

## HEATER SYSTEM

1990 Nissan 240SX

1990 Heater Systems

Axxess, Pickup, Pulsar NX, Sentra, Stanza, 240SX

### AIR BAG WARNING

WARNING: To avoid accidental air bag deployment, see AIR BAG DEACTIVATION under SERVICING PRECAUTIONS in this article.

### DESCRIPTION

#### HEATER

Heater assembly is contained in a housing beneath instrument panel. Assembly consists of blower motor, heater housing and core, heater valve and control panel.

#### VENTILATION

Ventilation is a separate function from heating, and is combined into the heating unit to obtain fresh air ventilation when required. Separate selector lever, or position setting, on mode lever permits fresh air to enter passenger compartment. Blower switch position determines airflow volume.

### OPERATION

#### MODE LEVER

Mode lever controls airflow doors (intake, blend-air, heat, defrost and ventilation). Lever position on control panel determines the following door settings.

##### Recirculation/Fresh Door

In the open position, outside air flows into heater system after passing through blower motor fan. In closed position, inside air is recirculated through heater system.

##### Ventilation Door

Permits fresh air to flow out of dash panel registers.

##### Defrost Door

Controls air delivery or defroster outlets when this mode is selected. This separate door opens when mode door closes off floor and dash panel outlets to direct air to windshield.

##### Blend-Air Door

See TEMPERATURE LEVER.

#### TEMPERATURE LEVER

This lever sets position of blend-air door to direct flow of air through heater core (hot position), around heater core (cold position), or mixture of both. The lever also controls opening and closing of heater valve. In any position except cold, heater valve is open, allowing engine coolant into heater.

## BLOWER SWITCH

Switch controls speed of blower motor through resistor assembly. On Stanza, a dial knob is used to select blower speeds. On all other models, switch is operated by control lever.

## SERVICING PRECAUTIONS

### AIR BAG DEACTIVATION

Disabling System (Pulsar NX)

Driver-side air bag is available on Pulsar NX. All Supplemental Restraint System (SRS) wiring harnesses have YELLOW coverings for identification. Turn ignition off. Disconnect and shield negative battery cable. Wait 10 MINUTES for voltage to discharge from air bag control unit before proceeding with repairs. After 10 MINUTES, disconnect SRS connector at control unit located in front of shift lever.

System Function Check

Turn ignition on. Air bag warning light on instrument panel should illuminate for about 7 seconds and then go off. This indicates system is functioning properly. If light DOES NOT go off, flashes intermittently or does not illuminate, service SRS system as required.

## ADJUSTMENTS

### AIR INTAKE DOOR CABLE - AXCESS, PICKUP, PULSAR NX & SENTRA

Set air intake door and control lever (push button on Stanza) to the recirculation position. Remove cable retaining clip. Ensure intake door and cable are in the full recirculation position. See Fig. 1. Attach control cable retaining clip and check air intake door operation.

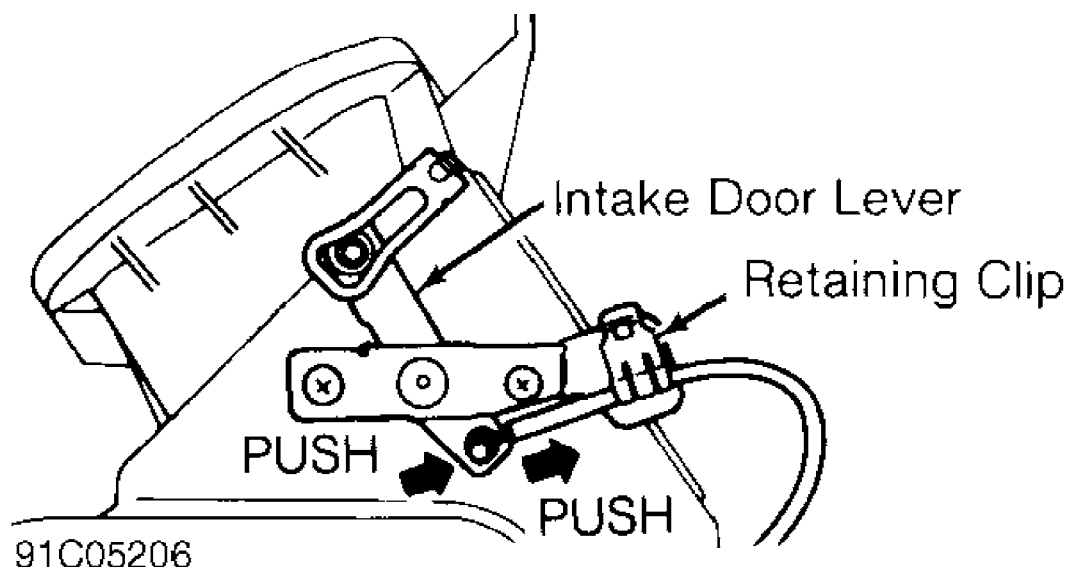
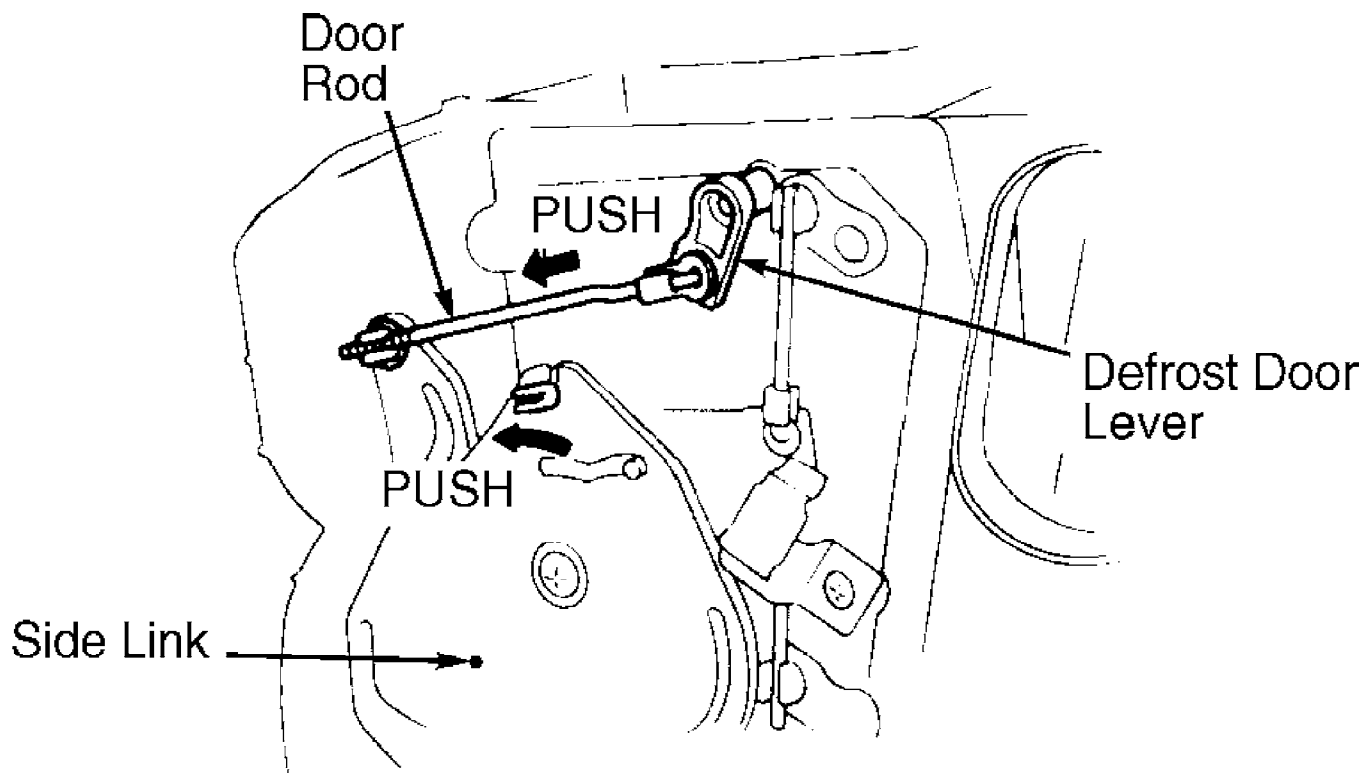


Fig. 1: Air Intake Door Cable (Axxess, Pickup, Pulsar NX & Sentra)  
Courtesy of Nissan Motor Co., U.S.A.

### DEFROST DOOR CONTROL ROD - PICKUP, PULSAR NX & SENTRA

Disconnect mode control cable from side link. Push side link and defrost door in direction of arrow. See Fig. 2. Connect rod to side link. Connect mode control cable and adjust as necessary. See MODE (AIR) CONTROL CABLE under ADJUSTMENTS.



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Fig. 2: Defrost Door Control Rod (Pickup, Pulsar NX & Sentra)  
 Courtesy of Nissan Motor Co., U.S.A.

### FRESH VENT DOOR - STANZA

Pull fresh ventilation lever down to the OFF position. Push fresh vent shaft in direction of arrow. See Fig. 3. Attach control cable and retaining clip. Check air intake door operation.

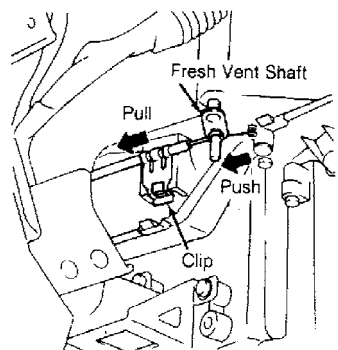


Fig. 3: Adjusting Fresh Vent Door Cable (Stanza)  
 Courtesy of Nissan Motor Co., U.S.A.

