

**SUPERLIFT SUSPENSION SYSTEMS**

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**Superlift TruSpeed Speed Sensor Calibrator For  
All Chrysler Dodge and Jeep Vehicles 1992 – 2003, Ford Ranger / Explorer 1998-2003, and  
All Toyota Trucks and SUVs 1995-Present  
INSTALLATION INSTRUCTIONS**

**INTRODUCTION**

Installation requires a professional mechanic. The overall vehicle must be in excellent working condition; repair or replace all worn parts.

**Read instructions several times before starting. Be sure you have all needed parts and know where they install. Read each step completely as you go.**

**NOTES:**

- A soldering iron or gun, wire crimping pliers, and a voltmeter or test light are required for installation.
- A vehicle service manual should be on hand for reference.
- Route all wires away from any sharp edges or high heat sources. Protect any wires as necessary to avoid chafing or short-circuits.
- There are four possible methods that can be used to calibrate the TruSpeed module depending on the specific application. Refer to steps 5-8.
- It is recommended that the TruSpeed calibrator be mounted somewhere in the passenger compartment in the vehicle. However, the TruSpeed is water resistant and can be mounted under the hood provided it is placed away from direct heat and protected from the weather.
- For clarification when referring to the calibration charts, whole numbers indicate complete (360 degree) turns of the TruSpeed adjustment screw, while fractional numbers indicate partial turns of the adjustment screw. For example, a chart that indicates 16 ½ turns means the adjustment screw should be turned clockwise 16 complete turns, plus one ½ turn.
- If for any reason the calibrator must be reset, rotate both adjustment screws located on the side of the TruSpeed counterclockwise 15 times.
- The TruSpeed can be calibrated for two different tire diameters for those who make seasonal tire changes or those who run stock tires every day and larger tires for shows or off-road use. The setting changes are made by flipping the toggle switch on the side of the module. The settings must be calibrated separately. Refer to steps 5-9.
- It is extremely important that the TruSpeed settings are switched or recalibrated whenever tire and / or gear changes are made. Failure to do so will cause inaccurate speedometer / odometer readings and may affect ABS function. It is the driver's responsibility to ensure that the TruSpeed is set properly for the vehicle's current tire / gear combination.

**PARTS LIST ...** The part number is stamped into each part or printed on an adhesive label. Identify each part and place the appropriate mounting hardware with it.

PART NO	DESCRIPTION <small>(Qty.- if more than one)</small>	NEW ATTACHING HARDWARE <small>(Qty.)</small>
33002 .....	TruSpeed calibrator .....	(2) non-insulated butt connectors (2) length 1/8" heat shrink tubing (1) #8 ring terminal (1) fuse tap, standard blade (1) fuse tap, mini-blade (1) spade terminal, .210" blade (1) spade terminal, .110" blade (1) calibrator key (4) 3" tie wraps (1) length double-sided tape
00465 .....	decal, "Notification To Driver"	

<b>1994-1996 Ford Broncos with 4-wheel ABS only</b>		
01-33004.....	green resistor wire .....	(2) non-insulated butt connectors (2) length 1/8" heat shrink tubing

**GENERAL INFORMATION**

The procedure below details installing and calibrating the TruSpeed module. Because some installers may be unfamiliar with electrical work, it may be helpful to have a brief overview of how the TruSpeed module works and is installed. Speed sensors emit a pulse that is sent to various vehicle systems for processing. This pulse, or signal, is set by the OE manufacturer and is non-adjustable, so installing larger tires and / or changing gear ratios will cause inaccurate speed readings. The TruSpeed module basically makes this pulse adjustable. It installs in-line with the speed signal wire, so the speed signal must now pass *through* the TruSpeed module to get to its destination. It takes the original signal (from the speed sensor) that is no longer accurate (due to tire or gear changes) and alters it into the correct one for the tire and / or gear combination. The degree of signal alteration depends on how the module is calibrated.

The TruSpeed installation involves locating proper speed signal wire, cutting it, splicing in the TruSpeed wires, and supplying power to the module. The module mounts inside the cab of the vehicle and requires a simple four wire hookup: the red wire connects to a positive 12-volt source and the black wire connects to a good ground. After the speed signal wire is cut, the green wire connects to one end of the signal wire and the yellow wire hooks to the other end of the signal wire. All of this is described in detail below. Read through the entire procedure before beginning to familiarize yourself with the procedure prior to beginning the installation. If you feel uncomfortable with the installation, contact Superlift or consult an expert in automotive electrical systems.

