17. Removal and installation of pistons and connecting rods (see Job No. 03–11).

18. Disassembly and assembly of cylinder crankcase (see Job No. 01–25).

19. Removal and installation of front seal ring for crankshaft, engine not removed (see Job No. 03–3).

20. Removal and installation of double roller chain, with assembled engine (see Job No. 05–27).

C. General

The engine should only be removed for a general overhaul if a bearing has been damaged or if it has been determined beyond doubt that an excessive oil consumption or decrease of output is due to faulty pistons and cylinders etc. (see Job No. 0–10).

In addition to special knowledge and experience, special machine tools, measuring instruments, gauges and special devices are needed for the testing and repairing of engines, as it is described in the following Job Numbers.

In the interest of the customers we therefore recommend utilizing the possibility as far as possible of exchanging complete engines (replacement engines) or individual components, such as cylinder crankcases, crankshafts, complete moving part assemblies, oil, water, fuel feed and injection pumps etc.

These exchange units have been repaired in accordance with modern production methods and guarantee a satisfactory performance.

Clean and test all parts and assemblies which have been removed (see testing and repairing operations). Damaged components such as screws, nuts, washers, lockwashers etc. must be checked whether they are fit for re-use; replace if necessary. They must not be reinstalled if damaged.

Gaskets, sealing rings, locking plates, split pins etc. must always be replaced.

Special cleanliness and care is necessary during the assembly and handling of reconditioned parts. A small damage on the surface of a ground shaft e.g. can cause the sticking of a bearing or other damages. Therefore, it is necessary before the assembly to check all ground and accurately machined parts for possible subsequent damages, which have to be repaired. It is also imperative to observe absolute cleanliness when assembling.

Repair size specifications for the remachining of the cylinder bores, the crankshaft journals and pins and the camshaft bearing pins, as well as its bearings and the valve tappets allow proper overhauls of the engines. The data and specifications given in the tables are obligatory for all our repair shops.

In addition to the usual equipment an engine assembly trestle should be available in repair shops where major repairs are carried out. An assembly trestle is necessary, because by using same most disassembly and assembly operations can be carried out considerably faster, easier and cleaner.

The engine can be turned in the assembly trestle thus giving free access to all parts of the engine. Parts which cannot be removed and installed in the vehicle, e.g. pistons, connecting rods, crankshaft and camshafts should always be removed and installed in the assembly trestle.

The Engine Assembly Trestle BE 10488/1–6 can not only be used for the diesel engine Model OM 636 and OM 621 but also for all of our other passenger car engines. The only change required is to exchange the supporting arms and fixing bars (see Figure 00–20/1).

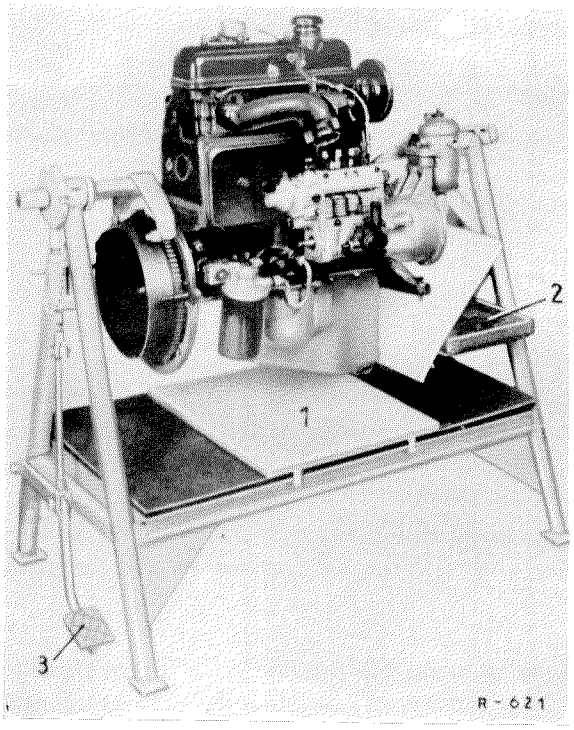

Figure 00–20/1

1 Oil pan
2 Receiving box for screws and small parts
3 Locking device of rear bracket

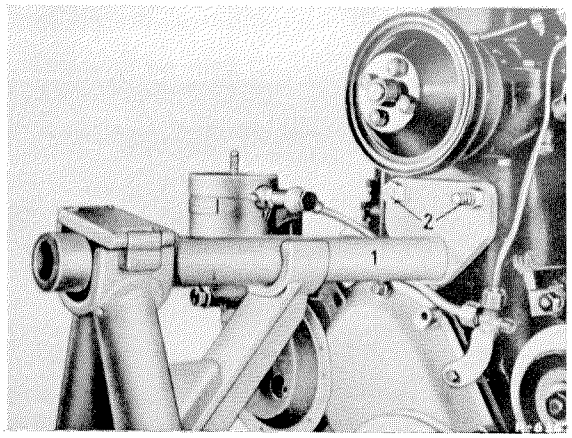

Figure 00–20/2

1 Bracket
2 Fixing studs in engine block

Putting Engine into Assembly Trestle:

1. On OM 636 remove fan support if applicable or on engines without fan support unscrew the mounting angle of the front engine support. Furthermore, on these engines the fan should be removed from the belt pulley.

   Attach the front bracket (1) to the two fixing studs (2) (Figure 00–20/2).

2. Then secure the rear bracket (1) to the fixing studs (2) (Figure 00–20/3).

3. Put oil to the bearings of the brackets and place engine in assembly trestle (see Figure 00–20/1).

Note: As a safety measure and to allow locking of engine in 4 different positions a locking device (3) has been installed, which must engage properly in the locking disc (see Figure 00–20/1 and 00–20/3).

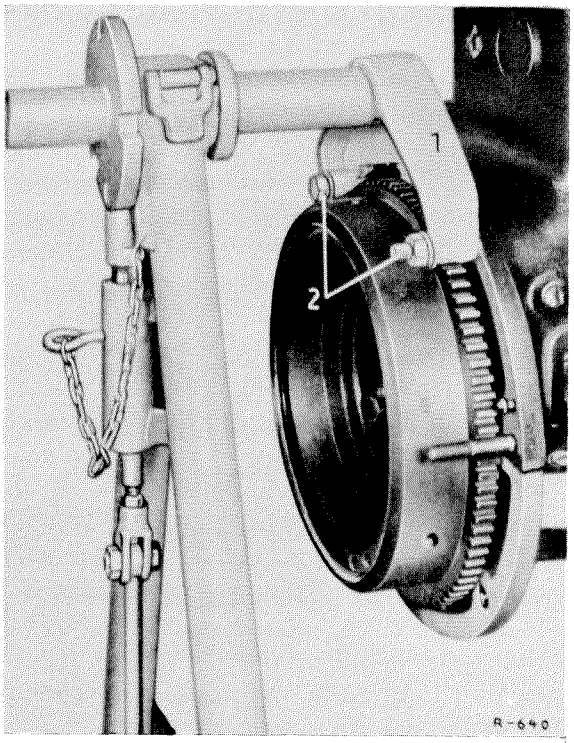

Figure 00–20/3

1 Rear bracket
2 Fixing studs in crankcase