

SCORPION™

DADEE  MFG
A CAMION HOLDINGS LLC COMPANY

AUTOMATED SIDE LOADER



Operations | Parts | Maintenance Manual



OPERATIONS | PARTS | MAINTENANCE MANUAL



DaDee Manufacturing works closely with operators, mechanics, and owners of each unit sold. Attention to safety, innovation, and environmental impact requires a relationship that extends beyond the delivery of any Scorpion ASL. We value your comments and recommendations. Ongoing improvements in the product as well as in this product documentation are often the direct result of the continued relationship.

Together, we are partners in our commitment to excellence.

SCORPION Automated Side Loading Refuse Collection Unit

Designed and Built By:

DADEE  MFG
A CAMION HOLDINGS LLC COMPANY

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This manual is a searchable document

REVISIONS

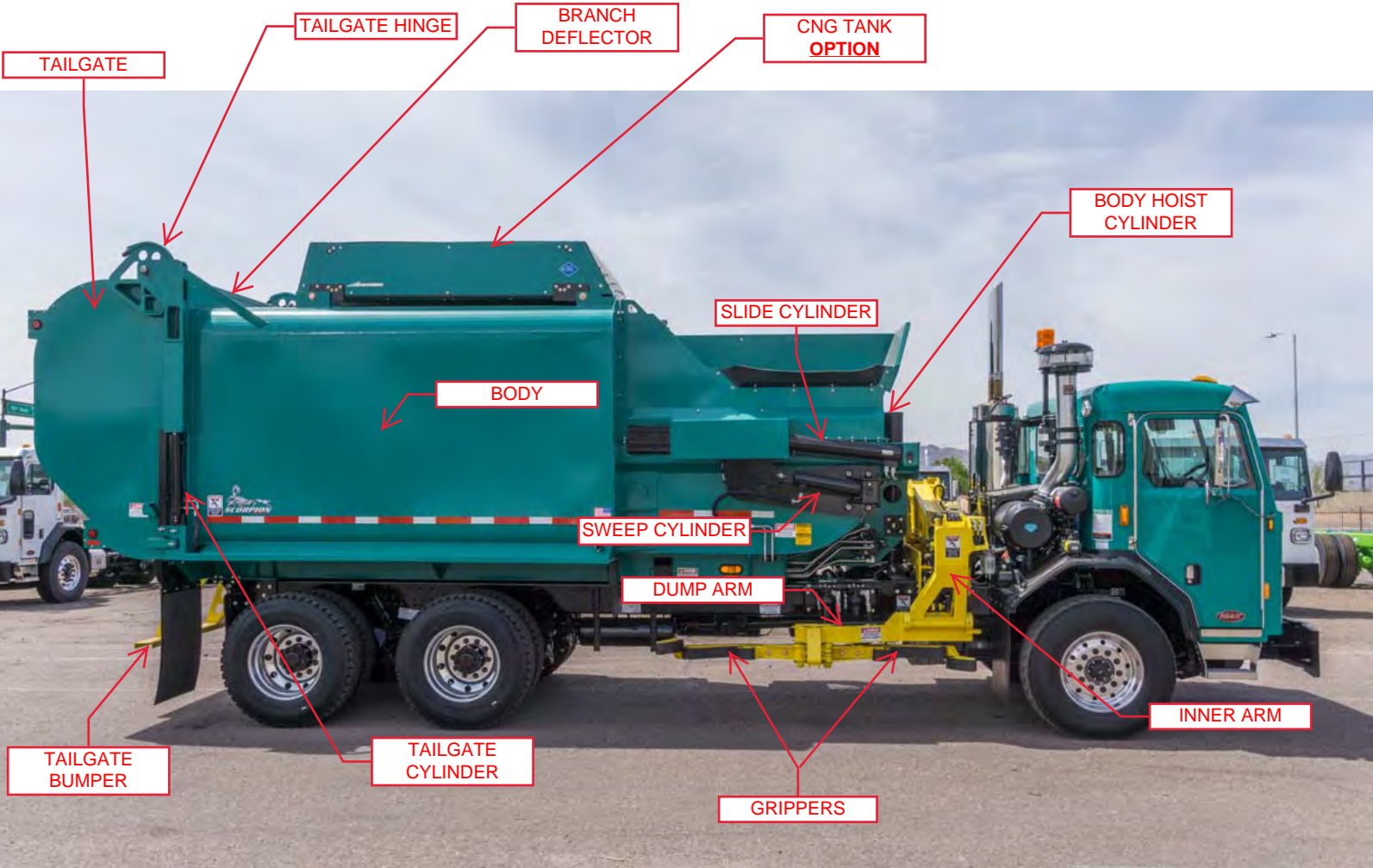
Date:	Section:	Page:
Nov-17	[4.1] Lubrication Information	57
Nov-17	Remove Old Part Numbers [Replace with New]	Entire Manual

SECTION 1 - INTRODUCTION

DESCRIPTION	SECTION
Definitions	1-1
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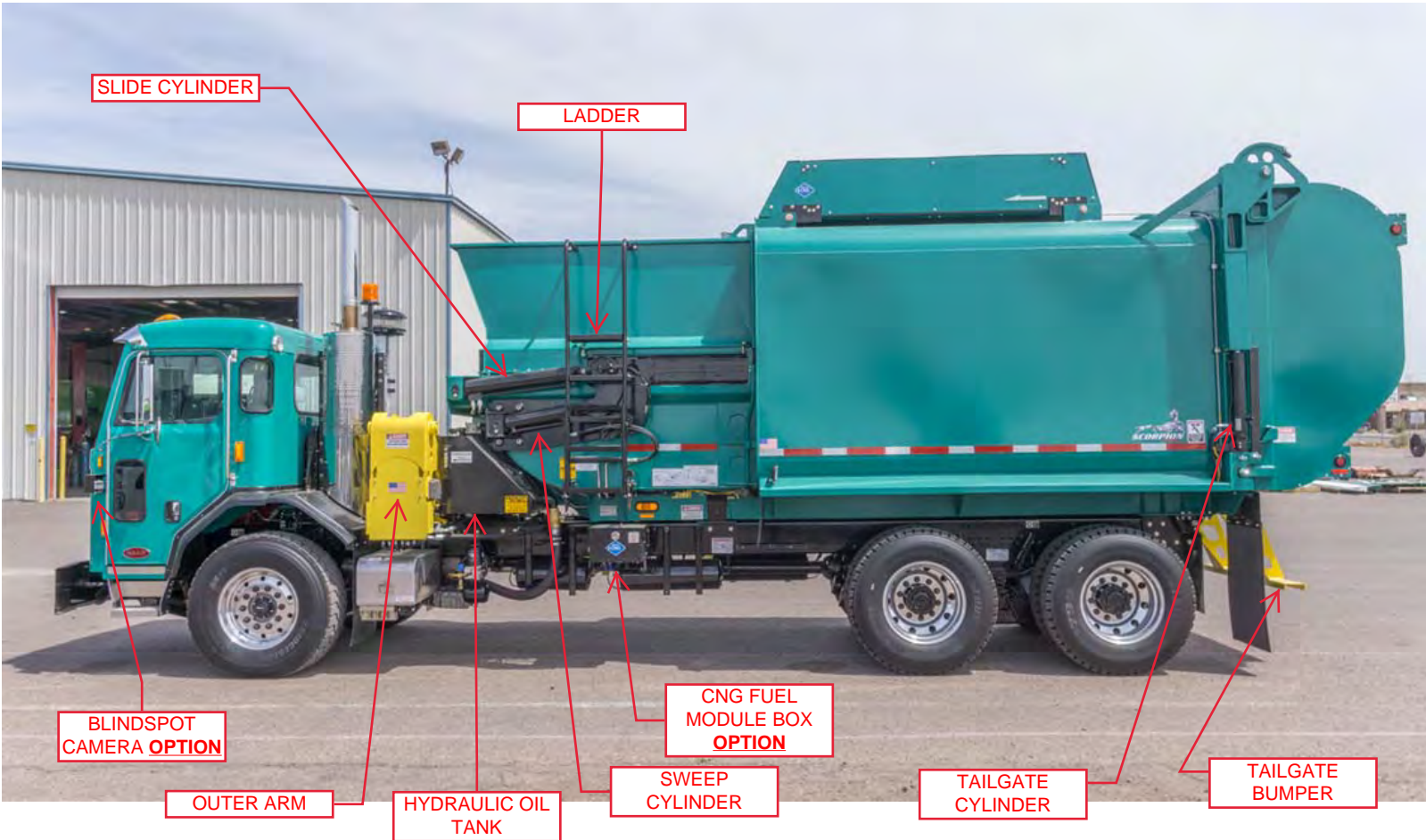
DEFINITIONS

Curbside View



DEFINITIONS

Streetside View



SPECIFICATIONS**CAPACITY**

Body Capacity	20, 24, 27, 30, or 33 Cubic Yards (Standard Sizes [Diesel])
Hopper Capacity	Not Less than 3 Cubic Yards
High Density Loading of Body	750 LBs. Per Cubic Yard
Lift Mechanism Capacity	2000 LBs

CYCLE TIMES

Arm Cycle Time	8 Seconds @ 750 RPM
Packer Cycle Time	20 Seconds @ 750 RPM 12 Seconds @ 1400 RPM

PACKING MECHANISM

Slider Cylinders	4.0" dia bore x 2" rod x 29" stroke
Sweep Cylinders	4.0" dia bore x 2" rod x 14.38 stroke

TAILGATE MECHANISM

Double Acting Cylinders	3" dia bore x 1.50" rod x 18.50" stroke
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LIFTING MECHANISM

In-Out Cylinders	2" dia bore x 70" stroke
Grab Cylinder	2.5" dia bore x 8" stroke
Raise Cylinder	2.5" dia bore x 33" stroke
Dump Cylinder	2.5" dia bore x 8" stroke

SERVICE HOIST MECHANISM

Body Hoist Cylinder	6.5" dia bore x 114" stroke
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HYDRAULICS

Hydraulic Pump	Tandem Vane Pump
Arm Pump Pressure	2700 PSI
Packer Circuit Pressure	2800 PSI
Hydraulic Oil Reservoir	Tank Full Capacity of 55 Gallons
Hydraulic Return Line Filter	10 Micron
Hydraulic Tank Suction Strainer	100 Mesh (140 Micron)
Packing Cycle Controls	Electronic over Hydraulic
Hydraulic Valves	Solenoid Controlled Electronic over Hydraulic
Body Controls	Electronic over Hydraulic

ELECTRICAL

Body Functions	Electric In-Cab Control Monitor
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LIGHTING

All Lighting including Strobe and Work Lights	LED
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STANDARD EQUIPMENT

- Not less than 3 cubic yard hopper capacity
- Patented Self Cleaning "Slide-Sweep" Mechanism
- Proven 2,000 pound capacity lift arm
- Joystick controls
- Proportional arm function
- Packer is a continuous dump cycle
- Simplistic "IQAN" electronic control system
- Smooth shift "Cushioned" independent arm functions
- Above chassis frame mounted hydraulic tank
- 10 micron hydraulic fluid filtration
- Outside frame accessible hydraulic shut off valve
- ANSI and FMVSS compliant
- One year warranty
- Zero VOC "powder coating" paint process-White Standard
- Complete L E D lighting package
- Rear and hopper L E D work lights
- Two color camera system w/ flat monitor
- Rear fenders
- Center mounted L E D stop light on tailgate
- Dual overhead rear L E D oval strobe lights
- Because there is no need for clean out doors for access behind the packer panel the SCORPION ASL DOES NOT create a Confined Work Space as defined by OSHA #3138-017

ORDERING PARTS

When ordering parts for a specific unit, always include the serial number on your order. Order parts by description, part number and the quantity desired. For warranty repair instructions please see Warranty Section 1-5.

