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 located on right side of cowl top panel or on upper cowl under hood.

F35HUA 32081

First Digit – Truck Series Letter.
Second & Third Digit – 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

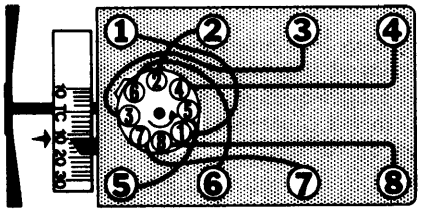
Application	Autolite No.
302"	BTF-31
360", 390"	BF-32

DISTRIBUTOR

Point Gap
All (302") ..... .021"
All (360", 390") ..... ①.017"
Cam Angle
All (302") ..... 24-29°
F100 (360", 390") ..... 24-29°
F250/350, P350 (360", 390") ..... ②26-31°
Breaker Arm Spring Tension ..... 17-21 ozs.
Condenser Capacity ..... .21-.25 mfd.

① – With transistorized ignition .020".

② – With transistorized ignition 22-24°.



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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" or manual transmission in "N", turn headlights to high beam and turn air conditioning "OFF". With air cleaner installed, adjust idle RPM to specifications. On engines equipped with idle stop solenoid, turn solenoid plunger screw to obtain specified RPM. Disconnect solenoid lead wire at bullet connector, then adjust carburetor throttle stop screw to obtain lower specified RPM.

TUNE-UP (Cont.)

Reconnect solenoid lead wire and open throttle slightly by hand so solenoid plunger may extend. Adjust mixture screws smoothest idle within range of limiter caps.

Idle Speed RPM

Application	Man. Trans.	Auto. Trans.
302"		
U100, F100, E100/300	①800/500	②600
E300	800	600
360", 390"	650	550

① — Higher RPM with solenoid energized and lower RPM with solenoid de-energized.

② — With automatic transmission and air conditioning 600-500.

IDLE MIXTURE ADJUSTMENT

EXHAUST GAS ANALYZER PROCEDURE

Install a suitable, calibrated exhaust gas analyzer. With air cleaner installed, take an 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 caps, remove caps and adjust screws until proper air/fuel ratio is obtained. Install new idle limiter caps in full counterclockwise position with tab of cap against stop on carburetor.

Air/Fuel Ratio

Application	Setting
302"	12.5 or greater
360", 390"	14.1 or greater

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"		
U100	1400	
E100/300	1300	1600
F100,P350	1400	1600
360", 390"	1500	1500

AUTOMATIC CHOKE ADJUSTMENT

With engine at normal operating temperature, loosen choke cover screws and reset 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	Man. Trans.	Auto. Trans.
U100 (302")	.170"	
E100/300 (302")	.160"	.160"
F100 (302")	.170"	.160"
F100 (360", 390")	.190"	.190"
F250/350 (360", 390")	.190"	.170"
P350 (302")	.170"	.160"

Thermostatic Cover Setting

Application	Man. Trans.	Auto. Trans.
U100 (302")	1 Rich	
E100/200 (302")	Index	Index
E300 (302")	Index	1 Rich
F100, P350 (302")	Index	Index
F100 (360", 390")	Index	1 Rich
F250/350 (360", 390")	2 Rich	2 Rich

DASHPOT ADJUSTMENT

On vehicles equipped with dashpot, bring engine to normal operating temperature. With 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 ⅛".

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 and 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 clockwise to increase speed and counterclockwise to decrease speed. One full turn of adjusting nut will change top speed approximately 150 RPM. Repeat procedure until correct top speed is obtained. Reinstall adjusting hole plug, new locking wire and lead seal.

FUEL PUMP PRESSURE & VOLUME

Pressure (at 500 RPM)	4.5-6.5 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	DOTF-M	
E100/200, F100, P350	DOTF-M	D1TF-GA
E300	D1UF-A	D1UF-A
360", 390"		
F100	DOTF-L	②DOTF-J
F250/350	D1TF-EA	D1TF-EA

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

② — F100 in California uses D1TF-DA.

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 only.

