

1998 MY for Pressure Control Solenoid "A" Performance (Shift Solenoid Valve SL1) Monitor (P0750)

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MONITOR STRATEGY

Required sensors/Components	Main	Shift solenoid valve No.1
	Sub	None
Frequency of operation	Continuous	
Duration	Less than 10 sec.	
MIL operation	2 driving cycles	
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
5E-FE (PASEO), 1ZZ-FE, 5S-FE (CAMRY), 1MZ-FE, 2JZ-GE, 2JZ-GTE, 1UZ-FE, 3S-FE, 3RZ-FE (Except Prerunner), 5VZ-FE (Except Prerunner)	Functional check		
	Transmission range	"D"	
5S-FE (CELICA)	Condition (A)		
	Transmission range	"D"	
	Engine coolant	60 °C (140 °F)	105 °C (221 °F)
	Spark retard by KCS control	–	Less than 10° CA
	OFF failure		
	Intake air temperature	–10 °C (14 °F)	70 °C (158 °F)
	ECM selected gear	1st	
	Throttle valve opening angle	25 % or more	–
	ON failure		
	Intake air temperature	–10 °C (14 °F)	70 °C (158 °F)
	ECM selected gear	4th	
	Throttle valve opening angle	13 % or more	30 % or less

Component T/M Outputs – Solenoid

5VZ-FE (Prerunner)	Condition (A)		
	Transmission range	"D"	
	Engine coolant	60 °C (140 °F)	105 °C (221 °F)
	Spark retard by KCS control	–	Less than 8° CA
	Transmission fluid temperature	–	Less than 130 °C (266 °F) (hysteresis 110 °C (230 °F))
	Battery voltage	10 V or more	–
	OFF failure		
	Intake air temperature	–10 °C (14 °F)	70 °C (158 °F)
	ECM selected gear	1st	
	Throttle valve opening angle	50 % or more	–
	ON failure		
	Intake air temperature	–10 °C (14 °F)	70 °C (158 °F)
	ECM selected gear	4th	
	Throttle valve opening angle	17 % or more	40 % or less
3RZ-FE (Prerunner)	Condition (A)		
	Transmission range	"D"	
	Engine coolant	55 °C (131 °F)	105 °C (221 °F)
	Spark retard by KCS control	–	Less than 10° CA
	Transmission fluid temperature	–	Less than 130 °C (266 °F) (hysteresis 110 °C (230 °F))
	Battery voltage	10 V or more	–
	OFF failure		
	Intake air temperature	–10 °C (14 °F)	90 °C (194 °F)
	ECM selected gear	1st	
	Throttle valve opening angle	80 % or more	–
	ON failure		
	Intake air temperature	–10 °C (14 °F)	90 °C (194 °F)
	ECM selected gear	4th	
	Throttle valve opening angle	14 % or more	45 % or less

2UZ-FE	Condition (A)		
	Transmission range	"D"	
	Engine coolant	40 °C (104 °F) or more	–
	Transmission fluid temperature	–	Less than 130 °C (266 °F) (hysteresis 110 °C (230 °F))
	Transfer range	Hi	
	OFF failure (A)		
	ECM selected gear	1st	
	Vehicle speed	–	Less than 40 km/h (25 mph)
	Throttle valve opening angle	15 % or more	–
	OFF failure (B)		
	Current ECM selected gear	4th	
	Less ECM selected gear	3rd	
	Throttle valve opening angle	15 % or more	–
	ON failure (A)		
	Current ECM selected gear	Hi	
	Less ECM selected gear	4th	
	Throttle valve opening angle	15 % or more	–
	Engine load rate	40.8 % or more (A/C OFF) 57.2 % or more (A/C ON)	– –
	ON failure (B)		
	Current ECM selected gear	4th	
	Throttle valve opening angle	15 % or more	–
	Changing value of vehicle speed (Last ECM selected gear–current ECM selected gear)	–	10 km/h (6 mph) or less
	Changing value of throttle valve opening angle (Last ECM selected gear–current ECM selected gear)	–	10 % or less
	Vehicle speed (current)	–	85 km/h (53 mph) or less
	Throttle valve opening angle (cur- rent)	–	20 % or less

TYPICAL MALFUNCTION THRESHOLDS

Engine family	Detection criteria	Threshold
5E-FE (PASEO), 1ZZ-FE, 5S-FE (CAMRY), 1MZ-FE, 2JZ-GE, 2JZ-GTE, 1UZ-FE, 3S-FE, 3RZ-FE (Except Pre-runner), 5VZ-FE (Except Prerunner)	ECM selected gear vs operating gear	Don't match
5S-FE (CELICA)	(A) and OFF failure	
	Engine speed	< 0.65 x output speed + 1,900
	Number of detections	2 times/trip
	(A) and ON failure	
	Engine speed	≥ 1.1 x output speed + 1,700
	Number of detections	1 time/trip

Component T/M Outputs – Solenoid

5V-FE (Prerunner)	(A) and OFF failure	
	Engine speed	$< 0.5 \times \text{output speed} + 2,100$
	Number of detections	2 times/trip
	(A) and ON failure	
	Engine speed	$\geq 1.1 \times \text{output speed} + 1,700$
	Number of detections	1 time/trip
3RZ-FE (Prerunner)	(A) and OFF failure	
	Engine speed	$< 0.7 \times \text{output speed} + 1,700$
	Number of detections	2 times/trip
	(A) and ON failure	
	Engine speed	$\geq 1.3 \times \text{output speed} + 1,100$
	Number of detections	1 time/trip
2UZ-FE	Following conditions met a. and b.	
	a. = (A) and OFF failure (A)	
	Input speed/Output speed (NCO/NO)	$0.00 \leq (\text{NCO/NO}) \leq 0.22$
	b. = (A) and OFF failure (B)	
	Input speed/Output speed (NCO/NO)	$0.93 \leq (\text{NCO/NO}) \leq 1.07$ $\downarrow$ $0.00 \leq (\text{NCO/NO}) \leq 0.22$
	Following conditions met a. and b.	
	a. = (A) and ON failure (A)	
	Input speed/Output speed (NCO/NO)	$0.93 \leq (\text{NCO/NO}) \leq 1.07$ $\downarrow$ $0.00 \leq (\text{NCO/NO}) \leq 0.22$
	b. = (A) and ON failure (B)	
	Changing value of Engine speed (3rd – 4th)	950 rpm or more
	Engine speed	3,200 rpm or more