Re-balancing new Flywheel, OM 621

Job No.
03–8

A new flywheel of the OM 621 must be balanced either together with the crankshaft and the mounted counterweight (see Job No. 03–7) or separately, requiring to tramsmit the unbalance of the old flywheel to the new one. Since the flywheel features a disc, static balancing is practically sufficient. To do this, the balancing arbor part No. 180 598 00 27 is used (see Figure 03–8/1).

1. Fit the old flywheel onto the balancing arbor part No. 180 589 00 27. Slide the spacer ring with the two dowel pins onto the arbor and fit the new flywheel, offset by 180° with respect to the old one; then tighten by the nut.

   When fitting the old and new flywheel see to it that both flywheels are properly seated, the cut-out must point to the same direction (see Figure 03–8/1).

2. Now, place the arbor with the two flywheels onto the revolving stand, part No. 000 589 15 21 or on two knife-edge straight edges, the upper edges of which must be exactly in level position, and allow it to balance out (Figure 03–8/2 and 03–8/3).

3. If an unbalance is established, drill on the gravity side of the new flywheel so many holes (A) of 12 mm dia. and 30 mm max. length around a diameter of 223 mm until the system is stationary at any position (see Figure 03–7/2).

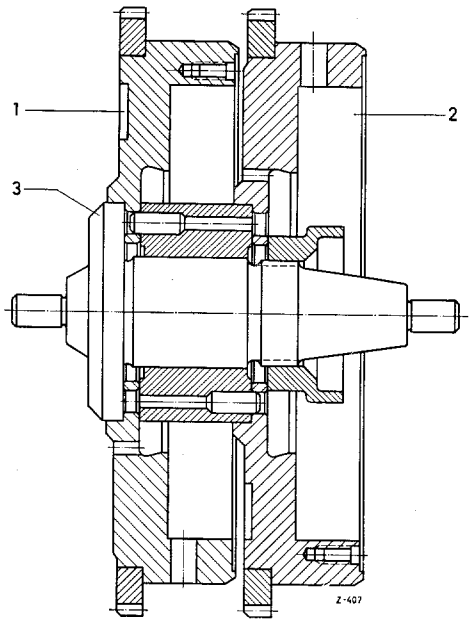

Figure 03–8/1

1 Old flywheel
2 New flywheel
3 Balancing arbor, part No. 180 589 00 27

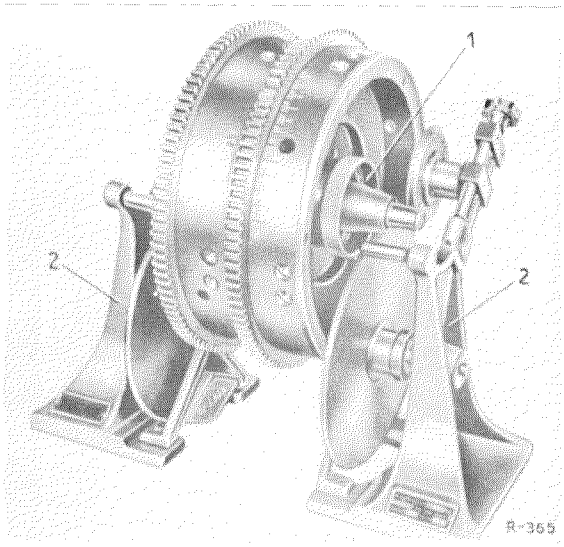

Figure 03–8/2

1 Balancing arbor
2 Revolving stand, part No. 000 589 15 21

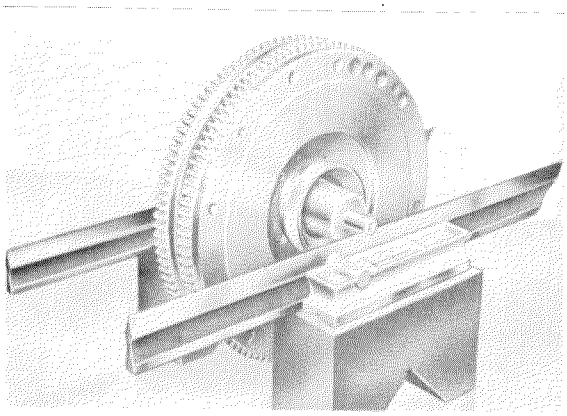

Figure 03–8/3

The above figure represents 2 flywheels of Model 220

Note: The previously specified measures for the balancing bores (A) are valid only for static balancing of the flywheel alone and should not be confounded with the balancing bores (B) required for dynamic balancing of the crankshaft with counterweight and flywheel.

In order to establish the quantity and depth of the holes, apply modelling clay at the opposite of the unbalance at a diameter of 223 mm until the unbalance is annulled.

On the basis of the weight of the modelling clay it can be ascertained how much material should be drilled out of the flywheel.

A bore of 1 mm depth and 12 mm dia. corresponds to a weight of approx. 1.3 grams.

Example:

The unbalance established with the help of the modelling clay at a diameter of 223 mm, amounts to 19.5 grams.

The required bore depth then amount to: 19.5 : 1.3 = 15 mm.

4. After installation of the flywheel, operate the engine and when increasing the engine speed observe whether the engine runs without vibrations.