In00Z–01

OBD Monitor Drive Patterns

Purpose of the Readiness Tests

The On–Board Diagnostic (OBD II) system is designed to monitor the performance of emission–related components and report any detected abnormalities in the form of Diagnostic Trouble Codes (DTCs). Since the various components need to be monitored during different driving conditions, the OBD II system is designed to run separate monitoring programs called Readiness Monitors. Many state emissions inspection and maintenance (I/M) programs require that vehicles complete their Readiness Monitors prior to beginning an emissions test.

NOTE:

A diagnostic trouble code for a subsystem or component within a subsystem will not set until the associated readiness monitor is complete.

The readiness monitor status will be reset to incomplete if:

- The battery is disconnected.
- DTCs have been cleared.
- The monitor drive cycle has not been completed.

The monitor status can be checked using an OBD II scan tool. When using hand–held tester, monitor status can be found in the Enhanced OBD II Extended Data List or under CARB OBD II. In the event that any monitors show incomplete, follow the appropriate Readiness Monitor Drive Pattern to change the readiness status to “complete”.

Pattern No.	Readiness Code Patterns	Page
1	EGR Monitor (Except 1FZ–FE engine)	In–27
2	EGR Monitor (For 1FZ–FE engine)	In–28
3	Catalyst Monitor (Front and rear heated oxygen sensors equipped)	In–29
4	Catalyst Monitor (A/F sensor equipped)	In–30
5	EVAP Monitor (Fuel tank pressure monitor)	In–31
6	EVAP Monitor (Vacuum monitor and LEV II)	In–33
7	EVAP Monitor (Engine RPM monitor)	In–35
8	Heated Oxygen Sensor Monitor (Front and rear heated oxygen sensors equipped)	In–36
9	A/F Sensor and Heated Oxygen Sensor Monitor (Front A/F sensor and rear heated oxygen sensor equipped)	In–37
10	Oxygen Sensor Heater and A/F Sensor Heater Monitor	In–38

CAUTION:

Strict observance of posted speed limits, traffic laws, and road conditions are required when performing these drive patterns.

NOTE:

These drive patterns represent the fastest method to satisfy all necessary conditions which allow the specific readiness monitor to complete.

In the event that the drive pattern must be interrupted (possibly due to traffic conditions or other factors) the drive pattern can be resumed and, in most cases, the readiness monitor will still set to complete.

To ensure rapid completion of readiness monitors, avoid sudden changes in vehicle load and speed (driving up and down hills and/or sudden acceleration).

Available Model for Readiness Code Set Drive Pattern (TOYOTA Models):

Pattern No. / MY	Model	Engine	Drive Train	Category	1	2	3	4	5	6	7	8	9	10
1996	Tercel	5E–FE			○		○				○	○		○
	Paseo	5E–FE			○		○				○	○		○
	Corolla	7A–FE			○		○				○	○		○
	Celica	7A–FE			○		○				○	○		○
		5S–FE			○		○				○	○		○
	Camry	5S–FE	MTM		○		○				○	○		○
		5S–FE	ATM		○		○		○			○		○
		1MZ–FE	MTM		○		○		○			○		○
		1MZ–FE	ATM		○		○		○			○		○
	Avalon	1MZ–FE			○		○		○			○		○
	Supra	2JZ–GE			○		○		○			○		○
		2JZ–GTE			○		○				○	○		○
	RAV4	3S–FE			○		○		○			○		○
	Previa	2TZ–FZE			○		○				○	○		○
	Tacoma	2RZ–FE			○		○				○	○		○
		3RZ–FE			○		○		○			○		○
		5VZ–FE	2WD/4WD	LDT1	○		○		○			○		○
		5VZ–FE	4WD	LDT2(Fed)	○		○		○			○		○
		5VZ–FE	4WD	LDT2(CA)	N/A		○		○			○		○
	4Runner	3RZ–FE			○		○		○			○		○
		5VZ–FE		LDT2(Fed)	○		○		○			○		○
		5VZ–FE		LDT2(CA)	N/A		○		○			○		○
	T100	3RZ–FE			○		○				○	○		○
		5VZ–FE	2WD	LDT1	○		○		○			○		○
		5VZ–FE	2WD/4WD	LDT2(Fed)	○		○		○			○		○
		5VZ–FE	2WD/4WD	LDT2(CA)	N/A		○		○			○		○
	L/C	1FZ–FE				○	○		N/A	N/A	N/A	○		○

No.	Readiness Code Patterns	Page	No.	Readiness Code Patterns	Page
1	EGR Monitor (Except 1FZ–FE engine)	In–27	6	EVAP Monitor (Vacuum and LEV II)	In–33
2	EGR Monitor (For 1FZ–FE engine)	In–28	7	EVAP Monitor (Engine RPM monitor)	In–35
3	Catalyst Monitor (O2S)	In–29	8	Heated Oxygen Sensor Monitor	In–36
4	Catalyst Monitor (A/F sensor equipped)	In–30	9	A/F Sensor/HO2S Monitor	In–37
5	EVAP Monitor (Fuel tank pressure monitor)	In–31	10	A/F Sensor/HO2S Heater Monitor	In–38

Pattern No. / MY	Model	Engine	Drive Train	Category	1	2	3	4	5	6	7	8	9	10
1997	Tercel	5E–FE			○		○				○	○		○
	Paseo	5E–FE			○		○				○	○		○
	Corolla	7A–FE			○		○				○	○		○
	Celica	7A–FE			○		○				○	○		○
		5S–FE			○		○				○	○		○
	Camry	5S–FE	MTM		○		○				○	○		○
		5S–FE	ATM	(Fed)	○		○		○			○		○
		5S–FE	ATM	(CA)	○			○	○				○	
		1MZ–FE	MTM		○		○		○			○		○
		1MZ–FE	ATM		○		○		○			○		○
	Avalon	1MZ–FE			○		○		○			○		○
	Supra	2JZ–GE			○		○		○			○		○
		2JZ–GTE			○		○				○	○		○
	RAV4	3S–FE			○		○		○			○		○
	Previa	2TZ–FZE			○		○				○	○		○
	Tacoma	2RZ–FE			○		○				○	○		○
		3RZ–FE			○		○		○			○		○
		5VZ–FE	2WD/4WD	LDT1	○		○		○			○		○
		5VZ–FE	4WD	LDT2(Fed)	N/A		○		○			○		○
		5VZ–FE	4WD	LDT2(CA)	N/A		○		○			○		○
	4Runner	3RZ–FE			○		○		○			○		○
		5VZ–FE		LDT2(Fed)	N/A		○		○			○		○
		5VZ–FE		LDT2(CA)	N/A		○		○			○		○
	T100	3RZ–FE			○		○				○	○		○
		5VZ–FE	2WD	LDT1	○		○		○			○		○
		5VZ–FE	2WD/4WD	LDT2(Fed)	N/A		○		○			○		○
		5VZ–FE	2WD/4WD	LDT2(CA)	N/A		○		○			○		○
	L/C	1FZ–FE				○	○		N/A	N/A	N/A	○		○

No.	Readiness Code Patterns	Page	No.	Readiness Code Patterns	Page
1	EGR Monitor (Except 1FZ–FE engine)	In–27	6	EVAP Monitor (Vacuum and LEV II)	In–33
2	EGR Monitor (For 1FZ–FE engine)	In–28	7	EVAP Monitor (Engine RPM monitor)	In–35
3	Catalyst Monitor (O2S)	In–29	8	Heated Oxygen Sensor Monitor	In–36
4	Catalyst Monitor (A/F sensor equipped)	In–30	9	A/F Sensor/HO2S Monitor	In–37
5	EVAP Monitor (Fuel tank pressure monitor)	In–31	10	A/F Sensor/HO2S Heater Monitor	In–38

Pattern No.					1	2	3	4	5	6	7	8	9	10
MY	**Model**	**Engine**	**Drive Train**	**Category**										
1998	Tercel	5E–FE			N/A		○		○			○		○
	Paseo	5E–FE			N/A		○		○			○		○
	Corolla	1ZZ–FE			N/A		○		○			○		○
	Celica	5S–FE		(Fed)	○		○				○	○		○
		5S–FE		(CA)	○		○				○	○		○
	Camry	5S–FE		(Fed)	○		○		○			○		○
		5S–FE		(CA)	○			○	○				○	○
		1MZ–FE	MTM		○		○		○			○		○
		1MZ–FE	ATM	(Fed)	○		○		○			○		○
		1MZ–FE	ATM	(CA)	○			○	○				○	○
	Avalon	1MZ–FE		(Fed)	○		○		○			○		○
		1MZ–FE		(CA)	○			○	○				○	○
	Supra	2JZ–GE			N/A		○		○			○		○
		2JZ–GTE			○		○				○	○		○
	RAV4	3S–FE		(Fed)	○		○		○			○		○
		3S–FE		(CA)	○			○	○				○	○
	Sienna	1MZ–FE			N/A		○		○			○		○
	Tacoma	2RZ–FE			○		○		○			○		○
		3RZ–FE			○		○		○			○		○
		5VZ–FE	2WD	LDT1	○		○		○			○		○
		5VZ–FE	4WD	LDT2	N/A		○		○			○		○
	4Runner	3RZ–FE			○		○		○			○		○
		5VZ–FE		LDT2	N/A		○		○			○		○
	T100	3RZ–FE			○		○		○			○		○
		5VZ–FE	2WD	LDT1	○		○		○			○		○
		5VZ–FE	2WD/4WD	LDT2	N/A		○		○			○		○
	L/C	2UZ–FE			N/A		○		○			○		○

