

MAINTENANCE TECHNICAL SUPPORT CENTER
HEADQUARTERS MAINTENANCE OPERATIONS
UNITED STATES POSTAL SERVICE



Maintenance Management Order

SUBJECT: Hoist Preventive Maintenance

DATE: February 5, 2020

TO: All Sites

NO: MMO-166-19

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This Maintenance Management Order (MMO) **supersedes MMO-036-82** and provides Preventive Maintenance Guidelines for the Hoist Systems (HOIST). This bulletin affects Acronym HOIST, Class Codes AA, BA, CA, and DA.

The workhours represented in this MMO reflect the maximum workhours required to maintain the equipment. Given local conditions, management may modify task frequencies.

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.

To simplify the identification of various hoisting equipment, this bulletin will address this equipment as consisting of three separate components, as described below.

1. The Hoisting Device. This device does the actual work of hoisting or moving the load and may be a chain hoist, cable hoist, block and tackle, hydraulic cylinder or any number of devices used for hoisting.
2. The Crane. The crane is the device to which the hoisting device is attached. This device may be a boom, jib, "A" frame, permanent anchor in ceiling, track with trolley or any such device which is used to anchor the hoisting device.
3. The Attachment Device. This device is a sling, clamp, fixed hook on equipment, chain or any number of devices used to attach the load to the hoisting device.

A certified licensed professional shall perform an annual inspection on all existing, and initial inspections on all new, reinstalled, modified, or repaired cranes before first use to ensure compliance with applicable provisions of this MMO, Occupational Safety and Health Standards (OSHA) (OSHA.com), and other regulatory agencies. Inspections of repaired and modified cranes may be limited to the provisions affected by the alteration, repair, or modification as determined by a qualified person. The Senior Postal Official (SPO), or designee, shall ensure the preservation of dated and signed inspection reports are readily available.

Immediately upon receipt of this bulletin, the Plant Maintenance Manager shall initiate a Preventive Maintenance program for hoisting equipment. No equipment shall be used until it has been inspected for malfunction. Attachment 2 and Attachment 3 must be used as a guide in setting up a preventive maintenance program for hoisting equipment. All employees assigned to this preventive maintenance program shall become familiar with Attachment 2 and Attachment 3.

1. Using the descriptions mentioned earlier identifies all the hoisting equipment.
2. Each device must be assigned a permanent identification number. The assigned number will be listed in the eMARS equipment inventory module under the acronym HOIST. This number may be painted on the device or stamped in a metal plate or tag attached to the device.
3. Equipment information must be maintained in eMARS, all additional information locally available on these devices will be maintained in one location (manuals, specification sheets, etc.).
4. Examine the device to determine if the load capacity is permanently painted or embossed on the device. If the load capacity information is not available on the device, refer to the literature available for this information or contact the manufacturer. The device shall not be used until the information is available. When the information is obtained, paint the load capacity on the device or on a tag to be permanently attached.
5. Prepare a preventive maintenance checklist for each device. Attachment 2 and Attachment 3 must be used as a guide.
6. Prepare route sheets to be scheduled at the indicated intervals. Attach a copy of Attachment 2 or Attachment 3 with each route sheet when issued to employee.
7. Using the checklist prepared as required in Item 6 above, examine all the hoisting equipment and report the results to your supervisor. Any device determined to be unsafe, must be tagged and removed from service until repairs have been completed.
8. All HOIST routes will be considered of the same importance as EMSYS routes and require the same level of route completion.
9. A work order (form 4805) must be initiated, documenting all deficiencies requiring repair or complete replacement of the device.
10. Prepare a sign-out/sign-in log for all hoisting loaner type or checked out equipment. This log must be kept conveniently near the equipment storage area.
11. When special instructions on the use of the equipment are necessary, they should be assembled and placed in a plastic folder and attached to the equipment.

12. Inform the maintenance personnel of the preventive maintenance program on the hoisting equipment. Emphasize to all maintenance personnel that this program is to make the job safer, but does not relieve the user of the responsibility of determining the safety of the equipment before using it. The equipment user shall visually examine the equipment prior to use if located in a fixed location or at checkout and check-in times.
13. All hoisting equipment built or installed by maintenance personnel must be certified safe and load capacity rated by a certified licensed professional prior to use.
14. All hoisting equipment must be inspected semi-annually regardless of condition or usage level. Daily, Weekly, or Monthly PM inspections must be performed in accordance with each crane's level of usage, condition, severity of service, or environment.

