

Owner's Manual Supplement

DEC 2019

This booklet provides service information for the modifications and custom additions made to Jaguar Mark 2 VIN# P181389, over and above the instructions contained in the Jaguar manuals.

The major modifications are in the electrical and heating systems

It shows information sufficient for trouble shooting and identifies the special parts used for the custom systems.

Note that reference to the original Jaguar manuals is required for most of the servicing and maintenance information

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A) ENGINE

Air Filter system.

This is similar to the early oil-bath system with the filter housing being by the left front wheel.

The filter element is a FRAM CA148 which is a dry filter.



Oil Filter

A modern spin on filter adapter is fitted. The filter used is a WIX 51515.

The recommended oil is a partial synthetic 20W50 PennGrade 1.

Engine build details

The engine was rebuilt in mid-2019 at an indicated 25,000 miles following a wrist pin related failure on #4 cylinder. The rebuild details are as follows:-

Cylinders bored to 0.040" over. Cylinders #6 & #4 are sleeved.
Pistons are Mahle 8:1.

Composite head gasket fitted, 0.060" thick.

Crankshaft mains and rods are 0.010" undersize and the thrust bearings chosen for 0.007" end float.

Iskenderian cams P/N XM-2 are fitted and are set with 0.010" clearance Inlet and exhaust.

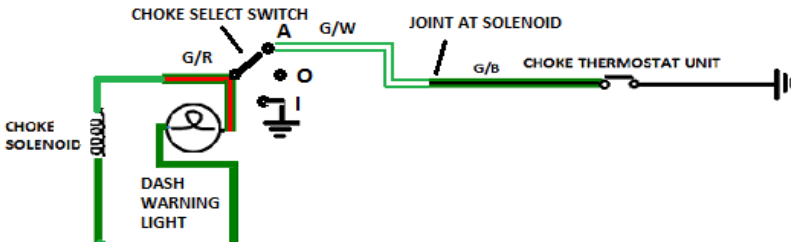
New oil pump, timing chains and guides, inlet and exhaust valves, con rod bolts and nuts.

The cylinder head was painted with Detroit Diesel Alpine Green, supplied by KBS Coatings, Motor Coater Brand.

B) CARBS AND FUEL SYSTEM

Choke control.

A switch on the dashboard selects the electric choke to be “Automatic” “Off” or “On”. It is used in case of need but usually can be left in the On position. An amber light illuminates when the electric choke is energized.



SU Needles

The needles used are SC which are slightly leaner than TL's used with the standard pancake air filter. (note SC needles are specified for the oil bath filter system).

Oxygen sensor

A Bosch wide-band oxygen sensor may be fitted to the front exhaust pipe to check mixture strength. The wires from the sensor are ported to the back of the newspaper tray, where there is space for a readout. device.

C) COOLING SYSTEM

Radiator

A Wizard aluminum radiator is fitted. Note that its mountings had to be modified for it to sit low enough. The lower part of the radiator simply rests in rubber blocks and does not need to be unbolted.

D) CLUTCH

Diaphragm

A 9.5" diaphragm clutch was fitted during overhaul and well as the later style non-adjusting style slave cylinder.

Flywheel

NB the flywheel fitted is that for a 4.2L engine since it is needed to mate to the 420G fitted transmission. The flywheel was refaced in mid 2019.

E) GEARBOX and OVERDRIVE

420G system

A 420G transmission and overdrive is fitted

F) PROP SHAFT

The prop shaft was cut to fit the non standard installed transmission

G) REAR AXLE

The ratio is 3.54 which is standard for non-O/D & automatic cars.
In overdrive, the car speed is 28mph per 1000 RPM

H) STEERING

Steering Rack

An XJ6 S3 steering rack is fitted. ADWEST CAC9941-8T date code 5-B.
Castrol ATF4 used

I) FRONT SUSPENSION

Shock absorbers

GAZ shocks are fitted and adjusted to mid position on the click stops.

J) REAR SUSPENSION

Shock absorbers

GAZ shocks are fitted and set to mid position on the click stops.