OPTIONS

<u>PART NUMBER</u>	<u>DESCRIPTION OF OPTIONS</u>
GRIPPER	
AA01451	GRIP ARM, 35-90, COMPLETE
AA01574	GRIP ARM, 60-300, COMPLETE
AA05156	GRIP ARM, 45-300, COMPLETE
AA03310	GRIP ARM, SAME DAY, 30-90
PUMP DRIVES	
FM	FRONT MOUNT PUMP
PTO_CS	CLUTCH SHIFT PTO
CONTROLS	
AM03154	CONTROL, LST
AM03155	CONTROL, LST, DUAL
AM05160	MOUNT, JOYSTICK, ADJUSTABLE
MOUNTING	
AM01901	REAR, MUD FLAPS
AM01131	REAR, CENTER, MUD FLAP
AM01290	FRONT OF REAR AXLE MUD FLAP
AM05164	COOLER HYDRAULIC FLUID
AM02303	HEATER HYDRAULIC TANK
AM05166	HYDRAULIC TEMP SENSOR
AM05167	HYDRAULIC OIL LEVEL SWITCH
AM05168	HYDRAULIC OIL LEVEL SWITCH DUAL
AM05169	RETURN LINE FILTER SWITCH
HA03438	HYDRAULIC QUICK DISCONNECT 16M 12M
HA03986	HYDRAULIC QUICK DISCONNECT 16F 12F
AM05170	SIMPLE TAG AXLE KIT
AM05171	ADVANCED TAG AXLE KIT
AM05172	STEERABLE TAG AXLE KIT
AM05173	AIR RIDE SUSPENSION
AM05174	THROTTLE BLOCK KIT
AM05175	COLD WEATHER PACKAGE
AM05176	2 COLOR CAMERAS WITH 7" MONITOR
AM05177	3 COLOR CAMERAS WITH 7" MONITOR
AM05178	4 COLOR CAMERAS WITH 7" MONITOR
AM05179	ADDITIONAL CAMERA AND CABLE
AM05180	UPGRADE TO 7" DVR MONITOR
AM05181	UPGRADE TO 8.4" DVR MONITOR
AM05182	CAMERA ENCLOSURE
AM05183	CAMERA HEATED SHUTTER
AM05184	ARM CAMERA TRIGGER
AM05185	BACK UP OBJECT RADAR DETECTION
HC05293	CUSHIONED GRIP CYLINDER
AM05390	ELECTRONIC GRIP PRESSURE CONTROL
AM05259	PROGRAMMING, SHAKE FEATURE

OPTIONS (continued)

COLOR

AM05186	PAINT OR DECAL COLOR STRIPE
AM05187	CUSTOM POWDER COAT COLOR MATCH
AM05188	ADVERSE WEATHER PRE TREATMENT
AM05189	BODY TRANSIT DECALS
AM05190	CUSTOM SIDE GRAPHICS (96X48)

FUEL

AM05191	ROOF TOP CNG 60 DGE
AM05192	ROOF TOP CNG 75 DGE
AM05193	ROOF TOP CNG 92 DGE
AM05194	SADDLE MOUNT CNG
AM05195	METHANE DETECTOR

OTHER BODY OPTIONS

WP02705	PACKER EXTENSION
WB05196	RETAINING TEETH ON FLOOR
AM01395	BROOM, SHOVEL OR RAKE HOLDER (FRAME)
WB05197	BROOM, SHOVEL OR RAKE HOLDER (BODY)
WT05198	TAILGATE SIDE VIEW TABS
HH05199	ARM AND BODY HOSE FIBER GUARD
HH05200	ARM AND BODY HOSE SPIRAL GUARD
AM05201	ROADWAY SIGN FRAMES
AM05202	RIGHT HAND CONVEX MIRROR
AM05203	TOW HOOKS (PAIR)
AM05300	KIT, HOSE, W/SHEATHING, SCORP

LIGHTING

AM05204	OVERHEAD OVAL DUAL FLASHING LED STROBES
AM05205	THREE LIGHT FLASHER, BRAKES
AM05206	THREE LIGHT FLASHER, SYSTEM ON
AM05207	STROBE, BEACON, ABOVE CAB, AMBER
EL05152	WORK LIGHT, LED
AM05208	WORK LIGHT, LED, HOPPER
AM05209	WORK LIGHT, LED, ARM, RH
AM05210	WORK LIGHT, LED, BEHIND CAB, HIGH
AM05211	WORK LIGHT, LED, BEHIND CAB, LOW
AM05212	WORK LIGHT, LED, FENDER MOUNT
AM05213	WORK LIGHT, LED, UPPER LIGHT BAR
AM05214	DUAL WORK LIGHT, LED, BEHIND CAB, HIGH
AM05215	ADDITIONAL LICENSE PLATE LIGHT
AM05216	E-STOP, PALM BUTTON, ILLUMINATED
AM05217	DUAL FRONT STROBE LIGHTS

OPTIONS (continued)

ADDITIONAL

AM01201	TOOLBOX 18X18X24 STEEL-BLACK
AM02316	TOOLBOX 18X18X36 STEEL-BLACK
AM03408	TOOLBOX 18X18X30 STEEL-BLACK
AM03891	TOOLBOX 18X18X18 STEEL-BLACK
AM03402	TOOLBOX 18X18X24 STEEL-WHITE
AM03899	TOOLBOX 18X18X36 STEEL-WHITE
AM03246	TOOLBOX 18X18X24 ALUMINUM
AM05218	TOOLBOX BRACKET-FRAME
WA03439	TOOLBOX BRACKET-TAILGATE
WM01819	CONE HOLDER
WB04187	CHOCK HOLDER BODY MOUNT (MESA)
AM05038	CHOCK HOLDER FRAME MOUNT
AM05219	5 LB FIRE EXTINGUISHER W/MOUNT BRKT
AM05220	10 LB FIRE EXTINGUISHER W/MOUNT BRKT
AM05155	20 LB FIRE EXTINGUISHER W/MOUNT BRKT
AM05222	TRIANGLE REFLECTOR KIT W/BRACKET
AM01526	TRIANGLE KIT WO/ BRACKET
AM05288	DEBRIS SHIELD CHASSIS

CHASSIS

AM05223	6 WHEEL TIRE PRESSURE KIT
AM05224	10 WHEEL TIRE PRESSURE KIT
AM05225	12 WHEEL TIRE PRESSURE KIT
CONSULT	ZONAR TRACKING AND DIAGNOSTICS HARDWARE
AM02580	ZONAR CSA 2010 INSPECTION HARDWARE
AM02507	ZONAR 2020 MOBIL PLATFORM

MAINTENANCE

AM02765	DIAGNOSTICS TESTER
EH02763	DIAGNOSTICS TESTER ADDITIONAL HARNESS
CONSULT	SOFTWARE INTERGRATED DIAGNOSTICS TESTER
AM02863	CONTROLS SIMULATOR
AA02978	AUTO LUBE SYSTEM-ARM ONLY

WARRANTY/TRAINING

AM05226	2 YEAR BODY AND ARM STRUCTUAL WARRANTY
AM05227	5 YEAR PACKER BLADE WARRANTY
AM05228	7 YEAR HOPPER FLOOR WARRANTY
AM05229	3 YEAR CYLINDER WARRANTY

ORDERING OPTIONS

When ordering parts for a specific unit, always include the serial number on your order. **Some options may have been ordered as original equipment.** Order options by description, part number and the quantity desired. For warranty repair instructions please see Warranty Section 1-5.

MANUFACTURER’S LIMITED WARRANTY

SCORPION™ Automated Side Loader
SCORPION™ FE Automated Side Loader
MANTIS™ Automated Front Loader

DaDee Manufacturing, L.L.C. (“DaDee”) warrants for a period of 12 months from the date placed in service by the first purchaser (“Warranty Period”), each refuse collection body (being the SCORPION Automated Side Loader, SCORPION FE Automated Side Loader, and the MANTIS Automated Front Loader (each referred to as a “Loader”), and all component parts (excluding hydraulic pumps) manufactured by DaDee to be free from defects in material and workmanship when operated for the purpose of which it was designed. This limited warranty (“Warranty”) only extends to the first owner and will not extend to any third party. This Warranty covers all defects in material and workmanship arising or occurring as a result of normal and ordinary use of the Loader. In the event a defect covered by this Warranty occurs, DaDee will repair or replace the Loader in accordance with this Warranty.

For the first registered owner of a Loader (“Owner”) to be eligible to make claims under this Warranty, prior to any obligation of DaDee to honor any claim pursuant to this Warranty, Owner must complete, sign, date and return to DaDee directly the original ownership registration form that includes the original in service date of the applicable Loader.

This Warranty is effective for the Warranty Period so long as the Loader has at all times been properly serviced, and maintained as described in the applicable Loader’s Parts and Operations/Maintenance Manual (“Manual”). Failure to at any time comply with operations and maintenance procedures prescribed by DaDee from time to time may, in DaDee’s sole discretion, invalidate this Warranty in its entirety and invalidate any individual warranty claim.

This warranty is expressly limited to, in DaDee’s sole discretion, the repair or replacement of any defective component or part of the Loader by an authorized DaDee dealer, authorized original equipment manufacturer (“OEM”) service center, or such other facility directed by DaDee for claims made by Owner within the Warranty Period. All components or parts in question must be returned to DaDee through the authorized Dealer, OEM, or other designated facility, for inspection and warranty claim processing. Owner will be responsible for all transportation and shipping costs. Warrantied components and parts will be repaired or replaced with cost for parts and labor reimbursed to Owner or its designee. Labor will be reimbursed at a flat rate published by DaDee from time to time at \$85.00 .

REPLACEMENT OF HYDRAULIC FLUIDS IS OWNER’S SOLE RESPONSIBILITY.
In no event will DaDee be held liable for any loss, damage, claim, cost or expense, including attorneys’ fees, arising from or related in any way to any leak or spill of hydraulic fluid or any other hazardous material (as defined under applicable laws) or for the failure to properly dispose of hydraulic fluid or any other hazardous material. Owner agrees to hold DaDee harmless for, from and against any loss, damage, claim, cost or expense, including attorney’s fees, arising from or related to any environmental or hazardous material claim.

This Warranty does not cover normal preventive maintenance and service recommended by the Manual, any filters or strainers (air or hydraulic), replacements of light bulbs, lens, reflectors, or fuses, any adjustments, a failure for any reason other than defective material or workmanship, failure as a result of non-compliance with the Manual, failure arising from inadequate service or repairs by the user or a repair facility, failure from using parts other than DaDee approved parts purchased from an authorized DaDee representative, failure for improper Loader use, replacement of wear pads, rollers, scrapers, and wearing

surfaces that are designed and expected to wear and then require replacement under normal use, or failure caused by natural disasters such as flood, wind, lightning or fire.

DaDee warrants all replacement parts and components provided as part of any warranty work to be free from defects in material and workmanship for a period of 90 days from the date of the warranty work. This warranty is limited to, in DaDee's sole discretion, repair or replacement of the parts or the issuance of credit for the same. Said remedy of repair or replacement is the purchaser's sole and exclusive remedy for the breach of DaDee's warranty contained in this paragraph specifically. DaDee will not be held liable for any other charges, costs, or expenses related to the removal, handling, or re-installation of any parts or components. The warranty in this paragraph will not apply to parts that fail because of abuse, misuse, negligence, absence of required maintenance, improper adjustments of system pressure, component failure resulting from the effects of physical damage to a part caused by improper installation or operation above its rated capacity, intentional or otherwise, or by improper handling. DaDee will not be held liable for special, incidental, or consequential damages of any nature as otherwise defined herein.

DaDee reserves the right to at any time make changes in the design, material, function and specifications of equipment or accessories without then becoming obligated to make similar changes in such products and accessories previously manufactured by DaDee. This Warranty is understood to be the complete and exclusive agreement between the parties, superseding all prior agreements, oral or written, between the parties related to this Warranty or the Loader. Other than as expressly agreed to in a writing signed by the CEO of DaDee and the first Loader owner, no salesperson, agent, employee, or DaDee representative or any other party is authorized to make any warranty in addition to a warranty provided in this document. DaDee makes no warranties of any kind on products manufactured by third parties and supplied by DaDee, which may be subject to manufacture warranties, if any, from their respective manufacturer. In no event will DaDee be held liable for special, incidental, punitive or consequential damages or attorney's fees of any nature including without limitation, loss of profits or revenue, loss of the use of the Loader or any part thereof, cost of rental equipment, facilities, or services resulting from down time, third party claims including for injury of property and customers, costs of towing, transporting or storing equipment, cost of lodging or transportation of any person, or temporary replacement equipment costs, as such may be based upon a breach of warranty, breach of contract, negligence, strict tort, or any other legal theory.

THE FOREGOING WARRANTIES ARE EACH IN LIEU OF ALL OTHER WARRANTIES, WRITTEN, EXPRESSED, OR IMPLIED, INCLUDING WITHOUT LIMITATION THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.

This Warranty excludes coverage on any parts deemed by the manufacturer to be normal wear and tear items. This Warranty excludes any damage caused by misuse, abuse, neglect, accident, improper maintenance, alteration, vandalism, theft, fire, water, damage caused by natural disaster, operator error, driver negligence, driving hazards, or foreign obstacles that come into contact with the body, packer, or arm as a result of anything other than approved operation of the Loader in compliance with DaDee's training and operation instructions provided with the Manual. The remedies provided in this Warranty are the Owner's sole and exclusive remedies. Any action for breach of this Warranty must be commenced within 12 months of said breach. To the extent not prohibited by any other law, Arizona law governs all matters in and related to this Warranty.

THIS WARRANTY supersedes and is in lieu of all other warranties expressed or implied. All other warranties whether expressed or implied, including but not limited to the implied warranty of merchantability, fitness for a particular purpose and non-infringement are hereby disclaimed. The remedies provided in this warranty are exclusive remedies available and are limited to repair and replacement of the nonconforming parts.

