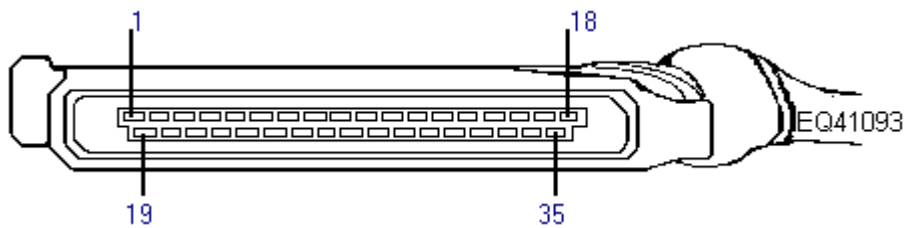


Number of ECM pins: 35



Pin	Connection	Test condition	Volts/Duty Cycle etc
1	Main ECM earth	ignition on/engine running	0.25 max
2	battery positive: t30	ignition off/on/running	nbv
3	unused		
4	unused		
5	HES signal: t2	engine running	5.0 to 7.0
		ignition on (disconnected)	5.0 to 10.0
		ignition on (trigger vane cut out space in airgap)	less than 700 mv.
		ignition on (trigger vane diverting hall voltage)	5.0 to 10.0
6	HES supply voltage: t3	ignition on/engine running	minimum 9.0 volts
7	unused		
8	sensor return (CTS,ATS,TPS: t1)	ignition on/running	0.25 max
9	unused		
10	CTS: t2	ignition on/running	20°C 2.5 to 3.0 80°C 0.3 to 0.6
11	earth	ignition on/running	0.25 max
12	fuel pump relay driver: t85	ignition on cranking/running	nbv 1.25 max
13	ignition amplifier/coil: t2	engine running	switching 0 to nbv
14	unused		
15	manifold heater relay driver: t85	engine running engine cold - 55°C engine hot + 65°C	1.25 nbv
16	stepper motor: t2	actuated	5.0 volts
17	CFSV: t1	ignition on engine running	nbv variable
18	earth, final stage drivers	ignition on/engine running	0.25 max
19	ignition switch supply: t15	ignition on/engine running	nbv
20	unused		
21	unused		
22	SD connector		
23	SD connector		
24	TPS supply: t5	ignition on/running	5.0 ± 0.1
25	TPS signal: t2	ignition on/running throttle closed throttle fully open	1.0 4.50 approx
26	TPS signal: t4	ignition on/running throttle closed throttle fully open	0.0 4.00 approx
27	ATS signal: t2	ignition on/running	20°C 2.5 to 3.0 80°C 0.3 to 0.6
28	OS signal: t3	ignition key on engine running throttle fully open fuel cut-off switching frequency	0.4 to 0.5 volts 200 to 1000mv 1.0v constant 0 volt constant 1 sec intervals (approx)
29	unused		
30	stepper motor: t3	ignition on/running closed	0.25

Pin Tables Copyright Equiptech
open nbv

31 warning lamp controller
32 unused
33 unused
34 stepper motor: t1

	engine running	
	actuated	5.0
35	injector: t1	
	cranking cold	3.0 to 4.0 ms
	running cold	3.0 to 4.0 ms
	cranking warm	1.5 to 2.5 ms
	running warm	1.5 to 2.5 ms
	2000 rpm	1.5 to 2.5 ms
	3000 rpm	1.5 to 2.5 ms
	snap acceleration	10 to 15
	deceleration	zero

< END >