

1991 Honda Civic Si

1991 MANUAL A/C-HEATER SYSTEMS' 'Civic & CRX

A/C SYSTEM SPECIFICATIONS

SPECIFICATIONS

Application	Specification
Compressor Type	
Matsushita	Matsushita Rotary
Sanden	Sanden Scroll
Compressor Belt Deflection ⁽¹⁾	
Used	5/16-7/16" (8-9.5 mm)
New	9/32-5/16" (7-8 mm)
Refrigerant (R-12) Capacity	30-33 ozs.
System Oil Capacity	4.0-4.4 ozs.
System Operating Pressures	
High Side	320 psi (22.5 kg/cm ²)
Low Side	36 psi (2.5 kg/cm ²)
(1) With 22 lbs. (10 kg) pressure applied to center of belt.	

REFRIGERANT OIL SPECIFICATION

Application	Oz.
Condenser	1/3
Evaporator	1
Receiver	1/3
Compressor	(1)
(1) On compressor replacement, subtract amount of oil drained from old compressor from 5 oz. (on Matsushita compressor) or 4 oz. (on Sanden Compressor). Drain resulting amount from new compressor.	

DESCRIPTION

Air conditioning system is blend-air design. Air enters blower assembly and is directed through condenser assembly and cooled. Air passes through or around heater core to regulate output air temperature. The evaporator assembly is mounted under dash, between blower motor and heater assembly. The A/C system consists of a compressor, condenser, receiver-drier, evaporator and refrigerant lines. See **Fig. 1**.

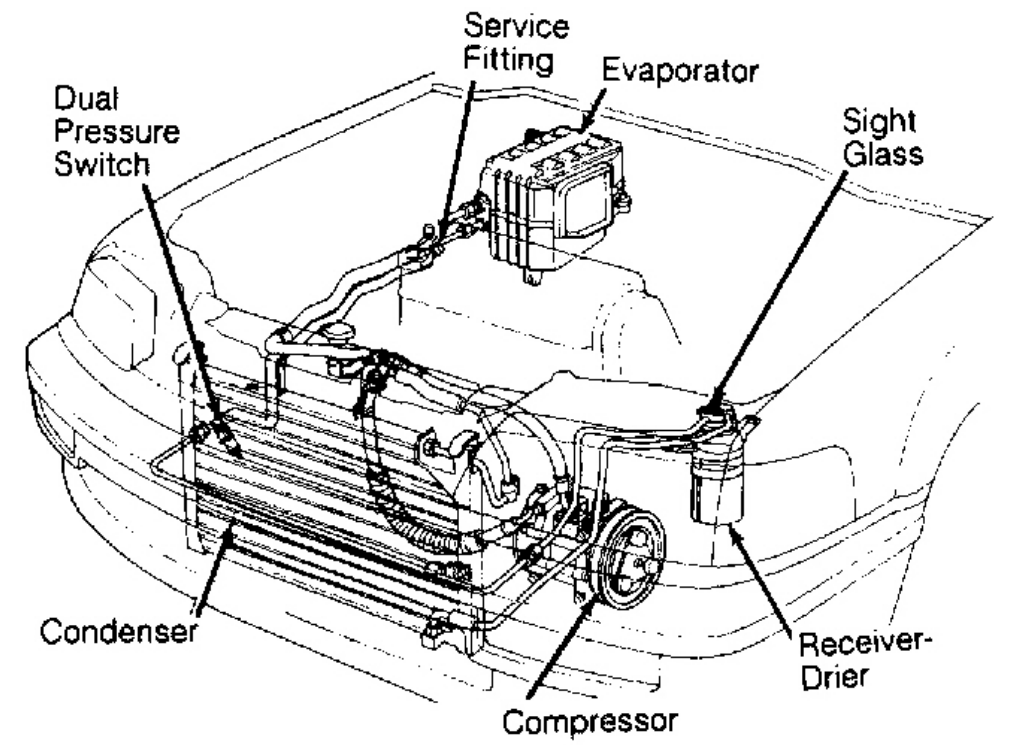


Fig. 1: Locating Manual A/C-Heater System Components
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