WARRANTY CONTACT INFORMATION**IN ARIZONA**

Arizona Refuse Servicing, LLC
DaDee Manufacturing, LLC
1930 W. Broadway Road Phoenix, AZ 85041
warranty@dadeemfg.com

602-276-4390
800-940-7467
www.dadeemfg.com

OUTSIDE OF ARIZONA

Please Contact Dealer of the Unit Purchased

SECTION 2 - SAFETY

DESCRIPTION	SECTION
Safety WARNINGS	2-1
Safety WARNINGS - CNG Fuel Storage Systems	2-1A
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Tailgate and Body Support Warnings	2-5

SAFETY WARNINGS



**IF INCORRECTLY USED, THIS
EQUIPMENT CAN CAUSE SEVERE
INJURY OR DEATH.**

THOSE WHO USE AND MAINTAIN THIS EQUIPMENT SHOULD BE TRAINED IN ITS PROPER USE, WARNED OF ITS DANGERS, AND SHOULD READ AND FULLY UNDERSTAND THE ENTIRE MANUAL BEFORE ATTEMPTING TO SET UP, OPERATE, ADJUST OR SERVICE THE EQUIPMENT. PUBLICATION OF THESE PRECAUTIONS DOES NOT IMPLY OR IN ANY WAY REPRESENT AN ALL INCLUSIVE LIST. IT IS THE OPERATOR'S RESPONSIBILITY TO BE FAMILIAR WITH THE OWNER'S SAFETY REQUIREMENTS. IT IS THE OPERATOR'S RESPONSIBILITY TO BE FAMILIAR WITH AND ENSURE THE OPERATION IN ACCORDANCE WITH SAFETY REQUIREMENTS AND CODES INCLUDING ALL APPLICABLE OCCUPATIONAL SAFETY & HEALTH ACT (OSHA) AND AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI) REGULATIONS.

KEEP THIS MANUAL FOR FUTURE REFERENCE

DANGER, WARNING, CAUTION and **NOTE** notations appear throughout this manual and on safety decals.

The word **DANGER** precedes information pertaining to specific immediate hazards which if disregarded WILL result in SEVERE PERSONAL injury or death of the user or others.

The word **WARNING** precedes information pertaining to hazards or unsafe practices which COULD result in personal injury or death.

The word **CAUTION** precedes information pertaining to potential hazards or unsafe practices which, if disregarded, may result in minor personal injury or damage to the equipment.

The word **NOTE** precedes information which is vital to the proper operation or maintenance of the equipment.

SAFETY WARNINGS

CNG FUEL STORAGE SYSTEMS

THOSE WHO USE AND MAINTAIN THIS EQUIPMENT SHOULD BE TRAINED IN ITS PROPER USE, WARNED OF ITS DANGERS, AND SHOULD READ AND FULLY UNDERSTAND THE ENTIRE **MANUFACTURER'S MANUAL** BEFORE ATTEMPTING TO SET UP, OPERATE, ADJUST OR SERVICE THE EQUIPMENT. PUBLICATION OF THESE PRECAUTIONS DOES NOT IMPLY OR IN ANY WAY REPRESENT AN ALL INCLUSIVE LIST. IT IS THE OPERATOR'S RESPONSIBILITY TO BE FAMILIAR WITH THE OWNER'S SAFETY REQUIREMENTS. IT IS THE OPERATOR'S RESPONSIBILITY TO BE FAMILIAR WITH AND ENSURE THE OPERATION IN ACCORDANCE WITH SAFETY REQUIREMENTS AND CODES INCLUDING ALL APPLICABLE OCCUPATIONAL SAFETY & HEALTH ACT (OSHA) AND AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI) REGULATIONS.

IN THE EVENT THE CNG FUEL STORAGE SYSTEM INSTALLED ON THIS UNIT REQUIRES REPAIR **[CONTACT DADEE MANUFACTURING (IF SOLD IN ARIZONA) OR DEALER OF SOLD UNIT**



WARNING: Strict compliance with proper safety and handling practices is essential when operating this compressed natural gas fuel system.



CAUTION: THE CNG FUEL STORAGE SYSTEM AND COMPONENTS ARE ALWAYS UNDER HIGH PRESSURE, EVEN WHEN THE MAIN SHUT-OFF VALVE AT THE MANIFOLD HAS BEEN CLOSED. TO DEPRESURRIZE THE ENTIRE SYSTEM, OPEN THE ¼ TURN MAIN SHUT-OFF VALVE, START THE ENGINE AND IDLE UNTIL THE ENGINE STALLS AND BOTH PRESSURE GAUGES READ 0 PSIG.



WARNING: Always ground the vehicle before de-fueling. If it is not grounded during defuel, a static charge could build up and cause the fuel to ignite.



CAUTION: Ensure that all the safety guidelines from the Safety section are followed prior to fueling the system with CNG

SAFETY WARNINGS

CNG FUEL STORAGE SYSTEMS (continued)

WARNING: Depressurize the work area and turn off electrical power to the valve before attempting repair.

NOTE: LEAKS MAY NOT APPEAR IMMEDIATELY – ALLOW AT LEAST 5 MINUTES TO PASS BEFORE DETERMINING THAT NO LEAKS ARE PRESENT.

WARNING: NEVER ATTEMPT TO SERVICE ANY COMPONENT OF THE CNG STORAGE SYSTEM WHILE THE SYSTEM IS PRESSURIZED.

NOTE: REGULATOR OUTLET PRESSURE IS FACTORY SET. DO NOT ATTEMPT TO RESET PRESSURE.

CAUTION: NEVER USE TUBING THAT IS DIFFERENT IN SPECIFICATION FOR THE CNG FUEL STORAGE SYSTEM.

WARNING: DO NOT MIX TUBE FITTING PARTS MADE BY DIFFERENT MANUFACTURERS. INTERMIXING PARTS MAY RESULT IN UNRELIABLE CONNECTIONS THAT COULD CAUSE GAS LEAKS, DAMAGE, OR PERSONAL INJURIES

WARNING: NEVER TIGHTEN A FITTING WHILE THE SYSTEM IS UNDER PRESSURE. ALWAYS FOLLOW PROPER SAFETY AND SERVICE PROCEDURES WHEN FIXING A LEAK. FAILURE TO FOLLOW ALL SAFETY PROCEDURES MAY RESULT IN DAMAGE OR PERSONAL INJURY.

PRIOR TO START UP

- **NEVER** operate machinery while wearing jewelry or loose clothing which may catch on moving parts. Wear proper safety equipment as specified by your employer.
- **NEVER** operate machinery while under the influence of intoxicants or narcotics. Workers under the influence of intoxicants or narcotics present a hazard to themselves and others.
- **PERFORM CHECKS** listed under **PRE-TRIP Walk-Around Inspection** in **Section 3, OPERATIONS**. Never start or operate any malfunctioning equipment.
 - a) **IMMEDIATELY** report any malfunctions to supervisor or proper authority.
 - b) **POWER MUST BE SHUT OFF**, ignition key removed and a sign attached to the steering wheel stating “**INOPERATIVE**” or “**MALFUNCTIONING EQUIPMENT.**”
- **SERVICE** must be performed by authorized personnel only following instructions in **Section 4, MAINTENANCE & ADJUSTMENTS**.
- **WALK COMPLETELY AROUND** vehicle to make sure all persons and obstacles are clear before starting the unit.

SAFETY DECALS PARTS LIST

Reference Number	Part Number	Decal Description
1	AM01973	DECAL, SLOW DOWN
2	AM00914	DECAL, DANGER, ARM OPER.
3	AM00915	DECAL, DANGER, TAILGATE OPER.
4	AM00917	DECAL, BATTERY DISC.
5	AM00918	DECAL, CAUTION, STOP ENGINE
6	AM00919	DECAL, DANGER, LIFTING CONT
7	AM00920	DECAL, DANGER, TAILGATE
8	AM00926	DECAL, MAX HEIGHT
9	AM00927	DECAL, OVERHEAD HAZARDS
10	AM00928	DECAL, CAUTION BACKING
11	AM00929	DECAL, DANGER, UNDER TRUCK
12	AM00930	DECAL, DANGER, CONT, LIFTED
13	AM00932	DECAL, LOCKOUT PROCEDURE
14	AM00933	DECAL, DANGER, PACKER MOT
15	AM00934	DECAL, DANGER, BODY UP

SAFETY DECALS & LOCATIONS

WARNING LABELS INSIDE CAB



CAUTION:
MAXIMUM VEHICLE HEIGHT

BE AWARE OF OVERHEAD HAZARDS!

CAUTION:
BACKING CAN BE HAZARDOUS



8.



9.



10.

SAFETY DECALS & LOCATIONS

WARNING LABELS ON BODY AND CHASSIS

STREETSIDE OF UNIT



2.
DANGER:
STAND CLEAR OF
LOADER ARM(S) WHEN
IN OPERATION



5.
CAUTION:
STOP ENGINE AND
REMOVE IGNITION
KEY BEFORE
ENTERING
BODY



13.
CAUTION:
LOCKOUT PROCEDURE
REQUIRED BEFORE
ENTRY



14.
DANGER:
STAND CLEAR WHEN
PACKER PANEL IS IN
MOTION



SAFETY DECALS & LOCATIONS

WARNING LABELS ON BODY AND CHASSIS

STREETSIDE OF UNIT



DANGER:
 BODY MUST BE BRACED OR PROPPED BEFORE SERVICING HOIST OR WORKING IN AREA UNDER BODY WHEN IN A RAISED POSITION

15.

DANGER:
 NEVER GET UNDER TRUCK IF ENGINE IS RUNNING!

11.



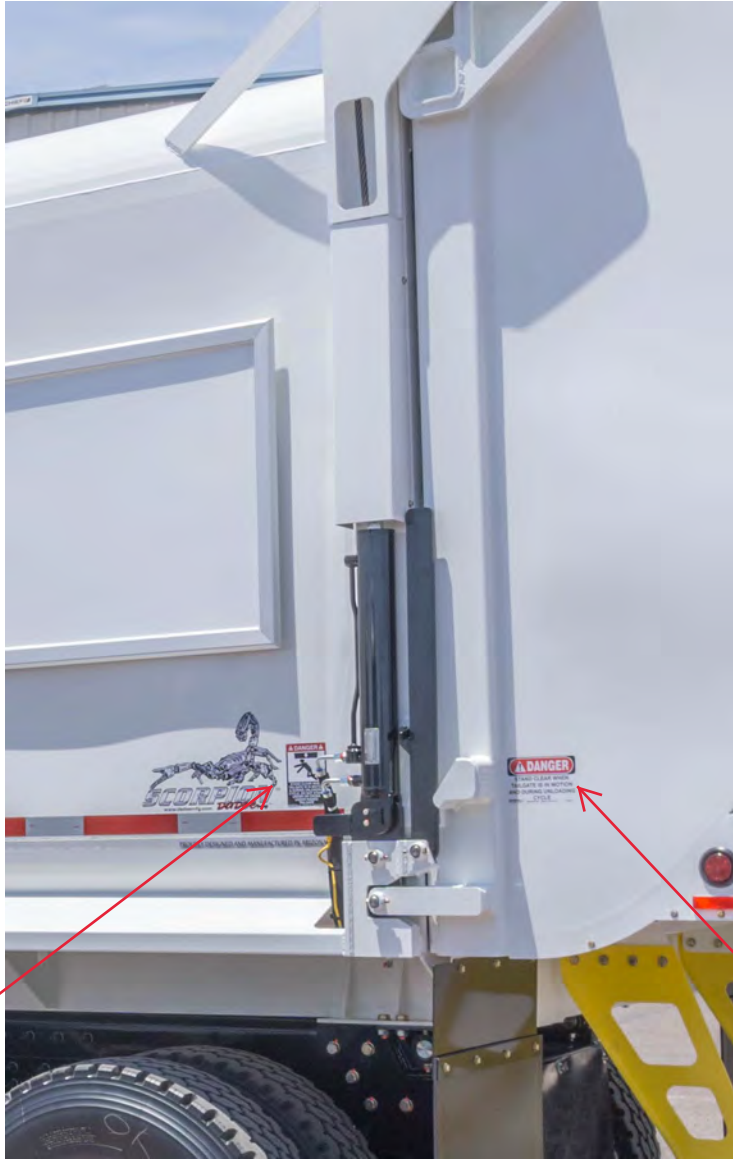
4.
 THIS TRUCK IS EQUIPPED WITH A BATTERY DISCONNECT SWITCH



SAFETY DECALS & LOCATIONS

WARNING LABELS ON BODY AND CHASSIS

STREETSIDE OF UNIT



3.

DANGER:
STAND CLEAR... DO NOT
STAND UNDER OR
CROSS UNDER RAISED
TAILGATE



7.

DANGER:
STAND CLEAR WHEN
TAILGATE IS IN MOTION
AND DURING
UNLOADING
CYCLE



SAFETY DECALS & LOCATIONS

WARNING LABELS ON BODY AND CHASSIS

TAILGATE OF UNIT

AM00936
DECAL, REFLECT TAPE,
WHITE



1.
SLOW DOWN
TO GET AROUND



DANGER:
STAND CLEAR... DO
NOT STAND UNDER
OR CROSS UNDER
RAISED TAILGATE

4.

SAFETY DECALS & LOCATIONS

WARNING LABELS ON BODY AND CHASSIS

CURBSIDE OF UNIT



7.

DANGER:
STAND CLEAR WHEN
TAILGATE IS IN MOTION
AND DURING
UNLOADING CYCLE



4.