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	D1BF-AA	
E100/300 (Except E300 Van)	D1UF-AA	②D1UF-CA
E300 Van	D1UF-SA	D1UF-FA
F100, P350	D1TF-AMA	D1TF-EA
360", 390"		
F100	D1TF-HA	D1TF-NA
F250/350	D1TF-ALA	D1TF-AKA

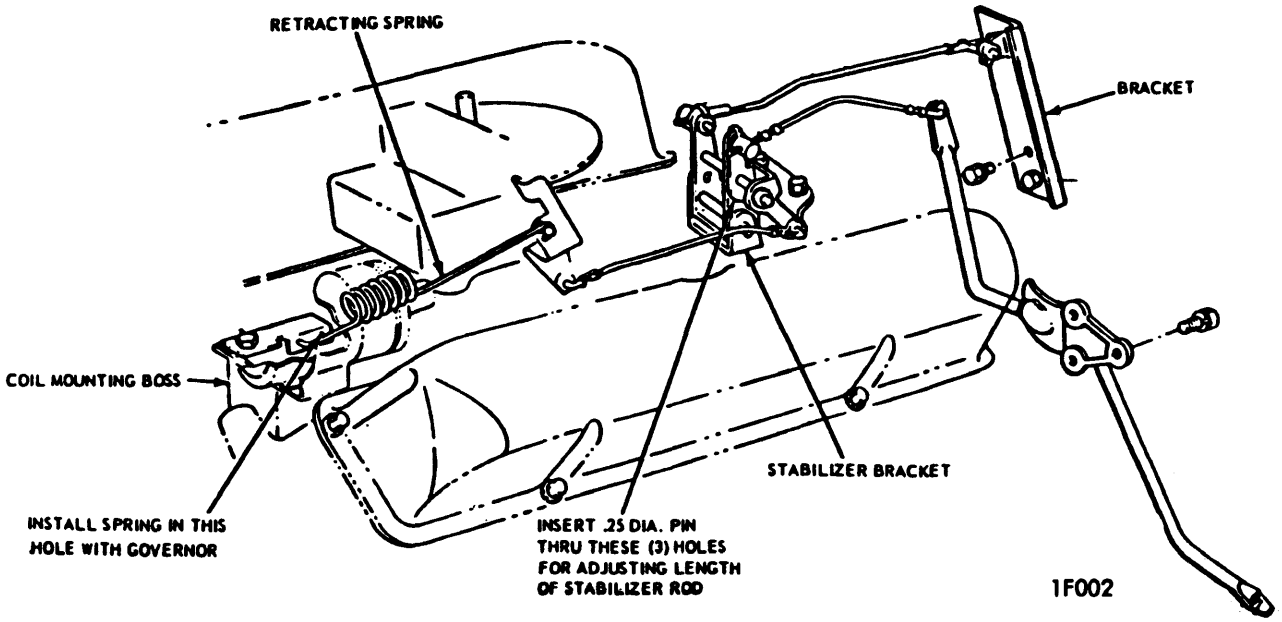
① — Basic number is 9510. Table gives prefix and suffix only.

② — With air conditioning, D1UF-DA.

