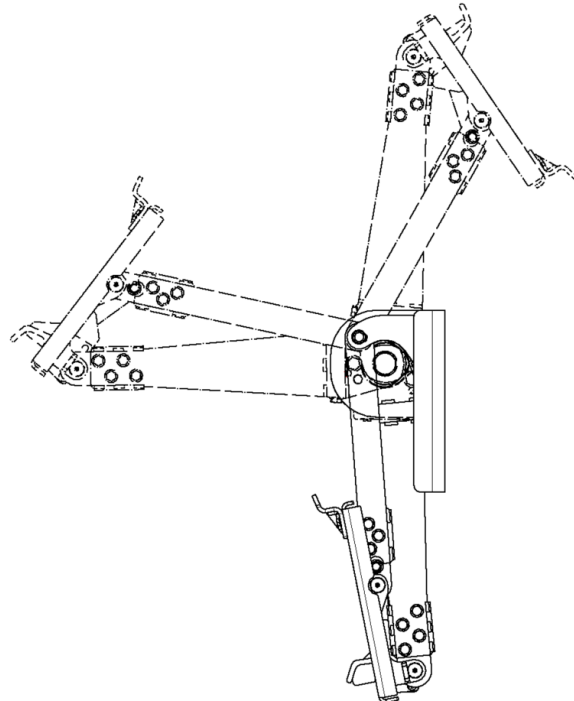
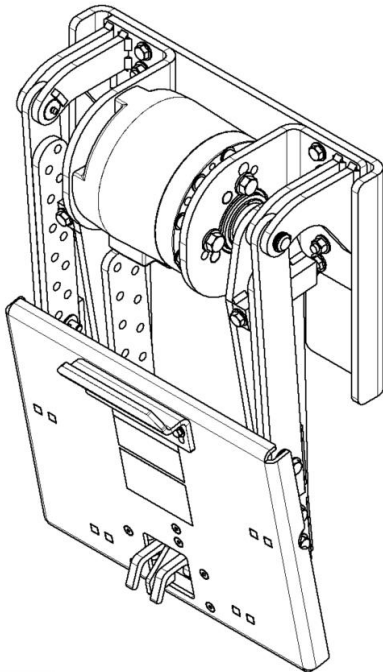




ROTAC[®]

TIPPERS

FROM MICROMATIC LLC



ROTAC WASTE CART TIPPER

Part Numbers: A010240

Model: LONG ARM

Installation, Service, and Use Manual

WARNING

Safety decals must be replaced anytime they are damaged, missing, or cannot be read clearly. If you require safety decals, contact Micromatic LLC at (260) 589-2136 for no-charge replacement safety decals.

WARNING

All hydraulic pressure must be relieved from the hydraulic system prior to removing any components from the system. Failure to comply can result in serious injury or death. If you have any questions concerning relieving the hydraulic pressure from the system, contact Micromatic LLC at (260) 589-2136.

WARNING

Never operate the hydraulic system if a leak is present. Serious injury may result. NEVER inspect for hydraulic leaks with bare hands or other exposed body parts. At a minimum, wear leather gloves prior to inspecting for leaks and use cardboard or wood. If leaks are present, relieve pressure and allow system to cool prior to servicing.

WARNING

While the engine is OFF, the hydraulic actuator in the tipper could be holding the tipper at a raised position. If a hydraulic line is removed or pressure is released, gravity may allow the tipper to drop to its rest position and may cause injury. All workers and personnel must remain clear of these areas when working on or operating the tipper.

WARNING

Hydraulic systems are hot. **DO NOT TOUCH!** Serious personal injury or death may result from hot oil. When you have completed working on the hydraulic systems, thoroughly clean any spilled oil from the equipment. Do not spill any hydraulic fluid on the ground. Clean any hydraulic fluid from your skin as soon as you have completed maintenance/repairs.

