

[Speedometer Interface](#)

DISCLAIMER OF LIABILITY

This is a performance product which can be used with increased horsepower above and beyond factory specifications. Additional horsepower creates more stress on the drivetrain components, which could result in drivetrain failure. Note: Legal in California only for racing vehicles which may never be used on the highway.

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The Buyer is solely responsible for all warranty issues from the manufacturer.

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The Seller gives Limited Warranty as to description, quality, merchantability, and fitness for a particular purpose, productiveness, or any other matter of Seller's product sold herewith. The Seller shall not be responsible for the products proper use and service and the Buyer hereby waives all rights other than those expressly written herein. This warranty shall not be extended, altered or varied except by a written instrument signed by Seller and Buyer.

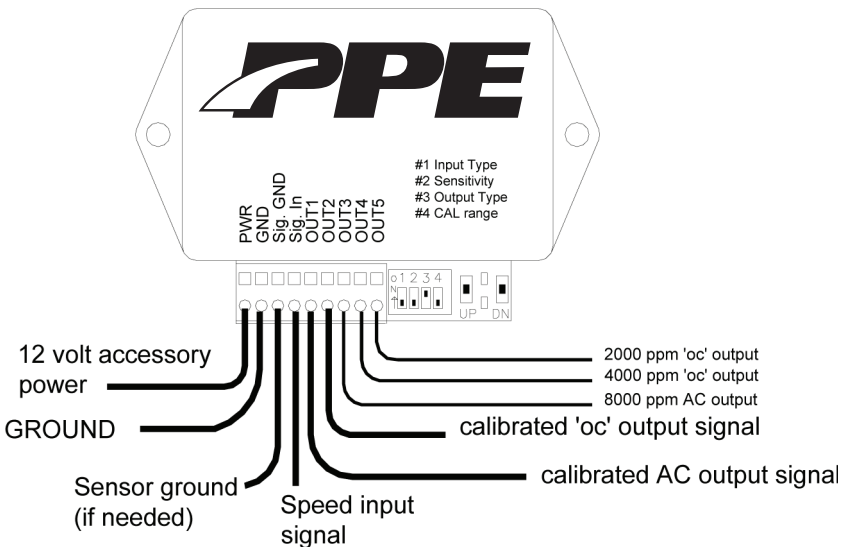
The Warranty is limited to two (2) years from the date of sale and limited solely to the parts contained within the products kit. All products that are in question of Warranty must be returned prepaid to the Seller and must be accompanied by a dated proof of purchase receipt. All Warranty claims are subject to approval by Seller. Under no circumstances will the Seller be liable for any labor charged or travel time incurred in diagnosis for defects, removal, or reinstallation of this product or any other contingent expenses.

Under no circumstances will the Seller be liable for any damage or expenses incurred by reason of the use or sale of any such equipment. In the event that the buyer does not agree with this agreement: the buyer may promptly return this product, in a new and unused condition in its original packaging, with a dated proof of purchase to the place of purchase within ten (10) days from date of purchase for a full refund. The installation of this product indicates that the buyer has read and understands this agreement and accepts its terms and conditions.

The Speedometer Interface is designed to recalibrate a speedometer signal or correct sinewave (AC) / squarewave ('oc') signal incompatibilities. Here are some typical applications:

1. Recalibrate a high speed (64,000ppm – 250,00ppm) signal for an OEM speedometer. Do not use this unit to adjust a signal going to an anti-lock braking system.
2. Recalibrate a low speed (8,000ppm – 4,000ppm) signal for an OEM or aftermarket speedometer for fuel injection computer.
3. Convert a high-speed signal found on newer GM transmissions down to a low speed signal to run a speedometer, cruise control, or fuel injection computer.
4. Convert an 8,000ppm signal from an aftermarket signal generator to 4,000ppm or 2,000ppm to run an OEM cruise control or fuel injection computer.
5. Convert a 16,000ppm signal from a VDO Hall Effect signal generator to an 8,000ppm, 4,000ppm, or 2,000ppm to run a cruise control or fuel injection computer.
6. Convert a 4,000ppm signal from an OEM transmission speed sensor or ECM output to an 8,000ppm signal for an aftermarket speedometer.

