TUNE-UP

GLE
Coupe

ENGINE IDENTIFICATION

B28F engine identification number is stamped in lower left front corner of block above oil pan.

Engine Identification

Application	Code
Federal	
Man. Trans.	498-628
Auto. Trans.	498-629
Calif.	
Man. Trans.	498-630
Auto Trans	498-631

COMPRESSION PRESSURE

With engine at normal operating temperature, spark plugs removed, throttle valve wide open and cranking speed at 250-300 RPM, compression should be as follows:

Compression Pressure

Application	Pressure psi (kg/cm²)
All Models	114-156 (8-11)

VALVE CLEARANCE

1) Adjust valves with engine cold. Rotate crankshaft so No. 1 cylinder is at TDC of ignition stroke (both rocker arms for No. 1 cylinder have clearance).

NOTE – *Crank pulley has 2 notches. When No. 1 cylinder is at TDC, upper notch will align with "0" notch on timing marker and lower crank pulley notch will be 150° counterclockwise from upper notch. (Second notch is TDC for No. 6 cylinder when aligned with "0" on timing marker).*

2) Adjust valves in sequence as follows:

Intake	Exhaust
Cyl. 1	Cyl. 1
Cyl. 2	Cyl. 3
Cyl. 4	Cyl. 6

3) Rotate crankshaft 360°. This will set No. 1 cylinder at TDC of exhaust stroke (rocker arms for No. 1 cylinder indicating no clearance). Adjust valves in following sequence:

Intake	Exhaust
Cyl. 3	Cyl. 2
Cyl. 5	Cyl. 4
Cyl. 6	Cyl. 5

Valve Clearance Specifications

Application	Clearance
Intake	.008-.010" (.20-.25 mm)
Exhaust	.012-.014" (.30-.35 mm)

VALVE ARRANGEMENT①

Right Bank: E-I-E-I-E-I (front to rear).
Left Bank: I-E-I-E-I-E (front to rear).

① – Intake valves are inside the engine's "V"; exhaust valves are on outer sides of heads.

SPARK PLUGS

Application	Gap In. (mm)	Torque Ft. Lbs. (mkg)
All Models	.028 (.7)	7 (1.0)

Spark Plug Type

Application	Bosch No.
All Models	HR6DS

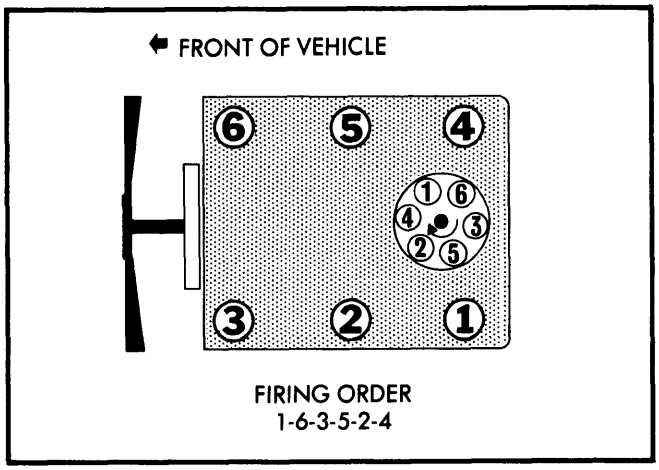

Fig. 1 Firing Order and Distributor Rotation

DISTRIBUTOR

All models are equipped with Breakerless Solid State Ignition System and no adjustments are required.

IGNITION TIMING

Connect a timing light and tachometer. Disconnect and plug distributor vacuum hose. Use idle air adjusting screw to set idle speed to specified timing RPM. Rotate distributor to set timing to specifications. Reconnect distributor vacuum hose.

TUNE-UP (Cont.)

Ignition Timing Specifications

Application	RPM	Timing
All Models	700-800	①10°BTDC

① – With distributor vacuum hose disconnected and plugged.

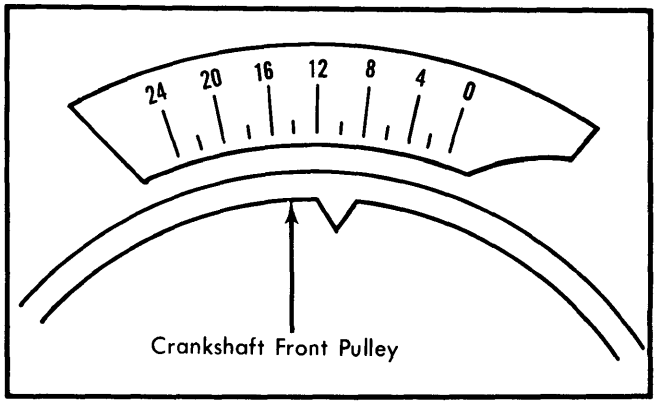

Fig. 2 Ignition Timing Mark Location

IDLE SPEED & MIXTURE

1) With engine at normal operating temperature, disconnect electrical lead from oxygen sensor. Connect a tachometer to engine.

