

1. LIST OF OPERATION METHODS

The flowchart illustrates the sequence of operations for the A/C control system after the ignition is turned ON. It begins with a start condition: "Turn ignition switch ON with AUTO and R/F switches held down." This leads to an "Indicator Check" box, followed by a "DTC Check (Sensor Check) (continuous operation)" box. From here, the process branches based on switch inputs:

- If both the AUTO and R/F switches are pressed simultaneously, the system proceeds to the "Actuator Check (continuous operation)" box.
- If either the AUTO or R/F switch is pressed (but not both), the system enters a stepped operation mode, moving to either "DTC Check (Sensor Check) (stepped operation)" or "Actuator Check (stepped operation)".
- If neither switch is pressed, the system bypasses the checks and goes directly to "Cancel check mode and start A/C control."

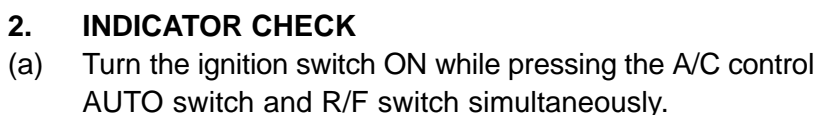
Each check phase includes feedback loops labeled "DEF" (Defrost) and "OFF". The continuous operation modes loop back to their respective DTC or Actuator checks. The stepped operation modes eventually lead to the final state: "Cancel check mode and start A/C control."

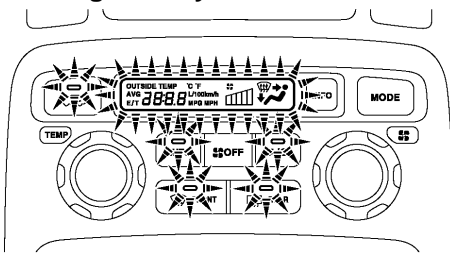
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graph TD
    Start([Turn ignition switch ON with AUTO and R/F switches held down.]) --> IndicatorCheck[Indicator Check]
    IndicatorCheck --> DTCCont[DTC Check<br/>(Sensor Check)<br/>(continuous operation)]
    
    DTCCont -- OFF --> Cancel[Cancel check mode and start A/C control.]
    DTCCont -- DEF --> DTCStep[DTC Check<br/>(Sensor Check)<br/>(stepped operation)]
    
    DTCStep -- DEF --> DTCCont
    DTCStep -- R/F --> ActCont[Actuator Check<br/>(continuous operation)]
    DTCStep -- AUTO --> ActStep[Actuator Check<br/>(stepped operation)]
    
    ActCont -- OFF --> Cancel
    ActCont -- DEF --> ActStep
    
    ActStep -- DEF --> ActCont
    ActStep -- R/F --> DTCCont
    ActStep -- AUTO --> DTCStep
    
    Note([If both AUTO switch and R/F switches are not pressed at the same time.]) -.-> Cancel
  
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Legend:

- () : Indicates a switch operation
- R/F: Recirculation/Fresh



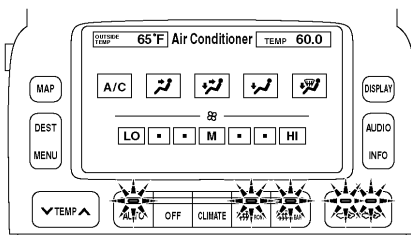
w/o Navigation System

I41003

- (b) Check that the indicators light up and go off at 1 second intervals 4 times in succession.