### INTAKE DOOR - STANZA & 240SX

Before installing intake door motor, ensure wiring harness connector of intake door motor is connected. Turn ignition switch to ACC position. Depress RECIRCULATION button. Install intake door motor and lever. See Fig. 4. Set intake door rod in the recirculation position and fasten door rod to holder on intake door lever. Ensure intake door operates properly when RECIRCULATION button is pressed on and off.

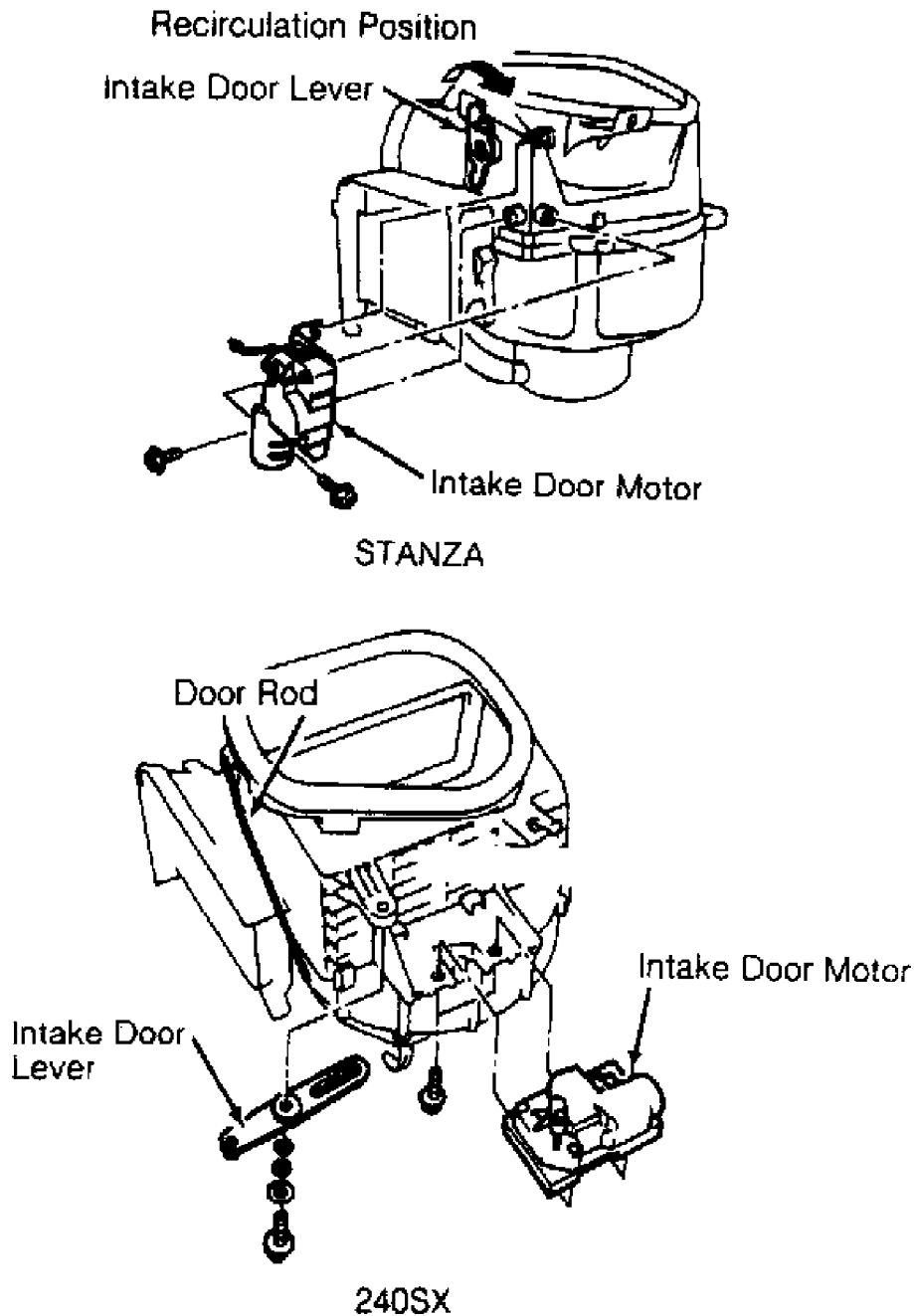
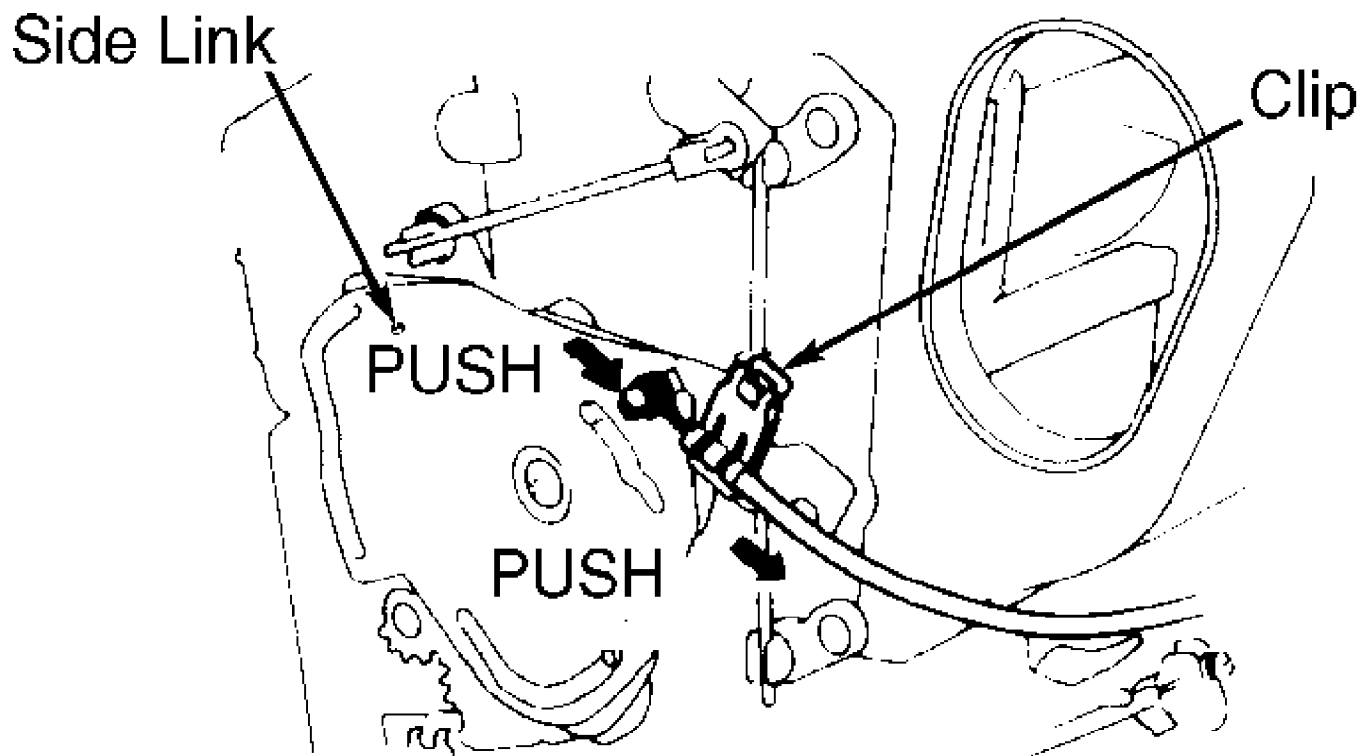


Fig. 4: Adjusting Mode Intake Door (Stanza & 240SX)  
 Courtesy of Nissan Motor Co., U.S.A.

MODE (AIR) CONTROL CABLE - AXXESS, PICKUP, PULSAR NX & SENTRA

Set mode selector lever to DEFROST position. Disconnect control cable and ensure airflow door and cable are in the full defrost position. See Fig. 5. Pull cable in opposite direction to remove slack and secure with retaining clip.