2) Remove plugs at front exhaust pipes (1 for each cylinder bank), then insert probe from CO meter dual probe adapter (9995151) into each pipe. Check idle speed RPM. If necessary, adjust idle speed with air adjusting screw. *See Fig. 3.*

3) Set valve of dual probe adapter to center position. In this position, exhaust gases are admitted from both cylinder banks for a total CO level reading. Read CO level.

4) With CO meter and tachometer still installed, install air cleaner and connect all hoses. To adjust CO level, remove plug and copper washer from CO adjustment hole on top of mixture control unit.

5) Insert special adjusting wrench (5102) and adjust CO level to specifications. Turn tool counterclockwise to decrease CO level or clockwise to increase CO level.

NOTE – *After each adjustment, the adjusting wrench must be removed and the hole covered to prevent a lean mixture while taking CO reading.*

6) Turn all balance screws to bottom position. Unscrew balance screw "1" (5 turns) and balance screw "2" (1 turn). *See Fig. 3.*

7) Turn dual probe adapter valve toward left cylinder bank and check CO level. If left bank CO level is not within specifications, correct by adjusting balance screw "2". *See Fig. 3.*

8) Next, turn valve towards right bank and check CO level. If right bank CO level is not within specifications, correct by adjusting balance screw "1". *See Fig. 3.*

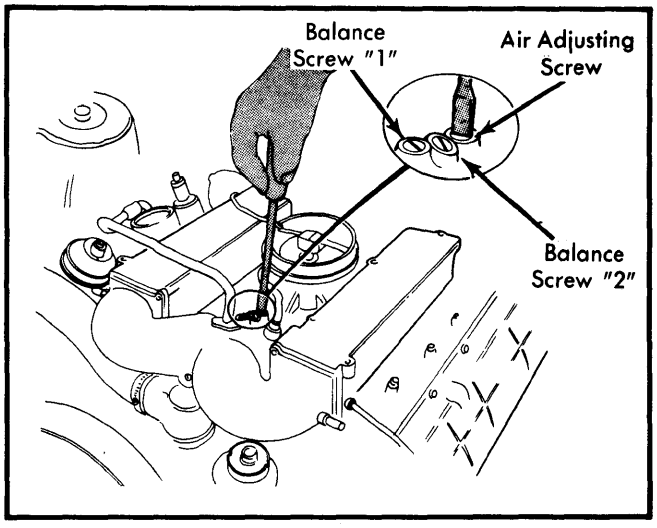

Fig. 3 Idle and Mixture Adjusting Screws

NOTE – *CO reading should be equal for both banks and correct for the total system. Also, left side intake manifold goes to right bank and right side manifold to left bank.*

9) Recheck CO level with dual probe adapter valve in center position. If necessary, repeat adjustment procedure. Reconnect electrical lead to oxygen sensor.

10) Finally, recheck idle speed RPM and correct as necessary. Remove tachometer and CO meter. Reinstall exhaust pipe plugs.

Idle Speed & CO Level

Application	RPM	CO%
All Models	900-1000	①0.7-1.3

① – With oxygen sensor connected, CO level should drop below 1.0%.

FUEL PUMP PRESSURE

Pressure ..... 64-74 psi (4.5-5.2 kg/cm²)

EXHAUST EMISSION SYSTEMS

See EXHAUST EMISSION SYSTEMS section.

GENERAL SERVICING

IGNITION

DISTRIBUTOR

All models are equipped with Bosch Breakerless Solid State Ignition System.

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

FUEL SYSTEM

FUEL INJECTION

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

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

ELECTRICAL

BATTERY

12 Volt – Negative Ground.

Application	Amp. Hr. Rating
All Models	70

Battery Location – In engine compartment on right side.

STARTER

Bosch ..... Overrunning Clutch

Starter Specifications

Application	Volts	Amps	Test RPM
All Models	11.5	30-50	5500-7500

ALTERNATOR

All models are equipped with SEV Marchal alternators.

Application	Rated Amp. Output
All Models	70

ALTERNATOR REGULATOR

All models are equipped with Bosch regulators with an operating voltage of 13.0-15.0 volts at 4000 RPM.

FILTERS

Filter	Service Interval (Miles)
Oil Filter	Replace every 7500
Air Filter	Replace every 30,000
Fuel Filter	Replace ever 15,000
Fuel Tank Filter	Replace every 60,000

BELT ADJUSTMENT

Application	①Deflection
All Belts	.2-.4" (5-10 mm)

① – Deflection is measured with thumb pressure applied at midpoint of longest belt run.

CAPACITIES

Application	Quantity
Crankcase (Includes Filter)	6.9 qts.
Cooling System (Includes Heater)	11.5 qts.
Man. Trans. with Overdrive (ATF Type F)	2.4 qts.
Auto. Trans. (ATF Type F)	7.3 qts.
Rear Axle (SAE 90)	1.7 qts.
Fuel Tank	15.8 gals.