TUNE-UP

ENGINE IDENTIFICATION

Engine code letter is fourth digit of Official Serial Number or Warranty Number.

Application	Code
302"	G
360"	Y
390"	H

MODEL IDENTIFICATION

RATING PLATE

F100/350 & E100/300 – Rating Plate is located on rear (lock) face of left front door.

U100 – Rating Plate is located on inner panel of glove compartment door.

Cowl & Windshield Models – Rating Plate is mounted on right side of cowl top panel or on upper cowl under hood.

F25YUA37484

First Digit – Truck Series Letter.
Second & Third Digits – Truck Series Number.
Fourth Digit – Engine Code.
Fifth Digit – Assembly Plant.
Remaining Digits – Consecutive Unit Number.

TUNE-UP NOTES

► *IDLE SPEED ADJUSTMENT CAUTION* – Procedures and specifications for idle speed adjustment must be followed exactly as outlined. *See "Hot (Slow) Idle RPM" under Tune-Up.*

NOTE – For other items affecting Tune-Up, see CARBURETION Section or EMISSION CONTROL Section.

COMPRESSION PRESSURE

Check compression with engine at normal operating temperature and at cranking speed, throttle and choke valves wide open and spark plugs removed. Compression in lowest reading cylinder should be within 25% of highest reading cylinder.

VALVE TAPPET CLEARANCE

Application	①Clearance
302"	.067-.167"
360", 390"	.100-.200"

① – One turn down after contact. Clearance specified is obtained at valve stem tip with tappet collapsed.

VALVE ARRANGEMENT

302"
I-E-I-E-I-E-I-E (right bank, front to rear).
E-I-E-I-E-I-E-I (left bank, front to rear).
360", 390" – E-I-E-I-I-E-I-E **(both banks, front to rear).**

SPARK PLUGS

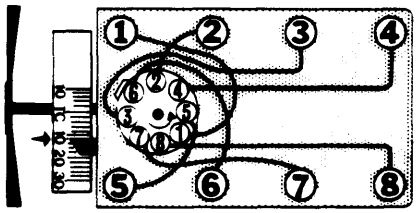
Gap	
302"	.028-.032"
360", 390"	.032-.036"
Torque	15-20 ft. lbs.

Spark Plug Type

Application	Autolite No.
302"	BTF-31
360", 390"	BF-32

DISTRIBUTOR

Point Gap	
302" (F100, E100/200, U100)	.021"
302" (E300)	.017"
360"	.017"
390" (F100)	.021"
390" (F250/350, Standard Ignition)	.017"
390" (F250/350, Transistorized Ignition)	.020"
Cam Angle	
302" (F100, E100/200, U100)	24-29°
302" (E300)	26-31°
360" (F100)	24-29°
360" (F250/350)	26-31°
390" (F100)	24-29°
390" (F250/350, Standard Ignition)	26-31°
390" (F250/350, Transistorized Ignition)	22-24°
Breaker Arm Spring Tension	17-21 ozs.
Condenser Capacity	.21-.25 mfd.



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FIRING ORDER & TIMING MARKS

IGNITION TIMING

With engine at normal operating temperature and vacuum advance line disconnected and plugged, adjust timing to specifications.

Application	Timing
All	6°BTDC

HOT (SLOW) IDLE RPM

With engine at normal operating temperature, timing and dwell correctly set and parking brake engaged, install tachometer. Place automatic transmission in "D" and manual transmission in "N", turn headlights to high beam and turn air conditioning (if so equipped) "OFF". With air cleaner installed, adjust idle RPM to specifications. Adjust idle mixture screws for smoothest idle within range of limiter caps.

TUNE-UP (Cont.)