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

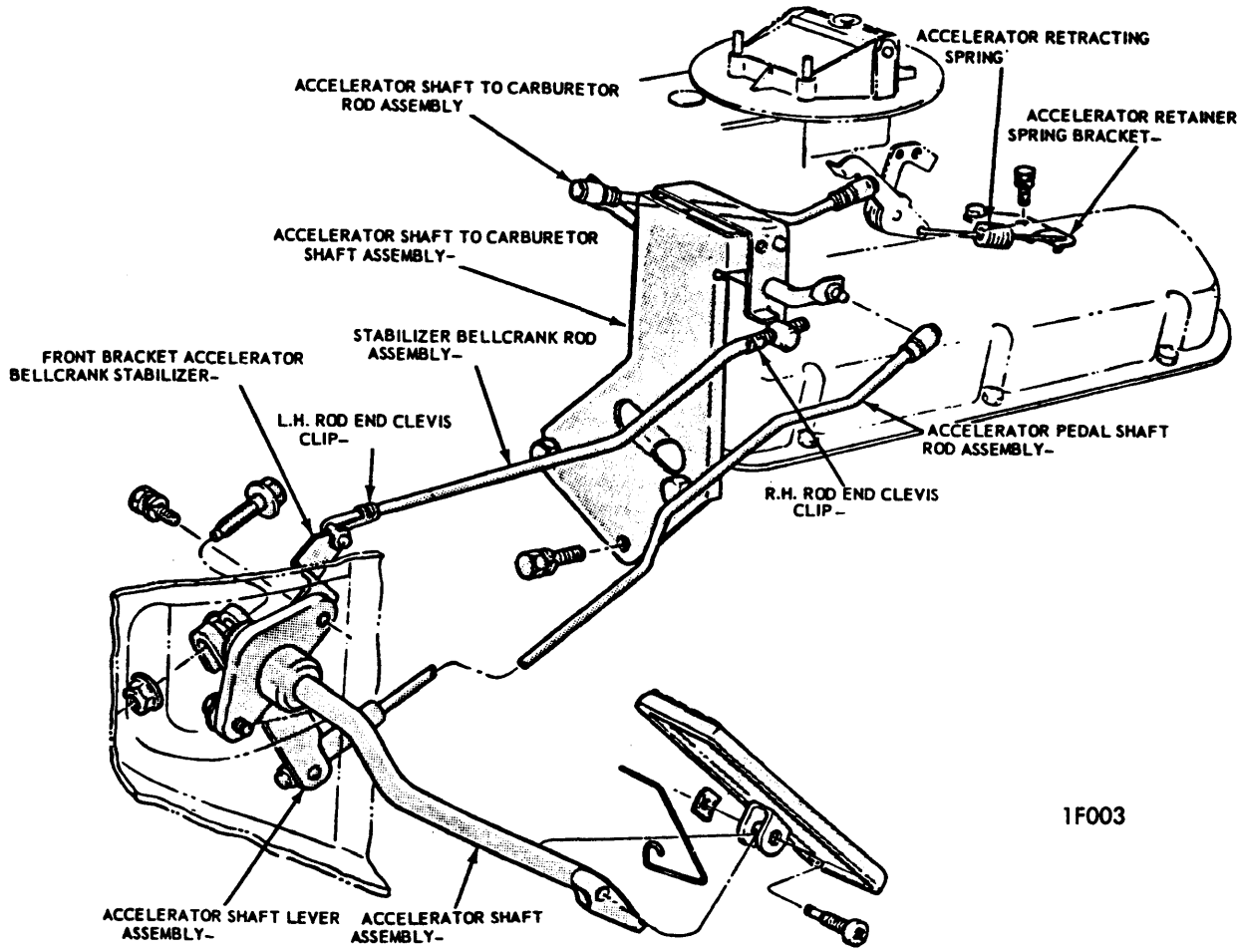
ACCELERATOR AND DOWNSHIFT LINKAGE ADJUSTMENT

Accelerator Linkage Adjustment — Disconnect retaining clip and bellcrank stablizer clevis from bellcrank assembly. Insert ¼ (5/16 on E100/300) inch diameter adjustment pins through adjustment holes in bellcrank assembly. Adjust bellcrank stalilizer 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 ONE turn. Reinstall clips and tighten all nuts and bolts.



ACCELERATOR LINKAGE (EXCEPT E100/300)

CARBURETION (Cont.)