WARNING

Follow ALL lockout procedure as defined in this manual, as well as all lockout procedures defined by OSHA or other regulatory bodies, including your employer and truck manufacturer.

SAFETY

CAUTION:

- Do not operate waste truck packing blade while the tipper is in the dump or raised position. The packing blade may damage the waste cart tipper.
- Do not cover the brake/safety/indicator lights on the vehicle with the mounting plate, the tipper unit itself, or any other related hardware.
- Safe working procedures must be followed at all times. Always wear correct safety gear.
- Follow OSHA Lockout/Tagout procedures during all installation, repair, or maintenance.
- Inspect operation of waste cart tipper daily before starting route.
- Ensure all persons are clear of waste cart tipper before and during operation.
- Never operate a damaged waste cart tipper.
- Never reach into a waste container or place hands or arms in harm's way during operation.
- Never lift damaged carts with missing or broken parts.
- Never lift an overloaded cart.
- Never use waste cart tipper to lift items other than properly designated carts.
- Never loosen any hydraulic fittings or hoses unless the system is off and depressurized.
- Never weld on truck unless a ground is in place, the battery is disconnected, and no flammable objects are present.
- Do not remove the stop fasteners. They serve a functional purpose to limit the rotation of the actuator and extend service life.

INSTALLATION PREPARATION

- 1.) Please read this manual completely and familiarize yourself with all of the necessary procedures. Contact Micromatic LLC at (260) 589-2136, ext. 3211, if there is a question.
- 2.) To install the waste cart tipper onto the truck to the installation dimensions stated in this service manual requires an empty truck parked on a smooth and level surface.
- 3.) Waste cart tippers can weigh over 300 pounds. During installation, always use a hoist to lift and secure the lifters into place and to prevent accidents.
- 4.) During installation, secure the waste cart tipper with a chain or suitable lifting strap to prevent accidents.
- 5.) Reference 26-18-1001 for the waste tipper hydraulic tap-in kit user manual.

TWO YEAR LIMITED WARRANTY

- Seller warrants that Buyer will receive good title to the products and that the products received by initial purchaser will be free from defects in materials and workmanship consistent with trade practice quality control for a period of two (2) years from date of shipment, provided:
 - The product has been installed and used within defined specifications.
 - No repair or alteration has occurred other than by Seller's personnel.
 - No misapplication or negligent use has transpired in the judgement of Seller's personnel.

- THERE ARE NO OTHER WARRANTIES THAT EXTEND BEYOND THE WARRANTY HEREIN CONTAINED and no statement, oral or written, inconsistent with this warranty is binding on the Seller. No agent, employee, or representative of the Seller has any authority to bind the Seller to any confirmation, representation, or warranty concerning the equipment that is the subject of this document beyond that specifically included in the written quotation. Extension of, or amendment to, this warranty can be made only in writing by a duly authorized officer of the Seller.
- This warranty is made IN LIEU OF ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED, including any warranty of MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE.
- Seller's remedy for breach of any warranty shall be limited as defined below.
 - Seller agrees to repair or replace, without cost, any part of the product manufactured by the Seller that, for the warranty period as specified above, may prove, upon Seller's inspection, to be defective in material or workmanship and not commercially acceptable.
 - Seller shall have the option to inspect any parts claimed to be defective either at Seller's place of business or Buyer's place of manufacture. No return shall be accepted unless Seller has had an opportunity to inspect the product or has expressly authorized the return.
 - Under no circumstances shall Seller be liable for consequential or incidental damages resulting from any breach of warranty even though Seller may have been advised of the possibility of such damages, nor will Seller's liability for breach of any warranty exceed the purchase price of the product less the value of the equipment at time of acceptance.
 - Any claim for breach of Seller's warranty herein contained must be made in writing, addressed to the Seller, and set forth in sufficient detail to permit identification of the defect. Any claim for breach of warranty must be made within twenty-four (24) months after breach of warranty. If not made within said twenty-four (24) month period, it shall be conclusively deemed to have been waived.
 - The remedies for breach of warranty herein contained shall be exclusive.

