**MAINTENANCE TECHNICAL SUPPORT CENTER / MAINTENANCE POLICIES & ENGINEERING / UNITED STATES POSTAL SERVICE** 

# Maintenance Management POSTAL SERVICEIM ET

SUBJECT: PM Guidelines for Singulator Transport Conveyors with

Variable Frequency Drive and Reducer on the Singulator

Scan Induction Unit (SSIU)

DATE: December 9, 2006

MMO-128-06 NO:

**FILE CODE:** Υ

SSIU Sites TO:

dfau:mm06022ab

MAINTENANCE MANAGEMENT ORDER

|          | Online Change Record |   |  |  |  |  |  |  |  |  |  |
|----------|----------------------|---|--|--|--|--|--|--|--|--|--|
| Change # | Date                 | Description of Change   |  |  |  |  |  |  |  |  |  |
| 3        | 5/2/2022             | Attachments 2-6, corrected skill level 4, no longer in use, to level 7. |  |  |  |  |  |  |  |  |  |
| 2        | 10/20/2015           | Updated roll-up.  |  |  |  |  |  |  |  |  |  |
| 1        | 3/12/2014            | Safety Warning added for working around moving conveyors.               |  |  |  |  |  |  |  |  |  |

This Maintenance Management Order (MMO) provides Preventive Maintenance (PM) guidelines for Singulator section transport conveyors on the SSIU system which use Variable Frequency Drives (VFDs) and reducers.

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 requiring 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 to all employees. When reordering such a product, it is suggested that current MSDS be requested. Refer to MSDS for appropriate personal protective equipment.

### WARNING

The use of compressed or blown air is prohibited. When cleaning is required, an alternative cleaning method such as a HEPA filtered vacuum cleaner or a damp rag must be used in place of compressed or blown air. A lint-free cloth or brush may be used only on optical equipment when other cleaning methods can not be used.

The attached master checklist provides tasks to be performed at periodic intervals, the time required per task, and the minimum skill level for each task.

The workhours represented in this MMO reflect the maximum workhours required to maintain the equipment. Given local conditions, management may modify task frequencies.

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

Maintenance Managers are to use these preventive maintenance guidelines when preparing the route sheets for local maintenance personnel.

It is the responsibility of each Maintenance Manager to ensure all WARNINGS, CAUTIONS, and NOTES are included with each applicable task as part of the preparation of any local route sheets.

### WARNING

Moving conveyors may expose employees to personal safety hazards. Do not climb, sit or walk on conveyors without first performing local Energy Control Procedure (ECP).

For questions or comments concerning this bulletin contact the MTSC HelpDesk, either online at MTSC>HELPDESK>Create/Update Tickets or call (800) 366-4123.

Earl J. Jones Manager Maintenance Technical Support Center Maintenance Policies and Programs

Attachments:

- 1. Summary of Workload Estimate
- Singulator Transport Conveyor with VFDs and Reducer Master Checklist (Weekly)
- Singulator Transport Conveyor with VFDs and Reducer Master Checklist (Monthly)
- Singulator Transport Conveyor with VFDs and Reducer Master Checklist (Quarterly)
- 5. Singulator Transport Conveyor with VFDs and Reducer Master Checklist (Semi-annual)
- Singulator Transport Conveyor with VFDs and Reducer Master Checklist (Bi-annual)

# MAINTENANCE MANAGEMENT ORDER

### **SUMMARY**

# **WORKLOAD ESTIMATE FOR**

# SINGULATOR TRANSPORT CONVEYOR WITH VFDS AND REDUCER

| Routine Servicing (hrs/yr) | Repair*<br>(hrs/yr) | Total Servicing &<br>Repair Time<br>(hrs/yr) | Nonproductive<br>Time **<br>(hrs/yr) | Total<br>Servicing Per<br>Machine<br>(hrs/yr) |
|----------------------------|---------------------|--|--------------------------------------|---|
| 41.53                      | 12.46               | 53.99  | 5.4                                  | 59.39   |

- \* Repair estimates based on 30% of servicing.
- \*\* Based on 10% of total servicing and repair.

# **TIME TOTALS**

| Weekly Time Total:      | 16.9 Hrs.** |
|-------------------------|-------------|
| Monthly Time Total:     | 15.9 Hrs.** |
| Quarterly Time Total:   | 2.13 Hrs.** |
| Semi-Annual Time Total: | 5.98 Hrs.** |
| Bi-Annual Time Total:   | 0.62 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.

MAINTENANCE MANAGEMENT ORDER

<sup>\*\*\*</sup> These times are provided for data entry for the eMARS System.

