

Important!

Operator's manual

Solberga

SE 1340

SOLBERGA MEKANISKA VERKSTADS AB

SOLBERGA, S-571 00 NÄSSJÖ, SWEDEN – TELEPHONE 0380/522 00

OPERATOR'S MANUAL
regarding SOLBERGA drilling machine type SE 1340

Congratulate to your choice of drilling machine. This machine is the result of more than 70 years of experience in the manufacture of drilling machines. This machine is constructed and designed to meet the hard demands for productivity and reliability of our days. For your own good and for the best attendance and conduct of the machine, please study and follow the instructions following.

Lubrication Note. Fill with oil before starting the machine.

All bearings, gear arms and gears of the spindle head and of the feed-gear-box are lubricated from an oil pump. Fill up with oil through the hole of the spindle head that is tightened by a yellow plug. Fill up to the level of the sight glass on the left side of the spindle head (about 4 liters or 7 pints). Drain of oil is through a hole tightened with a screw located at the bottom of the spindle head close to the right side of the drill spindle.

From machine No. 853 (except No. 854) the machine has been completed with oil also in the worm gear housing. On the back of the worm gear housing (on the right side of the machine, if you stand in front of the machine) has a combined oil filler tube and glass gauge been mounted. Fill up with oil of the same quality as in the spindle head (about 0.4 liters or 1 pint). Under the worm gear housing there is a drainage plug, which is used when changing oil.

The machine is also equipped with oil cups and, in some cases, with drilled oil holes. Lubricate with oil once a week.

The spindle drive splines are lubricated by the oil cup placed on the left side of the spindle head. The drill spindle has to be taken down 30-40 mm before the oil is forced in. The upper bearing of the drill spindle is tightened and need no oil. The lower bearing is lubricated through the hole in the drill spindle that is intended for the ejecting drift.

Oil recommended (similar oils may naturally be used)

	<u>Castrol</u>	<u>BP</u>	<u>Shell</u>
Spindle head	Hyspin AWS 32	Energol HLP 32	Tellus oil 32
Worm gear housing	Hyspin AWS 32	Energol HLP 32	Tellus oil 32
Oil cups and holes	Magna CF 220	Energol HLP 320	Tellus oil C 320

Connection to the main line

The machine is normally equipped with a starting device w. the positions 1-0-2 combined with an emergency switch and no-volt release. Drill heads, delivered separately, and drill heads on multi-spindle drilling machines are normally equipped with a starting device without emergency switch. Please notice that the red handle of the starting device can be turned only in its outer position. Blocks to connect the main line phases and the neutral wire are placed in the top of the electric box on the machine column. In the top of the same box and to the left there is also an earth connection.

For connection please follow the wiring diagram attached.

After the connection, check that the drill spindle runs clockwise.

If the machine is equipped the automatic reverse, the special switch for drilling/tapping has to, before the connection to the main line, be placed in the position for drilling. (For the rest see next page under the heading of "Machine equipped with automatic reversing device")

On interruption check first the fuses of the electric box.

Management

The machine is equipped with a 2 speed motor operated by the positions 1 and 2 of the starting device. Adjust the spindle speeds by the levers placed on the

left side of the drill head. The front chart illustrates the positions. The speeds may not be changed while machine is running. Is it hard to get a position, move the spindle nose a little by hand.

Manual drilling: The toothed coupling placed extremely right has to be pushed in. Adjust the drill depth by the lockable handle on the drill head front. Read it on the scale.

Automatic drilling: The SOLBERGA power feed provides a complete cycle by one only manipulation, that is by taking the drill spindle down to the work-piece. Automatic feed is activated when the drill bears against the work-piece. Then the drill goes down to the pre-set depth, and then, by the balancing spring, the drill spindle returns automatically to its starting point. The drill depth accuracy of the power feed repeating is 0.1-0.2 mm. The work cycle is easily interrupted by manually moving the feed lever back. Adjust the drill depth by the following steps:

1. Lock the movable stop of the drill depth in its upper position.
2. Draw out the toothed coupling to the right (see the chart)
3. Undo the two hexagon screws placed in the hand lever centre.
4. Bring down the drill spindle to the drill depth desired. (On the automatic feed the drill spindle goes down about 3-5 mm beyond the pre-set depth.)
5. Bring the head of the inner ring to the stop pin that is fixed into the castings of the feed-gear-box.
6. Turn the stop head of the knurled ring until it reaches the head of the plane ring.
7. Tighten the two screws in the hand lever centre, before the drill spindle is allowed to go back.

Adjustment of the power of the automatic feed

Before the machine left our factory, the power feed system was adjusted to prevent the machine from being overloaded. However, after some time's use the clutch may be adjusted. It is made by the shaft nut fitted inside the toothed coupling. By drawing that nut, the power is increased. When using weak tools, it is recommended to reduce the power. If the drill pressure becomes too high, the clutch of the power feed serves as an overload protection.

Removal of tools

Put the toothed coupling in its drawn-out position. Bring down the drill spindle to uncover the ejector hole. Catch the claw coupling and jerk, by the other hand, the hand lever. The drill spindle is now locked. Knock out the tool by ejecting drift.

Adjustment of spindle bearing

The conical roller bearing of the drill spindle may be adjusted after some time. Then take out the complete spindle by removing the drill depth bar No. 910171. Bring down the spindle till it leaves hold of the cog. Be careful, that the spindle doesn't fall out from its guide. Then catch the hand lever to prevent the spindle return from being too fast. The conical bearing is set by drawing the shaft nut on spindle top.

Adjustment of the spindle balancing spring

To get the spring harder stretched, remove the drill depth bar No. 910171 and bring down the complete spindle till it leaves hold of the cog. Go on turn the rack pinion until sufficient stretch is obtained. Push up the spindle again and make it catch the cog. Be careful, so that the spindle doesn't fall out from its guide.