No.	Readiness Code Patterns	Page	No.	Readiness Code Patterns	Page
1	EGR Monitor (Except 1FZ–FE engine)	In–27	6	EVAP Monitor (Vacuum and LEV II)	In–33
2	EGR Monitor (For 1FZ–FE engine)	In–28	7	EVAP Monitor (Engine RPM monitor)	In–35
3	Catalyst Monitor (O2S)	In–29	8	Heated Oxygen Sensor Monitor	In–36
4	Catalyst Monitor (A/F sensor equipped)	In–30	9	A/F Sensor/HO2S Monitor	In–37
5	EVAP Monitor (Fuel tank pressure monitor)	In–31	10	A/F Sensor/HO2S Heater Monitor	In–38

Pattern No.					1	2	3	4	5	6	7	8	9	10
MY	Model	Engine	Drive Train	Category										
1999	Tercel	5E–FE			○		○		○			○		○
	Paseo	5E–FE			○		○		○			○		○
	Corolla	1ZZ–FE			N/A		○		○			○		○
	Celica	5S–FE			○		○		○			○		○
	Camry	5S–FE		(Fed)	○		○		○			○		○
		5S–FE		(CA)	○			○	○				○	○
		1MZ–FE	MTM		○		○		○			○		○
		1MZ–FE	ATM	(Fed)	○		○		○			○		○
		1MZ–FE	ATM	(CA)	○			○	○				○	○
	Solara	5S–FE		(Fed)	○		○		○			○		○
		5S–FE		(CA)	○			○	○			○	○	○
		1MZ–FE	MTM		○		○		○					○
		1MZ–FE	ATM	(Fed)	○		○		○			○		○
		1MZ–FE	ATM	(CA)	○			○	○				○	○
	Avalon	1MZ–FE		(Fed)	○		○		○			○		○
		1MZ–FE		(CA)	○			○	○				○	○
	RAV4	3S–FE		(Fed)	○		○		○			○		○
		3S–FE		(CA)	○			○	○				○	○
	Sienna	1MZ–FE		(Fed)	N/A		○		○			○		○
		1MZ–FE		(CA)	N/A			○	○				○	○
	Tacoma	2RZ–FE			○		○		○			○		○
		3RZ–FE			○		○		○			○		○
		5VZ–FE	2WD	LDT1	○		○		○			○		○
		5VZ–FE	2WD/4WD	LDT2	N/A		○		○			○		○
	4Runner	3RZ–FE			○		○		○			○		○
		5VZ–FE		(Fed)	N/A		○		○			○		○
		5VZ–FE		(CA)	N/A			○	○				○	○
	L/C	2UZ–FE			N/A		○		○			○		○

No.	Readiness Code Patterns	Page	No.	Readiness Code Patterns	Page
1	EGR Monitor (Except 1FZ–FE engine)	In–27	6	EVAP Monitor (Vacuum and LEV II)	In–33
2	EGR Monitor (For 1FZ–FE engine)	In–28	7	EVAP Monitor (Engine RPM monitor)	In–35
3	Catalyst Monitor (O2S)	In–29	8	Heated Oxygen Sensor Monitor	In–36
4	Catalyst Monitor (A/F sensor equipped)	In–30	9	A/F Sensor/HO2S Monitor	In–37
5	EVAP Monitor (Fuel tank pressure monitor)	In–31	10	A/F Sensor/HO2S Heater Monitor	In–38

Pattern No.					1	2	3	4	5	6	7	8	9	10
MY	**Model**	**Engine**	**Drive Train**	**Category**										
2000	Echo	1NZ–FE			N/A		○			○		○		○
	Corolla	1ZZ–FE			N/A		○			○		○		○
	Celica	1ZZ–FE			N/A		○			○		○		○
		2ZZ–GE			N/A		○			○		○		○
	MR2	1ZZ–FE			N/A		○			○		○		○
	Camry	5S–FE		(Fed)	○		○			○		○		○
		5S–FE		(CA)	○			○		○			○	○
		1MZ–FE	MTM		○		○			○		○		○
		1MZ–FE	ATM	(Fed)	○		○			○				○
		1MZ–FE	ATM	(CA)	○			○		○			○	○
	Solara	5S–FE		(Fed)	○		○			○		○		○
		5S–FE		(CA)	○			○		○		○	○	○
		1MZ–FE	MTM		○		○			○		○		○
		1MZ–FE	ATM	(Fed)	○		○			○		○		○
		1MZ–FE	ATM	(CA)	○			○		○			○	○
	Camry CNG	5S–FNE			○							○		
	Avalon	1MZ–FE			N/A			○		○			○	○
	RAV4	3S–FE		(Fed)	○		○		○			○		○
		3S–FE		(CA)	○			○	○				○	○
	Sienna	1MZ–FE		(Fed)	N/A		○		○			○		○
		1MZ–FE		(CA)	N/A			○	○				○	○
	Tacoma	2RZ–FE			○		○		○			○		○
		3RZ–FE			○		○		○			○		○
		5VZ–FE	2WD	LDT1	○		○		○			○		○
		5VZ–FE	2WD/4WD	LDT2(Fed)	N/A		○		○			○		○
		5VZ–FE	2WD/4WD	LDT2(CA)	N/A			○	○				○	○

No.	Readiness Code Patterns	Page	No.	Readiness Code Patterns	Page
1	EGR Monitor (Except 1FZ–FE engine)	In–27	6	EVAP Monitor (Vacuum and LEV II)	In–33
2	EGR Monitor (For 1FZ–FE engine)	In–28	7	EVAP Monitor (Engine RPM monitor)	In–35
3	Catalyst Monitor (O2S)	In–29	8	Heated Oxygen Sensor Monitor	In–36
4	Catalyst Monitor (A/F sensor equipped)	In–30	9	A/F Sensor/HO2S Monitor	In–37
5	EVAP Monitor (Fuel tank pressure monitor)	In–31	10	A/F Sensor/HO2S Heater Monitor	In–38

Continued:

Pattern No.					1	2	3	4	5	6	7	8	9	10
MY	**Model**	**Engine**	**Drive Train**	**Category**										
2000	4Runner	3RZ–FE			○		○		○			○		○
		5VZ–FE		LDT2(Fed)	N/A		○		○			○		○
		5VZ–FE		LDT2(CA)	N/A			○	○				○	○
	Tundra	5VZ–FE		LDT2(Fed)	N/A		○		○			○		○
		5VZ–FE		LDT2(CA)	N/A			○	○				○	○
		2UZ–FE			N/A		○		○			○		○
	L/C	2UZ–FE			N/A		○		○			○		○

No.	Readiness Code Patterns	Page	No.	Readiness Code Patterns	Page
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2	EGR Monitor (For 1FZ–FE engine)	In–28	7	EVAP Monitor (Engine RPM monitor)	In–35
3	Catalyst Monitor (O2S)	In–29	8	Heated Oxygen Sensor Monitor	In–36
4	Catalyst Monitor (A/F sensor equipped)	In–30	9	A/F Sensor/HO2S Monitor	In–37
5	EVAP Monitor (Fuel tank pressure monitor)	In–31	10	A/F Sensor/HO2S Heater Monitor	In–38

Pattern No. / MY	Model	Engine	Drive Train	Category	1	2	3	4	5	6	7	8	9	10
2001	Echo	1NZ–FE			N/A		○			○		○		○
	Corolla	1ZZ–FE			N/A		○			○		○		○
	Celica	1ZZ–FE			N/A		○			○		○		○
		2ZZ–GE			N/A		○			○		○		○
	MR2	1ZZ–FE			N/A		○			○		○		○
	Camry	5S–FE			○			○		○			○	○
		1MZ–FE	MTM		○		○			○		○		○
		1MZ–FE	ATM		○			○		○			○	○
	Solara	5S–FE			○			○		○			○	○
		1MZ–FE	MTM		○		○			○		○		○
		1MZ–FE	ATM		○			○		○			○	○
	Camry CNG	5S–FNE			○									
	Avalon	1MZ–FE			N/A			○		○			○	○
	RAV4	1AZ–FE			N/A			○		○			○	○
	Highlander	2AZ–FE			N/A			○		○			○	○
		1MZ–FE			N/A			○		○			○	○
	Sienna	1MZ–FE			N/A			○		○			○	○
	Tacoma	2RZ–FE			○			○	○				○	○
		3RZ–FE			○			○	○				○	○
		5VZ–FE	2WD	LDT1	N/A			○	○				○	○
		5VZ–FE	4WD	LDT2	N/A			○	○				○	○
	4Runner	5VZ–FE		LDT2	N/A			○		○			○	○
	Tundra	5VZ–FE		LDT2	N/A			○	○				○	○
		2UZ–FE			N/A		○		○			○		○
	L/C	2UZ–FE			N/A		○		○			○		○
	Sequoia	2UZ–FE			N/A		○			○		○		○

No.	Readiness Code Patterns	Page	No.	Readiness Code Patterns	Page
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2	EGR Monitor (For 1FZ–FE engine)	In–28	7	EVAP Monitor (Engine RPM monitor)	In–35
3	Catalyst Monitor (O2S)	In–29	8	Heated Oxygen Sensor Monitor	In–36
4	Catalyst Monitor (A/F sensor equipped)	In–30	9	A/F Sensor/HO2S Monitor	In–37
5	EVAP Monitor (Fuel tank pressure monitor)	In–31	10	A/F Sensor/HO2S Heater Monitor	In–38

