

## 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 CJ series vehicles, and affixed to left front lock pillar on all other models.

54 37 8 1 3 10001

- First & Second Digits - Chassis Code.
- Third & Fourth Digits - Body Style.
- Fifth Digit - Special Equipment Code.
- Sixth Digit - Drive Type.
- Seventh Digit - Engine 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% of 350" engines.

### VALVE TAPPET CLEARANCE

Hydraulic Lifters .....Zero Lash

### VALVE ARRANGEMENT

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

### SPARK PLUGS

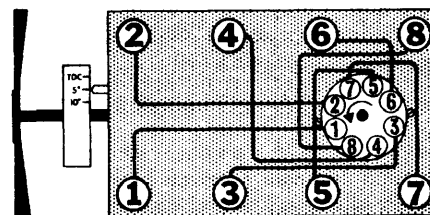
Gap  
 327" ..... .035"  
 350" ..... .030"

Torque  
 327" .....25-30 ft. lbs.  
 350" .....15 ft. lbs.

Application	Spark Plug Type	Champion No.
327"		H-14Y
350"		BL-13Y

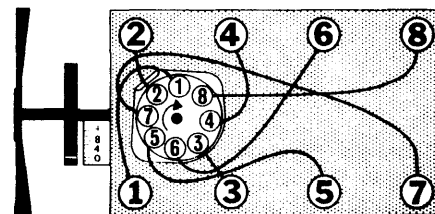
### DISTRIBUTOR

- 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.



9JE01

### 327" FIRING ORDER & TIMING MARKS



9JE02

### 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.

**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 idle mixture screws

# 1969 Jeep V8 Tune-Up

## TUNE-UP (Cont.)

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" (All).....	1111964

**Other Data & Specifications** - See 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" .....	$\frac{5}{32}$ "
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" .....	15.0 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 .....	20.0 gals.