



Secondary Air Injection System Monitoring Operation

Component/ System	Fault Codes	Monitoring Strategy Description	Malfunction Criteria	Threshold value	Secondary Parameter	Enable Conditions	Time Required	MIL Illumination
Secondary Air Injection Pump Relay	P0418	circuit continuity - short to battery positive	voltage - drive on	voltage > 1/2 * Battery positive	engine speed	> 80 rpm	immediately/	two driving cycles
		circuit continuity - short to ground	voltage - drive off	voltage < 1/3 * Battery positive	battery voltage	7.5V < B+ < 17V	continuous	cycles
		circuit continuity - open circuit	voltage - drive off	1/3 * Battery positive < voltage < 2/3 * Battery positive				
Secondary Air Injection Valve Vacuum Solenoid Drive	P0412 P0414 P0413	circuit continuity - short to battery positive	voltage - drive on	voltage > 1/2 * Battery positive	engine speed	> 80 rpm	immediately/	two driving cycles
		circuit continuity - short to ground	voltage - drive off	voltage < 1/3 * Battery positive	battery voltage	7.5V < B+ < 17V	continuous	cycles
		circuit continuity - open circuit	voltage - drive off	1/3 * B+ < voltage < 2/3 * Battery positive				
Secondary Air Injection System (Passive Test) Bank 1 Bank 2	P1412 P1415	the front O2S voltage Minimum value is sampled over a time of 0.100 sec .If this value is greater than a threshold, then the system is ok	system is OK if:- bank 1 O2S Value and bank 2 O2S Value	< 0.501 V (for > 55 times in 80 Samples) < 0.399 V (for > 55 times in 80 samples)	engine speed engine load engine airflow ECT front O2S secondary air time after engine start altitude factor	520 < rpm < 2520 1.5 < TL ms < 4.0 < 55.56 g/sec > 8 °C ready for operation for > 10.0 sec operating < 655 sec > 0.711	14 sec/ once per driving cycle	two driving cycles
		valve check:- run the secondary air	change in fuelling correction	••0.05	vehicle speed engine state secondary air	= 0 mph Idle not operating, but	10.5 sec/ once per driving cycle	two driving cycles