

**AIR CONDITIONING
INSTALLATION INSTRUCTIONS
FOR MERCEDES BENZ
280 SL**

ER KIT

Remove hood.

Disconnect and remove battery.

Disconnect and remove air cleaner and air cleaner housing.

Drain and retain coolant. Drain oil cooler.

Remove radiator and engine fan assembly.

Remove power steering belt if so equipped. Remove water-pump pulley and drive belt. Discard the drive belt.

Remove and discard the 12mm Bolt (Photo 2, Item 1) and aluminum seal ring from front of the engine head at the injection line support.

Temporarily remove the crankshaft pulley assembly, vibration damper, and power steering drive pulley (if applicable).

Temporarily remove the alternator adjusting arm and retain the arm, bolts, wave washers, and lockwashers. Discard the large flatwasher.

Remove and retain the alternator, do not disconnect the wiring harness. Discard the pivot bolt, nut, and washer.

Remove and discard the alternator mounting bracket. Retain the nuts and washers.

Remove the bolt and wave washer from the right side engine support at the rubber mount. Discard the bolt. Loosely attach the slotted end of the Compressor Brace to the top of the engine support using the original wave washer and 12mm x 60mm Bolt. Do not tighten Bolt until the Brace has been attached to the Compressor. (See Drawing 1)

Install the Compressor Mount using the hardware supplied. (See Drawing 1) For easier Compressor Mount/Compressor installation, remove the horn and horn bracket.
NOTE: Use Lock-Tite sealant on all bolts.

Secure the Idler Pulley to the front vertical of the Compressor Mount using a 1/2-20 x 3 Bolt thru the Idler Pulley (See Photo 3, Item 1 and Drawing 1), the Starwasher, the Flatwasher, the Special Sleeve, the 3/4" Spacer, and the front vertical into the Weld Nut of the Idler Adjusting Arm. (See Photo 3, Item 2, and Drawing 1)

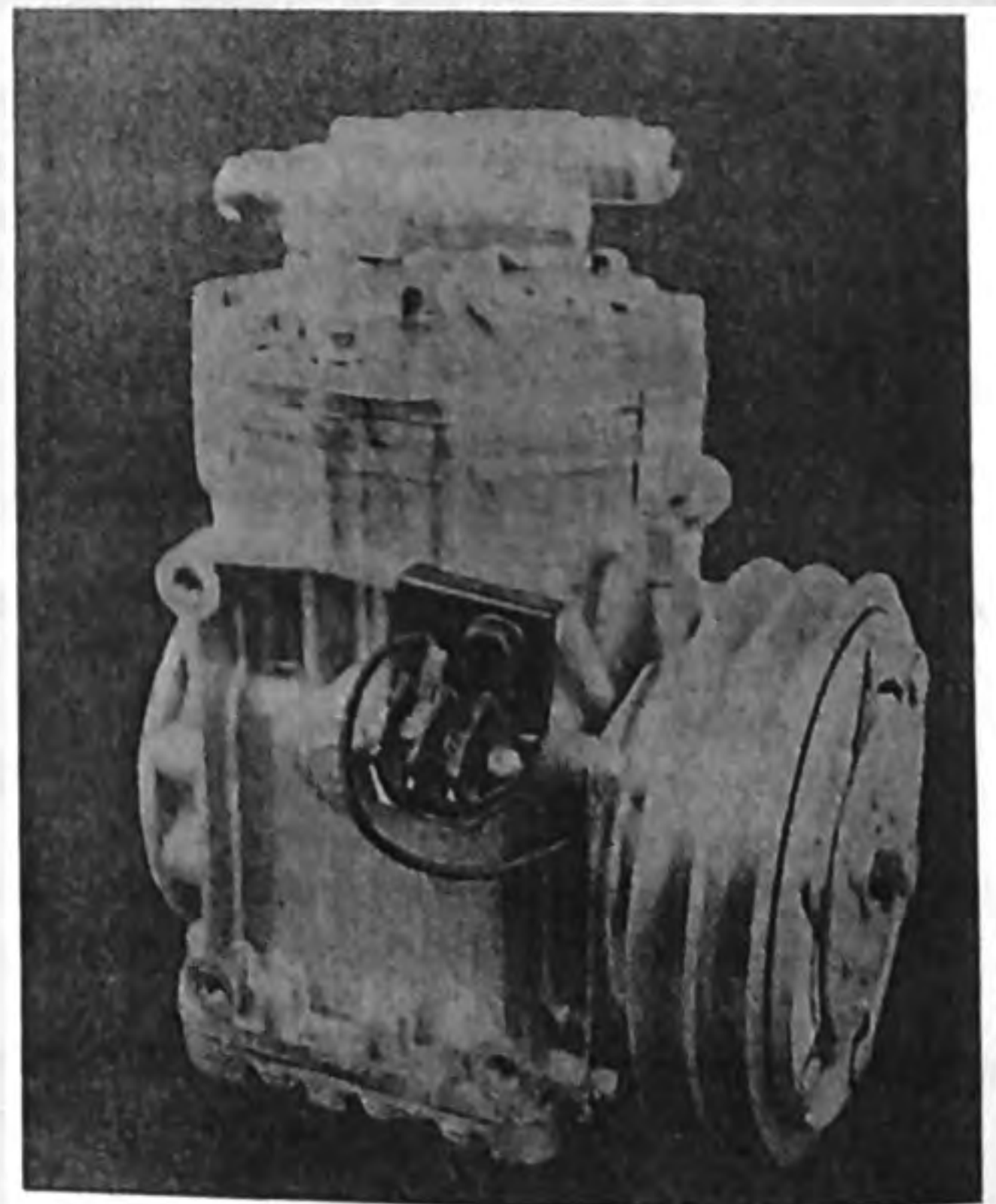
Install the Clutch Field Coil to the Compressor using the hardware supplied with the Clutch, but do not install the Clutch Pulley at this time.

Attach the Terminal Bracket to the Compressor using one 3/8-16 x 7/8 Bolt, and attach the Terminal Connector to the Bracket using the hardware provided. (See Photo 1) Attach the Ring Connector of the Clutch lead wire to the Terminal Connector.

17. Insert one 3/8-16 x 7/8 Bolt with Flatwasher and Lockwasher into the upper right front Compressor boss. Place the Compressor in mounting position being sure the 3/8-16 x 7/8 Bolt is in the slot with the washers between the bolt head and the mount. (Drawing 1) Align the remaining Compressor bosses with the holes in the Compressor Mount. Secure the Compressor using three 3/8-16 x 7/8 Bolt with Lockwashers.
CAUTION: Do not use a Lockwasher on the Bolt that goes in the lower front Compressor boss. (See Drawing 1)
18. Secure all Compressor mounting bolts.
19. Install the 90° Swivel Elbow to the suction valve of the Compressor.
20. Attach the Compressor Brace to the upper left boss on the right side of the Compressor using one 3/8-16 x 7/8 Bolt with Lockwasher. Secure the Brace attaching bolts.
21. Loosely attach the Alternator Brace to the intake manifold using one 10mm x 25mm Bolt with 10mm Lockwasher.
22. Attach the Compressor Clutch (Photo 4, Item 1) according to the clutch manufacturers instructions.
23. Reinstall the crankshaft pulley, vibration damper (See Photo 4, Items 2 and 3), and power steering pulley using the original attaching hardware.
24. Reinstall the original alternator adjusting arm to the mount using original hardware (See Photo 4, Item 4). In order to use the original adjusting arm, remove the alternator securing block and turn the block so that the threaded portion faces the front of the vehicle. (See Photo 4, Item 5) Do not reinstall the alternator until the refrigerant hoses and evacuating lines have been attached.

NOTE: Do not reinstall the vehicle components removed until the Condensers are installed.

PHOTO 1



DRAWING 1

NOTE: For coded part description see Adapter 91-13190 in the back of this manual, or the Parts List supplied with the Adapter Kit.

