

## ACCESSORIES & AVAILABLE EQUIPMENTS

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## HEATER

Description

The heater is a fresh air type heater utilizing the temperature of the cooling system. This heater can also be used as a recirculating type.

The heater consists of the corrugated type heating radiator and the air blower made integral for compact construction.

The heating controls are provided within easy reach of the front seat occupants to enable comfortable temperature control of the car interior. The temperature control can be accomplished by the air blower speed, and also by the water control valve.

Heater operation and defroster operation are controlled by the heater control lever (for the water valve).

Type	Hot water
Hot air	Fresh air & recirculating
Adjusting devices	Two stage blower
	Water control valve
Heating capacity	2,000 kcal/hour
Motor voltage	12 volts
Motor capacity	30 watts
Motor speed	3,600 rpm
Blower capacity	150 cu. meters per hour

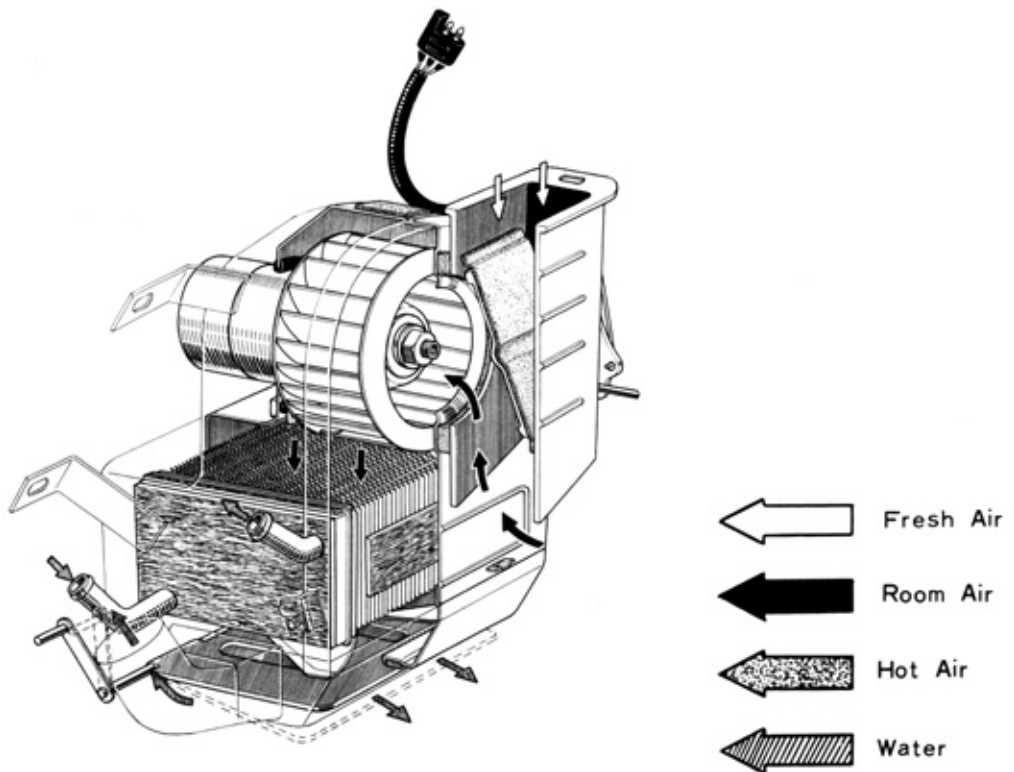
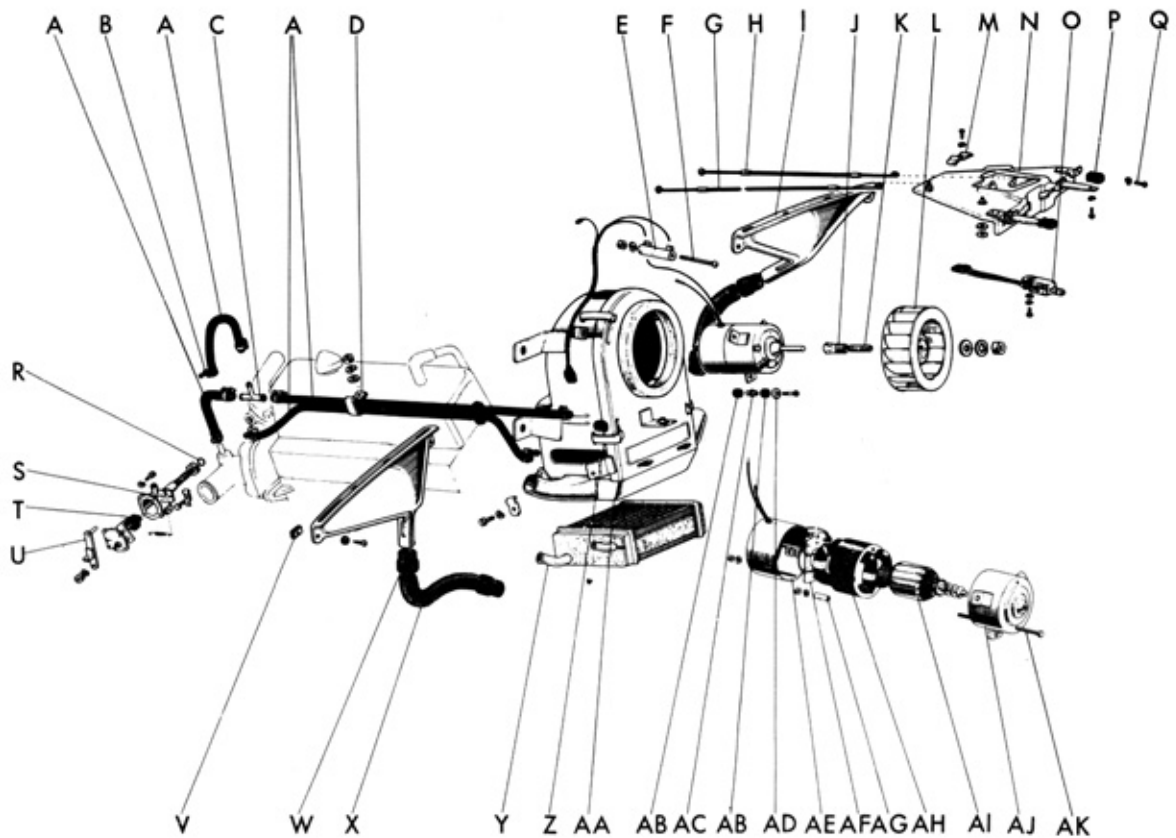