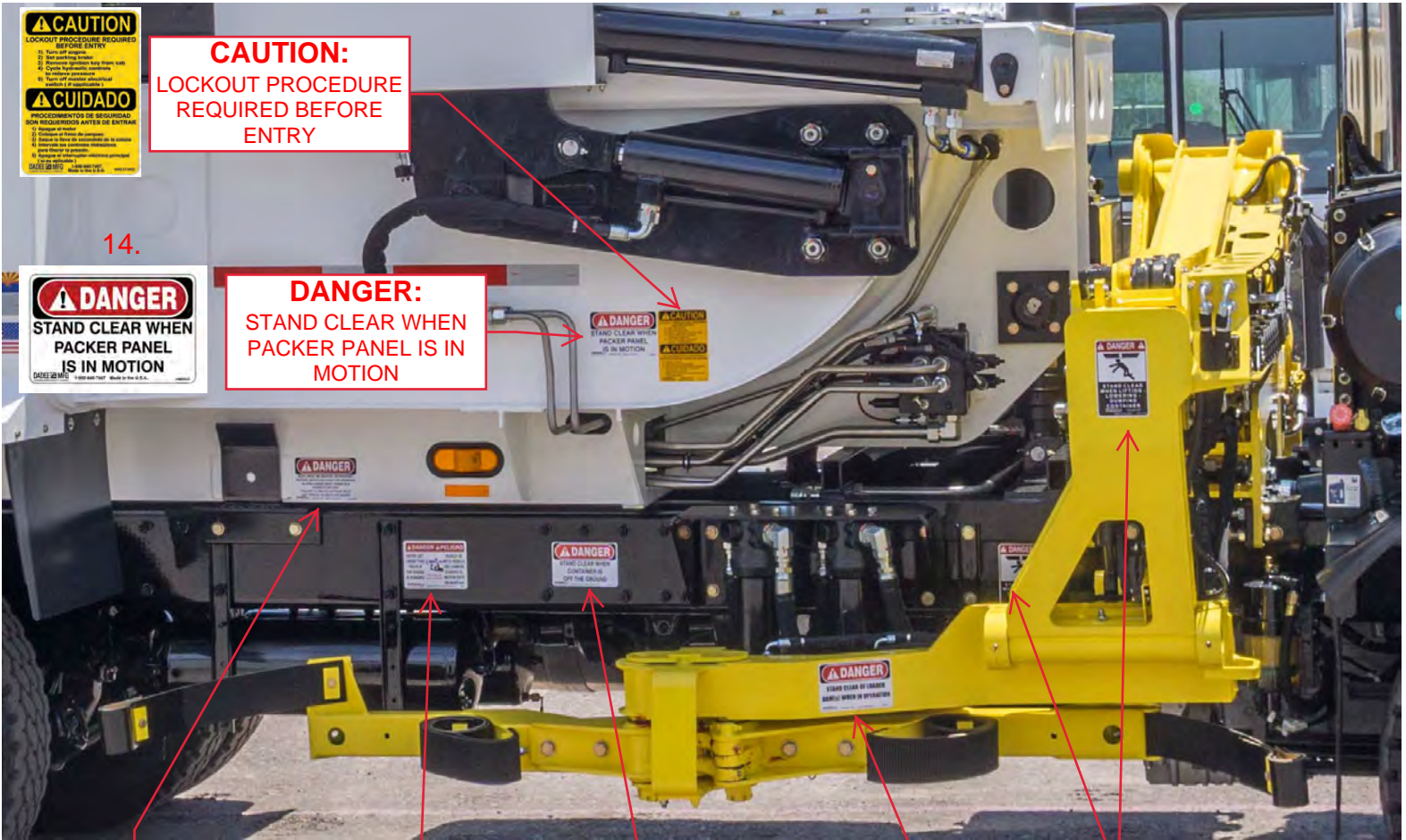
DANGER:
STAND CLEAR... DO NOT
STAND UNDER OR
CROSS UNDER RAISED
TAILGATE



SAFETY DECALS & LOCATIONS

WARNING LABELS ON BODY AND CHASSIS

CURBSIDE OF UNIT



13.

CAUTION:
LOCKOUT PROCEDURE
REQUIRED BEFORE
ENTRY



14.

DANGER:
STAND CLEAR WHEN
PACKER PANEL IS IN
MOTION



15.

DANGER:
BODY MUST BE
BRACED OR PROPPED
BEFORE SERVICING
HOIST OR WORKING IN
AREA UNDER BODY
WHEN IN A RAISED
POSITION



11.

DANGER:
NEVER GET UNDER
TRUCK IF ENGINE IS
RUNNING!



12.

DANGER:
STAND CLEAR WHEN
CONTAINER IS OFF THE
GROUND



2.

DANGER:
STAND CLEAR OF
LOADER ARM(S) WHEN
IN OPERATION



6.

DANGER:
STAND CLEAR WHEN
LIFTING - LOWERING -
DUMPING CONTAINER



SAFETY DECALS & LOCATIONS

WARNING LABELS ON BODY AND CHASSIS



LEFT AND RIGHT SIDE

**AM00935
DECAL, REFLECT
TAPE, RD/WHT**

GENERAL OPERATIONS AND SAFETY PRECAUTIONS

1. It is the operator's responsibility to ensure the operation of the unit is in accordance with the guidelines contained in the Operations Manual, the owner's policies and procedures, and in accordance with all applicable codes including Occupational Safety and Health Act (OSHA) and American National Standards Institute (ANSI) regulations.
2. Do not attempt to operate this equipment without proper training.
3. Move the vehicle as slowly as possible without stalling when traveling in reverse.
4. Always make sure the roadway is clear before traveling in reverse.
5. Do not travel in reverse for distances greater than these dictated by local ordinances. If reverse travel exceeds 10 feet, use a "spotter" or move the vehicle in 10 foot increments only, and then check to make sure the roadway is clear between increments.
6. Do not attempt to dislodge any material unless wearing eye protection such as "approved" side shielded safety glasses or a full face shield.
7. Never use the unit to push or tow another vehicle.
8. Never unload uphill or against a pile of refuse or into the bank of a hill.
9. Never raise the lift arm with gripper open.
10. Never drive with the lift arm extended.
11. Never drive with the gripper closed.
12. Always bring the inner arm completely into the loader base before raising lift arm.
13. Never kick out inner arm when un-dumping and lowering lift arm during lift cycle.
14. Never place head, body, fingers or any limbs into a scissor point or pinch point on the equipment.
15. Before operating the vehicle the driver must be thoroughly familiar with the employer's safety program concerning traffic rules, warning devices and hand signals.
16. Know your machinery. Know the location and function of all controls, gauges, instruments and protective devices.
17. Wear your seat belt.
18. Start the engine following the manufacturer's recommended procedure.
19. Always set the parking brake with transmission in neutral before leaving the cab.

GENERAL OPERATIONS AND SAFETY PRECAUTIONS (continued)

20. Turn on appropriate warning lights. Following the truck owner's policies, put on protective wear such as a safety vest, protective glasses and protective shoes.
21. Ensure all co-workers are in view before operating or moving any controls on the unit.
22. Ensure that there is sufficient overhead clearance before raising the lift arm or tailgate.
23. Always ensure that all persons are clear of the tailgate before raising or lowering. It is the operator's responsibility to warn all persons not to stand or cross under a tailgate.
24. Do not move the vehicle when the tailgate is raised except during unloading and then only as necessary to clear the load before lowering.
25. If it is necessary to manually clear debris, use a long probe and DO NOT stand under the tailgate. See section 2-5 for tailgate prop instructions.
26. Know the height of the unit at all times. Be sure to allow sufficient clearance from overhead restrictions.
27. Ensure that persons are clear of the container before raising or lowering.
28. Always have the lift arm in the travel position while transporting
29. Always ensure that all persons are clear of the equipment before actuating the lift arm control.
30. The operator should warn persons not to stand or cross under a raised tailgate or lift arm.

GENERAL OPERATIONS AND SAFETY PRECAUTIONS (continued)**HYDRAULIC SYSTEM SAFETY PRECAUTION**

Hydraulic fluid operates at increased temperature. Avoid contact with tubes, hoses or cylinders to avoid burns.

Never use hands to check for leaks. Hydraulic fluid escaping under pressure may cause injury.

FIRE PROTECTION PRECAUTIONS

Keep a fire extinguisher accessible as recommended by the National Transportation Safety Board (NTSB).

Never use lighted smoking materials, open flame or sparks when working with flammable materials such as fuel tanks or storage batteries.

Never use an open flame as a light source.

GENERAL MAINTENANCE

Keep hand rails and steps clean and free of grease or debris.

Do not store brooms or other equipment where they could be accidentally dislodged.
(Optional tool holders are recommended)

TAILGATE & BODY PROP WARNINGS & INSTRUCTIONS

STAND CLEAR WHEN TAILGATE IS IN MOTION. DO NOT STAND UNDER OR WALK UNDER RAISED TAILGATE. FAILURE TO FOLLOW THIS WARNING COULD RESULT IN INJURY OR DEATH.

WHENEVER the tailgate is opened for service or maintenance it must be propped.

BE SURE THE BODY IS EMPTY when preparing to use tailgate props.

PARK UNIT ON FLAT STABLE SURFACE and **apply parking brake with transmission in neutral** whenever the tailgate props are going to be used.



DRIVER SHOULD ALWAYS UTILIZE A SECOND PERSON AS A SPOTTER when raising the tailgate. The tailgate should be raised only by using the **Tailgate Screen** of the IQAN MD3 Module.

SPOTTER SHOULD BE IN CLEAR VIEW OF THE DRIVER AT ALL TIMES when the tailgate is being raised and tailgate props are being lowered.

DRIVER SHOULD HAVE HANDS OFF OF CONTROLS as spotter approaches truck and lowers tailgate props into position.

TAILGATE & BODY PROP WARNINGS & INSTRUCTIONS (continued)



SPOTTER SHOULD STEP AWAY FROM THE TRUCK before the driver lowers the tailgate using the **SLOW DOWN** function on the **Tailgate Screen**.



STAND CLEAR WHEN BODY IS IN MOTION. DO NOT STAND UNDER OR WALK UNDER RAISED BODY. FAILURE TO FOLLOW THIS WARNING COULD RESULT IN INJURY OR DEATH.

WHENEVER the body is up for service or maintenance it must be propped.

BE SURE THE BODY IS EMPTY when preparing to use body prop.



PARK UNIT ON FLAT STABLE SURFACE and **apply parking brake with transmission in neutral** whenever the body prop is going to be used.

DRIVER SHOULD ALWAYS UTILIZE A SECOND PERSON AS A SPOTTER when raising body. The body should be raised only by using the **Service Hoist Screen** of the **IQAN MD3 Module**.

BODY PROP

SPOTTER SHOULD BE IN CLEAR VIEW OF THE DRIVER AT ALL TIMES when the body is being raised and body prop is being raised.

BODY PROP is raised from the left side of the truck.

SECTION 3 - OPERATIONS

DESCRIPTION	SECTION
Location and General Description of Operating Controls	3-1
Work and Strobe Light Controls	3-2
Camera and In-Cab Video Monitoring	3-3
Pre-Trip Walk-Around Inspection	3-4
Pre-Trip Lift Arm, Grabber, and Packer System Test	3-5
On Route Operating and Refuse Collection Procedures	3-6
Unloading Procedures	3-7
Shutdown and Post-Trip Walk-Around Inspection	3-8

LOCATION AND DESCRIPTION OF OPERATING CONTROLS

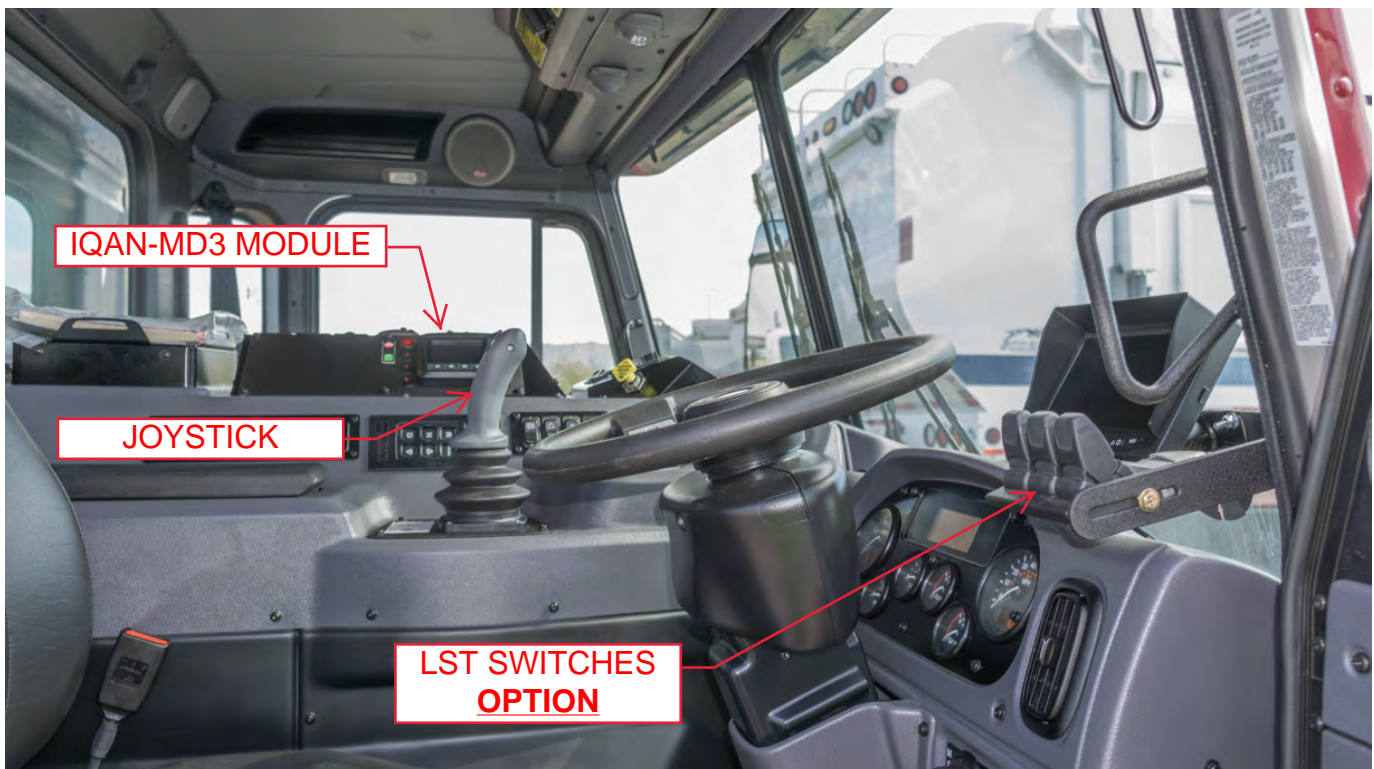
The Scorpion ASL utilizes an integrated electronic Scorpion Control System. This system controls and/or monitors the functions of the electronic and hydraulic components including cylinders, packer and body valves, rotary sensors, and proximity switches.

