TUNE-UP

ENGINE IDENTIFICATION

VEHICLE IDENTIFICATION NUMBER CODE

Engine can be identified by the fifth digit of the Vehicle Identification Number, located on a plate attached to the left corner of the instrument panel, and visible through windshield.

Engine Code

Application	Code
255" (4.2L) 2-Bbl.	D
302" (5.0L) 2-Bbl.	F
351" W (5.8L) 2-Bbl.	G

TUNE-UP NOTES

NOTE – *Due to running changes in production and emission standards, manufacturer recommends that specifications shown on engine compartment emission control tune-up decal be used in all instances.*

NOTE – *If the Dura Spark 2-piece distributor cap must be removed, first remove top portion, then rotor, and then bottom portion. If any spark plug wire is disconnected with this system, the connection must first be greased with silicone grease before reconnection.*

NOTE – *When connecting a tachometer to Dura Spark ignition coil, install the alligator clip on tachometer into "DEC" (TACH TESTING) cavity of coil.*

CAUTION – *On vehicles equipped with catalytic converters, do not allow or create a condition of engine misfire in more than one cylinder for more than 30 seconds. Damage to converter may result due to loading converter with unburned air/fuel mixture.*

ENGINE COMPRESSION

Compression Ratio	
255"	8.8:1
302"	
Mustang & Capri	
Calif. Only	8.1:1
All Others	8.4:1
351" W	8.3:1

Recommended Fuel ..... Unleaded (87 AKI Minimum)

Test compression with all spark plugs removed and engine at normal operating temperature. Crank engine through at least five compression strokes before recording reading. Maximum compression variation should not exceed 25% between highest and lowest cylinders.

VALVE TAPPET CLEARANCE

Hydraulic Lifters ..... Zero Lash

VALVE ARRANGEMENT.

All Models
E-I-E-I-E-I-E-I (Left bank, front to rear).
I-E-I-E-I-E-I-E (Right bank, front to rear).

SPARK PLUGS

Gap	.048-.052"
Torque	10-15 ft. lbs.

Spark Plug Type

Application	Autolite No.
255"	ASF-42
302" & 351" W	ASF-52

HIGH TENSION WIRE RESISTANCE

1) Loosen wires from spark plugs by twisting spark plug boot carefully to loosen seal on plug. Remove wires by pulling on plug boot. Remove distributor cap from distributor, leaving wires connected to cap.

NOTE – *DO NOT disconnect wires from distributor cap unless replacement is necessary.*

2) Using an ohmmeter, check resistance of each wire by connecting one ohmmeter lead to spark plug terminal and other lead to distributor cap insert. If any wire has more than 5000 ohms resistance per inch, remove wire from cap and recheck. If resistance still exceeds 5000 ohms per inch, replace wire.

NOTE – *Whenever a high tension wire is disconnected, the interior of spark plug terminal boot must be coated with dielectric silicone grease before reconnection.*

DISTRIBUTOR

Models not equipped with EEC III use Dura Spark II ignition systems. EEC III models use Dura Spark III. No adjustment is required on any model.

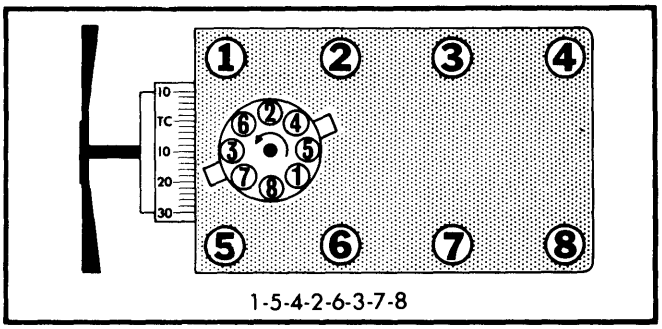

Fig. 1 255" & 302" Firing Order and Timing Marks

IGNITION TIMING

NOTE – *Magnetic probe timing device may be used if instrument is available and engine is so equipped. Timing probe offset is 135° ATDC on all V8 engines.*

NOTE – *On EEC equipped engines, timing is not adjustable on following models: California Ford and Mercury with 302" engine; Continental and Mark VI with 302" engine and some 351" W engines.*

EEC Equipped Engines – Check that all 4 lobes on pulse ring are not damaged. Check mechanical advance with timing light, from idle to 2500 RPM. Check that gap between damper sensor and pulse ring does not exceed .075".

