Contents

Contents

CHAPTER 5

Key Learning Points

- Understanding the complete anatomy of Vehicle
- Technical Specifications and Performance Parameter
- Briefing and Educating the customer on Appropriate Riding and usage Discipline and Routing Maintenance

CHAPTER 1

I Read... I learn

Vehicle identification & controls

Salient Features

Technical Specifications

PM Schedule

PDI Check sheet

PM SOP

Vehicle Identification & Controls

Chassis Number & Engine Number Location

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 Side of Steering Tube
(Alpha-Numeric - 17 Digits)

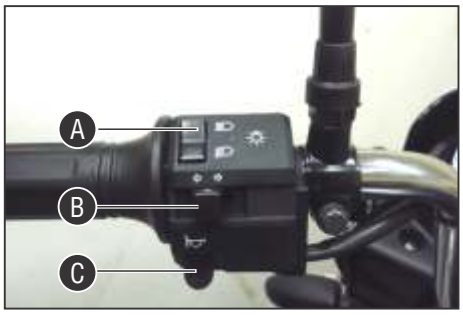
Engine Number Location
On LH Side Crankcase Near Gear
Change Lever (Alpha-Numeric - 11 Digits)

Speedometer Details

1. **Odometer :** The Odometer shows the total distance that the vehicle has accumulated.
2. **Speedometer :** The Speedometer pointer shows the speed of vehicle.
3. **Neutral Indicator** : When the transmission is in Neutral & Ignition switch is 'ON', the Neutral indicator will get 'ON'.
4. **Steering cum Ignition Switch :** Key operated switch for ignition 'ON' / 'OFF' & locking handle bar.
5. **Fuel level indicator :** It shows approximate fuel level in fuel tank.
6. **Bajaj logo :** Bajaj logo flying 'B' .
7. **Hi Beam Indicator :** When Headlight is 'ON' & Hi beam is selected with engine running, Hi beam indicator will get 'ON'.
8. **Turn Signal Indicator (LH & RH) :** When Turn signal switch is turned to Left or Right, Turn pilot indicator - LH or RH will flash.

I Read... I learn

Vehicle Identification & Controls



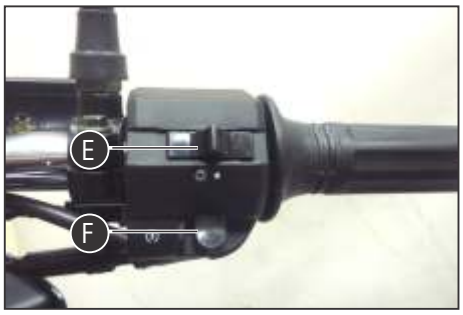
Left Handle Bar Switches

A. **Hi / Low Beam Switch** : When headlight is ON, High or Low beam can be selected with the Hi / Lo switch. Hi beam indicator light in speedo console will glow when high beam is selected.
≡○ : High Beam ≡○ : Low beam

B. **Turn Signal Switch:** When the turn signal switch is turned to Left (⇦) or Right (⇨), corresponding turn signals flash on & off. To stop flashing, press the switch IN.

C. **Horn Switch :** ( ) Press horn switch for sounding horn.

D. **Pass Switch :** (≡○) Press the switch to flash the head light in hi beam mode. It is used to give signal to vehicles coming from opposite side while overtaking.



Right Handle Bar Switches

E. Head Light Switch : It has 2 positions.

●	: All lamps 'OFF'.
☼	: While engine running, Head lamp, Pilot lamp, Tail lamp & Meter lamps 'ON'.

F. Starter Button : It operates the electric starter when clutch lever is depressed with transmission in any gear. It is recommended to start engine with transmission in neutral.

Steering cum Ignition Lock

To Lock the Steering : To lock the steering, turn the handle bar to the left or right. Push the key inside & turn toward 'LOCK' position. Match the lock position & turn key to 'LOCK position. Lock steering & remove key.

To Unlock the Steering : To unlock steering, insert the key in steering cum ignition lock & turn it clockwise to "OFF" or "ON" position.

Key : A common key is used for 'Steering cum Ignition lock', 'Fuel tank cap' & 'Side cover RH lock'.

Key Position	Function
●	LOCK: Steering locked. Ignition OFF.
	OFF: Steering unlock. Ignition OFF.
	ON: Steering unlock. Ignition ON.

Salient Features

PERFORMANCE

Attribute	Key Features	Advantages	Benefits
	· 2 Valve Engine · Engine power: 11 PS @ 8000 RPM · Engine torque: 10.9 N-m @ 6000 RPM. · DC ignition system. # · Electric / Kick start	New generation technology engineered for high power, pick up & performance. · Wider range of gear ratios to utilize high torque of engine. · Seamless changes in ignition maps for better engine performance. · Quick & easy starting	· High power & pick up. · More power at all loads conditions, better torque at low RPM, less emissions.

STYLE

	· Athletic & Muscular petrol tank, side covers & seat cowling. · New head lamp with attractive fairing. · Innovative & distinct decals. · New look Speedometer. · Black colored engine · New look 5 spokes alloy wheels & silencer	· Stylish & eye catching looks. · Combination of black & chrome styling.	· Sporty styling.

COMFORT

	· Telescopic front fork with 135 mm stroke with anti-friction bush · Hydraulic spring in spring Twin suspension at Rear · VRLA battery	· Better shocks dampening on rough road drives. · Longest suspension stroke in its class of bikes · No topping required	· Excellent drive ability, smooth & comfortable ride on all types of roads & for any distance · No hassle of frequent topping up of electrolyte level. · Instant Self start

I Read... I learn

Salient Features

CONVENIENCE

Attribute	Key Features	Advantages	Benefits
	· Fuel Gauge · Engine oil level window Self Start	· Displays approx. petrol quantity remaining in petrol tank reminds rider for refueling. · For easy inspection of oil level	· More convenience · Easy monitoring of oil level.

SAFETY

Attribute	Key Features	Advantages	Benefits
	· Disk Brake : · 200 mm disk brake at front & 110 mm drum brake at rear. · High strength robust Tubular Single Down Tube with Lower Cradle frame Wheelbase 1255 mm	· Excellent ride & handling stability, balance & vehicle dynamics. · Highest stability & excellent road grip.	· Safe to drive on highway

Technical Specifications

Engine & Transmission

Type		:	4 stroke engine, Single Cylinder, Air cooled, DTS-I
No. of cylinders		:	Single
Bore		:	52 mm
Stroke		:	58.6 mm
Engine displacement		:	124.45 cc
Compression ratio		:	9.8 : 1
Idling Speed		:	1400 ± 100 rpm in warm condition
Max. net power		:	11 Ps @ 8000 RPM
Max. net torque		:	10.9 Nm @ 6000 rpm
Ignition System		:	CDI / 12V DC
Carburettor		:	VM20 UCAL
Spark Plug		:	Champion P- RZ9HC / BOSCH UR4AC 2 Nos
Spark Plug Gap		:	0.7 to 0.8 m.m.
Lubrication		:	Wet sump, Forced lubrication
Clutch		:	Wet, Multi disc type
Starting		:	Electric & kick start
Gear shifting pattern		:	1 Down 4 Up
Transmission		:	5 Speed Constant mesh
Primary reduction		:	3.571 : 1 (75/21)
Gear Ratios	1st Gear	:	2.833 : 1 (34/12)
	2nd Gear	:	1.823 : 1 (31/17)
	3rd Gear	:	1.333 : 1 (24/18)
	4th Gear	:	1.086 : 1 (25/23)
	5th Gear	:	1.909 : 1 (20/22)
Final Drive Ratio		:	3.00 : 1 (42/14)

Chassis & Body

Frame Type		:	Tubular Single Down Tube with Lower Cradle frame
Suspension	Front	:	Hydraulic, Telescopic, 135 mm travel
	Rear	:	SNS, Stroke 95 mm
Brakes	Front	:	Disc Brake - Hydraulic operated
	Rear	:	Mechanically expanding shoes
Brake Size	Front	:	Disc dia. 200 mm
	Rear	:	Drum dia. 110 mm
Tyres	Front	:	Front : 2.75 x 17, 41 P
	Rear	:	Rear : 3.00 x 17, 50 P
Tyre Pressure	Front	:	1.75 kg/cm2 (25 PSI)
	Rear (Solo)	:	2 kg/cm2(28 PSI)
	Rear (Solo+Pillion)	:	2.25 kg/cm2(32PSI)
Rims	Front	:	Front-1.4 X 17" Die cast Aluminium alloy wheel
	Rear	:	Rear-1.6 x 17" Die cast Aluminium alloy wheel
Fuel Tank Capacity		:	11.5 Liters
Usable Reserve		:	1.5 Liters
Unusable Reserve		:	0.5 Liters

I Read... I learn

Technical Specifications

Controls

Steering		:	Handle bar
Accelerator		:	On handle bar, RH grip
Gears		:	Left foot pedal operated, Step shift
Brakes	Front	:	On handle bar, RH lever
	Rear	:	Pedal operated by RH foot
Clutch		:	Lever operated, LH

Electricals

System	:	12V, DC
Battery	:	12V 3Ah VRLA
Head Lamp	:	12V, 35W / 35W, HS-1 (Halogen),Blue ting
Stop / Tail Lamp	:	12V,5/21W
Side Indicator Lamp	:	12V, 10W (4 Nos. - RY10W)
Position Lamp	:	4.09 W max for DRL & 0.42 W max for position
Speedometer Lamp	:	12V 2 W X 2
Neutral Indicator	:	12V 2 W (Green)
Turn Signal Indicator	:	12V 2 W (Green)
Hi-beam Indicator	:	12V 2 W (Blue)
Horn	:	12V 2 A
Fuel Gauge	:	Analog

Dimensions

Length	:	2003 mm
Width	:	704 mm
Height	:	1069 mm
Wheel Base	:	1255 mm
Ground Clearance	:	200 mm

Weights

Vehicle Kerb Weight	:	113 Kg.
Gross Vehicle Weight	:	241 Kg.

Performance

Maximum speed	:	95 km/hr (with single rider 68 kg)

Notes :

- Values given above are nominal and for guidance only.
- 15% variation is allowed to cater for production and measurement
- All dimensions are under UNLADEN condition.
- Definitions of terminologies wherever applicable are per relevant IS/ISO standards.
- Specifiactions are subject to change without any notice.

Oil / Grease / Loctite application matrix

Sr. No.	Lubricant / Loctite	Grade	Application
1.	Engine oil	SAE 20W50 API-"SL"/ JASO-"MA 2"	Quantity : Refill at Service - 1000 ml / Engine O/H - 1100 ml
2.	Fork oil	SAE 10W20	Quantity / fork leg : 150 ± 2.5 ml
3.	Liquid gasket	Loctite L 5702	• Crankcase joining surface.
4.	Grease	Lithon RR-3	Steering races & balls HP make
5.	Grease	Molycote	Gear starter clutch & Rollers starter clutch
6.	Grease	All purpose	• Fr. & rear wheel axle. • Swing arm shaft • Brake pedal pivot pin • Center stand shaft • Side stand U bracket • Gear shifter pivot • Clutch & fr brake lever
7.	Oil for drive chain	SAE 90	Non sealed type drive chain
8.	Electrical contact cleaning spray	WD-40 Spray	Ignition switch / Brake & clutch switch / LH/RH control switch.
11.	Loctite	Thread locker 243	Rear fender bottom mounting / Cam sprocket allen bolt / Pickup coil screws / Stopper plate screws / (gear starter clutch) / Kick guide bolts / Output sprocket bolts / Oil pump mounting bolt / Allen bolt securing guide gear on shift drum / Screw securing stopper for input shaft bearing / Special bolt guide chain slack side / Nut inhibitor mounting / Nut clutch mounting / Damper plate bolts clutch & magneto cover / Stator mounting bolts / Stator harness clamp plate screw.

Periodic Maintenance & Lubrication Chart

Sr No	PM Check Point	Recommended Frequency								Remark
		Service	1st	2nd	3rd	Every 5000 Km after Previous Service				
		Kms	500 ~ 750	4500 ~ 5000	9500 ~ 10000					
1	Water wash & dry the vehicle completely		✓	✓	✓	✓	✓	✓	✓	Take care that no water enters in Petrol tank, Silencer & in electrical parts. Use caustic free detergent for washing.
2	Engine oil & Engine oil filter	C,R	R	R	R	R	R	R	R	SAE 20W50 API-"SL"/ JASO-"MA 2"
3	Oil strainer	CL	CL		CL		CL		CL	Oil strainer cleaning at every oil change
4	Starter Clutch (Dry Type)**	L		L	L	L	L	L	L	Use recommended molycote grease
5	Spark plug	CL,A,R			CL,A		CL,A		R	
6	Air Cleaner Element *** & Cover "O" Ring	CL,R	CL	CL	CL	R	CL	CL	R	Clean Foam/ Paper Element as applicable. Replace Air filter element cover O Ring every 5000 kms.
7	Fuel cock sediment bowl cleaning	CL				CL			CL	
8	Carburetor rubber duct	C,R					C,R			Check & replace if required
9	Fuel pipe	C,R	C	C	C	R	C	C	R	
10	Valve tappet clearance	C,A	C,A	C,A	C,A	C,A	C,A	C,A	C,A	
11	Non-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 chain lube spray or equivalent at every 500 kms.
12	Engine air breather tube	C	C	C	C	C	C	C	C	
13	Silencer drain hole cleaning	CL		CL	CL	CL	CL	CL	CL	
14	Silencer tail pipe cleaning **	CL		CL	CL	CL	CL	CL	CL	
15	Brake lining wear / lubricate Brake cam - Check brake wear indicator	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
16	Brake fluid level**-top up / replace	C,A,R				C,A			R	Use recommended brake fluid (DOT3 / DOT4)
17	Disc brake assly - Check functionality, leakage or any other damage	C			C		C		C	
18	Pillion footrest hinge lubrication **	C,A	C,A	C,A	C,A	C,A	C,A	C,A	C,A	Use RR 3 grease or Lequivalent
19	All cables & rear brake pedal free play	C,A	C,A	C,A	C,A	C,A	C,A	C,A	C,A	
20	Wiring harness & Battery connections routine, 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	
21	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

I Read... I learn

Periodic Maintenance & Lubrication Chart

Sr No	PM Check Point	Recommended Frequency								Remark
		Service	1st	2nd	3rd	Every 5000 Km after Previous Service				
		Kms	500 ~ 750	4500 ~ 5000	9500 ~ 10000					
22	Steering play	C,A	C,A	C,A	C,A	C,A	C,A	C,A	C,A	
23	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 LIMAPLEX HTX3 or equivalent grease for lubrication
24	Main stand & side stand pin **	CL,L			CL,L		CL,L		CL,L	Use recommended AP grease
25	Swing arm pivot pin (For non silent bush)**	L		L	L	L	L	L	L	Not applicable in case of needle roller bearing
26	All fasteners tightness	C,T	C,T	C,T	C,T	C,T	C,T	C,T	C,T	
27	Engine foundation silent bushes **	C				C			C	Replace if found cut / damaged
28	General lubrication - clutch lever, front brake lever, kick lever	L	L	L	L	L	L	L	L	Use recommended AP grease
29	Idle speed / CO%	C,A	C,A	C,A	C,A	C,A	C,A	C,A	C,A	
30	SAI, EVAP hoses- Check functionality leakage or any other damage **	C,R	C,R	C,R	C,R	C,R	C,R	C,R	C,R	Replace if found cut / damaged. Applicable for product with EVAP system only.
35	EVAP drain tube cleaning**	C,L	C,L	C,L	C,L	C,L	C,L	C,L	C,L	Applicable for product with EVAP system only.

* It is strongly recommended to use only recommended grade of oil.

** As applicable to model

*** More frequent cleaning may be required while driving in dusty environment.

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

Note :
Periodic parts, Oil, Coolant, Filters, All types of greases, Cleaning agents, Cables, Wear & tear parts, Rubber 'O' rings / oil seals / pipes, Gaskets to be replaced as per Periodic Maintenance and Lubrication Chart and is mandatory.

Pre-Delivery Inspection Checklist

Following is the checklist for carrying out PDI of "Platina 125" motorcycle. This checklist is to understand various check points those are to be checked / inspected before delivery of the new vehicle.
Each vehicle should be checked as per the points given below. This ensures trouble free vehicle delivery to the customer.

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	
Fuel tank / pipes	No leakage / Correct fitment	
Mirror	Fitment & adjustment to ensure clear rear view	
Lock Operation	Steering cum Ignition lock, Seat lock, LH side cover lock, Petrol tank cap lock	
Batterry	Check battery Terminal voltage. Fully charged battery voltage should be > 12.4 V DC. Charge battery if required using recommended battery charger.	
	Tightness of battery terminals / cables / Petroleum Jelly application.	
Tyre Pressure	Front: 25 PSI (1.75 Kg / cm^2)	
	Rear (with pillion): 32 PSI (2.25 Kg / cm^2)	
Brakes	Rear brake pedal free play 20 ~ 25 mm	
Clutch 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 after adjustment.	

Pre-Delivery Inspection Checklist

Fasteners (Check torque) Recommended torque wrench to be used for applying torque on nut - bolts as mentioned in PDI check sheet using reference torque chart as given. 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	Engine foundation bolts (Front & Rear only) Front - 1.8 ~ 2.2 Kg.m Rear - 2.8 ~ 3.2 Kg.m
	Front axle nut - 4.5 to 5.5 Kg.m
	Rear axle nut - 5.5 to 6.5 Kg.m
	Swing arm shaft nut - 5.2 ~ 6.0 Kg.m
	RSA Mounting top / bottom nut - 2.8 ~ 3.2 Kg.m
	Front fork top bolts - 3.0 ~ 3.2 Kg.m
	Front fork under bracket bolts - 3.0 ~ 3.2 Kg.m
	Rider foot rest bolts LH / RH - 1.8 to 2.2 Kg.m 2.8 to 3.2 Kg.m

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 Bulbs working (As applicable)	Headlight, Tail / Stop lamp, Side indicators, Speedo bulbs, Number plate lamp,	
Speedometer (As applicable)	Working of speedometer, Odometer, Fuel gauge.	
	Working of all signal indicators icons (Neutral, Turn signal, High beam)	
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	

Pre-Delivery Inspection Checklist

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	Identify source of leakages & rectify if any.	
4. Idling RPM / CO%		
Check & correct the below check points in engine warm condition		
Idling RPM	Check in warm up condition at 60^0 C (1400 $\pm$ 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.		