Idle Speed RPM

Application	Man. Trans.	Auto. Trans.
302"		
U100	675	
F100, E100/200 (W/O A/C)	①800/500	600
F100, E100/200 (W/ A/C)	①800/500	①600/500
E300 (W/O Solenoid)	650	600
E300 (W/Solenoid)	①800/500	①600/500
360", 390"		
F100 (W/O A/C)	650	550
F100 (W/ A/C)	①650/500	①550/500
F250/350	650	550

① — Higher idle speed, solenoid energized. Lower idle speed, solenoid de-energized.

IDLE MIXTURE ADJUSTMENT

EXHAUST GAS ANALYZER PROCEDURE

Install a suitable, calibrated exhaust gas analyzer. With air cleaner installed, take analyzer reading. Adjust idle mixture screws within range of limiter caps to specified air/fuel ratio. Correct for any changes in engine idle RPM immediately as idle mixture screw is turned.

NOTE — Allow at least ten seconds following each mixture adjustment for analyzer to properly respond and stabilize.

Idle Limiter Cap — If proper air/fuel ratio cannot be achieved within limits of idle limiter cap, remove cap and adjust screws until proper air/fuel mixture is achieved. Install new idle mixture limiter caps in full counterclockwise position with tab of cap against stop on carburetor.

Air/Fuel Ratio

Application	Man. Trans.	Auto. Trans.
302"	12.5/1	12.5/1
360"	14.1/1	14.1/1
390"	14.1/1	14.4/1

COLD (FAST) IDLE RPM

With engine at normal operating temperature and hot (slow) idle correctly set, rotate fast idle cam until fast idle adjusting screw rests on center step of fast idle cam. Start engine and turn fast idle adjusting screw to obtain specified RPM.

Application	Man. Trans.	Auto. Trans.
302"	1600 RPM	1400 RPM
360", 390"	1500 RPM	1500 RPM

CHOKE ADJUSTMENT

Manual Choke — Place choke linkage in full choke position and gradually turn choke operating rod adjusting nut until a gauge or drill of specified clearance will just pass between choke plate and air horn wall with adjusting nut lightly against plastic swivel.

Automatic Choke — With engine at normal operating temperature, loosen choke cover retaining screws and set cover 90° in rich direction. Remove choke heat tube from choke housing and adjust fast idle screw outward ONE turn. Check for specified clearance between choke plate and air horn wall with suitable gauge or drill. To adjust clearance, turn diaphragm stop screw (located on underside of choke diaphragm housing) clockwise to decrease or counterclockwise to increase. Connect choke heat tube and adjust choke cover and fast idle speed to specifications.

Choke Plate Setting

Application	Clearance
302"	.0170"
360", 390"	.0190"

Thermostatic Cover Setting

Application	Man. Trans.	Auto. Trans.
U100 (302")	1 Rich	
F100, E100/300 (302")	2 Rich	Index
All (360", 390")	Index	Index

DASHPOT ADJUSTMENT

With engine at normal operating temperature, hot (slow) idle correctly set, throttle valve closed and dashpot plunger held in depressed position, loosen lock nut and adjust clearance between end of dashpot plunger and tab on throttle lever to specifications.

Dashpot Clearance

Application	Clearance
302"	5/64"
360", 390"	1/8"

GOVERNOR ADJUSTMENT

VELOCITY GOVERNOR

With engine at normal operating temperature, tachometer connected to engine and throttle at wide open position, compare RPM reading with operating range stamped on governor plate. If adjustment is required, remove governor seal. To increase RPM, turn cap counterclockwise. To decrease RPM, turn cap clockwise. With adjustment complete, stop engine and seal cap.

VACUUM GOVERNOR

With engine at normal operating temperature, tachometer connected to engine and throttle valve at wide open position, compare RPM reading with correct operating range. If adjustment is required, stop engine and remove adjusting hole plug from controlling unit housing. Turn adjusting nut clcockwise to increase speed and counterclockwise to decrease speed. One full turn of adjusting nut will change top speed approximately 150 RPM. Repeat procedure until specified top speed is obtained. Reinstall adjusting hole plug, new locking wire and lead seal.

