1974-79 DISTRIBUTORS & IGNITION SYSTEMS
Bosch Single Breaker Point Distributors

Audi: 1974-78 All Models, 1979 Fox
BMW: 1974-78 All Models, 1979 320i
Ford Motor Co: 1974 Capri
Mercedes-Benz: 1974-78 All Models
Opel: 1974 All Models
Porsche: 1974-78 All Models
Saab: 1974-78 All Models
Volkswagen: All Except 1979 Type 2 (Calif.)
Volvo: 1974-78 All Models

DESCRIPTION

A single breaker distributor with centrifugal and vacuum advance and/or vacuum retard unit is used. Vacuum units may be single or dual diaphragm and are linked to the moveable portion of breaker plate assembly to advance or retard spark. Some distributors may use a dual diaphragm unit to provide retard only (vacuum advance side not used.)

ENGINE SPEED GOVERNOR

1974-77 Models - Distributors may use a specially designed rotor which also functions as a governor. When engine speed for which rotor is calibrated is exceeded, a centrifugal weight in rotor shifts position to ground ignition circuit.

TRIGGERING CONTACTS

1974-77 Models - Distributors used on engines with electronically controlled fuel injection, have triggering contacts which provide electronic control unit with information concerning engine speed. These contacts (mounted on an insert), are located below the centrifugal advance mechanism and actuated by a cam on distributor shaft. To remove insert with triggering contacts, remove both retaining screws and pull insert straight out.

SPECIFICATIONS

POINT GAP & DWELL ANGLE

See appropriate article in TUNE-UP PROCEDURES section.

CENTRIFUGAL & VACUUM ADVANCE

See appropriate DISTRIBUTOR ADVANCE SPECIFICATIONS table in this section.

ADJUSTMENTS

POINT GAP & DWELL ANGLE

1) With rubbing block on high point of cam lobe, insert a feeler gauge blade between contacts. Check reading against specification. To correct, loosen lock screw and move stationary contact point until correct gap is obtained.
2) Tighten lock screw. *See Fig. 1.* If necessary, align points by bending stationary contact support only. Check cam angle with a dwell meter. Compare indicated reading with specification and correct if necessary.

BREAKER ARM SPRING TENSION

To check spring tension, place hook end of spring scale as close as possible to movable breaker point. Pull scale at a right angle (90 degrees) to movable arm. Check reading just as points begin to open.

CENTRIFUGAL ADVANCE

1) Check distributor in test stand according to test equipment manufacturer's instructions. Operate distributor up and down RPM range. Check advance at all RPM settings specified. Adjust or replace springs, weights or cam as necessary.

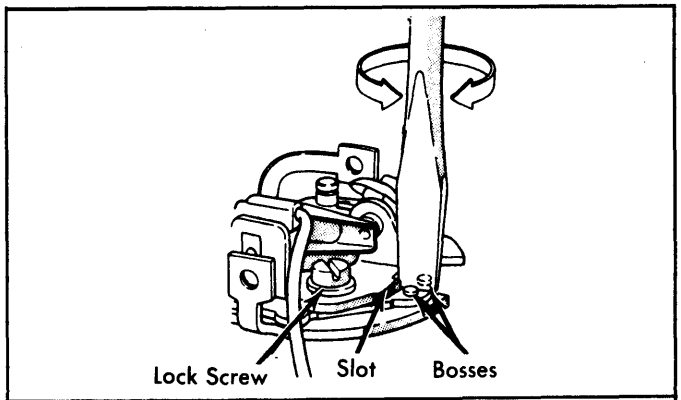

Fig. 1: Adjusting Contact Points

NOTE: Centrifugal curve must not be adjusted by bending spring clamps of driving collar.

2) If distributor has an adjustable driving collar for centrifugal advance, disassemble and lift shaft out. It is not necessary to remove breaker cam assembly from shaft. To adjust, loosen screws retaining driving collar. If collar is turned in direction of rotation, advance curve rises. Turning collar in opposite direction of rotation lowers advance curve.
3) If distributor does not have adjustable driving collar, adjustment may be made by bending spring anchor tabs to modify spring tension. *See Fig. 2.* To adjust for low speed operation, bend primary spring anchor tab outward to decrease advance, and inward to increase advance. For high speed operation, bend secondary spring anchor tab in or out to obtain specified settings.

