

# REPAIRS MANUAL

## IR 10, IR 12, IR 20, IR 22



Art nr 1025 915

Engelska

2005 01 05

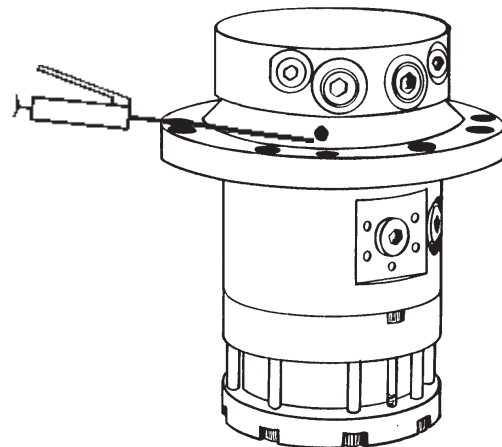


Indexator AB, Box 11, S-922 21 Vindeln, Sweden  
Tel +46 933 148 00, Fax +46 933 148 00  
service@indexator.se

## Assembly aids:

Lifting eyelet	2 off	M16/M20/M24	
Lifting eyelet	2 off	M10	
Nut wrench	1 off	IR 1, IR 12	8000 345
		IR 20, IR 22	8000 545
Vane compressor	1 off	IR 10, IR 12 L	8000 354
		IR 20, IR 22	8000 581
		IR 12	3120 329
Adapter plate main shaft	1 off	IR (All models)	3100 324
Adapter plate motor	1 off	IR 10, IR 12	3120 044
		IR 20, IR 22	3120 139
Assembly tool stator frame	1 off	IR 10, IR 12L	3100 328
		IR 20, IR 22	3100 327
		IR 12	3120 630
Rotation tool	1 off	IR (All models)	3100 329

The following illustrations show Rotator IR 10/20H (Hydraulic). The IR 10M and IR 20M (Mechanical) have a swivel cover instead of the hydraulic motor. These instructions apply also in principle for all IR models.



## Maintenance instructions.

Grease the rotator (Statiol Uniway Li62 or equivalent).

Lubricating intervals for normal use every 50 hours.

In very dirty conditions at least twice daily.

Ensure that all bolts joints are properly tightened.

Ensure that there are no cracks in the rotator mounts.



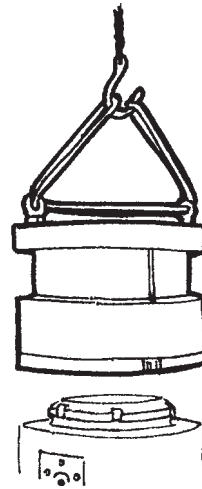
**Important!** If necessary to change a roller bearing, the complete bearing set needs to be replaced. A complete bearing set includes the roller bearing and bearing race.

---

**Fig. 1**

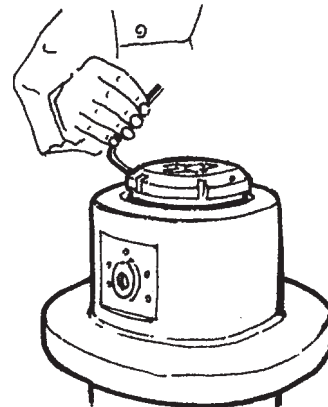
Turn the rotator upside down before starting to dismantle it. Unscrew the motor from the swivel section. Lift the motor with the aid of the lifting eyelets (M10).

(Repair of motor, see figures 16-26.)



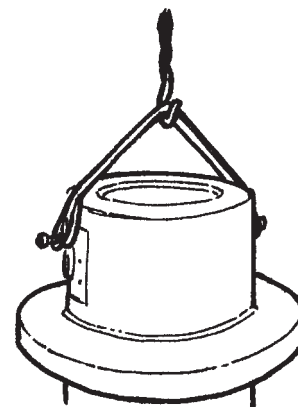
**Fig. 2**

Loosen set screws in the nut. The locking pins will not be fully released by loosening the set screws. Lightly tap the nut, with a plastic mallet close to the set screws to loosen the locking pins. Use the nut wrench to screw the nut off the shaft thread.



