

Distributors & Ignition Systems

BOSCH SINGLE BREAKER DISTRIBUTOR

Volkswagen Vanagon (Federal)

DESCRIPTION

Vanagon Federal models are equipped with a conventional, single breaker distributor, with centrifugal advance and vacuum advance and/or retard unit.

Vacuum units may be single or dual diaphragm, and are linked to the movable portion of the breaker plate assembly to advance or retard spark.

NOTE: Some distributors may use a dual diaphragm unit to provide retard only (vacuum advance side not used).

SPECIFICATIONS

POINT GAP & CAM ANGLE

Set distributor point gap, so dwell is 44-50°. Dwell wear limit is 42-58°.

CENTRIFUGAL & VACUUM ADVANCE (OR RETARD)

See the appropriate Distributor Specifications Table in this section.

ADJUSTMENT

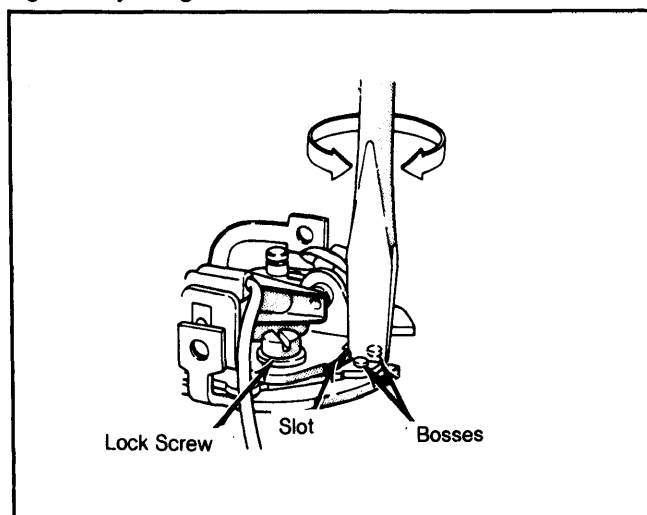
POINT GAP, ALIGNMENT, & DWELL

1) With rubbing block on high point of cam lobe, insert a feeler gauge blade between contacts. Check reading against specification.

2) To correct, loosen retaining screw. Place screwdriver between bosses so it engages slot. Turn it to move stationary contact point. When correct gap is obtained, then tighten screw.

3) Align points if necessary by bending stationary contact support only. Check cam angle with a dwell meter. Compare indicated reading with specification, and correct if necessary.

Fig. 1: Adjusting Contact Points



Use screwdriver to move stationary contact point.

BREAKER ARM SPRING TENSION

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

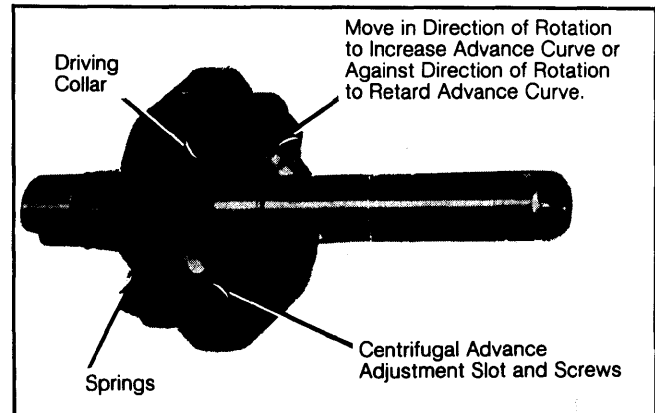
CENTRIFUGAL ADVANCE

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

2) If distributor has adjustable driving collar for centrifugal advance, disassemble, and lift out shaft. See Fig. 2. It is not necessary to remove breaker cam assembly from shaft.

3) To adjust, loosen screws retaining driving collar. If collar is turned in direction of rotation, the advance curve rises. Turning collar in opposite direction of rotation will lower the curve.

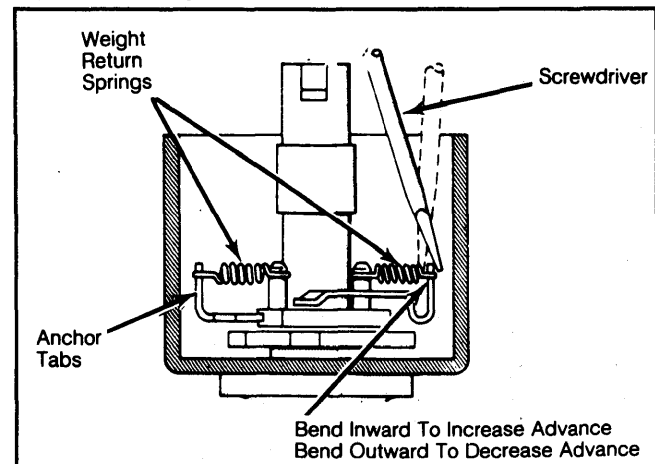
Fig. 2: Centrifugal Advance Adjustment



To adjust, turn driving collar in appropriate direction.

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

Fig. 3: Centrifugal Advance Adjustment



Modify spring tension by bending spring anchor tabs.

