Motorcraft Dual Breaker Point Distributors

1974 Pantera

DESCRIPTION

Distributor is of conventional centrifugal and vacuum advance design, using adjustable vacuum advance control unit and a pivoted type breaker plate mounted on a stationary sub-plate. Breaker plate is linked directly to vacuum advance unit and centrifugal advance is provided by governor type weights mounted below stationary sub-plate. Both pivot and pivotless type contact point assemblies are used.

Single and double diaphragm vacuum units use same centrifugal advance mechanism. On double diaphragm units, outer diaphragm utilizes carburetor vacuum to advance ignition timing. Inner diaphragm is actuated by intake manifold vacuum to provide additional ignition timing retard during closed throttle deceleration and idle.

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

Align points for full face contact by bending stationary contact bracket. DO NOT bend breaker arm. On new points, insert a feeler gauge between points with rubbing block on high point of cam lobe. On used points, set point gap by checking cam angle since roughness of points will not allow accurate reading with feeler gauge. Adjust by loosening stationary contact lock screw.

BREAKER ARM SPRING TENSION

Check tension with spring scale hooked over movable contact and pulled at right angle to contact. Note reading as points just start to separate. On pivotless type points, no adjustment is possible (replace breaker point assembly). On pivoted type points, adjust spring tension by loosening contact spring nut and moving spring as necessary.

CENTRIFUGAL ADVANCE

Dual Advance Distributors - **1)** With distributor mounted on test stand, check advance, at first (lowest) RPM setting shown in table. If advance reading not within specifications, adjust by bending one adjusting bracket. Bend adjusting bracket away from distributor shaft to decrease advance or toward shaft to increase advance.
2) With this adjustment correct, test advance at speed just below the maximum RPM setting. If advance is not within specifications, bend the other adjusting bracket to obtain correct advance. As a final check, test distributor over full range of specified speeds.

VACUUM ADVANCE

Single Or Dual Diaphragm Distributors - **1)** With centrifugal advance correctly adjusted, connect a vacuum line to diaphragm. Adjust tester vacuum to zero, and zero advance at 1000 RPM. Check advance at first vacuum setting given in specifications table.
2) If advance is incorrect, turn Allen head screw (accessible through vacuum advance tube) clockwise to increase vacuum advance or counterclockwise to decrease advance.
3) Check vacuum advance at other specified vacuum settings, but do not change original RPM setting. If other readings are not within limits, there is incorrect spring tension, leakage in vacuum chamber or line.

VACUUM RETARD

Dual Diaphragm Distributors - Check vacuum retard at curb idle RPM with manifold vacuum line connected to inner fitting of vacuum diaphragm. A 6 degree or 12 degree retard should be observed.

