



# SERVICE MANUAL

TRUCKS

**L 385**

*Export Service Department*

AKTIEBOLAGET

**VOLVO**

GÖTEBORG, SWEDEN

# FAULT TRACING

FAULT	
CAUSE	REMEDY
<b>GEAR JUMPS OUT OF ENGAGEMENT</b>	
Faulty locking device.	Change lock ball, spring and gearshift rail on gear concerned.
Damaged gearshift fork.	Renew.
Badly worn gears.	Renew worn gears.
Flywheel pilot bearing broken.	Change the bearing.
Transmission incorrectly centered in the clutch or flywheel housings.	Measure the housing (see Part 2). Adjust and thoroughly clean the contact surfaces.
<b>GEARS DIFFICULT TO CHANGE</b>	
Clutch does not release.	Adjust or repair clutch.
Too viscid an oil used.	Change oil. Use Summer and Winter SAE 90.
<b>ONE GEAR DIFFICULT TO CHANGE</b>	
A gearshift fork damaged or stuck.	Change fork.
Worn or damaged synchronizing device.	The entire synchronizing device must be replaced.
The gears concerned very worn or damaged.	Replace both gears.
<b>NOISE WHEN IDLING</b>	
Main drive pinion pilot bearing damaged.	Replace. See Part 2.
The main drive pinion gear or bearing for the main drive pinion and mainshaft drive bearing damaged.	Replace damaged parts.
The countershaft drive gear or other gears, which are in constant mesh, damaged or worn.	Change the damaged or worn parts.
Insufficient supply of oil.	Fill the oil up to the height of the level plug.

## NOISE WHEN DRIVING

Too low oil level.

Worn or damaged gear, bearings or shafts.

Faulty synchronizing device and/or gearshift fork.

Clutch friction disk rattling.

Vibration in the propeller shafts.

Scraping from the transmission, especially 2nd and 5th speed gears, due to the fact that the gearshift fork touches the synchronizing device reinforcement ring.

Fill the oil up to the height of the level plug.

Replace the worn parts. See under the heading "Inspection".

Replace damaged parts.

See Part 2.

See Part 4.

Examine the synchronizing devices. If necessary, lathe - turn the safety ring  $45^{\circ} \times 2,5$  mm.

## OIL LEAKAGE

Companion flange and/or oil seal worn out.

Main drive pinion oil seal worn out.

Leakage between the housing and handbrake bracket or clutch housing.

Leakage between the housing and gearshift lever assembly.

Leakage at the inspection cover or plugs.

Replace the worn parts.

Replace seal.

Gaskets on the respective places to be replaced.

Change the gasket.

Replace damaged gasket or plug.

When installing new gaskets, clean the contact surfaces well and cover the gasket, as well as the bolts, with shellac.

# TOOLS

The following special tools are required when carrying out repair work on the transmission.

