

TUNE-UP

ENGINE IDENTIFICATION

Engine can be identified by prefix of engine identification number stamped on metal tag attached to alternator mounting bracket on 327" engines and stamped on machined pad at left front of cylinder block below head on 350" engines.

MODEL IDENTIFICATION

VEHICLE IDENTIFICATION NUMBER

Vehicle identification number is stamped on metal plate affixed to left side of firewall on CJ5, CJ6, CJ5A and CJ6A models. It is affixed to right side of firewall on all other models.

54 5 4 8 13 10001

- First & Second Digit – Series Code.
- Third Digit – Body Style.
- Fourth Digit – Engine Type.
- Fifth Digit – Drive Type.
- Sixth & Seventh Digit – Special Equipment Code.
- Remaining Digits – Sequence Build 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

With engine at normal operating temperature, spark plugs removed, throttle and choke valves wide open and engine at cranking speed, variation between cylinders should be no more than 10 psi on 327" engines or 25% on 350" engines.

VALVE TAPPET CLEARANCE

Hydraulic LiftersZero Lash

VALVE ARRANGEMENT

All – E-I-I-E-E-I-I-E (both banks, front to rear).

SPARK PLUGS

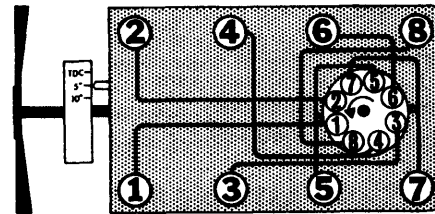
| | |
|------------|----------------|
| Gap | |
| 327" | .035" |
| 350" | .030" |
| Torque | |
| 327" | 25-30 ft. lbs. |
| 350" | 15 ft. lbs. |

Spark Plug Type

| | |
|--------------------|---------------------|
| Application | Champion No. |
| 327" | H-14Y |
| 350" | BL-13Y |

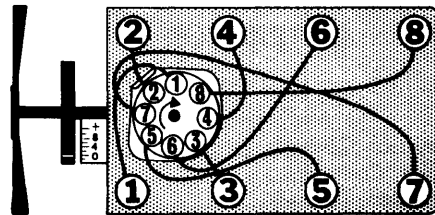
DISTRIBUTOR

| | |
|--|--------------|
| Point Gap (All) | .016" |
| Cam Angle (All)..... | 28-32° |
| Breaker Arm Spring Tension (327")..... | 17-21 ozs. |
| Breaker Arm Spring Tension (350")..... | 19-23 ozs. |
| Condenser Capacity (All)..... | .18-.23 mfd. |



8JE01

327" FIRING ORDER & TIMING MARKS



8JE02

350" FIRING ORDER & TIMING MARKS

IGNITION TIMING

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

| | |
|--------------------|---------------|
| Application | Timing |
| 327" | 5° BTDC |
| 350" | TDC |

HOT (SLOW) IDLE RPM

327" – With engine at normal operating temperature, set idle speed to specified RPM. Adjust idle mixture screws in until lightly seated, then back screws out ONE turn. Adjust idle mixture screw in or out until highest steady manifold vacuum is attained, or engine runs smoothly at maximum idle RPM. If idle speed changes more than 40 RPM during adjustment, readjust idle speed to specified RPM and repeat idle mixture adjustment.

1968 Jeep V8 Tune-Up

TUNE-UP (Cont.)

350" — With engine at normal operating temperature, all accessories OFF, air cleaner in place, automatic transmission in "P" or manual transmission in "N", set idle speed to specified RPM. Turn idle mixture screws counterclockwise until a loss of engine speed is noted, then slowly turn both screws clockwise until maximum RPM is obtained. Continue turning in until a slight loss of engine speed is noted. This will insure a "lean best idle" setting. Readjust idle speed stopscrew to specifications.

| Application | Idle Speed RPM | |
|------------------------------------|----------------|--------------|
| | Man. Trans. | Auto. Trans. |
| 327" (W/O Emission Control).... | 550 | 500 |
| 327" (W/Emission Control).... | 650-700 | 650-700 |
| 350" (All)..... | 650-700 | 650-700 |

COLD (FAST) IDLE RPM

327" (2-Bbl.) — With engine at normal operating temperature and fast idle lever on highest step of fast idle cam, adjust fast idle speed to specifications by bending tab on throttle lever.

327" (4-Bbl.) — With engine at normal operating temperature and fast idle screw resting against highest step of fast idle cam, adjust fast idle speed to specifications by turning fast idle screw.

