

maintenance management order

SUBJECT: PM Guidelines for Towveyor (Takeaway),
Type H (Linkbelt)

DATE: July 29, 1998

NO: MMO-018-98

TO: Bulk Mail Centers

FILE CODE: Y

dewa:M94157AC

Online Change Record		
Change #	Date	Description of Change
2	4/21/2022	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 (Takeaway), Type H (Linkbelt) and supersedes Maintenance Checklist BO74.

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 (Takeaway), Type H (Link Belt) Master Checklist

ATTACHMENT 1**-SUMMARY-****REVISED WORKLOAD ESTIMATE****FOR****TOWVEYOR (TAKEAWAY), TYPE H (LINKBELT)**

Routine Servicing (hrs/yr)	Repair* (hrs/yr)	Total Servicing & Repair Time (hrs/yr)	Nonproductive Time ** (hrs/yr)	Total Servicing Per Machine (hrs/yr)
20.08	6.02	26.1	2.61	28.71

* Repair estimates based on 30% of servicing.

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

TIME TOTALS

<u>Monthly Time Total:</u>	1.16 Hrs. ***
<u>Quarterly Time Total:</u>	0.98 Hrs. ***
<u>Semi-Annual Time Total:</u>	0.20 Hrs. ***
<u>Bi-Annual Time Total:</u>	1.25 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 (TAKEAWAY), TYPE H (LINKBELT) MASTER CHECKLIST**

03-TOWVE-ZZ-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.

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	0	2	M
Equipment Nomenclature TOWVEYOR (TAKEAWAY), TYPE H		Equipment Model LINKBELT				Bulletin Filename M94157AC				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-S----K

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-S----

CH-1
TOWPIN

3. **CHECK MOTOR DRIVE AMMETER.** - With equipment operating, check motor drive ammeter in the MPS. If reading exceeds normal by 10%, flow a thin stream of GL-1 around entire track. 1 min per 20 ft. 7

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

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

4. **CLEAN CHAIN.** - 1 min/ 10 ft. 7

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

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.

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	0	2	M
Equipment Nomenclature TOWVEYOR (TAKEAWAY), TYPE H	Equipment Model LINKBELT				Bulletin Filename M94157AC				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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CH-1 TOWPIN CHAIN	5.	LUBRICATE CHAIN. - Pour oil slowly over chain for two (2) complete turns.	0.22 min/ 10ft.	7
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Frequency
Code:
-M-Q-S-----

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

Frequency Code: -M-Q-S----K	7.	REMOVE COVER PLATES. - Remove cover plates. Erect barricades around open pits.	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 0 2 M
Equipment Nomenclature TOWVEYOR (TAKEAWAY), TYPE H		Equipment Model LINKBELT				Bulletin Filename M94157AC			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.

WARNING

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

AT-1 TRACK	8.	CLEAN AND LUBRICATE ROLLER TURNS. - Clean and lubricate roller turns as follows:	10 min	7
Frequency Code: ----Q-S----		1. Clean dirt and foreign material from roller turns. 2. Clean with solvent and blow dry. 3. Lubricate with GR-2.		
Frequency Code: ----Q-S----	9.	CHECK ROLLERS. - Check rollers for wear, gouging, and roll wobble. Check mounting bolts.	2 min	7
Frequency Code: ----Q-S----	10.	CLEAN AND CHECK SPROCKET TURN. - Clean and check sprocket turn as follows:	10 min	7
		1. Remove dirt and foreign material from sprocket turn. 2. Check for wear and alignment.		

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	0	2	M
Equipment Nomenclature TOWVEYOR (TAKEAWAY), TYPE H		Equipment Model LINKBELT				Bulletin Filename M94157AC				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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AT-1 TRACK (Cont.) 11. **LUBRICATE SPROCKET TURN, BEARING EXTERIOR AND FITTINGS.** - With disconnect locked out, perform the following: 5 min 7

Frequency
Code:
-----S----

1. Wipe off sprocket turn, bearing exterior, and lubricating fittings.
2. Using a hand grease gun, apply one (1) shot of GR-2.
3. Wipe off excess.

Frequency Code: 12. **CHECK CHAIN.** - Check chain for bent, cracked, or excessively worn links. 1 min/10 ft. 7

----Q-S----

Frequency Code: 13. **CHECK SPRING TAKE-UP SPROCKET.** - Check spring take-up sprocket as follows: 3 min 7

----Q-S----

1. Check spring take-up sprocket for wear and alignment.
2. Check to see if spring length exceeds 22 inches. See page IV-11 of O & M Manual for the adjustment procedures for chain tension.

Frequency Code: 14. **LUBRICATE TAKE-UP SPROCKET BEARING.** - Using a hand grease gun and needle adapter, apply two (2) shots of GR-2 to take-up sprocket bearing. 1 min 7

----Q-S----

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	0	2
Equipment Nomenclature TOWVEYOR (TAKEAWAY), TYPE H		Equipment Model LINKBELT				Bulletin Filename M94157AC				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.