Fig.4-1 Cross Section View of Heater

Y2193, X5726



- |                              |                                 |
|------------------------------|---------------------------------|
| A. Hose                      | T. Water valve controller       |
| B. Hose clamp                | U. Water valve lever            |
| C. Water hose connector      | V. Anchor nut                   |
| D. Water hose retainer       | W. Defroster hose adaptor       |
| E. Resistance                | X. Defroster hose               |
| F. Through bolt              | Y. Radiator                     |
| G. Heater control cable      | Z. Heater case fastening spring |
| H. Defroster control cable   | AA. Heater case                 |
| I. Defroster nozzle          | AB. Bushing                     |
| J. Adaptor                   | AC. Collar                      |
| K. Pipe                      | AD. Washer                      |
| L. Blower fan                | AE. Blower motor housing        |
| M. Heater control wire clamp | AF. Blower motor brush holder   |
| N. Heater control box        | AG. Bushing                     |
| O. Heater blower switch      | AH. Blower motor stator         |
| P. Heater control lever knob | AI. Blower motor armature       |
| Q. Screw                     | AJ. Blower motor housing        |
| R. "O" ring                  | AK. Bolt                        |
| S. Water valve body          |                                 |

Fig.4-2 Heater Components

Trouble Shooting

Symptoms & Probable Causes	Remedies
<b>Insufficient heating</b>	
1. Wiring poor contacted or broken	Repair
2. Fuse burned or poor contacted	Repair or replace
3. Heater switch poor contacted	Repair or replace
4. Valve opening incorrect	Correct
5. Motor not turn	Repair or replace
6. Brush worn or poor contacted	Repair or replace
7. Armature defective	Repair or replace
8. Field coil defective	Repair or replace
<b>Insufficient incoming air</b>	
1. Fan mounting nut loose	Tighten
2. Heater radiator clogged	Clean
3. Blower revolution insufficient	Repair or replace
<b>Insufficient heating of coolant</b>	
1. Thermostat defective	Replace
2. Weather extremely cold	Cover the radiator
<b>Insufficient coolant</b>	
1. Water pump capacity insufficient	Repair
2. Fan belt loose or slipping	Adjust
3. Hose bent excessively	Repair or replace
4. Hose pipe or joint clogged	Clean or replace
<b>Leakage of hose or piping</b>	
1. Water hose defective	Replace
2. Water hose clamp loose	Tighten
3. Heater radiator defective	Repair or replace
<b>Insufficient defrosting</b>	
1. Defroster hose disconnected	Repair
2. Hose bent excessively	Repair or replace
3. Packing fitting improper	Repair

## 4-4 ACCESSORIES & AVAILABLE EQUIPMENTS - Heater

### Removal & Installation

#### Heater & Water Valve

1. Drain the coolant.
2. Open the hood and disconnect the heater control cable from the water control valve.
3. Disconnect the water hose from the water valve, and remove the water valve.

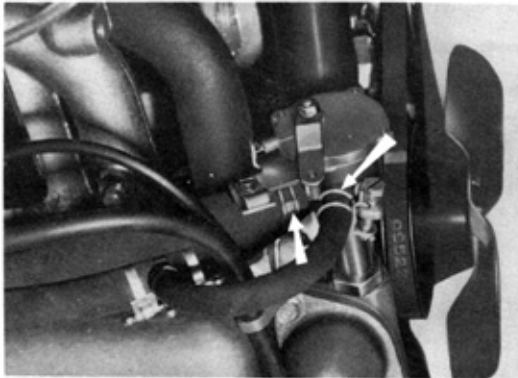


Fig. 4-3 Water Hose Disconnection V0968

4. Remove the instrument under tray if installed.
5. Remove the defroster hoses and nozzles.
6. Disconnect the water inlet hose and outlet hose from the heater.
7. Disconnect the defroster control cable.

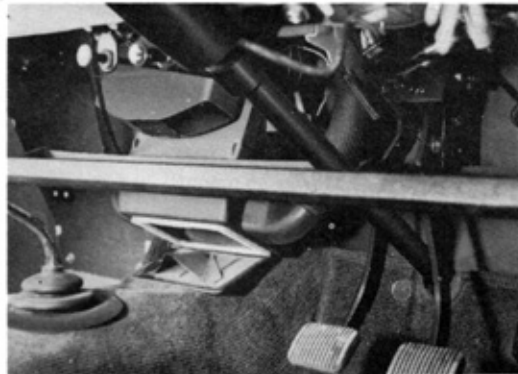


Fig. 4-4 Heater Installation V1368

8. Disconnect the wiring connector.
9. Remove the heater.
10. To install, follow the removal procedures in the reverse order.

#### Heater Control Assembly

1. Disconnect the control cables from the heater and water valve.
2. Remove the control lever knobs and moulding.
3. Remove the ash tray and ash receptacle retainer.
4. Remove the heater control assembly attaching screws and retainer, and remove the heater control assembly.
5. To install, follow the removal procedures in the reverse order.

