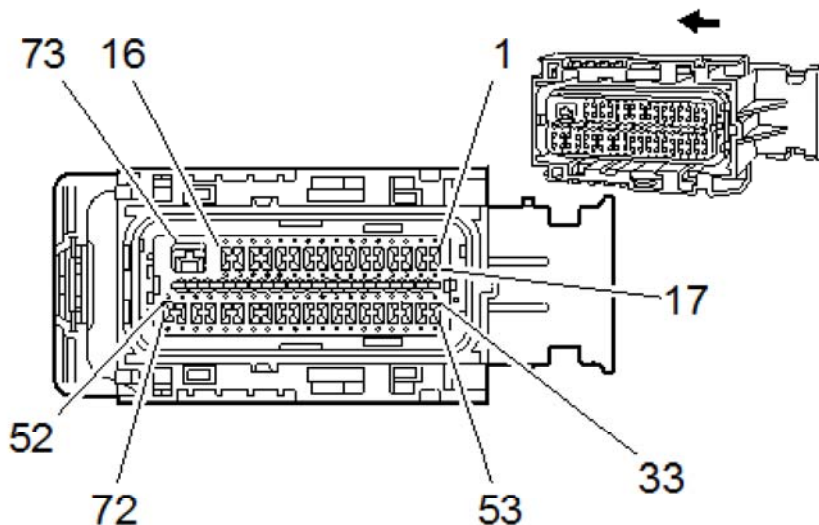


**K20 Engine Control Module X1 (L99, LS3, or LS7)**



**Connector Part Information**

- Harness Type: Engine
- OEM Connector: 13716072
- Service Connector: 88988931
- Description: 73-Way F 0.64 2.8 Series, Sealed (BK)

**Terminal Part Information**

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray	Core Crimp	Insulation Crimp
I	13575575	J-35616-64B (L-BU)	J-38125-213	33467-0005	23	Pins: 1, 9-13, 16, 17, 19, 21-24, 26-34, 36-38, 41, 42, 49, 50, 52-54, 56, 58, 59, 61,	J

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Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray	Core Crimp	Insulation Crimp
						63, 64-66, 68-72 – J	
II	13575811	J-35616-64B (L-BU)	J-38125-213	33467-0003	23	H	H
III	13575351	J-35616-35 (VT)	J-38125-12A	1326030-8	17	A	4

**K20 Engine Control Module X1 (L99, LS3, or LS7)**

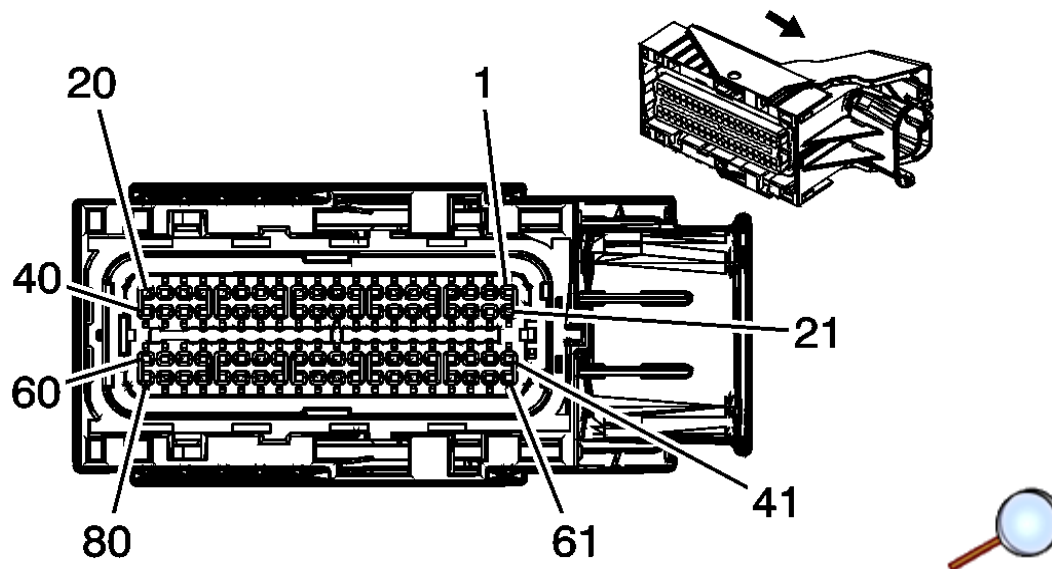
Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	OG/BK	1786	Park/Neutral Signal	I	MYC
2-7	-	-	-	Not Occupied	-	-
8	0.35	L-GN	5007	Backup Lamp Switch Signal	II	M10
9	0.5	L-BU/WH	6311	Brake Pedal Switch Signal	I	-
10	0.5	PU/WH	1668	HO2S High Signal Bank 1 Sensor 2	I	-
11	0.5	TN/WH	1669	HO2S Low Signal Bank 1 Sensor 2	I	-
12	0.5	OG/BK	380	A/C Refrigerant Pressure Sensor Signal	I	-
13	0.5	TN	5514	Low Reference	I	-
14-15	-	-	-	Not Occupied	-	-
16	0.5	D-BU	1936	Fuel Level Sensor Signal	I	-
17	0.5	D-BU	473	High Speed Cooling Fan Relay Control	I	-
18	0.5	D-BU	5985	Serial Data Wake – Up Signal	II	-
19	0.5	PK	439	Ignition Voltage	I	-
20	0.8	RD/WH	440	Battery Positive Voltage	I	-

