Usually the hydraulic pump is arranged in the gearbox casing of the tractor and is driven via a multiplate clutch directly from the engine shaft (Fig. 307).

To put the power lifter into operation, first the selector slide valve must be set to the required position. Normally, the following positions can be selected:

Power lifter – 1st working cylinder – 2nd working cylinder

On actuating the control lever, the fluid pressure generated in the hydraulic pump acts on the selected load, that is, one of the working cylinders or the power lifter. By blocking the fluid pressure, the power lifter and the implement connected with it can be retained in any position. By turning the control handle, the implement can be lowered at a very low rate. Thus, the hydraulic power lifter offers the possibility of lifting and lowering the attached implement reliably by means of fluid pressure without any particular physical effort on the part of the tractorist. The implement must be allowed to move up and down during operation in order to protect it from damage. This is of particular importance when the implement comes across stones in the soil.

When the attached implement has been brought into transport position (upper position), the mechanical lock must be engaged to save the power lifter. Thus, overstraining the lifter is avoided.

(c) Hints Regarding Maintenance and Repairs

(1) The hydraulic power lifter should never be loaded in cold state. Before putting the lifter into operation, the tractor must be allowed to warm up by idling. In this way, the hydraulic fluid in the power lifter is moderately heated too.

(2) The fluid level in the reservoir must be checked to see that sufficient fluid is in the system at regular intervals.

(3) Normally a power lifter need not be lubricated; the fluid filter must be cleaned daily (by turning the handle through about 360°).

(4) If supplementary implements provided with a working cylinder of their own are used, the required additional quantity of fluid must be filled in.

(5) The fluid must be changed at regular intervals. On this occasion the magnet filter which normally is fitted to the system should also be cleaned.

(6) If fluid leaks from the hydraulic pump into the tractor casing, the radial oil seal rings or packing rings must be replaced by new ones.

(7) If fluid leaks from the selector slide valve, the fluid filter must be cleaned.

(8) An insufficient output of the power lifter may have various causes. The following table gives a number of hints.