

SECTION S

THE HEATER

OF THE MORRIS MINOR (Series MM)

Description.

Section No. S.1 To fit the heater.

Section No. S.2 Components.

- joint gasket provided, using the two existing attachment bolts.
- (21) Assemble the pump pulley and new fan blades to the pump, using the four set bolts from the dynamo fan hub and taking care to see that the blades are the right way round so as to draw the air through the radiator. Remove the hexagon-headed plug from the pump and assemble the pump union and tube to the pump, using the washer from the plug to make a water-tight joint. Fit the rubber hose elbow to the union tube loosely with the hose clip.
 - (22) Fit the water pump joint gasket over the spigot of the water pump and bolt the pump into position on the front of the cylinder block, using the bolts from the cover-plate. Do not make a proper joint with the water rail pipe at this stage.
 - (23) Fit the two hose connections to the connecting pipe with the two-diameter hose at the bottom end for connection to the radiator. Fit the pipe to the pump intake with the hose clip provided.
 - (24) Place the new belt over the pump and crankshaft pulleys.
 - (25) Replace the radiator and refit the four attachment bolts and spring washers, keeping the radiator as far forward as possible.
 - (26) Couple up the bottom hose to the radiator, using the original clip, and tighten all four clips.
 - (27) Fit the thermostat unit into the recess in the cylinder head water outlet and refit the outlet casting, using a new gasket. Refit the upper radiator hose.
 - (28) Replace the dynamo on the engine, engaging the pulley with the belt and fitting the two upper attachment bolts loosely.
 - (29) Fit the lower dynamo bolt through the slotted adjustment link and tighten all three bolts while pulling the dynamo outwards by hand to give the correct belt tension.
 - (30) Fit the two extension leads to the heater motor leads with the snap connectors and run the extension leads over the instrument support bracket, feeding them through the grommet in the dash through which passes the wiring loom.
 - (31) Connect one lead to the 'A4' terminal on the control box and the other to the adjacent 'E' terminal.
 - (32) See that both drain taps are closed (handles in line with the tap) and fill the cooling system with water, leaving the connection between the rubber pump elbow and the water rail still only temporarily connected.
 - (33) Refit the battery lead to the battery terminal, switch on the ignition, and start the engine, letting it run at a fast idling speed.

After the engine has run for a few minutes both the flexible rubber pipes leading to the heater should become warm, indicating that the water is circulating satisfactorily.

If one or both of the pipes do not warm up, this indicates an air lock in the heater circuit, which can be cleared by disconnecting the rubber pump elbow from the water rail, quickly sealing the end with a finger and getting an assistant to start up the engine. After a few moments water should flow from the water rail, when the elbow should be reconnected quickly.
 - (34) Tighten up the pump elbow hose clips, and replenish the water in the radiator if necessary. Replace the radiator filler cap.
 - (35) Switch on the heater motor (with the ignition switched on) and check that it is working.

The first few degrees of movement of the switch switches on the heater motor so that it runs at its maximum speed. Further movement of the switch reduces the speed of the motor to regulate the heating of the car.

As the speed of the motor is reduced it naturally reduces its noise level.
 - (36) The construction and installation position of the heater radiator does not permit it to be drained. It is therefore essential to use an anti-freeze in the coolant to counter the need for draining in cold weather.

THE HEATER

Section S.2

COMPONENTS OF MORRIS MINOR CAR HEATER AND
WATER PUMP KIT SET (Part No. 300553)

(For fitment to Engines Commencing at No. 77001 Only)

Part No.	Description	No. off
SA 3115/4	Water pump assembly with pulley	1
X 31662	Fan blade	1
X 31663	Fan blade—offset	1
X 31653	Water drain cover	1
163129	Water drain tap	1
JA 5411	Water drain tap washer	1
164421	Thermostat	1
164137	Joint	1
X 31666	Belt for dynamo and fan	1
162531	Dynamo pulley—front half	1
X 31657	Water pump joint	1
X 15582	Water inlet pipe joint	1
181743	Hose—pump (long)	1
181742	Hose—lower (short)	1
181746	Connecting pipe—inlet	2
98099	Hose clips	1
95621	Hose clip	1
181983	Union and tube assembly	1
181982	Elbow—water rail to pump	1
181987	Pipe rail assembly (early type)	1
183785	Pipe rail assembly (from Tourer No. 132749, 4-door No. 132583, and 2-door No. 132634)	1
97428	Clips—hose	6
181980	Pipe—flexible	1
181981	Pipe—flexible	1
180204	Demister duct—R.H.	1
180205	Demister duct—L.H.	4
8463	Demister duct drive screws	1
181988	Control valve	1
135435	Shim—.014 in.	1
135434	Shim—.028 in.	1
182600	Heater kit	1
	NOTE.—Heater kit (Part No. 182600) comprises the following:	
300383	Heater—complete with brackets	1
593 E 2	Fixing screws	2
300390	Two-way adaptor	1
300391	Rubber grommets	2
182078	Demister air hose—10 in.	1
182079	Demister air hose—7 in.	1
181216	Instruction plate	1
236 B 2	Bottom screw	1
PW 012 Z	Washer—plain	1
SW 012 Z	Washer—spring	1
200 A 2	Nut	1
	Leads for heater motor	2

SECTION SS

THE HEATER

OF THE MORRIS MINOR (Series II) AND MORRIS MINOR 1000

Description.

- | | |
|-------------------|---|
| Section No. SS.1 | To fit the heater. |
| Section No. SS.2 | Modified demister hose. |
| Section No. SS.3 | Fitting the heater fresh-air conversion kit. |
| Section No. SS.4 | Fitting a heater and fresh-air intake. |
| Section No. SS.5 | Fitting the heater masking kit. |
| Section No. SS.6. | Fitting a later-type heater and fresh-air intake. |

DESCRIPTION

The car heater is fitted centrally between the parcel tray and control panel and incorporates the motor and control switch.

Section SS.1

TO FIT THE HEATER

- (1) Drain the water from the radiator by opening the tap at the base of the radiator and removing the filler cap, remembering to collect the water for re-use if it contains anti-freeze mixture.
- (2) Disconnect the battery lead from the negative terminal.
- (3) Remove the front passenger's seat to give ample working room.

