function is detected. There is no priority for 1st trip freeze frame data. However, once freeze frame data is stored in the ECM memory, 1st trip freeze data is no longer stored (because only one freeze frame data or 1st trip freeze frame data can be stored in the ECM). If freeze frame data is stored in the ECM memory and freeze frame data with the same priority occurs later, the first (original) freeze frame data remains unchanged in the ECM memory.

Both 1st trip freeze frame data and freeze frame data (along with the DTCs) are cleared when the ECM memory is erased. Procedures for clearing the ECM memory are described in EC-61, "HOW TO ERASE EMISSION-RELATED DIAGNOSTIC INFORMATION" .

SYSTEM READINESS TEST (SRT) CODE

System Readiness Test (SRT) code is specified in Mode 1 of SAE J1979.

As part of an enhanced emissions test for Inspection & Maintenance (I/M), certain states require the status of SRT be used to indicate whether the ECM has completed self-diagnosis of major emission systems and components. Completion must be verified in order for the emissions inspection to proceed.

If a vehicle is rejected for a State emissions inspection due to one or more SRT items indicating "INCMP", use the information in this Service Manual to set the SRT to "CMPLT".

In most cases the ECM will automatically complete its self-diagnosis cycle during normal usage, and the SRT status will indicate "CMPLT" for each application system. Once set as "CMPLT", the SRT status remains "CMPLT" until the self-diagnosis memory is erased.

Occasionally, certain portions of the self-diagnostic test may not be completed as a result of the customer's normal driving pattern; the SRT will indicate "INCMP" for these items.

NOTE:

The SRT will also indicate "INCMP" if the self-diagnosis memory is erased for any reason or if the ECM memory power supply is interrupted for several hours.

If, during the state emissions inspection, the SRT indicates "CMPLT" for all test items, the inspector will continue with the emissions test. However, if the SRT indicates "INCMP" for one or more of the SRT items the vehicle is returned to the customer untested.

NOTE:

If MIL is ON during the state emissions inspection, the vehicle is also returned to the customer untested even though the SRT indicates "CMPLT" for all test items. Therefore, it is important to check SRT ("CMPLT") and DTC (No DTCs) before the inspection.

ON BOARD DIAGNOSTIC (OBD) SYSTEM

SRT Item

The table below shows required self-diagnostic items to set the SRT to "CMPLT".

SRT item (CONSULT-II indication)	Performance Priority*	Required self-diagnostic items to set the SRT to "CMPLT"	Corresponding DTC No.
CATALYST	2	Three way catalyst function	P0420, P0430
EVAPORATIVE SYSTEM	1	EVAP control system	P0442
	2	EVAP control system	P0456
	2	EVAP control system purge flow monitoring	P0441
HO2S	1	A/F sensor 1	P1278, P1288
		A/F sensor 1	P1279, P1289
		Heated oxygen sensor 2	P0139, P0159
		Heated oxygen sensor 2	P1146, P1166
		Heated oxygen sensor 2	P1147, P1167
HO2S HTR	1	A/F sensor 1 heater	P1031, P1032, P1051, P1052
		Heated oxygen sensor 2 heater	P0037, P0038, P0057, P0058

*: If completion of several SRTs is required, perform driving patterns (DTC Confirmation Procedure), one by one based on the priority for models with CONSULT-II.

SRT Set Timing

SRT is set as "CMPLT" after self-diagnosis has been performed one or more times. Completion of SRT is done regardless of whether the result is OK or NG. The set timing is different between OK and NG results and is shown in the table below.

Self-diagnosis result		Diagnosis	Example						
			Ignition cycle						
			← ON →	OFF	← ON →	OFF	← ON →	OFF	← ON →
All OK	Case 1	P0400	OK (1)	— (1)		OK (2)		— (2)	
		P0402	OK (1)	— (1)		— (1)		OK (2)	
		P1402	OK (1)	OK (2)		— (2)		— (2)	
		SRT of EGR	"CMPLT"	"CMPLT"		"CMPLT"		"CMPLT"	
	Case 2	P0400	OK (1)	— (1)		— (1)		— (1)	
		P0402	— (0)	— (0)		OK (1)		— (1)	
		P1402	OK (1)	OK (2)		— (2)		— (2)	
		SRT of EGR	"INCMP"	"INCMP"		"CMPLT"		"CMPLT"	
NG exists	Case 3	P0400	OK	OK		—		—	
		P0402	—	—		—		—	
		P1402	NG	—		NG		NG (Consecutive NG)	
		(1st trip) DTC	1st trip DTC	—		1st trip DTC		DTC (= MIL "ON")	
		SRT of EGR	"INCMP"	"INCMP"		"INCMP"		"CMPLT"	

OK: Self-diagnosis is carried out and the result is OK.
NG: Self-diagnosis is carried out and the result is NG.
—: Self-diagnosis is not carried out.

