be done by BAL Authorised Service Station :-



“FUNCTIONAL BOUNDARY” shown with yellow dotted line.

(No replacement required, if fog clears from area inside functional boundary)

Check the following -

- Ensure that all vents are not damaged or loose.



Headlamp Replacement Guidelines

CASE A :- Headlamp to be replaced

Fog more than 50% of functional area of lamp as shown in photograph



CASE B :- Headlamp NOT be replaced

Fog does not cover the functional area of lamp as shown in photograph



Speedometer software has been changed

This change has been introduced to indicate to customer "not to rev up engine beyond safe engine operating RPM."

Identification – Sticker is pasted on Speedometer SV2.1 (Software version 2.1)



Implementation of the above changes are with effect from the following chassis number and date.

Sr No.	Model	Chassis No.	Date	Plant
1	Dominar 400 ABS	MD2A67KY3HCB16377	15.05.2017	Chakan
2	Dominar 400 Non ABS	MD2A67KY1HCB16538	18.05.2017	Chakan

With this change, from the above chassis number onwards, Once a brand new vehicle is purchased by customer, the REV limit indicator will glow as per following conditions.

1. Within Initial 2000 Kms running (RUNNING IN period) -
 - Speedometer Rev limit indicator blinks at 5700 RPM.
 - Speedometer Rev limit indicator continuously glows at 6000 RPM
2. Beyond 2000 Kms. running-
 - Speedometer Rev limit indicator blinks at 8200 RPM.
 - Speedometer Rev limit indicator continuously glows at 8500 RPM.

The above information should be given to customer during new vehicle delivery.

In case, there is a need to replace speedometer in a customer's vehicle, please follow the information as below:-

Condition 1 - Old speedometer reading is beyond 2000 Kms.:

Since vehicle has already crossed 2000 Kms & Running IN period is over, the customer can safely drive the vehicle at higher RPM (Max. upto 8200 RPM)

For facilitating customer to drive the vehicle at higher RPM as above, a special feature in speedometer has been provided by which the **Running IN** period setting can be by passed.

Dealer has to take following action to bypass Running IN period setting. (Please note the bypassing can be done only within 5 Kms after replacement of new speedometer)

SOP:

1. Take out defective speedometer from vehicle.
2. Replace speedometer by new one. (Refer Dominar service station manual page no. 258 for detail SOP)
3. Put ignition switch and kill switch in ON position.
4. Select "TRIP 2" mode by pressing "MODE" push button for less than 2 seconds.
5. Press "MODE" & "SET" buttons simultaneously for 10 seconds.
6. "Rev Limit indicator" blinks 5 times as confirmation of bypassing speedometer indication software

Condition 2 -

Old speedometer reading is within 2000 Kms.

Action by Dealer- No other activity need to be done while replacing a new speedometer.



SOP for Protective cover mounting on radiator mounting bracket to Protect harness

Background :-

- In K10 Production vehicles, harness observed damaged due to sharp corner of radiator upper mounting bracket on chassis.
- Protective cover provided to mount on bracket to avoid damage to harness.



- Tools required:
1. Tie Band cutting plier
 2. Two Tie bands
 3. IPA solution
 4. Clean Cloth






After protective cover mounting



Protective cover



Sr. No.	Activity	Tool Required	Image
1	Cut the harness routing cable ties near steering column.	Cutting plier	

Sr. No.	Activity	Tool Required	Image
2	Slightly pull harness away from the bkt to make clearance between the harness and radiator bkt for cover insertion and bkt cleaning.	-	
3	Clean the radiator mtg bkt	IPA solution & clean cloth	
4	Remove the adhesive tape cover and hold the cover at the region away from the adhesive tape during assly.	-	<p>Holding area during the Assly away from the Adhesive tape</p> <p>Adhesive tape cover removed</p> 

Sr. No.	Activity	Tool Required	Image
5	Mount protective cover on radiator upper mounting bracket.	-	
6	Harness to be routed again on chassis by cable tie properly. Tie band cut point to be oriented towards the Frame stamp.	Cutting plier	

Bosch Diagnostic Tool Updation



Bosch Diagnostic Tool

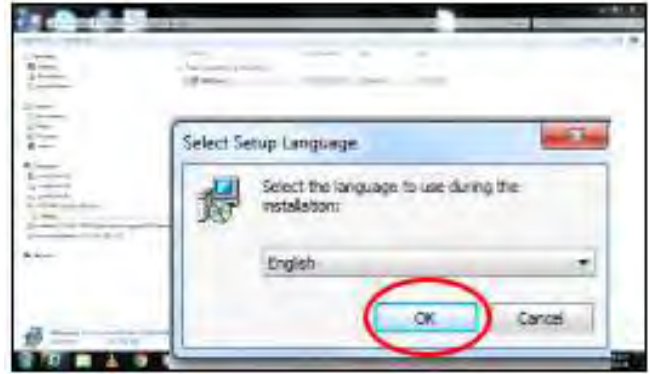


Bosch Diagnostic Tool Software Installation CD

Step 1 :- Install the BOSCH Diagnostics Software CD (Provided along with tool) in PC or Laptop



1. Insert CD & select setup file



2. Click on OK



3



4. Click on Finish

After successful installation you will see two icon on Desktop



Icon 1



Icon 1 :- Bosch (Bajaj) HexFileSync :- For Unlocking tool after 150 times usage.

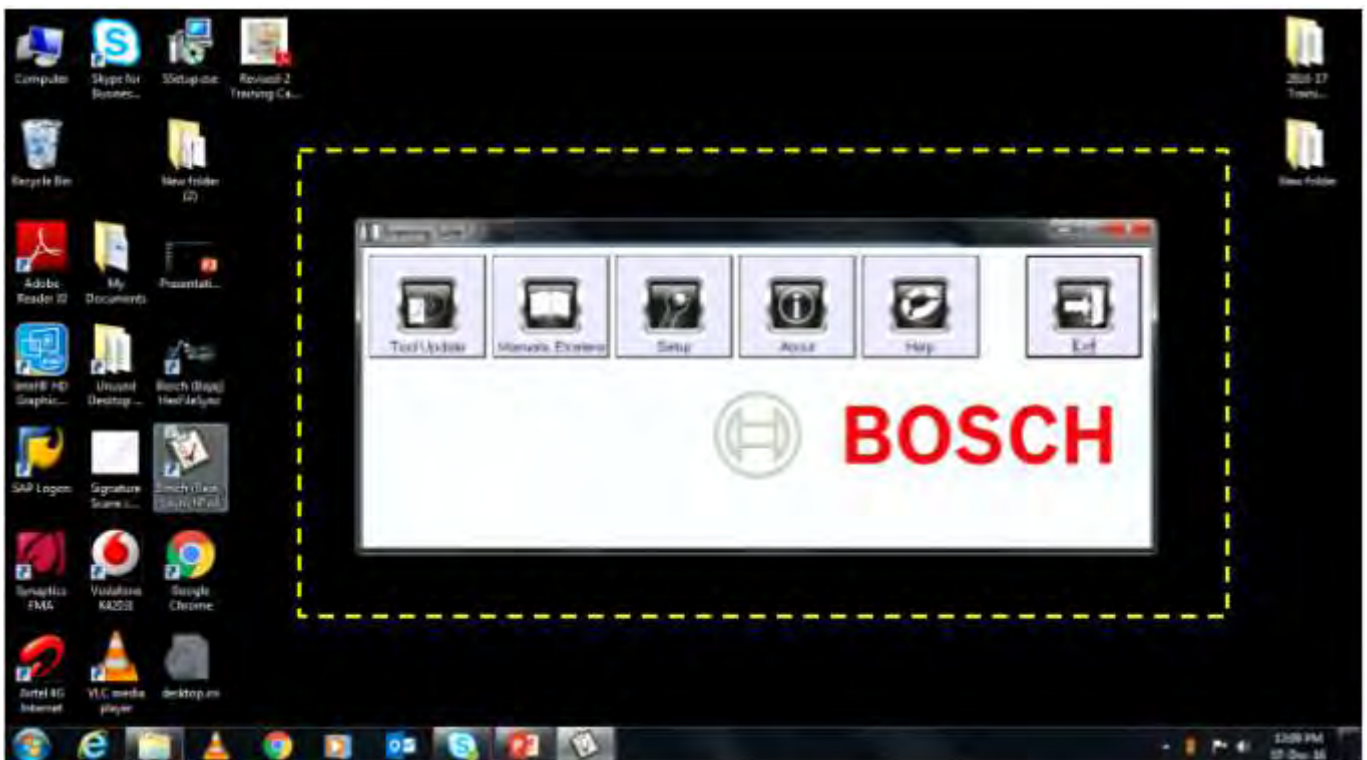
Icon 2

Icon 2 :- Bosch (Bajaj) LaunchPad : For updation of Tool software.

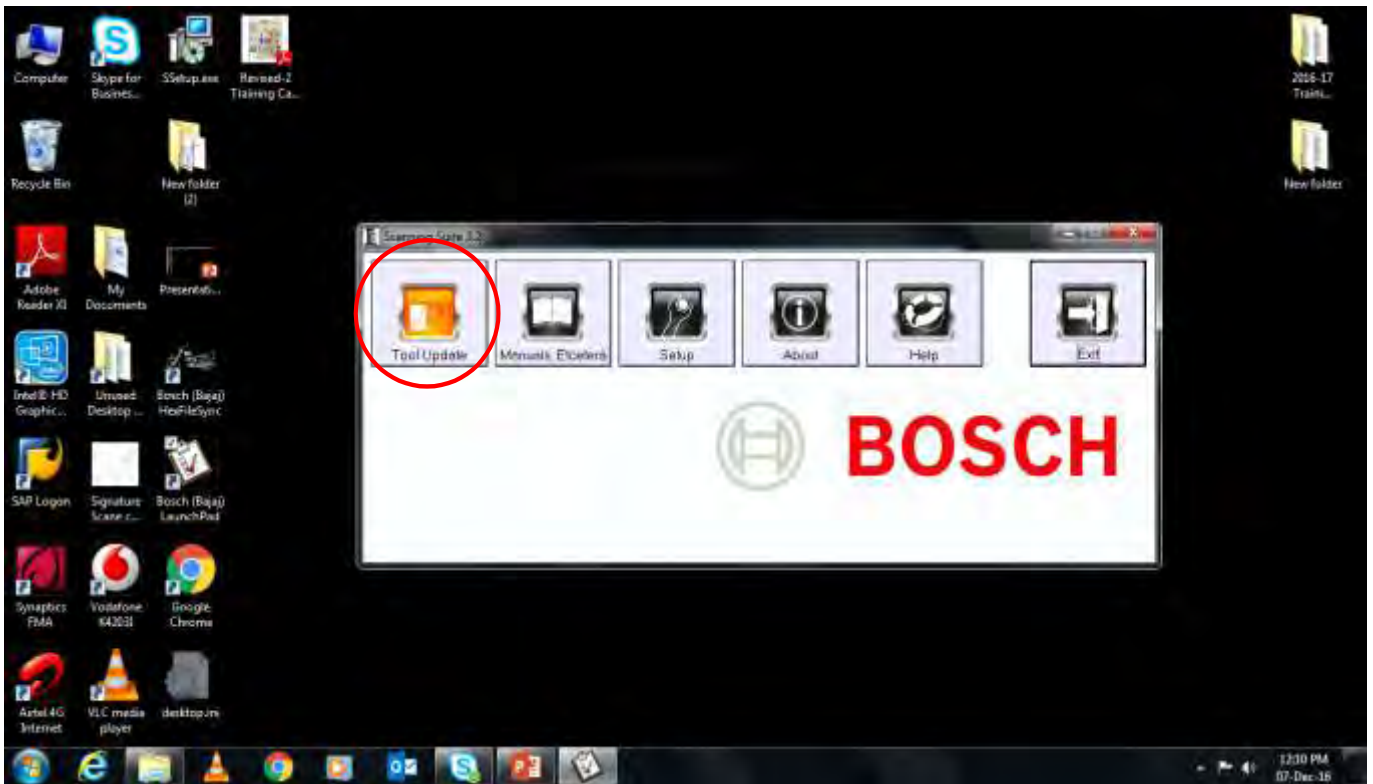
Step 2 :- Double Click on "Bosch (Bajaj) LaunchPad" icon



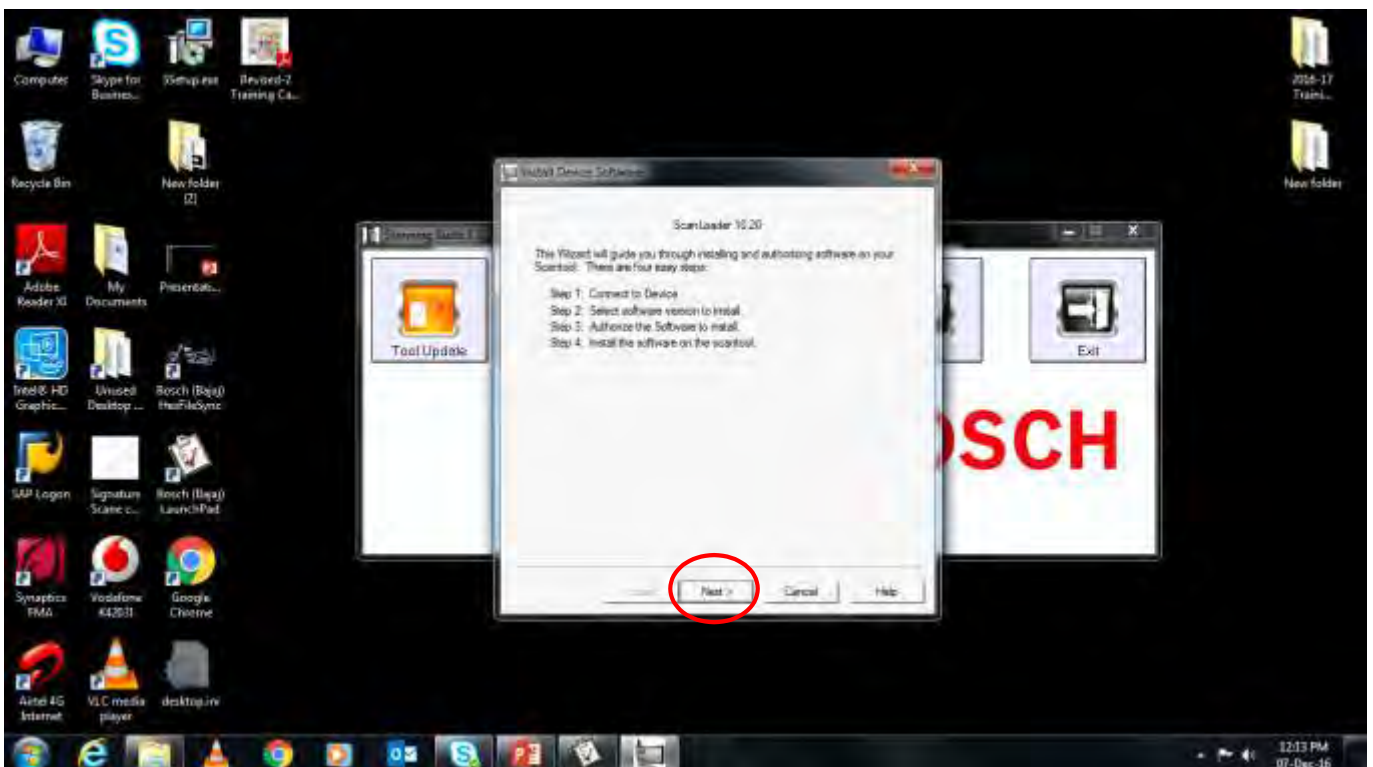
Scanning Suite 3.2 will appear on screen



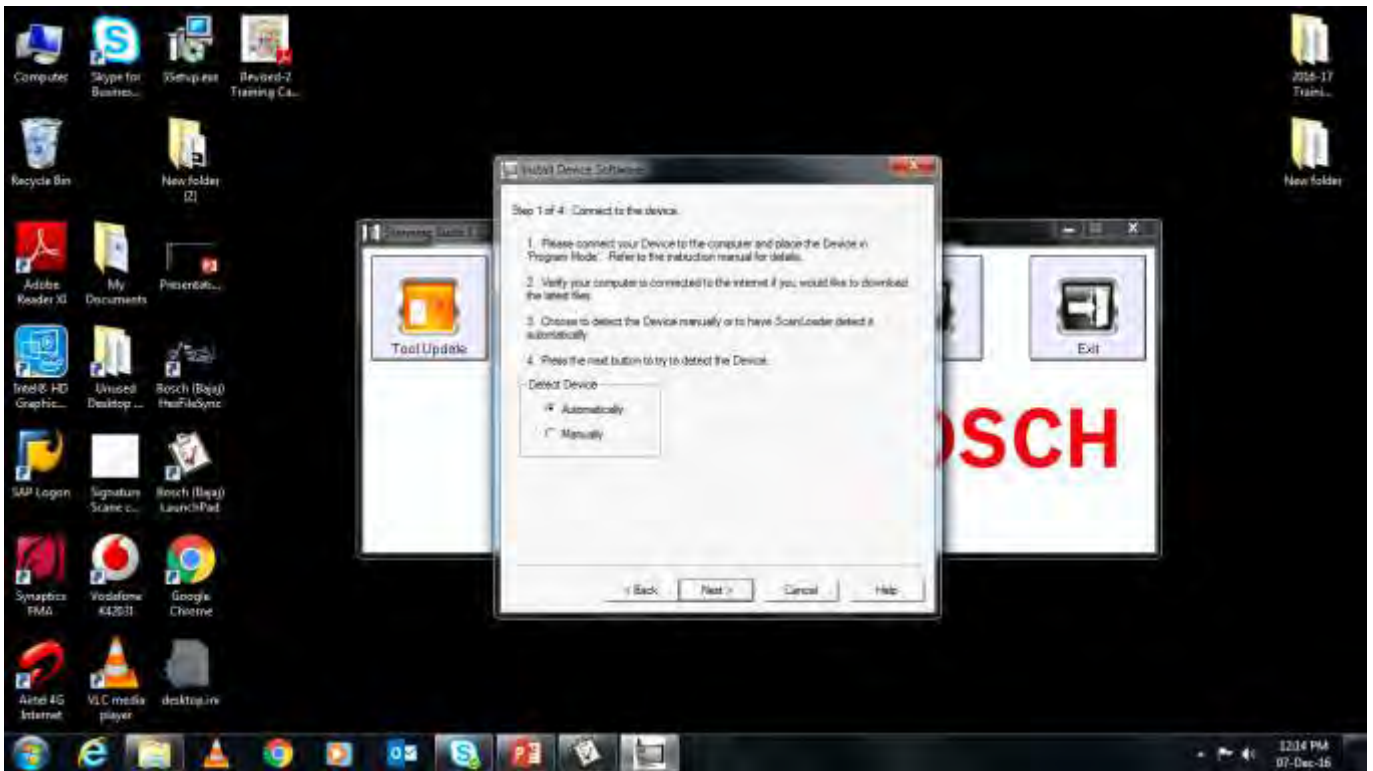
Step 3 : Double click on "Tool Update"



Step 4: Click on "Next"



Step 5: Below screen will appear.



Follow the instructions 1 to 4 given on screen. (Refer next slides)

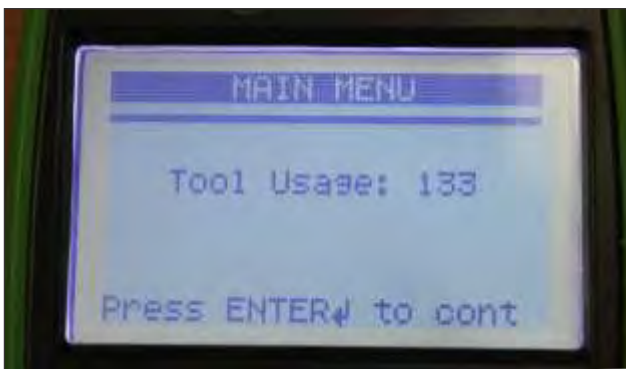


1. Connect the Bosch Diagnostic tool with PC/ Laptop by USB cable provided along with tool.



After connection above Message will appear on BOSCH tool screen.