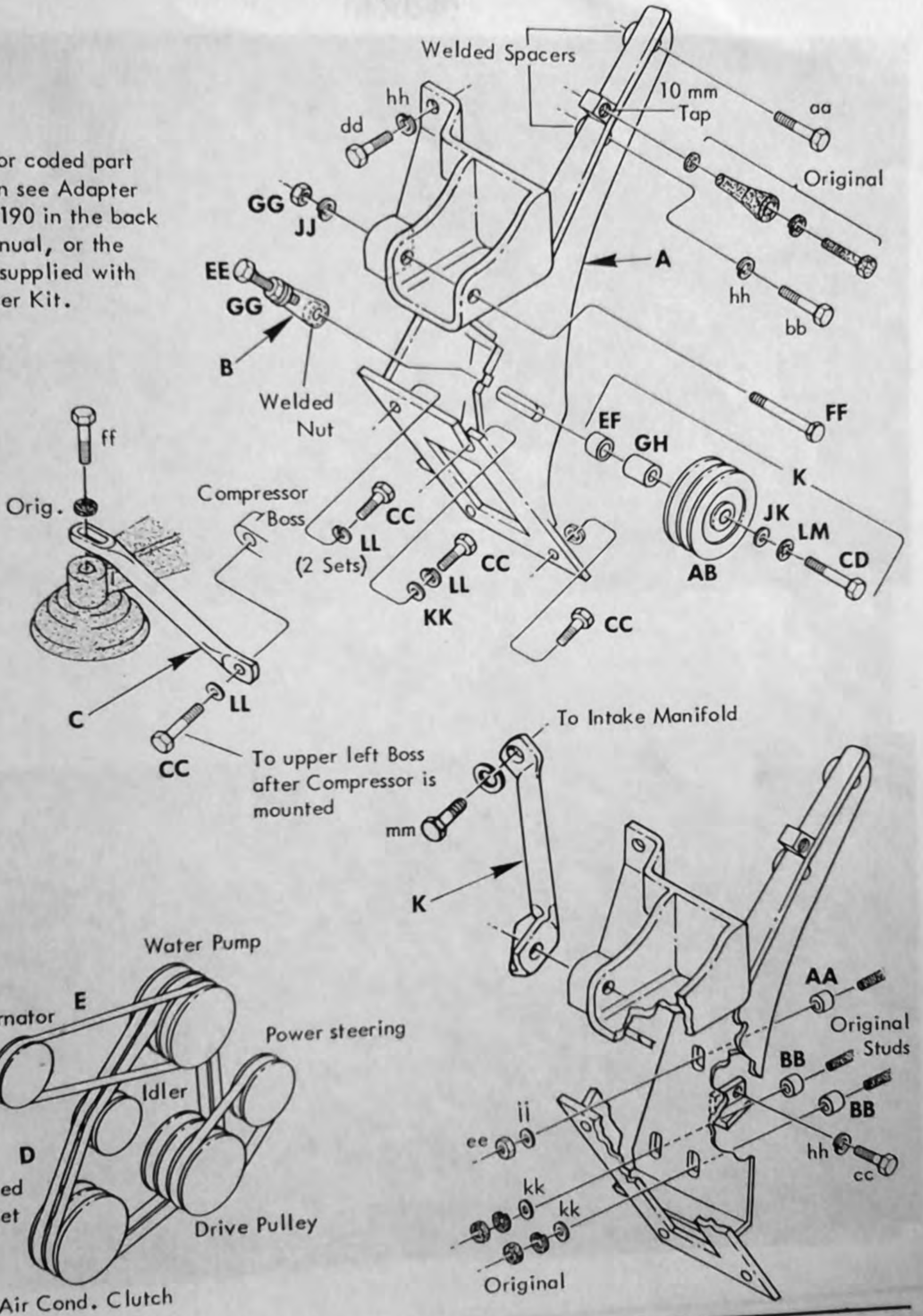


PHOTO 2

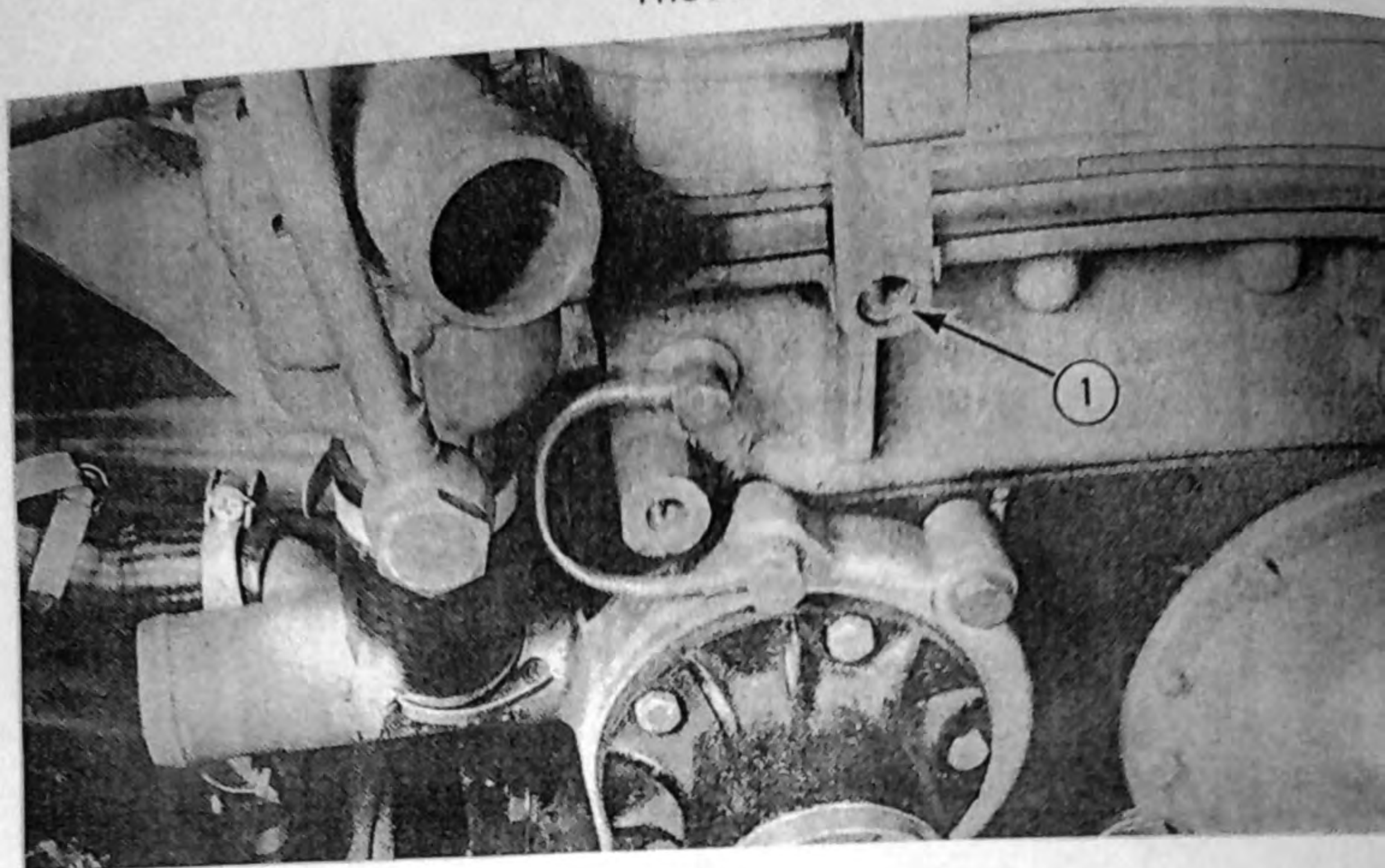


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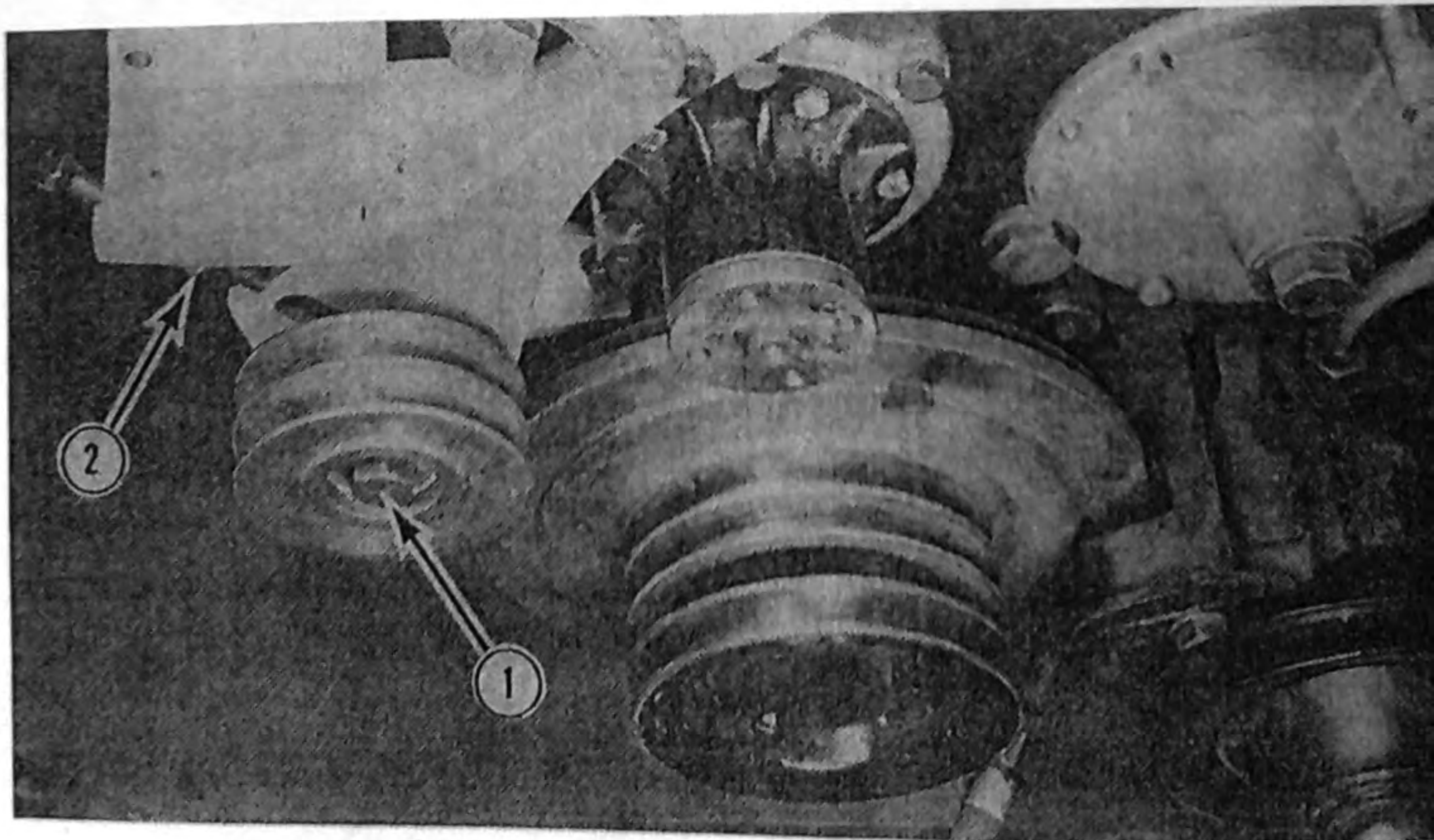


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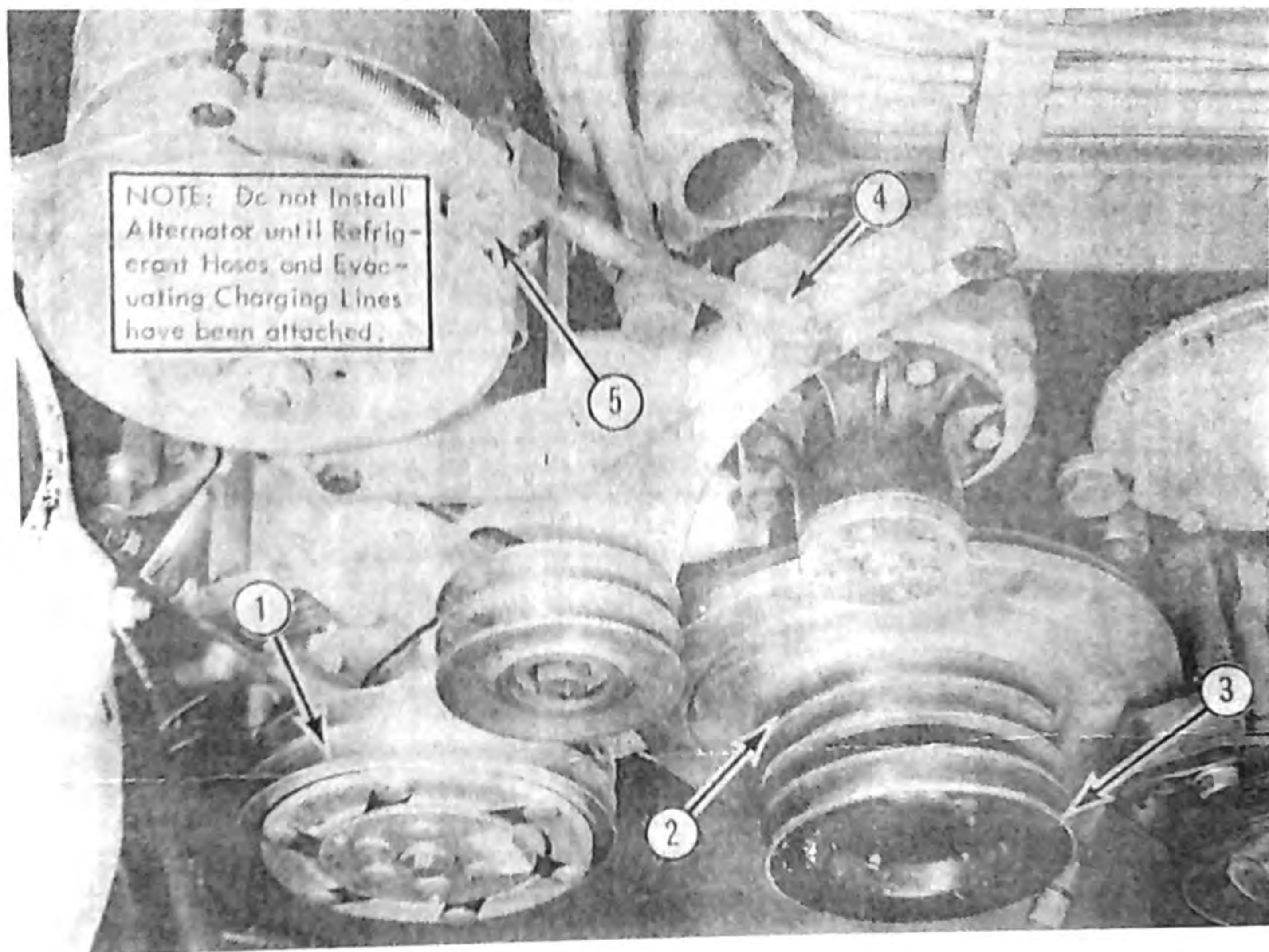


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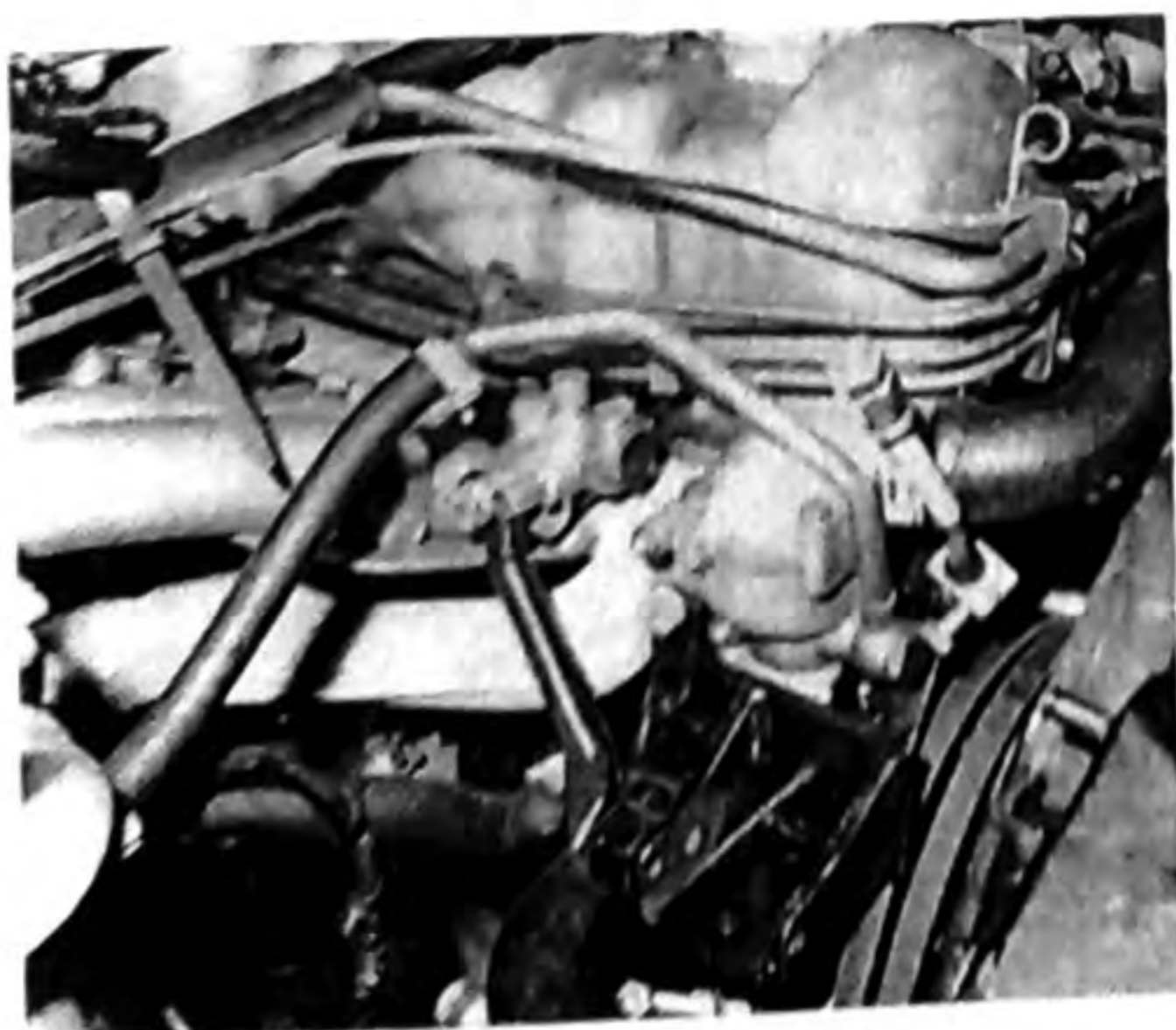
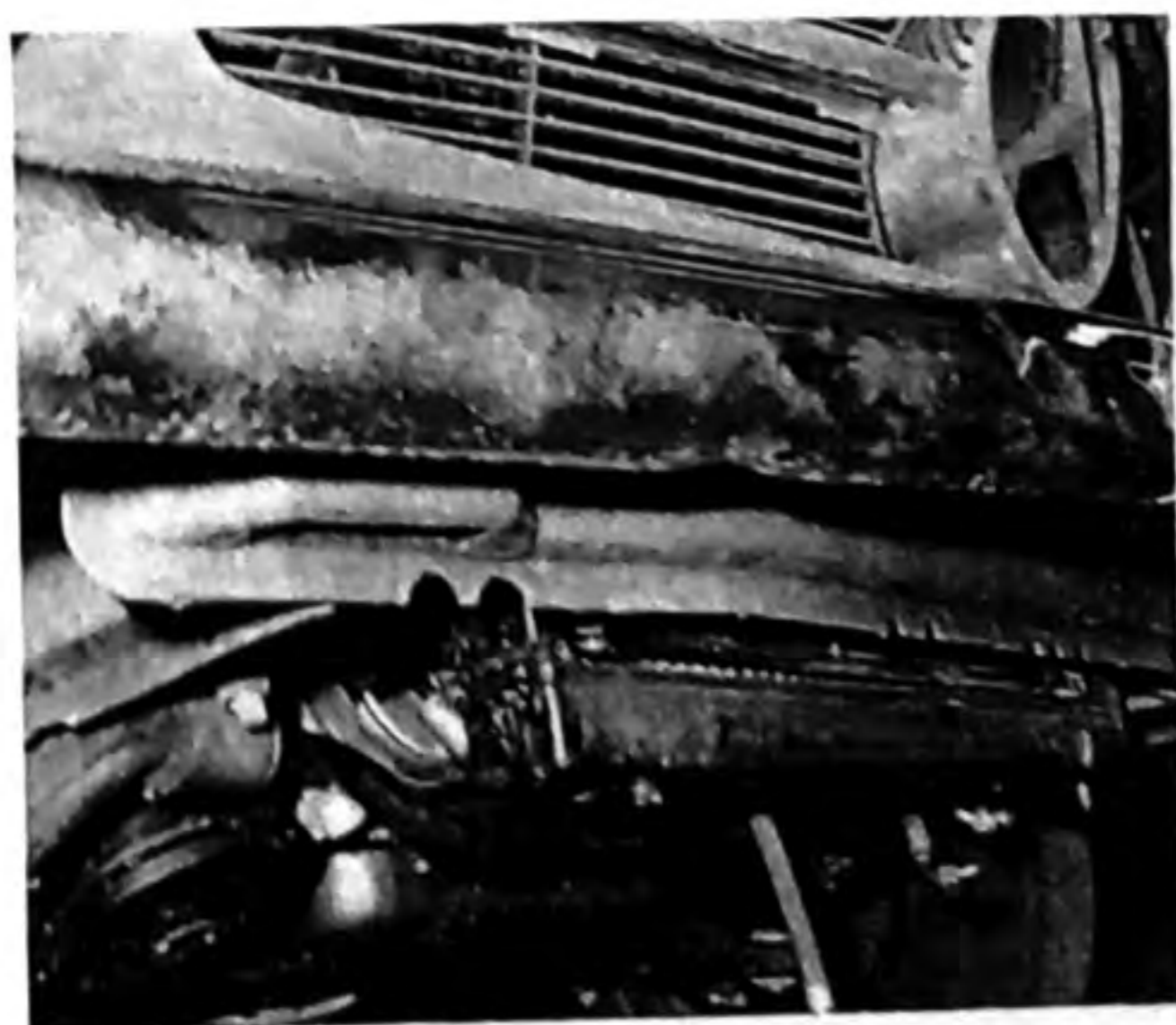


