



Maintenance Management Order

SUBJECT: Preventive Maintenance Guidelines for PTR
Compactors

DATE: May 9, 2018

TO: Maintenance Manager

NO: MMO-037-18

FILE CODE: 4B
cper:mm17003am

Online Change Record		
Change #	Date	Description of Change
1	12/23/2020	Attachment 1, page 2, updated the Minimum Skill Level Hours and the PM Time Summary table. Attachment 2, page 1, updated the Time Total Minutes. Attachment 2, page 4, added Item No 4, Counter.

This Maintenance Management Order (MMO) provides Preventive Maintenance (PM) Guidelines for PTR Recycling Dumper / Compactors. This bulletin applies to Acronym COMPACT, Class Code BA.

The work hours represented in this MMO reflect the maximum work hours required to maintain the equipment. Given local conditions, management may modify task frequencies. For a more efficient maintenance operation, routes with duplicate items should be performed together.

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.

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 Safety Data Sheets (SDS), may be utilized during the performance of the procedures in this bulletin. Ensure the current SDS for each product used is on file and available for reference by all employees. Refer to SDS 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 cannot be used.

WARNING

Steps contained in this bulletin may require the use of Electrical Work Plan (EWP) Personal Protective Equipment (PPE). Refer to the current EWP MMO for appropriate EWP PPE and barricade requirements.

WARNING

Changing oils and fluids, greasing components, and working around equipment, including inspecting pressurized hydraulic hoses, requires PPE.

For questions or comments concerning this bulletin contact the MTSC HelpDesk, either online at **MTSC>HELPPDESK>Create/Update Tickets** or call (800) 366-4123. The PTR recycling dumper compactor Operations & Maintenance manual is available at: <http://blue.usps.gov/sustainability/national-recycling-operation.htm>.



Frederick L. Jackson III
Manager
Maintenance Technical Support Center
HQ Maintenance Operations

Attachments:

1. Workload Summary Estimate For COMPACT
2. Master Checklist: 03-COMPACT-BA-001-M: Weekly
3. Master Checklist: 03-COMPACT-BA-002-M: Monthly
4. Master Checklist: 03-COMPACT-BA-003-M: Quarterly
5. Master Checklist: 03-COMPACT-BA-004-M: Bi-Annual
6. Label Checklist and Placement Diagrams
7. Precautions and Equipment Identification

ATTACHMENT 1

SUMMARY

WORKLOAD ESTIMATE

FOR

COMPACT-BA

SUMMARY

WORKLOAD ESTIMATE FOR

PTR UNIVERSAL DUMPER/COMPACTOR

MM/BEM (Minimum Skill Level) Hours:

	Routine Servicing per Machine (Hrs/Yr)	Repair Time per Machine (Hrs/Yr)	Routine Servicing + Repair Time (Hrs/Yr)	Nonproductive Time ** (Hrs/Yr)	Total Servicing Per Machine (Hrs/Yr)
7 Days	27.89	8.37	36.26	3.63	39.89
*	Repair maintenance estimates based on 30% of preventive maintenance.				
**	Based on 10% of total PM and repair.				

THRESHOLDS and PM TIME SUMMARY Hrs PER Year	
Weekly	8.67
Monthly	13.60
Quarterly	5.00
Semi-Annual	0.00
Annual	0.00
Bi-Annual	0.63

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.

ATTACHMENT 2

COMPACT MASTER CHECKLIST

03-COMPACT-BA-001-M

WEEKLY

Time Total: 10 Minutes

U.S. Postal Service Maintenance Checklist	IDENTIFICATION													
	WORK CODE		EQUIPMENT ACRONYM						CLASS CODE		NUMBER		TYPE	
	0	3	C	O	M	P	A	C	T	B	A	0	0	1
Equipment Nomenclature	Equipment Model PTR Compactor						Bulletin Filename mm17003		Threshold Severity WEEKLY					

Part or Component	Item No	Task Statement and Instruction (Comply with all current safety precautions)	Est. Time Req (min)	Min. Skill Lev
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SAFETY STATEMENT

- SAFETY: Observe all safety precautions and follow local procedures for lockout/tagout, confined space entry, and electrical work plan as applicable. Wear skin and eye protection when handling hydraulic fluids.**

3 ALL

COMPLY WITH ALL SAFETY PRECAUTIONS. Disconnect power and apply lockouts when required by this instruction. Refer to current local lockout procedures to properly shut down and lock out this machine. 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 cannot be used. Report safety deficiencies to your supervisor immediately upon detection.

WARNING FOR EWP/PPE: Steps contained in this bulletin may require the use of Electrical Work Plan (EWP) Personal Protective Equipment (PPE). Refer to the current EWP MMO for appropriate EWP PPE and barricade requirements.

WARNING

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

WARNING

Do not enter the compactor charge box, including the space above the charge box behind the dumper cradle, or receiver box, or enter the charge box through the enclosure or by climbing over or under the dumper unit. This is a permit required confined space.

SYSTEM

- CHECK AND REMOVE PAPER AND DEBRIS UNDER COMPACTOR** – Paper accumulates under the compactor. The compactor side access panels are non-permit confined spaces and may be entered by authorized personnel, if no hazard is created in the space such as from welding or power tools. The side access panels are perforated to allow visual observation of accumulated debris. Flashlights should be made available as necessary to check underneath the compactor.

6 min 7

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	0	3	C	O	M	P	A	C	T	B	A	0	0	1
Equipment Nomenclature		Equipment Model PTR Compactor					Bulletin Filename mm17003			Threshold Severity WEEKLY				

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Check for paper under the compactor using following procedure:

1. Ensure there are no obstructions or debris and open the access panels on both sides by unscrewing the retaining nuts. Secure the panels in the (up) position using the provided chain and clasp. Ensure the panels do not become loose and swing downward to cause injury (Figure 1). For panels without a top hinge, remove retaining nuts, remove side door, and lay panel flat on the ground. Notify your supervisor if clasp or chain is broken, non-functioning, or missing.

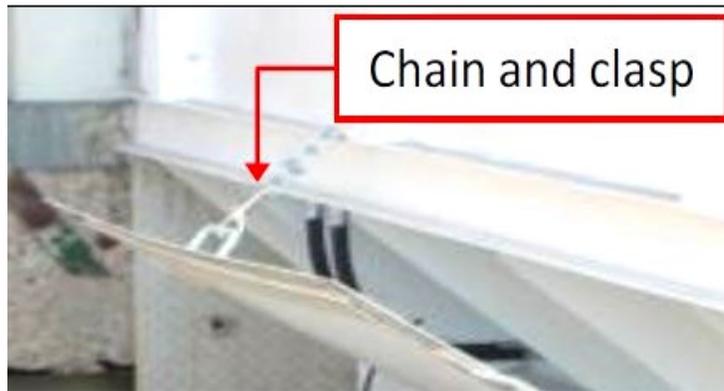


Figure 1. Chain and Clasp

WARNING

Sharp edges may be present. Use caution when working under panels.

2. Using a long-handled rake, pole, broom, or equivalent, push or pull paper, residue, and debris to clear underneath area. Mixed paper residuals can be placed back into the MTE for recycling. This action should avoid the need to enter underneath the space. Contact your supervisor if debris or material is wedged or cannot be removed safely. Report any hydraulic leaks or spills to your immediate supervisor.

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- Close access panels by unclipping from clasp and lowering. Secure panels by replacing retaining nuts. For panels without top hinge, reinstall side door and retaining nuts. The panels are equipped with interlock limit switches. Ensure interlock switch is pushed to closed position. Failure to secure the compactor side access panels will prevent equipment from operating. (Figure 2)



Figure 2. Interlock

COUNTER

- RECORD CYCLE COUNTER READING FROM OPERATOR CONTROL PANEL – Record the Cycle Counter reading on the eMARS Employee Assignment Work Sheet. The counter may be on either side of the Operator Control Panel. (Figure 2a)** 1 min 7



Figure 2a. Cycle Counter

ATTACHMENT 3

COMPACT MASTER CHECKLIST

03-COMPACT-BA-002-M

Monthly

Time Total: 68 Minutes

U.S. Postal Service Maintenance Checklist	IDENTIFICATION													
	WORK CODE		EQUIPMENT ACRONYM						CLASS CODE		NUMBER		TYPE	
	0	3	C	O	M	P	A	C	T	B	A	0	0	2
Equipment Nomenclature	Equipment Model PTR Compactor						Bulletin Filename mm17003			Threshold Severity MONTHLY				

Part or Component	Item No	Task Statement and Instruction (Comply with all current safety precautions)	Est. Time Req (min)	Min. Skill Lev
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SAFETY STATEMENT

- SAFETY: Observe all safety precautions and follow local procedures for lockout/tagout, confined space entry, and electrical work plan as applicable. Wear skin and eye protection when handling hydraulic fluids.**

3 ALL

COMPLY WITH ALL SAFETY PRECAUTIONS. Disconnect power and apply lockouts when required by this instruction. Refer to current local lockout procedures to properly shut down and lock out this machine. 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.

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WARNING FOR EWP/PPE: Steps contained in this bulletin may require the use of Electrical Work Plan (EWP) Personal Protective Equipment (PPE). Refer to the current EWP MMO for appropriate EWP PPE and barricade requirements.

WARNING

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

WARNING

Do not enter the compactor charge box, including the space above the charge box behind the dumper cradle, or receiver box, or enter the charge box through the enclosure or by climbing over or under the dumper unit. This is a permit required confined space.

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SAFETY CONTROLS

2. **CHECK PHOTOEYE ARRAY** – Check operation of the four (4) photoeye beams at dumper entrance. Breaking photoeye array must illuminate the Safety Tripped light on the operator control panel and the unit must not operate. Check each one of the four beam arrays separately. (Figure 3)

1 min 9

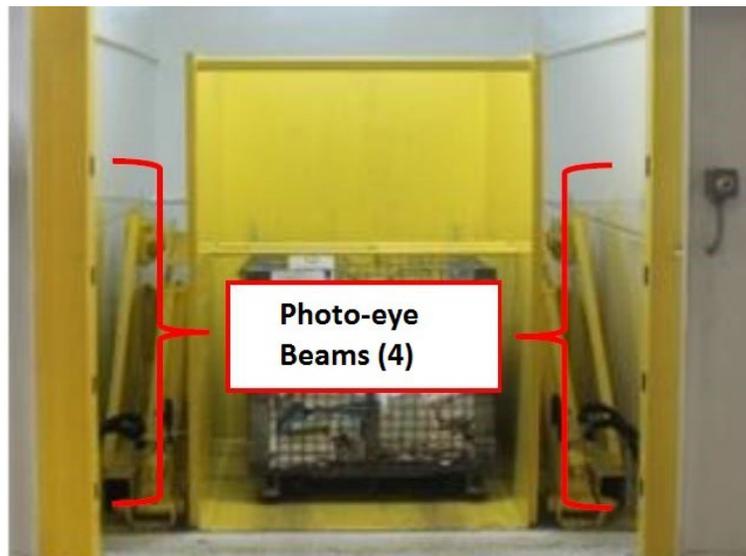


Figure 3. Photocell Guards

SAFETY CONTROLS

3. **CHECK EMERGENCY STOPS** – Activate/Deactivate the three (3) emergency stops located on the operator control panel, at the dumper/enclosure entrance, and on the compactor exterior above the latch and binder assembly. The Safety Tripped indicator light should illuminate on the operator control panel.

3 min 9

SAFETY CONTROLS

4. **CHECK COMPACTOR EXTERIOR SIDE ACCESS PANEL & INTERLOCKS** – Visually check compactor exterior side access panels.
 1. Do they open and close properly?
 2. Are hinges and clasps in good condition?
 3. Check operation of two (2) side access panel interlocks. ‘Safety Tripped’ indicator should light on the operator control panel when the side access panels are opened.
 4. Check fittings and wires on interlocks.

