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Model Year Start: 2006	Model: RX400H	Prod Date Range: [03/2005 -]
Title: AIR CONDITIONING: AIR CONDITIONING SYSTEM: Heater Water Pump Circuit; 2006 MY RX400H [03/2005 -]		

Heater Water Pump Circuit

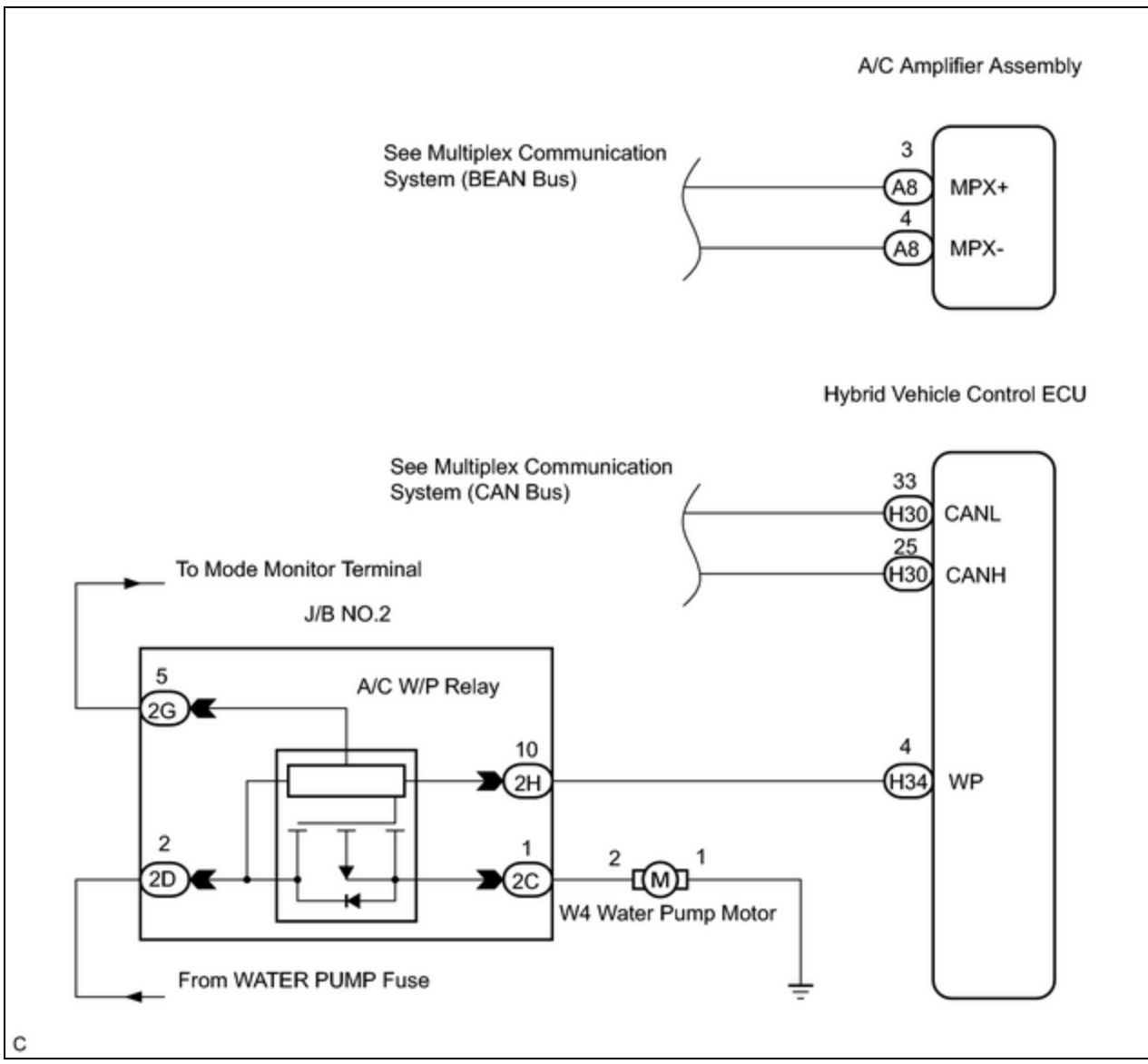
DESCRIPTION

The heater water pump assembly sends engine coolant to the heater core assembly while the engine is stopped to prevent heater effectiveness from becoming low. Directed by the air conditioning amplifier assembly, hybrid vehicle control ECU operates the water pump relay and drives the heater water pump assembly.

System diagram of the power distributor [INFO](#) .

System description of the power distributor [INFO](#) .