2. Place the device on “Program Mode”



1. Press Enter



2. Select System Setup by down arrow & press Enter.

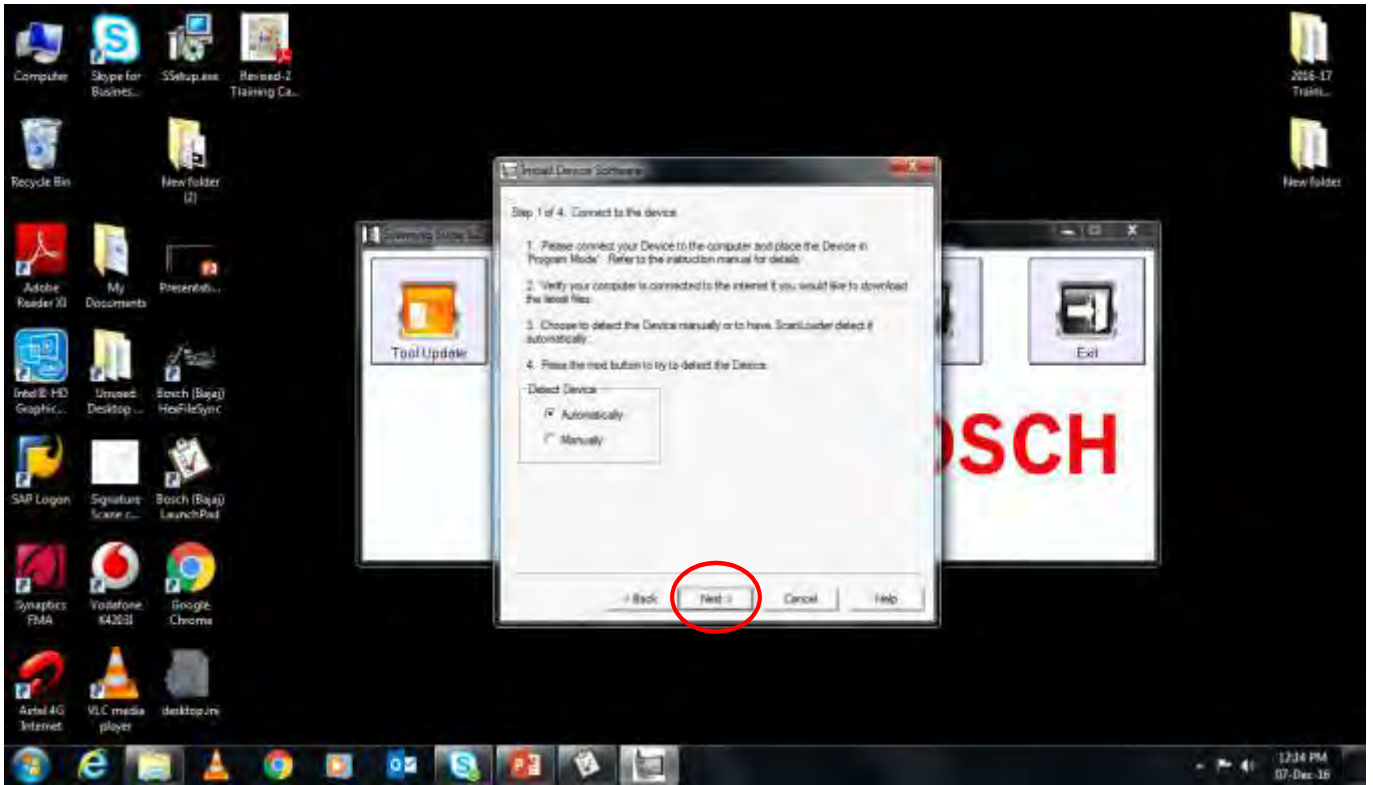


3. Select Program Mode & press Enter

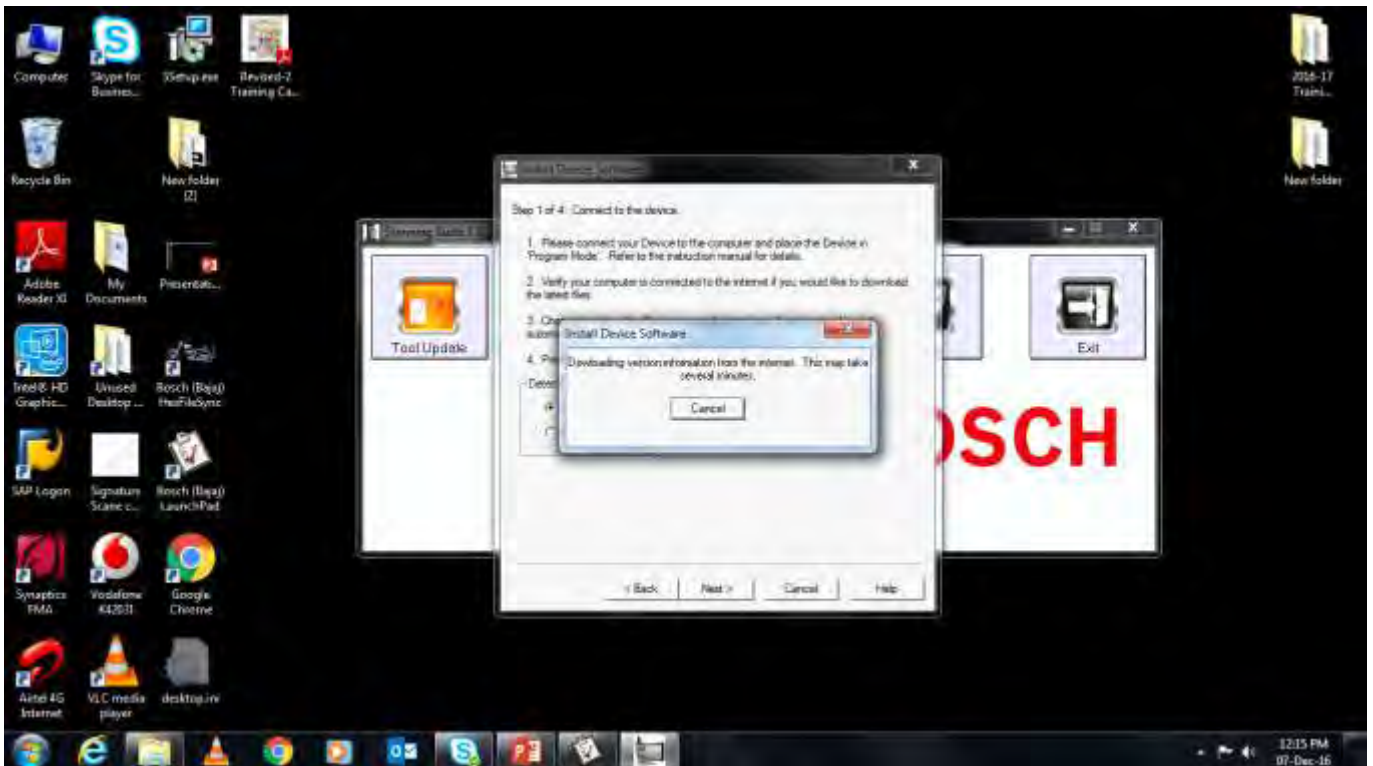


4. Above Text message will appear on tool screen.

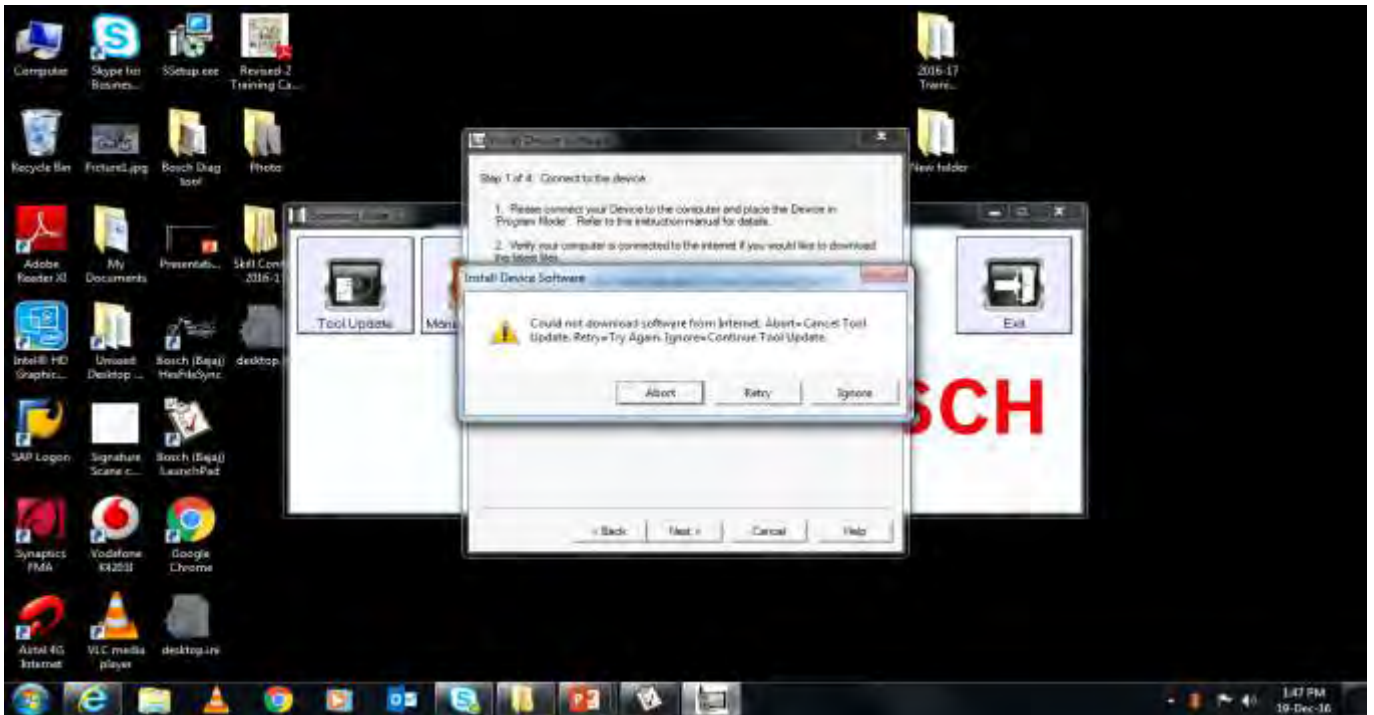
3 & 4. Ensure “Automatically” mode is selected and then Click on Next.



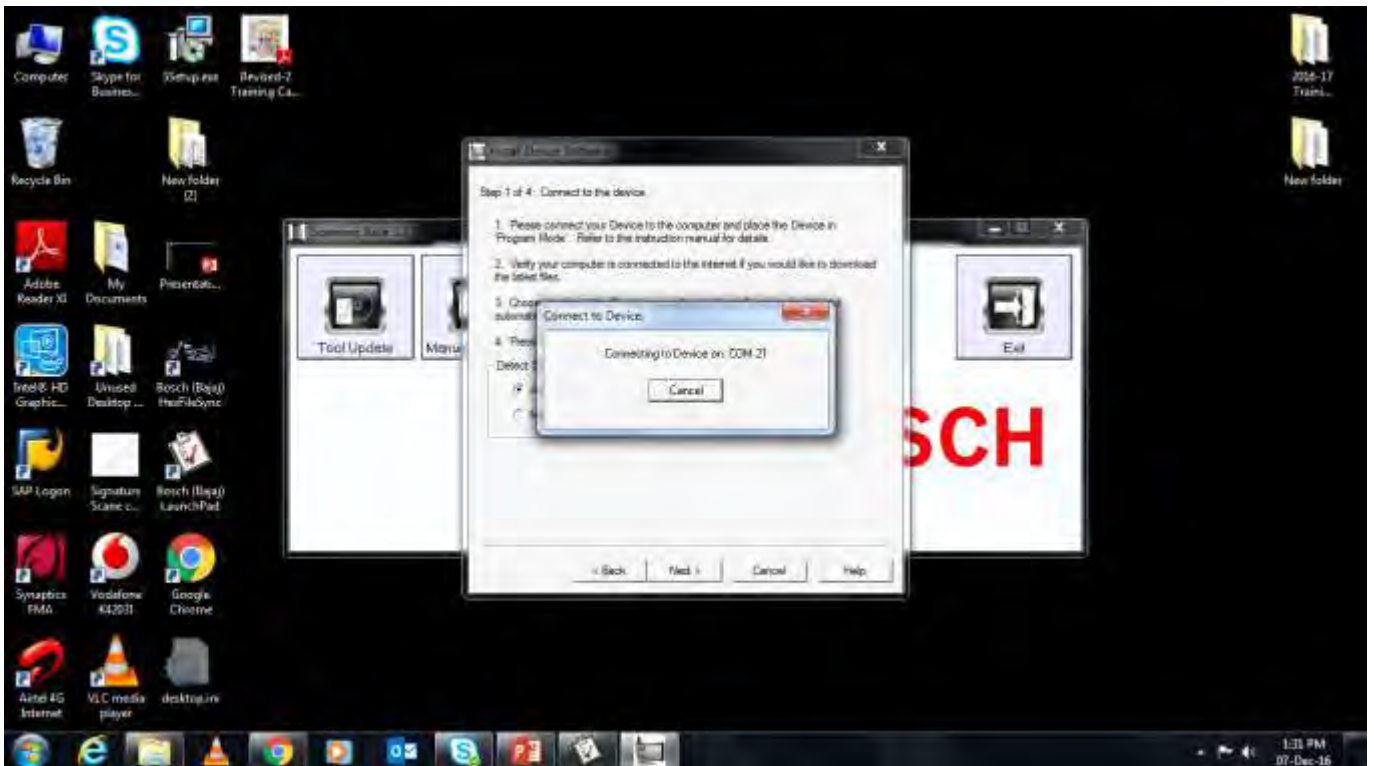
Downloading version information from internet will start.



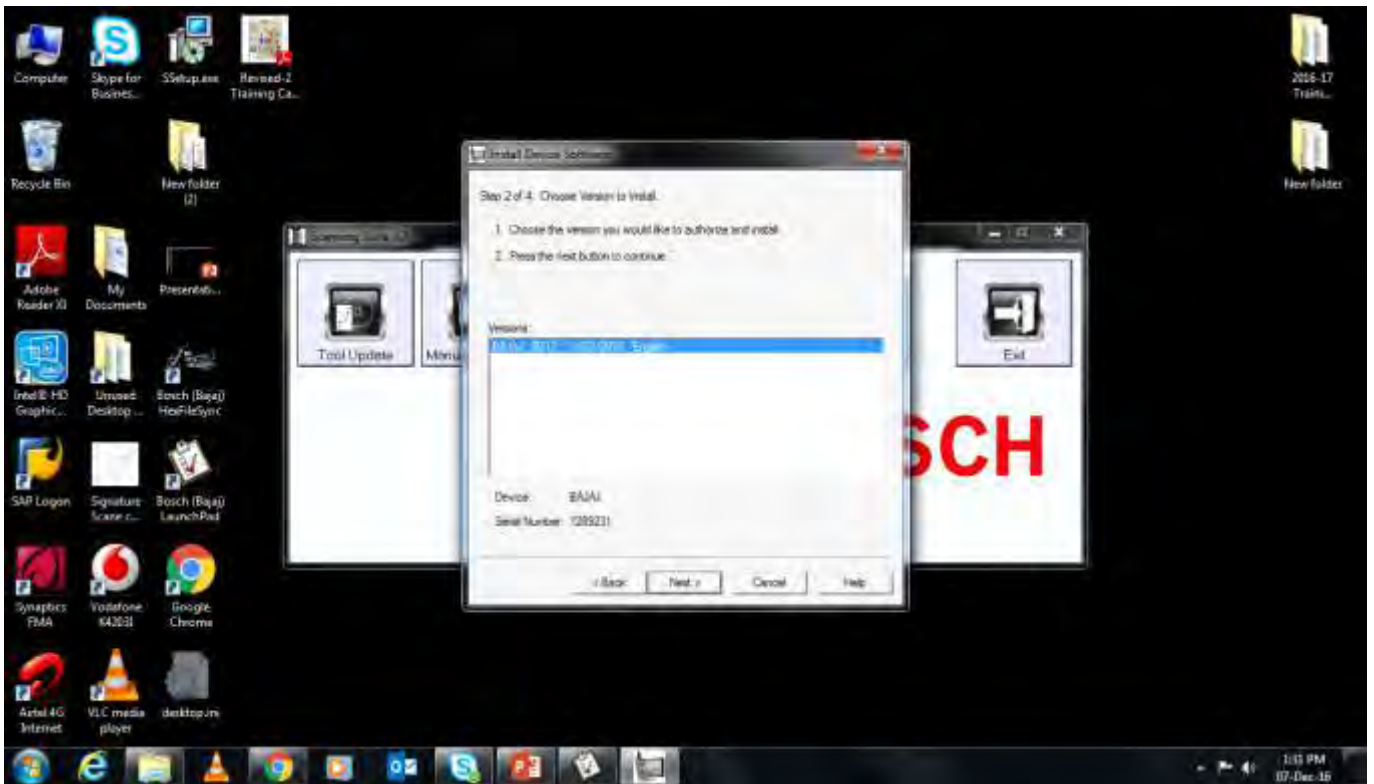
If internet connection is weak then below error message may appear on screen. Retry 2 to 3 times and then click on Ignore.



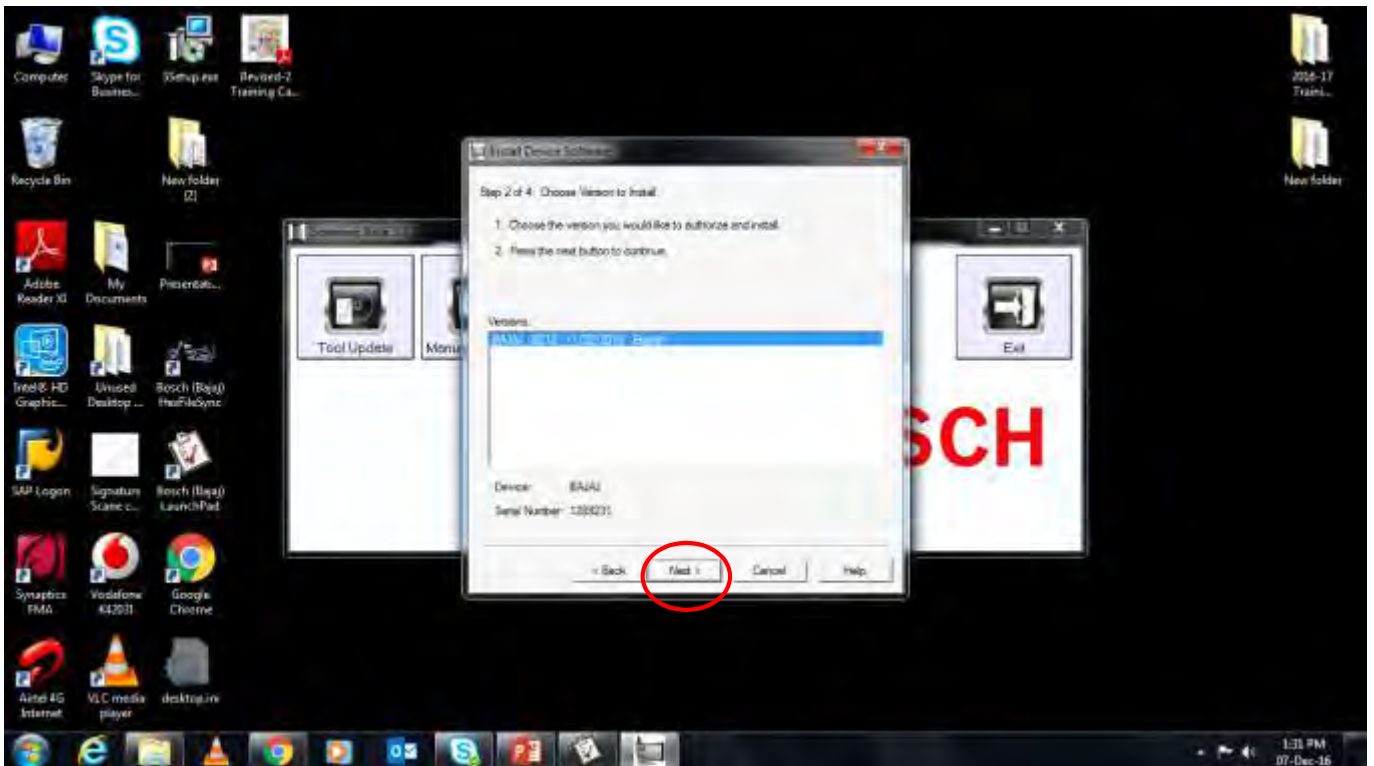
Tool will start connecting with internet & below screen will appear while connecting.



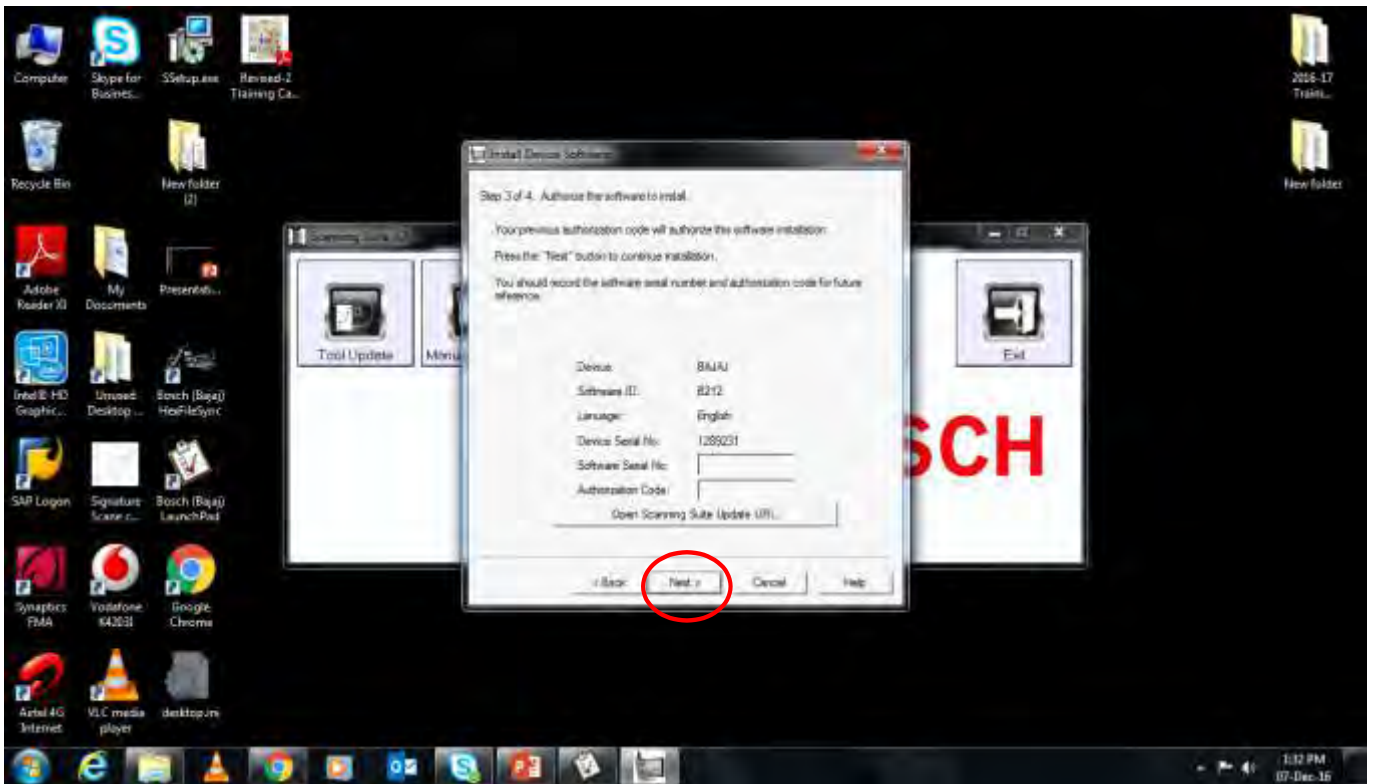
After tool get connected , below screen will appear.



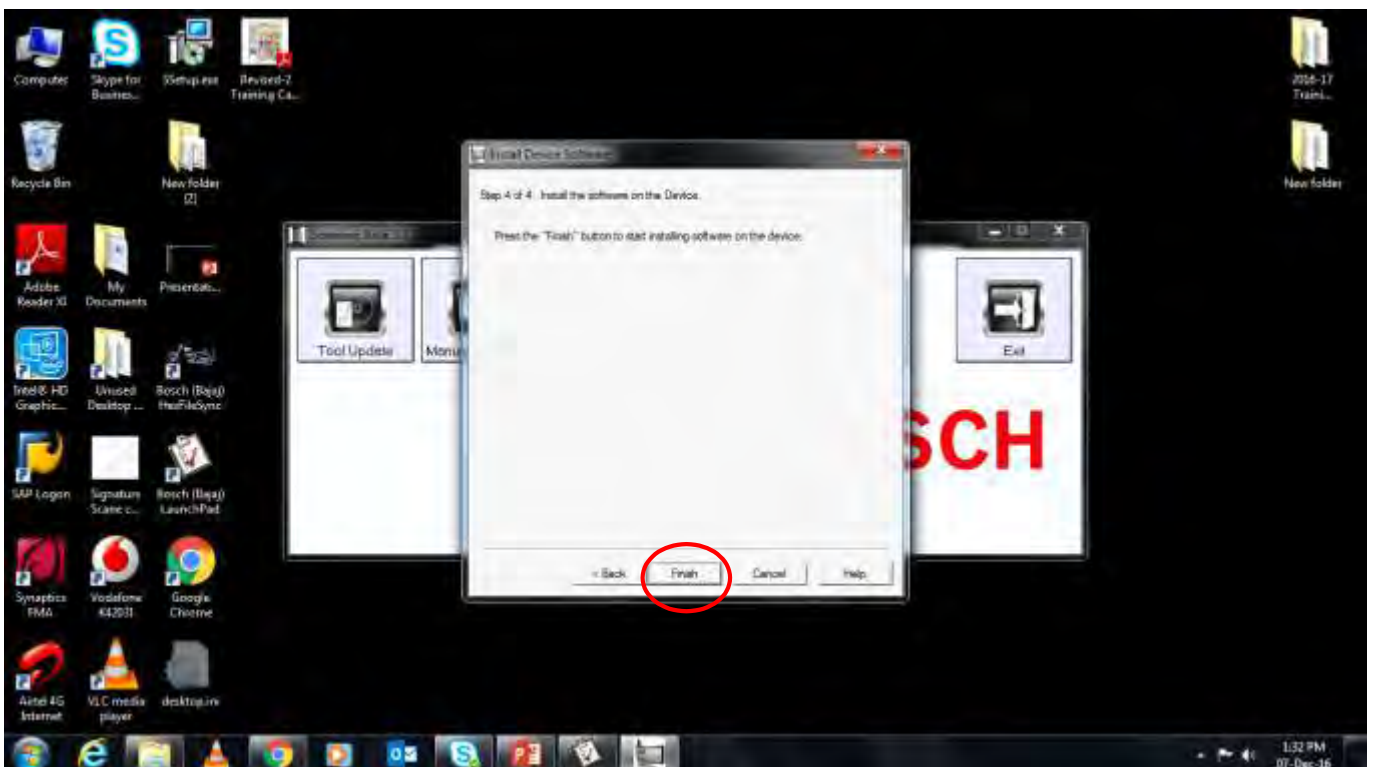
Step 6: Select the file displayed and click on Next



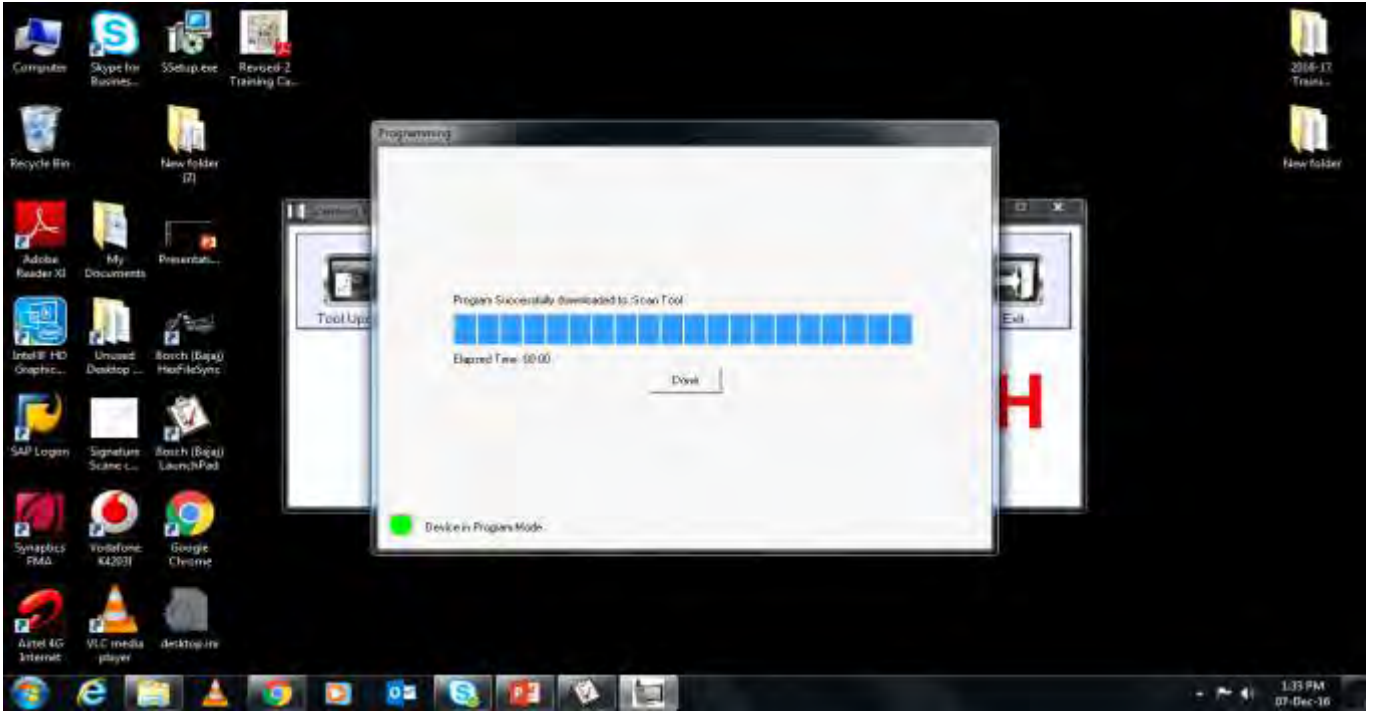
Step 7: Click on Next. (No need to enter the Software serial no. & Authorization code)