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
21	0.5	OG	6030	Brake Booster Vacuum Sensor Signal	I	L99
22	0.5	YE/BK	6032	Low Reference	I	L99
23	0.5	PU	1272	Low Reference	I	-
24	0.5	D-GN	890	Fuel Tank Pressure Sensor Signal	I	-
25	-	-	-	Not Occupied	-	-
26	0.5 0.5	YE YE	5380 6111	Brake Position Sensor Signal Clutch Pedal Position Sensor Signal	I	M97 M10
27	0.5	TN	2501	High Speed GMLAN Serial Data Bus -	I	-
28	0.5	TN/BK	2500	High Speed GMLAN Serial Data Bus +	I	-
29	0.5	D-BU	1161	APP Sensor 1 Signal	I	-
30	0.5	BN	1271	Low Reference	I	-
31	0.5	BN/WH	6281	Low Reference	I	-
32	0.5	L-BU	1162	APP Sensor 2 Signal	I	-
33	0.5	GY	2709	5-Volt Reference 1	I	-
34	0.5	GY	2700	5-Volt Reference 1	I	-
35	-	-	-	Not Occupied	-	-
36	0.5	TN	1274	5-Volt Reference 1	I	-
37	0.5	L-BU	6289	Intake Air Temperature Sensor Signal	I	-
38	0.5	TN	2760	Low Reference	I	-
39- 40	-	-	-	Not Occupied	-	-
41	0.5	YE	492	MAF Sensor Signal	I	-

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
42	0.5	WH	6110	Low Reference	I	M10
43-46	-	-	-	Not Occupied	-	-
47	0.8	PK/BK	5290	Ignition Voltage	I	-
48	-	-	-	Not Occupied	-	-
49	0.5	TN	1671	HO2S Low Signal Bank 2 Sensor 2	I	-
50	0.5	D-GN/WH	465	Fuel Pump Relay Control	I	-
51	-	-	-	Not Occupied	-	-
52	0.5	PU/WH	6386	Starter Relay Control	I	-
53	0.5	GY	6031	5-Volt Reference 2	I	L99
54	0.5	TN	6109	5-Volt Reference 2	I	M10
55	-	-	-	Not Occupied	-	-
56	0.5	WH/BK	1164	5-Volt Reference 2	I	-
57	-	-	-	Not Occupied	-	-
58	0.5	D-GN	335	Low Speed Cooling Fan Relay Control	I	-
59	0.5	YE	5991	Powertrain Relay Control	I	-
60	-	-	-	Not Occupied	-	-
61	0.5	WH	1310	EVAP Canister Vent Solenoid Control	I	-
62	-	-	-	Not Occupied	-	-
63	0.5	D-GN/WH	459	A/C Compressor Clutch Relay Control	I	-
64	0.5	OG/WH	3223	HO2S Heater Low Control Bank 2 Sensor 2	I	-
65	0.5	GY/WH	3122		I	-

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
				HO2S Heater Low Control Bank 1 Sensor 2		
66	0.5	GY	587	Skip/Shift Solenoid Control	I	M10
67	-	-	-	Not Occupied	-	-
68	0.5	BN/WH	419	MIL Control	I	-
69	0.5	PU	1670	HO2S High Signal Bank 2 Sensor 2	I	-
70	0.5	L-BU	1937	Fuel Level Sensor Signal – Secondary	I	-
71	0.5	GY/BK	6355	VSS Signal High	I	M10
72	0.5	PU/WH	6356	VSS Signal Low	I	M10
73	2	BK/WH	451	Ground	III	-

**K20 Engine Control Module X2 (L99, LS3, or LS7)**



**Connector Part Information**

- Harness Type: Engine
- OEM Connector: 13716073
- Service Connector: 19115670
- Description: 80-Way F 0.64 Series, Sealed (GY with BK Cover)

**Terminal Part Information**

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray	Core Crimp	Insulation Crimp
I	13588062	J-35616-64B	J-38125-12A	Not Available	Not Available	Not Available	Not Available

**K20 Engine Control Module X2 (L99, LS3, or LS7)**

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	-	-	-	Not Occupied	-	-
2	0.5	PU/WH	6270	5-Volt Reference 2	I	-
3	0.5	GY	2701	5-Volt Reference 2	I	-
4	-	-	-	Not Occupied	-	-
5	0.8	BN	582	TAC Motor Control - 2	I	-