Machine equipped with automatic reversing device

The auto reverse components are placed in the ordinary electric box. There is a reversing switch which is mechanically interlocked to get the best possible safety. The switch-over from drilling to tapping is by the switch that is placed at the side of the electric box. The tapping depth is set by the movable stop on the front of the head. If power feed is used combined with auto reverse, it is very important that the rotation of the drill spindle reverses in good time before the power feed gets activated.

For manual tapping operations, the toothed coupling has first to be pushed in.

SAFETY DIRECTIONS

A drilling machine is often used under many different circumstances, so the maker of it cannot predict, nor be responsible for, all situations of danger. It seems well founded, however, to underline some points.

Unguarded rotating machine parts can catch loose clothes, hair, etc. Use the protection provided by your employer. Eye guards against splinters and splash, ear-muffs against noise, hair net to save you from getting scalped, work shoes to protect against falling workpieces.

NOTE: it is prohibited to use gloves when operating a machine with rotating parts.

Use only such tools as are intended for the machine.

Be convinced, before the machine is started, that nobody is dangerously near to the machine, that work-piece and tool are fixed and that guards are applied. Never touch a machine which you are not instructed to operate. At the end of the work see that the machine is switched off.

Be careful with your hands. Don't try for example to pull away chips with your hands but use a chips hook or any other tool. Contaminated chips are in fact a risk of infection. Look out for cuts.

Take care of your fellow workers - shield if needed.

See that the work-piece is properly fixed. It must not move. Don't work with your hands near to any cutting tool. Avoid wearing dangerous articles of clothing. They can be caught by the rotating parts of the machine. Such articles are ties, wide or frayed sleeves, too long or too wide trouser legs, turn-up of sleeves or trousers, untied shoe laces, a wide skirt, wrist watch, rings and necklaces. Flapping loosely-fitting sleeves are dangerous. Roll them up or button up the cuffs.

Avoid using compressed air in order to blow clean, partly for the sake of the machine itself and partly for the sake of the environment and your fellow workers.

Hair net has to be used by anybody wearing long or bushy hair which may very well be caught by rotating tools, etc.

Eye guard (goggles, face shield) to protect against splash, splinter, intense light.

Ear muffs to prevent injury because of noise.

Strong work shoes to protect the feet against pieces falling.

Complete operator's manual follows on next pages

but please pay special attention to:

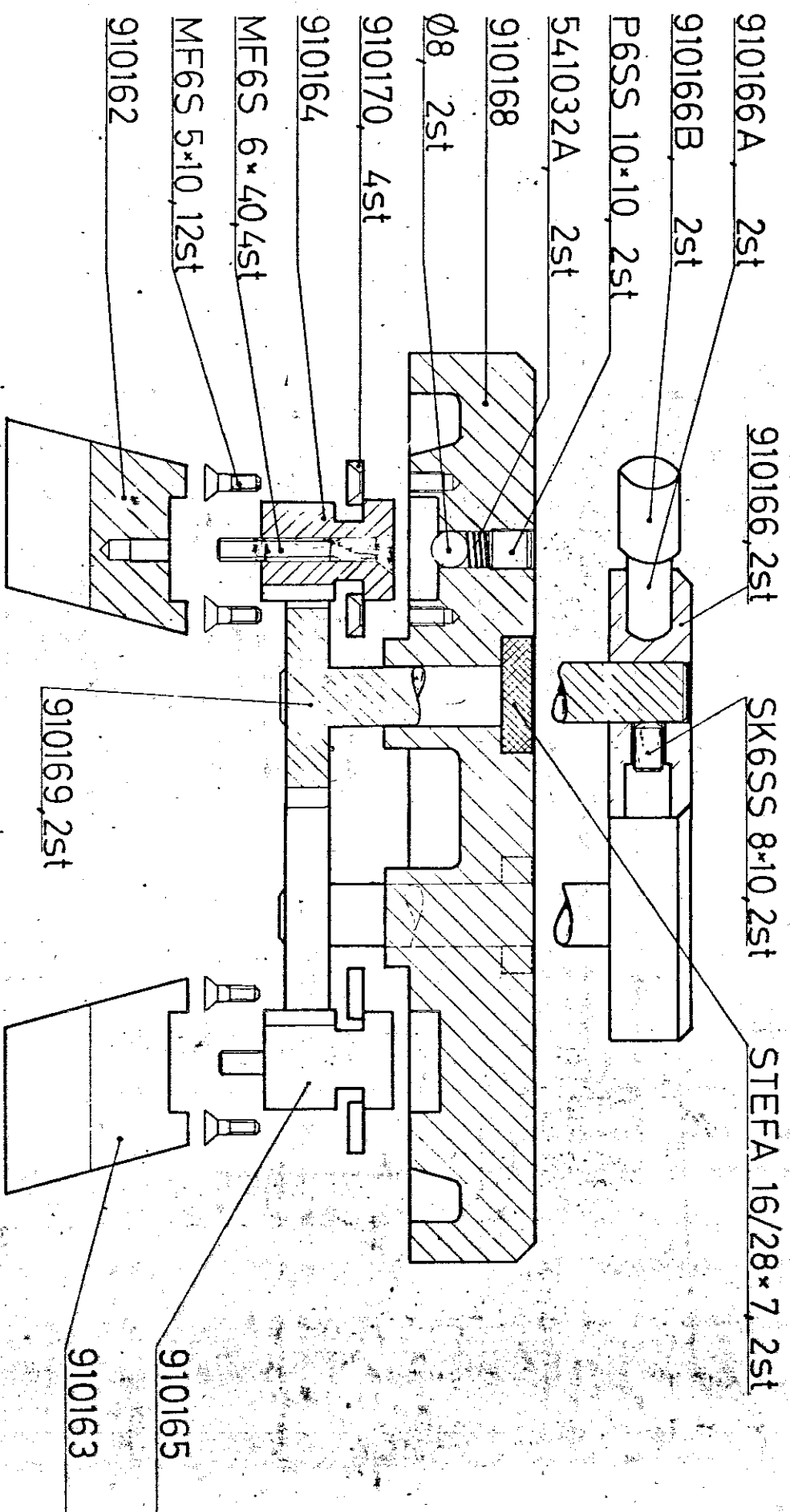
● KICK START (applicable to all machines equipped with a starting device combined with an emergency switch)

Start the machine by first drawing out the red handle into its outer position and then turning it right down to the position START.