**INSTALLATION PRODEDURE****1) PREPARE VEHICLE...**

- The vehicle should be in Park or First gear with the ignition in the “off” position.

**2) POWER CONNECTIONS...**

**NOTE:** Be sure to route all wires away from sharp edges and high heat sources. As a general rule, it is best to route all wires by following a factory wire loom whenever possible.

- Find a suitable location inside the cab to mount the TruSpeed module. The module is water resistant, but it should be installed away from high heat sources such as the heating ducts and vents. In most instances, it can easily be attached to the bottom of the dash using the supplied two-sided tape.
  - Separate the red and black wires from the yellow and green wires on the TruSpeed module.
  - Using the supplied ring terminal, route and attach the black wire from the module to a suitable ground. Trim the wire to length as necessary.
  - Locate the fuse block for the vehicle. Fuse block location can be found in the vehicle owner’s manual or service manual.
  - Refer to chart A to identify an appropriate switched 12-volt source on the fuse block for your application. The circuit should be hot when the ignition switch is in both the “start” and “run” positions.
  - Use the fuse puller tool (normally attached to the fuse block or the access door) to pull the fuse indicated in the chart out of the block and set aside.
  - Turn the ignition switch to the “on” position. Using a test light or voltmeter, determine which side of the fuse terminal (where you just removed the fuse) is “hot,” or receiving 12 volts.
  - Turn the ignition switch back to the “off” position. Slide the appropriate fuse tapper into the hot side of the circuit (two are provided with the module: one for standard blade-type fuses and one for mini-blade fuses used in most late-model vehicles) and replace the fuse.
  - Trim the red wire from the TruSpeed module as necessary, attach the supplied spade terminal, and connect it to the fuse tapper.
- 3) LOCATING THE SPEED SENSOR (All Jeep and some Dodge vehicles)...**
- The speed sensor is located on the tailhousing of the transmission (on two-wheel drives) or transfer case (on four-wheel drives). The tailhousing is the last 8 to 10 inches of the transfer case where the rear driveshaft attaches. There should be a two- or three-wire plug visible on the sensor.
  - Release the plastic locking piece and pull the plug straight out of the sensor.

**CHART A  
CHRYSLER**

YEAR	MODEL	WIRE COLOR	SENSOR LOCATION	SUGGESTED POWER CIRCUIT	TRUSPEED CONNECTIONS
1992	Wrangler	BLU	transfer case	#3, 15A	Green wire to connector, yellow wire to loom
1993-1996	Wrangler	WHT/ORG	transfer case	#3, 15A	Green wire to connector, yellow wire to loom
1997-2004	Wrangler	DK/BLU/ORG	transfer case	#10, 10A	Green wire to connector, yellow wire to loom
2005-2006	Wrangler, manual transmission only	BLU/RED	transfer case	#10, 10A	Green wire to connector, yellow wire to loom
2005-2006	Wrangler, automatic transmission only	BLU/RED	transfer case	#10, 10A	Green wire to connector, yellow wire to loom
1993	Grand Cherokee	WHT/ORG	transmission / transfer case	#22, 15A	Green wire to connector, yellow wire to loom
1994-1996	Grand Cherokee	WHT/ORG	transmission / transfer case	#5, 10A	Green wire to connector, yellow wire to loom
1996-1998	Grand Cherokee	WHT/ORG	transmission / transfer case	#22, 10A	Green wire to connector, yellow wire to loom
1999-2001	Grand Cherokee	WHT/ORG	transmission / transfer case	#22, 10A	Green wire to connector, yellow wire to loom
2002-2003	Grand Cherokee	DK/GRN/ORG	transmission / transfer case	#3, 10A	Green wire to connector, yellow wire to loom
2002-2003	Liberty	DK/GRN/ORG	transmission / transfer case	#7, 7.5A	Green wire to connector, yellow wire to loom
1992-1993	Cherokee / Comanche	WHT/ORG (WHT close to sensor)	transmission / transfer case	#3, ABS / IGN 2A	Green wire to connector, yellow wire to loom
1994-1996	Cherokee	WHT/ORG	transmission / transfer case	#3, 10A	Green wire to connector, yellow wire to loom
1997-2001	Cherokee	WHT/ORG	transmission / transfer case	#3, 10A	Green wire to connector, yellow wire to loom
1992-1993	Dakota	WHT/ORG	transmission / transfer case	#6, 5A	Green wire to connector, yellow wire to loom
1994-1996	Dakota	WHT/ORG	transmission / transfer case	#4, 15A	Green wire to connector, yellow wire to loom
1997	Dakota	WHT/ORG	transmission / transfer case	#3, 10A	Green wire to connector, yellow wire to loom
1998-2000	Dakota / Durango	WHT/ORG	transmission / transfer case	#17, 10A	Green wire to connector, yellow wire to loom
2001-2002	Dakota/Durango	WHT/ORG	transmission / transfer case	#4, 10A	Green wire to connector, yellow wire to loom
2003	Dakota/Durango	WHT/ORG	transmission / transfer case	#8, 10A	Green wire to connector, yellow wire to loom
1992-1993	Ram Pickup / Ramcharger	WHT/ORG	transmission / transfer case	#2, 5A	Green wire to connector, yellow wire to loom
1994-1996	Ram Pickup	WHT/ORG	transmission / transfer case	#2, 5A	Green wire to connector, yellow wire to loom
1997	Ram Pickup	WHT/ORG	transmission / transfer case	#9, 10A	Green wire to connector, yellow wire to loom
1998-2002	Ram Pickup	WHT/ORG	transmission / transfer case	#9, 10A	Green wire to connector, yellow wire to loom
2003	Ram Pickup all exc. 5.7L Hemi	WHT/ORG	transmission / transfer case	#8, 10A	Green wire to connector, yellow wire to loom
2004-2005	Ram Pickup all exc. 5.7L Hemi	DK/GRN/YEL	transmission / transfer case	#8, 10A	Green wire to connector, yellow wire to loom
2006	Ram Pickup all exc. 5.7L Hemi	DK/BLU/ORG	transmission / transfer case	#8, 10A	Green wire to connector, yellow wire to loom

