THE ROVER COMPANY LIMITED
TECHNICAL SERVICE DEPARTMENT
SOLIHULL, WARWICKSHIRE
ENGLAND

FITTING INSTRUCTION 607722

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NOTE

The Manufacturers reserve the right to vary their specifications with or without notice, and at such times and in such manner as thet think fit. Major as well as minor changes may be involved in accordance with the Manufacturer's policy of constant product improvement.

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SUBJECT: FITTING ENGINE OIL COOLER ASSEMBLY

MODEL: Land-Rover Series III 2.6 litre Petrol.

BRIEF DESCRIPTION: The oil cooler fits in front of the existing engine coolant radiator, and is primarily intended to maintain the temperature of the engine lubricating oil within recommended limits, particularly when the engine is being used to drive auxiliary equipment. The oil temperature is sensed at a thermometer pocket assembly fitted into the oil cooler inlet pipe, and is transmitted electrically to a gauge in the driving compartment. If the engine oil temperature exceeds 105°C, then the engine must be switched off and the oil allowed to cool.

PART REQUIRED:

Oil Cooler complete assembly	1	607721

Comprises:

Description	Qty	Part No
Oil temperature gauge complete with bulb	1	589136
Oil temperature transmitter	1	560794
Lead, transmitter to gauge	1	560520
Lead, connector to gauge	1	545326
Lead, stabiliser to connector	1	589272
Cable assembly for gauge illumination	1	579220
Lead, instrument earth loop	1	528920
Grommet at grommet plate	1	233243
Edge clips at wing valance	3	570351
Clips	2	519602

Description		Qty	Part No
Screw (4BA x ¾"long)	Fixing clips	1	77701
Spring washer	to wing	1	3072
Nut (4BA)	valance	1	4024
Drive screw		1	72626
Oil filter adaptor assembly		1	587724
Joint washer, front	Adaptor to	1	274609
Joint washer, rear	cylinder block	1	274104
Joint washer, oil filter to adaptor		1	272839
Mounting bracket RH for oil cooler		1	592041
Mounting bracket LH for oil cooler		1	592042
Bolt (¼" UNF x ⅜" long)	Fixing	8	255206
Plain washer	brackets to	8	3840
Spring washer	grille panel	8	3074
Nut (¼" UNF)		8	254810
Oil cooler, full flow		1	569471
Bolt (¼" UNF x ⅜" long)	Fixing	6	255206
Plain washer	oil cooler	6	3840
Spring washer	to brackets	6	3074
Nut (¼" UNF)		6	254810
Flexible pipe		2	592040
Pipe, flexible pipe to transmitter housing		1	592037
Temperature transmitter housing		1	569473
Unions (½" BSP) pipes to adaptor housing		2	592039
Pipe, transmitter housing to collar		1	592035
Pipe, cooler to flexible pipe		1	592034
Pipe, adaptor outlet to flexible pipe		1	592038
Pipe, flexible hose to adaptor inlet		1	592036
Bracket for thermometer pocket		1	279811
Bolt (2BA x ½" long)	Fixing	2	237121
Plain washer	bracket to	2	3557
Spring washer	wing valance	2	3073
Nut (2BA)	LH side	2	2247
Clip for pipe 592037		1	56666
Bolt (2BA x ½" long)	Fixing	1	237121
Plain washer	clip to	1	3557
Spring washer	thermometer	1	3073
Nut (2BA)	pocket bracket	1	2247
Clip for pipes at grille		2	541229
Bolt (¼" UNF x ⅜" long)	Fixing	1	255206
Spring washer	pipes together	1	3074
Nut (¼" UNF)	at grille	1	254810