K) BRAKES

Front

Dynalite 120-6813 Wilwood calipers

EBC Discs # RK271 and EBC Pads DP4038R

Stainless flex hoses Wilwood 220-7686

Vacuum Booster

A replacement booster is used LR18230

L) WHEELS & TYRES

Tyres

Vredestein Sprint Classic 185HR15

Wheels

MWS wire wheels 8 X 15 sealed for tubeless tyres

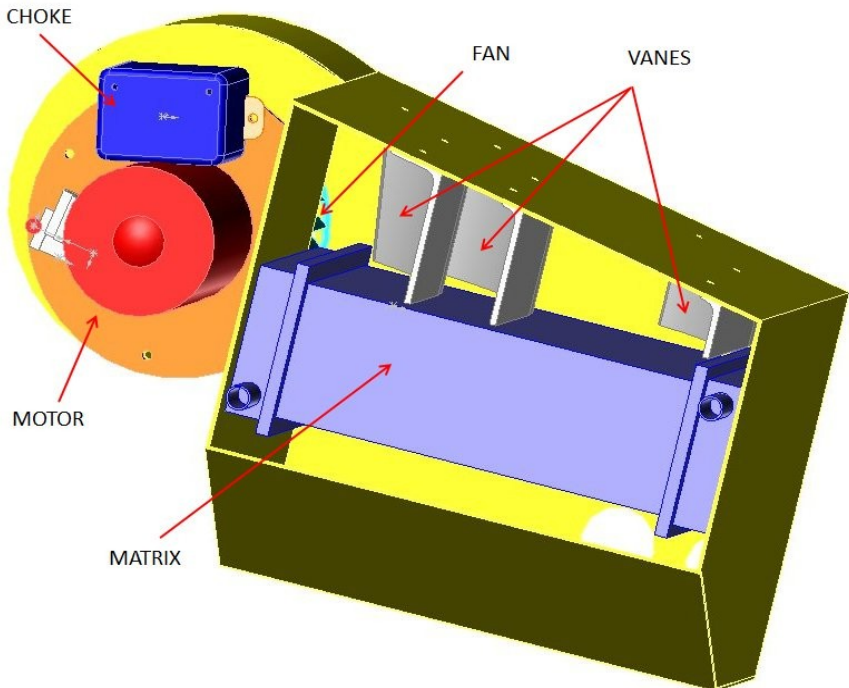
M) HEATING

Heater unit

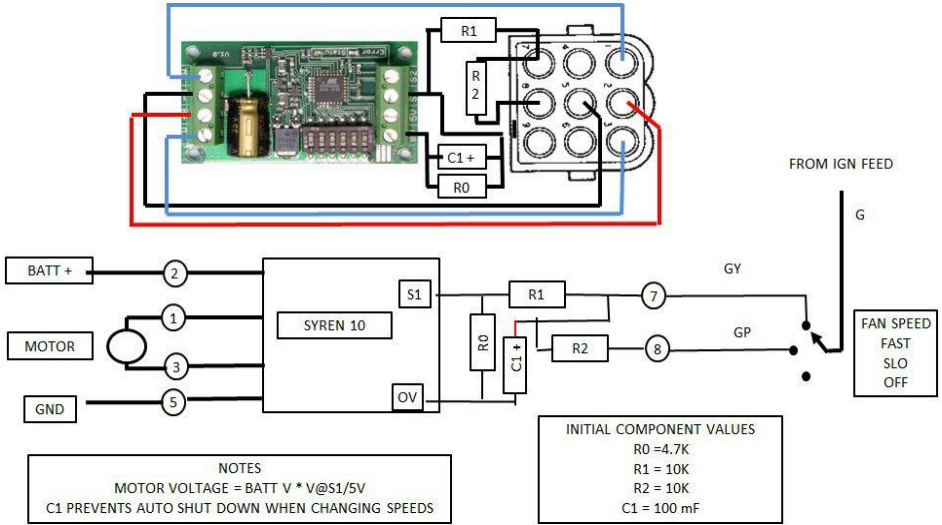
A major improvement in the heater performance has been engineered.

The standard heater box has had its airflow improved by fitting vanes within the casing to distribute the airflow more uniformly across the heater matrix.

