

# 2-4 1980 Fuel Systems Trouble Shooting

## CARBURETION TROUBLE SHOOTING (Cont.)

CONDITION	POSSIBLE CAUSE	CORRECTION
▶ High fuel consumption	<ol style="list-style-type: none"> <li>1) Fuel system leak</li> <li>2) Wrong size jets</li> <li>3) Faulty fuel inlet needle and/or seat</li> <li>4) Fuel mixture setting incorrect</li> <li>5) Dirty air cleaner</li> <li>6) Excessive accelerator pump discharge</li> <li>7) Intake air preheater not ON or OFF according to season</li> <li>8) Enrichment system does not switch off</li> <li>9) Choke valve not opening all the way</li> <li>10) Secondary throttle opens too early</li> </ol>	<ol style="list-style-type: none"> <li>1) Locate and repair leak</li> <li>2) Install correct jets</li> <li>3) Replace needle and seat</li> <li>4) Adjust idle RPM and mixture</li> <li>5) Clean or replace</li> <li>6) Test and adjust fuel discharge quantity</li> <li>7) Temperature above 50°F (10°C), preheater should be OFF</li> <li>8) Free up vacuum plunger</li> <li>9) Adjust choke valve</li> <li>10) Inspect secondary throttle linkage, adjust or repair as needed</li> </ol>

## GASOLINE FUEL INJECTION TROUBLE SHOOTING

CONDITION	POSSIBLE CAUSE	CORRECTION
<b>COLD START SYMPTOM</b>		
▶ Engine cranks, will not start	<ol style="list-style-type: none"> <li>1) Fuel pump not working</li> <li>2) "Cold" control pressure incorrect (CIS)</li> <li>3) Auxiliary air valve does not open</li> <li>4) Cold start valve does not operate</li> <li>5) Cold start valve leaking</li> <li>6) Sensor plate stop set incorrectly (CIS)</li> <li>7) Sensor plate and/or plunger sticking</li> <li>8) Vacuum leak</li> <li>9) Fuel system leak</li> <li>10) Faulty Thermo Time switch</li> <li>11) Distributor triggering contacts (AFC)</li> <li>12) Temperature sensors 1 &amp; 2 (AFC)</li> </ol>	<ol style="list-style-type: none"> <li>1) Check fuel pump and double fuse relay, replace as necessary</li> <li>2) Replace warm-up regulator if pressure not to specification</li> <li>3) Replace valve</li> <li>4) Check electrical power to valve, replace valve if necessary</li> <li>5) Replace valve</li> <li>6) Adjust to specifications</li> <li>7) Free up or replace as needed</li> <li>8) Repair vacuum leaks</li> <li>9) Repair fuel leaks</li> <li>10) Replace switch</li> <li>11) Repair or replace as needed</li> <li>12) Replace as necessary</li> </ol>
▶ Engine hard starting	<ol style="list-style-type: none"> <li>1) "Cold" control pressure incorrect (CIS)</li> <li>2) Auxiliary air valve does not open</li> <li>3) Cold start valve does not open</li> <li>4) Cold start valve leaking</li> <li>5) Sensor plate stop set incorrectly (CIS)</li> <li>6) Sensor plate and/or plunger stuck (CIS)</li> <li>7) Vacuum leak(s)</li> <li>8) Fuel leak(s)</li> <li>9) Thermo Time switch does not close</li> </ol>	<ol style="list-style-type: none"> <li>1) Replace warm-up regulator</li> <li>2) Replace valve</li> <li>3) Check for electrical power to valve, replace valve if necessary</li> <li>4) Replace cold start valve</li> <li>5) Adjust sensor plate stop to specifications</li> <li>6) Free up or replace as necessary</li> <li>7) Repair vacuum leak(s)</li> <li>8) Repair fuel leak(s)</li> <li>9) Replace Thermo Time switch</li> </ol>

## GASOLINE FUEL INJECTION TROUBLE SHOOTING (Cont.)

CONDITION	POSSIBLE CAUSE	CORRECTION
<b>HOT STARTING SYMPTOM</b>		
▶ Engine cranks, will not start	<ol style="list-style-type: none"> <li>1) Electric fuel pump not operating</li> <li>2) "Warm" control pressure incorrect (CIS)</li> <li>3) Sensor plate stop adjustment incorrect (CIS)</li> <li>4) Sensor plate and/or plunger stuck (CIS)</li> <li>5) Vacuum leak(s)</li> <li>6) Fuel system leak(s)</li> <li>7) Injectors leaking</li> <li>8) Idle mixture out of adjustment</li> </ol>	<ol style="list-style-type: none"> <li>1) Check fuel pump and relay fuse, replace as needed</li> <li>2) Replace warm-up regulator</li> <li>3) Adjust sensor plate stop</li> <li>4) Free up or replace</li> <li>5) Repair vacuum leak(s)</li> <li>6) Repair fuel leak(s)</li> <li>7) Clean or replace as necessary</li> <li>8) Adjust mixture to specifications</li> </ol>
▶ Engine Hard Starting (Long Cranking Time)	<ol style="list-style-type: none"> <li>1) "Warm" control pressure incorrect (CIS)</li> <li>2) Auxiliary air valve does not close</li> <li>3) Sensor plate stop adjustment incorrect (CIS)</li> <li>4) Sensor plate and/or plunger stuck (CIS)</li> <li>5) Vacuum leak(s)</li> <li>6) Fuel system leaks</li> <li>7) Injectors leaking</li> <li>8) Idle mixture out of adjustment</li> </ol>	<ol style="list-style-type: none"> <li>1) Replace warm-up regulator</li> <li>2) Replace valve</li> <li>3) Adjust to specification</li> <li>4) Free up or replace as necessary</li> <li>5) Repair vacuum leak(s)</li> <li>6) Repair fuel leak(s)</li> <li>7) Clean or replace as necessary</li> <li>8) Adjust mixture to specifications</li> </ol>
<b>SYMPTOM</b>		
▶ Rough Idle During Warm-Up	<ol style="list-style-type: none"> <li>1) "Cold" control pressure incorrect (CIS)</li> <li>2) Auxiliary air valve does not close</li> <li>3) Auxiliary air valve does not open</li> <li>4) Cold start valve leaking</li> <li>5) Vacuum leak</li> <li>6) Fuel system leak(s)</li> <li>7) Injectors leaking</li> </ol>	<ol style="list-style-type: none"> <li>1) Replace warm-up regulator</li> <li>2) Replace valve</li> <li>3) Replace valve</li> <li>4) Clean or replace valve</li> <li>5) Repair vacuum leaks</li> <li>6) Repair fuel leaks</li> <li>7) Clean or replace as necessary</li> </ol>

