MAINTENANCE TECHNICAL SUPPORT CENTER **HEADQUARTERS MAINTENANCE OPERATIONS**





Maintenance Management Order

SUBJECT: PM Guidelines for Towveyor (Bypass),

Type E (Link Belt)

NO: MMO-024-00

March 24, 2000

Bulk Mail Centers TO: FILE CODE: Y

dewa:M94150AC

DATE:

	Online Change Record									
Change # Date Description of Change										
2	4/26/2022	Attachment 2, corrected skill level 4, no longer in use, to level 7.								
1	05/20/2021	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 E (Link Belt) and supersedes Maintenance Checklist BO71.

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 that 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
 - Towveyor (Bypass), Type E (Link Belt) Master Checklist

Web Access: https://www1.mtsc.usps.gov

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ATTACHMENT 1

-SUMMARY-

REVISED WORKLOAD ESTIMATE

FOR

TOWVEYOR (BYPASS), TYPE E (LINKBELT)

Routine Servicing (hrs/yr.)	Repair* (hrs/yr.)	Total Servicing & Repair Time (hrs/yr.)	Nonproductive Time ** (hrs/yr.)	Total Servicing Per Machine (hrs/yr.)
20.23	6.08	26.30	2.63	28.94

^{*} Repair estimates based on 30% of servicing.

TIME TOTALS

Monthly Time Total:	1.16 Hrs. ***
Quarterly Time Total:	1.02 Hrs. ***
Semi-Annual Time Total:	0.22 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.

^{**} Based on 10% of total servicing and repair.

^{***} These times are provided for data entry for the VMARS System.

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ATTACHMENT 2

TOWVEYOR (BYPASS), TYPE E (LINK BELT) MASTER CHECKLIST

03-TOWVE-BA-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 VMARS superseding route structure. The possible frequencies and their codes are given in the table below:

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

CODE	<u>FREQUENCY</u>	DESCRIPTION
A B C D	ANNUAL BI-WEEKLY BI-MONTHLY DAILY	Once every 13 APs. Once every 2 weeks Once every 2 APs. Once a day; 7 days a week.
Ē	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.
Н	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.
М	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.

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Maintenance Checklist	Code		Acrony			/m		Code		Number		Type	
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Equipment Nomenclature	Equipment Model Bulletin Filename Frequency				у								
TOWVEYOR (BYPASS), TYPE E		LIN	KBI	ELT		M	941	50A	C	ALL			-

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

SAFETY STATEMENT

Frequency Code: -M-Q-S----K 1. COMPLY WITH ALL SAFETY PRECAUTIONS. -Disconnect power and activate lockouts as min. 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 Frequency Code: -M-Q-S----

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

CH-1 TOWPIN

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

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

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Maintenance Checklist	Work Code		Equipmer Acronym						Class Code		Number		Туре
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TOWVEYOR (BYPASS), TYPE E		LIN	KBI	ELT	•	M	941	50 <i>A</i>	C		ÅLL		1

Part or	Item	Task Statement and Instruction	Est.	Min.
Component	No.	(Comply with all current safety precautions)	Time	Skill
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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: -M-Q	4.	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	5.	LUBRICATE CHAIN - Pour oil slowly over chain for two (2) complete turns.	0.22 min./ 10ft.	
SYSTEM Frequency Code: -M-Q-SK	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-SK	7.	REMOVE COVER PLATES Remove cover plates. Erect barricades around open pits.	20 min.	7

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TOWVEYOR (BYPASS), TYPE E		LIN	KB	ELT	•	M	941	50 <i>A</i>	C	ÁLL			

Part or	Item	Task Statement and Instruction	Est.	Min.	ı
Component	No.	(Comply with all current safety precautions)	Time	Skill	ı
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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	ROLLERTURNS Clean rollers as follows:	10 min.	7
Frequency Code:		1.	Clean dirt and foreign material from roller turns.	111111.	
Q-S		2. Clean with solvent and blow-dry.	Clean with solvent and blow-dry.		
		3.	Relubricate with GR-2.		
Frequency	9.	CHECK	ROLLERS Check rollers as follows:	2 min.	7
Code: Q-S		1.	Check rollers for wear, gouging, and roll wobble.	111111.	
		2.	Check mounting bolts.		
Frequency Code: Q-S	10.	_	AND CHECK SPROCKET TURN Clean and procket turn as follows:	10 min.	7
Q-S		1.	Remove dirt and foreign material from sprocket turn.		