A high power motor and enlarged fan are fitted. An electronic switching module is used to control the speed of the fan motor. This module is located adjacent to the fuse box in the engine compartment. An after-market water control valve is fitted that has a large flow area. The ducting under the dashboard has a blockage removed so that both sides receive the same airflow. The air ducts to the rear passenger space are redirected to augment the flow to the front passenger foot wells.



The wiring of the module is shown below together with the 9 pin connector used to hook up to the main wiring harness



Heater System Components

MOTOR ASSEMBLY			
Fan	1	Fasco 1-6048	Dreisilker FA#1-6048
Motor	1	1/7 HP 12VDC 3785 RPM	Surplus Center 10-2520
Socket Hsg 4 way	1	Tyco 1-480510-0	
CONTROL BOX			
Flanged Diecast Box	1	Hammond 1590GF	Mouser
Heat Sink	1	Wakefield 547-95AB	Mouser
Resistors	3	4.7K 10K 10K 1/4 W	
Capacitor	1	100mF 25VWKG	
Control Module	1	Syren 10 - 20	Dimension Engineering
Socket Hsg 9 way	1	Tyco 1-480672-0	
Pin Hsg 9 way	1	Tyco 1-480673-0	

N) ELECTRICAL

The wiring harnesses are of the original design except for the alternator and fuses. Additional wiring is fitted for the heater fan, choke control, wiper pause, etc.

Fuses

A 16 way block using ATC fuses is fitted in place of the original 2 way unit. Fuses 1 – 10 are fed from the ignition switch and 11 - 14 are connected directly to the battery

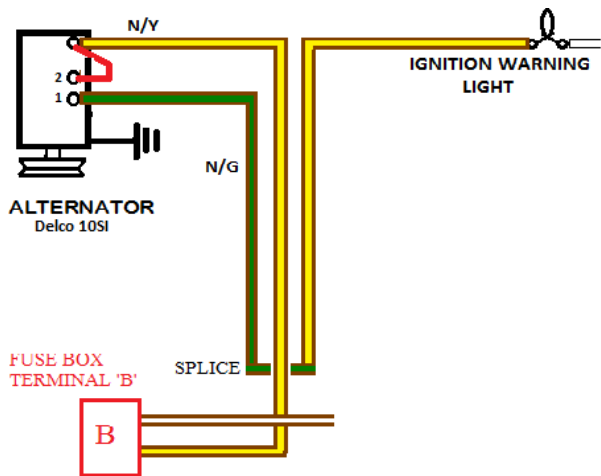
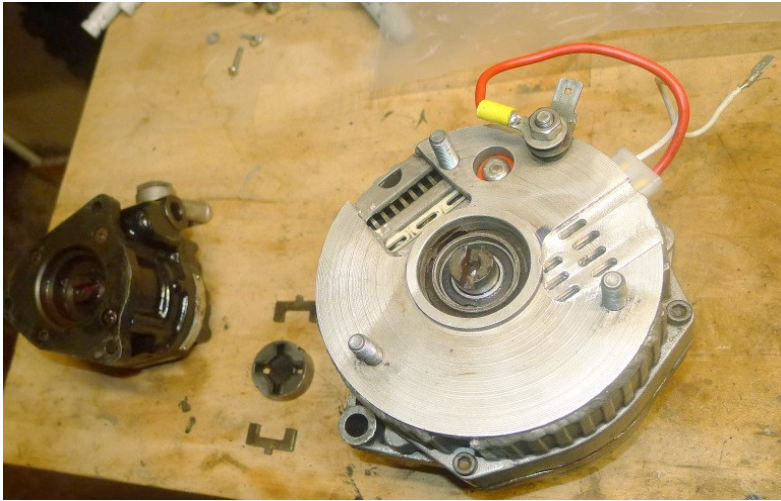
FUSE	CIRCUIT	AMPS
1	WIPER/FAN MOTOR/LO FUEL	10
2	HORN RELAY	5
3	CHOKE/STOP LIGHTS	10
4	OVERDRIVE/REV LIGHT	5
5	10V REG/OIL PRESS/CHOKE LIGHT	5
6	HEATER FAN MOTOR	10
7	IGNITION COIL	10
8	FUEL PUMP/IGN WARN/BRAKE W/	10
9	WASHER MOTOR	5
10	DIR'N FLASHER	10
11	EXTERNAL LIGHTING	20
12	HAZARD FLASHER	5
13	CIG LIGHTER	10
14	CLOCK/HI BEAM FLASH/INT LIGHTS	15
15	SPARE	
16	SPARE	

Note that in the main wiring diagrams the fuse numbers are show inside a hexagon, green for ignition switched and red for direct battery connection.

