



Installation and Maintenance Manual

WorldWide Electric
SMR Backstop Assemblies

* Suitable for use in WWE shaft mount reducers only.

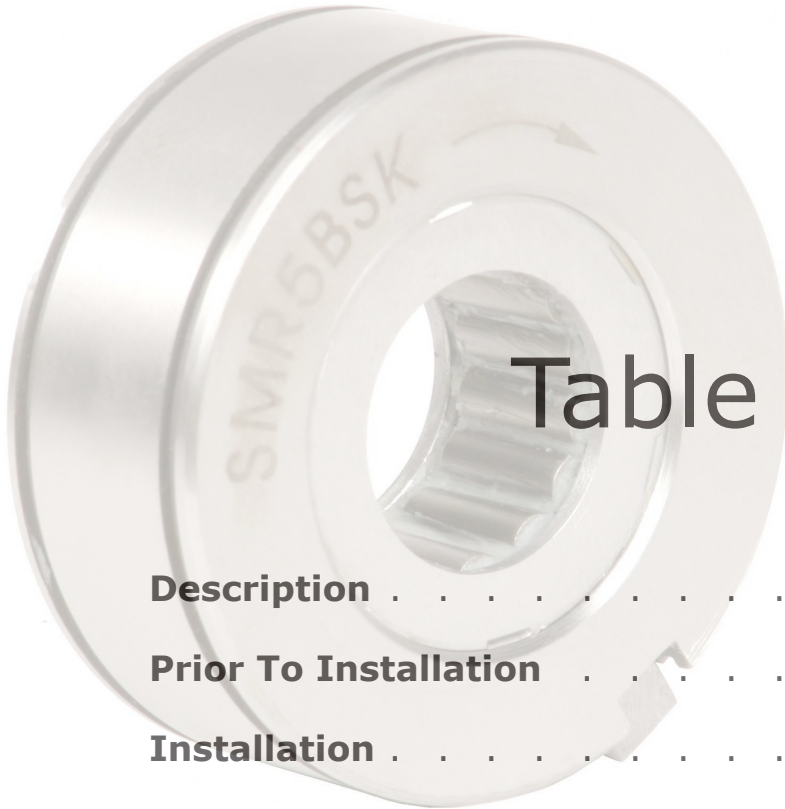


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To avoid premature failure of the backstops or possible machine malfunction, installation of the freewheel should be carried out by suitably qualified personnel and according to the following instructions.

Description

1. The main components of SMRBSK units are: Inner race, outer race, a number of energized sprags and side plate.
2. The maximum permissible overrunning speed must not be exceeded.
3. When used in dual drive applications the maximum driving speed must not be exceeded.
4. Cam Clutches are shaft mounted, so the shaft on which the clutch is mounted must be hardened to HRC 56-60 and 1.5 mm case depth after grinding. Grind to 1.5S (16 micro-inch) finish. The taper of this shaft should not exceed 0.01 mm per 50 mm.

Prior To Installation

1. The units should be unpacked and installed in a clean dry working environment.
2. For units dispatched 'dry', corrosion inhibitor should be removed using flushing oil prior to Installation.
3. The inner race should be fitted to a shaft of (-0.01mm to -0.025mm) tolerance if the unit is supplied with a metric bore. Details for each type are shown in the *Dimensions* tables on pages 5-6.
4. The mounting register for the outer race should be within the housing bore (0mm to +0.03mm) tolerance. Details for each type are shown in the *Dimensions* tables on pages 5-6.
5. The freewheeling direction should be checked prior to installation.
6. If reversal of the freewheeling direction is required, turn the backstop through 180°.

Installation

1. The clutch should be installed as an assembly.
2. The inner race should be pulled on to the shaft. The key should be the full length of the hub.
3. For installation of the clutch, mount the clutch with bearings at both sides or on one side in order to obtain concentricity between the shaft and the clutch outer race and to take up radial or thrust loads which may work on the outer race or the shaft. (See Mounting Example on Page 4.)
4. The clutch should be mounted on the shaft by rotating it in the direction marked by the arrow shown on the clutch plate. Do not apply shock to the clutch by hammering.
5. The clutches have the same outside diameters as the bearings. Bore tolerance of the housing in which the clutch is assembled should be within the range of each type of SMRBSK.
6. Concentricity of the housing bore and shaft should be within 0.05 mm.