# THIS PAGE BLANK

# MAINTENANCE MANAGEMENT ORDER

# SINGULATOR TRANSPORT CONVEYOR WITH VFDS AND REDUCER MASTER CHECKLIST

03-SSIU-BA-001-M

WEEKLY

Time Total: 19.5 Minutes

MAINTENANCE MANAGEMENT ORDER

Attachment 2

| MMO-128-06  |              |                             |   |                 |   |   | ١ | Лai | nten                           | anc  | e Tecl        | nnica              | l Sup | opoi   | t Ce | enter |
|---|--------------|-----------------------------|---|-----------------|---|---|---|-----|--------------------------------|------|---------------|--------------------|-------|--------|------|-------|
| U.S. Postal Service                                       |              |                             |   |                 |   |   |   | IDE | NTIF                           | ICAT | ION           |                    |       |        |      |       |
| Maintenance Checklist                                     |              | WORK EQUIPMENT CODE ACRONYM |   |                 |   |   |   |     |                                |      | CLASS<br>CODE |                    |       | NUMBER |      |       |
|   |              | 3                           | S | S               | 1 | U |   |     |                                |      | В             | Α                  | 0     | 0      | 1    | M     |
| Equipment Nomenclature Singulator Transport Conveyor with | Equipment Mo |                             |   | t Model<br>SSIU |   |   |   |     | Bulletin Filename<br>MM06022AB |      |               | Frequency<br>WEEKL |       |        | Y    |       |

| Part or   | Item | Task Statement and Instruction               | Est.  | Min.  |       | Threshold | ls    |
|-----------|------|--|-------|-------|-------|-----------|-------|
| Component | No   | (Comply with all current safety precautions) | Time  | Skill |       |           |       |
| •         |      |  | Req   | Lev   | Run   | Pieces    | Weeks |
|           |      |  | (min) |       | Hours | Fed       |       |
|           |      |  |       |       |       | (000)     |       |

SAFETY **STATEMENT**  COMPLY WITH ALL SAFETY PRECAUTIONS. Disconnect power and apply lockouts when MIN required by this instruction. Refer to current local lockout procedures to properly shutdown and lockout this machine. Open equipment and inspect dust conditions. Check for suspicious dust or unusual debris. If any unusual substance is found notify supervisor prior to proceeding with any further action on the equipment.

THE USE OF COMPRESSED OR BLOWN AIR IS PROHIBITED.

When cleaning is required, an alternative cleaning method such as a HEPA filtered vacuum cleaner or a damp rag must be used in place of compressed or blown air. A lintfree cloth or brush may be used on optical equipment only when other cleaning methods can not be used. Report safety deficiencies to your supervisor immediately upon detection.

Check for mail. Look for loose mail while 2.5 MIN performing all activities.

# WARNING

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

**DEBRIS** REMOVAL SYSTEM

2

Check primary filters. Look through peep hole 7 on the back side of the Debris Removal System MIN to check primary filter condition.

**EMENT ORDER** 

ΑII

7

# Maintenance Technical Support Center

| MMO-128-06 | Ν | 1M | O- | 128 | -06 |
|------------|---|----|----|-----|-----|
|------------|---|----|----|-----|-----|

| U.S. Postal Service                |     |            |       |     |   |  |             | IDEN | NTIFIC   | ΑTI  | ON        |   |        |      |     |      |
|------------------------------------|-----|------------|-------|-----|---|--|-------------|------|----------|------|-----------|---|--------|------|-----|------|
| Maintenance Checklist              |     | DRK<br>DDE |       |     | _ |  | MENT<br>NYM |      |          |      | CLA<br>CO |   | N      | UMBE | ΞR  | TYPE |
| mannenanes enesimes                |     | 3          | S     |     |   |  |             |      |          |      | В         | A | 0      | 0    | 1   | М    |
| Equipment Nomenclature             | Equ | ipmeı      | nt Mo | del |   |  |             | Bu   | lletin F | iler | name      |   | Freque | ency |     |      |
| Singulator Transport Conveyor with |     |            |       | SSI | U |  |             |      | MM       | 060  | 022AB     |   |        | WE   | EKL | Y    |
| VFDs and Reducers                  |     |            |       |     |   |  |             |      |          |      |           |   |        |      |     |      |

|   | Part or<br>Component | Item<br>No | Task Statement and Instruction (Comply with all current safety precautions) | Est.<br>Time | Min.<br>Skill |              | Threshold     | s     |
|---|----------------------|------------|---|--------------|---------------|--------------|---------------|-------|
|   |                      |            |   | Req<br>(min) | Lev           | Run<br>Hours | Pieces<br>Fed | Weeks |
| ı |                      |            |   |              |               |              | (000)         |       |



Remove and replace primary filter as needed.

If primary filters are dirty and need replacing, open the filter access doors on each side of the Debris Removal System to remove and replace.