Alternator

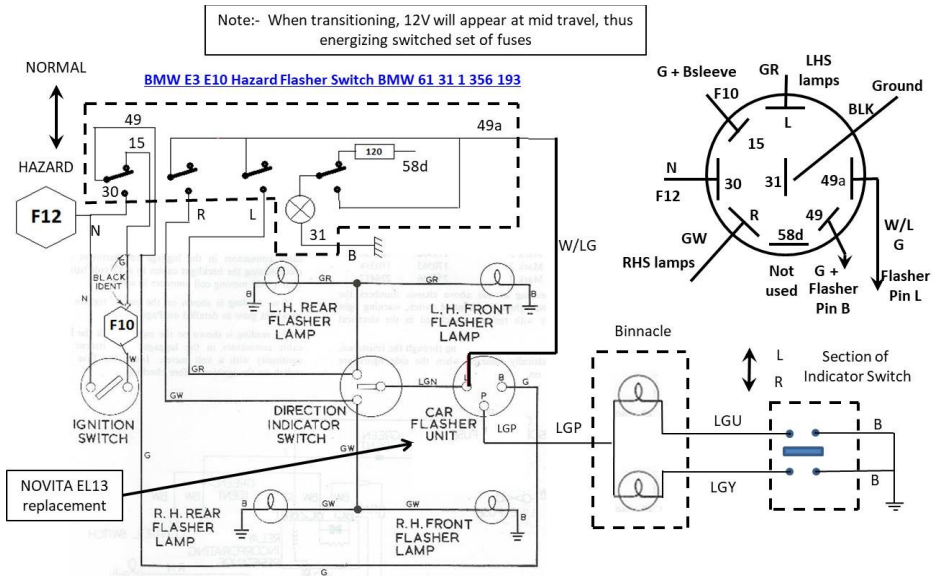
A Delco 10SI alternator is used with an internal regulator #8040-6240H from Smiths Electric Company.

An aluminum plate is welded to the back to provide mounting of the power steering pump. The plate is relieved to allow cooling air flow through the alternator



4 Way Flasher

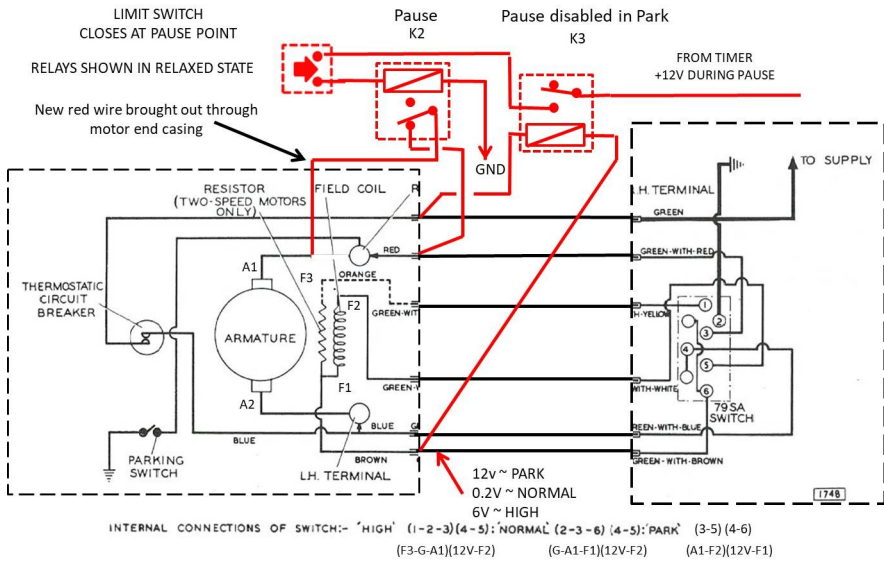
An emergency flasher switch is situated in the right side of the newspaper tray. It uses a BMW unit and connects with the original harness as used in 1967 Mk2's