8 min 9

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5. Check alignment of interlock and tightness of screws. (Figure 4)



Figure 4. Interlock

CONTROLS

5. **CHECK CONTROLS ON OPERATOR PANEL** – Check the following controls: 7 min 9

NOTE

Compactor indicator lights cannot be actuated unless set receiver pressures are reached. Compactor pressure indicator set points (advanced 80% warning and 100% full) are set at factory and can be adjusted by contacting manufacturer or by authorized personnel. Adjusted pressure setting should optimize tons/load of mixed recyclables. Refer to Recycling Dumper/Compactor Equipment Operator User Guidance for more information.

1. Off-On key switch-key is removable in off position only.
2. Safety Tripped light illuminates when photo-eye array is blocked. Check that the unit does not operate when the safety tripped light is illuminated. Reset using Safety Reset button.
3. Dumper up joystick/pushbutton-verify visual light beacon and audible alarms operate before dumper moves. Verify dumper stops when joystick/button is released.
4. Dumper down joystick/push button-verify visual light beacon and audible alarms operate before dumper moves. Verify dumper stops when joystick/button is released.
5. Compactor start button-verify visual light beacon and audible alarm operate before compactor moves. Check the compactor ram operating condition by cycling the ram. Cycle the compactor ram--did the ram fully extend and retract? Did it make any unusual noises?
6. Low oil light-indicator light cannot be actuated unless low-level

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Equipment Nomenclature		Equipment Model PTR Compactor						Bulletin Filename mm17003		Threshold Severity MONTHLY				

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condition occurs. Verify light is off.

7. 80% advance warning indicator light and 100% compactor full light. Light should blink when approaching full level and be on steady when receiver box container full level is achieved.

UNIVERSAL DUMPER	6.	RAISE UNIVERSAL DUMPER – Raise dumper to full, upright position. Dumper should be in contact with frame bumper stops.	1 min	9
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SYSTEM	7.	POWER DOWN AND LOCK OUT POWER – Power down the equipment and lock out 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.	9 min	7
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UNIVERSAL DUMPER	8.	CLEAN AND REMOVE PAPER AND DEBRIS AROUND UNIVERSAL DUMPER –	5 min	7
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WARNING

Do not enter permit-required confined space behind the dumper and over the charge box. This space can only be entered with the container box removed and the space reclassified.

1. Remove any accumulated paper and debris around dumper assembly.
2. Check between dumper frame and charge box. Clean area.

HPU	9.	REMOVE COVER ON HPU – Remove bolts and nuts holding rain cover on HPU (Hydraulic Power Unit). Remove cover.	3 min	9
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WARNING

Never use bare hands or fingers to check for hydraulic leaks. Wear skin and eye protection when inspecting pressurized hoses and other components or when handling hydraulic fluids.

NOTE

An additional person may be needed to remove and/or replace the rain cover.

HYDRAULIC INSPECTIONS:

1. Check the hydraulic systems for hydraulic fluid leaks, seepage, and wear.

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2. Check hydraulic hoses (black flexible hosing), lines, and fittings. Check for wear, security, chafing, rubbing, and damage.
3. Inspect hydraulic lines from the hydraulic power unit to the dumper and compactor. This requires opening the compactor side access panels to inspect the hydraulic hoses and fittings underneath the compactor side access. (Figure 6)

HPU	10.	INSPECT HPU HYDRAULIC HOSES & FITTINGS – Check all hoses and fittings on HPU.	1 min	9
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NOTE

Some HPU units may be located outside on the ground next to compactor, and some may be located within facility.

HPU	11.	INSPECT HPU HYDRAULIC CONNECTION(S) – Check hydraulic hoses between HPU and compactor, enclosure, and dumper, including any penetration through dock walls. (Figure 5)	1 min	9
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Figure 5. Check Connections

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DUMPER	12.	INSPECT DUMPER HYDRAULIC CONNECTIONS — Inspect connections and fittings on hydraulic pistons located on each side of the dumper bin. Refer to the O&M Manual, if required, for Schematic CC406549 — Hydraulic Assembly Fittings, Hoses at: http://blue.usps.gov/sustainability/national-recycling-operation.htm ; scroll to “Recycling equipment maintenance guidance & resources”. (Figure 6)	1 min	9
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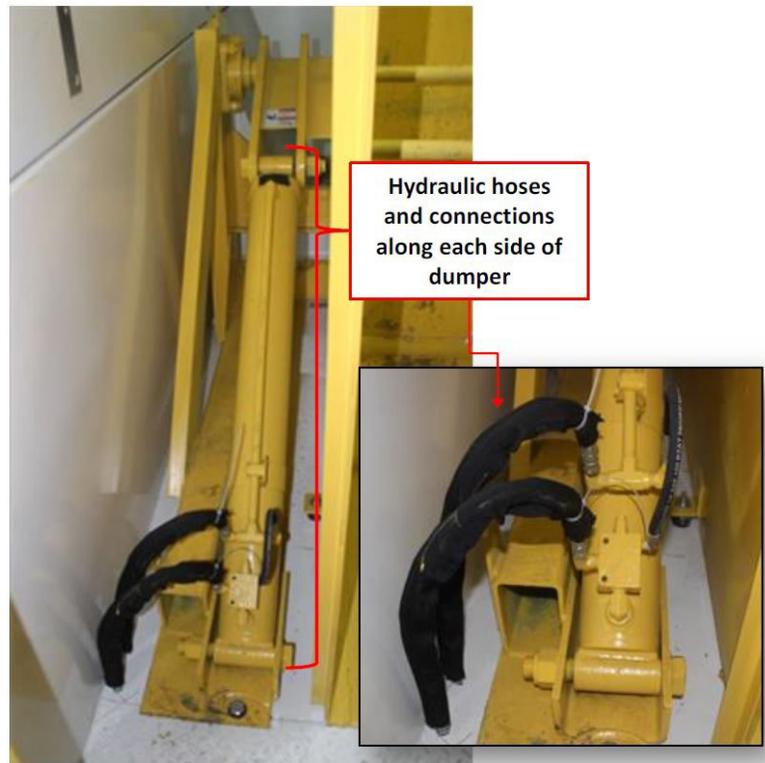


FIGURE 6. Check Hydraulic Hoses

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COMPACTOR 13. **INSPECT COMPACTOR HYDRAULIC CONNECTIONS** – Inspect hydraulic hose connections on both left and right sides of compactor. (Figure 7) 5 min 9

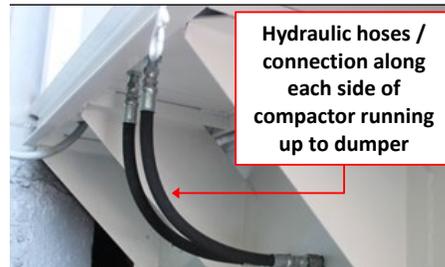


FIGURE 7. Check Hydraulic Hoses

WARNING LABELS 14. **CHECK LABELS** – Inspect Warning, Caution, and Danger labels. Follow master checklist of all labels on units. Use Attachment 6 for guidance. 10 min 9

RETAINING BARS 15. **CHECK RETAINING BAR(S)** – 1 min 9
Check condition and functionality of retaining bars that secure MTE into dumper.

1. Check retention bar(s) for functionality and use, ensure retention bar is straight.
2. Check nut on retaining bolt.
3. Move the retention bar back and forth in the dumper holes provided; ensure the retention bar(s) is secure in place.

HPU 16. **REPLACE COVER ON HPU** – Reinstall bolts and nuts holding rain cover on HPU (Hydraulic Power Unit). 3 min 7

NOTE

An additional person may be needed to remove and/or replace the rain cover.

SYSTEM 17. **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 7

UNIVERSAL DUMPER 18. **LOWER UNIVERSAL DUMPER** – Lower dumper to down position, flush with the floor. 1 min 7

CLEANUP 19. **CLEAN UP** – Ensure all tools, lubricants, rags, etc., are removed from the work area. Report all deficiencies to supervisor. 2 min 7

ATTACHMENT 4

COMPACT MASTER CHECKLIST

03-COMPACT-BA-003-M

Quarterly

Time Total: 75 Minutes

U.S. Postal Service Maintenance Checklist	IDENTIFICATION													
	WORK CODE		EQUIPMENT ACRONYM						CLASS CODE		NUMBER			TYPE
	0	3	C	O	M	P	A	C	T	B	A	0	0	3
Equipment Nomenclature	Equipment Model PTR Compactor						Bulletin Filename mm17003			Threshold Severity QUARTERLY				

Part or Component	Item No	Task Statement and Instruction (Comply with all current safety precautions)	Est. Time Req (min)	Min. Skill Lev
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SAFETY STATEMENT

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3 All

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WARNING

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DUMPER ASSEMBLY

2. **CHECK BOTTOM RUBBER BUMPER STOPS** – Check bumper stops on dumper as follows (Figure 8):
 1. Raise dumper so bottom bumper stops are at eye level.
 2. Without breaking photo-eye array, visually check stops on bottom of dumper. Bumpers should be in place with no visible cracks or cuts.
 3. Lower dumper.

2 min 9



Figure 8. Rubber Bumper Stops

SYSTEM

3. **POWER DOWN AND LOCK OUT POWER** – Power down the equipment and lock out 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.

9 min 7

PHOTO-EYE ARRAY

4. **CLEAN ARRAY** – Clean photo-eye array and reflectors using a clean rag.

1 min 7

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DUMPER ASSEMBLY

5. **INSPECT DUMPER FRAME BUMPER STOPS** – Visually check dumper frame bumper stops as follows (Figures 9 & 10) :
1. With dumper in down position, place ladder at back of dumper assembly.
 2. Look over back of dumper to check visually the frame bumper stops. Bumpers should be in place with no visible cracks or cuts.

2 min
9



Figure 9. Frame Rubber Stops

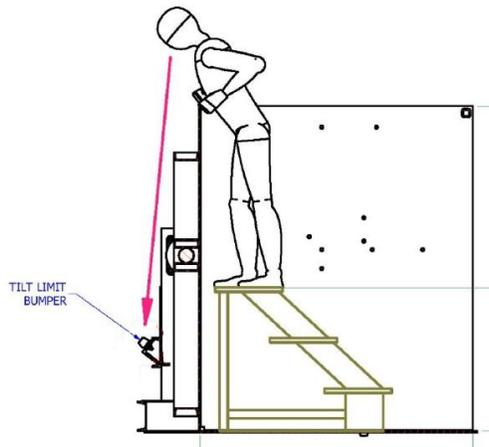


Figure 10. Checking Tilt Bumper

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HPU POWER PANEL

9. **INSPECT HYDRAULIC POWER UNIT PANEL –**

5 9
min

1. Inspect panel and check for physical damage and water ingress.
2. Open panel and check interior for loose wires or terminals, wire insulation integrity, and wear.
3. Check tightness of fuse clips; if they are movable, adjust the clip tension so the fuse is properly seated.
4. Check for burns on motor starter.