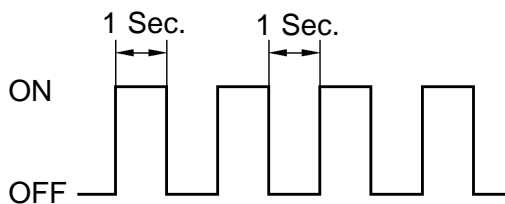
HINT:

- After the indicator check is completed, the system enters the DTC automatically.
- Press the OFF switch when desiring to cancel the check mode.

w/ Navigation System

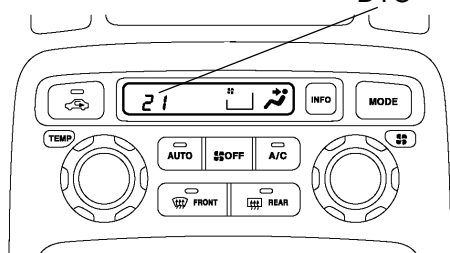
C

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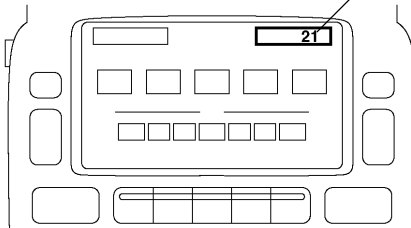
w/o Navigation System**DTC**

N

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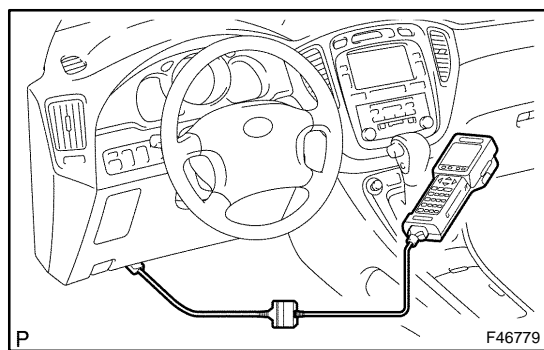
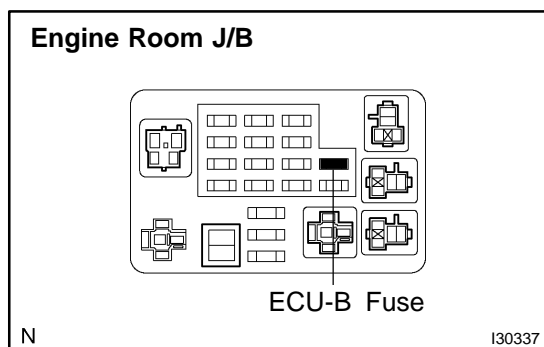
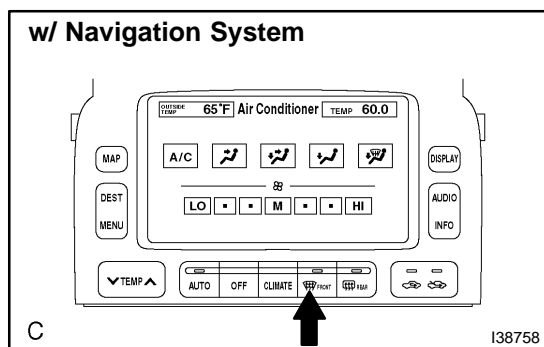
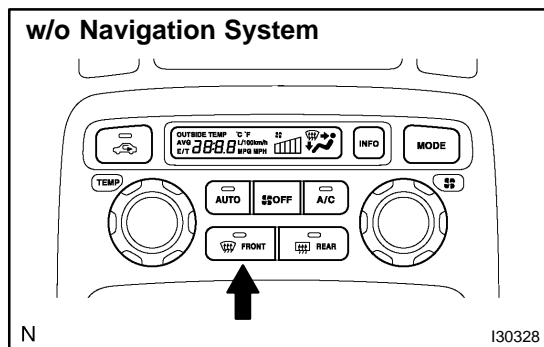
3. DTC CHECK (SENSOR CHECK)

- (a) Perform an indicator check. After the indicator check is completed, the system enters the DTC check mode automatically.
- (b) Read the code displayed on the panel. Refer to the list of codes on page 05-1125 when reading the codes. (Trouble codes are output at the temperature display.)

w/ Navigation System**DTC**

C

I38759



- (c) If the slower display is desired, press the FRONT DEF switch and change it to stepped operation. Each time the FRONT DEF switch is pressed, the display changes by 1 step.