# 2-6 1980 Fuel Systems Trouble Shooting

## GASOLINE FUEL INJECTION TROUBLE SHOOTING (Cont.)

CONDITION	POSSIBLE CAUSE	CORRECTION
<b>HOT ENGINE DRIVEABILITY SYMPTOM</b>		
▶ Rough idle with warm engine	<ol style="list-style-type: none"> <li>1) "Warm" control pressure incorrect (CIS)</li> <li>2) Auxiliary air valve does not close</li> <li>3) Faulty cold start valve</li> <li>4) Sensor plate and/or plunger stuck (CIS)</li> <li>5) Vacuum leak(s)</li> <li>6) Fuel system leak(s)</li> <li>7) Injectors leaking</li> <li>8) Idle mixture out of adjustment</li> </ol>	<ol style="list-style-type: none"> <li>1) Replace warm-up regulator</li> <li>2) Replace air valve</li> <li>3) Clean or replace as necessary</li> <li>4) Free up or replace as necessary</li> <li>5) Repair vacuum leak(s)</li> <li>6) Repair fuel leak(s)</li> <li>7) Clean or replace injectors</li> <li>8) Adjust mixture to specifications</li> </ol>
▶ CO level too high at idle	<ol style="list-style-type: none"> <li>1) "Warm" control pressure incorrect (CIS)</li> <li>2) Cold start valve leaking</li> <li>3) Sensor plate and/or plunger stuck (CIS)</li> <li>4) Fuel system leaking</li> <li>5) Idle mixture out of adjustment</li> </ol>	<ol style="list-style-type: none"> <li>1) Replace warm-up regulator</li> <li>2) Replace valve</li> <li>3) Free up or replace as necessary</li> <li>4) Repair fuel leak(s)</li> <li>5) Adjust mixture to specifications</li> </ol>
▶ CO level too low at idle	<ol style="list-style-type: none"> <li>1) "Warm" control pressure incorrect (CIS)</li> <li>2) Vacuum leak</li> <li>3) Idle mixture out of adjustment</li> </ol>	<ol style="list-style-type: none"> <li>1) Replace warm-up regulator</li> <li>2) Repair vacuum leak(s)</li> <li>3) Adjust mixture to specifications</li> </ol>
▶ Poor engine performance	<ol style="list-style-type: none"> <li>1) "Warm" control pressure incorrect (CIS)</li> <li>2) Cold start valve leaking</li> <li>3) Sensor plate and/or plunger stuck (CIS)</li> <li>4) Idle mixture out of adjustment</li> <li>5) Throttle valve does not open completely</li> </ol>	<ol style="list-style-type: none"> <li>1) Replace warm-up regulator</li> <li>2) Clean or replace valve</li> <li>3) Free up or replace as necessary</li> <li>4) Adjust mixture to specifications</li> <li>5) Check and adjust as necessary</li> </ol>
▶ Excessive fuel consumption	<ol style="list-style-type: none"> <li>1) "Warm" control pressure incorrect (CIS)</li> <li>2) Cold start valve leaks</li> <li>3) Fuel system leaking</li> <li>4) Idle mixture out of adjustment</li> </ol>	<ol style="list-style-type: none"> <li>1) Replace warm-up regulator</li> <li>2) Clean or replace as necessary</li> <li>3) Repair fuel leak(s)</li> <li>4) Adjust mixture to specifications</li> </ol>
▶ Engine misfire at high speed	<ol style="list-style-type: none"> <li>1) Loose electrical contact at fuel pump</li> <li>2) Primary pressure too low or too high</li> <li>3) Fuel system leaking</li> </ol>	<ol style="list-style-type: none"> <li>1) Check and repair as necessary</li> <li>2) Check pressure and adjust if not within specifications</li> <li>3) Repair fuel leak(s)</li> </ol>
▶ Engine "Diesels"	<ol style="list-style-type: none"> <li>1) Sensor plate and/or plunger stuck (CIS)</li> <li>2) Injectors leaking</li> <li>3) Faulty cold start valve</li> </ol>	<ol style="list-style-type: none"> <li>1) Free up or replace as necessary</li> <li>2) Clean or replace as necessary</li> <li>3) Clean or replace as necessary</li> </ol>

## 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