Refer to the O&M Manual if required for Electrical Schematic drawing BC406451 & Fuse Requirements Drawing BC403147R8 at: <http://blue.usps.gov/sustainability/national-recycling-operation.htm>; scroll to “Recycling equipment maintenance guidance & resources.” (Figure 12)

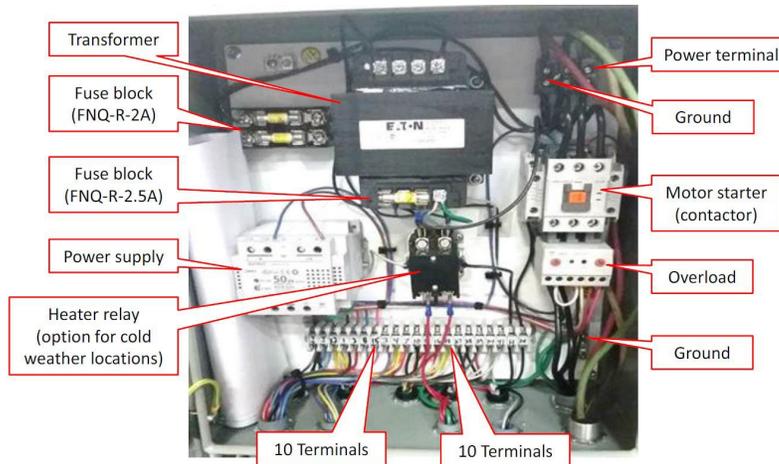


Figure 12. Hydraulic Power Unit Panel

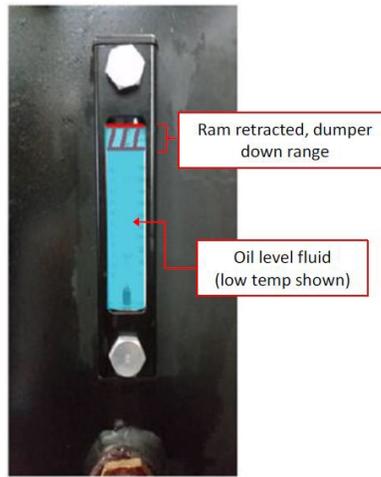
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Part or Component	Item No	Task Statement and Instruction (Comply with all current safety precautions)	Est. Time Req (min)	Min. Skill Lev
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HPU 10. **CHECK OIL LEVEL** – Check hydraulic oil level in HPU. Level should be no lower than 1 inch from top of sight gauge with dumper down and compactor ram retracted. Clean off gauge. If oil is low or discolored, notify your supervisor. (Figure 13)



Values are approximate

Figure 13. Oil Level

HPU 11. **INSPECT LOVEJOY COUPLING** – Check hydraulic motor and pump coupling (Lovejoy coupling) by removing the flexible plastic cap. Check the spider (rubber insert) for physical damage along with tightness of two setscrews on unit. (5/32 Allen wrench) (Figure 14)

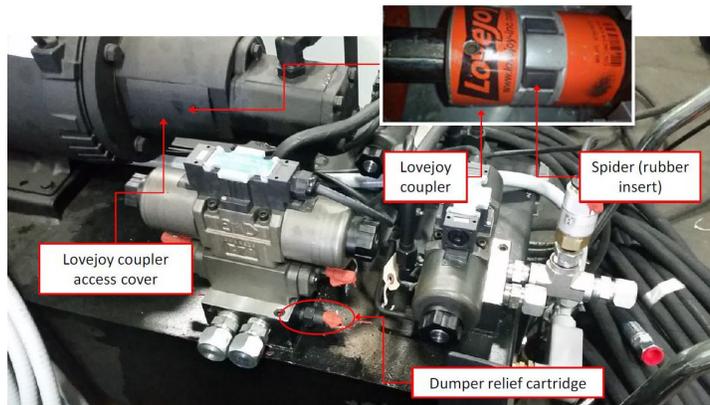


Figure 14. Lovejoy Coupler

U.S. Postal Service Maintenance Checklist	IDENTIFICATION													
	WORK CODE		EQUIPMENT ACRONYM						CLASS CODE		NUMBER			TYPE
	0	3	C	O	M	P	A	C	T	B	A	0	0	3
Equipment Nomenclature		Equipment Model PTR Compactor						Bulletin Filename mm17003			Threshold Severity QUARTERLY			

Part or Component	Item No	Task Statement and Instruction (Comply with all current safety precautions)	Est. Time Req (min)	Min. Skill Lev
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DUMPER ASSEMBLY

12. **INSPECT AND GREASE DUMPER ASSEMBLY –**

8 min 9

1. Grease main bearings and ends of hydraulic cylinders (total of 6 fittings).
2. Check main dumper structure, main bearing bolts, upper and lower cylinder mounting bolts, and attachment points for physical damage, looseness, unusual wear, or cracks.
3. Check for any hydraulic fluid seepage.
4. Visually check dumper condition for rust or paint deterioration, cracks, or any unusual wear.
5. Does the dumper sit level and flush with the enclosure floor? (Figures 15 & 16)

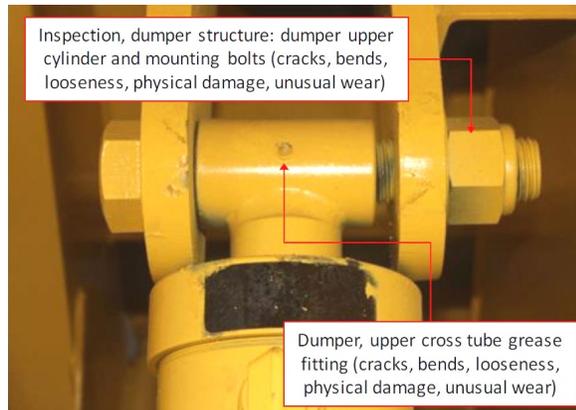


Figure 15. Upper Grease Fitting

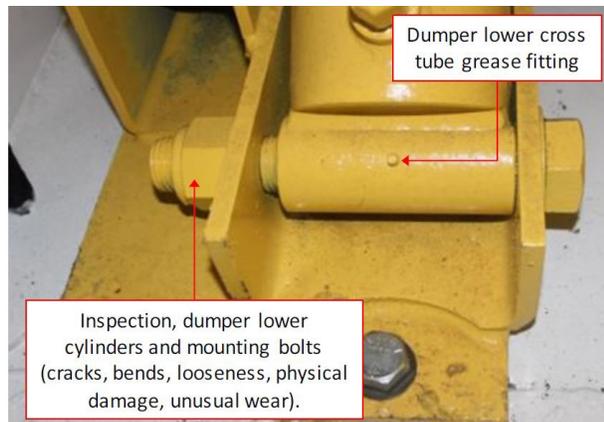


Figure 16. Lower Cylinders

U.S. Postal Service Maintenance Checklist	IDENTIFICATION													
	WORK CODE		EQUIPMENT ACRONYM						CLASS CODE		NUMBER		TYPE	
	0	3	C	O	M	P	A	C	T	B	A	0	0	3
Equipment Nomenclature		Equipment Model PTR Compactor					Bulletin Filename mm17003			Threshold Severity QUARTERLY				

Part or Component	Item No	Task Statement and Instruction (Comply with all current safety precautions)	Est. Time Req (min)	Min. Skill Lev
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HPU	13	INSPECT AND GREASE HPU MOTOR – Grease ends of HPU motor (total of 2 fittings). Wipe off motor and check for any hydraulic fluid seepage. Do NOT over grease motor. Use only one (1) pump of grease. (Figure 17)	1 min	9
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Figure 17. Motor Grease Fittings

RATCHET BINDERS	14.	INSPECT AND GREASE RATCHET BINDERS –	6 min	9
-----------------	-----	---	-------	---

1. Grease exterior ratchet binders (total of 4 fittings).
2. Check binder assembly, including hook, for cracks, bends, or other damage.
3. Visually check the ratchet binder hook condition and welds for cracks, bends, or damage. (Figure 18)

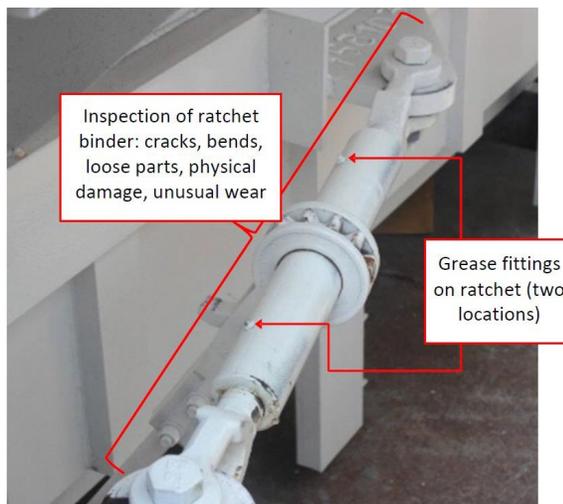


Figure 18. Grease Ratchet Binders

U.S. Postal Service Maintenance Checklist	IDENTIFICATION													
	WORK CODE		EQUIPMENT ACRONYM						CLASS CODE		NUMBER			TYPE
	0	3	C	O	M	P	A	C	T	B	A	0	0	3
Equipment Nomenclature	Equipment Model PTR Compactor						Bulletin Filename mm17003			Threshold Severity QUARTERLY				

Part or Component	Item No	Task Statement and Instruction (Comply with all current safety precautions)	Est. Time Req (min)	Min. Skill Lev
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RECEIVER BOX GUIDE 15. **CHECK RECEIVER BOX GUIDE** – Check receiver box guide island and ground skid plates for correct anchoring or any physical damage. 2 min 9

NOTE

This check will be easier with the receiver box removed.

ENCLOSURE 16. **INSPECT EXTERIOR CONDITION** – Check following conditions: 3 min 9

1. Check structural condition of the dumper/compactor and enclosure frame and welds for cracks, bends, or damage.
2. Check general equipment appearance, excessive rust, paint condition, cracks, and unusual wear.
3. Check concrete anchoring and the slab condition. Is the compactor securely fastened to ground? Is there any physical damage or signs of unusual or excessive wear and need for replacement?
4. Check any seals between compactor/enclosure face and dock. Are they in good condition, or are there holes, or breaches?

ENCLOSURE 17. **CHECK RAM WIPER SCRAPER** – Check ram wiper scraper by asking mechanic whether a normal or excessive amount of paper is getting underneath the compactor as seen during weekly cleaning under the side access panels. Note ram wiper scraper is an attachment that acts to scrape off any residual paper as ram retracts. This allows paper to fall back into charge box and minimizes paper wedging into gaps within charge box and falling underneath compactor. If scraper bends or begins to wear, excessive residual paper will accumulate underneath the compactor. The scraper does not eliminate paper residuals from accumulating underneath the compactor but minimizes the effect. 1 min 9

HPU 18. **REPLACE COVER ON HPU** – Reinstall bolts and nuts holding rain cover on HPU (Hydraulic Power Unit). 3 min 7

NOTE

An additional person may be needed to remove and/or replace the rain cover.

SYSTEM 19. **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. 7 min 7

CLEANUP 20. **CLEAN UP** – Ensure all tools, lubricants, rags, etc., are removed from the work area. Report all deficiencies to supervisor. 2 min 7

ATTACHMENT 5

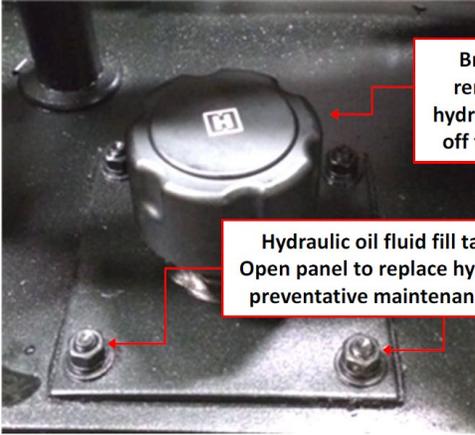
COMPACT MASTER CHECKLIST

03-COMPACT-BA-004-M

Bi-Annual

Time Total: 75 Minutes

SAFETY STATEMENT	1.	<p>SAFETY: Observe all safety precautions and follow local procedures for lockout/tagout, confined space entry, and electrical work plan as applicable. Wear skin and eye protection when handling hydraulic fluids.</p> <p>COMPLY WITH ALL SAFETY PRECAUTIONS. Disconnect power and apply lockouts when required by this instruction. Refer to current local lockout procedures to properly shut down and lock out this machine. 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.</p> <p>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 cannot be used. Report safety deficiencies to your supervisor immediately upon detection.</p> <p>WARNING FOR EWP/PPE: Steps contained in this bulletin may require the use of Electrical Work Plan (EWP) Personal Protective Equipment (PPE). Refer to the current EWP MMO for appropriate EWP PPE and barricade requirements.</p>	3 min	All
		<p style="text-align: center;">WARNING</p> <p style="text-align: center;">Be cautious when working around or on equipment when power has been applied.</p> <p style="text-align: center;">WARNING</p> <p style="text-align: center;">Do not enter the compactor charge box, including the space above the charge box behind the dumper cradle, or receiver box, or enter the charge box through the enclosure or by climbing over or under the dumper unit. This is a permit required confined space.</p>		
SYSTEM	2.	<p>POWER DOWN AND LOCK OUT POWER – Power down the equipment and lock out 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.</p>	9 min	7
HPU	3.	<p>REMOVE COVER ON HPU – Remove bolts and nuts holding rain cover on HPU (Hydraulic Power Unit).</p> <p style="text-align: center;">NOTE</p> <p style="text-align: center;">An additional person may be needed to remove and/or replace the rain cover.</p>	3 min	7
HPU	4.	<p>DRAIN AND REPLACE HYDRAULIC OIL – Drain and replace</p>	45	7

