

maintenance management order

SUBJECT: PM Guidelines for Towveyor (Main Loop),
Type A (SI Handling)

DATE: July 16, 1998

NO: MMO-042-98

TO: Bulk Mail Centers

FILE CODE:

Y

dewa:M94139AC

Online Change Record		
Change #	Date	Description of Change
2	4/22/2022	Attachment 2, corrected skill level 4, no longer in use, to level 7.
1	5/15/2013	This bulletin has been updated to reflect changes to the Attachment 1 Summary. The times have been updated to reflect accurate rollup times using the standard two decimal place rounding.

This Maintenance Management Order (MMO) provides Preventive Maintenance (PM) guidelines for Towveyor (Main Loop), Type A (SI Handling) and supersedes Maintenance Checklist BO67.

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

WARNING

Various products which require Material Safety Data Sheets (MSDS) may be utilized during the performance of the procedures in this bulletin. Ensure the current MSDS for each product used is on file and available by all employees. When reordering such a product, it is suggested that a current MSDS be requested.

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

For questions or comments concerning this bulletin contact the MTSC HelpDesk, either online at **MTSC>HELPDESK>Create/Update Tickets** or call (800) 366-4123.

Rex M. Gallaher
Manager
Maintenance Technical Support Center
Maintenance Policies and Programs

Attachments: 1. Summary of Revised Workload Estimate
2. Towveyor (Main Loop), Type A (SI Handling) Master Checklist

ATTACHMENT 1**-SUMMARY-****REVISED WORKLOAD ESTIMATE****FOR****TOWVEYOR (MAIN LOOP), TYPE A (SI HANDLING)**

Routine Servicing (hrs/yr)	Repair* (hrs/yr)	Total Servicing & Repair Time (hrs/yr)	Nonproductive Time ** (hrs/yr)	Total Servicing Per Machine (hrs/yr)
32.28	9.69	41.97	4.20	46.17

* Repair estimates based on 30% of servicing.

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

TIME TOTALS

<u>Monthly Time Total:</u>	1.67 Hrs. ***
<u>Quarterly Time Total:</u>	2.30 Hrs. ***
<u>Semi-Annual Time Total:</u>	0.02 Hrs. ***
<u>Annual Time Total:</u>	0.58 Hrs. ***
<u>Bi-Annual Time Total:</u>	1.46 Hrs. ***

NOTE

The time shown does not allow for multiple assemblies on any equipment. Should multiple assemblies exist, the time must be modified at the local level to account for those occurrences. Other unique site conditions that requires additional time are to be addressed at the local level.

*** These times are provided for data entry for the MARS System.

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ATTACHMENT 2**TOWVEYOR (MAIN LOOP), TYPE A (SI HANDLING) MASTER CHECKLIST**

03-TOWVE-LA-002-M

The "Part or Component" column for each step on the Master Checklist provides a "Frequency Code" designation followed by a letter or series of letters. These letters correspond to the frequency codes as published in MS-63 and specify the frequency for which that instruction (step) must be performed. These frequency codes are in compliance with NMICS superseding route structure. The possible frequencies and their codes are given in the table below:

Table 2-1. MS-63 (NMICS) Frequency-Codes

<u>CODE</u>	<u>FREQUENCY</u>	<u>DESCRIPTION</u>
A	ANNUAL	Once every 13 APs.
B	BI-WEEKLY	Once every 2 weeks
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 2 years.
L	TRI-ANNUAL	Once every 3 years.
M	MONTHLY	Once every AP.
N	QUAD-ANNUAL	Once every 4 years.
P	QUINT-ANNUAL	Once every 5 years.
Q	QUARTERLY	4 times every 13 APs.
S	SEMI-ANNUAL	Twice every 13 AP.
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 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.