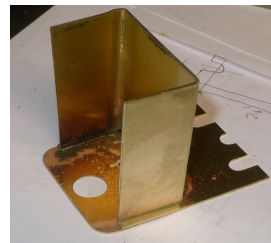
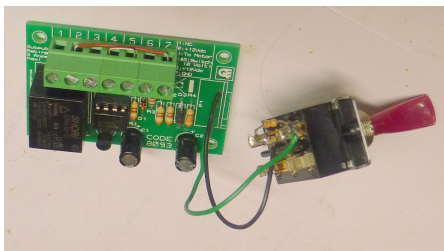
Wiper Pause

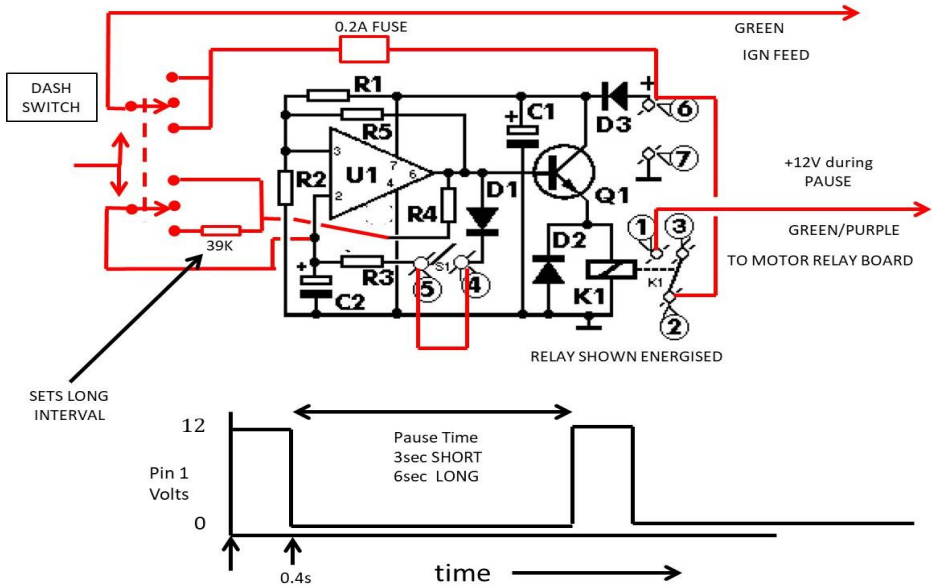
A 3 position toggle switch is fitted in the newspaper tray directly under the wiper switch. Switched to the left a 3 sec pause occurs at the extreme end of travel from park: to the right, a 6 second pause occurs. The center position provides continuous wiper operation.

The wiper motor has a microswitch at the farthest sweep from the park switch. This operates the time delay module fitted in the switch housing.



The delay timer and switch are fitted in a small box attached by the screws that hold the left hinge of the centre instrument panel





Delay Timer Schematic and Waveform

Wiper Parking

On LHD cars, the wipers were made to park to the left. This results in the drivers side wiper blade not resting uniformly against the glass because of the screen curvature. Thus the wiper blade, being deformed, does not cover the swept area uniformly and can lead to a blind spot. This car has the wiper motor reversed internally and the park switch relocated so that it parks to the right, thus the drivers wiper blade rests on a flat section of the screen.

Dash and Interior Lights

The instrument and all the dashboard lights have been changed to LED style BA9S. They are not dimmed and use only the first position of the dash light switch

Dash Indicator Module

The MotoLita steering wheel can obstruct the view of the turn and overdrive indicators. A separate module with LED's is thus fitted on the dashboard in clear view for the driver.