		 <p data-bbox="959 237 1172 359">Breather cap: remove to add hydraulic fluid (top off the reservoir)</p> <p data-bbox="764 415 1208 512">Hydraulic oil fluid fill tank access bolts. Open panel to replace hydraulic oil fluid for preventative maintenance (every 2 years)</p> <p data-bbox="602 663 1192 695">Figure 19. Hydraulic Oil Fill Port Access Panel</p> <ol data-bbox="483 711 1312 1050" style="list-style-type: none"> 3. Pump hydraulic oil, approximately 30 gallons, from hydraulic oil tank. 4. Check suction strainer. If damaged or clogged with debris, replace. 5. Add new hydraulic fluid through the oil fill port. 6. Reinstall oil fill port access panel. Replace gasket if ripped or torn. 7. Reinstall breather cap. If current cap is clogged or damaged, replace. 		
HPU	5.	<p data-bbox="483 1098 1312 1157">CLEAN HPU MOTOR FAN – Clean motor fan using the following steps:</p> <ol data-bbox="483 1171 1230 1297" style="list-style-type: none"> 1. Remove shroud from end of motor (3 - 5/16" bolts). 2. Hand-clean motor and fan and wipe away dust and debris. 3. Reattach shroud. (Figure 20) 	7 min	7

U.S. Postal Service Maintenance Checklist	IDENTIFICATION													
	WORK CODE		EQUIPMENT ACRONYM						CLASS CODE		NUMBER		TYPE	
	0	3	C	O	M	P	A	C	T	B	A	0	0	4
Equipment Nomenclature		Equipment Model PTR Compactor						Bulletin Filename mm17003		Threshold Severity BI-ANNUAL				

Part or Component	Item No	Task Statement and Instruction (Comply with all current safety precautions)	Est. Time Req (min)	Min. Skill Lev
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		 <p style="text-align: center;">FIGURE 20. HPU Motor Fan Shroud</p>		
HPU	6.	<p>REPLACE COVER ON HPU – Reinstall bolts and nuts holding rain cover on HPU (Hydraulic Power Unit).</p> <p style="text-align: center;">NOTE</p> <p>An additional person may be needed to remove and/or replace the rain cover.</p>	3 min	7
SYSTEM	7.	<p>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.</p>	3 min	7
CLEANUP	8.	<p>CLEAN UP – Ensure all tools, lubricants, rags, etc., are removed from the work area. Report all deficiencies to supervisor.</p>	2 min	7

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ATTACHMENT 6

COMPACTOR MASTER LABEL

CHECKLIST AND PLACEMENT DIAGRAMS

**Use in conjunction with Monthly, Attachment 3, Step 14.
MSL is 9 for this attachment.**

INSPECTION OF DANGER, WARNING, AND CAUTION LABELS

Inspect warning, caution, and danger labels. Are they all placed and in good condition? (Note: This inspection does not include the manufacturer service labels, including model and serial #--they are affixed at various locations on the unit). Contact manufacturer for replacement labels as necessary. Refer to manufacturer O&M manual for more details.

<p>A. WARNING DO NOT CLIMB (two locations): Located on enclosure sidewalls. Mfg label 500137</p>	
<p>B. DANGER DO NOT PUT HANDS IN MACHINE WHILE IN OPERATION (two locations): Located on either side of the dumper on cylinders. Mfg label 320064</p>	
<p>C. CAUTION STAND CLEAR WHEN CONTAINER IS BEING LIFTED (five locations): Located on either side of the enclosure entrance (two); inside dumper bin (one); dumper bottom (one); dumper rear (one)—dumper must be cycled to its up position to view these labels. Mfg label 500582</p>	
<p>D. DANGER CONFINED SPACE—PERMIT REQUIRED BEYOND THIS POINT (two locations): Located on the enclosure inside walls just above the dumper pivot point. Mfg label 607147</p>	
<p>E. DANGER CONFINED SPACE—PERMIT REQUIRED USE LOCKOUT/TAGOUT RECLASSIFICATION PRIOR TO ENTRY (one location): Located on the enclosure rear wall above the compactor charge box. Mfg label 606657</p>	
<p>F. DANGER DO NOT ENTER (seven locations): Located on dumper bottom (one); dumper rear (one)—dumper must be cycled to its up position to view these labels; enclosure inside walls (two); enclosure inside back wall (one); rear end of compactor on both sides (two)—may be partially obscured by receiver box. Mfg label 500581</p>	
<p>G. DANGER BEFORE ENGAGING OR DISENGAGING COMPACTOR CONTAINER RATCHET BINDERS FOLLOW STANDARD OSHA LOCKOUT/TAGOUT PROCEDURES (two locations): Located on either side of the compactor exterior above ratchet binders. Mfg label 500724</p>	

<p>H. DANGER CONFINED SPACE HAZARD (two locations): Located on exterior compactor side access panels. PSN 7690-18-000-2064</p>	
<p>I. DANGER PERMIT-REQUIRED CONFINED SPACE—DO NOT ENTER (one location): Located on the exterior front of the unit above the compactor opening. PSN 9905-10-000-5492</p>	

ENTRY VIEW

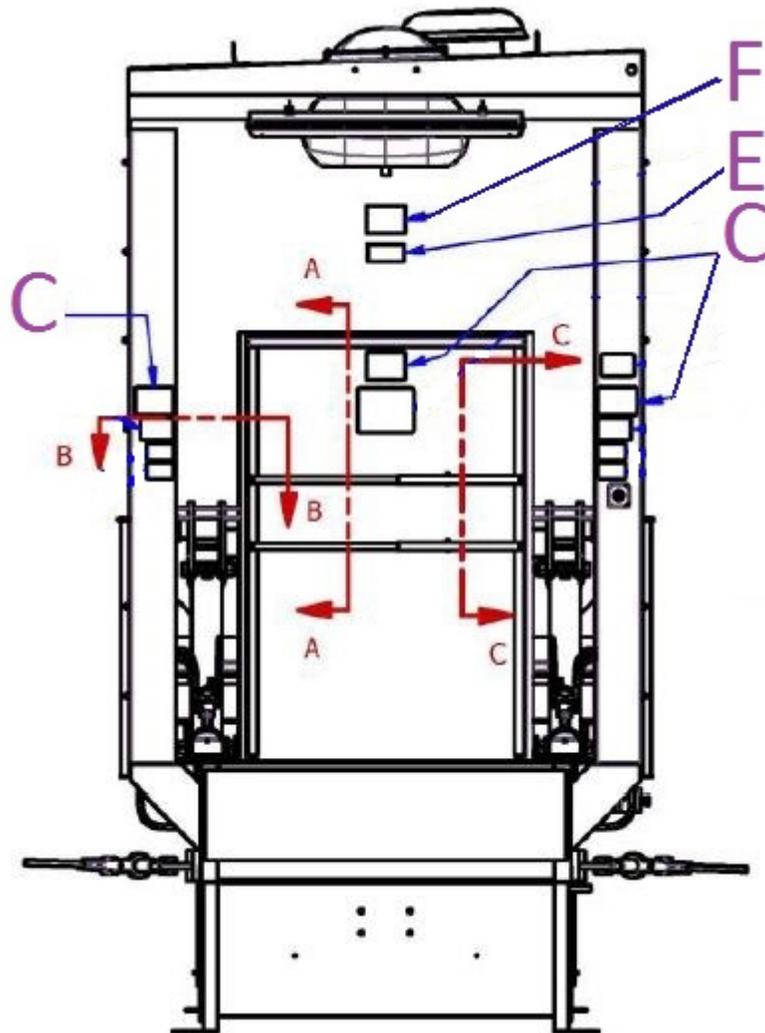


Figure 21. Label Locations

INSIDE UNIT, LOOKING AT LEFT WALL

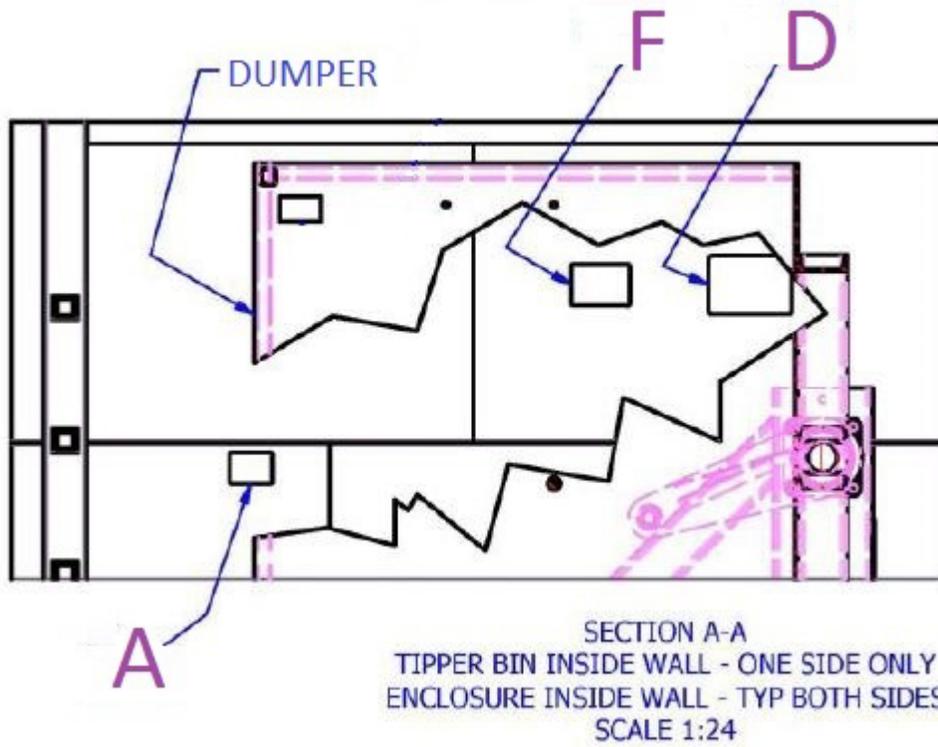


Figure 22. Left Wall

LOOKING DOWN ON DUMPER CYLINDER

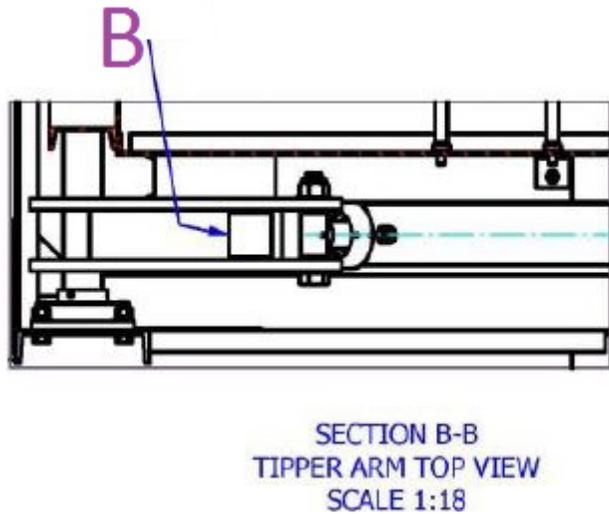
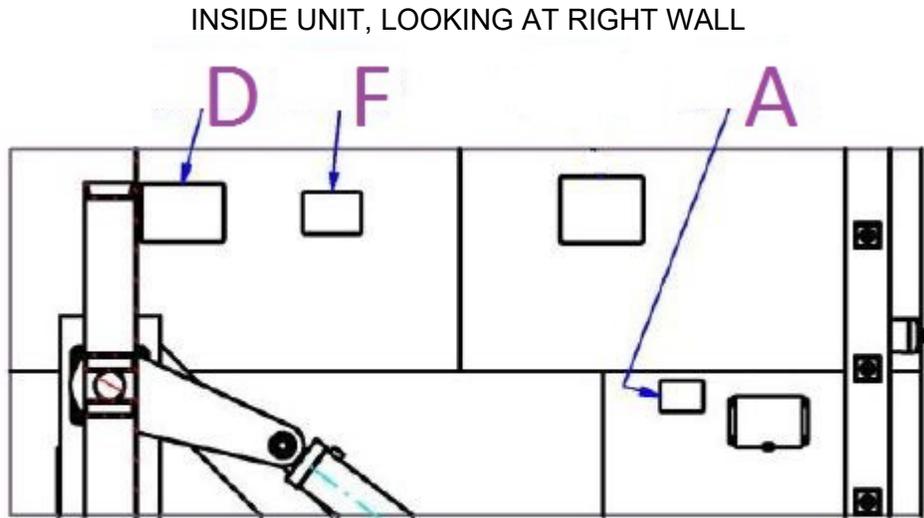