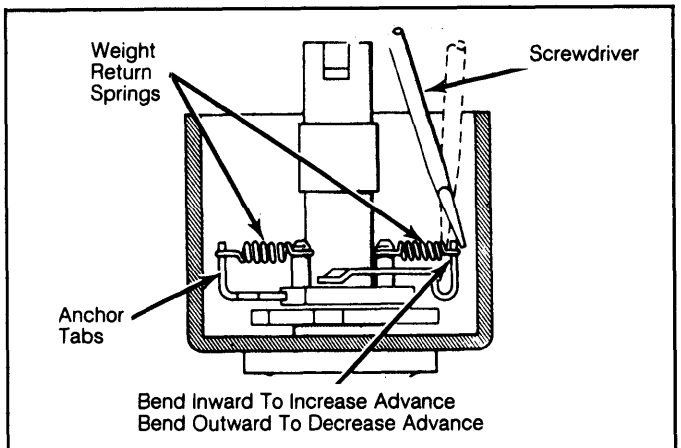

Fig. 2: Centrifugal Advance Adjustment (Spring Anchor Tabs)

VACUUM ADVANCE

1) With distributor in test stand, check advance at vacuum settings shown in specifications. See appropriate DISTRIBUTOR ADVANCE SPECIFICATIONS table in this section. Replace vacuum unit if tests indicate vacuum diaphragm unit is inoperative, out of calibration, or leaking.
2) Most types of vacuum diaphragm units are factory pre-set and cannot be adjusted. However, on some dual diaphragm vacuum units, vacuum advance may be increased or decreased by turning an Allen screw located on end of diaphragm unit.

VACUUM RETARD

1) With distributor in test stand, check retard at vacuum settings shown in specifications. See appropriate DISTRIBUTOR ADVANCE SPECIFICATIONS table in this section. Replace vacuum unit if tests indicate vacuum diaphragm unit is inoperative, out of calibration, or leaking.

Bosch Single Breaker Point Distributors (Cont.)

2) Most types of vacuum diaphragm units are factory pre-set and cannot be adjusted. However, on some dual diaphragm units, maximum vacuum retard setting may be raised or lowered by turning an eccentric, located at side of vacuum unit.

OVERHAUL

NOTE: Mark all parts for reassembly reference. Keep screws with the component they attach, as screws are different lengths and damage could occur if installed in wrong position.

DISASSEMBLY

1) Disconnect and remove vacuum unit. Remove breaker points and condenser. Remove breaker assembly. Note positioning of centrifugal advance parts and mark for assembly reference.
2) Disconnect and remove centrifugal advance springs (do not distort). Carefully pry upward on the lower edge of breaker cam to disengage cam retaining ring. Lift cam, washer, retaining ring and lubricating felt pad from shaft. Remove advance weights.
3) Drive out retaining pin. Remove coupling (or gear) from end of distributor shaft. Remove shaft from distributor housing.

NOTE: Before removing coupling (if equipped), note relationship of coupling end. Mark position of coupling on end of shaft for reassembly reference.

REASSEMBLY

Install centrifugal weights and breaker cam on distributor shaft. Install advance springs. Secure breaker cam with washer and retaining ring. Install lubricating felt pad. Install shaft in distributor housing. Complete reassembly by reversing disassembly procedure.

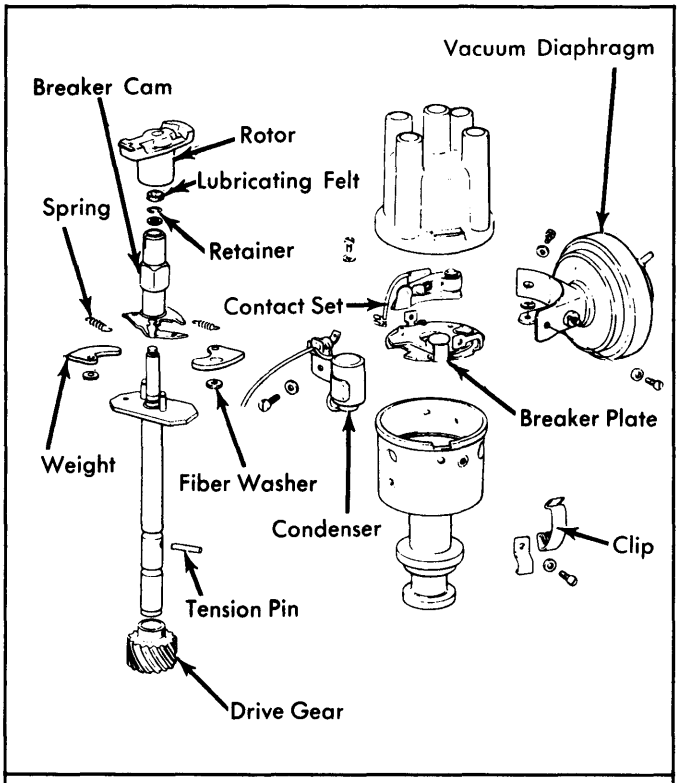

Fig. 3: Exploded View of Bosch Distributor