

ADD-ON SERVICE MANUAL - BS VI - HIMALAYAN



HIMALAYAN

PREFACE

"FIRST TIME RIGHT" is a very important element for enhancing Customer Satisfaction.

Royal Enfield is committed to upgrade the skills and knowledge of technicians so that they follow scientific repair techniques to ensure "FIRST TIME RIGHT" practices and carry out repairs accurately so that customers will enjoy trouble free performance at all times.

This Add on service manual is specifically for the BS VI - Exclusive parts of the motorcycle.

This manual will help in guide in the basic servicing, systematic disassembly, Parts inspection and assembling procedures of various mechanisms / systems of the motorcycle related BS VI Vehicles which has to be carried out in Royal Enfield Authorised Dealership or Service Station.

While this manual is updated with latest Information and Specifications, at the time of going to print, due to continuous improvements being done to improve performance, some of the data, illustrations etc., in this manual may differ from the actual parts fitted in the engine / Vehicle.

Please do feel free to write to us at support@royalenfield.com, if you have any queries, clarification, suggestions or feedback.

With warm regards

Royal Enfield
Chennai

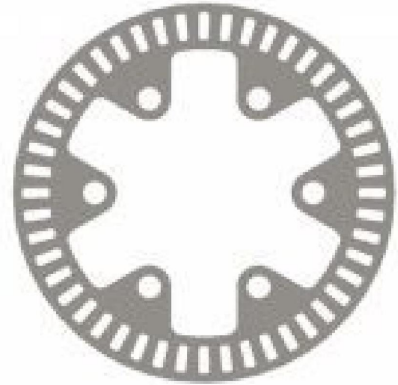
Jan. '2020

EXCLUSIVE HIMALAYAN BS VI PARTS

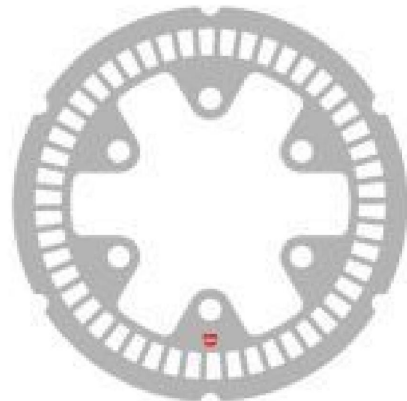
1. TONER RING-FRONT WHEEL

- Toner Plate Modified based on ABS Modular changes.

Himalayan BS IV Toner Wheel (48 Teeth)



Himalayan BS VI Toner Wheel (50 Teeth)



EXCLUSIVE HIMALAYAN BS VI PARTS

2. FRONT BRAKE MASTER CYLINDER

- Front brake master cylinder replace with Classic Master Cylinder in-order to improve better braking feel.

Himalayan BS IV



Himalayan BS VI



3. STICKER - SIDE PANEL

- In side panel, Himalayan Embossing is removed & 2D sticker added in Glossy & Matt finish panels of Himalayan BS VI Model.

Himalayan BS IV



Sticker - Not Applicable

Himalayan BS VI



EXCLUSIVE HIMALAYAN BS VI PARTS

4. HANDLE BAR ASSY

- In Handle bar assy, Front brake lever assembly identification pin mark added in rider view face of handle bar.

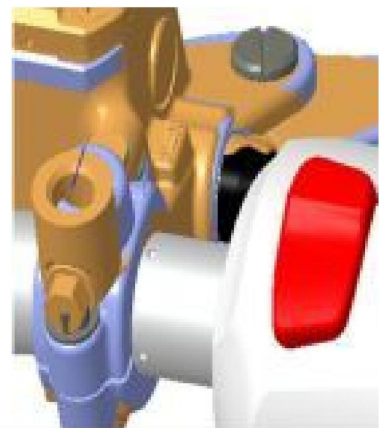
Himalayan BS IV



Himalayan BS VI



Superimposed

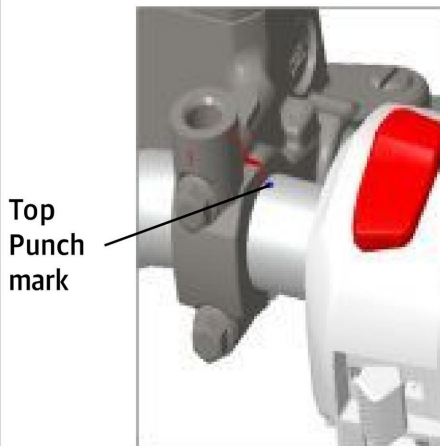


EXCLUSIVE HIMALAYAN BS VI PARTS

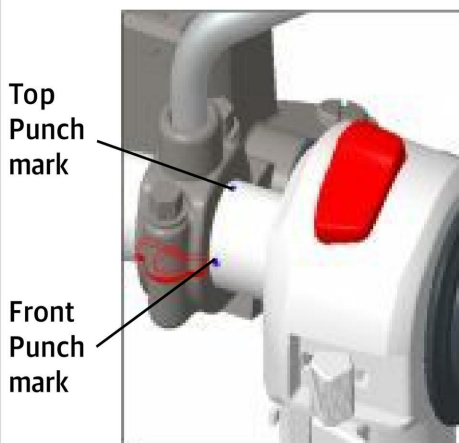
5. FRONT MASTER CYLINDER CHANGES

- In Himalayan, Two punch mark provided in handle bar to assemble Gen 9 & Gen 10 ABS Front master cylinder assembly.
- **Top punch mark** for Gen 9 front master cylinder which is applicable for Euro IV models.
- **Front punch mark** for Gen 10 front master cylinder which is for BS VI models.