Figure 23. Top View of Dumper Cylinder



SECTION C-C
TIPPER BIN NOT SHOWN
SCALE 1:24

Figure 24. Right Wall

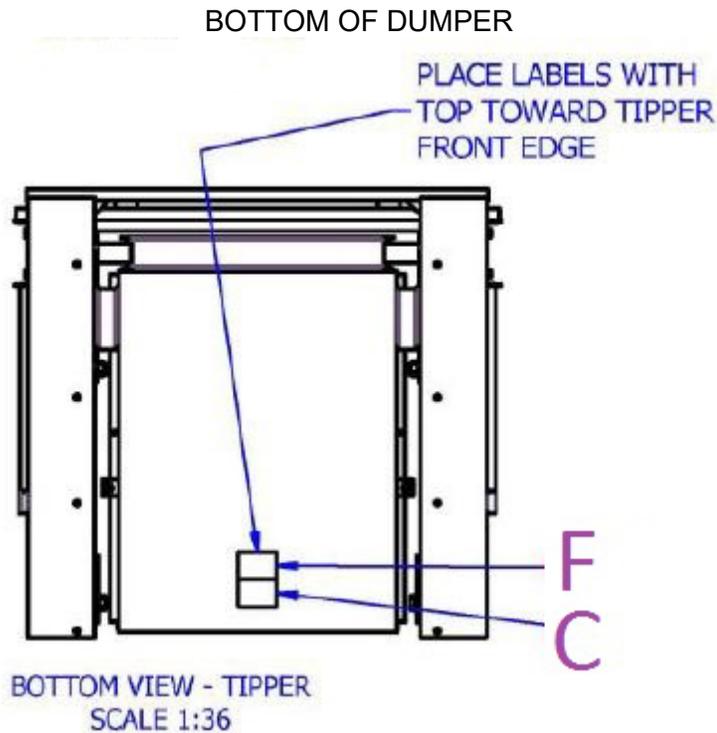


Figure 25. Dumper Bottom

REAR VIEW OF DUMPER

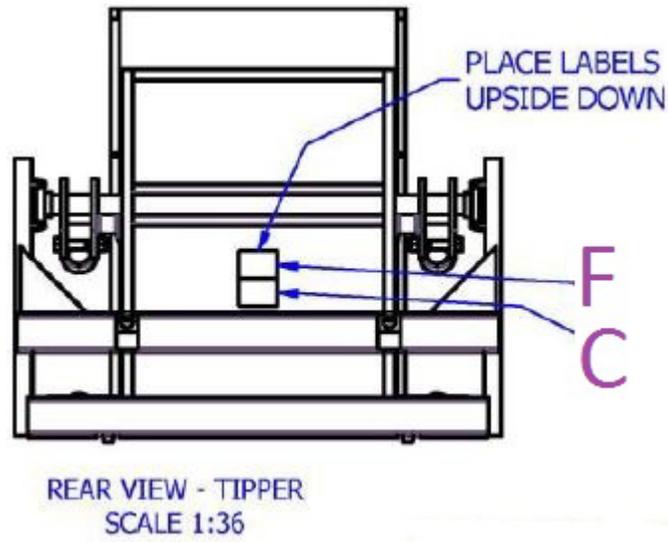


Figure 26. Rear View

FRONT VIEW OF COMPACTOR FROM EXTERIOR, CONTAINER REMOVED

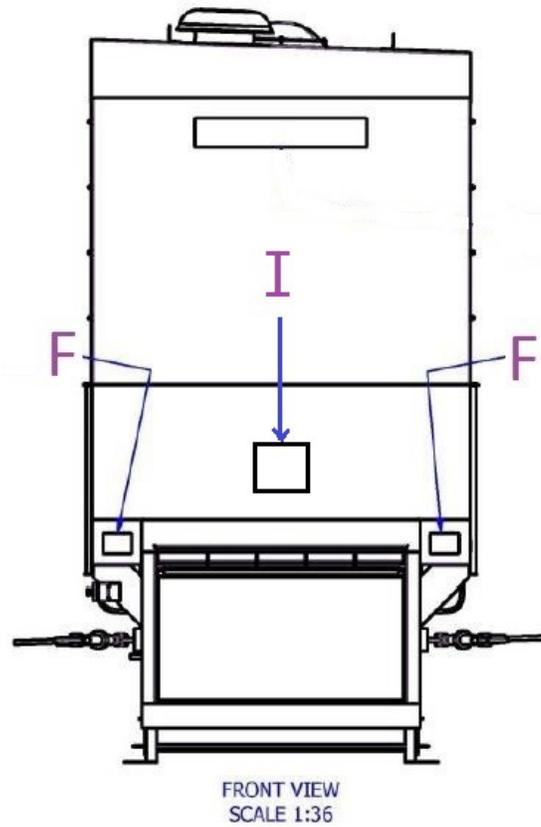


Figure 27. Front View

SIDE VIEW OF COMPACTOR FROM EXTERIOR

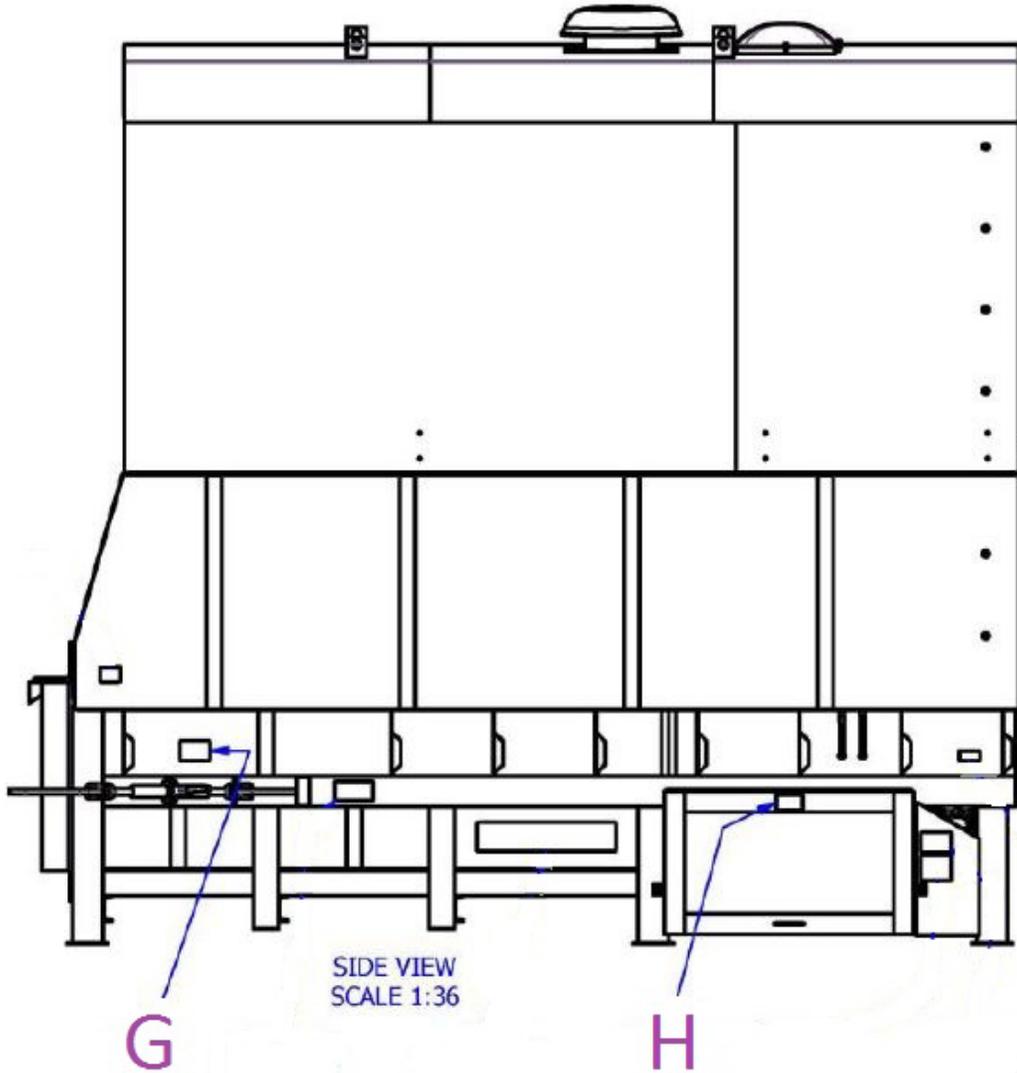


Figure 28. Side View

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ATTACHMENT 7

COMPACT MASTER CHECKLIST

Precautions and Equipment Identification

Recycling Dumper/Compactor: Equipment Maintenance Standard Operating Procedure

Rev. 03/15/2016

GENERAL SAFETY PRECAUTIONS: This equipment operates with extremely high hydraulic pressure. Failure to adhere to safe procedures while operating or being near this equipment can result in serious bodily injury including, crushing, loss of limb, and death.

- ❖ **DO NOT** operate the Recycling Dumper/Compactor without training and understanding operator controls. **DO NOT** use the dumper for any items other than those for which it is intended (i.e., recyclables). **DO NOT** overload the equipment; in general, all Mail Transport Equipment (MTE) types are acceptable for use in dumping recyclables, excluding over-the-road containers (OTRs). Always secure MTE in the dumper using the provided retention bars before dumping the recyclables. Only authorized personnel should operate the Recycling Dumper/Compactor. Federal regulation prohibits anyone under the age of 18 from operating this equipment.
- ❖ **PERFORM SAFETY CHECK** at each equipment daily startup and ensure that the safety interlocks/devices function properly, equipment is operational, and no physical damage, or obstructions are present. **DO NOT** defeat the purpose of any safety interlock/devices, or operate the equipment unless all safety devices/interlocks/guards are completely in place. Immediately report improperly operating equipment, malfunctions, and any equipment not operating safely to your supervisor, and lock out/red tag (PS4707) as necessary. **DO NOT** use the equipment until it is repaired. Contact PTR Baler & Compactor (800) 523-3654 for additional information if required. Immediately replace safety devices not in proper working condition.
- ❖ **BEWARE** of moving components. Personnel should stand away from the Recycling Dumper/Compactor while it is in operation, and should never reach into the machine. Keep clear while the dumper is moving up and down. **DO NOT** leave the dumper in the up position. Always lower the dumper to its down position when not in use; if the dumper is stuck in the up position or not fully returning to its down position, secure the area, lock out, and report to immediate supervisor. **DO NOT** attempt to service the dumper; contact authorized personnel. This condition represents a potential/unexpected crush hazard.
- ❖ **DO NOT** enter or access the compactor charge box or receiver box through the enclosure, or by climbing over or under the dumper. Contact authorized personnel to remove lodged objects from the compactor. **DO NOT** climb on the dumper, compactor, enclosure, or receiver container, or disengage the receiver box latch and binder.
- ❖ **LOCKOUT/TAGOUT** procedures must be followed for servicing, repairing, or receiver box removal/replacement, and as required by facility procedure. Follow facility lockout/tagout procedures. The Recycling Dumper/Compactor should not be restarted until personnel have exited and moved away from moving components.
- ❖ **DO NOT enter CONFINED SPACES.** Follow facility confined space entry procedures to enter confined spaces. The compactor charge box, including the space above the charge box behind the dumper cradle, and receiver container box are **PERMIT REQUIRED CONFINED SPACES**. The compactor exterior side access panels are non-permit confined spaces and may be entered by authorized personnel, if no safety hazard exists in accordance with facility confined space procedures.
- ❖ **ONLY AUTHORIZED PERSONNEL** should open and service electrical equipment, disconnects, hydraulic lines and fittings, motors, control panel, hydraulic power unit, and structural components. The Recycling Dumper/Compactor operates with high voltage and hydraulic pressure, and should only be serviced by authorized personnel. Follow facility lockout/tagout, confined space procedures, and electrical work plan for de-energized/energized equipment as required. Use PPE as necessary.