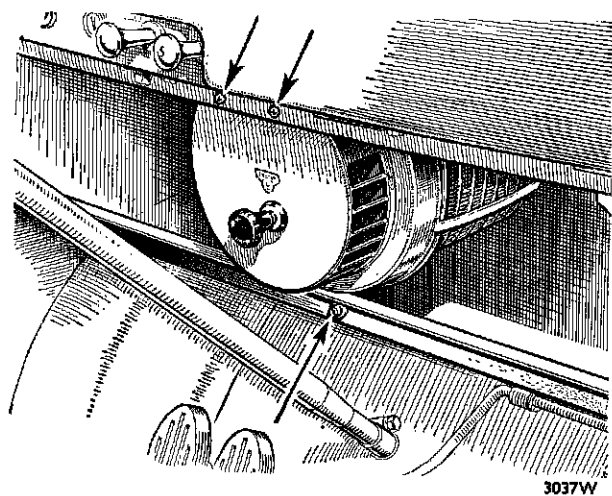


Fig. SS.1

The heater is fitted centrally between the control panel and the parcel tray, as indicated. The two upper attachment drive screws and the lower attachment screw are shown by the arrows. The installation is shown on a left-hand-drive car, but the fitting is identical on right-hand-drive cars

- (4) Remove the central rivet from the edge of the parcel tray and drill out the hole to $\frac{1}{4}$ in. (6.5 mm.) diameter.
- (5) Release the parcel tray at each end by removing the screws.

Remove the right- and left-hand gloveboxes by undoing the five screws.

Fit the two demister ducts to the fascia panel from the under side by passing the two attachment tongues through the deflector openings

underneath the rubber windscreen surround, with the tongues on top of the fascia. With the help of an assistant, hold back the lip of the surround and insert the drive screws through the tongues into the holes already drilled in the fascia, using a well-fitting screwdriver to tighten the screws. On later models it will be necessary to drill the holes in the fascia, taking care not to scratch the windscreen glass.

- (6) Fit the demister air hoses to the demister ducts under the fascia panel by pushing them onto the ducts. They are a sufficiently tight fit not to require any special retaining precautions. The short hose should be fitted to the right-hand duct and the long hose to the left-hand duct. Fitting will be facilitated by rotating the hose in the direction which tends to unwind the spiral armour wire while the hoses are pushed into position.

Fit the two-way adaptor to the lower ends of the demister hoses, taking care that both are behind the wiring loom at the back of the control panel.

- (7) Fit the two flexible rubber pipes to the heater inlet and outlet pipes, fitting the outlet hose to the left-hand swan-neck and the inlet hose to the right-hand swan-neck, using clips.
- (8) Remove the two rubber blanking grommets from the dash next to the starter switch and fit the two replacement grommets in their place.
- (9) Place the heater unit on the floor of the car and feed the two hoses through the grommets in the dash, remembering to pass them over the instrument panel support bracket and the inlet hose through the upper grommet and over the starter control wire. Raise the heater into position under the control panel, feeding the hoses through the dash and adjusting the two-way adaptor into the heater outlet until the holes in the heater attachment bracket line up with the two holes in the lip of the control panel.

Insert the drive screws provided into the panel and bracket holes and give them a sufficient number of turns to support the heater. Insert the screw and the plain washer provided through the edge of the parcel tray and the bottom bracket of the heater, and fit the spring washer and nut in position. Tighten the screw and the two drive screws and refit the screws at each end of the tray.

- (10) Remove the blanking plate from the rear right-hand end of the cylinder head. Screw the control valve into the adaptor plate and secure the plate, using a new joint seal to the cylinder head. The

hose connection should point to the right of the car. This permits access to the cylinder head stud nut for attention when decarbonizing, etc., without disturbing the control valve. If difficulty is encountered in obtaining this position use should be made of one or both of the brass shims provided.

- (11) Fit the two hose retaining clips provided. One fits in the hole on the dash cross-member adjacent to the main harness clip and the other in the hole provided in the right horizontal tie-plate, to the rear of the front engine bearer bracket. Eliminate any tendency of the hoses to foul the throttle control cable guide on the dash cross-member.
- (12) Couple the inlet hose to the control valve, having shortened it as necessary, with one of the hose clips provided, allowing the hose to pass under the battery box.

- (17) See that both drain taps are closed and fill the cooling system with water.
- (18) Refit the battery lead to the battery terminal, switch on the ignition, and start the engine, letting it run at a fast idling speed.

After the engine has run for a few minutes both the flexible rubber pipes leading to the heater should become warm, indicating that the water is circulating satisfactorily.

If one or both of the pipes do not warm up this indicates an air lock in the heater circuit, which can be cleared by disconnecting the long rubber hose from the bottom of the radiator, quickly plugging the radiator connection, and getting an assistant to start up the engine. After a few moments water should flow from the long hose, which should be reconnected quickly and the hose clip tightened.

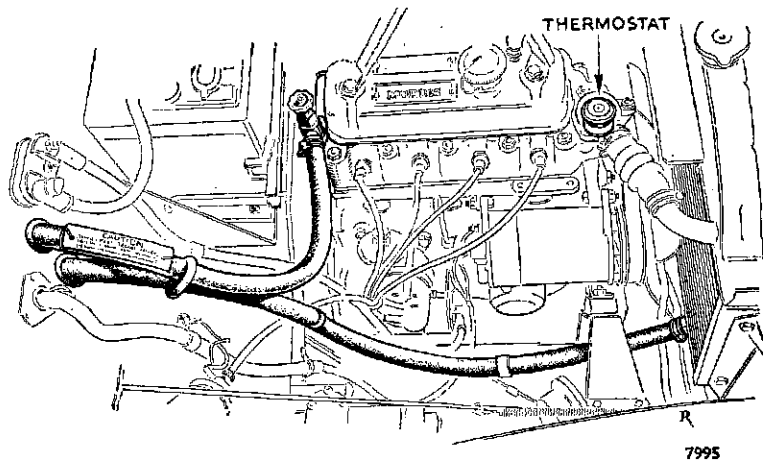


Fig. SS.2

The components of the heater equipment fitted to the engine

- (13) Remove the large hexagon plug from the bottom right-hand side of the radiator. Insert the brass connector supplied. Feed the outlet hose through the engine bearer bracket and secure to the connector with the remaining clip. Press the hose into the clips fitted to the dash and tie-plate.
- (14) Remove the thermostat housing cover. Replace the existing thermostat (72° C. opening temperature) by the thermostat (80 to 85° C. opening temperature) supplied, using a new joint.
- (15) Fit the two extension leads to the heater motor leads with the snap connectors and run the extension leads over the instrument support bracket, feeding them through the grommet in the dash through which passes the wiring loom.
- (16) Connect one lead to the 'A4' terminal on the fusebox and the other to the 'E' terminal on the control box.
- (19) Replenish the water in the radiator if necessary and replace the radiator filler cap.
- (20) Switch on the heater motor (with the ignition switched on) and check that it is working.

