

Installation and Maintenance Instructions Freewheel Type RSBF..C Sizes 25 to 70

To avoid premature failure of the freewheel or possible machine malfunction, installation of the freewheel should be carried out by suitably qualified personnel and according to the following instructions.

STIEBER will not accept liability in cases of non-compliance with these instructions!

Description:

The RSBF type consists of an inner race and an outer race between which is located a cage guiding centrifugal lift off sprags.

The mounting on the machine should be such that only the inner race is overrunning. Please take into account the maximum overrunning speed given in the data table.

The freewheels should be unpacked and installed in a clean, dry working environment.

The unit should not be run at a speed below the indicated minimum speed in order to take advantage of the sprag lift off ability.

Should the unit be run below the minimum overrunning speed, it should be oil lubricated. Even so as long a life time cannot be achieved as when working over the lift off speed.

The product characteristics are given in the data table at the end of these instructions. They must be respected in order to have a problem-free function.

Prior to Installation:

It must be checked that the concentricity between inner and outer race can be maintained within the tolerances given in the table at the end of this text.

The shaft extension on which the inner race is sitting should have a tolerance h6 or j6. We recommend the centring spigot to receive the outer race to be machined to a tolerance h7 or g7.

Remove the transportation strap and check the direction of rotation. If the direction of rotation must be changed this can be done by reversing the mounting direction of the cage. This operation can be achieved by:

- removing 1 the outer race, 2 the external snap ring ensuring the position of the cage on the inner race, 3 the cage from the inner race.
- turning the cage and re-assembling the unit by fitting 1 the cage on the inner race, 2 the snap ring to secure axially the cage and 3 the outer race.

Attention: Without transportation strap the outer race can slip from the backstop when not horizontally handled. Accident risk!!

When re-assembling the snap rings it must be taken care that the opening must receive in its middle the screw head on the cage side face used for cage drive.

Installation

The assembly can be made with an assembled unit. In any case it must be taken care that no dirt comes inside the backstop.

Slip the inner race on the shaft. Pay attention to the key. Push only onto the inner race. Secure axially the inner race with the set screw.

Centre and secure the outer race on the housing with adequate screws (see table). When necessary rotate the outer race in the free direction to bring the screws holes in alignment.

In case the inner race/cage assembly has been mounted without the outer race, the outer race can be slipped over the cage by a rotation in the freewheeling direction. This operation can be facilitated by stretching a strong O-ring or a steel wire around the cage and locking the sprags in the lift off position. When the outer race is centred on the sprags, then remove the O-ring or steel wire.

Size	Screws for Outer Race Quality 8.8 min.	Tightening Torque [Nm]	Removal Thread Cage
All Sizes	M6	9.9	M3

After Installation:

After installation, ensure the backstop permits rotation in the required direction.

Dismounting

The dismounting operation is carried out in exactly the opposite way than the installation operation.

Maintenance:

Stocking time in a dry room maximum 1 year. After that the rust protection must be renewed.

Operation over the lift off speed.

In case of short starting- and stopping times (less than 20 s) it is possible to run the unit without a specific lubrication. Nevertheless a protection against corrosion must be insured by keeping always some lubricant on all surfaces.

If the starting- and stopping times are relatively longer, then an oil or grease lubrication must be insured.

An oil lubrication can be carried out with all transmission or hydraulic oils with a minimum viscosity of 32mm²/s. It is enough when the oil level is just some millimetres above the bottom point of the outer race inner diameter.

Use alternatively grease with a viscosity class 2 or less. In case of grease lubrication regardless of the operation time, the lubricant must be renewed every 2 years. For this purpose the unit must be dismounted, cleaned and newly lubricated.

Technical Data

Type	max.Torque* [Nm]	Overrunning Speed [rpm]		max. Concentricity Error [mm]	Grease [g]
		min.	max.		
RSBF 25 C	750	780	11400	0.3	10
RSBF 30 C	1040	740	10500	0.3	15
RSBF 40 C	1200	720	7600	0.3	20
RSBF 50 C	1400	610	6100	0.3	35
RSBF 60 C	1500	610	6100	0.3	35
RSBF 70 C	2400	520	6100	0.25	75

^{*)} depending on the shaft-hub connection