WIRING DIAGRAM



INSPECTION PROCEDURE

PROCEDURE

1. PERFORM ACTIVE TEST USING INTELLIGENT TESTER

- (a) Connect the intelligent tester to the DLC3.
- (b) Turn the ignition switch ON and push the intelligent tester main switch on.
- (c) Select the item below in the ACTIVE TEST and check that the relay operates.

ACTIVE TEST / AIR CONDITIONER

ITEM	TEST DETAILS/DISPLAY (RANGE)	DIAGNOSTIC NOTE
WATER PUMP	Water pump / OFF, ON	-

OK:
Heater water pump operates smoothly.

NG ► **GO TO STEP 2**

OK ► **PROCEED TO NEXT CIRCUIT INSPECTION SHOWN IN PROBLEM SYMPTOMS TABLE**

2. PERFORM ACTIVE TEST USING INTELLIGENT TESTER

- (a) Connect the intelligent tester to the DLC3.
- (b) Turn the ignition switch ON and push the intelligent tester main switch on.
- (c) Select the item below in the ACTIVE TEST and check that the water pump operates.

ACTIVE TEST / HYBRID CONTROL SYSTEM

ITEM	TEST DETAILS/DISPLAY (RANGE)	DIAGNOSTIC NOTE
WATER PUMP	Activate the Water Pump / OFF, ON	-

OK:
Heater water pump operates smoothly.

NG ► **GO TO STEP 3**

OK ► **REPLACE AIR CONDITIONING AMPLIFIER ASSEMBLY**

3. INSPECT MODE MONITOR TERMINAL

- (a) Remove the cover of the fusible link block assembly.
- (b) Turn the ignition switch ON.
- (c) Measure the voltage when the conditions are established.
- (1) Perform the ACTIVE TEST by using the intelligent tester.

(2) Operates the heater water pump.

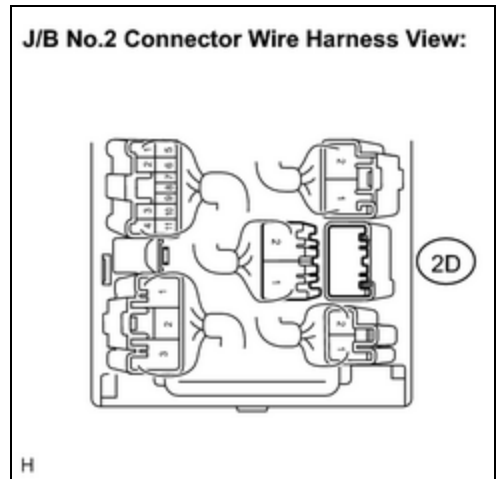
(d) Measure the voltage according to the value(s) in the table below.

RESULT	PROCEED TO
Below 2 V	A
More than 4 V	B

B ► **GO TO STEP 7**

A
▼

4. CHECK HARNESS AND CONNECTOR (J/B NO.2 - BODY GROUND)



(a) Disconnect the connector from J/B No.2 (2D).

(b) Turn the ignition switch ON.

(c) Measure the voltage according to the value(s) in the table below.

Voltage:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
2D-2 - Body ground	Blower switch: ON	10 to 14 V
2D-2 - Body ground	Blower switch: OFF	Below 1 V

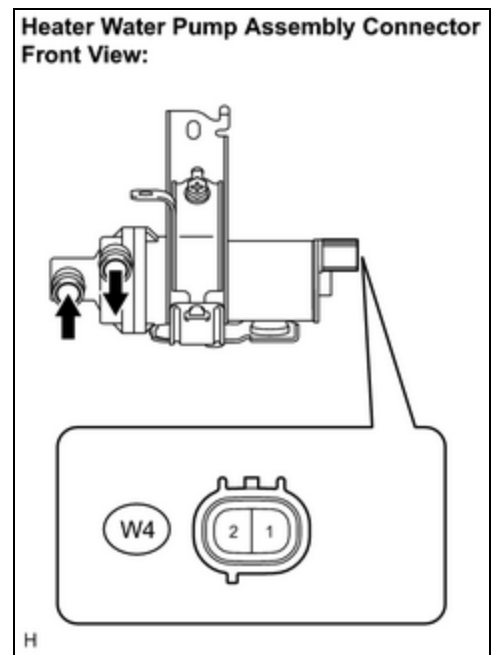
NG ► **REPAIR OR REPLACE HARNESS OR CONNECTOR**

OK
▼

5. INSPECT HEATER WATER PUMP ASSEMBLY

(a) Remove the heater water pump assembly.

