

TUNE-UP

ENGINE IDENTIFICATION

Engine can be identified by eighth digit of Vehicle Identification No. and by the prefix of the engine serial number stamped on block between No. two and No. three cylinders.

| | |
|----------------|---|
| 232" Reg. | E |
| 232" L/C..... | F |
| 258" Reg. | A |
| 258" L/C..... | B |

MODEL IDENTIFICATION

VEHICLE IDENTIFICATION NUMBER

Vehicle identification number is stamped on metal plate located on left side of firewall on CJ5, CJ6, and Commando models and affixed to left front lock pillar on all other models.

J2A144CN00001

- First Digit - Builder.
- Second Digit - Year Model
- Third Digit - Plant, Transmission and Drivers Side.
- Fourth & Fifth Digit - Chassis Type.
- Sixth Digit - Body Style.
- Seventh Digit - Trim Code.
- Eighth Digit - Engine Code.
- Remaining Digits - Sequence Build No.

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

With air cleaner and spark plugs removed, and throttle and choke wide open, crank engine through at least four compression strokes. Compression should be 185 psi with a maximum variation of 25%.

VALVE TAPPET CLEARANCE

Hydraulic LiftersZero Lash

VALVE ARRANGEMENT

E-I-I-E-I-E-E-I-E-I-I-E

SPARK PLUGS

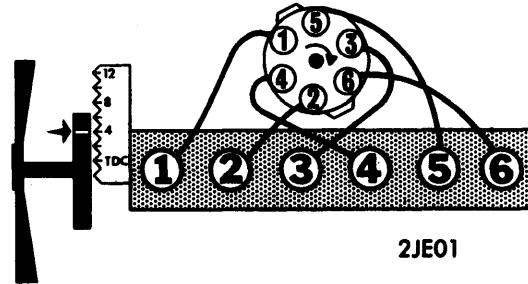
| | |
|--------------|----------------|
| Gap | .033-.036" |
| Torque | 25-30 ft. lbs. |

Spark Plug Plug

| | |
|--------------------|---------------------|
| Application | Champion No. |
| All | N-12Y |

DISTRIBUTOR

| | |
|----------------------------------|--------------|
| Point Gap | .016" |
| Cam Angle | 31-34° |
| Breaker Arm Spring Tension | 17-21 ozs. |
| Condenser Capacity | .18-.23 mfd. |



FIRING ORDER & TIMING MARKS

IGNITION TIMING

Set timing with engine at normal operating temperature, manual transmission in Neutral, automatic transmission in "D" and vacuum hose disconnected and plugged.

| | |
|--------------------|---------------|
| Application | Timing |
| 232" | 5° BTDC |
| 258" | 3° BTDC |

HOT (SLOW) IDLE RPM

NOTE - Do not idle engine for over three minutes at a time. If idle mixture adjustment is not completed within three minutes, run engine at 2000 RPM for one minute before continuing, repeat as necessary.

With engine at normal operating temperature, Man. Trans. in Neutral, Auto. Trans. in "D", accessories OFF and air cleaner in place, adjust to specifications. With idle mixture screw at full (rich) stop, turn screw clockwise until a loss of RPM is indicated, then turn mixture screw counterclockwise until highest RPM reading is obtained at "lean best idle" setting. If idle speed changed more than 30 RPM during mixture adjustment, reset to specified RPM and repeat mixture adjustment.

Idle Speed RPM

| | | |
|---------------------------|-----------------------|------------|
| Application | Air/Fuel Ratio | RPM |
| 232" | 13.8/1-14.2/1 | 650-700 |
| 258" (Man. Trans.) | 13.8/1-14.2/1 | 650-700 |
| 258" (Auto. Trans.) | 13.8/1-14.2/1 | 600 |

COLD (FAST) IDLE RPM

With engine at operating temperature, position fast idle screw on second step of fast idle cam and adjust engine to 2200 RPM.

AUTOMATIC CHOKE ADJUSTMENT

Automatic choke should be set on index.

FUEL PUMP PRESSURE & VOLUME

| | |
|----------------|-----------------------------|
| Pressure | 4-5.5 psi. |
| Volume | 1 qt. in 1 minute @ 500 RPM |

EMISSION CONTROL

See appropriate article in EMISSION CONTROL Section.