This control system is designed to withstand aggressive conditions and wide temperature ranges.

The **Scorpion MD3 Module** is located in the cab along with a **Joystick** and/or **LST Switches**. (The dual controller devices allow the driver to select **one or the other** when operating the Scorpion ASL.) The Scorpion MD3 color screens guide the operator through the activation, operation, and monitoring of the arm, body, packer, and tailgate of the unit. There are also screens that are used by the service technician or mechanics to troubleshoot or adjust certain functions of the electronic over hydraulic system.

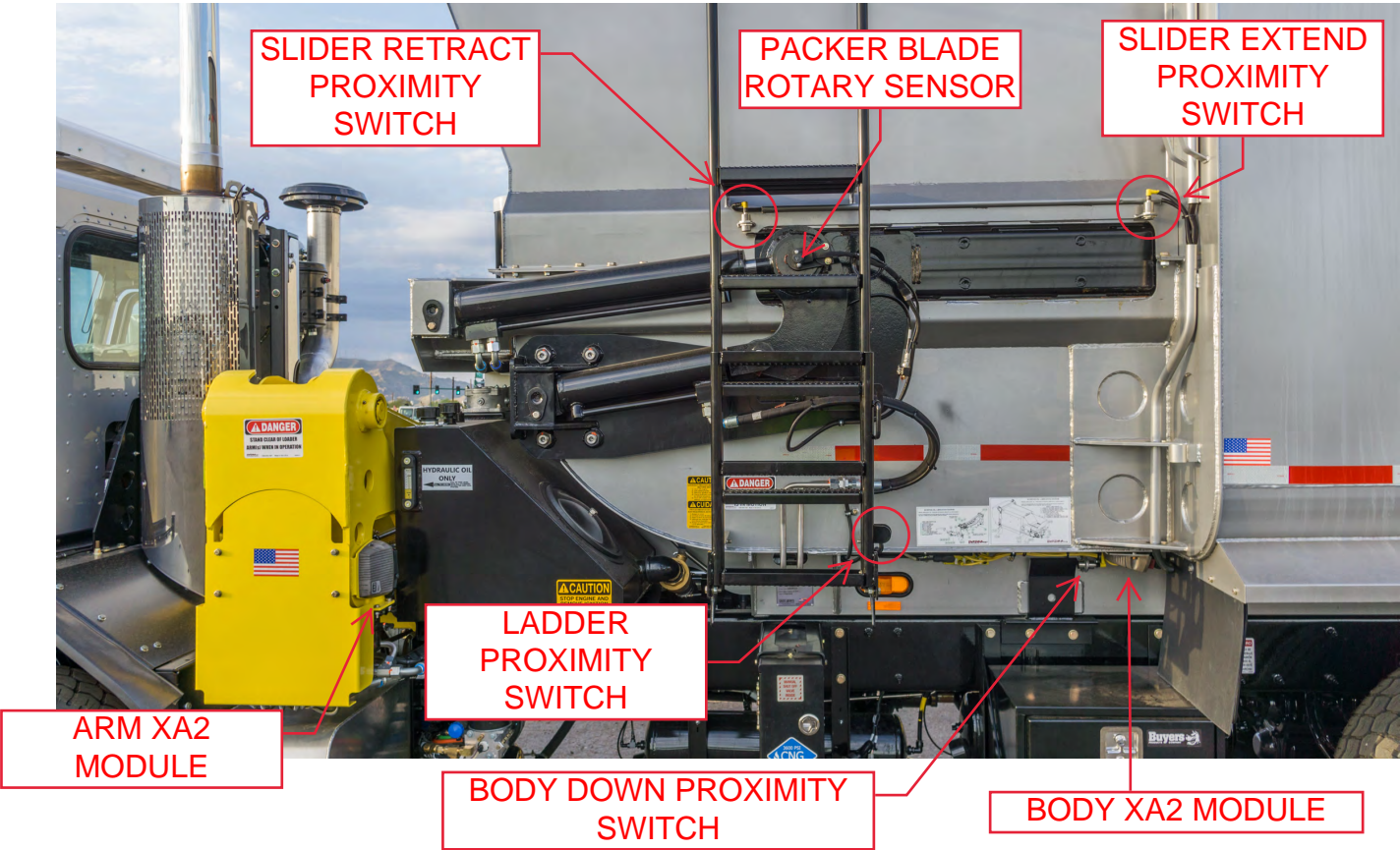
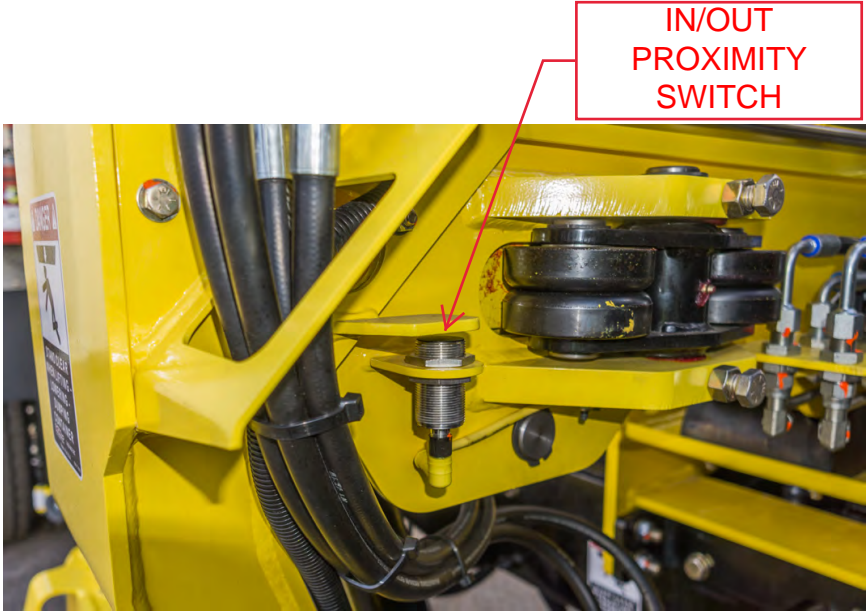
COMPONENT LOCATIONS

The specific location of the components in the cab is dependent upon the Owner's requirements. For part numbers of these components see Section 6 (ELECTRICAL) of this manual.



LOCATION AND DESCRIPTION OF OPERATING CONTROLS (continued)

COMPONENT LOCATIONS



LOCATION AND DESCRIPTION OF OPERATING CONTROLS (continued)

COMPONENT LOCATIONS



**GRIPPER
PROXIMITY
SWITCH**



**TAILGATE
PROXIMITY
SWITCH**

LOCATION AND DESCRIPTION OF OPERATING CONTROLS (continued)

Scorpion Operator's Quick Start Sheet Laminate (Front Side) [English]
[Part Number AM03351]

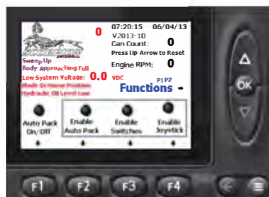
Scorpion Quick Start Sheet

Pick Up Load

1. Turn Main Power Switch On (Red Switch)
2. Set-up Packer, Hold (F3) for 5 seconds
3. Set-up Arm, Hold (F4) for 5 seconds
4. Enable Joystick (F4) or LST Switches (F3) on Main Screen
5. Enable Auto Pack (F2)
6. Truck must be in Drive Gear for Auto Pack to operate

Dump Load

5. From Main Screen go to Functions Page (OK Button)
6. Go to Tailgate Page (F2)
7. Open Tailgate by holding down Up Button (F1)
8. Go to Body Page (Down Arrow Button)
9. Raise Body by pressing and holding Up Button (F2)
10. Run Auto Pack while Body is Up (OK Button)
11. Lower Body by pressing and holding Down Button (F4)
12. Go to Tailgate Page (Down Arrow Button)
13. Lower Tailgate by pressing and holding Down Button (F4)
14. Return to Main Page (Up Arrow Button)



Main Page



Functions Page



Tailgate Page



Body Page

LOCATION AND DESCRIPTION OF OPERATING CONTROLS (continued)

Scorpion Operator's Quick Start Sheet Laminare (Back Side) [Spanish]

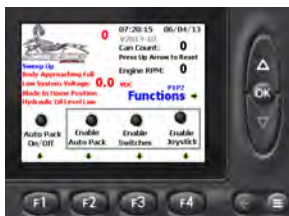
Escorpión Hoja de inicio rápido

Pick Up de carga

1. Ponga el interruptor principal de encendido (**interruptor rojo**)
2. Set-up Packer, Hold (**F3**) durante 5 segundos
3. Set-up del brazo, Hold (**F4**) durante 5 segundos
4. Habilitar joystick (**F4**) o los interruptores LST (**F3**) en la pantalla principal
5. Habilitar Auto Pack (**F2**)
6. Camión debe estar en la unidad de engranajes para Auto Pack para operar

Volcado de la carga

5. Desde la pantalla principal vaya a la página de Funciones (**botón Aceptar**)
6. Ir a la puerta trasera Page (**F2**)
7. Abra la puerta posterior presionando este Button (**F1**)
8. Ir a la página del cuerpo (**botón Flecha abajo**)
9. Levante Consejo pulsando y manteniendo pulsado el botón Arriba (**F2**)
10. Ejecute Auto Pack mientras que el cuerpo es para arriba (**OK**)
11. Parte inferior del cuerpo manteniendo pulsado el botón para bajar (**F4**)
12. Ir a la puerta trasera Page (**abajo del botón de flecha**)
13. Baje la puerta posterior pulsando y manteniendo pulsado el botón (**F4**)
14. Volver a la página principal (**arriba del botón de flecha**)



Página principal



Página de la funciones



Página de puerta trasera



Página de la cuerpo

LOCATION AND DESCRIPTION OF OPERATING CONTROLS (continued)

Scorpion Operator's Pre-Post Trip Inspection Sheet (Front Side)
 [Part Number AM03350]

**SHUTDOWN & POST TRIP WALK-AROUND INSPECTION
 ITEMS IN GREEN FOR UNITS WITH CNG FUEL STORAGE SYSTEMS**

1. At the municipal or private overnight storage location; perform any post route inspections or duties as instructed by the chassis manufacturer or the vehicle owner.

SWITCHES And IQAN MD3

ON-OFF SWITCH



2. Park the vehicle. BE SURE THE IQAN System is “OFF” then turn off the engine.
3. Exit the cab and lock the vehicle cab.

4. Turn the **Battery Disconnect Switch**, located on the outside of the vehicle, to the “OFF” position.



THIS TRUCK EQUIPPED WITH A BATTERY DISCONNECT SWITCH. MUST BE TURNED OFF EVERY NIGHT

1/2 TURN

5. Turn the **CNG Shut-Off Valve**, located in the FMM on the street side of the vehicle to the “OFF” position. If doing slow fill overnight leave valve “ON”.



CNG Shut-Off Valve

LOCATION AND DESCRIPTION OF OPERATING CONTROLS (continued)

Scorpion Operator's Pre-Post Trip Inspection Sheet (Back Side)

PRE-TRIP WALK-AROUND INSPECTION ITEMS IN GREEN FOR UNITS WITH CNG FUEL STORAGE SYSTEMS

The Pre-Trip Walk-Around Inspection of the Scorpion ASL Chassis, Body & Loader, assures the unit is ready for safe operation. **This list is not intended to take the place of the inspection required by Federal Law which is to be done and recorded in the operator's log daily.**

CHASSIS CHECK:

1. Check tires for condition and pressure.
2. **Turn the Battery Disconnect Switch**, located on the outside of the vehicle, to the "ON" position.
3. **SLOWLY turn the CNG Shut-Off Valve**, located in the FMM on the street side of the vehicle to the "ON" position. Check/listen for leaks. Drain low pressure filter.
4. Check engine oil, water, and fuel levels.
5. Check transmission fluid level.
6. Drain air tanks.
7. Check lights.

