# 1974-79 TUNE-UP PROCEDURES
# Ford Motor Co. 4-Cylinder

## 1978-79 Fiesta

## ENGINE IDENTIFICATION

Engine identification code is located on bottom line of vehicle identification plate, which is riveted on the panel above right front headlight just under hood.

***ENGINE CODES***

| Application | Code |
|---|---|
| 1600 cc | L4 |

## MODEL IDENTIFICATION

### VEHICLE IDENTIFICATION NUMBER

Vehicle Identification Number is stamped on vehicle identification plate, which is riveted on the panel above right front headlight just under hood. Number is also stamped on a plate attached to left front windshield pillar and visible through windshield.

## ENGINE COMPRESSION

Check compression pressure with engine at normal operating temperature, all spark plugs removed, throttle valve wide open and engine at cranking speed. Compression pressure is within specifications if lowest reading cylinder is at least 75% of highest reading cylinder.

## VALVE CLEARANCE

Adjust valves with engine cold. To adjust, turn adjusting screw until correct clearance is obtained. See VALVE ADJUSTMENT SEQUENCE table.

***VALVE ADJUSTMENT SEQUENCE***

| Valves Open | Adjust Valves |
|---|---|
| No. 1 & 6 | No. 3 & 8 |
| No. 2 & 4 | No. 5 & 7 |
| No. 3 & 8 | No. 1 & 6 |
| No. 5 & 7 | No. 2 & 4 |

***VALVE CLEARANCE***

| Application | Clearance In. (mm) |
|---|---|
| Intake | .010 (.25) |
| Exhaust | .021 (.53) |

## VALVE ARRANGEMENT

E-I-I-E-E-I-I-E - Front-to-rear.

## SPARK PLUGS

***SPARK PLUG SPECIFICATIONS***

| Application | Specification |
|---|---|
| Gap | .050" (1.3 mm) |
| Torque | 10-15 ft. lbs. (14-20 N.m) |

***SPARK PLUG TYPE***

| Application | Autolite No. |
|---|---|
| All Models | AWRF-32 |

## HIGH TENSION WIRE RESISTANCE

Remove distributor cap from distributor, but do not disconnect high tension wires from cap. Disconnect high tension wires from spark plugs. Using an ohmmeter, check resistance from contact at spark plug end of wires to contact inside of distributor cap. Resistance should be less than 5,000 ohms per inch. If resistance is more, disconnect wire from cap and recheck resistance. Replace wire if resistance still exceeds specifications.

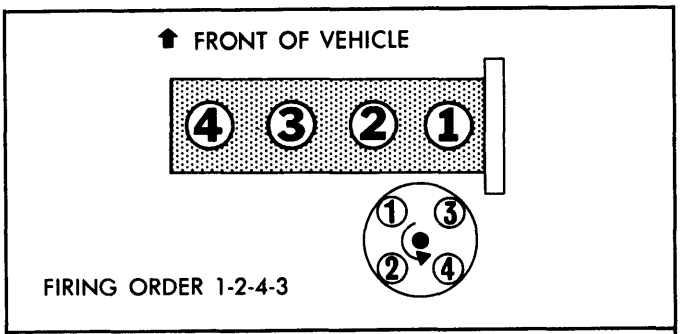


*Fig. 1: Firing Order & Distributor Rotation*

## DISTRIBUTOR

All models are equipped with Motorcraft Dura-Spark II ignition system.

## IGNITION TIMING

Check and adjust ignition timing with engine at normal operating temperature, idle speed set to specification and distributor vacuum hose disconnected and plugged.

***IGNITION TIMING SPECIFICATIONS***

| Application | Timing |
|---|---|
| Federal | 12°BTDC |
| California | 8°BTDC |

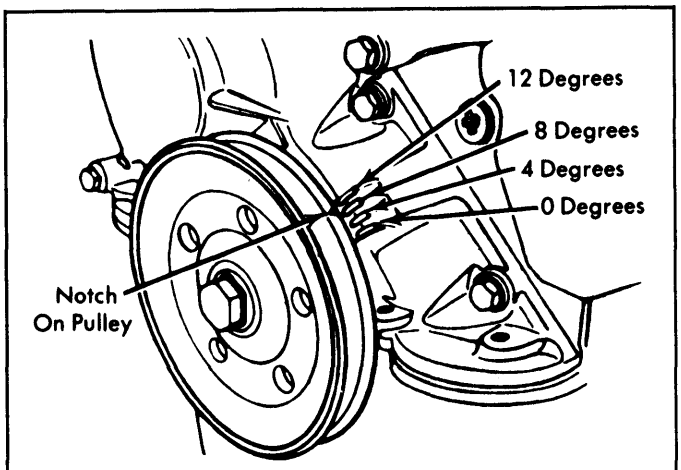


*Fig. 2: Ignition Timing Mark Location*

## HOT (SLOW) IDLE RPM

**1978 Models - 1)** With engine off and at normal operating temperature, connect tachometer to engine. Disconnect radiator fan switch and attach a jumper wire so fan operates continuously.