Speedometer Interface connections:



Please Note: This is a technically advanced product and if not correctly installed it may cause incorrect vehicle operation and / or damage to vehicle's components.

Setup Tips:

1. If, without the interface, your speedometer reads much too fast, then you will most likely need to use application 3.
2. If, without the interface, your speedometer reads about ½ what it should, then you will most likely need to use application 6.
3. If your speedometer reads close to actual speed, you will probably need application 1 or 2.

Here is a general overview of the Speedometer Interface control functions.

Each of the different applications below will be described in detail starting with Application #1.

This unit has 4 switches on it for setting the calibration signal type.

Switch #	OFF	ON
1	Signal generator speed input	ECM/PCM speed input
2	High sensitivity	Low sensitivity
3	OUT3/4/5 set for low speed in	OUT3/4/5 set for high speed in
4	Slower output	Faster output

There are also 2 push button switches for adjusting the calibration. The calibration can be adjusted two ways, while driving or while standing still.

	While operating	While turning key on
UP	Increase speed	Enter coarse adjust
DN	Decrease speed	Enter fine adjust

The unit has 5 different outputs for speed signals. Some of the outputs are AC (a voltage output that goes above and below ground) and some are open collector (a switch that closes to ground). The output functions are as follows:

SW #3	Sig In	OUT1	OUT2	OUT3	OUT4	OUT5
ON	64k-256k	128k AC	128k oc	8000 AC	4000 oc	2000 oc
OFF	4k-16k	8000 AC	8000 oc	4000 AC	4000 oc	2000 oc

Setup and diagnostic lights.

RED	GREEN	Status
OFF	OFF	Power off.
OFF	ON	Power on, no speed signal present
OFF	Flashing	Power on, speed signal present
ON	Flashing	Coarse calibration adjustment mode
Flashing	ON	Fine calibration adjustment mode
ON	ON	Both switches held to preset cal
ON	OFF	One switch is being held to enter setup mode

CALIBRATION

Adjust while driving: To increase the speedometer reading, press and hold the UP push button switch. To decrease the speedometer reading, press and hold the DN push button switch. If you cannot get the speedometer to read fast enough, make sure that setup switch#4 is ON. If you cannot get the speedometer to read slow enough, make sure that setup switch #4 is OFF or move to a different output.

Preset or adjust while parked: The calibration table is listed at the back of the installation manual. There is a coarse adjust setting and a fine adjust setting.

To check or change the coarse adjust setting:

1. Begin with the key off.
2. Press and hold the UP switch while turning the key on.
The RED light should be on.
3. Release the UP switch. The GREEN light will begin flashing the current coarse setting. It will flash the current setting, wait, flash the current setting, wait, etc.
4. To increase the setting, press and release the UP switch. To decrease the setting, press and release the DN switch.
5. When the GREEN light flashed the correct number of times, turn the key off.

To check to change the fine adjust setting:

1. Begin with the key off.
2. Press and hold the DN switch while turning the key on.
The RED light should be on.
3. Release the DN switch. The GREEN light will come on steady and the RED light will begin flashing the current fine setting. It will flash the current setting, wait, flash the current setting, wait, etc.
4. To increase the setting, press and release the UP switch. To decrease the setting, press and release the DN switch.
5. When the RED light flashes the correct number of times, turn the key off.

Quick preset: Hold both UP and DN push buttons while turning the key on.

Set to x 1.004: Turn setup switch #3 off, #4 on, hold both buttons while turning key on.

Set to 1.000: Turn setup switch #3 off, #4 off, hold both buttons while turning key on.

Set to x 2.0: Turn setup switch #3 on, #4 on, hold both buttons while turning key on.