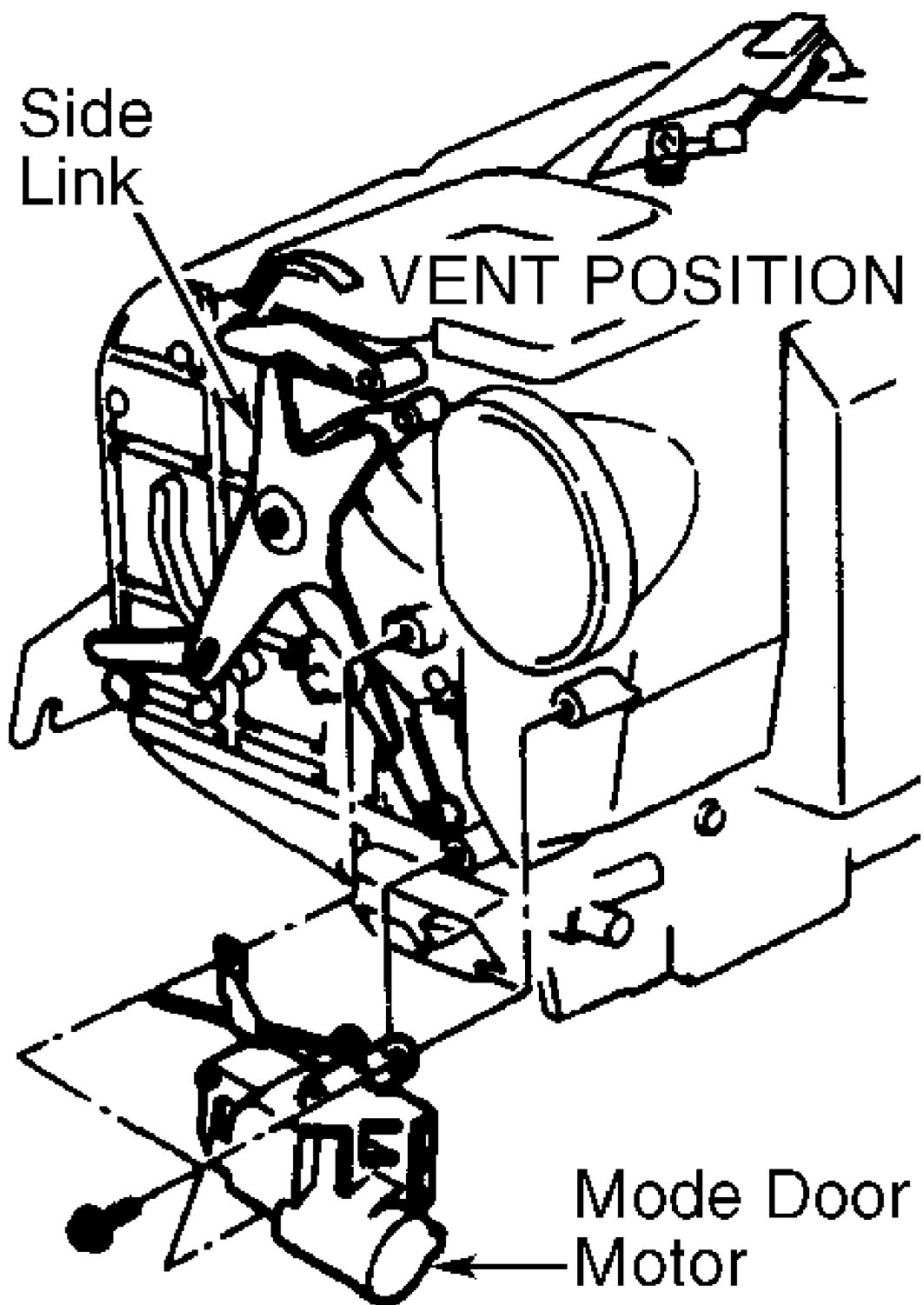


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Fig. 5: Adjusting Mode Door Cable (Typical)  
Courtesy of Nissan Motor Co., U.S.A.

### MODE DOOR - STANZA & 240SX

Push side link in direction of arrow and hold mode door in vent mode. See Fig. 6. Install mode door motor on heater assembly and connect wiring harness connector. Turn ignition switch to ACC position and depress VENT button. Install rod of mode door motor to side link rod holder. Depress DEFROST button and ensure side link operates at the fully open position. Depress VENT button and ensure side link operates at the fully open position.



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Fig. 6: Adjusting Mode Door (Stanza & 240SX)  
Courtesy of Nissan Motor Co., U.S.A.

TEMP CONTROL CABLE & HEATER VALVE CONTROL ROD

**NOTE:** Before adjusting control rod of heater valve, disconnect temperature control cable from blend-air door. After adjusting control rod, install temperature control cable and adjust as necessary.

1) Set temperature lever to maximum cold position. Disconnect temperature control cable from blend-air door lever. See Fig. 7. Ensure blend-air door is positioned away from link lever.

2) Pull control rod of heater valve in direction of arrow to obtain clearance of .08" (2.0 mm) between ends of rod and link lever. Connect rod to door lever. Check operation of air mix door.

3) Push temperature control cable and air mix door link in direction of arrow. See Fig. 8. Install retaining clip.

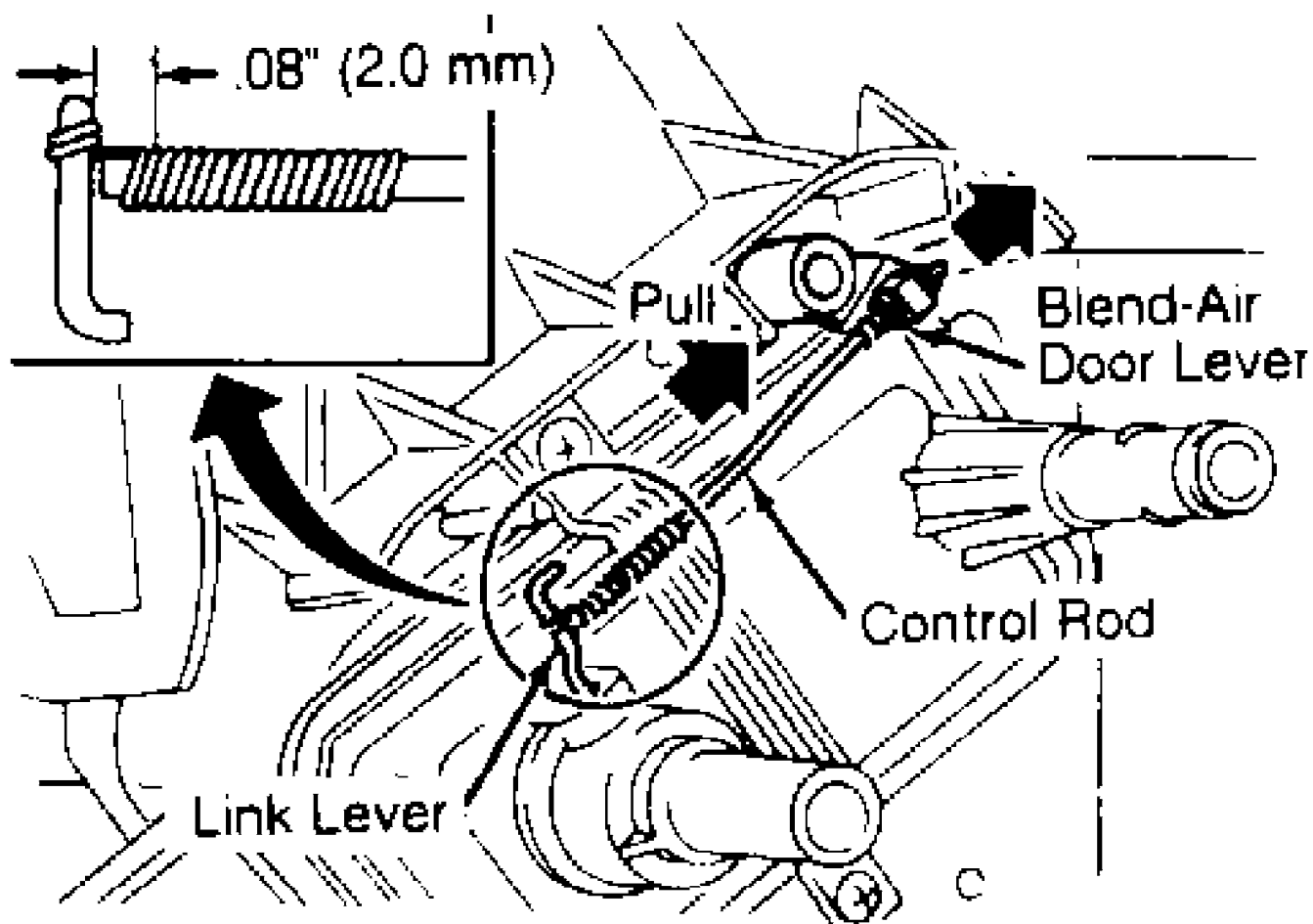


Fig. 7: Adjusting Heater Valve Control Rod (Typical)  
Courtesy of Nissan Motor Co., U.S.A.