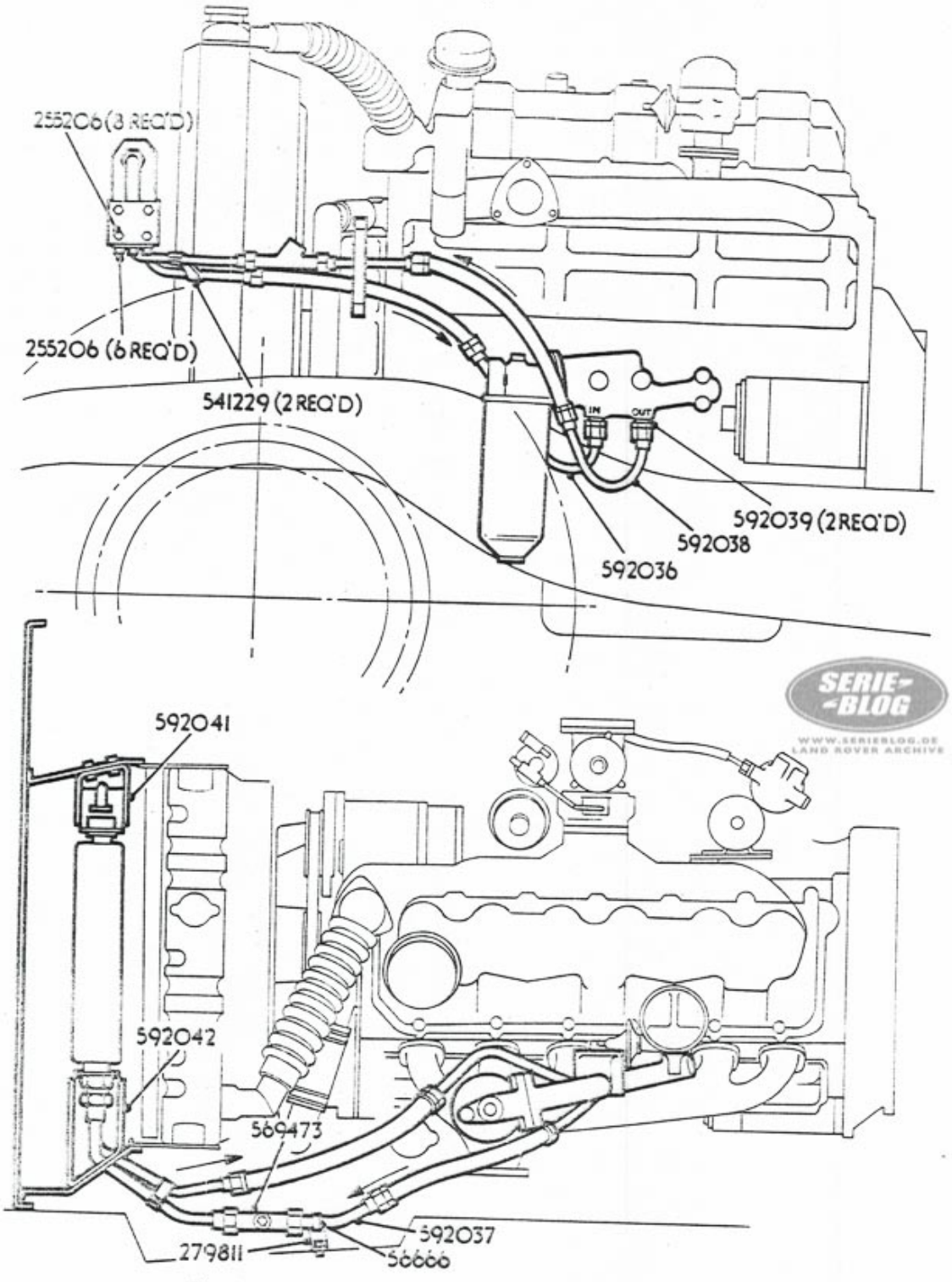

Fig.1. Arrangement of oil cooler and pipes.

PROCEDURE:

1. Disconnect the bonnet prop rod and remove the bonnet.

2. Disconnect the battery earth lead.

3. Remove and discard the existing bottom panel fixings situated at hole 'E' in Fig.2.

Drilling L.H. Wing Valance.