MAINTENANCE MANAGEMENT ORDER

3

| _                 |
|-------------------|
| മ                 |
| ORDER             |
|                   |
| ሿ                 |
| O                 |
| <b>—</b>          |
| Z                 |
| MANAGEMENT        |
| ⋝                 |
| ш                 |
| Ö                 |
| ◂                 |
| ラ                 |
| 5                 |
| _                 |
| 2                 |
|                   |
| Щ                 |
| O                 |
| Ź                 |
| 7                 |
| ⋺                 |
| ~                 |
| щ                 |
| ㅁ                 |
| _                 |
| _                 |
| <b>AINTENANCE</b> |

Maintenance Technical Support Center

| MMO-128-06  |     |                         |   |   |   |               | 1                                   | Иa | inten         | anc  | e Tec | hnica | al Su | рро  | rt Ce | enter |
|---|-----|-------------------------|---|---|---|---------------|-------------------------------------|----|---------------|------|-------|-------|-------|------|-------|-------|
| U.S. Postal Service   |     |                         |   |   |   |               |                                     | ID | ENTIF         | ICAT | ION   |       |       |      |       |       |
| Maintenance Checklist   |     | RK<br>DE                |   |   |   | EQUIF<br>ACR( |                                     |    | CLASS<br>CODE |      |       | ١     | IUME  | TYPE |       |       |
|   | 0   | 3                       | S | S | Π | U             |                                     |    |               |      | В     | Α     | 0     | 0    | 1     | М     |
| Equipment Nomenclature<br>Singulator Transport Conveyor with<br>VFDs and Reducers | Equ | Equipment Model<br>SSIU |   |   |   |               | Bulletin Filename Frequer MM06022AB |    |               |      |       | •     | EEKL  | .Y   |       |       |

| Part or   | Item | Task Statement and Instruction               | Est.  | Min.  |       | Threshold | S     |
|-----------|------|--|-------|-------|-------|-----------|-------|
| Component | No   | (Comply with all current safety precautions) | Time  | Skill |       |           |       |
|           |      |  | Req   | Lev   | Run   | Pieces    | Weeks |
|           |      |  | (min) |       | Hours | Fed       |       |
|           |      |  |       |       |       | (000)     |       |

Check secondary filter. Unclamp the 4 clamps holding the catch bin unit to the center unit to MIN expose the secondary filter.



Check condition of the secondary filter located in the center unit and replace filter as needed.

SYSTEM

CLEAN UP

- Restore equipment to service. Restore equipment to service as prescribed by the MIN procedures contained in, or locally developed in accordance with, the current Maintenance Order Management (MMO) providing lockout/restore procedures.
- Clean up. Ensure all tools, lubricants, rags, etc., are removed from the work area.

Report all deficiencies to your supervisor in order to initiate any necessary work orders to make necessary repairs, or to remove excessive debris.

ΑII

MAINTENANCE MANAGEMENT ORDER

7

ΑII

# SINGULATOR TRANSPORT CONVEYOR WITH VFDS AND REDUCER MASTER CHECKLIST

03-SSIU-BA-002-M

MONTHLY

Time Total: 79.5 Minutes

MAINTENANCE MANAGEMENT ORDER

Attachment 3

| ֝<br>֖֖֖֖֡                               | ľ        | į        |  |
|--|----------|----------|--|
| (  | ľ        | •        |  |
| <u> </u>                                 | _        | -        |  |
| ֚֚֚֭֚֭֡֝֝֜֝֜֜֝֜֜֜֜֜֜֜֜֜֜֜֜֜֜֜֜֜֜֜֜֜֜֜֜֜֜ |          | į        |  |
| 4  | 1        | <i>'</i> |  |
| L  | <u> </u> | Ē        |  |
| 2  | 2        | <u> </u> |  |
| Į<br>L                                   | _        |          |  |
| 4  | 1        | ;        |  |

MMO-128-06 Maintenance Technical Support Center U.S. Postal Service IDENTIFICATION EQUIPMENT WORK CLASS NUMBER **Maintenance Checklist** CODE ACRONYM CODE 0 3 S S U В Α 0 0 Μ Equipment Nomenclature Equipment Model Bulletin Filename Frequency Singulator Transport Conveyor with SSIU MM06022AB MONTHLY VFDs and Reducers Task Statement and Instruction Min. Skill Thresholds Component No (Comply with all current safety precautions) Time Req Lev Run Pieces Weeks (min) Fed (000)SAFETY COMPLY WITH ALL SAFETY PRECAUTIONS. ΑII **STATEMENT** Disconnect power and apply lockouts when

required by this instruction. Refer to current local lockout procedures to properly shutdown and lockout this machine. Open equipment and inspect dust conditions. Check for suspicious dust or unusual debris. If any unusual substance is found notify supervisor prior to proceeding with any further action on the equipment.

THE USE OF COMPRESSED OR BLOWN AIR IS PROHIBITED.

When cleaning is required, an alternative cleaning method such as a HEPA filtered vacuum cleaner or a damp rag must be used in place of compressed or blown air. A lintfree cloth or brush may be used on optical equipment only when other cleaning methods can not be used. Report safety deficiencies to your supervisor immediately upon detection.

Check for mail. Look for loose mail while 2.5 performing all activities.

MIN

MAINTENANCE MANAGEMENT ORDER

### WARNING

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

CONVEYOR BELT

Check conveyor belt.