Pattern No.					1	2	3	4	5	6	7	8	9	10
MY	**Model**	**Engine**	**Drive Train**	**Category**										
2002	Echo	1NZ–FE			N/A		○			○		○		○
	Corolla	1ZZ–FE			N/A		○			○		○		○
	Celica	1ZZ–FE			N/A		○			○		○		○
		2ZZ–GE			N/A		○			○		○		○
	MR2	1ZZ–FE			N/A		○			○		○		○
	Camry	2AZ–FE			N/A			○		○			○	○
		1MZ–FE	MTM		○		○			○		○		○
		1MZ–FE	ATM		○			○		○			○	○
	Solara	2AZ–FE			○			○		○			○	○
		1MZ–FE	MTM		○		○			○		○		○
		1MZ–FE	ATM		○			○		○			○	○
	Camry CNG	5S–FNE			○									
	Avalon	1MZ–FE			N/A			○		○			○	○
	RAV4	1AZ–FE			N/A			○		○			○	○
	Highlander	2AZ–FE			N/A			○		○			○	○
		1MZ–FE			N/A			○		○			○	○
	Sienna	1MZ–FE			N/A			○		○			○	○
	Tacoma	2RZ–FE			○			○	○				○	○
		3RZ–FE			○			○	○				○	○
		5VZ–FE	2WD	LDT1	N/A			○	○				○	○
		5VZ–FE	4WD	LDT2	N/A			○	○				○	○
	4Runner	5VZ–FE		LDT2	N/A			○		○			○	○
	Tundra	5VZ–FE		LDT2	N/A			○	○				○	○
		2UZ–FE			N/A		○	○	○			○		○
	L/C	2UZ–FE			N/A		○	○	○			○		○
	Sequoia	2UZ–FE			N/A		○	○		○		○		○

No.	Readiness Code Patterns	Page	No.	Readiness Code Patterns	Page
1	EGR Monitor (Except 1FZ–FE engine)	In–27	6	EVAP Monitor (Vacuum and LEV II)	In–33
2	EGR Monitor (For 1FZ–FE engine)	In–28	7	EVAP Monitor (Engine RPM monitor)	In–35
3	Catalyst Monitor (O2S)	In–29	8	Heated Oxygen Sensor Monitor	In–36
4	Catalyst Monitor (A/F sensor equipped)	In–30	9	A/F Sensor/HO2S Monitor	In–37
5	EVAP Monitor (Fuel tank pressure monitor)	In–31	10	A/F Sensor/HO2S Heater Monitor	In–38

Pattern No.					1	2	3	4	5	6	7	8	9	10
MY	**Model**	**Engine**	**Drive Train**	**Category**										
2003	Echo	1NZ–FE			N/A			○		○			○	○
	Corolla	1ZZ–FE			N/A		○			○		○		○
	Celica	1ZZ–FE			N/A		○			○		○		○
		2ZZ–GE			N/A		○			○		○		○
	Corolla Matrix	1ZZ–FE			N/A		○			○		○		○
		2ZZ–GE			N/A		○			○		○		○
	MR2	1ZZ–FE			N/A		○			○		○		○
	Camry	2AZ–FE			N/A			○		○			○	○
		1MZ–FE*			○			○		○			○	○
		1MZ–FE			N/A			○		○			○	○
	Solara	2AZ–FE			N/A			○		○			○	○
		1MZ–FE			○			○		○			○	○
	Avalon	1MZ–FE			N/A			○		○			○	○
	RAV4	1AZ–FE			N/A			○		○			○	○
	Highlander	2AZ–FE			N/A			○		○			○	○
		1MZ–FE			N/A			○		○			○	○
	Sienna	1MZ–FE			N/A			○		○			○	○
	Tacoma	2RZ–FE			N/A			○		○			○	○
		3RZ–FE			○			○		○			○	○
		5VZ–FE			N/A			○		○			○	○
	4Runner	1GR–FE			N/A		○			○		○		○
		2UZ–FE			N/A		○			○		○		○
	Tundra	5VZ–FE			N/A			○		○			○	○
		2UZ–FE			N/A		○			○		○		○
	L/C	2UZ–FE			N/A		○			◎		○		○
	Sequoia	2UZ–FE			N/A		○			○		○		○

* Produced from July to December in 2002.

Pattern No.					1	2	3	4	5	6	7	8	9	10
MY	**Model**	**Engine**	**Drive Train**	**Category**										
2004	Sienna	3MZ–FE			N/A			○		○			○	○

As for all 2004 MY vehicles except Sienna, refer to the Repair Manuals.

Available Model for Readiness Code Set Drive Pattern (LEXUS Models):

Pattern No. / MY	Model	Engine	Category	1	2	3	4	5	6	7	8	9	10
1996	LS400	1UZ–FE		○		○		○			○		○
	GS300	2JZ–GE		○		○				○	○		○
	SC400	1UZ–FE		○		○				○	○		○
	SC300	2JZ–GE		○		○				○	○		○
	ES300	1MZ–FE		○		○		○			○		○
	LX450	1FZ–FE			○	○		N/A	N/A	N/A	○		○

Pattern No. / MY	Model	Engine	Category	1	2	3	4	5	6	7	8	9	10
1997	LS400	1UZ–FE		○		○		○			○		○
	GS300	2JZ–FE		○		○				○	○		○
	SC400	1UZ–FE		○		○				○	○		○
	SC300	2JZ–GE		○		○				○	○		○
	ES300	1MZ–FE		○		○		○			○		○
	LX450	1FZ–FE			○	○		N/A	N/A	N/A	○		○

No.	Readiness Code Patterns	Page	No.	Readiness Code Patterns	Page
1	EGR Monitor (Except 1FZ–FE engine)	In–27	6	EVAP Monitor (Vacuum and LEV II)	In–33
2	EGR Monitor (For 1FZ–FE engine)	In–28	7	EVAP Monitor (Engine RPM monitor)	In–35
3	Catalyst Monitor (O2S)	In–29	8	Heated Oxygen Sensor Monitor	In–36
4	Catalyst Monitor (A/F sensor equipped)	In–30	9	A/F Sensor/HO2S Monitor	In–37
5	EVAP Monitor (Fuel tank pressure monitor)	In–31	10	A/F Sensor/HO2S Heater Monitor	In–38

Pattern No. / MY	Model	Engine	Category	1	2	3	4	5	6	7	8	9	10
1998	LS400	1UZ–FE		N/A		○		○			○		○
	GS400	1UZ–FE		N/A		○		○			○		○
	GS300	2JZ–GE		N/A		○		○			○		○
	SC400	1UZ–FE		N/A		○		○			○		○
	SC300	2JZ–GE		N/A		○		○			○		○
	ES300	1MZ–FE	Fed	○		○		○			○		○
			CA	○			○	○				○	○
	LX470	2UZ–FE		○		○		○			○		○

Pattern No. / MY	Model	Engine	Category	1	2	3	4	5	6	7	8	9	10
1999	LS400	1UZ–FE		N/A		○		○			○		○
	GS400	1UZ–FE		N/A		○		○			○		○
	GS300	2JZ–GE		N/A		○		○			○		○
	SC400	1UZ–FE		N/A		○		○			○		○
	SC300	2JZ–GE		N/A		○		○			○		○
	ES300	1MZ–FE		N/A			○	○				○	○
	LX470	2UZ–FE		N/A		○		○			○		○
	RX300	1MZ–FE		N/A			○	○				○	○

Pattern No. / MY	Model	Engine	Category	1	2	3	4	5	6	7	8	9	10
2000	LS400	1UZ–FE		N/A		○			○		○		○
	GS400	1UZ–FE		N/A		○		○			○		○
	GS300	2JZ–GE		N/A		○			○		○		○
	SC400	1UZ–FE		N/A		○			○		○		○
	SC300	2JZ–FE		N/A		○			○		○		○
	ES300	1MZ–FE		N/A			○		○			○	○
	LX470	2UZ–FE		N/A		○		○			○		○
	RX300	1MZ–FE		N/A			○		○			○	○

