

H. Re-balancing a New Flywheel

A new flywheel can either be balanced together with the crankshaft and the fitted counterweight (see Job No. 03—5, Section G) or alternatively it can be balanced separately, in which case the new flywheel must be made to have the same degree of unbalance as the old one. Since the flywheel is for all practical purposes a disk, static balancing is quite sufficient in practice. For balancing, Arbor Fixture 180 589 00 27 is used (Fig. 03—5/19).

1. Mount the old flywheel on Arbor Fixture 180 589 00 27. Slide the spacer ring with the two dowels onto the arbor and slide on the new flywheel, turned through 180° with respect to the old one, and tighten with the nut. When mounting the old and the new flywheels on the arbor, care must be taken to ensure that both flywheels are perfectly fitted together, with the recesses pointing in the same direction (Fig. 03—5/19).
3. If the unit is found to be out of balance, sufficient holes of 10 mm \varnothing and 8 mm maximum depth must be bored on the center of gravity side of the new flywheel, on a diameter of 222 mm, for the system to remain stationary at all points of rotation without rocking.

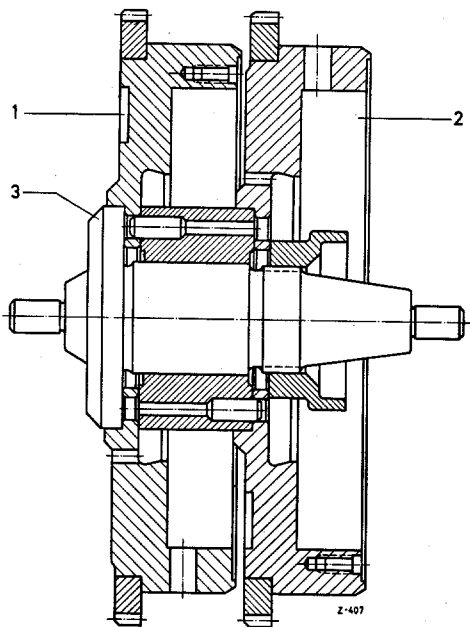


Fig. 03—5/19

- 1 Old flywheel
- 2 New flywheel
- 3 Arbor Fixture 180 589 00 27

2. Now place the arbor with the two flywheels mounted on it on Static Balancer 000 589 15 21 or on two knife-edge engineering rules, the upper edges of which are set exactly in the same horizontal plane, and allow the whole unit to rock into the position of equilibrium (Fig. 03—5/20 and Fig. 03—5/21).

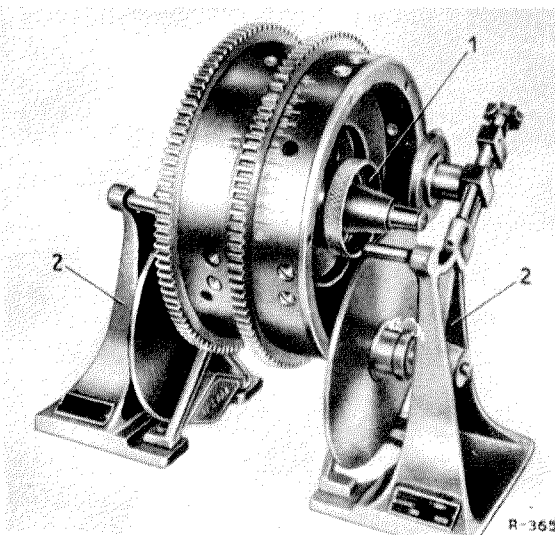


Fig. 03—5/20

- 1 Arbor Fixture
- 2 Static Balancer

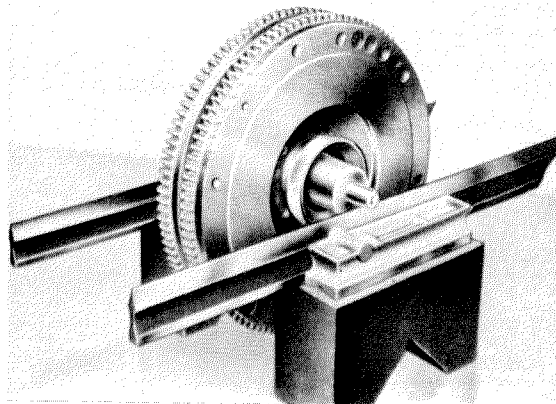


Fig. 03—5/21

The above figure shows two flywheels of Model 220

Note: The dimensions previously given for the balancing holes are only valid for the static balancing of the flywheel by itself, and must not be confused with the balancing holes which are bored when the crankshaft is balanced together with the counterweight and the flywheel.

In order to ascertain how many holes must be bored and how deep they must be, plasticine must be pressed onto the flywheel on a diameter of 222 mm, at the point opposite the point at which the unbalance is found, in sufficient quantity to neutralize the unbalance.

The weight of the plasticine used now gives an indication of the amount of stock to be bored out of the flywheel.

A 14 mm \varnothing hole, bored out 1 mm deep, is the equivalent of a weight of approx. 1.3 g.

Example:

The unbalance established with the aid of plasticine applied on a diameter of 222 mm is 19.5 g.

The depth of bore required is then
 $19.5:1.3 = 15$ mm.

As the maximum permissible bore depth is only 8 mm, two bores, each 7.5 mm deep, should be made in the flywheel.

4. After installing the flywheel, run the engine and observe whether it runs without any abnormal vibration.