After Installation

1. After installation, ensure smooth rotation of the units in the freewheeling direction.
2. Ensure the unit contains the correct volume of the lubricant prior to use.
3. The expected drag torque produced when freewheeling is about 1/1000 of the nominal torque.

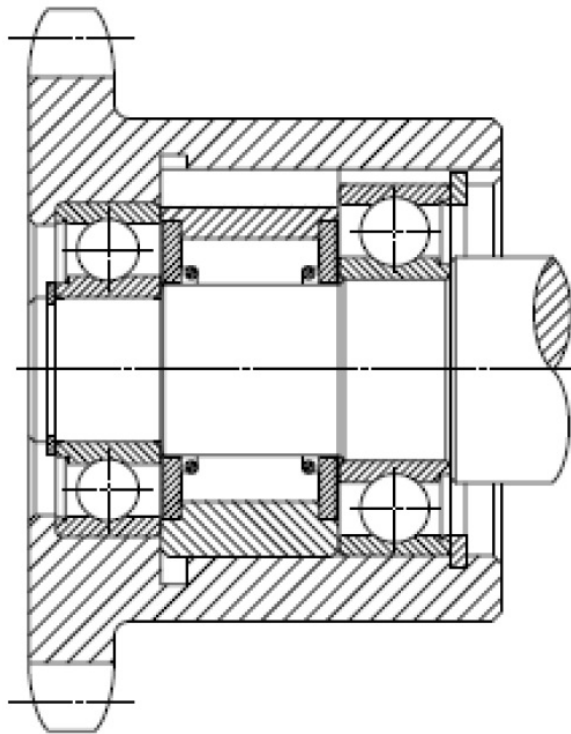
Dismantling

To dismantle the units please follow the Installation section in reverse sequence.

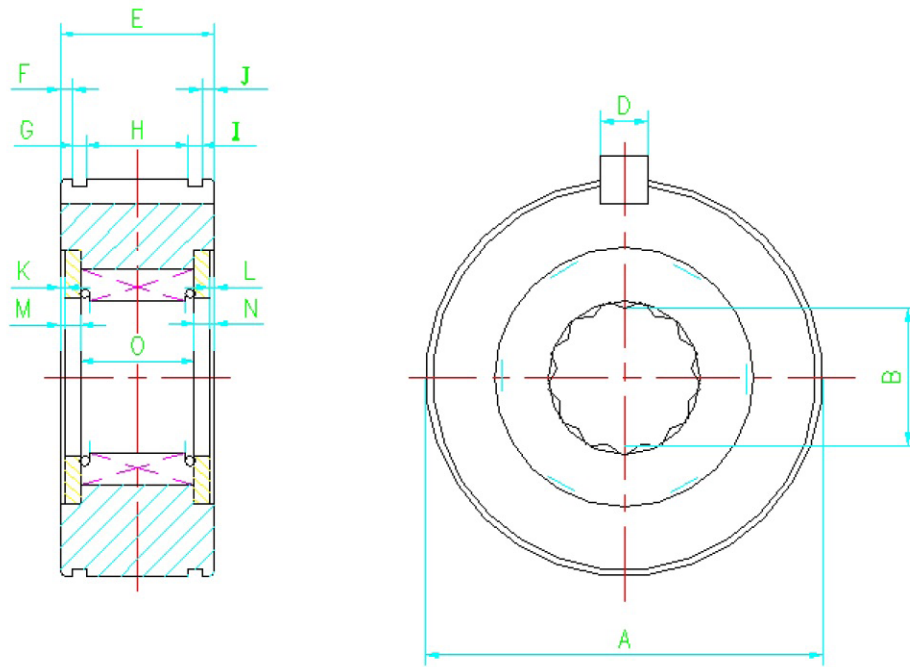
Lubrication and Maintenance

1. Type SMRBSK backstops are factory lubricated with oil.
2. The work temperature is between $-20^{\circ}\sim+70^{\circ}$.
3. The backstop can operate without maintenance.
4. If in arduous conditions (high temperature/dusty) the backstop should be re-lubricated every 3-6 months.
5. Do not use slip additives such as graphite, Molykote or similar agents in the oil and grease as they will shorten service life of the clutches.