SYMPTOM TESTS

A/C COMPRESSOR INOPERATIVE

1. Inspect fuses No. 18 and 38. Replace as necessary. If fuses are okay, disconnect 4-pin connector from compressor clutch relay. Measure voltage between White wire terminal and ground. Turn ignition on. If battery voltage does not exist, repair open in White wire between fuse box and compressor clutch relay.
2. If battery voltage exists, measure voltage between Black/Yellow wire terminal and ground. If battery voltage does not exist, repair open in Black/Yellow wire between fuse box and compressor clutch relay. If battery voltage exists, connect jumper wire between White and Red wire terminals.
3. If compressor clutch engages, go to step 6 . If compressor clutch does not engage, turn ignition off. Reconnect compressor clutch relay connector. Disconnect Red wire terminal, and turn ignition on. Measure voltage between Red wire terminal and ground.
4. If battery voltage does not exist, repair open in Red wire between compressor clutch relay and clutch connector. If battery voltage exists, turn ignition off.
5. Check thermal protector. See **THERMAL PROTECTOR** under COMPONENT TESTS. Replace

thermal protector as necessary. If thermal protector is okay, replace compressor clutch.

6. Turn ignition off. Reconnect compressor clutch relay connector. Turn ignition on. Connect jumper wire between Yellow wire terminal and ground. If compressor clutch does not engage, replace clutch relay.
7. If compressor clutch engages, turn ignition off. Disconnect fuel injection ECU connector. Connect Fuel Injection ECU test harness (07999-PD6000A). Turn ignition on. Connect jumper wire between test harness terminal B3 and ground.
8. If compressor clutch does not engage, repair open in Yellow wire between clutch relay and ECU. If compressor clutch engages, substitute a known good ECU, and recheck. If compressor clutch engages, replace original ECU.

CONDENSER OR RADIATOR FAN INOPERATIVE

1. Turn ignition, blower and A/C switches on. If both fans do not work, go to step 4). If either fan comes on, turn ignition off. Inspect fuses No. 32 and 15. Replace as necessary. If fuses are okay, inspect relay of inoperative fan. Replace as necessary.
2. If relay is okay, disconnect fan motor connector. Turn ignition on. Measure voltage between Blue/Black or Black/Yellow wire terminal (positive side) and Black or Blue wire terminal (negative side). If battery voltage exists, replace fan motor.
3. If battery voltage does not exist, check for continuity between Black or Blue wire terminal and ground. If continuity exists, repair open in Black/Yellow or Blue/Black wire. If continuity does not exist, repair open in Black or Blue wire. Check for bad ground.
4. Inspect fuse No. 15. Replace as necessary. If fuse is okay, turn ignition off. Disconnect dual pressure switch. Connect No. 1 Blue/Red wire to ground. See **Fig. 2** . If both fans do not come on, repair open in Blue/Red wire between diode and dual pressure switch.

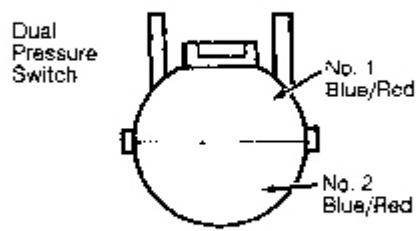


Fig. 2: Identifying Dual Pressure Switch Wires
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

5. If both fans come on, connect jumper wire between No. 1 Blue/Red and No. 2 Blue/Red wire terminals. If both fans come on, replace dual pressure switch. If both fans do not come, remove jumper wire. Reconnect dual pressure switch connector.

6. Disconnect thermostat switch connector. Connect jumper wire between No. 2 Blue/Red wire terminal and ground. See **Fig. 3** . Turn ignition on. If both fans do not come on, repair open in No. 2 Blue/Red wire between dual pressure switch and thermostat switch.
7. If both fans come on, connect a jumper wire between No. 2 Blue/Red and No. 3 Blue/Red wire terminals of thermostat switch connector. If both fans come on, replace thermostat switch. If both fans do not come on, reconnect thermostat switch connector.

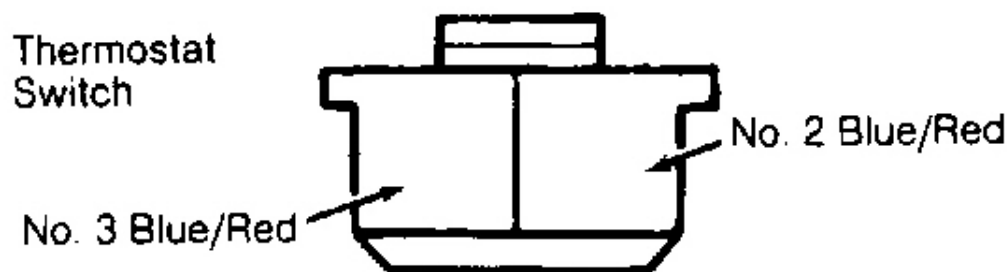


Fig. 3: Identifying Thermostat Switch Wires

Courtesy of AMERICAN HONDA MOTOR CO., INC.