4. CLEARING DTC

- (a) To clear diagnostic trouble code, there are 2 ways.
- (1) During sensor check, press the FRONT DEF switch and REAR DEF switch at the same time.
 - (2) Pull the ECU-B fuse in engine room J/B for 20 sec. or longer to clear the DTC memory.

5. DTC CHECK USING HAND-HELD TESTER

- (a) Connect the hand-held tester to the DLC3.
- (b) Power switch ON (ready).
- (c) Read the DTC following the prompts on the tester screen. Please refer to the hand-held tester operator's manual for further details.
- (d) Clear the DTCs.

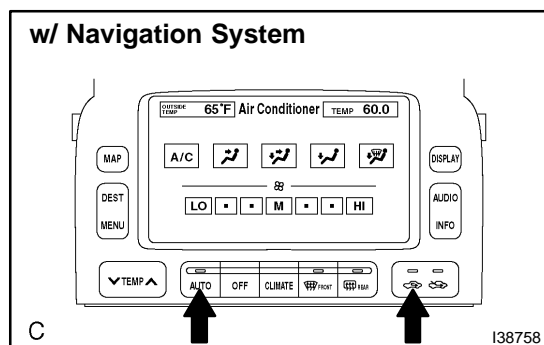
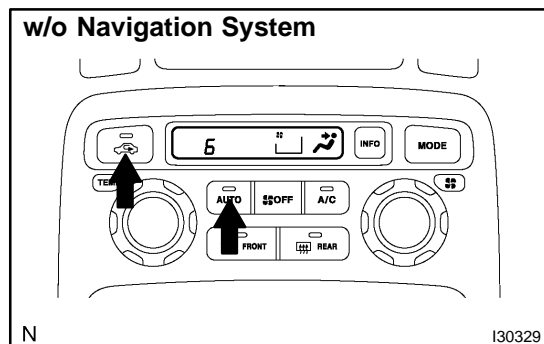
HINT:

After repairing the malfunctions, clear the DTC.

- (1) Connect the hand-held tester to DLC3.
- (2) Turn the ignition switch to the ON position.
- (3) Erase the DTCs following the prompts on the tester screen.

HINT:

Refer to the hand-held tester operator's manual for further details.



6. ACTUATOR CHECK

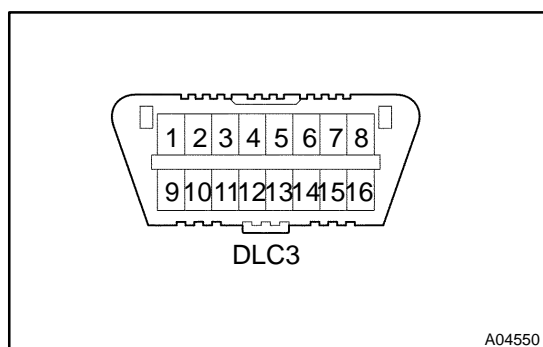
- Turn the ignition switch to the ON position while pressing the A/C control AUTO switch and R/F (Recirculation / Fresh) switch simultaneously.
- As each damper, motor and relay automatically operate the actuator check at 1 second intervals from step No.1 to No.10 continuously, check the temperature and air flow visually and by hand.

If a slower display is desired, press the temperature up switch and change the display in the step operation. Each time the temperature up switch is pressed, the display changes by 1 step.

HINT:

- Codes are displayed from the smaller to the larger numbers in order.
- To cancel the check mode, press the "OFF" switch.

Step No.	Display code	Conditions				
		Blower level	Air flow vent	Air inlet damper	Magnetic clutch	Air mix damper
1	0	0	FACE	FRESH	OFF	"COOL" side (Fully closed)
2	1	1	FACE	FRESH	OFF	"COOL" side (Fully closed)
3	2	17	FACE	FRESH	ON	"COOL" side (Fully closed)
4	3	17	FACE	FRESH	ON	"COOL" side (Fully closed)
5	4	17	FACE	RECIRCULATION	ON	"COOL"/ "WARM " (50% open)
6	5	17	B/L	RECIRCULATION	ON	"COOL"/ "WARM " (50% open)
7	6	17	FOOT	RECIRCULATION	ON	"WARM" side (Fully opened)
8	7	17	FOOT	RECIRCULATION	ON	"WARM" side (Fully opened)
9	8	17	FOOT/ DEF	RECIRCULATION	ON	"WARM" side (Fully opened)
10	9	31	DEF	RECIRCULATION	ON	"WARM" side (Fully opened)



7. CHECK DLC3

- (a) The vehicle's ECM uses ISO 9141-2 for communication. The terminal arrangement of the DLC3 complies with SAEJ1962 and matches the ISO 9141-2 format.

