2002 MY for Shift Solenoid ”D” Performance (Shift Solenoid Valve S4) Monitor (P0765)

To return to monitor description, see page Cm–320.

MONITOR STRATEGY

Required sensors/Components	Main	Shift solenoid valve No.4
	Sub	None
Frequency of operation	Continuous	
Duration	1MZ–FE (RX300, HIGH LANDER), 2ZZ–GE, 2AZ–FE, 1AZ–FE	1 sec.
	1MZ–FE (ES300)	(A) & (OFF malfunction (A)), (A) & (ON malfunction (B)) 1 sec. (A) & OFF malfunction (B) 1.2 sec. (A) & ON malfunction (A) 0.8 sec.
	1MZ–FE (CAMRY)	(A) & OFF malfunction, (A) & ON malfunction 1 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
1MZ–FE (RX300, HIGH LANDER)	**Condition (A)**		
	Engine coolant temperature	60 ˚C (140 ˚F) or more	–
	Transmission range	”D”	
	Transmission fluid temperature	–20 ˚C (–4 ˚F) or more	–
	Transmission fluid temperature sensor circuit	Not circuit malfunction	
	ECT sensor circuit	Not circuit malfunction	
	Input shaft speed sensor circuit	Not circuit malfunction	
	Internal counter shaft speed sensor circuit	Not circuit malfunction	
	Output shaft speed sensor circuit	Not circuit malfunction	
	Shift solenoid ”A” circuit	Not circuit malfunction	
	Shift solenoid ”B” circuit	Not circuit malfunction	
	Shift solenoid ”D” circuit	Not circuit malfunction	
	OFF malfunction		
	ECM selected gear	4th	
	Throttle valve opening angle	15 % or more	–
	Vehicle speed	10 km/h (6 mph) or more	–
	ON malfunction		
	ECM selected gear	3rd	
	Throttle valve opening angle	15 % or more	–
	Vehicle speed	10 km/h (6 mph) or more	–
1MZ–FE (ES300)	**Condition (A)**		
	Engine coolant temperature	10 ˚C (50 ˚F) or more	–
	Transmission range	”D”	
	Transmission fluid temperature	–20 ˚C (–4 ˚F) or more	–
	Transmission fluid temperature sensor circuit	Not circuit malfunction	
	ECT sensor circuit	Not circuit malfunction	
	Input shaft speed sensor circuit	Not circuit malfunction	
	Internal counter shaft speed sensor circuit	Not circuit malfunction	
	Output shaft speed sensor circuit	Not circuit malfunction	
	Shift solenoid ”A” circuit	Not circuit malfunction	
	Shift solenoid ”B” circuit	Not circuit malfunction	
	Shift solenoid ”C” circuit	Not circuit malfunction	
	Shift solenoid ”D” circuit	Not circuit malfunction	
	”SR” solenoid circuit	Not circuit malfunction	
	Shift solenoid ”E” circuit	Not circuit malfunction	

1MZ–FE (ES300)	**OFF malfunction (A)**		
	ECM selected gear	5th	
	Throttle valve opening angle	5 % or more	–
	Vehicle speed	10 km/h (6 mph) or more	–
	OFF malfunction (B)		
	ECM lock–up command	ON	
	ECM selected gear	3rd or 4th or 5th	
	Throttle valve opening angle	10 % or more	–
	Vehicle speed	25 km/h (16 mph) or more	Less than 100 km/h (62 mph)
	ON malfunction (A)		
	ECM selected gear	4th or 5th	
	Throttle valve opening angle	4.5 % or more at engine speed 1,900 rpm (condition vary with engine speed)	–
	ON malfunction (B)		
	ECM selected gear	4th	
	Throttle valve opening angle	5 % or more	–
	Vehicle speed	10 km/h (6 mph) or more	–
1MZ–FE (CAMRY), 2AZ–FE	**Condition (A)**		
	Engine coolant temperature	60 ˚C (140 ˚F) or more	–
	Transmission range	”D”	
	Transmission fluid temperature	–20 ˚C (–4 ˚F) or more	–
	Transmission fluid temperature sensor circuit	Not circuit malfunction	
	ECT sensor circuit	Not circuit malfunction	
	Input shaft speed sensor circuit	Not circuit malfunction	
	Internal counter shaft speed sensor circuit	Not circuit malfunction	
	Output shaft speed sensor circuit	Not circuit malfunction	
	Shift solenoid ”A” circuit	Not circuit malfunction	
	Shift solenoid ”B” circuit	Not circuit malfunction	
	Shift solenoid ”D” circuit	Not circuit malfunction	
	Electronic throttle system	Not circuit malfunction	
	OFF malfunction		
	ECM selected gear	4th	
	Throttle valve opening angle	7 % or more	–
	Vehicle speed	10 km/h (6 mph) or more	–
	ON malfunction		
	ECM selected gear	3rd	
	Throttle valve opening angle	7 % or more	–
	Vehicle speed	10 km/h (6 mph) or more	–