I Read... I learn

Periodic Maintenance SOP

Engine Oil Replacement

Ensure :

- Vehicle is parked on plain surface.
- Vehicle is thoroughly clean.
- Engine is in warm condition before opening engine oil drain bolt.

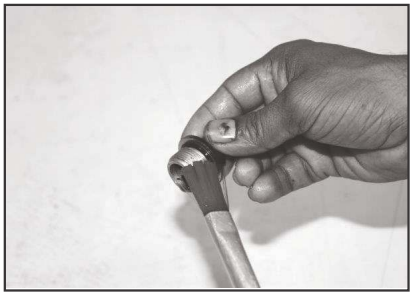
Remove :

- Engine oil drain bolt with 18 mm spanner & take out oil strainer.

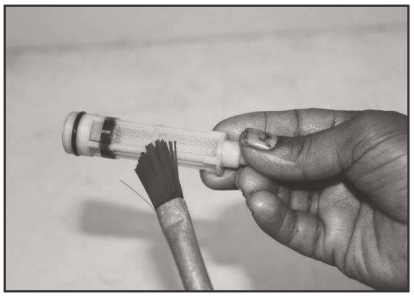
- Drain engine oil in a clean container.
- Measure the quantity of drained oil.

- It is important to measure oil quantity after draining to understand the oil consumption pattern.
- During the interval from one oil change to the next oil change, engine oil 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.

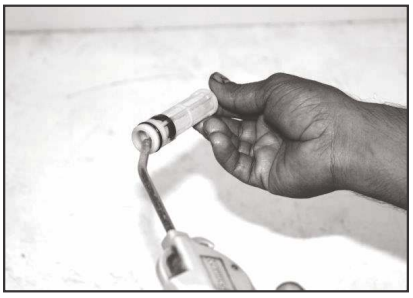
- Inspect the oil quality.
- Clean Ferrous burr accumulated on tip of magnetic drain bolt.

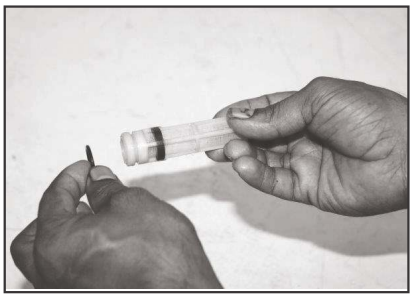


Periodic Maintenance SOP



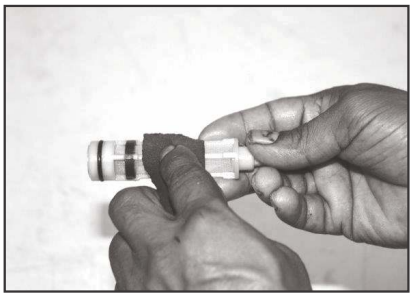
- Oil strainer Cleaning
- Clean oil strainer by kerosene / diesel & blow compressed air of 2 bar pressure from inside.





Ensure :

- Oil strainer 'O' ring is in good condition.
- Oil strainer is in good condition.



- Refit oil strainer & drain bolt.

Note :
Do not use abrasive material / tool to clean.

- Remove oil filter cover mounting bolts (3 nos) with 8 mm T spanner & take out oil filter cover along with 'Ring'.
- Engine oil filter replacement.

- Ensure Oil filter cover 'O' ring is in good condition
- Take out paper oil filter & replace it with new one.
- Refit oil filter cover & tighten oil filter cover bolts to recommended torque.

I Read... I learn

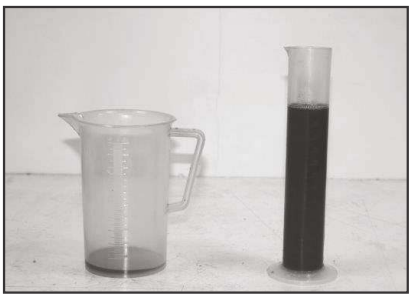
Periodic Maintenance SOP

Remove :

- Engine oil filler cap & ensure that it's 'O' ring is in good condition.

- Measure 1000 ml engine oil (SAE 20W50 API-"SL"/JASO-"MA2") in calibrated measuring jar.
- Fill the engine oil in engine till last drop.
- Tighten the oil filter cap.

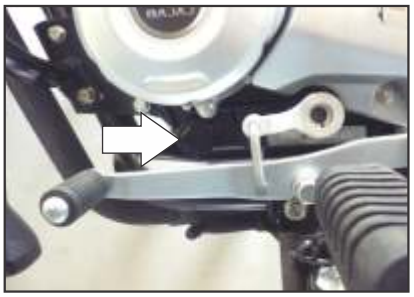
Engine Oil Top Up



- Wash the vehicle thoroughly.
- Ensure oil filling & drained quantity measured in calibrated measuring jar.
- Plastic measuring jar level marking to be verified by transferring oil into borosil make measuring jar.

- Warm up engine & ensure engine oil temperature is 60^{0}c.
- Run Vehicle on MRTB for 3 mins at 50 Kmph speed.
- Park the vehicle on main stand on plain surface.
  (Confirm stand is not bend & front wheel touching to ground)

Periodic Maintenance SOP



Remove :

- Drain bolt with 18 mm spanner & drain engine oil in clean measuring jar.

- Wait till last drop of oil to be drained.
- Measure engine oil quantity & check quality of engine oil.

- Refit oil strainer & drain bolt followed by application of recommended torque.
- Fresh oil 1000 ml to be measured in calibrated measuring jar & to be filled in engine with funnel till last drop.
- In case oil top is required, add required quantity of fresh engine oil to match 1000 ml volume & refill in engine.

Periodic Maintenance SOP

Fuel Cock Sediment bowl cleaning

- Put the fuel cock knob to 'OFF' position

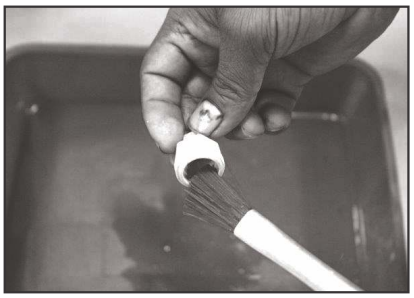
Remove :

- Fuel cock sediment bowl using 12 mm spanner.

- Pour out the petrol to remove sludge & sediments from fuel cock sediment bowl.

Remove :

- oil strainer from fuel cock.



Clean :

- Bowl & the strainer with the help of petrol & nylon brush.

Refit :

- Oil strainer & bowl.

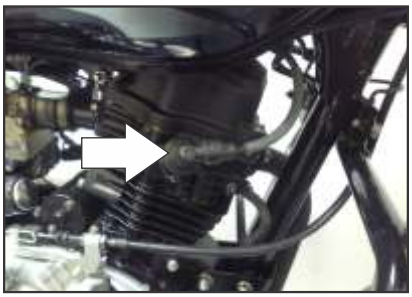
- Put the fuel cock knob to 'ON / RES' position & confirm no fuel leakage.

Periodic Maintenance SOP

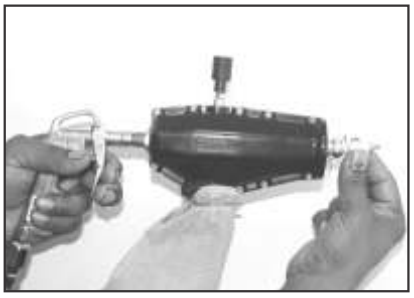
Spark plug cleaning

Remove :

- LH & RH side spark plug caps.



- Remove LH & RH side spark plugs using spark plug removing tool.
- Visually check spark plug electrode for color, erosion, crack & breakage.



- Clean the spark plug on spark plug cleaning gun or spark plug cleaning machine.
- Check & adjust the spark plug gap by using wire gauge.

- Refit spark plugs by doing pre fitment manually & there after use spanner for tightening
- Ensure that spark plug caps are firmly fitted.

Replace :

- Spark plugs as per the interval given in the periodic maintenance schedule.

Periodic Maintenance SOP

Tappet clearance checking & adjusting

Remove :

- LH side cover with phillips head screw driver.
- LH side cover front side lug from hole provided on tank.

Pull :

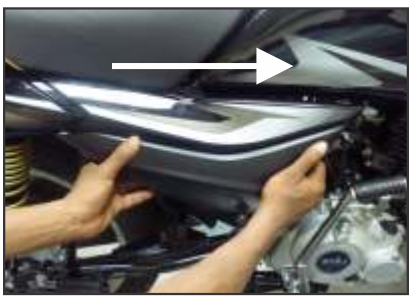
- LH side cover towards front side for removing LH side cover lug from hole.

Remove :

- RH side cover lock with vehicle ignition key.

Remove :

- RH side cover front side lug from hole provided on tank.
- Pull RH side cover towards front side for removing RH side cover lug from hole.



Note :

- ***Do not keep cloth as shown in photograph.***

Pull :

- Seat lock cable & lift the seat from rear side as shown in photograph.
- Seat towards backside & take out seat.

Periodic Maintenance SOP

- Put fuel knob to 'OFF' position

Remove :

- Fuel pipe clip & pull out fuel pipe from fuel cock end.

Remove :

- Fuel tank mounting bolt (2 nos) with 10 mm spanner.
- Fuel gauge coupler connection.

Take Out :

- Fuel tank.

Remove :

- Engine breather tube clip.

Periodic Maintenance SOP

- Pull out breather tube.

Remove :

- HT coil mounting bolts (2nos) with 10 mm spanner.
- HT coil.

Remove :

- Cylinder head cover mounting bolts (4 nos) with 8 mm spanner in criss - cross pattern & take out head cover.

Drain:

- The engine oil.

Remove:

- LH half chain cover mounting bolts (2 nos) with 8 mm T spanner & take out LH half chain cover.

Remove :

- Magneto coupler connection.
- Magneto cover mounting bolts (8 nos) with 8 mm T spanner & take out magneto cover.

Periodic Maintenance SOP

Ensure :

- Piston is at TDC by aligning marking of rotor & crankcase.
- "T" Mark on rotor, matching with crankcase mark. cam sprocket horizontal line marks should align with cylinder head surface.

Caution

- Timing chain sprocket should be rotated in clockwise direction only.
- Check the Intake / exhaust tappet clearance with filler gauge.

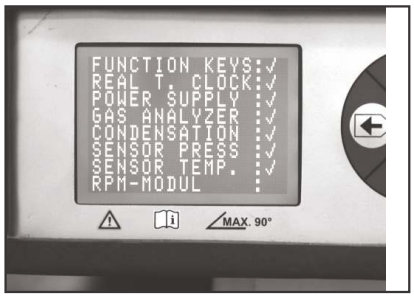
- Adjust tappet clearance using tappet adjusting tool.

Note :

- ***Tappet setting is to be done in engine cold condition only.***
- ***Filler gauge should have a mild resistance when being slide out after setting the tappet clearance***

- With the help of special tool, ensure proper locking of check nut of tappet screw.
- Complete one rotation of engine & recheck the tappet clearance.
- Refit all the removed parts.

CO% & Idle Speed Checking & Adjustment



- **Readiness of CO gas analyzer.**
  - Ensure the machine is in well calibrated condition & calibration certificate is available.
  - Switch 'ON' & warm up the CO gas analyzer.
  - Then carry out various tests such as leakage test, HC residue test, IR zero test oxygen censor test etc.

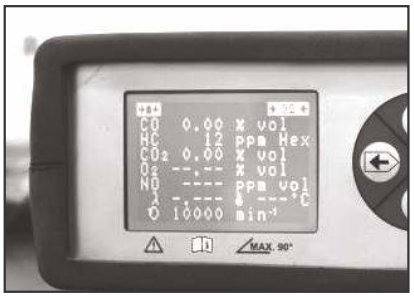
- **Readiness of the Vehicle**
  - Warm up the engine. Run the vehicle on MRTB or drive the vehicle for about 3 to 4 Kms on road.
  - After warm up, check the engine oil temperature by dipping the probe of temperature indicator in the oil through oil filter cap. It must be 60^0 c.

- Check & set engine idling RPM with the use of digital tachometer to 1400 $\pm$ 100 by adjusting idling screw.

Remove :

- Bolt & washer fitted to the silencer nozzle near to exhausTEC.
- Connect silicon tube of CO gas analyzer probe to the nozzle.

Periodic Maintenance SOP



- Note CO% when reading on LCD screen of the analyzer stabilizes.

- Set the air screw to get CO value between 1.5 ~ 2.5% at idling rpm of 1400 ± 100 RPM
- Reconfirm engine idling rpm & CO are within specified limit.
- For getting better engine performance & optimum fuel efficiency, achieve CO% within specified limit.

I Read... I learn

Periodic Maintenance SOP

Air Filter Element (foam) Type Removal

Remove :

- LH Side cover mounting screw with phillips head screw driver.
- LH side cover front side Lug from hole provided on tank.

Pull :

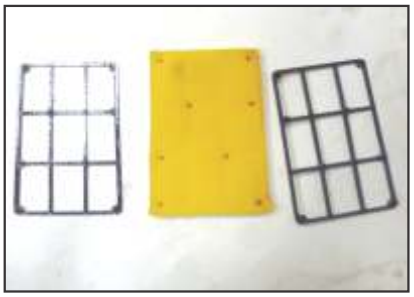
- LH side cover towards front side for removing LH side cover lug from hole.

Remove :

- Air filter cover mounting screw (5 nos) with phillips head screw driver.

Remove :

- Take out air filter cover.
- Take out air filter element.



Remove :

- Air filter element from air filter element frame.

Periodic Maintenance SOP

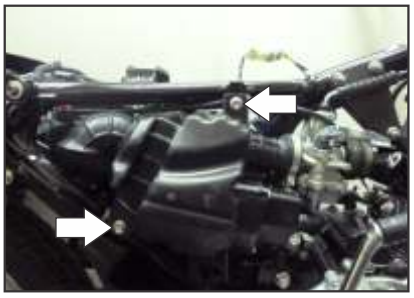
SAI Filter Element (foam) Type Removal

Remove :

- RH side cover lock using vehicle ignition key.

Remove :

- RH side cover front side lug from hole provided on frame.
- Pull RH side cover towards front side for removing RH side cover lug from hole.



Remove :

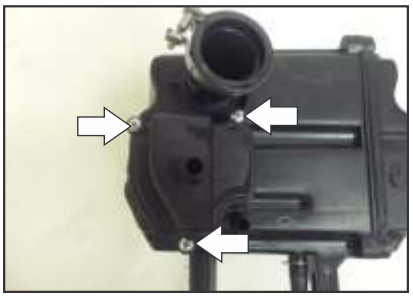
- Air filter mounting bolts RH side (2 nos) with 10 mm spanner.
- Air filter mounting bolt LH side with 10 mm spanner.

Take out :

- Air filter.

Remove :

- SAI filter cover mounting screws with phillips head screw driver.



Take out :

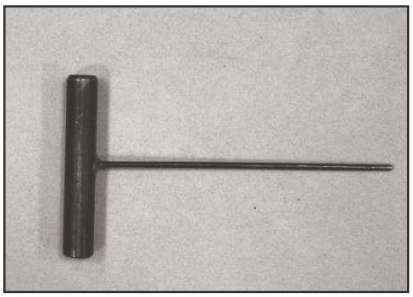
- SAI filter element.

Periodic Maintenance SOP

Silencer drain hole clearing

Remove :

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



Non Sealed Drive Chain Lubrication on Vehicle (Applicable for 1st service only)

- Put the vehicle on center stand. Normal dust should be wiped using lint free cotton cloth.
- Remove chain cover window rubber grommet.

- Lubricate chain with recommended oil.
  Ensure oil is directed on to the ends the bushes & lint on either side.
- Rotate the rear wheel for proper lubrication of entire chain.

- Wipe off excess oil or dripping oil & close the chain cover window.
- Adjust chain slackness as per specification.

Note :
If drive chain is found excessively dirty, then drive chain has to be removed, cleaned using diesel & lubricated in greasilator using recommended molten chain grease

Periodic Maintenance SOP

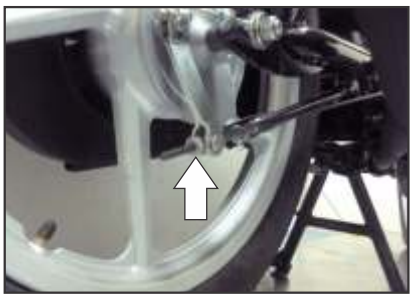
Rear Brake Pedal free Play Checking & Adjustment

Check :

- The smooth operation of rear brake pedal.

Measure :

- The rear brake pedal free play using steel scale.



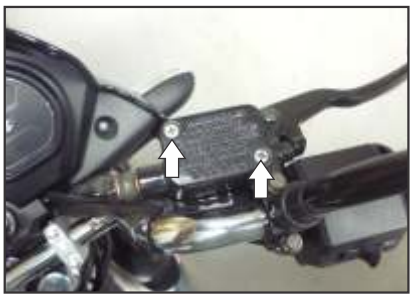
Adjust :

- Rear brake pedal free play as per specification.
- Recommended free play is 20 ~ 25 mm

Periodic Maintenance SOP

Brake Fluid Replacement

- Clean the surface area of a master cylinder.
- Loosen the air blender screw.
- Attach the transparent PVC tube.



Remove :

- Master cylinder cover mounting screw with phillips head screw driver.

- Take out master cylinder cover.
- PVC cap & Rubber diaphragm.

Refill :

- Master cylinder reservoir by recommended Brake fluid (DOT-4).

Periodic Maintenance SOP

Refit :

- Rubber diaphragm
- PVC cap
- Master cylinder cover
- Press the front brake lever & check the operation of disc brake.