PHOTO 6



CONDENSER

1. Attach the two Pre-Cool Condenser Mounting Brackets to the Pre-Cool Condenser using two #8 x 3/8 HH Sheet Metal Screws per Bracket. (Drawing 2) Attach the Rubber Pads to the Pre-Cool Condenser Mounting Brackets, making sure that the cushion of the Pads will be on bumper side of the Bracket when the Condenser is installed. (Drawing 2)
2. Hold the Template (91-14721) furnished against the flange of the front crossmember (See Photo 6) and mark the area to be cut out of the flange. Cut out the area marked to provide necessary clearance for the condenser tubes.
3. Hold the Pre-Cool Condenser in mounting position, (center of car) and mark hole locations for mounting on the front cross member. Drill two mounting holes and attach the Pre-Cool Condenser using two #10-32 x 5/8 HH Sheet Metal Screws. (Photo 7, Item 1) Make certain that the rubber cushions of the Pre-Cool Condenser Brackets will contact the top of the lower edge of the bumper.
NOTE: The chamfered corners of the Pre-Cool Condenser end plates must be toward the front of the vehicle and to the top in order for the Pre-Cool Condenser to be installed. Do not become alarmed if the fins of the Condenser on the chamfered corner become folded and bent during the installation. The bending of these fins is necessary for proper Condenser clearance.
4. Secure the upper and lower "passenger" side Condenser Mounting Brackets (Photo 8, Item 1), to the Condenser using one #8-32 x 3/8 PPH Screw and Locknut per Bracket. Secure the upper and lower "driver" side Condenser Mounting Brackets (Photo 9, Items 1 and 2) to the Condenser using one #8-32 x 3/8 PPH Screw and Locknut per Bracket.
5. Attach the Condenser to the radiator using two #6 x 3/8" PFH 82° Sheet Metal Screws to secure the "passenger" side and two original bolts to secure the "drivers" side.
NOTE: The Condenser flange slides under the flange of the radiator, and the Mounting Brackets slide over the flange of the radiator.
6. Punch one 1-3/8" hole in the frontal area of the horizontal sheet metal surface next to the "passengers" side radiator cowling. (Photo 10, Item 1) Install one rubber Skirted Grommet in the hole.
NOTE: Use a body punch to make the hole, do not use a hole saw.
7. Loosely reinstall the radiator in its original mounting position using the original attaching hardware. Be sure to attach the Clamp Mounting Bracket to the top attaching point on the "passenger" side of the radiator. Push the radiator as far forward as possible and secure it in position. Reinstall the water-pump pulley and fan assembly using original attaching hardware. Install the drive belts, but do not tighten them until the alternator is installed. Reinstall the horn and horn bracket. Reinstall the original radiator hoses.
8. Install the Lower Radiator Hose Bracket with Spacer. (Photo 11, Items 1 and 2) The purpose of the Bracket is to hold the lower radiator hose in position away from the Clutch Pulley. After attaching the Bracket and Spacer to the lower radiator hose, pull the hose forward to allow proper Clutch Pulley clearance. (Photo 12, Item 1) Now mark the mounting hole locations for the Bracket on the horizontal pan using the two-holes in the Bracket as a template. Drill holes and attach the Bracket using two #10-32 x 5/8 PPH Screws with Locknuts.
9. Connect the long (3/8 x 21.7") Copper Tube to the top fitting of the Pre-Cool Condenser. (Photo 12, Item 2)
10. Connect the short (3/8 x 8.55") Copper Tube to the 3/8" female fitting of the Condenser then to the bottom fitting of the Pre-Cool Condenser. Adjust the short Copper Tube, if necessary, to provide proper clearance.
11. Reinstall the bottom section of the carburetor air cleaner housing.