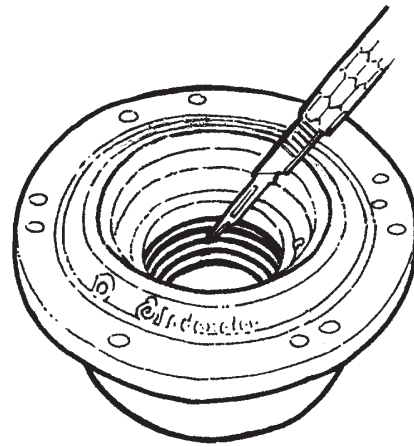
**Fig. 3**

Screw in two screws in the sides of the swivel housing. Using a crane, carefully lift the swivel housing from the main shaft. The roller bearing will then be released from the swivel centre and follow the upward movement.



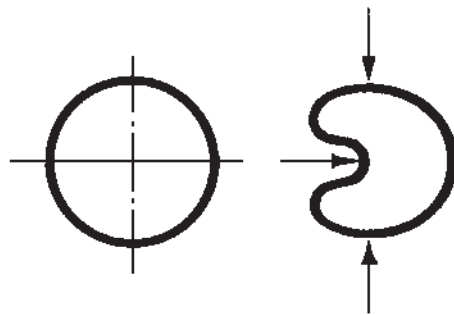
**Fig. 4**

Remove the glide O-rings from the swivel housing. Using a sharp knife sever the glide sleeves, taking great care not to damage sealing surfaces. Then thoroughly clean the sealing surfaces and the glide O-ring grooves.



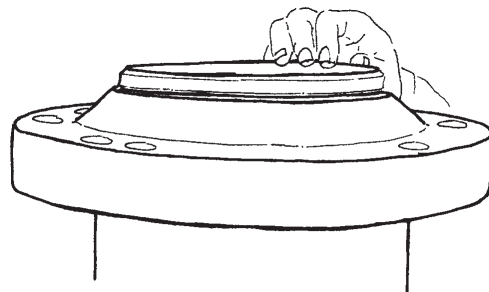
**Fig. 6**

Oil the glide O-rings before fitting. Fit the new glide O-rings in the grooves by carefully bending them into a kidney shape. It is essential that sharp bends are avoided. Use a finger to return the O-rings to their normal shape.



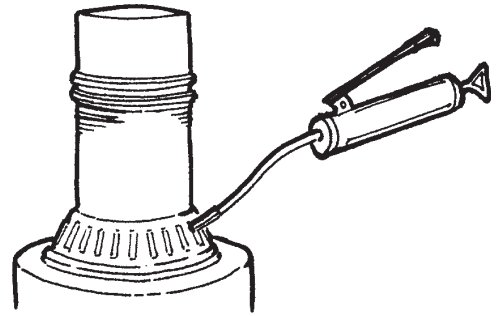
**Fig. 7**

Proper tools for dismounting and mounting are required when bearing races need to be replaced. The housing should be preheated to 50-60°C (120-140°F) when mounting new races.



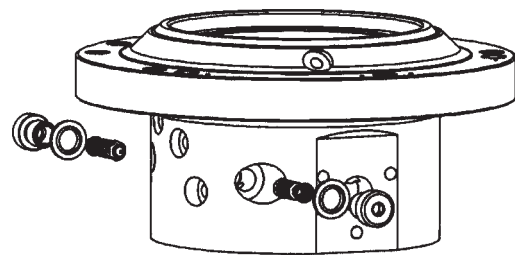
**Fig. 8**

When replacing the roller bearing on the swivel centre the bearing should be preheated to 40-60°C ( 100-140°F). Grease the taper roller bearing so that it is filled with grease even inside the roller cage. Then clean the sealing surfaces and oil the swivel centre before refitting the swivel housing.



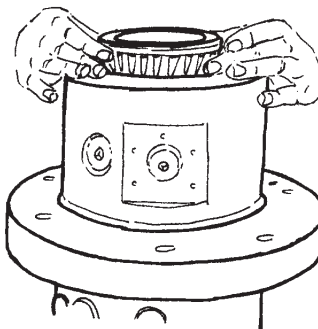
**Fig. 9** (IR10 /20HPL only)

Before the swivel housing assembles back on the main shaft, the pressure valves for the grapple functions should be disassembled and cleaned. Assembled it back in following order, pressure valve, spring and plug. Tighten the plug with 40 Nm (29 lbf-ft)