● POWER FEED (applicable to all machines having power feed)

The claw coupling, placed to the right of the hand lever holder, has to be drawn out to the right (as illustrated on the chart). Automatic feed is activated when the drill bears against workpiece.

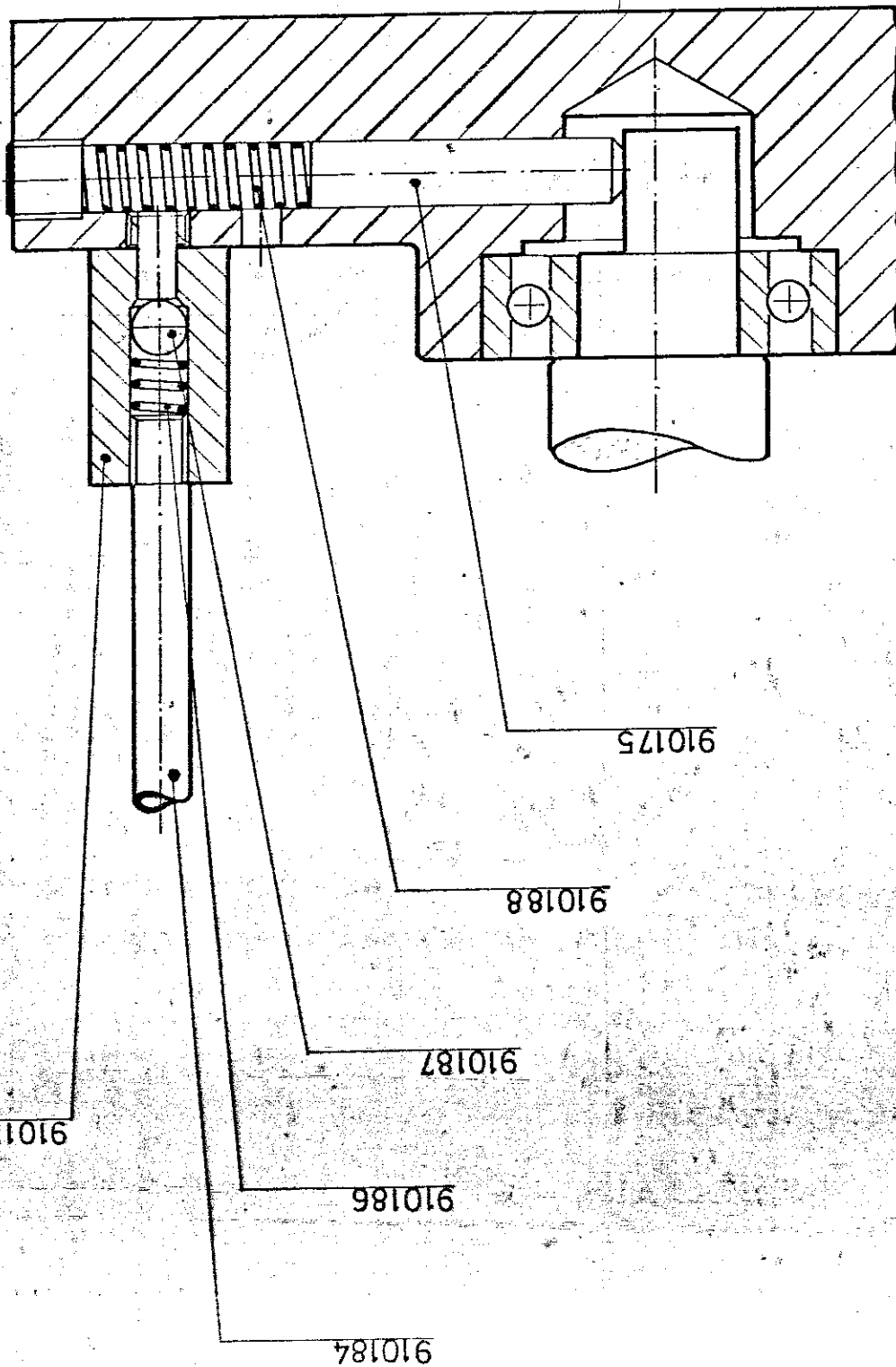
● SAFETY DIRECTIONS on a separate sheet.