The first few degrees of movement of the switch switches on the heater motor so that it runs at its maximum speed. Further movement of the switch reduces the speed of the motor to regulate the heating of the car.

As the speed of the motor is reduced it naturally reduces its noise level.

The construction and installation position of the heater radiator does not permit it to be drained. It is therefore essential to use an anti-freeze in the coolant to obviate the need for draining in cold weather.

- (21) Secure the instruction plate between the rubber ring on the hose pipes and the dash cross-member.

Section SS.2

MODIFIED DEMISTER HOSE

Instances have occurred in which the speedometer cable has broken due to pressure by the left-hand demister hose on the outer casing. The cause can be eliminated by fitting a longer hose.

Unscrew the instrument retaining screws, which are accessible through holes in the gloveboxes, withdraw the instrument a sufficient amount, and disconnect the speedometer cable.

Remove the left-hand demister air hose and fit the new air hose (Part No. ADA 1682), which is 14 in. (35.5 cm.) in length. The speedometer cable must pass beneath the air hose.

Reconnect the speedometer cable and replace the instrument.

Section SS.3

FITTING THE HEATER FRESH-AIR
CONVERSION KIT

It is possible to convert an original recirculatory type of heater fitted to a Minor (Series II) or to a Minor 1000 into a fresh-air type with the aid of a conversion kit, Part No. 8G 9046. Components are supplied in the kit for fitting air ducting around the heater unit, making provision for the fresh-air inlet, and for improving the efficiency of the water circulation in the heater system. All these modifications are incorporated on the heater assemblies fitted to the de-luxe versions of later Minor 1000 cars.

NOTE.—The numbers referred to in the text of this Section are to be found in the illustration on page SS.5.

Proceed as follows to fit the conversion kit.

Drain the cooling system, collecting the water for re-use if it contains anti-freeze mixture.

Disconnect a battery lead.

Remove both the front seats and the carpets to give ample working room. Undo the snap connectors from the horn and indicator assembly wires beneath the fascia and draw the wires through the hole in the fascia. In the case of Minor (Series II) cars disconnect the horn wire from the slip-ring contact brush terminal. Remove the steering-column clamp and the pinion clamping nut and bolt. Disengage the column assembly from the pinion splines and lift it from the car.

Remove the parcel tray by extracting the two side securing screws and the eight fixing rivets and flat washers. Cut a portion from the centre of the parcel tray at the

SS.4

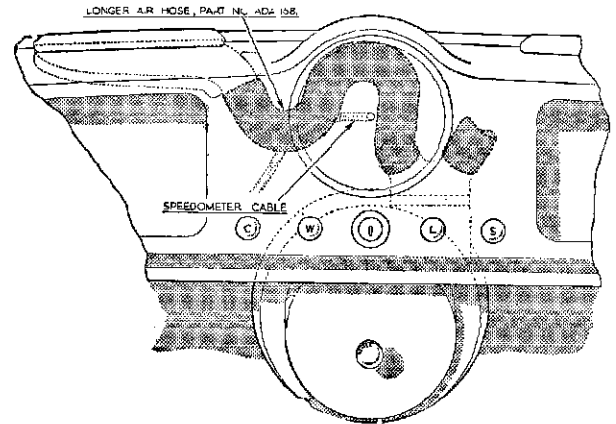


Fig. SS.3

When fitting the long demister hose ensure that it passes above the speedometer drive cable as shown here

rear to the following dimensions: 8 in. (20.32 cm.) in depth from the rear and $6\frac{7}{8}$ in. (16.35 cm.) in over-all width, i.e. $3\frac{3}{8}$ in. (8.18 cm.) each side of the centre-line.

With Minor 1000 cars after Car No. 654750 remove the blanking plate in the centre of the floor panel below the parcel tray by extracting the fixing screws.

On L.H.D. models disconnect the two accelerator pedal fixing brackets and remove the assembly.

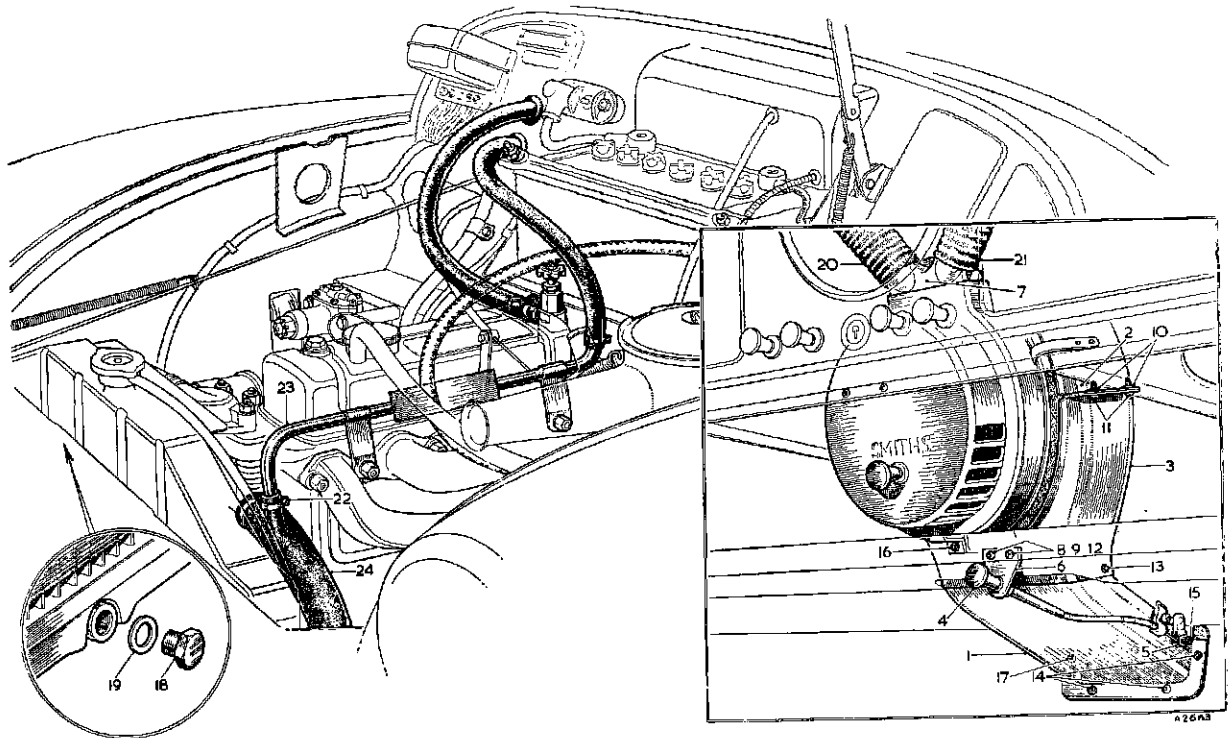
On earlier Minor 1000 cars and all Minor (Series II) cars there is no air aperture cut in the floor. Use the left-hand accelerator bracket tapped hole (L.H.D. models) or the tapped hole provided (R.H.D. models) as a location for the left-hand hole in the fresh-air duct sealing gasket and place the sealing gasket in position. Mark out the area within the gasket and cut out the metal enclosed within the marking from the floor panel. Replace the accelerator pedal assembly, using the right-hand fixing screw only (L.H.D. models). Fix the sealing gasket in position with Dunlop Adhesive S758.

