MAINTENANCE TECHNICAL SUPPORT CENTER
HEADQUARTERS MAINTENANCE OPERATIONS
UNITED STATES POSTAL SERVICE

Maintenance Management Order

SUBJECT: Autocrib TX-750 Preventive Maintenance

TO: All Maintenance Capable Offices

DATE: April 25, 2024
PUB NO: MMO-014-24
FILE CODE: 2F
FILE ID: mm24014
REV LEVEL: af

This Maintenance Management Order (MMO) provides Preventive Maintenance (PM) Guidelines for the Automated Storage Retrieval System (ASRS) Autocrib TX-750. This bulletin applies to Acronym ASRS, Class Code AA.

The workhours indicated in the workload estimate (Attachment 1) are based on normal usage levels and a calendar-based PM plan and reflect the maximum annual workhours required to maintain each system. Management may modify task frequencies to address local conditions.

The minimum maintenance skill level required to perform each task is included in the Minimum Skill Level column of each checklist. This does not preclude higher level employees from performing any of this work.

NOTE

The first annual route MUST be issued within the first 30 days of installation.

WARNING

Various products requiring Safety Data Sheets (SDS) may be utilized during the performance of the procedures in this bulletin. Ensure the current SDS for each product used is on file and available to all employees. When reordering such a product, it is suggested that current SDS be requested. Refer to SDS for appropriate personal protective equipment.

WARNING

The use of compressed or blown air is prohibited. An alternative cleaning method such as a HEPA filtered vacuum cleaner, a damp rag, lint-free cloth, or brush must be used in place of compressed or blown air.

WARNING

Steps contained in this bulletin may require the use of Electrical Work Plan (EWP) Personal Protective Equipment (PPE). Refer to the current EWP MMO for appropriate EWP PPE and barricade requirements.

For questions or comments concerning this bulletin contact the MTSC HelpDesk, either online at **MTSC>HELPDESK>Create/Update Tickets** by logging in and selecting **MPP&S Tickets**.

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Executive Manager
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Attachments
1. Summary of Workload Estimate For ASRS
2. ASRS Master Checklist 03-ASRS-AA-001-M – Autocrib TX-750 Preventive Maintenance (PM)
3. Autocrib Figure References

ATTACHMENT 1

SUMMARY WORKLOAD ESTIMATE

FOR ASRS

Operation Days	Routine Servicing per Machine (Hrs/Yr)	Repair Time per Machine (Hrs/yr) *	Routine Servicing + Repair Time (Hrs/Yr)	Non-Productive Time per Machine (Hrs/yr) **	Total Servicing per Machine (Hrs/Yr)
5 Days	2.53	0.76	3.29	0.33	3.62
6 Days	2.53	0.76	3.29	0.33	3.62
7 Days	2.53	0.76	3.29	0.33	3.62

* Repair maintenance estimates based on 30% of preventive maintenance.
** Based on 10% of total PM and repair.

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ATTACHMENT 2

ASRS MASTER CHECKLIST

03-ASRS-AA-001-M

PREVENTIVE MAINTENANCE (PM)

Time Total: (68) minutes

U.S. Postal Service Maintenance Checklist	IDENTIFICATION																
	WORK CODE		EQUIPMENT ACRONYM								CLASS CODE		NUMBER			TYPE	
	0	3	A	S	R	S					A	A	0	0	1	M	
Equipment Nomenclature Automated Storage Retrieval System	Equipment Model Autocrib TX-750										Bulletin Filename mm24014					Occurrence Calendar	