BODY & LOADER CHECK:

1. Make sure all safety decals are in place and readable. Replace any damaged or missing decals.
2. Make sure all components are free of debris and in good working condition. Look for frayed wiring on harnesses, rubbing hoses, wear marks on body, missing or loose V-Rollers, etc.
3. Inspect Grip Belts for wear and replace if necessary.
4. Check for fluid leaks at the hydraulic cylinders, pump, valves, fittings and hose connections.
5. Check hydraulic oil level on Hydraulic Tank Site Gage. Make sure oil level is filled to the middle of that gauge or the appropriate indicator mark on the gauge and hydraulic fluid information plate. (All cylinders should be fully retracted when verifying oil level.)
6. Make sure all body lights and camera system are in working order.
7. Make sure Body is fully down.
8. Make sure Tailgate is fully down and locked.
9. Make sure Side Hopper Ladder is up and locked into position.
10. Make sure Loader Arm is fully IN and the Grabbers are fully OPEN with both in the In-Transit position.
11. Make sure Packer Cylinders and Sweep Cylinders are fully retracted. This indicates the Packer Panel and Sweep Panel are in their Home position. (Home position is defined as the Packer Panel fully forward and the Sweep Panel fully up and horizontal.)

LOCATION AND DESCRIPTION OF OPERATING CONTROLS (continued)

There are several **GENERAL OPERATING SETTINGS**. The primary reason for these settings is to insure the safety of the operator, and the safe operation of the unit.

- Arm operates in Drive OR Neutral gear
- Arm will not go up with the grippers open
- There are no arm functions when body is up
- There are no arm functions above 900 RPM [Diesel units], 1100 RPM [CNG units], except RELEASE and IN
- Chimes sound if arm is out OR grippers closed and truck exceeds 900 RPM [Diesel units], 1100 RPM [CNG units]
- Packer Auto-cycle operates in Drive or Reverse gears only [Packer only runs in neutral in manual mode]
- Packer runs 2 auto-cycles after every arm lift
- Main Power switch turns pump off
- Pump turns off when ladder is down

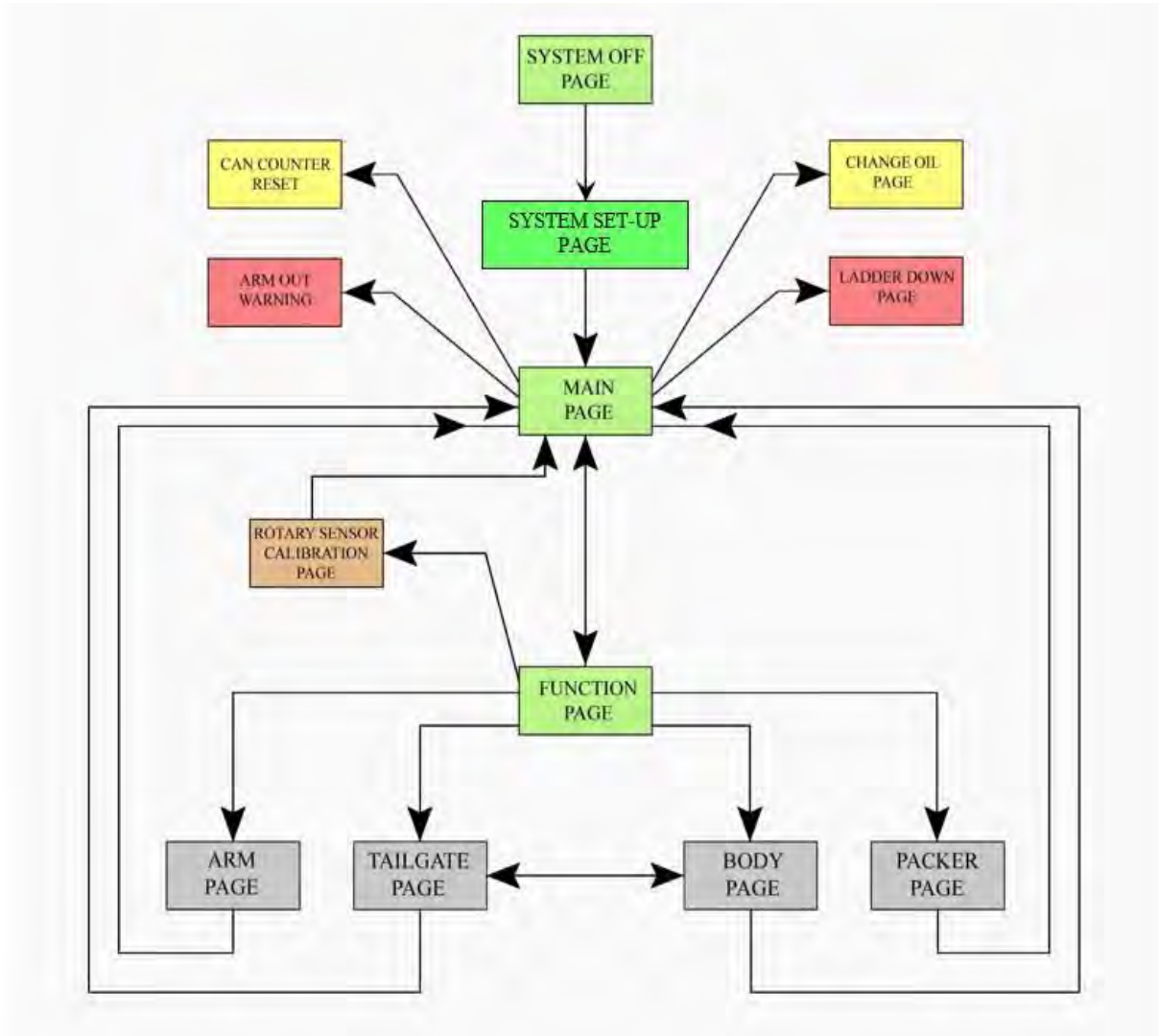


See Section 3-2 for information on the Work and Strobe Lights.

Rotary sensor installation and calibration information is also in Section 4-7.

All proximity switches are the same. Instruction for adjust gap is in the Section 4-8.

LOCATION AND DESCRIPTION OF OPERATING CONTROLS (continued)
SCORPION ASL CONTROL SCREENS
FLOW CHART



LOCATION AND DESCRIPTION OF OPERATING CONTROLS (continued)
SCORPION ASL SETUP PAGES
CONTROL SCREENS



SYSTEM OFF PAGE

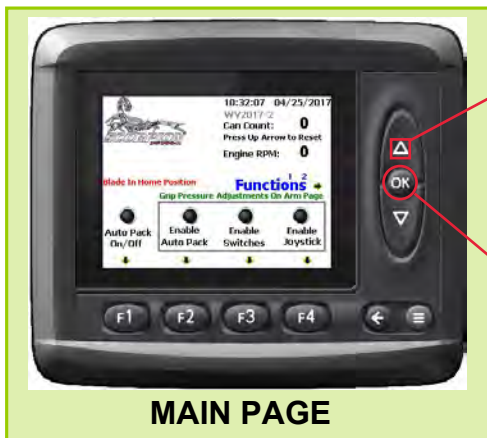
When the ignition key of the unit is turned “on” the Scorpion Screen is lit and indicates that the system is “OFF.” Flip the Main Power Switch to the “ON” position and the screen switches to the “SET-UP PAGE”. Once setup is complete the operator can select either the LST Switches or the Joystick as the input device from the main page.



SYSTEM SET-UP PAGE



CAN COUNTER RESET



MAIN PAGE



FUNCTIONS PAGE

LOCATION AND DESCRIPTION OF OPERATING CONTROLS (continued)
SCORPION ASL CONTROL AND WARNING SCREENS



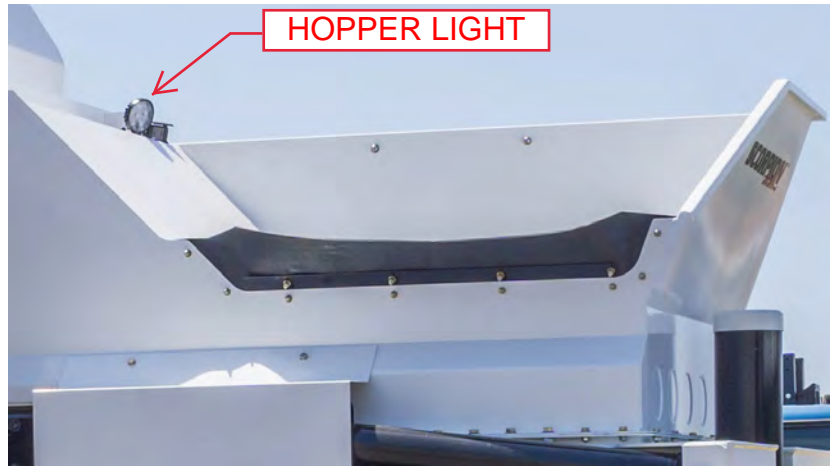
WARNING PAGES



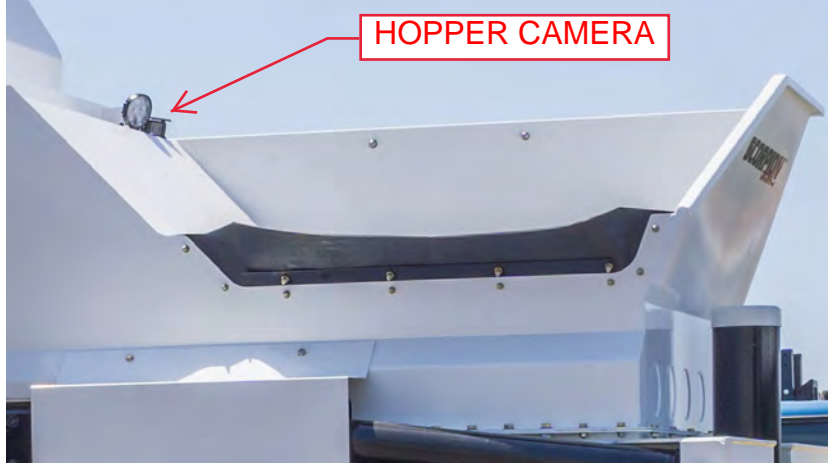
WORK AND STROBE LIGHT CONTROLS

**WARNING: USE OEM PARTS ONLY
(NON-OEM PARTS WILL DAMAGE THE ELECTRICAL SYSTEM)**

**THE LIGHTS USED ON THE SCORPION ASL ARE LOW VOLTAGE LED LIGHTS.
REPLACEMENT WITH ANY OTHER MAY CAUSE DAMAGE TO WIRING HARNESSSES.**



CAMERA AND IN-CAB VIDEO MONITORING



PRE-TRIP INSPECTIONS

PRE-TRIP WALK-AROUND INSPECTION

The following are operating procedures for the **Scorpion Automated Side Loader (ASL)** refuse collection vehicle. They are intended to describe the step by step procedures the vehicle operator uses to test and operate the functions of the Scorpion components. These procedures **DO NOT** describe any operating procedures for the truck chassis or procedures required by the owner of the vehicle or the city or municipality in which the vehicle is operated. You should know and follow any procedures as required by the chassis manufacturer, the owner of the vehicle, and the city or municipality in which the vehicle is operated.

The Pre-Trip Walk-Around Inspection is made by walking around the vehicle to inspect the various components of the Scorpion ASL to make sure the unit is ready to be operated.

DAILY: Visually inspect the following:

1. Make sure all safety decals are in place and readable. Replace any damaged or missing decals. (Refer to the decal location chart in Section 2, SAFETY of this manual.)
2. Check for fluid leaks at the hydraulic cylinders, pump, valves, fittings and hose connections. Inspect hoses for cracks or other signs of wear.
3. Make sure all components are free of debris and in good working condition. Remove any debris under arm or around engine/transmission.
4. Inspects nuts and bolts at observable connections. Especially note hopper top, body pivot (rear hinge) bolts and collars, and arm mount.
5. Inspect routing of hoses and harnesses insuring clamps and zip ties are in place.
6. Make sure that all lights are in working order, and check proximity switches for adjustment and tightness.
7. Check hydraulic oil level on Hydraulic Tank Site Gage and make sure oil level is filled to the middle of that gauge or the appropriate indicator mark on the gauge. (All cylinders should be fully retracted when verifying oil level.)
8. Make sure Body is fully down.
9. Make sure Tailgate is fully down and locked.
10. Make sure Side Hopper Ladder is up and locked into position.
11. Make sure Loader Arm is fully IN and the Grabbers are fully OPEN with both in the In-Transit position.
12. Make sure Packer Cylinders and Sweep Cylinders are fully retracted. This indicates the Packer Panel and Sweep Panel are in their Home position. (Home position is defined as the Packer Panel fully forward and the Sweep Panel fully up and horizontal.)
13. Inspect the grabber belts and pads for wear and replace if necessary.
14. Check chassis, engine, transmission, and tires etc. following the chassis manufacturer's guidelines. Check tires for condition and pressure. Check engine oil, water and fuel levels. Check transmission fluid level. Check for water in air tank and close air tank drain valve. Report any problems to your supervisor or to the owner of the vehicle.