**FORD**

1998	Explorer / Mountaineer	GRY/BLK	ABS controller, pin 19	#1, 7.5A	Green wire to connector, yellow wire to loom
1999-2000	Explorer / Mountaineer / Sport Trac	GRY/BLK	ABS controller, pin 19	#5, 7.5A	Green wire to connector, yellow wire to loom
2001	Explorer	GRY/BLK	ABS controller, pin 19 (circuit 679)	#1, 7.5A	Green wire to connector, yellow wire to loom
2001	Explorer Sport / Sport Trac	GRY/BLK or BLK	ABS controller, pin 19 (circuit 679)	#5, 7.5A	Green wire to connector, yellow wire to loom
2002	Explorer Sport / Sport Trac, early prod. date	GRY/BLK	PCM, Conn. C175 Pin 89 (circuit 679)	#1, 7.5A	Green wire to connector, yellow wire to loom
2002	Explorer Sport / Sport Trac, late prod. date	GRY/BLK	PCM, Conn. C175 Pin 89 (circuit 679)	#2, 7.5A	Green wire to connector, yellow wire to loom
2003	Explorer Sport / Sport Trac	GRY/BLK	PCM, Conn. C175 Pin 89 (circuit 679)	#2, 7.5A	Green wire to connector, yellow wire to loom
1998-2000	Ranger	GRY/BLK	ABS controller, pin 10	gauges, 10A	Green wire to connector, yellow wire to loom
2001-2003	Ranger	GRY/BLK	GEM Module Conn C201B Pin14	#1, 7.5A	Green wire to GEM connector, yellow wire to loom
2004	Ranger	GRY/BLK	GEM Module Conn C201B Pin12	#1, 7.5A	Green wire to GEM connector, yellow wire to loom