8. Disconnect A/C switch connector. Ground No. 3 Blue/Red wire terminal. If both fans do not come on, repair open in No. 3 Blue/Red wire between thermostat switch and A/C switch. If both fans come on, connect No. 3 Blue/Red and Green wire terminals using jumper wire.
9. If both fans come on, replace A/C switch. If both fans do not come on, test blower switch. See **BLOWER SWITCH** under COMPONENT TESTS. Replace as necessary. If blower switch is okay, reconnect A/C switch connector. Disconnect blower connector.
10. Connect jumper wire between Green wire terminal and ground. If both fans do not come on, repair open in Green wire between blower switch and A/C switch. If both fans come on, repair open in Black wire between blower switch and ground. Check for bad ground.

COMPRESSOR & EITHER COOLING FAN INOPERATIVE

1. Inspect fuses No. 38, 15 and 18. Replace as necessary. If fuses are okay, disconnect dual pressure switch. Turn on blower and A/C switches. Start engine. Connect jumper wire between No. 1 Blue/Red wire terminal and ground. If compressor and both fans do not run, repair open in No. 1 Blue/Red wire between dual pressure switch and A/C diode.
2. Connect jumper wire between No. 1 Blue/Red and No. 2 Blue/Red wire terminals if compressor and both fans run. See **Fig. 2** . If compressor and both fans run, replace dual pressure switch. If compressor and both fans do not run, reconnect dual pressure switch.
3. Disconnect thermostat switch. Connect jumper wire between No. 2 Blue/Red wire terminal and ground. If

compressor and both fans do not run, repair open in No. 2 Blue/Red wire between dual pressure and thermostat switches. If the compressor and both fans run, connect a jumper wire between No. 2 and No. 3 Blue/Red wire terminals. See **Fig. 3**.

4. If compressor and both fans run, replace thermostat switch. If compressor and both fans do not run, turn ignition off. Reconnect thermostat switch connector. Disconnect A/C switch connector. Connect jumper wire between No. 3 Blue/Red wire terminal and ground.
5. Start engine. If compressor and both fans do not run, repair open in No. 3 Blue/Red wire between thermostat and A/C switches. If compressor and both fans run, connect jumper wire between Blue/Red and Green wire terminals. If compressor and both fans do not run, go to next step. If compressor and both fans run, test A/C switch. See **A/C SWITCH** under COMPONENT TESTS. Replace A/C switch if necessary.
6. If A/C switch is okay, reconnect A/C switch connector. Turn A/C switch to ON position. Disconnect blower switch connector. Connect jumper wire between Green wire terminal and ground. If compressor and both fans do not run, repair open in Green wire between blower switch and A/C control panel.
7. If compressor and both fans run, turn ignition off. Check for continuity between Black wire terminal and ground. If continuity exists, replace blower switch. If continuity does not exist, repair open in Black wire between blower switch and ground. Check for bad ground.

COMPONENT TESTS

A/C RELAY

Check for continuity between terminal "A" and terminal "B". See **Fig. 4**. Continuity should not exist. Connect 12-volt source across terminals "C" and "D". Continuity should exist between terminals "A" and "B". Replace relay if continuity is not as indicated.

