

2003 MY for T/F L4 Range Position Switch Performance Monitor (P1782)

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MONITOR STRATEGY

Required sensors/Components	Main	Transfer L4 position switch
	Sub	None
Frequency of operation	Continuous	
Duration	1GR-FE, 5VZ-FE, 2UZ-FE (TUNDRA, SEQUOIA)	(A) & ON malfunction 1.8 sec.
	2UZ-FE (GX470, LAND CRUISER, LX470, 4RUNNER)	1.8 sec.
	3RZ-FE	ON malfunction 1.8 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
2UZ-FE (GX470, 4RUNNER, LAND CRUISER, LX470)	Condition (A)		
	Transfer range "Hi" [4WD]		
	Vehicle speed sensor "A" circuit	Not circuit malfunction	
	Output speed sensor circuit	Not circuit malfunction	
	Transfer neutral position switch	OFF	
	ON malfunction		
	NOTf	1,000 rpm or more	Less than 3,000 rpm

3RZ-FE	Condition (A)		
	Intake air temperature	-10 °C (14 °F) or more	Less than 90 °C (194 °F)
	Engine coolant temperature	55 °C (131 °F) or more	Less than 105 °C (221 °F)
	Transmission range	"D"	
	Shift solenoid "A" circuit	Not circuit malfunction	
	Shift solenoid "B" circuit	Not circuit malfunction	
	Torque converter clutch solenoid circuit	Not circuit malfunction	
	Battery voltage	10 V or more	-
	Spark retard by KCS control	-	Less than 2° CA
	Transfer range "Hi" [4WD]		
	Vehicle speed sensor "A" circuit	Not circuit malfunction	
	Output speed sensor circuit	Not circuit malfunction	
	Throttle valve opening angle	0 % or more	-
	Transfer neutral position switch	OFF	
	ON malfunction		
	NOTf	750 rpm or more	Less than 3,000 rpm
5VZ-FE, 4WD (TACOMA), 5VZ-FE (TUNDRA)	Condition (A)		
	Intake air temperature	-10 °C (14 °F) or more	Less than 70 °C (158 °F)
	Engine coolant temperature	60 °C (140 °F) or more	Less than 105 °C (221 °F)
	Transmission range	"D"	
	Shift solenoid "A" circuit	Not circuit malfunction	
	Shift solenoid "B" circuit	Not circuit malfunction	
	Torque converter clutch solenoid circuit	Not circuit malfunction	
	Battery voltage	10 V or more	-
	Spark retard by KCS control	-	Less than 8° CA
	Transfer range "Hi" [4WD]		
	Vehicle speed sensor "A" circuit	Not circuit malfunction	
	Output speed sensor circuit	Not circuit malfunction	
	Throttle valve opening angle	0 % or more	-
	Transfer neutral position switch	OFF	
	ON malfunction		
	NOTf	750 rpm or more	Less than 3,000 rpm
5VZ-FE, 2WD (TACOMA), 5VZ-FE (Prerunner)	Condition (A)		
	Intake air temperature	-10 °C (14 °F) or more	Less than 70 °C (158 °F)
	Engine coolant temperature	60 °C (140 °F) or more	Less than 105 °C (221 °F)
	Transmission range	"D"	
	Shift solenoid "A" circuit	Not circuit malfunction	
	Shift solenoid "B" circuit	Not circuit malfunction	
	Torque converter clutch solenoid circuit	Not circuit malfunction	
	Battery voltage	10 V or more	-
	Spark retard by KCS control	-	Less than 8° CA
	Transfer neutral position switch	OFF	
	ON malfunction		
	NOTf	750 rpm or more	Less than 3,000 rpm

Component T/M Inputs – Shift Range

1GR-FE (4RUNNER)	Condition (A)		
	Engine coolant temperature	40 °C (104 °F) or more	—
	Transmission range	"D"	
	Shift solenoid "A" circuit	Not circuit malfunction	
	Shift solenoid "B" circuit	Not circuit malfunction	
	Torque converter clutch solenoid circuit	Not circuit malfunction	
	Spark retard by KCS control	0° CA or more	—
	Transfer range "Hi" [4WD]		
	Vehicle speed sensor "A" circuit	Not circuit malfunction	
	Output speed sensor circuit	Not circuit malfunction	
	Throttle valve opening angle	0 % or more	—
	Transfer neutral position switch	OFF	
	ON malfunction		
	NOTf	750 rpm or more	Less than 3,000 rpm
2UZ-FE (SEQUOIA, TUNDRA)	Condition (A)		
	Engine coolant temperature	40 °C (104 °F) or more	—
	Transmission range	"D"	
	Shift solenoid "A" circuit	Not circuit malfunction	
	Shift solenoid "B" circuit	Not circuit malfunction	
	Torque converter clutch solenoid circuit	Not circuit malfunction	
	Battery voltage	10 V or more	—
	Spark retard by KCS control	0° CA or more	—
	Transfer range "Hi" [4WD]		
	Vehicle speed sensor "A" circuit	Not circuit malfunction	
	Output speed sensor circuit	Not circuit malfunction	
	Throttle valve opening angle	0 % or more	—
	Transfer neutral position switch	OFF	
	ON malfunction		
	NOTf	750 rpm or more	Less than 3,000 rpm

TYPICAL MALFUNCTION THRESHOLDS

Engine family	Detection criteria	Threshold
All models	(A) & ON malfunction	
	Compare transfer range with L4 switch signal	Transfer range "Hi" and L4 switch ON