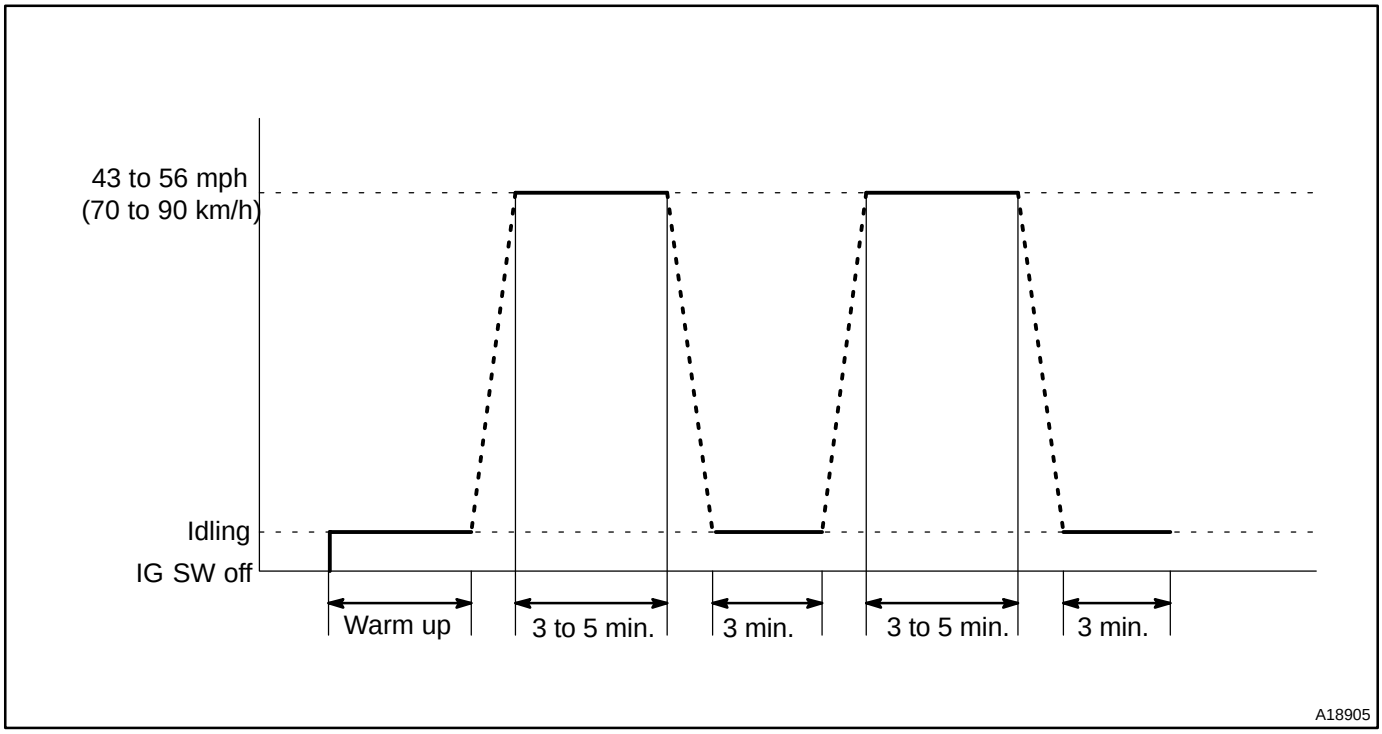
Pattern No. / MY	Model	Engine	Category	1	2	3	4	5	6	7	8	9	10
2001	LS430	3UZ–FE		N/A		○			○		○		○
	GS430	3UZ–FE		N/A		○			○		○		○
	GS300	2JZ–GE		N/A		○			○		○		○
	IS300	2JZ–GE		N/A		○			○		○		○
	ES300	1MZ–FE		N/A			○		○			○	○
	LX470	2UZ–FE		N/A		○		○			○		○
	RX300	1MZ–FE		N/A			○		○			○	○

No.	Readiness Code Patterns	Page	No.	Readiness Code Patterns	Page
1	EGR Monitor (Except 1FZ–FE engine)	In–27	6	EVAP Monitor (Vacuum and LEV II)	In–33
2	EGR Monitor (For 1FZ–FE engine)	In–28	7	EVAP Monitor (Engine RPM monitor)	In–35
3	Catalyst Monitor (O2S)	In–29	8	Heated Oxygen Sensor Monitor	In–36
4	Catalyst Monitor (A/F sensor equipped)	In–30	9	A/F Sensor/HO2S Monitor	In–37
5	EVAP Monitor (Fuel tank pressure monitor)	In–31	10	A/F Sensor/HO2S Heater Monitor	In–38

Pattern No. / MY	Model	Engine	Category	1	2	3	4	5	6	7	8	9	10
2002	LS430	3UZ–FE		N/A		○			○		○		○
	GS430	3UZ–FE		N/A		○			○		○		○
	GS300	2JZ–GE		N/A		○			○		○		○
	SC430	3UZ–FE		N/A		○			○		○		○
	IS300	2JZ–GE		N/A		○			○		○		○
	ES300	1MZ–FE		N/A			○		○			○	○
	LX470	2UZ–FE		N/A		○			○		○		○
	RX300	1MZ–FE		N/A			○		○			○	○

Pattern No. / MY	Model	Engine	Category	1	2	3	4	5	6	7	8	9	10
2003	LS430	3UZ–FE		N/A		○			○		○		○
	GS430	3UZ–FE		N/A		○			○		○		○
	GS300	2JZ–GE		N/A		○			○		○		○
	SC430	3UZ–FE		N/A		○			○		○		○
	IS300	2JZ–GE		N/A		○			○		○		○
	ES300	1MZ–FE		N/A			○		○			○	○
	LX470	2UZ–FE		N/A		○			○		○		○
	GX470	2UZ–FE		N/A		○			○		○		○
	RX300	1MZ–FE		N/A			○		○			○	○

1. EGR Monitor (Except 1FZ–FE)



Preconditions

The monitor will not run unless:

- MIL is OFF
- Altitude is 7,870 feet (2,400 m) or less
- Intake Air Temperature (IAT) is 14˚F (–10˚C) or higher
- Engine Coolant Temperature (ECT) is 167˚F (75˚C) or higher

Drive Pattern

(a) Connect the OBD II scan tool to the DLC3 to check monitor status and preconditions.
(b) If IAT is less than 50˚F (10˚C) when starting the engine, idle the engine for approximately 10 minutes.
(c) Drive vehicle at 43 – 56 mph (70 – 90 km/h) for a period of 3 – 5 minutes.

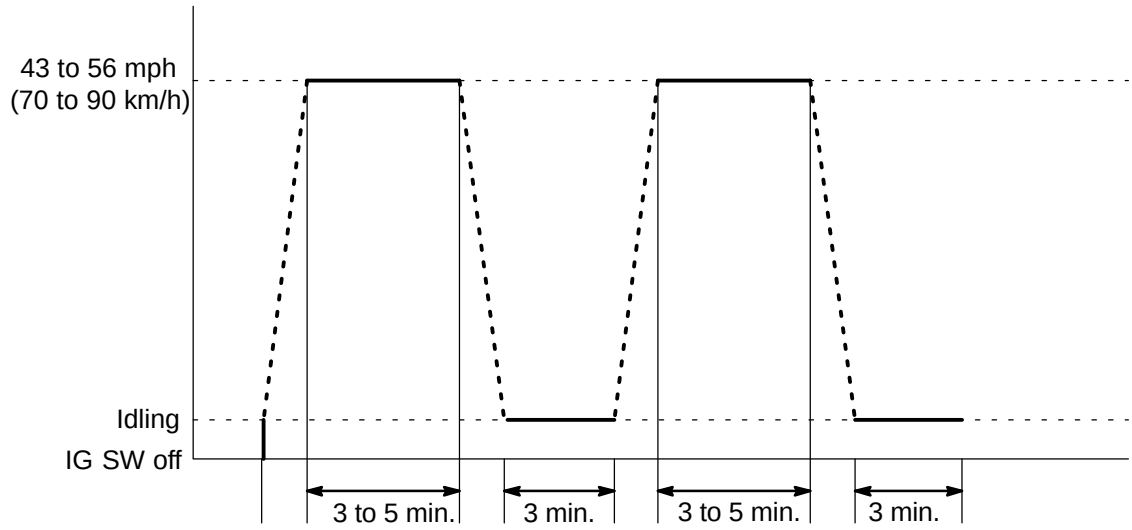
NOTICE:

Do not allow the Throttle Position (TP) to exceed 30 %.

Drive with smooth throttle operation and avoid sudden acceleration.

(d) Stop vehicle and let engine idle for 3 – 5 minutes.
(e) Repeat steps ”c” and ”d” once.
(f) If readiness status does not switch to complete, ensure preconditions are met, turn ignition off, and then repeat steps ”c” through ”e”.

2. EGR Monitor (For 1FZ–FE engine)



Preconditions

The monitor will not run unless:

- MIL is OFF
- Altitude is 7,870 feet (2,400 m) or less
- Intake Air Temperature (IAT) is 14˚F (–10˚C) or higher
- Soak the vehicle until Engine Coolant Temperature (ECT) is less than 104˚F (40˚C)

Drive Pattern

(a) Connect the OBD II scan tool to the DLC3 to check monitor status and preconditions.
(b) Start the engine and immediately begin driving as directed.
(c) Drive vehicle at 43 – 56 mph (70 – 90 km/h) for a period of 3 – 5 minutes.