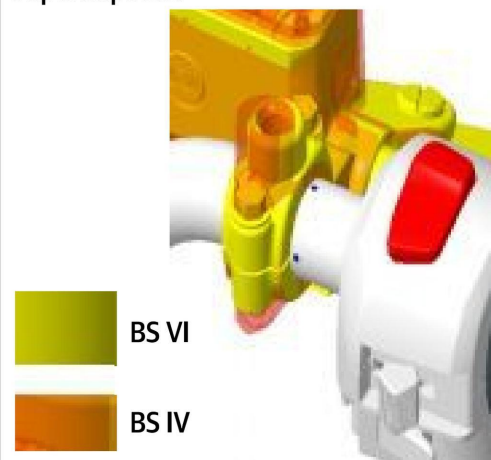
Himalayan BS IV



Himalayan BS VI



Superimposed



EXCLUSIVE HIMALAYAN BS VI PARTS

6. HAZARDOUS SWITCH

- Hazardous Switch added in RH Switch module of Himalayan BS VI.

Himalayan BS VI



EXCLUSIVE HIMALAYAN BS VI PARTS

7. INSTRUMENT CLUSTER

- Instrument Cluster Software updation & Switchable ABS addition in Instrumental Cluster.
- Cluster Arc profile modified.

ABS SWITCH - ACTIVATION PROCEDURE

1. Ignition switch "ON" condition.
 2. Vehicle stationary.
 3. Press ABS switch for (3-5 secs).
- Single Channel ABS mode is activated (if, enabled): Rear ABS function will not work. Front wheel ABS will only work.
 - Procedure to Reset to Dual channel: Ignition switch reset*, vehicle will return to default dual channel ABS mode.
 - Dual Channel ABS mode (Default): ABS will work on both wheels.
 - *Ignition key Reset: Turning ignition switch from "OFF" to "ON".

CAUTION

If Single channel ABS mode enabled, ABS only controls the front wheel. The rear wheel is not controlled by ABS and may lock during braking maneuvers.

ABS INDICATOR LAMP

- ABS indicator lamp continuously "ON" during initial check up (until or after vehicle running for a particular distance / speed) and will turn "OFF" if system is ok, then will light up again in case of any ABS system malfunction.
- Single channel mode indication
Single channel Activation with ignition key reset*: ABS tell tale will blink thrice to indicate activation, followed by ABS tell tale continuous ON, once the vehicle is ride more than 5kmph, ABS tell tale will blink continuously.
Single channel Activation Without ignition key reset*: ABS tell tale will blink continuously.
*Ignition key Reset: Turning ignition switch from "OFF" to "ON".

NOTE

The ABS indicator blink continuously to indicate Single channel ABS mode is enabled.

Himalayan BS IV



Himalayan BS VI



Cluster arc profile made straight

Switchable ABS



ABS Indicator lamp lights up to indicate Status or error messages relating to ABS.



ABS Indicator lamp

EXCLUSIVE HIMALAYAN BS VI PARTS

8. FLASHER

- 40W Flasher Added in place of 20W flasher.

Himalayan BS IV



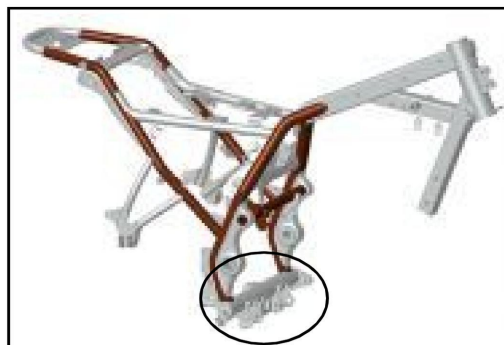
Himalayan BS VI



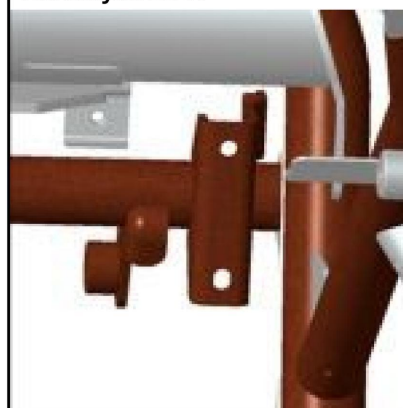
EXCLUSIVE HIMALAYAN BS VI PARTS

9. FRAME

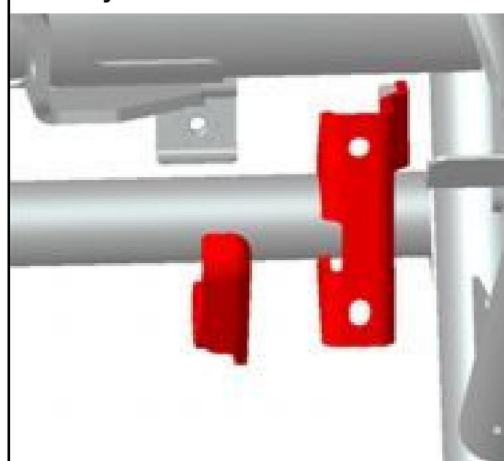
- Fixture modifications made for Himalayan BS VI.



Himalayan BS IV



Himalayan BS VI



EXCLUSIVE HIMALAYAN BS VI PARTS

10. STICKER

- New Side & Top Tank sticker added in Himalayan BS VI Fuel tank assy.

Himalayan BS IV

SNOW

GRANITE



For Himalayan BS IV - Text sticker stuck above the Fuel tank.