Brake Fluid Top Up

- Check brake fluid level in master cylinder.

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.

Clutch Cable Free Play Checking & Adjustment

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

Check :

- Clutch lever free play by using steel ruler.

- The free play can be set by using clutch cover end adjuster.
- Recommended free play is 2 ~3 mm.

Periodic Maintenance SOP

Throttle Cable Free Play Checking & Adjustment

Check :

- The smoothness of accelerator grip.
- The accelerator free play by scale / ruler.

- Adjust throttle free play using adjuster provided at throttle grip.
- Recommended free play is 2 ~3 mm.

Drive Chain slackness Adjustment

- Put vehicle on center stand
- Remove rubber cap
- 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 the chain to measure chain slackness by steel rule.

Periodic Maintenance SOP

- To set chain slackness, first loosen rear brake rod nut with 14 mm spanner.

Remove :

- Torque rod lock pin by using combination plier.
- Torque rod nut with 14 mm spanner.

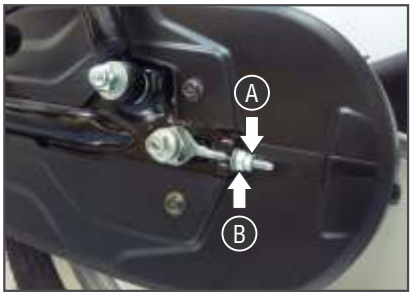
Loosen :

- Rear axle nut with 17 mm spanner holding rear axle sleeve with 14 mm spanner.
- Bearing carrier nut with 24 mm spanner.

- Check & confirm that the LH & RH chain adjust notch matched with marks on swing arm are equally aligned.

- Rotate rear wheel, apply rear brake & hold brake pedal in applied position, this will ensure that brake liner & brake panel take a concentric position with respect to brake drum.

Periodic Maintenance SOP



- Hold LH chain adjust nut (B) with 13 mm spanner & tighten lock nut (A) with 10 mm spanner. Repeat the same procedure for RH adjuster lock nut.
- Tighten bearing carrier nut.
- Tighten rear axle nut & torque rod nut..

Brake cam lubrication & Brake shoe Replacement

Remove :

- Brake rod mounting nut with 14 mm spanner & remove brake rod from lever brake cam.

Remove :

- Torque rod lock pin.
- Torque rod nut with 14 mm spanner.

Remove :

- Rear axle nut with 17 mm spanner holding rear axle sleeve nut with 14 mm spanner & take out axle.

Periodic Maintenance SOP

Remove :

- Rear wheel along with brake panel.
- Lever brake cam nut with 10 mm spanner holding bolt with 8 mm spanner & take out lever brake cam.

Take out :

- Brake shoe wear indicator.
- ‘• O’ ring.

Remove :

- Brake shoe.
- Brake cam.

Clean :

- Brake cam by diesel.

- Apply adequate quantity of AP grease. Remove excess grease by cotton cloth .

Periodic Maintenance SOP

Center Stand Pivot Pin Lubrication

- Park the vehicle on side stand.

Remove :

- Center stand spring.
- Center stand shaft lock pin by using plier.

Take Out :

- Center stand shaft.
- Center stand.

Clean :

- Center stand shaft with diesel & apply AP grease.

Brake Pedal Pivot Pin Lubrication

Remove :

- Brake rod nut with 14 mm spanner.
- Brake pedal lock pin & washer by using plier.

Periodic Maintenance SOP

Remove :

- Brake switch spring connected to brake pedal.

Take out :

- Brake pedal along with brake rod.

Clean :

- Brake pedal mounting pin with diesel.

- Apply AP grease on brake pedal mounting pin.

Steering Play Adjustment

- Park the vehicle on main stand
- Slightly turn the handle bar to LH side & leave the handle bar.
- 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 RH side.

Periodic Maintenance SOP

- Check steering free play by pushing & pulling the front fork from bottom.
- If steering is sticky - Jam Or Having play
  - Remove handle bar & head light assembly.
  - Using steering slotted nut special tool, tighten slotted nut.
  - Check & confirm that steering play is zero.

- Check & confirm that steering play is zero.

Steering Overhoul

Remove :

- Fork leg assembly from vehicle.

Remove :

- Head light assembly.

Periodic Maintenance SOP

- Remove fork center nut with 28 mm spanner & take out handle bar assembly.
- Using steering slotted nut removing tool, remove steering slotted nut.

Take out :

- Under bracket assembly.

Take out :

- Cap.
- Upper cone.

Take out :

- Upper cage ball bearing.

Lubricate :

- Lower cone & ball bearing by HP lithon RR-3 grease.

Lubricate :

- Upper cone, ball bearing & upper race with HP lithon RR-3 grease.
- Lower bearing rase, with HP lithon RR-3 grease.

Notes

Key Learning Points

- Carburetor specification
- Overview of SAI system and understanding its functions and working
- Engine Tune-up

CHAPTER 2

Fuel System

Carburetor Specification

Secondary Air Injection (SAI)

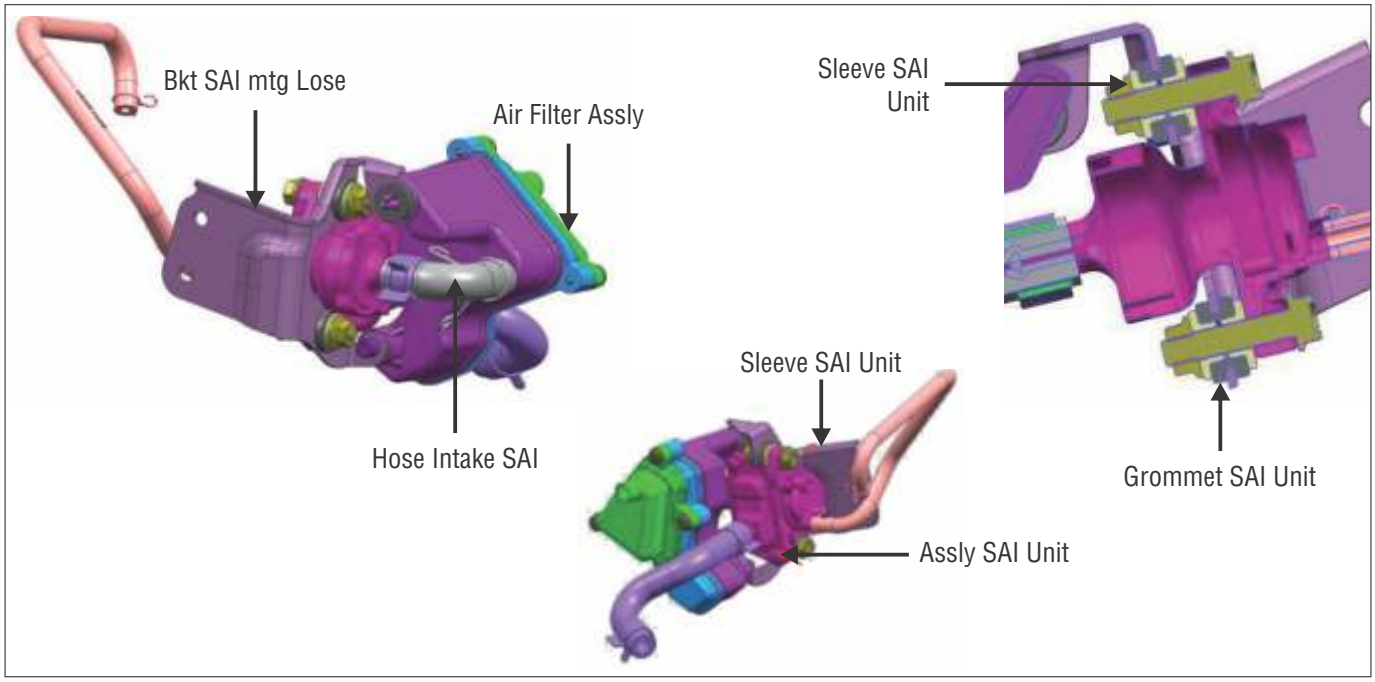
Engine Tune-up

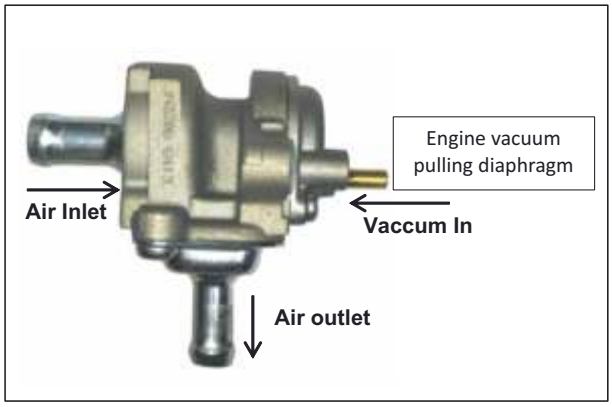
Carburetor Specification

Carburettor Specification

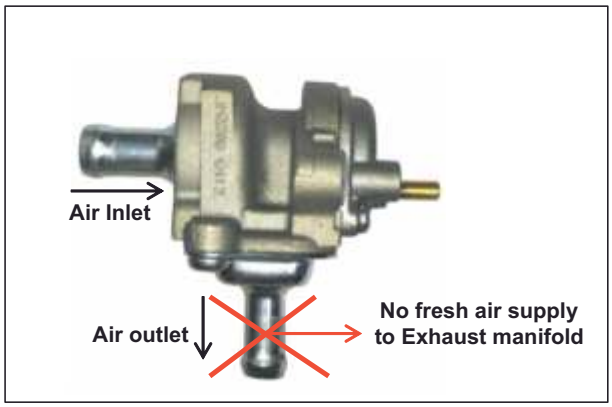
Item	Specification
Make	UCAL
Type	UVD 20
Idling Speed	1400 ± 100 rpm
Volume Screw Setting	1 ~ 4 turns
Main Jet	100
Needle Jet Marking	U5HL7
Jet Needle 'e' Clip Position	Single
Pilot Jet	17.5
Throttle Valve Mark	CA
Float Height	14.4 mm
Starter Jet	25
Choke	Manual Choke

Secondary Air Injection (SAI)





ON Acceleration



ON De-acceleration

Function :

To reduce the concentration of exhaust gases in exhaust system thus reducing the emission.

Construction :

- Consists of diaphragm valve and reed valve.
- Connected to air filter assembly, exhaust valve passage in the cylinder head and intake manifold.

Secondary Air Injection (SAI)

Working :

On Acceleration

During the exhaust phase of the engines operation, exhaust gases enter the exhaust system at high velocity. This Causes a drop in the pressure which enables the reed valve to open.

- Fresh and filtered air from air filter is inducted in the exhaust passage, just after the valve.
- The oxygen in the air enables 'CO' to further oxidize and convert into 'CO2' & HC into H2O. Thus CO (%) & HC (ppm) at the Silencer tail end is reduced. This results in reduction of exhaust emission.
- The read valve opening and closing is based on pressure in the exhaust system.

On De-acceleration

When throttle is closed, some amount of fuel particles get discharged into the exhaust. If air is injected into the Exhaust system at this point of time, these fuel particles can get ignited. This causes after burn or misfiring sound in the exhaust system.

- To avoid this, air flow is momentarily stopped by closure of the diaphragm in the injection valve during de-acceleration.

How Diaphragm Works :

- Diaphragm is connected to inlet manifold.
- On de-acceleration vacuum increases in the manifold.
- This pulls the diaphragm against the spring tension and restricts the air flow.
- Once the vacuum reduces the diaphragm opens due to spring tension and air starts flowing.

Advantages :

- Reduced emission of Carbon Monoxide & Hydro Carbons.
- Environment friendly vehicle.

Fuel System

Engine Tune-up

PAPER FILTER:

- Clean at Every : 5000 Kms.
- Replace at Every : 15,000 Kms.

COMPRESSION PRESSURE

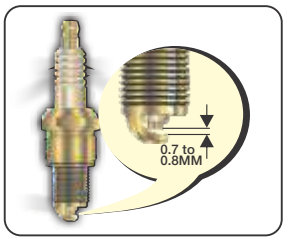
- Standard : 12 to 13 Kg/cm2
- Service Limit : 9.5 Kg/cm2

CARBURATTOR

- Idling : 1400 ± 100 rpm.
- Jet Needle Clip Position: Single
- Volume Screw Setting : 1 ~ 4 turns

TAPPET CLEARANCE

- Inlet Valve : '0.05~0.07 mm
- Exhaust Valve : '0.10~0.12 mm



SPARK PLUG :

- Spark Plug Gap : 0.7~0.8 mm.
- Replace at Every : 30,000 Kms

Other Mandatory Checks :

a. Ensure no fuel leakage through fuel cock, fuel lines.
b. Ensure free rotation of both wheels.
c. Ensure correct tyre pressure -
   - Front wheel : 25 PSI,
   - Rear wheel : 32 PSI
c. Check & confirm proper functioning of spark plug.
d. Use of recommended grade of bajaj genuine oil & engine oil level between MIN & MAX level.
e. Set control cable free play :
   - Clutch lever 2~3 mm.
   - Rear brake pedal 20 ~ 25 mm.
f. Chain slackness : 20 ~ 30 mm.

Key Learning Points

- Appropriate torque application for various engine component
- Standard Operating Procedure for engine dismantling

