



maintenance management order

SUBJECT: PM Guidelines for Towveyor (Bypass),
Type D (Linkbelt)

DATE: July 27, 1998

NO: MMO-048-98

TO: Bulk Mail Centers

FILE CODE: Y

dewa:M94147AC

Online Change Record		
Change #	Date	Description of Change
2	4/25/2022	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 (Bypass), Type D (Linkbelt) and supersedes Maintenance Checklist BO70.

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>HELPPDESK>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 (Bypass), Type D (Linkbelt) Master Checklist

ATTACHMENT 1**-SUMMARY-****REVISED WORKLOAD ESTIMATE****FOR****TOWVEYOR (BYPASS), TYPE D (LINKBELT)**

Routine Servicing (hrs/yr)	Repair* (hrs/yr)	Total Servicing & Repair Time (hrs/yr)	Nonproductive Time ** (hrs/yr)	Total Servicing Per Machine (hrs/yr)
17.84	5.37	23.21	2.32	25.53

* Repair estimates based on 30% of servicing.

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

TIME TOTALS

Monthly Time Total: 0.83 Hrs. ***

Quarterly Time Total: 1.48 Hrs. ***

Semi-Annual Time Total: 0.25 Hrs. ***

Bi-Annual Time Total: 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 (BYPASS), TYPE D (LINKBELT) MASTER CHECKLIST**

03-TOWVE-BA-003-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	B	A	003	M
Equipment Nomenclature TOWVEYOR (BYPASS), TYPE D	Equipment Model LINKBELT				Bulletin Filename M94147AC			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 Frequency Code: -M-Q-S----K	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
AA-1 Frequency Code: -M-Q-S----	2.	CHECK FOR MAIL. - Look for loose mail while performing activities.	2.5 min	7
CH-1 TOWPIN Frequency Code: -M-Q-S----	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
DA-3 SPROCKET MOTOR BRAKE DRIVE ASSY Frequency Code: ----Q-S----	4.	CHECK MAGNETIC BRAKE ASSEMBLY. - Check magnetic brake assembly as follows: 1. Observe effectiveness of magnetic brake assembly. 2. Look for proper breaking action on motor. 3. Feel motor housing for excessive vibration when brake operates. 4. Listen for noisy brake operation.	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	B	A	0	0	3
Equipment Nomenclature TOWVEYOR (BYPASS), TYPE D		Equipment Model LINKBELT				Bulletin Filename M94147AC		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

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: -----S-----	5. CLEAN CHAIN. - Clean chain as follows: 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.	1 min per 10 ft.	7
Frequency Code: -M-Q-S-----	6. LUBRICATE CHAIN - Pour oil slowly over chain for two (2) complete turns.	0.22 min/ 10ft.	
SYSTEM Frequency Code: -M-Q-S----K	7. 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-S----K	8. REMOVE COVER PLATES. - Remove cover plates. Erect barricades around open pits.	20 min	7

U.S. Postal Service Maintenance Checklist		IDENTIFICATION										
		Work Code		Equipment Acronym			Class Code		Number		Type	
		0	3	T	O	W	V	E	B	A	0	0
Equipment Nomenclature TOWVEYOR (BYPASS), TYPE D		Equipment Model LINKBELT			Bulletin Filename M94147AC			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	9.	CLEAN AND LUBRICATE ROLLER TURNS. - With disconnect locked out, perform the following:	10 min	7
Frequency Code: ----Q-S----		<ol style="list-style-type: none"> 1. Clean dirt and foreign material from roller turns. 2. Clean with solvent and blow dry. 3. Relubricate with GR-2. 		
Frequency Code: ----Q-S----	10.	CHECK ROLLERS. - Check rollers for wear, gouging, and roll wobble. Check mounting bolts.	2 min	7
Frequency Code: ----Q-S----	11.	CLEAN AND CHECK SPROCKET TURN. - Clean and check sprocket turn as follows:	10 min	7
		<ol style="list-style-type: none"> 1. Remove dirt and foreign material from sprocket turn. 2. Check for wear and alignment. 		