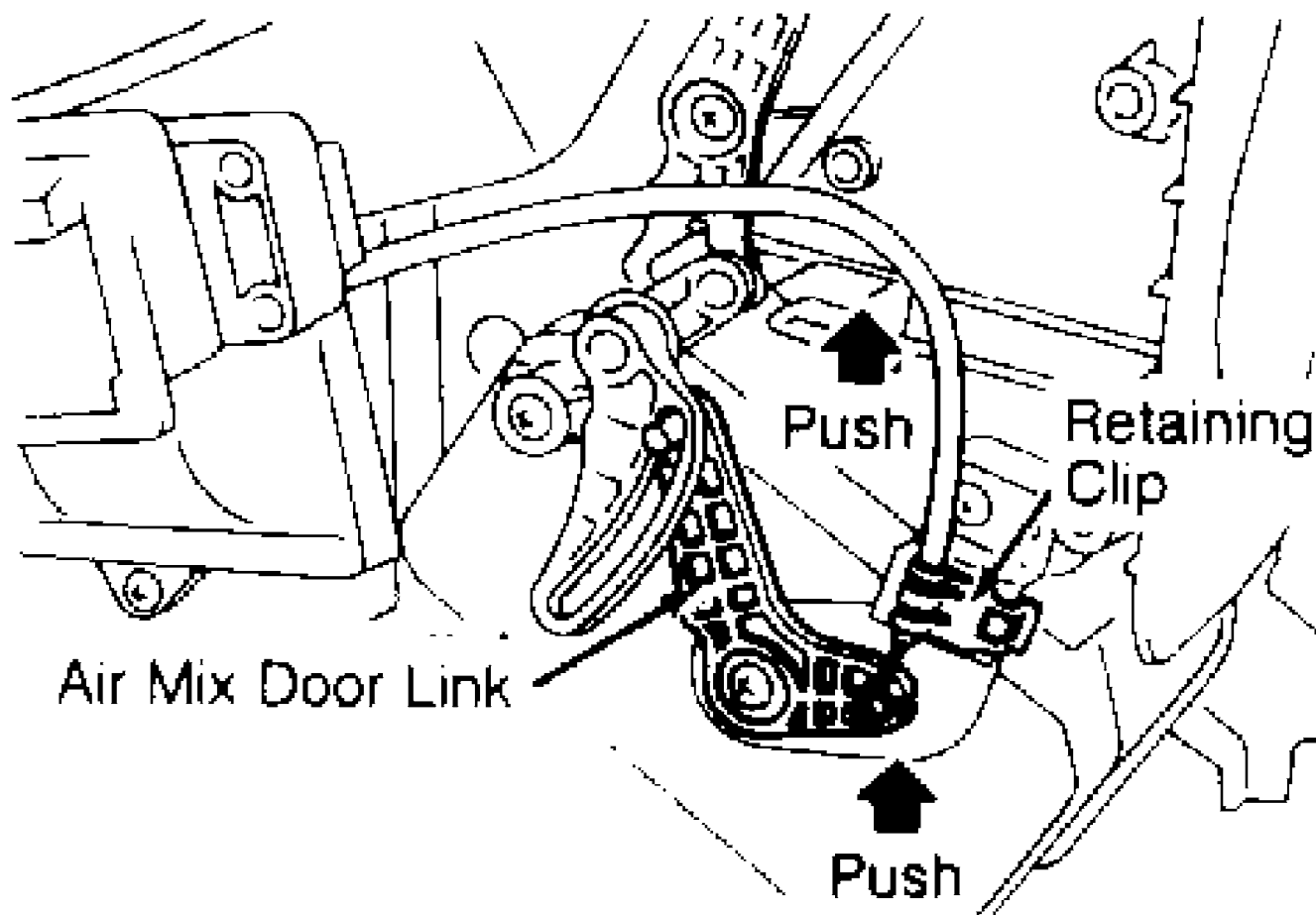
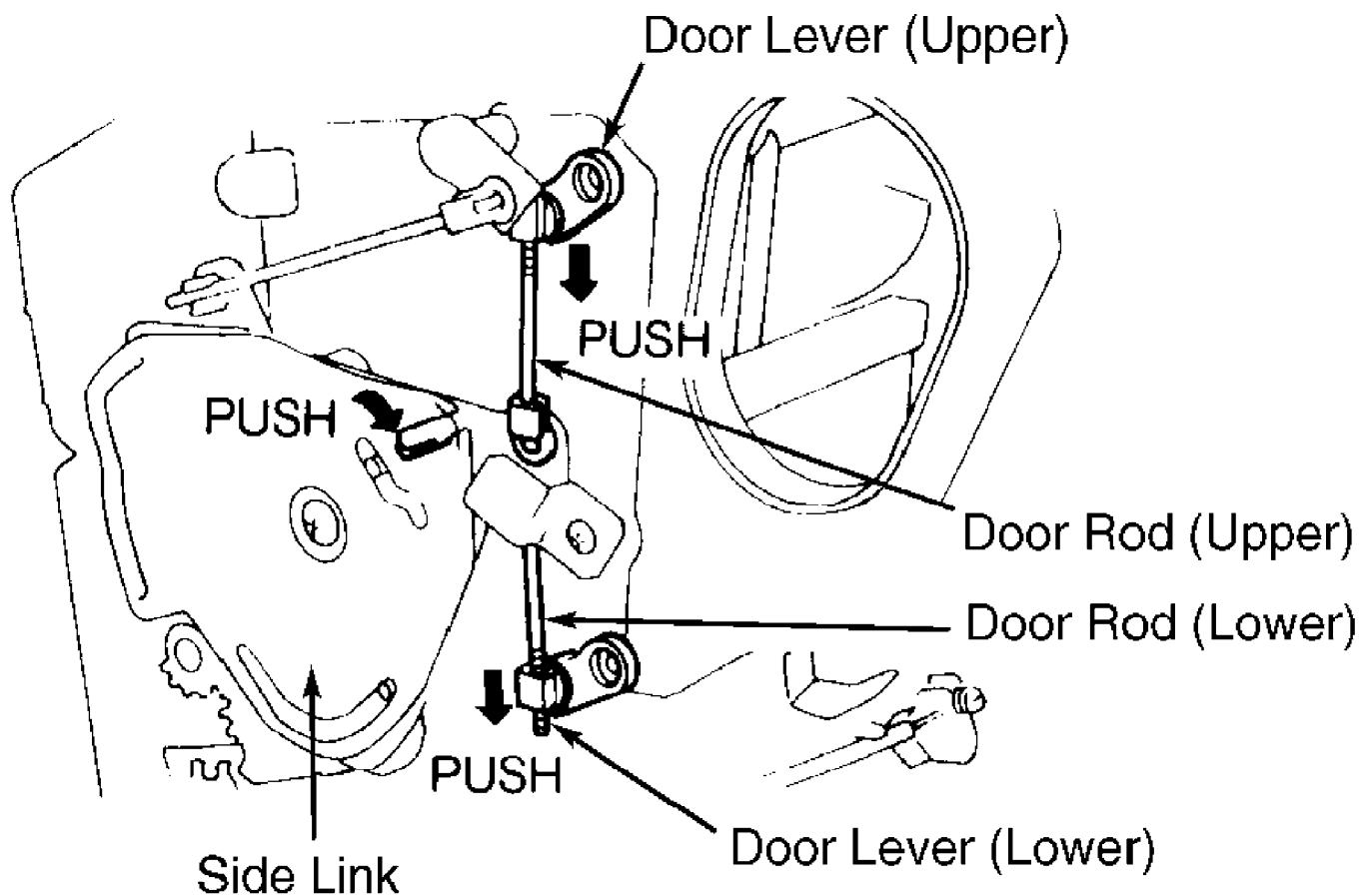


Fig. 8: Adjusting Temperature Control Cable (Typical)  
Courtesy of Nissan Motor Co., U.S.A.

#### VENTILATION DOOR CONTROL ROD - PICKUP, PULSAR NX & SENTRA

Disconnect mode control cable from side link. See Fig. 9. Disconnect ventilation door rods. Push side link in direction of arrow. See Fig. 9. Hold lower ventilation door lever in direction of arrow and install lower door rod. Hold upper ventilation door lever in direction of arrow and install upper door rod. Connect mode control cable and adjust as necessary. See MODE (AIR) CONTROL CABLE under ADJUSTMENTS





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Fig. 9: Adjusting Ventilation Door Control Rod (Typical)  
Courtesy of Nissan Motor Co., U.S.A.

## TESTING

### AIR BAG WARNING

WARNING: To avoid accidental air bag deployment, see AIR BAG DEACTIVATION SERVICING PRECAUTIONS in this article.

### BLOWER SPEED CONTROL SWITCH

Disconnect blower switch connector. Check for continuity at specified terminals. See appropriate TESTING BLOWER SPEED CONTROL SWITCH table. See appropriate Figs. 10 through 13. If continuity is not as specified, replace heater control assembly.

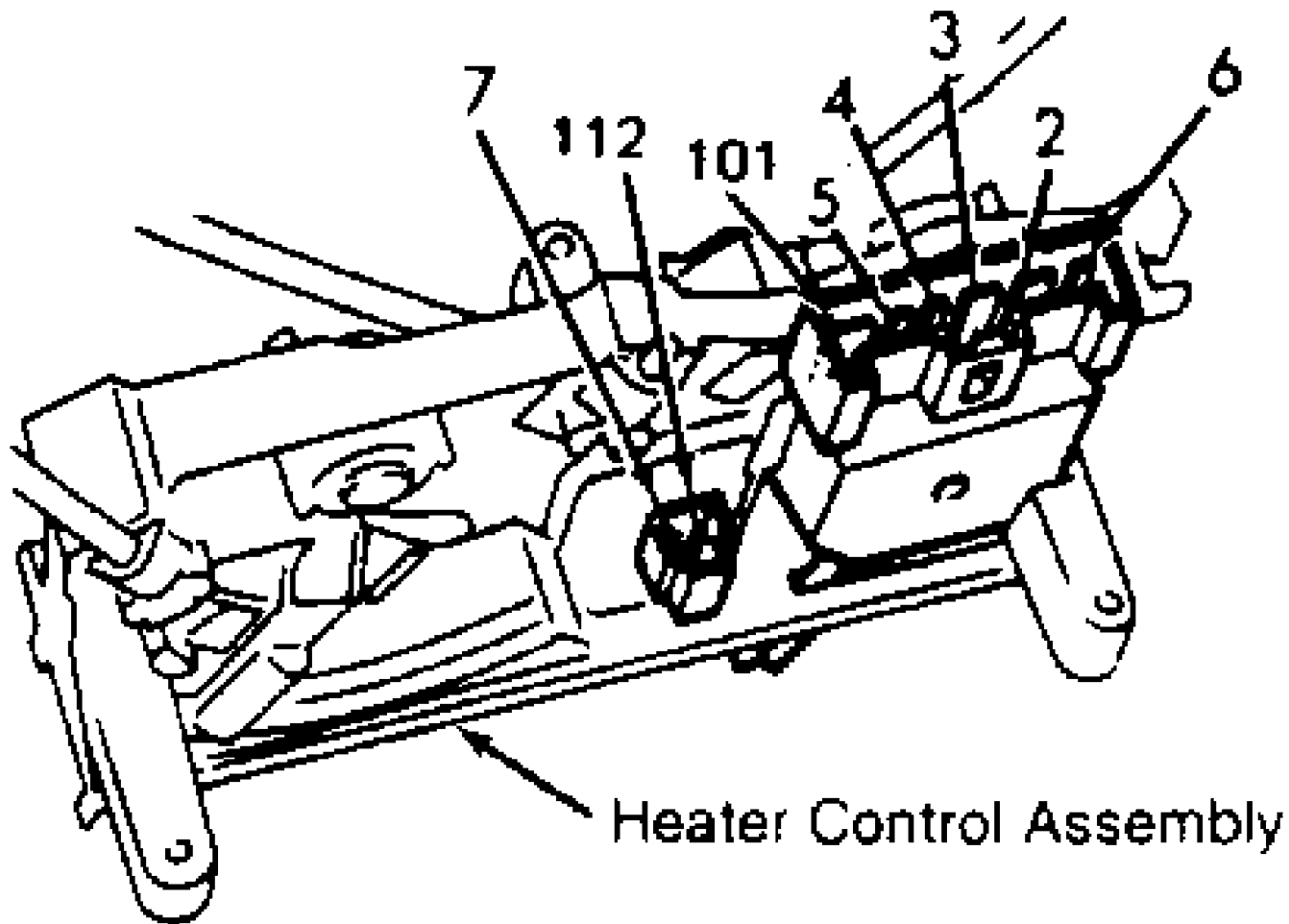
#### TESTING BLOWER SPEED CONTROL SWITCH (AXXESS)