TUNE-UP (Cont.)

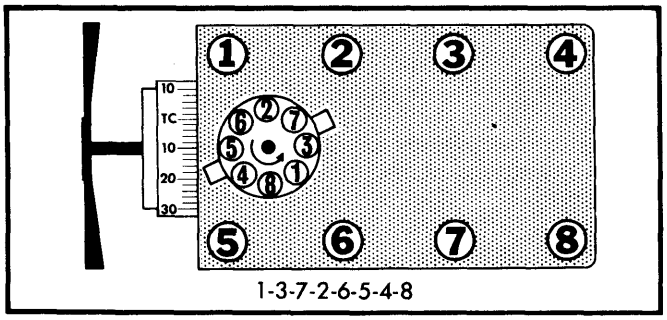

Fig. 2 351" W Firing Order and Timing Marks

Non-EEC Equipped Engines – 1) Clean surface of front damper and make white mark on proper degree line on damper and pointer. Turn A/C off and de-energize throttle solenoid positioner (if equipped). Disconnect and plug vacuum lines from distributor.

2) If equipped with dual mode timing ignition module, disconnect the 3-pin switch assembly from ignition module.

3) On all models, connect timing light to No. 1 spark plug and a tachometer to engine.

NOTE – *On Dura Spark II ignition systems, use only a clamp-on type inductive pickup timing light and a tachometer rated for this system.*

4) With engine at normal operating temperature, adjust ignition timing to specification. If initial timing is within ±2° of specification, do not adjust. Reconnect 3-pin connector.

5) If more than ±2°, loosen distributor hold down bolt. Adjust ignition timing to specifications by rotating distributor to align marks on damper and pointer. Tighten hold down bolt and recheck timing.

6) For vehicles with dual mode timing ignition module, reconnect the 3-pin switch assembly connector to module and check its function.

7) Disconnect and plug vacuum line to switch. Using a vacuum pump, apply a minimum of 12 in. Hg vacuum to switch, timing should be to specifications. Apply zero vacuum to switch, timing should be 3-6° less than specifications, if not, replace unit.

Ignition Timing Specifications (Degrees BTDC@RPM)

Application	Timing
255"	
Federal	6@550
Calif.	6@500
302" 2-Bbl.	
Federal	① 6@600
Calif.	② 8@500
302" EFI	③
351" W 2-Bbl.	17@800
351" W EEC III	③

① – With AOT, set timing at 8@500.
② – With AOT, set timing at 10@500.
③ – Not Adjustable.

HOT (SLOW) IDLE RPM

VEHICLE PREPARATION

NOTE – *Relocate air cleaner leaving all vacuum noses attached when making adjustments. Install air cleaner when measuring engine speed. DO NOT idle engine for extended periods as catalyst overheating may occur. DO NOT apply foot brake on hydra-boost brake systems as engine RPM will be affected during tests.*

1) Apply parking brake and block wheels. If equipped with automatic parking brake release, disconnect and plug vacuum line at parking brake.

2) Turn off all accessories. Start engine, bring to normal operating temperature, and turn off engine. Disconnect and plug fuel evaporative purge valve signal vacuum hose at first point of removal other than valve. Removal at valve could cause valve damage.

NOTE – *The method of adjusting each engine speed depends upon the speed controlling devices used. Examine carburetor, determine devices used and their condition, and adjust according to speed control device found.*

3) Disconnect and plug EGR vacuum hose at valve on Ford and Mercury models with 7200 VV carburetor only. Check throttle and choke linkages for binding, correct as necessary. Connect tachometer.

