



EFI Xw External Wideband NTK Lambda Amplifier Instructions

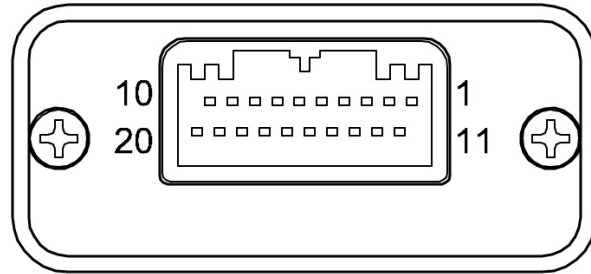
Single Lambda Amp Part #60-655

Dual Lambda Amp Part #60-656



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Xw Lambda Amp Pinouts

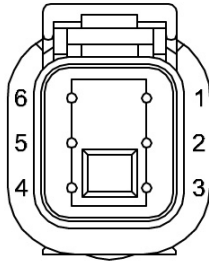
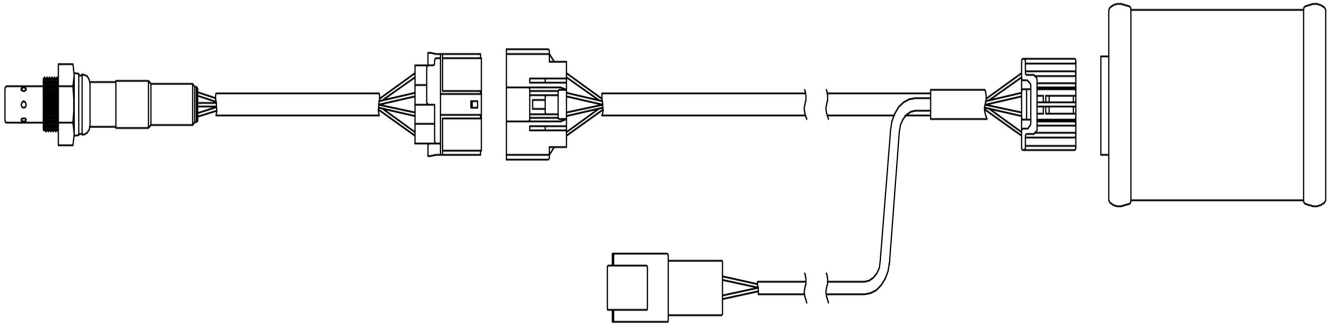


Single Lambda Amp Pinout			
Pin	Description	Comments	Wire Gauge
1	Vbatt	+10 - +12 volt switched input	20
2	Lambda #1 Output	0-5v ouput to ECU	20
3			
4	Lambda #1 VS+	To sensor pin F	20
5	Lambda #1 VS-	To sensor pin H	20
6	Lambda #1 IP+	To sensor pin G	20
7	Lambda #1 CR1	To sensor pin C	20
8	Lambda #1 CR2	To sensor pin D	20
9	Lambda #1 Heater Ground	To sensor pin B	20
10			
11			
12			
13			
14			
15			
16			
17			
18	Signal Ground	To ECU GND.	20
19	Heater/Power Ground	To ECU HEATER or main power Gnd	20
20	Heater/Power Ground	To ECU HEATER or main power Gnd	20

Dual Lambda Amp Pinout

Pin	Description	Comments	Wire Gauge
1	Vbatt	+10 - +12 volt switched input	20
2	Lambda #1 Output	0-5v ouput to ECU	20
3	Lambda #2 Output	0-5v ouput to ECU	20
4	Lambda #1 VS+	To sensor pin F	20
5	Lambda #1 VS-	To sensor pin H	20
6	Lambda #1 IP+	To sensor pin G	20
7	Lambda #1 CR1	To sensor pin C	20
8	Lambda #1 CR2	To sensor pin D	20
9	Lambda #1 Heater -	To sensor pin B	18
10	Lambda #2 VS+	To sensor pin F	20
11	Lambda #2 VS-	To sensor pin H	20
12	Lambda #2 IP+	To sensor pin G	20
13	Lambda #2 CR1	To sensor pin C	20
14	Lambda #2 CR2	To sensor pin D	20
15	Lambda #2 Heater -	To sensor pin B	20
16			
17			
18	Signal Ground	To ECU GND.	20
19	Heater/Power Ground	To ECU HEATER or main power Gnd	20
20	Heater/Power Ground	To ECU HEATER or main power Gnd	20