**2)** On Spark Delay Valve (SDV) equipped models, remove valve (on distributor vacuum hose) and connect hose back together. On fuel deceleration valve equipped models, disconnect and plug hose going to carburetor.

**3)** On EGR/Ported Vacuum Switching (PVS) valve equipped models, disconnect hose coming from EGR valve at PVS and plug hose. On all models, start engine. Raise engine speed to 2500 RPM for 15 seconds, then allow engine to return to normal idle.

**4)** Turn idle speed screw as required to obtain specified idle RPM. If unable to obtain specified idle RPM, check dashpot (if equipped) to be sure clearance at throttle lever exists.

**5)** Install air cleaner assembly after restoring other components to their original positions. Recheck idle speed.

# 1974-79 TUNE-UP PROCEDURES
# Ford Motor Co. 4-Cylinder (Cont.)

***1978 IDLE SPEED SPECIFICATIONS***

| Application | RPM |
|---|---|
| All Models | 800-900 |

**1979 Models - 1)** With engine off and at normal operating temperature, connect tachometer to engine. Disconnect radiator fan switch and attach a jumper wire so fan operates continuously.

***NOTE: Air cleaner may be removed and relocated (with vacuum hoses attached) when performing carburetor adjustments, but it must be installed when checking engine speeds.***

**2)** On dump valve with one or two vacuum hoses at side, disconnect and plug hose(s). On dump valve with one vacuum hose at top, remove and plug hose at vacuum dump valve. Then, connect a length of hose from dump valve vacuum fitting to an intake manifold vacuum fitting.
**3)** On all models, start engine. Raise engine speed to 2500 RPM for 15 seconds, then allow it to return to normal idle. With A/C off, turn idle speed screw as required to obtain specified curb idle RPM.
**4)** If unable to obtain specified RPM, check dashpot (if equipped) to be sure clearance to throttle lever exists. Dashpot clearance MUST be adjusted each time the curb idle RPM is adjusted.
**5)** On California A/C equipped models, turn A/C on and disconnect compressor clutch wire at compressor. If A/C on RPM is not within specifications, adjust by turning screw on idle speed-up device until specified A/C on RPM is obtained. Reconnect compressor clutch wire and turn A/C off.
**6)** On all models, restore components to original positions and recheck curb idle speed. See applicable IDLE SPEED SPECIFICATIONS table.

***1979 IDLE SPEED SPECIFICATIONS***

| Application | Curb Idle RPM | [1] A/C On RPM |
|---|---|---|
| Federal | | |
| Without A/C | 850 | |
| With A/C | 950 | |
| Calif. | 850 | 950 |

[1] - Check with A/C compressor clutch wire disconnected.

## IDLE MIXTURE

### PROPANE ENRICHMENT PROCEDURE

**1)** Apply parking brake and block drive wheels. Air cleaner may be removed as necessary to make adjustments; be sure to remove No. 3 and 4 spark plug wires from snorkel first.
**2)** Connect tachometer and bring engine to normal operating temperature. Disconnect radiator fan switch and attach a jumper wire so fan operates continuously.
**3)** Detach fuel evaporation hose from air cleaner. Disconnect crankcase ventilation hose from air cleaner and plug hole in air cleaner.
**4)** Adjust curb idle as specified on emission control/tune-up decal for idle mixture check. Run engine at 2500 RPM for 15 seconds before each speed check. Idle speed must be set with air cleaner installed.