NOTE – *BEFORE setting Curb Idle Speed, Ford recommends certain procedures be followed for each carburetor application.*

Curb Idle Speed RPM

Application	Auto. Trans.
255" 2-Bbl.	
Federal	
With A/C	700
Without A/C	550
Calif.	
With A/C	650
Without A/C	500
302" 2-Bbl.	
Federal	
With A/C	① 650
Without A/C	500
Calif	
With A/C	625
Without A/C	525
302" EFI	550
351"W 2-Bbl.	
With A/C	650
Without A/C	550
351"W EEC III	
With A/C	②640
Without A/C	②550

① – Granada, Monarch and Versailles idle speed is 700 RPM with A/C, and 550 RPM without A/C.

② – Equipped with Vacuum Operated Throttle Modulator.

TUNE-UP (Cont.)

CURB IDLE SPEED (2150 2V CARBURETOR)

NOTE – *These instructions also include speed tests for A/C "ON", A/C "OFF" and Throttle Solenoid Positioner "OFF" (TSP "OFF").*

1) Place A/C selector lever in "OFF" position. Bring engine to normal operating temperature, open choke plate fully and place shift lever in specified gear.

2) On 255" and 302" engines, connect thermactor air system dump valve to manifold vacuum, plugging or capping original port.

3) Run engine at 2500 RPM for 15 seconds in "NEUTRAL" or "PARK". Allow engine to return to idle speed. Check speed within 15-45 seconds. Repeat procedure three times or until idle speed stabilizes. If average speed is not within ±50 RPM, adjust curb idle speed.

No Solenoid Device – Turn throttle stop adjusting screw until specified curb idle speed is obtained. Adjust dashpot clearance, if so equipped. Turn engine off, collapse dashpot plunger and check clearance between plunger and throttle lever pad. Adjust to specifications.

A/C TSP – Turn throttle stop adjusting screw until specified A/C "OFF" RPM is obtained. To adjust A/C "ON" speed, move A/C selector to "ON" position. Open throttle and allow TSP plunger to fully extend. Release throttle and disconnect A/C compressor clutch wire at compressor. Check RPM. If not within specifications, turn long screw on TSP mounting bracket until correct RPM is obtained. Then, move A/C selector to "OFF" position and reconnect A/C compressor clutch wire.

Anti-Diesel TSP (Non A/C) – 1) To set curb idle, adjust solenoid positioner by rotating long screw on TSP mounting bracket.

2) To check TSP "OFF" RPM, run engine and collapse TSP plunger by forcing throttle lever pad against plunger. Turn throttle stop adjusting screw until specified TSP "OFF" RPM is obtained.

Throttle Solenoid Positioner

Application	RPM
All Models	
A/C "OFF"	525
A/C "ON"	650

ENGINE SERVICE AFTER SPEED CHECKS

1) Run engine at 2500 RPM for 15 seconds in "NEUTRAL" or "PARK" and allow engine to return to idle speed. Check curb idle within 15 to 45 seconds, repeating test three times. Adjust to specifications, if necessary.

2) Stop engine, remove all test equipment, reconnect all vacuum hoses removed. Reinstall air cleaner wing nuts and tighten. If idle speed changed by more or less than 50 RPM, carburetor linkage lever adjustment screw must be reset as described in AOT Idle Speed Adjustment Chart.

NOTE – *If adjustment of linkage lever screw is not possible, then adjustment of the TV control rod at transmission is required.*

AOT Idle Speed Adjustment Chart

Idle Speed Change	Linkage Lever Adjustment (Turns)
Higher	
0-50 RPM	①
50-100 RPM	1½CC
100-150 RPM	2½CC
Lower	
0-50 RPM	①
50-100 RPM	1½C
100-150 RPM	2½C

① – No adjustment required.

CURB IDLE SPEED (2700 VV CARBURETOR)

NOTE – *These instructions also include A/C "OFF" and A/C "ON" with or without the Vacuum Operated Throttle Modulator (VOTM).*

NOTE – *See VEHICLE PREPARATION and perform steps outlined.*

1) Place A/C selector lever in "OFF" position, run engine until at normal operating temperature and place shift lever in specified gear. Adjust by turning mounting bracket adjusting screw.