Attachment 4 contains the OSHA Standards for crane safety.

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 PPE and barricade requirements.

Direct any questions or comments concerning this bulletin to the MTSC HelpDesk, online at <https://tickets.mtsc.usps.gov/login.php> or call (800) 366-4123.



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Maintenance Technical Support Center
HQ Maintenance Operations

- Attachments:
1. Summary of Workload Estimate
 2. Master Checklist 03-HOIST-XX-005-M – Semi-Annual PM
 3. Master Checklist 03-HOIST-XX-00X-M – Daily to Semi Annual Checklist
 4. OSHA Standard 1910.179 (j)

ATTACHMENT 1

SUMMARY

WORKLOAD ESTIMATE

FOR HOIST SYSTEMS

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**SUMMARY
WORKLOAD ESTIMATE
FOR HOIST**

HOIST – 001 Daily

Operation (days/wk)	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
5	40.87	12.26	53.13	5.31	58.44			
6	48.67	14.60	63.27	6.33	69.59			
7	56.47	16.94	73.41	7.34	80.75			

HOIST – 002 Weekly

Operation (days/wk)	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
5	9.67	2.90	12.57	1.26	13.82			
6	9.67	2.90	12.57	1.26	13.82			
7	9.67	2.90	12.57	1.26	13.82			

HOIST – 003 Monthly

Operation (days/wk)	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
5	3.67	1.10	4.77	0.48	5.24			
6	3.67	1.10	4.77	0.48	5.24			
7	3.67	1.10	4.77	0.48	5.24			

HOIST – 005 Semi-Annually

Operation (days/wk)	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
5	2.17	0.65	2.82	0.28	3.10			
6	2.17	0.65	2.82	0.28	3.10			
7	2.17	0.65	2.82	0.28	3.10			

* Repair estimates based on 30% of servicing.

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

*** Allotment for LDC 37 (excludes modifications, alterations, training, and non-productive allowances).

ATTACHMENT 2

HOIST MASTER CHECKLIST

03-HOIST-XX-005-M

XX = Class Codes AA, BA, CA, and DA

Time Total: (56) minutes

U.S. Postal Service		IDENTIFICATION								
Maintenance Checklist		WORK CODE	EQUIPMENT ACRONYM				CLASS CODE	NUMBER	TYPE	
		0 3	H	O	I	S	T	X	X	0 0 5
Equipment Nomenclature AA, BA, CA, and DA		Equipment Model			Bulletin Filename		Occurrence Semi-Annual			
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>COMPLY WITH ALL SAFETY PRECAUTIONS.</p> <p>Disconnect power and apply lockouts when required by this instruction. Refer to current local lockout procedures to properly shutdown and lockout this machine. Open equipment and inspect dust conditions. 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>THE USE OF COMPRESSED OR BLOWN AIR IS PROHIBITED.</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>WARNING:</p> <p>Open equipment and inspect dust conditions. 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>WARNING FOR EWP/PPE:</p> <p>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.</p>				3	All			

U.S. Postal Service		IDENTIFICATION										
Maintenance Checklist		WORK CODE	EQUIPMENT ACRONYM					CLASS CODE		NUMBER		TYPE
		0 3	H	O	I	S	T	X	X	0	0	5
Equipment Nomenclature AA, BA, CA, and DA		Equipment Model				Bulletin Filename			Occurrence Semi-Annual			
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.		
	2.	Inspect for deformed, cracked, or corroded members.				5	9					
	3.	Inspect for loose bolts or rivets.				5	9					
	4.	Inspect for cracked or worn sheaves and drums.				5	9					
	5.	Inspect for worn, cracked or distorted parts such as pins, bearings, shafts, gears, rollers, locking and clamping devices.				10	9					
	6.	Inspect for excessive wear on brake system parts, linings, pawls, and ratchets.				10	9					
	7.	Inspect load, wind, and all other indicators are over their full range, for any significant inaccuracies.				5	9					
	8.	<div style="border: 1px solid black; padding: 5px; text-align: center; margin-bottom: 10px;">WARNING</div> <p>Never use bare hands or fingers to check for hydraulic leaks. Wear skin and eye protection when inspecting pressurized hoses and other components or when handling hydraulic fluids.</p> <p>Inspect gasoline, diesel, electric or other power plants for improper performance or noncompliance with applicable safety requirements.</p>				5	9					
	9.	Inspect for excessive wear of chain drive sprockets and excessive chain stretch.				3	9					
	10.	Inspect electrical components for signs of pitting or any deterioration of controller contactors, limit switches, and pushbutton stations.				5	9					