Governed Engine Speed

Application	No-Load RPM	Full-Load RPM
All	3800	3600

FUEL PUMP PRESSURE & VOLUME

Pressure (at 500 RPM)	4.5-6.4 psi
Volume (at 500 RPM)	1 pt. in 30 seconds

EMISSION CONTROL

See appropriate article in EMISSION CONTROL Section.

IGNITION

DISTRIBUTOR

Application	①Ford Part No. Man. Trans.	Auto. Trans.
302"		
U100	C8TF-F	
F100	DOTF-H	DOTF-H
E100/200	DOTF-H	DOTF-H
E300	DOTF-G	DOTF-G
360", 390"		
F100	DOTF-J	DOTF-J
F250/350	DOTF-K	DOTF-K

① — Basic number 12127. Table gives prefix and suffix only.

Other Data & Specifications — *See Tune-Up and Ford Distributors in ELECTRICAL Section.*

IGNITION COIL

Application	①Ford Part No.
Standard	B6A-B
Transistorized	C3TZ-A

① — Basic number is 12029. Table gives prefix and suffix.

Resistance	Ohms @ 75°F
Standard	
Primary	1.40-1.54
Secondary	7,600-8,800
Transistorized	
Primary	.226-.251
Secondary	4,900-5,680

CARBURETION

CARBURETORS

Ford Model 2100 2-Bbl.

Application	①Ford Part No. Man. Trans.	Auto. Trans.
302"		
U100	DOBF-C	
F100, E100/200	DOUF-B	②DOUF-C
E300	DOUF-F	DOUF-G
360", 390"		
F100 (W/O A/C)	DOTF-B	DOTF-C
F100 (W/ A/C)	DOTF-N	DOTF-M
F250/350	DOTF-S	DOTF-R

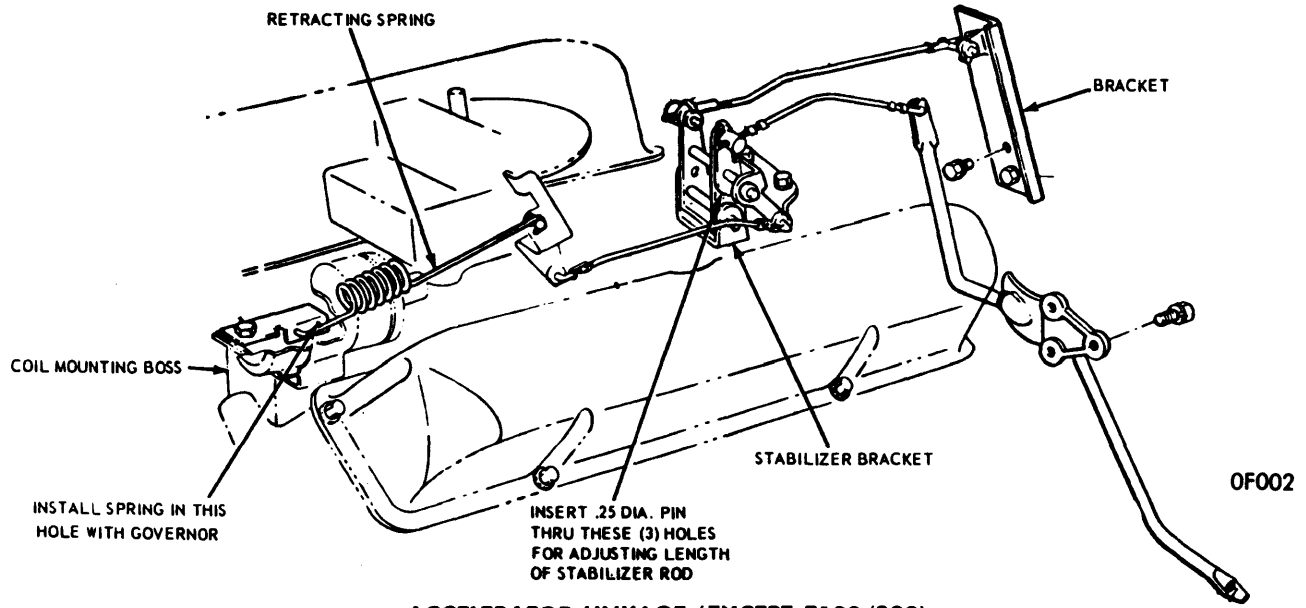
① — Basic number is 9510. Table gives prefix and suffix only.
② — Except with air conditioning. With air cond. DOUF-E.