DRAWING 2

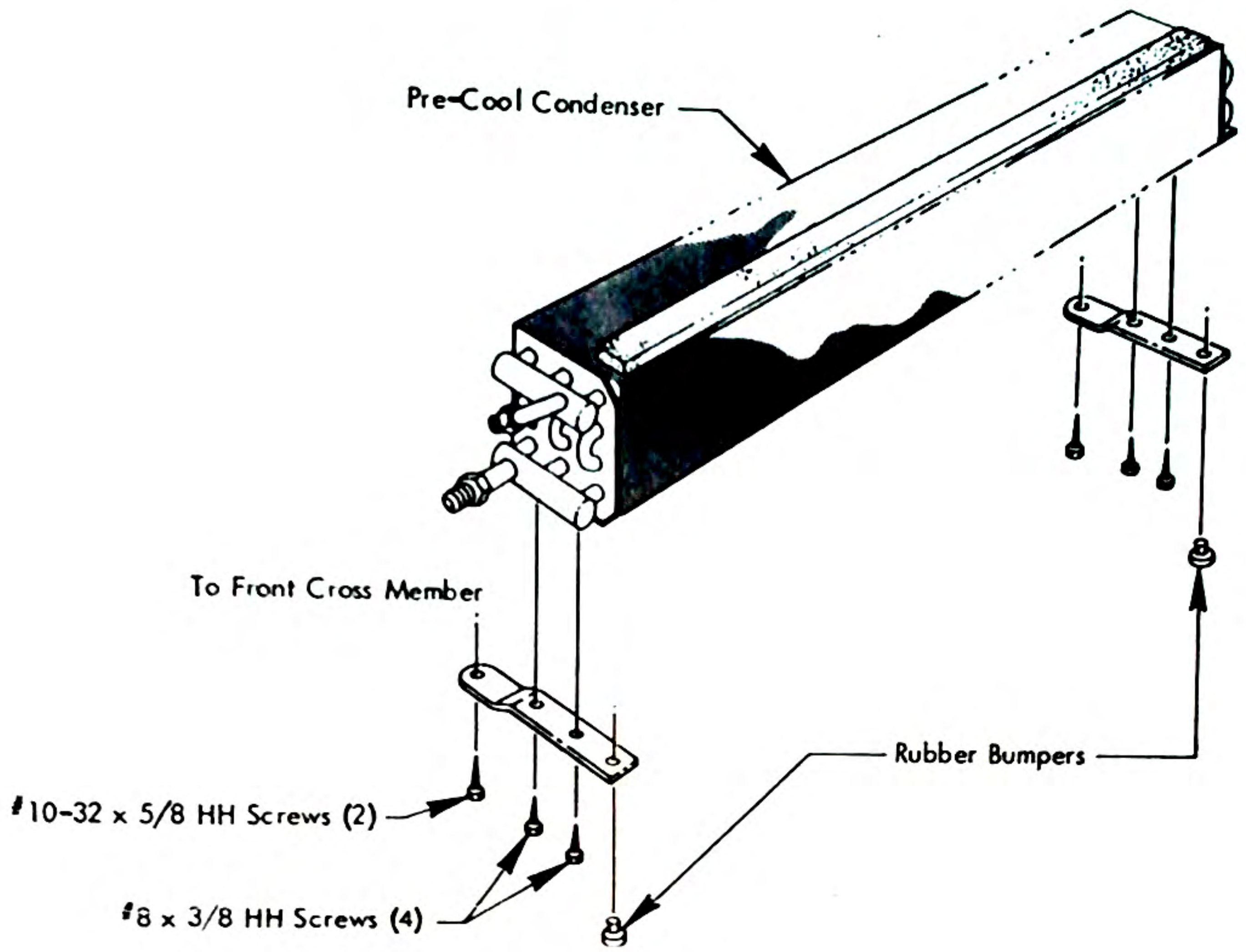


PHOTO 7

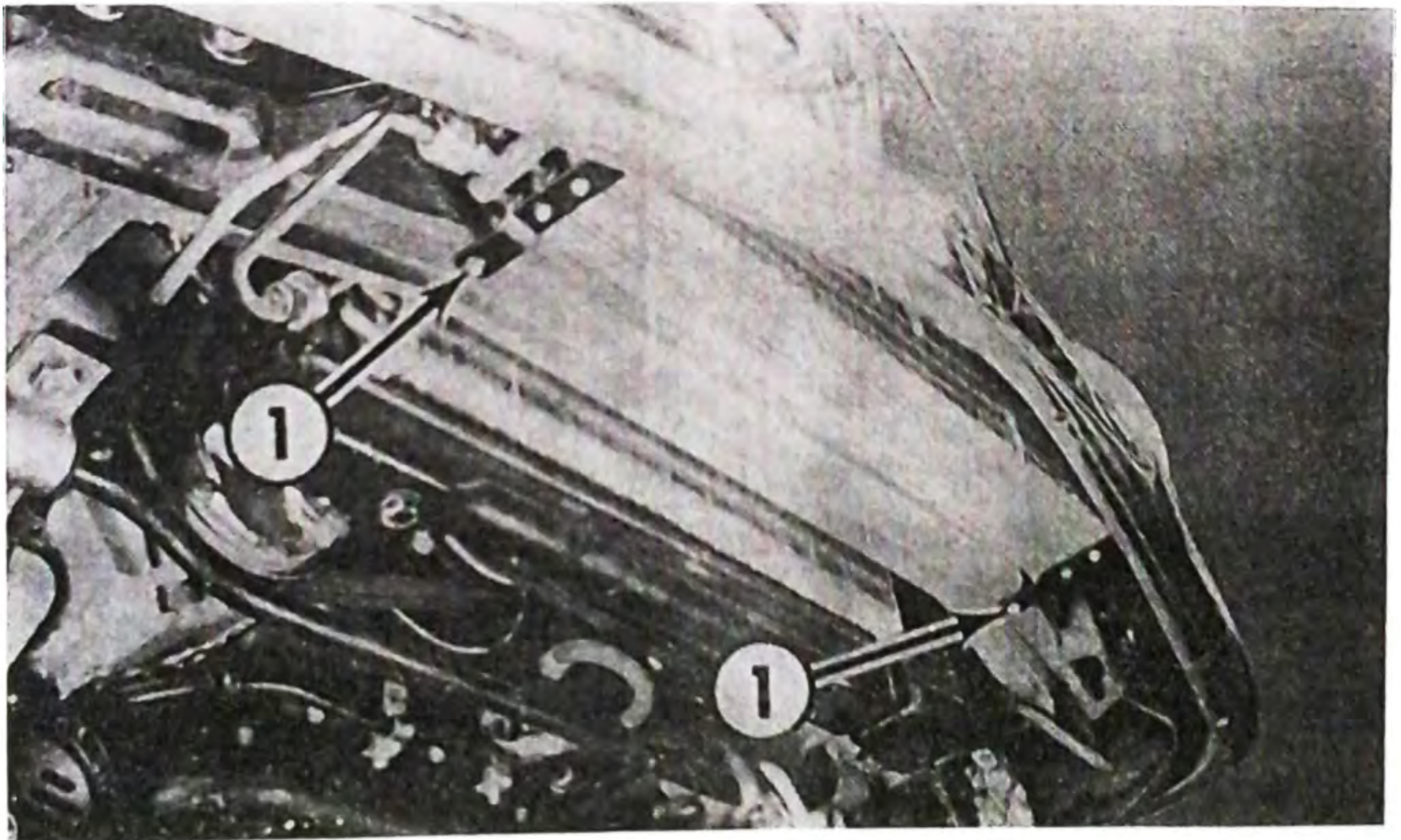


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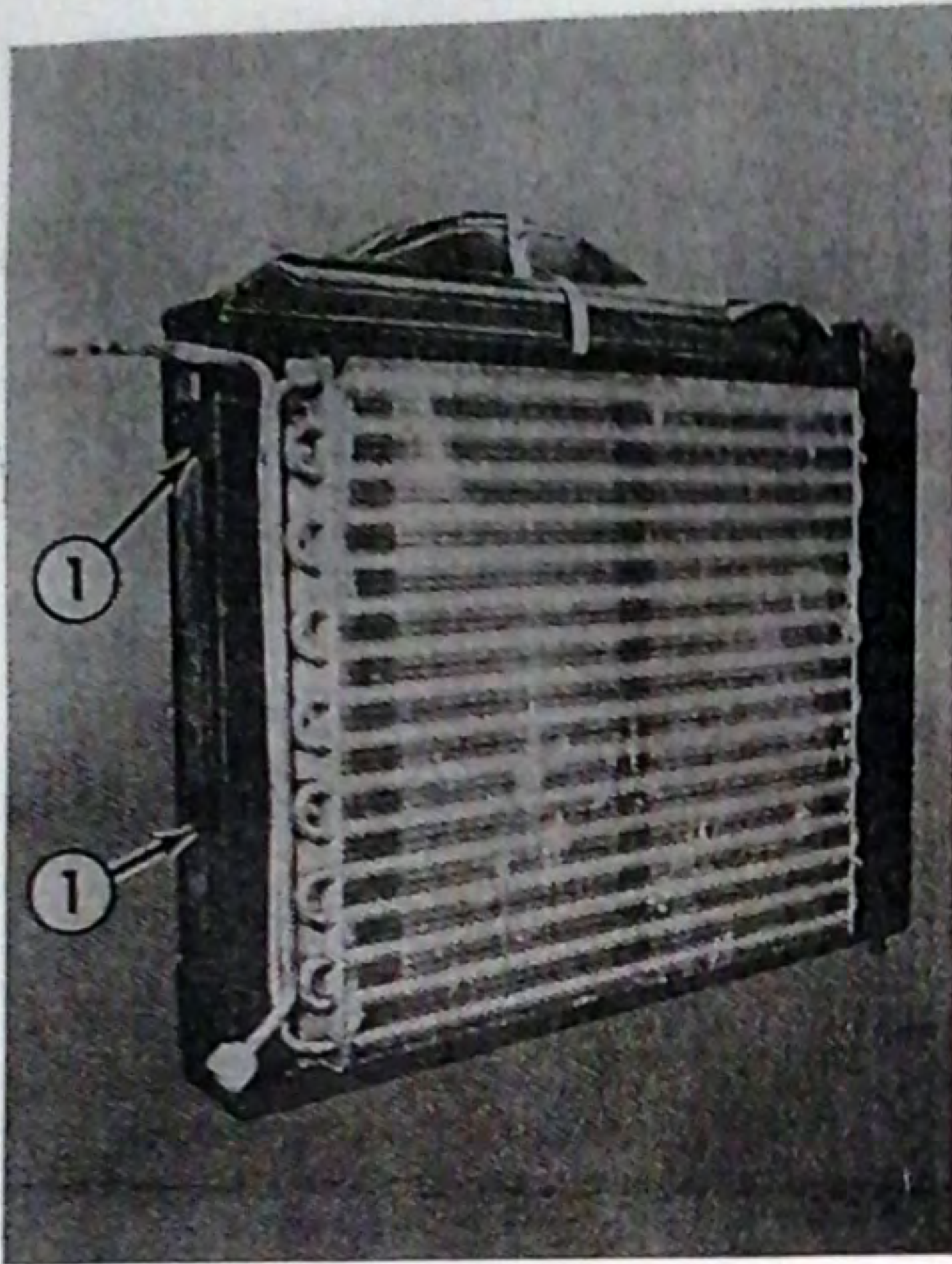
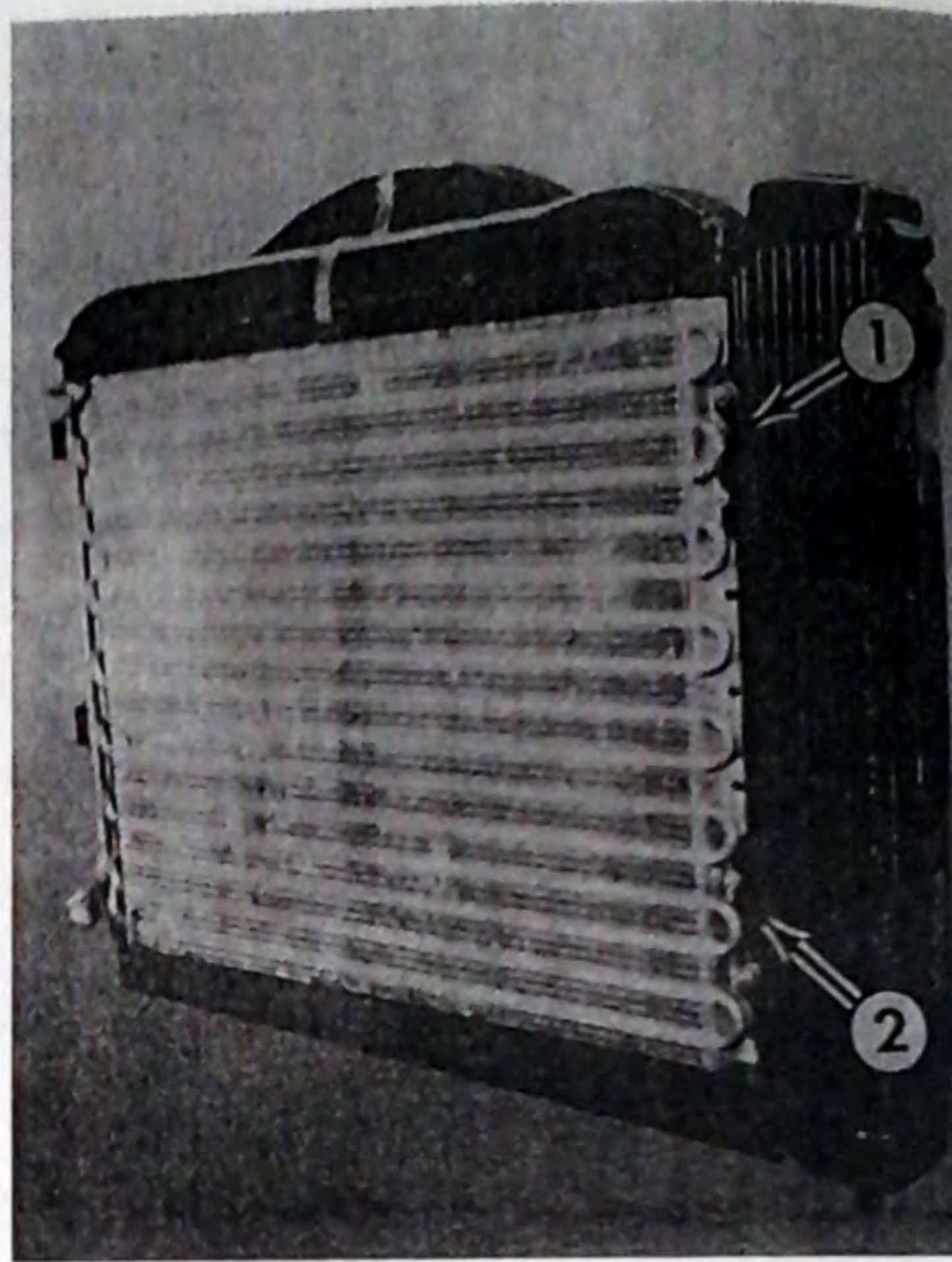


PHOTO 9



DRAWING 3

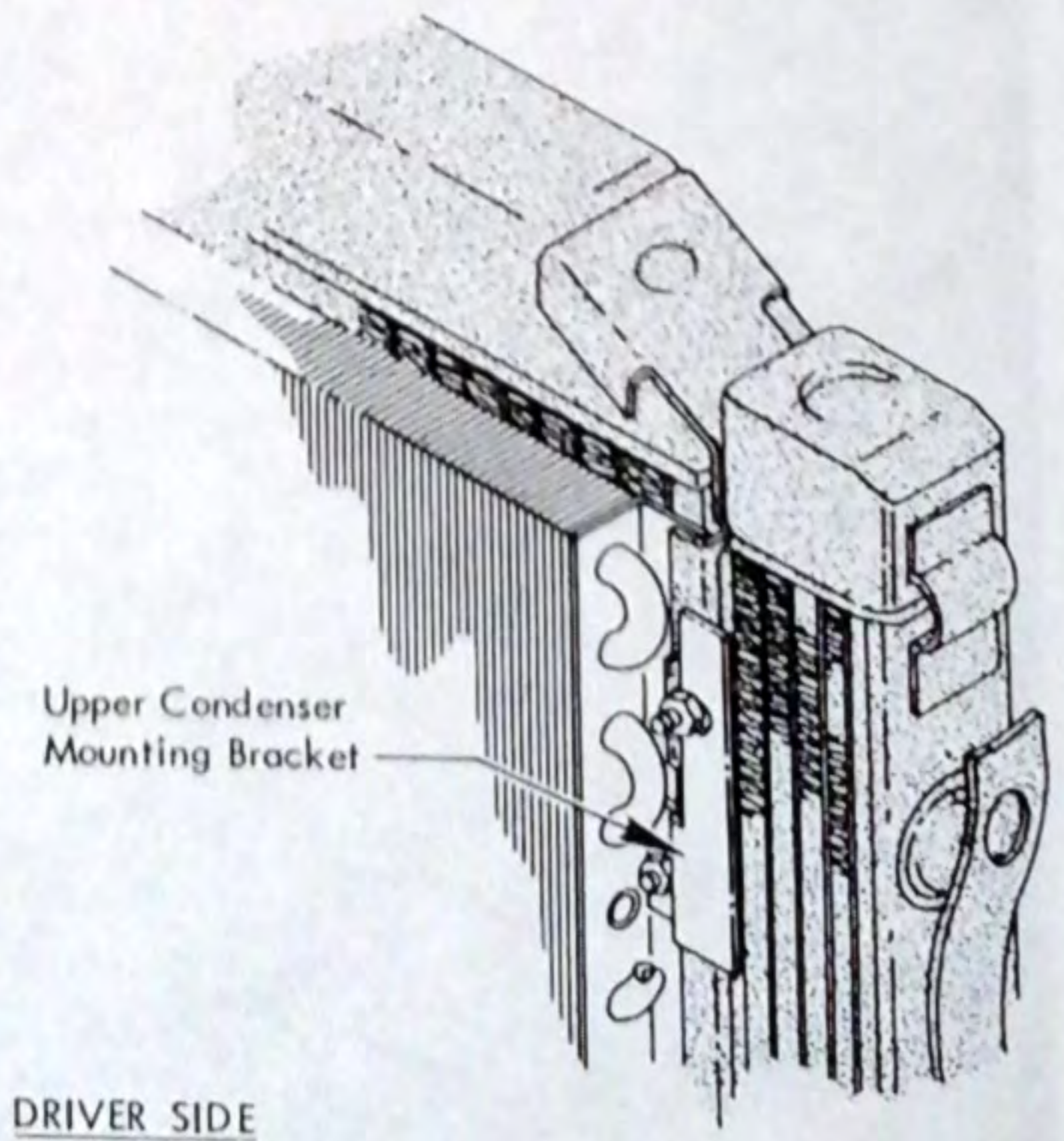
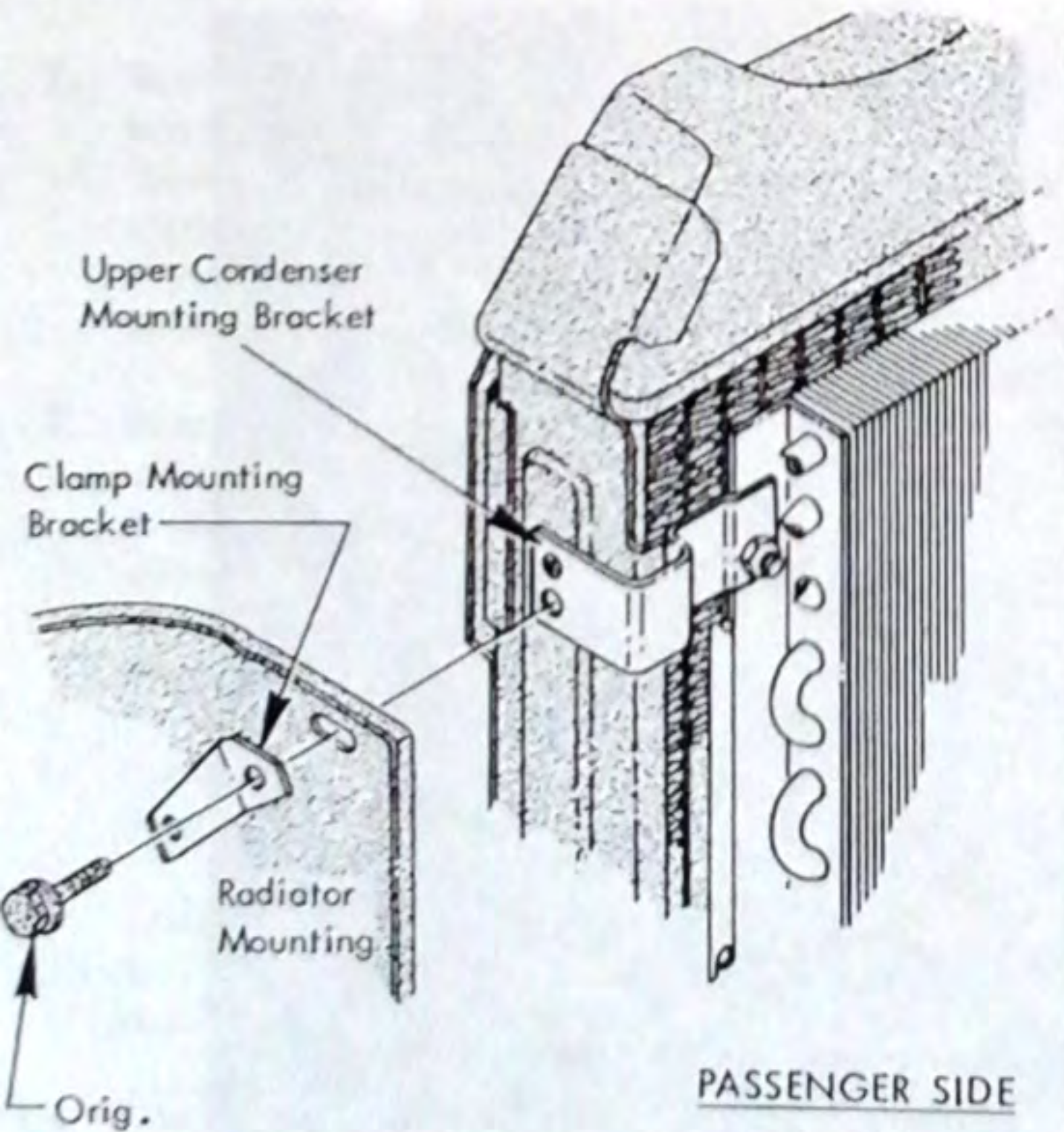