Part or Component	Item No	Task Statement and Instruction (Comply with all current safety precautions)	Est. Time Req (min)	Min. Skill Lev	Thresholds		
					Run Hours	Pieces Fed (000)	Freq.
SAFETY STATEMENT	1	**COMPLY WITH ALL SAFETY PRECAUTIONS.** Disconnect power and apply lockouts when required by this instruction. Refer to current local lockout procedures to properly shut down and lock out this machine. Check for suspicious dust or unusual debris. If any unusual substance is found, notify supervisor prior to proceeding with any further action on the equipment. **THE USE OF COMPRESSED OR BLOWN AIR IS PROHIBITED.** When cleaning is required, an alternative cleaning method such as a HEPA filtered vacuum cleaner, or a damp rag must be used in place of compressed or blown air. A lint-free cloth or brush may be used on optical equipment only when other cleaning methods cannot be used. Report safety deficiencies to your supervisor immediately upon detection. **WARNING FOR EWP/PPE:** Steps contained in this bulletin may require the use of Electrical Work Plan (EWP) Personal Protective Equipment (PPE). Refer to the current EWP MMO or appropriate EWP PPE and barricade requirements. **WARNING FOR SDS:** Various products requiring Safety Data Sheets (SDS) may be utilized during the performance of the procedures in this bulletin. Ensure the current SDS for each product used is on file and available to all employees. When reordering such a product, it is suggested that current SDS be requested. Refer to SDS for appropriate personal protective equipment.	1	All			

Tasks marked with one asterisk after the time required are per unit tasks.
Tasks marked with two asterisks after the item number are critical tasks.

Part or Component	Item No	Task Statement and Instruction (Comply with all current safety precautions)	Est. Time Req (min)	Min. Skill Lev	Thresholds		
					Run Hours	Pieces Fed (000)	Freq.
AUTOCRIB: CHAIN	2	**Inspect Chain Tension.** **WARNING - Be cautious when working around or on equipment when power has been applied. Take precautions to prevent hair, clothing, jewelry, tools, and test equipment from being caught in moving parts. Failure to comply may cause injury or death.** 1. Unlock Autocrib using key (contact supervisor for key). 2. Visually inspect tension of both chains at the bottom of the machine (Figure 3-1 and Figure 3-2). Both chains should have minimal slack between sprockets (Figure 3-3). 3. If necessary, generate a work order to lock out the machine and perform the chain tensioning procedure.	2	9			Q
AUTOCRIB: CHAIN	3	**Inspect Chain Lubrication.** 1. Visually inspect lubrication of both chains. Look for dry spots or any signs of oxidation or rust. 2. If necessary, generate a work order to lock out the machine and perform the chain lubrication using molybdenum dry lubricant (CRC Dry Moly Lube - OEM 03084/Grainger item 2F138 or equivalent).	1	9			Q
AUTOCRIB: DOOR	4	**Inspect Door Screw and Nut Block.** 1. Visually inspect all four door screws and both nut blocks for debris (Figure 3-4). 2. If necessary, generate a work order to lockout the machine and clean the door screw(s) and nut block(s) using a lint-free cloth. 3. Lubricate door screw and nut block by applying a light coat of bearing grease to the lead screw. Do not apply excessive grease. 4. Jog upper tambour door completely through its full length: a. Activate the **DOOR OVERRIDE** and **UPPER TAMBOUR** switches together until the door reaches its end of travel (Figure 3-6 and Figure 3-7).	8	9			Q

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Part or Component	Item No	Task Statement and Instruction (Comply with all current safety precautions)	Est. Time Req (min)	Min. Skill Lev	Thresholds		
					Run Hours	Pieces Fed (000)	Freq.
		b. Activate the **DOOR OVERRIDE**, **UPPER TAMBOUR**, and **DIRECTION** switches together until the door reaches its other end of travel: 5. Jog lower tambour door completely through its full length: a. Activate the **DOOR OVERRIDE** and **LOWER TAMBOUR** switches together until the door reaches its end of travel. b. Activate the **DOOR OVERRIDE**, **LOWER TAMBOUR**, and **DIRECTION** switches together until the door reaches its other end of travel. 6. Listen and observe for issues or evidence of binding and generate a work order to correct any deficiencies.					
AUTOCRIB: EXTERIOR	5	**Clean Exterior.** 1. Close Autocrib door and lock with key. 2. Use microfiber cloth and general-purpose cleaner to wipe down monitor and exterior machine surfaces.	1	9			Q
AUTOCRIB	6	**Open and Jog Autocrib (Power On)** **WARNING - Be cautious when working around or on equipment when power has been applied. Take precautions to prevent hair, clothing, jewelry, tools, and test equipment from being caught in moving parts. Failure to comply may cause injury or death.** 1. Unlock Autocrib with key and open. 2. Locate and remove the two plastic thumbscrews at the top and bottom left edge of the full height, swing out electronics enclosure (Figure 3-5). 3. Locate the **DOOR OVERRIDE** button clearly labeled on upper circuit panel near top of machine (Figure 3-6). 4. Press and hold **DOOR OVERRIDE** button and press **TABLE** button (Figure 3-7) to jog carousel until motor cage at bottom is positioned in the front of Autocrib (Figure 3-8).	11	9			A