Other Data & Specifications — *See Tune-Up and Ford Carburetors in CARBURETION Section.*

ACCELERATOR AND DOWNSHIFT LINKAGE ADJUSTMENT

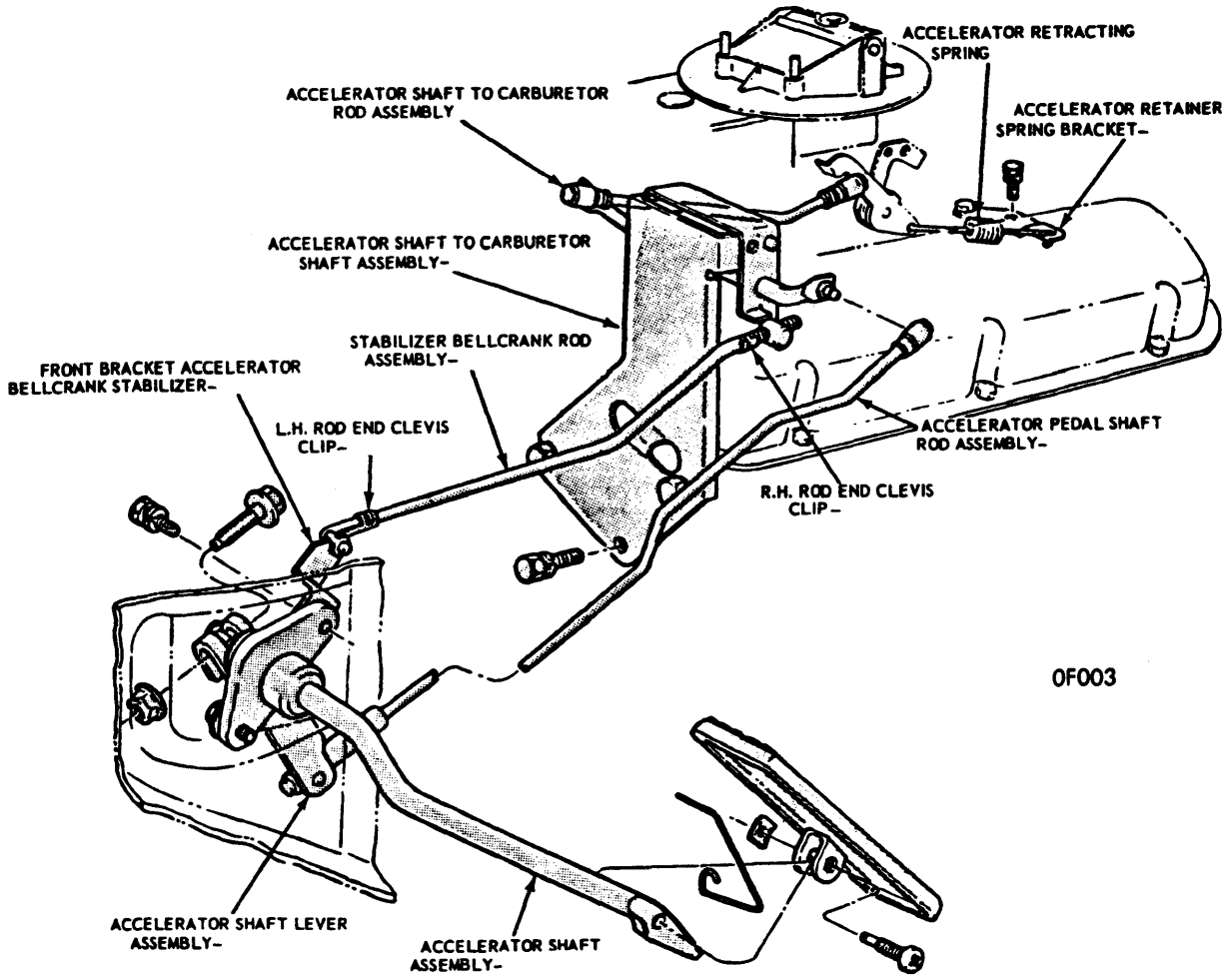
Accelerator Linkage Adjustment — Disconnect retaining clip and bellcrank stabilizer clevis from bellcrank assembly. Insert ¼ (3/16 on E100/300) inch diameter adjustment pins through adjustment holes in bellcrank assembly. Adjust bellcrank stabilizer clevis so that it fits freely in bore of bellcrank. Connect retaining clip and bellcrank stabilizer to bellcrank. *NOTE — Make sure clip is positioned securely.* Remove adjustment pins. Depress accelerator pedal to wide open position and adjust control rod assembly until carburetor throttle lever just reaches wide open position. Shorten control rod assembly ONE turn. Reinstall clips and tighten all nuts and bolts.