Recycling Dumper/Compactor: Equipment Maintenance Standard Operating Procedure

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- ❖ Equipment users should be familiar with applicable safety standards [American National Standards Institute (ANSI), the Occupational Safety and Health Administration (OSHA), Underwriters Laboratory (UL), the National Fire Protection Association (NFPA)]. It is recommended that ANSI Z245.2 be available.

Recycling Dumper/Compactor: Equipment Maintenance Standard Operating Procedure

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EQUIPMENT IDENTIFICATION AND SAFETY FEATURES

Equipment Components

The primary components of the equipment include the following:

- Universal Dumper: Uses 4,000 lbs. of hydraulic lift capacity with a 145-degree rotation angle to transfer USPS MTE containing recyclables into the recycling compactor.
- Stationary Compactor: Exerts 2,500 psi maximum compacting pressure to compact and consolidate recyclables received from the dumper.
- Receiver Box Container: Stores compacted recyclables for pickup; generally receiver boxes are supplied by the recycling vendor.
- Enclosure: An enclosure is typically provided for Hub Facilities with open or closed docks to shelter operators and equipment from the elements. The enclosure accommodates operations for loading and unloading MTE, allows full swing of the dumper into the compactor charge box, and includes an interior light and skylight.
- Operator Control Panel: This panel is the Operator Interface, with a power control key On/Off switch, audible and visual startup alarms; continuous-pressure dumper up and dumper down joystick lever (or button); Compactor Start button, white 80% advance warning light, 100% Full indicator light, white Safety Tripped light, black "Reset" button, Emergency Stop (E-Stop) red Indicator light, red Low Oil indicator light; and, a single-needle hydraulic pressure gauge. The Operator Control Panel location and continuous-pressure dumper up/dumper down joystick lever (or button) prevent the operator from reaching into the dumper area and provide a clear line of sight into the dumper area while operating the equipment.
- Safety Devices/Guarding/Interlocks: Safety devices are installed to shut the equipment down in certain circumstances. They include four photo eye beams that electronically guard the dumper entrance; and safety interlock switches guarding the two exterior compactor access panels, located on either side of the compactor. Audible and visible startup warning alarms accompany dumper up and down operation. The dumper will not cycle up or down unless the operator maintains continuous pressure on the controls. Audible and visible startup warning alarms also accompany compactor operations. E-Stop buttons allow the operator to stop the Dumper/Compactor at any time and in case of emergencies; they are installed on the operator control panel, at the dumper/enclosure entrance, and on the compactor exterior above the latch and binder assembly.
- Job Safety Analysis (JSA) National Template for Dock Recycling Operations: Equipment Operations, Custodial Tasks, and Maintenance Job Safety Analysis templates have been prepared so each Hub Facility can develop its local procedures.

These components are illustrated in Figures 30 through 37 on the following pages.

**Recycling Dumper/Compactor: Equipment Maintenance
Standard Operating Procedure**

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Item	Description
1	Exterior view—Enclosure (top), compactor (bottom), with receiver container, ratchet binder, and E-stop
2	Compactor exterior access side panel—one located on each side of the compactor. Safety interlocked panels with limit switch allow housekeeping underneath compactor. Perforations in panel allow observation of debris accumulations.
3	Interior view—Dumper/dumper cradle lifts MTE containing recyclables into the compactor charge box located behind the dumper.
4	Retention bars—Holes are located to allow MTE to be secured during dumper use. Use and proper placement of retention bars are required for MTE used at Hub Facility.
5	Photo eye cells (four)—Sensors guard dumper and compactor and shut down the unit if light beam is broken.
6	Enclosure mirror (if equipped)—Allows operator to monitor compactor charge box operations.
7	Operator Control Panel/Power Disconnect—Provides power service and interface line of sight to operate dumper and compactor. (See Figure 2 for more details.)
8	Dumper in “up” position—Dumps/discharges recyclables into compactor charge box. MTE must be secured using the retention bars. Emergency stops (E-stops) are on control panel, entrance to the dumper, and compactor exterior (Item 1).
9	Hydraulic power unit—Powers both dumper and compactor. May be mounted on building exterior or interior, depending on installation at specific facility.

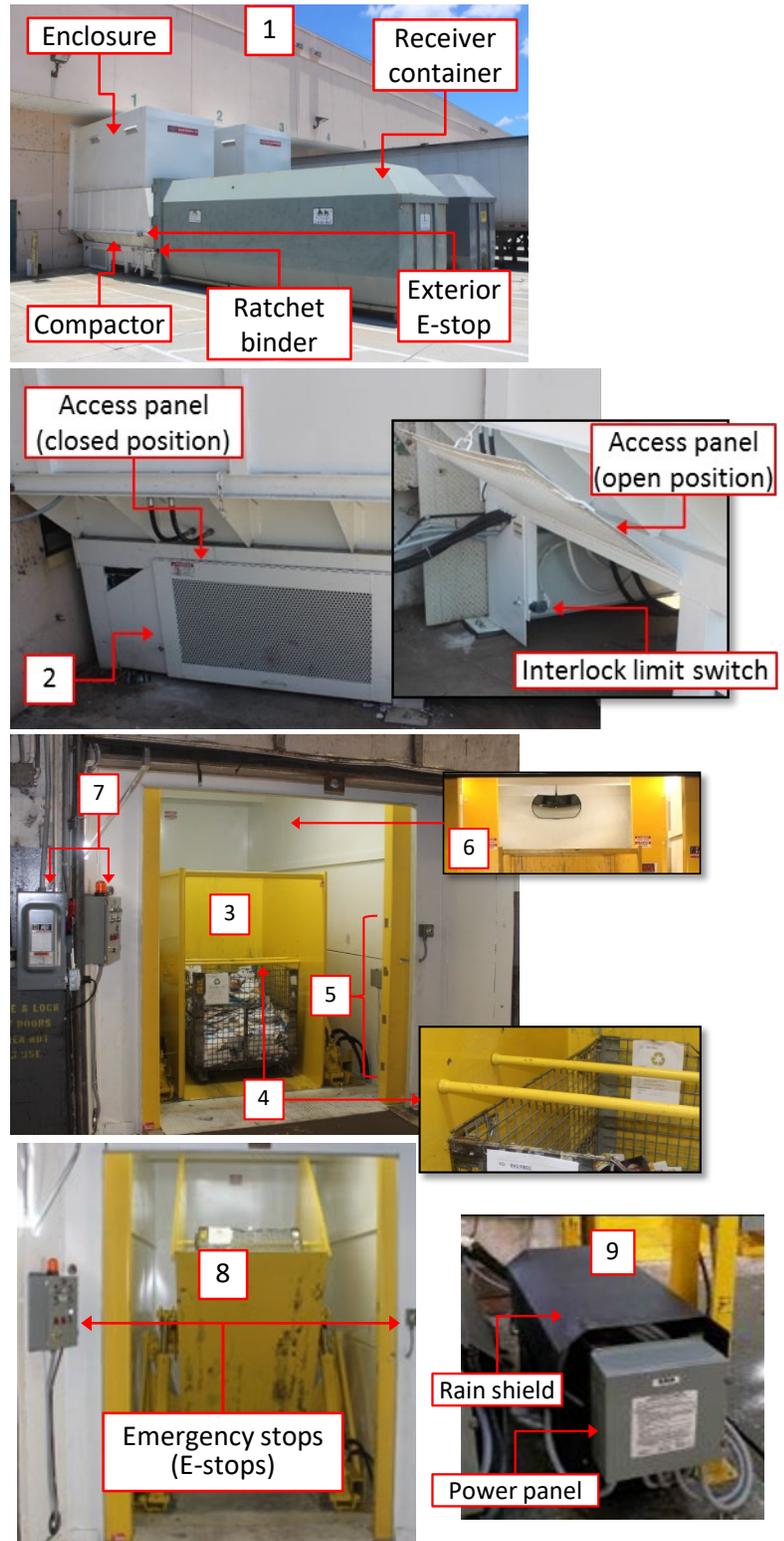


Figure 29. Recycling Dumper And Compactor. Equipment Identification

**Recycling Dumper/Compactor: Equipment Maintenance
Standard Operating Procedure**

Rev. 03/15/2016

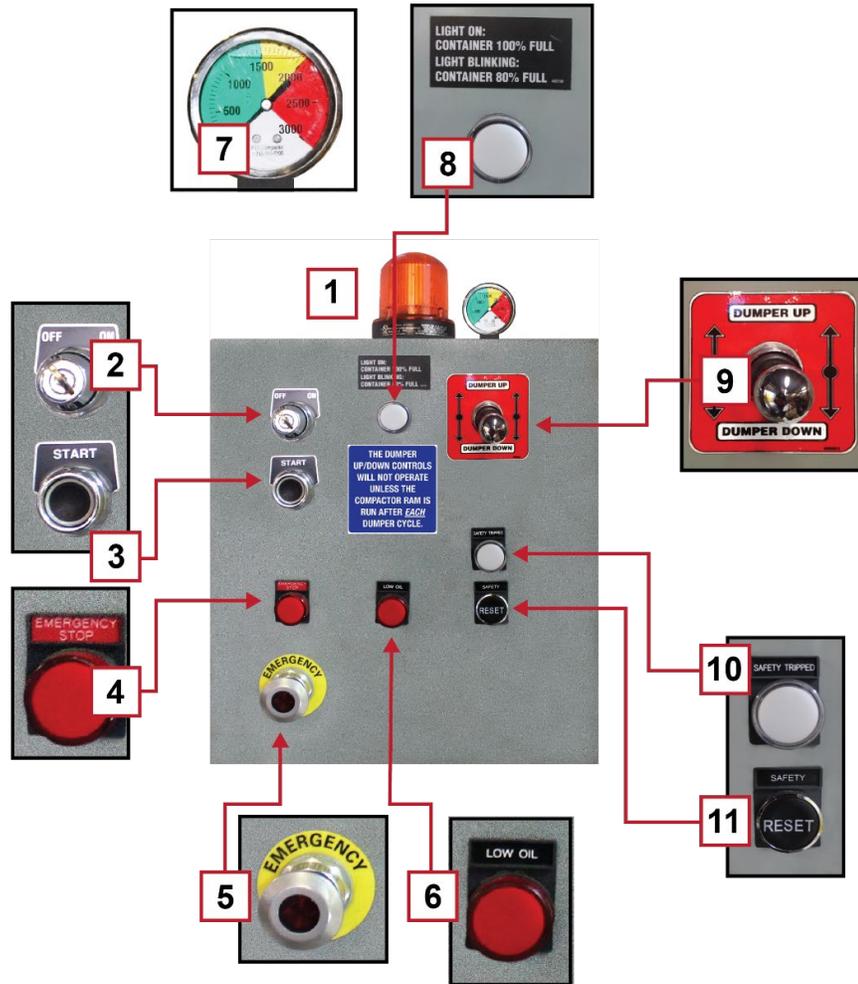


Figure 30. Operator Control Panel—Recycling Dumper/Compactor

Item	Control	Description	Item	Control	Description
1	Safety Visible/Audible Alarm	Sequence activated at Dumper/Compactor startup	6	Low Oil Light (Red)	Low oil pressure—shuts down Dumper/Compactor
2	Power On/Off	Key turns power on or off	7	Pressure gauge	Indicates compactor ram pressure
3	Compactor Start Button	Activates compactor ram to cycle	8	80%/100% Full Light (White)	Advance warning light blinks at 80%; lights at 100% full, based on pressure setting
4	Emergency Stop Light (Red)	Lights when any E-stop is pushed	9	Dumper Up / Down Joystick	Requires continuous upward or downward pressure to operate
5	Emergency Stop (E-stop)	Safety—Push/pull activated emergency equipment stop switch	10	Safety Tripped Light (White)	Disables unit when light is on (safety interlock feature)
			11	Safety Reset Button	Clears Safety Tripped light