When all SRT related self-diagnoses showed OK results in a single cycle (Ignition OFF-ON-OFF), the SRT will indicate "CMPLT". → Case 1 above
When all SRT related self-diagnoses showed OK results through several different cycles, the SRT will indicate "CMPLT" at the time the respective self-diagnoses have at least one OK result. → Case 2 above

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If one or more SRT related self-diagnoses showed NG results in 2 consecutive cycles, the SRT will also indicate "CMPLT". → Case 3 above

The table above shows that the minimum number of cycles for setting SRT as "INCMP" is one (1) for each self-diagnosis (Case 1 & 2) or two (2) for one of self-diagnoses (Case 3). However, in preparation for the state emissions inspection, it is unnecessary for each self-diagnosis to be executed twice (Case 3) for the following reasons:

● The SRT will indicate "CMPLT" at the time the respective self-diagnoses have one (1) OK result.

● The emissions inspection requires "CMPLT" of the SRT only with OK self-diagnosis results.

● When, during SRT driving pattern, 1st trip DTC (NG) is detected prior to "CMPLT" of SRT, the self-diagnosis memory must be erased from ECM after repair.

● If the 1st trip DTC is erased, all the SRT will indicate "INCMP".
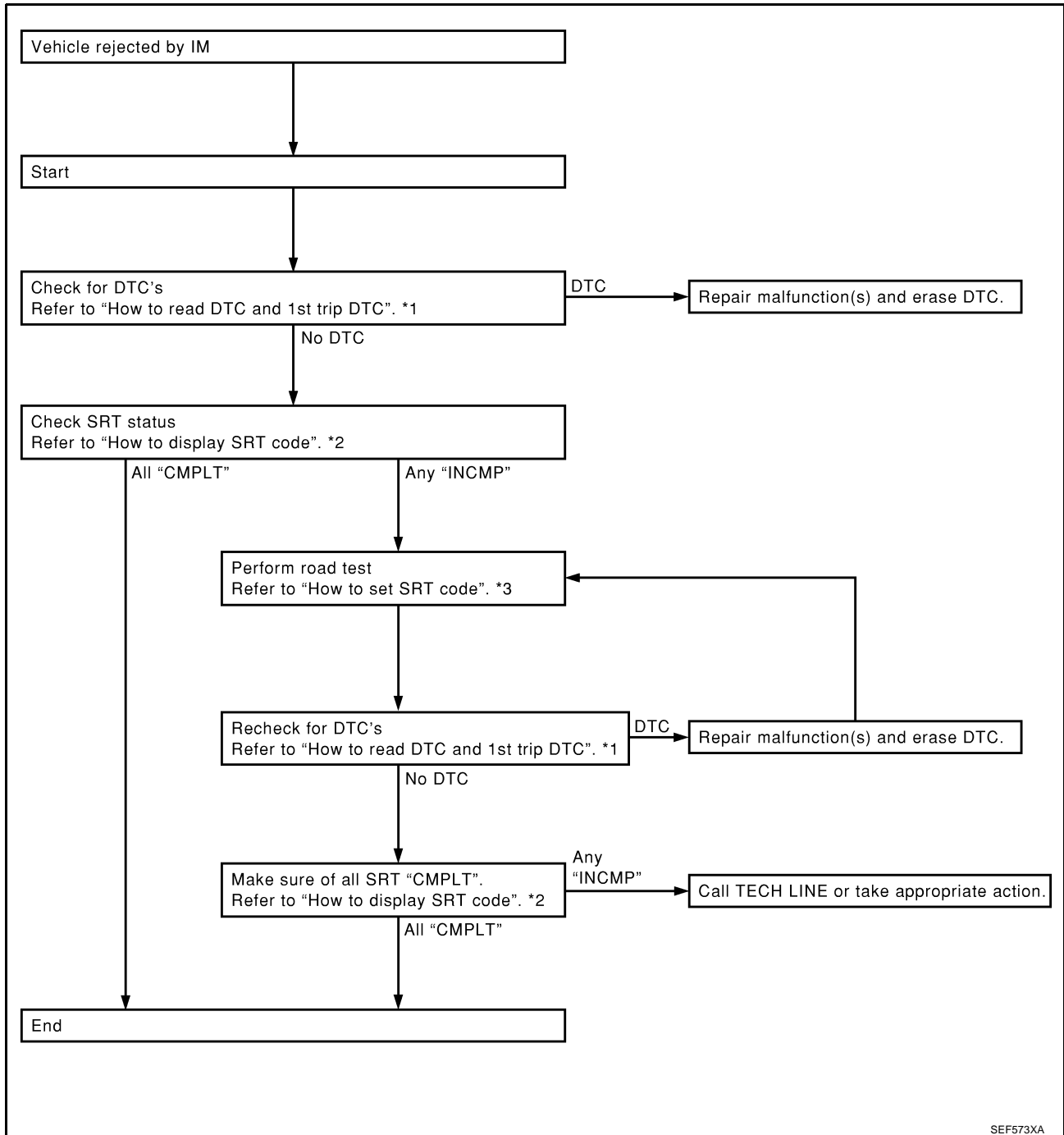
NOTE:
SRT can be set as "CMPLT" together with the DTC(s). Therefore, DTC check must always be carried out prior to the state emission inspection even though the SRT indicates "CMPLT".