Downshift Linkage Adjustment — With accelerator linkage correctly adjusted, hold throttle in wide open position. Place .060" feeler gauge between throttle lever and adjusting screw. Loosen adjusting screw lock nut and turn adjusting screw until downshift lever on transmission is against internal stop. Tighten adjusting screw lock nut.



ACCELERATOR LINKAGE (EXCEPT E100/300)

CARBURETION (Cont.)



ACCELERATOR LINKAGE (E100/300)

ELECTRICAL

BATTERY

12 Volt – Negative Ground.

Filler Caps	Plates	Amps.
Yellow	54	45
Red	66	55
Red	66	70
Yellow	78	70

STARTER

Application	①Ford Part No.
302"	
Man. Trans.	C5TZ-D
Auto. Trans.	C20Z-B
360", 390"	C30Z-C

① – Basic number 11002. Table gives prefix and suffix only.

Other Data & Specifications – *See Ford Starters in ELECTRICAL Section.*

ALTERNATOR

Application	I.D. Color (Amps.)	①Ford Part No.
F100/350	Purple (38)	D0AZ-E
U100	Purple (38)	D2AZ-C
F100/350	Orange (42)	D0AZ-E
U100	Orange (42)	D2AZ-C
All (Except U100)	Red (55)	D0AZ-F
All (Except E100/300)	(70)	D1AZ-A

① – Basic number is 10346. Table gives prefix and suffix.

Other Data & Specifications – *See Ford Alternators in ELECTRICAL Section.*

ALTERNATOR REGULATOR

Application	①Ford Part No.
All (W/O Transistorized)	C3SZ-B
All (W/Transistorized)	C6AZ-A

① – Basic number is 10316. Table gives prefix and suffix.