**TOYOTA**

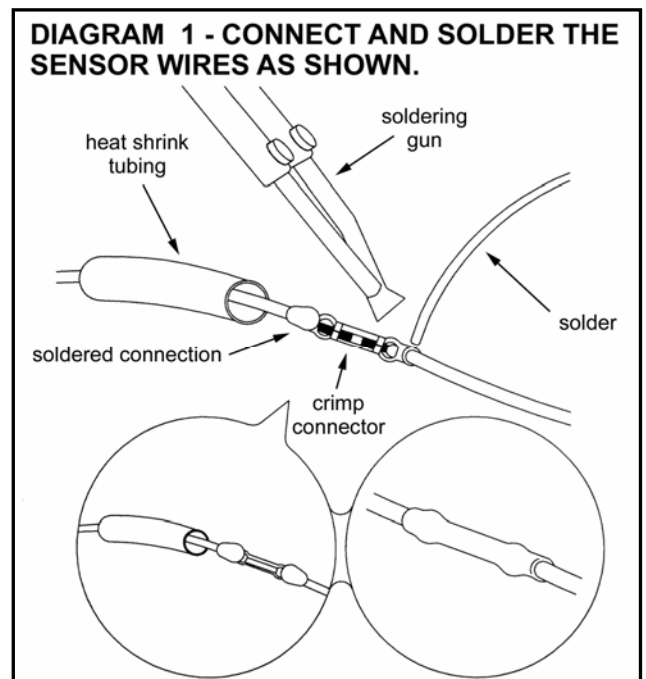
YEAR	MODEL	WIRE COLOR	SENSOR LOCATION	SUGGESTED FUSE CIRCUIT	TRUSPEED CONNECTIONS
2004	4Runner	VIO/RED	ECU behind left side of dash	Gauge 10A	Green wire to plug, Yellow wire to loom
2003	4Runner	GRY/RED	ECU behind left side of dash	Gauge 10A	Green wire to plug, Yellow wire to loom
2000-2002	4Runner	GRY/BLU	ECU behind left side of dash	Gauge 10A	Green wire to plug, Yellow wire to loom
1995-1999	4Runner	GRY/BLU	Transmission	Gauge 10A	Green wire to plug, Yellow wire to loom
1993-1994	4Runner	GRN/RED	Transmission	Gauge 10A	Green wire to plug, Yellow wire to loom
2000-2004	Tacoma	GRN/RED	Transmission	Gauge 10A	Green wire to plug, Yellow wire to loom
1998-1999	Tacoma	GRN/RED	Transmission	Gauge 10A	Green wire to plug, Yellow wire to loom
1996-1997	Tacoma	Contact Superlift	Transmission	Gauge 10A	Green wire to plug, Yellow wire to loom
1992-1994	Tacoma	GRN/RED	Transmission	Gauge 15A	Green wire to plug, Yellow wire to loom
1998-2004	Land Cruiser	RED/GRN	Left side of Transmission	Gauge 10A	Green wire to plug, Yellow wire to loom
1993-1997	Land Cruiser	RED/GRN	Transmission	Gauge 10A	Green wire to plug, Yellow wire to loom
2005	Tundra	BLU/YEL	Vehicle speed sensor	Gauge 10A	Green wire to plug, Yellow wire to loom
2004	Tundra	YEL/RED	Transmission	Gauge 10A	Green wire to plug, Yellow wire to loom
2003	Tundra	GRN/BLK or RED/BLU	Transmission	Gauge 10A	Green wire to plug, Yellow wire to loom
2000-2002	Tundra	BLU/YEL	Transmission	Gauge 10A	Green wire to plug, Yellow wire to loom

**4) SPEED SENSOR CONNECTIONS...**

- Refer to chart "A" for the appropriate wire identification (color code) for the specific year and model of the vehicle. The color codes in the chart are listed with the primary color of the wire listed first and the stripe color (if any) listed second. For example, WHT/ORG is a white wire with an orange stripe.
- Locate the correct color-code wire on the speed sensor plug and unwrap it from the rest of the factory wire loom.
- The TruSpeed is connected in two different ways:
  - For all Chrysler and Toyota applications, route the yellow and green wires from the TruSpeed module to the speed sensor plug at the transmission or transfer case.
  - For late-model Ford and Dodge vehicles, locate the appropriate color-coded wire (indicated in the chart) in the main plug on the ABS module. The location of the ABS module can be found in the factory service manual. Disconnect the plug from the ABS module.
- Cut the proper color-coded wire and strip both ends of insulation.

**IMPORTANT:** [Diagram 1] It is strongly recommended that all connections to the sensor wire are soldered. Use the following method:

- Slide the supplied heat shrink tubing over one of the wires to be connected.
- Crimp each connection using the supplied non-insulated terminals.
- Solder both wires to the terminal.
- After allowing the soldered connection to cool, slide the heat shrink tubing over the connection and use an appropriate heat source to shrink the tubing.
- Wrap the completed connection with electrical tape and place back in the factory wire loom.



- Connect the **green** wire from the TruSpeed to the wire end leading **to the speed sensor or ABS plug**.
- Connect the **yellow** wire from the TruSpeed to the end leading **to the wire loom / computer**.

**NOTE:** Improperly connecting the yellow and green wires will prevent the unit from operating properly.

- If applicable, reconnect the plug to the ABS module.