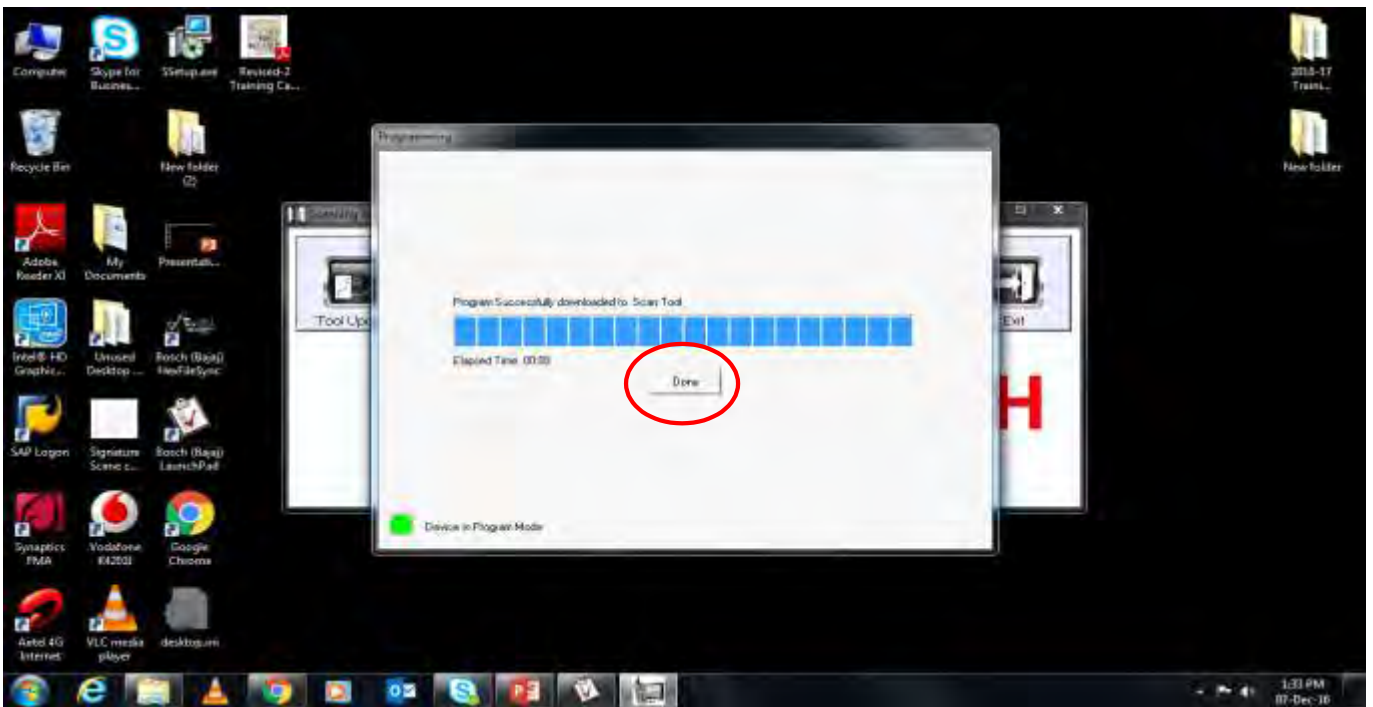
Step 8: Click on Finish



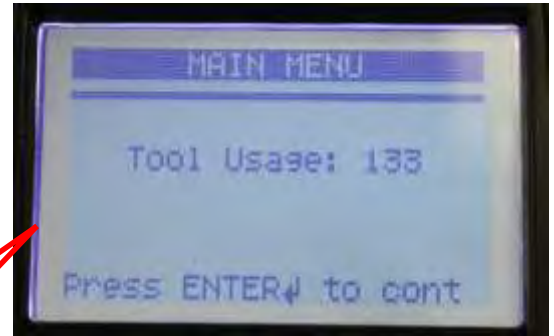
Old program will automatically get removed and New program will downloaded.
Below screen will appear while downloading the new program.



Click on Done for completing the Updation process.
Now tool is Updated for Dominar 400



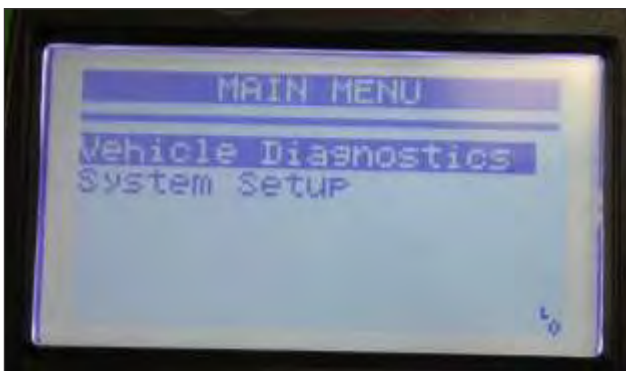
Step 9: For confirmation Disconnect & Reconnect Bosch tool to PC/Laptop.



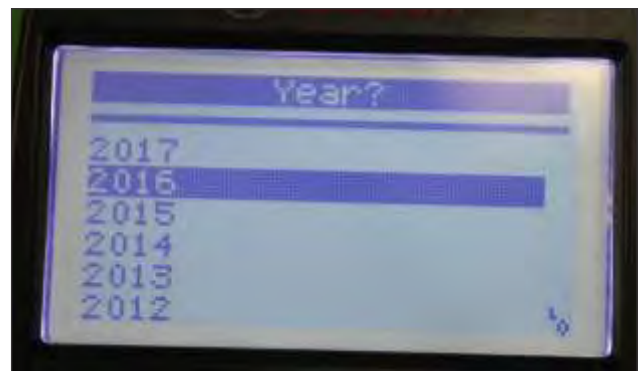
After connection above Message will appear on BOSCH tool screen.

Press Enter

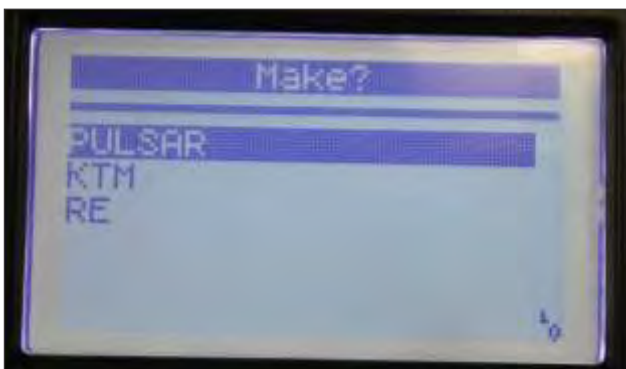
Follow the below steps on BOSCH diagnostic tool to confirm “Dominar 400” model option is available.



Select Vehicle Diagnostics & press Enter.



Select year 2016 or 2017 & press Enter.



Select Pulsar Make & press Enter.

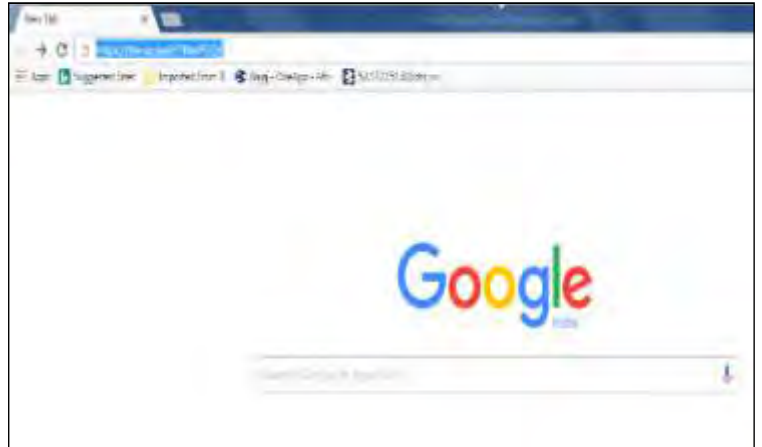


Dominar 400 model will available on screen.

BuildOTP Software installation SOP

1. Open following link through internet.

<https://file.ac/aalcT9NxPGQ/>

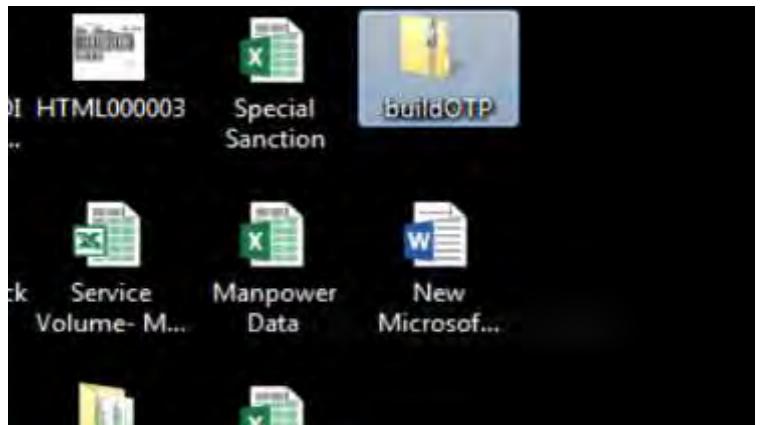


2. Build OTP.zip folder will appear on your Laptop / PC screen

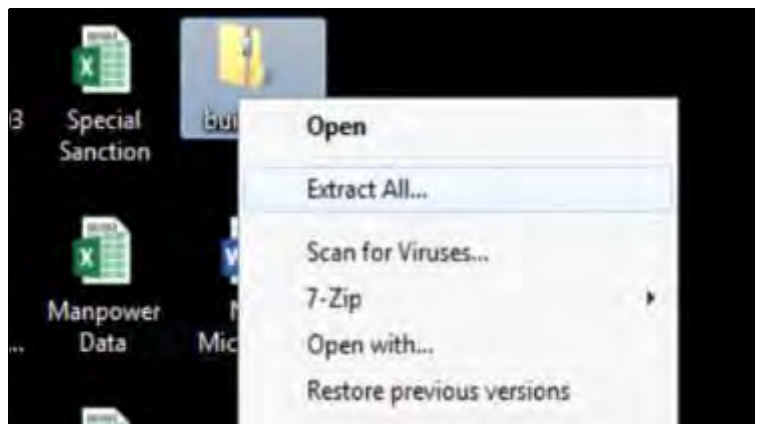
3. Click on Download button for downloading zip file



4. Copy BuildOTP zip file from download folder to Desktop of PC / Laptop

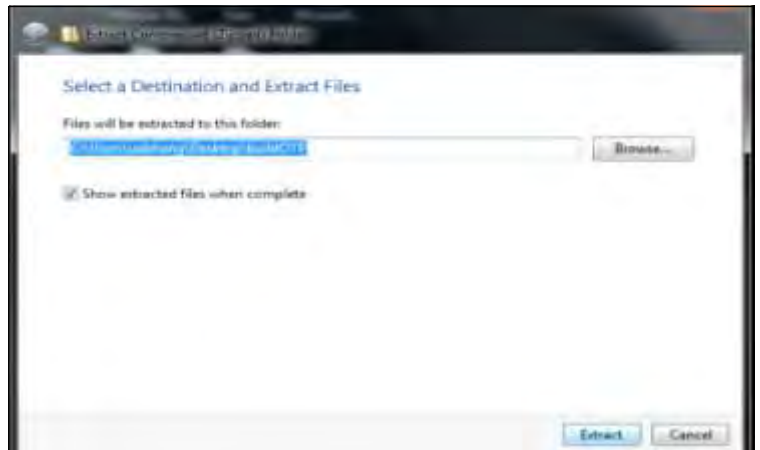


5. Right click on "buildOTP" zip folder & select "Extract all" option for extracting buildOTP folder.

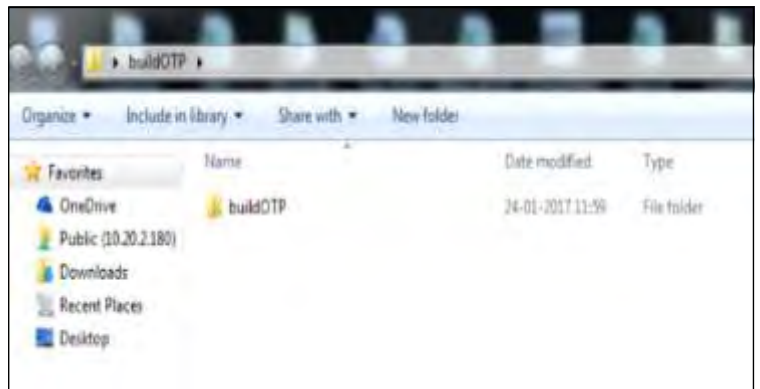


- Select extract file location as “Desktop” in browse field & click on Extract button.

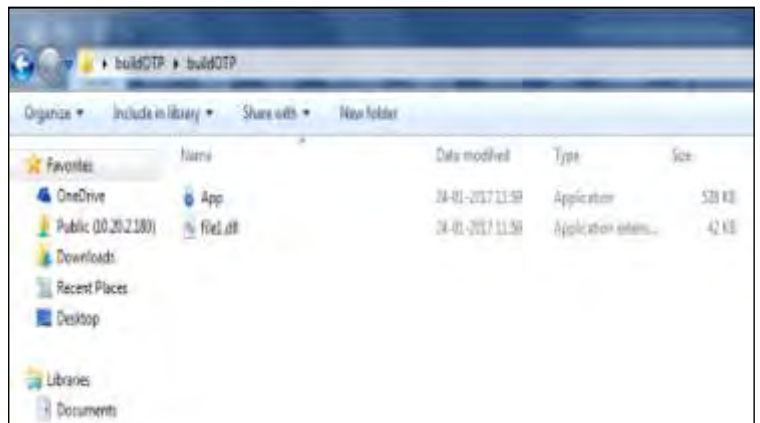
BuildOTP folder will appear on PC / Laptop screen. Open the folder



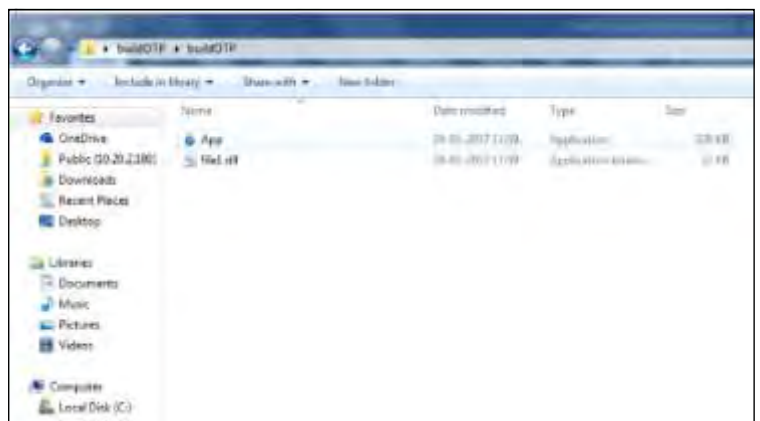
- Open buildOTP folder.



- Following 2 application will appear on PC / Laptop screen.

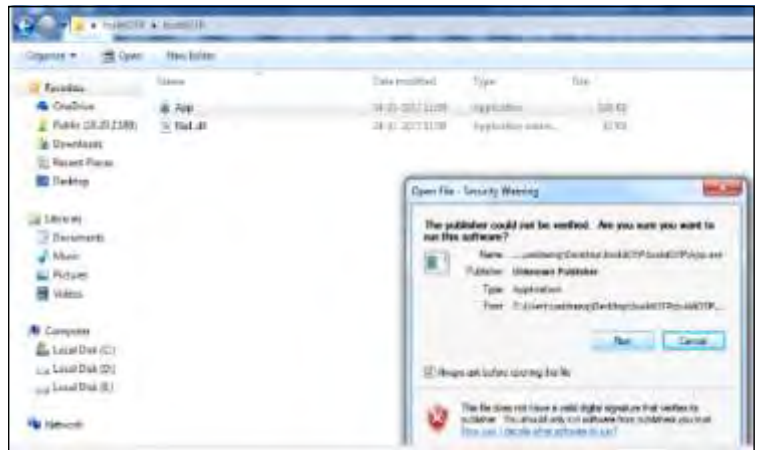


- Double click on “App” .



10. Message shown in photograph will appear on PC / Laptop screen

Click on “Run”.

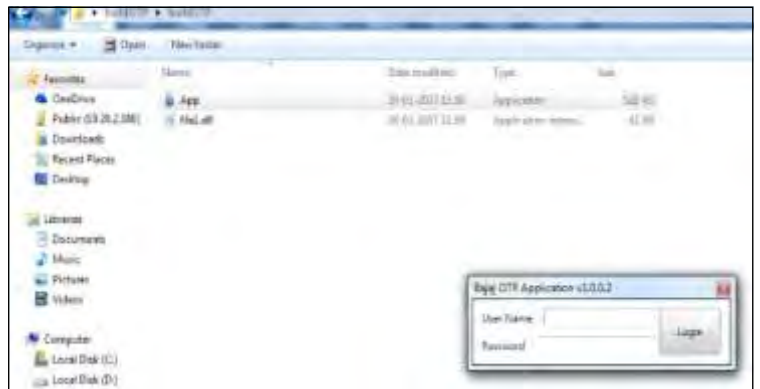


11. Start using following details for key generation-

Insert following details :-

User name : Bajaj

Password : Bajaj1

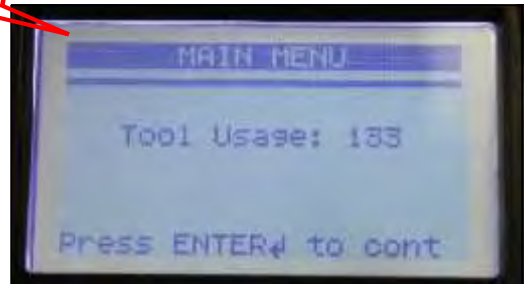


Downloading Hex file from BAL server to Bosch diagnostic tool

1. Connect the Bosch Diagnostic tool with PC / Laptop (in which Bosch tool CD is installed) by USB cable provided along with tool.



2. After connection, message as shown in photograph will appear on Bosch diagnostic tool screen

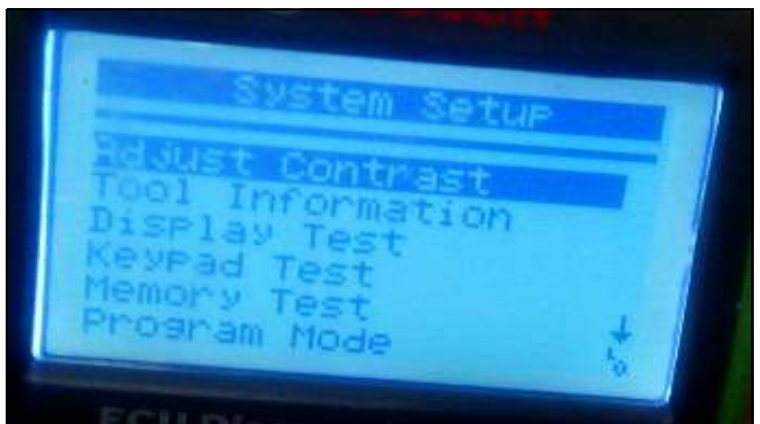


Press enter

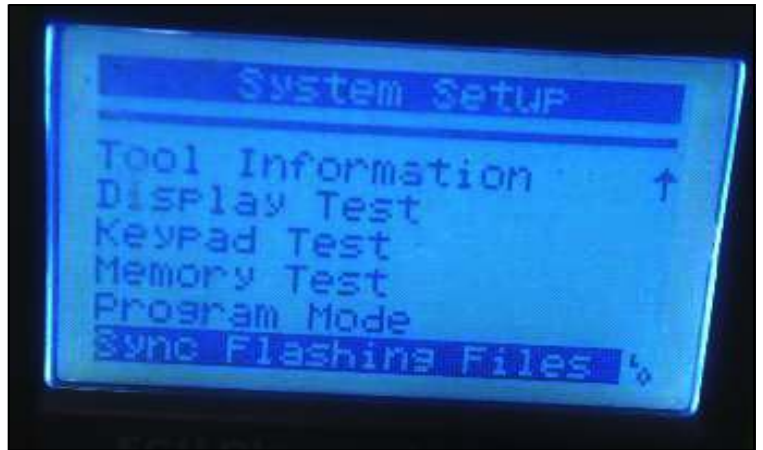
3. Select "System Setup" by down arrow & press Enter.



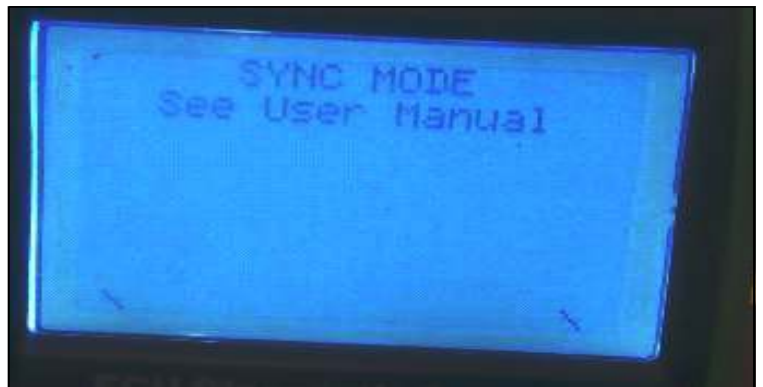
4. Various options will appear on diagnostic tool screen



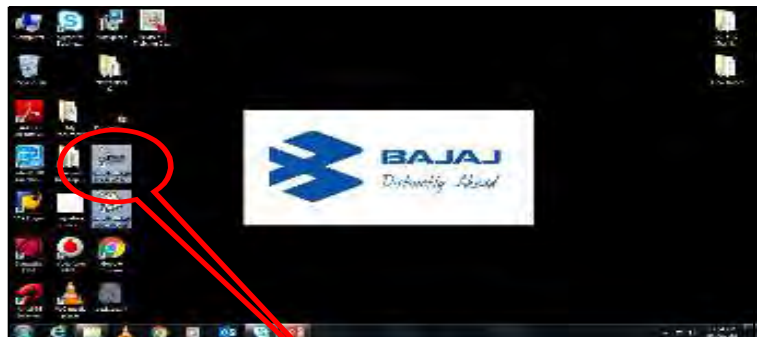
5. Select “Sync Flashing Files” by down arrow & press Enter.