2) Before each speed check, run engine at 2500 RPM for 15 seconds and then permit engine to return to idle. Measure idle RPM within 15 seconds to 2 minutes. Repeat speed checks three times and use average of speeds obtained.

ACCELERATOR PUMP LEVER LASH ADJUSTMENT (2700 VV CARBURETOR)

NOTE – *Lash must be checked and adjusted, if necessary, each time curb idle RPM is adjusted on 2700 VV and 7200 VV Carburetors.*

1) Energize TSP (if equipped). Apply slight downward pressure on top of nylon nut on accelerator pump to take up linkage cleance. Adjust nylon nut on pump rod until a .020" clearance is obtained.

2) Check lash between top of accelerator pump stem and pump lever. Turn accelerator pump rod 1 turn counter-clockwise to set accelerator lever lash preload.

ENGINE SERVICE AFTER SPEED CHECKS

1) Reconnect fuel evaporative purge valve signal vacuum hose. Stop engine and remove test equipment. Reconnect

TUNE-UP (Cont.)

automatic parking brake vacuum hose. Tighten air cleaner wing nuts.

2) If idle speed changed by more or less than 50 RPM, carburetor linkage lever adjustment screw must be reset as described in AOT Idle Speed Adjustment Chart.

NOTE – *If adjustment of linkage lever screw is not possible, then adjustment of the TV control rod at transmission is required.*

NOTE – *For AOT Idle Speed Adjustment Chart, see ENGINE SERVICE AFTER SPEED CHECKS at end of Curb Idle Speed adjustment for 2150 carburetor.*

CURB IDLE SPEED (7200 VV CARBURETOR)

With Cold Start VOTM – Bring engine to normal operating temperature. Turn throttle stop adjusting screw until specified curb idle RPM is obtained. Cycle throttle to check repeatability within ±50 RPM.

A/C and Non A/C With Dashpot Only – **1)** Turn A/C to "OFF" position. Start engine and turn throttle stop adjusting screw until specified curb idle RPM is obtained. With engine turned off, collapse dashpot plunger and check clearance between plunger and throttle lever pad. Adjust if not to specifications.

2) Cycle throttle to check repeatability within ±50 RPM. Shut engine off and recheck dashpot clearance. Readjust if necessary.

NOTE – *For lash adjustment procedure, see ACCELERATOR PUMP LEVER LASH ADJUSTMENT (2700 VV CARBURETOR).*

SECONDARY FAST IDLE (7200 VV CARBURETOR)

1) The VOTM or VOTM with Dashpot provide secondary fast idle during cold engine operation. Operation is controlled by engine coolant temperature or time.

2) With A/C selector lever in "OFF" position, disconnect vacuum hose to VOTM or VOTM with Dashpot. Using a slave vacuum line, connect VOTM or VOTM with Dashpot to manifold vacuum.

3) Check RPM and adjust to specifications. To adjust VOTM, loosen lock nut securing VOTM to mounting bracket. Turn VOTM until desired RPM is reached and tighten lock nut. To adjust VOTM with Dashpot, turn adjusting screw on VOTM with Dashpot mounting bracket until desired RPM is obtained.

4) Cycle the throttle to check repeatability within ±50 RPM. Remove slave vacuum line(s).

ENGINE SERVICE AFTER SPEED CHECKS

1) Reconnect fuel evaporative purge valve and EGR signal vacuum hose. Stop engine and remove test equipment. Reconnect automatic parking brake release vacuum hose. Tighten air cleaner wing nuts.

2) If idle speed changed by more or less than 50 RPM, carburetor linkage lever adjustment screw must be reset as described in AOT Idle Speed Adjustment Chart.

NOTE – *If adjustment of linkage lever screw is not possible, then adjustment of the TV control rod at transmission is required.*

NOTE – *For AOT Idle Speed Adjustment Chart, see ENGINE SERVICE AFTER SPEED CHECKS at end of Curb Idle Speed adjustment for 2150 carburetor.*

CURB IDLE SPEED (ELECTRONIC FUEL INJECTION)

1) Turn off all accessories, start engine and bring to normal operating temperature. Using an open end wrench, adjust vacuum kicker to its lowest position. Remove and plug vacuum hose to vacuum kicker. Adjust idle speed to specifications.