**CALIBRATION PROCEDURE**

**GENERAL INFORMATION:** Steps 5 through 8 detail calibrating the TruSpeed module. There are four different methods depending on the situation and vehicle application. These include calibrating by tire size change, gear ratio change, tire size *and* gear ratio change, and percentage change. Determine which method is most appropriate for you, then refer to that step. Also note that the TruSpeed can be calibrated or adjusted at any time, with the ignition on or off, and even while the vehicle is moving (although we do not recommend calibrating the unit and driving at the same time).

**IMPORTANT NOTE:** The TruSpeed module is shipped in a “neutral” position, which means it has no effect on the speed signal. Prior to making any adjustments using the steps below, the module must be set at “zero” by rotating the adjuster screw **counterclockwise** 15 complete turns on setting 1. This also works if the module must be reset for any reason (i.e. you lose count of how many times the adjuster screw has been turned during adjustment).

**5) CALIBRATION BY TIRE SIZE...**

**NOTE:** If you are changing tire size only (no gear change), refer to chart “B” and follow the procedure in this step. Keep in mind that the tire size indicated on the sidewall rarely reflects actual tire diameter, so measuring the true diameter of each tire size is recommended to ensure the most accuracy.

**CHART B**

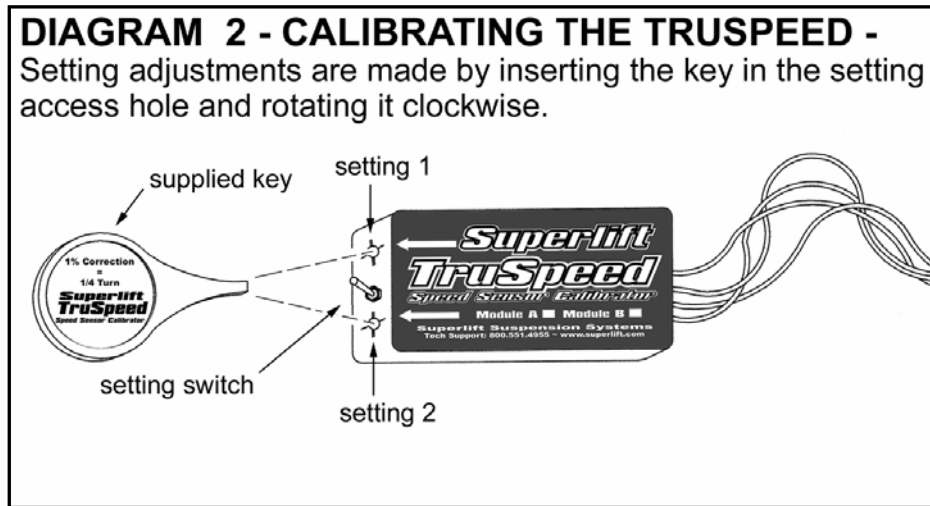
**NEW TIRE DIAMETER (INCHES)**

	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44
<b>25</b>		7 1/2	6 1/2	5 1/2	4 1/2	3 1/2	2 1/2	1 1/2	1/2											
<b>26</b>	9 1/2		7 1/2	6 1/2	5 3/4	4 3/4	3 3/4	2 3/4	1 3/4	3/4	0									
<b>27</b>	10 1/4	9 1/2		7 1/2	6 3/4	5 3/4	4 3/4	4	3	2	1	1/4								
<b>28</b>	11 1/4	10 1/4	9 1/2		7 3/4	6 3/4	5 3/4	5	4	3 1/4	2 1/2	1 3/4	1/2	0						
<b>29</b>	12	11	10 1/4	9 1/4		7 3/4	6 3/4	6	5	4 1/4	3 1/4	2 1/2	1 3/4	3/4	0					
<b>30</b>	12 3/4	11 3/4	11	10 1/4	9 1/4		7 3/4	6 3/4	6	5 1/4	4 1/4	3 1/2	2 3/4	1 3/4	1	1/4				
<b>31</b>	13 1/4	12 1/2	11 3/4	11	10	9 1/4		7 3/4	7	6	5 1/4	4 1/2	3 3/4	3	2	1 1/4	1/2			
<b>32</b>	14	13 1/4	12 1/2	11 3/4	10 3/4	10	9 1/4		7 3/4	7	6 1/4	5 1/2	4 1/2	3 3/4	3	2 1/4	1 1/2	3/4	0	
<b>33</b>	14 1/2	13 3/4	13	12 1/4	11 1/2	10 3/4	10	9 1/4		7 3/4	7	6 1/4	5 1/2	4 3/4	4	3 1/4	2 1/2	1 3/4	1	1/4