6. Message as shown in photograph will appear on Bosch diagnostic tool screen

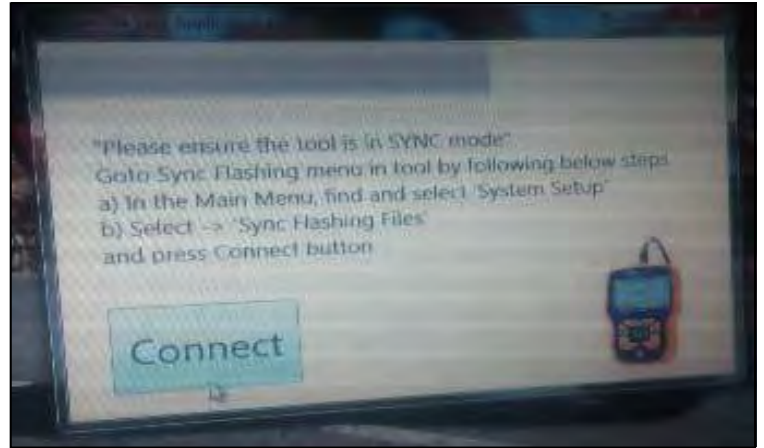


7. Double click on “ Bosch (Bajaj) HexFileSync” icon available on PC / Laptop.



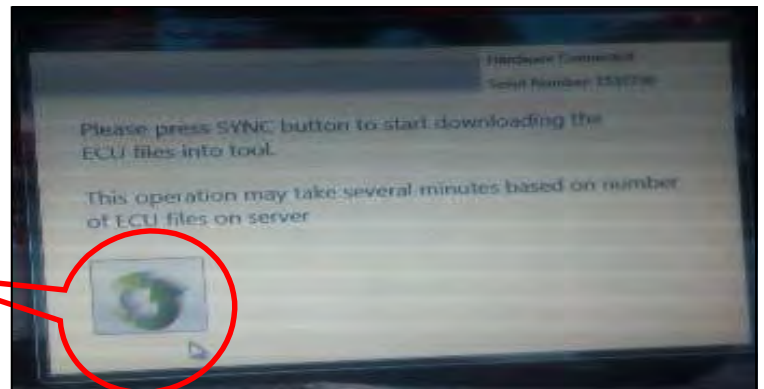
8. Message as shown in photograph will appear on PC / Laptop screen.

Click on “Connect” option for connecting diagnostic tool to server

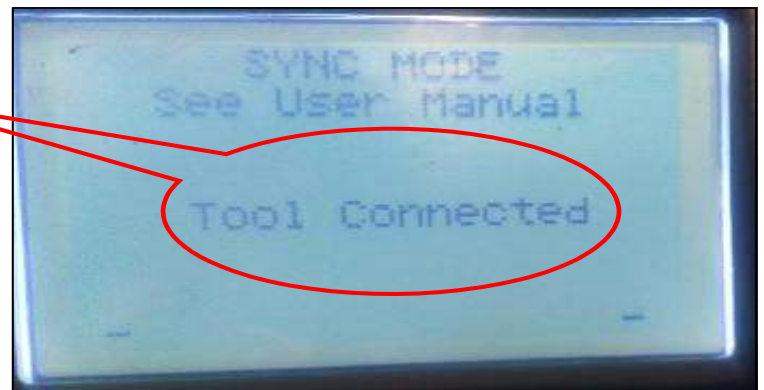


9. After successful connection, message as shown in photograph will appear on PC / Laptop screen.

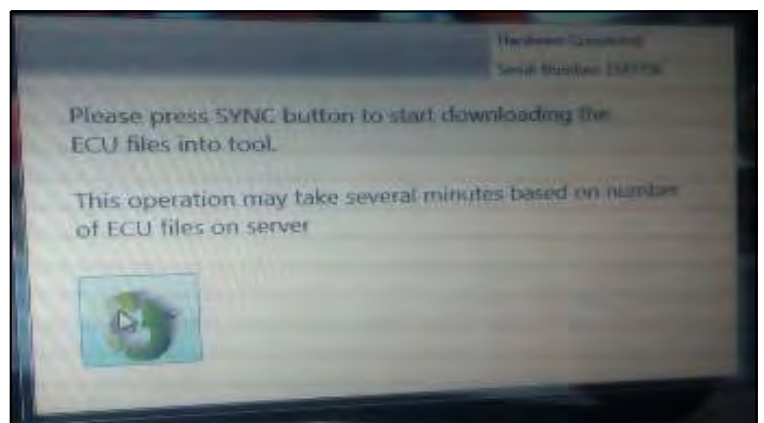
“Green color circular arrow” on PC / Laptop screen indicates successful connection of diagnostic tool.



“Tool connected” message will appear on diagnostic tool screen also.



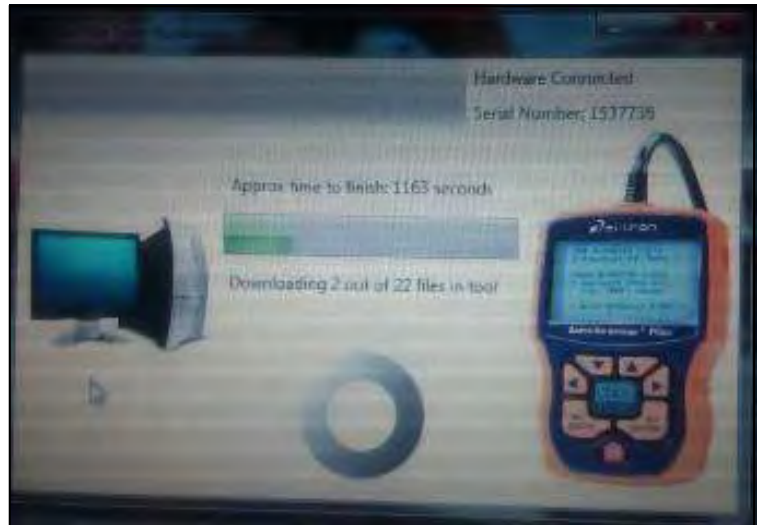
10. Click on “Green color circular arrow” appeared on PC / Laptop screen.



11. All ECU Hex files available on server starts downloading in diagnostic tool & message shown in photograph will appear on PC / Laptop screen.

Precaution :-

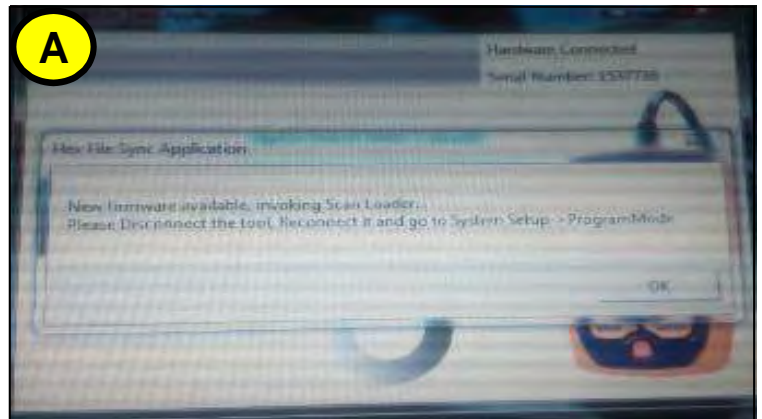
Do touch the USB cable while hex file downloading is in process. Any loose connection in USB port will result in complete rework of hex file downloading from server.



12. After successful downloading of all ECU hex files, messages –

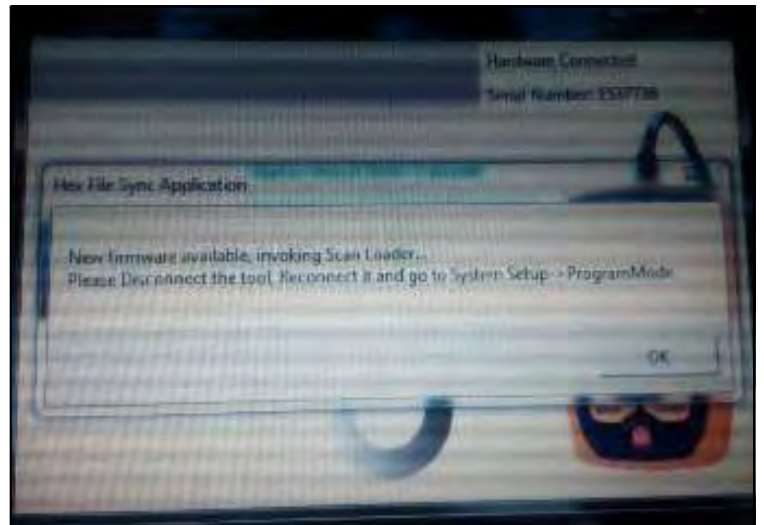
shown in photograph - A will appear on PC / Laptop screen

shown in photograph - B will appear on diagnostic tool screen



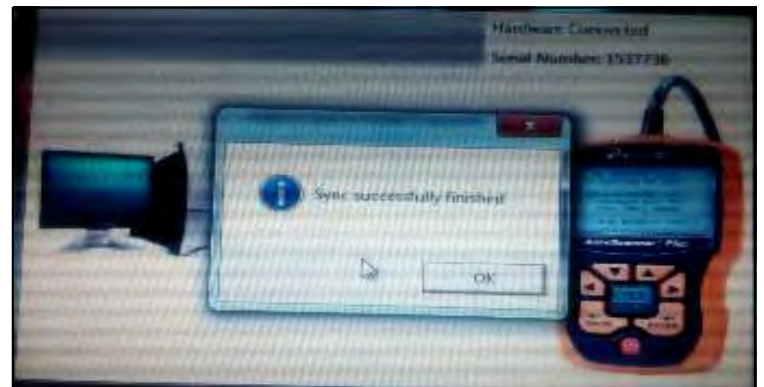
13. Disconnect the diagnostic tool,
Reconnect it & go to System
set up ---- Program Mode

NOTE :- Do not click on “OK” button
after completion of hex file download



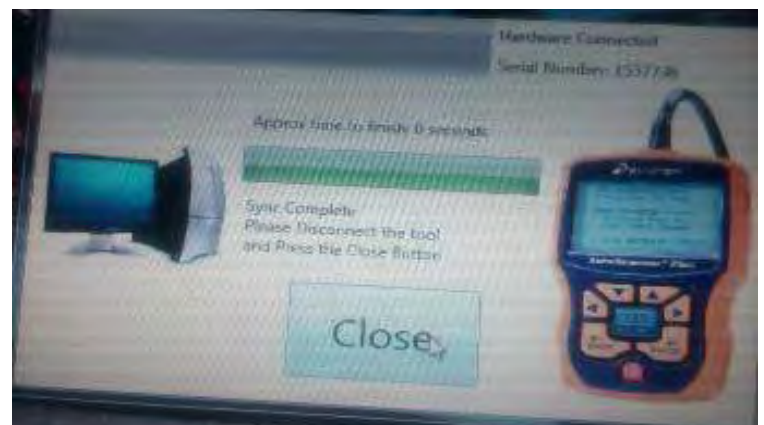
14. Message as shown in photograph will
appear on PC / Laptop screen.

Press OK



15. Message as shown in photograph will
appear on PC / Laptop screen.

Disconnect the diagnostic tool &
Press **Close**



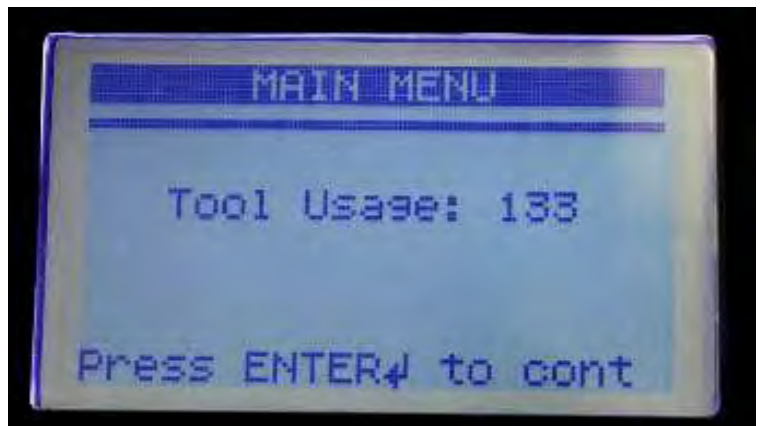
ECU Flashing on vehicle with diagnostic tool

1. Remove pillion rider seat with vehicle ignition key.
2. Connect diagnostic tool coupler to CAN communication port



3. "Tool usage" message will appear on diagnostic tool screen.

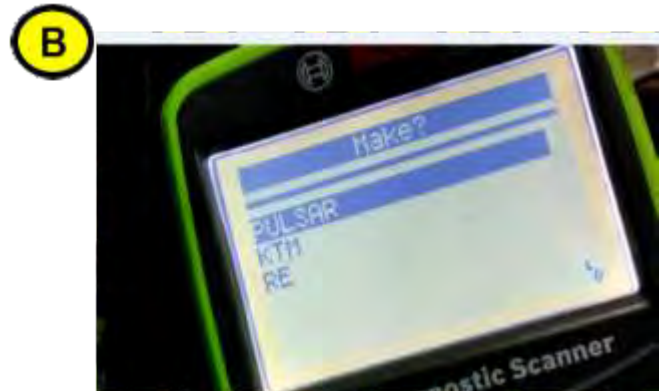
Press Enter



4. Select "Vehicle Diagnostics" & Press Enter

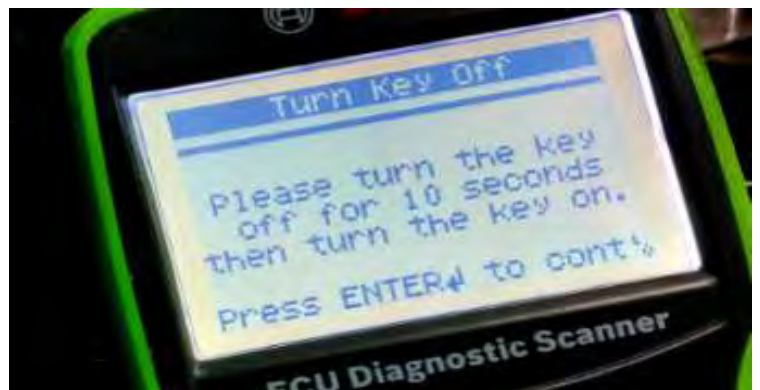


5. Please select option as mentioned in pictures below.

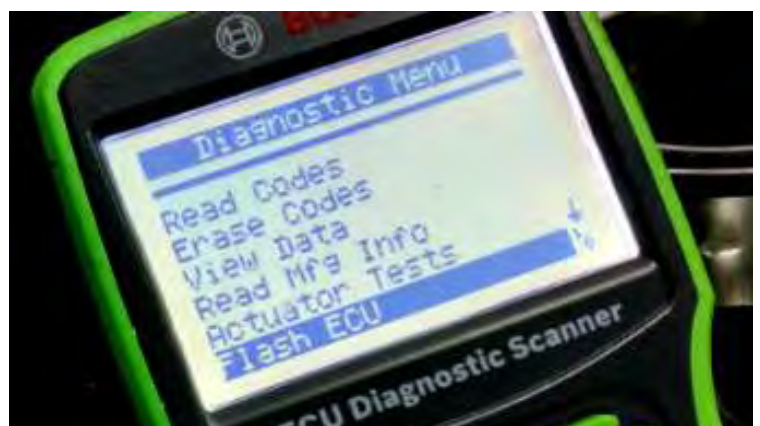


6. Message as shown in photograph will appear on diagnostic tool screen.

Press Enter



7. Select the "Flash ECU" option from diagnostic menu shown on diagnostic tool screen & Press Enter



8. All the hex files available will be shown on diagnostic tool screen



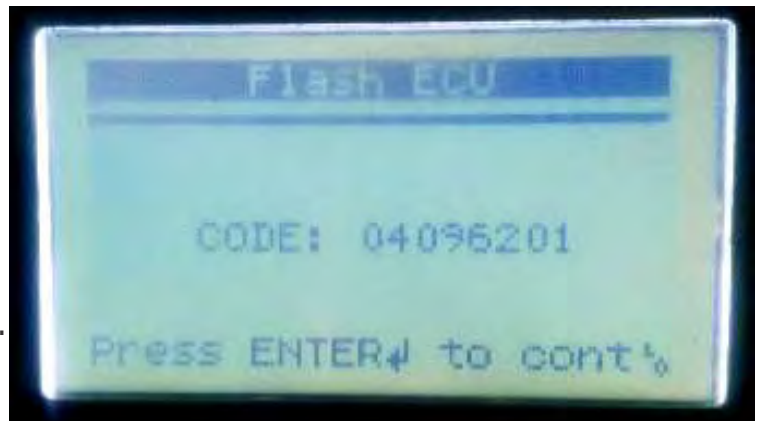
9. Select the following hex files & Press Enter

Model	Hex File
Dominar 400 - ABS	BAK10IN1605110
Dominar 400 - Non ABS	BAK10IN1605111

10. Eight digit code will appear on diagnostic tool screen.

Note down this eight digit code against the specific VIN for reporting purpose.

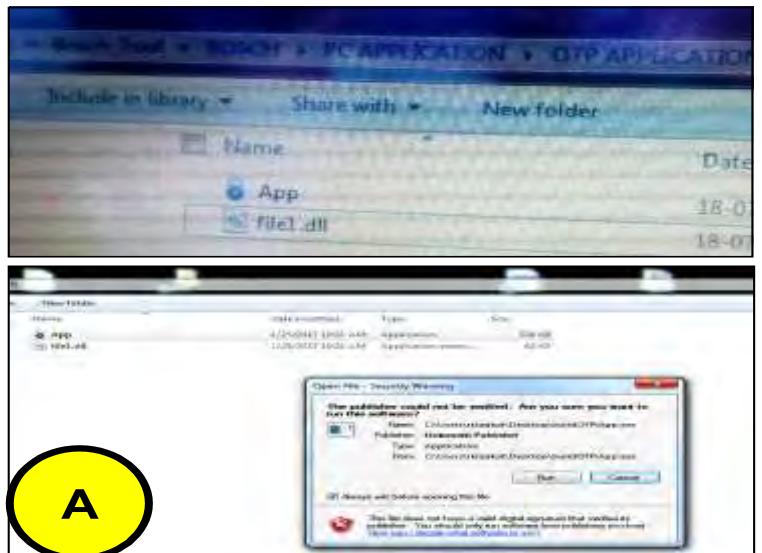
DO NOT disconnect the diagnostic tool.



11. Double click on “App” icon on Laptop screen in a folder extracted from Zip folder .

Message shown in photograph - A will appear on Laptop screen.

Click on “Run”.



12. “Bajaj OTP Application v 1.0.0.2” will appear on PC / Laptop screen

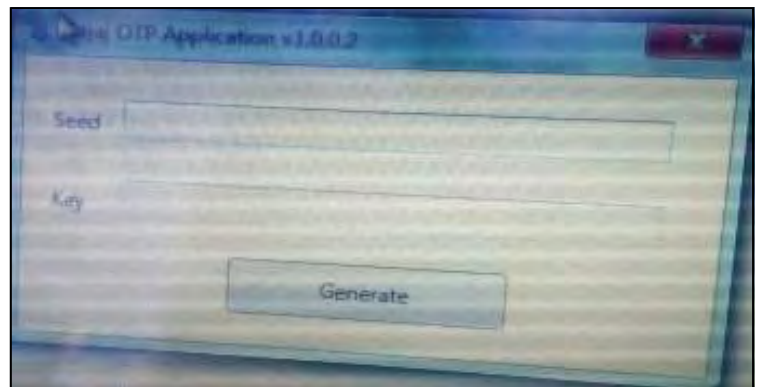
Insert following details :-

User name : Bajaj

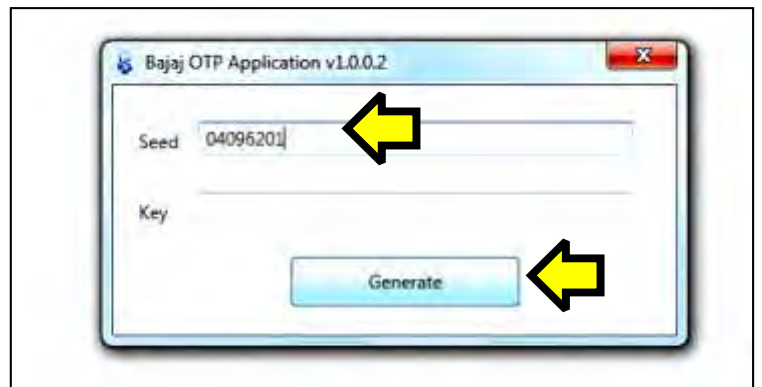
Password : Bajaj1



13. Message as shown in photograph will appear on PC / Laptop screen

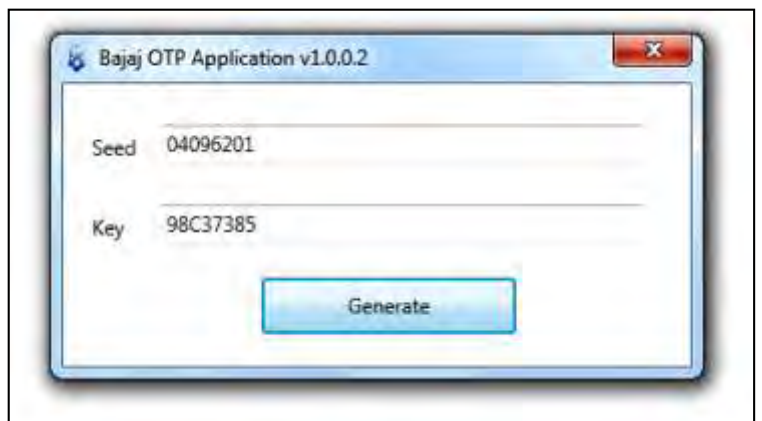


14. Enter eight digit code in “Seed” field.
Click on “Generate” for generating key.

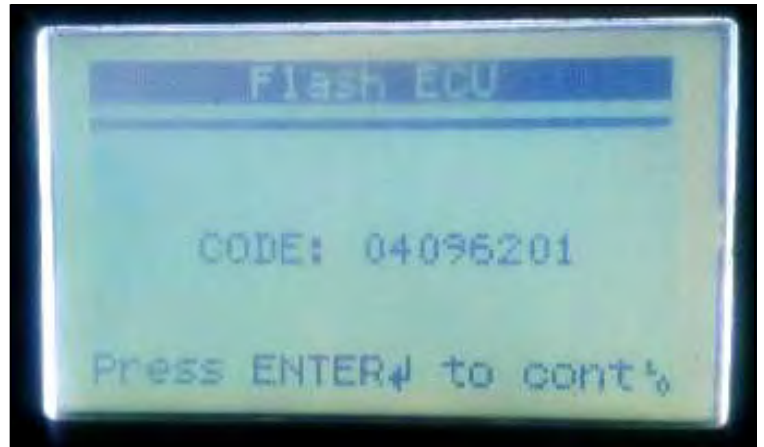


15. Key gets generated as shown in photograph.

Note down this key for reporting purpose.

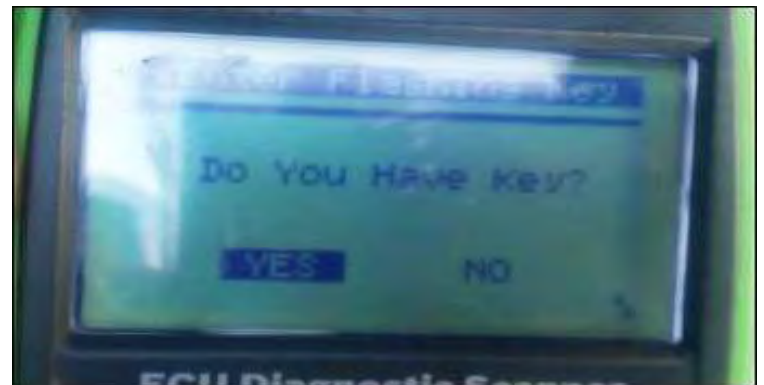


16. Go back to diagnostic tool where the eight digit code was appearing on diagnostic tool screen.



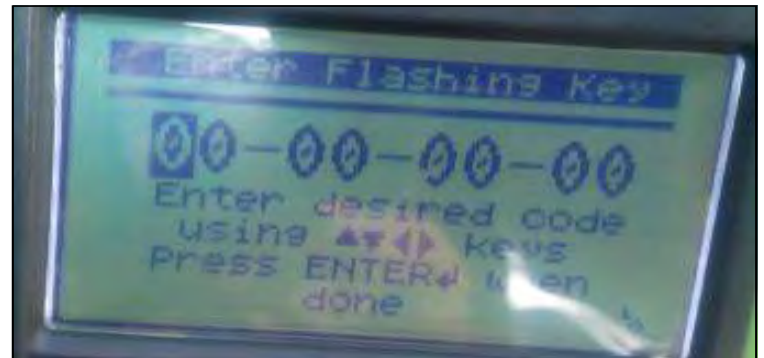
Press Enter

17. Message as shown in photograph will appear on diagnostic tool screen.



Select **YES** & **Press Enter**

18. Enter the key received from buildOTP App.



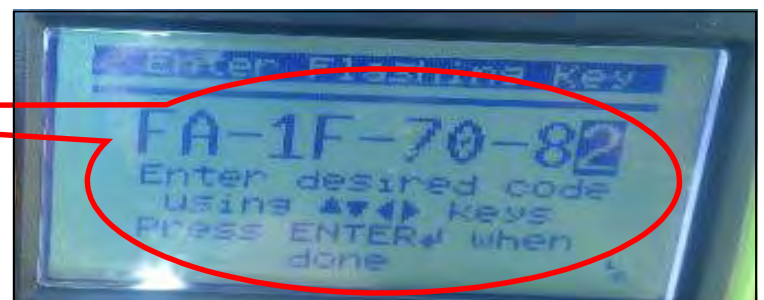
Key can be entered using Left / Right / Up / Down buttons provided on diagnostic tool.

