

maintenance management order

SUBJECT: PM Guidelines for Towveyor (Unloaders),
Type E (SI Handling)

DATE: December 10, 1998

NO: MMO-160-98

TO: Bulk Mail Centers

FILE CODE: Y

dewa:M98069AA

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	5/16/2013	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) supersedes MMO-151-98, dated November 30, 1998 due to recalculation of the roll up times. All other information remains the same.

This Maintenance Management Order (MMO) provides Preventive Maintenance (PM) guidelines for Towveyor (Unloaders), Type E (SI Handling) and supersedes Maintenance Checklist B071.

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 (Unloaders), Type E (SI Handling) Master Checklist

ATTACHMENT 1**-SUMMARY-****REVISED WORKLOAD ESTIMATE****FOR****TOWVEYOR (UNLOADERS) TYPE E (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)
27.58	8.27	35.85	3.59	39.45

* Repair estimates based on 30% of servicing.

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

TIME TOTALS

<u>Monthly Time Total:</u>	1.26 Hrs. ***
<u>Quarterly Time Total:</u>	2.55 Hrs. ***
<u>Annual Time Total:</u>	1.02 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 require 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 (UNLOADERS), TYPE E (SI HANDLING) MASTER CHECKLIST**

03-TOWVE-ZZ-004-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.

SAFETY 1. **COMPLY WITH ALL SAFETY PRECAUTIONS.** - 3 All

U.S. Postal Service Maintenance Checklist	IDENTIFICATION											
	Work Code		Equipment Acronym				Class Code		Number		Type	
	0	3	T	O	W	V	E	Z	Z	0	9	2
Equipment Nomenclature TOWVEYOR TYPE E	Equipment Model SI HANDLING				Bulletin Filename M98069AA				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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STATEMENT

Frequency
Code:
-M-Q--A-

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.

AA-1

2. **CHECK FOR MAIL.** - Look for loose mail while performing activities. 2.5 min 7

Frequency
Code:
-M-Q--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

Frequency
Code:
-----A-

3. **CLEAN CHAIN.** - Clean chain as follows: 1 min 7
1. Clean chain with steam or high pressure cleaner/washer device. Run chain at least one (1) complete cycle. 10. ft.
 2. Remove foreign material by blowing or vacuuming.

Frequency
Code:
-M-Q--A-

4. **LUBRICATE CHAIN.** - With equipment operating, pour GL-3 slowly over return strand of chain. Two (2) complete turns. 1 min per 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	Z	Z	0	9	1	M
Equipment Nomenclature TOWVEYOR TYPE E	Equipment Model SI HANDLING				Bulletin Filename M98069AA				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-3 SIDE
FINGER
DRIVE WITH
MOTOR
BRAKE

5. **CHECK BRAKE.** - With equipment operating, perform the following:

5 min 7

1. Check for proper brake action.
2. Feel for vibration.
3. Listen for noise.

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

SYSTEM

6. **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 7

Frequency
Code:
-M-Q--A-

Frequency
Code:
-M-Q--A-

7. **REMOVE COVER PLATES.** - Remove cover plates. Erect barricades around open pits.

20 min 7

WARNING

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

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

8. **CHECK CHAIN.** - Check chain for bent, cracked, or excessively worn links.

1 min per 10 ft. 7

CO-1 CROSS
OVER BOX

9. **CLEAN, CHECK AND LUBRICATE CROSS OVER BOX.** - Clean/check/lubricate cross over box.

15 min 7

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

U.S. Postal Service Maintenance Checklist	IDENTIFICATION											
	Work Code		Equipment Acronym				Class Code		Number		Type	
	0	3	T	O	W	V	E	Z	Z	0	9	2
Equipment Nomenclature TOWVEYOR TYPE E	Equipment Model SI HANDLING				Bulletin Filename M98069AA				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