Set to x 0.5: Turn setup switch #3 on, #4 off, hold both buttons while turning key on.

APPLICATION #1

Recalibrate a high-speed (64,000ppm – 250,00ppm) signal for an OEM speedometer or engine / transmission computer. Do not use this unit to adjust a signal going to an anti-lock braking system. Anti-lock braking systems may not operate correctly or behave erratically due to the signal processing done to recalibrate the speed signal.

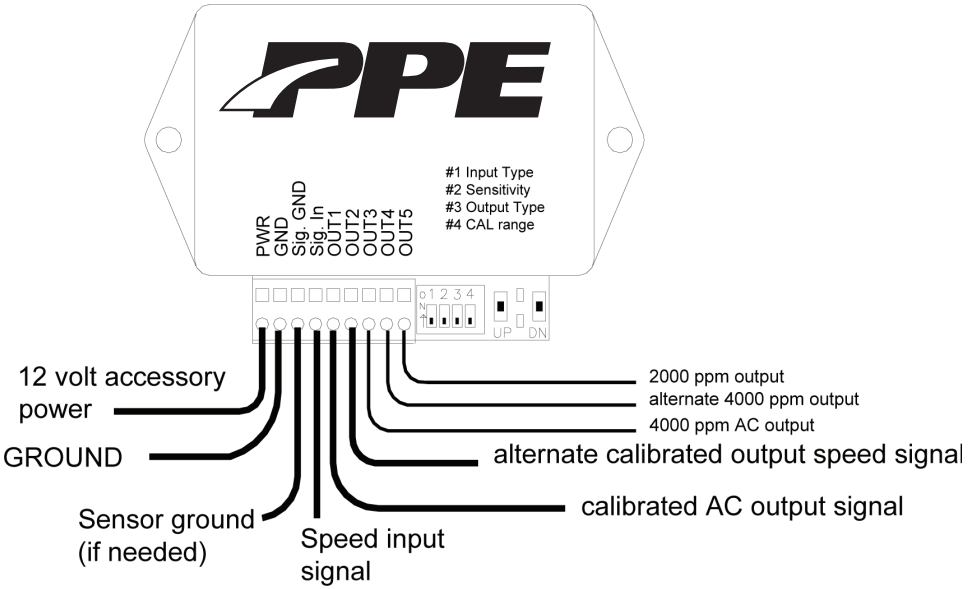
These speed sensors have a two – pin connector that plugs into the transmission or transfer case. One of the wires will be grounded and the other will be the signal wire. The wires will usually go up under the dash and into the speedometer, vehicle speed buffer, to engine / transmission computer. The signal wire will need to be cut so the Speedometer Interface can recalibrate it. The sensor side of the wire will go to the Speedometer Interface IN terminal. The speedometer or buffer side will go to the OUT 1 terminal. If the speedometer does not operate correctly after installation of the Speedometer Interface 5 you may need to switch to OUT2 instead of OUT1. Connect the PWR terminal to a 12-volt accessory wire and connect the GND terminal to a good ground location.

Begin with the switches as follows and then determine how far off the calibration is.

1	2	3	4
OFF	OFF	ON	OFF

You can determine how far the speedometer is off by having it checked with radar or following another vehicle going at a set speed. Once you know how far it is off a certain speed, you can use the push button switches to adjust the speedometer while you drive or use the following equation and then look up the calibration setting in the table.

$$\frac{\text{Actual speed}}{\text{speedometer reading}} \times \text{current Cal ratio} = \text{new Cal ratio}$$



APPLICATION #2

Recalibrate a low speed (8,000ppm – 4,000ppm) signal for an OEM or aftermarket speedometer or fuel injection computer.

