Revision: Revised and tester connections added.

A. Measurement of Timing Angle

1 Measure timing angle at starting or idling speed.

For adjustment and test values of timing angle refer to Job. No. 00-0.

With normal coil ignition, do not adjust timing angle of used contact points.

In a transistorized ignition system; the timing angle of the used contact points may be adjusted.

When the timing angle of a normal coil ignition is at its lower test value, renew contact breakers (refer to section B).

2 Measure change of timing angle between idle speed and 3000/min, max. change $\pm 3^{o}$.

Caution! On engines with transistorized coil ignition, speed and timing angle cannot always be measured in the usual manner.

Depending on type of tester used, connection must be made at different points of ignition system. Below are the required instructions for the most commonly used testers.

The connection between ignition distributor and switchgear is made by means of a cable connector. To avoid interference, this cable connector is installed in several models below battery bracket and somewhat hard to reach. For this reason, an additional blind angular cable shoe has been attached to cable connector for connection of testers. Where this angular cable shoe is not yet in place, remove battery to establish connection.

Tester Connections for Germanium-Transistorized Coil Ignition Systems

Identification of Germanium-Transistorized Coil Ignition System : Cable of terminal 1 of ignition coil (color brown) connected to ground.

SUN-testers without changeover device for Transistorized Coil Ignition Systems

	Ge-switchgear (flat plug connection)	
Speed-timing angle tester TDT 5, 6, 12, 216	Red clip to	Black clip to
	Series resistance output 0.4 Ω (two cable outputs at output)	Series resistance input 0.6 Ω (resistance between switchgear and ignition coil)
Emission-speed-timing angle tester CVT 260	Blue clip to cable connector terminal 7	Tester to battery as usual
Engine-tester QDT 83, EET 745, 820 EDET 1020	Cable connector terminal 7	Ground
	High-voltage-trigger on cylinder 1 (speed impulse pickup at secondary end)	

SUN-tester with changeover device for Transistorized Coil Ignition Systems

Speed-timing angle tester TDT 12 DB Engine tester QDT 83, SMT 89, EET 745, 820, 1130, EDET 1020	Ignition coil terminal 15	Ignition coil terminal 1

Bosch-testers

Mini-tester EFAW 226	Ignition coil terminal 15	Ignition coil terminal 1
Speed-timing angle tester 166 C	Green clip to ignition coil terminal 15	Black clip to ignition coil terminal 1

Removal

1 Remove distributor cover, distributor rotor and dust cover.

2 Remove contact carrier (5).

For this purpose, unscrew cheese head screws (4 and 11) and remove angle bracket (9). Loosen nuts of terminal 1 and pull out cable shoe (7) (Fig. 00-6/1).

Remove circlip on bearing bolt of contact breaker lever and take out contact carrier together with contact breaker lever.

On ignition distributors with protective casing (1), remove protective casing (Fig. 00-6/3).

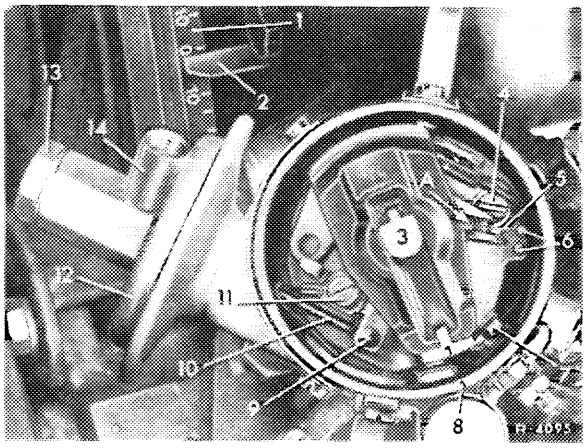

Fig. 00-6/1 R-4095

A Contact breaker set (contact closed)
1 TDC mark or graduation on counterweight of crankshaft
2 Pointer for graduation on crankshaft
3 Ignition distributor rotor
4 Cheese head screw for attaching contact carrier
5 Contact carrier with adjusting slot
6 Bosses on contact breaker plate
7 Cable of contact breaker lever
8 Mark for cylinder 1 on ignition distributor housing
9 Mounting bracket with bolt on contact breaker plate
10 Pullrod for vacuum adjustment (adjustments for entire adjusting range)
11 Cheese head screw for attaching angle bracket and grounding cable on contact breaker plate
12 Vacuum adjuster
13 Closing plug
14 Connection for vacuum line

Installation

3 For installation proceed vice versa.

Note: Rub contacts prior to installation with a non-fibrous cloth to remove moisture (condensate) or grease.

To avoid major wear of slide pieces, coat slide piece of contact breaker lever lightly with Bosch special grease Ft 1v4. Remove all other grease residue from ignition distributor (Fig. 00-6/2).

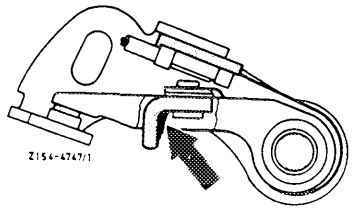

Fig. 00-6/2

On vehicles manufactured since January 1970 the felt in the distributor shaft is no longer lubricated.

On vehicles manufactured earlier, provide felt in distributor shaft with 2 drops of oil.

Caution! Keep contacts absolutely free of oil and grease.

When installing a new contact breaker set, also make sure that the contacts are in parallel and at the same level in relation to each other when closed, i. e., surfaces should be completely in contact with each other.

4 Adjust contact gap as follows: Rotate distributor shaft until contact breaker lever is on highest point of a cam. For adjustment, loosen cheese head screw (4), hold a screwdriver into adjusting slot (5) and in-between the two bosses (6) and then push contact carrier carefully from or toward distributor shaft until a distance of approx. 0.3 mm or 0.4 mm is established. Tighten cheese head screw (4) (Fig. 00-6/1).

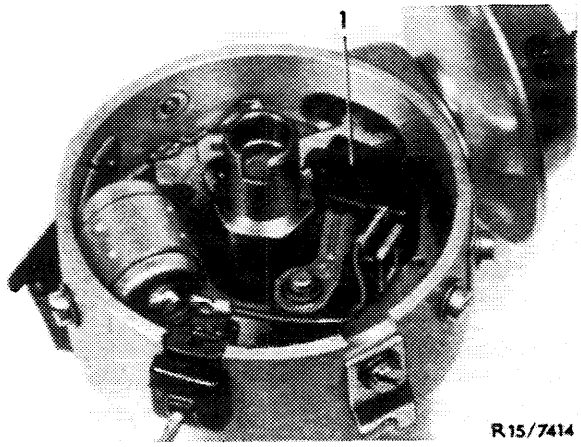

Fig. 00-6/3

1 Protective casing

5 Measure timing angle (refer to section A).

6 Correct timing angle. For this purpose, repeat measuring steps according to section A and adjustments according to section B, item 4, until timing angle is correct.

When timing angle is too small, reduce contact gap. When timing angle is too large, increase contact gap. For timing angle adjusting value refer to Job No. 00-0.

On ignition distributors with protective casing (1), attach protective casing. Make sure that casing is correctly engaged and is not wiping against ignition distributor shaft (Fig. 00-6/3).