

Record Technologies

Speedometer Installation Instructions

R174 (B) (C) 0-140 kph

Installation:

You will need a speed sensor to provide a signal to your electronic speedometer.

1. Bring both sensor wires back to the connector. **DO NOT** connect the sensor ground wire to a point which is physically different from the speedometer ground.
2. When power is applied, the needle should go the zero position. If it does not, there may be a bad connection in the "hot" (green) wire, or in the ground wire circuit. Check power to the speedometer by measuring with a voltmeter, at the plug. (speedometer leads on the pins that attach to the green and black wire).
3. Low voltage (below 10.5V) will cause an inaccurate reading. Measure voltage with the engine running and speedometer connected. This can be done by connecting a voltmeter to a power source (i.e. fuse block, etc) and/or by connecting the voltmeter leads to the green and black wires.
4. If the speedometer reads zero, then "jumps" to a normal reading after a certain speed, adjust the sensor so that it is closer to the gear (AC generators cannot be adjusted). Be careful not to screw it in too far, or damage will result. Bottom out sender and back off 1/4 turn and tighten nut.
5. A bad ground will make the needle erratic. Check for proper ground.

Colour	Description
Green	Power for Light
Red	Ignition Switch
Black	Ground
Blue	Connect only if your input is from a magnetic sensor or AC generator
White	Connect only if your input is from Ignition Coil or Alternator - W terminal
Yellow	+5v output

Programming the Switch Setting:

You must set the calibration number of your vehicle into the speedometer, or it will not read the correct speed.

To find the switch setting for your calibration number, refer to the programming table on the back of this instruction sheet.

NOTE: The switch setting must be done with the power off. Changing the switch settings while the power is on will have no effect. The switch "ON" = 1; "OFF" = 0

How to find your calibration number:

Most Common Location:

1. **TRANSMISSION MOUNTED MAGNETIC SENSOR:** Calibration Number = (tire revs/km) x (diff. ratio) x number teeth on rear transmission (North American standard is 16 teeth). i.e. $302 \times 4.10 \times 16 \text{ teeth} = 19811$.
2. **CABLE DRIVEN SYSTEM: (Pulse Generator):** Calibration Number = (cable turns/km) x (pulses of sender).
3. **WHEEL MOUNTED TOOTH WHEEL:** Calibration number = (# of slots in tone wheel) x (tire revs/km)
4. **DRIVE SHAFT MOUNTED MAGNETIC SENSOR:** Calibration Number = (tire revs/km x (differential ratio) x number of bolt heads passing sensor

How to find Cable Revs/Km

Example: 1) Chalk mark the tire and mark the floor directly below the chalk mark on tire - Move the tire one rotation and mark the floor where the mark meets the ground (floor). Measure the distance - in inches - between the two chalk marks. Use this measurement and divide it into 39,371. Equation = Tire Revs/km Use in formula below.

Formula:
$$\frac{(\text{Tire revs/km}) \times (\text{Diff. Ratio}) \times \text{Drive gear (number of teeth) in transmission}}{\text{Driven Gear (number of teeth) in transmission}} = \text{Cable Revs/Km} \times \text{Pulse of Sender} = \text{Calibration number.}$$

Specifications:

Operating voltage: 10-16VDC Input compatibility: Magnetic Sensor, AC Generator, Alternator Tap
Programming Range: 2500 to 63993 pulses per rev.