ENGINE SERVICE AFTER SPEED CHECKS

Reconnect all vacuum hoses. If idle speed changed by more or less than 50 RPM, carburetor linkage lever adjustment screw must be reset as described in AOT Idle Speed Adjustment Chart.

NOTE – *If adjustment of linkage lever screw is not possible, then adjustment of the TV control rod at transmission is required.*

NOTE – *For AOT Idle Speed Adjustment Chart, see ENGINE SERVICE AFTER SPEED CHECKS at end of Curb Idle Speed adjustment for 2150 carburetor.*

IDLE MIXTURE

NOTE – *Unless otherwise noted, the procedure for adjusting idle mixture is basically the same for 2150 and 2700 VV Carburetors. For 2700 VV Carburetors, substitute the words "venturi air bypass screw" for "idle mixture screw(s)/limiter(s)" in the procedure. For 7200 VV Carburetors there is no idle mixture adjustment required.*

NOTE – *If adjustments to the air/fuel mixture are made that require removing the idle limiter caps, it is imperative that the BLUE SERVICE LIMITER CAPS be installed. Idle mixture should be adjusted only during carburetor repair or when necessary as a result of government inspection laws.*

PROPANE ENRICHMENT PROCEDURE

NOTE – *For specifications for Propane Enrichment, see Emission Control Tune-Up Decal.*

1) Leave all vacuum signal hoses attached to air cleaner assembly when relocating air cleaner for carburetor adjustments. Air cleaner must be installed for engine speed checks.

CAUTION – *Do not let engine idle for extended periods, as catalyst overheating may cause excessive underbody temperatures.*

2) Apply parking brake and block wheels. Disconnect automatic brake release and plug vacuum connection. Connect tachometer (20362 or equivalent). Be sure tachometer is rated for system if vehicle is equipped with Dura Spark II ignition system.

3) Disconnect and plug fuel evaporative purge return hose at engine. Disconnect fuel evaporative purge hose at air cleaner and plug nipple.

TUNE-UP (Cont.)

4) Disconnect flexible fresh air tube from air cleaner duct or adapter. Insert hose from propane enrichment tool (Rotunda T75L-9600-A) into duct or fresh air tube.

5) For vehicles equipped with thermactor, disconnect and plug hoses of dump valves equipped with two fittings. If dump valves have one fitting, remove and plug hose at valve. Connect slave hose to dump valve and intake manifold vacuum fittings.

6) Be sure idle mixture limiter(s) is set to maximum rich position (counterclockwise against stop). Check curb idle speed or A/C "OFF" RPM and set to specifications. With shift lever in "NEUTRAL", run engine at 2500 RPM for 15 seconds before each mixture check.

7) With engine idling at normal operating temperature, place transmission shift lever in "NEUTRAL" for manual transmission or "DRIVE" for vehicles with automatic transmissions. Gradually open propane tool valve and watch for engine speed gain on tachometer. When speed reaches maximum and begins to drop off, note amount of speed gain.

NOTE – *If engine speed will not drop off, check bottle gas supply. Repeat if necessary with new bottle.*

8) Compare measured speed gain to specifications on vehicle decal. If idle mixture adjustment is necessary, adjust to "Reset RPM". If speed increase is within "RPM Gain" specification, proceed to step **12)**.

9) If measured speed gain is zero RPM and minimum speed gain specification is zero RPM, proceed to step **12)**.

10) If measured speed gain is GREATER than specification, turn mixture screw(s)/limiter(s) counterclockwise in equal amounts and repeat steps **6)** through **8)** until measured speed rise meets "Reset RPM" specification. After final adjustment, proceed to step **15)**.

11) If measured speed gain is LESS than specifications, turn mixture screw(s)/limiter(s) clockwise in equal amounts and repeat steps **6)** through **8)** until speed rise meets "Reset RPM" specifications. After final adjustment, proceed to step **15)**.

