

MIDDLEBRIDGE ELECTRICALS OVERVIEW

Fuses

Main fuse box: Passenger foot-well, left side

1	Heater motor	15A
2	Battery control*	35A
3	Side/tail, LH	10A
4	Side/tail, RH	10A
5	Screen, rear switch	25A
6	Fogs, rear	10A
7	Lights, interior rear	10A
8	Fogs, front	25A
9	Hazards & slow fan relay	25A
10	Wipers, front & rear	35A
11	Hazards & fast fan relay	25A
12	Ignition, control	35A

* Includes:- Horns, Clock (others?)

Aux fuse box: Behind glove box.

1	Spare	30A
2	Fan	25A 30A*
3	Rear screen, heated	25A
4	Locking, central	15A
5	Mirrors	15A
6	Windows, doors	30A

* MB50 upgraded to 30A Mini, screw terminals, next to new 70A relay behind glove box (original 25A blade type was overheating)

Headlight fuse box: Engine bay, front near-side.

1	Main beam outer	25A
2	RHS Dip	10A
3	LHS Dip	10A
4	Main beam inner	25A

Fuel Pump Fuse: Behind "A" post carpet, near side?

Bulbs

Instruments

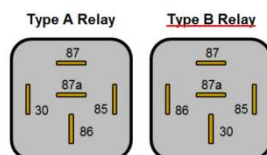
- 1 x 5 switches, BA7S type bulbs
- 1 x 1 clock, BA7S type bulb
- 1 x 4 instruments, BA9S type bulbs

1 x 1 tacho, BA9S type bulb
 1 x 2 speedo, BA9S type bulbs
 1 x 1 heater slider control panel, T5 type bulb

Relays

MB relays are Ford 'B' type: Energising terminals (85 and 86) are opposite each other.

Not typical 'A' type: Energising terminals (85 and 86) are at 90 degs. to each other.



Terminals 30 & 86 are reversed
 Note: Terminal 87a not present in 4-pin configuration

Auto G'box	Starter Rel/ Sol	Heated Screen & Mirrors	Heaters, Wipers, Windows, Mirrors.	Fan, slow ⁽¹⁾	Fan, fast ⁽¹⁾
R-W Br	Br Blk x 2 W-Y x 2	Blk-W x2 Pur Blk	Br W W-Pink Blk	Pur-Blk (thick) Pur-Blk (thin) G Blk	Pur - Blk Or (thick) Or (thin) Blk
(Loc'n *)		(Loc'n *)	(Loc'n *)	(Loc'n *)	(Loc'n *)

Fog	Main Beam Outer	Main Beam Inner	Dip Beam Outer	Fuel injection	Fuel pump (Brown)	Relay
G-R x 2 Br Blk Or-Pur	W-Blu x 2 Br Blk	Orig: No relay Relay incorp'd	Orig: No relay Relay incorp'd	(Yellow) (2 off?) Blk-W Blk x 3 R	Blk-R R-Blu Blk R	Located in engine bay near washer bottle seems to have no purpose (removed).
(Loc'n *)	(Loc'n *)	(Loc'n ***)	(Loc'n ***)	(Loc'n **)	(Loc'n **)	

⁽¹⁾ MB50 revised single speed

fan arrangement

Location: * Behind glove box
 (Loc'n) ** "A" post, nearside
 *** Eng Bay N'side Front

Relay: Fuel Pump and Injector

Pt No: FPUK1037. From www.fordpartsuk.com (Trevor Porter)

Indicators/ Winkers

Flasher Unit: Hella TBB53. Located under the dash and above the steering column.

Side indicators: MB50 originally at front of wings are modified to side door window frame position using LED units from Honda CBR600RR CBR1000RR or similar and fitted to door window

frames rubber insert. Wiring (in parallel to existing) to new indicators taken from multi-switch loom connector behind dash (original wiring left in place but closed).

Alternator

Bosch (90A) 0120 469 659 (logo) 660 N1 > 14V 34/90A (24mm pulley nut)