<b>34</b>	15	14 1/2	13 3/4	13	12 1/4	11 1/2	10 3/4	10	9 1/4		7 3/4	7	6 1/4	5 1/2	4 3/4	4	3 1/4	2 3/4	2	1 1/4
<b>35</b>	15 3/4	15	14 1/4	13 1/2	12 3/4	12	11 1/4	10 3/4	10	9 1/4		7 3/4	7	6 1/4	5 3/4	5	4 1/4	3 1/2	2 3/4	2
<b>36</b>		15 1/2	14 3/4	14	13 1/4	12 3/4	12	11 1/4	10 1/2	10	9 1/4		7 3/4	7	6 1/2	5 3/4	5	4 1/4	3 3/4	3
<b>37</b>			15 1/4	14 1/2	14	13 1/4	12 1/2	12	11 1/4	10 1/2	10	9 1/4		7 3/4	7 1/4	6 1/2	5 3/4	5	4 1/2	3 3/4
<b>38</b>			15 3/4	15	14 1/2	13 3/4	13	12 1/2	11 3/4	11	10 1/2	9 3/4	9 1/4		7 3/4	7 1/4	6 1/2	6	5 1/4	4 1/2
<b>39</b>				15 1/2	15	14 1/4	13 3/4	13	12 1/4	11 3/4	11	10 1/2	9 3/4	9 1/4		8	7 1/4	6 1/2	6	5 1/4
<b>40</b>					15 1/2	14 3/4	14	13 1/2	13	12 1/4	11 3/4	11	10 1/2	9 3/4	9		8	7 1/4	6 3/4	6
<b>41</b>						15 1/4	14 1/2	14	13 1/2	12 3/4	12 1/4	11 1/2	11	10 1/4	9 3/4	9		8	7 1/4	6 3/4
<b>42</b>						15 3/4	15	14 1/2	14	13 1/4	12 3/4	12	11 1/2	11	10 1/4	9 3/4	9		8	7 1/4
<b>43</b>							15 1/2	15	14 1/4	13 3/4	13 1/4	12 1/2	12	11 1/2	10 3/4	10 1/4	9 3/4	9		8
<b>44</b>								15 1/4	14 3/4	14 1/4	13 3/4	13	12 1/2	12	11 1/4	10 3/4	10 1/4	9 3/4	9	

- Measure and record the diameter of the original tires (if available) and the new tires.
- Locate the original tire size of the vehicle in the left hand column and the new tire size across the top row of chart “B”. Follow the two until they meet to get the number of turns required to adjust the module.

**Example:** If the original tires measured 31” and the new tires measure 35”, calibrating the module would require 5 ¼ turns . There are marks on the case to align your key with for reference.

- ❑ [DIAGRAM 2] Flip the switch on the TruSpeed module to setting 1. There are two small holes on either side of this switch that are used to access the adjustment screws inside the module. Using the supplied key, rotate the adjustment screw inside the module for setting 1 **clockwise** the number of turns indicated in the chart.



**Example:** If the chart indicates 5 ¼ turns, the key must be turned 360 degrees (a complete turn) 5 times, plus a single ¼ turn.

**NOTE:** If the module must be reset for any reason, rotate the key 360 degrees **counterclockwise** 15 times.

- ❑ Proceed to step 9.

**6) CALIBRATION BY GEAR RATIO...**

**NOTE:** Refer to Chart "C". Follow the procedure in this step if the gear ratio changes but the tire diameter stays the same.