Himalayan BS VI

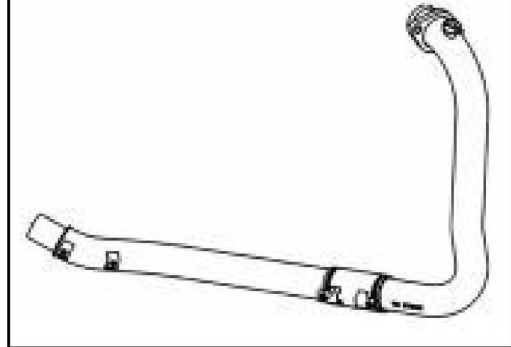
Applicable Model	LHS	RHS	Location
GRAVEL GREY Location : Side patch Decal			
SNOW WHITE Location : Side patch Decal			
LAKE BLUE & ROCK RED Location : Side of Fuel cap			

EXCLUSIVE HIMALAYAN BS VI PARTS

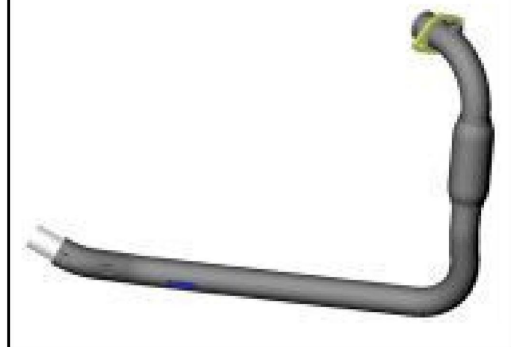
11. EXHAUST SYSTEM

- In Exhaust pipe, CAT orientation changed to Vertical & Silencer assembly carry over from Euro IV for Himalayan BS VI.

Himalayan BS IV



Himalayan BS VI



DTC CODES (APPLICABLE FOR 'CONTINENTAL' THROTTLE BODY FITTED MOTOR CYCLES)

S.No.	Failure Component	Failure Description	DTC	Remarks
1	LAMBDA SENSOR HEATER	Oxygen sensor heater control circuit Low/Open	P0030	Separate part
2	LAMBDA SENSOR HEATER	Oxygen sensor heater control circuit High	P0032	Separate part
3	MANIFOLD ABSOLUTE PRESSURE SENSOR	Manifold Absolute Pressure Sensor Circuit Low / Open	P0107	Inbuilt not applicable for separate part replacement, hence throttle body needs to be replaced if found any issue with this sensor
4	MANIFOLD ABSOLUTE PRESSURE SENSOR	Manifold Absolute Pressure Sensor Circuit High	P0108	Inbuilt not applicable for separate part replacement, hence throttle body needs to be replaced if found any issue with this sensor
5	Intake Air Temperature sensor	Intake Air Temperature Sensor Circuit Low	P0112	Inbuilt not applicable for separate part replacement, hence throttle body needs to be replaced if found any issue with this sensor
6	Intake Air Temperature sensor	Intake Air Temperature Sensor Circuit High / Open	P0113	Inbuilt not applicable for separate part replacement, hence throttle body needs to be replaced if found any issue with this sensor
7	THROTTLE POSITION SENSOR	Throttle position sensor adaptation Out Of Range	P0121	Inbuilt not applicable for separate part replacement, hence throttle body needs to be replaced if found any issue with this sensor
8	THROTTLE POSITION SENSOR	Throttle Position Sensor Circuit Out Of Range	P0121	Inbuilt not applicable for separate part replacement, hence throttle body needs to be replaced if found any issue with this sensor
9	THROTTLE POSITION SENSOR	Throttle Position Sensor Circuit Low / Open	P0122	Inbuilt not applicable for separate part replacement, hence throttle body needs to be replaced if found any issue with this sensor
10	THROTTLE POSITION SENSOR	Throttle Position Sensor Circuit High	P0123	Inbuilt not applicable for separate part replacement, hence throttle body needs to be replaced if found any issue with this sensor
11	LAMBDA SENSOR SIGNAL	Oxygen Sensor Circuit Low	P0131	Separate part
12	LAMBDA SENSOR SIGNAL	Oxygen Sensor Circuit High	P0132	Separate part
13	LAMBDA SENSOR SIGNAL	Oxygen Sensor Circuit Open	P0134	Separate part
14	LAMBDA SENSOR SIGNAL	Fuel system - running too lean	P0171	Separate part
15	LAMBDA SENSOR SIGNAL	Fuel system - running too rich	P0172	Separate part
16	COOLANT TEMPERATURE SENSOR	Coolant Temperature Sensor Circuit Low	P0197	Separate part

S.No.	Failure Component	Failure Description	DTC	Remarks
17	COOLANT TEMPERATURE SENSOR	Coolant Temperature Sensor Circuit High / Open	P0198	Separate part
18	CRANK SENSOR	Engine overspeed	P0219	Separate part
19	INJECTOR VALVE	Cylinder 1 Injector circuit Low / Open	P0261	Separate part
20	INJECTOR VALVE	Cylinder 1 Injector circuit High	P0262	Separate part
21	COOLANT TEMPERATURE SENSOR	Coolant Temperature Sensor Over temperature	P0298	Separate part
22	CRANK SENSOR	Crank sensor error	P0335	Inbuilt not applicable for separate part replacement, hence throttle body needs to be replaced if found any issue with this sensor
23	CRANK SENSOR	Crank sensor syncrinization lost	P0336	Inbuilt not applicable for separate part replacement, hence throttle body needs to be replaced if found any issue with this sensor
24	CRANK SENSOR	Crank sensor Gap position is incorrect	P0339	Inbuilt not applicable for separate part replacement, hence throttle body needs to be replaced if found any issue with this sensor
25	CRANK SENSOR	Crank sensor Additional tooth detected	P0371	Inbuilt not applicable for separate part replacement, hence throttle body needs to be replaced if found any issue with this sensor
26	CRANK SENSOR	Crank sensor Missing tooth detected	P0372	Inbuilt not applicable for separate part replacement, hence throttle body needs to be replaced if found any issue with this sensor
27	CRANK SENSOR	Crank sensor Additional edges inside filtering period	P0373	Inbuilt not applicable for separate part replacement, hence throttle body needs to be replaced if found any issue with this sensor
28	CANISTER PURGE SOLNOID	Canister Purge Solenoid Valve short circuit Low / Open	P0444	Separate part
29	CANISTER PURGE SOLNOID	Canister Purge Solenoid Valve Circuit High	P0459	Separate part
30	STEPPER MOTOR	Idle control circuit Malfunction	P0505	Inbuilt not applicable for separate part replacement, hence throttle body needs to be replaced if found any issue with this sensor
31	STEPPER MOTOR	Idle control circuit malfunction Low / Open	P0508	Inbuilt not applicable for separate part replacement, hence throttle body needs to be replaced if found any issue with this sensor