(b) Disconnect the connector from the heater water pump assembly.



(c) Connect the positive (+) lead to terminal 2 of the heater water pump assembly connector and the negative (-) lead to terminal 1.

OK:

Heater water pump operates smoothly.

NOTICE:

Complete operation within 10 seconds if there is no water in the heater water pump assembly.

NG ► REPLACE HEATER WATER PUMP ASSEMBLY

OK



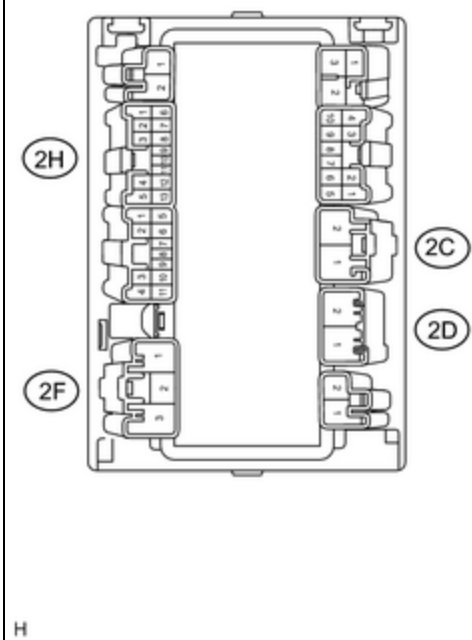
6.	INSPECT J/B NO.2 (A/C W/P RELAY)
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(a) Turn the ignition switch off.

(b) Remove the J/B No.2.

(c) Disconnect the connectors from the J/B No.2.

J/B No.2 Connector Wire Harness View:



(d) Connect the positive (+) lead from the battery to terminal 2D-2 (WPB) and the negative (-) lead to terminal 2H-13 (SGND) and 2F-1 (PGND).

(e) Measure the voltage according to the value(s) in the table below.

Voltage:

TESTER CONNECTION (SYMBOLS)	CONDITION	SPECIFIED CONDITION
2C-1 (WPL) - 2H-13 (SGND)	Always	Below 1 V

(f) Connect the positive (+) lead from battery to terminal 2D-2 (WPB) and the negative (-) lead to terminals 2H-13 (SGND), 2F-1 (PGND) and 2H-10 (WP).

(g) Measure the voltage according to the value(s) in the table below.

Voltage:

TESTER CONNECTION (SYMBOLS)	CONDITION	SPECIFIED CONDITION
2C-1 (WPL) - 2H-13 (SGND)	Always	10 to 14 V

NG ► REPLACE J/B NO.2 (A/C W/P RELAY)

OK ► REPAIR OR REPLACE HARNESS OR CONNECTOR (HEATER WATER PUMP ASSEMBLY - J/B NO.2 OR BODY GROUND)

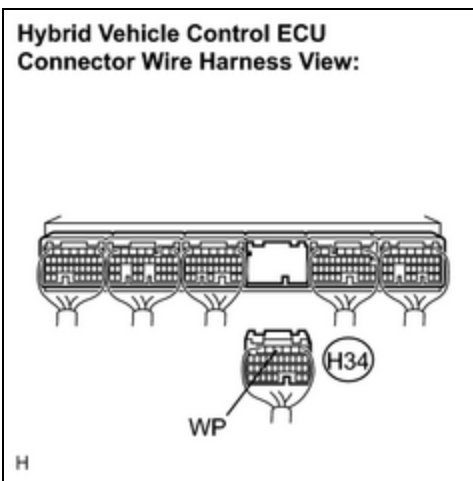
7. CHECK HARNESS AND CONNECTOR (HYBRID VEHICLE CONTROL ECU - BODY GROUND)

(a) Disconnect the connector from the hybrid vehicle control ECU.

(b) Measure the voltage according to the value(s) in the table below.

Voltage:

TESTER CONNECTION (SYMBOLS)	CONDITION	SPECIFIED CONDITION
H34-4 (WP) - Body ground	Ignition switch: ON	10 to 14 V
H34-4 (WP) - Body ground	Ignition switch: OFF	Below 1 V

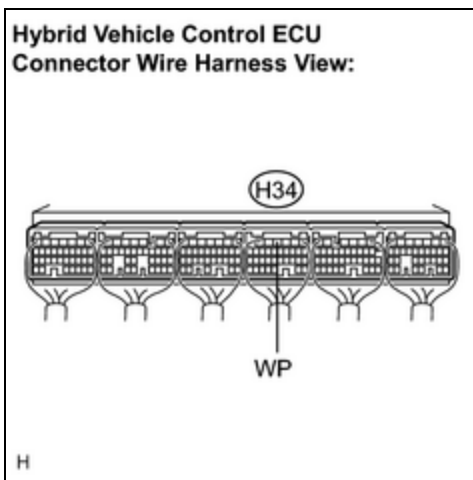


NG ► **GO TO STEP 11**

OK



8.	INSPECT HYBRID VEHICLE CONTROL ECU
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(a) Reconnect the connectors to the hybrid vehicle control ECU.