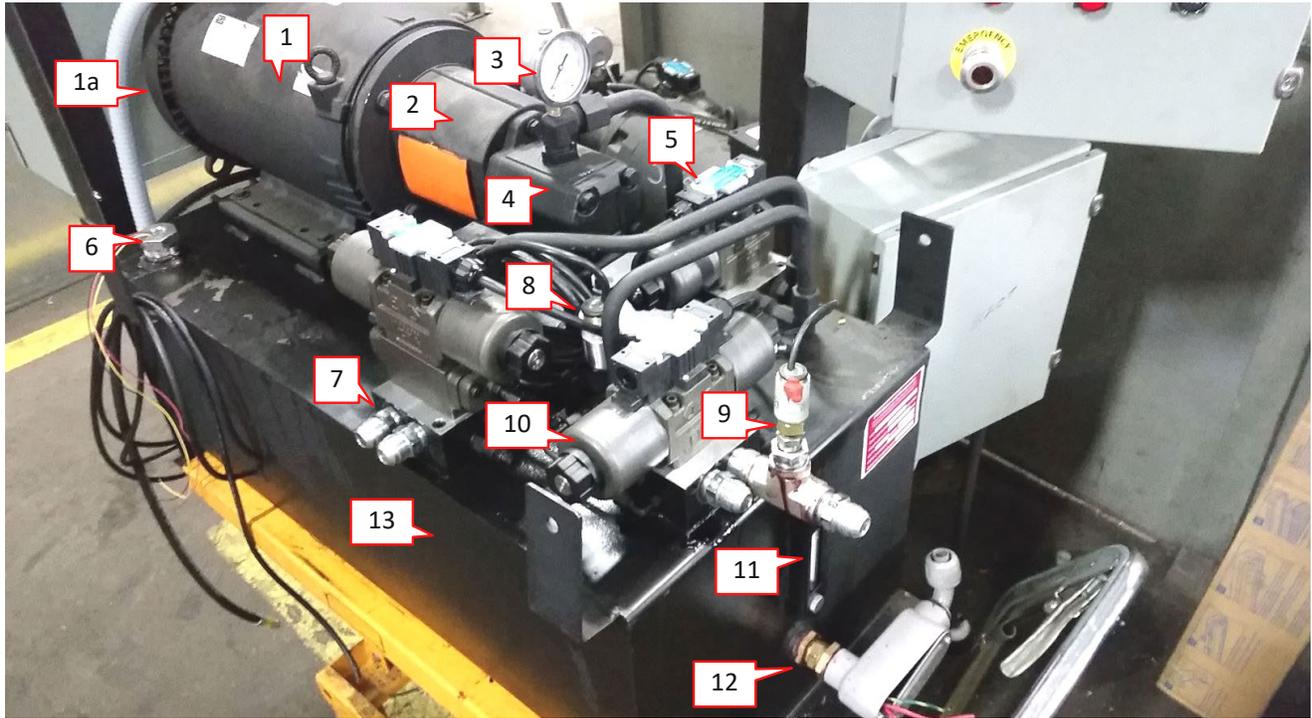


Figure 31. Hydraulic Power Unit—Major Components

Item	Hydraulic Unit Major Components
1	20 hp motor (3-Phase, tri-voltage, high-torque hydraulic motor)
1A	Motor fan housing Improper
2	Lovejoy coupler housing
3	Pressure gauge (non-colorized)—hydraulic pump
4	14.5 gpm pump
5	Dumper/compactor diverter valve
6	Low oil shutdown
7	Dumper up/down diverter valves
8	Compactor 100% full pressure switch
9	Compactor 80% advance warning indicator pressure switch
10	Compactor forward/back diverter valve
11	Sight gauge (hydraulic fluid oil)
12	Hydraulic tank drain plug with heater junction
13	Hydraulic oil tanks (30 gallon capacity)

**Recycling Dumper/Compactor: Equipment Maintenance
Standard Operating Procedure**

Rev. 03/15/2016

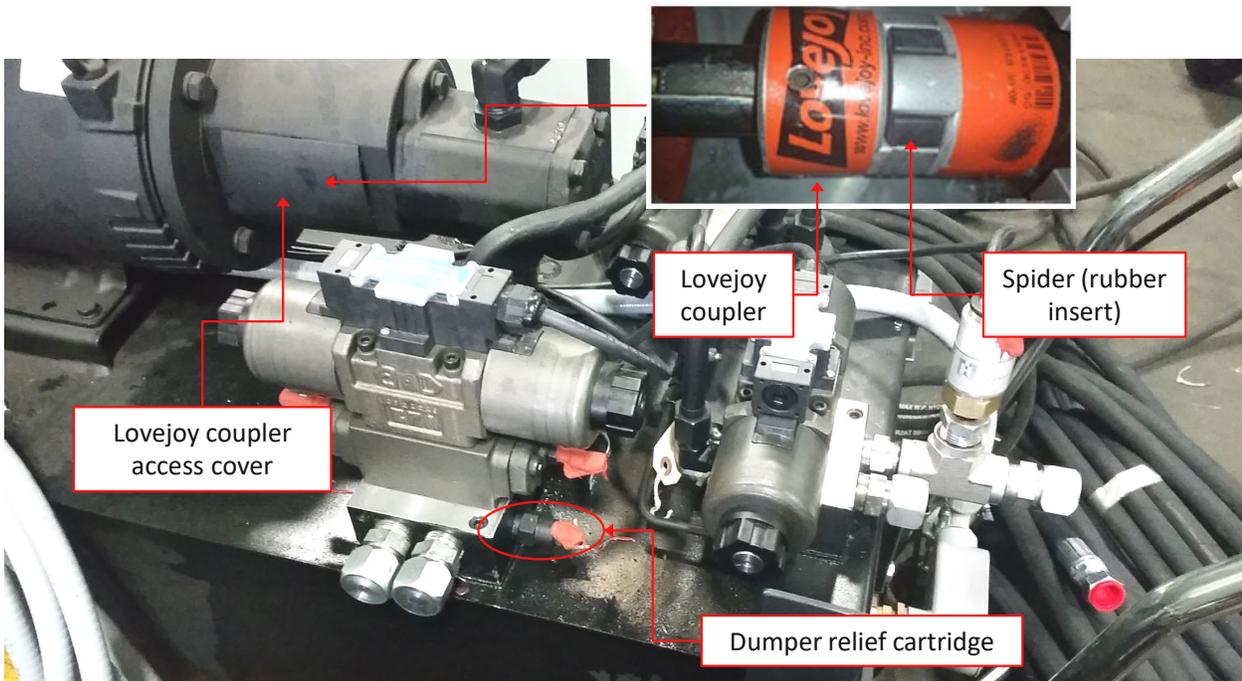
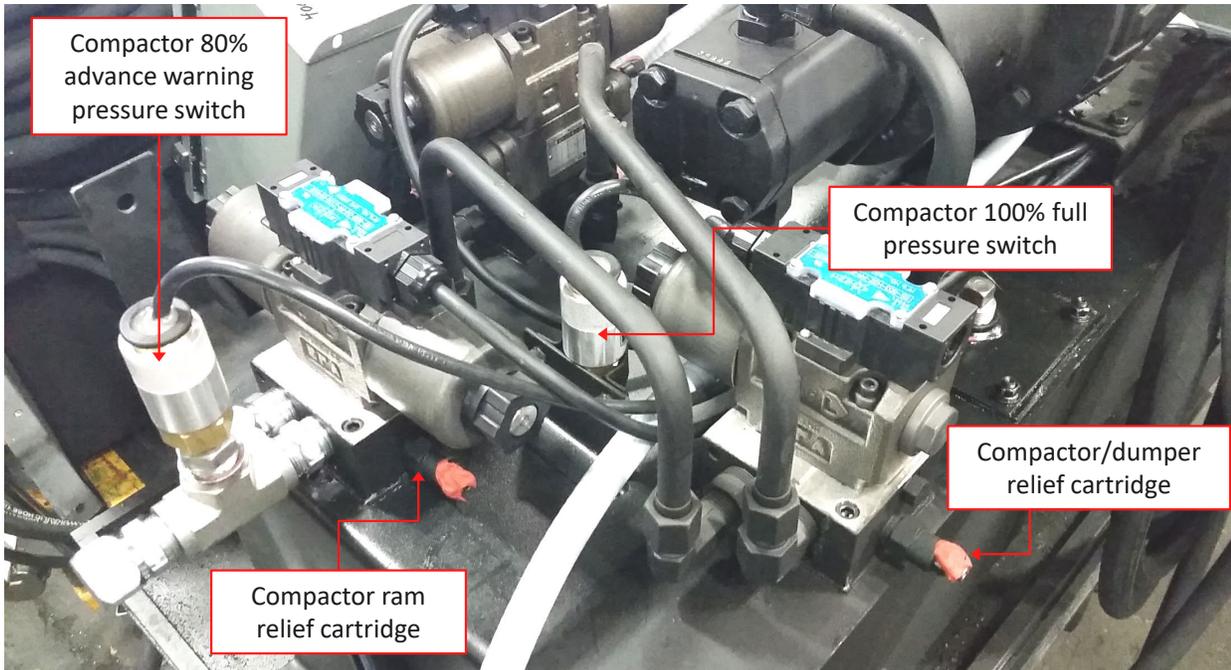