4. Mark off the L.H. wing valance outer face as illustrated in Fig.2. and drill one hole 0.218 in (5,5 mm) diameter.

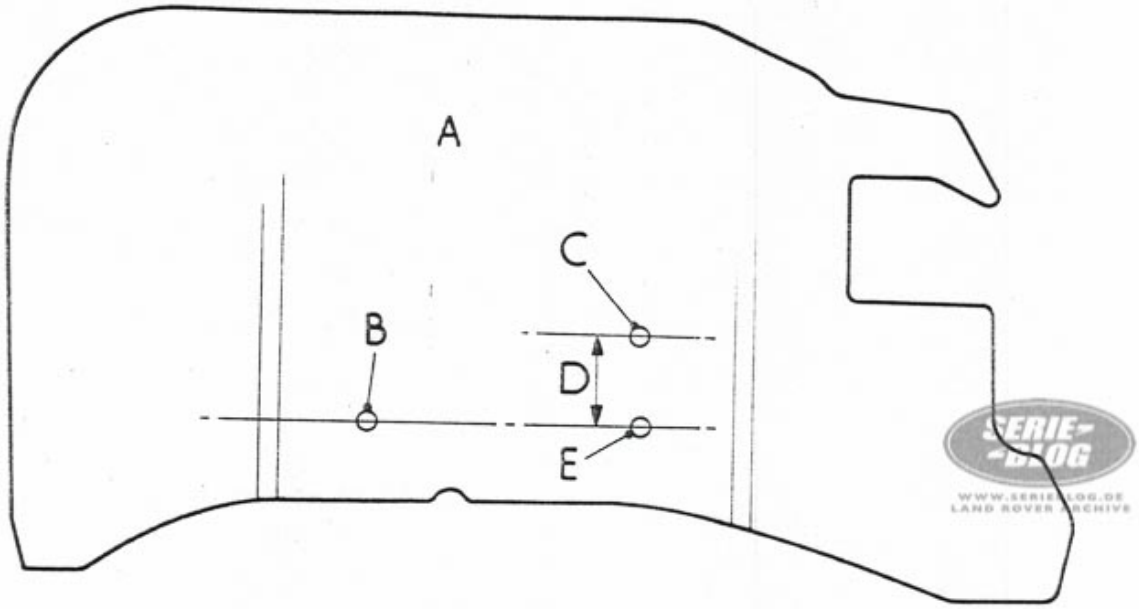

Fig.2. Drilling L.H. wing valance for bracket fixings.

A - Outer face of L.H. wing valance.

B - Existing fixings for securing bottom panel.

C - Drill hole 0.218 in (5,5 mm) diameter.

D - Dimension 3.437 in (11,0 mm).

E - Remove and discard original fixings at this hole.

5. Fit the bracket 279811 in the engine compartment, using bolt 237121 (2BA x ½" long) (2), plain washer 3557 (2), spring washer 3073 (2) and nut 2247 (2BA) (2) to secure the bracket to the valance.

Drilling radiator grille panel.

6. Remove the front grille.

7. Remove the L.H. horn and fixings and refit to an existing upper fixing hole, baffle plate to radiator.

8. Mark off the L.H. baffle plate as illustrated in Fig.3, and drill four holes 0.281 in (7,1 mm) diameter for the cooler bracket fixings.