Tasks marked with one asterisk after the time required are per unit tasks.
Tasks marked with two asterisks after the item number are critical tasks.

Part or Component	Item No	Task Statement and Instruction (Comply with all current safety precautions)	Est. Time Req (min)	Min. Skill Lev	Thresholds		
					Run Hours	Pieces Fed (000)	Freq.
AUTOCRIB: SHUTDOWN	7	**Autocrib Shutdown and Lockout.** 1. Power down computer by pressing **Windows+F9+Delete** at same time. 2. Press **Shutdown** button. 3. Open machine. 4. Move circuitry panel Power switch to **OFF** position (Figure 3-7). 5. Locate UPS in lower right cabinet compartment. Quickly press power button, then press and hold until UPS beeps and shuts down. 6. Secure three power plugs disconnected from UPS in cinch sack, and apply 6-hole lockout device, personal lock, identification tag, and do not operate tag to cinch sack. 7. Place machine power plug disconnected from facility power source into plug caddy and apply 6-hole lockout device, personal lock, identification tag, and do not operate tag to caddy.	4	9			A
AUTOCRIB: INTERIOR	8	**Interior Inspection.** **WARNING - Before performing the following task, power down and lock out the equipment as prescribed by the local energy control procedures developed in accordance with the current Maintenance Management Order (MMO) providing lockout/restore procedures. Failure to comply may result in personal injury or death, and/or damage to equipment.** 1. Check for suspicious dust or unusual debris. 2. If any unusual substance is found, notify supervisor before proceeding with any further action on machine.	1	9			A
AUTOCRIB: STACK CHAIN	9	**Stack Chain Tension Adjustment.** 1. Check the stack chain tension by applying 9 kilograms of force at the chain center point between the stack motor sprocket and one of the stack sprockets. a. If chain deflects more than 7 mm and less than 11 mm, then chain tension is correct. Skip to Step 6.	6	9			A

Tasks marked with one asterisk after the time required are per unit tasks.
Tasks marked with two asterisks after the item number are critical tasks.

Part or Component	Item No	Task Statement and Instruction (Comply with all current safety precautions)	Est. Time Req (min)	Min. Skill Lev	Thresholds		
					Run Hours	Pieces Fed (000)	Freq.
		b. If chain deflects less than 7 mm, then chain tension is too high. Proceed to Step 2. c. If chain deflects more than 11 mm, then chain tension is too low. Proceed to Step 2. 2. Remove all five plastic shelves from the stack motor cage (Figure 3-8). 3. Loosen stack motor mounting bolts using a 7/16-inch socket wrench (Figure 3-9). 4. Slide the stack motor as necessary to obtain proper chain tension, then tighten the stack motor mounting bolts. 5. Replace all five plastic shelves in stack motor cage (Figure 3-8). 6. Lubricate chain using molybdenum dry lubricant (CRC Dry Moly Lube - OEM 03084/Grainger item 2F138 or equivalent).					
AUTOCRIB: TABLE CAROUSEL CHAIN	10	**Main Carousel (Table) Chain Tension Adjustment.** 1. Check table chain tension by applying 9 kilograms of force at the chain center point between the table motor sprocket and table sprocket. a. If chain deflects more than 9 mm and less than 16 mm, then chain tension is correct. Skip to Step 4. b. If chain deflects less than 9 mm, then chain tension is too high. Proceed to Step 2. c. If chain deflects more than 16 mm, then chain tension is too low. Proceed to Step 2. 2. Loosen the table motor mounting bolts using a 7/16-inch socket wrench (Figure 3-10). 3. Slide the table motor as necessary to obtain proper chain tension, then tighten the table motor mounting bolts. 4. Lubricate chain using molybdenum dry lubricant (CRC Dry Moly Lube - OEM 03084/Grainger item 2F138 or equivalent).	6	9			A

