

2002 for Shift/ Timing Solenoid (Shift Solenoid Valve ST) Monitor (P1790)

To return to monitor description, see page [Cm-354](#).

MONITOR STRATEGY

Required sensors/Components	Main	Shift solenoid valve ST
	Sub	None
Frequency of operation	Continuous	
Duration	0.032 sec.	
MIL operation	Immediate	
Sequence of operation	None	

TYPICAL ENABLING CONDITIONS

Item		Specification	
		Minimum	Maximum
The monitor will run whenever the following DTCs are not present.		See page In-39	
Engine family	Item	Specification	
		Minimum	Maximum
1NZ-FE	Range check (Low resistance)		
	Solenoid	ON	
	Time after solenoid OFF to ON	More than 0.008 sec.	–
	Range check (High resistance)		
	Solenoid	OFF	
	Time after solenoid OFF to ON	More than 0.008 sec.	–
Except 1NZ-FE	Condition (A)		
	Solenoid	ON	
	Time after solenoid OFF to ON	More than 0.008 sec.	–
	Condition (B)		
	Solenoid	OFF	
	Time after solenoid OFF to ON	More than 0.008 sec.	–

TYPICAL MALFUNCTION THRESHOLDS

Engine family	Detection criteria	Threshold
1NZ-FE	Range check (Low resistance)	
	Number of solenoid ON/OFF change with intelligent power MOS diagnosis signal failure (Fail at solenoid resistance 8 Ω or less)	2 times Fail, 2 times (0.016 sec.)
	Range check (High resistance)	
	Number of solenoid ON/OFF change with intelligent power MOS diagnosis signal failure (Fail at solenoid resistance 100 k Ω or less)	100 k Ω or more
Except 1NZ-FE	Either (A) or (B) is met	
	Condition (A)	
	Number of solenoid ON/OFF change with intelligent power MOS diagnosis signal failure (Fail at solenoid resistance 8 Ω or less)	2 times Fail, 2 times (0.016 sec.)
	Condition (B)	
	Number of solenoid ON/OFF change with intelligent power MOS diagnosis signal failure (Fail at solenoid resistance 100 k Ω or less)	2 times Fail, 2 times (0.016 sec.)