Document Title		Addition of Bushing to Platen Plate				
Document #	Rev	Type	Reason	Recommendation	Original Release Date	
ZSB-029	Original	Service Bulletin	Reliability / Safety	Optional / Mandatory	November 10,2021	

Addition of Bushing to Platen Plate

Applies to units produced prior to Oct. 2020

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Keeping Helicopter Rescue Hoist Users Safe Worldwide

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Purpose: The purpose of this service bulletin is to advise customers of a product improvement related to the operation and adjustability of the Rotatub Slip Clutch.

NOTE

Applies to units produced prior to H03991020, E00590321, M0180121

Scope:

Problem Observed: Customer reported difficulty adjusting the Slip value of the Rotatub clutch. The clutch requires all of the adjusting screws be evenly set in order to produce an evenly applied slip load value. No matter what the customer tried they could not get the slip load values consistently low.

Upon further investigation it was observed that the top edge of the axel shaft was touching the lower edge of the top platen plate. A bushing was added to ensure that an interference between the top edge of the axel and the lower edge of the ID of the plate was eliminated.

The addition of the bushing to the top plate eliminates possible interference between the top edge of the OD of Axel Shaft and the bottom edge of the ID of the top platen plate. Interference may result in difficulty adjusting the Rotatub slip load values. It may result in high Rotatub slip loads resulting in a gap in the cable wrapping on the Spooler. The gaps may then result in not enough space on the spooler for the complete cable length to be wrapped, with the result being that the cable comes out of the Rotatub and gets kinked if the operator does not stop operation fast enough.

Another observation that resulted from the investigation was that users do not always have access to a torque watch that is required to adjust the screws to the very low torque that is required to allow the Rotatub to slip properly.

Procedure: The Infinitively Adjustable platen assembly ZGS-10248-1 must be disassembled. The Top Plate ZGS-10180-2 must be replaced or reworked to add the bushing ZGS-10886-1. The slip pads should also be replaced. The adjustment of the revised assembly requires the use of a Torque Watch, see figure 5.

1. Remove the Rotatub and Spooler by removing the ¼-20 lock nuts (4).

Figure 1 Rotatub Attachment Nuts

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2. Using a 7/16 Box wrench and a 5/32 hex key remove the ¼-28 bolts (4), being careful to note the position and orientation of the Belleville washers. *See figure 2*
3. Remove the top plate and clean all the grease or remove the slip pads from the upper plate.
4. Remove the (4) Flat head screws that attach the bronze disc to the axel shaft, in order to remove the bronze disc. Use of an impact tool may be required. *See figure 3*
5. Remove all the grease from the bronze disc.
6. Remove the slip pads or clean off the grease from the lower plate.
7. Note the side of the top plate to face upwards and set in place.
8. Add a new slip pad.
9. Attach the clean bronze plate, install the screws using Loctite 242 and torque to 32 in-lbs.
10. Add a new slip pad on top and centered on the bronze plate.
11. Add the top plate that has the bushing installed, see figure 4, and install the (4) Screws, beveled washers and nuts finger tight. Check that the beveled washer's concave side is facing the top plate from above and the bottom plate from below.
12. Tighten the screws evenly to obtain 6 in-oz on each screw. This requires holding the nut on the bottom of the screw with the 7/16 hex wrench and tightening the screw with a 5/32 hex key. Then measuring the residual torque to spin the screw using the torque watch, see figure 6. Do not apply torque to tighten the screw with the torque watch.
13. Place the Rotatub on the (4) studs and use a spring scale to check the breakaway force as shown in figure 7. If it is 2-3 lb. then adjustment is complete. If not remove the Rotatub and adjust the nuts to obtain 6 in-oz when rotated with the torque watch.
14. Attach the Rotatub with the (4) locknuts and washers.
15. Recheck the Rotatub slip value dynamically to verify it is slipping at 2-3 lb. at the hole in the top edge of the Rotatub as shown in figure 7.

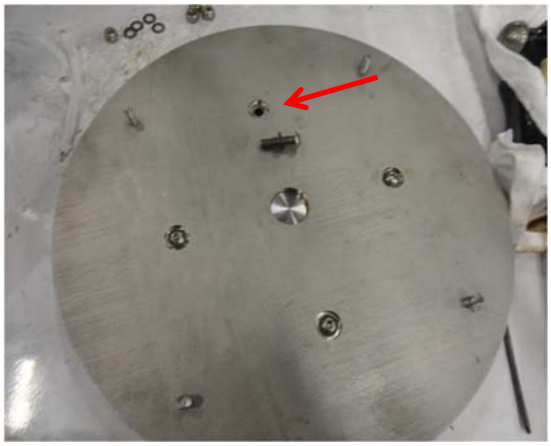

Figure 2 Top Plate Attachment Fasteners

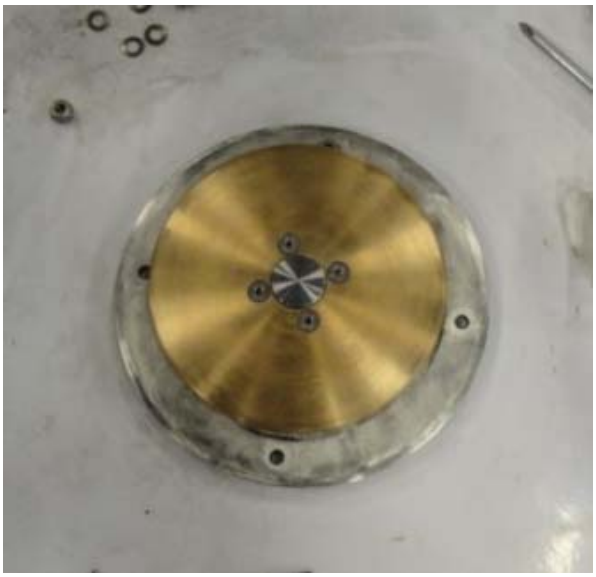

Figure 3 Bronze Plate and Flat Head Screws

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Figure 4 Top Plate with Bushing Installed

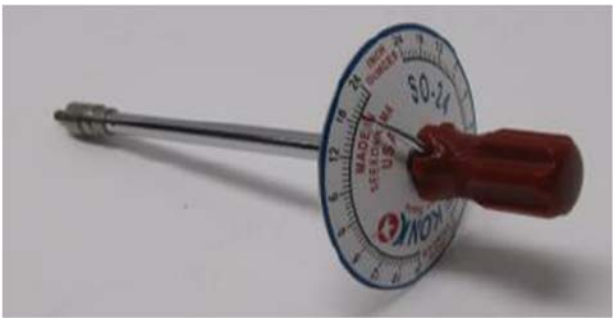

Figure 5 Torque Watch 0-24 in-oz

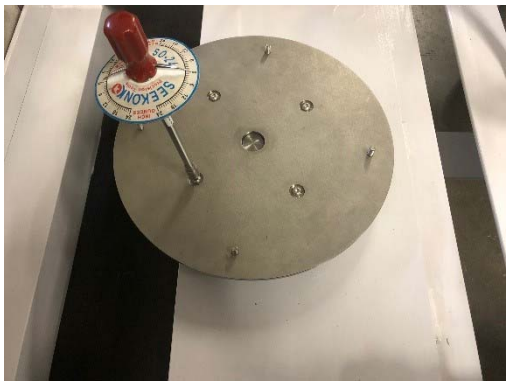

Figure 6 Checking Torque

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Figure 7 Checking Rotatub Slip Value

Price and Availability: Contact Zephyr International for more information at info@zephyrintl.com .

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