2 year warranty

Mr. Speedometer Inc. 1-800-661-1649

Fax 403-255-4953



Programming Table

SWITCH	FRE- QUENCY	SWITCH	FRE- QUENCY	SWITCH	FRE- QUENCY	SWITCH	FRE- QUENCY	SWITCH	FRE- QUENCY
12345678	Pulse/km	12345678	Pulse/km	12345678	Pulse/km	12345678	Pulse/km	12345678	Pulse/km
0000001	1554	00110100	2979	01100111	5713	10011010	10955	11001101	21007
0000010	1587	00110101	3017	01101000	5786	10011011	11096	11001110	21277
0000011	1594	00110110	3056	01101001	5861	10011100	11238	11001111	21550
0000100	1614	00110111	3096	01101010	5936	10011101	11383	11010000	21827
0000101	1635	00111000	3135	01101011	6012	10011110	11529	11010001	22108
0000110	1656	00111001	3175	01101100	6089	10011111	11677	11010010	22392
0000111	1677	00111010	3216	01101101	6168	10100000	11827	11010011	22679
00001000	1699	00111011	3258	01101110	6247	10100001	11979	11010100	22971
00001001	1720	00111100	3300	01101111	6327	10100010	12133	11010101	23266
00001010	1743	00111101	3342	01110000	6408	10100011	12264	11010110	23565
00001011	1765	00111110	3385	01110001	6491	10100100	12447	11010111	23868
00001100	1788	00111111	3428	01110010	6574	10100101	12606	11011000	24174
00001101	1811	01000000	3472	01110011	6659	10100110	12768	11011001	24485
00001110	1834	01000001	3517	01110100	6744	10100111	12932	11011010	24799
00001111	1858	01000010	3562	01110101	6831	10101000	13099	11011011	25118
00010000	1881	01000011	3608	01110110	6919	10101001	13267	11011100	25440
00010001	1906	01000100	3654	01110111	7007	10101010	13438	11011101	25768
00010010	1930	01000101	3701	01111000	7096	10101011	13610	11011110	26099
00010011	1955	01000110	3749	01111001	7189	10101100	13785	11011111	26434
00010100	1980	01000111	3797	01111010	7281	10101101	13962	11100000	26774
00010101	2006	01001000	3846	01111011	7375	10101110	14142	11100001	27117
00010110	2031	01001001	3895	01111100	7469	10101111	14323	11100010	27466
00010111	2057	01001010	3945	01111101	7565	10110000	14507	11100011	27819
00011000	2084	01001011	3996	01111110	7663	10110001	14694	11100100	28176
00011001	2111	01001100	4047	01111111	7761	10110010	14883	11100101	28538
00011010	2138	01001101	4099	10000000	7861	10110011	15073	11100110	28905
00011011	2165	01001110	4152	10000001	7961	10100100	15267	11100111	29277
00011100	2193	01001111	4205	10000010	8064	10110101	15463	11101000	29653
00011101	2221	01010000	4259	10000011	8168	10110110	15662	11101001	30034
00011110	2250	01010001	4314	10000100	8272	10110111	15863	11101010	30420
00011111	2278	01010010	4369	10000101	8378	10111000	16067	11101011	30810
00100000	2308	01010011	4426	10000110	8487	10111001	16273	11101100	31206
00100001	2337	01010100	4482	10000111	8595	10111010	16482	11101101	31607
00100010	2367	01010101	4540	10001000	8706	10111011	16694	11101110	32013
00100011	2398	01010110	4599	10001001	8818	10111100	16909	11101111	32424
00100100	2429	01010111	4658	10001010	8931	10111101	17126	11110000	32841
00100101	2460	01011000	4717	10001011	9046	10111110	17346	11110001	33263
00100110	2492	01011001	4778	10001100	9162	10111111	17569	11110010	33690
00100111	2523	01011010	4839	10001101	9280	11000000	17795	11110011	34123
00101000	2556	01011011	4901	10001110	9399	11000001	18023	11110100	34561
00101001	2589	01011100	4965	10001111	9520	11000010	18255	11110101	35006
00101010	2622	01011101	5028	10010000	9642	11000011	18489	11110110	35456
00101011	2657	01011110	5093	10010001	9766	11000100	18727	11110111	35911
00101100	2690	01011111	5158	10010010	9891	11000101	18968	11111000	36372
00101101	2725	01100000	5224	10010011	10019	11000110	19211	11111001	36840
00101110	2759	01100001	5291	10010100	10147	11000111	19458	11111010	37313
00101111	2795	01100010	5360	10010101	10277	11001000	19708	11111011	37792
00110000	2831	01100011	5428	10010110	10410	11001001	19961	11111100	38278
00110001	2867	01100100	5498	10010111	10543	11001010	20218	11111101	38769
00110010	2904	01100101	5569	10011000	10679	11001011	20477	11111110	39268
00110011	2942	01100110	5640	10011001	10816	11001100	20741	11111111	39772