

## GASOLINE FUEL INJECTION TROUBLE SHOOTING (Cont.)

CONDITION	POSSIBLE CAUSE	CORRECTION
▶ Idle Speed Too High and Cannot Be Adjusted Lower	1) Auxiliary air valve does not close	1) Replace valve
▶ Engine Backfires into Intake Manifold	1) "Warm" control pressure incorrect (CIS) 2) Vacuum leak(s) 3) Idle mixture out of adjustment	1) Replace warm-up regulator 2) Repair vacuum leaks 3) Adjust mixture to specifications
▶ Engine Backfires into Exhaust Manifold	1) "Warm" control pressure incorrect (CIS) 2) Cold start valve leaks 3) Fuel system leaking 4) Idle mixture out of adjustment	1) Replace warm-up regulator 2) Clean or replace as necessary 3) Repair fuel leaks 4) Adjust mixture to specifications

## DIESEL FUEL INJECTION TROUBLE SHOOTING

CONDITION	POSSIBLE CAUSE	CORRECTION
<b>HARD STARTING SYMPTOMS</b> ▶ Engine cranks but will not start:	1) Incorrect fuel or no fuel 2) Glow plug not working properly 3) Air in fuel system 4) Faulty injector(s) 5) Injection pump faulty	1) Fill or replace fuel as necessary 2) Repair or replace as necessary 3) Bleed fuel system 4) Repair or replace 5) Repair as necessary
▶ Engine starts but will not run:	1) Air in fuel system 2) Modulator valve out of adjustment 3) Fuel lines, filter or tank plugged 4) Idle speed adjustment incorrect	1) Bleed fuel system 2) Adjust modulator valve 3) Clear fuel system 4) Adjust as necessary
<b>LOW SPEED DRIVEABILITY SYMPTOM</b> ▶ Engine runs rough:	1) Air or dirt in fuel system 2) Fuel system leak 3) Fuel flow uneven 4) Incorrect fuel 5) Governor or timing incorrect	1) Clean or Bleed fuel system 2) Repair fuel leaks 3) Repair as necessary 4) Change to correct fuel 5) Adjust to specifications
▶ Engine idle speed too high:	1) Idle speed set incorrectly 2) Modulator valve jammed 3) Governor improperly adjusted 4) Vacuum leaks in manifold	1) Adjust to specifications 2) Repair as necessary 3) Adjust to specifications 4) Repair vacuum leaks
▶ Poor acceleration:	1) Incorrect fuel 2) Timing device stuck in idle position 3) Fuel pump not operating correctly	1) Change to correct fuel 2) Repair as necessary 3) Repair or replace
▶ Engine knocks:	1) Incorrect fuel 2) Air in fuel system 3) Incorrect injection timing 4) Dirt in pump or injectors	1) Change to correct fuel 2) Bleed fuel system 3) Adjust timing 4) Clean and replace filter

# 2-8 1980 Fuel Systems Trouble Shooting

## DIESEL FUEL INJECTION TROUBLE SHOOTING (Cont.)

CONDITION	POSSIBLE CAUSE	CORRECTION
<b>HIGH SPEED DRIVEABILITY SYMPTOM</b> ▶ Engine smokes:	1) Incorrect fuel 2) Air leak in fuel system 3) Injection pump misadjusted	1) Change to correct fuel 2) Repair air leak 3) Adjust to specifications
▶ Engine has power loss:	1) Throttle valve not fully open 2) Clogged air filter 3) Badly worn pump plungers 4) Low fuel pressure 5) Timing device stuck in idling position 6) Control rod stuck 7) Incorrect fuel	1) Adjust as necessary 2) Replace filter 3) Replace injection pump 4) Repair or replace fuel pump or injector pump 5) Repair 6) Repair 7) Change to correct fuel
▶ Engine exceeds maximum permissible speed:	1) Maximum speed stop misadjusted 2) Faulty governor 3) Control rod sticks open 4) Vacuum leaks	1) Adjust to specifications 2) Repair or replace 3) Repair or replace 4) Repair vacuum leaks
▶ Engine will not stop:	1) Stop cable broken or misadjusted 2) Idle speed misadjusted 3) Governor malfunction	1) Replace or Repair 2) Adjust to specifications 3) Repair or replace

## ELECTRIC FUEL PUMP TROUBLE SHOOTING

**NOTE** — This is a general trouble shooting guide. Not all steps will apply to all fuel pumps. Most electrical fuel pumps are sealed units and must be replaced if found defective.

**CAUTION** — Be sure to relieve fuel pressure on systems which maintain fuel pressure at all times. Do not allow smoking, open flames or sparks in area while performing work on any fuel system components. Fuel vapors may be present and danger of fire or explosion exists. Disconnect battery while working on fuel system.

CONDITION	POSSIBLE CAUSE	CORRECTION
▶ Pump motor not operating; no fuel output:	1) Check wiring to pump, check for blown pump fuse 2) Check for damaged pump body	1) Repair wiring, ensure proper electrical current to pump 2) Replace if damaged
▶ Pump operating; low fuel output:	1) Check for restricted fuel line, filter or accumulator 2) Check fuel tank venting (may cause vacuum in tank if blocked) 3) Check for air leak on inlet side of pump	1) Repair or replace 2) Repair tank venting system. Test pump output with gas cap removed to check venting. 3) Repair air leak