CHAPTER 3

Engine & Transmission

Tightening Torque

Service Limits

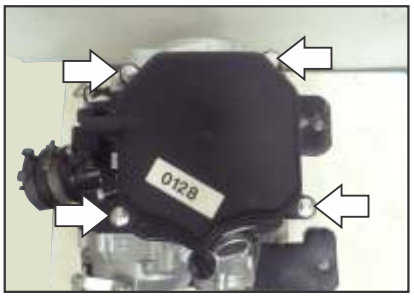
Special Tools

Engine Removal From Frame

Engine Dismantling

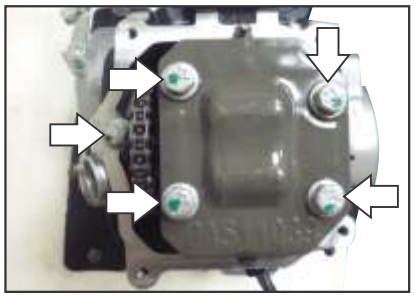
Tightening Torque

Cylinder head cover bolts



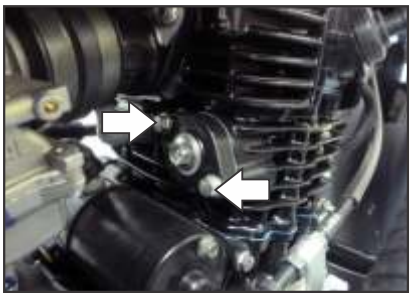
1.0~1.1 Kg.m

Cylinder head bolts



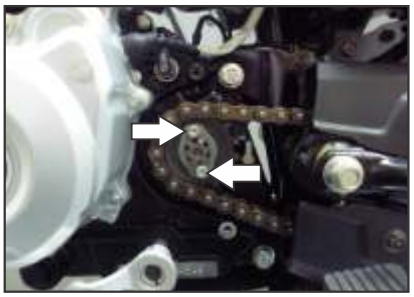
2.3~2.5 kg.m

Chain Tensioner bolts



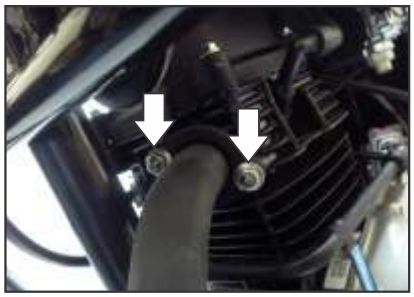
1.0~1.1 Kg.m

Output sprocket bolts



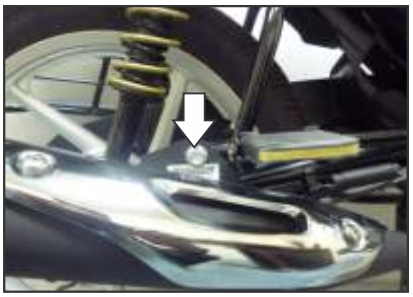
0.6~0.8 Kg.m

Silencer mouth flange nuts



2.0~2.2 Kg.m

Silencer bracket bolt



3.5 Kg.m

Clutch cover bolts

1.0~1.1 Kg.m

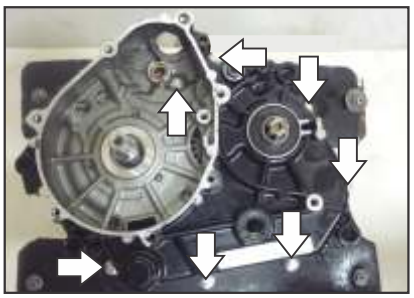
Oil filter cover bolts

1.0~1.1 Kg.m

Magneto cover bolts

1.0~1.1 Kg.m

Crankcase joining bolts

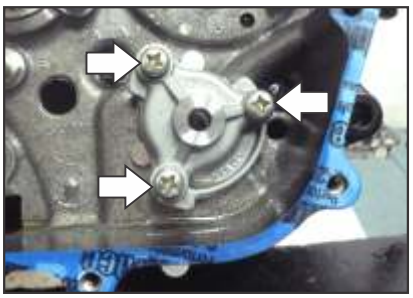


1.0~1.1 Kg.m

Drain bolt

1.0~1.1 Kg.m

Oil pump screws

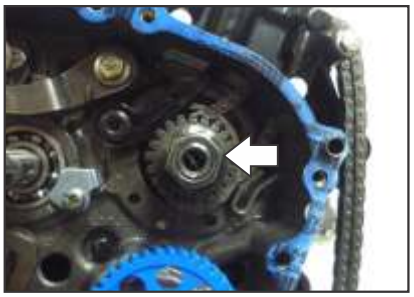


0.5~0.7 Kg.m

Engine & Transmission

Tightening Torque

Primary gear nut

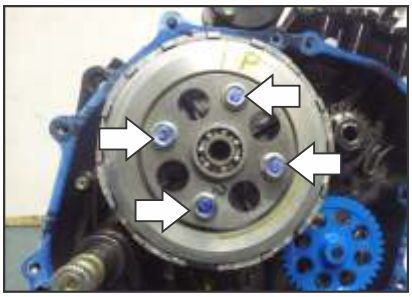


6.0~6.5 Kg. m

Clutch nut

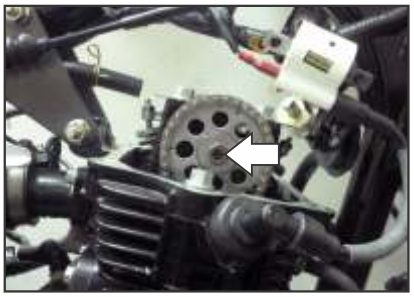
5.0~5.5 Kg. m

Clutch spring bolts



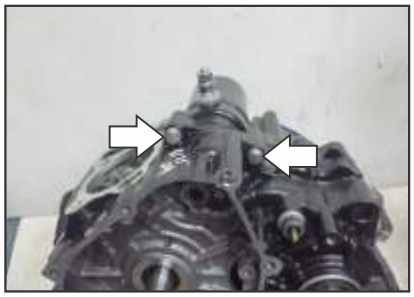
0.9~1.1 Kg.m

Cam shaft sprocket allen bolt



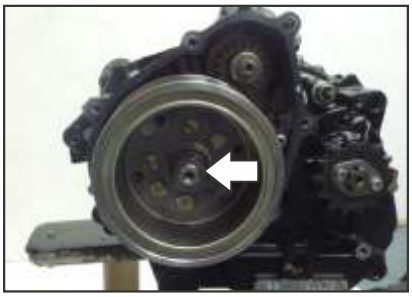
1.8 Kg. m

Starter motor mounting bolt



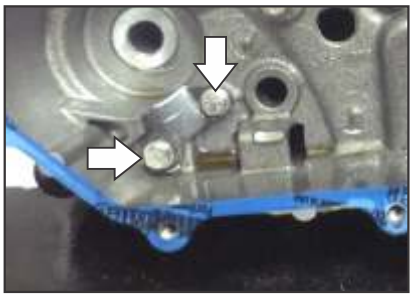
1.0~1.1 Kg.m

Magneto rotor nut



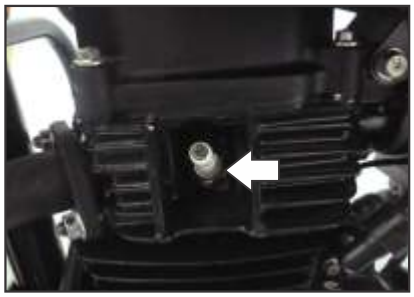
6.5~7.0 Kg. m

Guide kick bolts



1.0~1.1 Kg.m

Spark plugs



1.3~1.5 Kg. m

Manifold mounting bolts

1.0~1.1 Kg.m

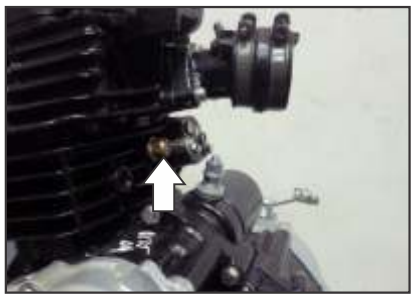
Drum/cam allen bolt

1.0~1.1 Kg.m

Inhibitor nut

1.0~1.1 Kg.m

Temp sensor on block



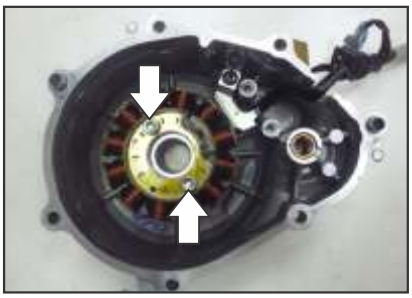
0.5~0.7 Kg.m

Tightening Torque

Bolt kick lever

1.0~1.1 Kg.m

Stator mounting bolt



1.0~1.1 Kg.m

Service Limits

Compression Pressure

Std. Limit	12.0 ~ 13.0 kg/cm ^{2}
Ser. Limit	9.5 kg/cm ^{2}

Valve Clearance (in mm)

	Intake	Exhaust
Std. Limit	0.05 ~0.07	0.10 ~0.12
Ser. Limit	—	—

Clutch Spring Free Length

Std. Limit	44.00 mm
Ser. Limit	43.00 mm

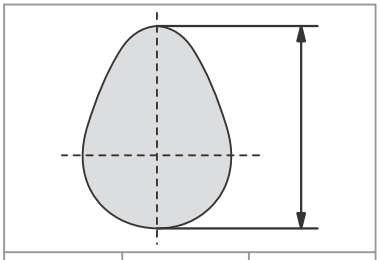
Rocker Arm Shaft Diameter

Std. Limit	9.975~9.987 mm
Ser. Limit	9.95 mm

Cam Sprocket Diameter

Std. Limit	61.165~61.285 mm
Ser. Limit	60.865~61.285 mm

Cam Height



	Intake	Exhaust
Std. Limit	18.071mm	18.104 mm
Ser. Limit	18.02 mm	18.05 mm

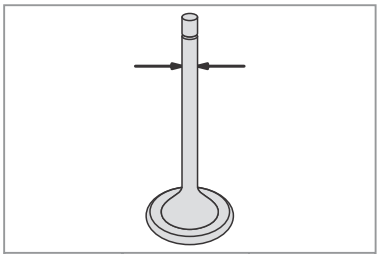
Cam Lobe Width

Std. Limit	8.9 ~ 9.1 mm
Ser. Limit	--

Valve Spring Free Length

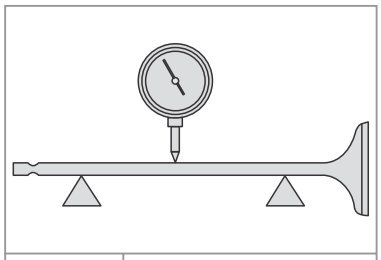
Std. Limit	38.74 mm
Ser. Limit	35.29 mm

Valve Stem Diameter mm



	Intake	Exhaust
Std. Limit	4.965~4.98	4.945~4.96
Ser. Limit	4.955 mm	4.935 mm

Valve Stem Bend



Std. Limit	0.01 mm
Ser. Limit	> 0.01 Replace

Valve Stem to Guide Clearance

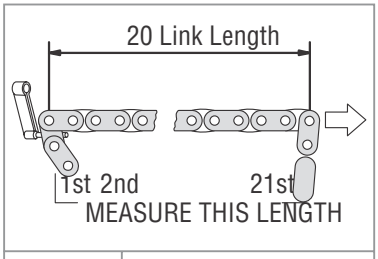
	Intake	Exhaust
Std. Limit	0.01~0.037	0.03~0.057
Ser. Limit	0.047 mm	0.067 mm

Cylinder Head Warp

Std. Limit	0.03 mm
Ser. Limit	0.05 mm

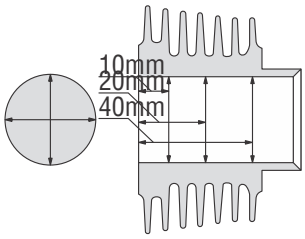
Service Limits

Camshaft Chain Length



Std. Limit	130.3 ~ 130.43 mm
Ser. Limit	131.06 mm

Cylinder Inside Diameter

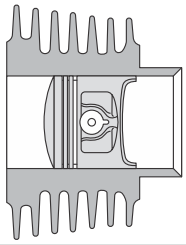


Std. Limit	52 ~ 52.01 mm

Piston Diameter

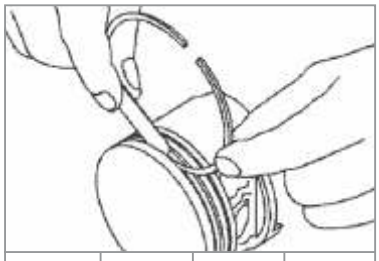
Std. Limit	51.958 ~ 51.972 mm

Piston Cylinder Clearance



Std. Limit	0.028 ~ 0.052mm
Ser. Limit	0.1 mm

Piston Ring Groove Clearance (mm)



	Top	Second	Oil Ring
Std.Limit	0.025 ~ 0.060	0.025 ~ 0.060	0.040 ~ 0.110
Ser.Limit	0.15	0.15	0.16

Steel Plate Warp

Std. Limit	0.1 mm
Ser. Limit	0.2 mm

Piston Ring End Gap (mm)

	Top	Second	Oil Ring
Std. Limit	0.01~0.25	0.15~0.30	0.2~0.7
Ser. Limit	0.5	0.6	1

Friction Plate Warp

Std. Limit	0.1 mm
Ser. Limit	—

Gear Shift Fork Guide Pin Dia

Std. Limit	4.45 ~ 4.49 mm
Ser. Limit	4.4 mm

Shaft Fork Shift O.D

Std. Limit	9.972 ~ 9.987 mm
Ser. Limit	9.96 mm

Rocker Arm I.D

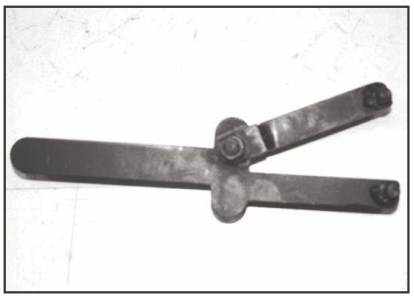
Std. Limit	10 ~ 10.022 mm
Ser. Limit	10.03 mm

Steel Plate Thickness

Std. Limit	1.55~1.65 mm
Ser. Limit	1.50 mm

Engine & Transmission

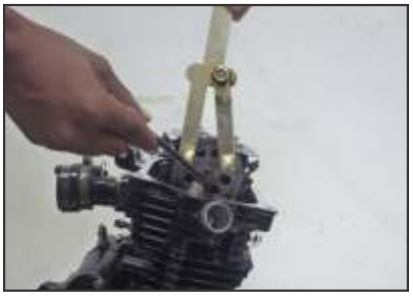
Special Tools

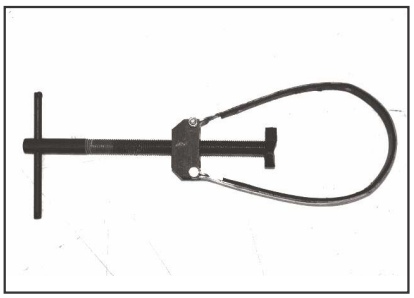


Cam sprocket holder

Part No : 37 1043 07

Application : For holding cam sprocket during removal & re-fitment.

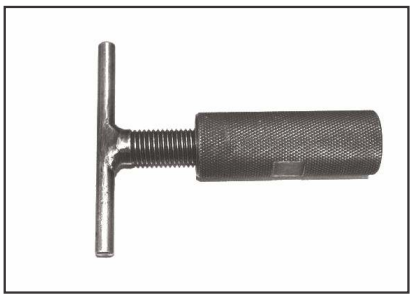




Magneto rotor holder

Part No : 37 1043 06

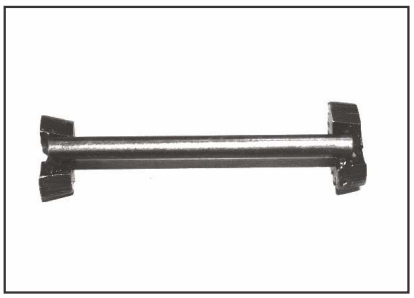
Application : For holding rotor during removal & re-fitment.



Magneto rotor puller

Part No : 37 10DJ 32

Application : To pull out magneto rotor from crankshaft assembly.



Primary gear holder

Part No : F4 1AJA 11

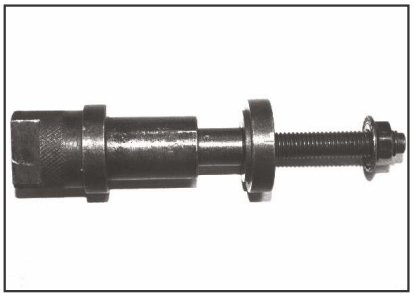
Application : For holding primary & secondary gear while loosening / tightening primary gear nut & clutch nut.

Socket for clutch nut

Part No : F4 1ZJA 54

Application : To loosen & tighten the clutch nut.

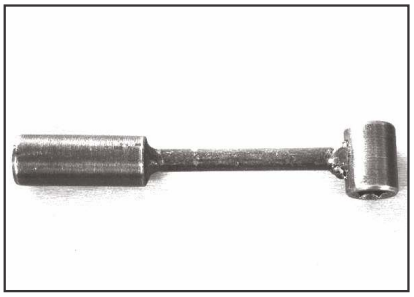
Special Tools



Clutch dismantling tool

Part No : F4 1AJA 58

Application : To dismantle & assemble clutch assembly.



Spark plug spanner

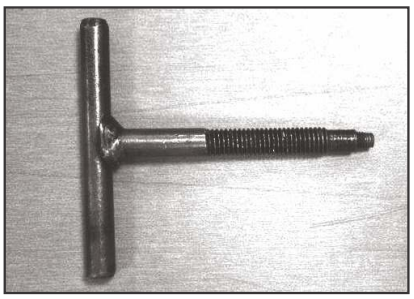
Part No : 37 1042 55

Application : For removing & re-fitting spark plug LH & RH side.

Valve tappet adjuster

Part No : F4 1ZJW 33

Application : To hold valve tappet screw during adjustment of tappet clearance



Rocker shaft remover

Part No : 37 10CS 22

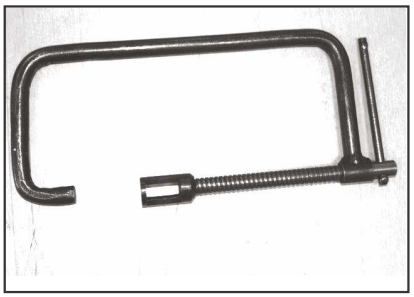
Application : To remove rocker shaft from cylinder head

Bearing extractor

Part No : 37 1030 48

Application : To pull out bearing from crankshaft assembly

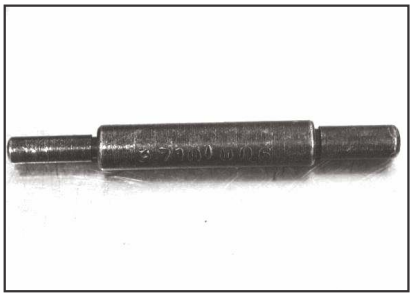
Special Tools



Adaptor & valve spring compressor

Part No : Adaptor 37 1031 08
Spring compressor
37 1031 07

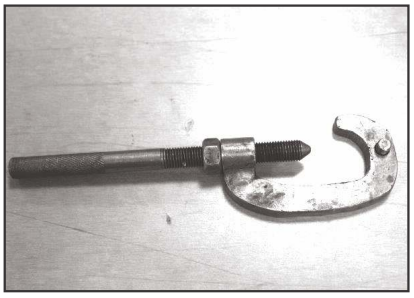
Application : To assemble / dismantlevalves by compressing spring in cylinder head.



Drift piston pin

Part No : 37 1010 06

Application : To remove & refit piston drift pin.



Output sprocket holder

Part No : 37 1030 53

Application : For holding output sprocket during removing output sprocket bolts.

Engine Removal From Frame

Engine Dismantling From Frame

Remove :

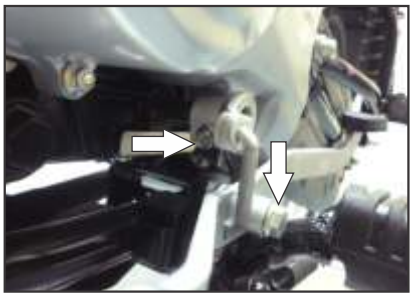
- Side cover LH & RH.
- Seat.

Remove :

- Petrol tank.
- Half chain cover mounting bolts (2 nos) with 8 mm T spanner & take out half chain cover.

Remove :

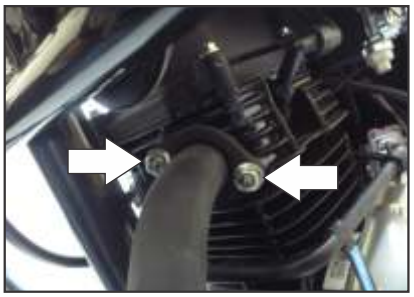
- Chain cover.
- Chain link lock & take out chain from small out put sprocket.



Remove :

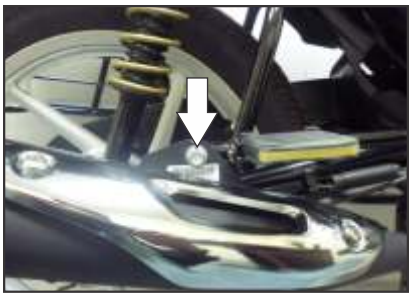
- Gear shifter pedal mounting bolts with 10 mm & 13 mm spanner & take out gear shifter pedal.

Engine Removal From Frame



Remove :

- Silencer mouth flange nuts with 12 mm spanner & silencer bracket bolt with 14 mm spanner. Take out silencer assembly.



Remove :

- LH & RH side spark plug caps.
- Kick lever mounting bolt with 12 mm spanner & take out kick lever.

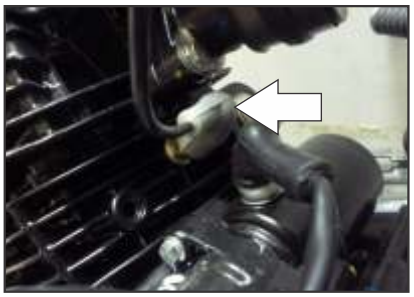
Remove :

- Clutch cable bracket mounting bolts (2 nos) with 8 mm T spanner & remove clutch cable connected to clutch release shaft.

Remove :

- Engine breather tube lock clip.
- Engine breather tube.