TIPPER SPECIFICATIONS *Note: Product specifications subject to change without notice.*

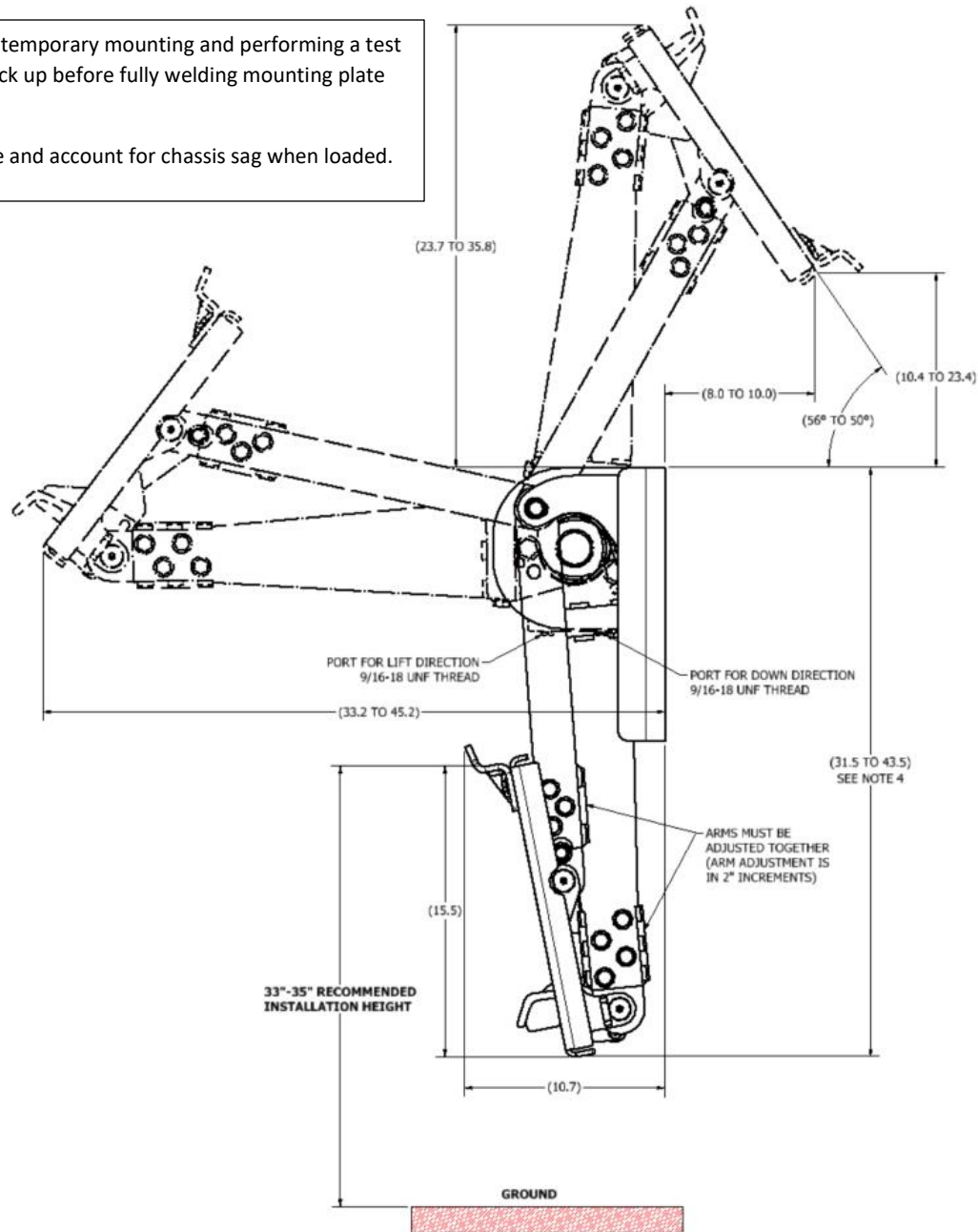
Tipper Part Numbers	A010240 (with Weld Plate)
Model Name	LONG ARM
Mounting Weld Plate Part Number (Included with A010240)	A010233
Cart Compatibility	ANSI Z245.60 Type B-US Two-Bar Carts Lift to bar dimension 14 1/2 – 15 1/4"
Tipper Bar Compatibility	YES
Cycle Time	6-8 second cycle (up and down)
Finish	Durable paint, High Visibility Color
Hydraulic Port Threads	9/16-18 UNF-2B SAE Straight Threads
Hydraulic Actuator Type	Rotary Vane
Hydraulic Flow Rate Required	3.7 – 4.9 GPM
Recommended Pressure Setting	1,300 psi Minimum
Rated Maximum System Pressure Recommended Pressure Setting	3,000 psi 2,200 psi
Hydraulic Displacement	38.40 in ³
Rated Lifting Weight Capacity	400 lb Continuous use,
Dump Angle	50-56° (depending on arm position)
Mounting Height Recommended: Capability:	Mount and adjust arms so tipper saddle is 33"- 35" from ground 49"-61" from top of mounting plate to ground
Ground Clearance	Mounting height dependent (see diagrams)
Dry Weight	A010240 = 300 lbs
Design and Manufacture Location	USA, Berne Indiana
Warranty	2-year limited warranty