U.S. Postal Service		IDENTIFICATION										
Maintenance Checklist		Work Code		Equipment Acronym			Class Code	Number		Type		
		0	3	T	O	W	V	E	B	A	0	0
Equipment Nomenclature TOWVEYOR (BYPASS), TYPE D		Equipment Model LINKBELT			Bulletin Filename M94147AC			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 | 12. | CLEAN AND LUBRICATE SPROCKET TURN, BEARING EXTERIOR, AND FITTINGS. - With disconnect locked out, perform the following: | 5 min | 7 |
| Frequency Code:
-----S---- | | <ol style="list-style-type: none"> 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:
----Q-S---- | 13. | CHECK CHAIN. - Check chain for bent, cracked, or excessively worn links. | 1 min per 10 ft. | 7 |
| Frequency Code:
----Q-S---- | 14. | CHECK SPRING TAKE-UP SPROCKET. - Check spring take-up sprocket for wear and alignment. Check to see if spring length exceeds 22 inches. See page IV-11 of O & M Manual for the adjustment procedures for chain tension. | 3 min | 7 |
| Frequency Code:
----Q-S---- | 15. | 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 |

U.S. Postal Service Maintenance Checklist	IDENTIFICATION											
	Work Code		Equipment Acronym				Class Code		Number		Type	
	0	3	T	O	W	V	E	B	A	0	0	3
Equipment Nomenclature TOWVEYOR (BYPASS), TYPE D		Equipment Model LINKBELT				Bulletin Filename M94147AC		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

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CS-1 CONTAINER SENSOR SWITCHES Frequency Code: ---Q-S---	16.	CLEAN PIT, SWITCH HOUSING, AND ACTUATOR ARM. - Clean pit, switch housing, and actuator arm 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---	17.	CHECK SWITCH MOUNTING. - Check switch mounting and for freedom of movement in direction of chain travel.	1 min	7
DA-3 SPROCKET/ MOTOR BRAKE DRIVE ASSY Frequency Code: -M-Q-S---	18.	CHECK MOTOR AND REDUCER HOUSING. - Check motor and reducer housing for evidence of lubrication leakage.	5 min	7
Frequency Code: -M-Q-S---	19.	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		IDENTIFICATION										
Maintenance Checklist		Work Code		Equipment Acronym			Class Code	Number		Type		
		0	3	T	O	W	V	E	B	A	0	0
Equipment Nomenclature TOWVEYOR (BYPASS), TYPE D		Equipment Model LINKBELT			Bulletin Filename M94147AC			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 SPROCKET/ MOTOR BRAKE DRIVE ASSY (Cont.)	20.	CHECK OIL LEVEL. - With unit warm from running, check oil level in reducer. Refill, if required, to proper level with GL-7	2 min	7
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Frequency Code:
-M-Q-S----

Frequency Code: -----K	21.	CLEAN, DRAIN, AND REFILL REDUCER. - With disconnect locked out and 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-7. 	20 min	7
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Frequency Code: -----S----	22.	LUBRICATE REDUCER OUTPUT SHAFT BEARING. - Lubricate reducer output shaft bearing as follows: <ol style="list-style-type: none"> 1. Remove relief plug from reducer output shaft bearing. 2. Apply GR-2 until fresh lubricant appears at plug. 	1 min/ Drive	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	B	A	0	0	3
Equipment Nomenclature TOWVEYOR (BYPASS), TYPE D		Equipment Model LINKBELT				Bulletin Filename M94147AC		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	23.	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: -----S----				
DA-3 SPROCKET/ MOTOR BRAKE DRIVE ASSY	24.	LUBRICATE SHAFT BEARING. - Run one (1) minute to even pressure.	1 min	7
Frequency Code: -----S----				
SYSTEM	25.	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: -----S----				
DA-3 SPROCKET MOTOR BRAKE DRIVE ASSY	26.	REPLACE RELIEF PLUG. - Replace shaft bearing relief plug. Wipe off excess lubricant.	1 min	7
Frequency Code: -----S----				