WEEKLY: Visually inspect V-Rollers on Packer Links, looking for end play; Carrier Bearings on Arm; Dump Arm for sagging or need to adjust carrier bearings; Tailgate Seal.

BI-WEEKLY: Clean Breather on Hydraulic Tank.

PRE-TRIP INSPECTIONS (continued)

PRE-TRIP LIFT ARM, GRABBER, AND PACKER SYSTEM TEST

Before going to the collection route the **Scorpion Operating Systems** should be tested to ensure proper operation.



MAKE SURE YOU HAVE PROPER CLEARANCE AROUND ALL MOVING COMPONENTS!

MAKE SURE THAT ALL INDIVIDUALS ARE CLEAR OF THE SCORPION LIFT ARM AND OTHER BODY COMPONENTS.

MAKE SURE THERE IS PROPER CLEARANCE AROUND AND OVERHEAD TO ALLOW FOR LIFT ARM AND BODY LIFT MOVEMENTS.

1. Turn the **Battery Disconnect Switch**, located on the outside (street side) of the vehicle, to the **“ON”** position.
2. Enter the vehicle cab.
3. Turn the **Ignition Switch** to the **“ON”** position.
4. Wait for the **Start Light** to turn **“ON.”**
5. Start the engine.
6. Turn on the **Camera Monitor** and make sure Hopper and Back-Up Cameras are operating.
7. Observe the **Scorpion - MD3 Menu Screen**. The screen should display **“System Off.”**
8. Turn the Scorpion System **“ON”** by pressing the **Red System On-Off Switch** located near the MD3 Screen. Note the MD3 Screen changes to the **System Set-Up Screen**.
9. Once system set-up is complete the system will switch to the main menu.

SWITCHES and SCORPION MD3



SYSTEM ON/OFF SWITCH

SYSTEM SET-UP PAGE



NOTE: Each Scorpion MD3 Menu Screen has a number of functions or choices. A description and arrow points to various buttons along the bottom and right side of each screen. By pressing the different buttons you can select a function or change menu screens. Refer to the **Scorpion Menu Flow Chart** in this section for the sequence of screens.

PRE-TRIP INSPECTIONS (continued)

PRE-TRIP LIFT ARM, GRABBER, AND PACKER SYSTEM TEST

SECTION 3-4

MAIN MENU SCREEN

10. On the **Main Menu Screen** you will select the Control System you wish to use. Select either **Enable Joystick** or **Enable Switches** (LST Switch) by pressing the adjacent button.

Note: you can only enable one of the Control Systems at a time. When you select the system you wish to use a green light will turn on indicating you have activated either the Joystick Controls or LST Switch Controls.



If you choose the LST Switch Controls skip to step 12 below

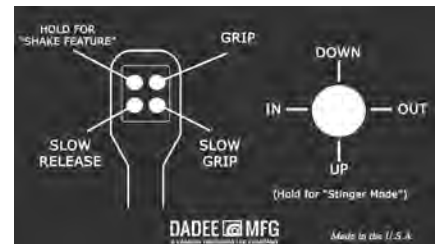
11. Select **Enable Joystick** (press F-4 button) and test the operation of the Lift Arm and Grabber components.



[Decal Part Number AM00922]



*[Decal Part Number AM05472]



***IF EQUIPPED WITH SHAKE FEATURE OPTION**

WITH THE TRUCK IN NEUTRAL, MAKE SURE ALL PERSONS ARE CLEAR AND THAT THERE IS PLENTY OF SIDE AND OVERHEAD CLEARANCE TO OPERATE THE LIFT ARM GRABBER AND DUMP FUNCTIONS.

Using the Joystick Controller test all the functions of the Lift Arm, Grabber, and Container Dump functions as follows:

Joystick Controls – Individual Arm and Grip Movements

Lift Arm Out – Joystick to Right

Container Grip – Press and hold Top Right Button

Lift Arm Up – Pull Back on Joystick

Lift Arm Down – Push Forward on Joystick

Container Release – Press and hold Top Left Button

Lift Arm In – Joystick to Left

Slow Grip – Press and hold Bottom Right Button

Slow Release – Press and hold Bottom Left Button

***Shake Feature - Press and hold Upper Left Button Once Arm Dumps
(Let off on Joystick Prior to Holding Button)**

PRE-TRIP INSPECTIONS (continued)

SECTION 3-4

PRE-TRIP LIFT ARM, GRABBER, AND PACKER SYSTEM TEST

Joystick Controls – Automated Stinger Mode

After the **Lift Arm** is in the **Grip** position, **pull back and hold the Joystick**. This engages the Automated “Stinger” sequence. The sequence moves the container in and up, dumps the container into the hopper, and returns the container to ground level one foot from the truck.

Pressing the release button on top of the Joystick (releases the container) fully opens the Grabbers. This completes the collection cycle and leaves the Lift Arm and Grabbers in their In-Transit locations.

This completes the test of the Lift Arm, Grabber, and Container Dump functions using the Joystick Controls. **Proceed to Step 13.**

12. Select **Enable Switch** (press F-3 button) and test the operation of the Lift Arm and Grabber components.

WITH THE TRUCK IN NEUTRAL, MAKE SURE ALL PERSONS ARE CLEAR AND THAT THERE IS PLENTY OF SIDE AND OVERHEAD CLEARANCE TO OPERATE THE LIFT ARM GRABBER AND DUMP FUNCTIONS.

LST SWITCH



[Decal Part Number AM00921]



CONSULT FACTORY IF LST CONTROL LAYOUT DIFFERS FROM DECAL ABOVE IF REQUESTING ADDITIONAL DECALS

Using the **LST Switch Controller** test all the functions of the Lift Arm, Grabber, and Container Dump functions as follows:

LST Switch Controls – Individual Arm and Grip movements

- Lift Arm Out** – Push forward **Center Switch**
- Container Grip** – Push forward **Left Switch**
- Lift Arm Up** – Pull back **Right Switch**
- Lift Arm Down** – Push forward **Right Switch**
- Container Release** – Pull back **Left Switch**
- Lift Arm In** – Pull back **Center Switch**

PRE-TRIP INSPECTIONS (continued)

PRE-TRIP LIFT ARM, GRABBER, AND PACKER SYSTEM TEST

LST Switch Controls – Automated Stinger Mode

After the **Lift Arm** is in the **grip** position, **pull back and hold the right LST Switch**. This engages the Automated “Stinger” sequence that moves the container in and up, then dumps the container into the hopper, and returns the container to ground level one foot from the truck.

Pulling back the left LST Switch (releases the container) fully opens the Grabbers. This completes the collection cycle and leaves the Lift Arm and Grabbers in their In-Transit locations.

This completes the test of the Lift Arm, Grabber, and Container Dump functions using the LST Switch Controls.

13. Pre-Trip Packer Test

- a. Select **Enable Auto Pack** (press F-2 button) to begin test of the Packer System.
- b. Place the truck in drive gear with the parking brake **“ON.”** **The Auto-Pack Cycle(s) will only work when the vehicle is in a drive gear.**
- c. Press the **Auto Pack ON-OFF** (F-1 button). **This will start the Packer System.**
- d. Watch the Packer Panel go through two complete packing cycles and return to its Home Position and stop. The operator can watch the Packer System motion with the truck’s side mirrors and the Hopper Camera monitor. **The Packer System will go through two pack cycles every time a container is dumped into the Hopper.**
- e. Once the Packer System testing is completed, **place the transmission in Neutral.**

14. Turn the Scorpion System **“OFF”** by pressing the **Red System Switch On-Off Switch** to the **OFF** position. The Scorpion systems are now ready to go on the collection route.

15. **Perform any remaining vehicle inspections and pre-route procedures as required by the Chassis manufacturer’s instructions or the vehicle owner’s instructions and/or operating requirements. AFTER THESE INSPECTIONS AND PROCEDURES ARE COMPLETED the Scorpion refuse collection vehicle is ready to drive to the collection route.**

The Pre-Trip testing of the Scorpion Lift Arm, Grabber and Packer System is complete.

ON ROUTE OPERATING AND REFUSE COLLECTION PROCEDURES

1. Once the vehicle has been driven to the start of the collection route the operator turns "ON" the System by pressing the **Red System On-Off Switch**. The MD3 Screen changes to the **Main Menu Screen** or system set-up (If ignition was turned off).
2. **Enable Auto Pack** system by pressing **F-2 button** on the **Main Menu Screen**.
3. **Enable EITHER** the **LST Switch** (F-3 button) or **Joystick** (F-4 button) Controller.

The Scorpion Automated Sideloaders are ready to collect refuse containers.

4. Drive to the first refuse container or can and start picking up the refuse containers utilizing the LST Switch or Joystick controller.

IF USING THE JOYSTICK CONTROLLER SKIP TO STEP 6.

LST Switch Controller Collection Procedures

5. If using the LST Switch controller use the following procedures:
 - A. **LOOK and make sure all persons are clear and there is plenty of side and overhead clearance to operate the lift arm, grabber, and container dump functions.**
 - B. **Move the Center Switch forward** and extend the lift arm out to the refuse container, **then release this Switch.**
 - C. **Move the Left Switch forward** to grip the container, **then release this Switch.**
 - D. **Use the Automated "Stinger" Sequence by pulling back and holding the Right Switch** to lift and dump the refuse from the container into the hopper, return the container to ground level and the lift arm to its full in position, **then release this Switch.**

Return Container to Original Location

The operator has the option to replace the container back in its original location using the individual switch controls as follows:

Once the Automated Stinger Sequence has returned the container to ground level, press the **Center Switch** forward and move the container to the desired distance away from the truck, **then release this Switch.**

- E. **Pull back the Left Switch** to release the container and open the grabber arms to their full open and In-transit position, **then release this Switch.**
- F. **Observe that the Auto Pack system is cycling the Packer Panel two times after the refuse was dumped into the Hopper.**
- G. **LOOK around the outside of truck and make sure no person is standing near the vehicle and if clear drive to the next container to be collected.**
- H. Continue this collection process until the Scorpion Body is full or you have reached the end of the day's collection route.

Note: System will notify operator when body is approaching full.

- I. Return all Scorpion components to their **IN-Transit Positions** with the **Arm fully IN**, the **Grabber fully OPEN**, and the **Packer Panel in the HOME position** (Packer Panel full forward and the Sweep Panel full up in a horizontal position).

Joystick Controller Collection Procedures

6. If using the Joystick controller use the following procedures:
 - A. **LOOK and make sure all persons are clear and there is plenty of side and overhead clearance to operate the lift arm, grabber, and container dump functions.**
 - B. **Move the Joystick to the right** and extend the lift arm out to the refuse container. [If possible, ALWAYS drive to the refuse container versus away from the refuse container to minimize extending the lift arm out]
 - C. **Press and hold the Top Right Joystick Button** to grip the container, **then release this Button.**
 - D. **Use the “Stinger” automated control by Pulling back and holding the Joystick** to lift and dump the refuse from the container into the hopper and return the container to ground level and the lift arm to its full in position, **then return the Joystick to the center neutral position. [When not utilizing "Stinger" mode and performing this operation, push the joystick forward to lower the lift arm until the lift arm is completely lowered then push the joystick to the right to extend the lift arm out placing the refuse container to its original location]**

Return Container to Original Location

The operator has the option to place the container back in its original location using the individual Joystick controls as follows:

Once the **Automated Stinger Mode** has returned the container to ground level, **move the Joystick to the right** and move the container to the desired distance away from the truck. **Return the Joystick to the center neutral position.**

- E. **Press and hold the Top Left Joystick Button** to release the container and open the grabber arms to their full open and In-transit position, **then release this Button.**
- F. **Observe that the Auto Pack system is cycling the Packer Panels two times after the refuse was dumped into the Hopper.**
- G. **Look around the outside of truck and make sure no person is standing near the vehicle and if clear drive to the next container to be collected.**
- H. Continue this collection process until the Scorpion Body is full or you have reached the end of the day's collection route.
Note: System will notify operator when body is approaching full.
- I. Return all Scorpion components to their **IN-Transit Positions** with the **Arm fully IN**, the **Grabber fully Open**, and the **Packer Panel in the HOME position** (Packer Panel full forward and the Sweep Panel full up in a horizontal position).

**IT IS RECOMMENDED TO UTILIZE THE SAFEST OPERATING METHOD
WHEN OPERATING A SCORPION ASL.**

7. The Scorpion Body is full and ready to go to the land fill or unloading location. **Turn the system “OFF” by pressing the Red System Switch to the “OFF” position.**
8. Drive to the landfill or the unloading location.

UNLOADING PROCEDURES

1. Unloading the Scorpion ASL at the landfill or another unloading location.

Caution

Be sure the area behind the unit is clear before placing the vehicle in reverse gear and backing the vehicle.