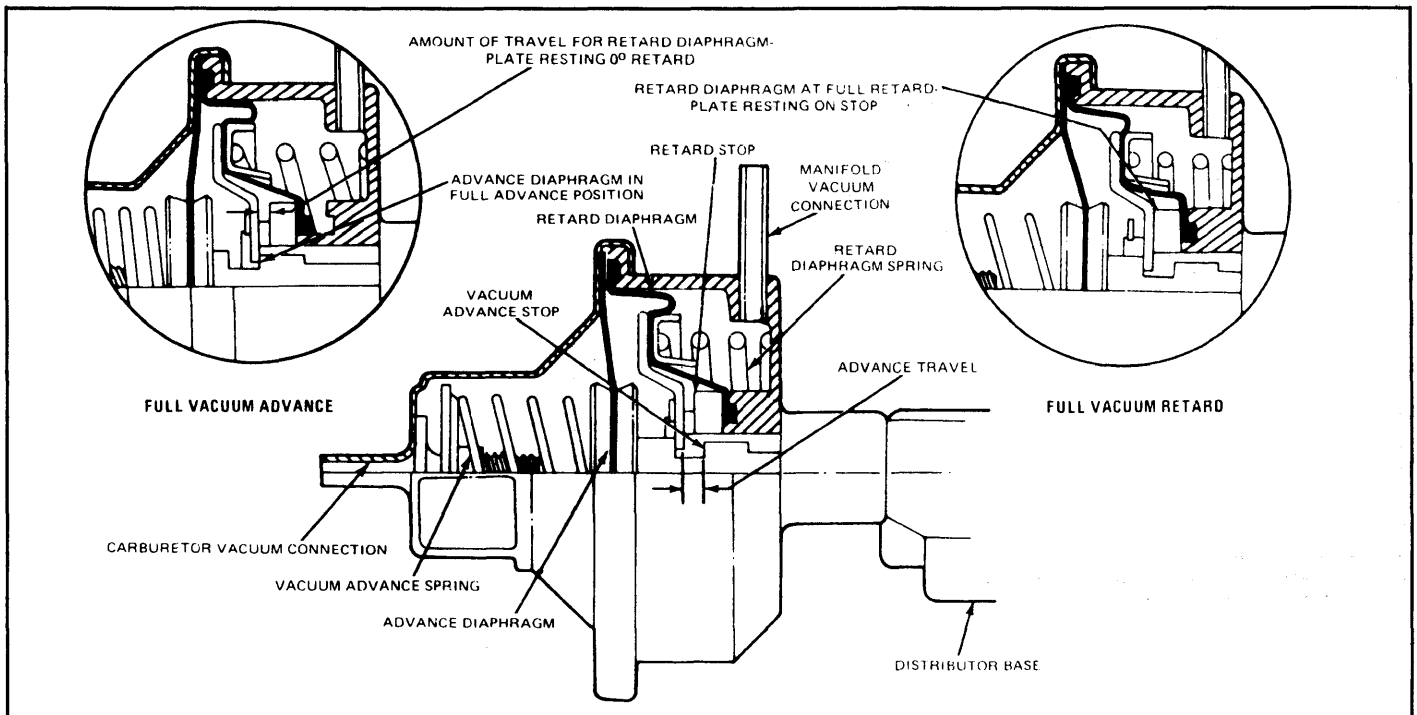

Fig. 1: Dual Diaphragm Vacuum Advance Mechanism

Motorcraft Dual Breaker Point Distributors (Cont.)

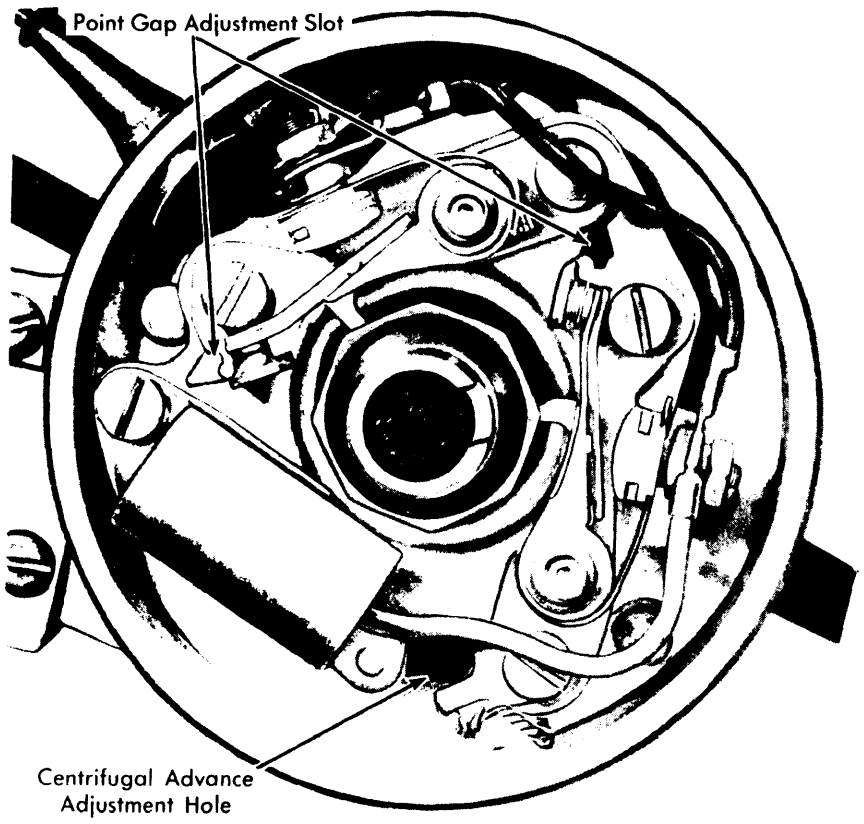

Fig. 2: Dual Point Distributor Adjustment Locations

OVERHAUL

DISASSEMBLY

1) Remove rotor. Disconnect primary and condenser wires at breaker point assembly terminal. Remove breaker point assembly and condenser. Disconnect vacuum diaphragm link from breaker plate. Remove vacuum diaphragm mounting screws and slide vacuum diaphragm out.
2) Working from inside distributor housing, pull primary lead through opening in distributor. Remove spring clip, flat washer, and spring washer securing breaker plate to sub-plate. Remove sub-plate retaining screws and lift both plates out.
3) Mark one advance weight, pivot pin, weight spring, and bracket for reassembly reference. Remove weight springs. Lift lubricating wick from cam assembly. Remove retainer and lift cam assembly off distributor shaft. Remove thrust washer. Remove advance weight retainer and lift weights out. Remove distributor cap clamps.

INSPECTION

Inspect all parts for damage or wear and replace as necessary. Check distributor shaft for wear at the bushing. Distributor shaft end play should be .024-.035" (0.6-0.8 mm). Drive gear distance should be 4.031-4.038" (mm) as measured from bottom of mounting flange to bottom of gear.