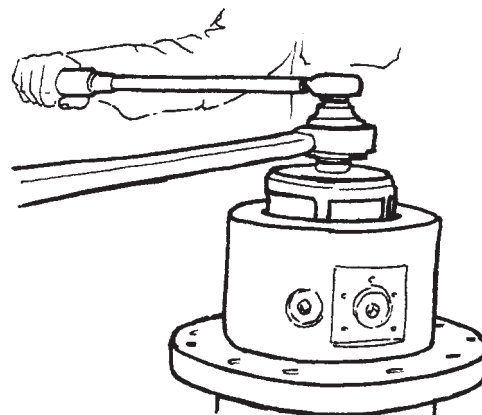
**Fig. 10**

Carefully lower the swivel housing onto the main shaft. (See figure 3). Preheat the roller bearing to 40-60°C (100-140°F), fill the roller bearing cavity with grease and mount onto the main shaft.



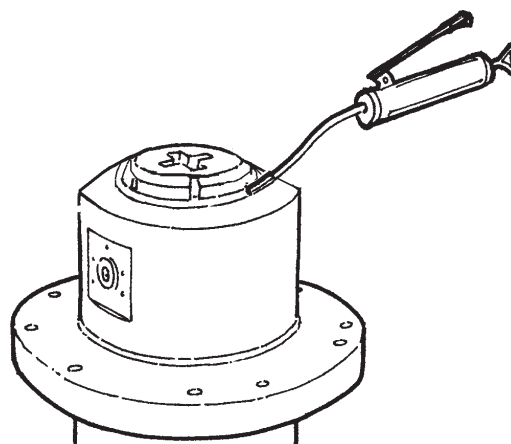
**Fig. 11**

Lubricate the nut with oil. Tighten the lock nut with a torque wrench while rotating the swivel housing at the same time (important). Use a calibrated torque wrench to ensured the correct torque. IR 10/12: 450 ±100 Nm (330lbf-ft), IR 20/22: 900 ±100 Nm (665 lbf-ft). Secure the nut by first screwing the set screws lightly against the shaft thread, then tighten the screws alternately and evenly to a torque of 35 Nm (25lbf-ft) (same for all IR rotators).



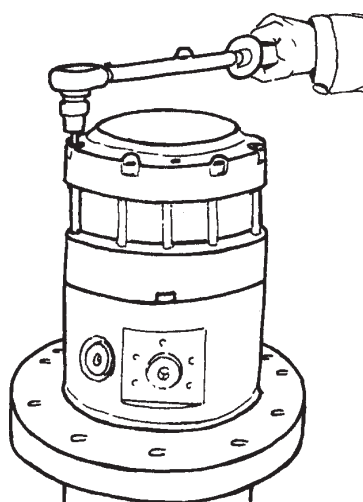
**Fig. 12**

Top up the space with grease.



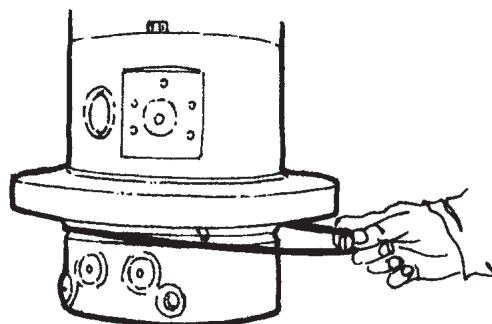
**Fig. 13**

Place the O-rings in position and fit the hydraulic motor, or the swivel cover. Make certain that the guide pins fit into the proper holes. Tighten the screws crosswise to a torque of 120 Nm (90 lbf·ft).



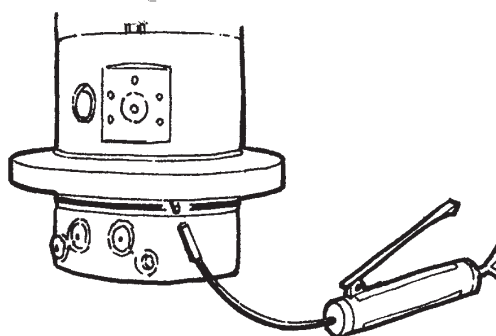
**Fig. 14**

Fit the dust seal in the joint between the main shaft and the housing.



**Fig. 15**

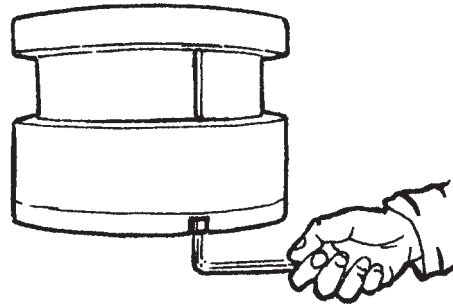
Fill the rotator with grease through the grease nipple.



