

**PENNTEx IDLE CONTROLLER  
'97 FORD 6.8L V-10 & 5.4L V-8 GAS  
E-SERIES (VAN CHASSIS)**

**INSTALLATION:**

NOTE: Some chassis with the 4.6L & 5.4L V-8 engines do not have a PTO wire and thus there is no way to prevent the OBD II system from inadvertently turning on the "CHECK ENGINE" light. For this reason PennTex does not recommend installing high idler kits on these chassis. The 5.4L engine in model year 2000 and later has this wire available.

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. Remove the driver's side knee panel. This piece pops off, there are no screws retaining it.
2. Remove the data link connectors from the knee panel brace.
3. Remove the knee panel brace from the dash support bracket (6 bolts).
4. Locate the shift lock actuator on the upper drivers side of steering column near the ignition switch. Disconnect connector #221 from the shift lock actuator. This should have 3 wires: black, Lt. green and purple w/orange stripe.
5. Connect the red wire from idler to the purple with orange stripe wire (18 AWG) at shift lock actuator connector (figure 1-A). This wire should be 12 volts when the ignition switch is in run position (factory fuse #6, 10 amp.). Optionally, this wire may be connected to any 12 volt source that is switched on when the ignition switch is in "RUN" position. For example, if an auxiliary battery cut-off switch is installed, the idler should be wired so that this switch can deactivate it.
6. Connect the green wire from the idler to the light green wire (18 AWG) at shift lock actuator connector (figure 1-B). This wire should be 12 volts when the brake pedal is pressed.
7. Reconnect the shift lock actuator's connector.
8. Disconnect connector #240 from the ignition switch.
9. Connect the orange wire from the idler to a white with pink stripe wire (10 AWG) at the ignition switch connector (figure 1-C). This wire will pull to ground through the park/neutral switch and the starter relay when the gear shift is in park or neutral.
10. Reconnect the ignition switch connector.
11. Connect the black ground wire to the metal dash support bracket with OEM screw when re-installing knee panel brace.
12. If the timer/park brake module is installed connect the purple wire to the Lt. green with red stripe wire from the park brake switch.
13. Cut an X through the insulation on the fire wall 3 inches below the brake bracket bolt & drill a 1/2 inch hole through the fire wall (figure 1-D). Be careful not to drill through harnesses, hose etc..
14. Feed harness through to grommet. Be sure grommet seats properly in hole.

15. Mount idle controller in a location that is both easily accessible and visible to driver.
16. Tape and tie any loose wire or harnesses away from sharp edges and moving parts.
17. Remove power steering fluid reservoir from bracket by lifting upward. Do not disconnect.
18. Remove cover from alternator distribution block. This is on the side of the fuse box (figure 2-A).
19. Remove but do not disconnect coolant reservoir.
20. Mount circuit breaker and relay on sloping part of wheel well under coolant reservoir (figure 2-B).
21. Connect the circuit breaker to the alternator distribution block (figure 2-A).
22. Connect the blue wire to relay terminal #85.
23. Connect the gray wire to relay terminal #86.
24. Remove air intake duct, air filter, interior engine cover (dog house), throttle body intake duct & throttle cover.
25. Route idler throttle cable along side cruise control cable (if installed) and OEM throttle cable to throttle bracket. Mount solenoid on wheel well under coolant reservoir (figure 2-C). Ground the black wire from solenoid with mounting screw. Check to insure that the solenoid's idle adjuster nut and cable housing are fully retracted.  
**Secure cable, harness & wires away from heat sources, sharp objects and areas where vibration could cause damage! The cable must not come in contact with exhaust plumbing such as the EGR tube/valve!**
26. Connect the red wire from solenoid to relay terminal # 87.
27. On chassis with the PTO wire, the PTO relay (relay with the fused wire, orange, yellow & black wires) must be installed. This relay feeds 12 volts to the PCM and prevents the " CHECK ENGINE " light from being inadvertently turned on during high idle. The 4.6L & prior to year model 2000 5.4L V-8 do not have this wire, thus there is no way to prevent the "CHECK ENGINE" light from turning on during high idle. For this reason PennTex does not recommend installing any high idle kits on these engines.
  - a) Mount the PTO relay next to the relay & circuit breaker on the sloping part of wheel well.
  - b) Ground the black wire from relay terminal # 86 at the same point as the solenoid's ground.
  - c) Connect the orange wire from relay terminal # 85 to the solenoid's positive terminal with the 10 AWG red wire.
  - d) Connect the fused wire from relay terminal # 30 to the circuit breaker's battery terminal only; connecting this wire to any other 12 volt source could damage the PCM from inductive spikes.
  - e) Connect the yellow wire from relay terminal # 87 to the wire labeled PTO. This is an 18 AWG purple with light blue striped wire labeled "PTO". This should be loose from the large harness over and to the left of the brake master cylinder. At the same place, there is a 2 wire connector with a shorting plug (dk. Green and gray/red wires) and a white with pink wire labeled "CTO". Do **not** connect to the white with pink striped wire labeled "CTO".
28. Disconnect the throttle cable, spring and cruise control cable from the throttle lever and bracket.
29. Remove throttle bracket. **Be extremely careful not to drop any bolts or tools under intake manifold! Stuff shop rags into openings of engine to help prevent this.**
30. Refer to the update sheets attached to the front of these instructions to determine which throttle bracket configuration you have before proceeding. Follow the appropriate instructions.  
Drill a 3/8" (0.375) diameter hole in the throttle bracket approx. 1/2 inch below the square cruise control cable opening & 1 inch from the left side of the bracket (Figure 3).
31. Re-attach throttle bracket to engine.
32. Mount idler throttle cable to bracket. Re-attach OEM throttle cable(s) to bracket. Connect the OEM throttle

cable to the throttle cam/lever. Reconnect the throttle spring to the bracket.

33. Attach the idler throttle cable to the cruise control pivot using the linkage adapter and cable clamp. Slide the idler throttle cable through the holes in the linkage adapter. Slide the linkage adapter onto the cruise control pivot through the T-slot. Re-attach the cruise control cable. If the chassis does not have cruise control slide the U-shaped clip onto the cruise pivot and crimp the open end closed to lock the linkage adapter onto the pivot. Slide the cable clamp onto the idler throttle cable leaving approximately 1/2 inch of slack and tighten the clamp's screw. See figure 4 & 5.
34. Operate throttle lever manually to insure obstruction free swivel of linkage adapter without hanging or jamming. Cruise and idler cables should slide through linkage adapter and pivot freely and smoothly.
35. Cut off excess cable with hardened cutters. Be careful not to cut cable too short.
36. **Secure cable, harness & wires away from heat sources, sharp objects and areas where vibration could cause damage! This includes the EGR valve and exhaust plumbing!**
37. Reassemble engine and chassis components. Do not bolt coolant reservoir in place until high idle speed has been adjusted.
38. Reconnect all battery ground cables.

#### TESTING AND ADJUSTMENT

1. Set park 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 "neutral". The "HIGH IDLE" indicator should light. Put the shifter in "park". The "HIGH IDLE" indicator should light.
4. If the High Idler is equipped with a timer/park brake module release the park brake and make certain the "HIGH IDLE" indicator is not lit. Engage the park brake.
5. 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 draws at a given RPM.
6. Press brake to insure idle speed returns to normal.
7. Installation complete.