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

CS-1 CONTAINER SENSORS	10.	CLEAN PIT, SWITCH HOUSING, AND ACTUATOR ARM. - With disconnect locked out, perform the following:	10 min	7
		1. Clean dirt and accumulated material from pit. 2. Clean switch housing and actuator arm with solvent.		
Frequency Code: ----Q--A-				
Frequency Code: ----Q--A-	11.	CHECK SWITCH AND ACTUATOR ARM. - Look for proper positioning and secure mounting of switch and actuator arm.	1 min	7
Frequency Code: ----Q--A-	12.	LUBRICATE AND CHECK PIVOT POINT. - Lubricate and check pivot point as follows:	2 min	7
		1. Lubricate pivot point. 2. Operate by hand to see if it is sluggish or binding. 3. Check for damage.		
Frequency Code: ----Q--A-	13.	CHECK SWITCH MOUNTING. - Check switch mounting and for freedom of movement in direction of chain travel.	2 min	7
DA-3 SIDE FINGER DRIVE WITH MOTOR BRAKE	14.	CHECK CHAIN LUBRICANT LEVEL. - Check chain lubricant level and adjust valve as follows:	10 min	7
		1. Check level of lubricant in chain lubricator. Refill with GL-3. 2. Adjust valve on oil container to provide small steady stream to chain for two complete passes. Nozzle should be over center of chain.		
Frequency Code: -M-Q--A-				

U.S. Postal Service Maintenance Checklist		IDENTIFICATION											
		Work Code		Equipment Acronym				Class Code		Number		Type	
		0	3	T	O	W	V	E	Z	Z	0	9	1
Equipment Nomenclature TOWVEYOR TYPE E		Equipment Model SI HANDLING				Bulletin Filename M98069AA				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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Frequency Code: ----Q--A-	15.	CHECK CHAIN ADJUSTMENT. - Check chain for proper adjustment. Adjust if necessary at take-up screws on drive assembly.	3 min	7
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Frequency Code: ----Q--A-	16.	CLEAN AND CHECK CRITICAL SPEED SWITCH. - Clean and check critical speed switch.	5 min	7
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Frequency Code: ----Q--A-	17.	CLEAN AND CHECK COUPLING. - Clean and check coupling as follows: 1. Clean and check coupling. 2. Wrench test set screws. 3. Feel keys for tightness.	10 min	7
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Frequency Code: ----Q--A-	18.	LUBRICATE GEAR REDUCER. - Add grease to gear reducer. Grease may be applied through a grease nipple provided on the top of the high speed end shield. Amount added should be equal to approximately 1/3 of normal fill.	20 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	Z	Z	0	9	2	M	
Equipment Nomenclature TOWVEYOR TYPE E				Equipment Model SI HANDLING					Bulletin Filename M98069AA				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

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

DA-3 SIDE FINGER DRIVE WITH MOTOR BRAKE (Cont.)

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|-----|-------------------------------------------------------------------------|--------|---|
| 19. | CHECK AND CLEAN SPROCKET. - Check and clean sprocket as follows: | 10 min | 7 |
| | 1. Check sprocket for wear and alignment. | | |
| | 2. Wrench test set screws. | | |
| | 3. Clean sprocket with solvent and rags. | | |

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

Frequency
Code:
-----A-

WARNING

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

SYSTEM

- | | | | |
|-----|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|-----|
| 21. | 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 |
|-----|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|-----|

Frequency
Code:
-----A-

Frequency
Code:
-----A-

- | | | | |
|-----|----------------------------------------------|----------|---|
| 22. | RUN MOTOR. - Run motor for one minute | 1
min | 7 |
|-----|----------------------------------------------|----------|---|

U.S. Postal Service Maintenance Checklist	IDENTIFICATION												
	Work Code		Equipment Acronym				Class Code		Number		Type		
	0	3	T	O	W	V	E	Z	Z	0	9	1	M
Equipment Nomenclature TOWVEYOR TYPE E		Equipment Model SI HANDLING				Bulletin Filename M98069AA				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	23.	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	7
Frequency Code: -----A-				

DA-3 SIDE FINGER DRIVE WITH MOTOR BRAKE	24.	REPLACE RELIEF PLUG. - Replace motor grease relief plug.	1 min	7
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Frequency Code:
-----A-