Use Up / down key for scrolling from 0 to 9 & A to F



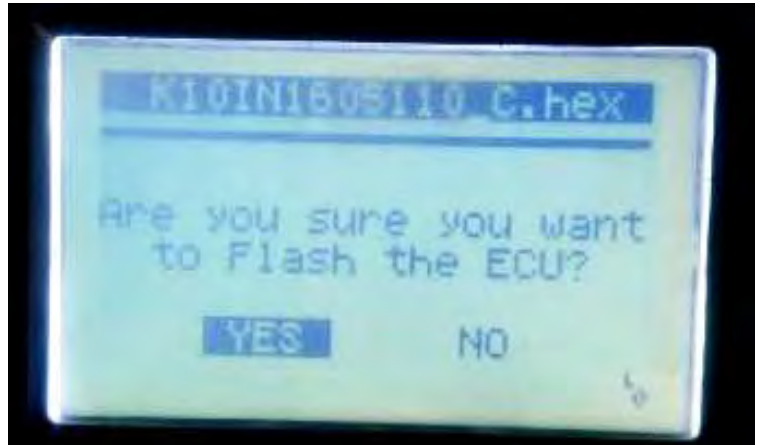
Note :- Wrong key will not be accepted by diagnostic tool.

Sample photograph of Key entered in tool.



19. Message as shown in photograph will appear on diagnostic tool screen.

Select **YES** & Press Enter



20. Message as shown in photograph will appear on diagnostic tool screen.

This will take 4 - 5 Minutes, never disconnect / disturb the connection



21. After successful completion of ECU Flashing activity, message as shown in photograph will appear on diagnostic tool screen.

Press Enter & Disconnect the diagnostic tool.

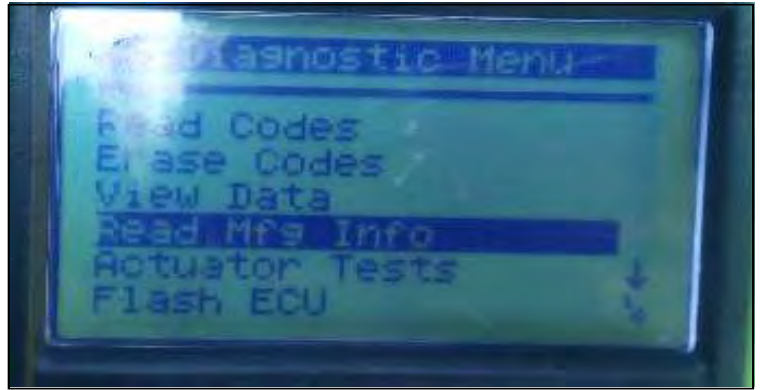


Confirmation

1. Reconnect the tool & select "Vehicle Diagnostics"

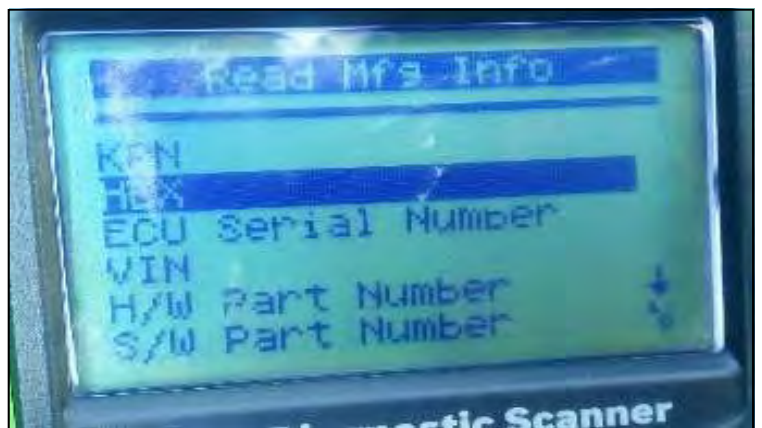
Select "Read Mfg. Info" from diagnostic menu & Press Enter





2. Message as shown in photograph will appear on diagnostic tool screen.

Select Hex & **Press Enter**



3. Hex file flashed will be displayed on diagnostic tool screen. Verify the hex file displayed on diagnostic tool screen with following table. **Hex file number on tool screen must match with hex files given in following table.**



Model	Hex File
Dominar 400 - ABS	BAK10IN1605110
Dominar 400 - Non ABS	BAK10IN1605111

Press Enter & disconnect the diagnostic tool.

ECU PROGRAM MODIFICATION

Problem : sudden feel of power loss for 4~5 seconds when cruising at about 4000 RPM in 3rd / 4th gear.

Solution : ECU to be flashed as per hex file given below.

Model	Hex File
Dominar 400 - ABS	BAK10IN1705112
Dominar 400 - Non ABS	BAK10IN1705113

SCANNING SUITE (VERSION 1.2) INSTALLATION SOP

OBJECTIVE: Standardization of Bosch diagnostics tool software.

Present version 1.1

New version 1.2

Procedure for updating new Scanning Suite Application in laptop / PC

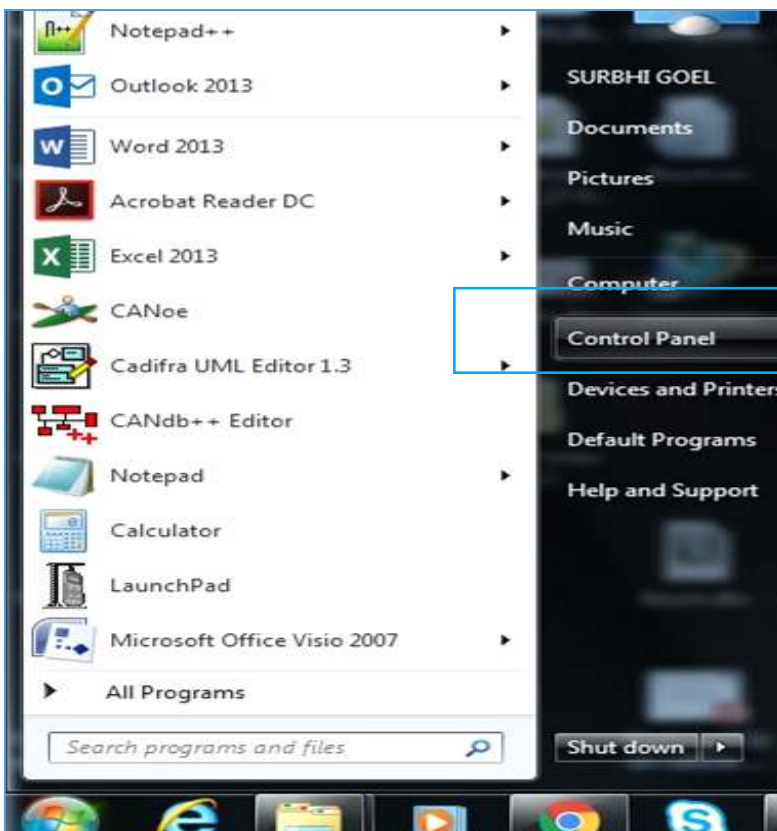
Step 1: Uninstall current application version 1.1 from laptop/ PC
(Which was Installed from CD provided along with BOSCH Tool)

Step 2: Downloading new application version 1.2 in Laptop/ PC

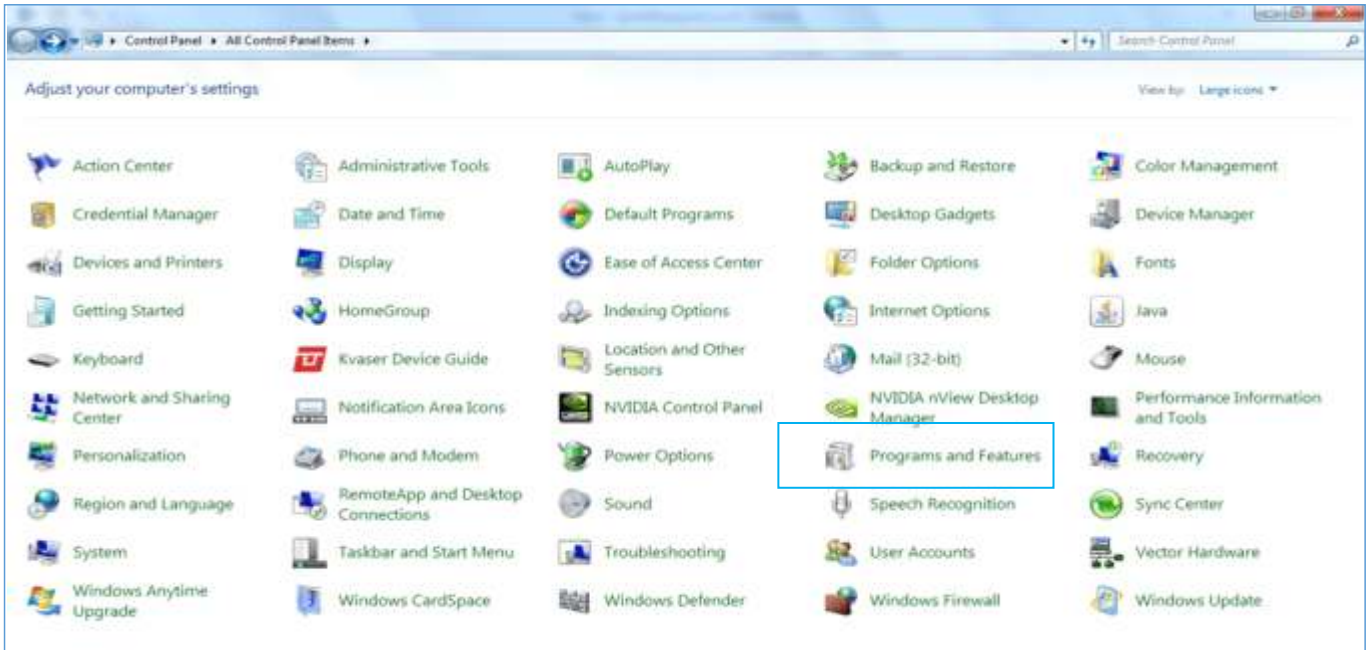
Step 3: Installation of new application version 1.2 in Laptop/ PC

Step 1: Uninstall Current Application from Laptop / PC

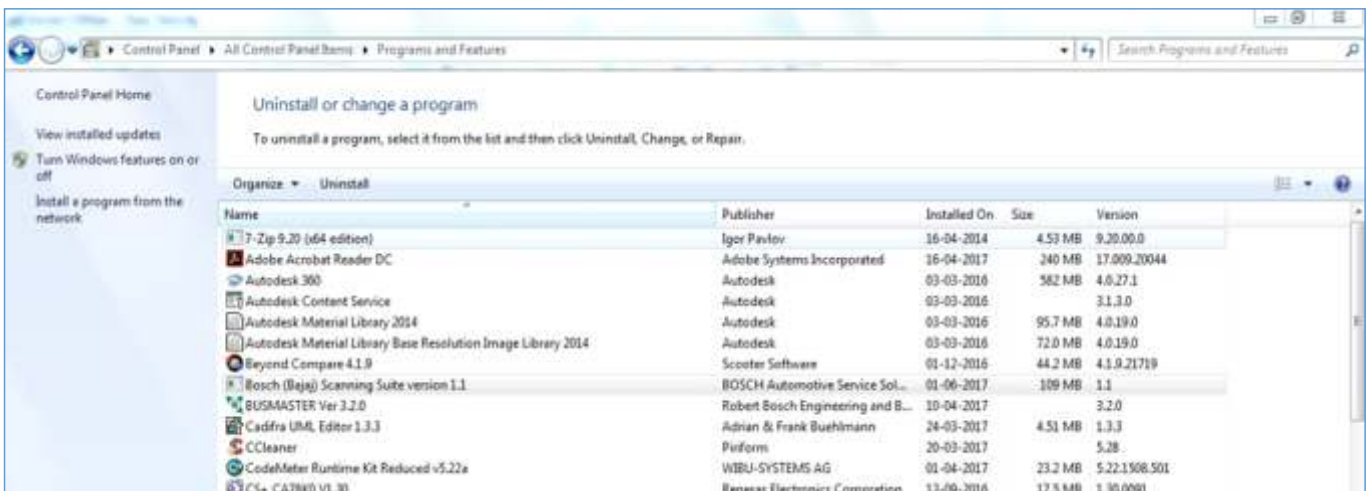
- Go and select Start option.
- Go to Control Panel Option as shown.



3. Select Programs and Features Option as shown below.



4. Select Bosch (Bajaj) Scanning Suite version 1.1 Application and right click for Uninstall.



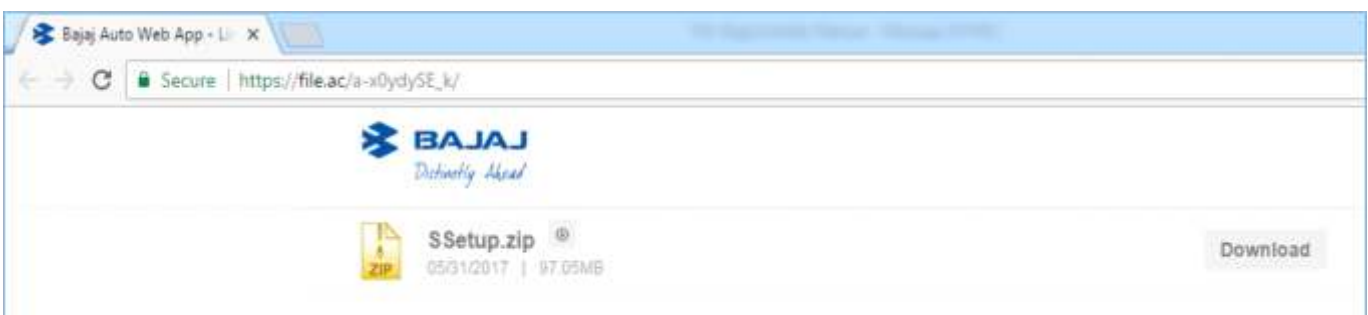
Step 2 : Downloading new application version 1.2 in Laptop/ PC

Click on below link

<https://file.ac/XrkjCO3PAHU/>

Once we click the link, following setup file will displayed on screen.

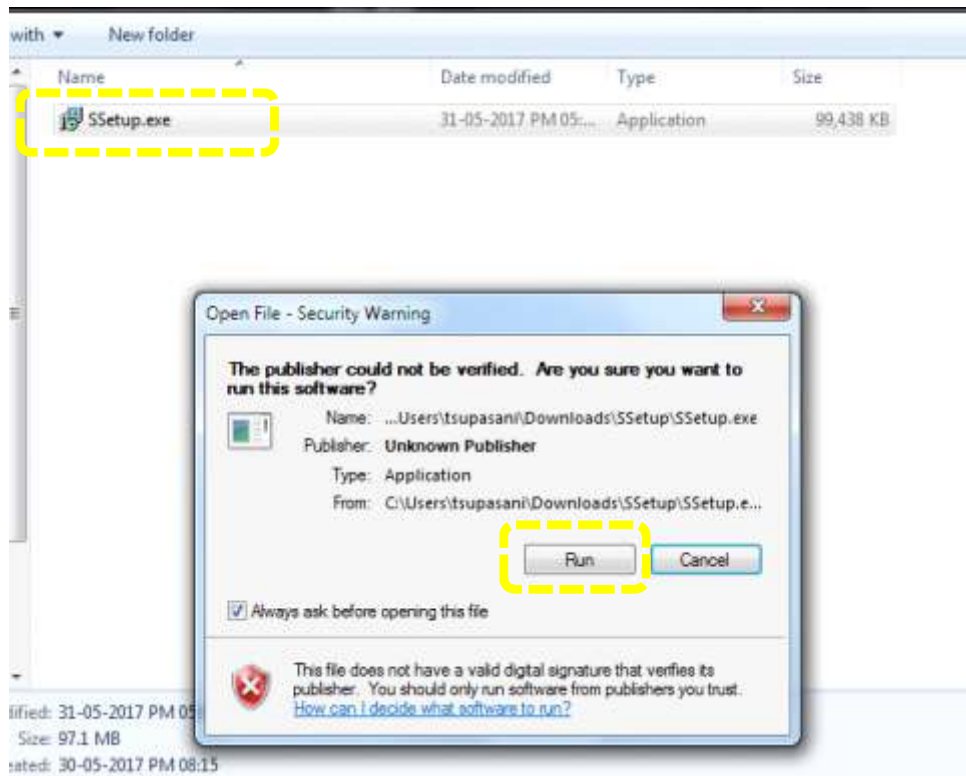
Click on download button to download new Setup file on the respective machine.



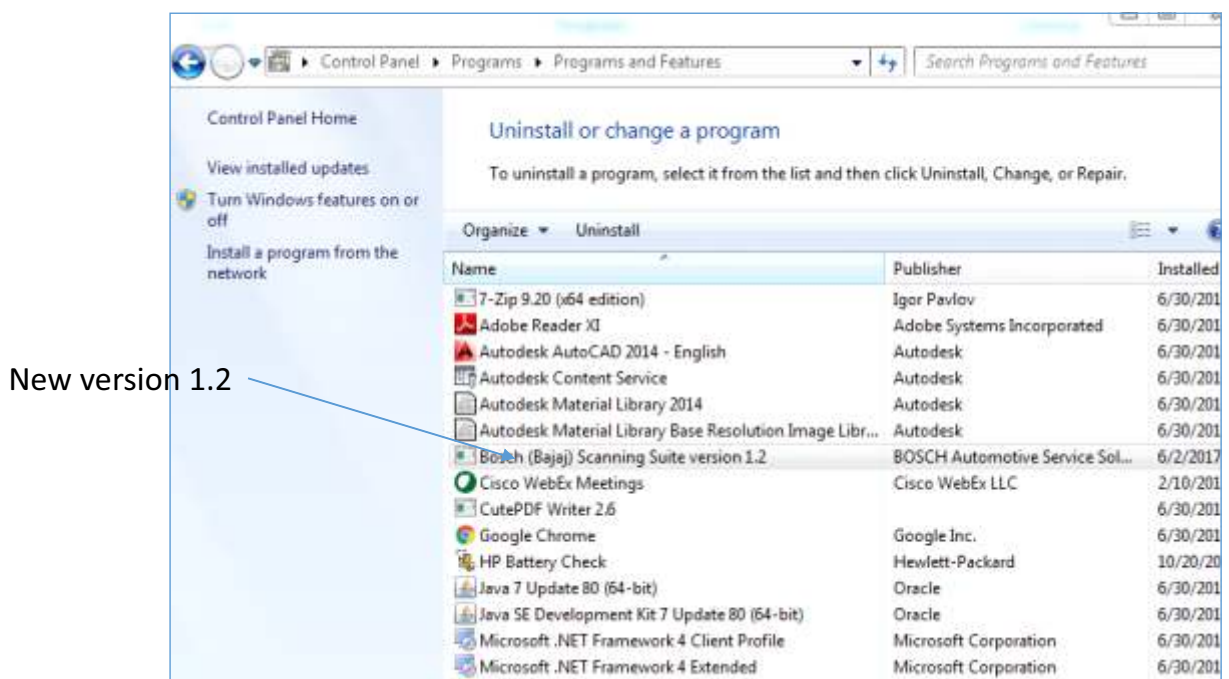
Step 3 : Installation of new application version 1.2 in Laptop/PC

Once we download the setup, the exe file as shown below would be saved in downloads / selected location.

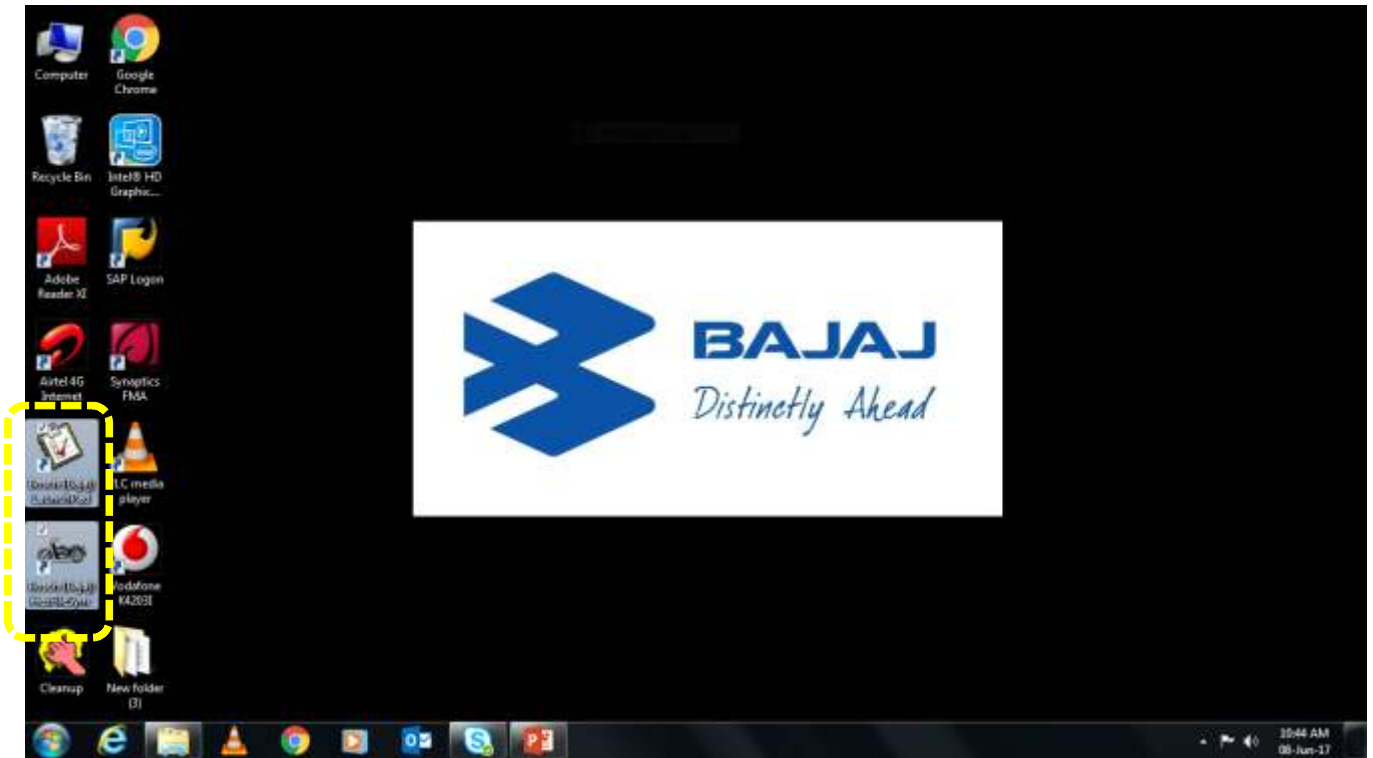
Install the new application by clicking on Ssetup.exe
Restart your machine.



Confirm the new scanning suite version 1.2 in
Control panel - Programs - program and features



After installation of new scanning suite below two logo will display on desktop.
“Bosch (Bajaj) LaunchPad “ and
“Bosch (Bajaj) HexFileSync”



Update the tool with new device software “BAJAJ B235 06/02/2017 English” by Clicking on
“Bosch (Bajaj) LaunchPad “ Logo. (For detail SOP Refer “Bosch Tool Updation.ppt”)



Update the HEX files in diagnostic tool by clicking on “Bosch (Bajaj) HexFileSync “ Logo
 (For detail SOP refer “Downloading hex files from server to Bosch diagnosis tool.ppt” -
 Refer Page No. 291 to 295)



After updating the tool with new device software and downloading the HEX files, tool is ready for

- Vehicle diagnosis
- ECU Flashing and
- VIN entry in case of ECU replacement (Refer “ VIN entry ppt.”)