REASSEMBLY

1) Position advance weights in distributor and install retainers. Place thrust washer on shaft. Fill grooves in upper portion of distributor shaft with cam lubricant.
2) Install cam assembly. Be sure marked spring bracket on cam assembly is near marked spring bracket on stop plate. With a new cam assembly, be sure the cam is installed with Hypalon covered stop in the correct cam plate control slot.

NOTE: Some distributor stops will not be covered with Hypalon. The centrifugal advance range determines whether or not a Hypalon cover is required.

3) To check advance range, measure length of slot used on old cam and compare with corresponding slot on new cam. Some cams will have the size of slot in degrees stamped near slot. If wrong slot is used, an incorrect maximum advance will be obtained.
4) Install cam assembly retainer and wick. Oil wick with SAE-10W oil. Install weight springs. Install breaker plate assembly and sub-plate screws with ground wire under one of screws. Install primary wire, breaker points, and condenser.
5) Install diaphragm unit, hook link in position, and install spring clip. Tighten diaphragm retaining screws. Adjust breaker point gap or dwell as required, and calibrate centrifugal advance mechanism.

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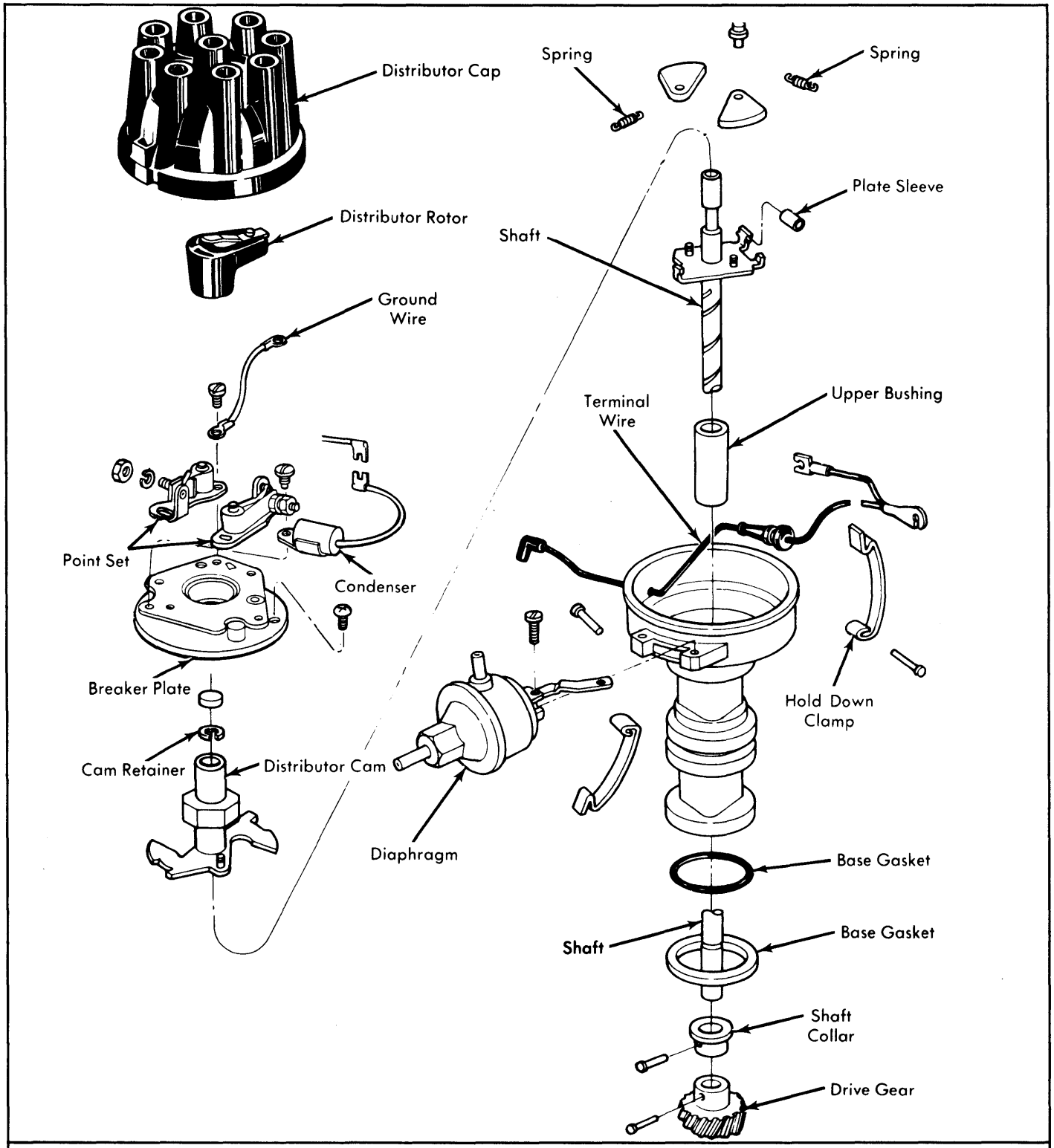

Fig. 3: Motorcraft Dual Point Distributor