Part or Component	Item No	Task Statement and Instruction (Comply with all current safety precautions)	Est. Time Req (min)	Min. Skill Lev	Thresholds		
					Run Hours	Pieces Fed (000)	Freq.
AUTOCRIB: DOOR SCREW AND NUT BLOCK	11	**Door Screw and Nut Block Inspection.** 1. Visually inspect door screw and nut block for debris (Figure 3-4). 2. Clean with a lint-free cloth. 3. Lubricate door screw and nut block by applying a light coat of bearing grease to the lead screw. Do not apply excessive grease.	2	9			A
AUTOCRIB	12	**Remove Lockout and Return to Service.**	10	9			A
FINAL-CLEANUP	13	**Clean Up.** 1. Ensure all tools, lubricants, rags, etc., are removed from the work area. 2. Note any deficiencies and generate a work order/report them to supervisor.	15	MPE			

Tasks marked with one asterisk after the time required are per unit tasks.
Tasks marked with two asterisks after the item number are critical tasks.

ATTACHMENT 3

AUTOCRIB FIGURE REFERENCES

NOTE

Some items shown without all components.

Figure 3-1. Stack Drive Chain

Tasks marked with one asterisk after the time required are per unit tasks.
Tasks marked with two asterisks after the item number are critical tasks.