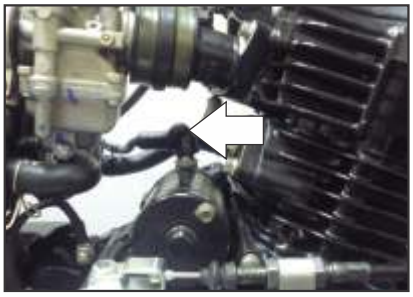
Engine Removal From Frame



Remove :

- Thermal sensor rubber cap

- Remove earthing ring terminal by opening bolt with 8 mm T spanner.
- Pull out starter motor positive terminal rubber cap.



Remove :

- Battery positive terminal by opening nut with 10 mm spanner.
- Carburetor assembly.

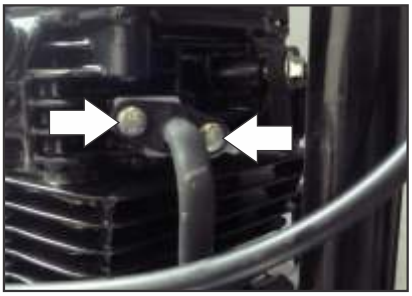
Remove :

- SAI hose clip & take out SAI hose from intake manifold.
- Stator plate coupler connection.

Engine Removal From Frame

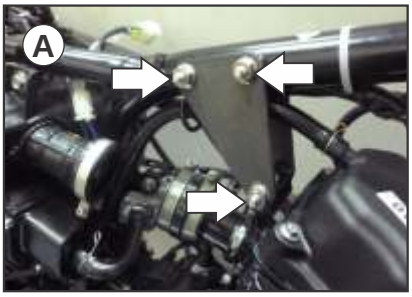
Remove :

- Neutral switch connection.
- SAI hose clip.



Remove :

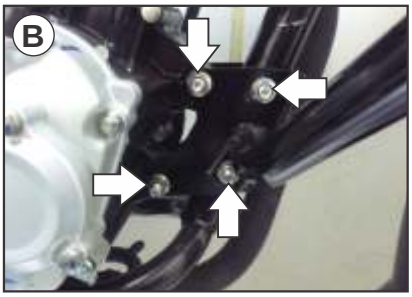
- 2 bolts of SAI pipe.
- 1 bolt of SAI pipe.
- SAI pipe assembly.



- Remove engine foundation nut bolts as follows -

- **<u>Top Side</u> :**

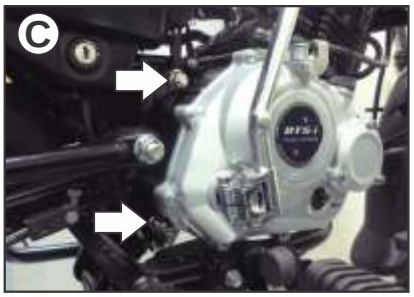
  - 3 nos nuts with 13 mm spanner holding bolts with 12 mm spanner- **Photograph A.**



- **<u>Front Side</u> :**

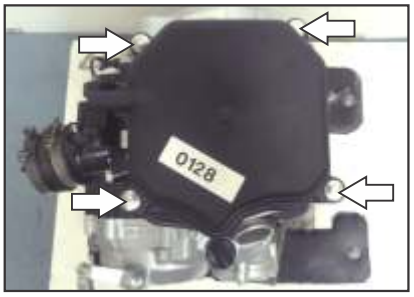
  - 4 nos nuts on engine & frame with 13 mm spanner holding bolts with 12 mm spanner **Photograph B**

Engine Removal From Frame



- **Rear Side :**
  - 2 nos nuts with 14 spanner holding bolts with 14 mm spanner **Photograph C** & Take out engine assembly.

Top Side Dismantling



Remove :

- Cylinder head cover bolts (4 nos) with 8 mm T spanner in criss - cross pattern.
- Cylinder head cover along with rubber gasket.

- Remove magneto cover mounting Bolts (7nos) with 8 mm T spanner & take out magneto cover
- Check TDC position -
  - Align rotor mark with respect to crankcase LH.
  - Check cam sprocket marks from RH side.

Remove :

- Chain tensioner bolt with 10 mm spanner.

Rotate :

- Chain tensioners screw in clockwise direction to take plunger backward & lock it.

Engine Dismantling

Remove :

- Chain tensioner mounting bolts (2 nos) with 8 mm spanner & take out chain tensioner along with gasket.

Remove:

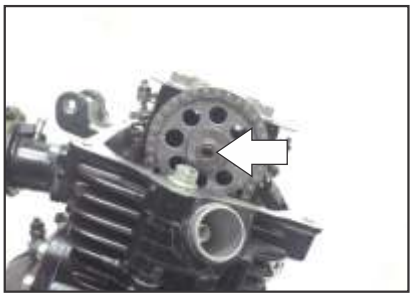
- RH Side Spark plug using spark plug removing tool .
- Spark plug sleeve grab screw with 2.5 mm allen key.

Remove :

- Spark plug sleeve using spark plug sleeve removing special tool .

Engine Dismantling

- Using cam sprocket holder tool, remove cam sprocket bolt with 6 mm allen key.



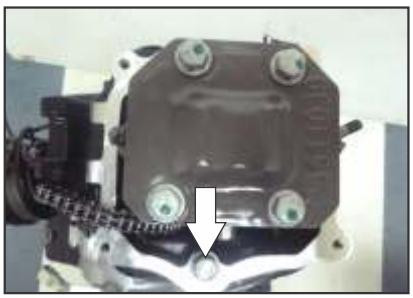
Take out :

- Cam sprocket allen bolt along with washer.
- Cam sprocket.

- Tie cam chain with soft copper wire.

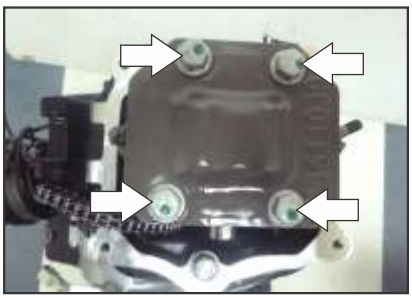
Remove :

- Cam sprocket collar.

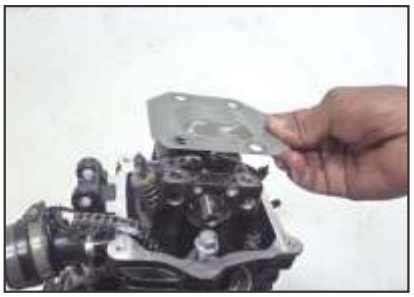


Remove :

- Cylinder head mounting bolts (5 nos) with 12 mm spanner as follows
  - 1 nos bolt with 12 mm spanner
  - 4 nos bolt with 12 mm spanner In criss - cross pattern .



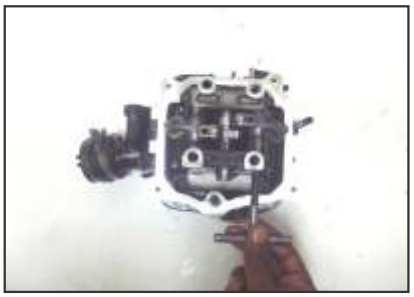
Engine Dismantling



Take out :

- Cylinder head plate.
- Cylinder head assembly.

Cylinder Head Dismantling



- Using rocker arm shaft removing special tool, remove (2 nos) rocker arm shaft.

Take out :

- Rocker arms.

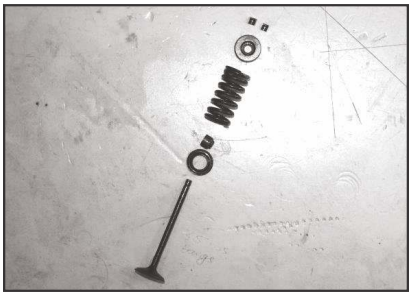
Remove :

- Cam shaft circlip.

Take out :

- Cam shaft.

- Using Valve Compressor special tool, remove -
  - Collets
  - Retainers
  - Valve springs
  - Valves
  - Oil seals
  - Valve spring seats.



Engine Dismantling

Remove :

- Dowels (2nos).
- Gasket

Take out :

- Guide.
- Cylinder block.

Remove :

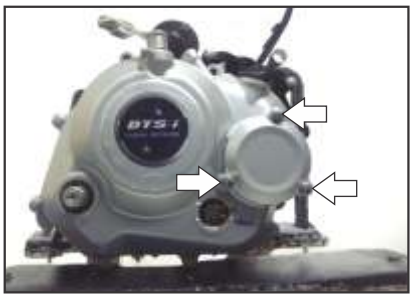
- Dowels (2nos).
- Gasket

- Cover crankcase bore by lint free cloth before dismantling piston circlip / snap ring.
- Remove piston pin circlip.

Engine Dismantling

- Using piston drift pin removing tool, remove piston drift pin.
- Take out piston assembly.

Clutch Side Dismantling



Remove :

- Engine oil filter cover mounting bolts (3 nos) with 8 mm T spanner & take out oil filter cover along with 'O' ring

Take out :

- Engine oil filter.

Remove :

- Clutch cover mounting bolts (7 nos) with 8 mm T spanner & take out clutch cover.

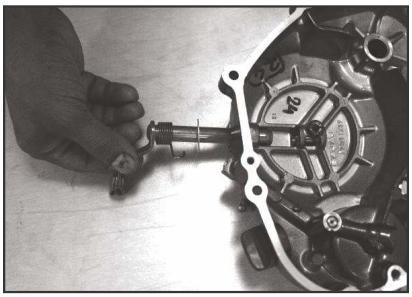
Remove :

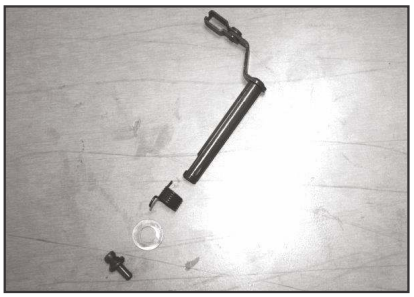
- Dowels (2 nos)
- Clutch cover gasket.

Engine Dismantling

Remove :

- Push rod & clutch release shaft assembly.





- Using Primary gear holder special tool, Loosen primary gear nut with 19 mm spanner.
- Remove thrust bearing.

- Using primary gear holder & clutch nut special tool, remove clutch nut.

Take out :

- Clutch nut.
- Belleville washer.
- Plain washer.

Engine Dismantling

Take out :

- Clutch stack complete.

Take out :

- Washer.
- Clutch housing complete.

Take out :

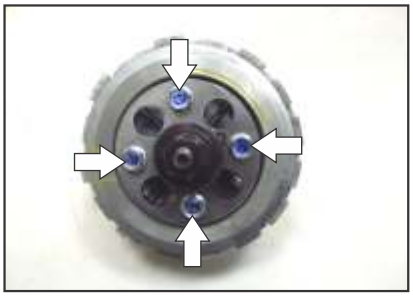
- Clutch spacer.
- Washer.

Clutch Assembly Dismantling

- Insert clutch dismantling tool in clutch assembly.

Remove :

- Clutch holder mounting bolts (4 nos).
- Clutch dismantling tool nut & take out clutch dismantling tool.



Engine Dismantling

Remove :

- Clutch holder.
- Compression springs.

Remove :

- Clutch hub.
- Clutch plates & friction plates.

Remove :

- Clutch wheel.
- Clutch housing.

Remove :

- Inhibitor bolt with 10 mm spanner.

Take out :

- Inhibitor bolt, inhibitor, plain washer, & spring.

Engine Dismantling

Remove :

- Lever complete gear shift.

Remove :

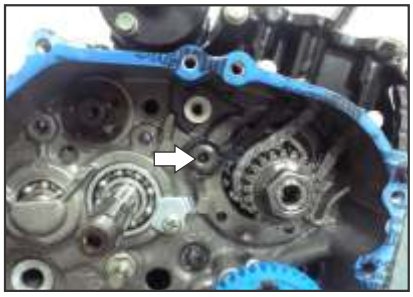
- Cam drum change mounting bolt with 5 mm allen key & take out cam drum change.

Take out :

- Pins.

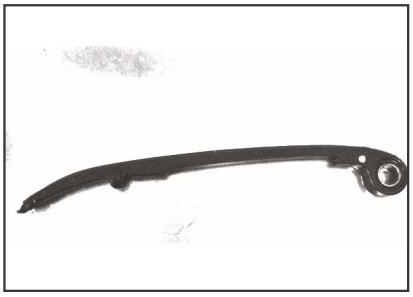
Take out :

- Kick shaft spring from spring mounting rod.
- Kick shaft.



Remove :

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



Engine Dismantling

Take out :

- Plunger.
- Primary gear nut.

Take out :

- Belleville washer.
- Plain washer

Take out :

- Primary gear.
- Key.

Take out :

- Timing chain.
- Oil pump driving gear.

Engine Dismantling

Magneto Side Dismantling

Take out :

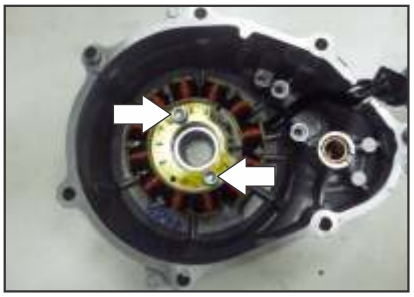
- Dowels (2nos).
- Gasket.

Remove :

- Gear starter clutch locking plate screw & take out gear starter clutch locking plate.

Remove :

- Pick up coil mounting screws (2 nos) with phillips head screw driver.
- Stator plate wiring branch guide plate screw with phillips head screw driver.



Remove :

- Stator plate mounting bolts (2nos) with 4 mm allen key & take out stator plate.

- Using magneto rotor holder, remove magneto rotor nut with 19 mm spanner.

Engine Dismantling

Take out :

- Magneto rotor nut.
- Belleville washer.

- Using magneto rotor puller & 32 mm spanner, take out magneto rotor along with one way clutch & key.

.Remove :

- Gear starter clutch
- One way clutch mounting bolts (3nos) with 5mm allen key & take out one way clutch.

Remove :

- Drive assembly.

Engine Dismantling

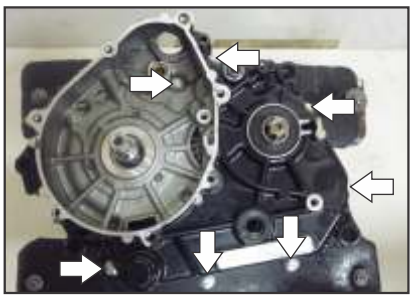
- Using output sprocket holder tool, remove output sprocket bolts (2nos) with 5 mm allen key & take output sprocket along with plate drive.

Remove :

- Starter motor mounting bolts (2nos) with 8mm T spanner & take out starter motor.

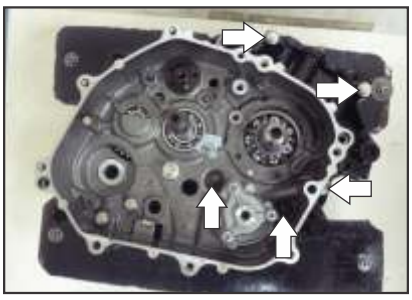
Engine Dismantling

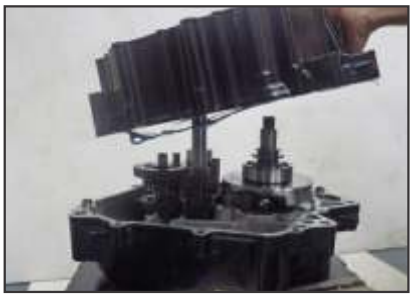
Crankcase Splitting



Remove :

- LH crankcase mounting bolts (7 nos) with 8 mm T spanner.
- RH crankcase mounting bolts (5 nos) with 8 mm T spanner.





Take out :

- Crankcase RH.
- Dowels (2 nos).

Take out :

- Crankshaft assembly.
- Damper crankshaft.

Remove :

- Output & input shaft gear fork shift.

Engine Dismantling

Remove :

- Drum gear shift.

Remove :

- Output & input forks gear shift.

Remove :

- 5th gear output washer.

Take out :

- Input & output shaft assembly with gears.