**CHART C**

**NEW GEAR RATIO**

	3.07	3.21	3.31	3.42	3.55	3.73	3.91	4.11	4.27	4.56	4.88	5.13	5.29	5.38	5.71
3.07	8 1/2	9 3/4	10 1/2	11 1/4	12 1/2	14	15 1/4								
3.21	7 1/2	8 1/2	9 1/4	10	11 1/4	12 1/2	14	15 1/2							
3.31	6 3/4	7 3/4	8 1/2	9 1/4	10 1/4	11 3/4	13	14 1/2	15 3/4						
3.42	6	7	7 3/4		9 1/2	10 3/4	12	13 1/2	14 3/4						
3.55	5	6	6 3/4	7 1/2		9 3/4	11	12 1/2	13 1/2	15 3/4					
3.73	4	5	5 3/4	6 1/2	7 1/4		9 3/4	11	12	14					
3.91	3	4	4 3/4	5 1/4	6 1/4	7 1/4		9 3/4	10 3/4	12 3/4	14 3/4				
4.11	2 1/4	3	3 3/4	4 1/4	5	6 1/4	7 1/4		9 1/2	11 1/4	13 1/4	14 3/4	15 3/4		
4.27	1 1/2	2 1/4	3	3 1/2	4 1/4	5 1/4	6 1/2	7 1/2		10 1/4	12	13 1/2	14 1/2	15	
4.56	1/4	1	1 3/4	2 1/4	3	4	5	6	7		10 1/4	11 3/4	12 1/2	13	14 3/4
4.88		0	1/2	1	1 3/4	2 3/4	3 1/2	4 1/2	5 1/2	7		9 3/4	10 3/4	11	12 3/4
5.13				1/4	3/4	1 3/4	2 1/2	3 1/2	4 1/4	5 3/4	7 1/4		9 1/4	9 3/4	11 1/4
5.29					1/4	1	2	3	3 3/4	5	6 1/2	7 3/4		9	10 1/2
5.38						3/4	1 3/4	2 1/2	3 1/4	4 3/4	6 1/4	7 1/4	8		10
5.71						0	3/4	1 1/2	2 1/4	3 1/2	5	6	6 3/4	7	

**OLD GEAR RATIO**

- Locate the original gear ratio in the left hand column and the new gear ratio across the top row of chart "C". Follow the two until they meet to determine the number of turns required to calibrate the module.

**EXAMPLE:** If the original gear ratio was 3.73:1 and the new gear ratio is 4.56:1, calibrating the module would require 15  $\frac{3}{4}$  complete turns clockwise.

- [DIAGRAM 2] Flip the switch on the TruSpeed module to setting 1. There are two small holes on either side of this switch that are used to access the adjustment screws inside the module. Using the supplied key, rotate the adjustment screw inside the module for setting 1 **clockwise** the number of turns indicated in the chart.

**EXAMPLE:** If the chart indicates 11 turns, rotate the key 360 degrees (a complete turn) clockwise 11 times.

- Proceed to step 9.

## 7) CALIBRATION BY TIRE SIZE AND GEAR RATIO CHANGE...

**NOTE:** Perform this step only if both tire size *and* gear ratio are changed from stock. Do not perform this calibration procedure on any application that hooks up to the ABS module (Some Ford and Dodge trucks, for example). Instead, calibrate by the tire size or percentage change only.

- Determine the number of calibration turns required for the tire size change in Chart "B".
- Determine the number of calibration turns required for the gear ratio change in Chart "C".
- Use the following formula to determine the correct number of calibration turns to match both the tire size change and gear ratio change:

$$\# \text{ of turns for tire size} + \# \text{ of turns for gear ratio} - 8 = \text{correct } \# \text{ of calibration turns}$$

**EXAMPLE:** If the vehicle is changing from 31" tires to 35" tires and from 3.55 gears to 4.56 gears:

$$5 \frac{1}{4} \text{ turns for tire size} + 15 \frac{3}{4} \text{ turns for gear ratio} - 8 = 13 \text{ calibration turns}$$

- [DIAGRAM 2] Flip the switch on the TruSpeed module to setting 1. There are two small holes on either side of this switch that are used to access the adjustment screws inside the module. Using the supplied key, rotate the adjustment screw inside the module for setting 1 **clockwise** the number of turns indicated from the formula.



- Proceed to step 9.

**8) CALIBRATION BY PERCENTAGE...**

**NOTE:** In order for the unit to be calibrated by percentage, it will be necessary to know the percentage of error on the speedometer / odometer with the new tire and / or gear change.

- Refer to chart “D” for the proper number of turns for a particular percentage.
- [DIAGRAM 2] Flip the switch on the TruSpeed module to setting 1. There are two small holes on either side of this switch that are used to access the adjustment screws inside the module. Using the supplied key, rotate the adjustment screw inside the module for setting 1 **clockwise** the number of turns indicated from the formula.

