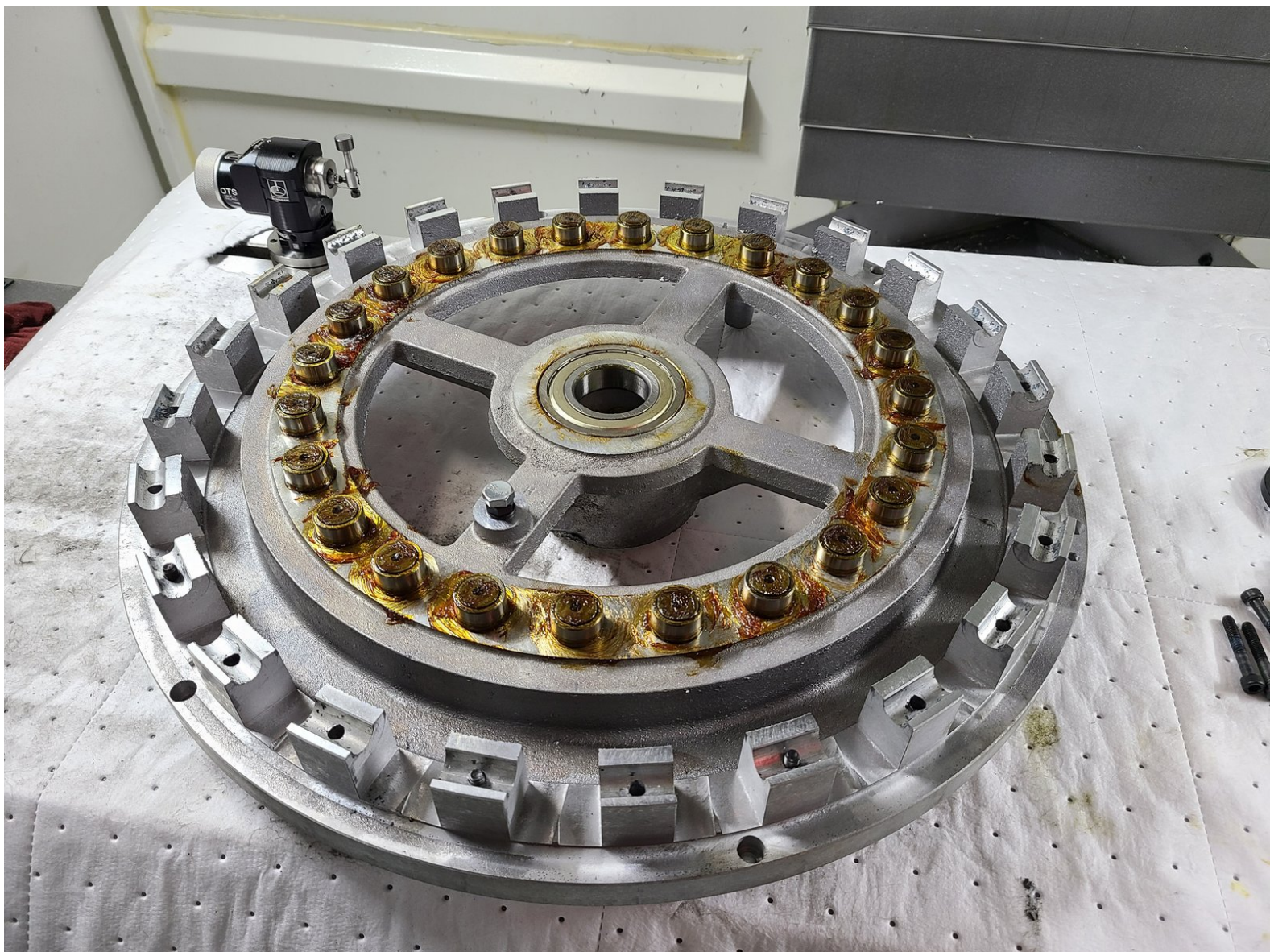




VMCsi - Replace Carousel Disc

This guide provides step-by-step instructions for replacing the carousel disc on VMCsi machines, including disassembly, replacement, and reassembly.