Switch Position	Continuity Between Terminals
OFF	(1)
1	5, 101 & 6 (2) 7 & 112
2	4, 101 & 6 (2) 7 & 112
3	3, 101 & 6

4 ..... (2) 7 & 112  
 2, 101 & 6  
 (2) 7 & 112

(1) - No continuity.  
 (2) - Terminals No. 7 and 112 are for illumination.

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**Heater Control Assembly**

Fig. 10: Blower Switch Connector Terminal ID (Axxess)  
 Courtesy of Nissan Motor Co., U.S.A.

TESTING BLOWER SPEED CONTROL SWITCH (PICKUP)

Switch Position	Continuity Between Terminals
OFF	(1)
1	2, 5 & 6 (2) 7 & 8
2	3, 5 & 6 (2) 7 & 8
3	4, 5 & 6

4 ..... (2) 7 & 8  
 1, 5 & 6  
 (2) 7 & 8

(1) - No continuity.  
 (2) - Terminals No. 7 and 8 are for illumination.

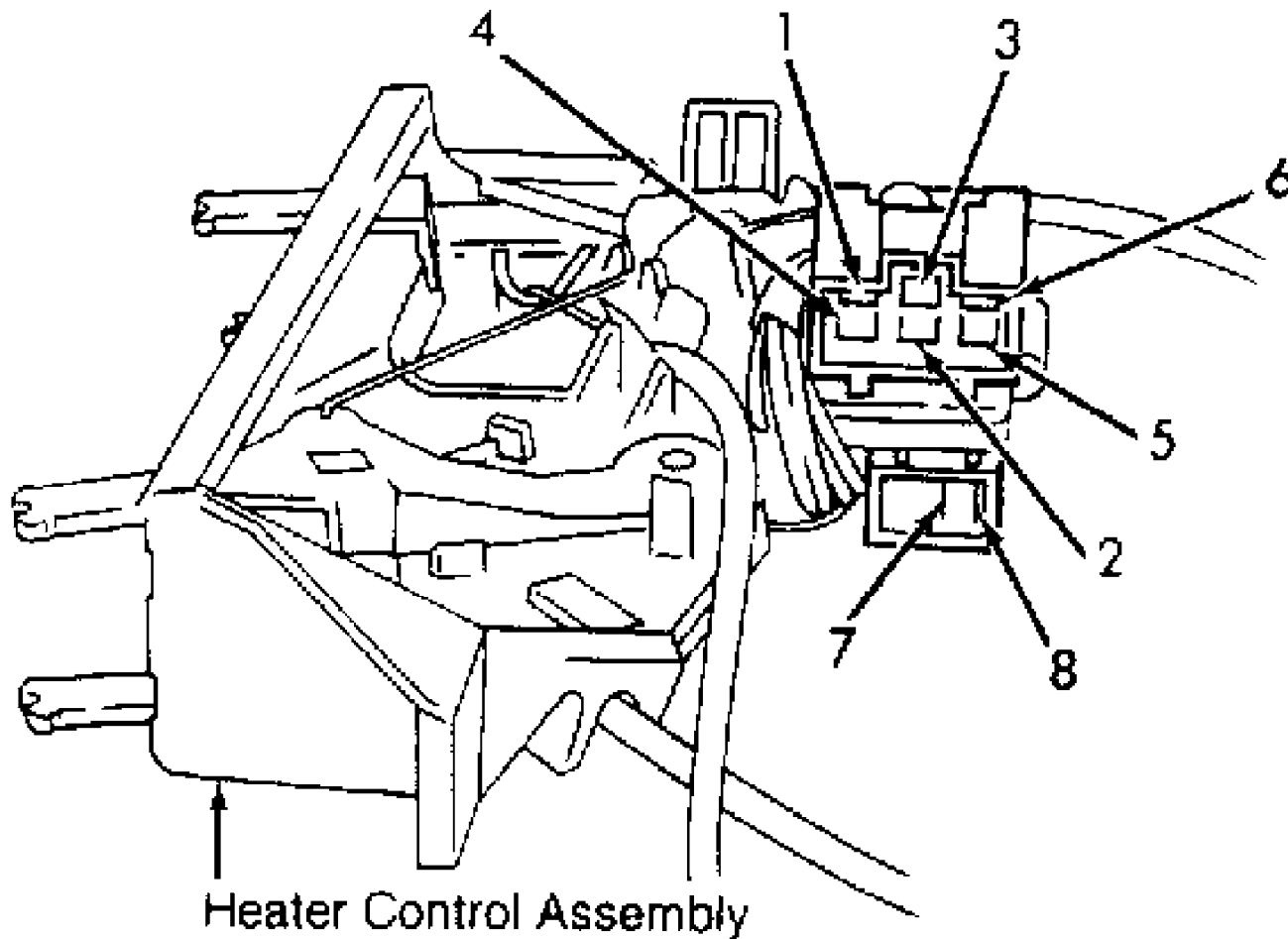


Fig. 11: Blower Switch Connector Terminal ID (Pickup)  
 Courtesy of Nissan Motor Co., U.S.A.

TESTING BLOWER SPEED CONTROL SWITCH (PULSAR NX & SENTRA)

Switch Position	Continuity Between Terminals
OFF	(1)
1	2, 5, 6 & 7 (2) 8 & 9
2	3, 5, 6 & 7 (2) 8 & 9
3	4, 5, 6 & 7 (2) 8 & 9
4	4, 5, 6 & 7 (2) 8 & 9

(1) - No continuity.  
 (2) - Terminals No. 8 and 9 are for illumination.

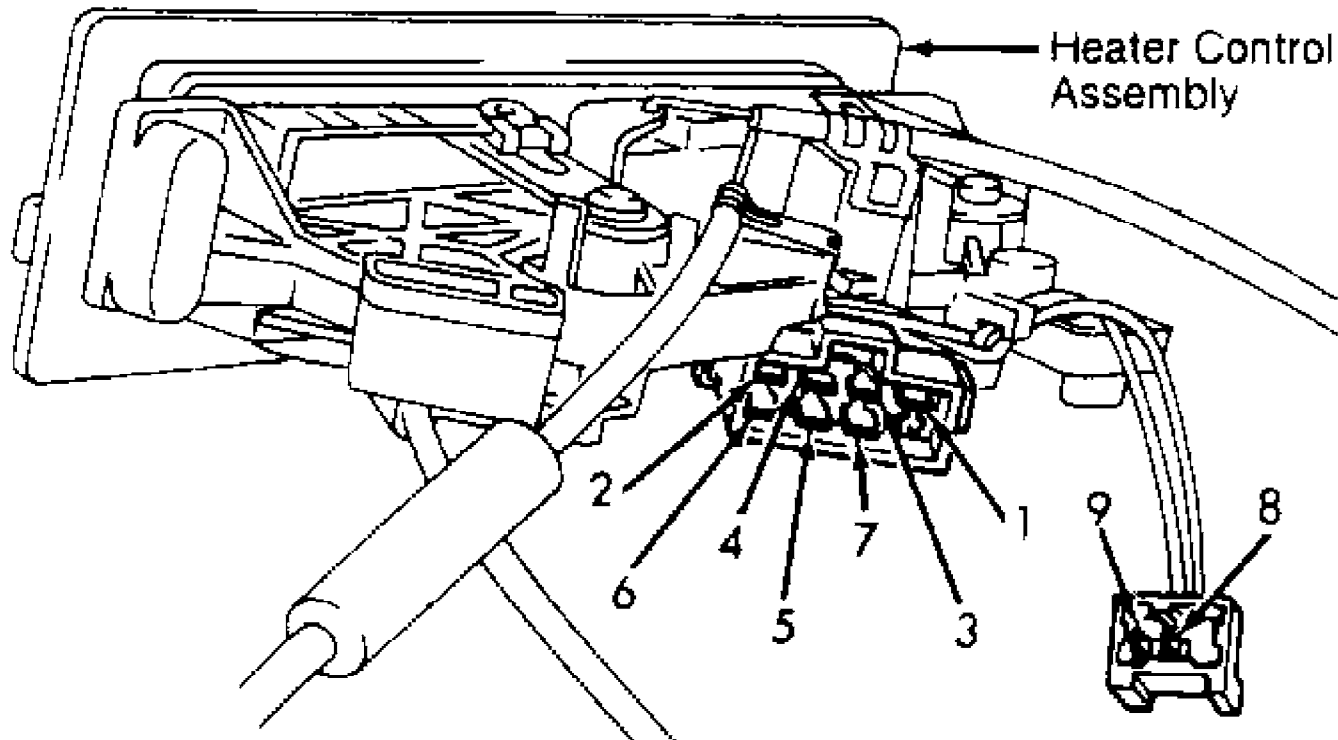
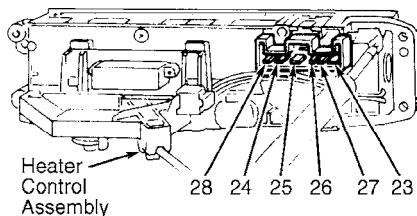


Fig. 12: Blower Switch Connector Terminal ID (Pulsar NX & Sentra)  
 Courtesy of Nissan Motor Co., U.S.A.