S.No.	Failure Component	Failure Description	DTC	Remarks
32	STEPPER MOTOR	Stepper Motor short High	P0509	Inbuilt not applicable for separate part replacement, hence throttle body needs to be replaced if found any issue with this sensor
33	BATTERY VOLTAGE	Battery Voltage Low	P0562	Separate part
34	BATTERY VOLTAGE	Battery Voltage High	P0563	Separate part
35	ELECTRIC FUEL PUMP	Electric Fuel Pump circuit Low / Open	P0627	Separate part
36	ELECTRIC FUEL PUMP	Electric Fuel Pump circuit high	P0629	Separate part
37	MIL	MIL Circuit Low / Open	P0650	Separate part
38	MIL	MIL Short to Circuit High	P0650	Separate part
39	CRASH SENSOR	Crash Sensor Position Wrong	P1530	Inbuilt not applicable for separate part replacement, hence throttle body needs to be replaced if found any issue with this sensor
40	CRASH SENSOR	Crash Sensor Signal Struck	P1531	Inbuilt not applicable for separate part replacement, hence throttle body needs to be replaced if found any issue with this sensor
41	CRASH SENSOR	Crash Sensor Signal Wrong	P1532	Inbuilt not applicable for separate part replacement, hence throttle body needs to be replaced if found any issue with this sensor
42	CRASH SENSOR	Crash Sensor Serial Serial peripheral interface Wrong	P1533	Inbuilt not applicable for separate part replacement, hence throttle body needs to be replaced if found any issue with this sensor
43	CRASH SENSOR	Crash Sensor Index Wrong	P1535	Inbuilt not applicable for separate part replacement, hence throttle body needs to be replaced if found any issue with this sensor
44	CRASH SENSOR	Crash Sensor Wrong Polarity	P1536	Inbuilt not applicable for separate part replacement, hence throttle body needs to be replaced if found any issue with this sensor
45	HEAD LAMP CONTROL	Head Lamp Control Short circuit Low / Open	P1638	Separate part
46	HEAD LAMP CONTROL	Head Lamp Control Short to circuit battery / overcurrent	P1639	Separate part
47	LAMBDA SENSOR SIGNAL	Adaptive fuel system - too lean at higher load	P2191	Separate part
48	IGNITION COIL	Ignition Coil Circuit Low / Open	P2300	Separate part
49	IGNITION COIL	Ignition Coil Circuit High	P2301	Separate part

MIL CODES (APPLICABLE FOR 'CONTINENTAL' THROTTLE BODY FITTED MOTOR CYCLES)

S.No.	Failure Component	Failure Description	MIL	Blink Pattern	Occurrence After
1	LAMBDA SENSOR HEATER	Oxygen sensor heater control circuit Low / Open	YES	45	Immediate
2	LAMBDA SENSOR HEATER	Oxygen sensor heater control circuit High	YES	45	Immediate
3	MANIFOLD ABSOLUTE PRESSURE SENSOR	Manifold Absolute Pressure Sensor Circuit Low / Open	YES	09	Immediate
4	MANIFOLD ABSOLUTE PRESSURE SENSOR	Manifold Absolute Pressure Sensor Circuit High	YES	09	Immediate
5	INTAKE AIR TEMPERATURE SENSOR	Intake Air Temperature Sensor Circuit Low	YES	13	Immediate
6	INTAKE AIR TEMPERATURE SENSOR	Intake Air Temperature Sensor Circuit High / Open	YES	13	Immediate
7	THROTTLE POSITION SENSOR	Throttle position sensor adaptation Out Of Range	NO MIL	0	Immediate
8	THROTTLE POSITION SENSOR	Throttle Position Sensor Circuit Out Of Range	NO MIL	0	Immediate
9	THROTTLE POSITION SENSOR	Throttle Position Sensor Circuit Low / Open	YES	06	Immediate
10	THROTTLE POSITION SENSOR	Throttle Position Sensor Circuit High	YES	06	Immediate
11	LAMBDA SENSOR SIGNAL	Oxygen Sensor Circuit Low	YES	17	Immediate
12	LAMBDA SENSOR SIGNAL	Oxygen Sensor Circuit High	YES	17	Immediate
13	LAMBDA SENSOR SIGNAL	Oxygen Sensor Circuit Open	YES	17	Immediate
14	LAMBDA SENSOR SIGNAL	Fuel system - running too lean	YES	0	Immediate
15	LAMBDA SENSOR SIGNAL	Fuel system - running too rich	YES	0	Immediate
16	COOLANT TEMPERATURE SENSOR	Coolant Temperature Sensor Circuit Low	YES	12	Immediate
17	COOLANT TEMPERATURE SENSOR	Coolant Temperature Sensor Circuit High / Open	YES	12	Immediate
18	CRANK SENSOR	Engine overspeed	NO MIL	0	Immediate
19	INJECTOR VALVE	Cylinder 1 Injector circuit Low / Open	YES	33	Immediate
20	INJECTOR VALVE	Cylinder 1 Injector circuit High	YES	33	Immediate
21	COOLANT TEMPERATURE SENSOR	Coolant Temperature Sensor Over temperature	NO MIL	0	Immediate
22	CRANK SENSOR	Crank sensor error	YES	66	Immediate
23	CRANK SENSOR	Crank sensor synchronizaton lost	NO MIL	66	Immediate
24	CRANK SENSOR	Crank sensor Gap position is incorrect	NO MIL	66	Immediate
25	CRANK SENSOR	Crank sensor Additional tooth detected	NO MIL	66	Immediate
26	CRANK SENSOR	Crank sensor Missing tooth detected	NO MIL	66	Immediate
27	CRANK SENSOR	Crank sensor Additional edges inside filtering period	NO MIL	66	Immediate