LATEST UPDATED HEX FILES FOR DOMINAR 400 ARE AS FOLLOWS

Model	Hex File
Dominar 400 - ABS	BAK10IN1705116
Dominar 400 - Non ABS	BAK10IN1705115

SOP for entering Vehicle Identification Number (VIN)

Objective : Enter VIN in blank ECU supplied through Spare parts

Incase of ECU replacement -

You will receive a blank ECU from spare parts

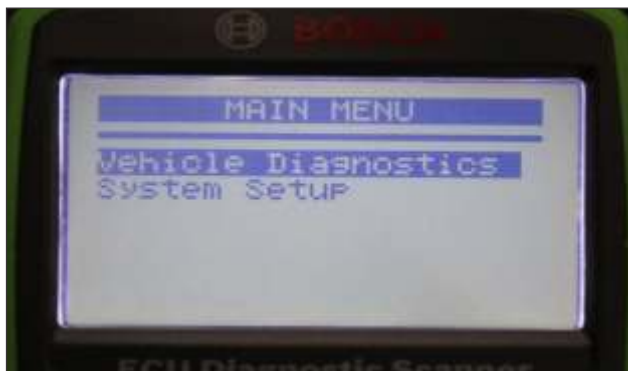
Step 1 : The latest hex files are to be uploaded in this blank ECU

Update the HEX files in diagnostic tool by clicking on “Bosch (Bajaj) HexFileSync “ Logo
(For detail SOP refer “Downloading hex files from server to Bosch diagnosis tool.ppt” -
Refer Page No. 291 to 295)

Step 2 : VIN (Vehicle Identification Number) is to be updated in this blank ECU

For detail SOP given below for VIN updation

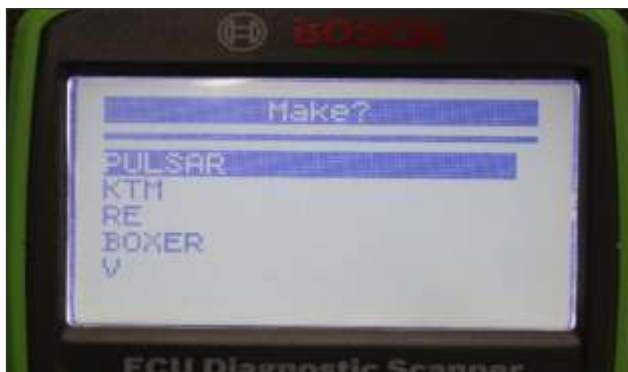
1. Connect the Diagnosis tool on vehicle and Switch ON ignition switch and Kill switch



2. Go to Vehicle Diagnosis in Main menu



3. Select Vehicle Manufacturing year



4. Select Vehicle make



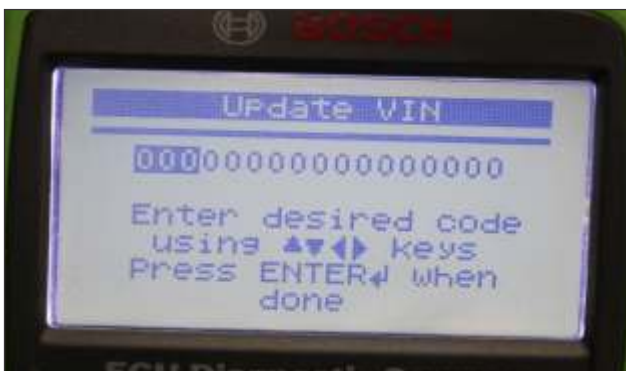
5. Select Vehicle model



6. Select EMS ECU EPM 44



7. Select update VIN in diagnosis menu.



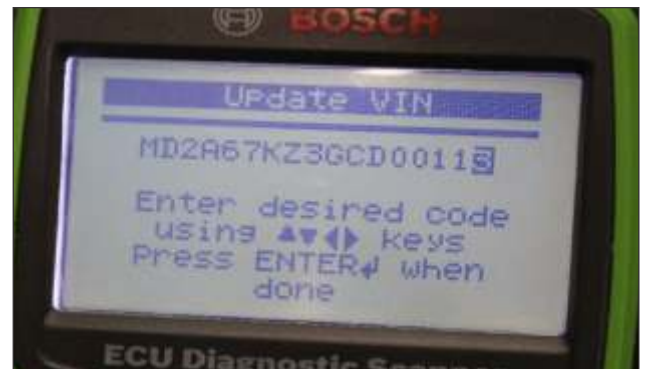
8. 17 digits will appear on screen



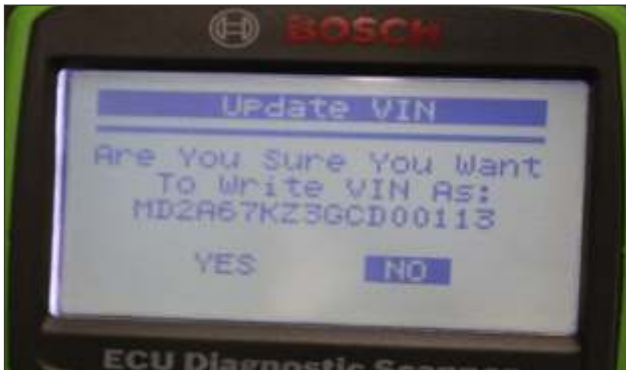
9. Note down the VIN no. from vehicle



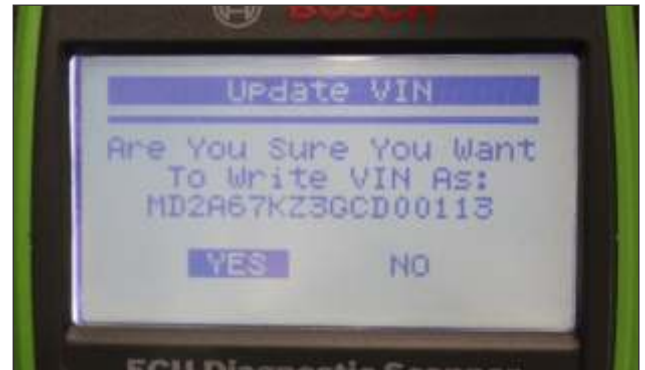
10. Enter VIN by using up & down key



11. After completing 17 digits entry press enter button.



12. Reconfirm the VIN no. and select YES by using left arrow.



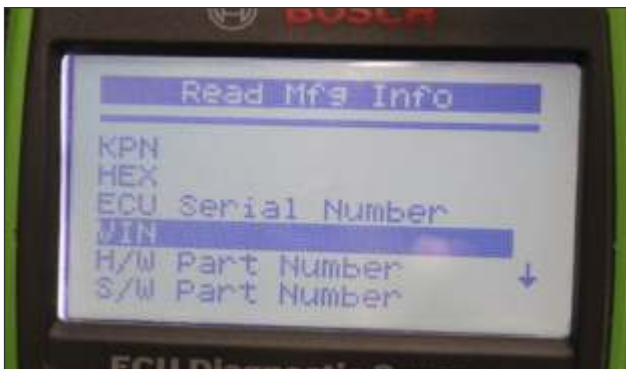
13. Press enter for confirming the VIN



14. VIN get updated




15. For Reconfirmation go to mfg. info option in Diagnostic menu.






16. Select VIN and press enter button.

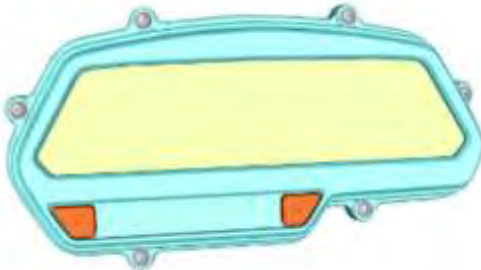



17. 17 digit VIN will appear on screen.

Model	Dominar 400	Pulsar RS 200
Photograph		
Part Name	Purge Valve	-
Part No	JG171601	-
Description	<ul style="list-style-type: none"> • Provided exclusively in this model 	-
Identification	Visual	-


Model	Dominar 400	Pulsar RS 200
Photograph		
Part Name	Fuel Pump	Fuel Pump
Part No	JF171802	DT171823
Description	<ul style="list-style-type: none"> • Fuel pump module with Fuel level sensor 	<ul style="list-style-type: none"> • Fuel pump module without Fuel level sensor
Identification	Visual	Visual

Model	Dominar 400	Pulsar RS 200
Photograph		
Part Name	Speedometer Tank Assembly	-
Part No	JF171043	-
Description	<ul style="list-style-type: none"> • With secondary speedometer mounted on petrol tank 	-
Identification	Visual	-

Model	Dominar 400	Pulsar RS 200
Photograph		
Part Name	Speedometer Assembly	Speedometer Assembly
Part No	JF402406	DT402408
Description	<ul style="list-style-type: none"> • Profile is different than Pulsar RS 200 	<ul style="list-style-type: none"> • Profile is different than Dominar 400
Identification	Visual	Visual

Model	Dominar 400	Pulsar RS 200
Photograph		
Part Name	Role Over Sensor	Role Over Sensor
Part No	JY403604	JG403200
Description	<ul style="list-style-type: none"> • Profile is different than Pulsar RS 200 	<ul style="list-style-type: none"> • Profile is different than Dominar 400
Identification	Visual	Visual

Model	Dominar 400	Pulsar RS 200
Photograph		
Part Name	ECU	ECU
Part No	JF351405	DT351404
Description	<ul style="list-style-type: none"> • Small in size • Single coupler 	<ul style="list-style-type: none"> • Big in size • Twin coupler
Identification	Visual	Visual

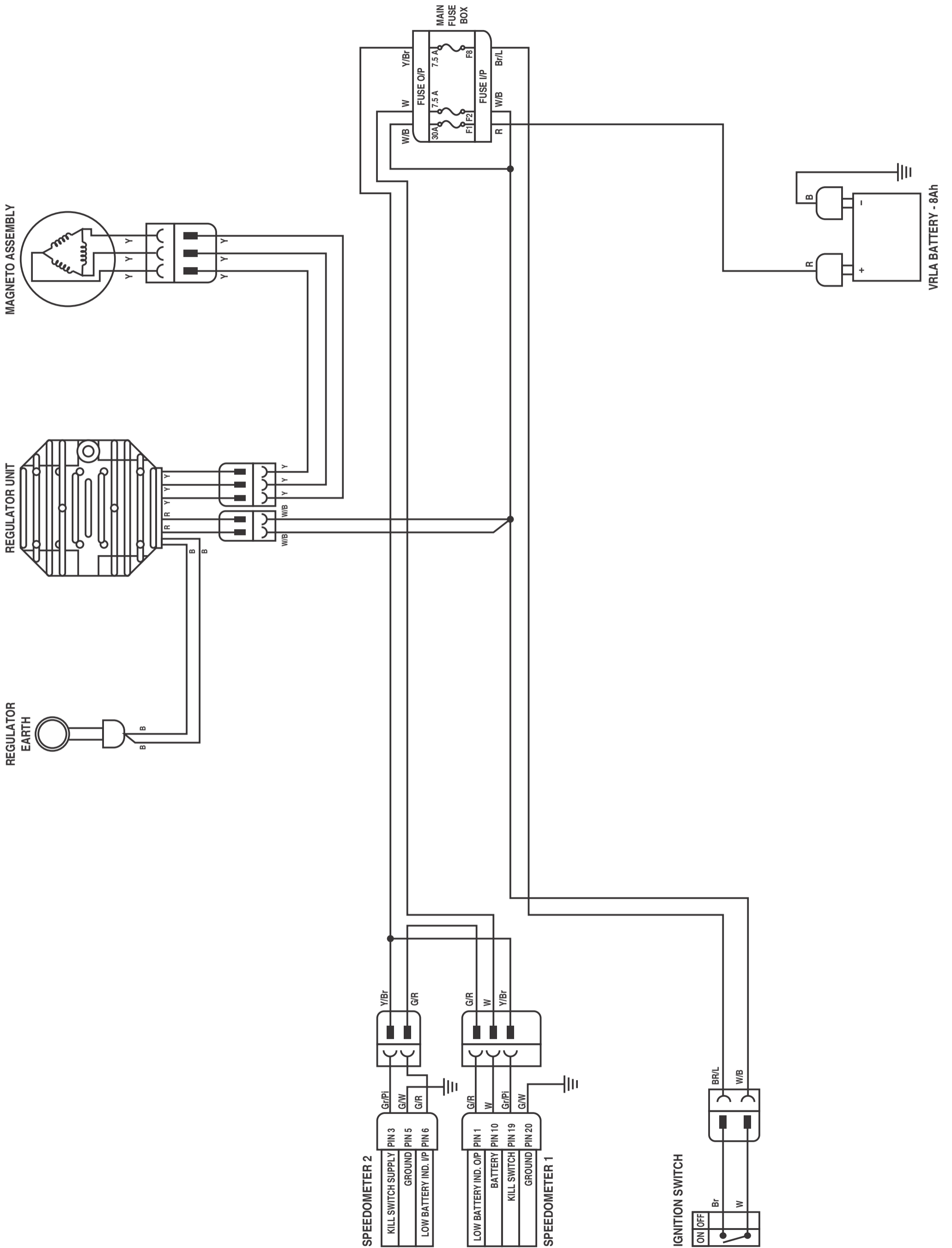
Model	Dominar 400	Pulsar RS 200
Photograph		
Part Name	Pig Tail Fuel Pump	-
Part No	JY402235	-
Description	<ul style="list-style-type: none"> • With pigtail 	-
Identification	Visual	-

Model	Dominar 400	Pulsar RS 200
Photograph		
Part Name	Tail Lamp Assembly	Tail Lamp Assembly
Part No	DT401021	DT401001
Description	<ul style="list-style-type: none"> • Profile is different than Pulsar RS 200 	<ul style="list-style-type: none"> • Profile is different than Dominar 400
Identification	Visual	Visual

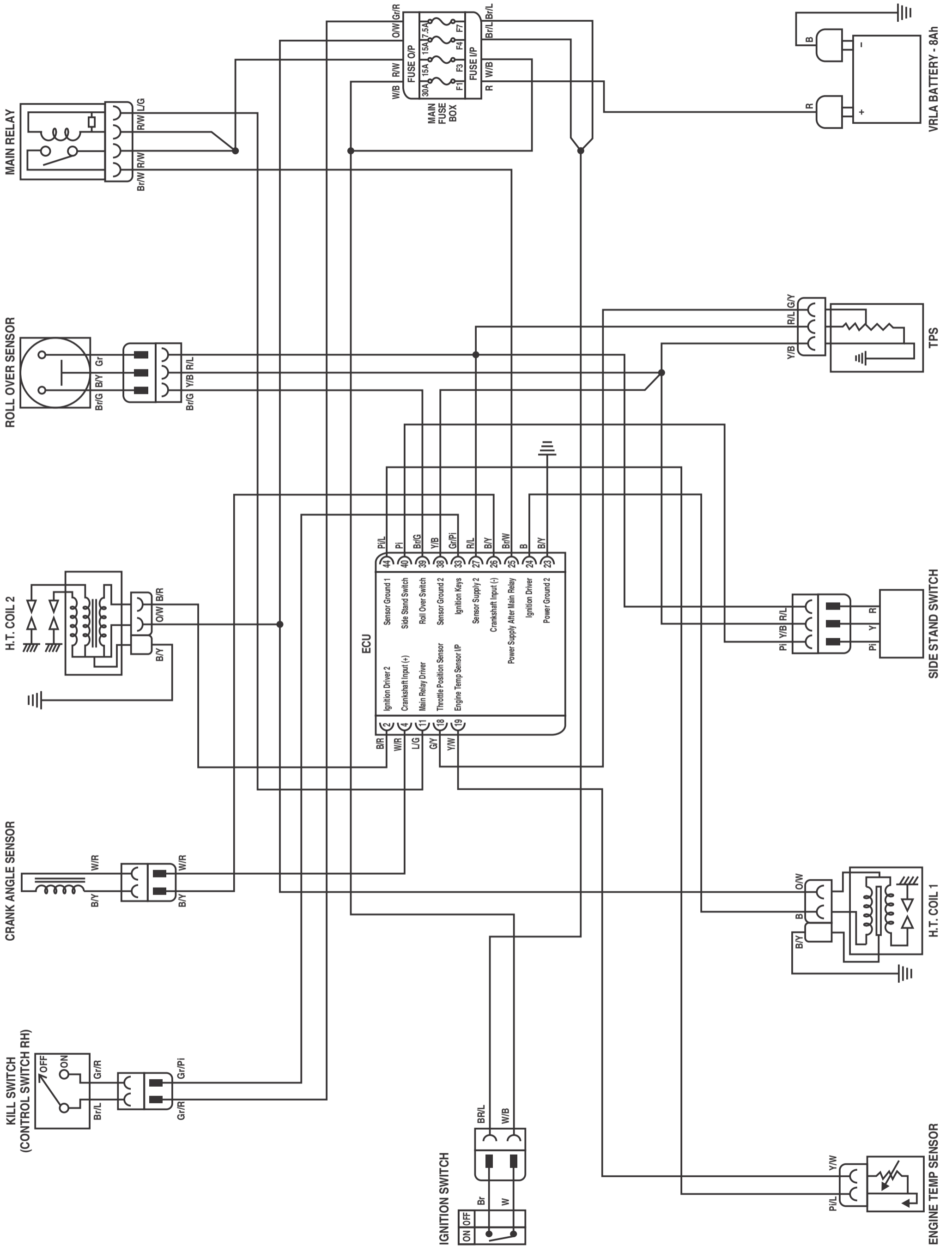
Model	Dominar 400	Pulsar RS 200
Photograph		
Part Name	Side Stand Switch	Side Stand Switch
Part No	JF401405	JL401408
Description	<ul style="list-style-type: none"> • Coupler color - Natural 	<ul style="list-style-type: none"> • Coupler color - Black
Identification	Visual	Visual

Model	Dominar 400	Pulsar RS 200
Photograph		
Part Name	Headlight assembly	Headlight assembly
Part No	DT401020	Low - DT401008, High - DT401011
Description	<ul style="list-style-type: none"> • With LED • Profile is different than Pulsar RS 200 	<ul style="list-style-type: none"> • With bulb • Profile is different than Dominar 400
Identification	Visual	Visual

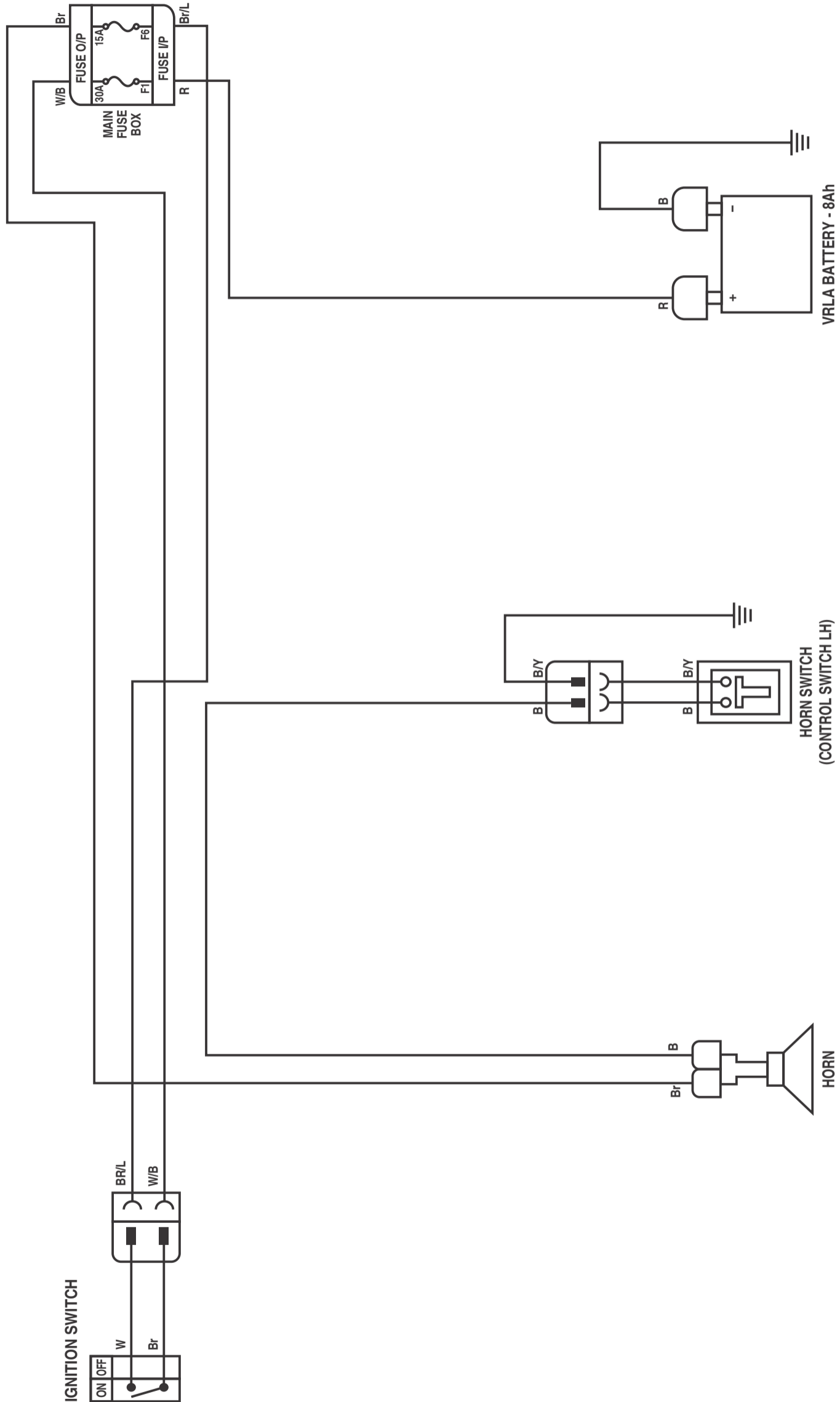
Battery Charging & Low Battery Indication Circuit