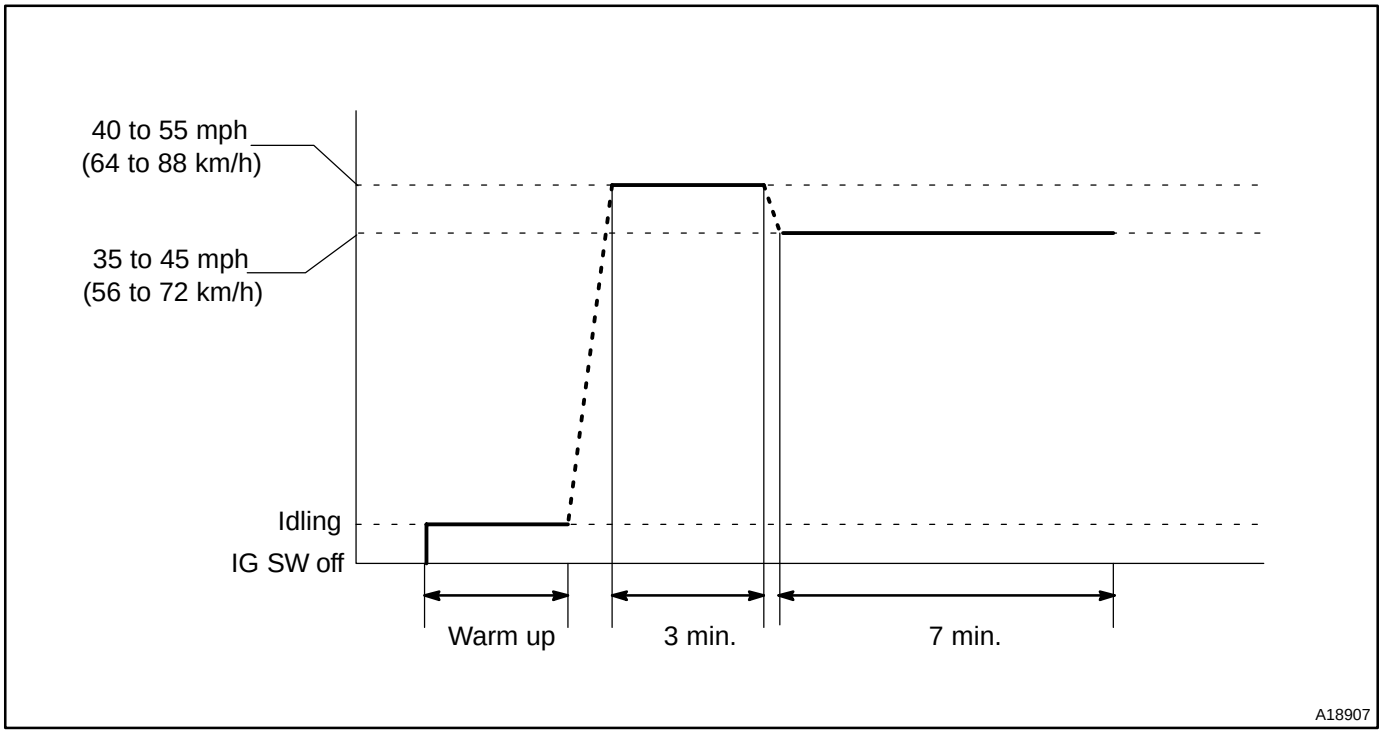
NOTICE:

Do not allow the Throttle Position (TP) to exceed 30 %.

Drive with smooth throttle operation and avoid sudden acceleration.

(d) Stop vehicle and let engine idle for 3 – 5 minutes.
(e) Repeat steps ”c” and ”d” once.
(f) If readiness status does not switch to complete, ensure preconditions are met, turn ignition off, and then repeat steps ”b” through ”e”.

3. Catalyst Monitor (Front and rear heated oxygen sensor equipped)



Preconditions

The monitor will not run unless:

- MIL is OFF
- Intake Air Temperature (IAT) is 14˚F (–10˚C) or higher*
- Engine Coolant Temperature (ECT) is 176˚F (80˚C) or higher

*** NOTE for 2002 MY and later:**

The readiness test can be completed in cold ambient conditions (less than 14˚F / –10˚C), if the drive pattern is repeated a second time after cycling the ignition off.

Drive Pattern

(a) Connect the OBD II scan tool to the DLC3 to check monitor status and preconditions.

(b) Drive vehicle at 40 – 55 mph (64 – 88 km/h) for approximately 3 minutes.

NOTICE:

Drive with smooth throttle operation and avoid sudden acceleration.

If IAT is less than 50˚F (10˚C) when starting engine, continue to drive vehicle at 40 – 55 mph (64 – 88 km/h) for approximately 4 minutes.

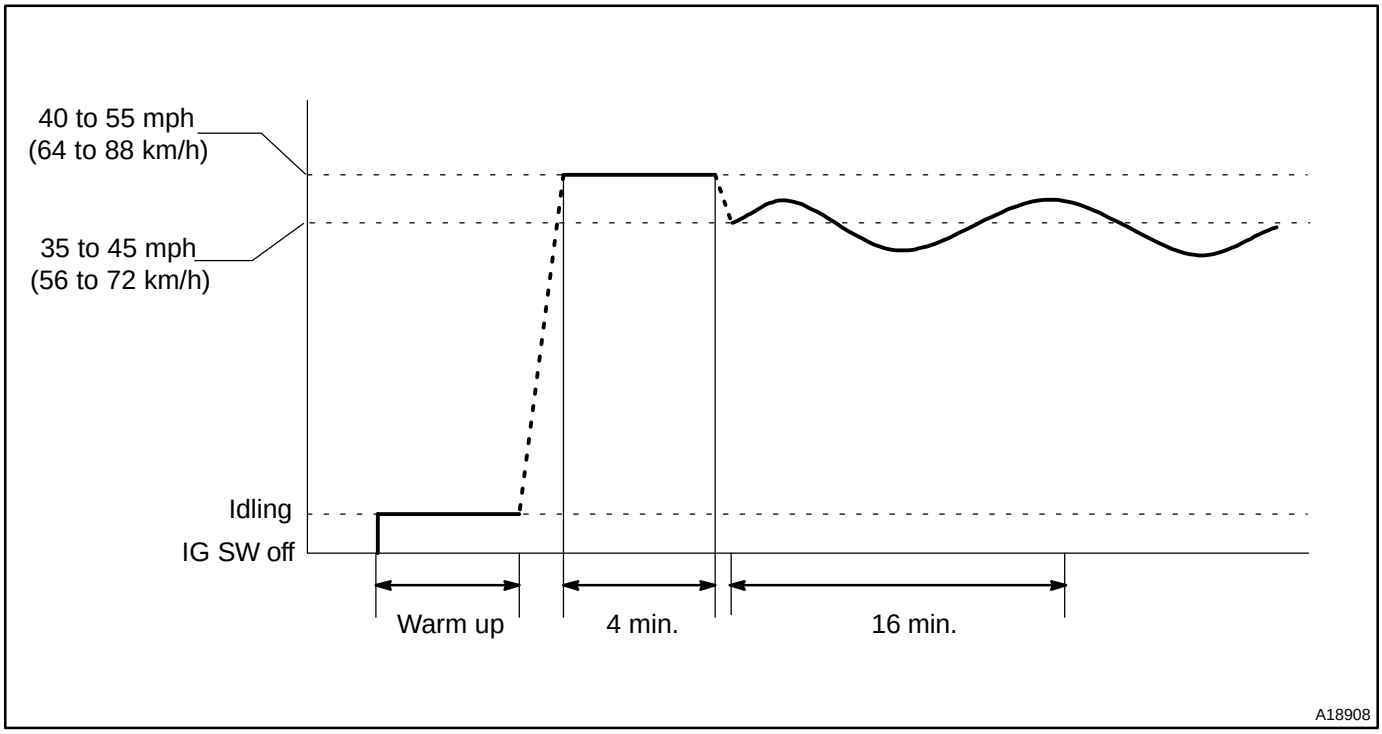
(c) Drive vehicle at 35 – 45 mph (56 – 72 km/h) for approximately 7 minutes.

NOTICE:

Drive with smooth throttle operation and avoid sudden deceleration as much as possible (avoid sudden, full closure of the throttle).

(d) If readiness status does not switch to complete, ensure preconditions are met, turn ignition off, and then repeat steps ”b” through ”c”.

4. Catalyst Monitor (A/F sensor equipped)



Preconditions

The monitor will not run unless:

- MIL is OFF
- Intake Air Temperature (IAT) is 14˚F (–10˚C) or higher*
- Engine Coolant Temperature (ECT) is 176˚F (80˚C) or higher

*** NOTE for 2002 and later models:**

The readiness test can be completed in cold ambient conditions (less than 14˚F / –10˚C), if the drive pattern is repeated a second time after cycling the ignition off.

Drive Pattern

(a) Connect the OBD II scan tool to the DLC3 to check monitor status and preconditions.

(b) Drive vehicle at 40 – 55 mph (64 – 88 km/h) for approximately 4 minutes.

NOTICE:

Drive with smooth throttle operation and avoid sudden acceleration.

If IAT is less than 50˚F (10˚C) when starting engine, continue to drive vehicle at 40 – 55 mph (64 – 88 km/h) for approximately 4 minutes.

(c) Drive vehicle allowing speed to fluctuate between 35 – 45 mph (56 – 72 km/h) for about 16 minutes.

NOTICE:

Drive with smooth throttle operation and avoid sudden deceleration as much as possible (avoid sudden, full closure of the throttle).

(d) If readiness status does not switch to complete, ensure preconditions are met, turn ignition off, and then repeat steps ”b” through ”c”.

5. EVAP Monitor (Fuel tank pressure monitor)

IMPORTANT

To complete the ”Internal Pressure Readiness” monitor, you must perform a ”Cold Soak” procedure prior to conducting the driving pattern procedure.