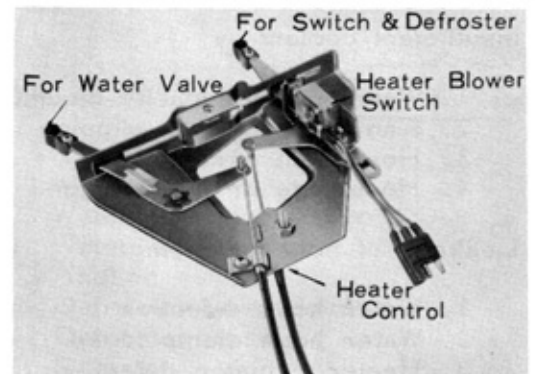


Fig. 4-5 Heater Control V1370

### Disassembly & Assembly

#### Heater

1. Remove the heater case end plate.
2. Remove the radiator.
3. Remove the fan attaching nuts, and remove the fan.  
The heater blower is installed as illustrated in the figure 4-7.
4. Remove the resistance.

- Remove the motor with the codes and resister.

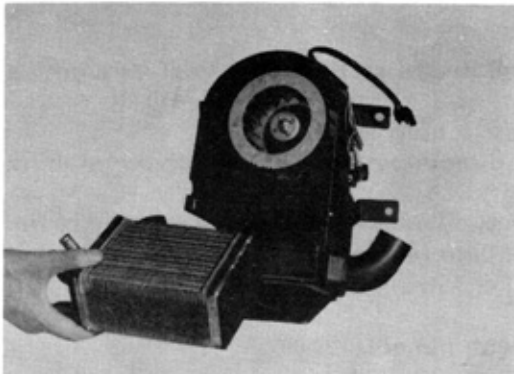


Fig.4-6 Radiator Removal V0969

Heater Motor Heater Blower

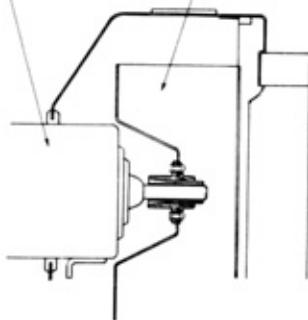


Fig.4-7 Heater Blower Installed Condition X5727

Motor

- Remove the case.

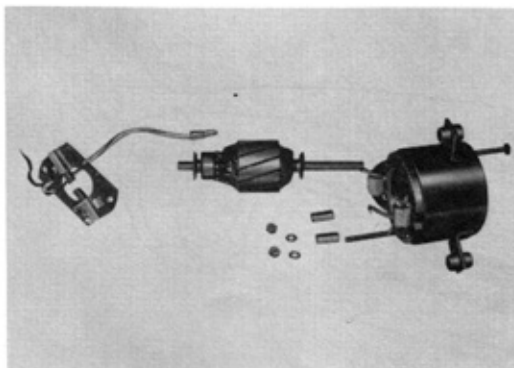


Fig.4-8 Armature Removal V0970

- Remove the brush holder attaching nuts, and remove the brush holder by melting the solder.
- Remove the armature.
- Remove the stator coil.

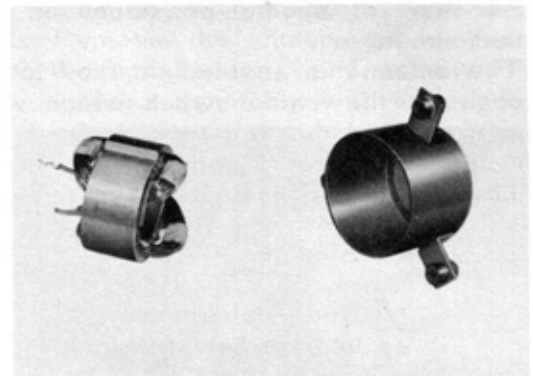


Fig.4-9 Stator Coil Removal V0971

To assemble the motor and heater, follow the disassembly procedures in the reverse order. Before assembling, the brush and commutator should be inspected for wear and damage.

Brush wear limit: 7 mm (0.28")

Brush specified length:  
11 mm (0.43")

Commutator wear limit:  
17.5 mm (0.69")

Commutator specified diameter:  
18.5 mm (0.73")

## RADIO

Description

The radio utilizes highly efficient parts and transistors of newest design, and has high sensitivity and beautiful tone.

