



maintenance management order

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

DATE: December 10, 1998

NO: MMO-159-98

TO: Bulk Mail Centers

FILE CODE: Y

dewa:M98068AA

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) supersedes MMO-150-98, dated November 20, 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 (Bypass), Type D (ACCO) 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>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 (Bypass), Type D (ACCO) Master Checklist

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

Routine Servicing (hrs/yr)	Repair* (hrs/yr)	Total Servicing & Repair Time (hrs/yr)	Nonproductive Time ** (hrs/yr)	Total Servicing Per Machine (hrs/yr)
16.36	4.92	21.28	2.13	23.41

* Repair estimates based on 30% of servicing.

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

TIME TOTALS

Monthly Time Total: 0.30 Hrs. ***

Quarterly Time Total: 2.73 Hrs. ***

Semi-Annual Time Total: 0.10 Hrs. ***

Annual Time Total: 1.33 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 (BYPASS), TYPE D MASTER CHECKLIST**

03-TOWVE-BA-006-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				0 0 6		M			
Equipment Nomenclature TOWVEYOR (BYPASS), TYPE D	Equipment Model ACCO				Bulletin Filename M98068AA				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.** - 3 min All

Frequency Code: -M-Q-S-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-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 3. **CLEAN CHAIN.** - Clean the chain as follows: 1 min/ 7

Frequency Code: -----S-A- 1. Clean chain with steam or high pressure cleaner/washer device. Run chain at least one 10ft. of chain

2. Remove foreign material by blowing or vacuuming.

Frequency Code: -M-Q-S-A- 4. **Lubricate Chain** - Pour oil slowly over return strand of chain for two (2) complete turns. 0.22 min/ 7

10ft.

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. 1 min 7

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

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	6
Equipment Nomenclature TOWVEYOR (BYPASS), TYPE D		Equipment Model ACCO				Bulletin Filename M98068AA				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 6. **REMOVE COVER PLATE.** - Remove cover plates. Erect barricades around open pits. 10 min 7

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

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.

Frequency 7. **CHECK CHAIN.** - Check chain for bent, cracked, or 1 min 7
Code: excessively worn links. per
----Q-S-A- 10 ft.

CS-1 8. **CLEAN PIT, SWITCH HOUSING, AND ACTUATOR** 10 min 7
CONTAINER **ARM.** - Clean pit, switch housing, and actuator arm as
SENSOR follows:
SWITCHES

Frequency 1. Clean dirt and accumulated material from pit.
Code: 2. Clean switch housing and actuator arm with
----Q-S-A- solvent.

Frequency 9. **CHECK AND LUBE MOUNTING.** - Check and lube 2 min 7
Code: mounting as follows: min
----Q-S-A-

1. Check switch mounting for security.
2. Check freedom of movement in direction of travel.
3. Lube necessary points.

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	6
Equipment Nomenclature TOWVEYOR (BYPASS), TYPE D		Equipment Model ACCO				Bulletin Filename M98068AA				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 for cleaning.

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|-------------------------------|-----|---|--------|---|
| DA-2 DRIVE ASSY | 10. | CLEAN MOTOR AND REDUCER. - Clean motor and reducer as follows: | 10 min | 7 |
| Frequency Code:
----Q-S-A- | | 1. Clean motor and reducer by wiping.
2. Clean vent holes and cooling fins as applicable. | | |
| Frequency Code:
----Q-S-A- | 11. | CHECK MOTOR. - Check motor and reducer housing for evidence of lubrication leakage. | 5 min | 7 |
| Frequency Code:
----Q-S-A- | 12. | CHECK GREASE LEVEL AND BEARINGS. - Check grease level and bearings as follows: | 20 min | 7 |
| | | 1. Check grease level of reducer. Add as required.
2. Check bearings replace as necessary. | | |
| Frequency Code:
-----A- | 13. | LUBRICATE MOTOR. - Lubricate motor as follows: | 4 min | 7 |
| | | 1. Remove grease relief plug.
2. For motors 1/2 HP and over, apply 2 pumps of GR-2. | | |