9. Mark off the L.H. baffle plate, as illustrated in Fig.3, and cut out the panel for oil pipe access to the cooler.

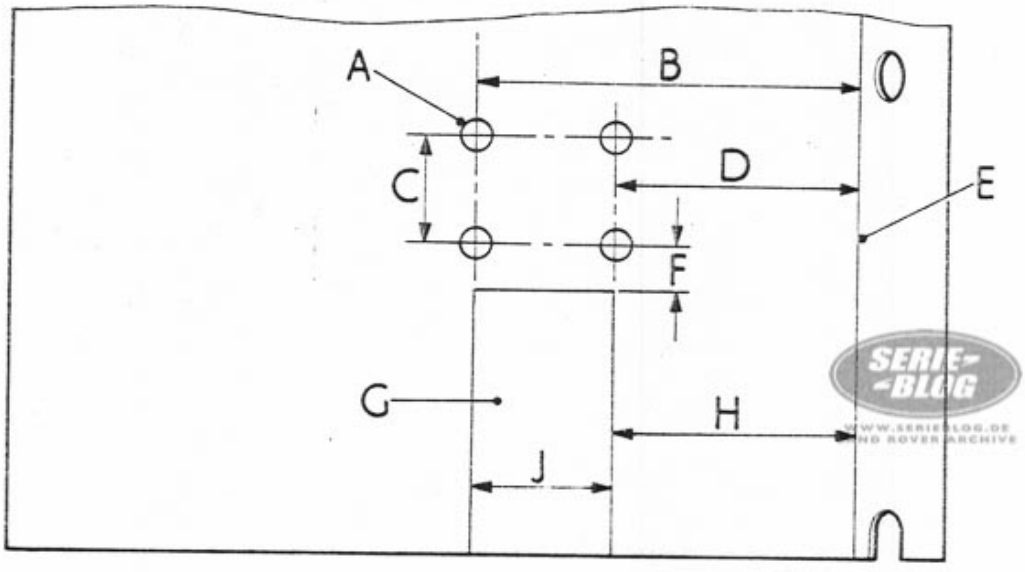

Fig.3. L.H. baffle plate, drilling and cut-out details.

A - Drill four holes 0.281 in (7,14 mm) diameter.

B - Dimension 2.90 in (53,1 mm).

C - Dimension 1.250 in (31,75 mm).

D - Dimension 1.150 in (29,2 mm).

E - Crease line in baffle plate.

F - Dimension 0.250 in (6,35 mm).

G - Panel to be cut out.

H - Dimension 1.150 in (29,2 mm).

J - Dimension 1.750 in (44,45 mm).

10 Mark off the R.H. baffle plate, as illustrated in Fig.4, and drill four holes 0.281 in (7,1 mm) diameter for the cooler bracket fixings.

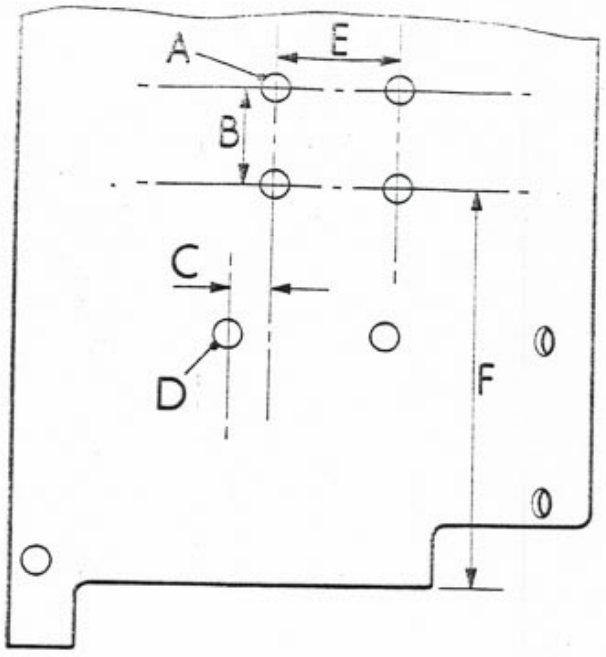

Fig.4. R.H. Baffle plate, drilling details.

A - Drill four holes 0.281 in (7,14 mm) diameter.

B - Dimension 1.250 in (31,75 mm).

C - Dimension 0.780 in (19,8 mm).

D - Existing hole 0.375 in (9,5 mm).

E - Dimension 1.375 in (34,9 mm).

F - Dimension 6.437 in (163,5 mm).

Fitting the oil cooler.

11 Referring to Fig.5, fit the brackets 592041 (RH) and 592042 (LH) to the oil cooler, using bolt 255206 (¼" UNF x ⅜" long) (6), plain washer 3840 (6), spring washer 3074 (6) and nut 254810 (¼" UNF) (6).

12 Fit the oil cooler and brackets to the grille panel baffle plates, using bolt 255206 (¼" UNF x ⅜" long) (8), plain washer 3840 (8), spring washer 3074 (8) and nut 254810 (¼" UNF) (8) as illustrated in Fig.5.