PHOTO 10

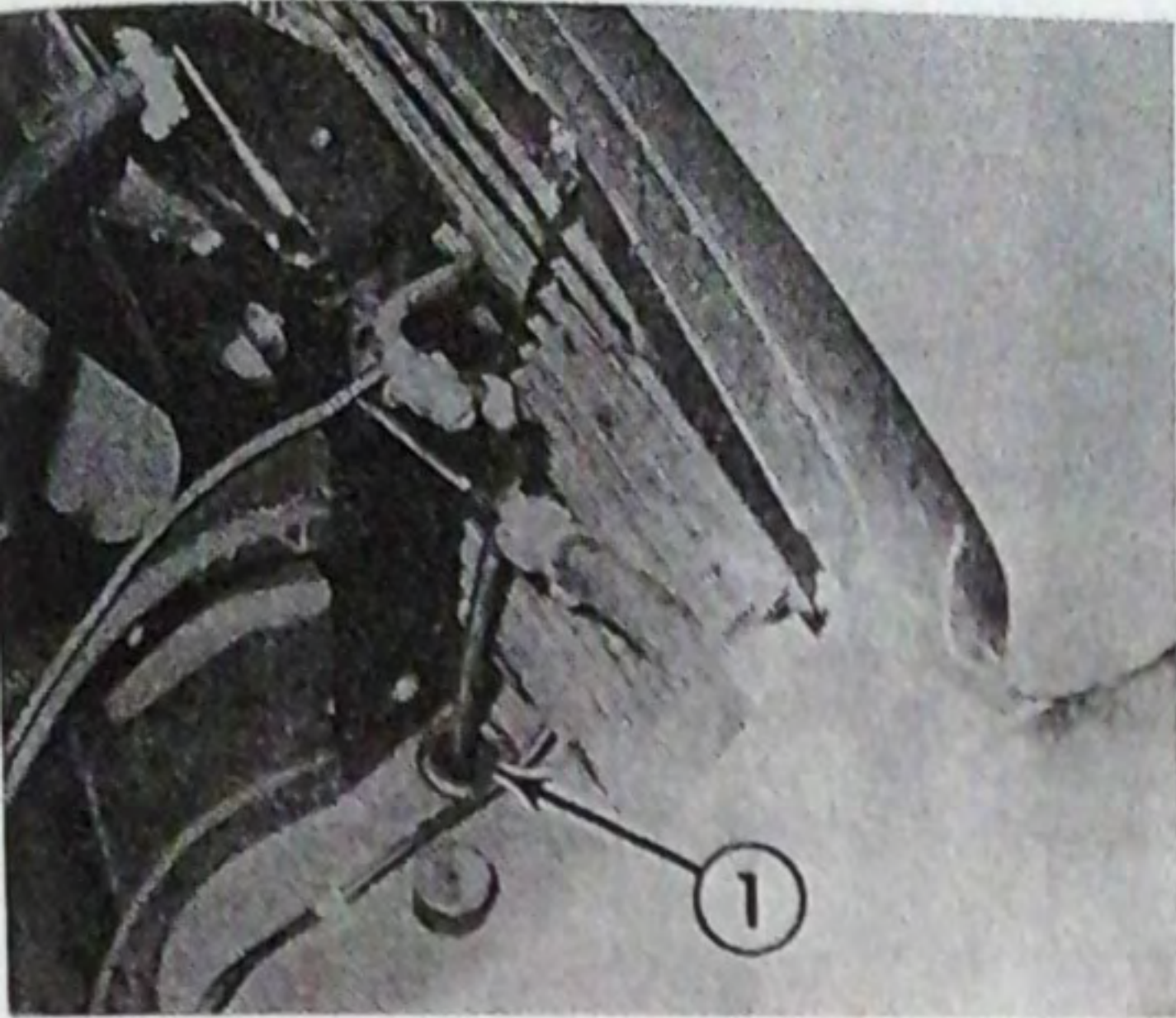


PHOTO 11

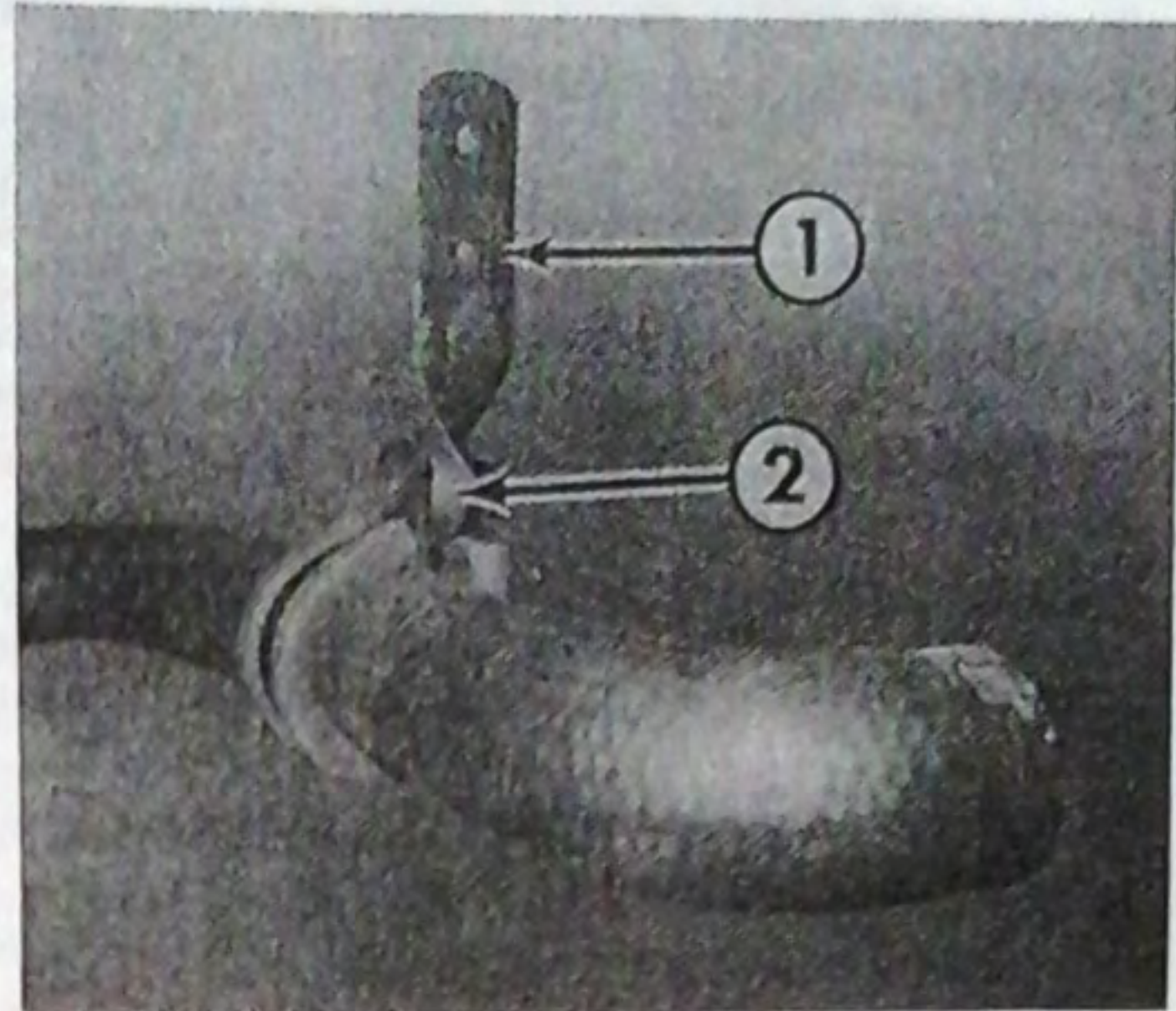
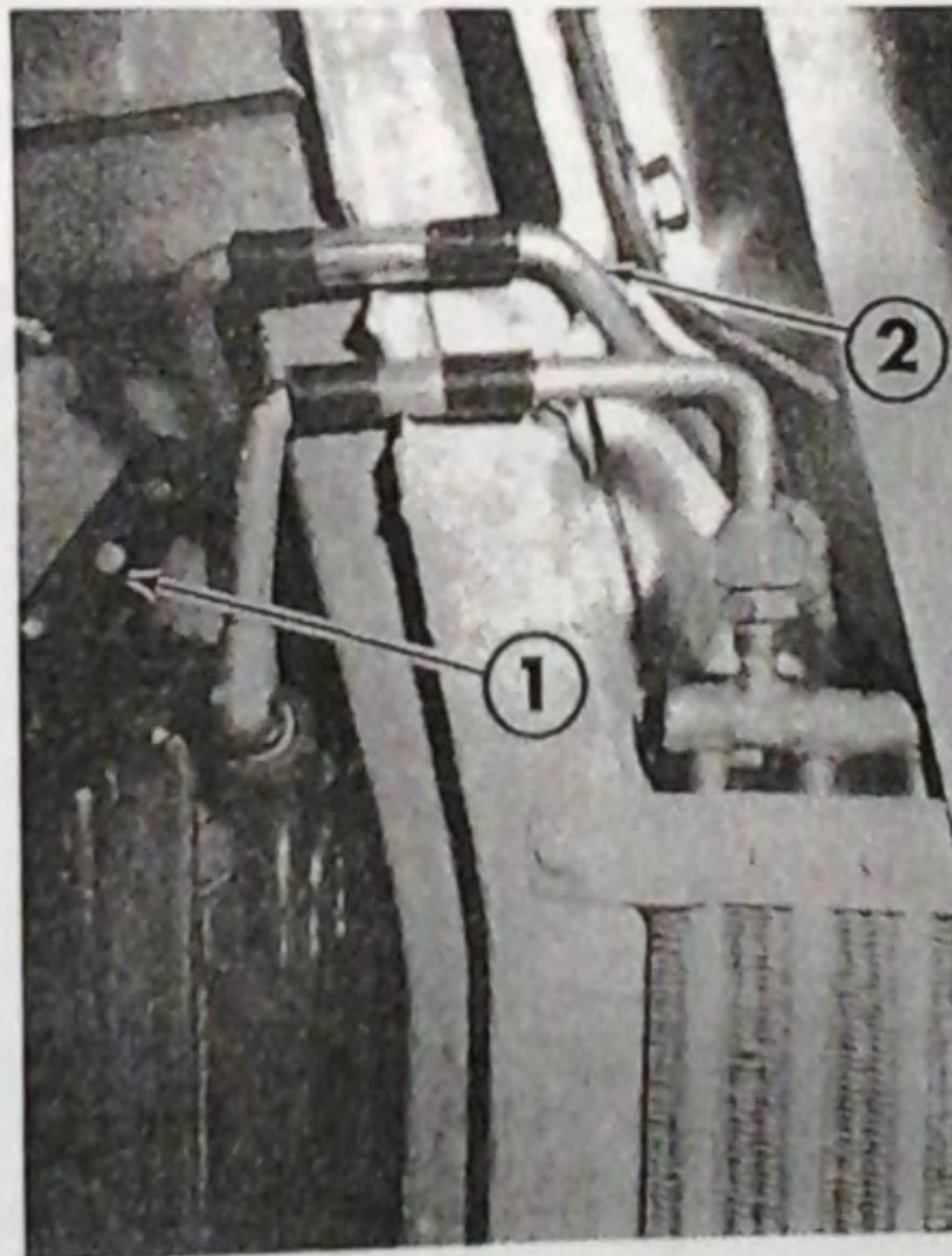