Cold Soak Preconditions

The monitor will not run unless:

- MIL is OFF
- Fuel level is approximately 1/2 to 3/4
- Altitude is 7,870 feet (2,400 m) or less

Cold Soak Procedure

(a) Start the engine and allow coolant temperature to reach 176˚F (80˚C) or higher

(b) Let vehicle cold cold soak for 8 hours or until the difference between IAT and ECT is less than 13˚F (7˚C)

Examples:

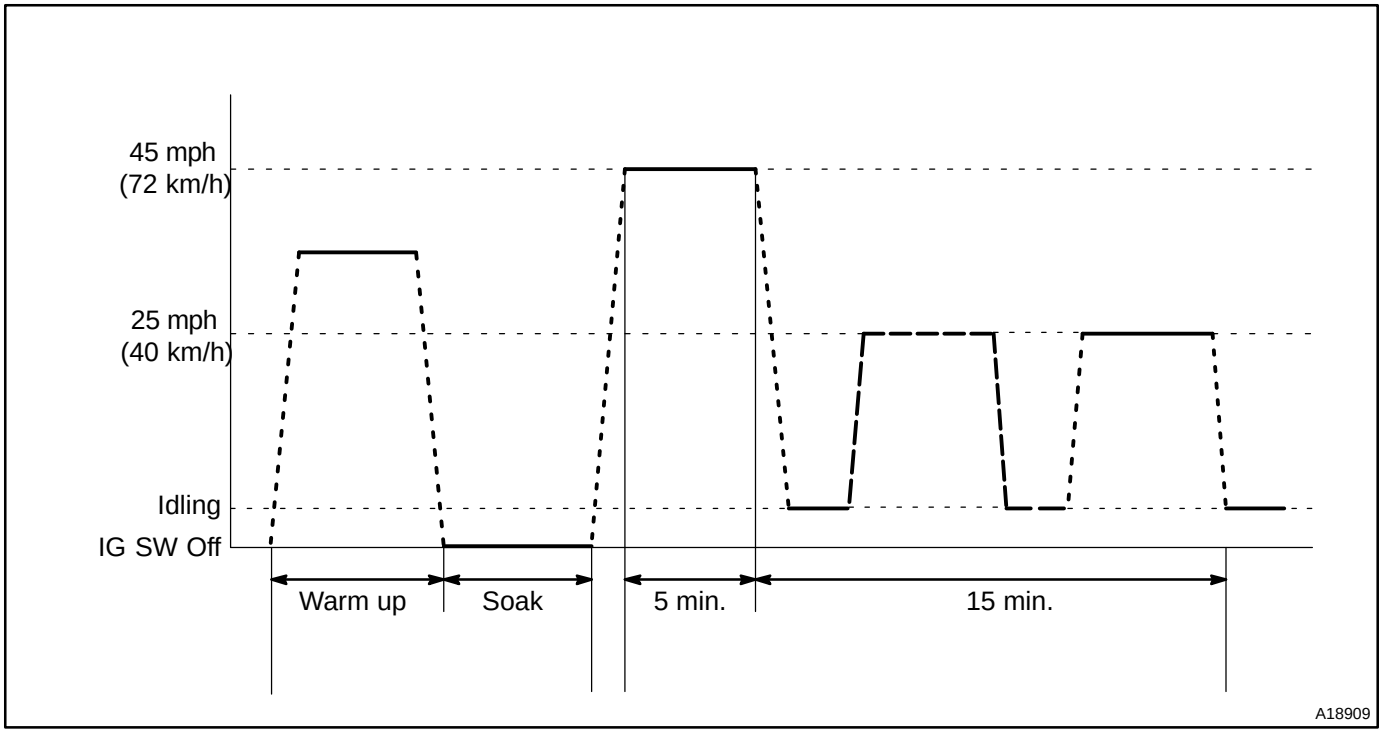
Scenario 1

ECT = 75˚F (24˚C)
IAT = 60˚F (16˚C)
Difference between ECT and IAT is 15˚F (8˚C)
→ The monitor will not run because difference between ECT and IAT is greater than 13˚F (7˚C)

Scenario 2

ECT = 70˚F (21˚C)
IAT = 68˚F (20˚C)
Difference between ECT and IAT is 2˚F (1˚C)
→ The monitor will run because difference between ECT and IAT is less than 13˚F (7˚C)

EVAP MONITOR DRIVING PATTERN



Preconditions

The monitor will not run unless:

- MIL is OFF
- Fuel level is approximately 1/2 to 3/4
- Altitude is 7,800 feet (2,400 m) or less
- Engine Coolant Temperature (ECT) is between 14˚F and 95˚F (–10˚C and 35˚C)
- Intake Air Temperature (IAT) is between 14˚F and 95˚F (–10˚C and 35˚C)
- Cold Soak Procedure has been completed
- Before starting the engine, the difference between ECT and IAT must be less than 13˚F (7˚C)

Examples:

Scenario 1

ECT = 75˚F (24˚C)
IAT = 60˚F (16˚C)
Difference between ECT and IAT is 15˚F (8˚C)
→ The monitor will not run because difference between ECT and IAT is greater than 13˚F (7˚C)

Scenario 2

ECT = 70˚F (21˚C)
IAT = 68˚F (20˚C)
Difference between ECT and IAT is 2˚F (1˚C)
→ The monitor will run because difference between ECT and IAT is less than 13˚F (7˚C)

Drive Pattern

(c) Connect the OBD II scan tool to the DLC3 to check monitor status and preconditions.

NOTICE:

Do not turn the ignition off until drive pattern is complete.

(d) Release pressure in fuel tank by removing and then reinstalling the fuel tank cap.

(e) Start the engine and immediately begin driving as directed.

NOTICE:

Drive on smooth roads to minimize fuel sloshing.

(f) Drive vehicle at approximately 45 mph (72 km/h) for about 5 minutes.

(g) Drive vehicle at approximately 25 mph (40 km/h) for about 15 minutes and include a minimum of two stops for approximately 30 seconds.

(h) The monitor should complete within approximately 20 minutes. If it does not, ensure preconditions are met, repeat step ”e”.

6. EVAP Monitor (Vacuum monitor and LEV II)

IMPORTANT

To complete the ”Internal Pressure Readiness” monitor, you must perform a ”Cold Soak” procedure prior to conducting the driving pattern procedure.

Cold Soak Preconditions

The monitor will not run unless:

- MIL is OFF
- Fuel level is approximately 1/2 to 3/4
- Altitude is 7,870 feet (2,400 m) or less

Cold Soak Procedure

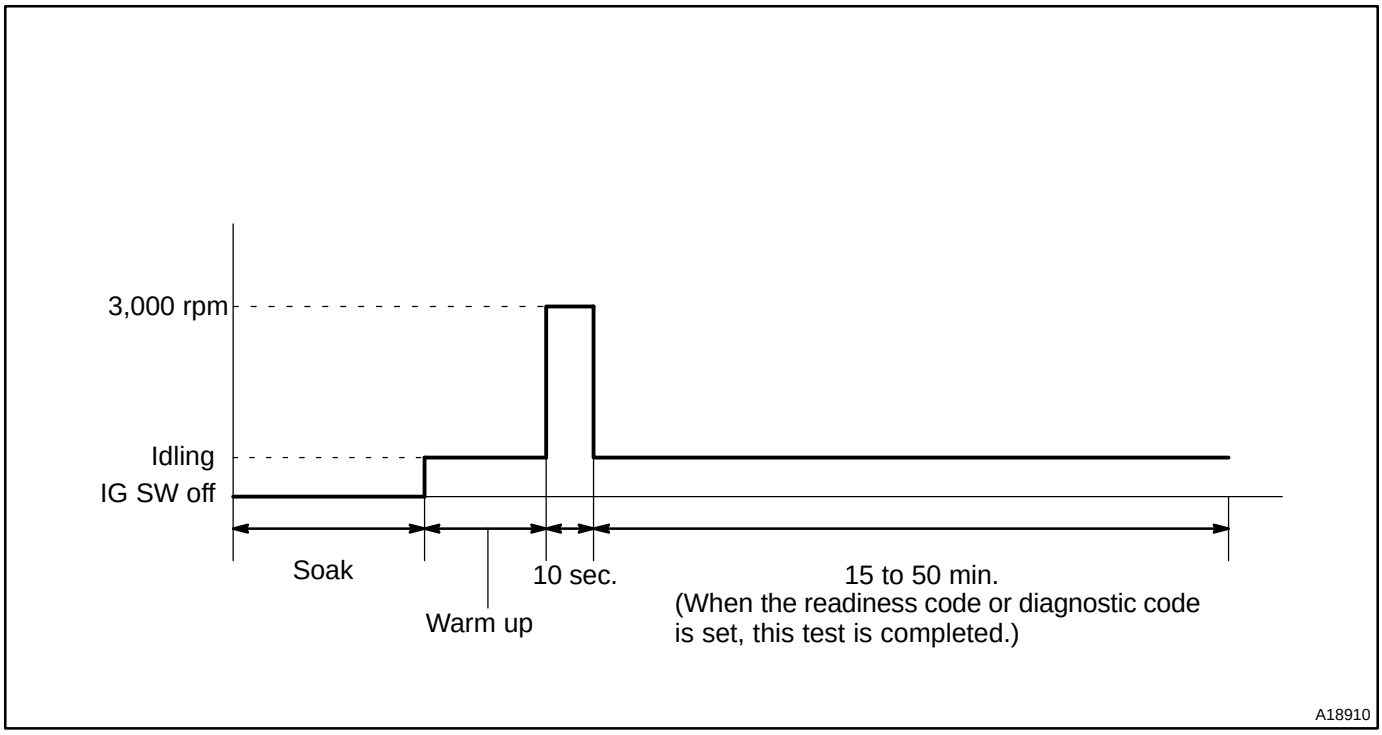
Let vehicle cold soak for 8 hours or until the difference between IAT and ECT is less than 13˚F (7˚C)
Examples:

Scenario 1

ECT = 75˚F (24˚C)
IAT = 60˚F (16˚C)
Difference between ECT and IAT is 15˚F (8˚C)
→ The monitor will not run because difference between ECT and IAT is greater than 13˚F (7˚C)

Scenario 2

ECT = 70˚F (21˚C)
IAT = 68˚F (20˚C)
Difference between ECT and IAT is 2˚F (1˚C)
→ The monitor will run because difference between ECT and IAT is less than 13˚F (7˚C)



Preconditions

The monitor will not run unless:

- MIL is OFF
- Fuel level is approximately 1/2 to 3/4
- Altitude is 7,870 feet (2,400 m) or less*
- Engine Coolant Temperature (ECT) is between 40˚F and 95˚F (4.4˚C and 35˚C)
- Intake Air Temperature (IAT) is between 40˚F and 95 ˚F (4.4˚C and 35˚C)*
- Cold Soak Procedure has been completed

• Before starting the engine, the difference between ECT and IAT must be less than 13˚F (7˚C)

Examples:

Scenario 1

ECT = 75˚F (24˚C)

IAT = 60˚F (16˚C)

Difference between ECT and IAT is 15˚F (8˚C)

→ The monitor will not run because difference between ECT and IAT is greater than 13˚F (7˚C)

Scenario 2

ECT = 70˚F (21˚C)

IAT = 68˚F (20˚C)

Difference between ECT and IAT is 2˚F (1˚C)

→ The monitor will run because difference between ECT and IAT is less than 13˚F (7˚C)

*** NOTE for 2002 and later MY vehicles:**

The readiness test can be completed in cold ambient conditions (less than 40˚F/4.4˚C) and/or at high altitudes (more than 7,870 feet/2,400 m) if the drive pattern is repeated a second time after cycling the ignition off.

Drive Pattern

(a) Connect the OBD II scan tool to the DLC3 to check monitor status and preconditions.

(b) Release pressure in fuel tank by removing and then reinstalling the fuel tank cap.

(c) Start the engine and allow to idle until ECT is 167˚F (75˚C) or higher.

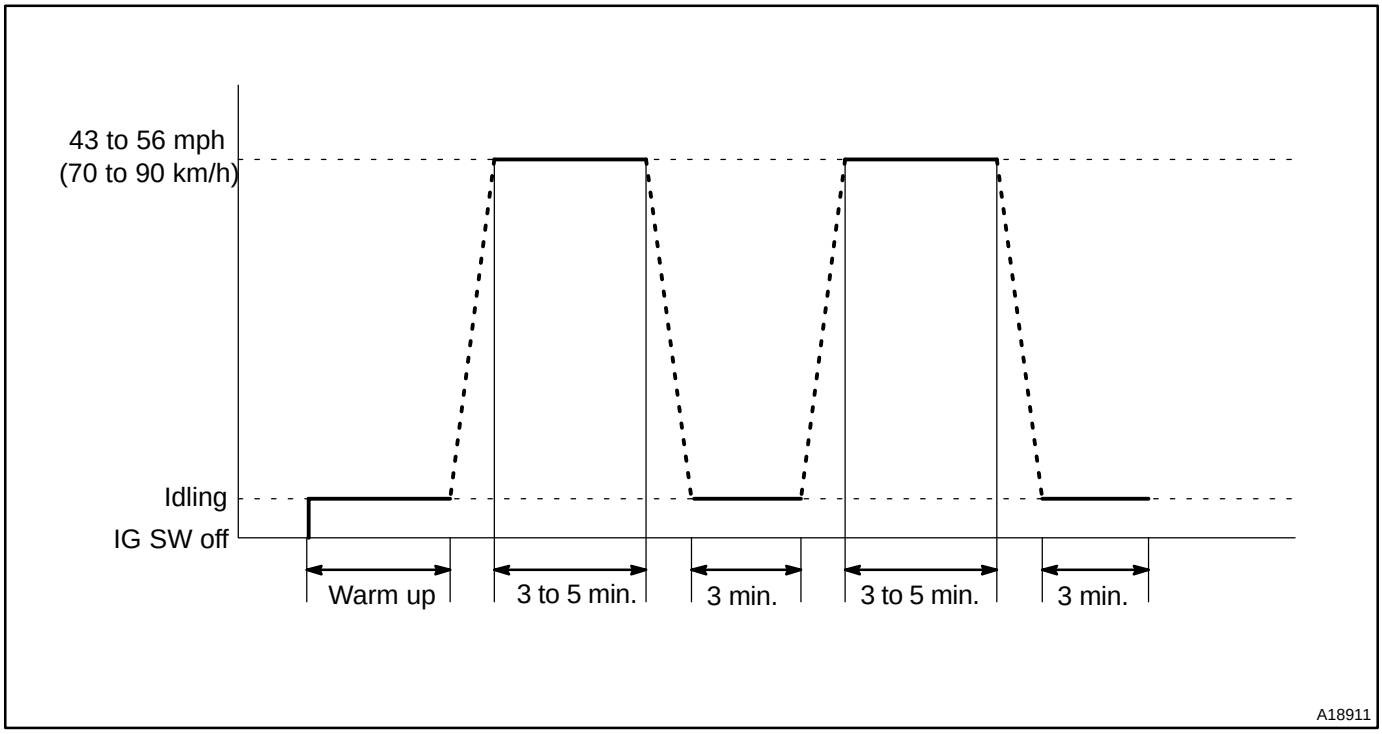
(d) Run the engine at 3,000 rpm for about 10 seconds.

(e) Allow engine to idle with the A/C ON (to create a slight load) for 15 – 50 minutes.

NOTICE: If vehicle is not equipped with A/C

- **Securely set the parking brake.**
- **Block the drive wheels with wheel chocks.**
- **Allow vehicle to idle in drive for 15 – 50 minutes.**

7. EVAP Monitor (Engine RPM monitor)



Preconditions

The monitor will not run unless:

- MIL is OFF
- Altitude is 7,870 feet (2,400 m) or less
- Engine Coolant Temperature (ECT) is 41˚F (5˚C) or higher
- Intake Air Temperature (IAT) is 181˚F (83˚C) or higher

Drive Pattern

(a) Connect the OBD II scan tool to the DLC3 to check monitor status and preconditions.

(b) Drive vehicle at 43 – 56 mph (70 – 90 km/h) for a period of 3 – 5 minutes.

NOTICE:

Do not allow the Throttle Position (TP) to exceed 30 %.

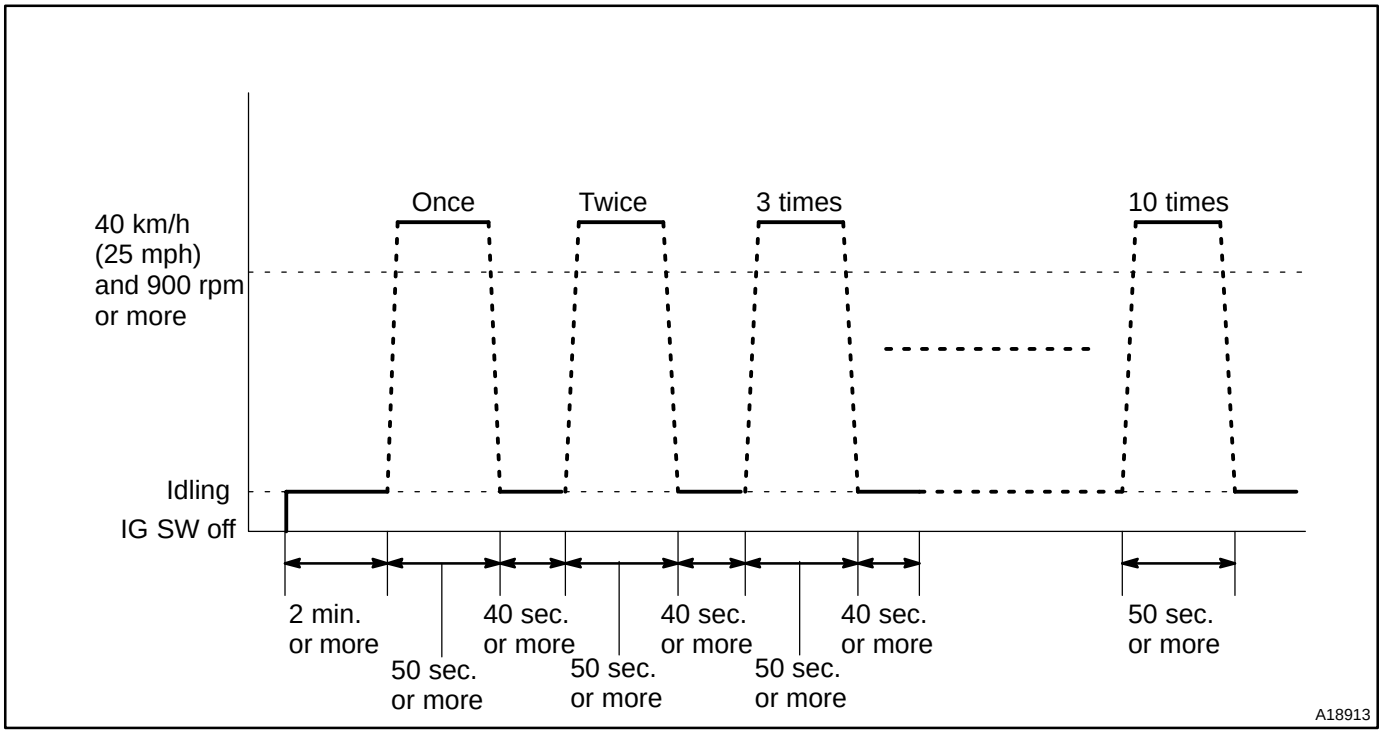
Drive with smooth throttle operation and avoid sudden acceleration.

