

Revision: Revised.

Ignition Timing

1 After measuring timing angle (refer to Job No. 00-6), adjust firing point by means of stroboscope at a given speed to specified value (refer to ignition timing-adjustment of firing point Job No. 00-0).

For this purpose, connect revolution counter and stroboscope for measuring firing point to cylinder 1 and pull off or leave hose for vacuum adjustment connected (refer to Table Job No. 00-0).

**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 varying points of ignition system (refer to Job No. 00-6).

housing prior to applying stroboscope to eliminate any changeover of vacuum adjustment from retard to advance while timing.

On ignition distributors with vacuum-double box, check compensating bore at advance end of vacuum double box for unobstructed passage. Do not open or enlarge bore with a hard tool.

Following adjustment, put back cable plug and check vacuum ignition changeover from retard to advance. For this purpose, connect 100° C temperature switch on thermostat housing to ground. Speed should increase.

2 Run engine to specified speed, read firing point on balancing disc or on vibration damper by means of stroboscope (Fig. 00-7/2 and 3). If required, turn ignition distributor until specified value is attained. For adjusting value, refer to Job No. 00-0.

USA Version

On USA version vehicles, additionally pull off cable plug on 100° C temperature switch in thermostat

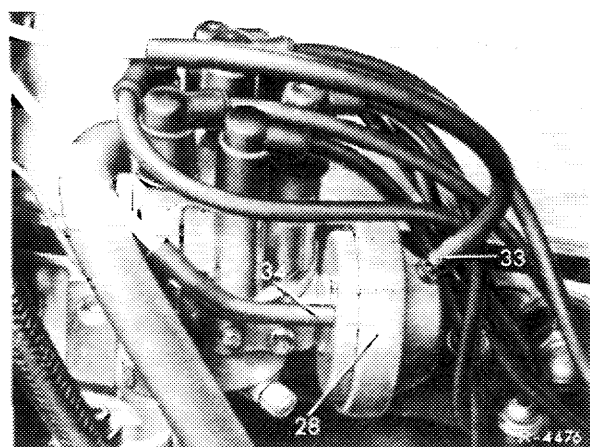


Fig. 00-7/1

28 Vacuum double box  
33 Vacuum connection (advance)

34 Vacuum connection (retard)

Fuel of Low Octane Rating

When engines with standard compression are operated with fuel below 98 RON (min. 88 MON), and engines with low compression with fuel below 91 RON (min. 83 MON), adjust firing point in direction of retard and match to octane rating of fuel used.

Reference value for adjustment: Set firing point back by approx. 1-2° crankshaft for each 1 RON.

However, retard firing point only by max. 6° crankshaft.

Caution! Retarding the firing point should be considered an "emergency measure", since loss of output and increased fuel consumption will result. In addition, the engine should not be put under full load.

As soon as fuel of specified octane rating is again available, return to full advanced ignition.

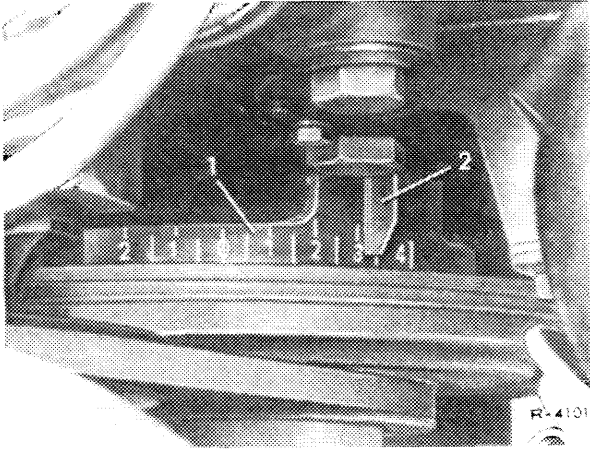


Fig. 00-7/2

1 TDC mark and graduation on balancing disc  
2 Pointer 9 mm wide

Note: For a while, the balancing disc of the 6-cylinder engines had two graduations.

The front graduation (in driving direction) belongs to pointer of version used up to now (refer to Fig. 00-7/2).

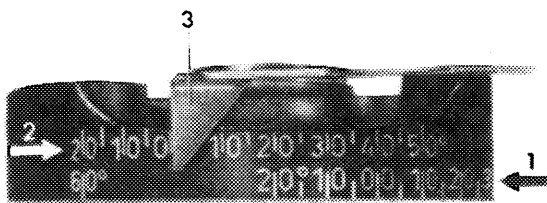


Fig. 00-7/3

Balancing disc with two graduations and long pointer of triangular shape

1 Front graduation  
2 Rear graduation  
3 Pointer (triangular)

The rear graduation (offset by  $40^{\circ}$  seen opposite to direction of rotation of crankshaft) belongs to pointer of the new version of triangular shape (refer to Fig. 00-7/3).

The new graduation and the new pointer were introduced for better reading of graduation for engines with level pump and are now used on all 6-cylinder engines.

Due to the new version, the stroboscope lamp must be held steeper.

When in doubt as to which of the two graduations should be read, the following easy check will help: Rotate crankshaft until ignition distributor rotor points to mark for cylinder 1 on ignition distributor housing and the mark of disc behind camshaft gear points toward mark on 1st camshaft bearing; in this position, the pointer is at TDC of the correct graduation.

3 In the event of complaints, check centrifugal adjustment by measuring at idle, at 1500 and 3000/min. On ignition distributors with advanced adjustment, measure total adjustment at 4500/min without and with vacuum (refer to section 4).

On ignition distributors with retard adjustment, measure firing point also at idle with vacuum without load. Engines in USA version are excepted.

4 Check vacuum adjusting range in direction of advance.

For this purpose, measure adjusting range of ignition distributor without load at 4500/min without and with vacuum (for values refer to Job No. 00-0).

5 Check vacuum adjusting range in direction retard.

Retard adjustment is effective only when throttle valve rests against idle stop and a vacuum of at least 300 mm Hg prevails.

6 If in spite of correct adjustment there are deviations from the reference values shown in Tables, check ignition distributor for faults such as worn slide pieces, excessive radial play of distributor shaft or a loose base plate etc. Any faults should then be repaired or ignition distributor renewed, if required.