Frequency Code: -----A-	25.	LUBRICATE COUPLING. - Drain and refill coupling with same quantity HY-1 lubricant.	20 min	7
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Frequency Code: -----A-	26.	CHECK LUBRICANT ON SHAFT BEARINGS. - Check bearings for adequate lubricant. Apply new lubricant as necessary use lubricant GR-2	30 min	7
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Frequency Code: ----Q--A-	27.	CLEAN DRIVE PIT. - Clean drive pit.	30 min	7
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Frequency Code: ----Q--A-	28.	CHECK AND LUBRICATE BROKEN CHAIN SWITCH. - Check and lubricate broken chain switch as follows:	3 min	7
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1. Check broken chain switch for secure mount and freedom of movement.
2. Lubricate pivot points with HY-1.

U.S. Postal Service Maintenance Checklist	IDENTIFICATION											
	Work Code		Equipment Acronym				Class Code		Number		Type	
	0	3	T	O	W	V	E	Z	Z	0	9	2
Equipment Nomenclature TOWVEYOR TYPE E	Equipment Model SI HANDLING				Bulletin Filename M98069AA				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-3 SIDE FINGER DRIVE WITH MOTOR BRAKE (cont.)
Frequency Code: -M-Q--A- | 29. | CHECK V-BELTS AND SHEAVES. - Check belts and sheaves as follows:

1. Check V-belts and sheaves for wear and alignment.

2. Check sheaves set screws and belt tension. | 2 min | 7 |
| Frequency Code: -M-Q--A- | 30. | CLEAN V-BELT AND SHEAVES. - Clean foreign material from belts and sheaves by wiping with clean rags | 4 min | 7 |
| PD-1 EMPTY PUSHER SENSOR

Frequency Code: ----Q--A- | 31. | CLEAN EPD PIT. - Clean dirt and debris from EPD pit. | 10 min | 7 |
| Frequency Code: ----Q--A- | 32. | CHECK PHOTOCELL LENS, HOUSING, AND REFLECTOR. - Check photocell housings, lens, and reflector. | 2 min | 7 |

U.S. Postal Service Maintenance Checklist	IDENTIFICATION												
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	0	3	T	O	W	V	E	Z	Z	0	9	1	M
Equipment Nomenclature TOWVEYOR TYPE E		Equipment Model SI HANDLING				Bulletin Filename M98069AA				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

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

PS-1 ACCUMULATION STOP Frequency Code: ----Q--A-	33.	CLEAN STOP PIT AND SWITCH HOUSING. - Clean stop pit and switch housing as follows: 1. Remove dirt and accumulated debris from accumulation stop pit. 2. Clean switch housing using solvent and rags. 3. Check operation by unlatching switch blade.	10 min	7
Frequency Code: ----Q--A-	34.	CLEAN AND LUBRICATE CENTER SLIDE ASSEMBLY. - Clean and grease center slide assembly (4) pivots.	2 min	7
Frequency Code: ----Q--A-	35.	LUBRICATE SOLENOID LINKAGE. - Lightly lubricate all linkage and pivot points on solenoid.	2 min	7
Frequency Code: ----Q--A-	36.	CLEAN LIMIT SWITCH HOUSING AND ACTUATOR. - Clean limit switch housing and actuator as follows: 1. Clean limit switch housing and actuator with solvent. 2. Check mounting and freedom of movement in direction of chain travel.	10 min	7
AT-1 TRACK Frequency Code: -M-Q--A-	37.	CHECK TRACK. - Check entire length of track for loose wear strips	1 min/ 50 ft.	7

U.S. Postal Service Maintenance Checklist		IDENTIFICATION											
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		0	3	T	O	W	V	E	Z	Z	0	9	2
Equipment Nomenclature TOWVEYOR TYPE E		Equipment Model SI HANDLING				Bulletin Filename M98069AA				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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ZZ-1 ROUTE COMPLETION 38. **REPLACE COVER PLATES.** - Replace all cover plates 20 min 7

Frequency Code:
-M-Q--A-

CLEAN-UP 39. **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--A-

WARNING

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

SYSTEM 40. **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

Frequency Code:
-M-Q--A-

START-UP 41. **START-UP.** - Perform normal start-up procedures as follows: 5 min All

Frequency Code:
-M-Q--A-

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.