Note: Product specifications subject to change without notice.

TIPPER DIMENSIONS – SHOWN IN THREE (3) POSITIONS

Recommend temporary mounting and performing a test fit and can pick up before fully welding mounting plate into place.

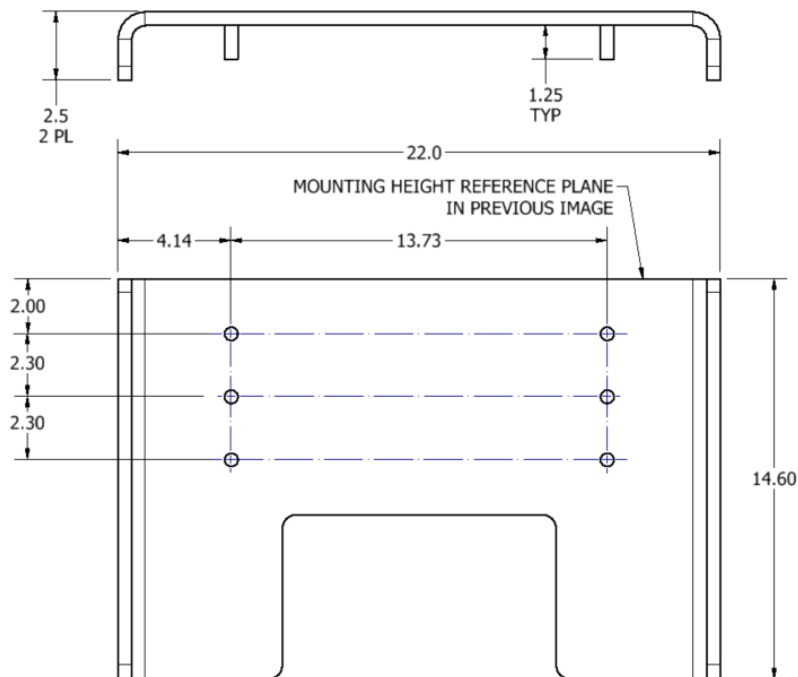
Note: Be sure and account for chassis sag when loaded.



- Each waste cart manufacturer has slightly different dimensions for contact points.
- When carrying out tipper installation onto truck, account for height changing when the truck is in loaded and unloaded conditions. Expect approximately 1" of sag.
- During installation, verify operation throughout full range of motion and ensure waste cart is securely retained during the dump cycle and released when dropped to the ground. If necessary, adjust the lifting saddle, arm position, and/or position of tipper on the truck.

