



Application: 1999 - 2000 Cadillac Escalade, 1995 - 1999 Chevrolet Suburban, 1997 - 2000 Chevrolet Express

- ▶ **Symptom:**
Difficult starting, unusual noises when starting, and possible damaged Starter Nose Cone.
- ▶ **Cause:**
The hard start symptoms and starter failure may NOT be caused by the starter. A faulty crankshaft sensor could be the culprit.
- ▶ **The Solution:**
The crankshaft sensor will need to be replaced, and the remaining components will need to be inspected for damage.



Hard start symptoms and starter failure may NOT be caused by the starter.

If you don't hear the typical smooth clicks when starting a vehicle, but you hear a clanking noise instead, it must be the starter, right?! But what if it isn't? Although it may seem like the starter, there could be another culprit. Hard start symptoms and starter failure may NOT be caused by the starter, but could actually be caused by the crankshaft position sensor.

Symptoms of a faulty crankshaft sensor can include:

- Backfire during cranking or start-up
- "Kickback" during cranking or startup
- "No" start
- Slow or difficult start/crank
- Grinding or unusual noises during cranking or start-up
- Cracked or broken engine block at the starter boss
- Broken starter drive housing "nose cone"
- Broken starter ring gear on flywheel or flexplate

If your vehicle is experiencing one or more of these symptoms, the crankshaft sensor may be at fault. A common failure mode of the crankshaft position sensor is allowing

spark advance of up to 50 extra degrees during engine cranking only. This creates higher cylinder pressure and sometimes "kick back" which can damage the starter housing, flywheel/flexplate, and/or engine block (where the starter is mounted).

The Fix: The first step is determining whether the crankshaft position sensor is the cause by running a vehicle diagnostic check. Inspect for a Power Train diagnostic trouble code (DTC) P0338. This DTC may not always illuminate the "Service Engine Soon Light." If the code is stored, the crankshaft position sensor must be replaced, and the remaining components inspected for damage.

Note: Attempting to replace the starter without properly diagnosing the issue may result in damage to the replacement starter.

Check out the video for this issue by scanning the QR code or head to: <https://youtu.be/iBbg03Xikaw>



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