U.S. Postal Service		IDENTIFICATION										
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		0	3	T	O	W	V	E	B	A	0	0
Equipment Nomenclature TOWVEYOR (BYPASS), TYPE D		Equipment Model LINKBELT			Bulletin Filename M94147AC			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
SPROCKET
MOTOR
BRAKE
DRIVE ASSY
(Cont.)

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

1 min 7

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

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

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

1 min 7

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

29. **CHECK AND CLEAN SPROCKET.** - Check and clean sprocket as follows:

1. Check sprocket for wear and alignment. Wrench test set screws.
2. Clean sprocket with solvent and rags.

5 min 7

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

PD-1
EMPTY
PUSHER
DETECTOR

31. **CLEAN EMPTY PUSHER DOG DETECTOR BOX.** - Remove dirt and accumulated debris from Empty Pusher Dog Detector Box.

3 min 7

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

U.S. Postal Service Maintenance Checklist	IDENTIFICATION											
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	0	3	T	O	W	V	E	B	A	0	0	3
Equipment Nomenclature TOWVEYOR (BYPASS), TYPE D		Equipment Model LINKBELT				Bulletin Filename M94147AC		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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PD-1
EMPTY
PUSHER
DETECTOR
(Cont.)

32. **CHECK PHOTOCCELL HOUSING, LENS, AND REFLECTOR.** - Check photocell housing, lens, and reflector. Check mounting bolts for tightness.

2 min 7

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

PS-2 AIR
OPERATED
PIN
DISENGAG-
ING STOP

33. **CLEAN PIN DISENGAGING STOP.** - Clean dirt and accumulated debris from pin disengaging stop.

5 min 7

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

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

34. **CHECK OIL LEVEL.** - Check air line lubricator oil level as follows:

1. Check oil level.
2. Refill as required with HY-1.
3. Check for 40 psi air pressure.

2 min 7

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

35. **CHECK AIR HOSES.** - Check air hoses as follows:

1. Check air hoses for damage and leakage at connections.
2. Check air cylinder for binding
3. Check solenoid valves for secure mounting.

5 min 7

U.S. Postal Service Maintenance Checklist	IDENTIFICATION											
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	0	3	T	O	W	V	E	B	A	0	0	3
Equipment Nomenclature TOWVEYOR (BYPASS), TYPE D		Equipment Model LINKBELT				Bulletin Filename M94147AC		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

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PS-2 AIR OPERATED PIN DISENGAGING STOP (Cont.)

36. **CLEAN AND LUBRICATE CAM ROLLERS.** - Clean and lubricate cam rollers as follows:

1. Clean can rollers with clean rag and solvent.
2. Relubricate with GR-2.

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

37. **CLEAN AND CHECK LIMIT SWITCH HOUSING AND ACTUATOR ARM.** - Clean and check limit switch housing and actuator arm as follows:

1. Clean limit switch housing and actuator arm with solvent.
2. Check switch mounting and for freedom of movement in direction of chain travel.

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

AT-1 TRACK

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

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

ZZ-1 ROUTE COMPLETION

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

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

U.S. Postal Service Maintenance Checklist	IDENTIFICATION											
	Work Code		Equipment Acronym				Class Code		Number		Type	
	0	3	T	O	W	V	E	B	A	0	0	3
Equipment Nomenclature TOWVEYOR (BYPASS), TYPE D		Equipment Model LINKBELT				Bulletin Filename M94147AC		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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CLEAN-UP	40.	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

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

SYSTEM	41.	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-S----K				
START-UP	42.	START-UP. - Perform normal start-up procedures as follows:	5 min	All
Frequency Code: -M-Q-S----K		<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. 		