Switches: Dash Panel

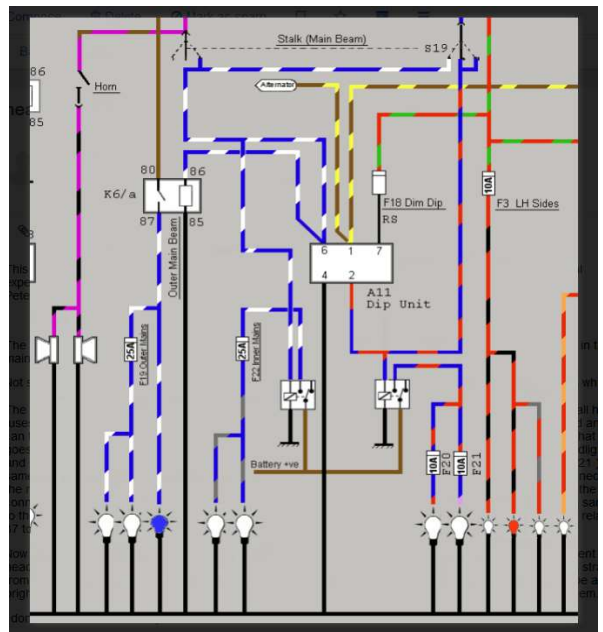
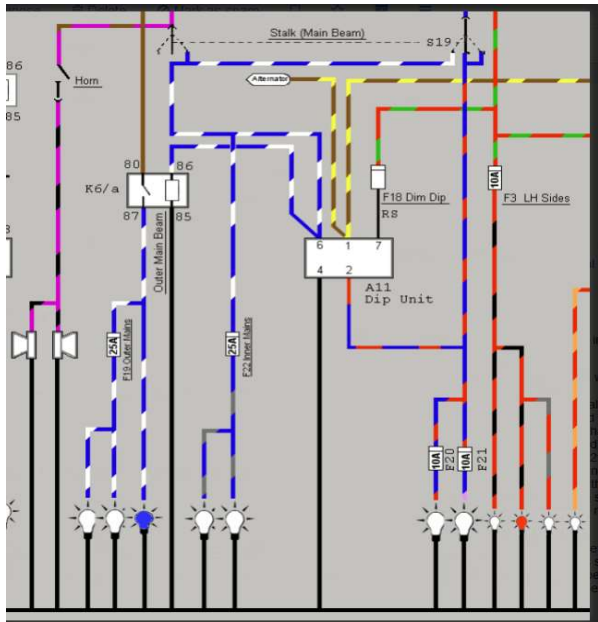
Generally sourced from Triumph bin (TR7, etc.)

Head lights

Original MB headlight wiring is dangerous because only the main beam outer lamps have a relay and all current for inner main beams and outer dipped lamps go through the switch, thus it may become overloaded and fail (actually melt). This could be life threatening if headlights suddenly go out when you're moving quickly on an unlit road and of course the possibility of an electrical fire.

MB50 is now modified to incorporate relays to all headlight circuits. The original headlights fuse box fuse holder clips were found to be very weak (hardly gripping fuses) and so replaced with fused relays for both inner main beam and outer dipped circuits. The original outer dipped fuses (10A x 2) replaced with a single in line fuse of 20A. I found it easier and cheaper to use fused relays than buy a new original type fuse box.

Drawings below show original and modified circuits.



Original Circuit
Modified Circuit

Head Lamp Bulbs

Inner (5 3/4") have H4 bulbs (twin filament 60/ 55W) but are single wired for the main beam only (60W) so there is no dip function. H7 bulbs have single filament 55W so consequently the

H4 wired as such gives approx. 10% more light so stick with it!

Lights Switch

Lucas 182SA

Interior light, Rear

Originally VW Camper. Alternative is Capri lamp which can be adapted with a little effort.

Windscreen Wipers

Motor (MB50):
PARK EXT D

Lucas, 29W 12V 16 89

79628B 60027006

(May or may not be orig. but MB50 not auto parking)

Arms:
fit).

Morris Marina, 1/2" spindle and 7.2mm blade (slide on

Blades:
etc.

16" Stainless Vauxhall Cresta/ Viscount/ Victor,



Intermittent Control Unit: Lucas 6DA / Lucas182sa (now obsolete)

Can bypass wiper delay unit by unplugging male and female plugs (loom in and loom out) then connecting together. Looses the intermittent wipe feature but still have normal and double speed wipe options. Often it's the crystal 'oscillator' component on the PCB inside that breaks down over time and a 40p replacement one, soldered in, fixes it.

Multi-switch

Original MB50 switch replaced with Chevette (1984, Lucas 35976, Vauxhall 8819266) with slightly different washer/wiper wiring (MB cable connector has 5 cables whereas Chevette has 7).

I removed cable connectors from both, then put the MB original onto the Chevette loom and closed the two spare cables (Green/Brown and White/ Purple). Works fine but (1) no intermittent wipe and (2) for washer action the switch knob is now pressed in rather than lifted up.

Plastic clamp is often broke but an easy fix:-



Ignition switch.

Can fail over time and 6B switch is not a direct replacement.



1. Lock spindle is pretty much 90 degrees out.
2. Connecting tags stick out backwards from the switch and foul the binnacle cover even if using right angle Lucar connectors. MB switch has shallower connectors exiting sideways which do not foul the housing as a result.

Heater fan motors

MB50 original heater and motors superseded by heater update mod.

Door central locking

MB50 disabled (fuse removed). Unnecessary and it flattens the battery over time.

USB charging socket

MB50 mod. Wired from central door locking fuse and 7.5A fuse. On/ off switch incorporated.

Parking Sensors

MB50 has four rear parking sensors (audible warning) wired into reversing light circuit at rear of car.

Electric Windows

Motors and linkage assemblies from Rover SD1 Front doors.

SD1 Rears fit provided the right-angled link plate piece is transferred from old unit to new rear unit.

SS1 motors, but not linkages, are same.

ECU ECU's can be bought from
[https://www.atpelectronics.co.uk/search ... mit=Search](https://www.atpelectronics.co.uk/search...mit=Search)
ECU's
www.andrewc.org.uk/tvrgit/ford29diagnostics.pdf
ECU's
<https://www.atcdrivetrain.co.uk/>

Wiring diagrams: Ref. Section 15

Once again many thanks to the owner of MB No 50 for another awesome website update.

Thank you from Mick & the MESS.