MIN

7

- 1. Run conveyor belt.
- Listen for bearing noise from operation of
- 3. Listen for noise from motor/reducer.
- Check for proper belt tracking and tensioning (slippage).

**SYSTEM** 

Power down and lockout power. Power down the equipment and lockout its electrical power as MIN prescribed by the procedures contained in, or locally developed in accordance with, the current Maintenance Management Order providing lockout/restore procedures.

ΑII

MMO-128-06 Maintenance Technical Support Center

| U.S. Postal Service                |     |            |       |     |   |   |             | IDE | NTIFI   | CATI         | ON        |   |        |      |     |      |
|------------------------------------|-----|------------|-------|-----|---|---|-------------|-----|---------|--------------|-----------|---|--------|------|-----|------|
| Maintenance Checklist              |     | DRK<br>DDE |       |     | _ |   | MENT<br>NYM | •   |         |              | CLA<br>CO |   | N      | JMBE | R   | TYPE |
|                                    | 0   | 3          | S     | S   | Ι | U |             |     |         |              | В         | Α | 0      | 0    | 2   | М    |
| Equipment Nomenclature             | Equ | ipmeı      | nt Mo | del |   |   |             | Bı  | ulletin | Filer        | name      |   | Freque | ency |     |      |
| Singulator Transport Conveyor with |     |            |       | SSI | U |   |             |     | M١      | <i>1</i> 060 | )22AB     |   |        | MON  | NTH | _Y   |
| VFDs and Reducers                  |     |            |       |     |   |   |             |     |         |              |           |   |        |      |     |      |

| Part or   | Item | Task Statement and Instruction               | Est.  | Min.  |       | Threshold | S     |
|-----------|------|--|-------|-------|-------|-----------|-------|
| Component | No   | (Comply with all current safety precautions) | Time  | Skill |       |           |       |
|           |      |  | Req   | Lev   | Run   | Pieces    | Weeks |
|           |      |  | (min) |       | Hours | Fed       |       |
|           | 1    |  |       |       |       | (000)     |       |

# WARNING

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

5. Clean transport conveyor unit.

60 7 MIN

AII

ΑII

1. Open all access panels.

- 2. Check for damage and/or debris.
- Using vacuum and rags, clean entire interior and exterior of the unit.
- Clean mail slide area if applicable.
- Clean any photocells with a lint-free cloth.
- Re-install all covers and access panels.

# WARNING

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

SYSTEM

6. Restore equipment to service. Restore equipment to service as prescribed by the MIN procedures contained in, or locally developed in accordance with, the current Maintenance Management Order (MMO) providing lockout/restore procedures.

CLEAN UP

Clean up. Ensure all tools, lubricants, rags, etc., are removed from the work area. MIN

Report all deficiencies to your supervisor in order to initiate any necessary work orders to make necessary repairs, or to remove excessive debris.

MAINTENANCE MANAGEMENT ORDER

Attachment 3

| MMO-128-06                         |                             |       |       |     |   |   |  | vlaır     | nten    | anc     | e Lect | าทเငล | ıl Sup | opor | t Ce | nter |   |
|------------------------------------|-----------------------------|-------|-------|-----|---|---|--|-----------|---------|---------|--------|-------|--------|------|------|------|---|
| U.S. Postal Service                |                             |       |       |     |   |   |  | IDE       | NTIF    | ICAT    | ION    |       |        |      |      |      |   |
| Maintenance Checklist              | WORK EQUIPMENT CODE ACRONYM |       |       |     | - |   |  | CLA<br>CO |         | N       | UMBI   | ER    | TYPE   | YPE  |      |      |   |
|                                    | 0                           | 3     | S     | S   | _ | U |  |           |         |         | В      | Α     | 0      | 0    | 2    | M    | Ī |
| Equipment Nomenclature             | Equ                         | ipmer | nt Mo | del |   |   |  | В         | ulletir | n Filer | name   |       | Freque | ency |      |      | Ī |
| Singulator Transport Conveyor with |                             |       |       | SSI | U |   |  |           | M       | M06     | 022AB  |       |        | IOM  | NTH  | LY   |   |
| VFDs and Reducers                  |                             |       |       |     |   |   |  |           |         |         |        |       |        |      |      |      |   |
|                                    |                             |       |       |     |   |   |  |           |         |         |        |       |        |      |      |      |   |

| Part or   | Item | Task Statement and Instruction               | Est.  | Min.  |       | Threshold | S     |
|-----------|------|--|-------|-------|-------|-----------|-------|
| Component | No   | (Comply with all current safety precautions) | Time  | Skill |       |           |       |
|           |      |  | Req   | Lev   | Run   | Pieces    | Weeks |
|           |      |  | (min) |       | Hours | Fed       |       |
|           |      |  |       |       |       | (000)     |       |