***NOTE: If idle mixture screw limiter cap is missing, turn mixture screw clockwise until lightly seated, then, turn screw counterclockwise 2 complete turns.***

**5)** Plug Propane Enrichment Adapter (T75L-9600-A) into air cleaner fuel evaporation purge nipple. With engine idling, slowly open propane supply valve until engine speed reaches maximum RPM and then begins to drop.
**6)** If speed increase is within specifications, replace air cleaner and all hoses. Recheck idle speed. If speed increase is greater than specifications, turn mixture screw counterclockwise to richen mixture and retest vehicle until speed increase meets reset RPM specification.
**7)** If speed increase is less than specifications, turn mixture screw clockwise to lean mixture and retest vehicle until speed increase meets reset RPM specification.
**8)** If idle mixture screw limiter cap was removed, install replacement limiter cap at maximum rich stop position. Install air cleaner assembly and reconnect all systems as required. Recheck idle speed.

***PROPANE ENRICHED RPM GAIN & RESET SPECIFICATIONS***

| Application | RPM Gain | Reset RPM |
|---|---|---|
| 1978 Models | 10-30 | 10 |
| 1979 Models | 10-30 | 20 |

## COLD (FAST) IDLE RPM

**1978 Models - 1)** Prepare vehicle for fast idle adjustment by performing steps **1)** through **3)** of HOT (SLOW) IDLE RPM procedure.
**2)** Remove electric choke cap, noting setting and relationship between choke lever and bimetallic spring. Place fast idle screw on kickdown step (against shoulder of highest step) of fast idle cam.
**3)** Turn fast idle screw as necessary to obtain specified fast idle RPM. Reinstall choke cap and reset to specification. Reinstall air cleaner assembly after restoring other components to original positions. Recheck fast idle speed.

***FAST IDLE SPECIFICATIONS***

| Application | RPM |
|---|---|
| 1978 Models | 1800 |
| 1979 Models | 2000 |

**1979 Models - 1)** Prepare vehicle for fast idle adjustment by performing steps **1)** through **3)** of HOT (SLOW) IDLE RPM procedure.
**2)** On Spark Delay Valve (SDV) equipped models, remove valve (on distributor vacuum hose) and connect hose back together. On EGR/PVS or cold weather modulator equipped models, disconnect EGR vacuum hose at EGR valve and plug hose.
**3)** With engine running at normal operating temperature, ensure that choke plates are fully opened. Place fast idle screw on kickdown step (against shoulder of highest step) of fast idle cam. Cam steps are visible through hole in choke housing.
**4)** Check fast idle RPM. If not within 100 RPM of specification, loosen fast idle screw lock nut and turn screw as necessary to obtain specified RPM. Tighten lock nut. Run engine at 2500 RPM for several seconds. Recheck RPM and readjust if necessary. Restore all hoses and components to original positions.

## AUTOMATIC CHOKE SETTING

***AUTOMATIC CHOKE SETTING***

| Application | Setting |
|---|---|
| All Models | INDEX |

## DASHPOT ADJUSTMENT

If vehicle is equipped with dashpot, ensure that engine idle speed is set to specifications before performing adjustment. Collapse dashpot plunger and check clearance between plunger and throttle lever pad. If not within specifications, loosen lock nut and turn dashpot until specified clearance is obtained. Tighten lock nut.

***DASHPOT CLEARANCE***

| Application | Clearance |
|---|---|
| All Models | .197" (5 mm) |

# 1974-79 TUNE-UP PROCEDURES
# Ford Motor Co. 4-Cylinder (Cont.)

## FUEL PUMP

***FUEL PUMP SPECIFICATIONS***

| Application | Specification |
|---|---|
| Pressure (At Idle) | 3.5-6.0 psi (.25-.42 kg/cm²) |
| Volume (At Idle) | 1 pt. in 1 Min. |

## EXHAUST EMISSION SYSTEMS

See appropriate articles in EXHAUST EMISSION SYSTEMS section.

## IGNITION SYSTEM

### DISTRIBUTOR

All models are equipped with Motorcraft Dura-Spark II electronic ignition system.

**Other Data & Specifications** - See Motorcraft Dura-Spark II Ignition System article in DISTRIBUTORS & IGNITION SYSTEMS section.

## IGNITION COIL

***IGNITION COIL SPECIFICATIONS***

| Application | Specification |
|---|---|
| Resistance | |
| Primary | 1.13-1.23 Ohms |
| Secondary | 7700-9300 Ohms |

## FUEL SYSTEMS

### CARBURETORS

***CARBURETORS***

| Application | Model |
|---|---|
| All Models | Weber Model 740 2-Bbl. |

**Other Data & Specifications** - See appropriate Weber Carburetor article in FUEL SYSTEMS section.