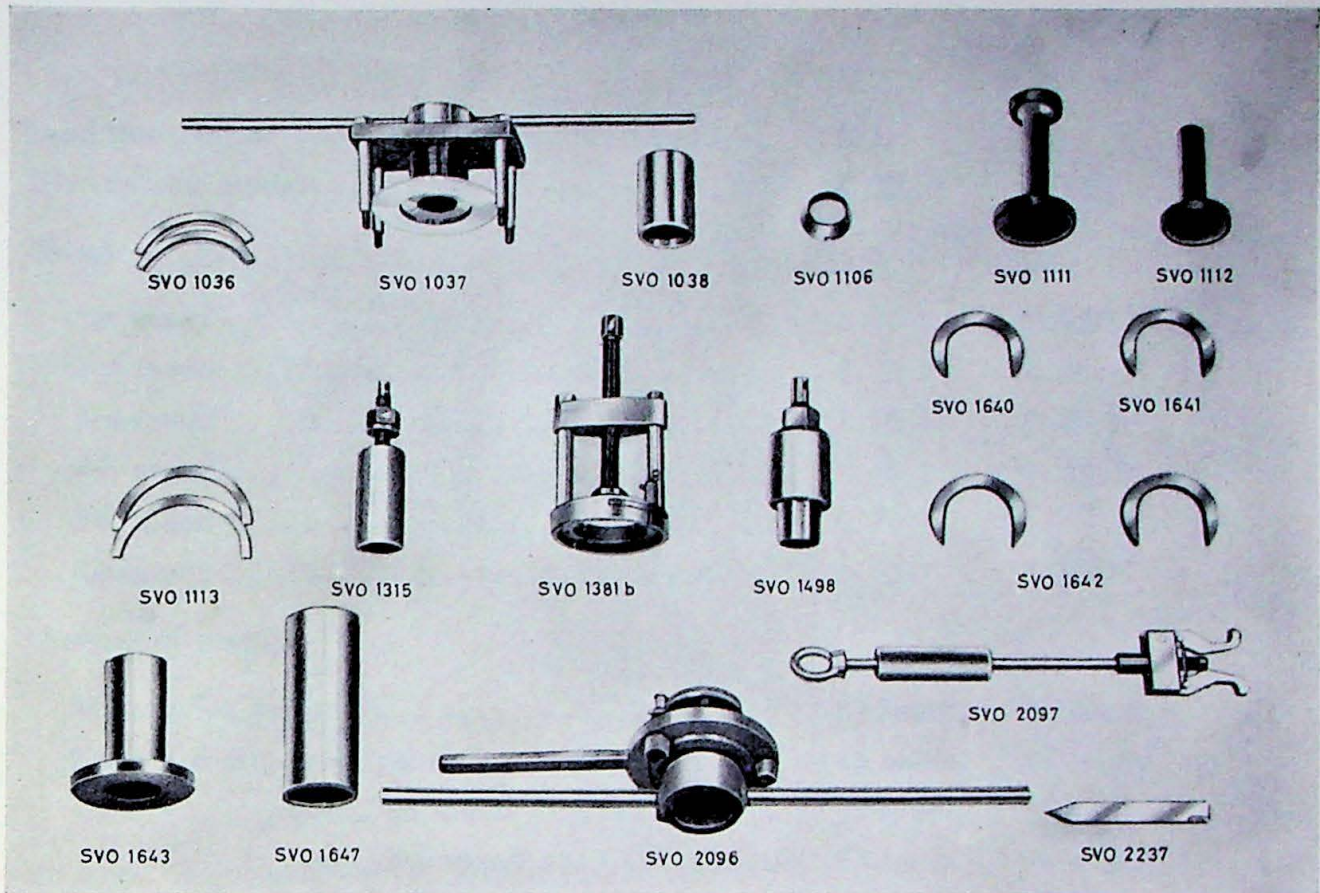


Fig. 3—42.

- |           |  |          |  |
|-----------|--|----------|--|
| SVO 1036  | Spacer halves, installation of ball bearing on main drive pinion K 12. | SVO 1498 | Press tool, rear ball bearing and companion flange on mainshaft.               |
| SVO 1037  | Press tool, installation of ball bearing on main drive pinion.         | SVO 1640 | Spacer, disassembly of mainshaft.  |
| SVO 1038  | Sleeve, installation of rear ball bearing on mainshaft.                | SVO 1641 | Spacer, disassembly of mainshaft.  |
| SVO 1106  | Cone, installation of lock ring on mainshaft.                          | SVO 1642 | Spacer, disassembly of mainshaft.  |
| SVO 1111  | Driver for fitting oil seal.   | SVO 1643 | Drift, installation of ball bearing on mainshaft and countershaft.             |
| SVO 1112  | Driver for fitting oil seal and bearing.                               | SVO 1647 | Sleeve, installation of synchronizing hub, bushing and lock ring on mainshaft. |
| SVO 1113  | Spacer halves for installing ball bearing on main drive pinion K 13.   | SVO 2096 | Puller, ball bearing on main drive pinion.                                     |
| SVO 1315  | Puller, reverse shaft.   | SVO 2097 | Puller, removal of roller bearing in main drive pinion.                        |
| SVO 1381B | Puller, rear ball bearing on mainshaft and countershaft.               | SVO 2237 | Drift to remove Woodruff key.  |



## SPECIFICATIONS

Type designation .....	K 1	
Transmission models .....	K 12	K 13
Ratios:		
1st speed .....	6.10:1	7.72:1
2nd speed .....	3.23:1	4.08:1
3rd speed .....	1.73:1	2.18:1
4th speed .....	1:1	1.41:1
5th speed .....	0.79:1	1:1
Reverse .....	6.03:1	7.59:1
Number of teeth:		
Main drive pinion .....	29 teeth	25 teeth
Countershaft, drive gear .....	45 teeth	49 teeth
"    gear, 1st speed .....	15 teeth	15 teeth
"    gear, 2nd speed .....	24 teeth	24 teeth
"    gear, 3rd speed .....	35 teeth	35 teeth
"    gear, 4th speed .....	Direct	43 teeth
"    gear, 5th speed .....	49 teeth	Direct
"    reverse gear .....	20 teeth	20 teeth
Mainshaft, gear, 1st speed .....	59 teeth	59 teeth
"    , gear, 2nd speed .....	50 teeth	50 teeth
"    , gear, 3rd speed .....	39 teeth	39 teeth
"    , gear, 4th speed .....	Direct	31 teeth
gear, 5th speed .....	25 teeth	Direct
Reverse shaft, reverse gears .....	16 and 21 teeth	16 and 21 teeth

Thrust washer for 5th speed gear on mainshaft (4th on K 13) .....	Thickness, 3.9 mm (0.153")
	" 4.0 mm (0.157")
	" 4.1 mm (0.161")
	" 4.2 mm (0.165")
	" 4.3 mm (0.169")
	" 4.4 mm (0.173")
	" 4.5 mm (0.177")
	" 4.6 mm (0.181")
	" 4.7 mm (0.185")
Oil capacity .....	6.5 lit. (1.3/4 U.S. gallons)
Lubricant, summer and winter .....	Transmission oil SAE 90