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Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
6	0.8	YE	581	TAC Motor Control – 1	I	-
7	-	-	-	Not Occupied	-	-
8	0.5	D-GN/WH	428	EVAP Canister Purge Solenoid Control	I	-
9	0.5	GY	5493	Valve Lifter Oil Manifold	I	VLOM) Assembly Cylinder 6 Shutoff Solenoid (L99
10	0.5	D-BU	5491	Valve Lifter Oil Manifold	I	VLOM) Assembly Cylinder 1 Shutoff Solenoid (L99
11	0.5 0.5	OG OG	5494 5494	Valve Lifter Oil Manifold Reverse Lockout Solenoid Control	I	VLOM) Assembly Cylinder 4 Shutoff Solenoid (L99 M10
12	0.5	GY/WH	3113	HO2S Heater Low Control Bank 1 Sensor 1	I	-
13	0.5	L-GN	3212	HO2S Heater Low Control Bank 2 Sensor 1	I	-
14	0.5	L-GN	5492	Valve Lifter Oil Manifold	I	VLOM) Assembly Cylinder 7 Shutoff Solenoid (L99
15	-	-	-	Not Occupied	-	-
16	0.5	PU	5284	CMP Actuator Solenoid Control – Intake Bank 1	I	L99
17	0.5	D-BU/WH	878	Fuel Injector 8 Control	I	-
18	0.5	TN/WH	845	Fuel Injector 5 Control	I	-
19	0.5	YE/BK	846	Fuel Injector 6 Control	I	-
20	0.5	TN	1744	Fuel Injector 1 Control	I	-
21	0.5	YE	410	ECT Sensor Signal	I	-
22	0.5	TN	2761	Low Reference	I	-
23	0.5	D-GN/WH	357	Oil Temperature Sensor Signal	I	MYC

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
	0.5	TN/WH	585	Transmission Fluid Temperature Sensor Signal		M10
24	0.5	OG/BK	586	Low Reference	I	M10
25	-	-	-	Not Occupied	-	-
26	0.5	D-BU	496	Knock Sensor (KS) 1 Signal	I	-
27	0.5	GY	1716	Knock Sensor (KS) 1 Signal	I	-
28	-	-	-	Not Occupied	-	-
29	0.5	L-BU	1876	Knock Sensor (KS) 2 Signal	I	-
30	0.5	GY	2303	Knock Sensor (KS) 2 Signal	I	-
31	-	-	-	Not Occupied	-	-
32	0.5	GY	23	Generator Field Duty Cycle Signal	I	-
33	0.5	BN	1174	Oil Level Switch Signal	I	(Without LS7)
34	0.5	BK	2755	Low Reference	I	-
35	0.5	TN	2752	Low Reference	I	-
36	-	-	-	Not Occupied	-	-
37	0.5	L-GN/BK	1745	Fuel Injector 2 Control	I	-
38	0.5	PK/BK	1746	Fuel Injector 3 Control	I	-
39	0.5	L-BU/BK	844	Fuel Injector 4 Control	I	-
40	0.5	OG/BK	877	Fuel Injector 7 Control	I	-
41	0.5	GY	2705	5-Volt Reference 1	I	-
42	-	-	-	Not Occupied	-	-



Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
43	0.5	GY	2704	5-Volt Reference 1	I	-
44	0.5	D-BU	6259	5-Volt Reference 1	I	-
45-49	-	-	-	Not Occupied	-	-
50	0.5	TN/WH	331	Oil Pressure Sensor Signal	I	-
51	-	-	-	Not Occupied	-	-
52	0.5	TN	2199	Low Reference	I	L99
53	0.5	OG/BK	469	Low Reference	I	-
54-55	-	-	-	Not Occupied	-	-
56	0.5	TN	1664	HO2S Low Signal – Bank 1 Sensor 1	I	-
57	0.5	PU/WH	1665	HO2S High Signal Bank 1 Sensor 1	I	-
58	0.5	L-GN	432	MAP Sensor Signal	I	-
59	0.5	PU	1666	HO2S High Signal Bank 2 Sensor 1	I	-
60	0.5	TN	1667	HO2S Low Signal Bank 2 Sensor 1	I	-
61	0.5	BN	25	Charge Indicator Control/Charge Indicator Signal	I	-
62	-	-	-	Not Occupied	-	-
63	0.5	PU	486	TP Sensor 2 Signal	I	-
64	0.5	D-BU/WH	6265	Camshaft Position Signal	I	-
65	0.5	D-GN	485	TP Sensor 1 Signal	I	-
66	0.5	BN	6266	Low Reference	I	-
67	-	-	-	Not Occupied	-	-

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
68	0.5	WH/BK	6271	Crankshaft Position Sensor Signal	I	-
69	0.5	GY/BK	6272	Low Reference	I	-
70	0.5	PU	2121	IC 1 Control	I	-
71	0.5	PU/WH	2128	IC 8 Control	I	-
72	0.5	OG	2127	IC 7 Control	I	-
73	0.5	OG/WH	2122	IC 2 Control	I	-
74	0.5	L-BU/WH	2126	IC 6 Control	I	-
75	0.5	D-GN	2125	IC 5 Control	I	-
76	0.5	D-GN/WH	2124	IC 4 Control	I	-
77	0.5	L-BU	2123	IC 3 Control	I	-
78	0.5	BN	2129	Low Reference	I	-
79	0.5	BN/WH	2130	Low Reference	I	-
80	-	-	-	Not Occupied	-	-