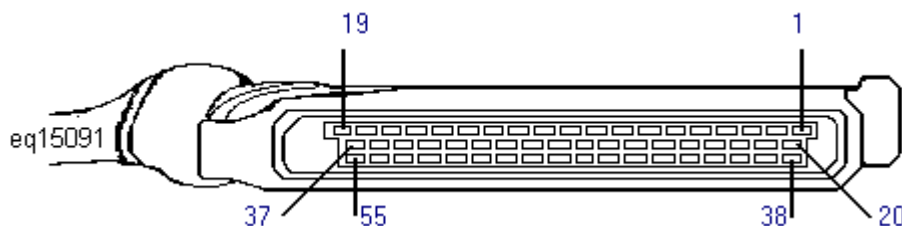


Number of ECM pins: 55



Pin	Connection	Test condition	Volts/Duty Cycle etc
1	amplifier control signal: t4	engine cranking/running	switching 0 to nbv
2	earth (ignition pulse)	engine running	0.25 max
3	pump relay driver: t85b	ignition on	nbv
4	ISCV: t1	cranking/running	1.25 max
		ignition on	nbv
		engine running:	variable
		cold	6.0 to 6.5
		hot	7.0 to 9.0
		engine cold	frequency 100-110
			duty cycle 56-58%
		engine hot	
		no load	frequency 100-110
			duty cycle 40-44%
		under load	frequency 100-110
			duty cycle 44-50%
5	CFSV: t1	ignition on	nbv
		engine running,	
		snap accelerate	zero
6	unused		
7	AFS signal : t3	ignition on	1.40
		idle	1.90 to 2.25
		snap accelerate	3.00+
8	Cylinder ID (CID) signal: t2	engine running	2.50 (average)
9	VSS	vehicle moving	switching 0v to nbv.
10	OS earth	engine running	0.25 max
11	knock sensor signal: t1	KS active	1.0 approx (peak to peak)
12	unused		
13	SD socket : tB		
14	earth (injectors)	engine running	0.25 max
16	injector pulse, cyl 3: t1	ignition on	nbv
		cranking cold	11.0 to 12.0 ms
		cranking hot	3.1+ ms
		cold idle	4.5+ ms
		hot idle	3.1 to 3.3 ms
17	injector pulse, cyl 1: t1	ignition on	nbv
		cranking cold	11.0 to 12.0 ms
		cranking hot	3.1+ ms
		cold idle	4.5+ ms
		hot idle	3.1 to 3.3 ms
18	battery positive: t30	ignition off/on	nbv
19	earth (main ECM)	ignition on/running	0.25 max
20	coding (non-cat)	ignition on	0.25 max (non cat)
			5.0 (cat)
21	coding (AT)	ignition on	0.25 max (AT)
			5.0 ± 0.1(MT)
22	SD warning lamp: H1	running	
		faults present	0.25 max
		no faults present	nbv
23	unused		
24	earth (CFSV & warning lamp)	ignition on/running	0.25 max

25	AFS (hot wire burn-off): t4	coolant above 31° C, rpm above 1000, switch off engine	hot wire glows for 1.5 seconds
26	AFS return: t2	ignition on\ running	0.25 max
27	ignition switch t15	ignition on \ running	nbv
28	oxygen sensor signal: t1	ignition Key On engine running Throttle fully-open Fuel cut-off Switching frequency	0.4 to 0.5 volts 200 to 1000 mv 1.0 volt constant zero volt constant 1 sec intervals (approx)
29	unused		
30	knock sensor return: t2	KS active	0.25 max
31	CID supply (HES): t1	ignition on/running	5.0
32	on board computer: t24		
33	unused		
34	injector pulse, cyl 2: t1	ignition on cranking cold cranking hot cold idle hot idle	nbv 11.0 to 12.0 ms 3.1+ ms 4.5+ ms 3.1 to 3.3 ms
35	injector pulse, cyl 4: t1	ignition on cranking cold cranking hot cold idle hot idle	nbv 11.0 to 12.0 ms 3.1+ ms 4.5+ ms 3.1 to 3.3 ms
36	main relay driver: t85	ignition off ignition on/running	nbv 1.25 max
37	nbv supply from relay: t87	ignition on/running	nbv
38	unused		
39	unused		
40	A/C compressor switch		
41	A/C high pressure switch		
42	P/N earth	ignition on gear selected P/N selected	nbv 0.25 max
43	CO - non-Cat (AFS: t6)	ignition on/running (idle)	0.9 to 1.4
44	unused		
45	CTS signal: t2	ignition on/running	80° 1.00 to 1.30 20° 3.00 to 3.50
46	octane adjuster: tA	ignition on/running	Brown plug 95 to 98 octane 1.6 volts
47	CAS signal: t1	cranking: idle: cruise: engine running	AC 4.0v+ (peak to peak) AC 8.0v+ (peak to peak) AC 14.0v+ (peak to peak) 0.25 max
48	CAS return: t2		
49	unused		
50	unused		
51	unused		
52	TS (Idle contact): t2	ignition on/running throttle closed throttle open	0.25 max 5.0 ± 0.1
53	TS (full load contact): t3	ignition on/running throttle fully open throttle open/closed	0.25 max 5.0 ± 0.1
54	unused		
55	diagnostic socket: tG		

< END >