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ATTACHMENT 3**HOIST MASTER CHECKLIST**

03-HOIST-XX-00X-M

XX = Class Codes AA, BA, CA, and DA

X = PM Frequency Identification Number based on Usage

Daily Checklist

Time Total: (9) minutes

Hoist Type	Typical Usage Frequency	Suggested PM Frequency	*PM Frequency Identification Number
Battery Room	Daily	Daily – (when used)	001
PIT Shop	Daily to Weekly	**Weekly – (when used)	001 or 002
Outdoor	Daily to Monthly	**Weekly – (when used)	002
Tray Line	Daily to Monthly	**Monthly – (when used)	002 or 003
Stock Room (VIDMAR)	Weekly to Quarterly	**Monthly – (when used)	003
Penthouse	Monthly to Semi-annually	**Semi-annually – (when used)	005

* The PM Frequency Identification Number is based on Usage.

** Variations to the Suggested PM Frequencies must be supported by historical data through the use of work orders.

U.S. Postal Service Maintenance Checklist		IDENTIFICATION												
		WORK CODE	EQUIPMENT ACRONYM					CLASS CODE		NUMBER		TYPE		
		0 3	H	O	I	S	T		X	X	0	0	X	M
Equipment Nomenclature AA, BA, CA, and DA		Equipment Model					Bulletin Filename			Occurrence Daily to Semi-annually (Depends on Usage Frequency)				
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>COMPLY WITH ALL SAFETY PRECAUTIONS.</p> <p>Disconnect power and apply lockouts when required by this instruction. Refer to current local lockout procedures to properly shutdown and lockout this machine. Open equipment and inspect dust conditions. 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>THE USE OF COMPRESSED OR BLOWN AIR IS PROHIBITED.</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>WARNING:</p> <p>Open equipment and inspect dust conditions. 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>					3	All						

U.S. Postal Service		IDENTIFICATION										
Maintenance Checklist		WORK CODE	EQUIPMENT ACRONYM					CLASS CODE		NUMBER		TYPE
		0 3	H	O	I	S	T	X	X	0	0	X
Equipment Nomenclature AA, BA, CA, and DA		Equipment Model					Bulletin Filename			Occurrence Daily to Semi-annually (Depends on Usage Frequency)		
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.	
		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 for appropriate EWP PPE and barricade requirements.										
	2.	Visually inspect all functional operating mechanisms for maladjustment interfering with proper operation.					1	7				
	3.	Visually inspect for deterioration or leakage in lines, tanks, valves, drain pumps, and other parts of air or hydraulic systems (if applicable).					1	7				
	4.	Visually inspect hooks for deformation or cracks. Check for throat openings in excess of the normal throat opening or more than 10 degrees twist from the plane of the unbent hook.					1	7				
	5.	Visually inspect hoist chains, including end connections, for excessive wear, twist, distorted links interfering with proper function, or stretch beyond manufacturer's recommendations.					1	7				
	6.	Visually inspect all functional operating mechanisms for excessive wear of components.					1	7				
	7.	Visually inspect rope reeving for noncompliance with the manufacturer's recommendations.					1	7				

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ATTACHMENT 4**OSHA STANDARD 1910.179 (j)****1.0. OCCUPATIONAL SAFETY AND HEALTH STANDARDS,
MATERIALS HANDLING AND STORAGE, 1910.179 (J),
OVERHEAD AND GANTRY CRANES**

Inspection—

1910.179(j)(1)

Inspection classification.

1910.179(j)(1)(i)

Initial inspection. Prior to initial use all new and altered cranes shall be inspected to insure compliance with the provisions of this section.