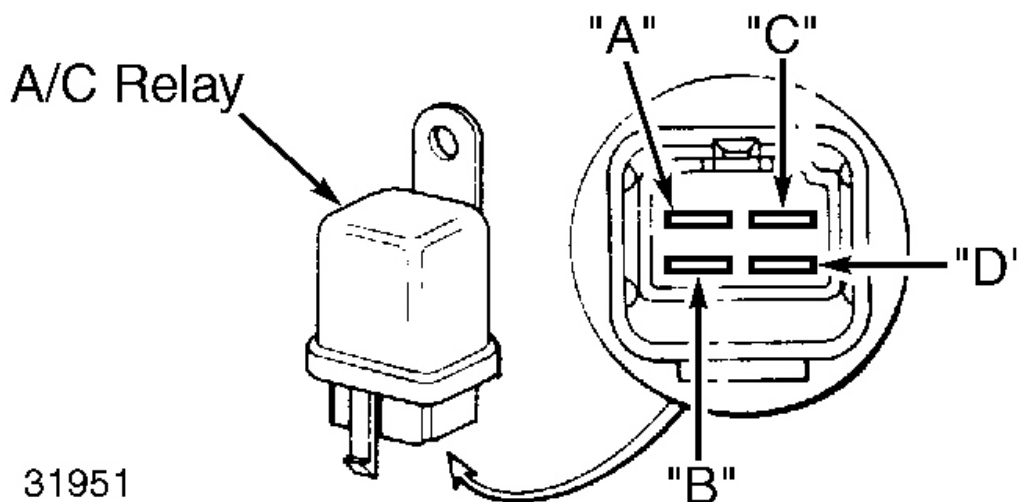
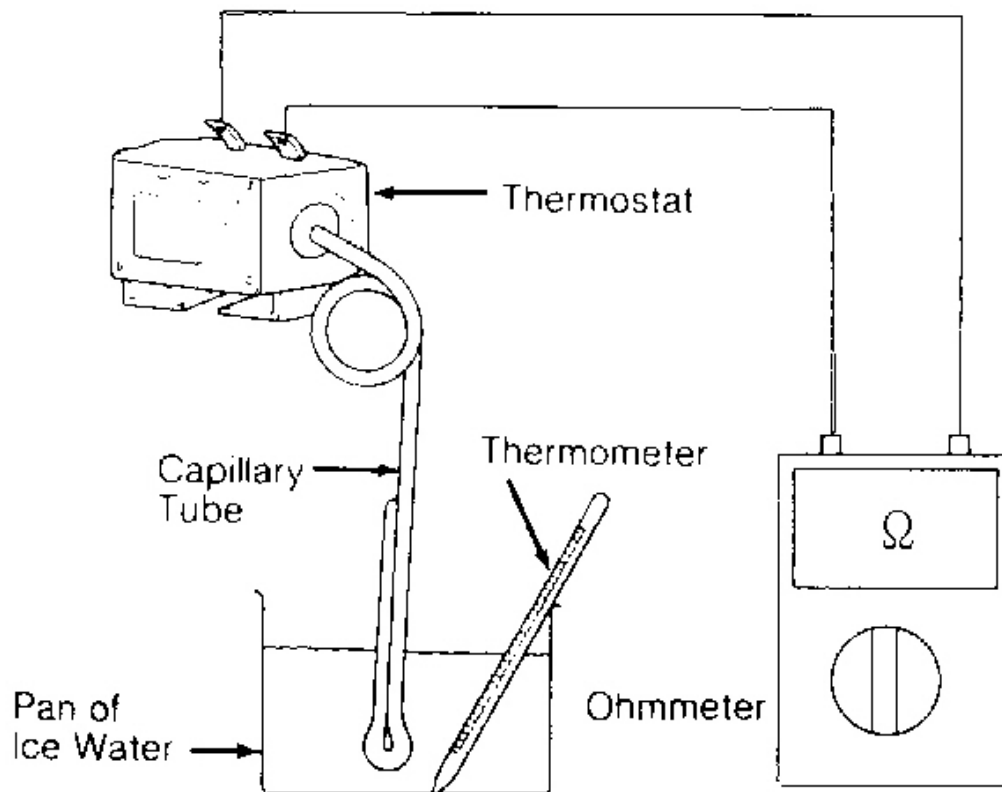


Fig. 4: Testing A/C Relay

Courtesy of AMERICAN HONDA MOTOR CO., INC.

A/C THERMOSTAT

Dip thermostat capillary tube into a pan filled with ice water, and check for continuity. See **Fig. 5**. Thermostat cut-off should be 33-35°F(0.5-1.5°C). Thermostat cut-in should be 36-41°F (2.5-5°C). If cut-off or cut-in temperature is too low or too high, replace thermostat.

**Fig. 5: Testing A/C Thermostat**

Courtesy of AMERICAN HONDA MOTOR CO., INC.