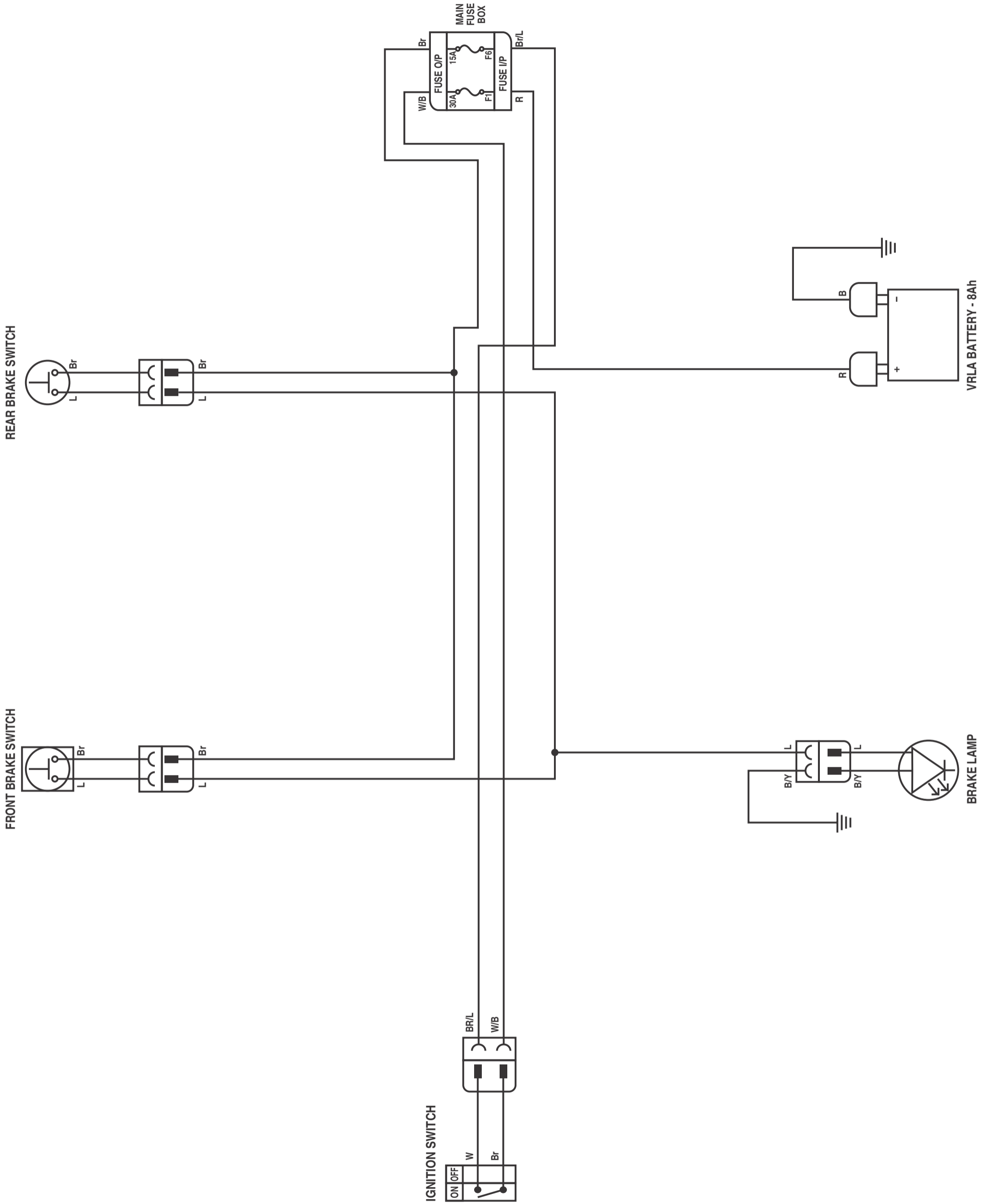
Ignition Circuit



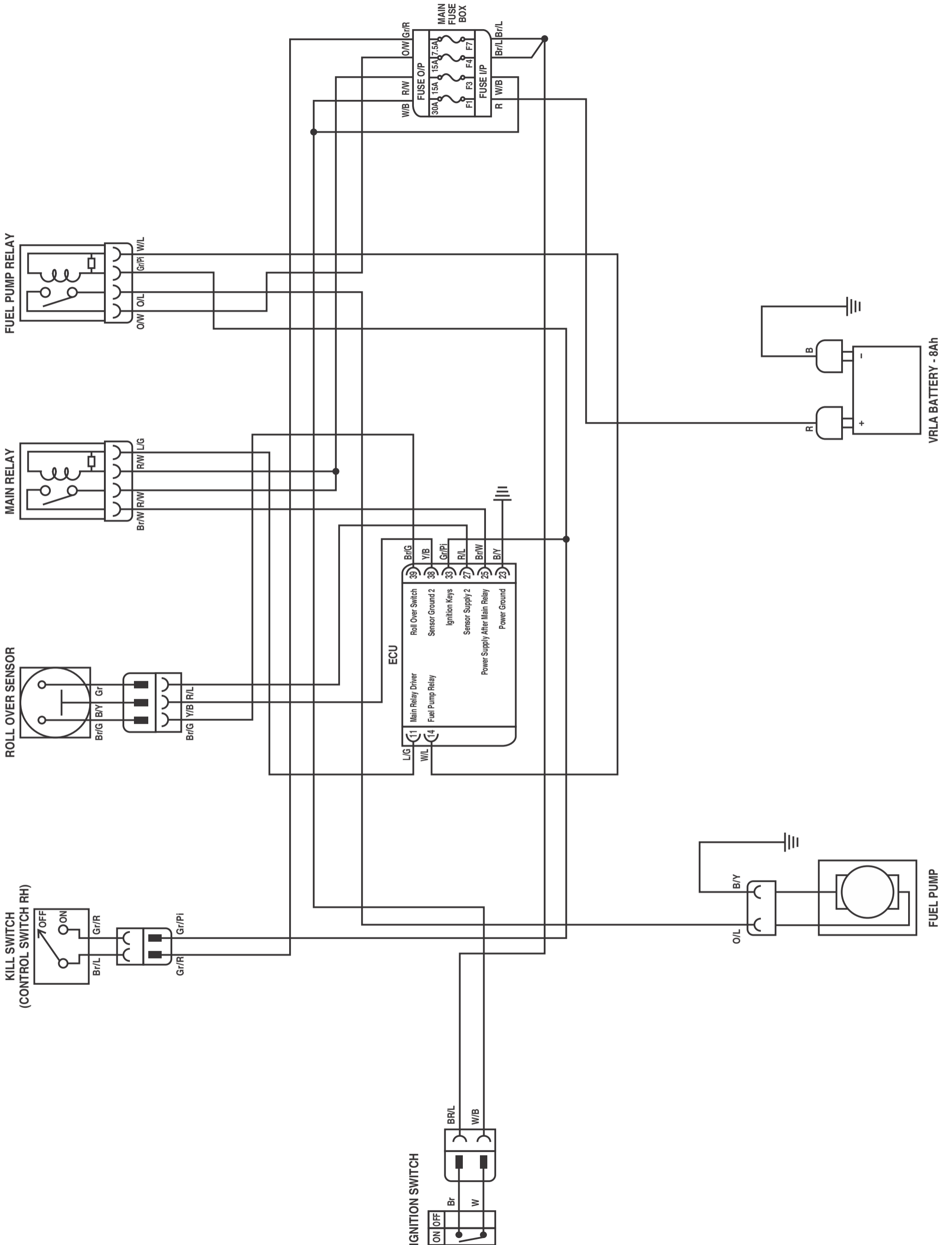
Horn Circuit



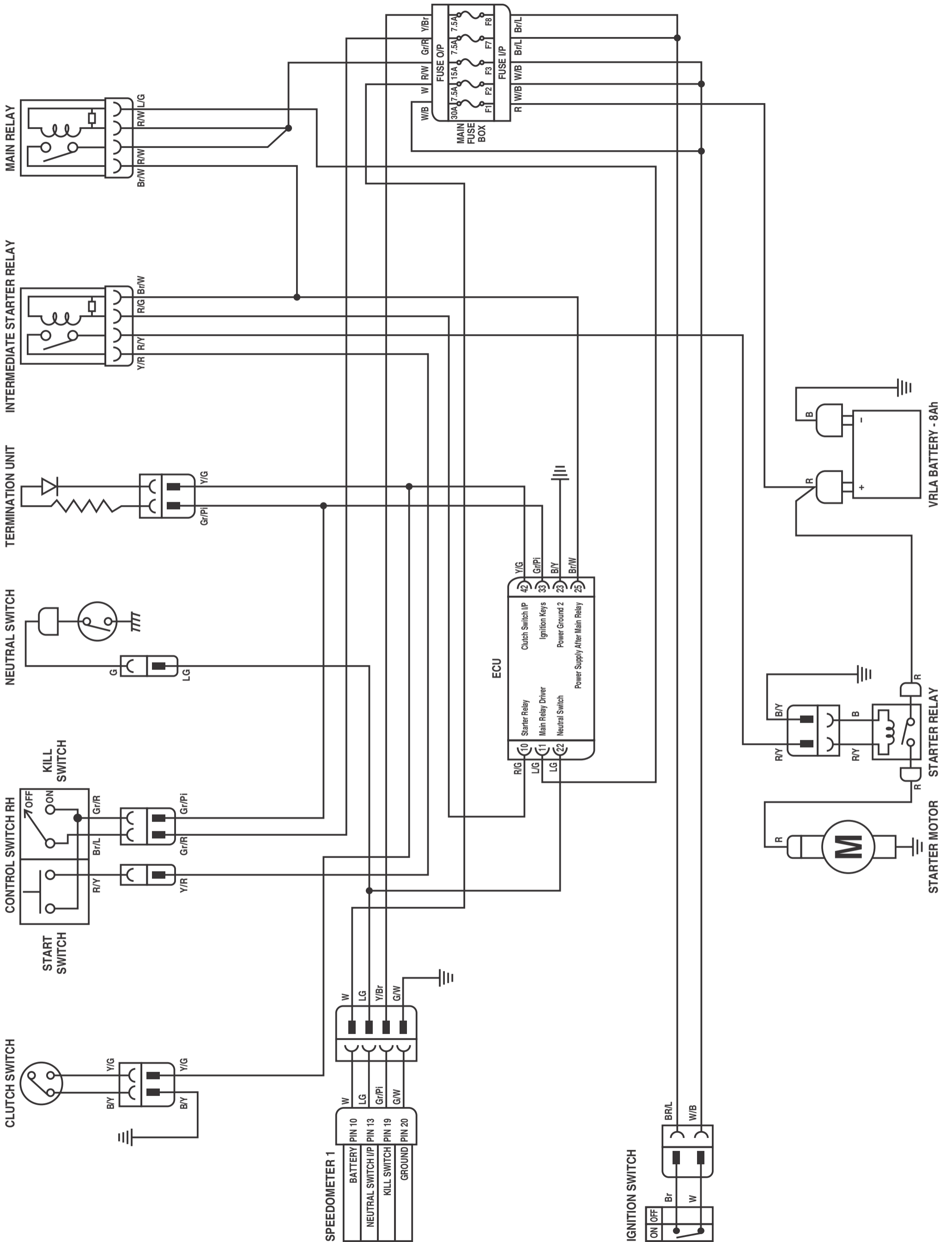
Brake Lamp Circuit



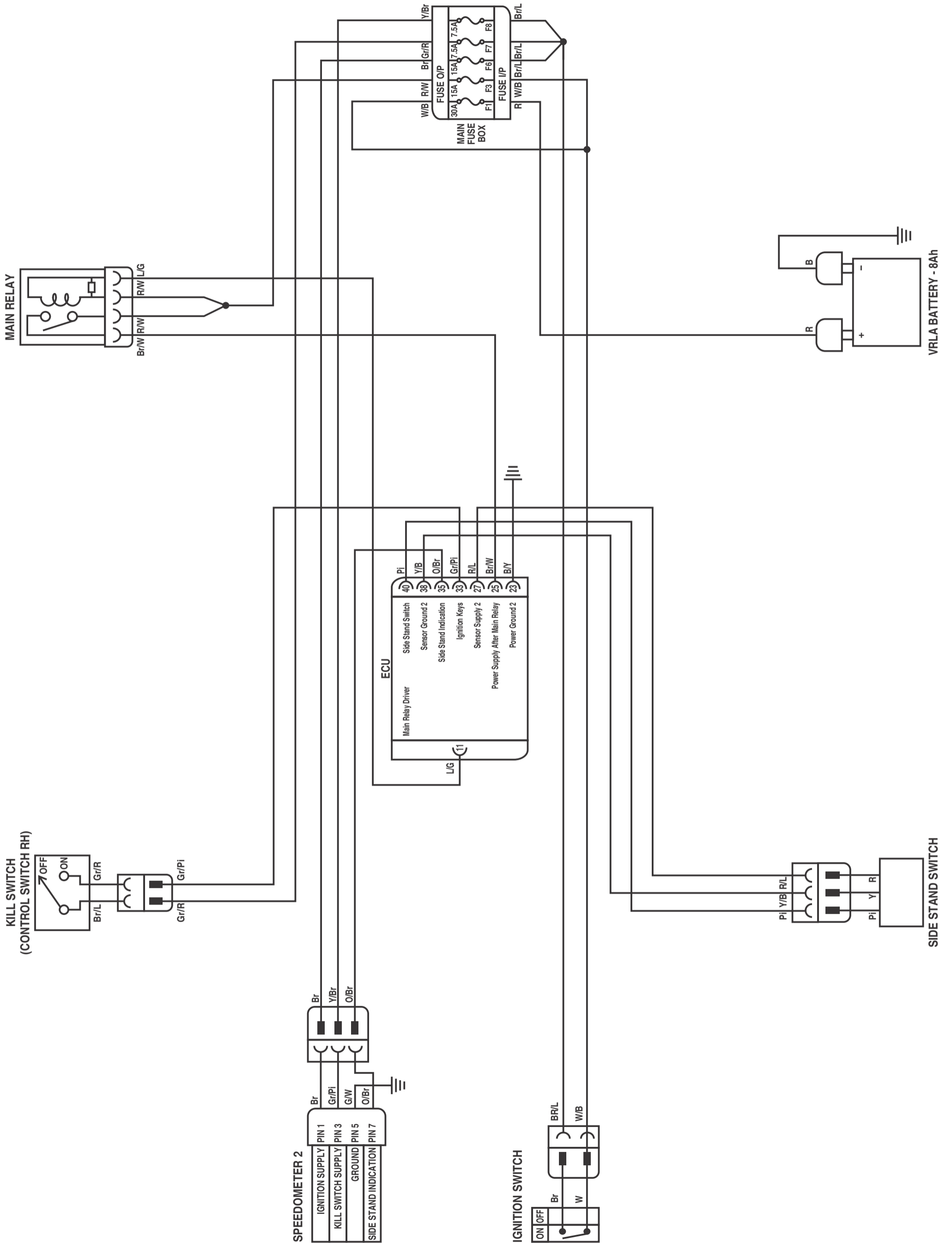
Fuel Pump Circuit



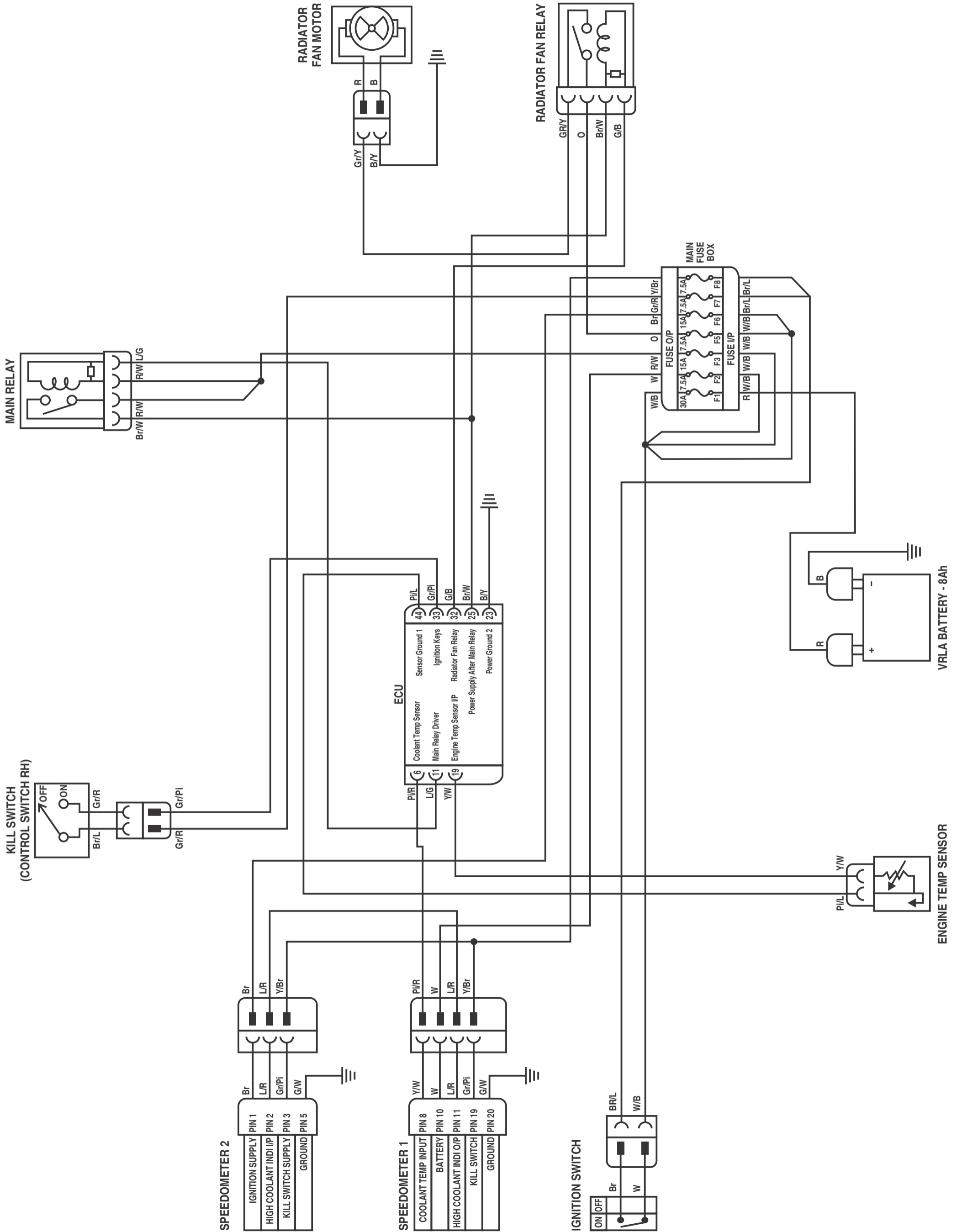
Starter Motor Circuit



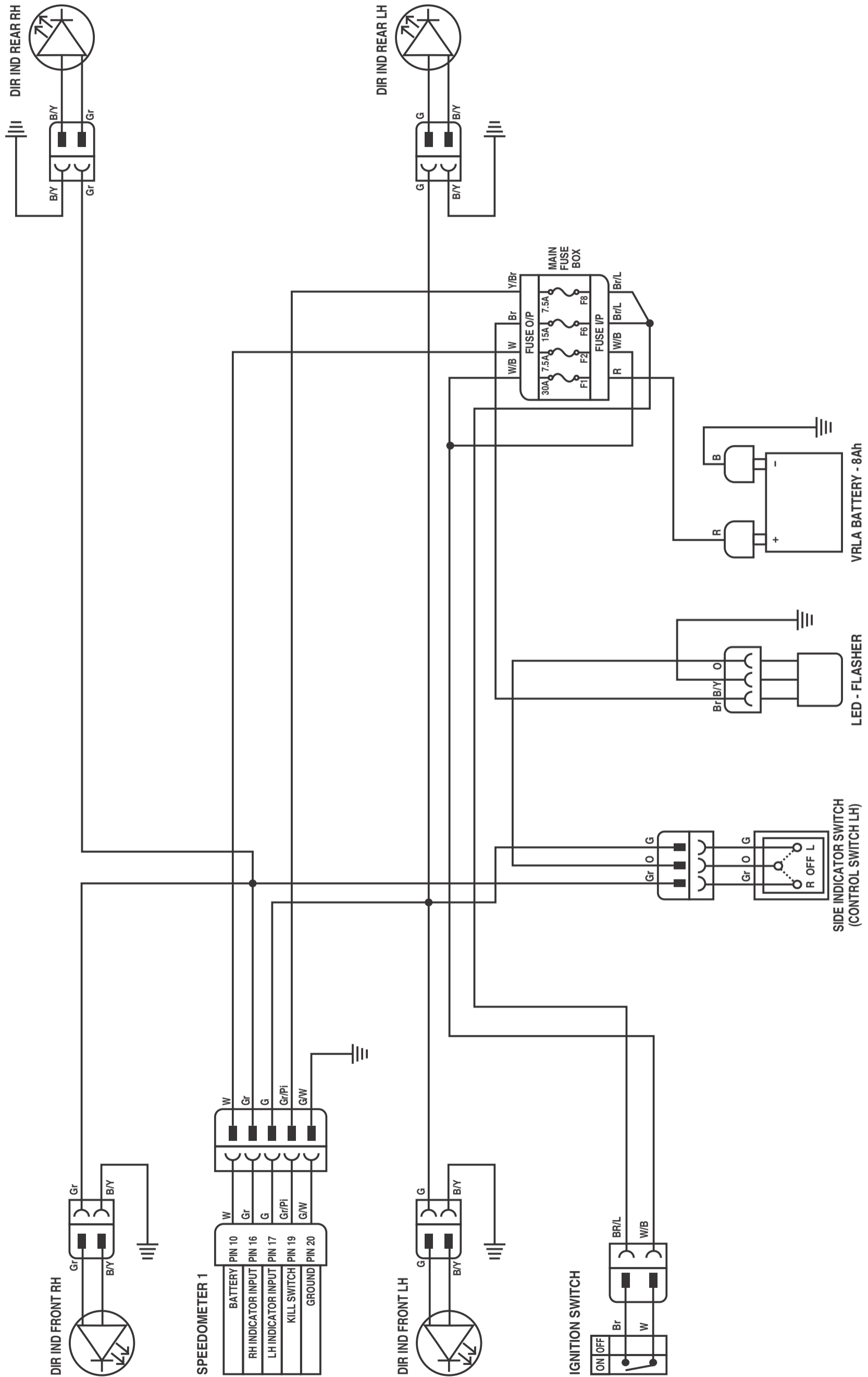
Side Stand Circuit



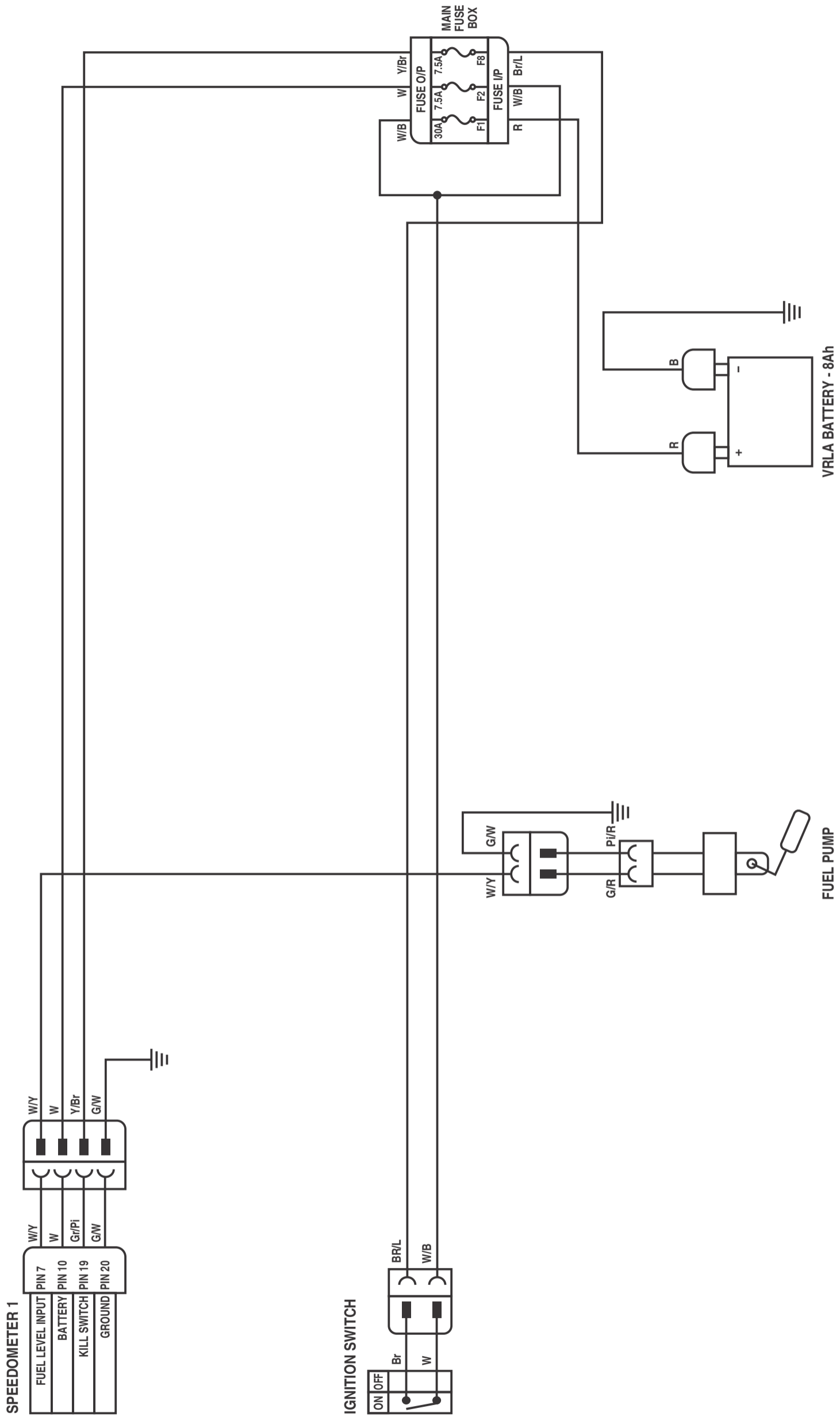
Radiator Fan Motor Circuit



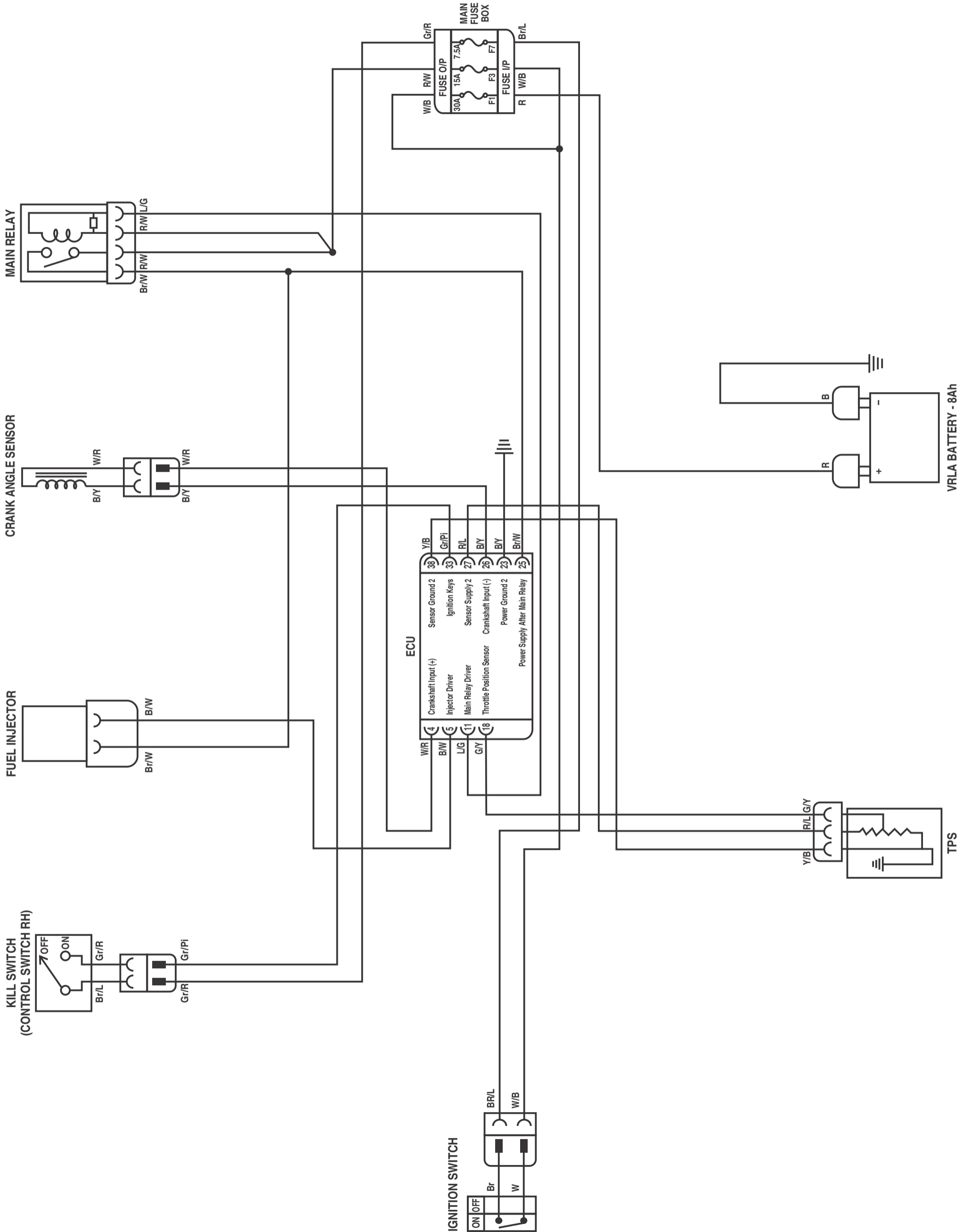
Side Indicator Circuit



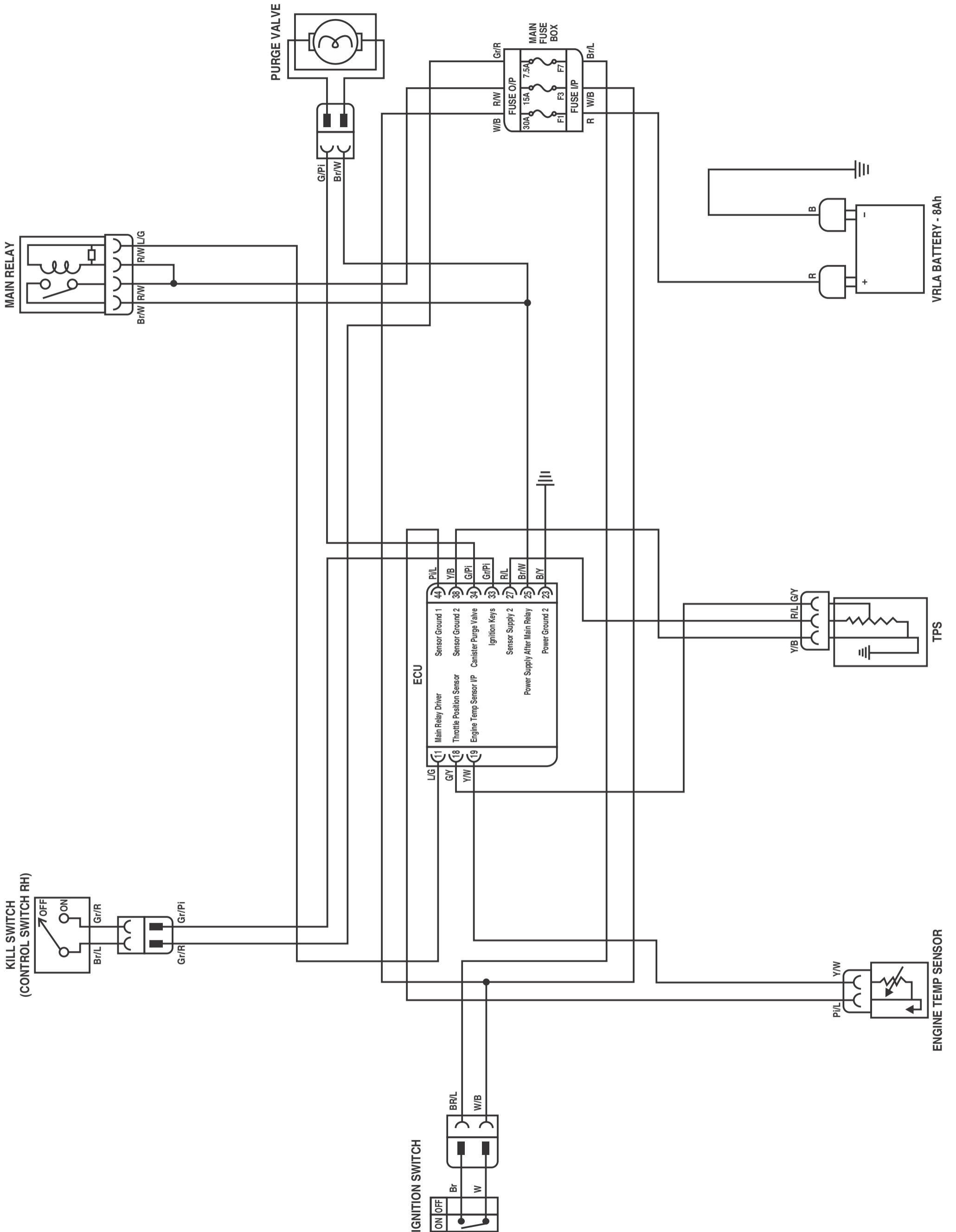
Fuel Meter Circuit



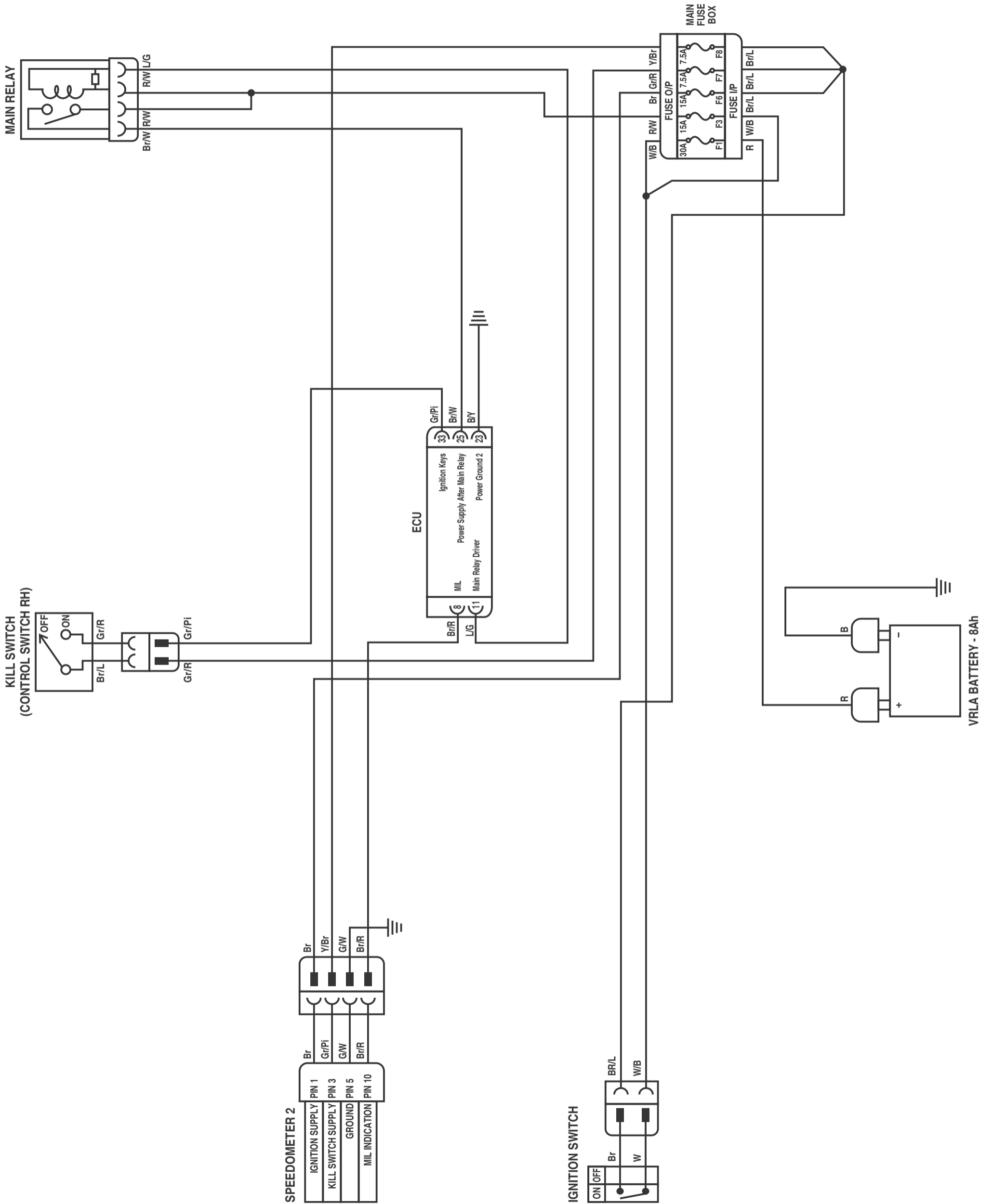
Fuel Injector Circuit



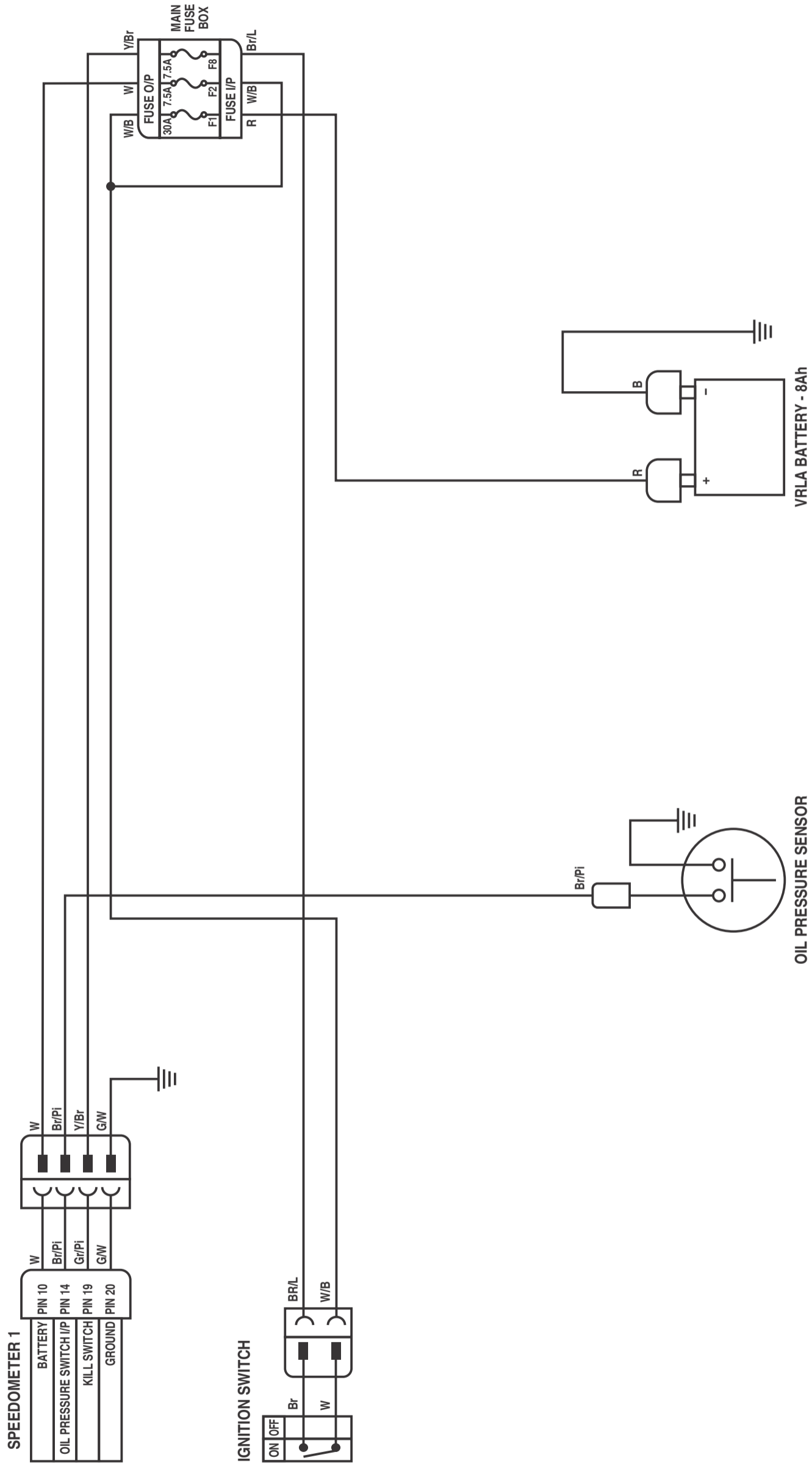
Purge Valve Circuit