INSTALLATION:

WELDING PLATE FOR MOUNTING A010240 includes welding plate



NOTES:

- It is recommended to temporarily tack the mounting weld plate into position enough to support the weight of the tipper and then perform a trial pick up and dump cycle to confirm operation is proper.
- Welding plate mounting should be backed up by a rigid structure strong enough to support the tipper and loading. It is okay for the plate to extend above truck sill.
 - If necessary, weld supplemental structure for additional plate support.
- Stud threads require ½-13 UNC grade 8 nuts to mount tipper to weld plate.
 - Recommended installation torque: **60 ft-lb with thread lock applied.**
- Proper mounting distance from ground required to ensure proper function.
- **WARNING:** Never weld on truck unless a ground is in place, the battery is disconnected, and no flammable objects are present.
- **WARNING:** A flow control device **MUST** be used to control the flow of hydraulic fluid which affects the speed of the actuator. Running without a flow control device can be dangerous and lead to damage to the tipper and waste can.
 - Recommended speed is a cycle of 6-8 seconds.
 - Micromatic sells a flow control – see Service Parts section.
- **WARNING:** The hydraulic plumbing **MUST** have a pressure relief valve installed in the hydraulic circuit on the actuator pressure lines to protect the actuator from damage from pressure spikes.

TIPPER MOUNTING OPTIONS

The standard tipper base mounting plate is equipped with one mounting pattern:

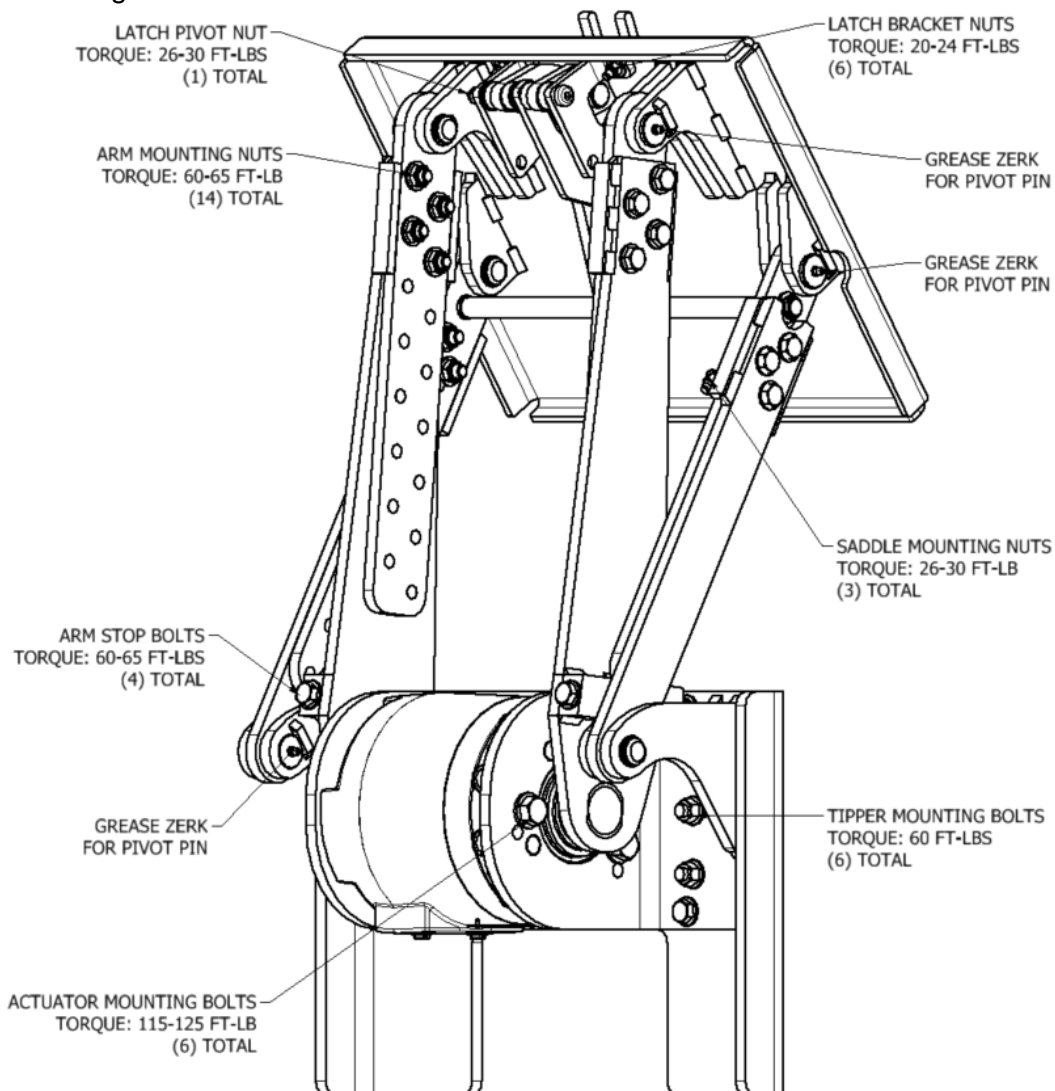
MAINTENANCE

Lubrication

- Pivot joints are equipped with six (6) easy access grease zerk fittings.
- Main pivot joints should be greased monthly to flush contaminants from pivot joint.

Inspection Prior to Each Use

- Fasteners should be inspected to ensure all are in place and tight – See Torques below.
- Stop bolts serve a functional purpose to limit the rotation of the actuator. Make sure they are in place and do NOT remove them.
- Inspect all welds for cracks and repair or replace as necessary.
- Hydraulic oil and oil filter on the waste truck should be checked periodically and changed according to the manufacturer-recommended intervals.