# THIS PAGE BLANK

MAINTENANCE MANAGEMENT ORDER

# SINGULATOR TRANSPORT CONVEYOR WITH VFDS AND REDUCER MASTER CHECKLIST

03-SSIU-BA-003-M

QUARTERLY

Time Total: 32 Minutes

MAINTENANCE MANAGEMENT ORDER

Attachment 4

| ,            | γ                       |
|--------------|-------------------------|
| ì            | ū                       |
|              | ⋾                       |
| Č            | $\overline{\mathbf{r}}$ |
| 7            | J                       |
| ŀ            | _                       |
| 7            | Z                       |
|              | Ц                       |
| 2            | Σ                       |
| Ļ            | Ā                       |
| (            | رِ                      |
| 4            | ≤                       |
| 4            | _                       |
| -            | 7                       |
| 4            | ₹                       |
| * * *        | ₹<br>E                  |
| 1            | E ZA                    |
| : L(         | CH<br>N<br>N            |
| L            |                         |
| LOISE        | ANCE MA                 |
| LOISE        | S                       |
| TO LOUISING  | S                       |
|              | S                       |
| TO LOCATE LA |                         |
|              | S                       |

MMO-128-06 Maintenance Technical Support Center U.S. Postal Service IDENTIFICATION EQUIPMENT WORK CLASS NUMBER **Maintenance Checklist** CODE **ACRONYM** CODE 0 3 S S U В 0 0 Equipment Nomenclature Equipment Model Bulletin Filename Frequency Singulator Transport Conveyor with SSIU MM06022AB QUARTERLY VFDs and Reducers Task Statement and Instruction Min. Skill Thresholds Component No (Comply with all current safety precautions) Time Req Lev Run Pieces (min) Fed (000)**SAFETY** COMPLY WITH ALL SAFETY PRECAUTIONS. ΑII **STATEMENT** Disconnect power and apply lockouts when required by this instruction. Refer to current local lockout procedures to properly shutdown and lockout this machine. Open equipment and inspect dust conditions. Check for suspicious dust or unusual debris. If any unusual substance is found notify supervisor prior to proceeding with any further action on the equipment. THE USE OF COMPRESSED OR BLOWN AIR IS PROHIBITED. When cleaning is required, an alternative cleaning method such as a HEPA filtered vacuum cleaner or a damp rag must be used in place of compressed or blown air. A lintfree cloth or brush may be used on optical equipment only when other cleaning methods can not be used. Report safety deficiencies to your supervisor immediately upon detection. **SYSTEM** 2. Power down and lockout power. Power down ΑII the equipment and lockout its electrical power as MIN prescribed by the procedures contained in, or locally developed in accordance with, the current Maintenance Management Order (MMO) providing lockout/restore procedures. VFD MOTOR/ 3. Check VFD motor/reducer. 7 20 REDUCER MIN 1. Remove covers. Check all mounting bolts, taper locks, and shaft setscrews on motor/reducer for tightness. 3. Re-tighten as needed. Check reducer for oil leaks. 4. Check reducer oil level and fill with oil (Mobil

Μ

Weeks

MAINTENANCE MANAGEMENT ORDER

2 Attachment 4

Check timing belt for wear and proper tension (1/4"-1/2" deflection at midpoint).

SHC 629 or equivalent) as needed.

6. Check for damage to motor.

Adjust as needed.

ΑII

| Maintenance Technical Suppo                          | aintenance Technical Support Center |          |       |     |   |   |  |     |         | VIIVIC | )-12i | 8-06      |       |      |      |     |
|--|-------------------------------------|----------|-------|-----|---|---|--|-----|---------|--------|-------|-----------|-------|------|------|-----|
| U.S. Postal Service                                  |                                     |          |       |     |   |   |  | IDE | NTIF    | ICAT   | ION   |           |       |      |      |     |
| Maintenance Checklist                                |                                     | RK<br>DE |       |     |   |   |  |     |         |        |       | ASS<br>DE | ١     | IUMB | TYPE |     |
|  | 0                                   | 3        | S     | S   | ı | U |  |     |         |        | В     | Α         | 0     | 0    | 3    | M   |
| Equipment Nomenclature                               | Equ                                 | ipmeı    | nt Mo | del |   |   |  | В   | ulletir | Filer  | name  |           | Frequ | ency |      |     |
| Singulator Transport Conveyor with VFDs and Reducers |                                     |          |       | SSI | U |   |  |     | M       | M06    | 022AB | }         | (     | QUAI | RTE  | RLY |

| Part or   | Item | Task Statement and Instruction               | Est.  | Min.  |       | Threshold | ls    |
|-----------|------|--|-------|-------|-------|-----------|-------|
| Component | No   | (Comply with all current safety precautions) | Time  | Skill |       |           |       |
| •         |      |  | Req   | Lev   | Run   | Pieces    | Weeks |
|           |      |  | (min) |       | Hours | Fed       |       |
|           |      |  |       |       |       | (000)     |       |

9. Replace covers.

# WARNING

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

**SYSTEM** 

Restore equipment to service. Restore 3
 equipment to service as prescribed by the MIN
 procedures contained in, or locally developed in
 accordance with, the current Maintenance
 Management Order (MMO) providing
 lockout/restore procedures.