SRT Service Procedure

If a vehicle has failed the state emissions inspection due to one or more SRT items indicating "INCMP", review the flowchart diagnostic sequence on the next page.

Vehicle rejected by IM

↓

Start

↓

Check for DTC's
Refer to "How to read DTC and 1st trip DTC". *1 → **DTC** → Repair malfunction(s) and erase DTC.

↓ No DTC

Check SRT status
Refer to "How to display SRT code". *2

All "CMPLT" ← | → Any "INCMP"

Perform road test
Refer to "How to set SRT code". *3

↓

Recheck for DTC's
Refer to "How to read DTC and 1st trip DTC". *1 → **DTC** → Repair malfunction(s) and erase DTC.

↓ No DTC

Make sure of all SRT "CMPLT".
Refer to "How to display SRT code". *2 → Any "INCMP" → Call TECH LINE or take appropriate action.

↓ All "CMPLT"

End

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*1   EC-52   *2   EC-56   *3   EC-57

How to Display SRT Code

⊡ WITH CONSULT-II
Selecting "SRT STATUS" in "DTC CONFIRMATION" mode with CONSULT-II.
For items whose SRT codes are set, a "CMPLT" is displayed on the CONSULT-II screen; for items whose SRT codes are not set, "INCMP" is displayed.
A sample of CONSULT-II display for SRT code is shown at right.
"INCMP" means the self-diagnosis is incomplete and SRT is not set.
"CMPLT" means the self-diagnosis is complete and SRT is set.

⊛ WITH GST
Selecting Mode 1 with GST (Generic Scan Tool)

SRT STATUS	
CATALYST	CMPLT
EVAP SYSTEM	INCMP
HO2S HTR	CMPLT
HO2S	CMPLT

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How to Set SRT Code

To set all SRT codes, self-diagnosis for the items indicated above must be performed one or more times. Each diagnosis may require a long period of actual driving under various conditions.

Ⓟ WITH CONSULT-II

Perform corresponding DTC Confirmation Procedure one by one based on Performance Priority in the table on .

⊠ WITHOUT CONSULT-II

The most efficient driving pattern in which SRT codes can be properly set is explained on the next page. The driving pattern should be performed one or more times to set all SRT codes.

Driving Pattern

Note: Always drive vehicle in safe manner according to traffic conditions and obey all traffic laws.
Refer to next page for more information and explanation of chart.

Driving pattern	SRT item (CONSULT-II screen term)	Self-diagnostic test item (CONSULT-II screen term)	Pattern 1	Pattern 2	Pattern 3	Pattern 4
	CATALYST	TW CATALYST SYS				
	EVAP SYSTEM	EVAP PURGE FLOW/MON				
		EVAP (SMALL LEAK)				
	HO2S	A/F SEN1				
		HO2S2				
	HO2S HTR	A/F SEN1 HTR				
		HO2S2 HTR				

86 - 96 km/h *3
(53 - 60 MPH)

50 - 55 km/h
(30 - 35 MPH)

0 km/h
(0 MPH) Keep idling

Engine start
below 50°C (122°F).

Engine coolant temperature
becomes 70°C (158°F).

0 1 2 3 4 5 6 7 11 12 13 14 15 16 17 18 19 20
(minutes)

Engine
stop

*1 *2 *3

■ : Zone A   ▧ : Zone B

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