U.S. Postal Service Maintenance Checklist	IDENTIFICATION											
	Work Code		Equipment Acronym				Class Code		Number		Type	
	0	3	T	O	W	V	E	L	A	0	0	2
Equipment Nomenclature TOWVEYOR (MAIN LOOP), TYPE A			Equipment Model SI HANDLING			Bulletin Filename M94139AC			Frequency ALL			

Part or Component	Item No.	Task Statement and Instruction (Comply with all current safety precautions)	Est. Time Req'd	Min. Skill Level
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SAFETY STATEMENT	1.	COMPLY WITH ALL SAFETY PRECAUTIONS. - Disconnect power and activate lockouts as appropriate while working on this equipment. Where air pressure is required for cleaning, use a low air pressure (30 psi or less) air source. Eye protection (goggles or face shield) must be used when utilizing compressed air for cleaning. Check to ensure all employees are clear of the machine. Report safety deficiencies to your supervisor immediately upon detection.	3 min	All
Frequency Code: -M-Q-S-A-K				
AA-1	2.	CHECK FOR MAIL. - Look for loose mail while performing activities.	2.5 min	7
Frequency Code: -M-Q-S-A-				

WARNING

Eye protection (goggles or face shield) must be worn when using compressed air, steam, or a high pressure cleaner/washer device for cleaning.

CH-1 TOWPIN CHAIN	3.	CLEAN CHAIN. - With equipment operating, perform the following:	1 min/ 10 ft.	7
Frequency Code: -----S-A-		1. Clean chain with steam or high pressure cleaner/washer device. Run chain at least one (1) complete cycle.		
		2. Remove foreign material by blowing or vacuuming.		
Frequency Code: -M-Q-S-A	4.	CHAIN LUBRICATION. - Manually turn on chain lubricator. Make at least two (2) complete cycles before turning the automatic lubricator off.	0.22 min/ 10ft.	7

U.S. Postal Service Maintenance Checklist	IDENTIFICATION											
	Work Code		Equipment Acronym			Class Code	Number		Type			
	0	3	T	O	W	V	E	L	A	0	0	2
Equipment Nomenclature TOWVEYOR (MAIN LOOP), TYPE A				Equipment Model SI HANDLING			Bulletin Filename M94139AC		Frequency ALL			

Part or Component	Item No.	Task Statement and Instruction (Comply with all current safety precautions)	Est. Time Req'd	Min. Skill Level
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SYSTEM 5. **POWER DOWN AND LOCKOUT POWER.** - Power down the equipment and lockout its electrical power as prescribed by the procedures contained in, or locally developed in accordance with, the current Maintenance Management Order (MMO) providing lockout/restore procedures.

Frequency Code: -M-Q-S-A-K 2.5 min/Drive 7

Frequency Code: -M-Q-S-A-K 6. **REMOVE COVER PLATES DRIVE PITS.** - Remove cover plates. Erect barricades around open pit.

20 min 7

WARNING

Eye protection (goggles or face shield) must be worn when using compressed air for cleaning.

WARNING

Discard solvent soaked materials according to local procedures to prevent spontaneous combustion.

CH-1 TOWPIN CHAIN 7. **CLEAN TOWPIN CHAIN.** - Clean towpin chain as follows:

Frequency Code: ---Q----- 1 min/10 ft. 7

1. Clean towpin chain with solvent by brushing.
2. Remove foreign material by blowing or wiping clean. Jog chain for one revolution.

Frequency Code: ---Q-S-A- 8. **CHECK CHAIN.** - Check chain for bent, cracked, or excessively worn links.

10 min/10 ft. 7

U.S. Postal Service Maintenance Checklist	IDENTIFICATION											
	Work Code		Equipment Acronym				Class Code		Number		Type	
	0	3	T	O	W	V	E	L	A	0	0	2
Equipment Nomenclature TOWVEYOR (MAIN LOOP), TYPE A		Equipment Model SI HANDLING				Bulletin Filename M94139AC		Frequency ALL				

Part or Component	Item No.	Task Statement and Instruction (Comply with all current safety precautions)	Est. Time Req'd	Min. Skill Level
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CP-1 CLEANOUT BOXES	9.	CLEAN CLEANOUT BOXES. - Clean all foreign material from cleanout boxes.	15 min/ Box	7
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Frequency
Code:
-M-Q-S-A-

SYSTEM	10.	REMOVE COVER PLATES ON TURNS. - Remove cover plates. Erect barricades around open pit.	10 min/ Turn	7
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Frequency
Code:
---Q-S-A-

WARNING

Discard solvent soaked materials according to local procedures to prevent spontaneous combustion.