A/C SWITCH

1. Remove A/C switch. With A/C switch in OFF position, continuity should exist between terminals No. 1 and 2. See **Fig. 6**. Continuity should also exist between terminals No. 3 and 5.
2. With A/C switch in ON position, continuity should exist between terminals No. 1 and 2. Continuity

1991 Honda Civic Si

1991 MANUAL A/C-HEATER SYSTEMS' 'Civic & CRX

should also exist between terminals No. 3 and 5 and terminals No. 3 and 4. If switch does not test correctly, replace switch.

1991 Honda Civic Si

1991 MANUAL A/C-HEATER SYSTEMS' Civic & CRX

Terminal No. Position	①	②	③	④	⑤
OFF	○	○	○	○	○
ON	○	○	○	○	○

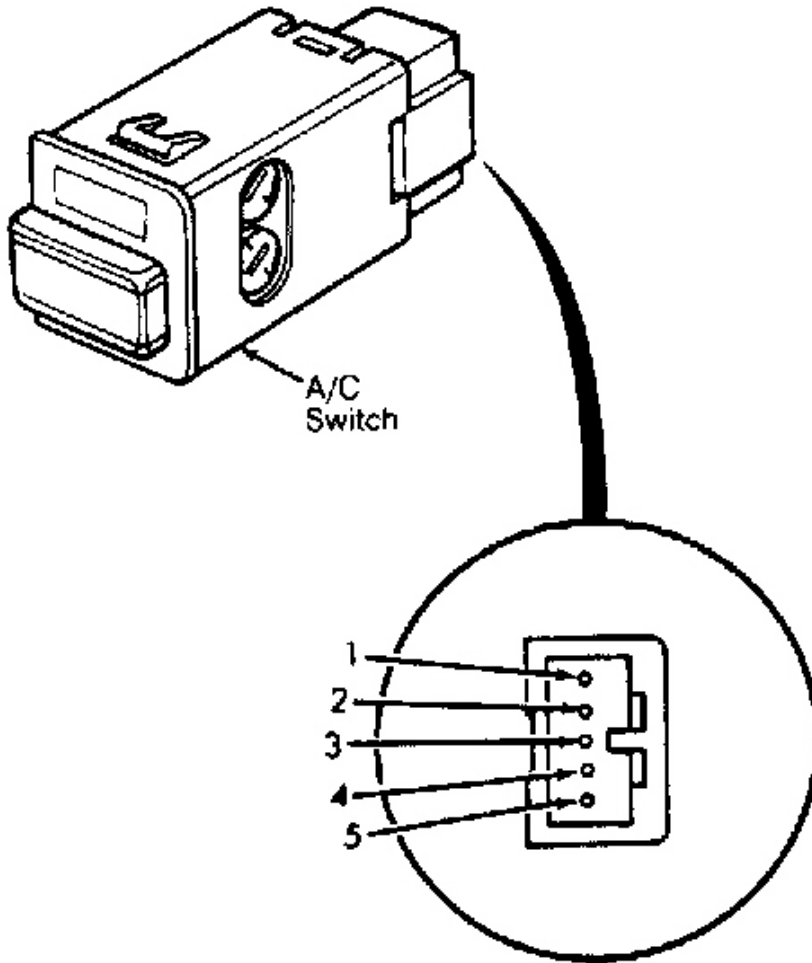


Fig. 6: Testing A/C Switch

Courtesy of AMERICAN HONDA MOTOR CO., INC.

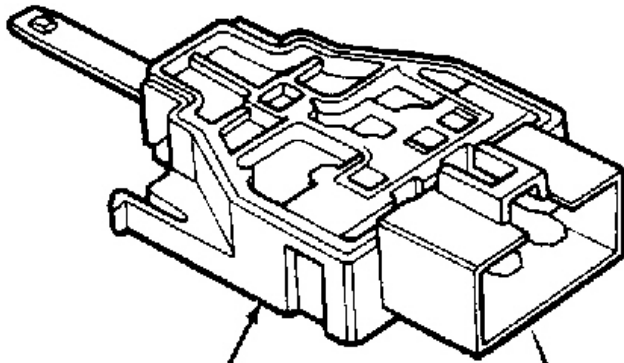
BLOWER SWITCH

1. Remove blower switch. With blower switch in OFF position, continuity should not exist between any terminals. When switch is placed in No. 1 position, continuity should exist between terminals No. 1, 4 and 6. See **Fig. 7** . With switch in No. 2 position, continuity should exist between terminals No. 1, 2 and 6.
2. With switch in No. 3 position, continuity should exist between terminals No. 1, 5 and 6. When switch is placed in No. 4 position, continuity should exist between terminals No. 1, 3 and 6. If switch does not test correctly, replace switch.