Remove the right- and left-hand gloveboxes by withdrawing their fixing screws.

Disconnect the heater inlet hose from the control valve on the cylinder head and the outlet hose from the connector in the bottom tank of the radiator. Disconnect and remove the heater unit from the car, pulling the hoses through the bulkhead. Remove the demister hoses from the demister ducts. Fit the long demister hose (20) supplied in the kit to the left-hand demister duct and the short hose (21) to the right-hand duct. Fit the new two-way adaptor (7) to the demister hoses.

Fit the circular foam seal to the rear side edge of the heater unit, using Dunlop Adhesive S758. Fit the two foam sealing strips to the front lips of the top heater case assembly (2) and the bottom heater case assembly (3),

THE HEATER FRESH-AIR CONVERSION KIT
Part No. 8G 9046



Illus. No.	Part No.	Description	No. off	Illus. No.	Part No.	Description	No. off
1	ADA 3532	Extension cover assembly ..	1	12	PMZ 0308	Screw—control to fascia shelf..	2
2	ADA 3533	Heater case—top	1	13	PTZ 603	Screw—extension to bottom case	3
3	ADA 3534	Heater case—bottom	1	14	PTZ 1004	Screw—extension to floor ..	3
4	ADA 3598	Air flow control	1	15	53K 1016	Screw—trunnion	1
—	ADA 3536	Seal—heater to case—top and bottom	2	16	PTZ 1006	Screw—heater to bottom case..	1
—	ADA 3537	Seal—heater to case	1	—	BRP 1108	Rivet	8
5	ADA 3538	Trunnion	1	—	AJD 7112	Washer	12
6	ADA 3539	Bracket—air control	1	17	AJD 1446	Screw—extension to floor ..	1
—	ADA 3565	Seal—extension to floor ..	1	18	ARA 615	Radiator plug	1
7	ADA 3644	Hose adaptor—demister ..	1	19	ARA 616	Washer—radiator plug..	1
8	FNZ 103	Nut—control to fascia shelf ..	2	20	ADA 2637	Hose—demister (6½ in. long) ..	1
9	LWZ 203	Washer—control to fascia shelf	2	21	BCA 4171	Hose—demister (3¾ in. long) ..	1
10	PFS 210	Spring nut—heater case—top to bottom	4	22	ACA 5119	Clip—hose	1
11	PJZ 1004	Screw—heater case—top to bottom	4	23	ACA 5514	Outlet pipe	1
				24	ACA 5513	Hose—bottom—three-way ..	1

using Dunlop Adhesive S758. The top heater case can be identified by two locating clips on its forward edge, and the bottom case by a right-angle fixing bracket on its front side. Fit the heater case assemblies to the heater unit, taking care not to damage the seals. Place the four spring nuts (10) over the fixing holes in the top case. Secure the two cases to each other, using the four screws (11). When assembling the two cases to the heater unit the clips on the forward edge of the top lip should be located in the recess of the heater front cover. The fixing bracket of the heater bottom case should be in line with the bracket at the bottom of the heater front cover. Insert the screw (16) into the bottom fixing bracket.

Fit the heater extension assembly (1) to the heater bottom case but do not secure with screws until the assembly has been installed in the car.

Fit the heater assembly to the car, passing the inlet hose through the top hole in the bulkhead and the outlet hose through the bottom hole. Fit the demister hose two-way adaptor (7) to the heater unit. Attach the heater assembly to the fascia rail, leaving the two fixing screws slack. Align the left-hand hole in the bottom of the heater extension (1) with the tapped hole in the floor panel and insert the screw (17). Tighten the top fixing screws in the fascia rail. Drill through the floor, using the three remaining fixing holes in the bottom of the extension cover as a guide, and then fasten the extension firmly to the floor, using the self-tapping screws (14). Using the holes already provided in the bottom heater case as a guide, drill through into the extension and fit the three self-tapping screws (13).

Remove the existing bottom water hose and fit the new hose supplied (24). Remove the second and fifth manifold stud nuts and fit the outlet pipe assembly (23) over the studs connecting it to the bottom hose with hose clip (22). Refit the manifold nuts. Place two grommets over the heater hoses and locate them in the bulkhead. Connect the inlet (top) hose to the control valve and the outlet (bottom) hose to the outlet pipe assembly. It will be necessary to shorten this hose. Fit the instruction plate to the water hose in a convenient position near the bulkhead. Remove the radiator adaptor from the bottom of the radiator and fit the blanking plug (18) supplied with its washer (19). Making certain that both drain taps are closed, refill the cooling system, using additional anti-freeze mixture where required. Check for water leaks.

Pass the two electrical cables from the heater through the main harness cable ferrule. Connect one lead to the 'A4' terminal and the other to the 'E' terminal on the control box.

Refit the parcel tray, using new bifurcated rivets and washers supplied in the kit as required.

Refit the steering-column assembly, ensuring that the slot in the steering-column clamp coincides with the mark

on the end of the pinion. The mark is at bottom dead centre when the wheels are in their straight-ahead position. Refit the clamp bolt and the column support bracket. Where a self-cancelling direction indicator switch is installed make certain that the indicator trip cancels correctly.

Fit the air control assembly (4) to the air control bracket (6). Place the assembly under the parcel tray directly in line with the air flap operating lever. Drill two holes, using the bracket holes as a guide. Secure the bracket to the parcel tray with two screws (12), nuts (8), and spring washers (9). Fit the trunnion (5) to the air flap lever and pass the inner cable through. Clamp the outer cable to the extension with the clamp provided. Adjust the cable length and secure it in the trunnion with the screw (15).

Refit the gloveboxes and the seats. Cut the carpets as required around the heater extension and reposition the carpet fasteners, drilling new holes to suit.

Reconnect the battery lead and start the engine. If the heater fails to warm up an air lock is present in the system. In the event of this happening, switch off the engine and remove the hose from the outlet pipe assembly. Extend the rubber hose by some temporary means so that water will flow back into the radiator through the filler neck. Plug the outlet pipe temporarily. Start the engine and allow it to run at a fast idling speed. Watch the water flow back into the radiator. When this is smooth and bubble-free reconnect the hose to the outlet pipe and tighten the clip as quickly as possible. Top up the radiator.