2ZZ–GE	**Condition (A)**		
	Engine coolant temperature	60 ˚C (140 ˚F) or more	–
	Transmission range	”D”	
	Transmission fluid temperature	–20 ˚C (–4 ˚F) or more	–
	Transmission fluid temperature sensor circuit	Not circuit malfunction	
	ECT sensor circuit	Not circuit malfunction	
	Input shaft speed sensor circuit	Not circuit malfunction	
	Internal counter shaft speed sensor circuit	Not circuit malfunction	
	Output shaft speed sensor circuit	Not circuit malfunction	
	Shift solenoid ”A” circuit	Not circuit malfunction	
	Shift solenoid ”B” circuit	Not circuit malfunction	
	Shift solenoid ”D” circuit	Not circuit malfunction	
	OFF malfunction		
	ECM selected gear	4th	
	Throttle valve opening angle	7 % or more	–
	Vehicle speed	10 km/h (6 mph) or more	–
	ON malfunction		
	ECM selected gear	3rd	
	Throttle valve opening angle	7 % or more	–
	Vehicle speed	10 km/h (6 mph) or more	–
1AZ–FE	**Condition (A)**		
	Engine coolant temperature	60 ˚C (140 ˚F) or more	–
	Transmission range	”D”	
	Transmission fluid temperature	–20 ˚C (–4 ˚F) or more	–
	Transmission fluid temperature sensor circuit	Not circuit malfunction	
	ECT sensor circuit	Not circuit malfunction	
	Input shaft speed sensor circuit	Not circuit malfunction	
	Internal counter shaft speed sensor circuit	Not circuit malfunction	
	Output shaft speed sensor circuit	Not circuit malfunction	
	Shift solenoid ”A” circuit	Not circuit malfunction	
	Shift solenoid ”B” circuit	Not circuit malfunction	
	Shift solenoid ”D” circuit	Not circuit malfunction	
	Electronic throttle system	Not circuit malfunction	
	OFF malfunction		
	ECM selected gear	4th	
	Throttle valve opening angle	15 % or more	–
	Vehicle speed	10 km/h (6 mph) or more	–
	ON malfunction		
	ECM selected gear	3rd	
	Throttle valve opening angle	15 % or more	–
	Vehicle speed	10 km/h (6 mph) or more	–

TYPICAL MALFUNCTION THRESHOLDS

Engine family	Detection criteria	Threshold
1MZ–FE (RX330, HIGH LANDER), 2ZZ–GE	**Following conditions met a. and b.**	
	It is necessary 2 judgments/driving cycle 1st judgment; temporary flag ON 2nd judgment; pending fault code ON	
	a. = (A) & OFF malfunction	
	Intermediate speed/Output speed (NC/NO)	1.34 ≦ NC/NO < 1.48
	b. = (A) & OFF malfunction	
	Intermediate speed/Output speed (NC/NO)	0.93 ≦ NC/NO < 1.07
1MZ–FE (ES300)	**Following condition met (a. and b.) or (c. and d.)**	
	It is necessary 2 judgments/driving cycle 1st judgment; temporary flag ON 2nd judgment; pending fault code ON	
	a. = (A) & OFF malfunction (A)	
	Intermediate speed/Output speed (NC/NO)	1.34 ≦ NC/NO < 1.48
	b. = (A) & OFF malfunction (B)	
	Engine speed – Input speed (NE – NT)	Less than 35 rpm
	c. = (A) & ON malfunction (A)	
	Input speed/Intermediate speed (NT/NC)	0.64 ≦ NT/NC < 0.74
	d. = (A) & ON malfunction (B)	
	Intermediate speed/Output speed (NC/NO)	0.95 ≦ NC/NO < 1.09
1MZ–FE (CAMRY), 2AZ–FE, 1AZ–FE	**Following conditions met a. and b.**	
	It is necessary 2 judgments/driving cycle 1st judgment; temporary flag ON 2nd judgment; pending fault code ON	
	a. = (A) & OFF malfunction	
	Intermediate speed/Output speed (NC/NO)	1.34 ≦ NC/NO < 1.48
	b. = (A) & ON malfunction	
	Intermediate speed/Output speed (NC/NO)	0.95 ≦ NC/NO < 1.09