Five push-buttons are incorporated for easy tuning in.

Because of special consideration given to durability, the radio gives stabilized performance.

The antenna is an electric type lock antenna. To extend the antenna rod, first, push in the radio switch which will extend the antenna by releasing the lock, next, extend the rod to a desired length. To lower and stow the antenna, push in the antenna rod until it locks in place.

The speaker is installed inside the instrument panel.

System	$\mu$ -tuning type, superheterodyne with RF Amp.
Receiving frequency	535 - 1,605 Kc
Intermediate frequency	455 Kc
Sensitivity	Less than 26 db
Selectivity	More than 18 db
Electrical fidelity	Less than -6 db at 150 c/s Less than -16 db at 4,000 c/s
Output	1.6 W
Speaker	8 ohm, 3.5 W
Voltage	13.2 volts
Transistors:	
RF Amp.	2 SA 275
Converter	2 SA 273
IF Amp.	2 SA 274x2
AF Amp.	2 SB 120x2
Output power Amp.	2 SB 466x2
Det. and A.G.C.	1 S 446x2

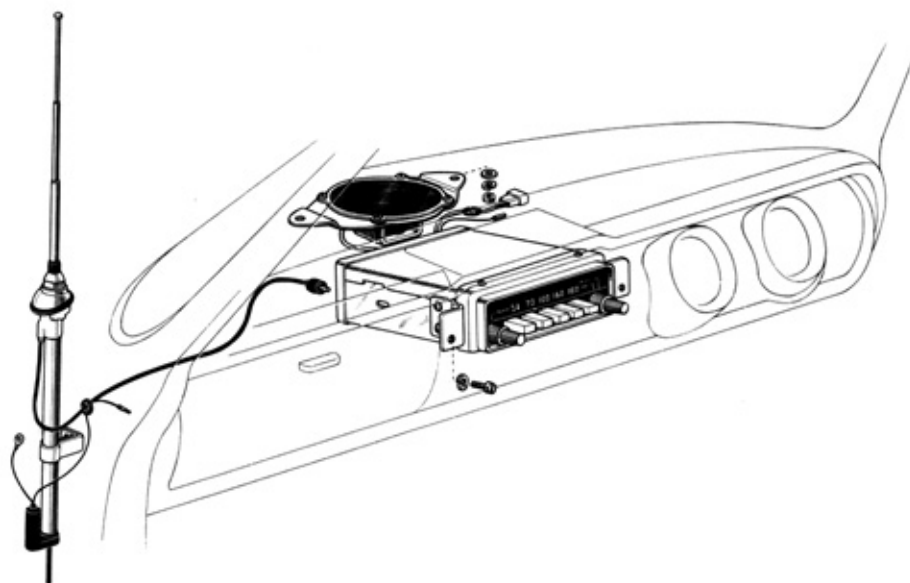


Fig.4-10 Radio

Removal & Installation

Radio

1. Remove the instrument panel under tray if installed.
2. Remove the radio hole cover.
3. Remove the ash receptacle and heater control box in referring to the page 4-4.
4. Disconnect the wirings, and remove the radio mounting bolts.
5. Remove the radio from the instrument layout center panel.



Fig.4-11 Radio Removal V0972

6. To install, follow the removal procedures in the reverse order.

Antenna

1. Disconnect the antenna cord and wiring from the radio.
2. Remove the antenna holder from the front fender, and remove the antenna assembly with the cords.



Fig.4-12 Antenna Removal V0973

3. To install, follow the removal procedures in the reverse order.





## CIGARETTE LIGHTER

### Description

The cigarette lighter is connected through the fuse 20 A to the battery. The cigarette lighter is operated even if the ignition switch is OFF.