SE 1340

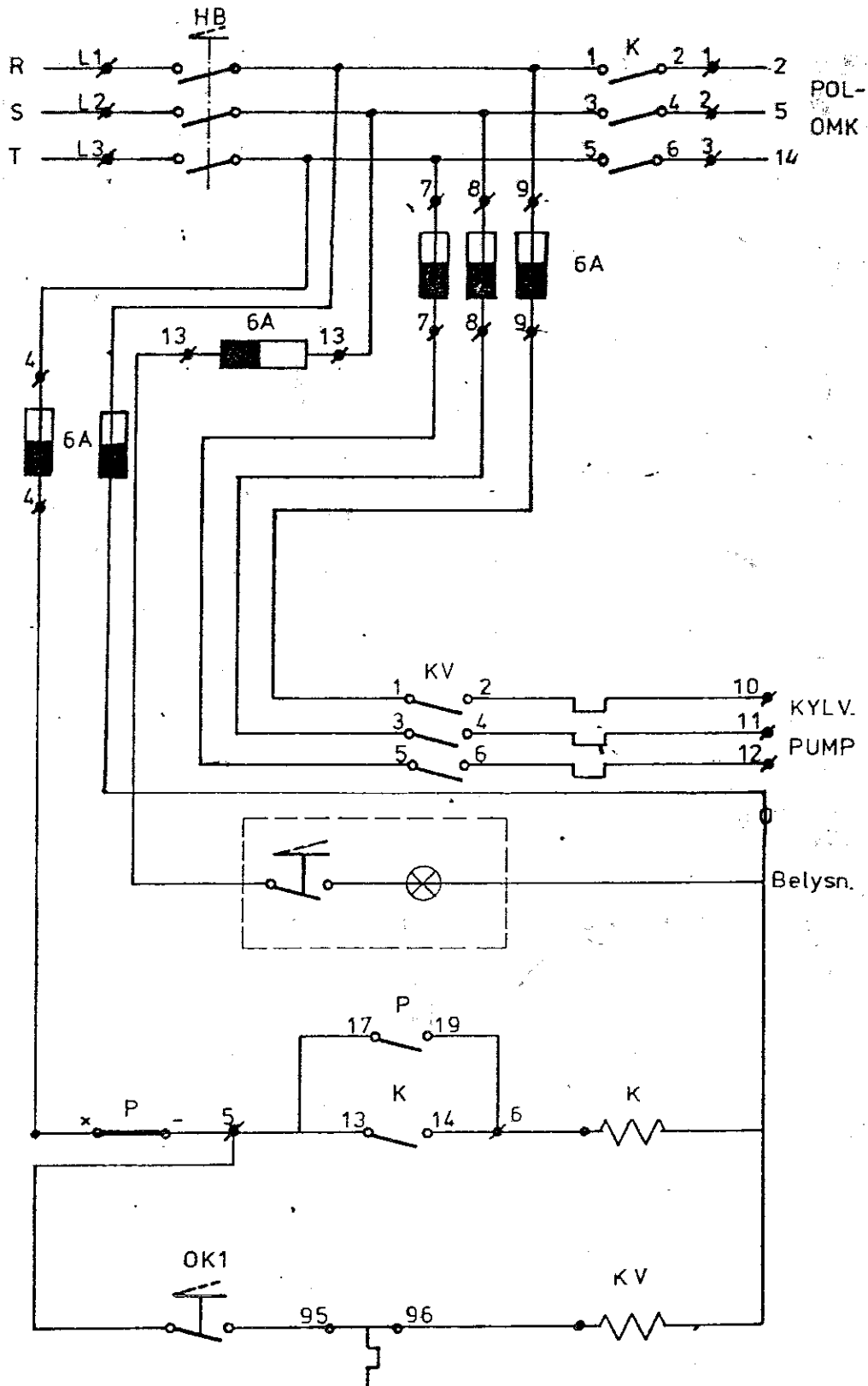
Manöverorgan för växlar till spindeldrivning
 Operating device for gears of the spindle device
 Betätigungsverrichtung des spindelgetriebes

OLJEPUMP, SE 1340
OILPUMP, SE 1340
ÖLPUMPE, SE 1340

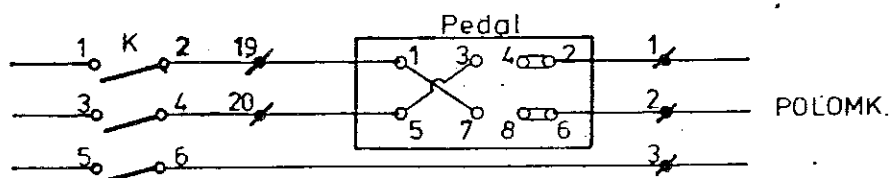


SE 1340

220 V/60 Hz.



Tillbehör: Fotreversering



E 150

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Sweden

SPARE PARTS FOR SOLBERGA DRILLING MACHINE MODEL SE 1235/ODIN 26 AND SE 1340/OLAF 26

<u>Part No.</u>	<u>Name of part:</u>	<u>Part No.</u>	<u>Name of part:</u>
900001	Base plate		Lock bar M12
900002	Column holder		Oil cup, hydraulic UNC 5/16
	Screw M6S 20x140		Screw S6SS 8x25
	Screw M6S 20x50		Screw SK6SS 8x10
	Nut, M6M 20		Screw P6SS 6x10
900003	Column		Blank plug
900004	Table arm	902024	Intermediate cover
	Screw M6S 12x130		Screw MC6S 8x25
	Nut ML6M 12		Taper pin
900005	Rack		Oil plug 1/2" P
900006	Block holder	902024 B	Oil level chart
	Block	902025	Motor cover
	Screw MC6S 6x12		Screw MC6S 8x50
	Screw Rx-TT Pot 3x20		Level glass TEPRO Ø 22.2
901017	Column, upper		Screw MC6S 10x25
	Screw M6S 20x50	902026	Holder
901018	Screw Ø 26x312		Screw SK6SS 8x10
901019	Nut	902026 A	Stop spindle
	Screw MC6S 8x25		Screw F6S 6x16
901022	Rule	902026 B	Pointer
902023	Spindle head, castings only, painted		Screw F6S 6x16
	Level glass : TEPRO Ø 22,2	902027	Spindle, hardened and ground
	Screw T6SS Lock- well 10x38	902027	Spindle as above, complete with etc., fitted together