(c) Stop vehicle and let engine idle for 3 – 5 minutes.

(d) Repeat steps ”b” and ”c” once.

(e) If readiness status does not switch to complete, ensure preconditions are met, turn ignition off, and then repeat steps ”b” through ”d”.

8. Heated Oxygen Sensor Monitor (Front and rear heated oxygen sensor equipped)



Preconditions

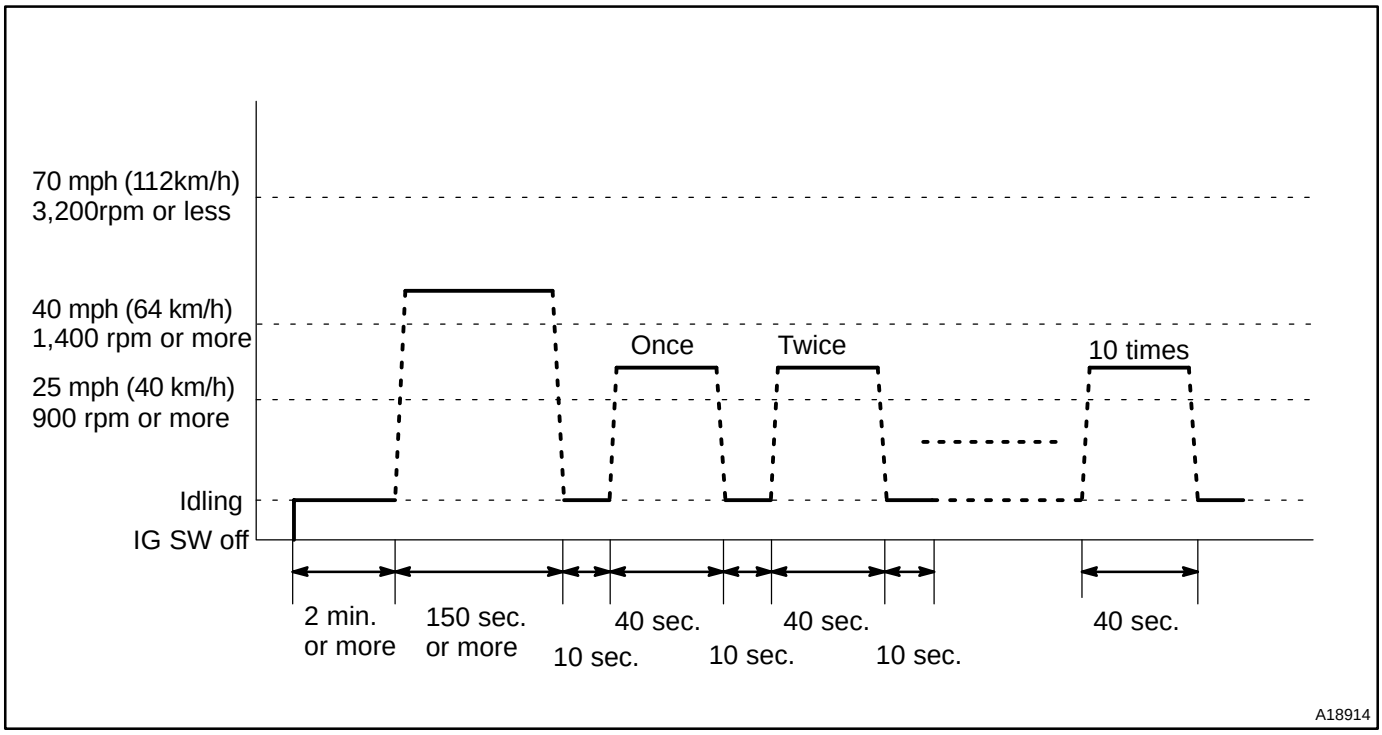
The monitor will not run unless:

- MIL is OFF

Drive Pattern

(a) Connect the OBD II scan tool to the DLC3 to check monitor status and preconditions.
(b) Start the engine and allow to idle for 2 minutes or more.
(c) Drive vehicle at 25 mph (40 km/h) or more for at least 50 seconds.
(d) Stop vehicle and allow engine to idle for 40 seconds or more.
(e) Perform steps ”c” and ”e” ten times.
(f) If readiness status does not switch to complete, ensure preconditions are met, turn ignition off and then repeat steps ”a” through ”e”.

9. A/F Sensor and Heated Oxygen Sensor Monitor (Front A/F sensor and rear heated oxygen sensor equipped)



Preconditions

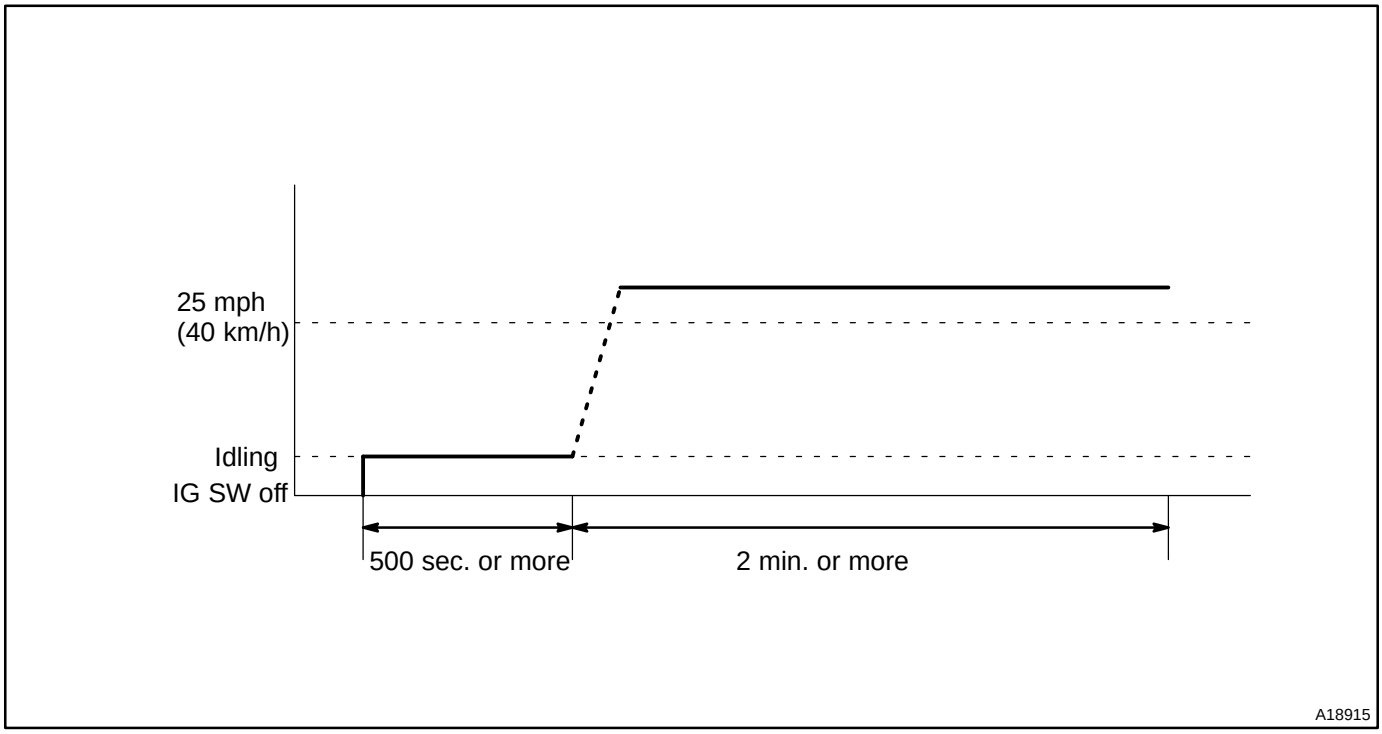
The monitor will not run unless:

- MIL is OFF

Drive Pattern

(a) Connect the OBD II scan tool to the DLC3 to check monitor status and preconditions.
(b) Start the engine and allow to idle for 2 minutes or more.
(c) Drive vehicle at 40 – 70 mph (64 – 112 km/h) or more for at least 150 seconds.
(d) Stop vehicle and allow engine to idle for 10 seconds or more.
(e) Drive vehicle at 25 mph (40 km/h) or more for at least 40 seconds.
(f) Stop vehicle and allow engine to idle for 10 seconds or more.
(g) Perform steps ”e” and ”f” 10 times.
(h) If readiness status does not switch to complete, ensure preconditions are met, turn ignition off and then repeat steps ”a” through ”g”.

10. Oxygen Sensor Heater and A/F Sensor Heater Monitor



Preconditions

The monitor will not run unless:

- MIL is OFF

Drive Pattern

(a) Connect the OBD II scan tool to the DLC3 to check monitor status and preconditions.
(b) Start the engine and allow to idle for 9 minutes.
(c) Drive vehicle at 25 mph (40 km/h) or more for at least 2 minutes.
(d) If readiness status does not switch to complete, ensure preconditions are met, turn ignition off and then repeat steps ”b” and ”c”.