

TUNE-UP

280 Series

ENGINE IDENTIFICATION

First six digits of engine identification number, located on tag on front left side of engine crankcase; identify engine as follows:

Engine Identification

Application	Code
280 E, CE	110.984
280 SE	110.985

COMPRESSION PRESSURE

Check compression pressure with engine at normal operating temperature and throttle valve fully open. Crank engine a minimum of eight revolutions to obtain following specifications:

Compression Pressure

Application	Pressure
Normal Pressure	130-144 psi (9-10 kg/cm ²)
Minimum Pressure	108 psi (7.5 kg/cm ²)
Maximum Variation	21 psi (1.5 kg/cm ²)

VALVE CLEARANCE

Engine Temp.	Intake	Exhaust
Cold .....	.004" (.10 mm)	.010" (.25 mm)
Warm .....	.006" (.15 mm)	.012" (.30 mm)

VALVE ARRANGEMENT

All Models
 Right Side - All Exhaust.
 Left Side - All Intake.

SPARK PLUGS

Application	Gap In. (mm)	Torque Ft. Lbs. (mkg)
All Models .....	.032 (.8)	22 (3.0)

Spark Plug Type

Application	Bosch No.	Champion No.
All Models	W9D	N12Y

HIGH TENSION WIRE RESISTANCE

Carefully remove high tension wires from spark plugs and distributor cap. Using an ohmmeter, measure resistance while gently twisting wire. If resistance is not to specifications or fluctuates from infinity to any value, replace wire(s).

Resistance (Ohms) Per Wire

Application	Ohms
All Models	25,000-30,000

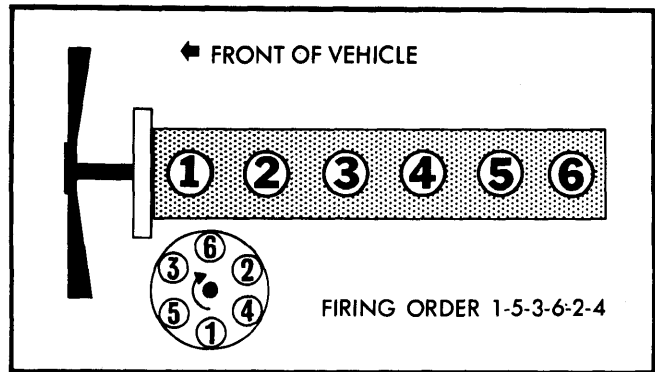


Fig. 1 Firing Order and Distributor Rotation

DISTRIBUTOR

All models are equipped with Bosch breakerless electronic ignition systems.

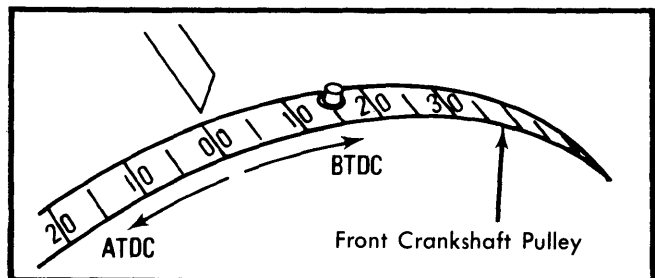


Fig. 2 280 Series Ignition Timing Marks

IGNITION TIMING

Check or adjust ignition timing with engine at normal operating temperature, idle speed set to specifications and distributor vacuum lines connected.

Ignition Timing Specifications

Application	RPM	Timing
All Models	750	10° BTDC

IDLE SPEED & MIXTURE

NOTE - Be sure spark plug gap and ignition timing are to specifications, and check air intake system for leaks. Turn off air conditioning system when making adjustment.

1) Connect tachometer and run engine until normal operating temperature is reached. Turn all accessories off.

TUNE-UP (Cont.)

2) Remove cover from diagnostic plug and connect negative lead of needle-type voltmeter to pin "3". Connect positive lead to battery voltage. Be sure throttle lever is against stop and cruise control cable is tension free. If not, adjust as necessary.

3) Check and adjust idle speed using idle air adjustment screw (on air housing near ignition distributor).

4) Disconnect plug from oxygen sensor in exhaust manifold. Note indicated value on voltmeter and mark dial with tape or ink. Reconnect oxygen sensor plug and check voltmeter reading.

5) Remove rubber plug in air cleaner top and insert Allen wrench. Press down on wrench until screw is engaged, then adjust until voltmeter needle fluctuates evenly around the mark

on voltmeter dial. Remove wrench, accelerate engine, and recheck. Adjust speed and mixture again if necessary.

Idle Speed

Application	RPM
All Models	700-800

FUEL PUMP PRESSURE & VOLUME

Pressure	72-81 psi (5.0-5.6 kg/cm ²)
Volume	1 qt. in 30 sec.

EXHAUST EMISSION SYSTEMS

See EXHAUST EMISSION SYSTEMS section.

GENERAL SERVICING

IGNITION

DISTRIBUTOR

All models are equipped with Bosch breakerless, transistorized distributors.

Other Data & Specifications - See Tune-Up article and appropriate article in DISTRIBUTORS & IGNITION SYSTEMS section.

IGNITION COIL

Coil Resistance (Ohms@68° F)

Application	Primary	Secondary
All Models .....	.38-.42	8000-11,000

FUEL SYSTEMS

FUEL INJECTION

All models are equipped with Bosch Lambda CIS fuel injection systems with oxygen sensor.

Other Data & Specifications - See Tune-Up and Bosch Lambda CIS Fuel Injection in FUEL SYSTEMS Section.

ELECTRICAL

BATTERY

Application	Amp. Hour Rating
All Models	55

Battery Location - In engine compartment.

STARTER

All models are equipped with Bosch starters.

Starter Specifications

Application	Volts	Amps	Test RPM
All Models	11.5	50-80	8300

ALTERNATOR

Application	Rated Amp. Output
All Models	55

ALTERNATOR REGULATOR

All models are equipped with Bosch electronic voltage regulators with an operating voltage of 13.0-14.5 volts.

FILTERS

Filter	Service Interval (Miles)
Oil Filter	Replace every 7500
Air Filter	Replace every 30,000
Fuel Filter	Replace every 30,000
Auto. Trans. Filter	Replace every 30,000

GENERAL SERVICING (Cont.)

BELT ADJUSTMENT

Application	⓪ Deflection
Power Steering Belt .....	.40" (10 mm)
All Other Belts .....	.20" (5 mm)

⓪ — Deflection with 12 lbs. pressure applied midway on belt run.

CAPACITIES

Application	Quantity
Crankcase (Includes Filter)	6.3 qts.
Cooling System (Includes Heater)	
280E, 280CE	10.6 qts.
280SE	11.6 qts.
Auto. Trans (Dexron)	5.6 qts.
Rear Axle (SAE 90)	2.1 pts.
Fuel Tank	
280E, 280CE	21.1 gals.
280SE	25.4 gals.