WARNING

Eye protection (goggles or face shield) must be worn when using compressed air for cleaning.

CR-1 ROLLER CHAIN TURNS	11.	CLEAN AND LUBRICATE CHAIN TURNS. - Clean and lubricate chain turns as follows:	15 min	7
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Frequency
Code:
---Q-S-A-

1. Clean dirt and foreign material from chain turns.
2. Clean with solvent and blow dry.
3. Relubricate with GL-4.

U.S. Postal Service Maintenance Checklist	IDENTIFICATION											
	Work Code		Equipment Acronym				Class Code	Number		Type		
	0	3	T	O	W	V	E	L	A	0	0	2
Equipment Nomenclature TOWVEYOR (MAIN LOOP), TYPE A		Equipment Model SI HANDLING			Bulletin Filename M94139AC			Frequency ALL				

Part or Component	Item No.	Task Statement and Instruction (Comply with all current safety precautions)	Est. Time Req'd	Min. Skill Level
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CR-1 ROLLER CHAIN TURNS (Cont.) 12. **CLEAN, CHECK, AND LUBRICATE TURNS.** - Clean, check, and lubricate turns as follows: 5 min 7

1. Clean/Check turns on each end of chain roller and wear bar.
2. Lubricate with GL-4.

Frequency Code:
----Q-S-A-

Frequency Code:
----Q-S-A- 13. **CHECK CHAIN ROLLERS.** - Check chain rollers as follows: 5 min 7

1. Check chain rollers for wear, gouging, and roll wobble.
2. Check tension and alignment of chain.

SYSTEM 14. **REPLACE COVER PLATES ON TURNS.** - With disconnect locked out, replace all cover plates. 10 min/Turn 7

Frequency Code:
----Q-S-A-

WARNING

Discard solvent soaked materials according to local procedures to prevent spontaneous combustion.

CS-1 CONTAINER SENSORS 15. **CLEAN AND CHECK SWITCH HOUSING AND ACTUATOR ARM.** - Clean and check switch housing and actuator arm as follows: 5 min/unit 7

1. Clean switch housing and actuator arm with solvent.
2. Look for proper positioning and secure mounting of switch and actuator arm.

Frequency Code:
----Q-S-A-

CS-1 16. **LUBRICATE AND CHECK PIVOT POINT.** - Lubricate 1 7

U.S. Postal Service Maintenance Checklist	IDENTIFICATION											
	Work Code		Equipment Acronym			Class Code	Number	Type				
	0	3	T	O	W	V	E	L	A	0	0	2
Equipment Nomenclature TOWVEYOR (MAIN LOOP), TYPE A		Equipment Model SI HANDLING			Bulletin Filename M94139AC		Frequency ALL					

Part or Component	Item No.	Task Statement and Instruction (Comply with all current safety precautions)	Est. Time Req'd	Min. Skill Level
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CONTAINER SENSORS (Cont.)		and check pivot point as follows:		min
Frequency Code: ---Q-S-A-		1. Lubricate pivot point.		
		2. Operate unit by hand to see if it is sluggish or binding.		
		3. Check for damage.		
Frequency Code: ---Q-S-A-	17.	CHECK SWITCH MOUNTING. - Check switch mounting and for freedom of movement in direction of chain travel.	2 min	7
Frequency Code: ---Q-S-A-	18.	CLEAN PIT. - Clean dirt and accumulated material from pit.	5 min	7
DA-1 LO-TOW DRIVE ASS'Y	19.	CHECK LUBRICANT AND LUBE CHAIN. - Check lubricant level and lube chain as follows:	10 min	7
Frequency Code: -M-Q-S-A-		1. Check level of lubricant automatic chain lubricator.		
		2. Refill with GL-1.		
		3. Adjust valve on drive pit oiler to provide small steady stream to chain for two complete passes. Nozzle should be over center of chain.		
Frequency Code: -M-Q-S-A-	20.	CLEAN AND CHECK V-BELTS AND SHEAVES. - Clean and check V-belts and sheaves as follows:	10 min	7
		1. Clean foreign material from belts and sheaves by wiping with clean rags.		
		2. Check V-belts and sheaves for wear and alignment.		
		3. Check sheaves set screws and belt tension.		