S.No.	Failure Component	Failure Description	MIL	Blink Pattern	Occurrence After
28	CANISTER PURGE SOLNOID	Canister Purge Solenoid Valve short circuit Low/Open	YES	23	Immediate
29	CANISTER PURGE SOLNOID	Canister Purge Solenoid Valve Circuit High	YES	23	Immediate
30	STEPPER MOTOR	Idle control circuit Malfunction	YES	42	Immediate
31	STEPPER MOTOR	Idle control circuit malfunction Low / Open	YES	42	Immediate
32	STEPPER MOTOR	Stepper Motor short High	YES	42	Immediate
33	BATTERY VOLTAGE	Battery Voltage Low	NO MIL	31	Immediate
34	BATTERY VOLTAGE	Battery Voltage High	NO MIL	31	Immediate
35	ELECTRIC FUEL PUMP	Electric Fuel Pump circuit Low / Open	YES	41	Immediate
36	ELECTRIC FUEL PUMP	Electric Fuel Pump circuit high	YES	41	Immediate
37	MIL	MIL Circuit Low / Open	NO MIL	0	Immediate
38	MIL	MIL Short to Circuit High	NO MIL	0	Immediate
39	CRASH SENSOR	Crash Sensor Position Wrong	NO MIL	15	Immediate
40	CRASH SENSOR	Crash Sensor Signal Struck	NO MIL	15	Immediate
41	CRASH SENSOR	Crash Sensor Signal Wrong	NO MIL	15	Immediate
42	CRASH SENSOR	Crash Sensor Serial peripheral interface Wrong	NO MIL	15	Immediate
43	CRASH SENSOR	Crash Sensor Index Wrong	NO MIL	15	Immediate
44	CRASH SENSOR	Crash Sensor Wrong Polarity	NO MIL	15	Immediate
45	HEAD LAMP CONTROL	Head Lamp Control Short circuit Low / Open	NO MIL	0	Immediate
46	HEAD LAMP CONTROL	Head Lamp Control Short to circuit battery / overcurrent	NO MIL	0	Immediate
47	LAMBDA SENSOR SIGNAL	Adaptive fuel system - too lean at higher load	NO MIL	0	Immediate
48	IGNITION COIL	Ignition Coil Circuit Low / Open	YES	37	Immediate
49	IGNITION COIL	Ignition Coil Circuit High	YES	37	Immediate

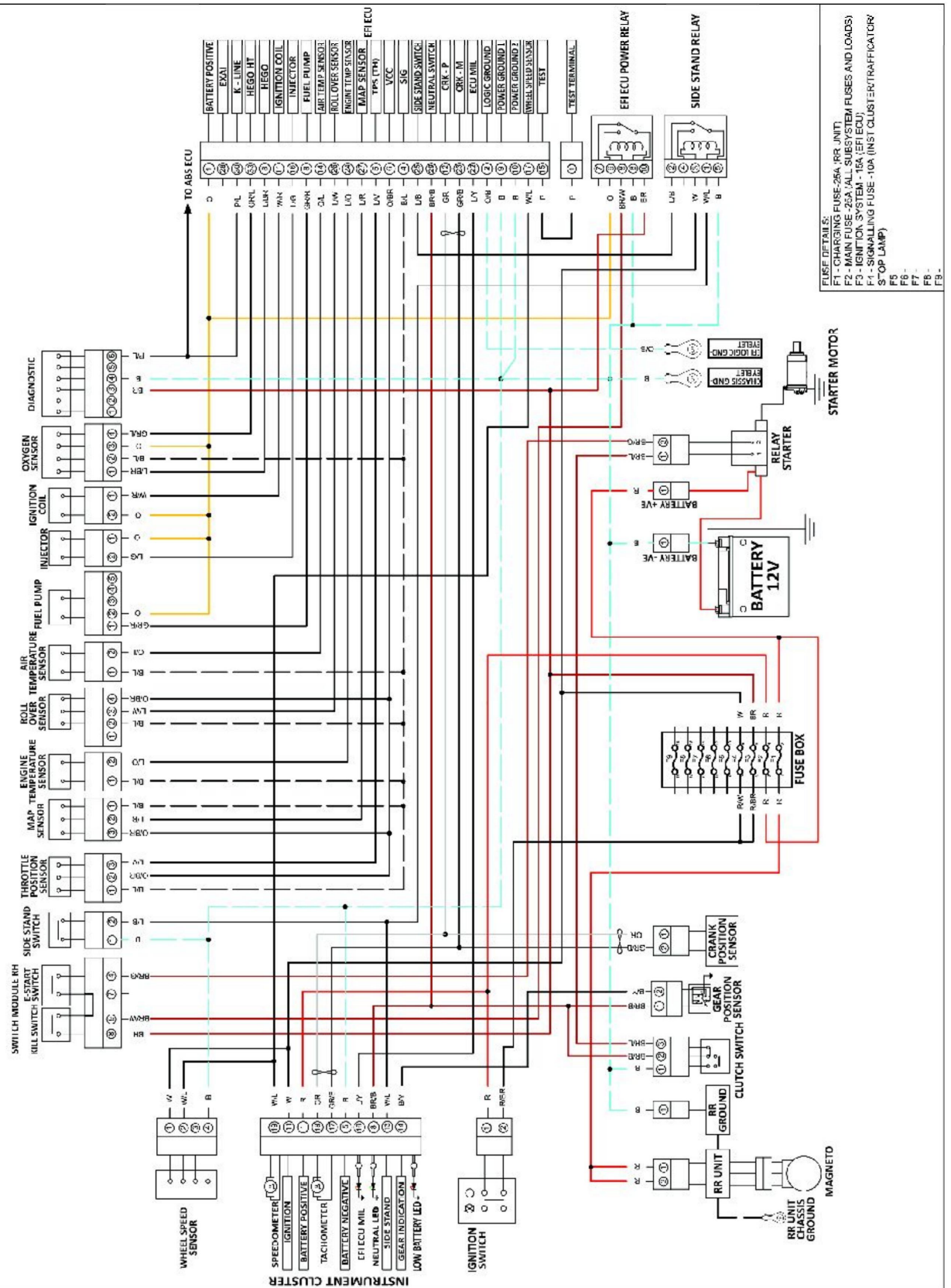
Manual Method for Error Check
Ignition Key off
Kill Switch ON
Throttle Wide Open
Ignition Key ON
Wait for 3 Seconds (Minimum)
Clutch Pull In
Clutch Release
Blink entry mode activated, throttle can be released

