

D. Measurement and Adjustment of Distributor Contact Gaps

After adjusting the contacts, the ignition should always be re-set because an alteration of 0.1 mm in the contact gap corresponds to a movement of the ignition crankshaft setting of approx. 3°.

Measurement can be made either

- a) with a feeler gage or
- b) with the Closure Angle Meter 000 589 12 21 or with any suitable closure angle meter.

Measurement with the feeler gage:

1. Remove distributor cap and rotor.
2. Use Socket SW 22 with ratchet on shoulder nut of crankshaft to turn crankshaft until one of the cams on the distributor shaft lifts the moving contact at all points. The moving contact should not be lifted with the finger!
3. Measure contact gap with feeler gage. **The contact gap should be 0.4—0.5 mm.**

Should existing instructions specify a contact gap of 0.30—0.40 mm, these should be rectified. In 4 cylinder — as opposed to 6 cylinder — engines, a greater contact gap is permissible.

A true measurement can only be made with the feeler gage if the contacts are new or smooth and even. Moreover, the distributor drive shaft must not have too much radial play.

After only a short period of running, a crater is formed on the moving contact and a cone on the stationary one; this is caused by the continual arcing due to the shifting of the actual point of contact. At this stage, accurate measurement cannot be made with the feeler gage (Fig. 01—3/21).

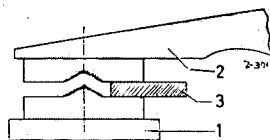


Fig. 01—3/21

- 1 Stationary contact
- 2 Moving contact
- 3 Feeler gage

The checking of the contact gap with the feeler gage should be made at a point beside the cone or the crater.

This shifting of the point of contact does not adversely affect the working of the distributor. The contact gap remains practically unchanged, despite the formation of cone and crater. It is therefore unnecessary to replace or grind the points before the ignition is noticed to be adversely affected.

Note: When measuring with the feeler gage, the distributor shaft must not be pressed against the contact breaker points.

Measurement with the closure angle meter:

Measurement with the closure angle meter is much more accurate and is preferable in all cases — particularly in view of the fact that it enables the test to be made with the engine running. Faults caused by excessive distributor shaft play or a loose base plate are detected by this method.

1. Connect up meter in accordance with the makers' instructions.
2. The angle of closure should be 46°—52° when the engine is running at idling speed and 44°—52° at an engine speed of 1500 to 4500 r. p. m.

When measurements are being made, care must be taken to ensure that the angle of closure does not vary by more than 3° between the idle engine speed and an engine speed of 4500 r. p. m. Discrepancies in excess of this indicate that there is too much radial play in the drive shaft, that the base plate has worked loose or that there is some other fault in the distributor.

If the angle of closure is too small, the contact gap is too large. If the angle of closure is too large, the gap is too small.

After adjustment of the closure angle — by altering the contact gap — the contact gap must once more be checked with the feeler gage.

Both the angle of closure and the contact gap must lie within the specified tolerances!

If, after the angle of closure has been correctly adjusted, the contact gap is smaller than 0.3 mm, the points must be replaced. If, despite replacement of the points, the contact gap is still too small, even though the angle of closure is correct, the distributor must be replaced.

Under no circumstances must the angle of closure be corrected by reducing the contact gap below the specified value.

Testing contacts:

If faulty ignition is caused by excessive burning of the contact breaker points, the point holders and contact breaker arm must always be replaced (see Job No. 15—23, Section C).

Grinding the points on an oil stone should only be undertaken in an emergency when no new parts are available.

The specified value of 400—500 g must be adhered to for the spring pressure of the contact breaker arm — otherwise the points may "flutter" at fairly high engine speeds and faulty ignition will result.

The test can be made with a spring pressure gage (Fig. 01—3/22).



Fig. 01—3/22

Adjustment of the contacts:

Slacken set screw on stationary contact and turn eccentric adjustment screw either to the right or to the left as required. Tighten set screw after adjustment.

After adjusting the contacts, the ignition should always be re-set because an alteration of 1.0 mm in the contact gap corresponds to a movement of the ignition crankshaft setting of approx. 3°.