Terminal No.	Connection/Voltage or Resistance	Condition
7	Bus + Line/Pulse generation	During transmission
4	Chassis Ground - Body Ground/1 Ω or less	Always
5	Signal Ground - Body Ground/1 Ω or less	Always
16	Battery Positive - Body Ground/9 to 14 V	Always

8. DATA LIST

HINT:

From the DATA LIST displayed on the hand-held tester, you can read the values of the displays, sensors, actuators and so on without parts removal. Reading the DATA LIST as the first step of troubleshooting is one way to shorten labor time.

- (a) Connect the hand-held tester to the DLC3.
 (b) Turn the ignition switch to the ON position.
 (c) From the display on the tester, select the "DATA LIST".

ALL:

Item	Measurement Item / Display (Range)	Normal Condition	Diagnostic Note
A/C SIG	A/C signal / ON or OFF	A/C ON: ON	-

A C:

Item	Measurement Item/Display (Range)	Normal Condition	Diagnostic Note
ROOM TEMP	Room temperature sensor /min.: -6.5°C (20.3°F) max.: 57.25°C (135.05°F)	Actual room temperature	-
AMBI TEMP SENS	Ambient temperature sensor /min.: -23.3°C (-9.94°F) max.: 65.95°C (150.71°F)	Actual ambient temperature	-
AMBI TEMP	Adjusted ambient temperature /min.: -30.8°C (-23.44°F) max.: 50.8°C (123.44°F)	Actual ambient temperature	-
EVAP TEMP	Evaporator temperature sensor /min.: -29.7°C (-21.46°F) max.: 59.55°C (139.19°F)	Actual evaporator temperature	-
SOLAR SENS-D	Solar sensor (Driver side) /min.: 0 max.: 255	Changes depending on brightness (Driver side)	-
COOLANT TEMP	Engine coolant temperature /min.: 1.3°C (34.34°F) max.: 90.55°C (194.99°F)	Actual engine coolant temperature	-
SET TEMP-D	Set temperature (Driver side) /min.: 0 max.: 255	Actual set temperature (Driver side)	-
A/M DAMP POS-D	Air mix damper position (Driver side) /min.: -14% max.: 113.5%	Changes depending on the set temperature (Driver side)	-

Item	Measurement Item/Display (Range)	Normal Condition	Diagnostic Note
A/O DAMP POS	Air outlet damper position /min.: -14% max.: 113.5%	Changes depending on air outlet power position	-
A/M DAMP TARG-D	Air mix damper target position (Driver side) /min.: -14% max.: 113.5%	Changes depending on the set temperature (Driver side)	-
A/O DAMP TARG	Air outlet damper target position /min.: -14% max.: 113.5%	Changes depending on air outlet power position	-
BLOWER LEVEL	Blower motor speed level /min.: Level 0 max.: Level 31	Changes depending on blower level	-
#CODES	Number of Trouble Codes /min.: 0 max.: 255	-	-
HAND FREE TEL	Hands free telephone / OFF, ON	-	-
SET TEMP SHIFT	Shift set temperature/2C decr, 1C decr, NORMAL, 1C incr, 2C incr	Changes depending on shift set temperature *1	-
COMPRESSOR MODE	Compressor mode /AUTO, MANUAL	Changes depending on compressor mode *1	-
COMPRS/DEF OPER	Compressor/DEF operation mode /LINK, NORMAL	Changes depending on compressor/DEF operation mode *1	-

HINT:

*1: It differs depending on the user setting.