Section SS.4

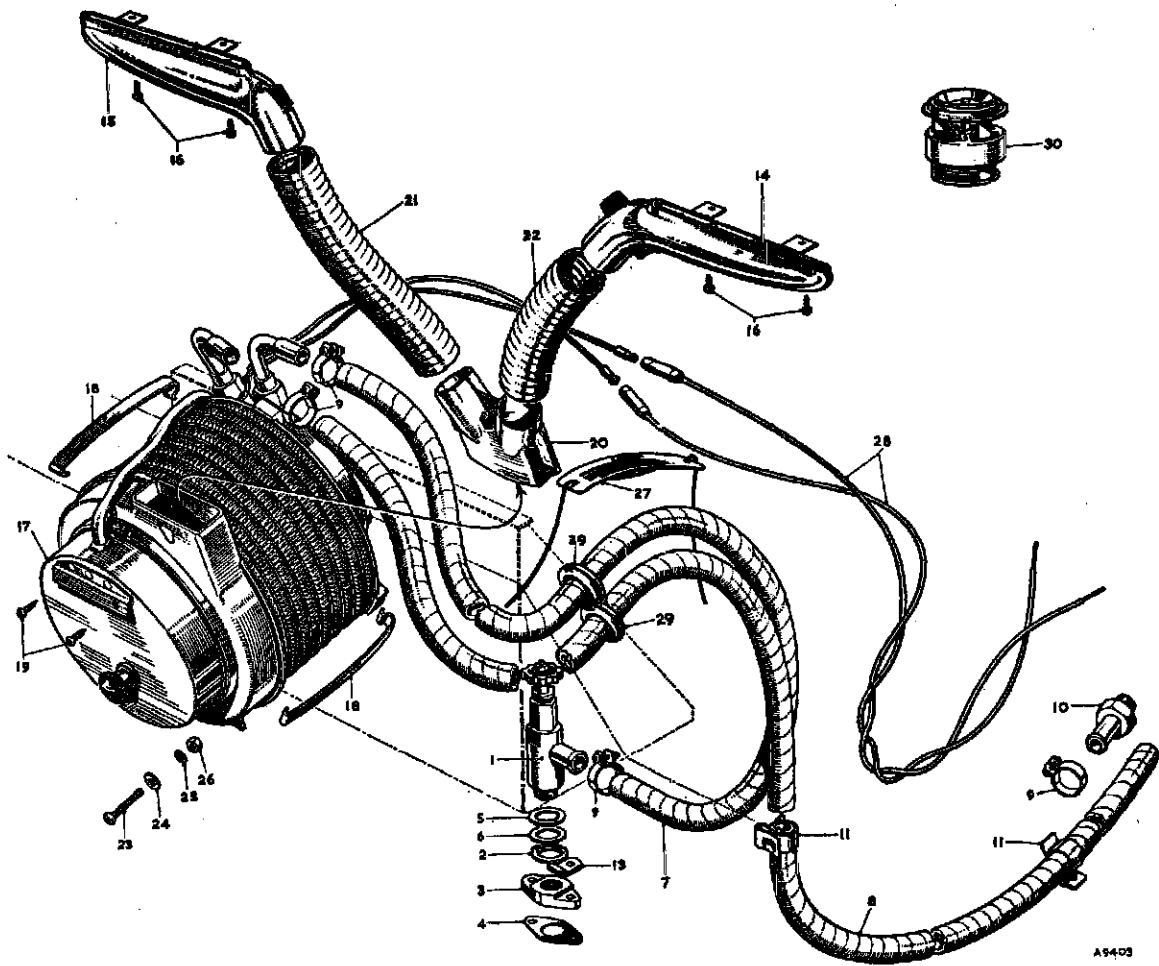
FITTING A HEATER AND FRESH-AIR INTAKE

To fit a fresh-air type of heater to a car which has previously had no heating equipment it is necessary to fit the components supplied in heater kit (Part No. 301153) and heater fresh-air conversion kit (Part No. 8G 9046) simultaneously.

When fitting the components of both kits follow the instructions given in Section SS.1, but note that the following additional operations must be carried out:

- (1) Remove the floor carpets.
- (2) Remove the steering-column assembly as described in Section SS.3.
- (3) Having removed the parcel tray, cut out a portion from it to the dimensions detailed in Section SS.3.
- (4) Fit the demister hoses and two-way adaptor supplied in the fresh-air conversion kit (Part No. 8G 9046). Do not use the similar parts supplied in the heater kit (Part No. 301153).
- (5) Remove the blanking plate in the centre of the floor panel or, in the case of earlier Minor 1000

COMPONENTS OF THE MORRIS MINOR (Series II) CAR HEATER KIT (Part No. 301153)



A9403

Illus. No.	Part No.	Description	No. off	Illus. No.	Part No.	Description	No. off
1	13H 100	Control valve	1	17	ADA 1813	Heater—complete with brackets	1
2	98555	Washer—valve joint	1	18	27H 396	Heater grille securing clip	3
3	ACA 5456	Adaptor plate—control valve	1	19	PTZ 603	Fixing screw—top	2
4	2A 179	Joint seal	1	20	ADA 2636	Two-way adaptor	1
5	ACA 5173	Shim—.014 in.	1	21	ADA 2637	Demister air hose—L.H.	1
6	ACA 5172	Shim—.028 in.	1	22	BCA 4171	Demister air hose—R.H.	1
7	ACA 8010	Inlet pipe	1	23	PMZ 0312	Fixing screw—bottom	1
8	ACA 8010	Outlet pipe	1	24	PWZ 203	Washer—plain	1
9	ACA 5119	Pipe clip	4	25	LWZ 203	Washer—spring	1
10	181983	Water pipe connector to radiator	1	26	FNZ 103	2 B.A. hexagon nut	1
11	184673	Clip—hoses to tie-plate and dash cross-member	2	27	ACB 8437	Instructional plate	1
13	ACH 9009	Pipe clip—carburettor control	1	28	185494	Electrical wire—complete with snap connector	2
14	180204	Demister duct—R.H.	1	29	300391	Rubber grommet	2
15	180205	Demister duct—L.H.	1	30	11G 292	Thermostat	1
16	AJD 8152 Z	Demister duct drive screws	4				

cars and all Minor (Series II) cars, cut a hole in the floor panel, using the method described in Section SS.3.