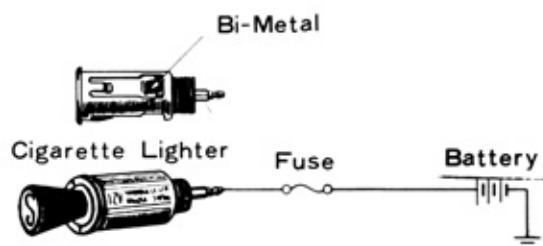


Fig.4-14 Cigarette Lighter Wiring Y2096

### Trouble Shooting

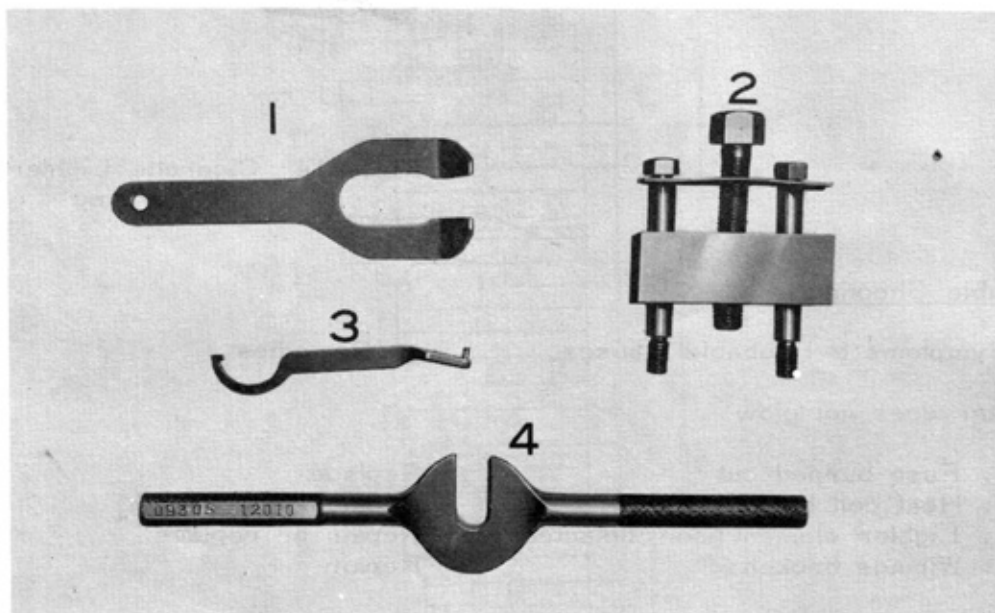
Symptoms & Probable Causes	Remedies
Lighter does not glow	
<ol style="list-style-type: none"> <li>1. Fuse burned out</li> <li>2. Heat coil broken</li> <li>3. Lighter element poor contacted</li> <li>4. Wirings broken</li> </ol>	Replace Replace lighter Repair or replace Repair
Lighter glows, but will not release	
<ol style="list-style-type: none"> <li>1. Spring broken</li> <li>2. Bi-metal defective</li> </ol>	Replace Repair or replace
<u>Removal</u>	<u>Installation</u>
<ol style="list-style-type: none"> <li>1. Disconnect the wiring connector.</li> <li>2. Turn the retainer counterclockwise, and remove the retainer.</li> <li>3. Remove the cigarette lighter socket.</li> </ol>	Follow the removal procedures in the reverse order.

\* \* \* \* \*

## RECOMMENDED S.S.T. FOR BODY

It is essential that the S.S.T. illustrated in this manual must be absolutely utilized in performing the various operations of removal and installation.

Some of these tools can be used for other models, therefore, the models are indicated within the parentheses.



- |                |   |
|----------------|---|
| 1. 09801-30010 | Handle Shaft Snap Ring Remover (MS, RS, RT) |
| 2. 09609-20010 | Steering Wheel Puller (All Models)          |
| 3. 09802-12010 | Ignition Switch Lock Nut Wrench             |
| 4. 09305-12010 | Transmission Gear Shift Lever Remover       |
| 5. 09804-20010 | Back Door Torsion Spring                    |