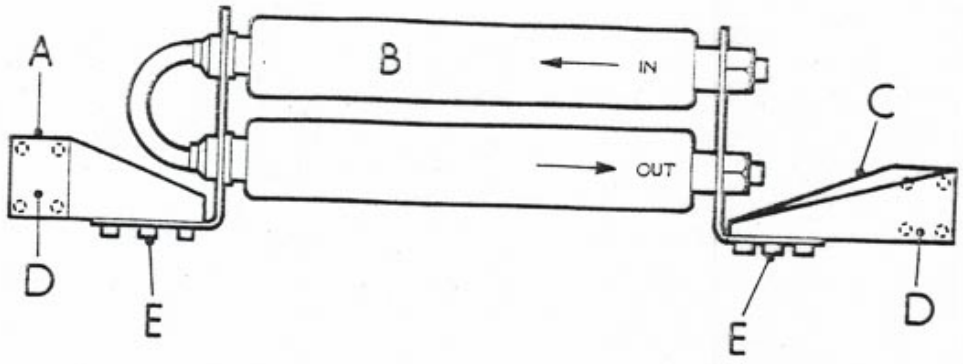

Fig.5. Fitting oil cooler.

A - R.H. mounting bracket, 592041.

B - Oil cooler, 569471.

C - L.H. mounting bracket, 592042.

D - Fixings, mounting brackets to baffle plates.

E - Fixings, mounting brackets to oil cooler.

Fitting replacement adaptor for oil cooler.

13 Disconnect the oil pressure transmitter lead at the oil filter.

14 Remove oil filter and adaptor assembly from the engine.

15 Remove the oil filter from the adaptor assembly and fit it to the new adaptor 587724, using joint washer 272839.

16 Fit the pipe unions 592039 (2) to the tappings in the adaptor.

17 Fit the oil filter and adaptor assembly to the engine, using the original fixings and fitting joint washers 274609 (front) and 274104 (rear) between engine block and filter adaptor.

Fitting the oil pipes.

18 Referring to Fig 6, fit the oil pipes from the oil filter adaptor to the oil cooler.

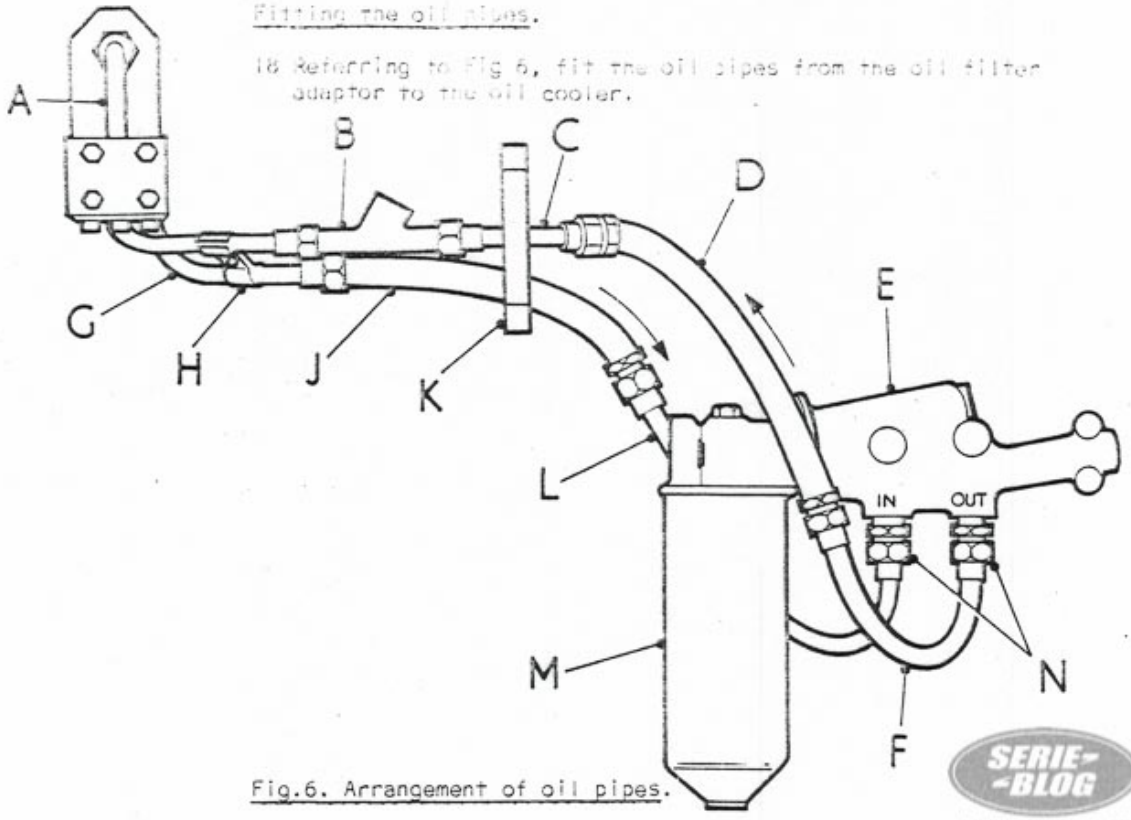

Fig.6. Arrangement of oil pipes.