- (6) Fit the top and bottom casings and the fresh-air extension supplied in the conversion kit to the heater unit before fitting the heater assembly to the car. To do this follow instructions given in Section SS.3 and secure the complete assembly in the car in the manner described.
- (7) Use the components supplied in the conversion kit for the heater water outlet as this will give increased heating efficiency. Shorten the outlet hose as necessary and follow the instructions for installation given in Section SS.3.
- (8) Refit the steering-column in the way described in Section SS.3.
- (9) Fit the fresh-air control assembly, using the method described in Section SS.3.
- (10) Refit the carpets, cutting them as necessary around the heater extension and repositioning the carpet fasteners.

tray and heater mask into position with the clip resting behind the lower flange of the fascia.

Refit the heater control knob and refasten the parcel tray to the bulkhead and side panels.

Replace the battery board and the battery. Reconnect the battery terminals.

HEATER MASKING KIT

(Part No. 8G 9051)

Part No.	Description	No. off
ADA 3597	Heater mask assembly	1
ADA 3592	Heater clamping plate—front ..	1
ADA 3588	Heater clamping plate—rear ..	1
ADA 3587	Clip—mask	1
BRP 1106	Rivet	2
PMZ 0306	Screw	5
PWZ 103	Washer	5
LWZ 203	Washer	5
FNZ 103	Nut	5

Section SS.5

FITTING THE HEATER MASKING KIT

When fitting a heater assembly to later Minor 1000 cars equipped with the deeper parcel tray and numbered from 695736 and 693589 (Traveller) it will be necessary to fit the extra parts supplied in the heater masking kit (Part No. 8G 9051). The purpose of the heater mask is to deflect the flow of air through an aperture in the parcel tray.

The procedure for fitting the components of the heater masking kit is as follows.

Disconnect and remove the battery. Lift out the battery board.

Remove the eight bifurcated rivets and one self-tapping screw (inside the car) securing the parcel tray to the bulkhead. Extract the two Phillips-headed screws holding the parcel tray to the side panels. Withdraw the parcel tray assembly carefully and place it on a clean surface.

Cut out the aperture and the fixing holes for the heater mask which are already marked out on the parcel tray. Fit the mask assembly to the top of the parcel tray, using the clamping plates and screws provided.

Fit the clip to the centre of the top inner face of the mask assembly with the scroll portion facing outwards. Secure the clip with the rivets and washers provided.

Remove the heater control knob and place the parcel

Section SS.6

FITTING A LATER-TYPE HEATER AND FRESH-AIR INTAKE

The heater is mounted below the fascia and fresh-air is drawn in by an integral blower from an intake at the front of the car. The water supply is tapped from the rear of the cylinder head and returned to the radiator via the bottom hose.

NOTE.—The numbers referred to in the text of this Section are to be found in Figs. SS.4 to SS.7.

Proceed as follows to fit the heater.

Drain the cooling system, collecting the water for re-use if it contains anti-freeze mixture.

Disconnect a battery lead.

Position the demist nozzles (25) and (26) against the slots in the fascia panel, mark the position of the fixing holes and drill a $\frac{3}{8}$ -in. (4.76-mm.) hole. Secure the nozzles with four screws (29) and clip nuts (30). Push the demist hoses (17) over the nozzles.

Remove the parcel shelf and fit grommet (16) to the large diameter hole in the bulkhead. Remove the blind grommets from the holes in the bulkhead and fit grommets (31). On earlier cars move the ashtray to a position 6 in. (152.4 mm.) farther towards the left-hand side of the car

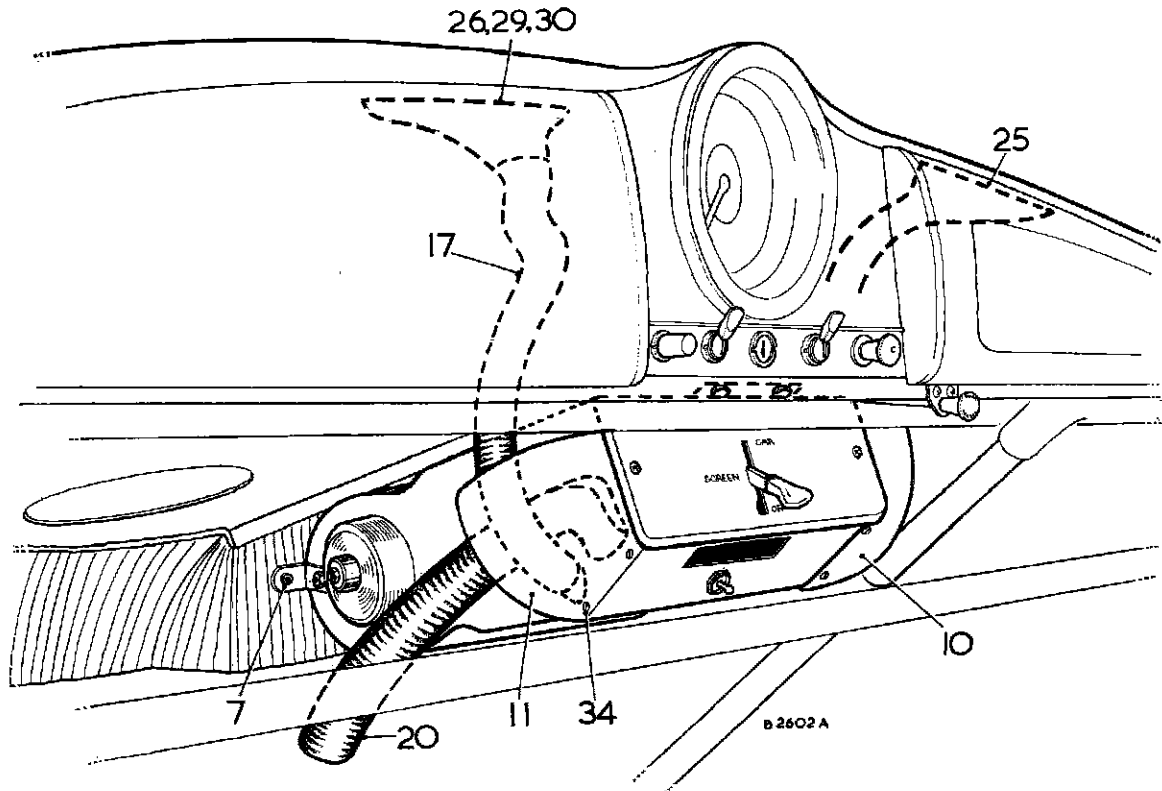


Fig. SS.4

and move the windshield washer plunger to a point $8\frac{1}{2}$ in. (216 mm.) from the centre of the car.