NOTE	
NO MIL	MIL WILL NOT BE DISPLAYED. IF DURING RUNNING ANY ERROR COMES WILL BE DISPLAYED

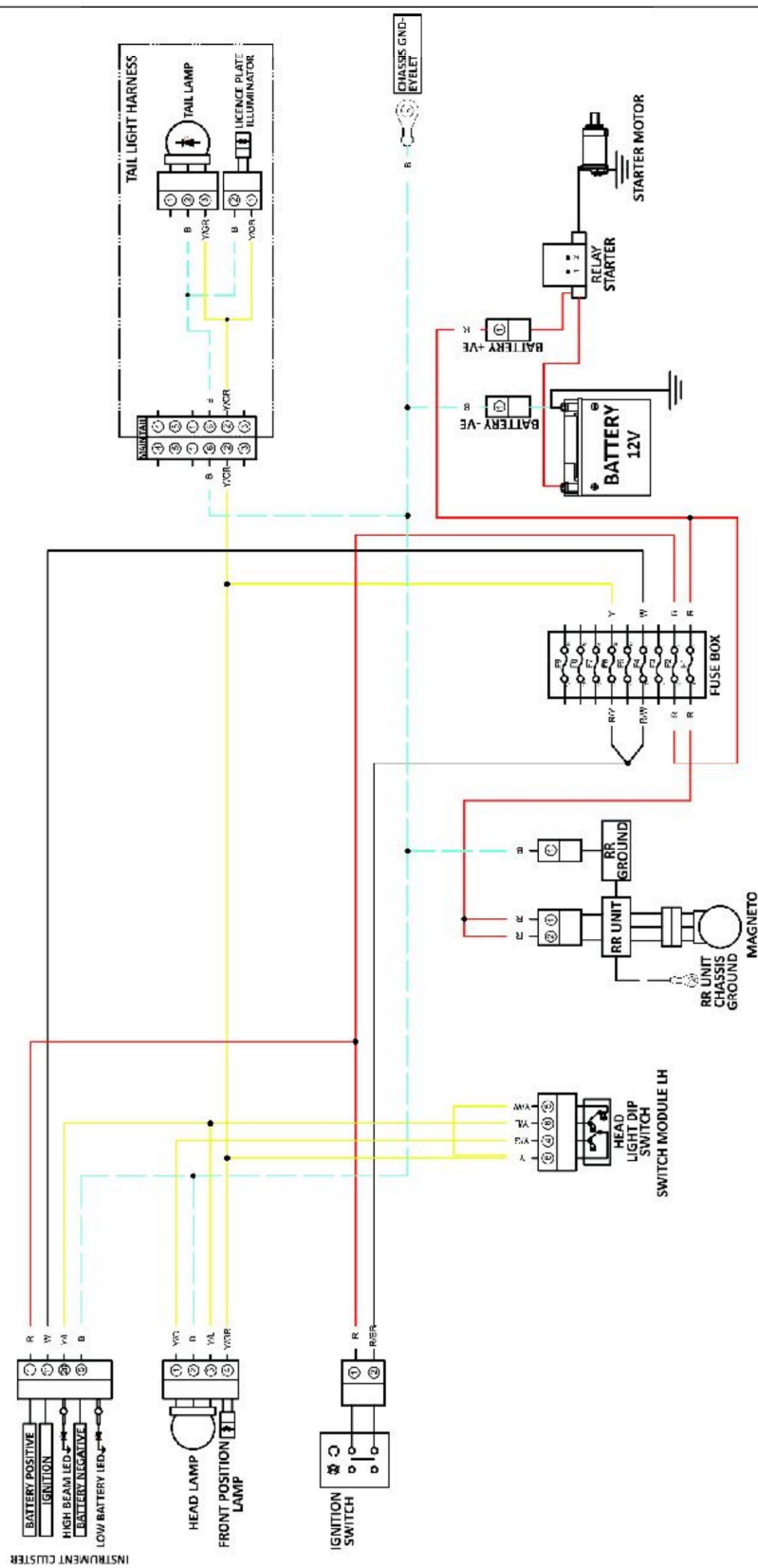
WIRING DIAGRAM COMPLETE



HIMALAYAN BS-VI WIRING HARNESS - STARTING, CHARGING & IGNITION (EFI) SYSTEM

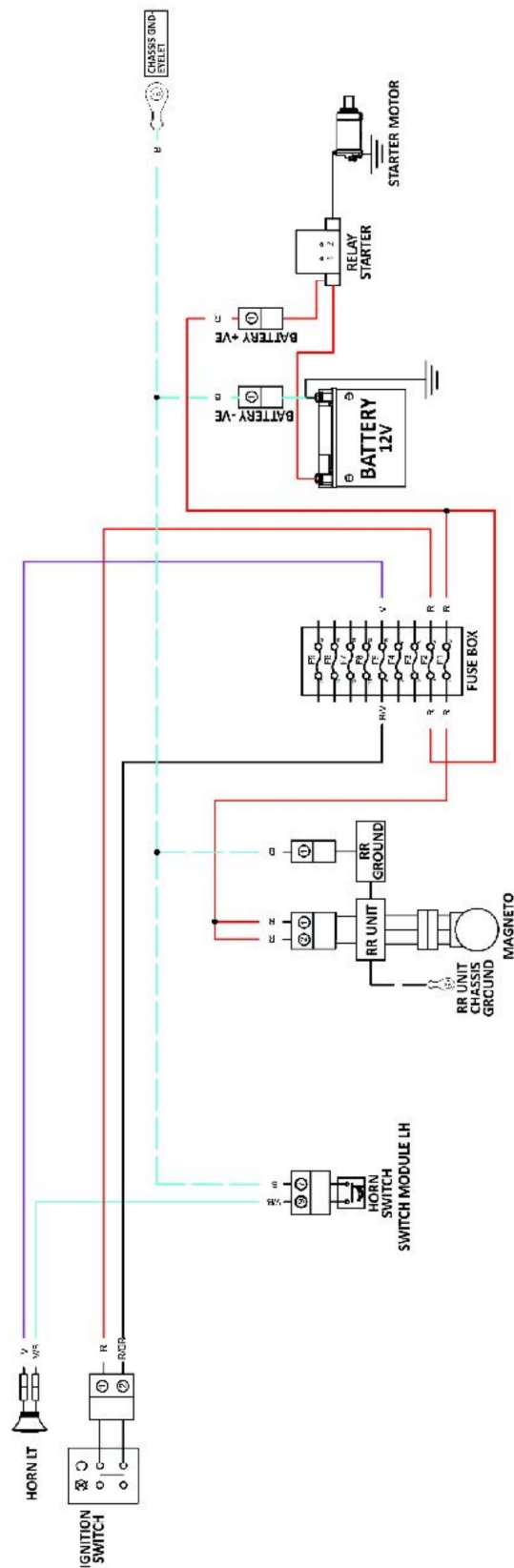