TESTING BLOWER SPEED CONTROL SWITCH (STANZA & 240SX)

Switch Position	Continuity Between Terminals
OFF	(1)
1	27, 23 & 28
2	26, 23 & 28
3	25, 23 & 28
4	24, 23 & 28

(1) - No continuity.



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 Fig. 13: Blower Switch Connector Terminal ID (Stanza & 240SX)  
 Courtesy of Nissan Motor Co., U.S.A.

**TROUBLE SHOOTING**

## **NO HOT AIR**

Check for the following conditions: malfunctioning engine coolant thermostat, plugged heater core, low coolant level, malfunctioning blend-air door and heater valve not opening.

## **NO AIRFLOW TO FLOOR**

Check for the following conditions: blower motor speed too low, poor electrical connection, blower switch or resistor faulty, and malfunctioning floor air door or floor air door actuator.

## **LOW AIRFLOW TO DEFROSTER**

Check for the following conditions: malfunctioning floor/defroster door, faulty door seal, plugged defroster nozzle, leaking duct-to-nozzle connection, and malfunctioning defroster door actuator.

## **HOT AIR AT ALL TIMES**

Check for the following conditions: heater valve not closing, malfunctioning mode door, and faulty mode door seal.

## **NO BLOWER MOTOR OPERATION**

Check for the following conditions: blown fuse or melted fusible link, electrical lead to motor disconnected, defective fan switch, defective blower motor, defective resistor, and defective blower relay (some models).

## **CONTROL LEVER DIFFICULT TO OPERATE**

Check for the following conditions: inner wire rubbing on outer case end, cable kinked or bent, and doors or lever sticking.

## **OUTSIDE AIR ENTERING WHEN FAN IS OFF**

Check for the following conditions: air intake door misadjusted, control cable misadjusted, and malfunctioning actuator of air intake door.

## **BLOWER MOTOR/FAN NOISE**

Check for the following conditions: loose bolt or foreign objects in blower fan, and broken blower fan blade(s).

## **REMOVAL & INSTALLATION**

### **AIR BAG WARNING**

**WARNING:** To avoid accidental air bag deployment, see AIR BAG DEACTIVATION under SERVICING PRECAUTIONS in this article.

### **BLOWER MOTOR**

**NOTE:** Heater assembly removal and installation procedures are not available from the manufacturer. Exploded view of heater assemblies for Axxess, Pulsar NX, Sentra, Stanza and 240SX

are provided. See Fig. 14 or 15. Exploded view of heater assembly for Pickup is not available.

**Removal & Installation**

Disconnect battery. Disconnect blower wiring harness connector. Disconnect control cable from air intake door. Remove lower dash trim panel (if necessary). Remove blower motor retaining screws and remove blower motor. To install, reverse removal procedure.

**HEATER CONTROL ASSEMBLY**

**Removal & Installation**

1) Remove heater control bezel (if necessary). Remove radio. Remove control unit retaining screws. Remove control cables by unfastening clamps at door levers. Remove heater control assembly mounting bolts.

2) Disconnect harness connector and remove heater control assembly. To install, reverse removal procedure. Adjust cables and check system operation.

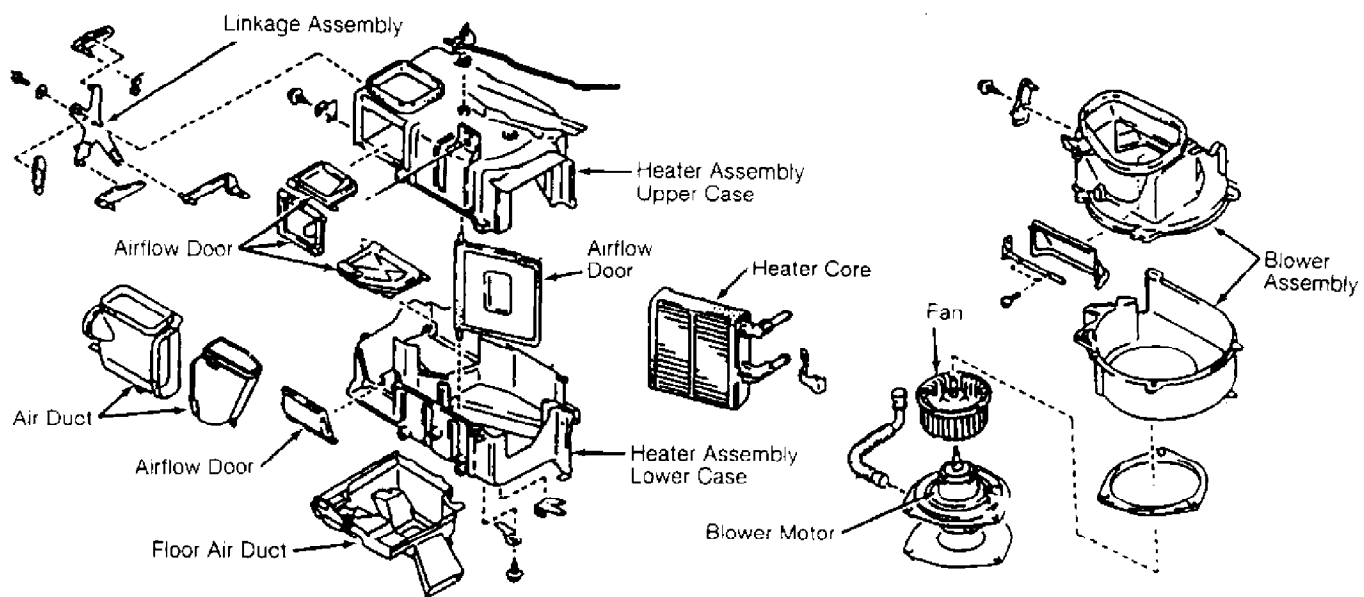


Fig. 14: Exploded View of Heater Assembly (Axxess, Stanza & 240SX)  
 Courtesy of Nissan Motor Co., U.S.A.

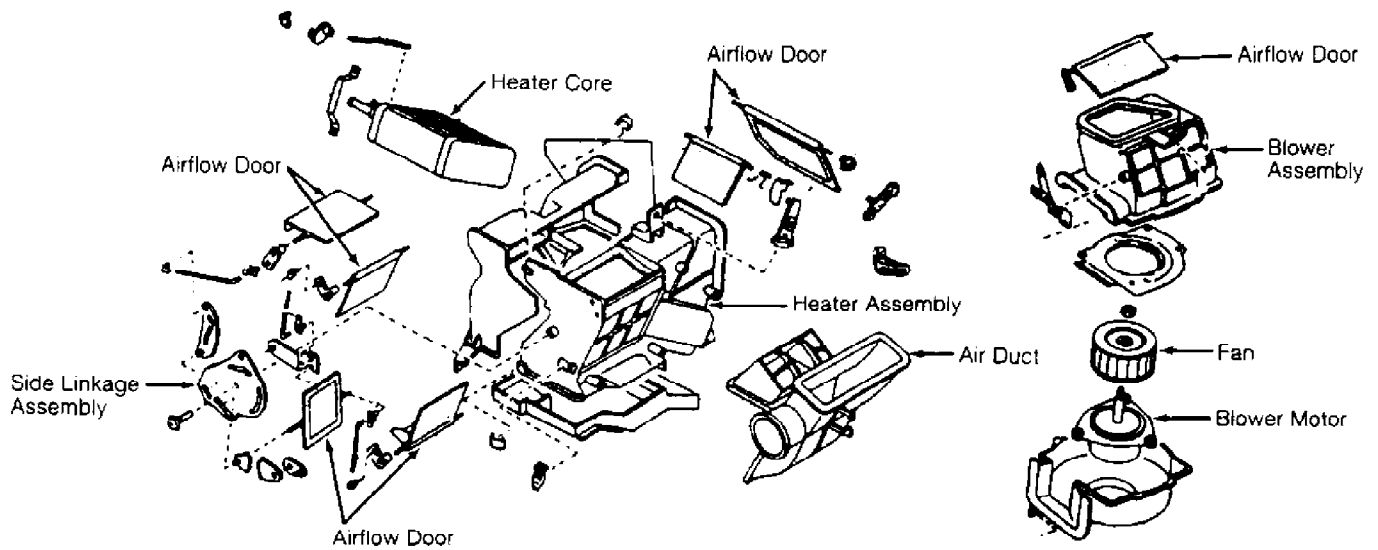


Fig. 15: Exploded View of Heater Assembly (Pulsar NX & Sentra)  
Courtesy of Nissan Motor Co., U.S.A.