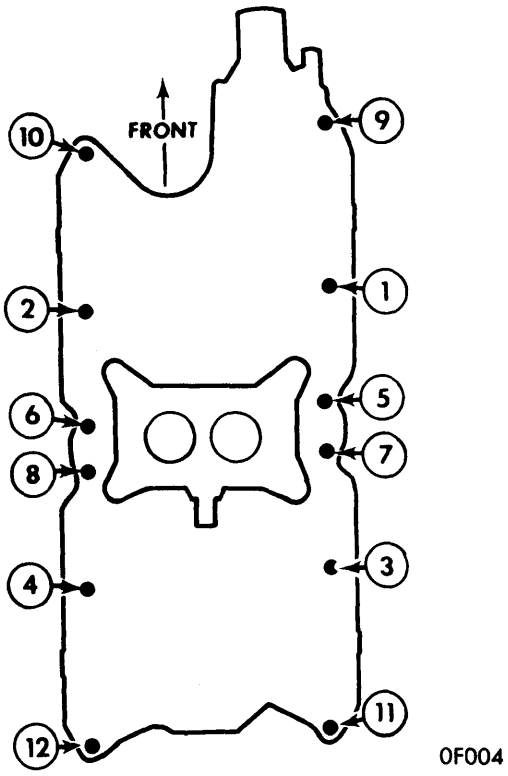
Other Data & Specifications – *See Ford Alternator Regulators in ELECTRICAL Section.*

ENGINE

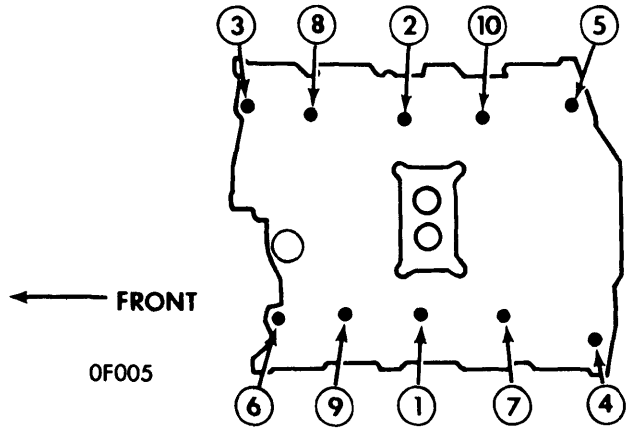
INTAKE MANIFOLD TIGHTENING

Tighten intake manifold in sequence shown to specifications.

Application	Torque (Ft. Lbs.)
302"	23-25
360", 390"	32-35



302" INTAKE MANIFOLD TIGHTENING SEQUENCE



360" & 390" INTAKE MANIFOLD TIGHTENING SEQUENCE

BELT ADJUSTMENT

Tension (Lbs.) Using Strand Tension Gauge

New Belt	120-140
Used Belt①	80-110

① — Belt run for 10 minutes or more is considered used.

FILTERS & CLEANERS

Filter or Cleaner	Service Interval (Miles)
Oil Filter	6,000
Air Cleaner (Oil Bath)	6,000
Air Filter (Dry Type)	12,000
Crankcase Breather	6,000
Fuel Filter	12,000

COOLING CAPACITIES

Application	Quantity (Qts.)
302"	
U100	
Standard	14.25
Heavy Duty	14.63
E100/300	
Standard	15.2
Heavy Duty	17.5
F100/250	
Standard	17.1
Heavy Duty	17.5
360", 390"	
F100/250	
Standard	21.88
Heavy Duty	22.25
F350	
Standard	22.25
Heavy Duty	23.88
F100/250 (4 Wheel Drive)	22.25

CAPACITIES (EXCEPT COOLING)

Application	Quantity
Crankcase (Includes Filter)	6 qts.
Fuel Tank	
U100	①14.5 gals.
E100/300	24 gals.
F100/350 (Cab Models)	20 gals.
F250/350 (Cowl or Windshield Models)	17 gals.
Drive Axles	②
Transfer Case	
F100	1.75 pts.
F250	4.5 pts.
U100	2.75 pts.
Automatic Transmission	
C-4	10.25 qts.
C-6	12.75 qts.
FMX-HD	11 qts.
Manual Transmission	
Ford 3.03	3.5 pts.
T-18 & 19	6.5 pts.
T-85	4 pts.
T-87G	5.5 pts.
T-89F	3.3 pts.
New Process 435	6.75 pts.

① — 11.8 gals. for U100 with Fuel Evaporation Control.
② — Fill to bottom of filler plug hole.