2. Check for wear and alignment.

U.S. Postal Service	IDENTIFICATION													
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TOWVEYOR (BYPASS), TYPE E			LINKBELT M94150AC							ALL				

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

AT-1 TRACK (Cont.) Frequency Code: -----S---- 11. CLEAN AND LUBRICATE SPROCKET TURN, 5 7
BEARING EXTERIOR, AND FITTINGS. - With min.
disconnect locked out, perform the following:

- 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.

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.

CH-1 12. **CLEAN CHAIN. -** Clean chain as follows: 1 7 TOWPIN min. 1. With disconnect locked out, clean towpin chain CHAIN per with solvent by brushing. 10 ft. Frequency 2. Remove foreign material by blowing or wiping Code: ----S---clean. Jog chain if necessary. Frequency 13. CHECK CHAIN. - Check chain for bent, cracked, or 1 7 Code: excessively worn links. min. ----Q-S---per 10 ft.

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TOWVEYOR (BYPASS), TYPE E		LIN	KBI	ELT		M	M94150AC					•		

Part or Component	Item No.	Task Statement and Instruction (Comply with all current safety precautions)	Est. Time Req'd	Min. Skill Level
CH-1 TOWPIN CHAIN (Cont.) Frequency Code:	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
		WARNING		
		Discard solvent soaked materials according to local procedures to prevent spontaneous combustion.		
CS-1 CONTAINER SENSOR SWITCHES	16.	CLEAN PIT, SWITCH HOUSING, AND ACTUATOR ARM Clean pit, switch housing, and actuator arm as follows:	3 min.	7
_		 Clean dirt and accumulated material from pit. 		
Frequency Code: Q-S		Clean switch housing and actuator arm with solvent.		
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-2 SPROCKET DRIVE ASSY	18.	CHECK MOTOR AND REDUCER HOUSING Check motor and reducer housing for evidence of lubrication leakage.	5 min.	7
Frequency Code: -M-Q-S				

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TOWVEYOR (BYPASS), TYPE E	LINKBELT M94150AC A							ALL						

Part or Component	Item No.	Task Statement and Instruction (Comply with all current safety precautions)	Est. Time Req'd	Min. Skill Level
DA-2 SPROCKET DRIVE ASSY. (Cont.)	19.	CLEAN AND CHECK MOTOR AND REDUCER EXTERIOR Clean and check motor and reducer exterior as follows:	2 min.	7
Frequency Code:		 Remove dust and foreign material from motor and reducer exterior. 		
-M-Q-S		2. Check to make sure vent holes are not plugged.		
Frequency Code: -M-Q-S	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
Frequency Code: K	21.	CLEAN AND DRAIN REDUCER With disconnect locked out and with unit warm from running, perform the following:	20 min.	7
		 Clean air vent and drain reducer by removing drain plug. 		
		Replace drain plug and refill to proper level with GL-7.		
Frequency Code: S	22.	LUBRICATE REDUCER OUTPUT SHAFT BEARING Lubricate reducer output shaft bearing as follows:	1 min./ Drive	7
		 Remove relief plug from reducer output shaft bearing. 		
		2. Apply GR-2 until fresh lubricant appears at plug.		

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Part or	Item	Task Statement and Instruction	Est.	Min.	ı
Component	No.	(Comply with all current safety precautions)	Time	Skill	l
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Be cautious when working around or on equipment when power has been applied.