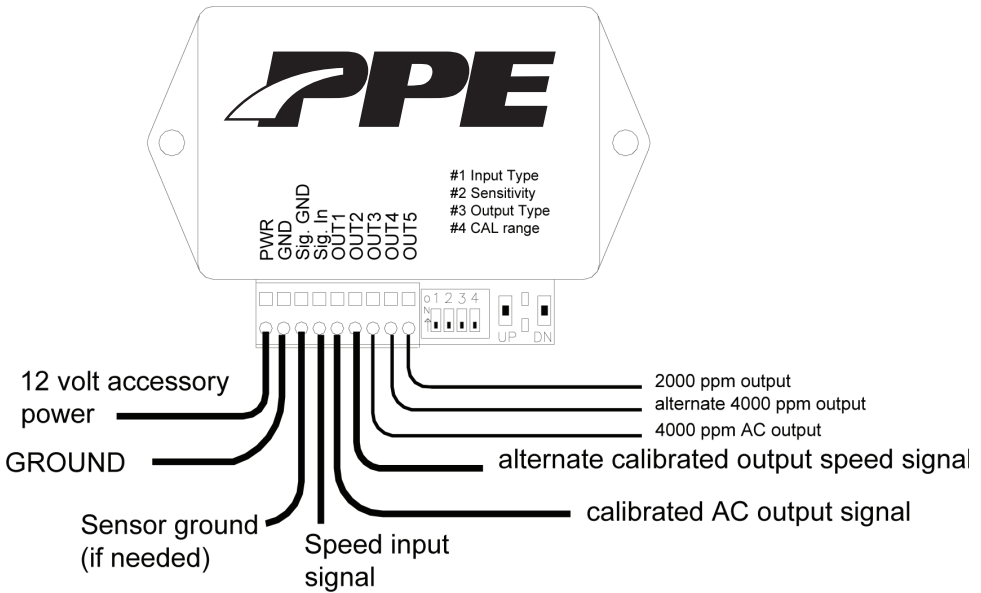
Either two wire or three wire sensors can be recalibrated with this unit. Two wire sensors will typically have one wire as a ground and the other as the signal. Three wire sensors will have an additional power wire. You must first determine which wire is the signal. The signal wire will need to be cut so the Speedometer Interface can recalibrate it. The sensor side of the wire will go to the Speedometer Interface IN terminal. The speedometer or computer side will go to the OUT1 terminal. If the speedometer does not operate correctly the PWR terminal to a 12-volt accessory wire and connect the GND terminal to a good ground location.

Begin with the switches as follows and then determine how far off the calibration is.

1	2	3	4
OFF	OFF	OFF	OFF

You can determine how far the speedometer is off by having it checked with radar or following another vehicle going at a set speed. Once you know how far it is off at a certain speed, you can use the push button switches to adjust the speedometer while you drive or use the following equation and then look up the calibration setting in the table.

$$\frac{\text{Actual speed}}{\text{speedometer reading}} \times \text{current Cal ratio} = \text{new Cal ratio}$$



APPLICATION #3

Convert a high-speed found on newer GM transmissions down to a low speed signal to run a speedometer, cruise control, or fuel injection computer.

These speed sensors have a two-pin connector on the transmission or transfer case. One of the pins will be a ground and the other will be the signal. The ground pin will go to the GND terminal along with the ground wire. The signal pin will go to the Speedometer Interface IN terminal. It is best to twist the signal and ground wires from the sensor around each other. This helps eliminate any electrical interface. If nothing else is connected to the speed sensor it does not matter which pin is used as the ground. Connect the PWR terminal to accessory power. The output connections will depend on your particular application. Here are some typical examples:

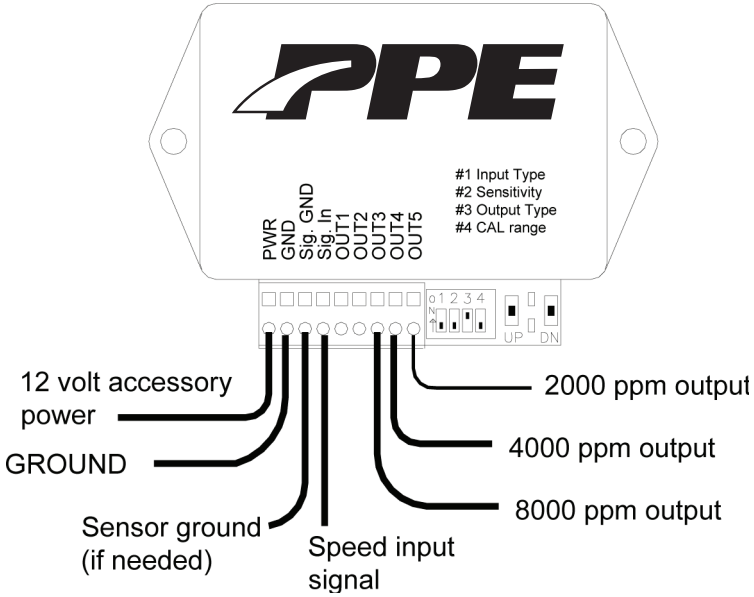
OUT3, 8,000ppm AC:	most aftermarket speedometers and cruise controls
OUT4, 4,000ppm oc:	most TPI computers and some OEM cruise controls
OUT5, 2,000ppm oc:	most TBI computers and some OEM cruise controls

Begin with the switches as follows and then determine how far off the calibration is.

1	2	3	4
OFF	OFF	ON	OFF

You can determine how far the speedometer is off by having it checked with radar or following another vehicle going at a set speed. Once you know how far it is off at a certain speed, you can use the push button switches to adjust the speedometer while you drive or use the following equation and then look up the calibration setting in the table.

$$\frac{\text{Actual speed}}{\text{speedometer reading}} \times \text{current Cal ratio} = \text{new Cal ratio}$$



APPLICATION #4

Convert an 8,000ppm signal from an aftermarket signal generator to a 4,000ppm or 2,000ppm to run an OEM cruise control or fuel injection computer.

Either two wire or three wire sensors can be recalibrate with this unit. Two wire sensors will typically have one wire as a ground and the other as the signal. Three wire sensors will have an additional power wire. You must first determine which wire is the signal. The signal wire will be tapped into so the Speedometer Interface can read it. The sensor signal wire will go to the Speedometer Interface IN terminal. Connect the PWR terminal tot a 12-volt accessory wire and connect the GND terminal to a good ground location. The output connections will depend on your particular application. Here are some typical example:

- OUT3, 4,000ppm AC: most TPI computers and some OEM cruise controls
- OUT4, 4,000ppm oc: use this if OUT3 does not provide a good signal
- OUT5, 2,000ppm oc: most TBI computers and some OEM cruise controls

Begin with the switches as follows and then determine how far off the calibration is.

1	2	3	4
OFF	OFF	OFF	OFF

APPLICATION #5

Convert a 16,000ppm signal from a Hall Effect VDO signal generator to 8,000ppm, 4,000ppm, or 2,000ppm to run a cruise control or fuel injection computer.

The Hall Effect sensor will have three wires. The wire is the signal. The signal wire will be tapped into so the Speedometer Interface can read it. The sensor signal wire will go to the Speedometer Interface IN terminal. Connect the PWR terminal to a 12-volt accessory wire and connect the GND terminal to a good ground location. The output connections will depend on your particular application. Here are some typical examples:

OUT1, 8,000ppm AC:	most aftermarket cruise controls
OUT3, 4,000ppm AC:	most TPI computers and some OEM cruise controls
OUT4, 4,000ppm oc:	use this if OUT3 does not provide a good signal
OUT5, 2,000ppm oc:	most TBI computers and some OEM cruise controls

Begin with the switches as follows and then determine how far off the calibration is.

1	2	3	4
ON	ON	OFF	OFF

APPLICATION #6

Convert a 4,000ppm signal from OEM transmission speed sensor or ECM output to an 8,000ppm signal for an aftermarket speedometer.