HIMALAYAN BS-VI WIRING HARNESS - LIGHTING SYSTEM



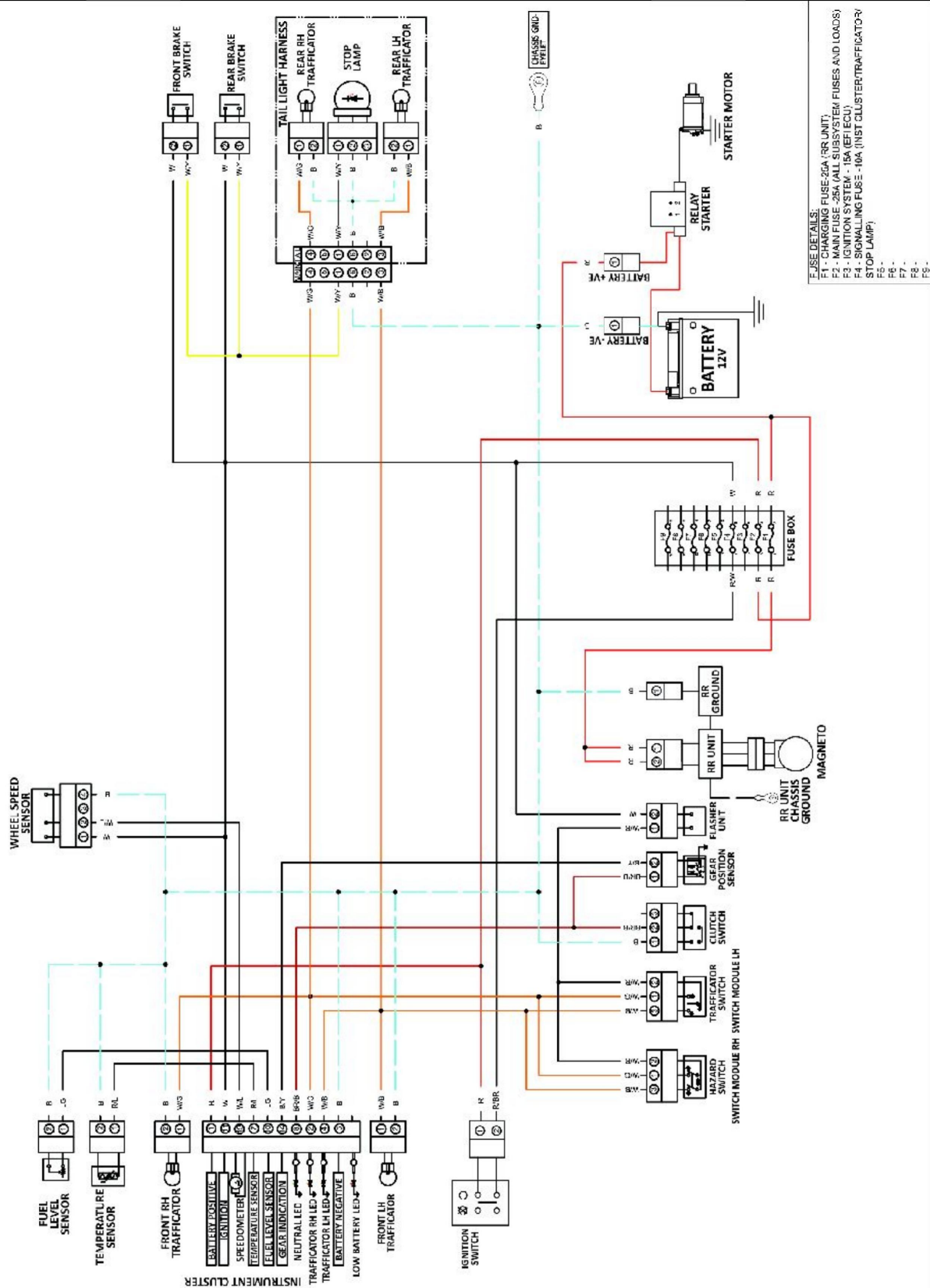
FUSE DETAILS:
 F1 - CHARGING FUSE-25A (RR UNIT)
 F2 - MAIN FUSE-25A (ALL SUBSYSTEM FUSES AND LOADS)
 F3 -
 F4 - SIGNALING FUSE-10A (CLUSTER/HEADLIGHT/WS/SI/OP LAMP)
 F5 - LIGHTING FUSE-15A (HEAD LAMP/POSITION LAMP)
 F6 -
 F7 -
 F8 -

