

MAINTENANCE TECHNICAL SUPPORT CENTER  
HEADQUARTERS MAINTENANCE OPERATIONS  
UNITED STATES POSTAL SERVICE



# Maintenance Management Order

**SUBJECT:** Preventive Maintenance Guidelines for  
Seegrid Automated Guided Vehicle (AGV)  
Supervisor Server

**DATE:** November 7, 2023

**TO:** All Seegrid AGV Sites

**PUB NO:** MMO-005-23  
**FILE CODE:** P  
**FILE ID:** mm23005  
**REV LEVEL:** ae

This Maintenance Management Order (MMO) provides Preventive Maintenance guidelines for the Seegrid Automated Guided Vehicle (AGV) Supervisor Server. This bulletin applies to Acronym AGV, Class Code SZ.

The workhours indicated in the workload estimate (Attachment 1) are a calendar-based schedule to 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.

Maintenance Managers are to use these preventive maintenance guidelines when preparing the route sheets for local maintenance personnel. It is the responsibility of each Maintenance Manager to ensure all WARNINGS, CAUTIONS, and NOTES are included with each applicable task as part of the preparation of any local route sheets.

## 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 or call (800) 366-4123.



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- Attachments
1. Summary of Workload Estimate For AGV\_SZ System
  2. Master Checklist 03-AGV-SZ-001-M – AGV\_SZ Preventive Maintenance (PM)

**ATTACHMENT 1****SUMMARY WORKLOAD ESTIMATE****FOR AGV\_SZ**

Operation	Routine Servicing (hrs/yr)	Repair* (hrs/yr)	Routine Servicing + Repair Time (hrs/yr)	Non-productive Time** (hrs/yr)	Total Servicing Per Machine (hrs/yr)	Operational Maintenance + Total Servicing		
						1 Tour (hrs/yr) XX	2 Tours (hrs/yr) XX	3 Tours (hrs/yr) XX
7	3.90	1.17	5.07	0.51	5.58	NA	NA	NA

**NOTES:**

\*Repair estimates based on 30% of servicing.

\*\*Based on 10% of total servicing and repair.

Frequency Codes (1 AP = 4 Weeks)					
Code	Frequency	Description	Code	Frequency	Description
A	ANNUAL	Once every 13 APs	B	BI-WEEKLY	Once every half AP
C	BI-MONTHLY	Once every 2 APs	D	DAILY	Once a day; 7 days a week
E	DAILY	Once a day; 6 days a week	F	DAILY	Once a day; 5 days a week
G	DAILY	Once a day; 4 days a week	H	DAILY	Once a day; 3 days a week
J	SEMI-WEEKLY	2 days a week	K	BI-ANNUAL	Once every 26 APs
L	tdl-ANNUAL	Once every 39 APs	M	MONTHLY	Once every AP
N	QUAD-ANNUAL	Once every 52 APs	P	QUINT-ANNUAL	Once every 65 APs
Q	QUARTERLY	4 times every 13 Aps	S	SEMI-ANNUAL	Twice every 13 APs
T	TOURLY	3 times a day; 7 days a week	U	TOURLY	Twice a day; 7 days a week
V	TOURLY	3 times a day; 6 days a week	W	WEEKLY	Once 1/4 AP (a week)
X	TOURLY	Twice a day; 6 days a week	Y	TOURLY	3 times a day; 5 days a week
Z	TOURLY	Twice a day; 5 days a week			
WI(*)	WEEKS INTERVAL	Perform a task once every # weeks e.g., WI(60) = Once every 60 weeks			
		# = number of weeks			

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**ATTACHMENT 2****AGV\_SZ MASTER CHECKLIST****03-AGV-SZ-001-M****PREVENTIVE MAINTENANCE (PM)**

U.S. Postal Service Maintenance Checklist	IDENTIFICATION													
	WORK CODE		EQUIPMENT ACRONYM						CLASS CODE		NUMBER			TYPE
	0	3	A	G	V				S	Z	0	0	1	M
Equipment Nomenclature Automated Guided Vehicle			Equipment Model Seegrid Supervisor Server					Bulletin Filename mm23005			Occurrence			

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	<p><b>COMPLY WITH ALL SAFETY PRECAUTIONS.</b></p> <p>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.</p> <p><b>THE USE OF COMPRESSED OR BLOWN AIR IS PROHIBITED.</b></p> <p>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.</p> <p><b>WARNING FOR EWP/PPE:</b> 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.</p> <p><b>WARNING FOR SDS:</b> 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.</p>	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.
SUPERVISOR SERVER CABINET PRIMARY SERVER SECONDARY SERVER	2	<b>Front/Back Indicator Functionality Inspection</b> 1. Visually inspect front indicator lights. a. Ensure server hard drive activity lights are green, flashing green, or rotating green. b. Ensure UPS is powered on and battery icon indicator light is green. 2. Visually inspect rear indicator lights. a. Verify all NIC ports with cables show flashing activity on servers. b. Generate a work order to address any deficiencies.  <b>Reference KB0021333, Seegrid Supervisor Server - Visual Inspection of Indicator Lights</b>	5	9			M
SUPERVISOR SERVER CABINET PRIMARY SERVER SECONDARY SERVER	3**	<b>Perform Backup of Primary and Secondary Servers.</b> 1. **Perform backup of Supervisor Server(s). 2. Return encrypted external USB hard drive to storage per local procedures.  *15 minutes per server.  <b>** Reference MMO-011-23 Automated Guided Vehicle (AGV) Seegrid Supervisor Server and Exporter Vehicle Route Data Backup Procedure.</b>	30	10			Q
SUPERVISOR SERVER CABINET UPS	4**	<b>Perform Self-Test on Server UPS</b> Before beginning Self-Test ensure the UPS Battery Indicator is illuminated green. 1. Press <b>Status</b> button 3 times to select <b>Self-Test Menu</b> . 2. Press <b>ENTER</b> at the Self-Test prompt. 3. Press <b>up arrow</b> key to toggle <b>Yes</b> . 4. Press <b>ENTER</b> to start Self-Test. a. Amber LED illuminates on the Battery Fault icon. b. Self-test returns "Passed" after 1-2 minutes. c. Generate a work order to address any deficiencies.	4	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.
SUPERVISOR SERVER CABINET PRIMARY SERVER SECONDARY SERVER	5	<b>Clean Server Cabinet and Servers</b> 1. Open Supervisor cabinet front and rear access doors.  <b>CAUTION</b> <b>To avoid damaging internal cabling in the rear of the server, only vacuum the server fan ports. Access the server cabinet from front door to vacuum interior cabinet.</b> 2. Remove dust and debris on the outside of server cabinet using a HEPA filter shop vacuum. 3. Vacuum front of Supervisor servers. 4. Vacuum rear server chassis fan port openings.	15	9			A
FINAL-CLEANUP	6	<b>Clean Up</b> 1. Ensure all tools, lubricants, rags, etc., are removed from the work area. 2. Note any deficiencies, generate a work order, and report them to supervisor.	5	ALL			

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