A - Rigid pipe 592035, transmitter housing to oil cooler inlet.

B - Temperature transmitter housing 569473.

C - Rigid pipe 592037, flexible hose to transmitter housing.

D - Flexible connection hose, 592040.

E - Oil filter adaptor.

F - Rigid pipe 592038, adaptor outlet to flexible hose.

G - Rigid pipe 592034, flexible hose to oil cooler outlet.

H - Pipe clips 541229.

J - Flexible connection hose, 592040.

K - Bracket at wing valance.

L - Rigid pipe 592036, flexible hose to adaptor inlet.

M - Oil filter.

N - Pipe unions 592039 (2).

19 Secure together the two forward rigid pipes using pipe clips 541229 (2), bolt 255206 (¼" UNF x ⅜" long) (1), spring washer 3074 (1) and nut 254814 (¼" UNF) (1).

20 Secure the rigid pipe 592037 to the wing valance bracket using pipe clip 56666 (1), bolt 250960 (2BA x ½" long) (1), plain washer 3557 (1), spring washer 3073 (1) and nut 2247 (2BA) (1).

Fitting oil temperature transmitter, oil temperature gauge and electrical leads.

21 Fit grommet 233243 to the grommet plate at the L.H. side of the dash.

22 Fit oil temperature transmitter 560794 to the transmitter housing.

23 Connect lead 560520 to the oil temperature transmitter, feed lead along the engine compartment panels and pass it through the grommet fitted in the grommet plate.

24 From inside the driving compartment, fit the oil temperature gauge 589136, utilising the pre-pierced hole which must be located under the covering trim at the front of the parcel tray.

25 Ease the back of the parcel tray away from the dash by prising out the peg retainers.

26 Working down the back of the parcel tray, locate the transmitter lead (previously passed through the grommet plate) and connect it to the oil temperature gauge.

27 Remove the securing screws and ease the instrument panel forward.

28 Connect lead 589272 to the voltage stabiliser mounted at the back of the speedometer. Pass the free end of the lead around the back of the instrument housing and into the parcel tray.

29 Connect lead 545326 between the lead from the voltage stabiliser and the oil temperature gauge.

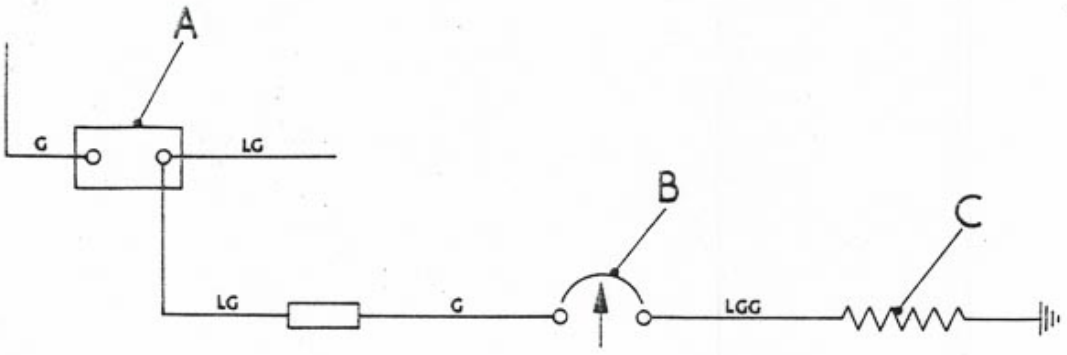

Fig.7. Electrical circuit for oil temperature gauge.

A - Instrument voltage stabiliser.

B - Oil temperature gauge.

C - Oil temperature transmitter.

Lead colours:

G - Green

L - Light

30 Connect cable 579220 to the oil temperature gauge, the red/white lead to the red lead from the gauge, and the black lead to the gauge clamp fixing.