12) If there is ZERO increase in RPM and the minimum speed gain specification is zero RPM, perform the following speed drop test. While watching tachometer, adjust mixture screw(s)/limiter(s) clockwise by number of turns specified on decal. Note drop in engine speed.

13) If measured speed drop is EQUAL TO or drops off MORE THAN speed drop specification, return mixture limiter(s) to maximum rich position or mixture screw(s) to position prior to adjustment. Then proceed to step **15)**.

14) If measured speed drop is LESS THAN the specified minimum, leave mixture limiter(s) in adjusted position and repeat steps **6)** through **13)**.

NOTE – *For 2700 VV Carburetors, connect a vacuum gauge (Rotunda T77L-9510-A) to vacuum tap on venturi valve cover. Check control vacuum. If not within specified limits turn venturi valve diaphragm adjusting screw clockwise to increase or counterclockwise to decrease. Remove vacuum gauge and check curb idle speed. Reset if necessary. Then check internal vent clearance, resetting if necessary.*

15) Check curb idle speed and remove all test equipment. Reconnect all components and reinstall air cleaner, if removed.

Propane Enriched Idle Speed RPM

Application	Auto. Trans.
255"	
Federal	
With A/C	730
Without A/C	580
Calif.	
With A/C	690
Without A/C	540
302"	
Federal	
With A/C	①② 680
Without A/C	①② 530
Calif.	
With A/C	665
Without A/C	565
351"W	③

① – Ford and Mercury idle speed is 710 RPM with A/C, and 560 RPM without A/C

② – Granada and Monarch idle speed is 770 RPM with A/C, and 620 RPM without A/C.

③ – Not Required.

COLD (FAST) IDLE RPM

PREPARATION

NOTE – *Prior to making fast idle speed check or adjustment, prepare vehicle as outlined under HOT (SLOW) IDLE RPM, Vehicle Preparation.*

Vehicles with 2150 2-Bbl. Carburetor – 1) Disconnect and plug distributor vacuum advance hose from advance side of distributor.

2) On 255" and 302" engines with EGR/PVS valve or cold weather modulator, disconnect EGR hose at EGR valve and plug hose. If not equipped with EGR/PVS valve or cold weather modulator, DO NOT detach vacuum hose.

3) On 255" and 302" engine, trace thermactor dump valve vacuum hose from dump valve to carburetor. Disconnect hose nearest the carburetor. Plug original vacuum source and connect dump valve directly to manifold vacuum.

4) On all other engines, retrace EGR signal vacuum hose from EGR/PVS, making sure there is no other vacuum connection between EGR/PVS and carburetor. If not, disconnect and plug hose at EGR valve. If another connection exists, leave EGR vacuum hose connected. If not equipped with EGR/PVS, DO NOT detach EGR vacuum hose.

Vehicles with 2700 VV Carburetor – 1) Trace purge valve vacuum hose from purge valve (located on canister) to first point where hose can be detached.

2) Disconnect hose at THAT point, cap port and plug hose. Disconnect EGR valve signal vacuum hose at first point from PVS, plug vacuum hose and vent open port.

TUNE-UP (Cont.)

Vehicles with 7200 VV Carburetors – Be sure EGR vacuum signal hose has been disconnected and plugged at EGR valve and evaporative emission purge hose has been disconnected from intake manifold and plugged.

ADJUSTING FAST IDLE

1) Run engine at normal operating temperature. Open choke plate fully (fully seat cold enrichment rod on vehicles with 2700 VV carburetors). Place transmission in "NEUTRAL" (manual transmission) or "PARK" (automatic transmission).

2) On vehicles equipped with 2150 and 2700 VV carburetors, run engine at 2500 RPM for 15 seconds, then place fast idle lever on specified step of fast idle cam. Allow engine speed to stabilize (10-15 seconds for 2150 carburetor; 15 seconds to 2 minutes for 2700 VV carburetor). Measure fast idle RPM.

3) On vehicles equipped with 7200 VV carburetors, run engine at 2000 RPM for 10 seconds and turn off engine. Manually set fast idle screw on specified step of fast idle cam. Start engine without touching throttle, allow engine speed to stabilize (15 seconds). Measure fast idle RPM.