U.S. Postal Service Maintenance Checklist	IDENTIFICATION											
	Work Code		Equipment Acronym				Class Code	Number		Type		
	0	3	T	O	W	V	E	L	A	0	0	2
Equipment Nomenclature TOWVEYOR (MAIN LOOP), TYPE A		Equipment Model SI HANDLING				Bulletin Filename M94139AC		Frequency ALL				

Part or Component	Item No.	Task Statement and Instruction (Comply with all current safety precautions)	Est. Time Req'd	Min. Skill Level
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DA-1 LO-TOW DRIVE ASS'Y (Cont.)	21.	CHECK CHAIN. - Check for adjustment of chain. With accumulated slack in one pit, the sag should not exceed three (3) inches.	5 min	7
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Frequency Code:
----Q-S-A-

Frequency Code: ----Q-S-A-	22.	CLEAN AND CHECK CRITICAL SPEED SWITCH. - Clean and check critical speed switch.	5 min	7
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Frequency Code: ----Q-S-A-	23.	CHECK BROKEN CHAIN SWITCH. - Check broken chain switch for secure mount and freedom of movement. Lubricate pivot points with HY-1.	5 min	7
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Frequency Code: ----Q-S-A-	24.	CHECK MOTOR AND REDUCER HOUSING. - Check motor and reducer housings for evidence of lubrication leakage.	5 min/ Drive	7
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Frequency Code: ----Q-S-A-	25.	CLEAN AND CHECK COUPLING. - Clean and check coupling as follows: <ol style="list-style-type: none"> 1. Clean and check coupling. 2. Wrench test set screws. 3. Feel keys for tightness. 	4 min	7
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Frequency Code: -----A-	26.	LUBRICATE MOTOR. - Remove grease relief plug. For motors 1/2 HP and over, apply 2 pumps of GR-2.	4 min	7
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U.S. Postal Service Maintenance Checklist	IDENTIFICATION											
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	0	3	T	O	W	V	E	L	A	0	0	2
Equipment Nomenclature TOWVEYOR (MAIN LOOP), TYPE A			Equipment Model SI HANDLING			Bulletin Filename M94139AC			Frequency ALL			

Part or Component	Item No.	Task Statement and Instruction (Comply with all current safety precautions)	Est. Time Req'd	Min. Skill Level
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WARNING

Be cautious when working around or on equipment when power has been applied.

SYSTEM Frequency Code: -----A--	27.	RESTORE EQUIPMENT TO SERVICE. - Restore equipment to service as prescribed by the procedures contained in, or locally developed in accordance with, the current Maintenance Management Order (MMO) providing lockout/restore procedures.	3 min/ Drive	All
DA-1 LO-TOW DRIVE ASS'Y Frequency Code: -----A-	28.	LUBRICATE MOTOR. - Run motor for one minute	1 min	7
SYSTEM Frequency Code: -----A-K	29.	POWER DOWN AND LOCKOUT POWER. - Power down the equipment and lockout its electrical power as prescribed by the procedures contained in, or locally developed in accordance with, the current Maintenance Management Order (MMO) providing lockout/restore procedures.	1 min/ Drive	7
DA-1 LO-TOW DRIVE ASS'Y Frequency Code: -----A-	30.	REPLACE RELIEF PLUG. - Replace grease relief plug.	1 min	7
Frequency Code: -----A-	31.	LUBRICATE COUPLING. - Drain and refill coupling with same quantity HY-1 lubricant.	15 min/ Drive	7

U.S. Postal Service Maintenance Checklist	IDENTIFICATION											
	Work Code		Equipment Acronym				Class Code		Number		Type	
	0	3	T	O	W	V	E	L	A	0	0	2
Equipment Nomenclature TOWVEYOR (MAIN LOOP), TYPE A				Equipment Model SI HANDLING			Bulletin Filename M94139AC			Frequency ALL		