PHOTO 12

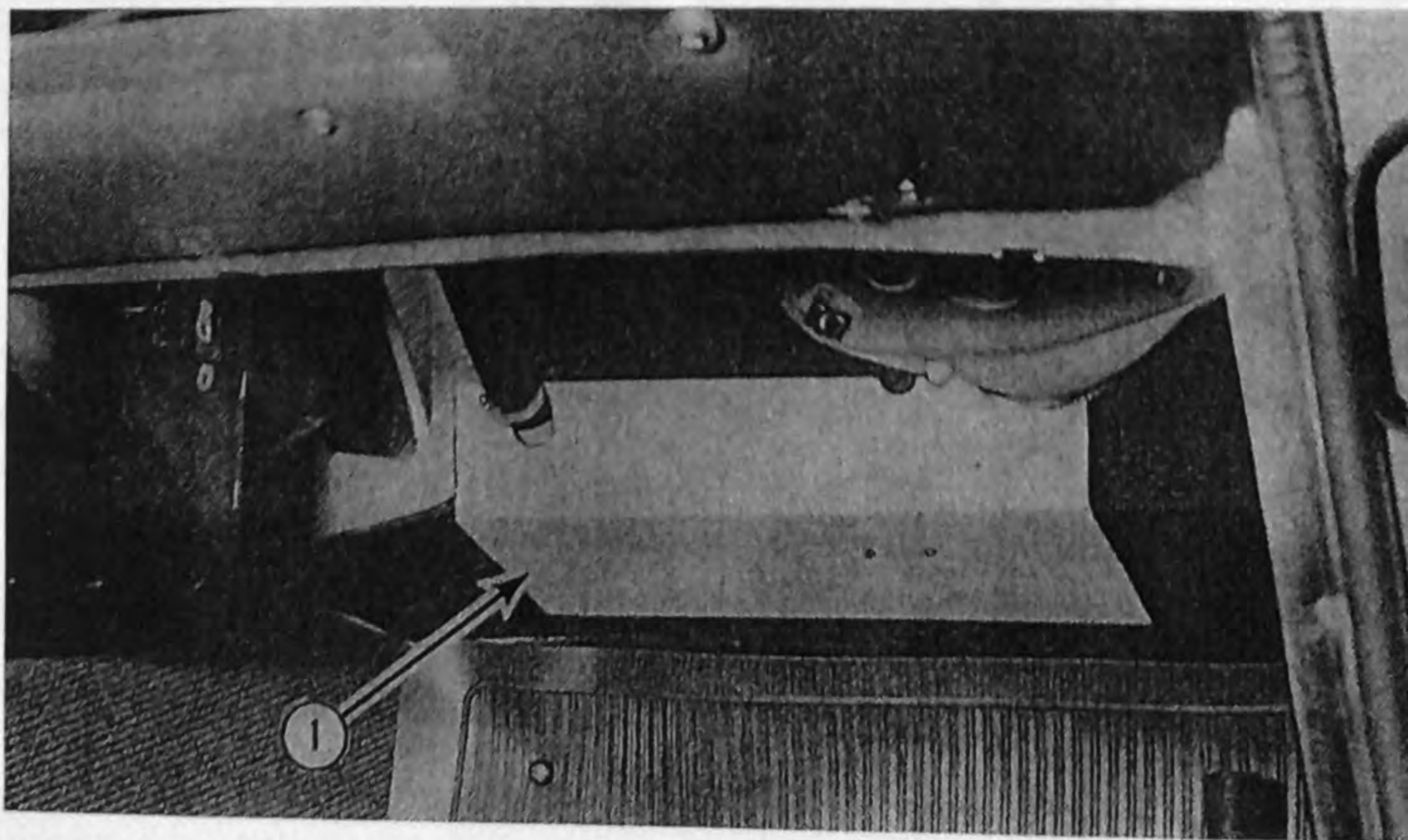


LOOKING AT UNDERSIDE
ON PASSENGER SIDE OF VEHICLE

EVAPORATOR

1. Remove and discard the "passenger" side and center section of the underdash cowling. Remove the radio power pack from the firewall.
2. Cut and fold the Template furnished along the indicated lines. Place the Template on the firewall so that the notch and arc cut-outs fit hose and windshield wiper motor housing, being sure fold matches the firewall angle (Photo 13, Item 1). Using the Template mark hole locations for mounting the Blower Housing Bracket. Remove the Template and drill two 1/8" mounting holes. Attach the Blower Housing Bracket to the firewall using two #10 x 5/8 Sheet Metal Screws. (Photo 14)
3. Remove four round, plastic pop-out plugs (3/4") from the bottom of the Evaporator faceplate. Save these for reinstallation after the evaporator is installed. (Photo 15, Items 1 and 2)
4. Install the Evaporator Case Mounting Bracket to the "passenger" side of the Evaporator Case using two #8 x 3/8 PPH Screws.
5. Hold the Template (91-14722) on the underside of the dash and mark four Evaporator mounting hole locations. Make certain that all wiring is cleared from the areas marked, and drill the mounting holes.
6. Cut one 1-3/8" hole for drain hose in the "passenger" corner of front floorboard. (See Photo 16) Insert a rubber Skirted Grommet into the hole.
NOTE: Use a body punch to cut the hole, do not use a hole saw.
7. Remove the two perforated discs from the firewall insulation. (See Photo 17) and punch two 1-3/8" holes in the firewall using a body punch; do not use a hole saw. Insert the two rubber Skirted Grommets into the holes.
NOTE: For easier installation of the 5/8" Suction Hose, cut the Grommet on the ridge provided.

PHOTO 13



8. Connect the 3/8 x 24" and the 5/8 x 62" Refrigerant Hoses to the Evaporator Case. Wrap the metal hose fittings at the Evaporator using Prestite tape to prevent condensation. Route Refrigerant Hoses thru the grommets in the firewall. Position the Evaporator Case beneath the dash, being certain that the blower motor screws are positioned in the slots of the Blower Housing Bracket. Secure the Evaporator Case using four #10 x 1 PPH Screws.
NOTE: To prevent chafing of the underdash wiring, cover the tips of the Evaporator Mounting Screws with permagum sealant. Access to three of the screws may be obtained by reaching through the glove box opening, the attaching screw nearest the steering column is accessible by reaching around the Evaporator Case.
Secure the Case Mounting Bracket to the kick panel using two #10 x 5/8 Sheet Metal Screws. (Photo 16, Item 2)
9. Insert the Drain Hose thru the grommeted hole in the floorboard and attach the Drain Hose to the Evaporator drain tube with the Spring Clamp provided. Secure the Drain Hose to the side channel of the floorboard using the Open-End Clamp. Attach the Clamp using a #10 x 5/8 HH Sheet Metal Screw. (Photo 16, Item 1)
10. Connect the Power Wire (10 ga., Red) to the upper terminal of the #2 fuse holder. (See inside of fuse box cover for location of terminal.)
11. Perforate the small grommet in the firewall. Route the blue clutch wire through the hole in the grommet and connect it to the clutch field coil.
12. Check refrigerant hoses for possible interference with the windshield wiper linkage. (See Photo 18)
13. Reinstall the plastic pop-out plugs.
14. Place the radio power pack on the "passenger" side of the transmission tunnel, directly below the Evaporator and as close to the firewall as possible. Mark the mounting location and secure the power pack using original attaching hardware.