4) Repeat fast idle speed test 3 times. If average speed of 3 tests is not within 100 RPM, adjust to specification. After adjustment, recheck fast idle RPM.

5) Turn engine off, reconnect vacuum hose(s) disconnected. Remove test equipment and reconnect purge valve signal hose. Reconnect thermactor dump valve vacuum hose on 255" and 302" engines. Tighten air cleaner wing nuts.

Fast Idle Speed

Application	RPM
255"	
Federal	1800
Calif.	2000
302"	
Federal	2000
Calif. & EFI	2100
351"W 2-Bbl.	2200
351"W EEC III	1650

AUTOMATIC CHOKE

Loosen choke cover retaining screws. Rotate choke cover until mark on cover aligns with specified setting on choke housing. Tighten choke cover retaining screws.

NOTE – *Some California models are not adjustable due to a tamperproof choke cover and assembly that has no index marks.*

Application	Setting
255" 2-Bbl.	
Federal	4NR
Calif.	3NR
302" 2-Bbl.	
Federal	3NR
Calif.	
With A/C	4NR
Without A/C	3NR
302" 2700 VV	1NR
302" 7200 VV & EFI	IN
351" W	IN

FUEL PUMP

Check fuel pump at idle RPM with engine at normal operating temperature and transmission in neutral.

Fuel Pump Specifications

Application	Specification
Mechanical Pump	
Pressure	6.0-8.0 psi
Volume	1 pt. in 20 seconds
Electric Pump	
Pressure	39.0 psi
Volume	26.0 gals. per hour

EXHAUST EMISSION SYSTEMS

See EXHAUST EMISSION SYSTEMS section.

GENERAL SERVICING

IGNITION

DISTRIBUTORS

NOTE – *Some 1980 351" W engines will be equipped with 1979 Dura Spark II ignition systems. Use 1979 ignition timing procedures for these vehicles.*

All California Ford and Mercury models with 302" engine, all Federal and California Lincoln Continental and Mark VI with 302" engine and some 351" W engines will be equipped with Motorcraft EEC III type ignition systems. All others will be equipped with Dura Spark II ignition systems.

IGNITION COIL

Application	Specification
Coil Primary (@75°F)	1.13-1.23 ohms
Coil Secondary (@75° F)	7,700-9,3000 ohms
Ballast Resistor (@75° F)	1.05-1.15 ohms
Coil Output (@75° F)	28 KV Min.

GENERAL SERVICING (Cont.)

CARBURETION

CARBURETORS

Application	Model
255" 2-Bbl.	
Granada & Monarch	①Motorcraft 2700 VV
All Others	Motorcraft 2150
302" 2-Bbl.	
Federal	
Ford & Mercury	①Motorcraft 2700 VV
Lincoln & Mark VI	Motorcraft EFI
All Others	Motorcraft 2150
Calif.	
Ford & Mercury	①Motorcraft 7200 VV
Lincoln & Mark VI	Motorcraft EFI
All Others	Motorcraft 2150
351" W	①Motorcraft 7200 VV

① – Variable Venturi carburetor.

Other Data & Specifications – *See Tune-Up and Motorcraft Carburetors in FUEL SYSTEMS Section.*

ELECTRICAL

BATTERY

12 Volt – Negative Ground.

Application	Standard Amps	Optional Amps
255"		
Granada, Monarch, Mustang & Capri	36,45	54
Fairmont & Zephyr	36,45	54,77
302"		
Granada, Monarch, Versailles	36,45	54
Ford, Mercury, Lincoln & Mark VI	36,45	54,71
Fairmont, Zephyr, Thunderbird & XR-7	36,45	54,77
351" W	36,45	54,71

STARTER

All models use a Motorcraft positive engagement starter.

Application	Cranking RPM	Cranking Amps
4" Armature	180-250	150-250
4½" Armature	150-290	150-210

ALTERNATOR

Motorcraft external regulator alternator.