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INTRODUCTION

This guide provides step-by-step instructions for replacing the carousel disc on VMCsi machines, including disassembly, replacement, and reassembly. Linked documents at the bottom include:

34030

34030-1

Manual 24T-30T ATC



TOOLS:

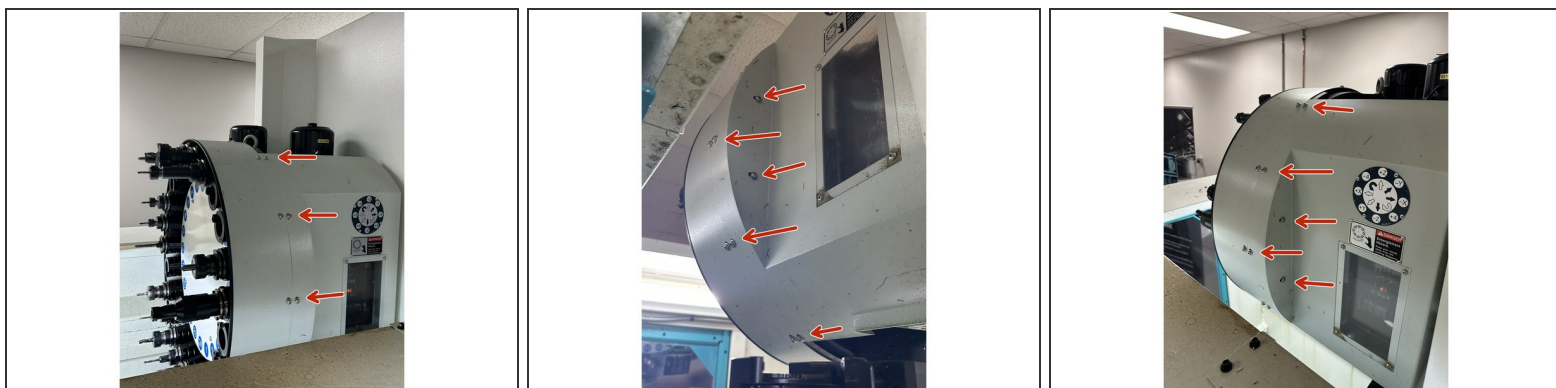
- [Metric hex sockets](#) (1)
 - [4mm hex key](#) (1)
 - [12mm, 14mm, 17mm open end wrenches](#) (1)
 - [0-75 in/lb torque wrench](#) (1)
 - [Loctite Blue 242](#) (1)
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Step 1 — Remove ATC Outer Cover



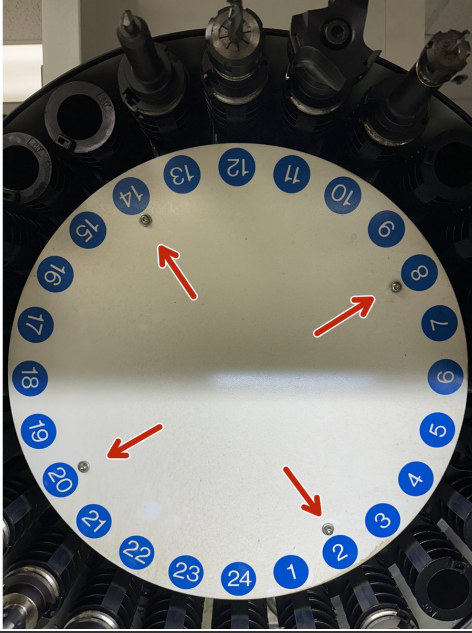
- Remove the 11 hex socket screws securing the outer sheet metal cover.
- Carefully lift and remove the cover.

Step 2 — Remove ATC Gearbox Cover



- Unscrew the seven hex socket screws securing the gearbox cover.
- Carefully lift and remove the sheet metal cover with the viewing window.

Step 3 — Remove Carousel Cover



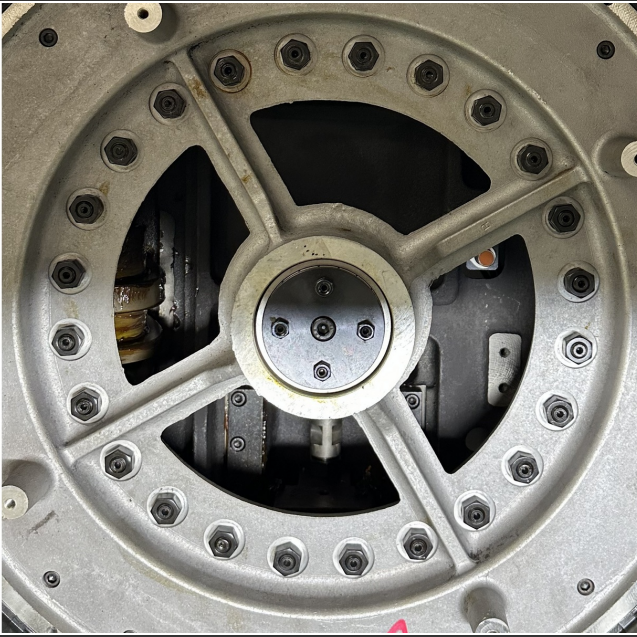
- Unscrew the four hex socket screws securing the carousel cover.
- Remove the cover and set it aside, noting its orientation if the ATC is not marked with position 1 beneath it.