Part or Component	Item No.	Task Statement and Instruction (Comply with all current safety precautions)	Est. Time Req'd	Min. Skill Level
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DA-1 LO-TOW DRIVE ASS'Y (Cont.) Frequency Code: -----K	32.	CLEAN AIR VENT AND DRAIN REDUCER. - With unit warm from running, perform the following: <ol style="list-style-type: none"> 1. Clean air vent. 2. Drain reducer by removing drain plug. 3. Replace drain plug. 4. Refill to proper level with GL-4. 	30 min	7
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DRIVE SPROCKET Frequency Code: -M-Q-S-A-	33.	CHECK SHAFT ENCODER. - Check shaft encoder for secure mounting and clearance from towpin chain.	5 min	7
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WARNING

Discard solvent soaked materials according to local procedures to prevent spontaneous combustion.

Frequency Code: ---Q-S-A-	34.	CLEAN AND CHECK SPROCKET. - Clean and check sprocket as follows: <ol style="list-style-type: none"> 1. Clean sprocket with solvent and rags. 2. Check sprocket for wear and alignment. 3. Wrench test set screws. 	5 min	7
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Frequency Code: ---Q-S-A-	35.	CLEAN, CHECK, AND LUBRICATE IDLER WHEEL. - With disconnect locked out, clean and check idler wheel. Lube with GR-2.	10 min	7
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Frequency Code: -----A-	36.	CLEAN AND LUBRICATE TAKE-UP BEARINGS. - Clean and lubricate take-up bearings.	10 min	7
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U.S. Postal Service Maintenance Checklist		IDENTIFICATION										
		Work Code		Equipment Acronym			Class Code	Number		Type		
		0	3	T	O	W	V	E	L	A	0	0
Equipment Nomenclature TOWVEYOR (MAIN LOOP), TYPE A		Equipment Model SI HANDLING			Bulletin Filename M94139AC			Frequency ALL				

Part or Component	Item No.	Task Statement and Instruction (Comply with all current safety precautions)	Est. Time Req'd	Min. Skill Level
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DRIVE SPROCKET (Cont.) 37. **CLEAN, CHECK AND LUBRICATE DRIVE ROLLER.** - Clean and check/lubricate drive roller. Lubricant GR-2. 10 min 7

Frequency Code:
----Q-S-A-

Frequency Code: 38. **CLEAN DRIVE PIT.** - Clean all dirt and foreign material from drive pit. 20 min 7
----Q-S-A-

AT-1 TRACK 39. **CHECK TRACK.** - Check entire length of track for loose wear strips 1 min/50 ft. 7

Frequency Code:
-M-Q-S-A-

ZZ-1 ROUTE COMPLETION 40. **REPLACE COVER PLATES AT DRIVE PITS.** - With disconnect locked out, replace all cover plates. 20 min 7

Frequency Code:
-M-Q-S-A-K

CLEAN-UP 41. **CLEAN- UP.** -Ensure all tools, lubricants, rags, etc., are removed from the work area. Report all deficiencies to your supervisor. 3 min All

Frequency Code:
-M-Q-S-A-K

U.S. Postal Service Maintenance Checklist	IDENTIFICATION											
	Work Code		Equipment Acronym				Class Code		Number		Type	
	0	3	T	O	W	V	E	L	A	0	0	2
Equipment Nomenclature TOWVEYOR (MAIN LOOP), TYPE A			Equipment Model SI HANDLING			Bulletin Filename M94139AC			Frequency ALL			

Part or Component	Item No.	Task Statement and Instruction (Comply with all current safety precautions)	Est. Time Req'd	Min. Skill Level
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WARNING

Be cautious when working around or on equipment when power has been applied.

SYSTEM Frequency Code: -M-Q-S-A-K	42. RESTORE EQUIPMENT TO SERVICE. - Restore equipment to service as prescribed by the procedures contained in, or locally developed in accordance with, the current Maintenance Management Order (MMO) providing lockout/restore procedures.	3 min	All
START-UP Frequency Code: -M-Q-S-A-K	43. START-UP. - Perform normal start-up procedures as follows: <ol style="list-style-type: none"> 1. Start or preset equipment. 2. Check for proper operation. 3. Report all deficiencies to your supervisor in order to initiate any necessary work orders to make necessary repairs, or to remove excessive debris. 	5 min	All