

18. Removal and installation of crankshaft and flywheel (see Job No. 03-5).
Disassembly of crankshaft:
 - a) Removal and installation of intermediate piece and crankshaft gear (see Job No. 03-5, section A, item 8).
 - b) Removal and installation of flywheel (see Job No. 03-16).
 - c) Removal and installation of grooved bearing and cap (see Job No. 03-17).
19. Removal and installation of pistons with connecting rods (see Job No. 03-11).
20. Removal and installation of camshaft, camshaft bearings and valve tappets (see Job No. 05-35).

B. OM 621

In an engine has to be completely stripped, the operations of the sections 1 through 20 have to be carried through.

1. Removal and installation of air filter (see Job No. 09-7).
2. Removal and installation of intake line with throttle duct and exhaust manifold (see Job No. 14-1 and 14-5).
3. Removal and installation of starter motor (see Job No. 15-1).
4. Removal and installation of generator (see Job No. 15-11).
5. Removal and installation of water pump with fan (see Job No. 20-5).
6. Removal and installation of injection lines, vacuum line and fuel main filter (see Job No. 07-15 and 09-1).
7. Removal and installation of cylinder head (see Job No. 01-3).
Disassembly of cylinder head:
 - a) Removal and installation of slide vail in cylinder head (see Job No. 05-29).
 - b) Removal and installation of glow plugs (see Job No. 15-31).
 - c) Removal and installation of nozzle holders with nozzles (see Job No. 07-17).
 - d) Removal and installation of prechambers (see Job No. 01-1).
 - e) Removal and installation of camshaft with bearings (see Job No. 05-36).
 - t) Removal and installation of valves (see Job No. 05-11).
 - g) Removal and installation of idler sprocket and idler sprocket bearing (see Job No. 05-23).
 - h) Removal and installation of guide sprocket (see Job No. 05-25).
8. Removal and installation of oil filter (see Job No. 18-7).
9. Removal and installation of injection pump and fuel feed pump (see Job No. 07-11).
10. Removal and installation of oil pump drive (see Job No. 18-16).
11. Removal and installation of injection timing device (see Job No. 07-25).
12. Removal and installation of injection pump drive (intermediate gear shaft) (see Job No. 05-28).
13. Removal and installation of oil pressure relief valve (see Job No. 18-3).
14. Removal and installation of oil pan (see Job No. 01-21).
15. Removal and installation of oil pump (see Job No. 18-11).
16. Removal and installation of crankshaft with flywheel (see Job No. 03-5).
Disassembly of crankshaft:
 - a) Removal and installation of counterweight, seal ring, spacer ring, oil thrower ring, crankshaft gear spacer washer (see Job No. 03-5, section B, item 7).
 - b) Removal and installation of flywheel (see Job No. 03-16).
 - c) Removal and installation of annular grooved bearing and cap (see Job No. 03-17).

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).