

TUNE-UP

ENGINE IDENTIFICATION

Engine can be identified by the 4th digit of engine Build Date Code number, located on a tag attached to right side of block between No. 2 and 3 cylinders. The same code letter is also the 4th digit in the Vehicle Identification Number (VIN), located at top left corner or dashboard.

VIN Engine Code

Application	Code
4.2L (258") 2-Bbl	C

TUNE-UP NOTES

CAUTION — When performing tune-up on vehicles equipped with a catalytic converter, do not allow or create a condition of engine misfire in one or more cylinders for an extended period of time. Damage to converter from overheating may occur due to loading with unburned fuel.

NOTE — Due to production changes, always refer to Engine Tune-Up Decal in engine compartment before attempting tune-up. In the event of a conflict between specifications given in this manual and decal specifications, use the decal specifications.

ENGINE COMPRESSION

Compression Ratio	8.0:1
Compression Ratio	120-140 psi
Maximum Variation Between Cylinders	30 psi

Measure compression pressure with engine at normal operating temperature, spark plugs removed, throttle and choke valves wide open and engine at cranking speed.

VALVE CLEARANCE

Hydraulic LiftersZero Lash

VALVE ARRANGEMENT

E-I-I-E-I-E-E-I-E-I-I-E (front to rear).

SPARK PLUGS

Application	Gap (In.)	Torque (Ft. Lbs)
All Models035	7-15

Spark Plug Type

Application	Champion No.
All Models	RFN14LY

HIGH TENSION WIRE RESISTANCE

Do not puncture spark plug wires with any type of probe. Remove spark plug wire and check resistance using an ohmmeter.

Resistance (Ohms)

Wire Length	Minimum	Maximum
0-15"	3000	10,000
15-25"	4000	15,000
25-35"	6000	20,000
Over 35"	8000	25,000

DISTRIBUTOR

All models are equipped with Solid State Ignition (S.S.I.) systems and no adjustments are required.

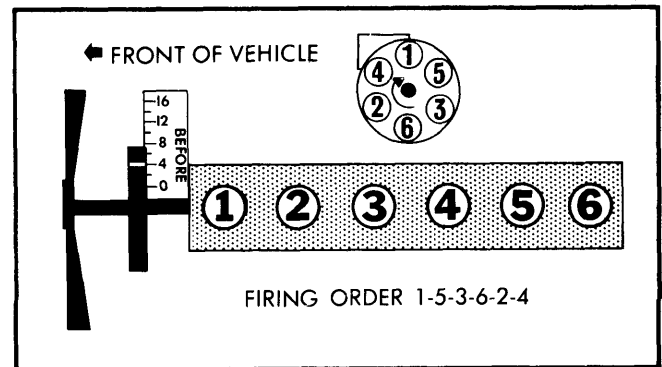


Fig. 1 Firing Order and Timing Marks

IGNITION TIMING

NOTE — Engines are equipped with a receptacle for a magnetic probe timing light, located 10° ATDC. Do not use this location to check timing with a conventional light.

1) Connect timing light using inductive pickup or adaptor. Do not puncture spark plug wire. Connect tachometer, then disconnect and plug vacuum hose at distributor.

2) Start engine and adjust idle speed to specifications. Set timing at idle by loosening distributor clamp bolt and turning distributor. Recheck timing after clamp bolt is tightened.

Ignition Timing Specifications (Degrees BTDC@RPM)

Application	Man. Trans.	Auto. Trans.
All Models		
Federal	8@650	8@550
Calif.	4@650	6@550

HOT (SLOW) IDLE RPM

1) Warm engine to normal operating temperature. Set parking brake and place automatic transmission selector in "D". Disconnect solenoid wire and electrical connection. Adjust curb idle screw to obtain correct curb idle.

2) Apply direct manifold vacuum to vacuum actuator. Adjust screw on throttle lever to set vacuum actuator RPM. Disconnect vacuum.

1981 Jeep 6 Tune-Up

TUNE-UP (Cont.)

3) Apply battery voltage to solenoid with a jumper wire. Turn on air conditioning and open throttle to allow solenoid to extend fully. Adjust hex-head screw to obtain solenoid RPM. Reconnect solenoid connector and vacuum hose.

Idle Speed Adjustment (RPM)

Application	Curb Idle	Vacuum Actuator	Solenoid Energized
Man. Trans.	650	900	750
Auto. Trans.	550	800	650

IDLE MIXTURE

NOTE — Be sure idle speed and timing are set before performing idle mixture adjustment. If mixture setting takes more than 3 minutes, run engine at 2000 RPM in neutral for one minute, then resume adjustment.

