7.3 PSD Crank No Start
Troubleshooting Flowchart

Items underlined and in blue
are hyperlinks. Click on them to go
to a thread or post about that particular step.

Crank, No Start

Does "Wait to Start" Light illuminate?

No →

No power to PCM or PCM inoperable

Yes →

Does Tachometer move while cranking?

No power to PCM or PCM inoperable branch:

Check Fuse #22 in under hood power distribution center

Check for loose Chip or programmer on PCM (if present)

Good: Check Red Wire at PCM for 12V Power

Bad: Disconnect Fuel Bowl Heater and replace fuse #22

Remove chip or programmer (restore to stock) and attempt to start

Voltage Present: Test PCM Diode with a DVOM

No Voltage: Replace PCM Relay (or swap with another relay)

- **Good:** Replace PCM with known good unit and test again
- **Bad:** Replace PCM Diode

Test wiring to PCM

Does Tachometer move while cranking? branch:

Yes → Smoke from Tailpipe while cranking?

No → Bad CPS or Wiring Harness

Bad CPS or Wiring Harness:
- Replace CPS **with Ford or International part**
- Test CPS wiring harness

Smoke from Tailpipe while cranking?

Yes → Plug in block heater for 2 hrs and try again

No → Crank case oil level full?

Yes / No: Sufficient Cranking Speed? (200 RPMs Min.)

Yes: Glow Plug Relay Functioning? (test with a test light - Should have voltage on both large terminals with key in "run" position)

Crank case oil level full? **Yes →** Fuel in Fuel Bowl?

Sufficient Cranking Speed? (200 RPMs Min.)

Weak Batteries? (load test individually) >10.5V while cranking is needed to fire

Weak Starter? (load tests not always accurate)

Replace Starter

Trickle charge batteries individually over night

Load test batteries again

If batteries test bad again, replace batteries (in pairs)

Glow Plug Relay Functioning?

No: Replace GPR

Yes: Check UVCWH's for burned pins

Replace GPR →
- NAPA GPR 109
- "Stancor"

Check UVCWH's for burned pins → Ohm test GPs and Injectors

Fuel in Fuel Bowl?

Yes: Test Fuel Pressure at regulator (>20PSI is good)

No: Same symptoms on both tanks?

Test Fuel Pressure at regulator:
- **Low:** Low or no HPO Pressure (>500PSI min.)
- **Yes:** Clean FPR Screen

Same symptoms on both tanks?
- **Yes:** Clean FPR Screen
- **No:** Clogged fuel line, bad selector valve/ switch, empty tank, etc.

Clean FPR Screen → Replace Fuel Pump

Low or no HPO Pressure (>500PSI min.)

Unplug ICP and inspect plug for oil

Try to start with ICP unnplugged

Start: Bad ICP or stuck IPR

No Start: Try to start with ICP unnplugged → Test with a mechanical gauge or scanner

<500 PSI: Tin nut on IPR tight?

>500 PSI: Bad IDM, PCM or wiring

Tin nut on IPR tight?
- **No:** Tighten tin nut and try again
- **Yes:** Bad HPOP, IPR o-rings, IPR wiring, or IPR

Test IPR and Wiring