Color Code	Rated Amp. Output
Rear Terminal	
Orange	40
Green	60
Black	65
Side Terminal	
Black	70
Red	100

ALTERNATOR REGULATORS

Motorcraft Solid State Electronic Regulator, calibrated and preset by manufacturer. No adjustment is required or possible on this unit.

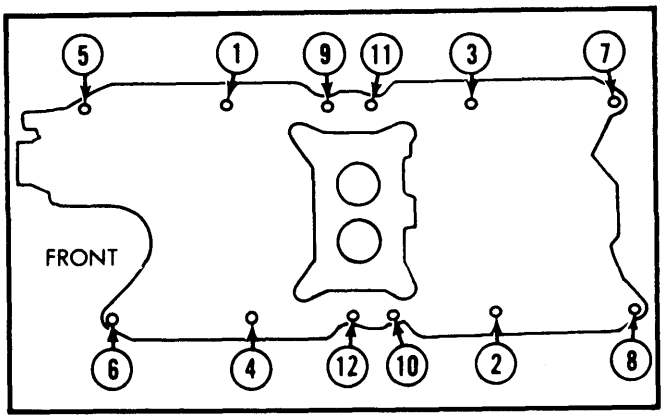

Fig. 3 Intake Manifold Tightening Sequence

ENGINE

INTAKE MANIFOLD TIGHTENING

Tighten intake manifold bolts in sequence shown in diagrams to the following specifications:

Application	Ft. Lbs.
All Models	23-25

BELT ADJUSTMENT

Application	Tension (Lbs.) Using Standard Tension Gauge New Belt	① Used Belt
Ribbed Belt		
W/Auto. Tens.②	105-155	105-155
W/O Auto. Tens.②	140-170	110-160
W/Absorber	110-140	75-130
¼" Belts	50-80	40-60
All Other Belts	120-160	75-120

① – Any belt operated for 10 minutes or more.
② – Automatic tensioner. Use only Gauge 21-0021.

GENERAL SERVICING (Cont.)

(COOLING) CAPACITIES

Application	Standard Qts.	Optional Qts.
Mustang & Capri	13.4	13.7
Fairmont & Zephyr	13.4	13.5
Granada & Monarch		
255"	14.6	14.7
302"	14.2	14.3
Versailles	13.9	13.9
Thunderbird & XR-7		
255"	13.2	13.3
302"	12.7	12.8
Ford, Mercury, Lincoln & Mark VI		
302"	13.0	13.3
351" W	13.9	14.0

FILTERS & CLEANERS

NOTE — *Refer to decal on vehicle for maintenance schedule code.*

Filter or Cleaner	"A"	"B"
Oil Filter	①15,000	①15,000
Air Cleaner	30,000	30,000
Crankcase Vent Filter	②50,000	②50,000
PCV Valve	22,500	30,000
Fuel Filter	③	③

① — Replace at 7,500 miles and every 15,000 miles thereafter.
② — Replace at 50,000 miles; as required thereafter.
③ — Replace only one time at 10,000 miles.

CAPACITIES (EXCEPT COOLING)

Application	Quantity
Crankcase	
All Models	①4.0 qts.
Auto. Trans.	
C-4 (Dexron II)	
Granada & Monarch	8.25 qts
Cougar XR-7	10.25 qts.
All Others	10.0 qts.
C-6 (Dexron II)	12.25 qts.
FMX (Type F)	11.0 qts.
AOT (Dexron II)	12.0 qts.
Rear Axle (Hypoid Gear Lube)	
7.5" Ring Gear	3.5 pts.
8.5" Ring Gear	4.0 pts.
9.0" Ring Gear	5.0 pts.
Fuel Tank	
Ford & Mercury	
Sedan	19.0 gals.
Sta. Wagon	20.0 gals.
Mustang & Capri	12.5 gals.
Fairmont & Zephyr	14.0 gals.
Granada & Monarch	18.0 gals.
T-Bird & Cougar XR-7	17.5 gals.
Versailles	19.2 gals.
Lincoln & Mark VI	
With 302"	18.0 gals.
Without 302"	20.0 gals.