WARNING

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

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|-----------------------------------|-----|---|-------|-----|
| SYSTEM Frequency Code:
-----A- | 14. | 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 |
|-----------------------------------|-----|---|-------|-----|

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	6
Equipment Nomenclature TOWVEYOR (BYPASS), TYPE D	Equipment Model ACCO				Bulletin Filename M98068AA				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 DRIVE ASSY
Frequency Code:
-----A-
SYSTEM | 15. | RUN MOTOR. - Run motor for one minute. | 1 min | 7 |
| Frequency Code:
-----A- | 16. | 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 DRIVE ASSY
Frequency Code:
-----A- | 17. | REPLACE GREASE RELIEF PLUG. - Replace motor grease relief plug. | 1 min | 7 |
| Frequency Code:
-----A- | 18. | DRAIN AND REFILL REDUCER. - Disassemble reducer, clean out old lubricant, and refill with GR-2. | 30 min | 7 |

WARNING

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

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|--------------------------------|-----|---|--------|---|
| Frequency Code:
-----Q----- | 19. | CLEAN DRIVE CHAIN - Clean drive chain as follows:

1. Use clean rag to wipe old lubricant and foreign material from exterior of drive chain.

2. Brush new lubricant (SAE-20W) onto roller drive chain.

3. Clean-up any lubricant drippage. | 10 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	6
Equipment Nomenclature		Equipment Model				Bulletin Filename				Frequency			
TOWVEYOR (BYPASS), TYPE D		ACCO				M98068AA				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: -----A- 20. **CLEAN AND LUBRICATE DRIVE CHAIN AND SPROCKETS** - Clean and lubricate drive chain and sprockets as follows: 40 min. 7

1. Use clean rag to wipe old lubricant and foreign material from exterior of drive chain.
2. Clean chain in-place by brushing with a solution of 2/3 solvent and 1/3 oil (SAE-20W) .
3. Allow chain to drip dry while wiping sprockets to remove dirt and old lubricant.
4. Be sure all packed material is removed from between sprocket teeth.
5. Look for evidence of wear to chain and sprockets.
6. Feel drive chain to determine if chain has proper tension.
7. Brush new lubricant on roller chain.
8. Clean-up any lubricant spillage.

DA-2 DRIVE ASSY (Cont.) 21. **CHECK V-BELTS AND SHEAVES.** - Check V-belts and sheaves as follows: 2 min 7

- Frequency Code: ----Q-S-A-
1. Check V-belts and sheaves for wear and alignment.
 2. Check sheave set screws and belt tension.

Frequency Code: ----Q-S-A- 22. **CLEAN V-BELT AND SHEAVES.** - Clean foreign material from belts and sheaves by wiping with clean rags. 4 min 7

Frequency Code: ----Q-S-A- 23. **CHECK AND CLEAN CRITICAL SPEED SWITCH.** - Check and clean critical speed switch as follows: 10 min 7

1. Check critical speed switch.
2. Check flexible coupling and set screws for wear and damage.
3. Wipe clean.

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	6
Equipment Nomenclature TOWVEYOR (BYPASS), TYPE D		Equipment Model ACCO				Bulletin Filename M98068AA				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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| DA-2 DRIVE ASSY (Cont.) | 24. | CHECK AND CLEAN SPROCKET. - Check and clean sprocket as follows: | 5 min | 7 |
| Frequency Code:
----Q-S-A- | | 1. Check sprocket for wear and alignment.
2. Wrench test set screws.
3. Clean sprocket with solvent and rags. | | |
| | | | | |
| Frequency Code:
----Q-S-A- | 25. | CHECK CHAIN. - Check slack of chain by looking for pulsating at drive sprocket output side. Adjust if necessary. | 4 min | 7 |
| | | | | |
| Frequency Code:
----Q-S-A- | 26. | CLEAN DRIVE PIT. - Clean drive pit. | 15 min | 7 |
| | | | | |
| DS-1 DIVERter | 27. | CLEAN AND CHECK TRACK SWITCH PITS. - Clean and check track switch pits as follows: | 10 min | 7 |
| Frequency Code:
----Q-S-A- | | 1. Remove dirt and accumulated debris from track switch pits.
2. Clean switch housing using solvent and rags.
3. Check operating by unlatching switching blade. | | |
| | | | | |
| Frequency Code:
----Q-S-A- | 28. | CLEAN AND CHECK SOLENOID HOUSING, PLUNGER ROD, AND LINKAGE. - Clean and check solenoid housing, plunger rod, and linkage as follows: | 5 min | 7 |
| | | 1. Using rags and solvent, clean solenoid housing, plunger rod and linkage.
2. Check plunger rod for free movement. Check solenoid mounting and switch blade. | | |

