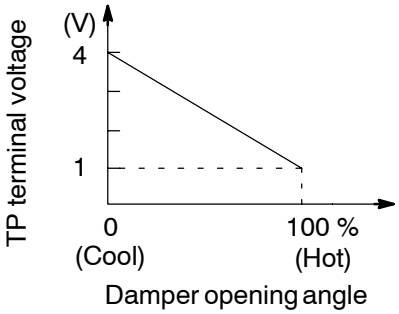
DI90V–01

DTC	RrDEF, REC	Front Air Mix Damper Position Sensor Circuit

DTC	RrDEF, M1	Front Air Mix Damper Position Sensor Circuit

DTC	31, 41	Front Air Mix Damper Position Sensor Circuit

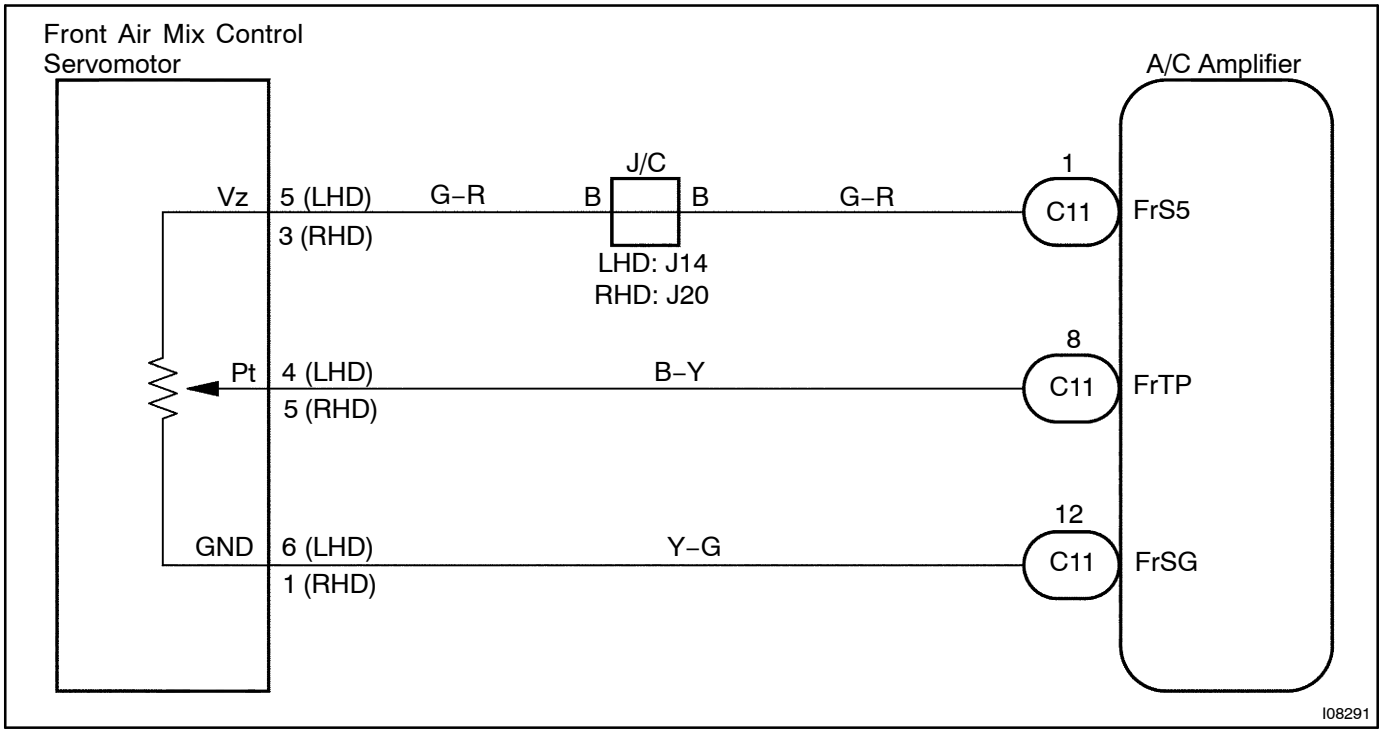
CIRCUIT DESCRIPTION



This sensor detects the position of the air mix damper and sends the appropriate signals to the A/C amplifier.
The position sensor is built into the air mix damper control servomotor assembly.