ACCELERATOR LINKAGE (E100/300)

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

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
302" (Auto. Trans.)	C2OZ-B
360", 390" (All)	C3OZ-C

① – Basic number is 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.
U100	Purple (38)	D2AZ-C
U100	Orange (42)	D2AZ-C
F100/250	Purple (38)	D0AZ-E
E, F100/350	Orange (42)	DOAZ-E
P350	Orange (42)	DOAZ-E
All	Red (55)	DOAZ-F
E100/300	Green (61)	D2TZ-B
F100/350	(70)	D1AZ-A

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

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

ALTERNATOR REGULATOR

Application	Ford Part No.
All (Except 70 Amp. Alternator)	C3SZ-10316-B
70 Amp. Alternator	C6AZ-10316-A

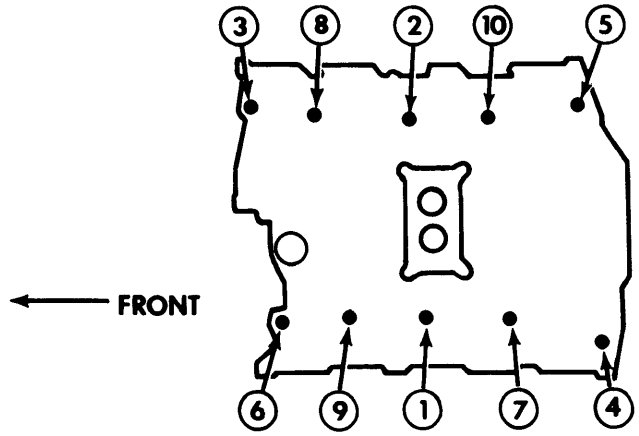
Other Data & Specifications – *See Ford Alternator Regulators in ELECTRICAL Section.*

ENGINE

INTAKE MANIFOLD TIGHTENING

Tighten intake manifold bolts in sequence shown to specifications.

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



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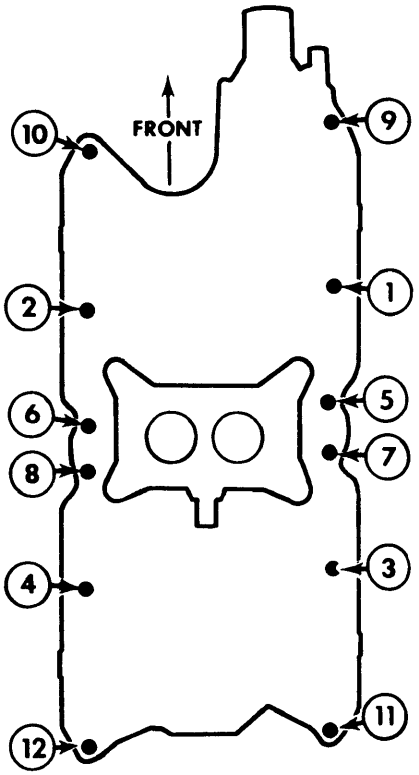
360" & 390"
INTAKE MANIFOLD TIGHTENING SEQUENCE



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302" 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 Filter (Oil Bath)	6,000
Air Filter (Dry Type)	12,000
Crankcase Breather	6,000
Fuel Filter	12,000

COOLING CAPACITIES

Application	Quantity (Qts.)
U100	14.63
F100	
302" (Standard)	17.1
302" (Heavy Duty)	17.5
360" & 390" (Standard)	21.88
360" & 390" (Heavy Duty)	22.25
E100/300	
302" (Standard)	15.2
302" (Heavy Duty)	17.5
F250	
360" & 390" (Standard)	21.88
360" & 390" (Heavy Duty)	22.25
F350	
360" & 390" (Standard)	22.25
360" & 390" (Heavy Duty)	23.88
P350	
302" (Standard)	17.1
302" (Heavy Duty)	17.5

ENGINE (Cont.)

CAPACITIES (EXCEPT COOLING)

Application	Quantity
Crankcase (Includes Filter)	6 qts.
Fuel Tank	
U100	12.75 gals.
E100/300	21 gals.
F100	18.5 gals.
F250/350 (Cab Models)	19.5 gals.
F250/350 (Cowl or Windshield Models)	17 gals.
P350	17 gals.
Drive Axles	①
Transfer Case	
F100	1.25 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 E100 & U100	3.5 pts.
Ford 3.03 F100/350 & P350	4 pts.
T-18B	7 pts.
T-85	4 pts.
T-85N	4.5 pts.
T-87G	5.5 pts.
T-89F	3.75 pts.
New Process 435	7 pts.

① — Fill to bottom of filler plug hole.