**WIRING DIAGRAMS**

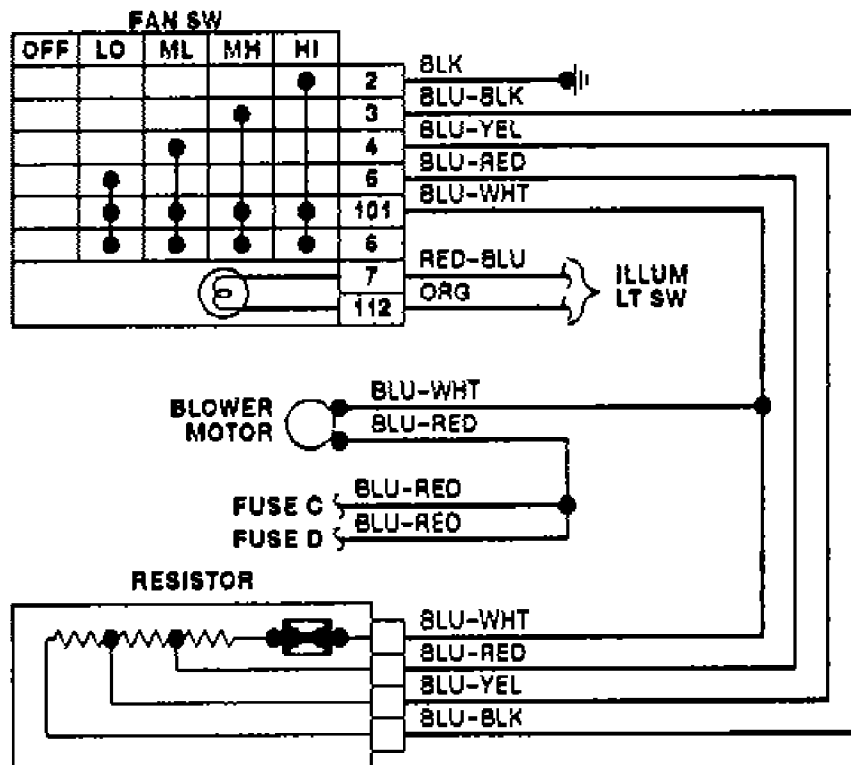


Fig. 16: Heater System Wiring Diagram (Axxess)

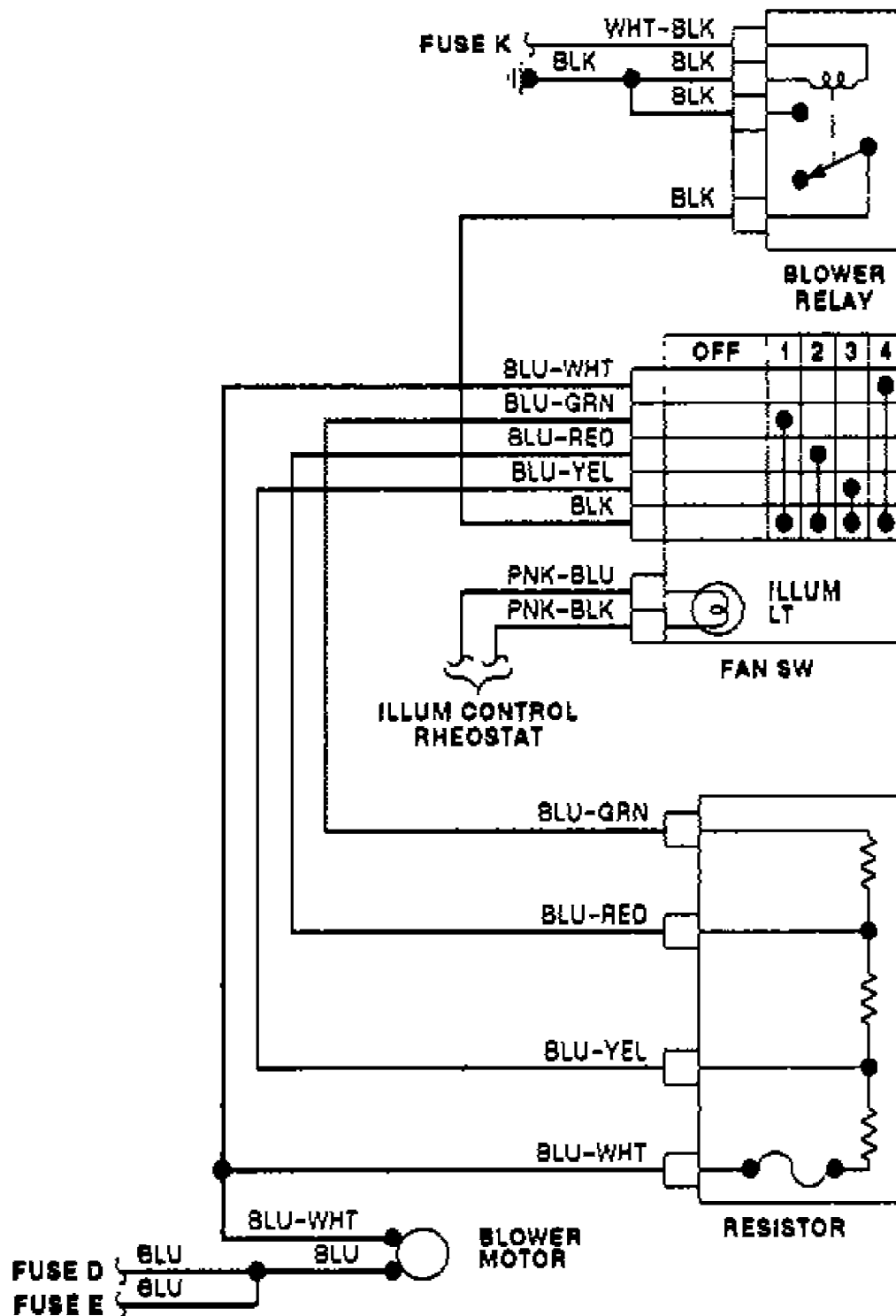


Fig. 17: Heater System Wiring Diagram (Pickup)



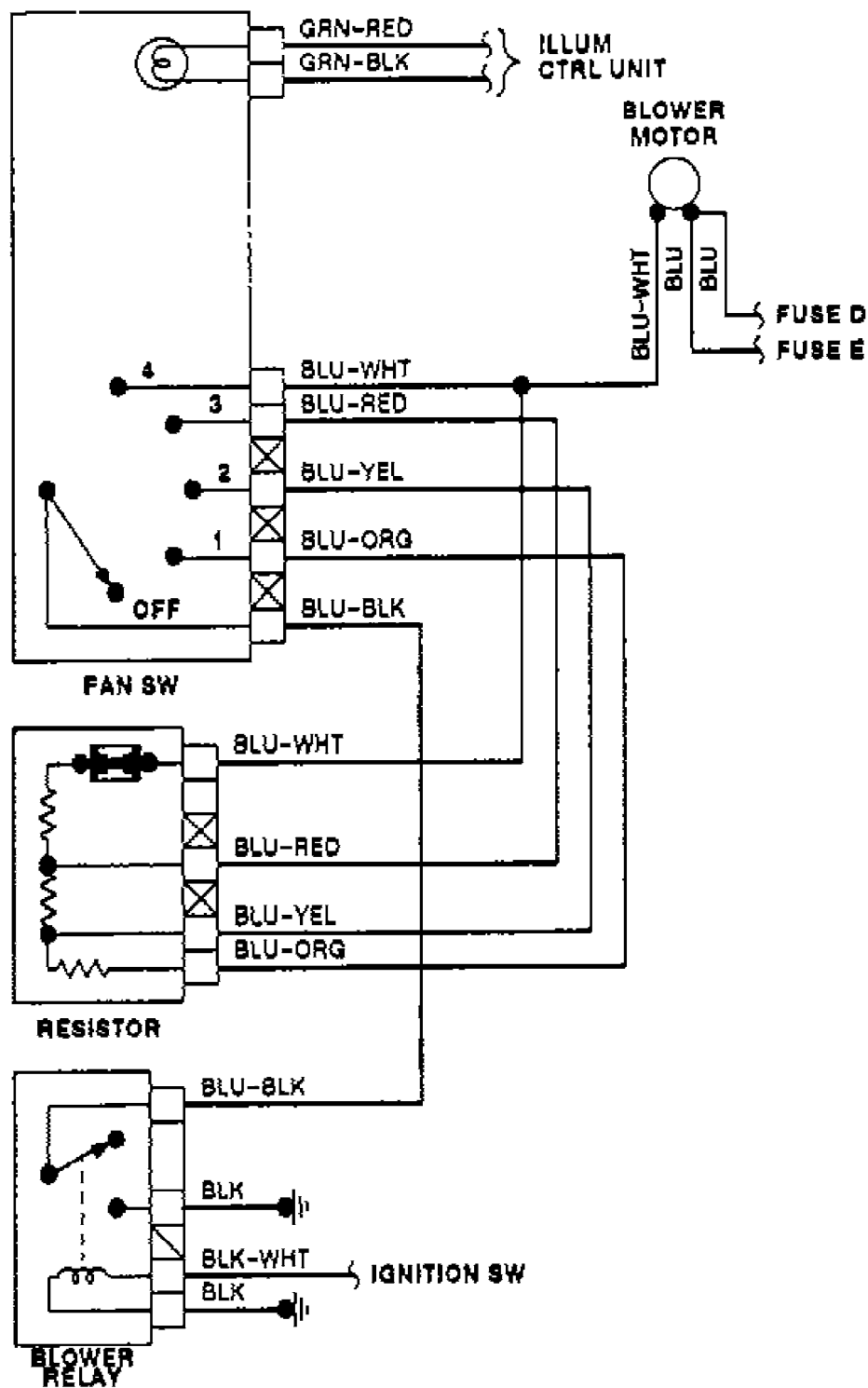


Fig. 18: Heater System Wiring Diagram (Pulsar NX)