Blinking light	Detection Item	Trouble Area
RrDEF REC	Short to ground or power source circuit in front air mix damper position sensor circuit.	• Front air mix damper position sensor • Harness or connector between front air mix damper control servomotor assembly and A/C amplifier • A/C amplifier
RrDEF M1	Frint air mix damper position sensor value does not change even if A/C amplifier operates front air mix damper control servomotor.	
DTC No.	Detection Item	Trouble Area
31	Short to ground or power source circuit in front air mix damper position sensor circuit.	• Front air mix damper position sensor. • Harness or connector between front air mix damper control servomotor assembly and A/C amplifier. • A/C amplifier.
41	Front air mix damper position sensor value does not change even if A/C amplifier operates front air mix damper control servomotor.	

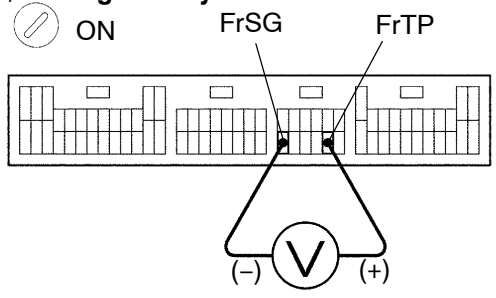
WIRING DIAGRAM



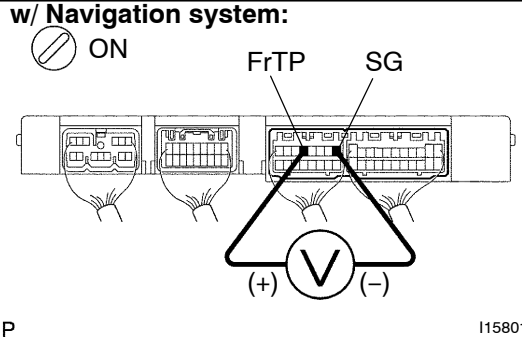
INSPECTION PROCEDURE

1	**Check voltage between terminals FrTP and FrSG (or SG) of A/C amplifier connector.**

w/o Navigation system:



w/ Navigation system:



PREPARATION:

Remove A/C amplifier with connectors still connected.

CHECK:

(a) Turn ignition switch to ON.

(b) Change the set temperature to activate the air mix damper control servomotor and measure the voltage between terminals FrTP and FrSG (or SG) of A/C amplifier connector each time when the set temperature is changed.

OK:

Set Temperature	Voltage
Max. cool	3.5 – 4.5 V
Max. hot	0.5 – 1.5 V

HINT:

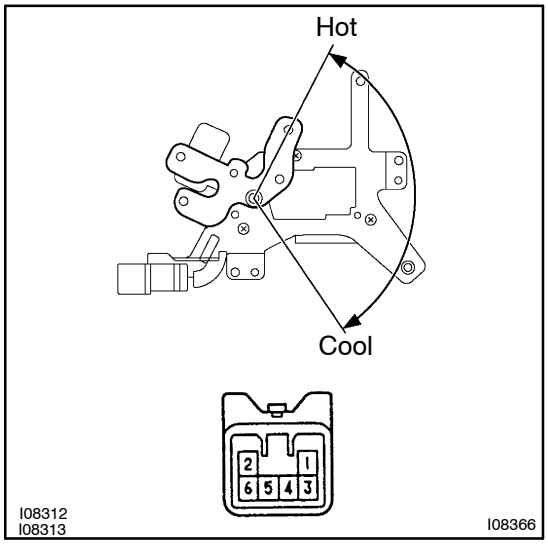
As the set temperature increases, the voltage decreases.

NG	**Go to step 2.**

OK

Proceed to next circuit inspection shown on problem symptoms table (See page DI–130). However, if RrDEF and REC or RrDEF and M1 indicators light up (or DTC 31 or 41 is displayed), check and replace amplifier.

2	**Check air mix damper position sensor.**



PREPARATION:
Remove air mix servomotor.
CHECK:
Measure resistance between terminals 4 and 6 of front air mix damper control servomotor assembly connector.
OK:

Resistance: 4.2 – 7.8 kΩ

CHECK:
While operating front air mix damper control servomotor, following the procedure, measure resistance between terminals 4 and 6 of front air mix damper control servomotor assembly connector.
OK:

Position	Resistance
Max. cool	3.6 – 6.8 kΩ
Max. hot	0.5 – 1.1 kΩ

HINT:
As the front air mix damper control servomotor moves from cool side to hot side, the resistance decreases.

NG → **Replace front air mix damper control servomotor assembly.**

OK

3	**Check harness and connector between A/C amplifier and front air mix damper control servomotor assembly (See page IN–34).**

NG → **Repair or replace harness or connector.**

OK

Check and replace A/C amplifier.