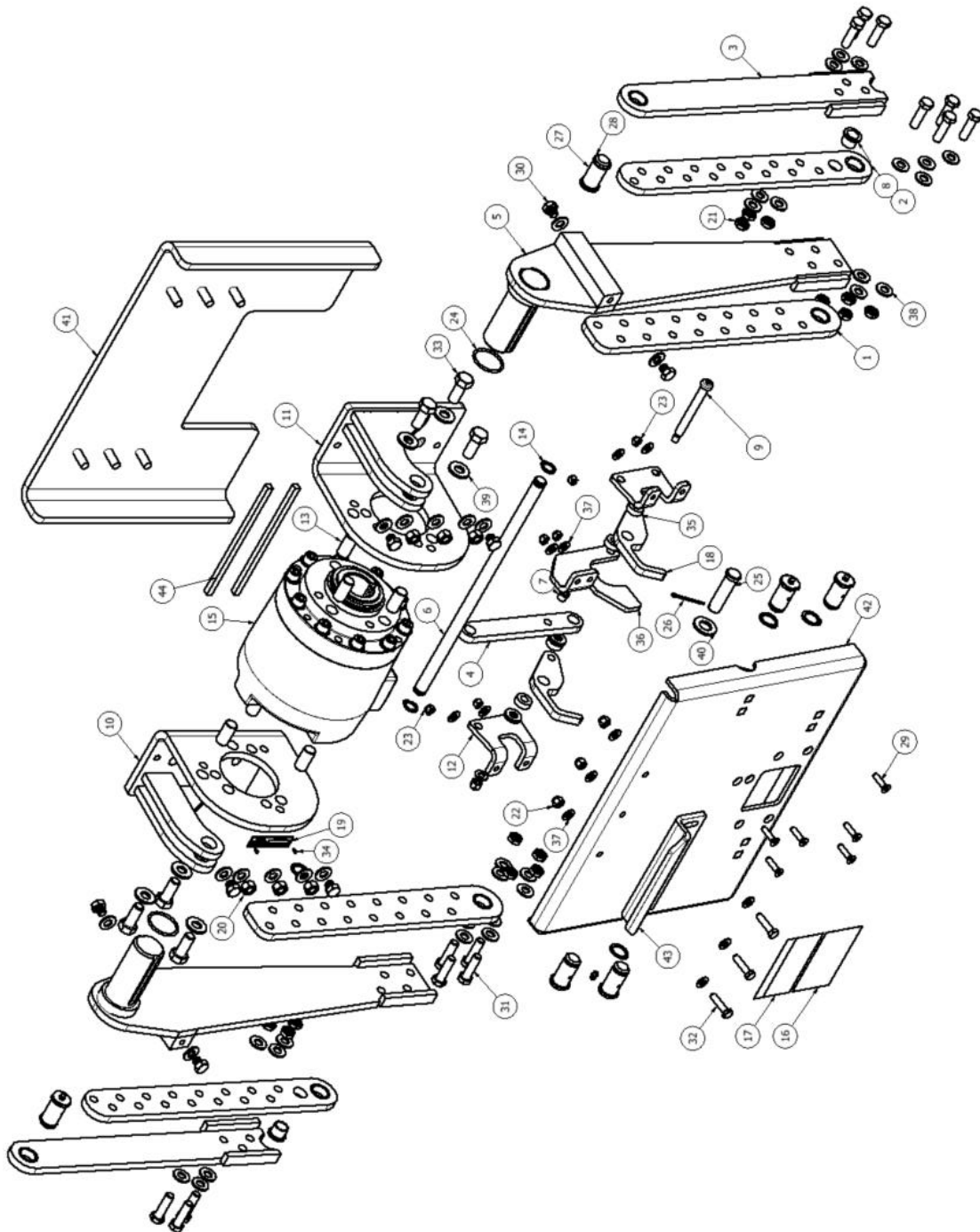


SERVICE PARTS KITS

(IF YOUR PARTS DIFFER FROM THOSE SHOWN, PLEASE CONTACT MICROMATIC LLC. CUSTOMER SUPPORT AT (260)589-2136 EXT. 3211 FOR PROPER REVISION OF REPAIR MANUAL)