The speed sensors have a two-pin connector on the transmission or transfer case. One of the pins will be a ground and the other will be the signal. The ground pin will go the GND terminal along with the ground wire. The signal pin will go to the Speedometer Interface IN terminal. It is best to twist the signal and ground wires from the sensor around each other. This helps eliminate any electrical interference. If nothing else is connected to the speed sensor it does not matter which pin is used as the ground. If you are picking up a signal coming out of the ECM there will be only one wire to the Speedometer Interface IN. Connect the PWR terminal to accessory power and the GND terminal to ground. Connect OUT1 to your aftermarket electrical speedometer.

Begin with the switches as follows and then determine how far off the calibration is.

1	2	3	4
ON	OFF	OFF	ON

Coarse.	Fine.	Cal Hi	Cal Lo	tach
1	16	1.067	0.267	480
1	15	1.062	0.266	482
1	14	1.058	0.264	484
1	13	1.053	0.263	486
1	12	1.049	0.262	488
1	11	1.045	0.261	490
1	10	1.041	0.260	492
1	9	1.036	0.259	494
1	8	1.032	0.258	496
1	7	1.028	0.257	498
1	6	1.024	0.256	500
1	5	1.020	0.255	502
1	4	1.016	0.254	504
1	3	1.012	0.253	506
1	2	1.008	0.252	508
1	1	1.004	0.251	510
2	16	1.143	0.286	448
2	15	1.138	0.284	450
2	14	1.133	0.283	452
2	13	1.128	0.282	454
2	12	1.123	0.281	456
2	11	1.118	0.279	458
2	10	1.113	0.278	460
2	9	1.108	0.277	462
2	8	1.103	0.276	464
2	7	1.099	0.275	466
2	6	1.094	0.274	468
2	5	1.089	0.272	470
2	4	1.085	0.271	472
2	3	1.080	0.270	474
2	2	1.076	0.269	476
2	1	1.071	0.268	478
3	16	1.231	0.308	416
3	15	1.225	0.306	418
3	14	1.219	0.305	420
3	13	1.213	0.303	422
3	12	1.208	0.302	424
3	11	1.202	0.300	426
3	10	1.196	0.299	428
3	9	1.191	0.298	430
3	8	1.185	0.296	432
3	7	1.180	0.295	434
3	6	1.174	0.294	436
3	5	1.169	0.292	438
3	4	1.164	0.291	440
3	3	1.158	0.290	442
3	2	1.153	0.288	444
3	1	1.148	0.287	446

Coarse.	Fine.	Cal Hi	Cal Lo	tach
4	16	1.333	0.333	384
4	15	1.326	0.332	386
4	14	1.320	0.330	388
4	13	1.313	0.328	390
4	12	1.306	0.327	392
4	11	1.299	0.325	394
4	10	1.293	0.323	396
4	9	1.286	0.322	398
4	8	1.280	0.320	400
4	7	1.274	0.318	402
4	6	1.267	0.317	404
4	5	1.261	0.315	406
4	4	1.255	0.314	408
4	3	1.249	0.312	410
4	2	1.243	0.311	412
4	1	1.237	0.309	414
5	16	1.455	0.364	352
5	15	1.446	0.362	354
5	14	1.438	0.360	356
5	13	1.430	0.358	358
5	12	1.422	0.356	360
5	11	1.414	0.354	362
5	10	1.407	0.352	364
5	9	1.399	0.350	366
5	8	1.391	0.348	368
5	7	1.384	0.346	370
5	6	1.376	0.344	372
5	5	1.369	0.342	374
5	4	1.362	0.340	376
5	3	1.354	0.339	378
5	2	1.347	0.337	380
5	1	1.340	0.335	382
6	16	1.600	0.400	320
6	15	1.590	0.398	322
6	14	1.580	0.395	324
6	13	1.571	0.393	326
6	12	1.561	0.390	328
6	11	1.552	0.388	330
6	10	1.542	0.386	332
6	9	1.533	0.383	334
6	8	1.524	0.381	336
6	7	1.515	0.379	338
6	6	1.506	0.376	340
6	5	1.497	0.374	342
6	4	1.488	0.372	344
6	3	1.480	0.370	346
6	2	1.471	0.368	348
6	1	1.463	0.366	350