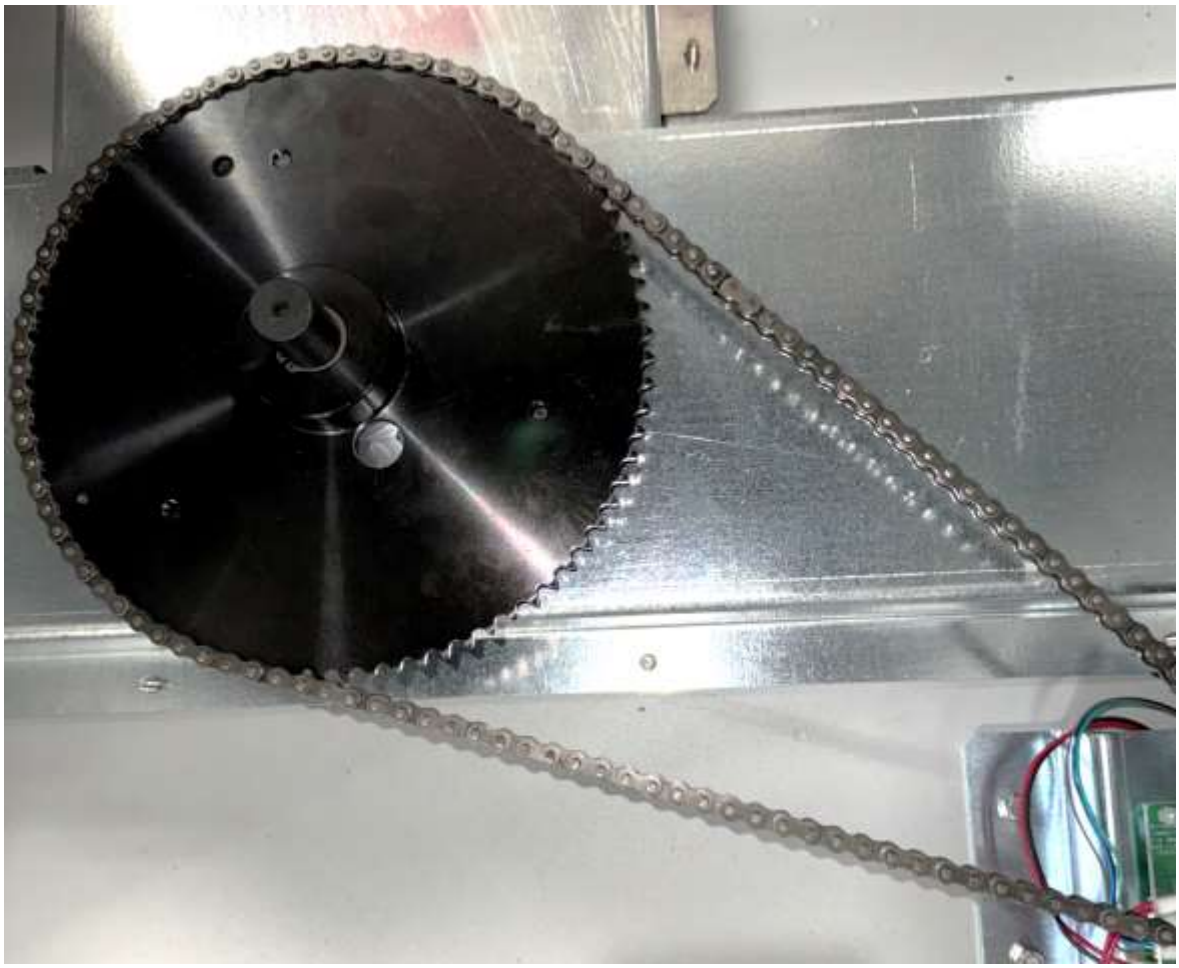

Figure 3-2. Main Carousel (Table) Drive Chain

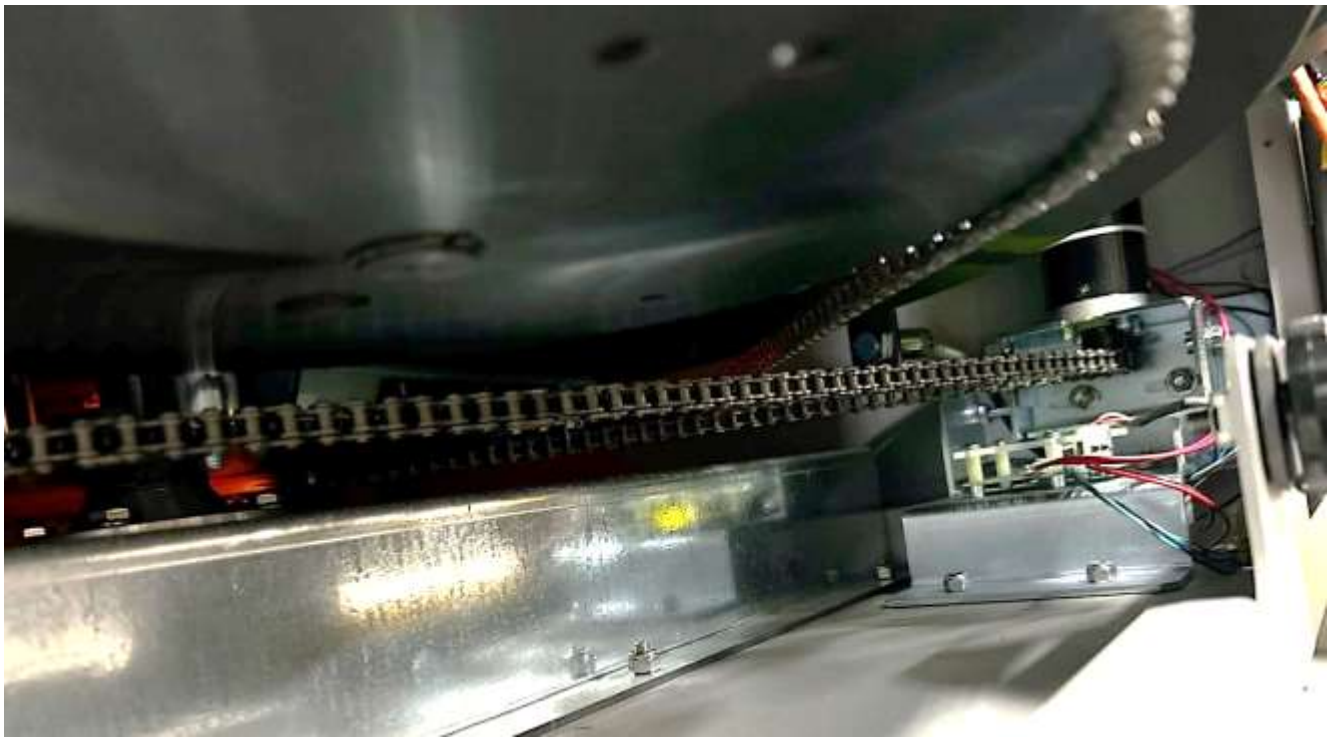

Figure 3-3. Correct Chain Tensioning