Step 4 — Remove All Toolholder Pods



- Remove the pods from the bottom of the carousel. Each pod is secured by one screw.
- Unscrew the 6mm socket head cap screw on the pot.
- Push the pods back toward the center of the ATC and swing them downward.
- Pull each pod forward to remove it, noting the orientation of the threaded holes in the pins for reassembly.

Step 5 — Remove the Carousel Plate



- Once all pods are removed, unscrew the center screw on the black metal plate holding the carousel in place.
- ⓘ The four outer screws on the center plate are set screws and do not secure the carousel itself.
- Slide the carousel disc off carefully; it is lightweight but delicate.

Step 6 — Swap Bearings



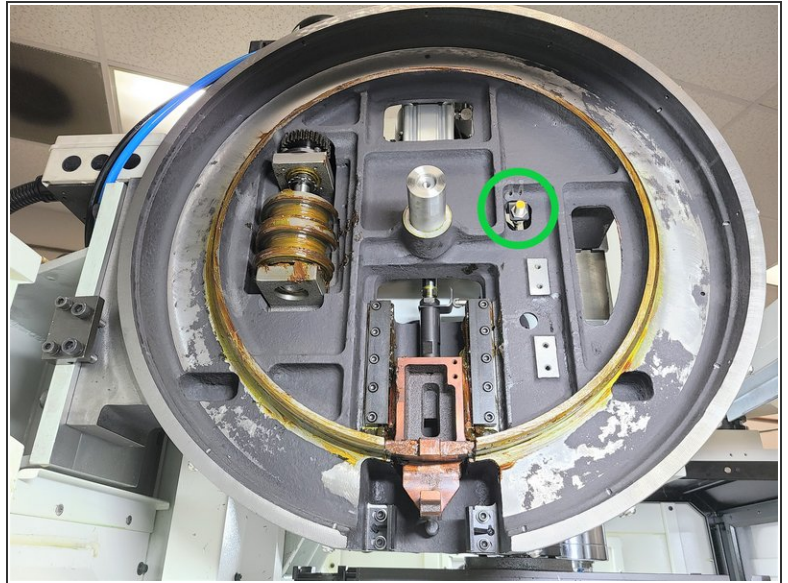
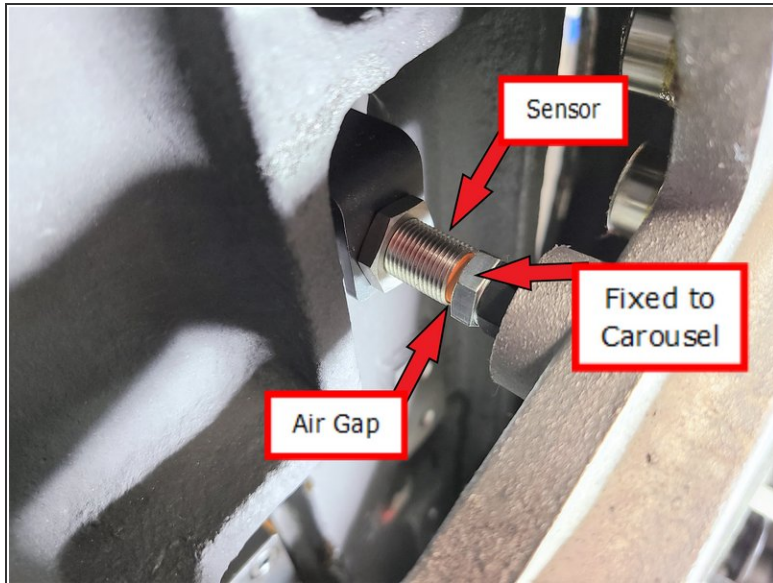
- Use a 17mm wrench and 4mm Allen key to loosen and remove the roller bearings, washers, and nuts from the old carousel disc.
- Inspect bearings for wear and replace if necessary.
- Install the roller bearings, washers, and nuts onto the new disc, ensuring the correct orientation.
- Tighten the nuts to approximately 35 lb-ft of torque.
- Reapply grease to the bearings.