IGNITION

DISTRIBUTOR

| | |
|--|-----------------------|
| Application | Delco-Remy No. |
| All | 1110497 |
| Other Data & Specifications - See <i>Delco Distributors</i> in <i>ELECTRICAL</i> Section. | |

IGNITION COIL

| | |
|-------------------|--------------------|
| Resistance | Ohms @ 75°F |
| Primary | 1.40-1.65 |
| Secondary | 3000-20000 |

CARBURETION

CARBURETORS

Carter YF

| | |
|---------------------------|------------------|
| Application | Carb. No. |
| 232" | 6288S |
| 258" (Man. Trans.) | 6287S |
| 258" (Auto. Trans.) | 6288S |

Other Data & Specifications - See *Carter Carburetors* in *CARBURETION* Section.

DASHPOT ADJUSTMENT

With throttle valve fully closed in curb idle position, depress dashpot plunger stem and adjust clearance between stem and throttle lever to $\frac{3}{32}$ ".

ELECTRICAL

BATTERY

12 Volt - Negative Ground.

| | |
|--------------------|------------------------|
| Application | Amp. Hr. Rating |
| Standard | 50 |
| Optional | 70 |

ALTERNATOR

| | | |
|--------------------|--------------|---------------------|
| Application | Amps. | Motorola No. |
| Standard | 37 | 8AL2025F |
| Optional | 55 | 8AL2015K |

Other Data & Specifications - See *Motorola Alternators* in *ELECTRICAL* Section.

STARTER

| | |
|--------------------|-----------------|
| Application | Ford No. |
| All | DOFF-11001-B |

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

ALTERNATOR REGULATOR

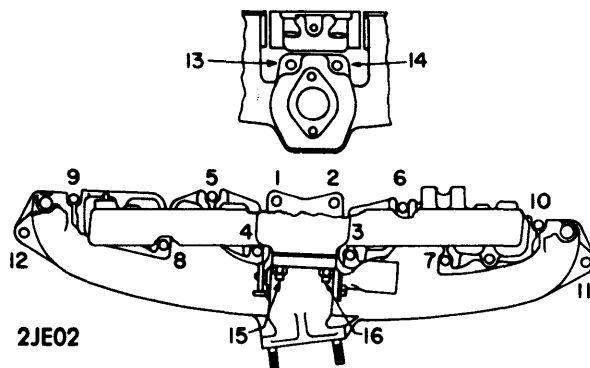
| | |
|--------------------|---------------------|
| Application | Motorola No. |
| All | 8RB2005 |

Other Data & Specifications - See *Motorola Alternator Regulators* in *ELECTRICAL* Section.

ENGINE

INTAKE MANIFOLD TIGHTENING

Tighten manifold bolts in sequence shown to a torque of 20-25 ft. lbs.



SIX CYLINDER MANIFOLD TIGHTENING SEQUENCE

FILTERS & CLEANERS

| | |
|--------------------------|---------------------------------|
| Filter or Cleaner | Service Interval (Miles) |
| Air Filter | ① Clean 6,000 |
| Oil Filter | Replace 6000 |
| Fuel Filter | Replace 12000 |

① - Replace every 12000 miles.

BELT ADJUSTMENT

Tension (Lbs.) Using Strand Tension Gauge

| | |
|------------------|--------------|
| New Belts | 125-145 lbs. |
| Used Belts | 90-110 lbs. |

CAPACITIES

| | |
|--|-----------|
| Crankcase (Includes Filter) | 6 qts. |
| Cooling System (Includes Heater) | 10.5 qts. |
| Transmission | |
| 3-Speed T14A | 2.5 pts. |
| 3-Speed T15A | 2.75 pts. |
| 4-Speed T18 | 6.0 pts. |
| Automatic | ① 11 qts. |
| Transfer Case | 3.25 pts. |
| Differential | |
| Front (Except Truck) | 2.5 pts. |
| Front (Truck) | 3.0 pts. |
| Rear (Except Truck Heavy Duty) | 3.0 pts. |
| Rear (Truck Heavy Duty) | 6.0 pts. |
| Fuel Tank | |
| CJ5, CJ6, Commando | 16 gals. |
| Wagoneer | 22 gals. |
| Truck | 20 gals. |

① - Total capacity, refill capacity is 5 qts.