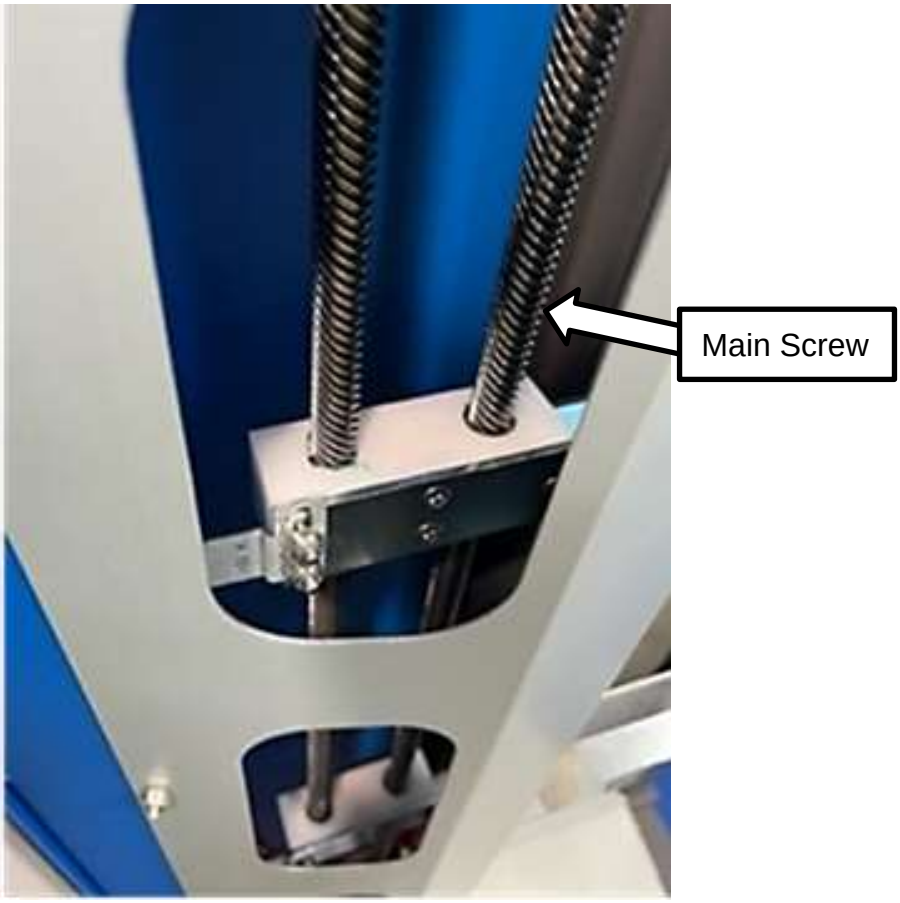

Figure 3-4. Door Screw and Nut Block

Figure 3-5. Two Thumbscrews

Figure 3-6. Door Override Switch (Upper Right Corner of Cabinet)