CLEAN UP

 Clean up. Ensure all tools, lubricants, rags, etc., 3 All are removed from the work area. MIN

Report all deficiencies to your supervisor in order to initiate any necessary work orders to make necessary repairs, or to remove excessive debris.

Attachment 4

| MMO-128-06                         |                             |       |       |     |   |   |  | vlaır | nten      | anc     | e Lect | nnica | I Sup  | por  | t Ce | nter |   |
|------------------------------------|-----------------------------|-------|-------|-----|---|---|--|-------|-----------|---------|--------|-------|--------|------|------|------|---|
| U.S. Postal Service                |                             |       |       |     |   |   |  | IDE   | NTIF      | ICAT    | ION    |       |        |      |      |      | Ī |
| Maintenance Checklist              | WORK EQUIPMENT CODE ACRONYM |       |       |     |   | - |  |       | CLA<br>CO |         | N      | JMBI  | ER     | TYPE | YPE  |      |   |
|                                    | 0                           | 3     | S     | S   | _ | U |  |       |           |         | В      | Α     | 0      | 0    | 3    | M    |   |
| Equipment Nomenclature             | Equ                         | ipmer | nt Mo | del |   |   |  | В     | ulletir   | n Filer | name   |       | Freque | ency |      |      | Ī |
| Singulator Transport Conveyor with |                             |       |       | SSI | U |   |  |       | M         | M06     | 022AB  |       | C      | UAF  | RTE  | RLY  |   |
| VFDs and Reducers                  |                             |       |       |     |   |   |  |       |           |         |        |       |        |      |      |      |   |
|                                    |                             |       |       |     |   |   |  |       |           |         |        |       |        |      |      |      |   |

| Part or   | Item | Task Statement and Instruction               | Est.  | Min.  |       | Threshold | S     |
|-----------|------|--|-------|-------|-------|-----------|-------|
| Component | No   | (Comply with all current safety precautions) | Time  | Skill |       |           |       |
|           |      |  | Req   | Lev   | Run   | Pieces    | Weeks |
|           |      |  | (min) |       | Hours | Fed       |       |
|           |      |  |       |       |       | (000)     |       |

# THIS PAGE BLANK

MAINTENANCE MANAGEMENT ORDER

# SINGULATOR TRANSPORT CONVEYOR WITH VFDS AND REDUCER MASTER CHECKLIST

03-SSIU-BA-004-M

SEMI-ANNUAL

Time Total: 179.5 Minutes

MAINTENANCE MANAGEMENT ORDER

Attachment 5

| 1 | H<br>H        | į |
|---|---------------|---|
| i |               | 1 |
| 1 | ሿ             |   |
| • | U             |   |
| ļ | 5             |   |
| ί | í             | j |
|   | >             |   |
| Į | щ             |   |
|   | ٢             |   |
|   |               |   |
|   | ž             |   |
|   | Ž             | ; |
|   | Ž<br>V<br>V   | ֡ |
|   | Δ<br>Σ        | ; |
|   | Δ<br>Σ        | ֡ |
|   | ANCE MA       |   |
|   | AINTENANCE MA |   |

MMO-128-06 Maintenance Technical Support Center U.S. Postal Service IDENTIFICATION **EQUIPMENT** NUMBER WORK CLASS **TYPE Maintenance Checklist** CODE **ACRONYM** CODE 0 3 S S U В Α 0 0 M Equipment Nomenclature Equipment Model Bulletin Filename Frequency Singulator Transport Conveyor with SSIU MM06022AB SEMI-ANNUAL VFDs and Reducers

| Part or   | Item | Task Statement and Instruction               | Est.  | Min.  |       | Threshold | S     |
|-----------|------|--|-------|-------|-------|-----------|-------|
| Component | No   | (Comply with all current safety precautions) | Time  | Skill |       |           |       |
| •         |      |  | Req   | Lev   | Run   | Pieces    | Weeks |
|           |      |  | (min) |       | Hours | Fed       |       |
|           |      |  |       |       |       | (000)     |       |

SAFETY **STATEMENT**  COMPLY WITH ALL SAFETY PRECAUTIONS. Disconnect power and apply lockouts when MIN required by this instruction. Refer to current local lockout procedures to properly shutdown and lockout this machine. Open equipment and inspect dust conditions. Check for suspicious dust or unusual debris. If any unusual substance is found notify supervisor prior to proceeding with any further action on the equipment.

### THE USE OF COMPRESSED OR BLOWN AIR IS PROHIBITED.

When cleaning is required, an alternative cleaning method such as a HEPA filtered vacuum cleaner or a damp rag must be used in place of compressed or blown air. A lint-free cloth or brush may be used on optical equipment only when other cleaning methods can not be used. Report safety deficiencies to your supervisor immediately upon detection.

**SYSTEM** 

- 2. Check for mail. Look for loose mail while 2.5 performing all activities.
  - 7 MIN

ΑII

MIN

ΑII

MAIN CONTROL CABINET (MCC)

3. Check MCC Processor adapter battery status. 5 7

Through PROWORX on the SPC, launch the NetScan Utility and check processor adapter battery status(s).