PHOTO 14

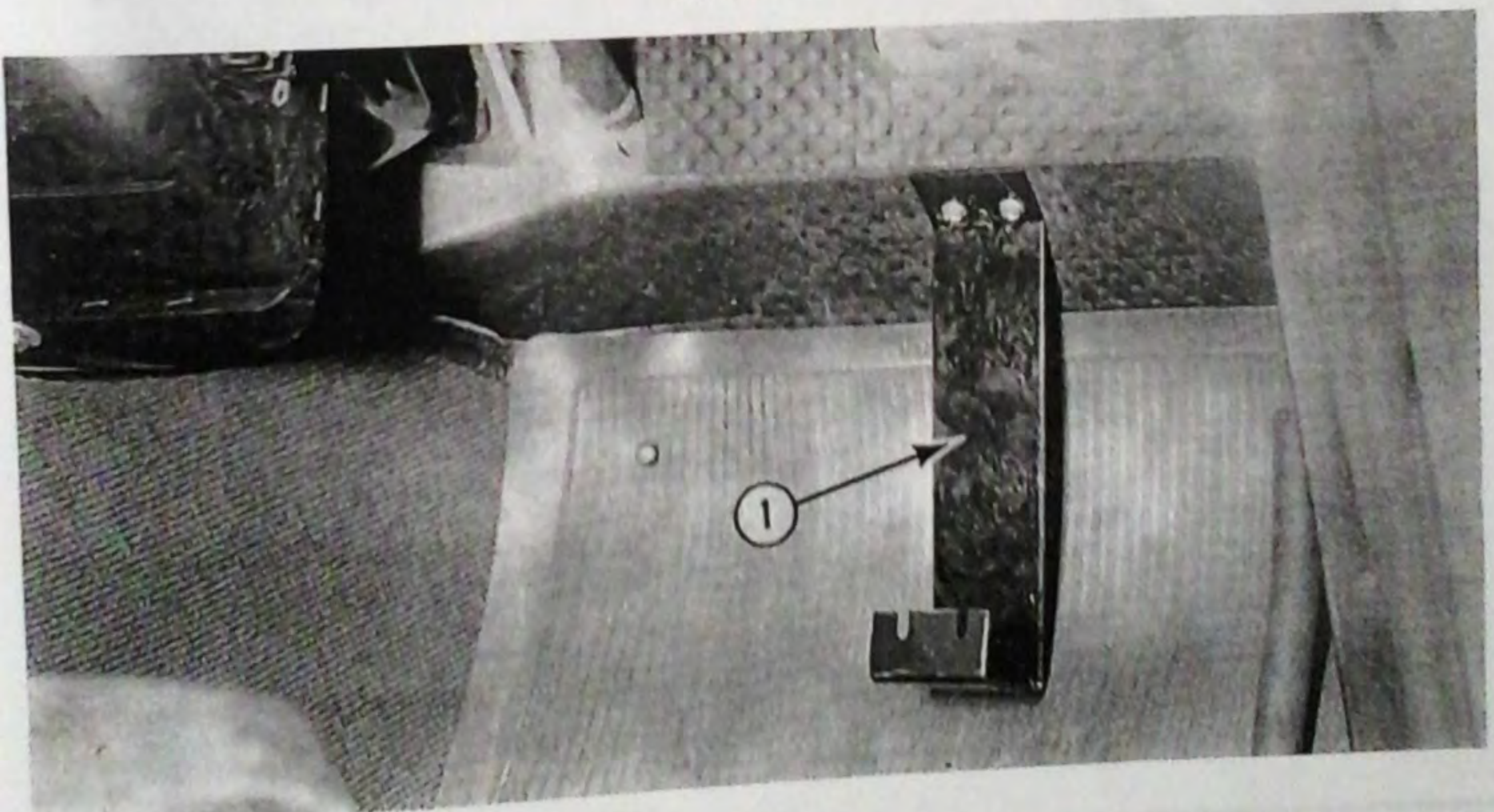


PHOTO 15

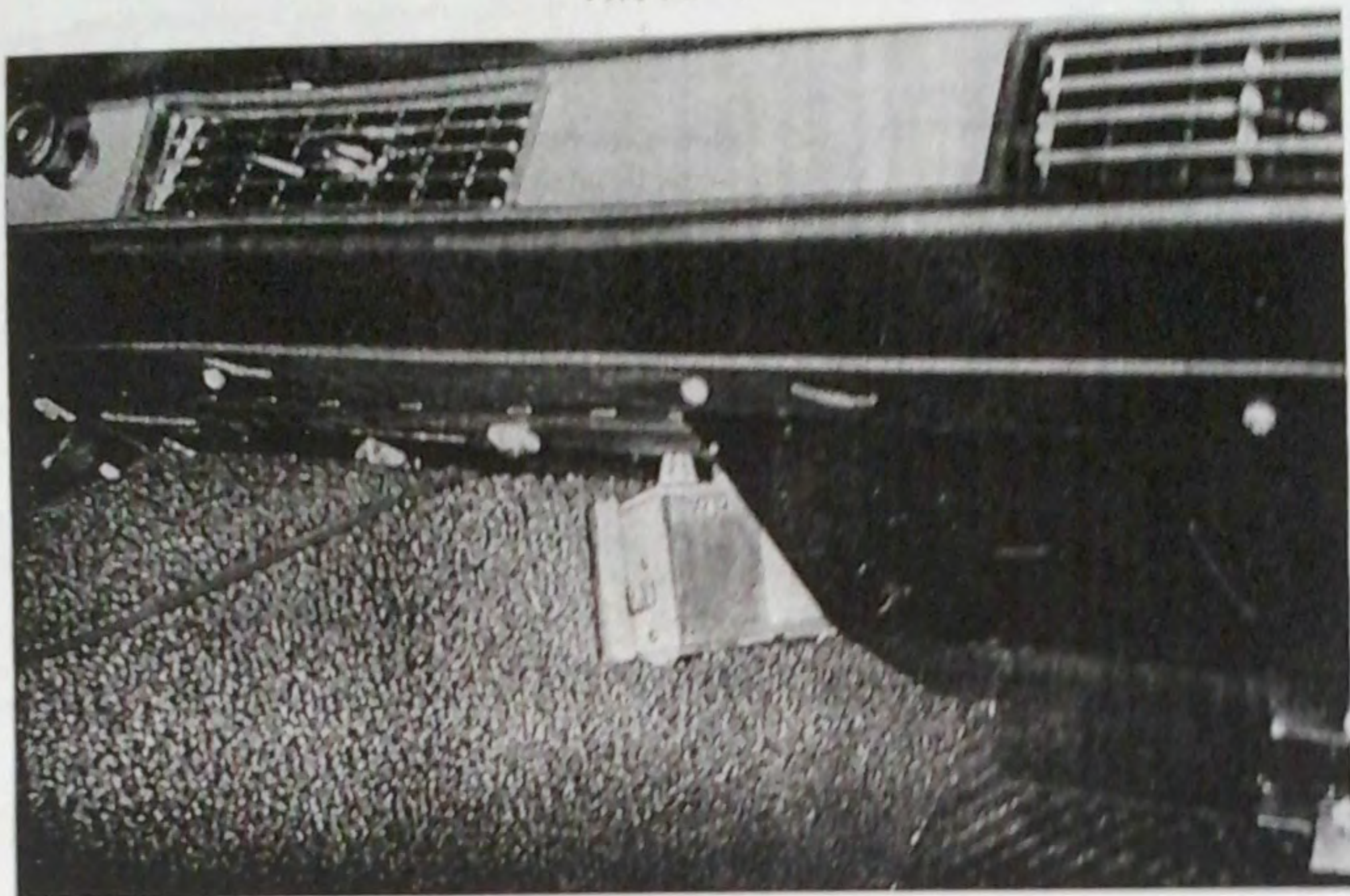


PHOTO 16

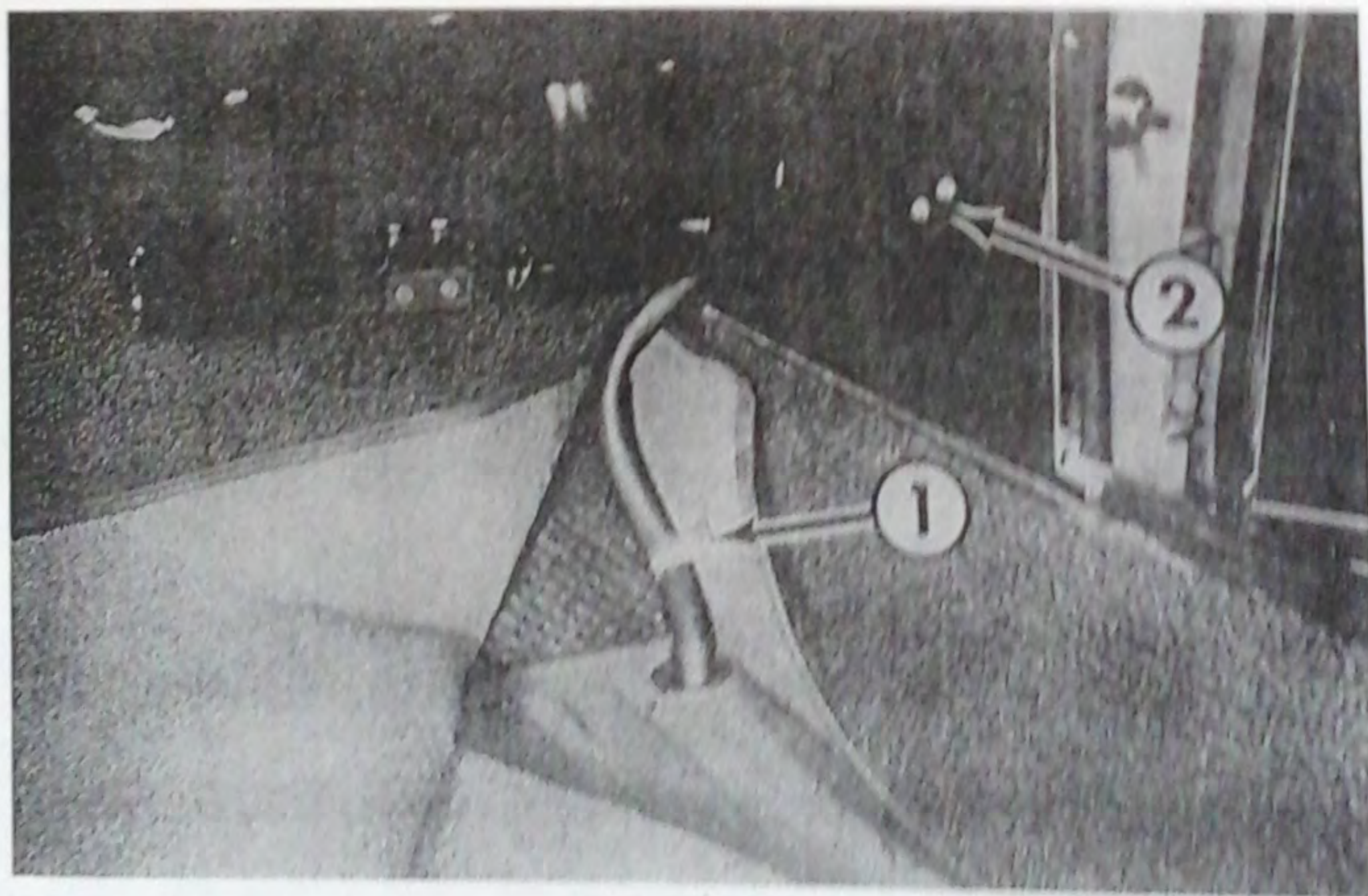


PHOTO 17

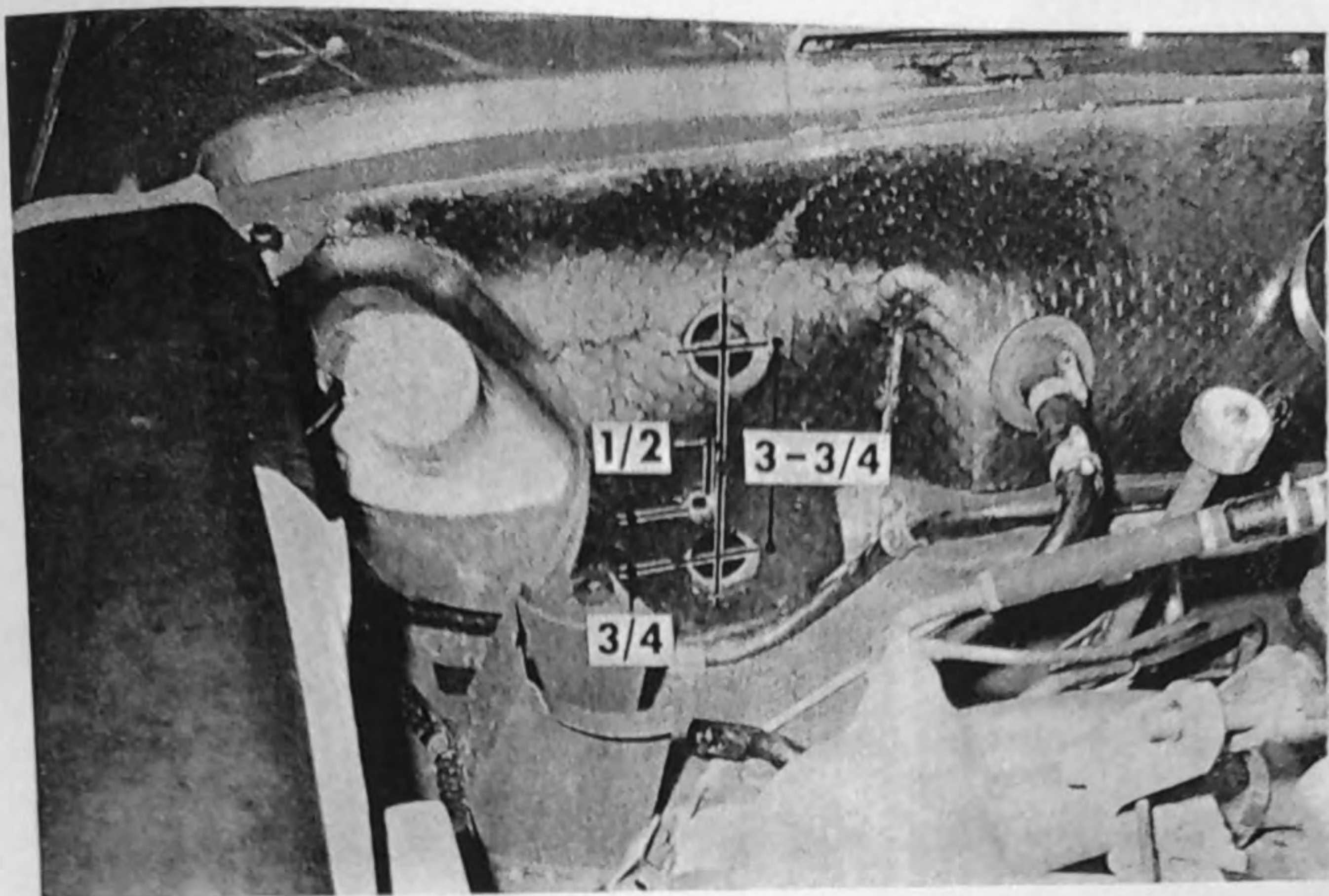
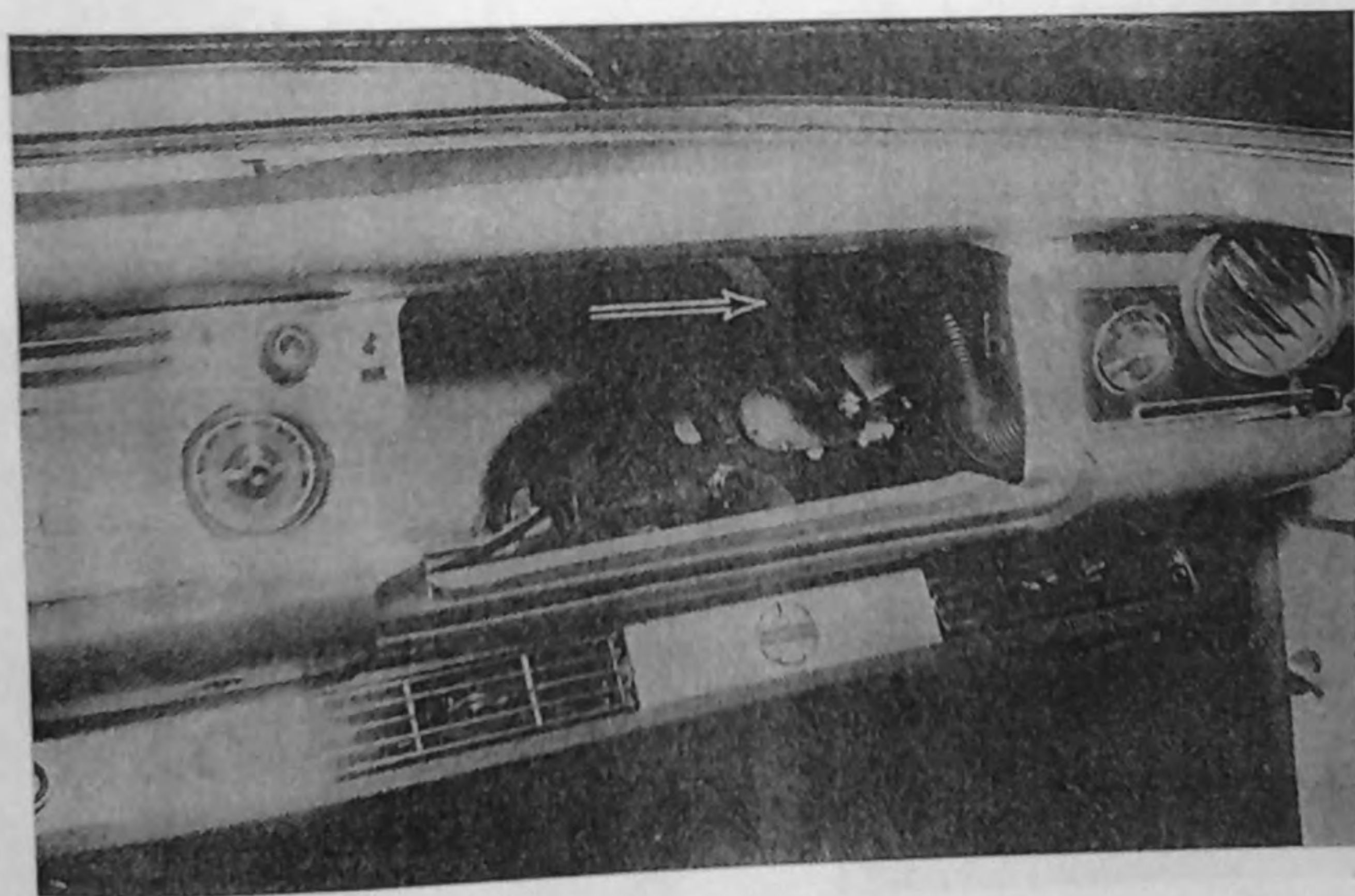


PHOTO 18



HOSE ROUTING

1. Connect the 1/2 x 27" Refrigerant Hose to the long Copper Tube on the Pre-Cool Condenser, then attach the 1/2 x 27" Hose to the discharge valve of the Compressor.
NOTE: If necessary, adjust the top Condenser Hose to provide adequate clearance for the "passenger" side hood hinge. Secure the Hose with Tyrap. (See Photo 19)
2. Connect the 3/8 x 24" (3/8F x 3/8 90° F) Hose from the Evaporator to the Receiver-Drier outlet connection. Place the Receiver-Drier in mounting position (Photo 20) and use the Receiver-Drier Mounting Bracket as a template to mark the mounting holes. Drill two 1/8" mounting holes and secure the Receiver-Drier in position using two #10 x 5/8 Sheet Metal Screws. Use the 1/4 x 1-1/4 PPH Bolt to tighten the Receiver-Drier Clamp.
3. Connect the straight end of the 3/8 x 52" Hose to the 3/8" male fitting of the Condenser. Connect the 90° end of the 3/8 x 52" Hose to the inlet of the Receiver-Drier. Route the Hose beneath the radiator filler tank and along the fenderwell.
4. Route the 5/8 x 62" (5/8 F x 5/8 90° M) Hose from the Evaporator along the fenderwell and connect it to the Swivel Elbow on the suction valve of the Compressor.
5. Hold the Discharge Valve Bracket in mounting position on the air cleaner housing shroud. (See Photo 21) Using the Bracket as a template, mark and drill two 1/8" mounting holes. Attach the Discharge Valve Bracket to the shroud using two #10-32 x 5/8 PPH Screws and #10 Nuts.
6. Use the Clamps provided to hold the Refrigerant Hoses away from engine moving parts and exhaust manifold (See Photo 23)
7. Secure the transmission fluid cooling lines and oil cooler lines. Reinstall top section of carburetor air cleaner assembly. Fill engine cooling system.
8. Reinstall the alternator using one 5/16-18 x 4-1/4 Bolt with Lockwasher and Nut through the Compressor Mount, the alternator, and the Alternator Brace. Adjust belt tension and secure the drive belts.
9. Secure the Overflow Hose Bracket to the alternator using one 5/16-18 x 1 Bolt with Nut and Lockwasher. Secure the overflow hose to the Hose Bracket using the Open End Clamp and one #10-32 x 5/8 PPH Screw and Locknut. (See Photo 22)
10. Install the battery and install the hood.