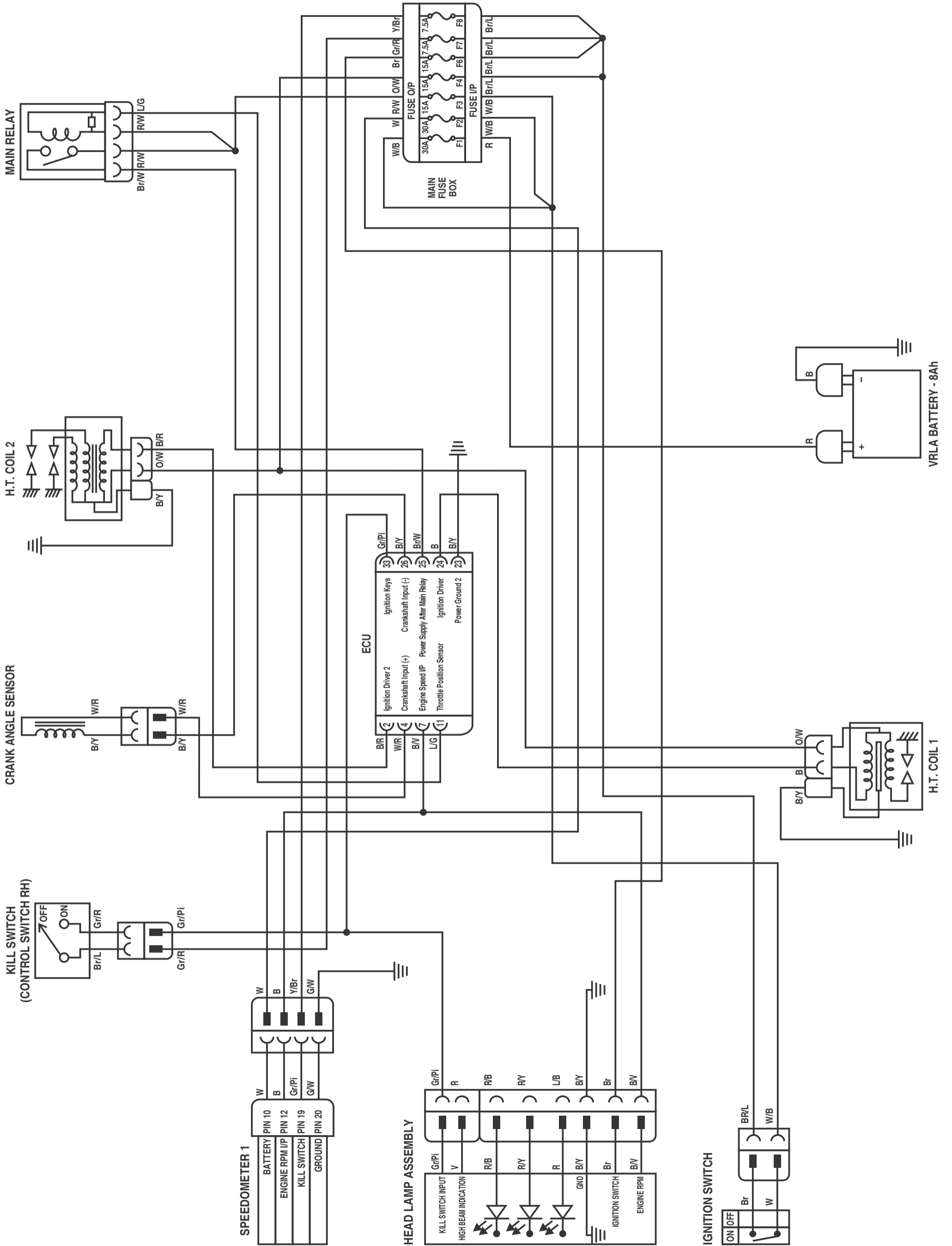
MIL Indication Circuit



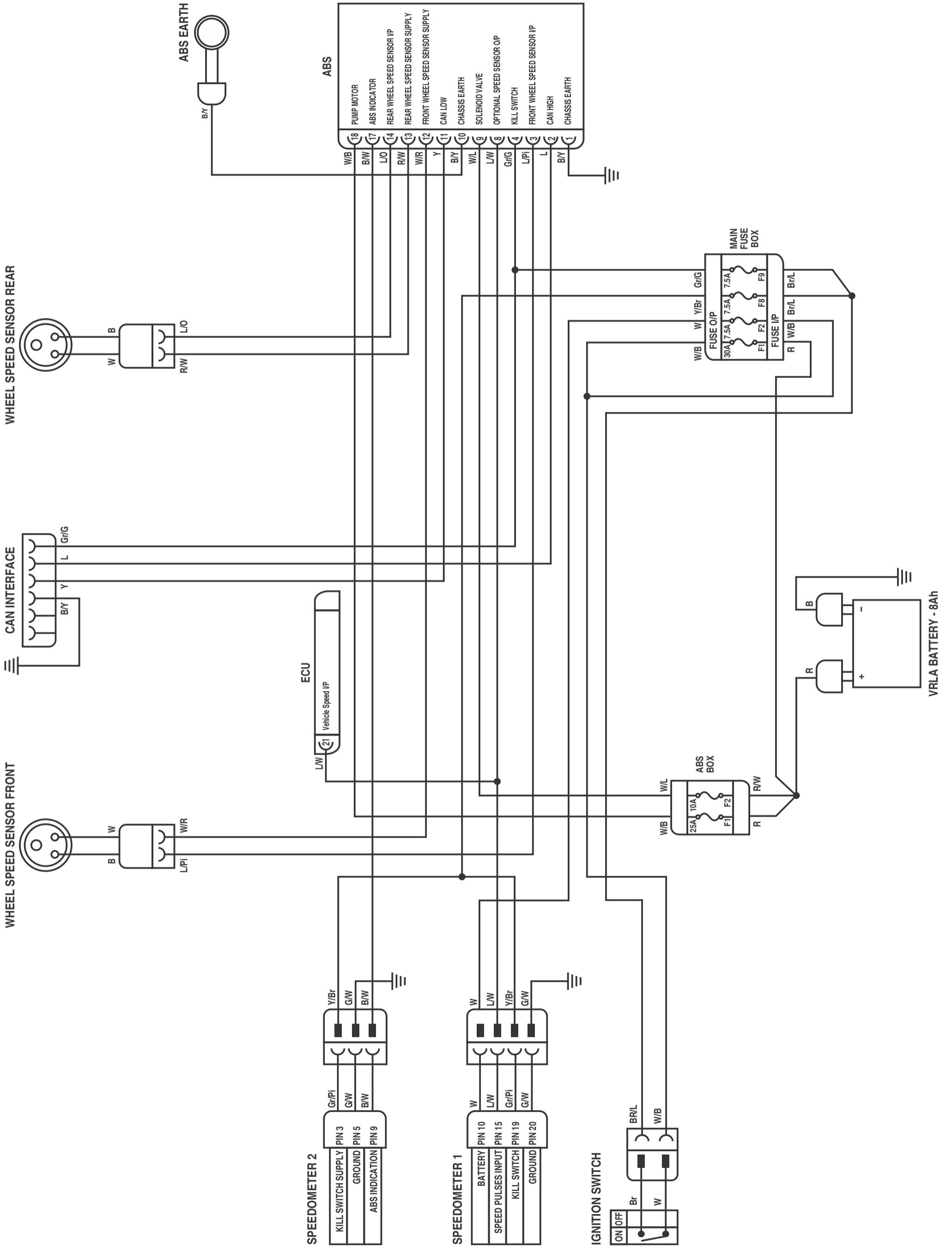
Low Oil Pressure Indication Circuit



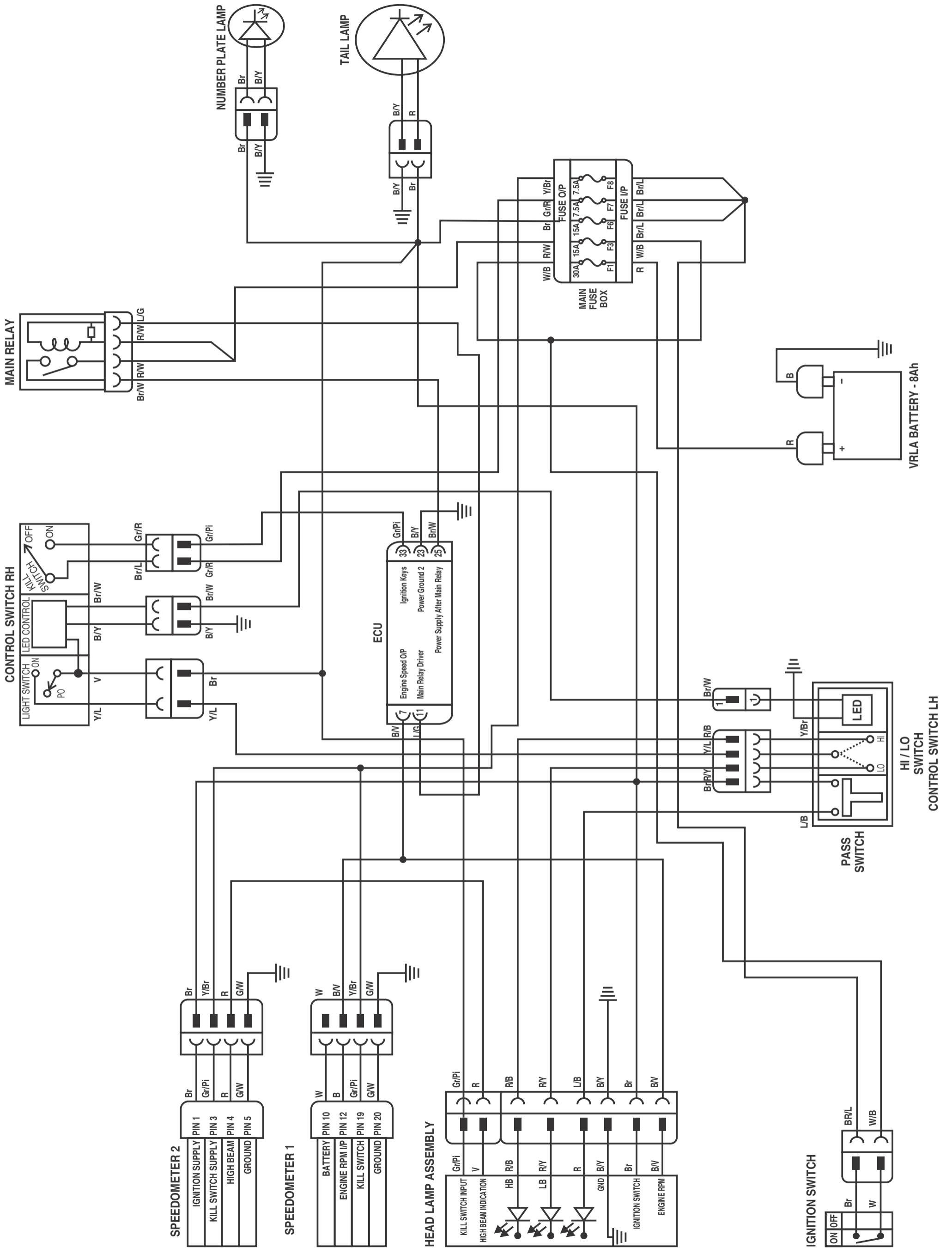
Engine RPM Indication Circuit



ABS Circuit



Lighting Circuit



Diagnosis & Troubleshooting



For Diagnosis & trouble shooting refer trouble shooting encyclopedia uploaded on portal & hard copy available at dealership



Troubleshooting
Encyclopedia



For detailed Warranty Judgment Manual, please refer “Warranty Judgment Manual” available on portal.

Path: -Service Circulars – 2 Wheeler – Service Station Manuals – Warranty Judgment Manual



WARRANTY
JUDGEMENT MANUAL



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