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	6
Equipment Nomenclature TOWVEYOR (BYPASS), TYPE D	Equipment Model ACCO				Bulletin Filename M98068AA				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
DIVERter
(Cont.)
Frequency
Code:
----Q-S-A- | 29. | LUBRICATE LINKAGE AND PIVOT POINTS. - Lightly lubricate all linkage and pivot points on solenoid and brake assembly with HY-1. | 5 min | 7 |
| PS-1 PIN
STOP ASSY

Frequency
Code:
----Q-S-A- | 30. | WIPE MOTOR AND REDUCERS. - Wipe motor and reducers clean. | 2 min | 7 |
| Frequency
Code:
----Q-S-A- | 31. | CHECK MOTOR AND REDUCER HOUSING. - Check motor and reducer housing for evidence of lubrication leakage. | 2 min | 7 |
| Frequency
Code:
----Q-S---- | 32. | LUBRICATE REDUCER. - Add two (2) shots of lubricant GR-2 to reducer. | 2 min | 7 |
| Frequency
Code:
----Q-S-A- | 33. | CHECK SPRING RETAINER. - Check spring retainer pivot arm for wear or damage. Lightly lube pivot points with HY-3. | 2 min | 7 |
| Frequency
Code:
----Q-S-A- | 34. | CHECK AND LUBRICATE PIVOTING TRACK. - Clean and lubricate pivoting track as follows:

1. Check pivoting track for wear or damage.

2. Lightly lube pivot points with HY-3. | 2 min | 7 |
| Frequency
Code:
----Q-S-A- | 35. | LUBRICATE SURFACES OF SLIDING PLATE. - Lightly lube the contacting surfaces of the sliding plate assembly with HY-3. | 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	6
Equipment Nomenclature TOWVEYOR (BYPASS), TYPE D		Equipment Model ACCO				Bulletin Filename M98068AA				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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|---|-----|---|------------------|---|
| PS-1 PIN STOP ASSY (Cont.)
Frequency Code:
----Q-S-A- | 36. | CLEAN PIT, SWITCH HOUSING, AND ACTUATOR ARM. - Clean pit, switch housing, and actuator arm as follows:

1. Clean dirt and foreign material from pit.

2. Clean switch housing and actuator arm with solvent. | 10 min | 7 |
| Frequency Code:
----Q-S-A- | 37. | CHECK SWITCH MOUNTING AND ACTUATOR. - Check switch mounting and actuator for freedom of movement in direction of chain travel. | 3 min | 7 |
| TU-1 TAKE-UP ASSY

Frequency Code:
-----S-A- | 38. | CHECK AND LUBRICATE TAKE-UP. - Check Take-up assembly. Lubricate as necessary. | 5 min | 7 |
| AT-1 TRACK

Frequency Code:
-M-Q-S-A | 39. | CHECK TRACK. - Check entire length of track for loose wear bars. | 1 min/
50 ft. | 7 |
| ZZ-1 ROUTE COMPLETION

Frequency Code:
----Q-S-A- | 40. | REPLACE PLATES. - Replace all cover plates. | 10 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	6
Equipment Nomenclature		Equipment Model				Bulletin Filename				Frequency			
TOWVEYOR (BYPASS), TYPE D		ACCO				M98068AA				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 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-

WARNING

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

SYSTEM 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

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

START-UP 43. **START-UP.** - Perform normal start-up procedures as follows: 5 min All

Frequency Code:
-M-Q-S-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.