

**PENNTEX HIGH IDLER
2001 CHEVY 5.7L G CHASSIS
Installation and Testing**

INSTALLATION:

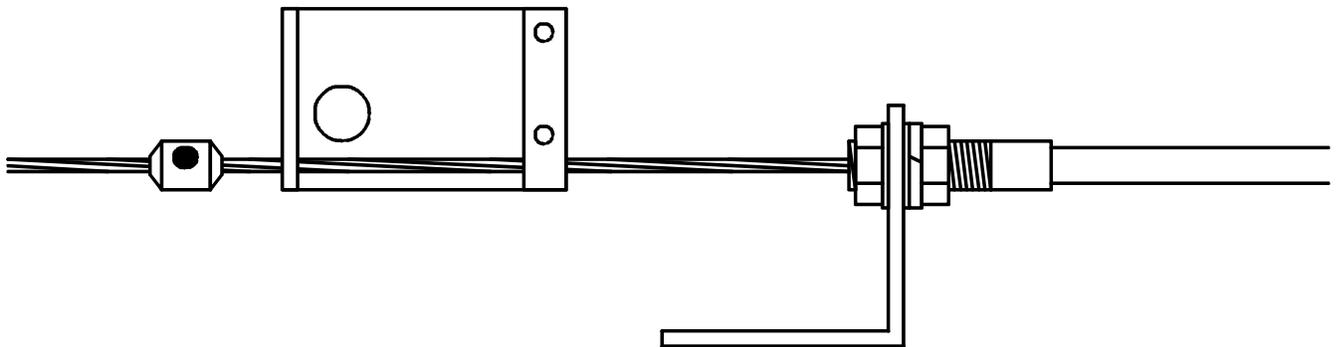
NOTE: The air cleaner has air flow sensors mounted in it that feed information to the PCM. The engine will not run properly without the air cleaner and all air intake ducts connected to the throttle body! Modifications to chassis and idler may be necessary in some applications. Controller extension harnesses are available.

******* DISCONNECT THE GROUND CABLE FROM ALL BATTERIES. *******

1. Mount the idle controller (inside vehicle) in a location that is both easily accessible to driver and within wiring harnesses reach.
2. Connect the red wire from the idler to a source that provides +12 volts when the ignition switch is in the "RUN" position (ex. brown wire from fuse # 24 (circuit #341), also found at the "Convenience Center" cavity E11).
3. Connect the green wire from the idler to a white wire (circuit # 17) from the TCC/ Stop Lamp Switch. This wire should pull to +12 volts when the brake pedal is pressed. This wire is also available at position number E4 in the "Convenience Center."
4. Connect the yellow wire from the idler to a light green wire (circuit # 275) from the TCC/ Stop Lamp Switch. This wire should pull to +12 volts when the ignition switch is in the "RUN" position and the gear selector (automatic trans.) is in the "PARK" position.
5. Connect the black wire from idler to chassis ground.
6. Drill a 1/2 inch hole through the fire wall. Be careful not to drill through harnesses, hose etc..
7. Feed harness through to grommet. Be sure grommet seats properly in hole.
8. Tape and tie any loose wire or harnesses away from sharp edges and moving parts.
9. Mount Circuit Breaker & Relay close to a source for +12v (>30A), and away from heat sources such as exhaust manifolds or direct exposure to water spray from tires.
10. Route the idler harness over to relay. Secure harness away from heat sources, sharp edges or moving parts.
11. Connect the blue wire to relay terminal #85.
12. Connect the gray wire to relay terminal #86.
13. Connect the circuit breaker's "BAT" terminal to a +12 Volt source that can supply >30A such as the battery or the power studs on the under-hood fuse center.
14. Check to insure that the solenoid's idle control nut and cable housing are fully retracted (no threads showing). Mount solenoid close to relay and within cable's reach of throttle bracket but away from direct exposure to high heat sources or water spray.
15. Ground the negative terminal of the solenoid to a suitable high current ground. Solenoid mounting screws may be used if solenoid is mounted to frame/chassis.
16. Connect the positive terminal of the solenoid to relay terminal #87.
17. Secure ALL loose wires away from heat sources, sharp edges or moving parts.