Key Learning Points

- Appropriate torque application for various frame components
- Standard Operating Procedure for front fork oil seal replacement

CHAPTER 4

Frame & Suspension

Tightening torque

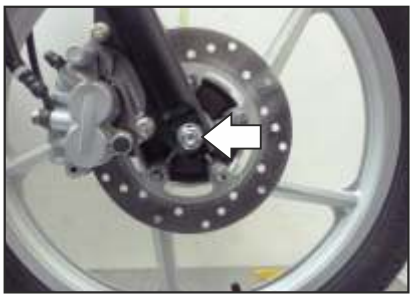
Service limit

Special tool

Standard Operating Procedure

Tightening Torque

Front Axle Nut



4.5 ~ 5.5 Kg.m

Rear Axle Nut

5.5 ~ 6.5 Kg.m

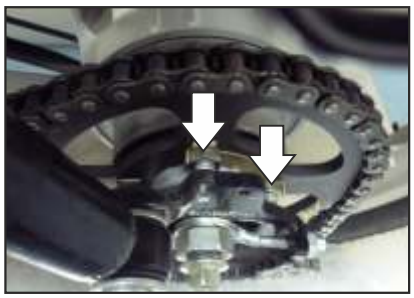
Torque Rod Nut on Panel

2.8 ~ 3.2 Kg.m

Rear Sleeve Nut

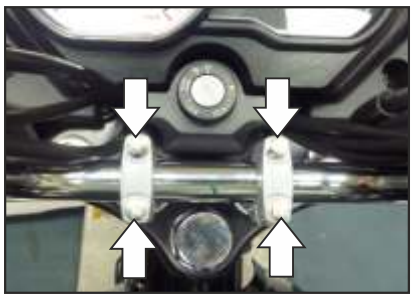
6.0 ~ 7.0 Kg.m

Rear Sprocket Mounting Nut



3.2 ~ 3.8 Kg.m

Handle Bar Holder Bolts

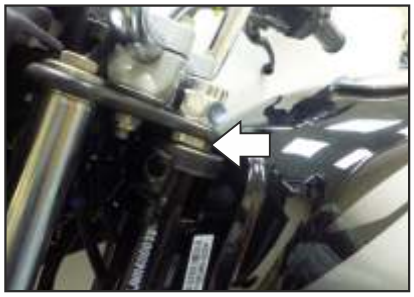


2.2 ~ 2.2 Kg.m

Fork Centre Nut

4.5 ~ 5.0 Kg.m

Steering Stem Nut (Slotted)

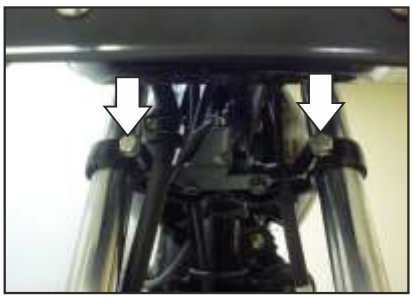


0.5 Kg.m

Fork Pipe Top Bolts

3.0 ~ 3.2 Kg.m

Fork Under Bracket Bolts



3.0 ~ 3.2 Kg.m

RSA Mounting Nut (Upper)

2.8 ~ 3.2 Kg.m

Swing Arm Shaft

5.6 ~ 6.0 Kg.m

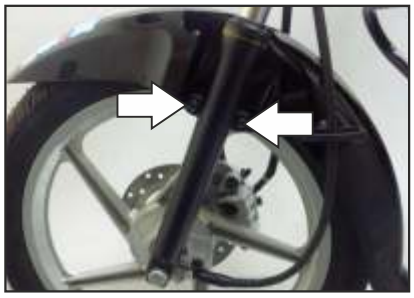
Frame & Suspension

Tightening Torque

RSA Lower Bolt

2.8 ~ 3.2 Kg.m

Front Fender Mounting Bolts

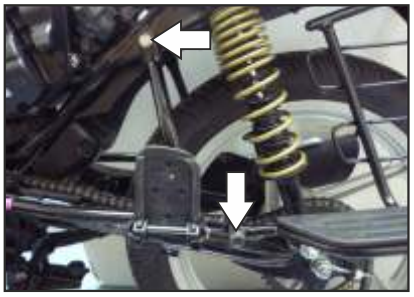


0.8 ~ 1.2 Kg. m

Rider Foot Rest Mounting Bolts

1.8 ~ 2.2 Kg.m

LH & RH Pillion stay Bolts

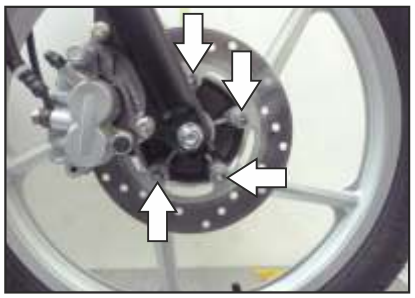


1.8 ~ 2.2 Kg.m

Side stand nut

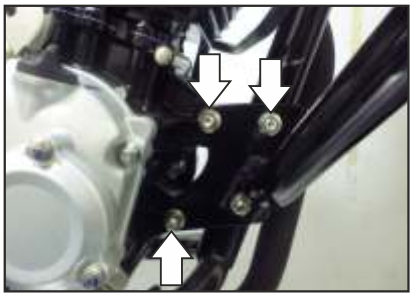
2.8 ~ 3.2 Kg.m

Disc mounting bolt



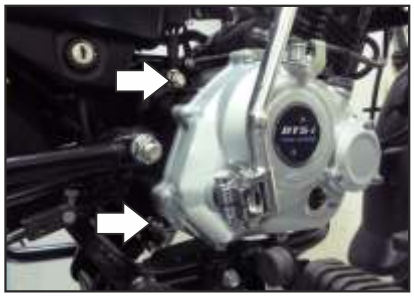
1.3 ~ 1.5 Kg.m

Engine foundation nuts - Front



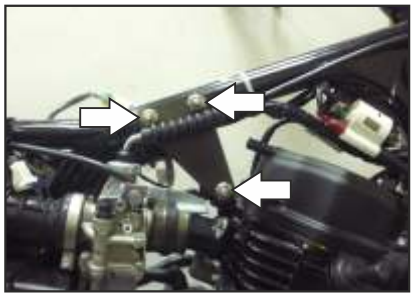
1.8~2.2 Kg.m

Engine foundation nuts - Rear



2.8 ~ 3.2 Kg.m

Engine foundation nuts - Top

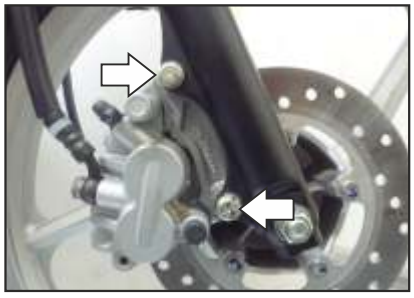


1.8 ~ 2.2 Kg.m

Rear brake pedal mounting bolt

2.8 ~ 3.2 Kg.m

Caliper mounting bolt



2.2 ~ 2.8 Kg.m

Service Limits

Brake Pad Thickness-Front

Std. Limit	5 mm
Ser. Limit	1 mm

Front Disc Run Out

Std. Limit	—
Ser. Limit	0.15 mm

Axial Wheel Run Out

Std. Limit	TIR 0.08 mm
Ser. Limit	TIR 2.0 mm

Radial Wheel Run Out

Std. Limit	TIR 0.8 mm
Ser. Limit	TIR 2.0 mm

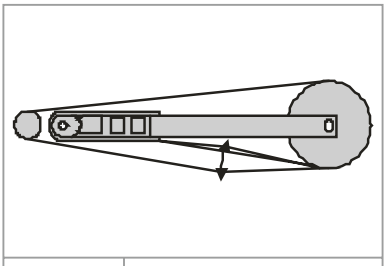
Tyre Tread Depth

	Front	Rear
Std. Limit	5.0 mm	6.0 mm
Ser. Limit	Upto TWI	Upto TWI

Rear Sprocket Warp

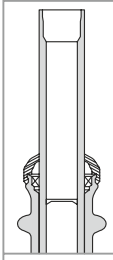
Std. Limit	TIR 0.4 mm or Less
Ser. Limit	TIR 0.5 mm or Less

Drive Chain Slack



Std. Limit	25 ~ 30 mm
Ser. Limit	40 mm

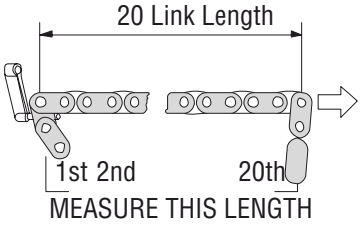
Front Fork Oil Grade & Capacity



Grade :
SAE 10W20
Bajaj Genuine
Fork Oil
Quantity :
150 cc/leg

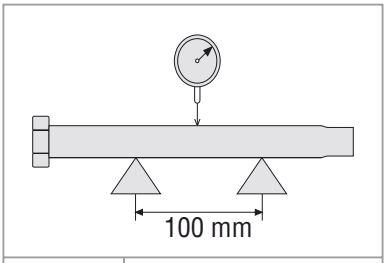
Std. Limit	
Ser. Limit	

Drive chain Length



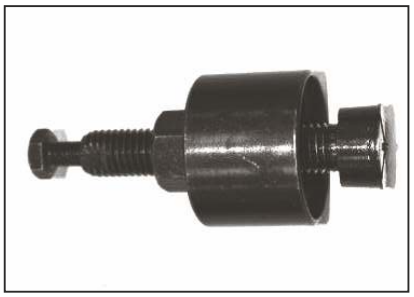
Std. Limit	254~254.6 mm
Ser. Limit	260 mm

Axle Run Out



Std. Limit	TIR 0.5 mm
Ser. Limit	TIR 0.2 mm

Special Tools



Oil seal & Anti-friction bush Extractor

Part No : 37 1041 95

Application : To remove anti friction bush & oil seal from front fork outer tube.

Fork oil seal fitment punch

Part No : 37 1830 07

Application : To fit fork oil seal in it's seat provided at outer pipe ID.

Front fork cylinder holder handle with adaptor

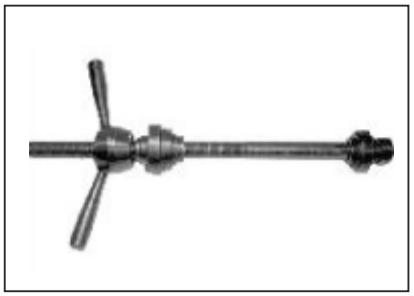
Part No : 37 1830 06

Application : To hold fork cylinder while loosening / tightening fork allen bolt at bottom.

Stem Bearing Driver

Part No : 37 1830 05

Application : To fit bearing race on fork under holder bracket.



Installer Upper & Lower bearing race

Part No : 37 1801 06

Application : To install upper & lower steering races / cones into their seats inside the frame.

Special Tools

Bearing race extractor

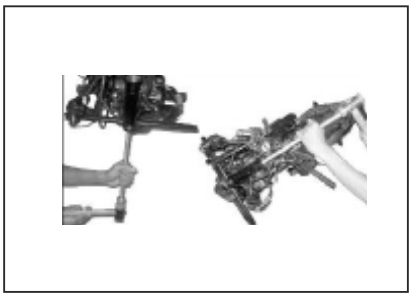
Part No : 37 1030 48

Application : To pull out steering race from fork under bracket.

Steering Cone Remover

Part No : 37 1805 06

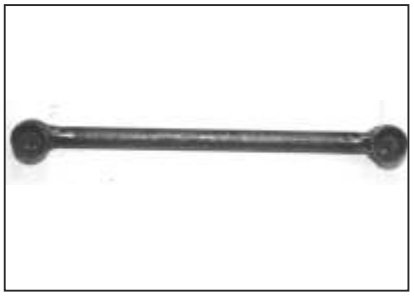
Application : To remove steering cones from frame



Steering Slotted Nut Special Tool

Part No : 37 0043 02

Application : To remove / tighten steering slotted nut



Ignition Switch Bolts Tightening Tool

Part No : 37 0043 04

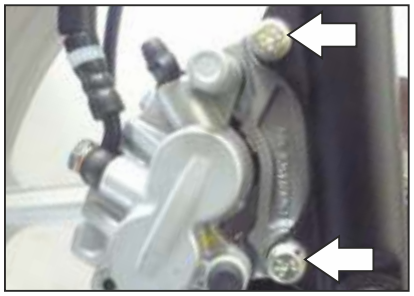
Application : To tighten ignition switch mounting bolts

Standard Operating Procedure

Front Fork Oil Seal Replacement

Remove :

- Front axle nut with 17 mm spanner.
- Brake calliper mounting bolts (2 nos) with 12 mm spanner & take out brake calliper along with front brake cable.



Remove :

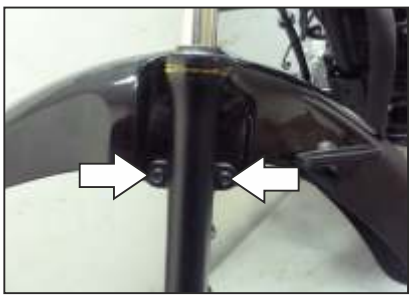
- Speedometer cable mounting bolt with 8 mm spanner & take out speedometer cable.

Take out :

- Front axle & front wheel.

Remove :

- Front brake cable from clamp provided on front fender.
- Front fender mounting bolts (4 nos) with 10 mm spanner & take out front fender.



Remove :

- Front fork top mounting bolt with 17 mm spanner.

Standard Operating Procedure

Loosen :

- Under bracket bolts (2 nos) with 14 mm spanner & take out fork leg assembly.

Loosen :

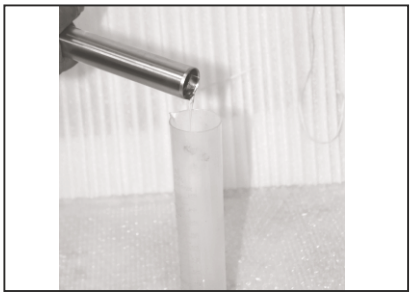
- Fork top bolt with 27 mm spanner.

Take out :

- Fork top bolt
- Spacer Tube

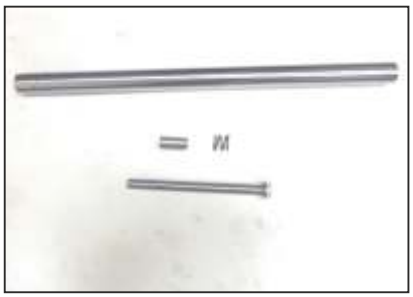
Take out :

- Main Spring
- Fork Oil.



Standard Operating Procedure

- Using Cylinder Piston holder, hold cylinder piston, remove outer tube bottom bolt with 6 mm allen key & take out allen bolt along with copper washer.



- Remove cylinder piston holder & take out -
  - Fork pipe
  - Piston
  - Spring
  - Cap oil lock

Take out :

- Dust seal.
- Oil seal lock.

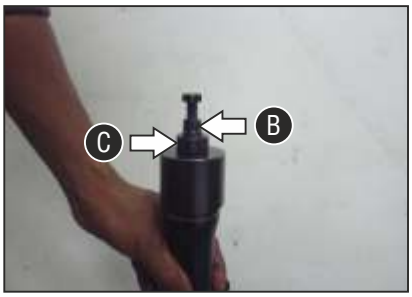
Note:

Do not use screw driver for dust seal removal.

- Insert oil seal extraction special tool as shown in photograph.

- Tighten oil seal extraction special tool bolt (A) with 17 mm spanner holding with nut (B) 13 mm spanner.

Standard Operating Procedure



Tighten :

- Nut (C) with 30 mm spanner holding nut (B) with 13 mm spanner to extract oil seal.

Remove :

- Special tool bolt (A) with 17 mm spanner & remove
- Nut (C) with 30 mm spanner.

Remove :

- Special tool cap.
- oil seal.

- Before re-fitment clean fork leg assembly thoroughly with diesel
- Clean fork inner pipe & outer tube with clean cloth.

- 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.

Standard Operating Procedure

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

Note :

- ***Nylon brush can be used for removing burr / muck particles for inner / outer tubes.***
- ***Blow the compressed air through fork inner pipe & fork outer tube.***

- Hold the cylinder piston along with spring on cylinder piston holder.

- Assemble fork inner pipe & cap oil lock.

- Assemble outer tube as shown in photograph.

Standard Operating Procedure

- Insert allen bolt along with copper washer & tighten the allen bolt 6 mm allen key.

Note :

Apply loctite thread lock 243 on allen bolt. Always replace copper washer with new one.

Remove :

- Cylinder piston holder & hold the fork leg assembly as shown in photograph.

Insert :

- Washer.
- Oil seal.

- Use oil seal fitment punch for fitment of oil seal.

- Ensure oil seal is properly fitted

Note :

- ***Never reuse oil seal.***
- ***Always replace the fork oil seal along with dust seal of same manufacturer.***
- ***Front fork oil seal fitment direction should be as shown in photograph.***

Standard Operating Procedure

Assemble :

- Oil seal lock & dust seal.

Assemble :

- Spring
- Spacer
- Fork top bolt

Refill :

- correct quantity (150 ± 2.5 ml) of Bajaj genuine fork oil (SAE10W20).

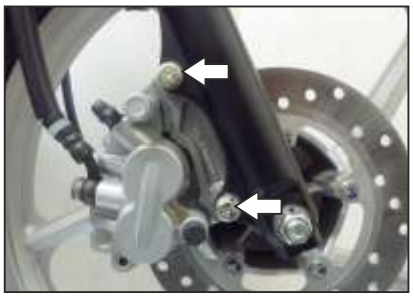
Tighten :

- Front fork top nut by 27 mm spanner.

- Assemble front fork leg assembly on vehicle.
- Pre-fit front fork top bolt with 17 mm ring spanner followed by torque (3.0 ~ 3.2 Kg.m) application.
- Pre-fit under bracket fork bolt by 13 mm ring spanner followed by torque (3.0 ~ 3.2 Kg.m) application.

Standard Operating Procedure

- Check freeness of front axle in outer tubes.
- Pre-fit fender bolts (4 nos) by 10 mm ring spanner followed by torque. (0.8 ~ 1.2 Kg.m) application.
- Refit wheel and axle.
- Pre-fit front axle nut by 17 mm ring spanner followed by torque (4.5 ~ 5.5 Kg.m) application.

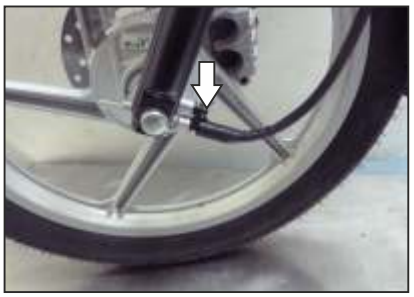


Refit :

- Front brake calliper.
- Speedometer cable.

Tithten :

- Brake calliper mounting bolts with 12 mm spanner.
- Speedometer cable mounting bolt with 8 mm spanner.



