ENGINE COOLING FAN
Article Text
1993 Honda Prelude
For Cadi Centre Nsk CA 95051

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ARTICLE BEGINNING

1993 ENGINE COOLING
Honda Motors Engine Cooling Fans

Honda; Prelude

NOTE: For water pump removal procedure, see2.2L 4-CYL & 2.3L 4-CYL article in ENGINES.

ELECTRIC COOLING FAN

NOTE: For wiring circuit information, see appropriate chassis wiring diagram in WIRING DIAGRAMS.

TROUBLE SHOOTING

Cooling & Condenser Fans Do Not Operate
If both fans are not operating, check:

- **Fuses No. 9, 19 and 23 (15-amp) in underdash fuse box.**
- **Coolant temperature switches "A" and "B".**
- **Radiator fan control module.**
- **Ground circuit at condenser fan motor.**
- **Open or loose terminal in both Black/Yellow wire circuits between underdash fuse box and radiator fan timer.**

Only One Fan Operates
If only one fan is operating, check:

- **Fuses No. 33 (50-amp), No. 45 (15-amp) and No. 47 (15-amp) in underhood relay box.**
- **Radiator or condenser fan relay.**
- **Radiator or condenser fan motor.**
- **Ground circuits at radiator fan motor, coolant temperature switch "A" and coolant fan motor.**
- **Open or loose terminal in Blue/Black wire circuit between radiator fan relay and radiator fan motor.**
- **Open or loose terminal in Blue/Yellow wire circuit between condenser fan relay and condenser fan motor.**
- **Open or loose terminal in Blue/Red wire circuit between radiator fan relay, condenser fan relay and coolant temperature switch "A".**

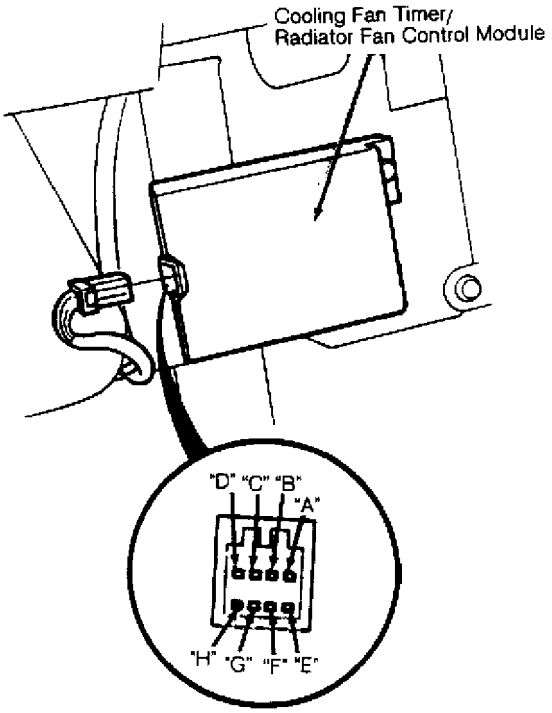
Radiator Fan Control Module Malfunction
If radiator fan control module is not operating properly, check:

* **Fuses No. 33 (50-amp), No. 45 (15-amp) and No. 47 (15-amp) in underhood relay box.**
* **Radiator fan control module.**
* **A/C system.**
* **Ground circuits at coolant temperature switch "B" and radiator fan control module.**
* **Open or loose terminal in White/Yellow wire circuit between radiator fan control module and coolant temperature switch "B".**
* **Open or loose terminal in Blue/Red wire circuit between radiator fan relay, condenser fan relay and coolant temperature switch "A".**
* **Open or loose terminal in Black/Yellow wire circuit between underhood relay box and radiator fan control module.**

COMPONENT TESTING

Radiator Fan Control Module

1) Perform following tests with ignition on and radiator fan control module connected. Any problem should be corrected before advancing through tests. Before performing any tests, check fuses No. 9, 19 and 23 in dash fuse box. Check fuses No. 32, 33, 45 and 47 in underhood fuse/relay box. Use illustration for radiator fan control module terminal identification. See Fig. 1. If all tests are okay, replace radiator fan control module with known good part.