Coarse.	Fine.	Cal Hi	Cal Lo	tach
7	16	1.778	0.444	288
7	15	1.766	0.441	290
7	14	1.753	0.438	292
7	13	1.741	0.435	294
7	12	1.730	0.432	296
7	11	1.718	0.430	298
7	10	1.707	0.427	300
7	9	1.695	0.424	302
7	8	1.684	0.421	304
7	7	1.673	0.418	306
7	6	1.662	0.416	308
7	5	1.652	0.413	310
7	4	1.641	0.410	312
7	3	1.631	0.408	314
7	2	1.620	0.405	316
7	1	1.610	0.403	318
8	16	2.000	0.500	256
8	15	1.984	0.496	258
8	14	1.969	0.492	260
8	13	1.954	0.489	262
8	12	1.939	0.485	264
8	11	1.925	0.481	266
8	10	1.910	0.478	268
8	9	1.896	0.474	270
8	8	1.882	0.471	272
8	7	1.869	0.467	274
8	6	1.855	0.464	276
8	5	1.842	0.460	278
8	4	1.829	0.457	280
8	3	1.816	0.454	282
8	2	1.803	0.451	284
8	1	1.790	0.448	286
9	16	2.133	0.533	240
9	15	2.124	0.531	241
9	14	2.116	0.529	242
9	13	2.107	0.527	243
9	12	2.098	0.525	244
9	11	2.090	0.522	245
9	10	2.081	0.520	246
9	9	2.073	0.518	247
9	8	2.065	0.516	248
9	7	2.056	0.514	249
9	6	2.048	0.512	250
9	5	2.040	0.510	251
9	4	2.032	0.508	252
9	3	2.024	0.506	253
9	2	2.016	0.504	254
9	1	2.008	0.502	255

Coarse.	Fine.	Cal Hi	Cal Lo	tach
10	16	2.286	0.571	224
10	15	2.276	0.569	225
10	14	2.265	0.566	226
10	13	2.256	0.564	227
10	12	2.246	0.561	228
10	11	2.236	0.559	229
10	10	2.226	0.557	230
10	9	2.216	0.554	231
10	8	2.207	0.552	232
10	7	2.197	0.549	233
10	6	2.188	0.547	234
10	5	2.179	0.545	235
10	4	2.169	0.542	236
10	3	2.160	0.540	237
10	2	2.151	0.538	238
10	1	2.142	0.536	239
11	16	2.462	0.615	208
11	15	2.450	0.612	209
11	14	2.438	0.610	210
11	13	2.427	0.607	211
11	12	2.415	0.604	212
11	11	2.404	0.601	213
11	10	2.393	0.598	214
11	9	2.381	0.595	215
11	8	2.370	0.593	216
11	7	2.359	0.590	217
11	6	2.349	0.587	218
11	5	2.338	0.584	219
11	4	2.327	0.582	220
11	3	2.317	0.579	221
11	2	2.306	0.577	222
11	1	2.296	0.574	223
12	16	2.667	0.667	192
12	15	2.653	0.663	193
12	14	2.639	0.660	194
12	13	2.626	0.656	195
12	12	2.612	0.653	196
12	11	2.599	0.650	197
12	10	2.586	0.646	198
12	9	2.573	0.643	199
12	8	2.560	0.640	200
12	7	2.547	0.637	201
12	6	2.535	0.634	202
12	5	2.522	0.631	203
12	4	2.510	0.627	204
12	3	2.498	0.624	205
12	2	2.485	0.621	206
12	1	2.473	0.618	207