Key LearningPoints

Battery Technical Specifications

Standard Operating Procedures for DRL/Headlight assembly replacement

Electrical parts checking SOP

CHAPTER 5

Electricals

Battery technical specification

DRL Unit (Day Running Light)

Standard Operating Procedures

Electrical parts checking SOP

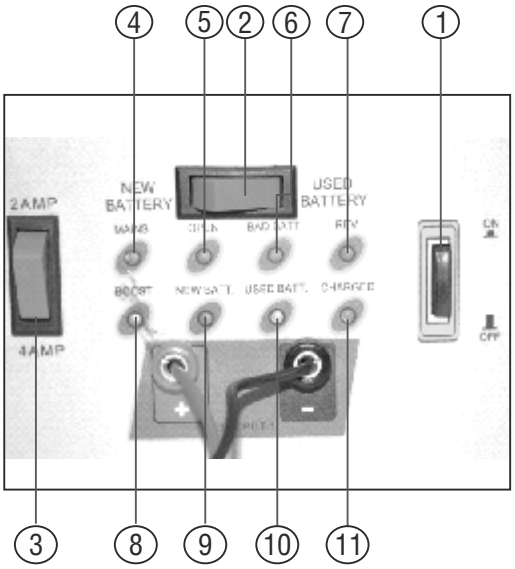
Electrical circuit Diagram

Battery Technical Specification & Battery Charger

Battery Technical Specification

Parameters	Specifications
Make	Exide
Voltage	12V
Type	VRLA
Capacity	3 Ah
Specific gravity of electrolyte	1.330 + 0.010

Battery Charger



1	ON / OFF switch	8	Boost indication light (White)
2	New Battery / Used Battery selection switch	9	New Battery indication light (Yellow)
3	Charging current selection switch	10	Used battery indication light (Blue)
4	Main power supply indication light (Green)	11	Charged indication light (Green)
5	Open circuit indication light (Red)	12	- ve terminal (Black)
6	Bad Battery Indication light (Red)	13	+ ve terminal (Red)
7	Reverse polarity indication light (Red)		

DRL Unit (Day Running Light)

- Day Running Light is provided above Headlamp.
- Day Running Light discharges high intensity light when ignition switch is turned to 'ON' position and with light switch on Control Switch RH remaining in "OFF" position.
- After putting light switch on Control Switch RH in "ON" position, Day Running Light discharges low Intensity light and the Headlamp will discharge full intensity light.

- When Ignition switch is ON & light switch on control switch RH is OFF DRL unit is ON (High Intensity) & headlamp is OFF.

- When Ignition switch is ON & light switch on control switch RH is ON DRL unit is ON (Low Intensity) & headlamp is ON.

Caution :

Do not park vehicle with ignition / light switch (located on control switch RH) in 'ON' condition. This will result in faster draining of battery.

Standard Operating Procedure

VRLA Battery Charge Condition Checking

Remove :

- RH side cover with vehicle ignition switch.
- RH side cover front side lug from hole Provided on frame.

Pull :

- RH side cover towards front side for removing RH side cover rear lug from hole.
- Seat lock cable & lift the seal from rear side as shown in photo graph.
- Seat towards back side & take out seat.

Take out :

- Positive terminal rubber boots.

- Disconnect the battery terminals as follows : -
  - Battery “-ve” terminal &
  - Battery “+ve” terminal.

- Confirm battery type & reference number given on back side of midtronics make PBT 50 battery tester.

Standard Operating Procedure

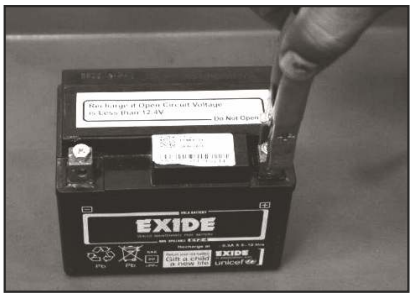
- Connect battery tester clamps to battery terminals. Ensure the correct polarity.
- Select the battery reference number by using UP / DOWN arrow keys & Press TEST button.

VRLA Battery Charging using VRLA battery charger

Remove :

- Side cover LH & RH.
- Seat.
- Battery terminals as explained in battery charge condition checking SOP
- Battery bands & Take out the VRLA battery.

- Clean battery thoroughly using clean cloth.
- Connect 230 V AC single phase power supply to charger.

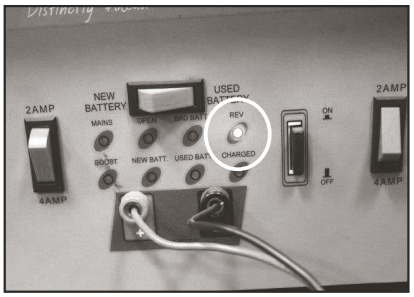


Connect :

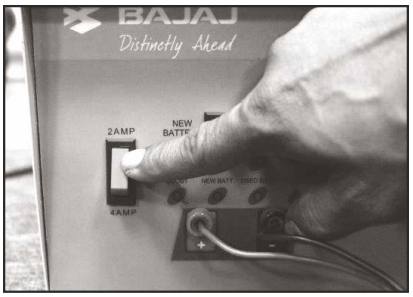
- VRLA battery charger clips to battery terminals -

  Red clamp to '+ve' terminals & black clamp to '-ve' terminals

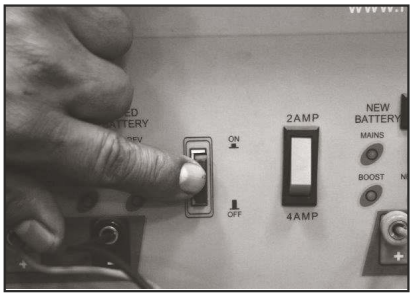
Standard Operating Procedure



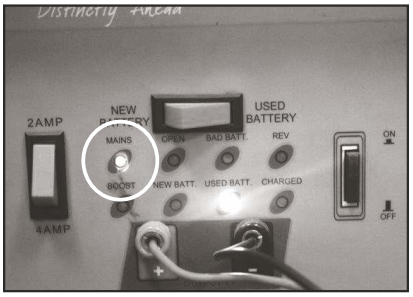
- In case of wrong polarity connections, red LED “REV” will glow on the charger.
- Select charging current 2 Amp.



- Select battery type new or used



- Switch on battery charge main switch. Green LED will glow.



- If red LED glows, it indications a open circuit condition.

Standard Operating Procedure

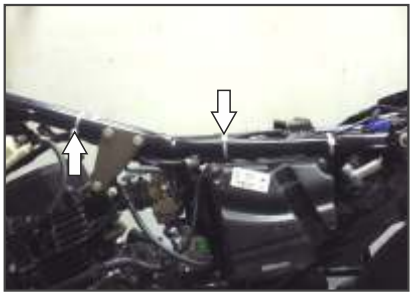
- The charger detects battery voltage. If it is less than 5V DC, it will switch to step 1.In this mode charging duration is 30 minutes. If battery voltage does not increase above 5V, then Red LED will glow indicating a BAD battery.

- If the voltage of battery is ore than 5V DC, charger switches to step 2/3 & battery will undergo charging for 5 to 14 hrs depending on battery condition.
- After completion of battery charging, a green LED will glow indicating completion of charging.

- Disconnect the battery from charger & test it's condition using VRLA battery tester. If result is OK, then fit the battery in vehicle.

Wiring Harness Routing

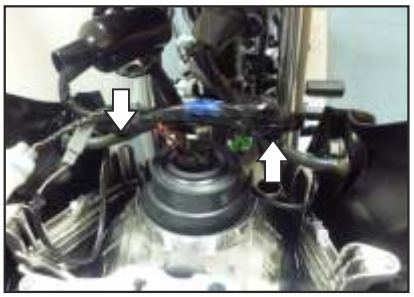
- Route wiring harness as shown in photograph & ensure that it is tied to frame with cable ties (3nos).
- Ensure Wiring harness is tied to frame with cable tie as shown in photograph.



- Rout wiring harness through top engine mounting bracket.
- Ensure that wiring harness is tied to frame with (2 nos) cable ties.

Standard Operating Procedure

- Route wiring harness through HT coils
- Ensure that it is routed through holding clamp & further towards headlamp assembly.



Ensure :

- That wiring harness body clips are fitted in holes provided on headlamp assembly metal bracket.
- That all the couplers are placed inside rubber bellow.

Wiring Harness Precautions to be taken to avoid Failure

Wirirng Harness precautions to be taken to avoid failure

- Ensure wiring harness is properly routed & clamped.
- Ensure firm connections of all couplers.
- Ensure wiring harness couplers are placed properly in bellows provided at head lamp fairing & tail lamp side.
- Ensure correct routing of wiring harness which will avoid pinching of wires.
- Do not fit extra electrical accessories. Such as-
  - Remote
  - Extra & bigger horns
  - Musical brake light
  - Buzzer
  - Higher wattage Headlamp bulb.
  - Flasher operating all 4 side indicators simultaneously
- Do not replace fuse with higher capacity fuse.
- Do not cut wiring conduit / wires midway.
- Never remove conduit from wiring harness
- Never bypass fuse.
- 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 should not be covered under warranty replacement.

Standard Operating Procedure

Headlight Focus Adjustment

- Loosen the headlight focus adjustment bolt with 10 mm spanner.
- Adjust the headlight focus by moving headlight assembly upward or downward.
- Tighten the headlight focus adjustment bolt.

Headlight Bulb Replacement

Remove :

- Head light assembly mounting screws (2 nos) with phillips head screw driver & bolt with 10 mm spanner.

- Take out head light assembly.
- Remove head light coupler connection.

Remove :

- Rubber cap.

Remove :

- Bulb holding clip & take out head light bulb.

Standard Operating Procedure

Head Light & DRL Assembly Replacement

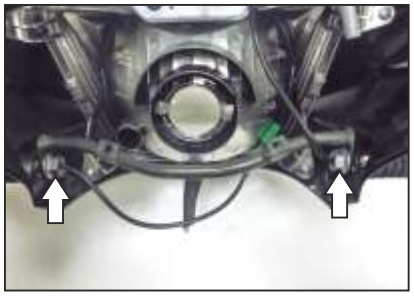
Remove :

- Head light bulb.
- (2 nos) wiring harness body clips as shown in photograph.

- Pull out rubber grommets & remove indicator couplers connections.
- Remove DRL coupler.

- Remove DRL coupler.

- Take out head light assembly.
- Insert 15 mm ring spanner through indicator wiring branch & remove indicator mounting nuts (2 nos) with 15 mm spanner.



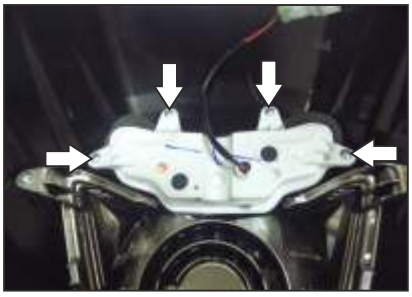
Standard Operating Procedure

Take out :

- Indicators and indicator mounting bracket.

Remove :

- DRL mounting screws with phillips head screw driver.



Take out :

- DRL

Remove :

- Headlight assembly mounting screws (4 nos) with phillips head screw driver & take out head light assembly.

Standard Operating Procedure

Speedometer Assembly Replacement

Remove :

- Headlight assembly.
- Windshield .
- Speedo flap.

Remove :

- Speedometer cable from speedometer.

Remove :

- Speedometer mounting nuts (2 nos) with 10 mm spanner & take out speedometer mounting bracket.

Remove :

- Speedometer coupler connection & take out speedometer assembly.

Electrical Checking Procedure

Fuse Inspection

- Inspect the fuse element.
- Check continuity of fuse.
- If it is blown out, replace with new one.
- If a fuse fails repeatedly, check the electrical system to determine the cause. Replace it with new fuse of proper ampere capacity.

- If fuse is replaced by lower capacity fuse, it may leads to repetitive fuse blowing problem.

Note :

Never use higher capacity fuse as it may cause damage to wiring & components.

Front Brake Light Switch

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

	Brown	Blue	Continuity check by multimeter
Lever pressed	●	●	Continuity is shown
Lever released	●	●	No Continuity is shown

Electrical Checking Procedure

Rear Brake Light Switch

- 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

- The clutch switch has 3 wires. In neutral conditions, clutch switch is in non-operated condition closing 'C' & 'NC' terminals. In gear condition, clutch switch is operated there by connecting 'C' & 'NO' terminals.

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

Electrical Checking Procedure

Ignition Switch

- Measuring & Testing Equipment : Multi meter

	Brown	White	Black / White	Black / Yellow
OFF	●	●	● —	— ●
ON	● —	— ●	●	●

SOP

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

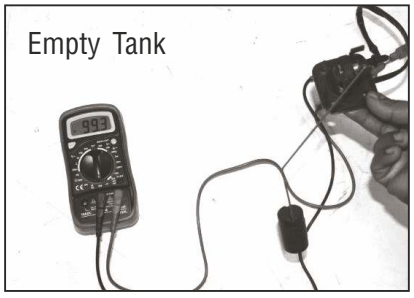
Standard value :

- Beep sound & continuity in 'ON' position. No continuity in OFF position.

Note:

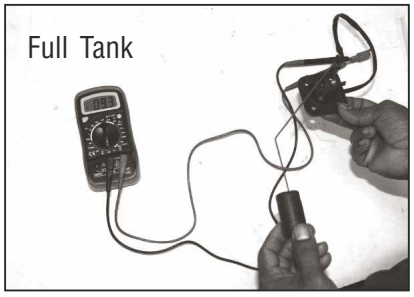
- ***Don't use duplicate or non-OE ignition key.***
- ***Never lubricate ignition switch by oil/grease. Use WD40 cleaning spray.***

Fuel Gauge - Tank Unit



- Measuring & Testing Equipment : Multi meter

Meter Range	Connections	
200	Meter + ve	Meter -ve
	White / Yellow	Black / Yellow



Standard value :

Fuel	Fuel Quantity (L)	Standard Value in Ohm
Empty Tank	1.4	90 ~ 100
Half Tank	5.0	40 ~ 48
Full Tank	8.0	4 ~ 10

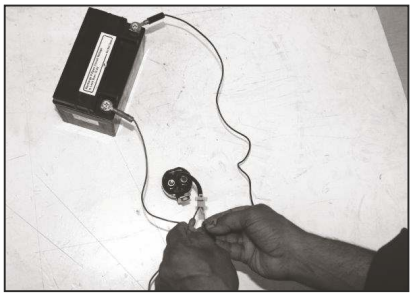
Electrical Checking Procedure

Starter Relay

- Measuring & Testing Equipment : Test Jig Or Multi meter

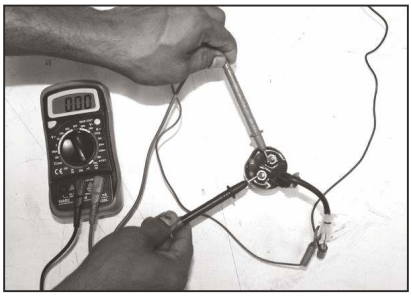
  Connection : Test Jig - Connect starter relay coupler to Test Jig & it show result as OK / Defective

Meter Range	Connections		Standard Value
200 Ohms	Meter +ve	Meter -ve	3.9Ω±10%
	Starter Relay Coil Red - Yellow Wire	Starter Relay Coil Black Wire	



SOP

- Connect external 12V DC supply to starter relay coil terminals.
- Click sound will be heard.
- Set mutimeter on continuity mode.
- Connect mutimeter at relay contact terminals.
- Continuity (beep sound) indicates starter relay is OK.



Engine Thermal Sensor

- Measuring & Testing Equipment : Multi meter

Meter Range	Connections		Standard Value	
20 K Ohms	Meter +ve	Meter -ve	Engine Temp (^{0}C)	Resistance K Ohms
	Black / White	Earth / Ground	@ 25^{0}C	10.5 K ± 7 %

Electrical Checking Procedure

Battery Charging Coil

- Measuring & Testing Equipment : Multi meter

Meter Range	Connections		Standard Value
200 Ohms	Meter +ve	Meter -ve	0.9Ω
	Blue / White	Black / Yellow	

SOP

- Switch OFF engine.
- Disconnect stator plate coupler.
- Connect multimeter as given in table.
- Check resistance.

Pick - Up Coil

- Measuring & Testing Equipment : Multi meter

Meter Range	Connections		Standard Value
2 k Ohms	Meter +ve	Meter -ve	215±20Ω
	White/ Red	Black / Yellow	

SOP

- Switch OFF ignition key.
- Disconnect stator plate coupler.
- Connect multimeter Between White / Red & Black / Yellow wires.
- Measure resistance.

Note : Ensure gap 0.5~0.7 mm between pole of pick-up coil & rotor peep.

Starter Motor - Current Drawn

- Measuring & Testing Equipment : DC Clamp Meter

Meter Range	Connections	Standard Value
200 DC A	Encircle clamp meter transformer jaws around thick Red wire of starter motor.	30~38 Amps Spark Plug Caps removed

SOP

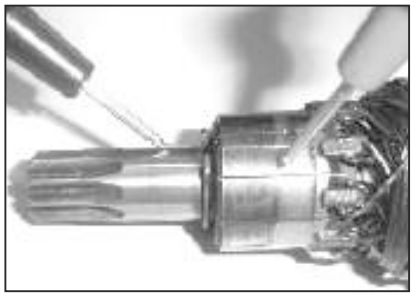
- Switch 'ON' ignition key & disconnect both spark plug caps.
- Select range & set clamp meter Zero reading.
- Encircle red input wire of starter motor by clamp meter jaws.
- Crank engine by pressing self starter button.
- Press self starter button 3 seconds & check cranking current display on clamp meter LCD display.

Electrical Checking Procedure

Starter Motor Armature

- Measuring & Testing Equipment : Multimeter

Meter Range	Connections		Standard Value
Continuity Mode	Meter +ve	Meter -ve	No Continuity is shown
	Commutator segment	Shaft	



SOP :

- Dismantle starter motor & take out armature.
- Check continuity between Starter motor shaft & each segment on commutator.
- Replace armature if continuity is shown.

Electrical Checking Procedure

Horn

- Measuring & Testing Equipment : DC Clamp Meter

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

SOP

- Encircle clamp meter jaws around brown wire of horn.
- Press horn switch & check instantaneous current drown by horn.

DC Charging Voltage Measurment

Use Fully charged battery while measuring

Ensure V_B = 12.5 ± 0.3 V before checking

V_B = Battery open circuit terminal voltage with battery terminals in disconnected condition.

To measure the DC Voltage:- set the meter at 20V DC range. Connect the meter +ve lead to battery +ve terminal & meter -ve lead to Battery -ve terminal without disconnecting battery wires. Start the engine & set it at 2000 RPM. Measure the voltage with headlight switch in 'ON' position. Switch off ignition key & disconnect the meter leads.

Meter Range	Connections		Standard at 2000
20 V DC	+ve Lead	-ve Lead	14.3 ± 0.4 Volts
	Battery +ve terminal	Battery -ve terminal	

Note : For DC voltage measurement connect multimeter in parallel circuit.