Figure 32. Hydraulic Power Unit—Detail Components

**Recycling Dumper/Compactor: Equipment Maintenance
Standard Operating Procedure**

Rev. 03/15/2016

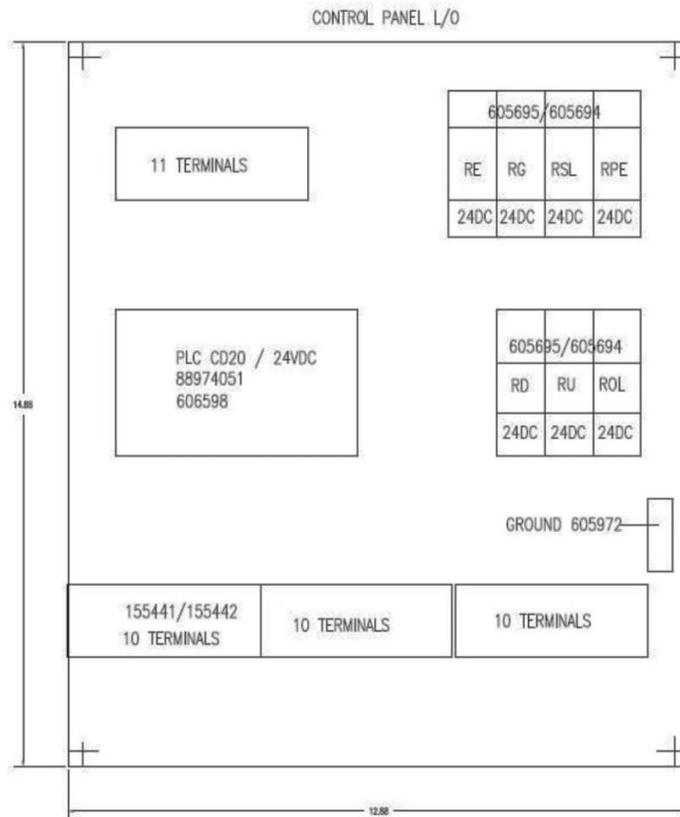
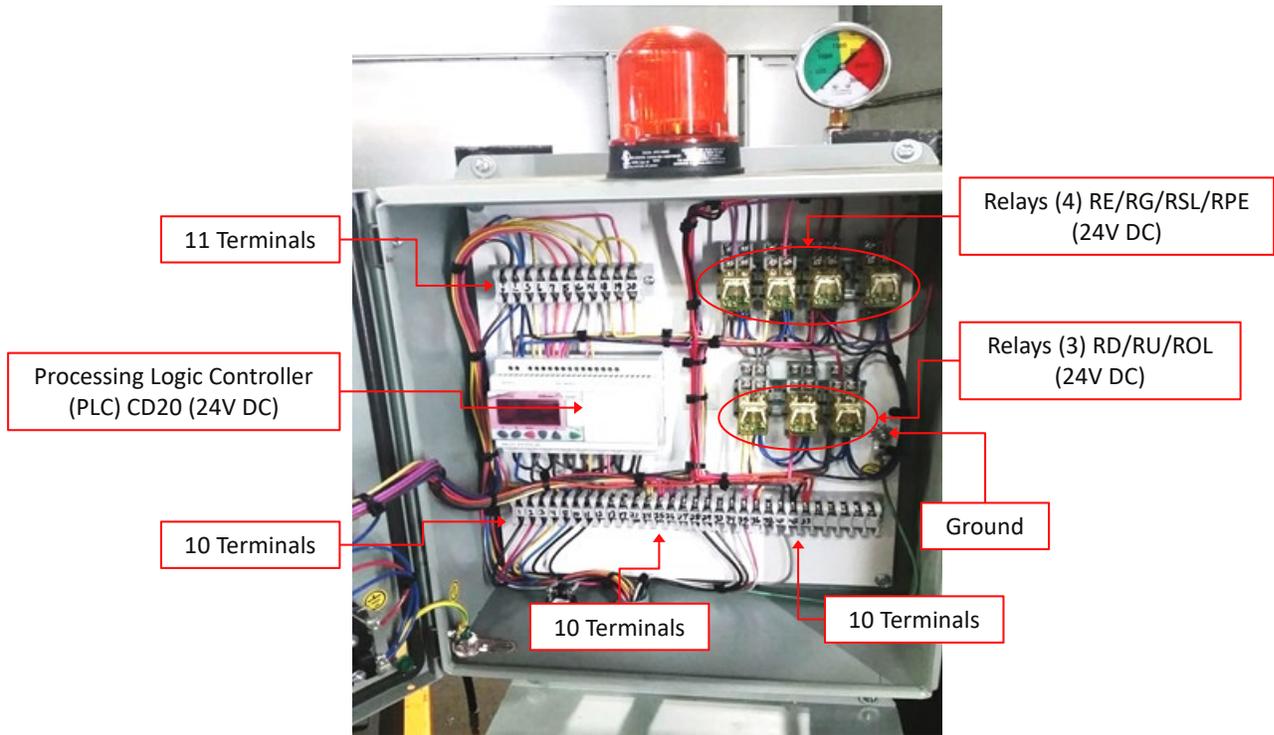


Figure 33. Operator Control Panel-Interior And Wiring Block Diagram

**Recycling Dumper/Compactor: Equipment Maintenance
Standard Operating Procedure**

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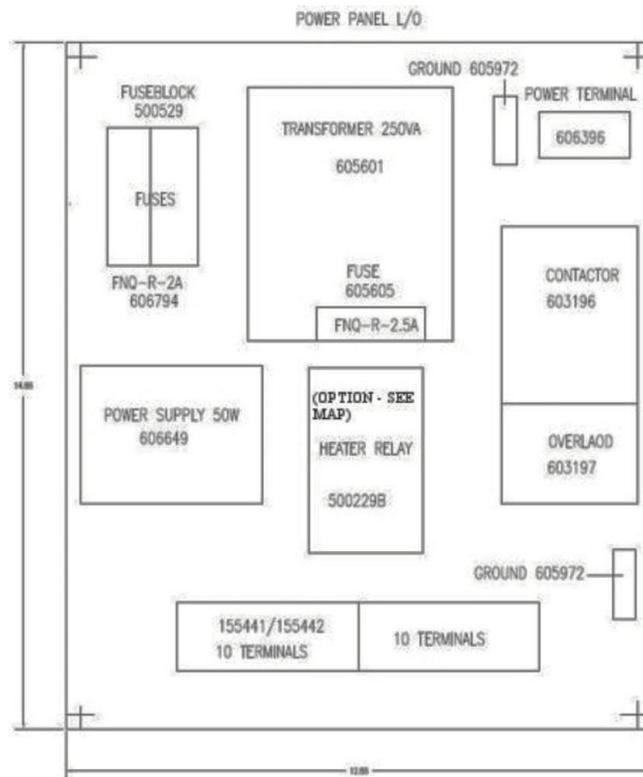
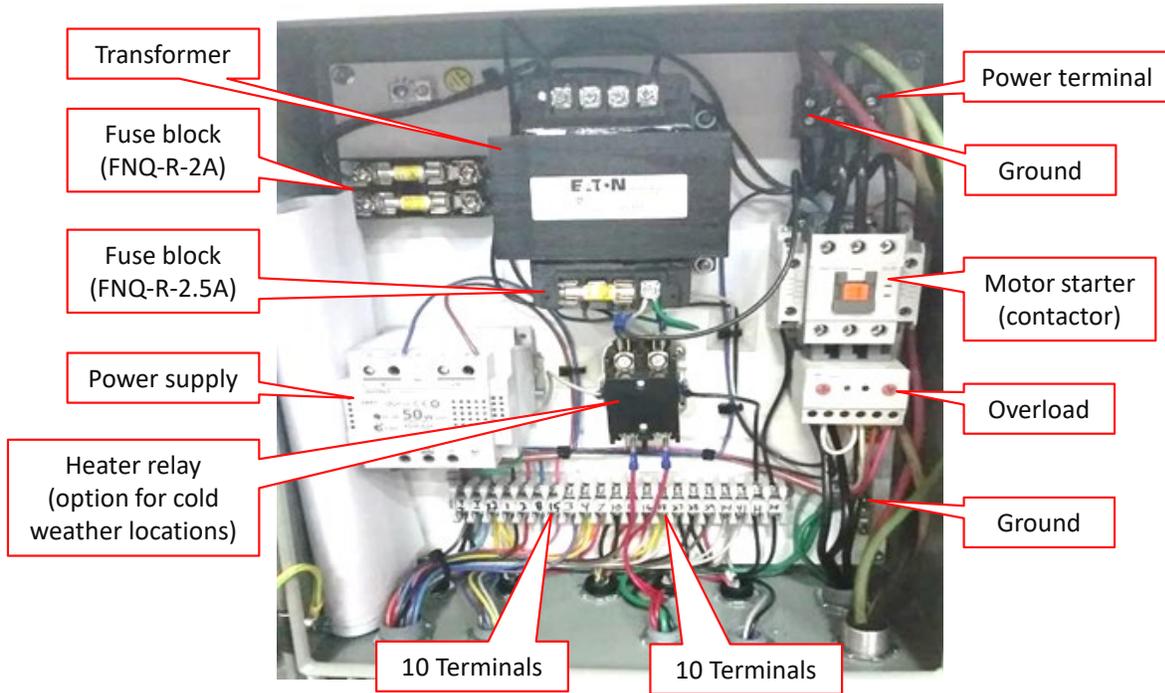


Figure 34. Hydraulic Power Unit-Power Panel-Interior And Wiring Block Diagram

Recycling Dumper/Compactor: Equipment Maintenance Standard Operating Procedure

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Ratchet Binder, Guide Rail and Skid Plates

1. **Ratchet binder:** Assembly used by the recycling vendor driver to attach securely the compactor receiver box to the compactor. There is a ratchet binder on each side of the compactor. USPS employees should not engage or disengage the ratchet binders, but may perform preventive maintenance such as greasing.
2. **Guide rails:** Assist the recycling vendor driver with placing the compactor receiver box into proper position when attaching to the compactor.
3. **Skid plates:** Steel plates that protect the concrete surface and facilitate receiver box removal and placement.

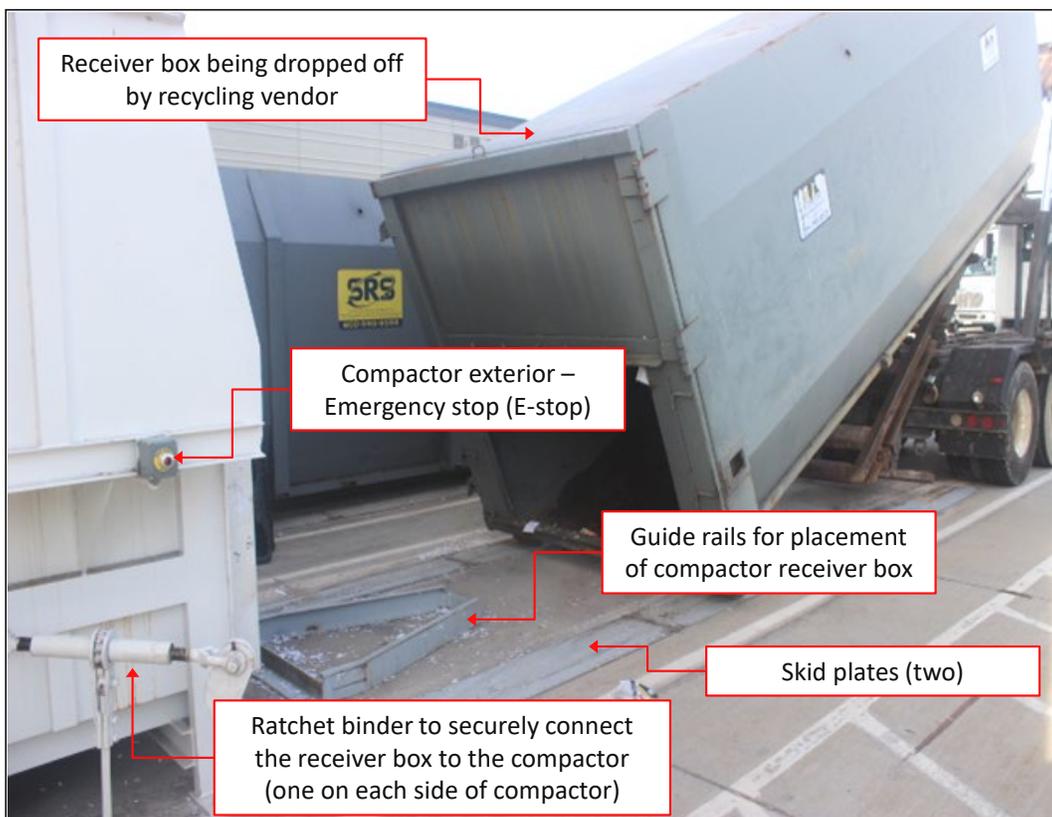


Figure 35. Ratchet Binder, Guide Rails, And Skid Plates

Recycling Dumper/Compactor: Equipment Maintenance Standard Operating Procedure

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Compactor Ram Wiper Scraper

The ram wiper scraper inside the compactor acts to scrape off any residual paper as the ram retracts (FIGURE 36). This allows the paper to fall back into the charge box and minimizes paper wedging into gaps within the charge box and falling underneath the compactor. If the scraper bends or begins to wear, excessive residual paper will accumulate underneath the compactor. The scraper does not completely eliminate residual paper from accumulating underneath the compactor but minimizes the effect. Weekly cleaning and housekeeping is still required under the compactor as part of the weekly maintenance route. Refer to the O&M Manual if required for Ram Scraper Assembly drawing BC406953 at: <http://blue.usps.gov/sustainability/national-recycling-operation.htm>; scroll to “Recycling equipment maintenance guidance & resources.”



Figure 36. Compactor Ram Wiper Scraper