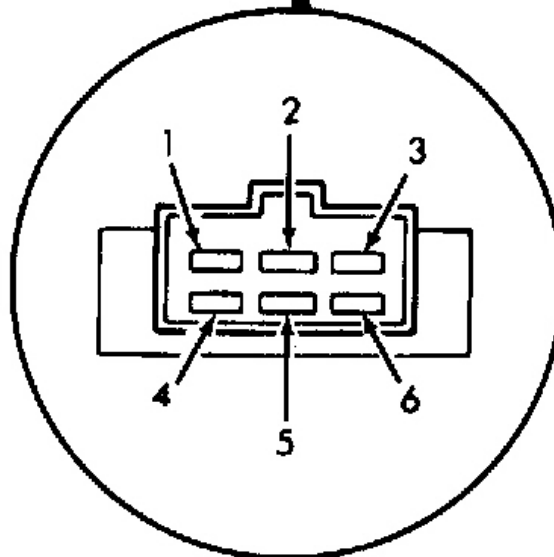
1991 Honda Civic Si

1991 MANUAL A/C-HEATER SYSTEMS' Civic & CRX

Terminal \ Position	1	2	3	4	5	6
OFF						
1	○			○		○
2	○	○				○
3	○				○	○
4	○		○			○



Blower Switch



1991 Honda Civic Si

1991 MANUAL A/C-HEATER SYSTEMS' 'Civic & CRX

Fig. 7: Testing Blower Switch

Courtesy of AMERICAN HONDA MOTOR CO., INC.

THERMAL PROTECTOR

Check continuity between thermal protector terminals. If continuity does not exist, replace thermal protector.

WIRING DIAGRAMS

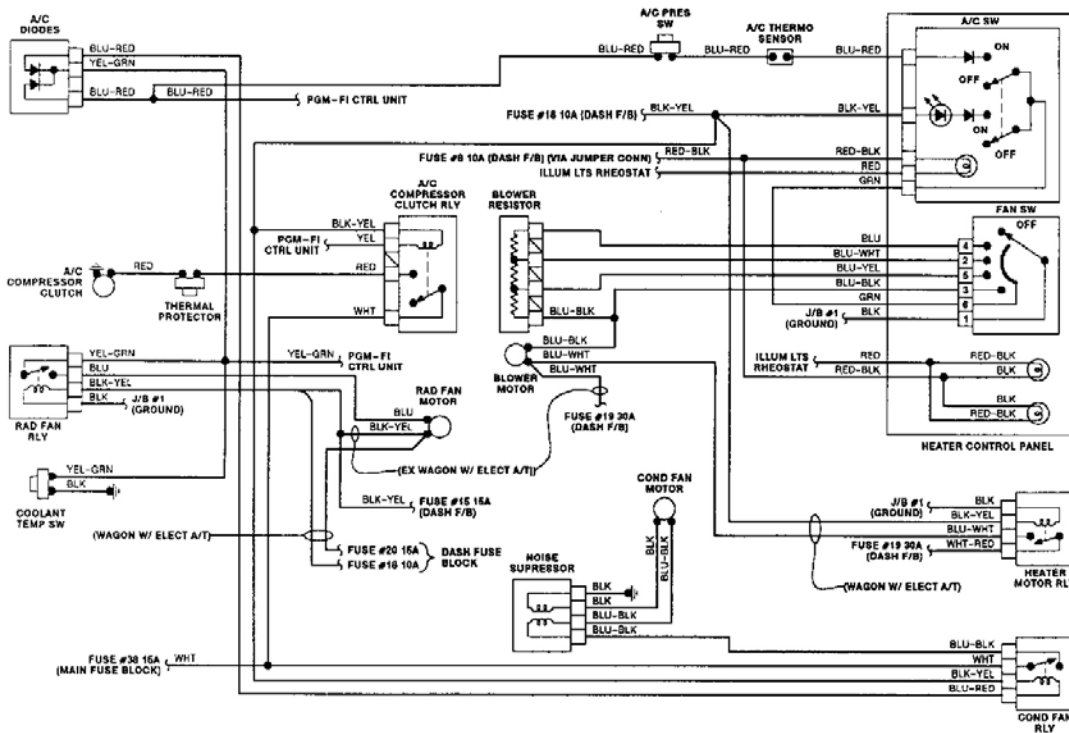


Fig. 8: Manual A/C-Heater System Wiring Diagram (Civic)