HIMALAYAN BS-VI WIRING HARNESS - HORN SYSTEM

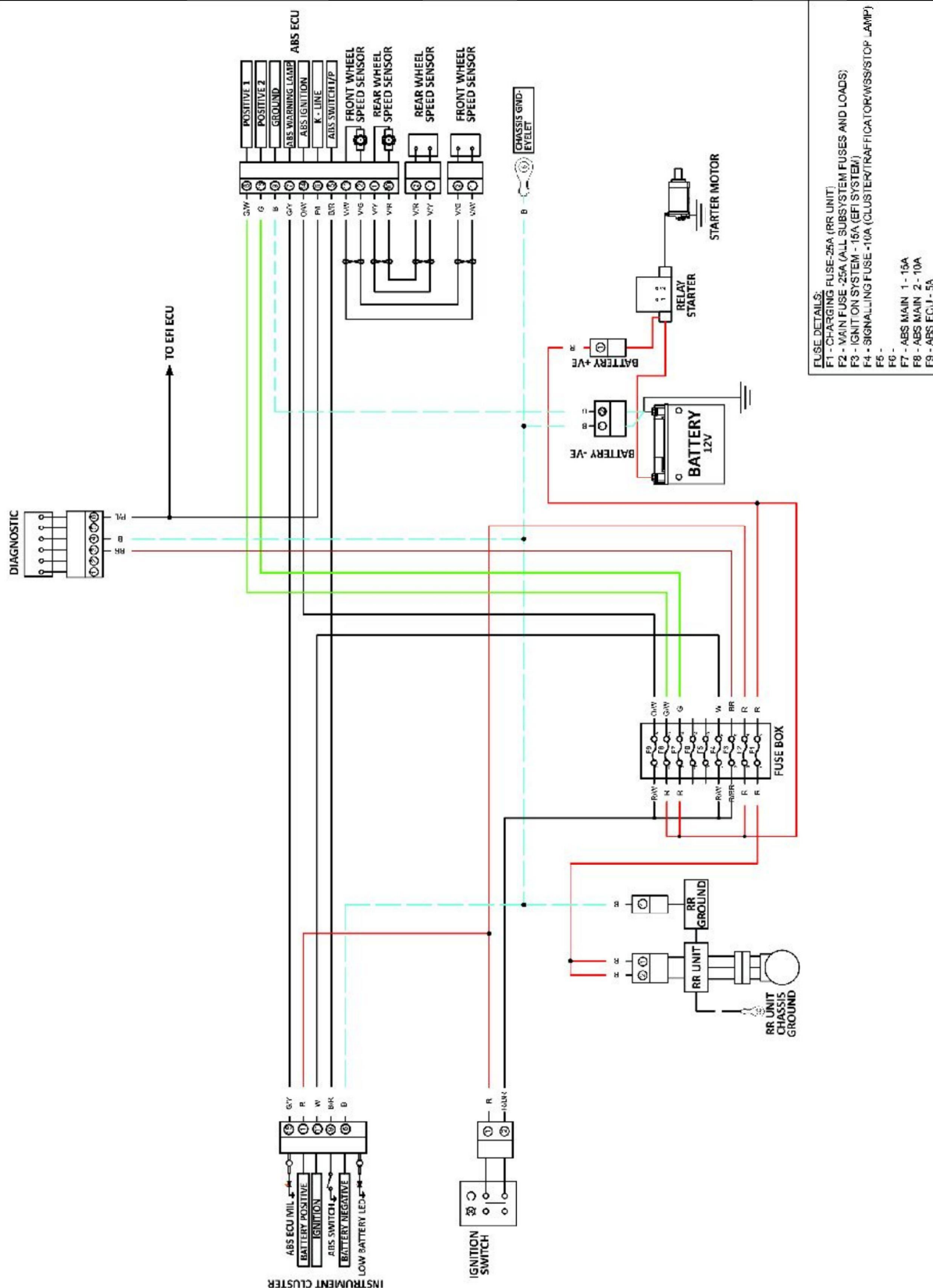


FUSE DETAILS:	
F1 - CHARGING I	USL-25A (RR UNIT)
F2 - MAIN FUSE	-25A (ALL SUBSYSTEM FUSES AND LOADS)
F3 -	
F4 - SIGNALING FUSE	-10A (CLUSTER/TRAFFICATOR/STOP LAMP)
F5 - HORN FUSE	-10A (HORN)
F6 -	
F7 -	
F8 -	
F9 -	

HIMALAYAN BS-VI WIRING HARNESS - SIGNALLING SYSTEM



HIMALAYAN BS-VI WIRING HARNESS - ABS SYSTEM



ROYAL ENFIELD

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