Step 7 — Reinstall the Carousel Plate



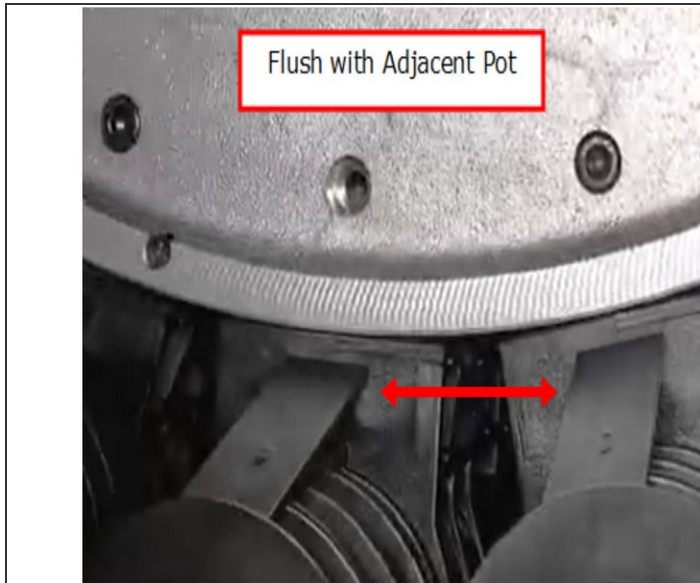
- Slide the replacement carousel plate onto the machine, ensuring the segmentation cam and bearings are properly aligned.
- Secure the carousel plate with the center screw. This screw holds the carousel disc in place.
- Tighten the four outer set screws to ensure the carousel plate is stable. These screws are used for fine adjustments and should not be over-tightened
- Verify that the proximity sensor detecting the carousel position is correctly positioned to trigger properly. Look at next step for more details.

Step 8 — Home Position Sensor



- The Home Position Sensor is mounted at a fixed position on the base and triggers when aligned with the steel target on the back of the carousel.
 - Illustration shows a close up of the Home Position Sensor at the home position on the carousel.
 - Photo shows switch location with the carousel removed. The Home Position Sensor Is mounted on the base at about the 2:00 position.
- ① Air gap should be .080 - .090" or 2 - 2.25 mm.

Step 9 — Reinstall All Toolholder Pods



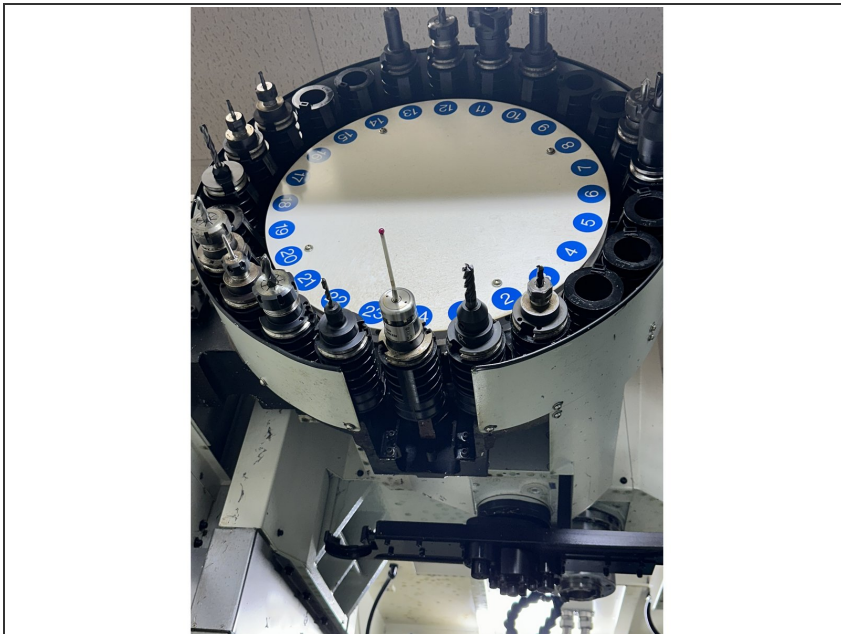
- Slide each pod onto its bracket, ensuring the spacer and bracket align correctly.
- Swing the pods upward and pull them forward until they are flush with neighboring pods and touching the carousel interior.
- Adjust the threads on the pins using a small screwdriver if needed for easier reinstallation.
- Secure each pod with its 6mm socket head cap screw and apply a small amount of blue Loctite (242) to the threads.

Step 10 — Reassemble the Covers



- Replace the carousel cover, ensuring it matches the original orientation.
- Reinstall the gearbox cover and secure it with its seven hex socket screws.
- Reinstall the ATC outer cover and secure it with the 11 hex socket screws.

Step 11 — Test and Verify



- Rehome the ATC system.
- Perform manual tests of carousel rotation and tool changes to verify smooth operation.
- Conduct a full CNC-controlled tool change sequence to ensure the system is functioning correctly.