1910.179(j)(1)(ii)

Inspection procedure for cranes in regular service is divided into two general classifications based upon the intervals at which inspection should be performed. The intervals in turn are dependent upon the nature of the critical components of the crane and the degree of their exposure to wear, deterioration, or malfunction. The two general classifications are herein designated as "frequent" and "periodic" with respective intervals between inspections as defined below:

1910.179(j)(1)(ii)(a)

Frequent inspection—Daily to monthly intervals.

1910.179(j)(1)(ii)(b)

Periodic inspection—1 to 12-month intervals.

1910.179(j)(2)

Frequent inspection. The following items shall be inspected for defects at intervals as defined in paragraph (j)(1)(ii) of this section or as specifically indicated, including observation during operation for any defects which might appear between regular inspections. All deficiencies such as listed shall be carefully examined and determination made as to whether they constitute a safety hazard:

1910.179(j)(2)(i)

All functional operating mechanisms for maladjustment interfering with proper operation. Daily.

1910.179(j)(2)(ii)

Deterioration or leakage in lines, tanks, valves, drain pumps, and other parts of air or hydraulic systems. Daily.

1910.179(j)(2)(iii)

Hooks with deformation or cracks. Visual inspection daily; monthly inspection with a certification record which includes the date of inspection, the signature of the person who performed the inspection and the serial number, or other identifier, of the hook inspected. For hooks with cracks or having more than 15 percent in excess of normal throat opening or more than 10° twist from the plane of the unbent hook refer to paragraph (l)(3)(iii)(a) of this section.

1910.179(j)(2)(iv)

Hoist chains, including end connections, for excessive wear, twist, distorted links interfering with proper function, or stretch beyond manufacturer's recommendations. Visual inspection daily; monthly inspection with a certification record which includes the date of inspection, the signature of the person who performed the inspection and an identifier of the chain which was inspected.

1910.179(j)(2)(v)

[Reserved]

1910.179(j)(2)(vi)

All functional operating mechanisms for excessive wear of components.

1910.179(j)(2)(vii)

Rope reeving for noncompliance with manufacturer's recommendations.

1910.179(j)(3)

Periodic inspection. Complete inspections of the crane shall be performed at intervals as generally defined in paragraph (j)(1)(ii)(b) of this section, depending upon its activity, severity of service, and environment, or as specifically indicated below. These inspections shall include the requirements of paragraph (j)(2) of this section and in addition, the following items. Any deficiencies such as listed shall be carefully examined and determination made as to whether they constitute a safety hazard:

1910.179(j)(3)(i)

Deformed, cracked, or corroded members.

1910.179(j)(3)(ii)

Loose bolts or rivets.

1910.179(j)(3)(iii)

Cracked or worn sheaves and drums.

1910.179(j)(3)(iv)

Worn, cracked or distorted parts such as pins, bearings, shafts, gears, rollers, locking and clamping devices.

1910.179(j)(3)(v)

Excessive wear on brake system parts, linings, pawls, and ratchets.

1910.179(j)(3)(vi)

Load, wind, and other indicators over their full range, for any significant inaccuracies.

1910.179(j)(3)(vii)

Gasoline, diesel, electric, or other power plants for improper performance or noncompliance with applicable safety requirements.

1910.179(j)(3)(viii)

Excessive wear of chain drive sprockets and excessive chain stretch.

1910.179(j)(3)(ix)

[Reserved]

1910.179(j)(3)(x)

Electrical apparatus, for signs of pitting or any deterioration of controller contactors, limit switches and pushbutton stations.

1910.179(j)(4)

Cranes not in regular use.

1910.179(j)(4)(i)

A crane which has been idle for a period of 1 month or more, but less than 6 months, shall be given an inspection conforming with requirements of paragraph (j)(2) of this section and paragraph (m)(2) of this section before placing in service.

1910.179(j)(4)(ii)

A crane which has been idle for a period of over 6 months shall be given a complete inspection conforming with requirements of paragraphs (j) (2) and (3) of this section and paragraph (m)(2) of this section before placing in service.

1910.179(j)(4)(iii)

Standby cranes shall be inspected at least semi-annually in accordance with requirements of paragraph (j)(2) of this section and paragraph (m)(2) of this section.