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<u>Part No.</u>	<u>Name of part:</u>	<u>Part No.</u>	<u>Name of part:</u>
902028	Protective shield		Spring
902029	Spindle sleeve	902046	Pump punch
902030	Bearing housing	902046 A	Oil tube for oil pump
	O-ring 71,44x3,53		Screw Rx 6x6
	Seal ring SM 30427	902047	Holder
902031	Distance ring	902048	Gear
902032	Drive shaft	902049	Gear
	Snap ring SgA 25	902052	Motor gear
902032 A	Key 6x6x60	902053	Motor gear
902035	Driving ring	902056	Chart
902036	Driving cover	902057 A	Feed chart
	Rivet FN 5x32	902057 B	Drill depth chart
902037	Protective shield	902058	Spindle speed chart
902038	Gear	902059	Plug
902039	Gear	902059 E	Oil tube for worm gear
902040	Gear		Oil cup LUB 5/16
902041	Gear	902059 G	Lock bolt
902042	Gear		Screw MCGS 12x25
902043/ 902047	Intermediate shaft with holder (Odin 26)	903060	Cover for operating mechanism
	Key 6x6x20		Screw MCGS 6x16
	Key 4x4x12		O-ring 9,92x2,62
	Snap ring SgA 25	903060 A	Packing
902044	Shaft, back	903061/ 903062	Operating handle w. shaft
	Key 6x6x20		Ball 5/16
	Snap ring SgA 25		Spring 7,8x12
902045	Pump piston		Screw P6SS 10x10
	Pilot		

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<u>Part No.</u>	<u>Name of part:</u>	<u>Part No.</u>	<u>Name of part:</u>
	Elastic pin 4x18		Key 4x4x20
903063	Die	904083	Gear
	Snap ring SgA 10	904085	Sleeve
904070	Feed-gear-box, castings only, painted	904086	Shart for worm gear
	Screw MC6S 8x16		Elastic pin 6x40
	Taper pin 6x25		Elastic pin 6x36
904070 B	Bushing 20x28x20	904086 A	Bushing 20/28x20xØ35
	Stop screw S6SS 6x20		Seal ring B1 20307
	Nut M6M	904090	Bearing housing
904070 A	Packing	904090 A	Ring Ø 35
904071	Gear		Screw F6S 6x16
904072	Shaft	905091	Operating handle ELESA
	Snap ring SgA 20		Taper pin 4x40
	Key 5x5x16	905091 A	Shaft for operating handle
904074	Shaft		Seal ring B1 10197
	Snap ring SgA 20	905092/ 905093	Gear arm w. stud
	Snap ring, meniscal	906095	Hand wheel ELESA
904076	Key	906095 B	Washer
904076 A	Plate spring	906096	Rack pinion, new style, tempered steel
904077	Gear		Snap ring SgA 20
904078	Gear		Snap ring SgA 22
904079	Gear		Key 5x5x20
904080	Gear		Key 6x6x40
904081	Gear		Woodruff key R21
904082	Intermediate shaft	906097	Worm gear
	Snap ring SgA 20	906098	Clutch head
	Key 5x5x50		



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<u>Part No.</u>	<u>Name of part:</u>	<u>Part No.</u>	<u>Name of part:</u>
	Slotted pin Ø 4x25		Emergency stop C124BC726-600 E for Olaf
	Spring Ø 7,8x18		
906099	Cover	910153	Intermediate shaft for Olaf
	Screw MC6S 6x16		
	Taper pin		
906109	Spring	x/	
448109	Crank		
	Motor for SE 1340/ Olaf 26, type R132 SBF/4-8-2465		
	Screw Fx-TT Pot 4x10		
	O-ring R 174		
	O-ring R 112		
907111	Worm gear		
	Oil plug 1/8" R		

For lead screw tapper:

909121	Gear housing w.
909123	cover
909124	Lock nut

For automatic head SE 1235 EL:

907110 A	Rack
907112	Cover
907113	Spacer

Front chart for Olaf

SP 31295	Riser block 6"
SP 31297	Riser block 12"



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<u>Part No.</u>	<u>Name of part:</u>	<u>Part No.</u>	<u>Name of part:</u>
	Slotted pin Ø 4x25		Emergency stop C124BC726-600 E for Olaf
	Spring Ø 7,8x18	910153	Intermediate shaft for Olaf
906099	Cover	910140	intermediate shaft
	Screw MC6S 6x16	910150	drive shaft
	Taper pin	x/ 910151	gear
906109	Spring	910152	gear
448109	Crank	910154	gear
	Motor for SE 1340/ Olaf 26, type R132 SBF/4-8-2465	910155	gear
	Screw Fx-TT Pot 4x10	910156	spacer
	O-ring R 174	910157	gear
	O-ring R 112	910158	spacer
907111	Worm gear	910159	shaft, rear
	Oil plug 1/8" R	910160	gear
		910161	gear
<u>For lead screw tapper:</u>		910162	gear arm, front
909121	Gear housing w.	910163	gear arm, rear
909123	cover	910164	rack, front
909124	Lock nut	910165	rack, rear
<u>For automatic head SE 1235 EL:</u>		910166	gear arm handle
907110 A	Rack	910168	gear arm cover
907112	Cover	910169	gear
907113	Spacer	910171	stop bar
<u>OLAF 26:</u>		910172	stop, lower
Front chart for Olaf		910173	spindle quill
SP 31295	Riser block 6"	910174	gear arm handle
SP 31297	Riser block 12"	910175	pump piston

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<u>Part No.</u>	<u>Name of part</u>	<u>Part No.</u>	<u>Name of part</u>
910176	non-return valve		
910184	oil pipe		
910186	spring, small		
910187	ball		
910188	spring, heavier		
910191/ 910193	lock handle		
910192	indicator		
910194	plastic handle		



