

# **RINGSPANN® CORPORATION**

**Power Transmission**

**Installation and Operating Instruction for  
RCD 3 thru RCD 13 Backstops**

**E 08.771e**



## **RINGSPANN CORPORATION**

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## Important

- Please read these instructions carefully before installing and operating the product. Your particular attention is drawn to the notes on safety.
- These installation and operating instructions are valid on condition that the product meets the selection criteria for its proper use. Selection and design of the product is not the subject of these installation and operating instructions.
- Disregarding or misinterpreting installation and operating instructions invalidate any product liability or warranty by RINGSPANN CORPORATION; the same applies if the product is taken apart or changed.
- The installation and operating instructions should be kept in a safe place and should accompany the product if it is passed on to others – either on its own or as part of a machine – to make it accessible to the user.

## Safety Notice

- Installation and operation of this product should only be carried out by skilled personnel.
- Repairs may only be carried out by the manufacturer or accredited RINGSPANN CORPORATION agents.
- If a malfunction occurs, the product, or the machine into which it is installed, should be stopped immediately and either RINGSPANN CORPORATION or an accredited RINGSPANN CORPORATION agent should be informed.
- Switch off the power supply before commencing work on electrical components.
- Rotating machine components must be protected by the purchaser.
- Supplies abroad are subject to the safety laws prevailing in those countries.

## Warranty

RINGSPANN CORPORATION “seller” agrees to repair or replace (at its sole option), defective materials or workmanship for a period of one year from the date of delivery. Seller must be notified of such a defect within a reasonable time after discovery (not to exceed thirty (30) days), and the defective product must be delivered, prepaid to the seller’s factory with evidence that, it has been properly installed, maintained and operated in accordance with the seller’s instructions. Seller’s limited warranty excludes remedy for damage or defect caused by abuse; failure to resist corrosion or erosion from any corrosive agent or fluid, due to deposits of foreign material from any fluid; modifications not executed by Seller; improper installation or operation; defects or failures arising out of, in any way related to, or as a result either direct or indirect, of the Buyer’s failure to properly advise Seller of all normal and special operating conditions, known to or suspected by Buyer, when Seller is manufacturing the Equipment for a specific operation; or normal wear and tear under usage. This remedy is exclusive and is given in lieu of any warranty of merchantability, fitness, for a particular purpose or any other warranty, whether express or implied. Seller shall not be liable for consequential damages (including but not limited to, loss of use, lost profits, business interruption and the like), incidental damages, indirect damages, whether the claim for such damage is based upon warranty, contract, tort, strict liability or any other theory of recovery.

## Backstop Rebuilding Service

RINGSPANN CORPORATION backstops are precision devices manufactured under careful controls to meet manufacturing standards. When reconditioning is required, backstops should be returned to RINGSPANN CORPORATION for service.



### CAUTION!

Disassembly and repair of RINGSPANN CORPORATION backstops in the field is not recommended and will void any warranty.

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Date: 10/28/2014	Revision : 02 – E101418	By: PGW      Checked By: DNW      Number of Pages: 4      Page: 3


## Introduction

RINGSPANN CORPORATION RCD series backstops are precision built safety devices designed to protect inclined conveyors or vertical elevators from the dangers of gravity accelerated reverse runaway.


To be assured of reliable protection and the longest possible service life, it is important that the following recommendations be observed for the installation, lubrication, and maintenance of RINGSPANN CORPORATION backstops.

As soon as the unit has been received, examine it carefully and report any damage to the transit company and RINGSPANN CORPORATION immediately.

All tags and bulletins attached to the unit should be carefully read before placing the unit in operation and then filed for future reference.

	<p><b>WARNING!</b> Failure to follow these instructions may result in product damage, equipment damage, and serious or fatal injury to personnel.</p>
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## Pre-installation Check

	<p><b>WARNING!</b> Consult applicable local and national safety codes for proper guarding of rotating members. Lock out power source and remove all external loads from drive before servicing drive or accessories. The backstop and normal associated equipment (shaft, pulleys, etc.) involve moving parts; therefore consult local, state, OSHA and ANSI safety codes for proper guarding of revolving parts and possible pinch points.</p>
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Damage may occur to the backstop if it remains inoperative under full load for extended periods of time.