TACHOMETER (LEAN DROP) PROCEDURE

NOTE — Idle mixture adjustment is not part of a normal tune-up. DO NOT adjust mixture unless carburetor has been disassembled or vehicle fails emissions testing.

1) Remove carburetor and locate roll pins blocking idle mixture screws. Drill through throttle body on closed end of roll pin hole, then drive pins out with punch. Reinstall carburetor.

2) Warm vehicle to operating temperature and adjust idle speeds. Place automatic transmission selector in "D". Turn mixture screws in (lean) until RPM drops, then turn screw out until highest RPM is reached.

3) Turn mixture screws in until specified "Lean Drop" is obtained. Adjust both screws equally. When mixture is correctly adjusted, replace roll pin to block adjustment screws.

NOTE — If final RPM differs more than 30 RPM from specified curb idle speed, reset curb idle and repeat mixture adjustment.

Lean Drop RPM

Application	Man. Trans.	Auto. Trans.
All Models	50	50

COLD (FAST) IDLE RPM

Disconnect EGR solenoid vacuum line and plug carburetor ports. With engine running at normal operating temperature, place fast idle screw on second step of fast idle cam and against shoulder of high step. Turn screw to adjust fast idle speed.

Fast Idle Speed RPM

Application	Man. Trans.	Auto. Trans.
All Models	1700	1850

AUTOMATIC CHOKE SETTING

To adjust automatic choke, loosen coil housing retaining screws and rotate housing in direction indicated by arrows. Adjust to 1NR and tighten screws.

FUEL PUMP PRESSURE & VOLUME

Pressure (at Idle)	4.0-5.0 psi
Volume (at Idle)	1 pint in 30 seconds
Vacuum (at Idle)	10 In. Hg (Minimum)

EMISSION CONTROL

See appropriate article in EMISSION CONTROL Section.

GENERAL SERVICING

IGNITION

DISTRIBUTOR

Motorcraft Breakerless Solid State

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

IGNITION COIL

Resistance

Primary	1.13-1.23 ohms
Secondary	7700-9300 ohms
Coil Output	24 KV minimum

FUEL SYSTEMS

CARBURETORS

Application	Model
All Models	Carter BBD 2-Bbl.

Other Data & Specifications — See Tune-Up and Carter Carburetors in FUEL SYSTEMS Section.

ELECTRICAL

BATTERY

Application	Cold Cranking Amps @ 0° F	Reserve Capacity Minutes
Standard	380	75
Optional	450	90
Police	440	135

STARTER

Motorcraft..... Positive Engagement Type

Starter Specifications

Application	Volts	Amps	Test RPM
All Models	12	77	8900-9600

GENERAL SERVICING (Cont.)

Other Data & Specifications — See *Motorcraft Starters in ELECTRICAL Section.*

ALTERNATOR

Delco Solid State, Integral Regulator

Application	Rated Amp. Output
Standard	42
Optional	63, 70
Police	85

Other Data & Specifications — See *Delco Alternators in ELECTRICAL Section.*

ALTERNATOR REGULATORS

Delco Solid State, Integral With
Alternator (Non-Adjustable)

Other Data & Specifications — See *Delco Alternators in ELECTRICAL Section.*

REPLACEMENT INTERVALS

Component	Interval (Miles)
Oil Filter.....	7500
Air Filter	30,000
PCV Valve	30,000
Spark Plugs	30,000

CAPACITIES

Application	Capacity
Cooling System (Includes Heater).....	10.5 qts.
Crankcase (Includes Filter)	5 qts.
Man. Trans. (SAE 85W-90)	
SR4	3.0 pts.
T176	3.5 pts.
Auto. Trans. (Dexron)	
Refill	8.5 pts.
Overhaul	17.0 pts.
Transfer Case	
CJ Series (SAE 85W-90)	4.0 pts.
Quadra-Trac (SAE 10W-30)	4.0 pts.
All Others (SAE 10W-30)	6.0 pts.
Drive Axles	Fill to bottom of filler plug hole
Fuel Tank	
CJ Series	14.8 gals.
Cherokee & Wagoneer	20.3 gals.
Truck	19.0 gals.

BELT ADJUSTMENT

Tension (lbs.) Using Strand Tension Gauge

Application	New Belt	Used Belt
Air Pump & Pwr. Strg. ① ..	65-75.....	60-70
Serpentine (Calif.)	180-200	140-160
All Other Belts	125-155	90-115

① — 3/8" belt only.