If Low Bat condition exists, replace the two "AAA" batteries in the appropriate processor adapter.

Power down and lockout power. Power down the equipment and lockout its electrical power as MIN prescribed by the procedures contained in, or locally developed in accordance with, the current Maintenance Management Order providing lockout/restore procedures.

MAIN CONTROL CABINET AND/OR DRIVE CONTROL **CABINET** 

- Check Main Control Cabinet (MCC) and/or 140 Drive Control Cabinet (DCC). Open and check min cabinets as follows:
  - 1. Check for damage to panel exterior switches and indicator lamps.

MAINTENANCE MANAGEMENT ORDER

| $\mathbf{\alpha}$ |
|-------------------|
| 监                 |
| ᅙ                 |
| ᅏ                 |
| ጅ                 |
| ORDEF             |
| 5                 |
| <u>'</u>          |
| ĺП                |
| =                 |
| 윾                 |
| =                 |
| Ō                 |
| ≤                 |
| Z                 |
| ₹                 |
| Ž                 |
| _                 |
| Щ                 |
| 띨                 |
| Z                 |
| ⋖                 |
| Ž                 |
| Ш                 |
| F                 |
| Z                 |
| ₹                 |

MMO-128-06 Maintenance Technical Support Center U.S. Postal Service IDENTIFICATION EQUIPMENT WORK CLASS NUMBER **Maintenance Checklist** ACRONYM CODE 0 3 S S U В 0 0 Μ Equipment Nomenclature Equipment Model Bulletin Filename Frequency Singulator Transport Conveyor with SSIU MM06022AB SEMI-ANNUAL VFDs and Reducers

| Part or   | Item | Task Statement and Instruction               | Est.  | Min.  |       | S      |       |
|-----------|------|--|-------|-------|-------|--------|-------|
| Component | No   | (Comply with all current safety precautions) | Time  | Skill |       |        |       |
| •         |      |  | Req   | Lev   | Run   | Pieces | Weeks |
|           |      |  | (min) |       | Hours | Fed    |       |
|           |      |  |       |       |       | (000)  |       |

- 2. Check for loose components and loose connections in panels. Close cabinets.
- Check wiring cables. Check for damage to wiring cables between control panel and components.
- Lubricate flange bearings.

10  $\mathsf{MIN}$ 

3

ΑII

Lubricate flange bearings (if not sealed) on drive and tail end rollers using a lithium based grease (NLGI-2).

### WARNING

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

**SYSTEM** 

**CLEAN UP** 

**FLANGE** 

**BEARINGS** 

- Restore equipment to service. ΑII Restore 3 equipment to service as prescribed by the MIN procedures contained in, or locally developed in current Maintenance accordance with, the Management (MMO) Order providing lockout/restore procedures.
- Clean up. Ensure all tools, lubricants, rags, etc., are removed from the work area.

Report all deficiencies to your supervisor in order to initiate any necessary work orders to make necessary repairs, or to remove excessive debris.

MAINTENANCE MANAGEMENT ORDER

| MMO-128-06                         | Maintenance Technical Support Center |          |       |     |   |   |      |    |          |         |               |   |     |      |      |     |     |   |
|------------------------------------|--------------------------------------|----------|-------|-----|---|---|------|----|----------|---------|---------------|---|-----|------|------|-----|-----|---|
| U.S. Postal Service                |                                      |          |       |     |   |   |      | ID | ENTIF    | ICAT    | ION           |   |     |      |      |     |     | Ī |
| Maintenance Checklist              | -                                    | RK<br>DE |       |     |   |   | NYMC |    |          |         | CLASS<br>CODE |   |     | Νl   | TYPE |     |     |   |
|                                    | 0                                    | 3        | S     | S   | I | U |      |    |          |         | В             | Α |     | 0    | 0    | 4   | M   | Ī |
| Equipment Nomenclature             | Equi                                 | ipmeı    | nt Mo | del |   |   |      | E  | Bulletir | n Filer | name          |   | Fre | eque | ncy  |     |     | Ī |
| Singulator Transport Conveyor with |                                      |          |       | SSI | U |   |      |    | MI       | M06     | 022AB         | , |     | SE   | MI-  | ANN | UAL | 1 |
| VFDs and Reducers                  |                                      |          |       |     |   |   |      |    |          |         |               |   |     |      |      |     |     |   |
| _                                  |                                      |          |       |     |   |   |      |    |          |         | ·             |   |     |      |      |     |     |   |

| Part<br>Compo |        | Item<br>No | Task Statement and Instruction (Comply with all current safety precautions) | Est.<br>Time | Min.<br>Skill |       | Threshold | s      |
|---------------|--------|------------|---|--------------|---------------|-------|-----------|--------|
| Compo         | ileiit | INO        | (Comply with all current salety precautions)                                | Rea          | Lev           | Run   | Pieces    | Weeks  |
|               |        |            |   | (min)        | LOV           | Hours | Fed       | VVCCKS |
|               |        |            |   |              |               |       | (000)     |        |