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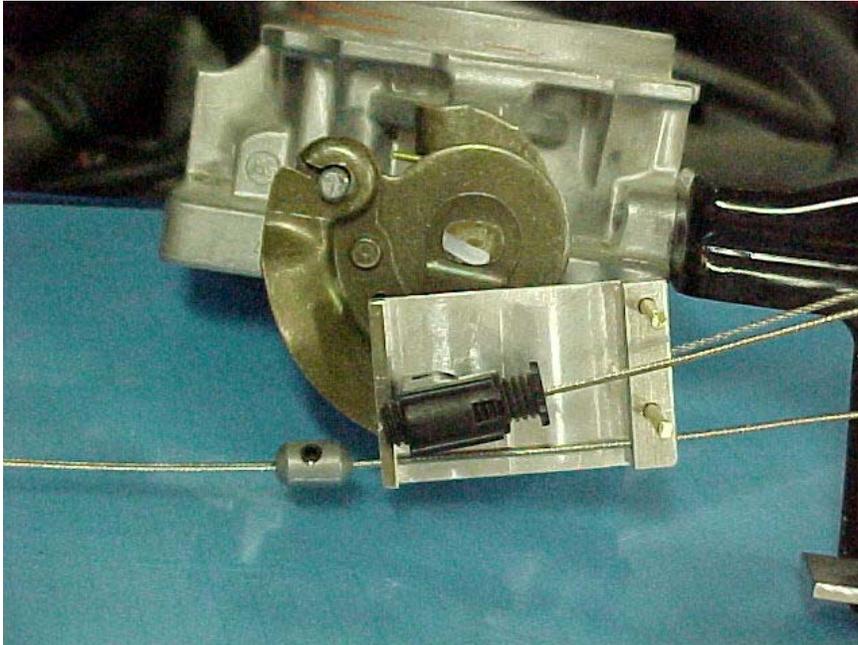
18. Remove the air intake & filter assembly if not already removed:
 - a. Unplug the 2 air intake sensors.
 - b. Remove the two bolts from the radiator support w/ 10mm socket.
 - c. Loosen air duct clamp w/ 8mm socket.
 - d. The 2 retainers on the bottom will release when pulled.
19. Loosen the 2nd clamp (8mm socket) and remove the flexible air intake duct.
20. Remove the plastic angle duct from the top of the throttle body. Note that the instructions for removal are on the top of the duct.
 - a. Nut on the top rear (14mm socket).
 - b. Lift rear end up and slide forward.
 - c. Remove the rubber hose from the side port.
21. Remove the cruise control linkage from the throttle. To do this pull the linkage straight off the pivot shaft. It has an integral retaining clip that holds it onto the groove of the pivot. **DO NOT ATTEMPT TO REMOVE THE C-SHAPED RETAINING CLIP! IT WAS NOT MADE TO BE REMOVED!** The linkage does not release easily and may require wiggling and rocking while pulling. A screw driver may be carefully employed to lightly pry it off the pivot.
22. Remove the nut from the lower part of the throttle bracket (10mm socket). Loosen the bolt that holds the throttle bracket to the throttle body.
23. Route the idler throttle cable to the throttle bracket along a similar path as the OEM throttle & cruise control cables.
24. Attach the idler throttle cable to the idler throttle bracket with the stainless steel cable protruding on the same side as the mounting tab as shown below in step 26.
NOTE: It is only necessary to use one lock washer and two flat washers. There should only be a few threads of the cable housing protruding past the mounting nut on the throttle body side of the bracket.
25. Install the Idler bracket onto the lower mounting stud of the OEM throttle bracket. It may be necessary to lift the OEM bracket slightly as it is a tight fit. The lower portion (mounting tab) of the Idler bracket should sit on top of the lower portion of the OEM bracket. Replace and tighten the lower nut. Retighten the bolt that holds the OEM bracket to the throttle body,
26. Slide the linkage adapter onto the idler cable. The idler cable should enter the end that has the two brass pegs and exit the end by the large hole as shown below. Slide the tapered cable clamp (cable stop) onto the idler cable and slightly tighten the clamp screw (set screw) just enough to hold the clamp in place so that it does not fall off the cable.



27. Slide the linkage adapter onto the cruise control pivot with the two brass pegs facing out away from the throttle body. Route the cruise control cable and linkage in between the two brass pegs and reattach the cruise control linkage to the pivot. It is essential for proper operation and safety that this be done properly!
If the cruise control option is not installed on the vehicle then place the 0.625" OD. aluminum washer onto the

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pivot after the linkage adapter. Then slide the U-shaped throttle clip onto the pivot and crimp the open end closed to retain the linkage adapter.



28. Check to make sure that the solenoid adjuster nut is in the cable retracted position (no threads showing). Push the idler cable into the cable housing to bottom the solenoid's plunger. Adjust the tapered cable clamp's position to allow ¼"-3/8" slack (distance from tapered cable clamp to the linkage adapter). Fully tighten the clamp screw. Cut off any excess cable that could cause interference,
29. Operate throttle lever manually to insure that the cable and linkage adapter operate freely without any interference that could cause hanging or jamming.
27. Reassemble all engine components and repeat the test in step 29. Reconnect all battery ground cables.

TESTING AND ADJUSTMENT:

1. Set the park brake (emergency brake). Turn ignition switch to run position, but **DO NOT START ENGINE**. The "LOW" battery indicator (red) should be lit. After 10 seconds the "HIGH IDLE" indicator (yellow) should light up.
2. Press the brake pedal. The "HIGH IDLE" indicator (yellow) should turn off. Release the brake and it should come back on with no delay.
3. Press the brake pedal and move the gear shift to "DRIVE". Release the brake pedal. The "HIGH IDLE" indicator (yellow) should not be lit. Put the shifter in "PARK". The "HIGH IDLE" indicator should light.
4. Start engine and press the "MANUAL ENGAGE" button. Allow engine to fully warm up. Turn on all possible engine and electrical loads. Using solenoid's adjustment nut, adjust engine RPM to a level adequate to maintain battery voltage above 12.75 volts (1000 to 1500 RPM). Tighten solenoid's locking nut after final adjustment. Alternator may take a few minutes to recharge batteries before voltage can rise. Alternator must also be capable of putting out more current than vehicle and accessories draw at a given RPM.
5. Press brake to insure idle speed returns to normal.
6. Installation complete.