Harness Schematic



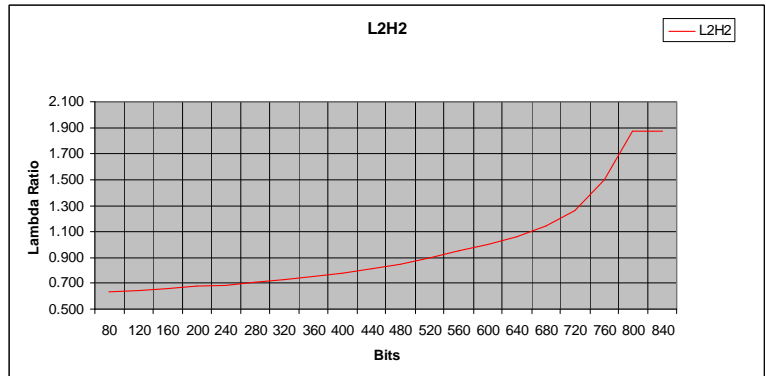
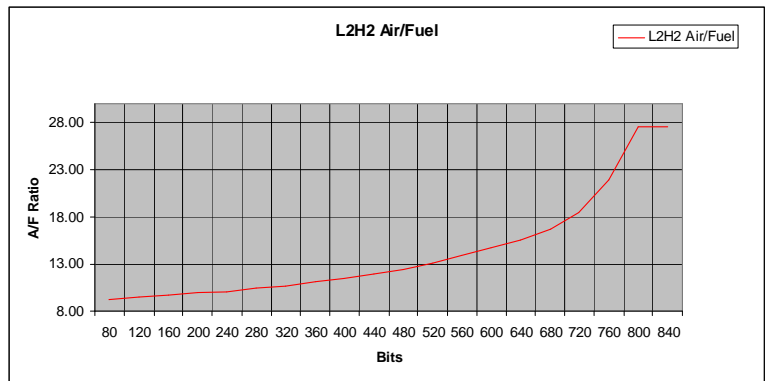
DTM Lambda Chassis Harness Connector			
Pin	Description	Comments	Wire Gauge
1	Vbatt	To Battery +	18
2	NGK 1	To Lambda 1 or 2 on ECU	20
3	NGK 2	To Lambda 1 or 2 on ECU	20
4	Heater/Power Ground	To ECU Heater or main power GND	18
5	GND	To ECU GND	20
6			

Calibrations

The calibration in the System Editor - Power to Win software needs to match the NTK Lambda sensor used. New EFI kits are currently distributed with L2H2 NTK Lambda Sensors. Previously EFI has supplied L1H1 NTK sensors. The sensors are marked and the matching calibration needs to be entered into the Lambda Calibration Table in System Editor. If there was previously a narrow band calibration it needs to be updated.