Starter

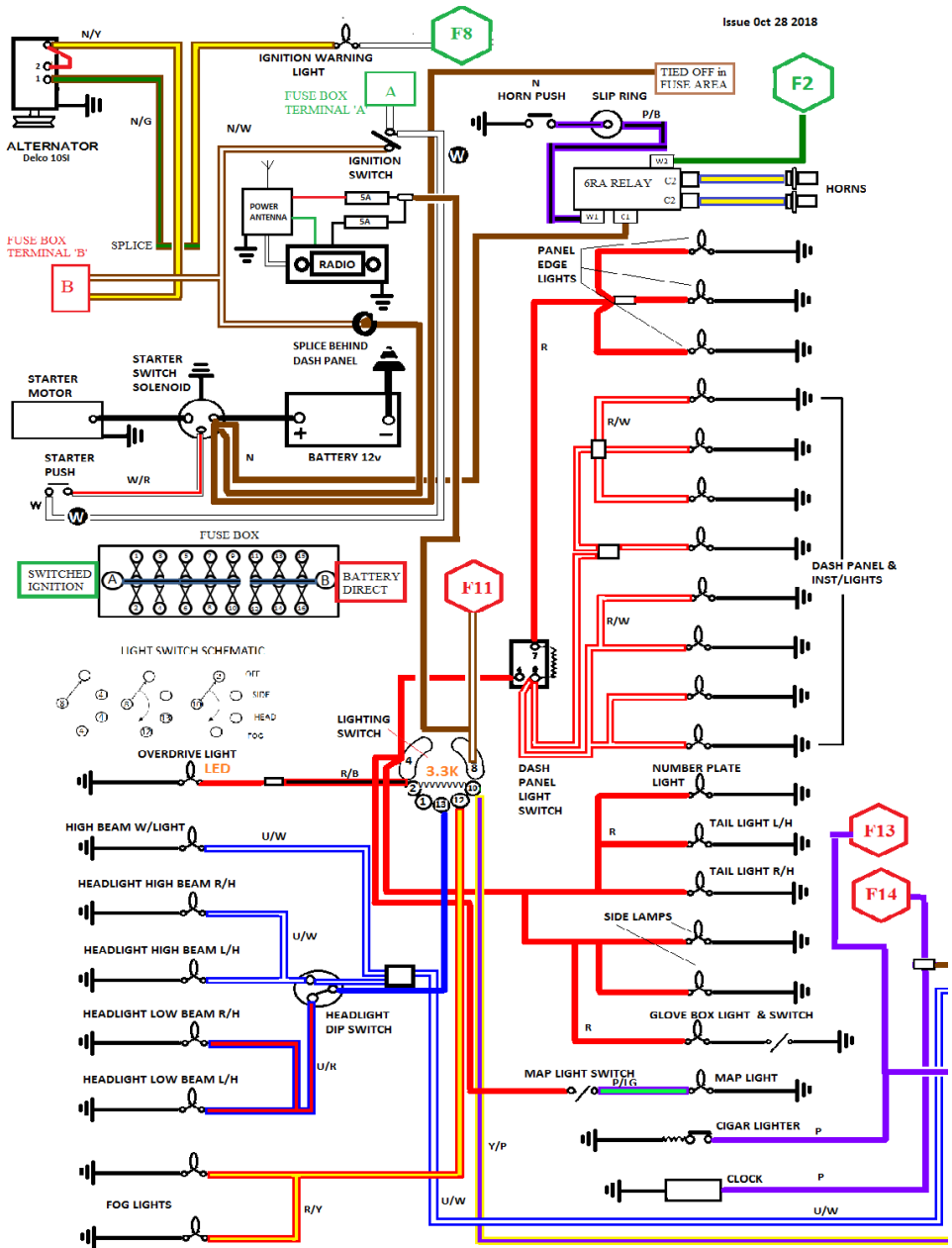
A modern high torque starter is fitted. It is made by Gustafson of Gloucester MA. Note that it is a starter for use on a 4.2L engine since a 4.2L flywheel is used on this car.

Master Switch

A battery cut-off switch is fitted just in front of the battery. This isolates the battery negative from chassis ground.