Coarse.	Fine.	Cal Hi	Cal Lo	tach
13	16	2.909	0.727	176
13	15	2.893	0.723	177
13	14	2.876	0.719	178
13	13	2.860	0.715	179
13	12	2.844	0.711	180
13	11	2.829	0.707	181
13	10	2.813	0.703	182
13	9	2.798	0.699	183
13	8	2.783	0.696	184
13	7	2.768	0.692	185
13	6	2.753	0.688	186
13	5	2.738	0.684	187
13	4	2.723	0.681	188
13	3	2.709	0.677	189
13	2	2.695	0.674	190
13	1	2.681	0.670	191
14	16	3.200	0.800	160
14	15	3.180	0.795	161
14	14	3.160	0.790	162
14	13	3.141	0.785	163
14	12	3.122	0.780	164
14	11	3.103	0.776	165
14	10	3.084	0.771	166
14	9	3.066	0.766	167
14	8	3.048	0.762	168
14	7	3.030	0.757	169
14	6	3.012	0.753	170
14	5	2.994	0.749	171
14	4	2.977	0.744	172
14	3	2.960	0.740	173
14	2	2.943	0.736	174
14	1	2.926	0.731	175
15	16	3.556	0.889	144
15	15	3.531	0.883	145
15	14	3.507	0.877	146
15	13	3.483	0.871	147
15	12	3.459	0.865	148
15	11	3.436	0.859	149
15	10	3.413	0.853	150
15	9	3.391	0.848	151
15	8	3.368	0.842	152
15	7	3.346	0.837	153
15	6	3.325	0.831	154
15	5	3.303	0.826	155
15	4	3.282	0.821	156
15	3	3.261	0.815	157
15	2	3.241	0.810	158
15	1	3.220	0.805	159

Coarse.	Fine.	Cal Hi	Cal Lo	tach
16	16	4.000	1.000	128
16	15	3.969	0.992	129
16	14	3.938	0.985	130
16	13	3.908	0.977	131
16	12	3.879	0.970	132
16	11	3.850	0.962	133
16	10	3.821	0.955	134
16	9	3.793	0.948	135
16	8	3.765	0.941	136
16	7	3.737	0.934	137
16	6	3.710	0.928	138
16	5	3.683	0.921	139
16	4	3.657	0.914	140
16	3	3.631	0.908	141
16	2	3.606	0.901	142
16	1	3.580	0.895	143

TROUBLE SHOOTING GUIDE

PROBLEM	POSSIBLE CAUSE	SOLUTION
<p>Speedometer will not work. GREEN light off. Speedometer will not work. Green light on steady.</p>	<p>No power to Speedometer Interface. No input signal. Speedometer Interface set for wrong input type. Ground interface.</p>	<p>Check the power and ground terminals on the Speedometer Interface. Should be 11-15 V dc. Test for 1-20 volts AC at the signal in terminal with the wheels spinning. Turn switch #1 ON and #2 OFF.</p>
<p>Speedometer will not work. Green light flashing. Speedometer will not read at low speeds.</p>	<p>Wrong output type. Speedometer Interface set for wrong input type. Speed signal is too low.</p>	<p>Make sure both the speed sensor Speedometer Interface are grounded at the same point. Try switching from an oc to AC output or from an AC to oc output. Turn switch #2 OFF.</p>
<p>Speedometer will read when the vehicle is sitting still.</p>	<p>Tach wire too close to speed signal wire. Signal IN and OUT wires routed too close. Ground interference.</p>	<p>Check speed connections from ground problems or shorts. Test the ground connection between Speedometer Interface and sensor. Check for another device loading down the sensor.</p>
<p>UP switch will not work DN switch will not work</p>	<p>Sensitivity set incorrectly Cal range is at max value Cal range is at min value</p>	<p>Route the speed signal and tachometer wires away from each other to avoid interference. Route the input and output wires away from each other to avoid feedback. Make sure the speed sensor and Speedometer Interface are grounded together.</p>
<p>Transmission does not shift properly, or not at all</p>	<p>Wired improperly Incorrect application</p>	<p>Turn switch #2 ON. Turn switch #4 ON. Turn switch #4 OFF. Contact technical support.</p>