350" — Fast idle will be correct when hot (slow) idle is correctly set. No separate adjustment is required.

| Application | Fast Idle RPM |
|--------------------|---------------|
| 327" (2-Bbl.)..... | 1800 |
| 327" (4-Bbl.)..... | 1700 |

FUEL PUMP PRESSURE & VOLUME

| Pressure | |
|------------|--------------------------|
| 327" | 4-5.5 psi |
| 350" | 5.5 psi minimum |
| Volume | |
| 327" | 1 qt. in 1 min. (idling) |
| 350" | .5 pt. in 20 strokes |

EMISSION CONTROL

See appropriate article in EMISSION CONTROL Section.

IGNITION

DISTRIBUTOR

| Application | Delco-Remy No. |
|-----------------------------------|----------------|
| 327" (W/O Emission Control) | 1111025 |
| 327" (W/Emission Control)..... | 1111130 |
| 350" (W/O Emission Control) | 1111474 |
| 350" (W/Emission Control)..... | 1111964 |

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

IGNITION COIL

| Resistance | Ohms @ 75°F |
|------------------------------------|-------------|
| Primary | |
| 327" | 1.77-2.05 |
| 350" | 1.28-1.42 |
| Secondary | |
| 327" | 6,500-9,500 |
| 350" | 7,200-9,500 |
| Ballast Resistor (350" Only) | 1.80 |

CARBURETION

CARBURETORS

Rochester Model 2GV 2-Bbl.

| Application | Carb. No. |
|-------------|-----------|
| 350" | 7028088 |

Holley Model 2209 2-Bbl.

| Application | Carb. No. |
|-----------------------------------|----------------|
| 327" (W/O Emission Control) | R3234A, R3262A |
| 327" (W/Emission Control)..... | R3601A |

Holley Model 4160 4-Bbl.

| Application | Carb. No. |
|-----------------------------------|-----------|
| 327" (W/O Emission Control) | R3394A |
| 327" (W/Emission Control)..... | R3602A |

Other Data & Specifications — See Tune-Up, Rochester and Holley Carburetors in CARBURETION Section.

THROTTLE LINKAGE ADJUSTMENT

Adjust length of accelerator rod at threaded end so that carburetor throttle valve is fully open when accelerator pedal is fully depressed and returns to hot (slow) idle position when pedal is released.

DASHPOT ADJUSTMENT

With throttle set at hot (slow) idle position, loosen lock nut on dashpot and adjust clearance between dashpot plunger and tab on throttle lever to specifications.

| Application | Clearance |
|-------------|------------------|
| 327" | $\frac{3}{32}$ " |
| 350" | $\frac{3}{32}$ " |

ELECTRICAL

BATTERY

12 Volt – Negative Ground.

| Application | Amp. Hr. Rating |
|-------------|-----------------|
| All | 60 |

STARTER

| Application | Make | Model No. |
|-------------|------------------|-----------|
| 327" | Prestolite | MDY-8101A |
| 350" | Delco-Remy | 1108380 |

Other Data & Specifications – See Prestolite and Delco Starters in ELECTRICAL Section.

ALTERNATOR

| Application | Amps. | Motorola No. |
|-------------|----------|--------------|
| 327" | 35 | A12NAM 451 |
| 350" | 35 | A12NW 528 |

Other Data & Specifications – See Motorola Alternators in ELECTRICAL Section.

ALTERNATOR REGULATOR

| Application | Motorola No. |
|-------------|--------------|
| 327" | TVR 12 W14 |
| 350" | R2K1 |

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

ENGINE

INTAKE MANIFOLD TIGHTENING

Tighten intake manifold bolts evenly to 20-25 ft. lbs.

BELT ADJUSTMENT

Tension (Lbs.) Using Strand Tension Gauge

| Application | New Belt | Used Belt |
|-------------|---------------|-----------|
| All | 110-120 | 70-80 |

FILTERS & CLEANERS

| Filter or Cleaner | Service Interval (Miles) |
|-------------------|--------------------------|
| Oil Filter | Replace 6,000 |
| Air Filter | |
| Oil Bath | Clean 2,000 |
| Dry Type | Replace 10,000 |

CAPACITIES

| Application | Quantity |
|----------------------------------|-------------------------------------|
| Cooling System (Includes Heater) | |
| 327" | 19.5 qts. |
| 350" | 15 qts. |
| Crankcase (Includes Filter) | |
| 327" | 6 qts. |
| 350" | 5 qts. |
| Transmissions | |
| 3-Speed (T-96) | 3.5 pts. |
| 3-Speed (T-90C) | 6.5 pts. |
| 3-Speed (T-85) | 2.25 pts. |
| 3-Speed T-14A, T-15A) | 2.5 pts. |
| 4-Speed (T-98A) | 6.75 pts. |
| 4-Speed (T-18) | 6.5 pts. |
| Automatic | 19 pts. |
| Transfer Case | 3.5 pts. |
| Differential | Fill to bottom of filler plug hole. |
| Fuel Tank | |
| 327" | 18.0 gals. |
| 350" | 20.0 gals. |