

TECHNICAL DESCRIPTION

The drive system of the tank uses mechanical, planetary gear units.

The gear unit can be powered by a 574kW (780hp) diesel motor at 2,000 rpm.

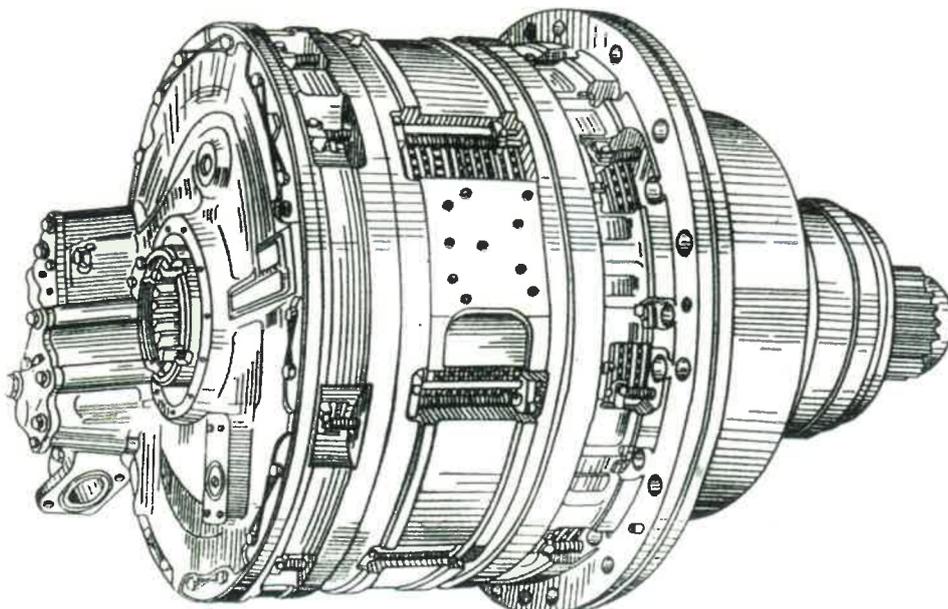
The gear unit consists of a gearbox and a side gear.

The Gearbox

The gearbox is used to vary the speed of movement and driving forces, and allows the drive motor to be completely disengaged. All these types of work are achieved by switching on and off the appropriate clutches inside it. These clutches are hydraulically controlled. The gearbox has four planetary rows: I, II, III, IV, six clutches, a device for mechanical activation of clutches used for braking, an oil pump drive, a pump forcing oil under pressure to the gearbox control and lubrication system, and a pump that drains the oil with the gearbox card. Six clutches and four planetary rows of the gearbox allow for seven gears, reverse, braking and neutral.

The clutches that are the control elements of the planetary rows consist of a package of steel and metal-ceramic friction plates, amplifiers and spring-loaded push-off devices.

LEFT GEARBOX WITH PUMP, DRAINAGE PUMP AND SIDE GEAR



By using individual gears of the gearbox, the following gear ratios can be obtained on the shaft coming out of it:

$$i_1 = 8,173 \quad i_5 = 2.027$$

$$i_2 = 4,4 \quad i_6 = 1.467$$

$$i_3 = 3.485 \quad i_7 = 7$$

$$i_4 = 2,787 \quad \text{reverse gear } i_{BW} = 14,35$$

The Side gear

The side gear is a single stage planetary reducer with a constant reduction ratio of 5.454.

The side gear reduces the output speed of the gearbox and increases the torque accordingly.

The side gear is connected to the gearbox with screws, forming one unit weighing over 700 kg.

The gearbox

The gear unit consisting of the gearbox and planetary gearbox gives the following gear ratios:

$$i_1 = 44,576 \quad i_5 = 11,055$$

$$i_2 = 23,998 \quad i_6 = 8,001$$

$$i_3 = 19,007 \quad i_7 = 5,454$$

$$i_4 = 15,200 \quad \text{reverse gear } i_{BW} = 78,265$$

RIGHT GEARBOX WITH DRAINAGE PUMP AND SIDE GEAR

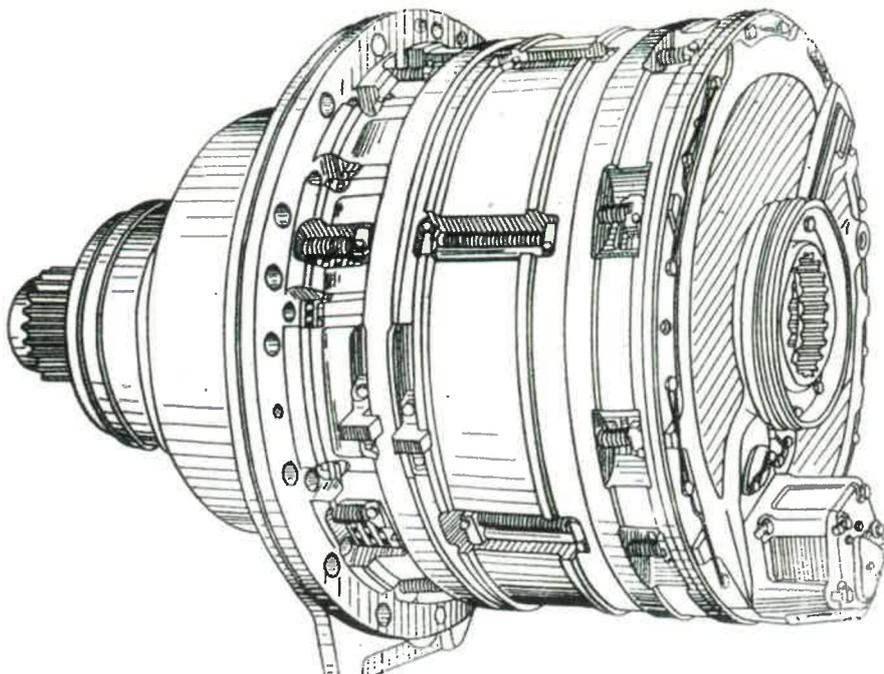


DIAGRAM SHOWING RELATIVE POSITIONS
OF THE GEARBOX COMPONENTS IN REVERSE MOVEMENT