Push the large diameter air hose (12) over the heater air intake (Fig. SS.6) and secure it with a clip. Push the water hose (18) over the upper heater pipe, and the water hose (24) over the lower heater pipe and secure both hoses with clips (32). Assemble the mounting brackets (7) to the studs projecting from the heater side cover (Fig. SS.4) using the nuts and washers provided.

Position the heater below the fascia panel (see Figs. SS.4 and SS.6), bending the lip of the fascia forward to clear the heater panel and push the air and water hoses through the bulkhead grommets. Loosely fix the heater in position using No. 10 screws, plain washers, spring washers, and nuts (3), (4), (5), and (6), and secure the heater mounting brackets (7) to the weld-studs projecting from the battery box using nuts and spring washers (9) and (8).

Push the hoses (17) from the demist nozzles over the demist outlets on the heater. Push the short hoses (20) over the moulded offtakes on the shrouds (10) and (11) and assemble the shrouds to the heater using four screws (34).

Refix the parcel shelf in such a position that the front edge is lowered by $\frac{7}{8}$ in. (22 mm.) and wedge it with the two packing pieces (1) supplied.

Clip the two water hoses together with rubber clip (19).

Remove the horn and windshield washer bottle from the right-hand-side wing valance and reposition them (see Fig. SS.7). Slide cleats (14) along the large air hose (12), push the end of the hose over the intake ring adjacent to the radiator, secure the cleats with screws (15), and clip the hose to the intake ring with a clip.

Remove the blanking plate from the rear of the cylinder head and replace it by the adaptor plate (27) and heater valve (21) using shims (35) and (36) to ensure that the valve outlet is correctly aligned (see Fig. SS.5).

On later cars, a heater valve (37) with fascia control is fitted and the adaptor plate (27) and shims (35) and (36) are not required.

There are two $\frac{7}{32}$ -in. (5.5-mm.) holes in the lip of the fascia to receive the heater valve control cable bracket screws which together with their washers and nuts secure the bracket (38). Remove the blind grommet from the

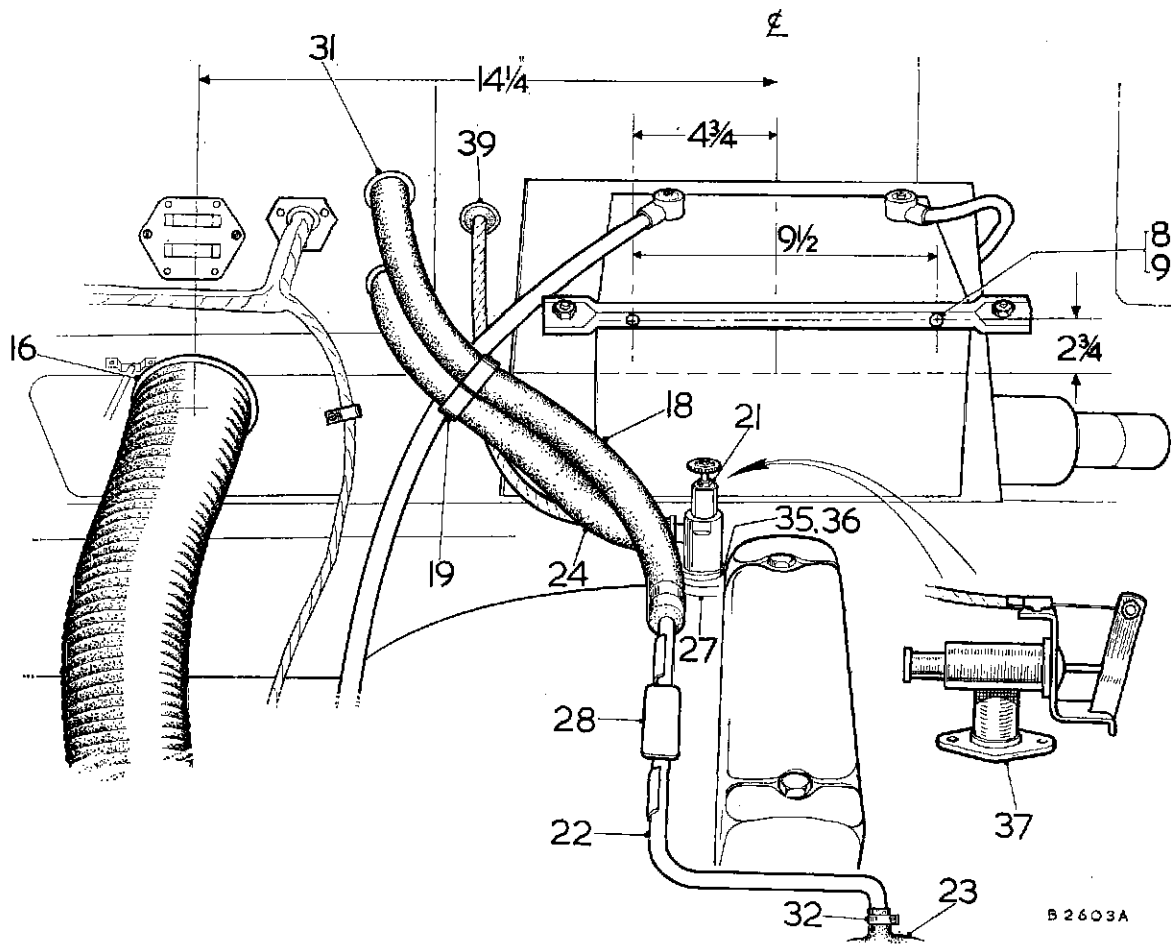


Fig. SS.5

hole in the bulkhead beneath the choke control cable and fit grommet (39). Feed the heater valve control cable through the bracket (38), placing the washer and nut loosely over it, and through the bulkhead grommet. Tighten the control cable casing against the fascia bracket (38) with the washer and nut, previously left loose on the cable, and clamp the other end of the control cable casing onto the heater valve body. Secure the control cable to the heater valve (37) with the control knob on the fascia pushed in and the valve (37) set in the outer (open) position.

Assemble the water return pipe (22) to the manifold securing studs on earlier cars and to the cylinder head studs on later cars.

Fit the lower radiator hose (23) supplied and discard the old one and then push the end of the return pipe into the moulded offtake and secure with a clip (32). Push the water hose (24) from the lower heater radiator pipe over the heater valve outlet and secure it with a clip (32). Push the hose from the upper water pipe (18) over the return

pipe and secure it with a clip (32). Clip the 'Caution' label (28) to the return pipe.

Plug one lead (snap connector) from the heater into one of the two snap connector sockets in the green lead of the harness behind the fascia. Cut the Lucar connector from the second lead, bare its end, and connect it to the earth side of the wiper switch.