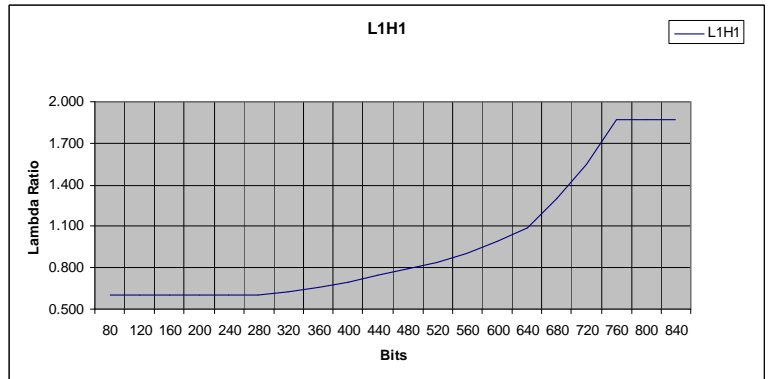
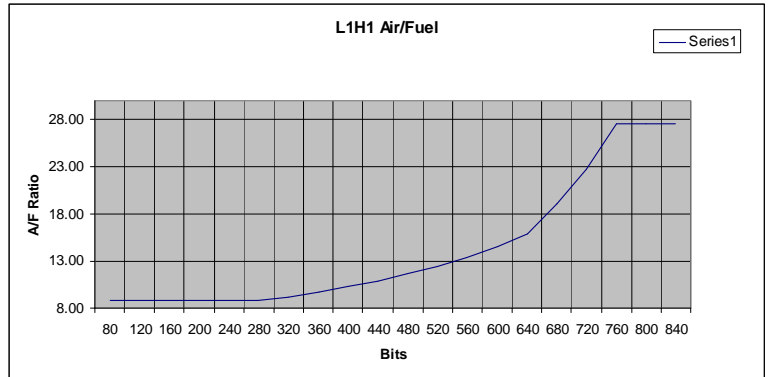
L2H2 Calibration (Supplied)

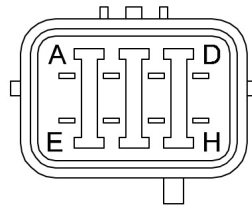
NGK Gasoline L2H2 Calibration				
Pos	10 bit	Volts	λ Ratio	A/F
1	80	0.39	0.635	9.33
2	120	0.59	0.645	9.48
3	160	0.78	0.660	9.70
4	200	0.98	0.675	9.92
5	240	1.17	0.690	10.14
6	280	1.37	0.710	10.44
7	320	1.56	0.730	10.73
8	360	1.76	0.755	11.10
9	400	1.95	0.780	11.47
10	440	2.15	0.810	11.91
11	480	2.34	0.845	12.42
12	520	2.54	0.895	13.16
13	560	2.73	0.945	13.89
14	600	2.93	1.000	14.70
15	640	3.13	1.055	15.51
16	680	3.32	1.140	16.76
17	720	3.52	1.260	18.52
18	760	3.71	1.495	21.98
19	800	3.91	1.875	27.56
20	840	4.10	1.875	27.56



L1H1 Calibration

NGK Gasoline L1H1 Calibration				
Pos	10 bit	Volts	λ Ratio	A/F
1	80	0.39	0.600	8.82
2	120	0.59	0.600	8.82
3	160	0.78	0.600	8.82
4	200	0.98	0.600	8.82
5	240	1.17	0.600	8.82
6	280	1.37	0.600	8.82
7	320	1.56	0.625	9.19
8	360	1.76	0.660	9.70
9	400	1.95	0.700	10.29
10	440	2.15	0.745	10.95
11	480	2.34	0.795	11.69
12	520	2.54	0.845	12.42
13	560	2.73	0.905	13.30
14	600	2.93	0.990	14.55
15	640	3.13	1.085	15.95
16	680	3.32	1.300	19.11
17	720	3.52	1.550	22.79
18	760	3.71	1.875	27.56
19	800	3.91	1.875	27.56
20	840	4.10	1.875	27.56





NTK Lambda Sensor			
Pin	Description	Comments	Wire Gauge
A	Heater +	To Battery +	18
B	Heater -	To Amp (pin 9 or 15)	18
C	CR1	To Amp (pin 7 or 13)	20
D	CR2	To Amp (pin 8 or 14)	20
E	N/C		
F	VS+	To Amp (pin 4 or 10)	20
G	IP+	To Amp (pin 6 or 12)	20
H	VS-	To Amp (pin 5 or 11)	20

Connector Parts	Part Number	Quantity Single	Quantity Dual
Lambda Amp Mating Connector	Part # 22-244	1	1
Lambda Amp Mating Connector Sockets	Part # 22-245	11	18
Lambda Sensor Mating Connector	Part # 22-256	1	2
Lambda Sensor Mating Connector Sockets	Part # 22-255	7	14
Lambda Sensor Mating Connector Holder	Part # 22-257	1	1