Mounting Example



Dimensions - SMR BSK Size 2,3,4,5

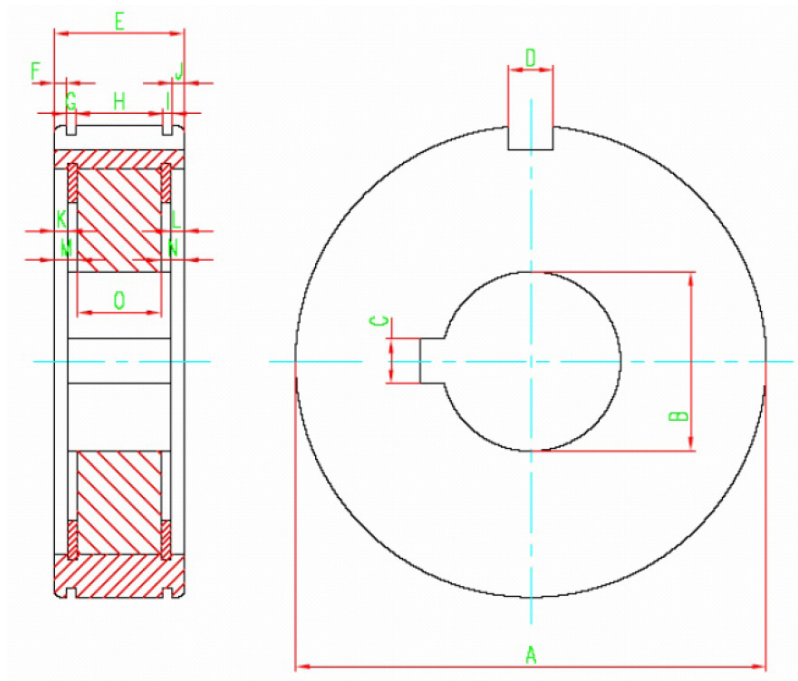


DIMENSIONS *

Model Number	Outer Race (A) inches (mm)	Housing Bore (mm)	Inner Race (B) inches (mm)	Shaft (mm)	Width (E) inches (mm)
SMR2BSK	2.44 (62 ⁺⁰ _{-0.03})	(62 ^{+0.03} ₊₀)	0.97 (24.65)	(24.65 ^{-0.01} _{-0.025})	0.87 (22)
SMR3BSK	1.85 (47 ⁺⁰ _{-0.025})	(47 ^{+0.025} ₊₀)	0.74 (18.796)	(18.796 ^{-0.01} _{-0.025})	0.98 (25)
SMR4BSK	2.44 (62 ⁺⁰ _{-0.03})	(62 ^{+0.03} ₊₀)	0.89 (22.57)	(2.57 ^{-0.01} _{-0.025})	0.91 (23)
SMR5BSK	3.15 (80 ⁺⁰ _{-0.03})	(80 ^{+0.03} ₊₀)	1.22 (30.862)	(30.862 ^{-0.01} _{-0.025})	1.26 (32)

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Dimensions - SMR BSK Size 6/7,8/9,10



DIMENSIONS *

Model Number	Outer Race (A) inches (mm)	Housing Bore (mm)	Inner Race (B) inches (mm)	Shaft (mm)	Width (E) inches (mm)
SMR6/7BSK	3.94 (100 ⁺⁰ _{-0.035})	(100 ^{+0.035} ₊₀)	1.50 (38.1)	(38.1 ^{-0.01} _{-0.035})	1.16 (29.5)
SMR8/9BSK	4.5 (114.3 ⁺⁰ _{-0.035})	(114.3 ^{+0.035} ₊₀)	1.75 (44.45)	(44.45 ^{-0.01} _{-0.035})	1.06 (27)
SMR10BSK	4.5 (114.3 ⁺⁰ _{-0.035})	(114.3 ^{+0.035} ₊₀)	1.75 (44.45)	(44.45 ^{-0.01} _{-0.035})	1.575 (40)

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