Figure 3-7. Table (Main Carousel), Stack, and Tambour Door Jog Switches

Figure 3-8. Table Motor Compartment and Five Plastic Shelves

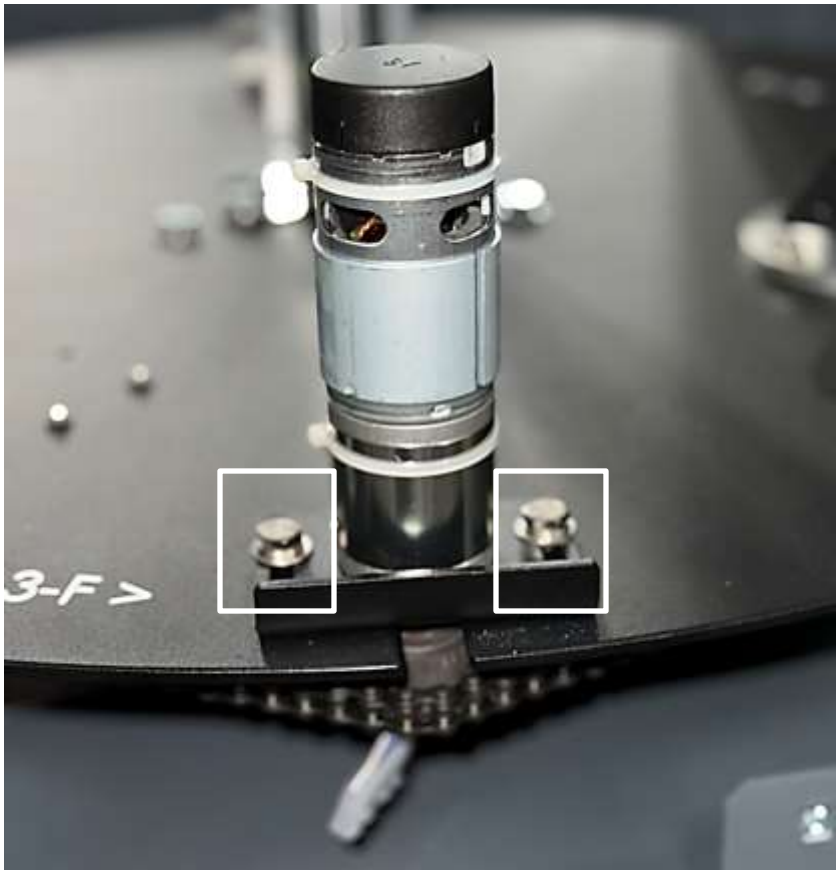

Figure 3-9. Stack Motor and Chain Tensioning Bolts

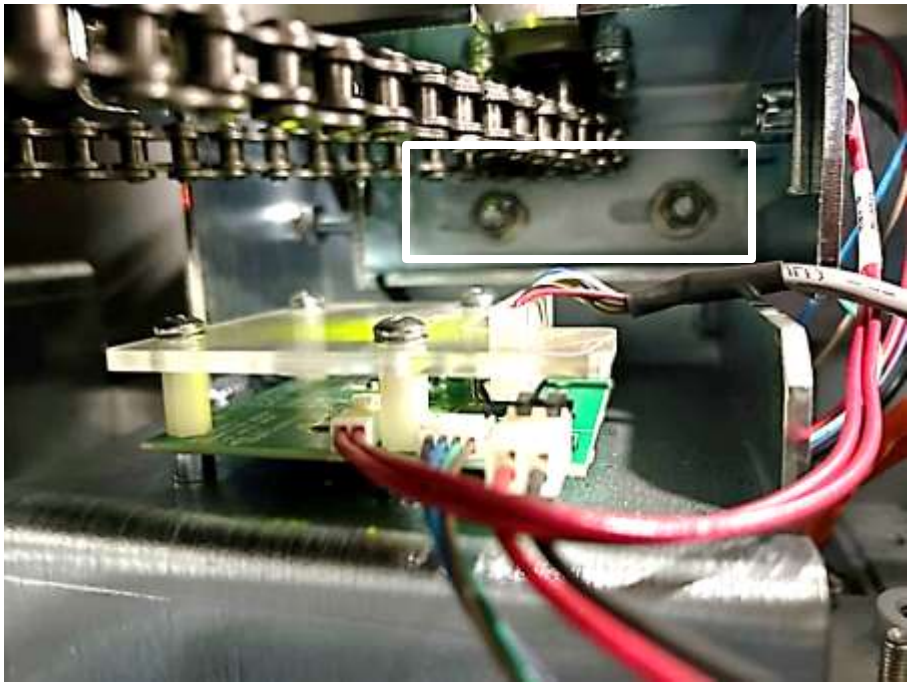

Figure 3-10. Main Carousel (Table) Chain Tensioning Bolts