(b) Turn the ignition switch ON.

(c) Measure the voltage when these conditions are established.

Test conditions:

- (1) Perform the ACTIVE TEST by using the intelligent tester.
- (2) Operates the heater water pump.

(d) Measure the voltage according to the value(s) in the table below.

Voltage:

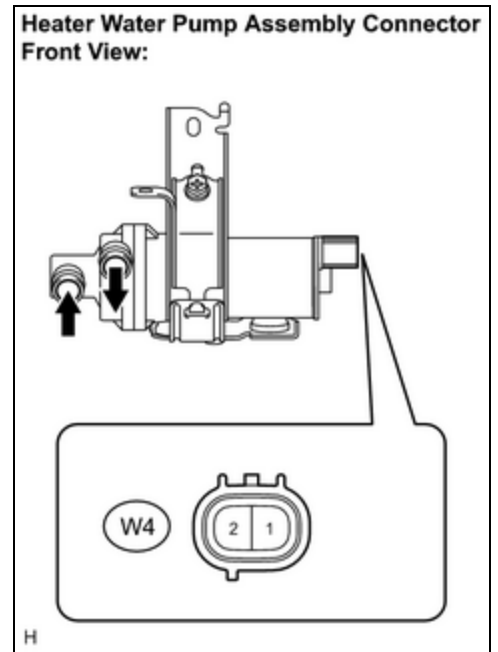
TESTER CONNECTION (SYMBOLS)	CONDITION	SPECIFIED CONDITION
H34-4 (WP) - Body ground	Not operate the heater water pump	10 to 14 V
H34-4 (WP) - Body ground	Operate the heater water pump	Below 1 V

OK
▼

9. INSPECT HEATER WATER PUMP ASSEMBLY

(a) Remove the heater water pump assembly.

(b) Disconnect the connector from the heater water pump assembly.



(c) Connect the positive (+) lead to terminal 2 of the heater water pump assembly connector and the negative (-) lead to terminal 1.

OK:
Heater water pump operates smoothly.

NOTICE:

Complete operation within 10 seconds if there is no water in the heater water pump assembly.

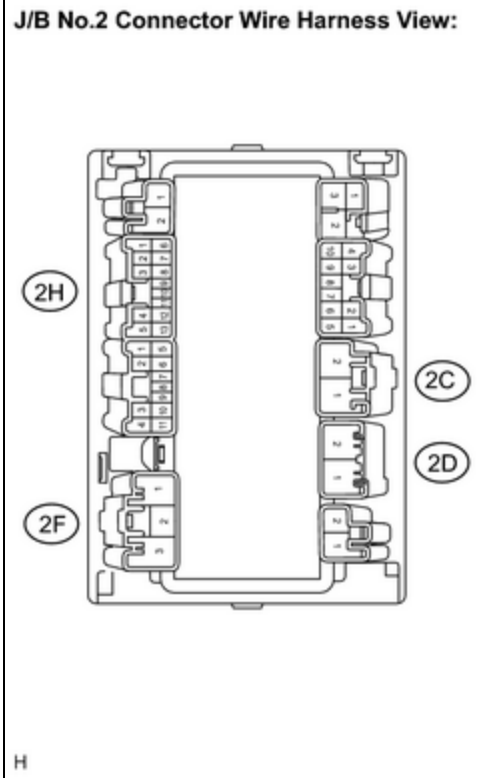
OK
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10. INSPECT J/B NO.2 (A/C W/P RELAY)

(a) Turn the ignition switch off.

(b) Remove the J/B No.2.

(c) Disconnect the connectors from the J/B No.2.



(d) Connect the positive (+) lead from the battery to terminal 2D-2 (WPB) and the negative (-) lead to terminals 2H-13 (SGND) and 2F-1 (PGND).

(e) Measure the voltage according to the value(s) in the table below.

Voltage:

TESTER CONNECTION (SYMBOLS)	CONDITION	SPECIFIED CONDITION
2C-1 (WPL) - 2H-13 (SGND)	Always	Below 1 V

(f) Connect the positive (+) lead from the battery to terminal 2D-2 (WPB) and the negative (-) lead to terminals 2H-13 (SGND), 2F-1 (PGND) and 2H-10 (WP).