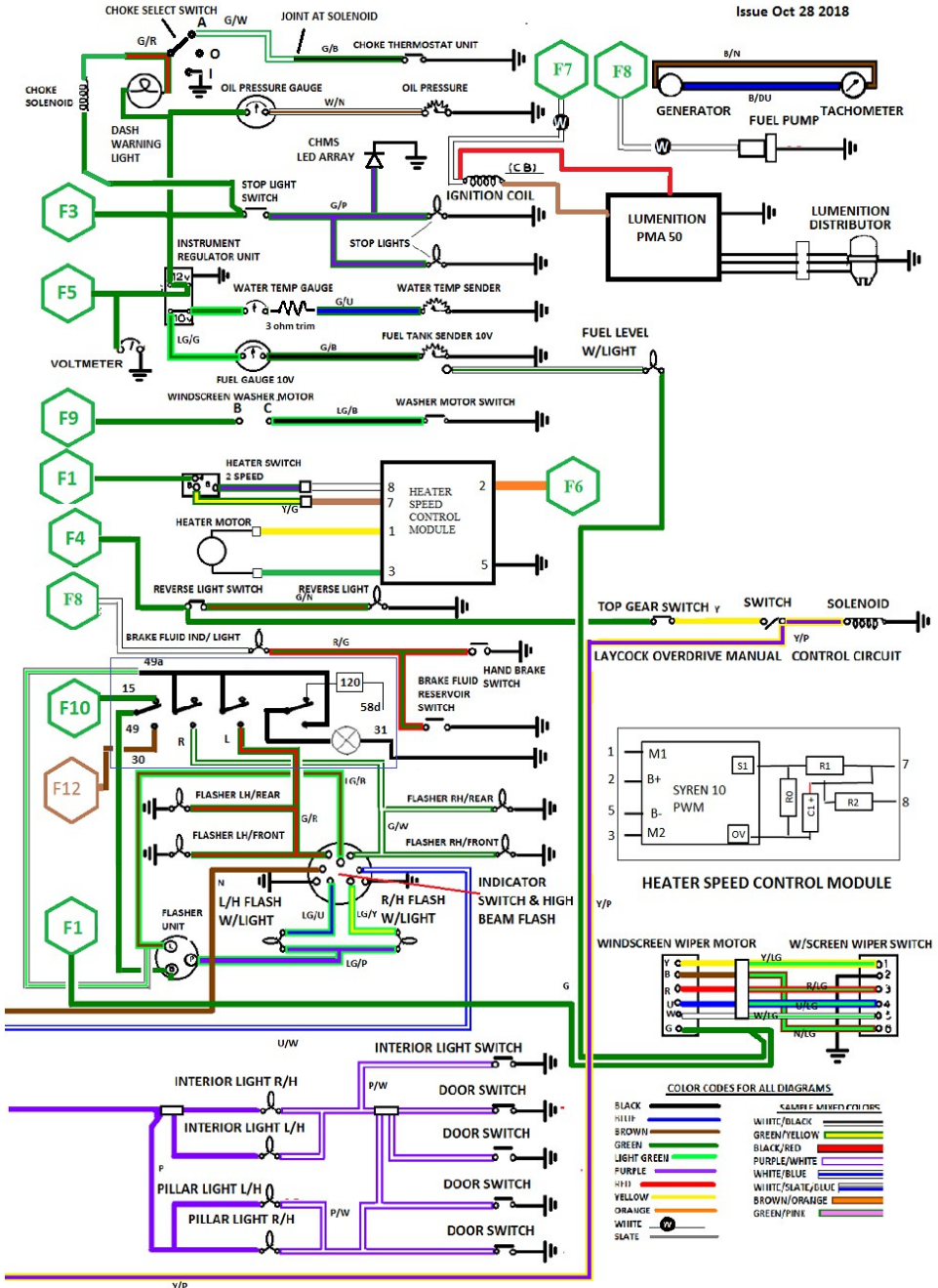
Main Electrical Diagram Sheet 1

Issue Oct 28 2018



Main Electrical Diagram Sheet 2

Issue Oct 28 2018



O) Body

Rear wheel spats

The rear wheel spats are Coombs style cut-away. They are steel and are fixed securely in place with two screws at their forward flanges in place of the original Dzus fasteners. An extra clamp is fitted part way round the wheel arch to ensure a snug fit. There is no need to remove them when changing a rear wheel.