Terminal	Wire	Destination
A	BLK	Ground (G401, G402)
B	YEL/WHT	Condenser fan relay (Coil ⊕)
C	BLK/YEL	Power supply (For radiator fan and condenser fan relays by way of timer unit with ignition switch ON)
D	YEL	Radiator fan relay (Coil ⊕)
E	BLU/RED	Radiator fan and condenser fan relays (Coil ⊖)
F	BLK/YEL	IG1 (Timer reset signal)
G	WHT/GRN	Power supply (For fan timer unit with ignition switch OFF)
H	WHT/YEL	Coolant temperature switch B

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Fig. 1: Identifying Fan Control Module Terminals
Courtesy of American Honda Motor Co., Inc.

2) Check for voltage between terminal "A" (Black wire) and body ground. Voltage should be less than one volt. If result is not within specification, repair open to body ground.

3) Check terminal "G" (White/Green wire) for battery voltage. If battery voltage does not exist, recheck fuse No. 45. If fuse is

okay, repair open in White/Green wire.

NOTE: On Prelude, radiator fan control module has 2 Black/Yellow wires.

4) Check for battery voltage at terminal "F" (Black/Yellow wire). If battery voltage does not exist, recheck fuse No. 19 (without SRS) or fuse No. 23 (with SRS). If fuse is okay, repair open in Black/Yellow wire.

5) Check for battery voltage at terminal "C" (Black/Yellow wire). If battery voltage does not exist, recheck fuse No. 9. If fuse is okay, repair open in Black/Yellow wire.

6) Check for battery voltage at terminal "B" (Yellow/White wire). Check for battery voltage at terminal "D" (Yellow wire). If battery voltage does not exist on both terminals, replace radiator fan control module. Before connecting replacement radiator fan control module, check for continuity between Yellow/White wire and ground using an ohmmeter. Check for continuity between Yellow wire and ground. Continuity should not exist. If continuity exists, DO NOT connect control module.

7) Check for voltage between terminal "E" (Blue/Red wire) and body ground. Condenser fan and radiator fan should come on. If fans do not turn on, check for open in Blue/Red wire between radiator fan control module and condenser fan relay and radiator fan relay. If circuits are okay, check for open in Yellow/White wire between radiator fan control module and condenser fan relay. Also check for open in Yellow wire between radiator fan control module and radiator fan relay. If circuits are okay, test both fan relays.

8) Check for voltage at terminal "H" (White/Yellow wire). With coolant temperature less than 223°F (106°C), voltage should be about 11 volts. If result not within specification, check coolant temperature switch "B". Check for short to body ground. If ground is okay, replace radiator fan control module.

Coolant Temperature Switch "A"

1) Remove coolant temperature switch "A" from thermostat housing. Suspend temperature switch and thermometer in a container with a 50/50 mixture of coolant and water. DO NOT allow thermometer or temperature switch to touch bottom of container. Heat coolant mixture.

2) Check continuity between temperature switch terminals. On 2.2L SOHC and 2.3L engines, with coolant temperature greater than 194-199°F (90-93°C), continuity should exist. With coolant temperature 181-193°F (83-89°C), continuity should not exist.

3) On 2.2L DOHC engine, with coolant temperature greater than 198-208°F (92-98°C), continuity should exist. With coolant temperature 187-197°F (86-91C), continuity should not exist. If readings are not correct, replace switch.

Coolant Temperature Switch "B"

1) Remove coolant temperature switch "B" from thermostat housing.

2) With coolant temperature greater than 217-228°F (103-109°C) for switch "B", continuity should exist. With temperature 204-216°F (96-102°C), continuity should not exist. If readings are not correct, replace switch.

Fan Motor

Unplug 2-pin connector from fan motor. Connect battery power to either fan motor terminal. Connect ground to other fan motor terminal. Replace motor if it fails to run.

Relays

1) Remove radiator and condenser fan relays. On Prelude, both condenser and radiator fan relays are located inside underhood relay box.

2) On all models, connect positive battery power to relay terminal "C" and connect terminal "D" to ground. For terminal identification, see WIRING DIAGRAMS. Continuity should be present between relay terminals "A" and "B". No continuity should be present when battery power is disconnected.

WIRING DIAGRAMS

NOTE: For wiring circuit information, see appropriate wiring diagram.

END OF ARTICLE