PHOTO 19

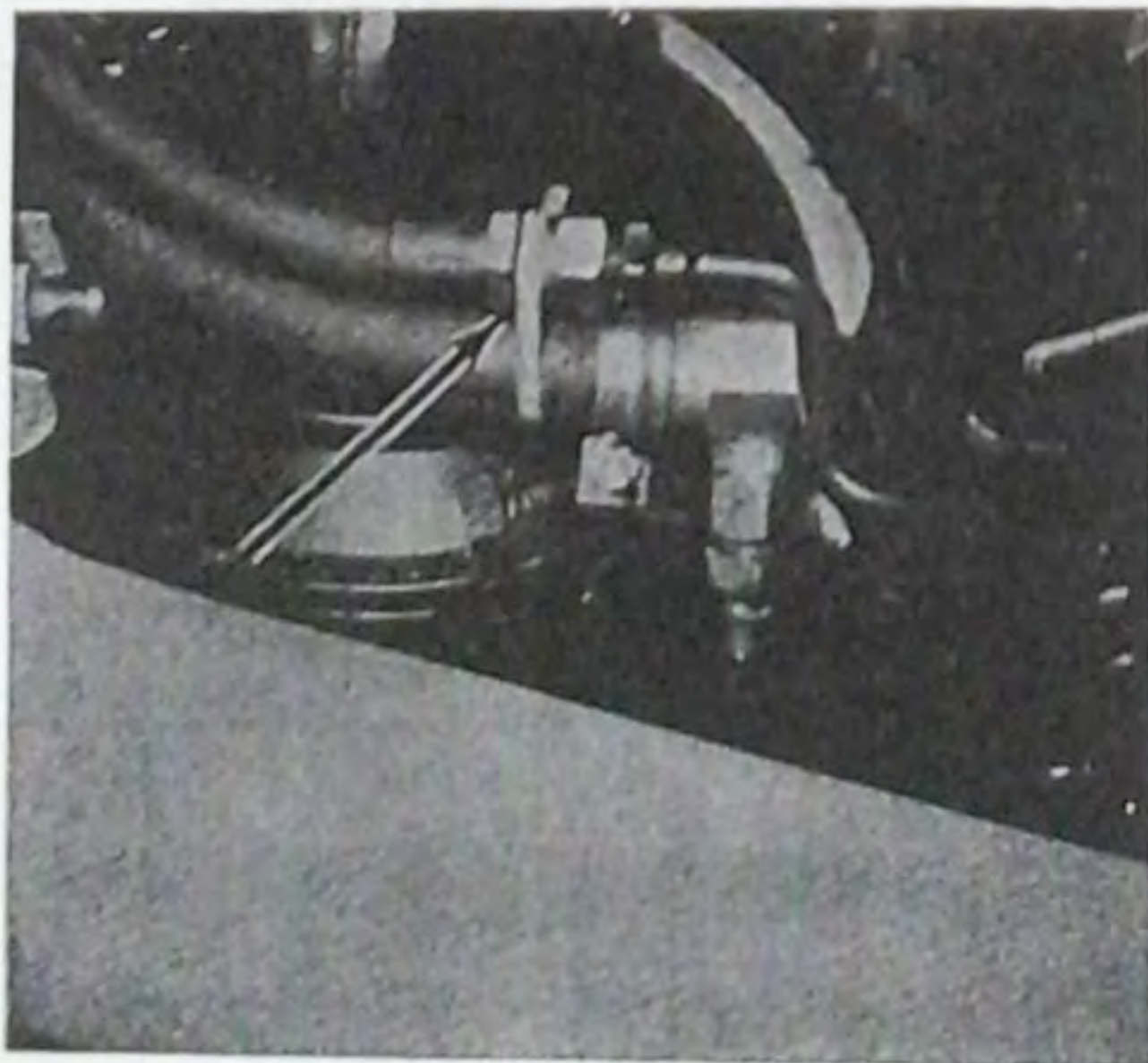


PHOTO 20

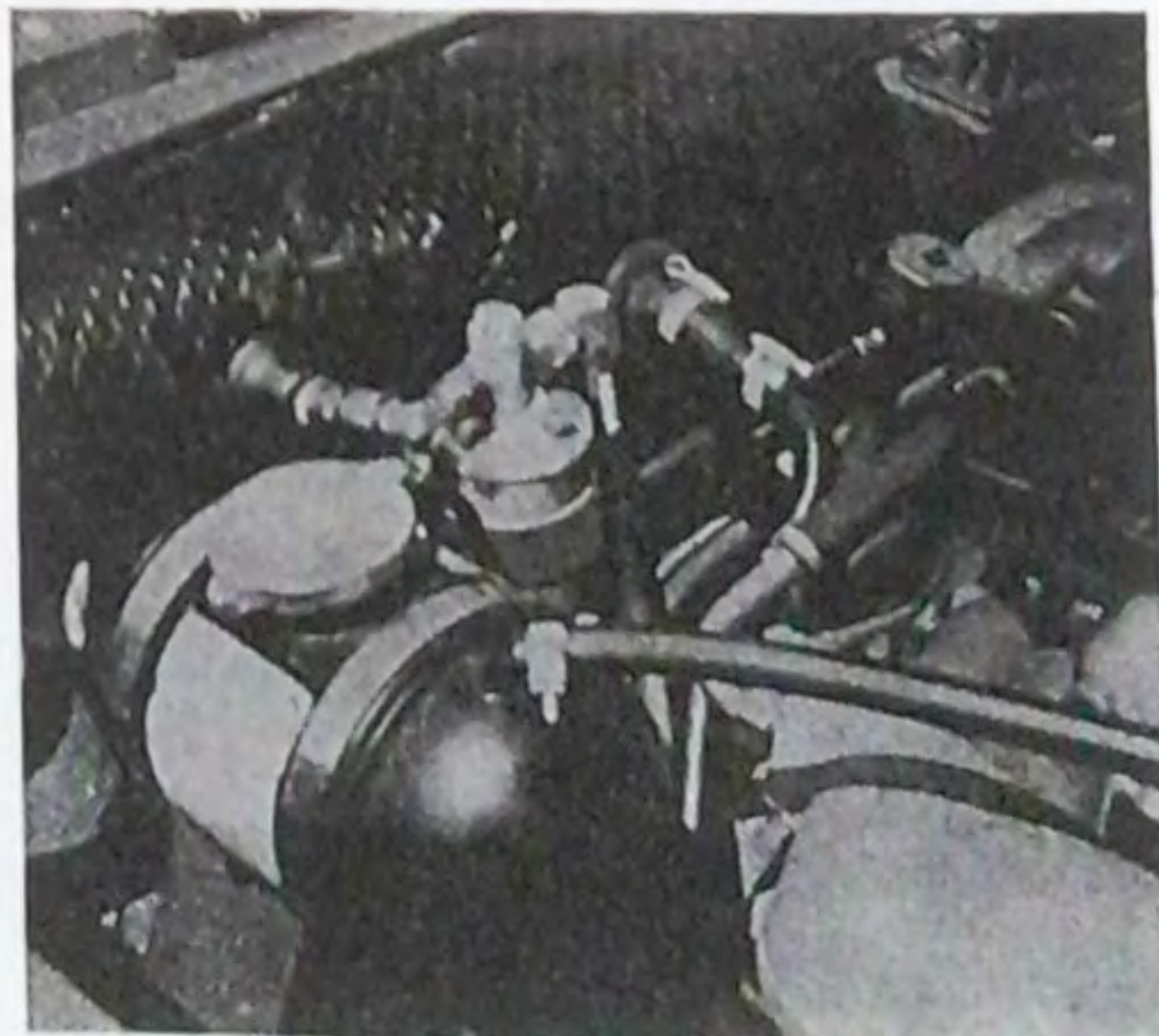


PHOTO 21

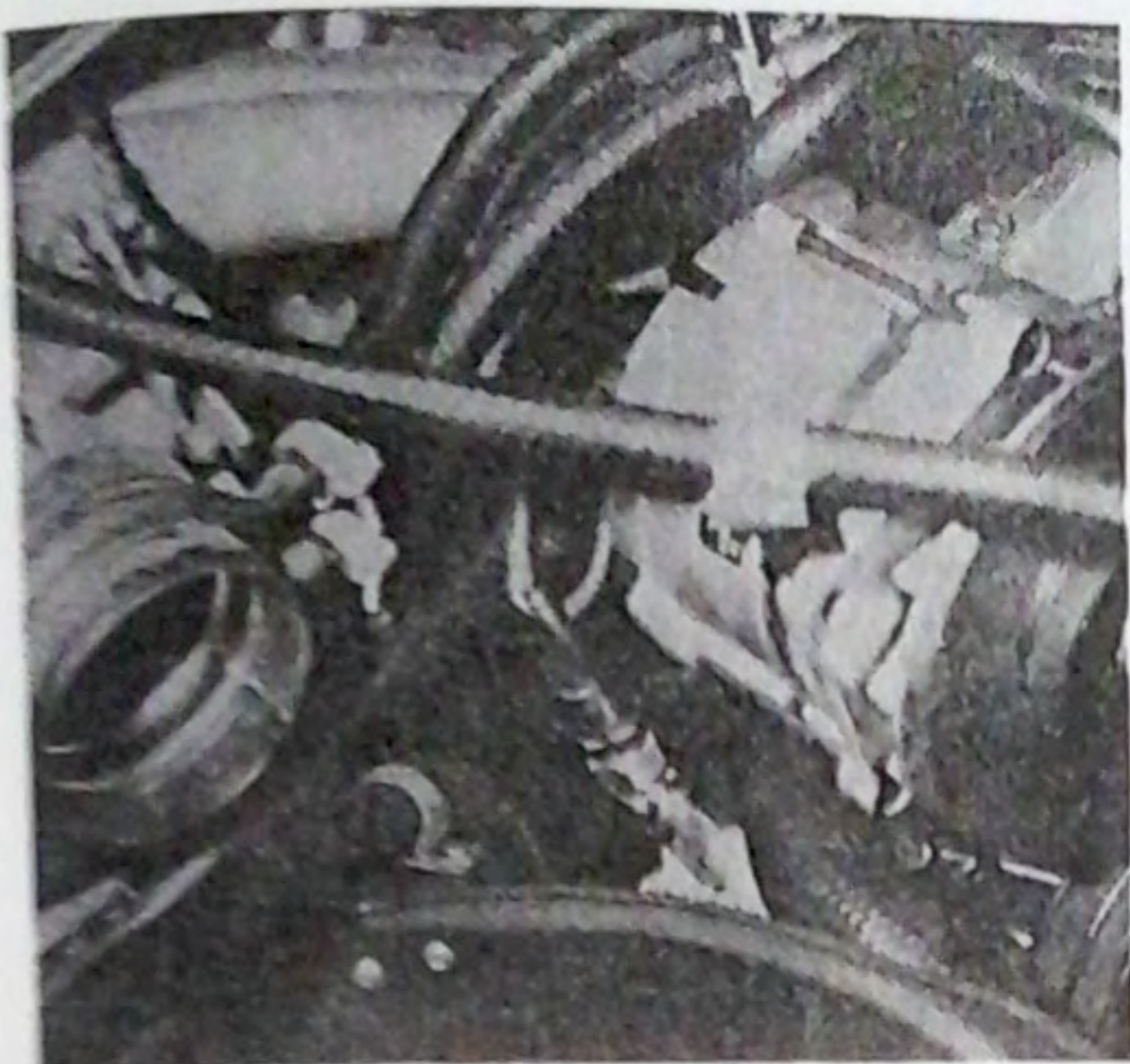


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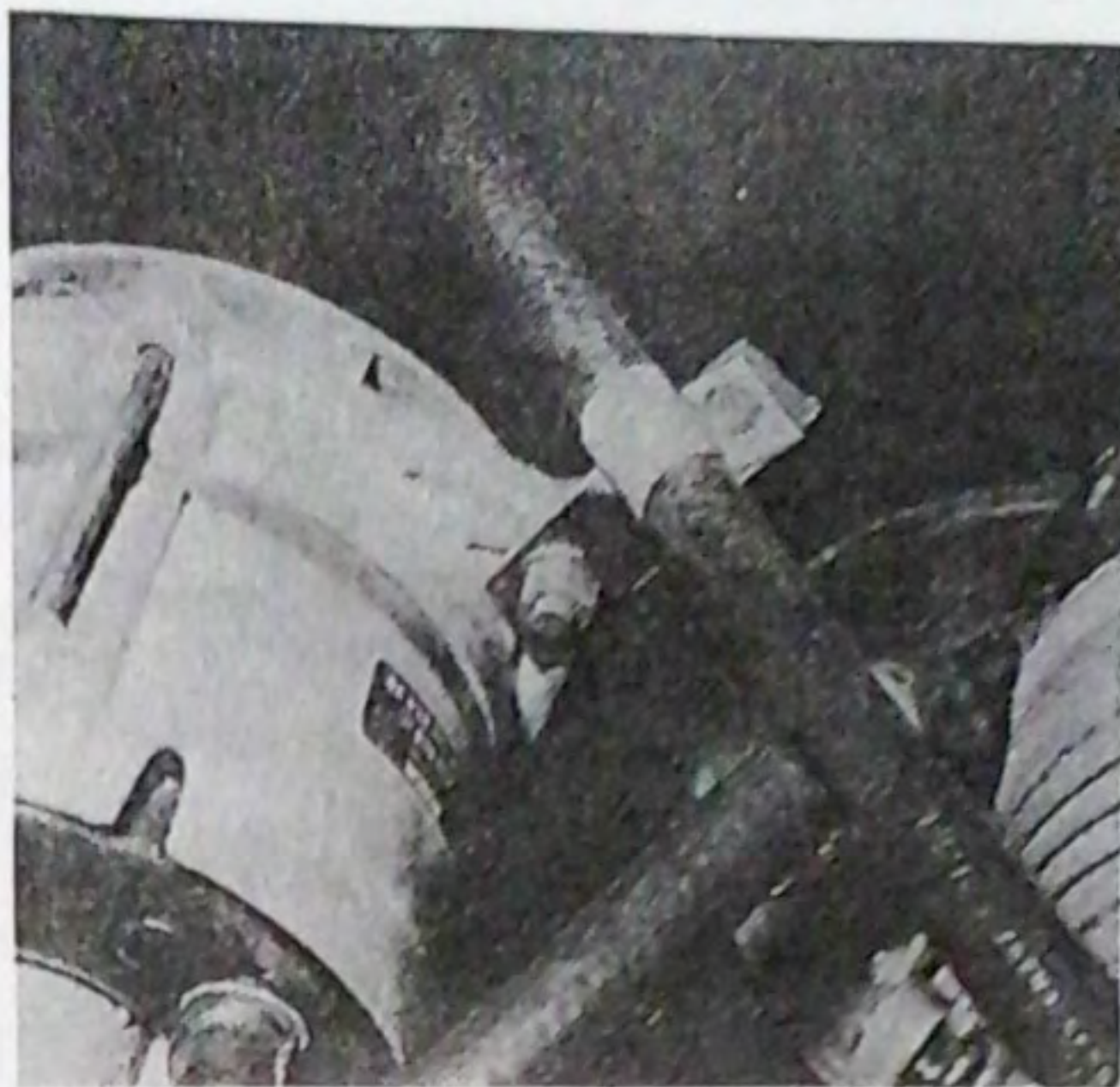


PHOTO 23



DRAWING 4