# THIS PAGE BLANK

MAINTENANCE MANAGEMENT ORDER

# SINGULATOR TRANSPORT CONVEYOR WITH VFDS AND REDUCER MASTER CHECKLIST

03-SSIU-BA-005-M

**BI-ANNUAL** 

Time Total: 74.5 Minutes

MAINTENANCE MANAGEMENT ORDER

Attachment 6

| 黑        |
|----------|
| 岩        |
| 坖        |
| 0        |
| $\vdash$ |
| z        |
| ≝        |
| Ū        |
| Q        |
|          |
| ⋛        |
| Ž        |
| MAN      |
| E MAN    |
| ICE MANA |
| Щ        |
| Щ        |
| Щ        |
| Щ        |
| Щ        |
| Щ        |

**SYSTEM** 

MMO-128-06 Maintenance Technical Support Center U.S. Postal Service EQUIPMENT WORK CLASS NUMBER **Maintenance Checklist** CODE ACRONYM CODE 0 3 S S U В Α 0 0 Μ Equipment Nomenclature Equipment Model Bulletin Filename Frequency Singulator Transport Conveyor with SSIU MM06022AB **BI-ANNUAL** VFDs and Reducers Task Statement and Instruction Min. Skill Thresholds Component No (Comply with all current safety precautions) Time Req Lev Run Pieces Fed (000)**SAFETY** COMPLY WITH ALL SAFETY PRECAUTIONS. ΑII **STATEMENT** Disconnect power and apply lockouts when required by this instruction. Refer to current local lockout procedures to properly shutdown and lockout this machine. Open equipment and inspect dust conditions. Check for suspicious dust or unusual debris. If any unusual substance is found notify supervisor prior to proceeding with any further action on the equipment. THE USE OF COMPRESSED OR BLOWN AIR IS PROHIBITED. When cleaning is required, an alternative cleaning method such as a HEPA filtered vacuum cleaner or a damp rag must be used in place of compressed or blown air. A lintfree cloth or brush may be used on optical equipment only when other cleaning methods can not be used. Report safety deficiencies to your supervisor immediately upon detection. **SYSTEM** Check for mail. Look for loose mail while 7 2.5 performing all activities. MIN Power down and lockout power. Power down 3 ΑII the equipment and lockout its electrical power as MIN prescribed by the procedures contained in, or locally developed in accordance with, the current Maintenance Management Order providing lockout/restore procedures. REDUCER 4. Change gear reducer oil. 60 7 Drain and fill gear reducer with oil (Mobil SHC 629 or equivalent). If you have an oil analysis program adjust task and frequency accordingly. WARNING Be cautious when working around or on

MAINTENANCE MANAGEMENT ORDER

2 Attachment 6

equipment to service as prescribed by the MIN procedures contained in, or locally developed in

Restore

ΑII

equipment when power has been

5. Restore equipment to service.

applied.

MAINTENANCE MANAGEMENT ORDER

| Maintenance Technical Support Center  |                         |                |   |   |   |                |  |               |  |            |               |   | Ν      | 1MC | )-12 | 8-06 |  |
|---|-------------------------|----------------|---|---|---|----------------|--|---------------|--|------------|---------------|---|--------|-----|------|------|--|
| U.S. Postal Service   |                         | IDENTIFICATION |   |   |   |                |  |               |  |            |               |   |        |     |      |      |  |
| Maintenance Checklist   |                         | ORK<br>ODE     |   |   |   | QUIF<br>ACR(   |  |               |  |            | CLASS<br>CODE |   | NUMBER |     |      | TYPE |  |
|   | 0                       | 3              | S | S | ı | U              |  |               |  |            | В             | Α | 0      | 0   | 5    | M    |  |
| Equipment Nomenclature<br>Singulator Transport Conveyor with<br>VFDs and Reducers | Equipment Model<br>SSIU |                |   |   | E | Bulletir<br>MI |  | name<br>022AB |  | reque<br>E | AL            |   |        |     |      |      |  |

| Part or<br>Component | Item<br>No | Task Statement and Instruction (Comply with all current safety precautions) | Est.<br>Time | Min.<br>Skill |              | Threshold     | ls    |
|----------------------|------------|---|--------------|---------------|--------------|---------------|-------|
| Component            | 1.0        | (comply man an outlone carety procedure)                                    | Req<br>(min) | Lev           | Run<br>Hours | Pieces<br>Fed | Weeks |
|                      |            |   | , ,          |               |              | (000)         |       |

accordance with, the current Maintenance Management Order (MMO) providing lockout/restore procedures.

CLEAN UP

Clean up. Ensure all tools, lubricants, rags, etc., 3 are removed from the work area.

3 All

Report all deficiencies to your supervisor in order to initiate any necessary work orders to make necessary repairs, or to remove excessive debris.