31 Pass the free end of cable 579220 into the back of the instrument housing.

32 Disconnect the existing red/white lead from the panel light switch and connect the red/white lead from cable 579220 to the switch terminal.

33 Reconnect the original red/white lead to the male blade connector included on the end of cable 579220.

34 Connect the black lead of cable 579220 to the fixing clamp of the main three-in-one instrument.

35 If more than one instrument is fitted in the front of the parcel tray, connect the instrument illumination circuit as illustrated, Fig.8, using lead 528920.

36 Locate the leads between the oil temperature gauge and the instrument housing, beneath the back of the parcel tray and secure the parcel tray rear fixings.

37 Refit the instrument panel.

38 Using clips 570351 (3) and 519602, clip the oil temperature transmitter lead to the L.H. wing valance and dash, using drive screw 72626 for the dash clip and screw 77701, spring washer 3072 and nut 4024 for the wing valance clip.

39 Check tighten all pipe connections and fixings and refit all items previously removed to gain access to fit the cooler kit.

40 Check, and if necessary replenish the engine oil sump.

41 Reconnect the battery earth lead.

42 Start and run the engine. Check for leakages and check the functioning of the oil temperature gauge.

43 Stop the engine and top up the engine oil sump if necessary.

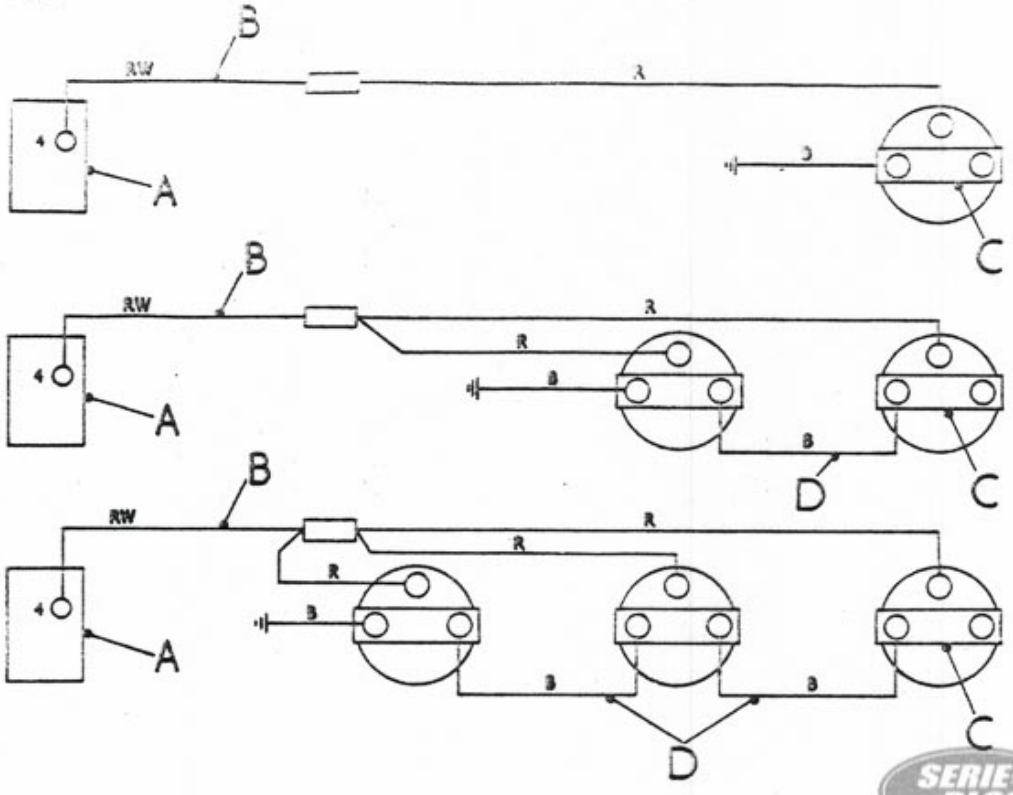

Fig.8. Electrical circuit for instrument illumination showing alterations for single, double and triple instrument installation.

A - Panel light switch.

B - Cable, 579220.

C - Instruments.

D - Lead, 528920.

Lead colours:

B - Black

R - Red

W - White