SE 1340

Sprängskiss & reservdelslistor

Explosion drawings & spare parts lists

Explosionsbilder & Ersatzteillisten

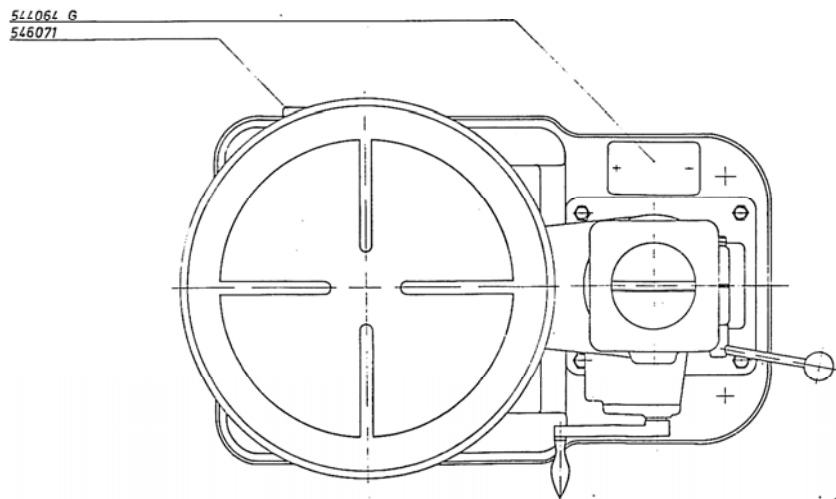
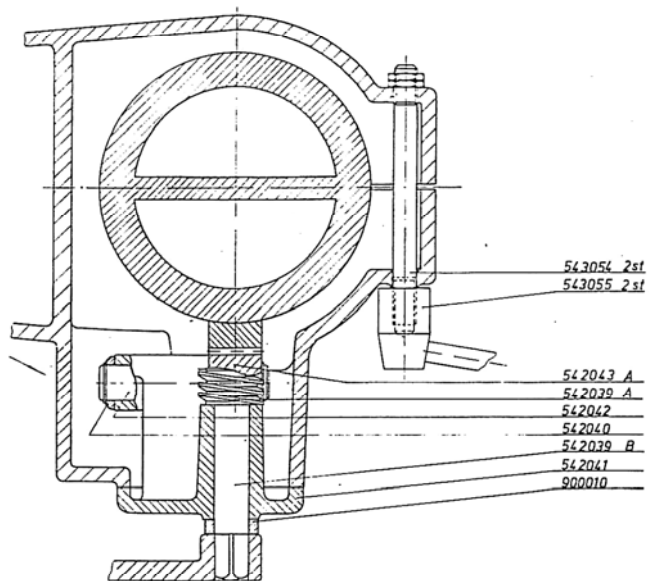
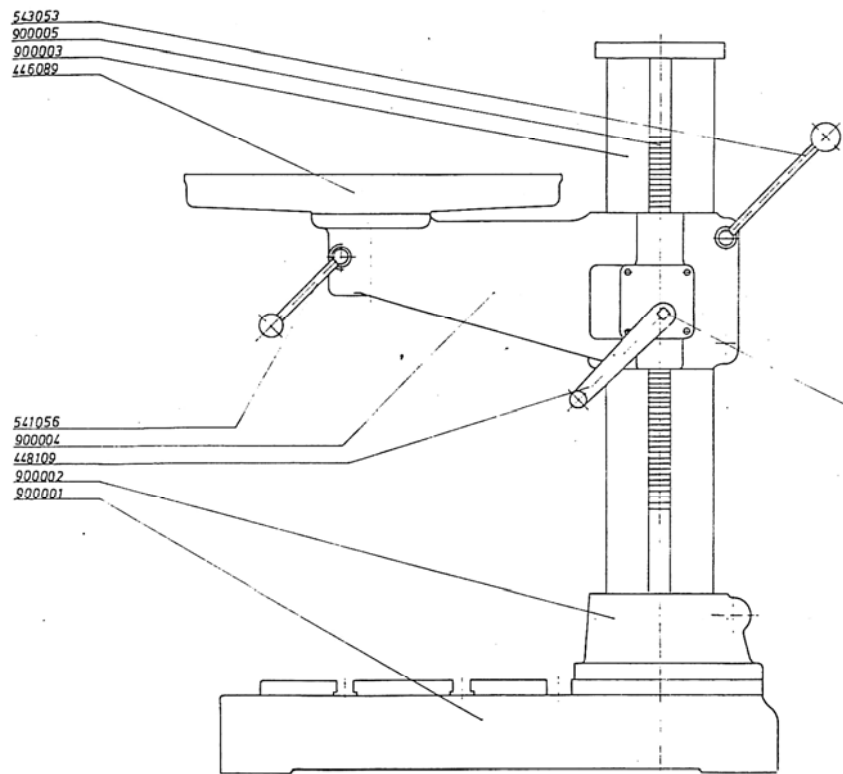
Machinery Scandinavia AB