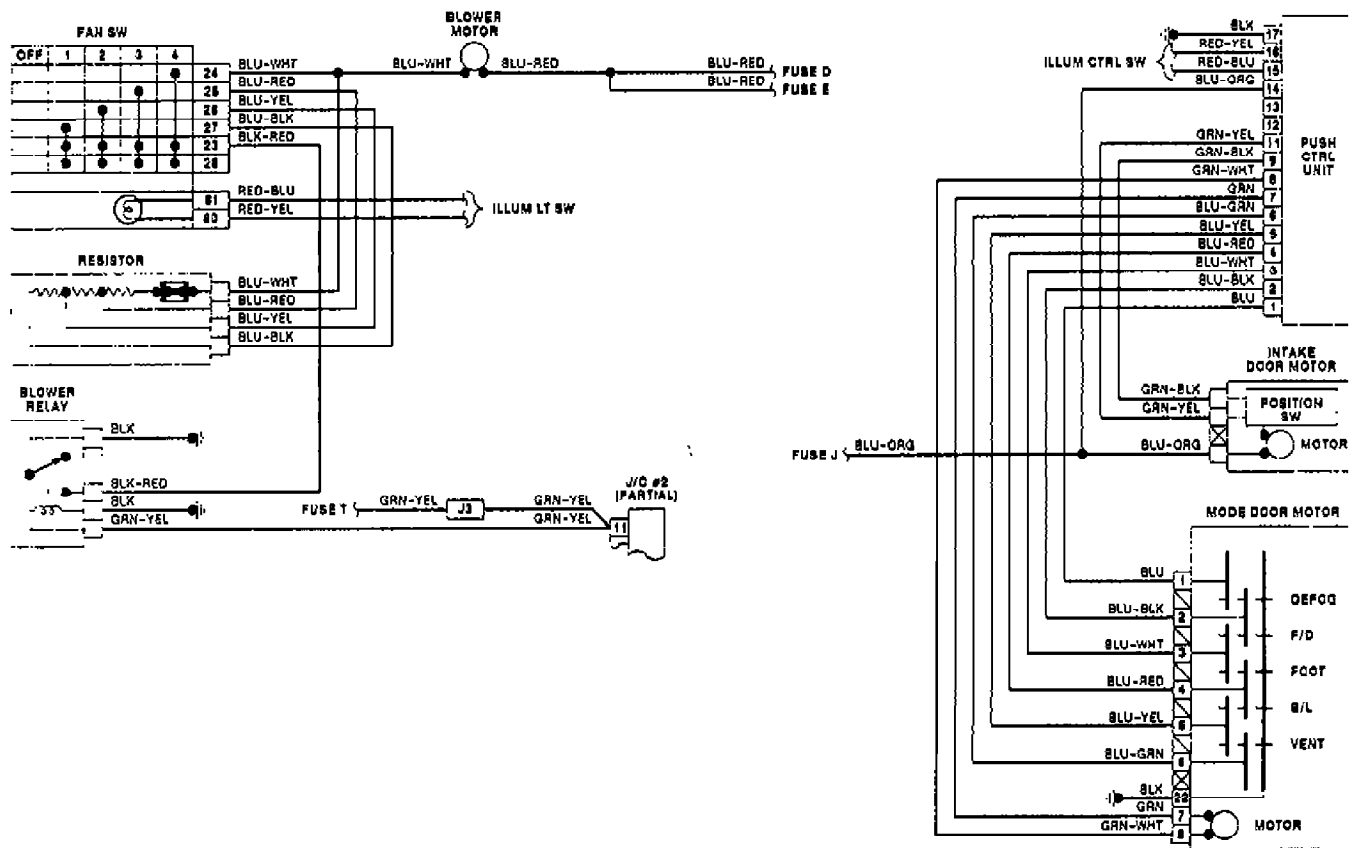


Fig. 19: Heater System Wiring Diagram (Stanza)

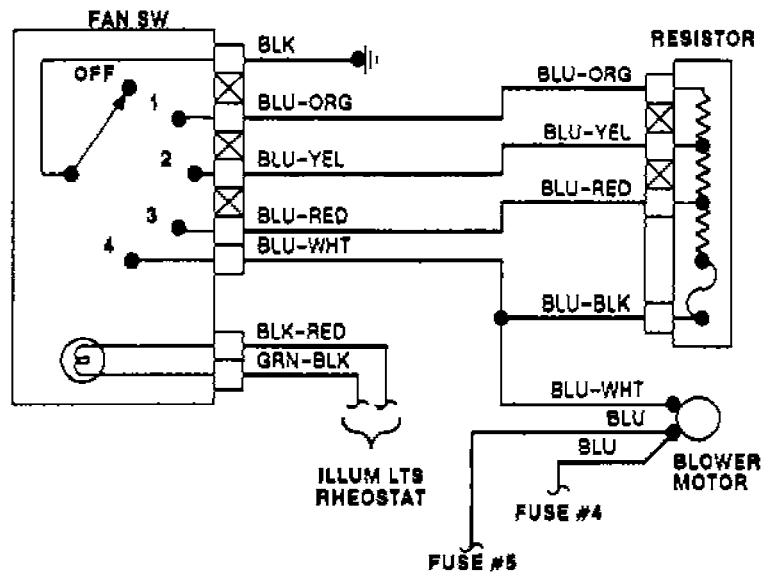


Fig. 20: Heater System Wiring Diagram (Sentra)

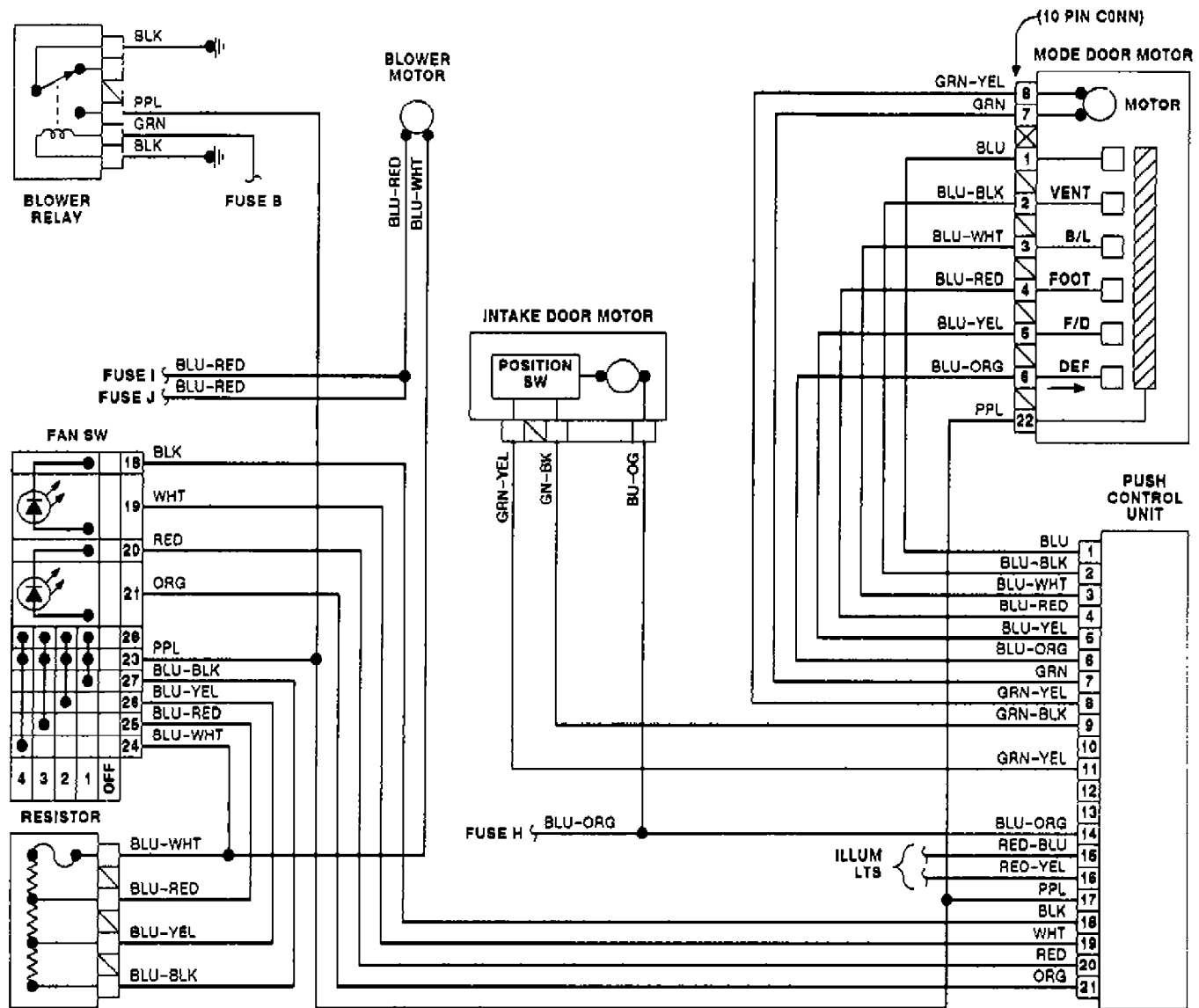


Fig. 21: Heater System Wiring Diagram (240SX)