(g) Measure the voltage according to the value(s) in the table below.

Voltage:

TESTER CONNECTION (SYMBOLS)	CONDITION	SPECIFIED CONDITION
2C-1 (WPL) - 2H-13 (SGND)	Always	10 to 14 V

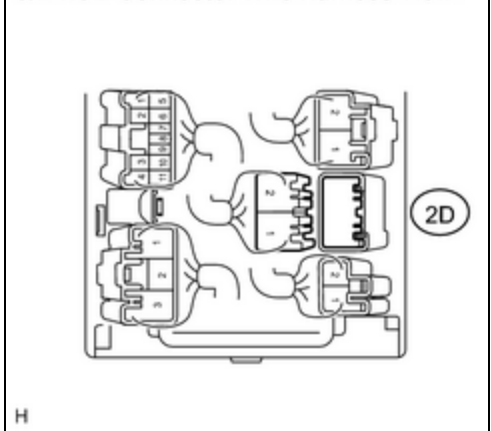
NG ▶ REPLACE J/B NO.2 (A/C W/P RELAY)

OK ▶ REPAIR OR REPLACE HARNESS OR CONNECTOR (HEATER WATER PUMP ASSEMBLY - J/B NO.2 OR BODY GROUND)

11.	CHECK HARNESS AND CONNECTOR (J/B NO.2 - BODY GROUND)
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(a) Disconnect the connector from J/B No.2 (2D).

J/B No.2 Connector Wire Harness View:



(b) Turn the ignition switch ON.

(c) Measure the voltage according to the value(s) in the table below.

Voltage:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
2D-2 - Body ground	Blower switch: ON	10 to 14 V
2D-2 - Body ground	Blower switch: OFF	Below 1 V

NG ► **REPAIR OR REPLACE HARNESS OR CONNECTOR**

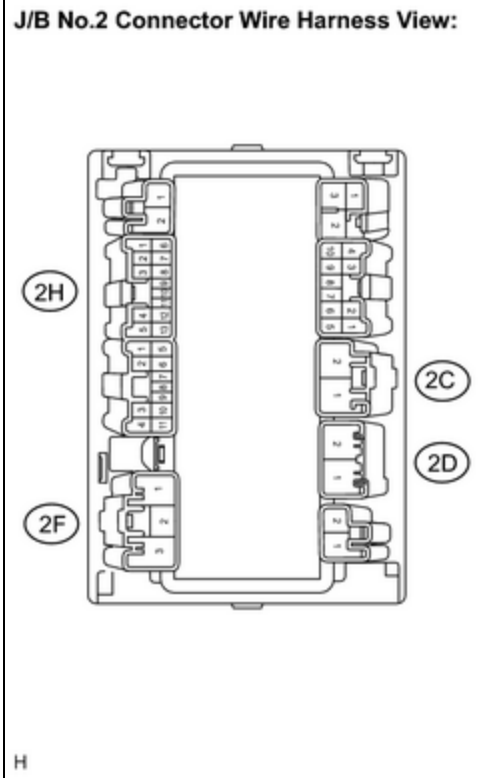
OK
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12.	INSPECT J/B NO.2 (A/C W/P RELAY)
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(a) Turn the ignition switch off.

(b) Remove the J/B No.2.

(c) Disconnect the connectors from the J/B No.2.



(d) Connect the positive (+) lead from the battery to terminal 2D-2 (WPB) and the negative (-) lead to terminals 2H-13 (SGND) and 2F-1 (PGND).

(e) Measure the voltage according to the value(s) in the table below.

Voltage:

TESTER CONNECTION (SYMBOLS)	CONDITION	SPECIFIED CONDITION
2C-1 (WPL) - 2H-13 (SGND)	Always	Below 1 V

(f) Connect the positive (+) lead from battery to terminal 2D-2 (WPB) and the negative (-) lead to terminals 2H-13 (SGND), 2F-1 (PGND) and 2H-10 (WP).

(g) Measure the voltage according to the value(s) in the table below.

Voltage:

TESTER CONNECTION (SYMBOLS)	CONDITION	SPECIFIED CONDITION
2C-1 (WPL) - 2H-13 (SGND)	Always	10 to 14 V

NG ► REPLACE J/B NO.2 (A/C W/P RELAY)

OK ► REPAIR OR REPLACE HARNESS OR CONNECTOR (HEATER WATER PUMP ASSEMBLY - J/B NO.2 OR BODY GROUND)