BOSCH SINGLE BREAKER DISTRIBUTOR (Cont.)

4) If distributor does not have adjustable driving collar, adjustment may be made by bending spring anchor tabs to modify spring tension. See Fig. 3.

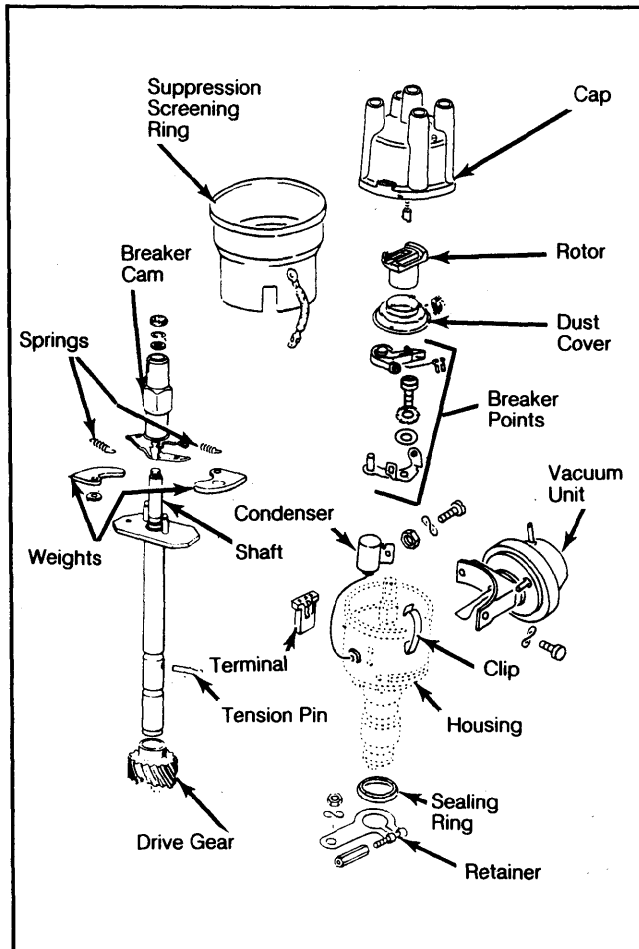
5) To adjust for low speed operation, bend primary spring anchor tab outward to decrease advance, and inward to increase advance. For high speed operation, bend secondary spring anchor tab in or out to obtain specified settings.

VACUUM ADVANCE

1) With distributor in test stand, check advance at vacuum settings shown in specifications. If tests indicate vacuum diaphragm unit is inoperative, out of calibration, or leaking, replace vacuum unit.

2) Most types of vacuum diaphragm units are factory pre-set, and cannot be adjusted. However, on some dual diaphragm vacuum units, the vacuum advance may be increased or decreased by turning an Allen screw located in the end of diaphragm unit.

Fig. 4: Disassembled View of Bosch Distributor



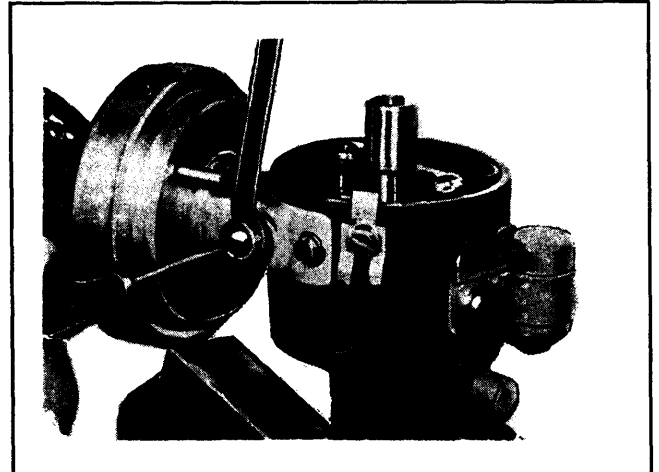
VACUUM RETARD

1) With distributor in test stand, check retard at vacuum settings shown in specifications. If tests indicate vacuum diaphragm unit is inoperative, out of calibration, or leaking, replace vacuum unit.

2) Most types of vacuum diaphragm units are factory pre-set, and cannot be adjusted. However, on

some dual diaphragm units, the maximum vacuum retard setting may be raised or lowered if necessary by turning an eccentric, located at side of vacuum unit. See Fig. 5.

Fig. 5: Adjusting Maximum Vacuum Retard



Turning eccentric adjusts retard setting.

OVERHAUL

NOTE: All parts should be marked or set aside separately or in groups, so that same combination can be reinstalled. Keep screws with the component that they attach, as screws are different lengths. Damage could occur if installed in wrong position.

DISASSEMBLY

1) Disconnect and remove vacuum unit. Remove breaker points and condenser. Remove breaker assembly. Note position of centrifugal advance parts, and mark them for reassembly reference. Disconnect and remove centrifugal advance springs (do not distort).

2) Using 2 screwdrivers, 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, then remove advance weights.

3) Drive out retaining pin. Remove coupling (or gear) from end of distributor shaft. Remove shaft from distributor housing.

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.