**Fig. 16**

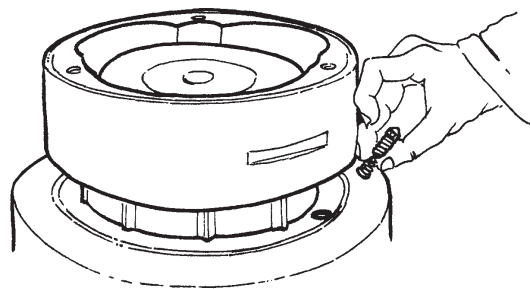
*Motor repair*

Remove the two screws holding the motor together, and carefully tap away the motor end cover with a plastic mallet. Also remove the pressure valve and spring, and the plug in the motor end cover. Remove the magnetic plug.



**Fig. 17**

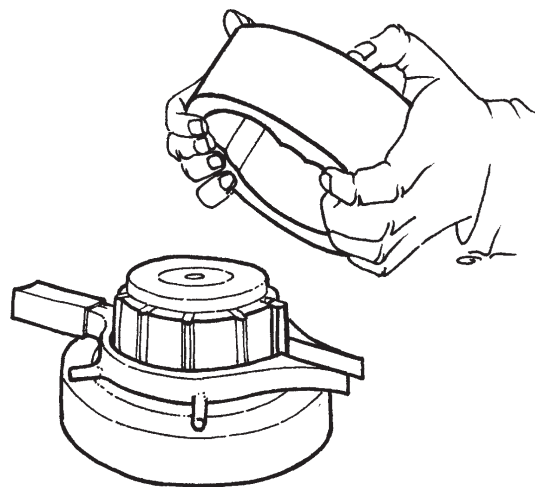
Carefully lift up the stator ring a little way, with the aid of a suitable tool, and take away the pressure valve to allow the vane compressor tool to be positioned.



**Fig. 18**

Hold the spring-loaded vanes in the closed position with the vane compressor. Now lift off the stator ring.

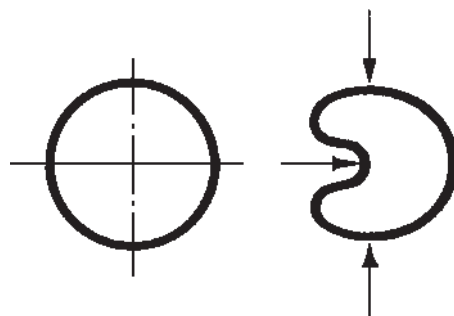
Carefully release the vane compressor and take out the vanes and springs.



**Fig. 19**

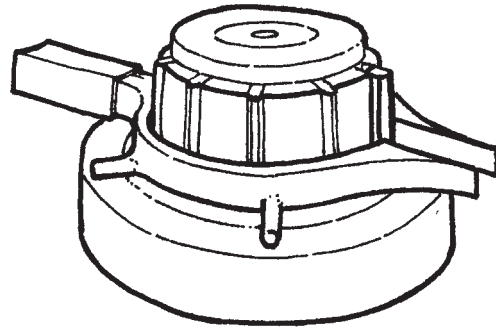
Lift out the motor shaft. Remove the glide O-rings from the motor top and end cover. Using a sharp knife sever the glide sleeves, taking great care not to damage the sealing surfaces. Then thoroughly clean the glide O-ring grooves. Oil the seals before fitting them. Fit the new seals in the grooves by carefully bending them into a kidney shape.

It is essential that sharp bends are avoided. Use a finger to return the glide O-rings to their normal shape.



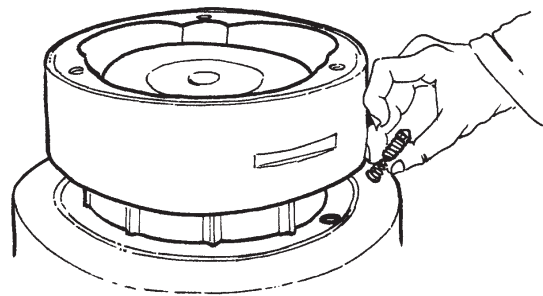
**Fig. 20**

Oil the swivel chamber, then mount the shaft and new O-ring in the motor end cover. The vane springs must be positioned in their matching spring seats when the vanes are fitted in place. Press the vane assembly together using the vane compressor.