Electrical Checking Procedure

H. T. Coil Resistance Checking

- Measuring & Testing Equipment : Multimeter
  - Measuring the primary winding resistance as follows

Meter Range	Connections		Standard Value
200 Ohms	Meter +ve	Meter -ve	0.3 ~ 0.5 Ohms at 25^0 C
	Balck	Black / Yellow	

- Measure the secondary wiring resistance as follows.
- Remove the plug cap by tuning it counter clockwise.

Meter Range	Connections		Standard Value
20 K Ohms	Meter +ve	Meter -ve	4.5 ~ 5.5 Ohms at 25^0 C
	White / Yellow	Black / Yellow	

- The value does not match as per, specifications replace the coil.
- If the meter reads as specified, the ignition coil winding are probably good. however, if the ignition system still does not perform then check spark output of HT coil using CDI / HT coil tester.

H. T. Coil Spark Output Checking

S.N.	LED Status	Spark Status	Conclusion
1.	Glows	Continuous Bluish Spark	Ignition system is OK
2.	Glows	No Spark	HT Coil / Spark plug / Plug cap may be defective
3.	Glows	Intermittent	HT Coil / Spark plug / Plug cap may be defective
4.	Does not Glow	No Spark	Check pick up coil & Exciter coil if found OK then replace CDI

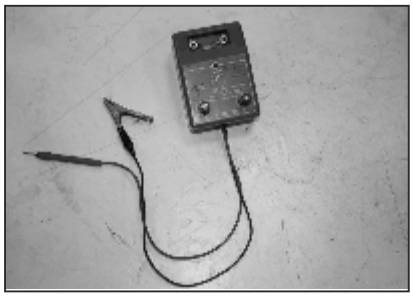
Electrical Checking Procedure

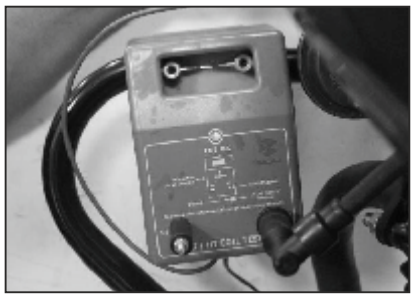
CDI Assembly

Identification :

- Coupler - (2 nos) natural white (4 Pole & 2 Pole)
- Make - Flash

Measuring & Testing Equipment : CDI / HT Coil Tester.





SOP For CDI Checking

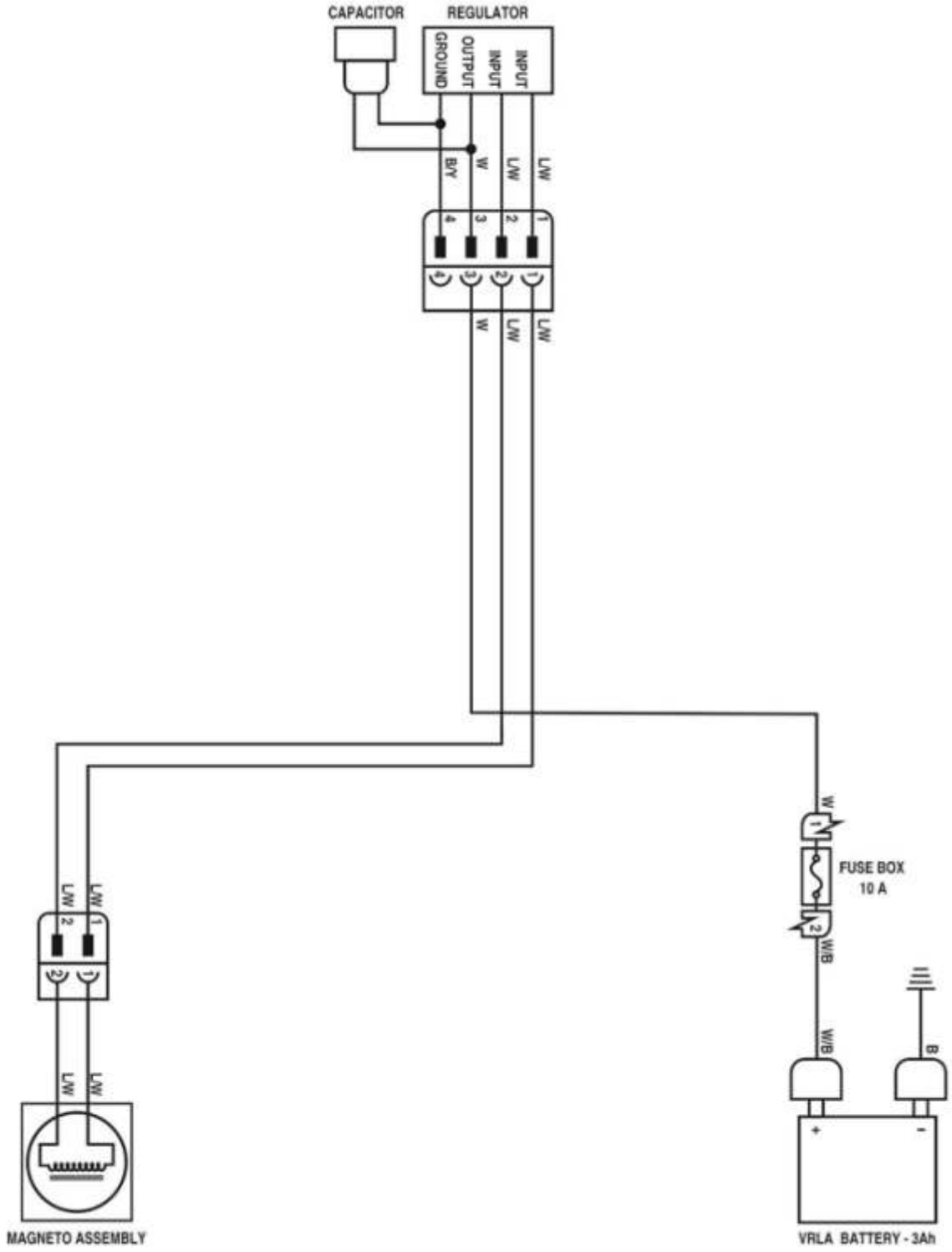
Measuring & Testing Equipment :

CDI / HT Coil tester

- Hang the unit on leg guard of the vehicle.
- Remove spark plug cap & connect to suitable terminal S1 / S2 on the unit.
- Connect 'Rod' probe of the unit to HT coil primary terminal.
- Connect 'Black' probe to earth.
- Start the engine.
- Status of LED & spark window indicates the result as below.

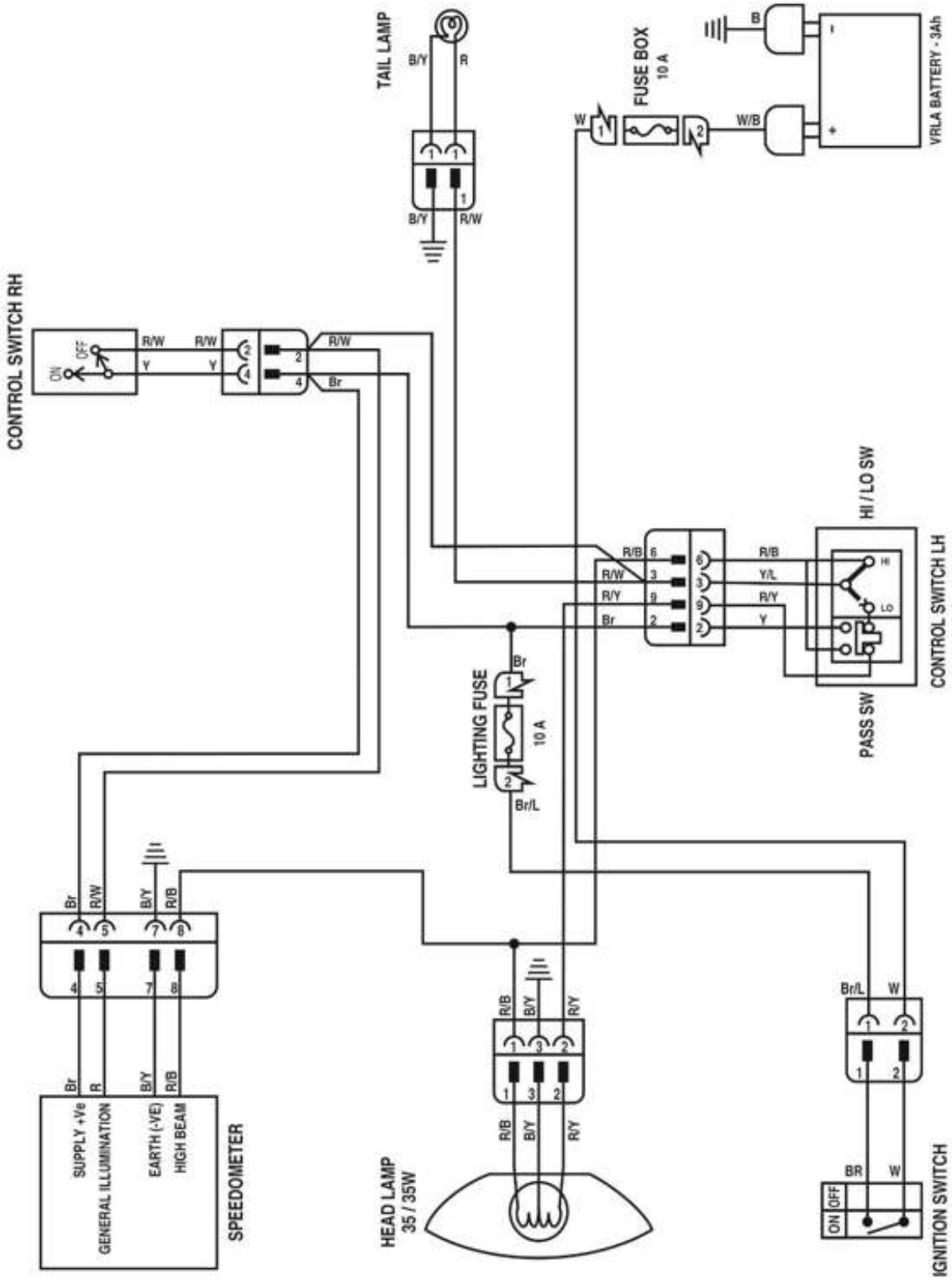
Electrical Circuit Diagram

Battery Charging Circuit



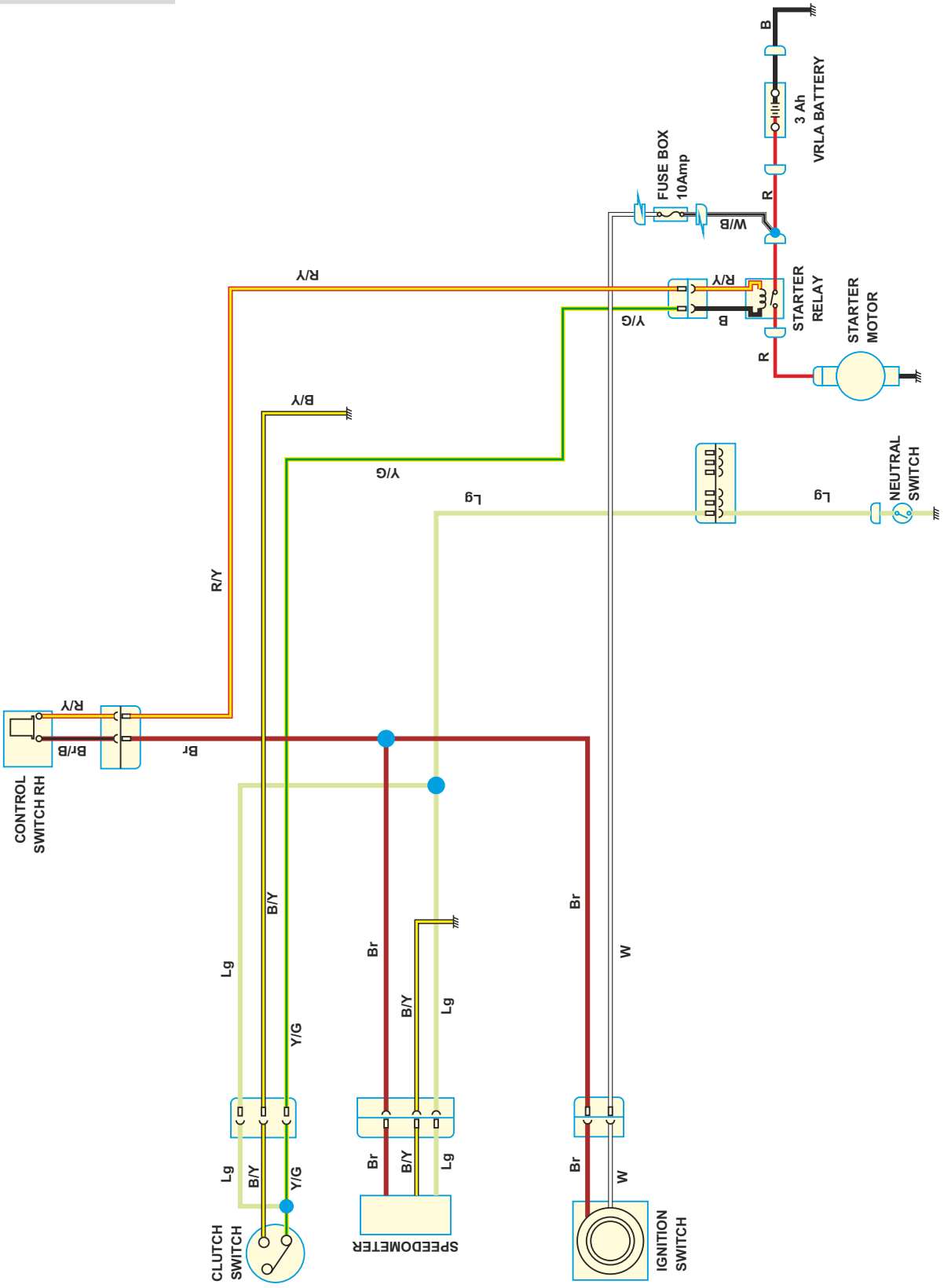
Electrical Circuit Diagram

Lighting Circuit



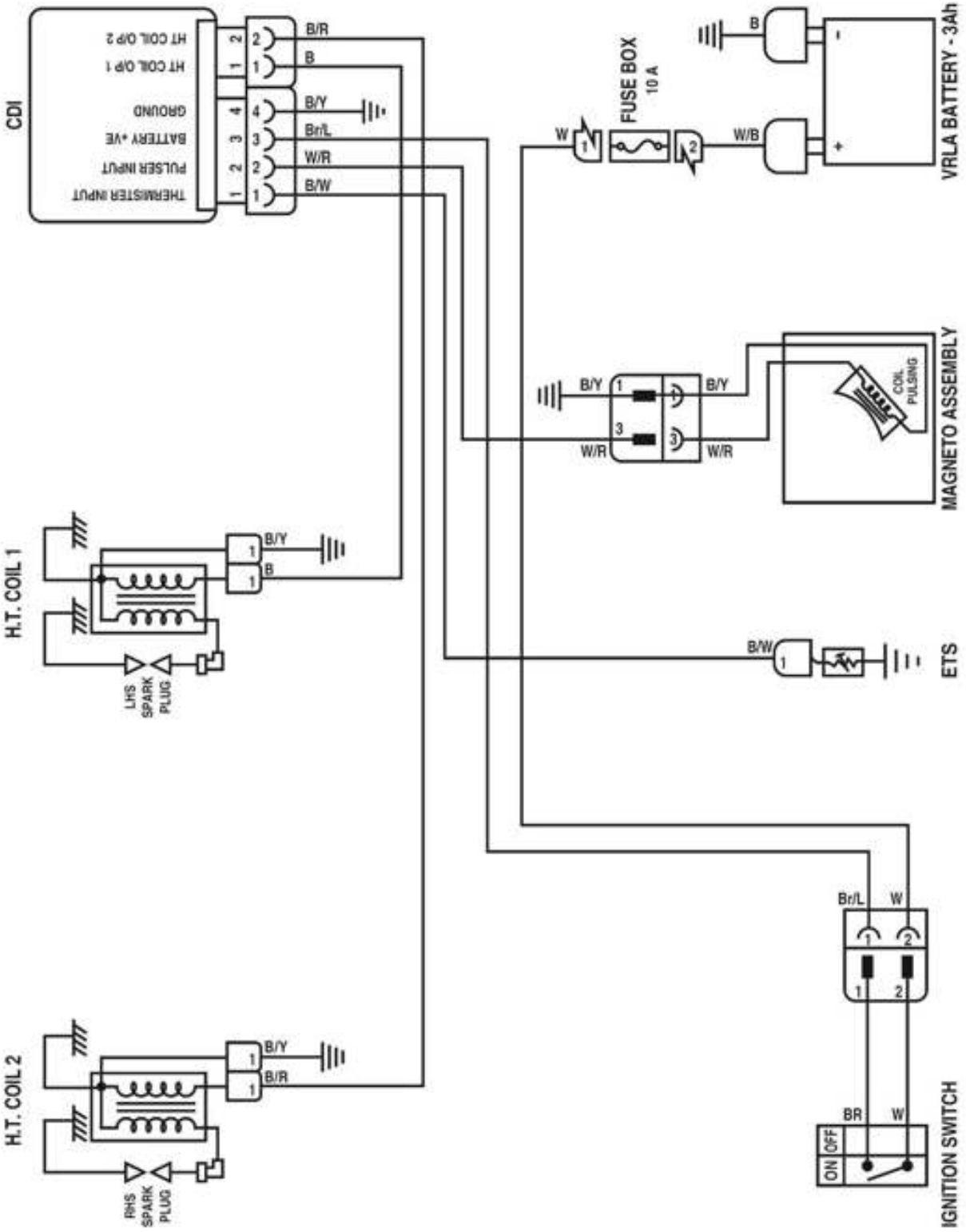
Electrical Parts Checking Sop

Starter Circuit



Electrical Circuit Diagram

Ignition Circuit



NOTES