BILL OF MATERIAL			
ITEM	QTY.	PART NUMBER	DESCRIPTION
1	2	A010241	ARM, ASSEMBLY, BTM LIFT, TIPPER, LONG ARM
2	2	A010243	ARM, ASSEMBLY, BTM ROTATING, TIPPER, LONG ARM
3	2	A010242	ARM, ASSEMBLY, TOP ROTATING, TIPPER, LONG ARM
4	1	A010237	ARM, IDLER, TIPPER, LONG ARM
5	2	A010239	ARM, LIFT, WELDMENT, TIPPER. LONG ARM
6	1	A010236	BAR, LATCH, TIPPER, LONG ARM
7	1	A010244	BEARING, FLANGED, 0.5" OD, 0.377" ID, 1/16" FLG, MDS
8	2	A010065	BEARING, FLANGED, OIL EMBEDDED BRONZE, 0.88"OD, 0.75"ID
9	1	26-12-2670	BOLT, SHOULDER, 0.5000"OD, 4"LG, 3/8"-16 THREAD
10	1	A010235	BRACKET ASSY, MOUNTING, LH, TIPPER. LONG ARM
11	1	A010234	BRACKET ASSY, MOUNTING, RH, TIPPER, LONG ARM
12	2	A010199	BRACKET, LATCH, TIPPER BEAST
13	6	26-12-0129	DOWEL PIN 3/4 DIA 1-1/2 LG.
14	2	26-11-5755	EXTERNAL RETAINING RING 0.75ID
15	1	450687-S-B	HS-015-1V-Z-B-Z-A-Z-SPEC END MTG, 0.376" DBL KEY, PORTS
16	1	26-11-0337	LABEL, NAME, ROTAC WASTE TIPPER
17	1	26-11-0338	LABEL, WARNING, ROTAC WASTE TIPPER
18	2	A010238	LATCH, TIPPER, LONG ARM
19	1	26-11-0336	NAME PLATE - ROTAC & HYDROAC
20	6	26-12-2621	NUT, HEX, 1/2"-13, GRADE 8, ZINCPLATED
21	14	26-12-2699	NUT, NYLOCK, 1/2"-13, GRADE 8, ZINCPLATED, HEX, JAM
22	4	26-12-2697	NUT, NYLOCK, 3/8"-16, GRADE 8, ZINCPLATED, YELLOW
23	6	26-12-2696	NUT, NYLOCK, 5/16"-18, GRADE 8, ZINCPLATED, YELLOW
24	2	26-09-0602	O-RING-224, 1.734ID X .139CS
25	1	A010217	PIN, CLEVIS, .75" OD, 2.50" USABLE LEN
26	1	26-11-5758	PIN, COTTER, 1/8 X 1 1/2, EXTENDED PRONG SQUARE CUT TYPE, CORROSION RESISTANT STEEL
27	6	A010098	PIN, PIVOT, ASSEMBLY, TIPPER
28	6	26-11-5772	RING, EXTERNAL RETAINING, 1.00ID"
29	6	A010069	SCREW, FHCS, 5/16"-18, 1.25"LG, ZINCPLATED, CLEAR
30	8	26-12-2684	SCREW, HHCS, 1/2"-13, 0.500"LG, 18-8 STAINLESS STEEL
31	14	26-12-2664	SCREW, HHCS, 1/2"-13, 1.75"LG, GRADE 8, Zn-Al
32	3	26-12-2698	SCREW, HHCS, 3/8"-16, 1.5"LG, GRADE 8, ZN-AL
33	6	26-12-2688	SCREW, SHCS, 5/8"-11, 1.5"LG, GRADE 8, ZN-AL
34	2	26-12-0138	SCREW, TYPE U DRIVE, METALLIC, 0.114"OD, 0.25"LG, PLATED
35	4	26-12-2675	SPACER, PLASTIC, 0.51"ID, 1.00"OD, 0.38"THK
36	1	A010201	STOP, CAN, TIPPER BEAST
37	13	26-12-2631	WASHER, FLAT, 0.41"ID, 0.81"OD, 0.06" THK, Zn, YELLOW
38	46	26-12-2630	WASHER, FLAT, 0.53"ID, 1.06"OD, 0.09"THK, ZINCPLATED
39	6	26-12-2700	WASHER, FLAT, 0.63"ID, 1.31"OD, Zn-AL
40	1	A010159	WASHER, FLAT, 0.81"ID, 1.47"OD, Zn-AL
41	1	A010233	WELDMENT, MOUNTING PLATE, TIPPER, LONG ARM
42	1	A010232	WELDMENT, PLATE, FACE, TIPPER, LONG ARM
43	1	A010189	WELDMENT, SADDLE, TIPPER BEAST
44	2	26-11-3569	KEY, 3/8" X 3/8" X 9", STEEL, ZINC PLATED

- SEAL KIT FOR ACTUATOR = 450687-K1
- HYDRAULIC FLOW CONTROL VALVE = 26-11-3562 (sold separately from tipper)
- ACTUATOR REPAIR MANUAL = REPAIR MANUAL – HS-1.5 THRU HS-015



- Refer to repair procedure Repair Manual - HS-1.5 THRU HS-015 to carry out maintenance on the 450687-S-B rotary actuator with seal kit 450687-K1. Please contact Customer Service or go to <http://www.rotactippers.com>.
- For the latest information and updates on this user manual and Rotac Tippers, please go to <http://www.rotactippers.com>.