**CHART D**

FOR TIRES LARGER THAN ORIGINAL		FOR TIRES SMALLER THAN ORIGINAL	
% OF CHANGE	# OF TURNS	% OF CHANGE	# OF TURNS
28%	1 1/2	0%	8 1/2
27%	1 3/4	-1%	8 3/4
26%	2	-2%	9
25%	2 1/4	-3%	9 1/4
24%	2 1/2	-4%	9 1/2
23%	2 3/4	-5%	9 3/4
22%	3	-6%	10
21%	3 1/4	-7%	10 1/4
20%	3 1/2	-8%	10 1/2
19%	3 3/4	-9%	10 3/4
18%	4	-10%	11
17%	4 1/4	-11%	11 1/4
16%	4 1/2	-12%	11 1/2
15%	4 3/4	-13%	11 3/4
14%	5	-14%	12
13%	5 1/4	-15%	12 1/4
12%	5 1/2	-16%	12 1/2
11%	5 3/4	-17%	12 3/4
10%	6	-18%	13
9%	6 1/4	-19%	13 1/4
8%	6 1/2	-20%	13 1/2
7%	6 3/4	-21%	13 3/4
6%	7	-22%	14
5%	7 1/4	-23%	14 1/4
4%	7 1/2	-24%	14 1/2
3%	7 3/4	-25%	14 3/4
2%	8	-26%	15
1%	8 1/4	-27%	15 1/4
0%	8 1/2	-28%	15 1/2

**9) CALIBRATION FOR SETTING 2...**

**NOTE:** The setting 2 function of the TruSpeed is intended for those who run sets of tires with different diameters on the same vehicle (i.e. seasonal tire changes or “street” and “show” tires). If only one set of tires will be used on the vehicle, it is not necessary to perform this step.

**NOTE:** The TruSpeed is shipped with both settings in the “neutral” position, which will have no effect on speedometer reading. Therefore, if the vehicle will occasionally run stock tires and no gear ratio changes are made, there is normally no need to calibrate Setting 2. However, it is important to verify that the speedometer reading is accurate (refer to step 12) with stock tires. It has been our experience that speedometer readings on a completely stock vehicle can be off by as much as 10 percent.

- Flip the toggle switch on the side of the TruSpeed to setting 2.
- Following the same procedure used to calibrate setting 1, calibrate setting 2 now.

**IMPORTANT:** Be absolutely sure to switch the TruSpeed setting when tire changes are made. Failure to do so will cause false speedometer readings.

**FINAL PROCEDURES****10) MARK THE SETTINGS...**

- Use a permanent marker to indicate the tire diameters calibrated for setting 1 and setting 2 in the space provided on the label.

**11) NOTIFICATION TO DRIVER DECAL...**

- Install the NOTIFICATION TO DRIVER decal on the inside of the windshield, or on the dash, within driver's view. Refer to the "NOTICE TO DEALER AND VEHICLE OWNER" section below.

**12) NOTE TRUSPEED LOCATION...**

- Note the exact location of the TruSpeed module in the space below for future reference:

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**13) FINAL CHECK...**

- Double-check all connections made for proper strength. Also verify all wires are routed away from sharp edges, high heat sources, and moving parts.

**NOTE:** The next step details fine-tuning the TruSpeed calibration. For small adjustments, a  $\frac{1}{4}$  turn of the adjustment screw equals a 1 percent correction. A counter-clockwise turn "speeds up" the reading of the speedometer; a clockwise turn "slows down" the reading of the speedometer.

- Test drive the vehicle to verify proper speedometer operation and readings for settings 1 and 2. This can be done a number of ways:
  - Drive the vehicle at a steady speed for one mile using highway milemarkers for reference. Note the odometer reading at the beginning and end of each mile. If the odometer reads more or less than 1 mile, the speedometer is not calibrated properly. Determine the percentage of error (if any) and recalibrate as necessary until the odometer (and therefore speedometer) reading is accurate.
  - Pace the vehicle equipped with the TruSpeed with another vehicle known to have an accurate speedometer. Determine the percentage of error (if any) and adjust calibration as necessary.
  - Compare the speedometer reading with the reading of a Global Positioning System (GPS). Determine the percentage of error (if any) and adjust as necessary. This method is the most accurate and therefore the most recommended.
- Repeat the previous step for Setting 2.

**IMPORTANT PRODUCT USE INFORMATION**

As a general rule, when ever the tire diameter and / or gear ratio of a vehicle has been changed the speedometer / odometer will no longer be calibrated correctly and can give incorrect readings. Many vehicle owners will change tires for different seasons, such as snow and mud tires, therefore it is important to always verify that the TruSpeed is properly set for the tire size and gear ratio on the vehicle.

Do not open or alter the TruSpeed case in any way. Breaking the seal or opening the TruSpeed will void the warranty.

We will be happy to answer any questions concerning the design, function, and correct use of our products.