1991 Honda Civic Si

1991 MANUAL A/C-HEATER SYSTEMS' 'Civic & CRX

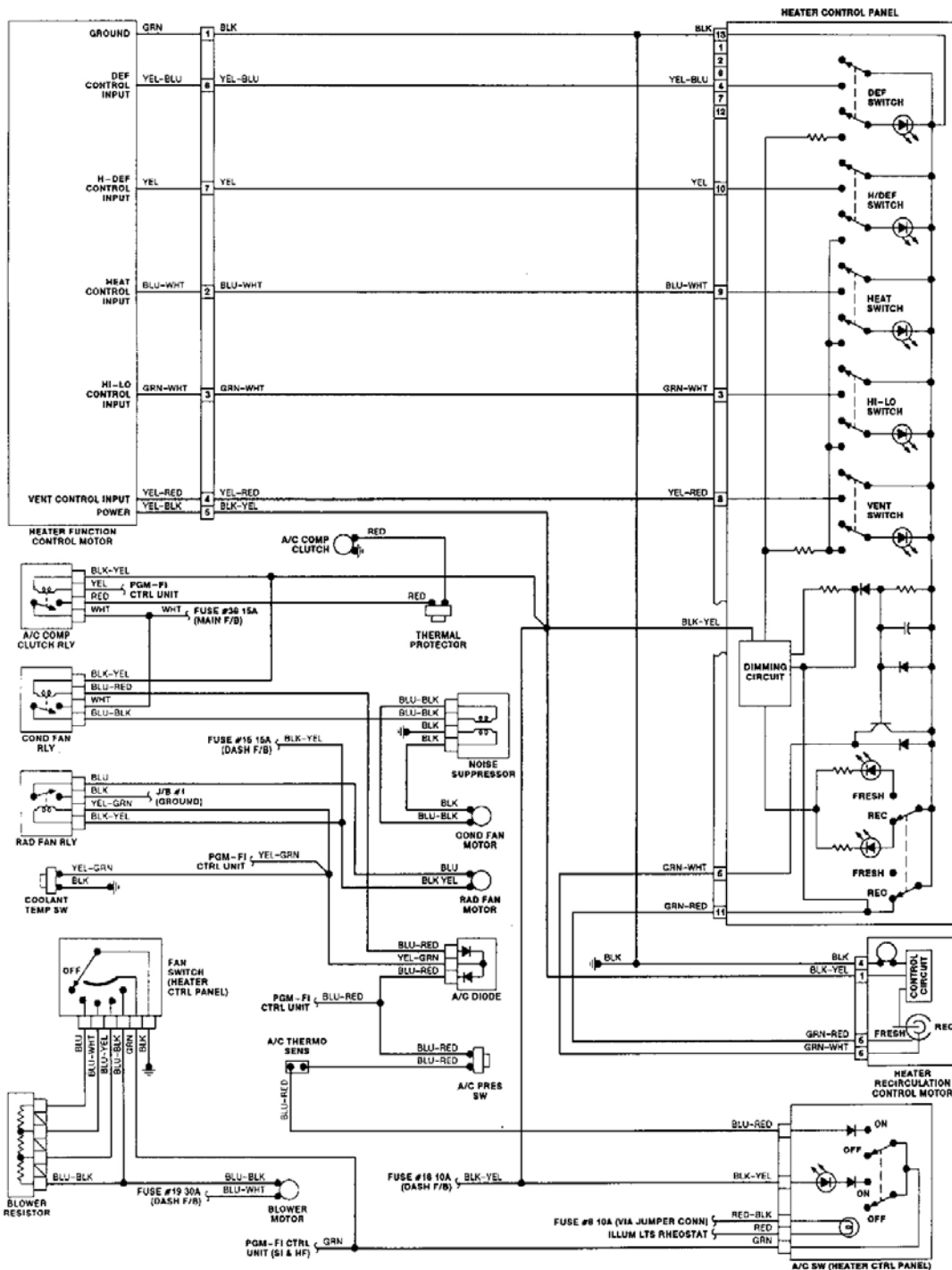


Fig. 9: Manual A/C-Heater System Wiring Diagram (CRX)