Tung. 10, 57083 Rosenfors, Sweden

tel +46 495 49700, fax +46 495 207 30

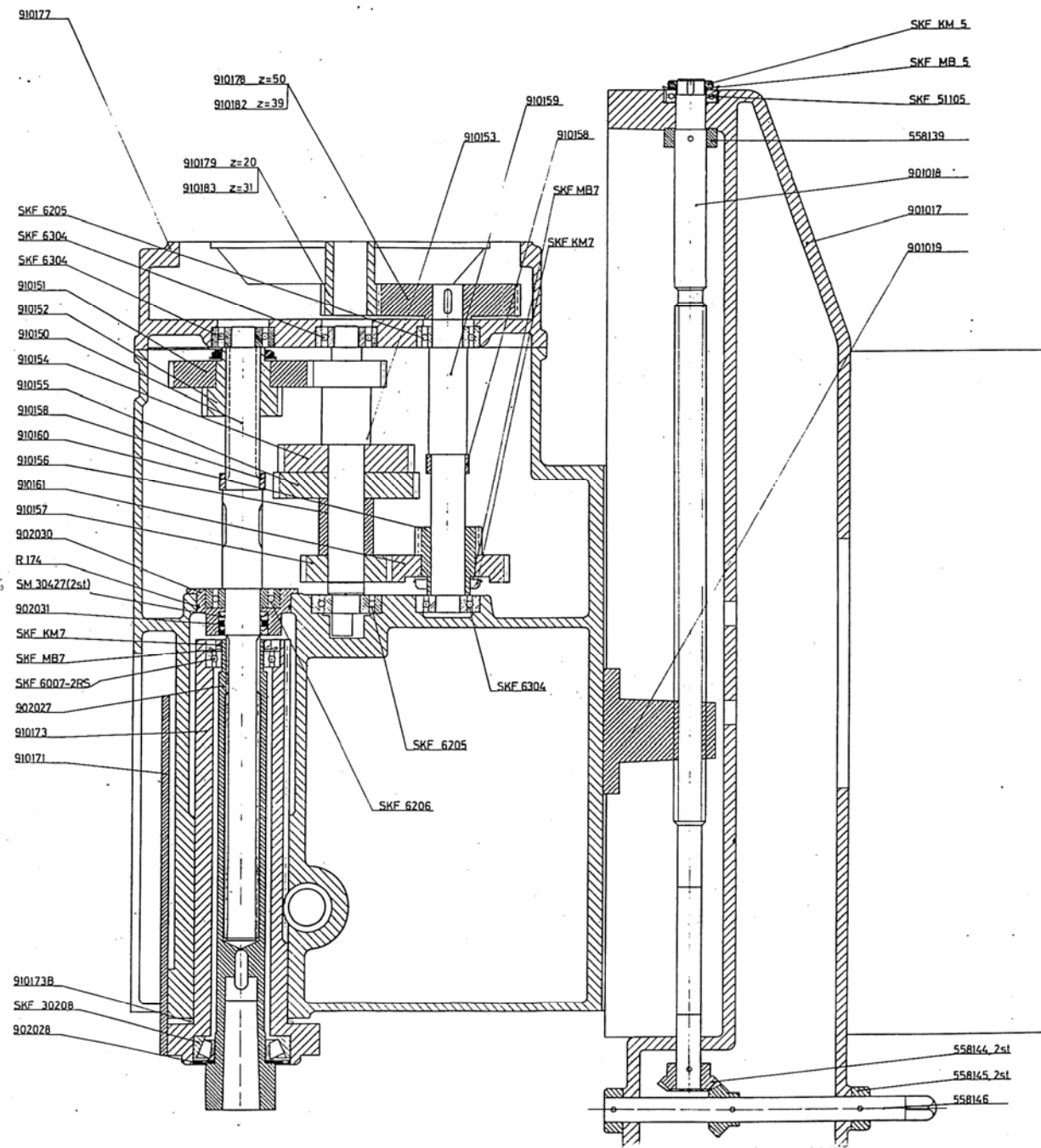
Email: sales@machineryscandinavia.com

URL: www.machineryscandinavia.com

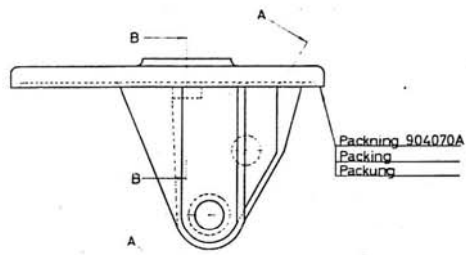


PELARSTÄLL	COLUMN AND BASE ASSEMBLY	STÄNDER	SE 1340	
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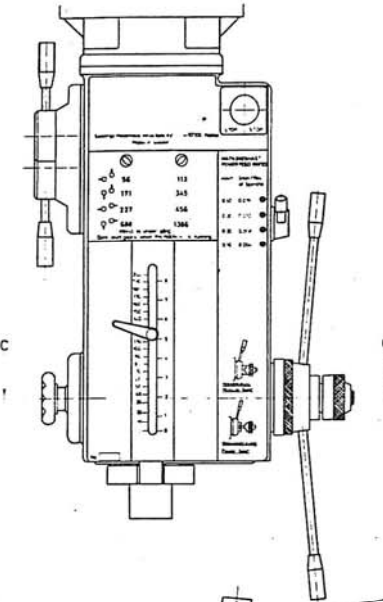
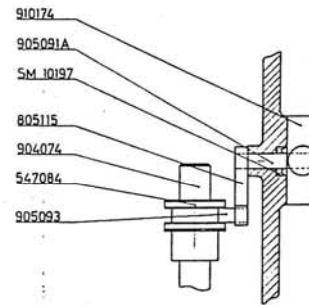
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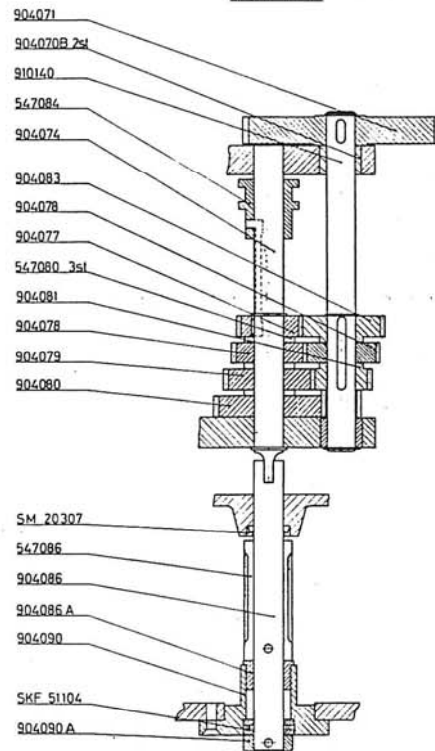