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|--|--|------------------------|
| CS-1
CONTAINER
SENSOR
SWITCHES

Frequency
Code:
----Q-S---- | 15. CLEAN PIT, SWITCH HOUSING, AND ACTUATOR ARM. - Clean pit, switch housing, and actuator as follows:

1. Clean dirt and accumulated material from pit.

2. Clean switch housing and actuator arm with solvent. | 3 min

7 |
| Frequency
Code:
----Q-S---- | 16. CHECK SWITCH MOUNTING. - Check switch mounting and for freedom of movement in direction of chain travel. | 1 min

7 |
| DA-2
SPROCKET
DRIVE ASSY

Frequency
Code:
-M-Q-S---- | 17. CHECK MOTOR AND REDUCER HOUSING. - Check motor and reducer housing for evidence of lubrication leakage. | 5 min

7 |
| Frequency
Code:
-M-Q-S---- | 18. CLEAN AND CHECK MOTOR AND REDUCER EXTERIOR. - Clean and check motor and reducer exterior as follows:

1. Remove dust and foreign material from motor and reducer exterior.

2. Check to make sure vent holes are not plugged. | 2 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	0	2
Equipment Nomenclature TOWVEYOR (TAKEAWAY), TYPE H		Equipment Model LINKBELT				Bulletin Filename M94157AC				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-2 19. **CHECK OIL LEVEL.** - With unit warm from running, 2 7
 SPROCKET check oil level in reducer. Refill, if required, to proper min
 DRIVE ASSY level with GL-7.

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

Frequency 20. **CLEAN AND DRAIN REDUCER.** - With disconnect 20 7
 Code: locked out and with unit warm from running, perform the min
 -----K following:

1. Clean air vent.
2. Drain reducer by removing drain plug.
3. Replace drain plug.
4. Refill to proper level with GL-7.

Frequency 21. **LUBRICATE REDUCER OUTPUT SHAFT BEARING.** - 1 7
 Code: Lubricate reducer output shaft bearing as follows: min/
 -----S---- Drive

1. Remove relief plug from reducer output shaft bearing.
2. Apply GR-2 until fresh lubricant appears at plug.

WARNING

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

SYSTEM 22. **RESTORE EQUIPMENT TO SERVICE.** - Restore 3 All
 Frequency equipment to service as prescribed by the procedures min
 Code: contained in, or locally developed in accordance with, the
 -----S---- current Maintenance Management Order (MMO)
 providing lockout/restore procedures.

DA-2 23. **LUBRICATE SHAFT BEARING.** - Run one (1) minute. 1 7
 SPROCKET min
 DRIVE ASSY

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	0	2
Equipment Nomenclature TOWVEYOR (TAKEAWAY), TYPE H		Equipment Model LINKBELT				Bulletin Filename M94157AC		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:

-----S----

SYSTEM

Frequency

Code:

-----S----

24. **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 7
min

DA-2

SPROCKET
DRIVE ASSY
(Cont.)

25. **REPLACE RELIEF PLUG.** - Replace reducer output shaft bearing relief plug. Wipe off excess lubricant.

1 7
min

Frequency

Code:

-----S----

26. **CHECK V-BELTS AND SHEAVES.** - Check V-belts and sheaves for wear and alignment.

1 7
min

Frequency

Code:

----Q-S----

Frequency

Code:

----Q-S----

27. **CLEAN AND CHECK V-BELTS AND SHEAVES.** - Clean and check V-belts and sheaves as follows:

1 7
min

1. Clean foreign material from belts and sheaves by wiping with clean rags.
2. Check sheave set screws and belt tension.

WARNING

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

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	0	2
Equipment Nomenclature TOWVEYOR (TAKEAWAY), TYPE H		Equipment Model LINKBELT				Bulletin Filename M94157AC				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-2
SPROCKET
DRIVE ASSY
(Cont.)
Frequency
Code:
----Q-S----

28. **CHECK AND CLEAN SPROCKET.** - Check and clean sprocket as follows: 5 min 7
1. Check sprocket for wear and alignment. Wrench test set screws.
 2. Clean sprocket with solvent and rags.

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

29. **CLEAN DRIVE PIT.** - Clean all dirt and foreign material from drive pit. 10 min 7

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.

DS-1
DIVERGING
TRACK
SWITCH

30. **CLEAN AND CHECK SWITCH HOUSING.** - Clean and check switch housing as follows: 4 min 7
1. Clean switch housing using solvent and rags.
 2. Check operation of unlatching switching blade.

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

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	0	2	M
Equipment Nomenclature TOWVEYOR (TAKEAWAY), TYPE H		Equipment Model LINKBELT				Bulletin Filename M94157AC				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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DS-1
DIVERGING
TRACK
SWITCH

31. **CLEAN TRACK SWITCH PITS.** - Remove dirt and accumulated debris from track switch pits..

3 min 7

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

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

32. **CLEAN SOLENOID HOUSING PLUNGER ROD, AND LINKAGE.** - Clean solenoid housing, plunger rod and linkage using solvent and rags.

1 min 7

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

33. **CHECK PLUNGER ROD.** - Check plunger rod for free movement. Check solenoid mount and switch blade.

1 min 7

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

34. **LUBRICATE LINKAGE AND PIVOT POINTS.** - Lightly lubricate all linkage and pivot points on solenoid and blade assembly with HY-1.

2 min 7

AT-1 TRACK

35. **CHECK TRACK.** - Check entire length of track for loose wear strips

1 min/ 50 ft. 7

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

ZZ-1 ROUTE
COMPLETION

36. **REPLACE COVER PLATES.** - Replace all cover plates

20 min 7

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

CLEAN-UP

37. **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----K

WARNING

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	0	2
Equipment Nomenclature TOWVEYOR (TAKEAWAY), TYPE H		Equipment Model LINKBELT				Bulletin Filename M94157AC				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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Be cautious when working around or on equipment when power has been applied.

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|--|---|-------|-----|
| SYSTEM

Frequency Code:
-M-Q-S----K | 38. 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----K | 39. 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 |