If the shaft was accidentally rotated in the wrong direction at start-up, the backstop may have been damaged.

- Return the backstop to RINGSPANN CORPORATION for inspection upon such an occurrence.

	<p><b>CAUTION!</b> Lubricants of the EP type (extreme pressure characteristics) should be approved by RINGSPANN CORPORATION. Those containing solid additives such as graphite or molybdenum disulphide should not be used.</p>
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## Shaft Requirements:

RCD Model	Shaft Dimensional Tolerances
RCD 3	0.7383 / 0.7378"
RCD 4	0.8891 / 0.8881"
RCD 5	1.2150 / 1.2140"
RCD 6	1.5005 / 1.5000"
RCD 7	1.5005 / 1.5000"
RCD 8/9	1.7505 / 1.7500"
RCD 10/12	1.7505 / 1.7500"
RCD 13	1.9370 / 1.9360"

Please reference the gearbox manufactures manual, Ringspann's cross reference list, and shaft dimensional tolerance to review the original gearbox manufacturer's recommendations for the installation practice for given part. Ringspann notes the key points later in this manual.

## Rotation

The clutch is symmetrical. In determining the proper direction of free rotation, orientate the clutch to match the directional arrows marked free on either face of the inner race.

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## Installation



### ATTENTION!

Before securing into place, check for proper rotation. As the clutch is symmetrical, in determining the proper direction of free rotation, orientate the clutch to match the directional arrows marked on either face of the inner race and then verify by spinning the backstop by hand.



### DO NOT FORCE BACKSTOP ONTO SHAFT!

Evidence of damage during assembly caused by disregard of the above instructions is readily traceable and RINGSPANN CORPORATION will not be held responsible for failure of such affected part or parts.

**RINGSPANN CORPORATION RCD SERIES** – Is used as a replacement for backstops installed by the gearbox manufacturer. Refer to the gearbox manufacturer's literature for mounting arrangement of the backstop with respect to the gearbox. Considerations and recommendations of the gearbox manufacturer should be followed for safe operation and longevity of the backstop.

**BACKSTOP REMOVAL** – The gearbox manufacturer's instructions manual for speed reducer backstops should be referred to for removal of backstop from gearbox.

**ENDPLAY** – While the old backstop is removed, the endplay should be checked. It is possible that bearing wear or looseness might have increased the amount of endplay to unacceptable levels. Shaft endplay should not exceed 0.003". Shaft endplay can be measured with a dial indicator on shaft end. The base of the indicator is mounted to housing and the shaft forces are exerted in both directions while rotating the shaft to measure the total movement in axial direction.

**SHAFT CONDITION** – The shaft tolerance must meet the specifications shown in this manual. The shaft must also be free of burrs, general corrosion, and the journals must be smooth and free of damage.

**CONCENTRICITY** – While the old backstop is removed, the concentricity must be checked. The total indicator reading between shaft and housing bore which is used for backstop is critical for safe operation of backstop clutch. This reading should not exceed 0.003" while sweeping the bore the full 360 degrees in two locations along the bore axis.

**CHECK FOR PROPER FREE ROTATION** — The backstop can be mounted for either rotation by flipping it end for end. Before mounting the backstop on the shaft, be sure to check direction of free rotation.

**MOUNT BACKSTOP ON SHAFT** — RCD backstops are designed for an easy push fit onto a shaft that is straight and not tapered. Coat the shaft with light oil for easy mounting. For RCD backstops that do not have an inner ring, it may be helpful to rotate the shaft in the free direction while gently pushing the backstop onto the shaft. Check again to make certain the free rotation of the backstop matches the desired rotation. Push the backstop onto the shaft, taking care to push only on the faces of the inner and outer rings.

**ACCESSORIES** — Install the provided keys and retaining rings per the original OEM's requirements. Their manuals should be referenced per the particular RCD size and gearbox number. Keys should fit freely into respective keyways. Forcing keys into place could result in premature failure of backstop.



### WARNING!

Rotating equipment is potentially dangerous and should be properly guarded. The user should comply with all applicable safety codes to guard rotating equipment.



### WARNING!

RINGSPANN CORPORATION is not responsible for any lubrication changes made by others after the backstop leaves the RINGSPANN CORPORATION factory.