SE 1340	BOHRKOPF MIT PRIS- MATISCHER SAULE	DRILL HEAD ON SLIDING COLUMN	BORRHUVUD PÅ PRIS- MATISK PELARE
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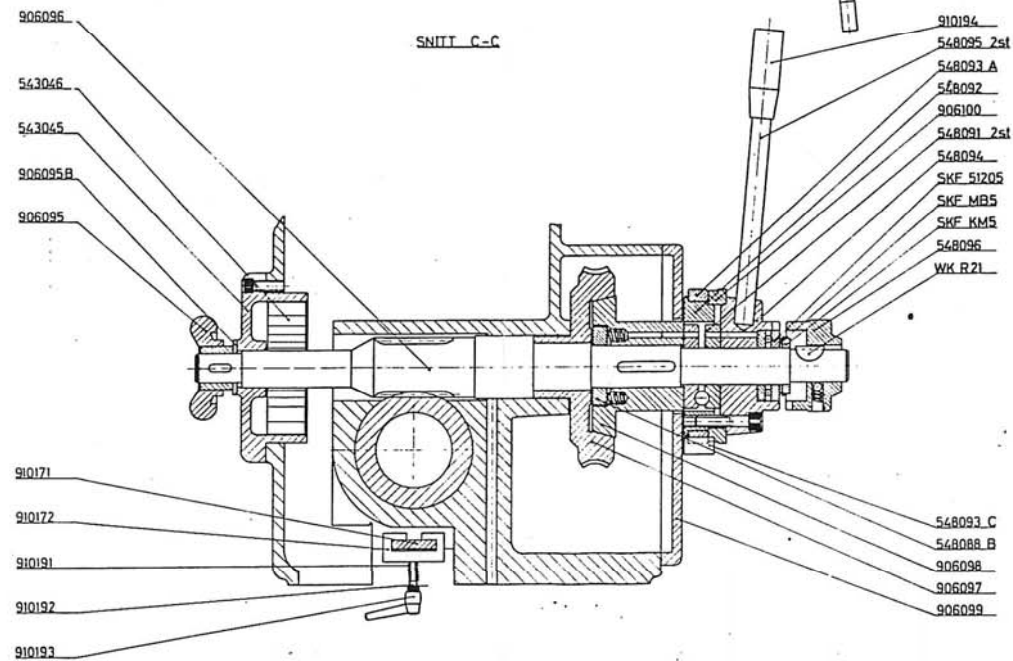
SNITT B-B



SNITT A-A



SNITT C-C

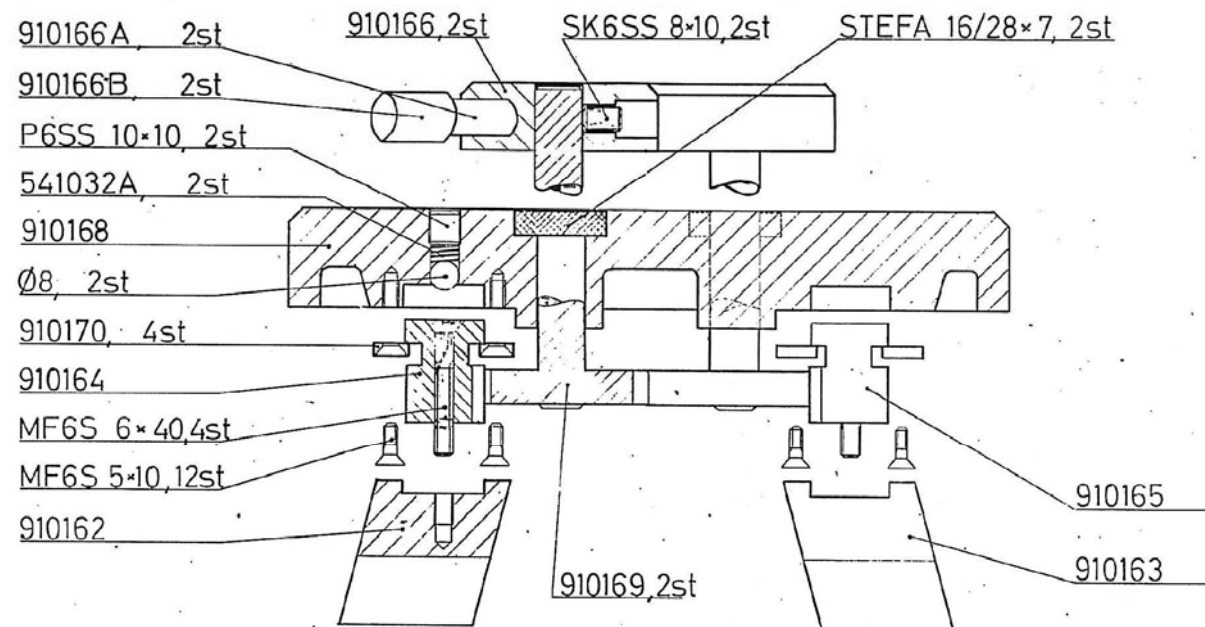


SE 1340

VORSCHUBGETRIEBKASTEN

FEED-GEAR-BOX

MATNINGSVÄXELLÅDA



SE 1340

Manöverorgan för växlar till spindeldrivning
Operating device for gears of the spindle device
Betätigungsvorrichtung des spindelgetriebes