SYSTEM Frequency Code:S	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
DA-2 SPROCKET DRIVE ASSY.	24.	LUBRICATE SHAFT BEARING Run one (1) minute.	1 min.	7
Frequency Code: S				
SYSTEM Frequency Code:S	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
DA-2 SPROCKET DRIVE ASSY.	26.	REPLACE RELIEF PLUG Replace shaft bearing relief plug. Wipe off excess lubricant.	1 min.	7
Frequency Code: S				

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Part or	Item	Task Statement and Instruction	Est.	Min.
Component	No.	(Comply with all current safety precautions)	Time	Skill
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DA-2 SPROCKET 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----

Frequency Code: ----Q-S---- 28. **CLEAN AND CHECK V-BELTS AND SHEAVES. -** Clean 1 7 and check V-belts and sheaves as follows: 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.

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

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

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

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

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Part or Component	Item No.	Task Statement and Instruction (Comply with all current safety precautions)	Est. Time Req'd	Min. Skill Level
DS-1 DIVERGING TRACK SWITCH	31.	CLEAN AND CHECK SWITCH HOUSING Clean and check switch housing as follows: 1. Clean switch housing using solvent and rags.	4 min.	7
Frequency Code: Q-S		Check operation of unlatching switching blade		
Frequency Code: Q-S	32.	CLEAN TRACK SWITCH PITS Remove dirt and accumulated debris from track switch pits.	3 min.	7
Frequency Code: Q-S	33.	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	34.	CHECKING PLUNGER ROD Check plunger rod for free movement. Check solenoid mount and switch blade.	1 min.	7
Frequency Code: Q-S	35.	LUBRICATE LINKAGE AND PIVOT POINTS .Lightly lubricate all linkage and pivot points on solenoid and blade assembly with HY-1.	2 min.	7
		WARNING		
		Discard solvent soaked materials according to local procedures to prevent spontaneous combustion.		
PS-1 DISENGAG- ING STOP	36.	CLEAN AND LUBRICATE ACTUATOR CYLINDER Clean and lubricate actuator cylinder as follows:	1 min.	7
Frequency Code:		 Clean actuator cylinder and pivot points with solvent and rags. 		
QS		2. Relubricate with HY-3.		

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Part or Component	Item No.	Task Statement and Instruction (Comply with all current safety precautions)	Est. Time Req'd	Min. Skill Level
PS-1 DISENGAG- ING STOP (Cont.) Frequency Code: Q-S	37.	CLEAN PIN DISENGAGING STOP. -: Remove dirt and accumulated debris from pin disengaging stop.	1 min.	7
AT-1 TRACK Frequency Code: -M-Q-S	38.	CHECK TRACK Check entire length of track for loose wear strips	1 min./ 50 ft.	7
ZZ-1 ROUTE COMPLE- TION	39.	REPLACE COVER PLATES Replace all cover plates	20 min.	7
Frequency Code: M-Q-SK				
CLEAN-UP Frequency Code: -M-Q-SK	40.	CLEAN- UP Ensure all tools, lubricants, rags, etc., are removed from the work area. Report all deficiencies to your supervisor.	3 min.	All

U.S. Postal Service Maintenance Checklist		IDENTIFICATION											
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Part or	Item	Task Statement and Instruction	Est.	Min.
Component	No.	(Comply with all current safety precautions)	Time	Skill
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Be cautious when working around or on equipment when power has been applied.

SYSTEM 41. RESTORE EQUIPMENT TO SERVICE. - Restore ΑII 3 equipment to service as prescribed by the procedures min. Frequency contained in, or locally developed in accordance with, the Code: current Maintenance Management Order (MMO) -M-Q-S----K providing lockout/restore procedures. START-UP 42. START-UP. - Perform normal start-up procedures as 5 ΑII follows: min.

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

- 1. Start or preset equipment.
- 2. Check for proper operation.
- Report all deficiencies to your supervisor in order to initiate any necessary work orders to make necessary repairs, or to remove excessive debris.