

Installation and Operation Instructions

Blue Chip Diesel Apps Sensor

1. **Remove the black plastic APPS cover** by removing the two plastic Philips screws and then pull out the plastic nutsert each screw went into, with your fingers or carefully with side cutting pliers.
2. **Remove the six bolts that hold the belcrank assembly on**, using a 10 mm socket. The sensor is on the back. A T20 Torx is needed here. These screws have Loctite on them, so be sure that the bit is engaged fully into the screw head so it doesn't strip, or you will need to use vise grips to remove them.
3. **Remove and discard the two mounting screws for the sensor**, and use new ones supplied in kit.
4. **Add the new sensor.** After the old sensor is removed, take the new sensor and look at the side that bolts to the bracket. In the center, you will see the slot that engages over the tang of the belcrank shaft. Line up the slot with the tang and GENTLY push the sensor onto the mounting surface. If the sensor does not mate flat to the mounting surface, the slot is not engaged properly; try again, but DO NOT FORCE IT.
5. **Rotate the sensor.** When you are sure the tang is engaged properly, rotate the sensor clockwise, until the mounting screw holes are aligned. Do not force the sensor as it is very fragile inside and it is possible to break the internal parts by going past the internal plastic stop. **We will not replace or warranty the APPS if this has happened.**
6. **Start the provided replacement screws**, and just before the screws are tight, gently twist the sensor clockwise and tighten the screws.
7. **Remount the belcrank assembly** to the bracket.
8. **Calibrate or adjust the idle voltage.** To do the best possible installation you may want to calibrate or adjust the idle voltage, but it is not always necessary for the successful operation of the replacement APPS, in our experience. Adjust the idle voltage by adjusting the idle stop screw in the belcrank. This screw also has Loctite on it from factory, so make sure the T20 torx bit is fully engaged into the head before attempting to turn it. If you think it may strip, carefully heat the area around the screw with a propane or butane torch. This will soften the Loctite and allow it to turn. Only heat it for a couple of seconds at a time and attempt to turn the screw clockwise. After making the screw turn, you are ready to adjust the voltage.
9. **Plug the sensor harness into the factory harness.** Using the paperclip provided, insert it in between the orange seal and the green wire on the back of the APPS connector. Push it in until it stops. Or, you can measure the voltage on the LIGHT blue wire with a BLACK tracer in the factory harness plug. **DO NOT confuse this with the dark blue with a white tracer wire.**
10. Make sure the paperclip does not contact any electrical ground or metal part of the engine and then turn the ignition key to the ON position. Turn

your voltmeter to the low voltage DC scale. It should read .60 - .67 volt. If it reads higher than that, turn the idle stop screw counter clockwise until the voltage is just below .60 volt.

11. **Turn the idle stop screw clockwise** until the voltage begins to rise, then turn the screw counterclockwise 1/2 turn and you are done with the adjustment.
12. **Turn the ignition key off**, remove paper clip, disconnect voltmeter, and replace plastic cover.
13. **Turn key ON**, press accelerator pedal slowly to the floor and then let up slowly. Turn key off. Repeat this 2 more times. You are done.

When you drive the truck after installation if it hesitates just off idle, readjust the idle stop by turning it clockwise more, to raise the voltage. When you do this, you will see by the voltmeter that there is a blank spot voltage wise, on the travel of the sensor as you turn the screw. The trick here is to turn the screw until you get past that flat spot and then stop at the correct voltage. When this is accomplished all will be well, and the hesitation will not be there. We have had only a few instances of this problem, but we thought we should give you the solution now!

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