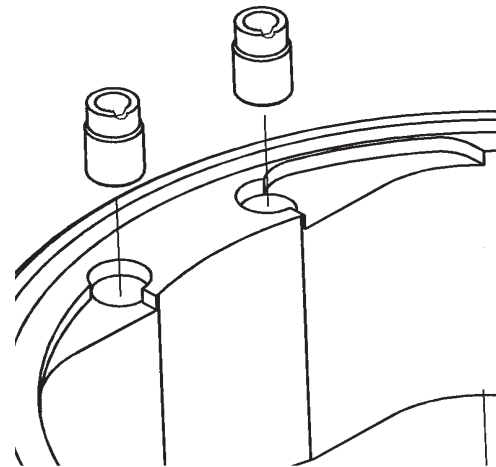
**Fig. 21**

Oil the inside of the stator ring and mount the stator ring into position as shown by figure 21. Fit the pressure valve, first the spring with the narrow side upwards and then the pressure valve with its taper upwards. Tap the stator ring down carefully using a plastic mallet. Check the position of the O-ring. Ensure that the pressure valve comes into position as the stator ring is being tapped into place. Check, for example using a screwdriver, that the pressure valve has spring action (important).



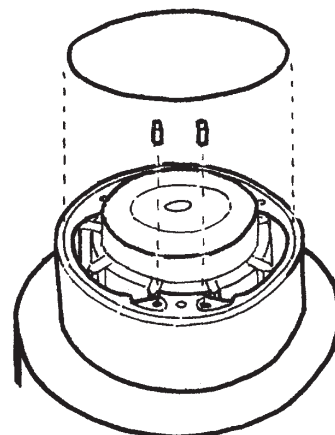
**Fig. 22**

Clean the restrictors from dirt. Mount the restrictors as shown in the above illustration.



**Fig. 23**

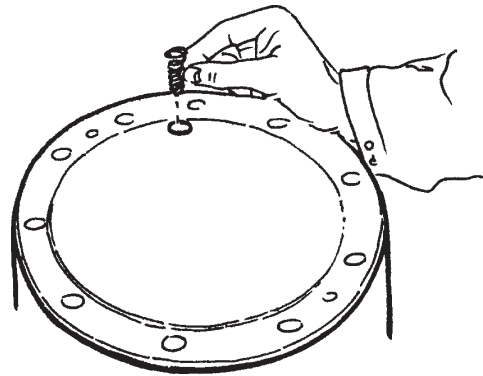
Oil the o-ring and place it in its groove. Then fit the bottom motor end cover. Make certain the guide pins are aligned.





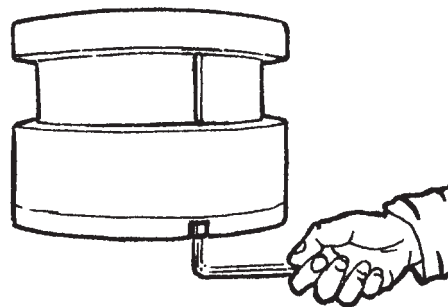
**Fig. 24**

Fit the next pressure valve through the hole in the motor end cover, with the taper first. After that the spring with the narrow side first. Then screw the plug and the rubber-steel washer back into place. Tighten to about 40 Nm (30lbf-ft).



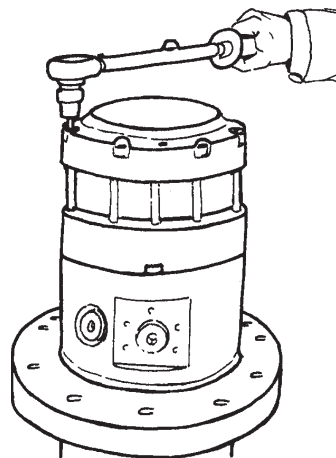
**Fig. 25**

Screw the motor together with the two M10 screws. (Max. 60 Nm(45lbf-ft).)



**Fig. 26**

Position the small O-rings and mount the hydraulic motor, lifting the motor with the help of the eyelets. Make certain that the guide pins align properly with their holes. Tighten the screws crosswise to a torque of 120 Nm (90lbf-ft).



**Fig. 27**

Hoist the rotator with the aid of the lifting eyelets screwed into the swivel centre.