Refill the cooling system, reconnect the battery lead, and then start the engine and run it at a fast idling speed. If the heater return hose does not warm up within a few minutes an air lock may be present in the system and to clear it the procedure is as follows.

Switch off the engine, remove the hose from the return pipe, and extend it with a temporary hose so that the water will flow back into the radiator; temporarily plug the return pipe. Start the engine and note the water flow into the radiator; when this is smooth and bubble free, remake the hose to return pipe connection and tighten as quickly as possible.

NOTE.—The construction and installation position of

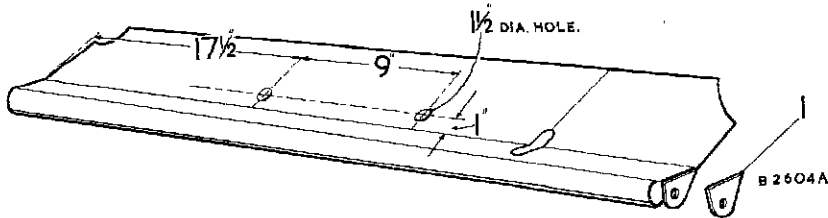
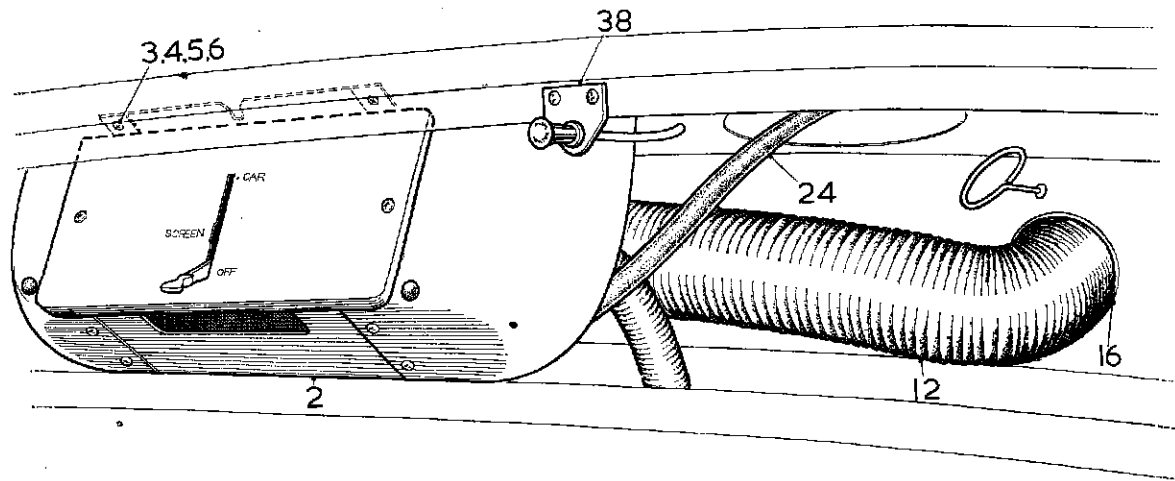


Fig. SS.6

the heater does not permit it to be completely drained; therefore in cold weather it is recommended that an

anti-freeze conforming to B.S.3151 or B.S.3152 should be used in the coolant.

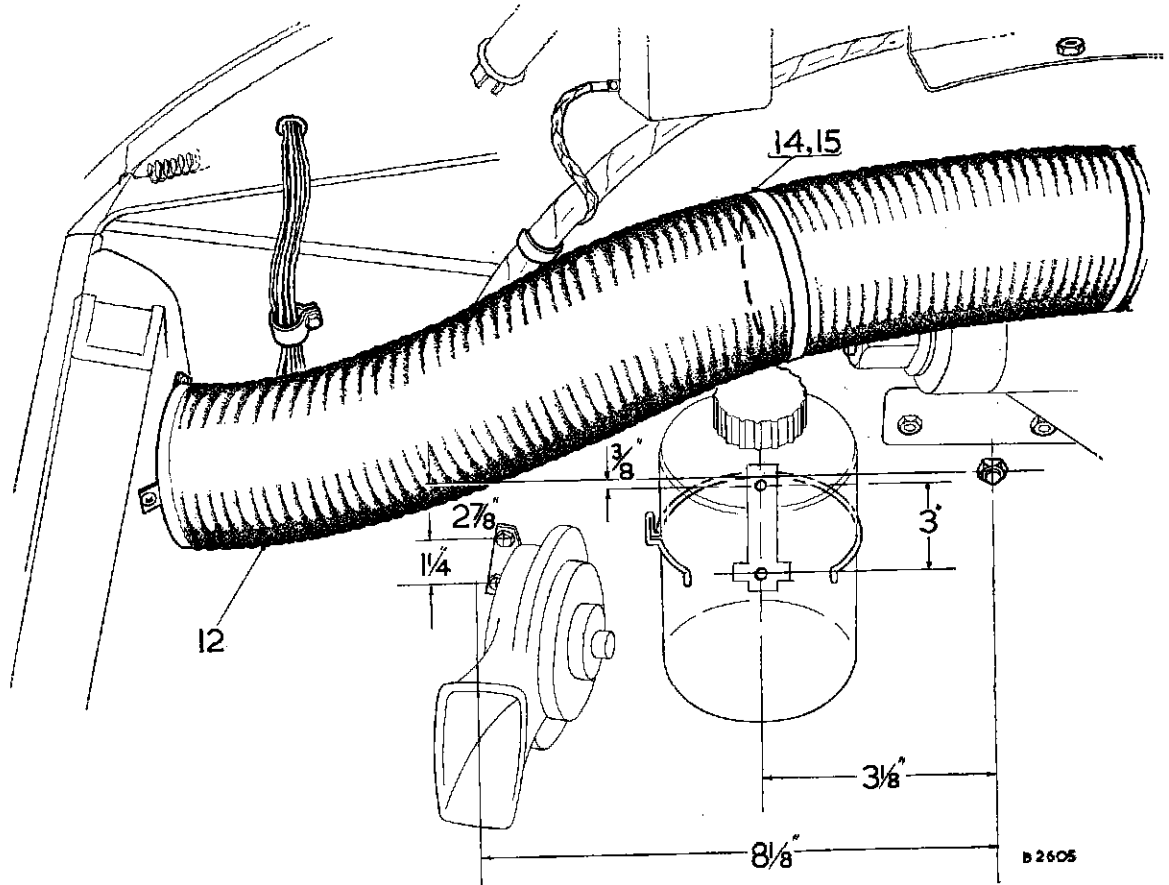


Fig. SS.7