- A. Position the vehicle for unloading the Scorpion Body on firm level ground. **Never unload with the rear of the vehicle facing uphill.** If the vehicle must be moved in reverse, make sure the area behind the vehicle is clear before moving the vehicle in reverse. Also, make sure the rear facing camera on the back of the vehicle is operating and visible on the in-cab camera monitor and that both left and right side mirrors are properly adjusted for the operator to view the sides and rear of the vehicle. **Again make sure the area behind the vehicle is clear of people and obstacles before moving the vehicle in reverse.**
- B. Once in the desired unloading location, **Shift the vehicle into Drive Gear with foot brake depressed.**
- C. Turn the Scorpion System “ON” by pressing the **Red System On-Off Switch** located near the MD3 Screen.
- D. **Enable Auto Pack** on the **MD3 Main Screen** (F-2 button).
- E. Press the “**Functions**” button (OK side button) to change to the **Functions Screen**.
- F. Press the “**Tailgate**” button (F-2 button) to change to the **Tailgate Screen**.
- G. If the vehicle is equipped with an optional Tag Axle, press the “**Tag Down**” button (F-3 button) on the **Tailgate Screen**, to lower the Tag Axle into position.

Caution

Be sure the area behind the unit is clear before raising the tailgate.

- H. Press and Hold the “**Up**” button (F-1 button) on the **Tailgate Screen** to raise the Tailgate to its full up position.
- I. Press the “**Body**” button (Down Side button) to change to the **Body Screen**.
- J. Press and hold the “**UP**” button (F-2 button) on the **Body Screen** to raise the Body 75% up to allow the refuse to start falling out of the Body.
- K. Gradually pull the vehicle forward as the refuse continues to fall out of the body. Once the refuse has fallen out of the Body and the rear of the Scorpion Body is clear of the unloaded refuse, stop moving forward and depress the foot brake. Press and

UNLOADING PROCEDURES (continued)

- L. hold the **“UP”** button (F-2 button) on the **Body Screen** to raise the Body to its full 100% up position.
- M. Press the **“Auto Pack”** button (OK side button) to start the Auto Pack cycles of the Packing Panels. This will dislodge any refuse that may be still in the Hopper and allow it to be dumped out of the Body.

All the refuse should now be out of the body.

- N. Press and hold the **“Body Down”** button (F-4 button) on the **Body Screen** to lower the Body.
- O. Press the **“Tailgate”** button (down side button) to change to the **Tailgate Screen**.
- P. Press the **“Tailgate Down”** button (F-2 button) to lower and lock the tailgate.
- Q. Check that all Scorpion components are in their **In-Transit Positions** with the **Arm fully IN, Grabber fully OPEN, Packer Panel in the HOME** position, **Body fully DOWN**, and the **Tailgate fully DOWN and LOCKED**.
- R. When all Scorpion components are in their **In-Transit Positions**, turn the Scorpion System **“OFF”** by pressing the **Red System On-Off Switch** located near the MD3 Screen.
- S. The Scorpion ASL refuse collection vehicle is ready to return to the route or back to its overnight storage location.

SHUTDOWN & POST TRIP WALK-AROUND INSPECTION

1. At the municipal or private overnight storage location; perform any post route inspections or duties as instructed by the chassis manufacturer or the vehicle owner.

SWITCHES and SCORPION MD3

SYSTEM ON/OFF SWITCH



2. Park the vehicle. BE SURE THE SCORPION System is “OFF” then turn off the engine.
3. Exit the cab and lock the vehicle cab.
4. **Turn the Battery Disconnect Switch**, located on the outside of the vehicle, to the “OFF” position.



[Part Number AM00917]

THIS TRUCK IS EQUIPPED WITH A BATTERY DISCONNECT SWITCH (optional equipment)

THIS TRUCK IS EQUIPPED WITH A BATTERY DISCONNECT SWITCH. MUST BE TURNED OFF EVERY NIGHT 1/4 TURN
DADEE MFG 1-800-940-7467 Made in the U.S.A. AM00917

SECTION 4 - MAINTENANCE & ADJUSTMENTS

DESCRIPTION	SECTION
Lubrication Information	4-1
Maintenance Intervals	4-2
Grease Fitting Locations	4-3
Hydraulic Tank Maintenance	4-4
Hopper Cover, Slider, and Blade Assembly Removal and Lift Points	4-5
Roller Assembly Adjustment	4-6
Rotary Sensor Replacement and Calibration	4-7
Proximity Switches Installation and Replacement	4-8
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Transporting Scorpion ASL with Constant Drive PTO	4-11

LUBRICANT INFORMATION



BEFORE PERFORMING ANY MAINTENANCE, CHECK THE EQUIPMENT AND AREA CAREFULLY TO IDENTIFY ALL HAZARDS PRESENT. BE SURE ALL NECESSARY SAFEGUARDS AND SAFETY DEVICES ARE USED TO INSURE THE PROTECTION OF ALL PERSONS AND EQUIPMENT.

To insure long periods of efficient uninterrupted operation of the SCORPION, careful attention to preventive maintenance is essential. Correct lubrication of the unit and maintenance of the filter(s) are probably the most vital areas of preventative maintenance required.

Preventive Maintenance is necessary to anticipate operational difficulties before they require extended shut-down or costly repairs. A reference baseline analysis of the hydraulic fluid in your new unit is provided as part of the deliverable documents. **It is strongly recommended that you do comparative samples and analysis with each filter change interval to determine the condition of your hydraulic fluid.**

Hydraulic Oil Recommendation: Use an oil that contains the following specifications:

<u>PROMAX™ AW 32</u> <u>Hydraulic Oil</u>	
ISO Viscosity Grade	32
Viscosity @ 40°, cSt	31.0
Specific Gravity	0.87 (Est.)
Flash Point °F	294°F
Pour Point °F	-15
Rust Protection	Pass

IN COLD WEATHER

<u>Shell Tellus®Oil T 22</u>	
Viscosity	>20 CsT @ 40°F
Sp. Gravity @ 60°F	.874
Flash Point °F	>350°F
Pour Point °F	-20°F to -40°F
Rust Protection	Pass
Copper Corrosion	1A

NOTE: Cold weather operation requires special oil consideration. Viscosity should not exceed 7500 SSU at lowest startup temperature. Continuous operation should range between 60-1000 SSU for all temperature ranges.

Oil Can Lubricant Recommendation: Non-detergent SAE 20 engine oil is to be used to lubricate all moveable mechanical parts not furnished with grease fittings. Be sure to apply sufficient oil to give good lubrication. Always wipe off excess oil.

LUBRICANT INFORMATION (continued)



BEFORE PERFORMING ANY MAINTENANCE, CHECK THE EQUIPMENT AND AREA CAREFULLY TO IDENTIFY ALL HAZARDS PRESENT. BE SURE ALL NECESSARY SAFEGUARDS AND SAFETY DEVICES ARE USED TO INSURE THE PROTECTION OF ALL PERSONS AND EQUIPMENT.

Grease Lubricant Recommendation: Before applying grease be sure to clean fitting. Always pump enough grease to purge the joint of contaminated grease and wipe excess.

<u>Properties</u>	NLGI GRADE # 1	NLGI GRADE # 2
Worked Penetration	325	280
Mobility @ 60F (15.6 C), g/min	>260	>160
Dropping Point, °F / °C	500 / 260	500 / 260
<u>Point Contact Equipment Life Extension</u>		
4-ball weld load, kg	>800	>800
Load Wear Index	>150	>150
Load Wear Index Scar @ 200kg, mm	<1.15	<1.15
<u>Line Contact Equipment Life Extension</u>		
Timken OK Load, lbs. min	>70	>70
PSI Rating, psi	Pass/>9,000	Pass/>9,000
Max Temp °C	140	140
Average Coefficient of Friction, after 30 minute break-in	0.03	0.03
Extended test, hours to failure	>2	>2
<u>Oxidation Testing Grease Life Extension</u>		
Wheel Bearing Life Test - hours to failure after 100 hr. Oxidation Bomb Test (D942)	Exceeds GC Requirements	Exceeds GC Requirements
Rust Prevention, 100% Sea Water	Pass	Pass

MAINTENANCE INTERVALS (continued)

Preventative maintenance involves visual inspection of mechanical, structural, electrical, and hydraulic components, assemblies, and filters. ALL pins, bolted connections, seals, moving assemblies, and components are subject to wear and should be inspected with regularity.

Preventative maintenance is the owner's responsibility. It is also the owner's responsibility to incorporate all service bulletin items into their maintenance program.

OEM Filters and Breathers are required.

The lubrication, adjustments, and replacement of filters should be performed when indicated by the maintenance schedule AS WELL AS when visual inspection indicates. OPERATING ENVIRONMENT AS WELL AS OPERATING HOURS should be considered when determining frequency of such maintenance as replacing filters and breathers.



COMPONENT/ SYSTEM	DAILY 8 HRS	WEEKLY 40 HRS	SEE NOTE BELOW *	ANNUALLY 2000 HRS	SERVICE / CHECK
Hydraulic System	X				Check oil level in tank & refill
		X			Check cylinders, pump & system for leaks; repair/replace if necessary
			X		*Replace in-tank return line filter
			X		Clean or replace tank breather
				X	Hydraulic fluid should be drained and/or tested Annually. If system is drained, replace in-tank return line filter and clean or replace suction filter at bottom of hydraulic tank.
Lights & Wiring	X				Check for proper operation
Operator's Controls	X				Check for proper operation
Front Mount Pump Power Take Off (if so equipped)		X			Check seals for leaks & operation
Grease Fittings		X			See Grease Fitting Locations 4-2
Packing Mechanism	X				Check for proper operation
		X			Check Packer V-Rollers
Arm Mechanism	X				Check for proper operation
		X			Check Arm Rollers
Body Pivot Pins		X			Check for proper operation
Hoist Cylinder Pin		X			Check for proper operation
Tailgate Pivot Pins		X			Check for proper operation
Hopper Top Lip		X			Visually inspect bolted connection
CNG High Pressure Filter	Replace filter every 3000 miles				

***Replace in-tank return line filters after first 30 days of operation. Replace every 90 days thereafter OR more frequently when indicated by environmental and visual indicators. If you unit includes the optional high pressure filter system these intervals apply.**

Tank breather should be CLEANED OR REPLACED with in-tank filter intervals.

**GREASE FITTING LOCATIONS
MAINTENANCE SCHEDULE**

Before performing any maintenance activity, be sure all appropriate safety precautions have been taken to protect the technician and equipment.

Clean fittings before applying grease and always pump enough grease into the joint to remove the old grease. Wipe off excess.

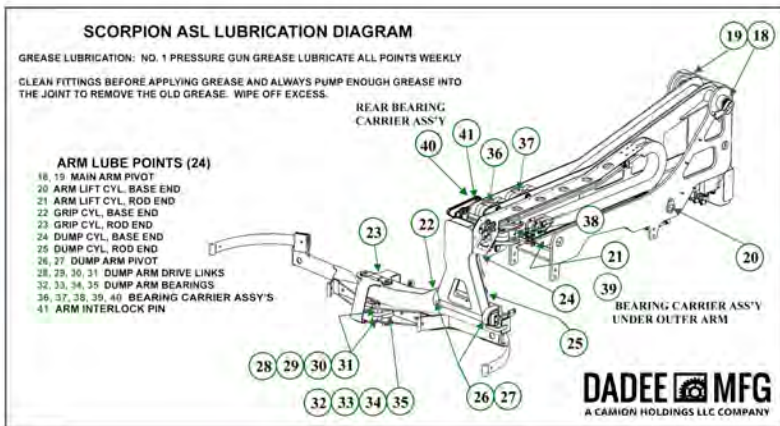
There are forty-two (42) lubrication points on the Scorpion ASL. (17) points are located on the Body and (25) points are located on the Arm. The recommended frequency of lubrication is **Weekly** as shown below.

Notes:

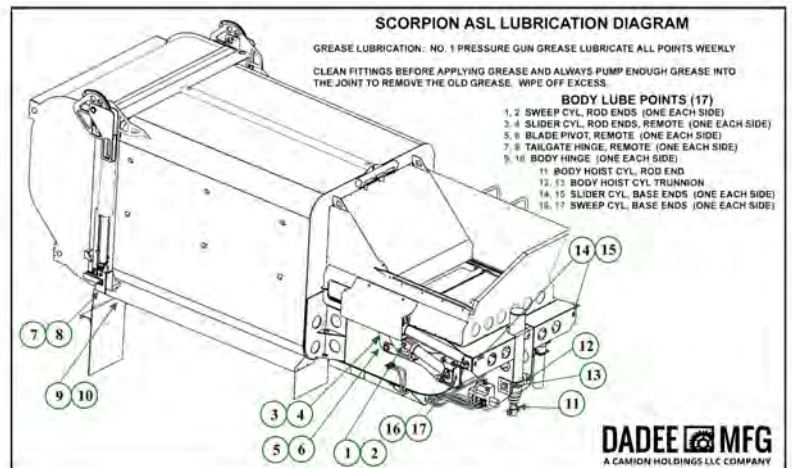
DO NOT Grease the Sweep Blade / Slider Wear Bar area. This will collect debris/dirt and accelerate wear.

Higher than average use may increase the need for lubrication. Visual inspection for wear as well as owner’s lubrication interval schedule may result in more frequent lubrication.

[DECAL PART NUMBER AM01875]



[DECAL PART NUMBER AM01876]



GREASE FITTING LOCATIONS (continued)

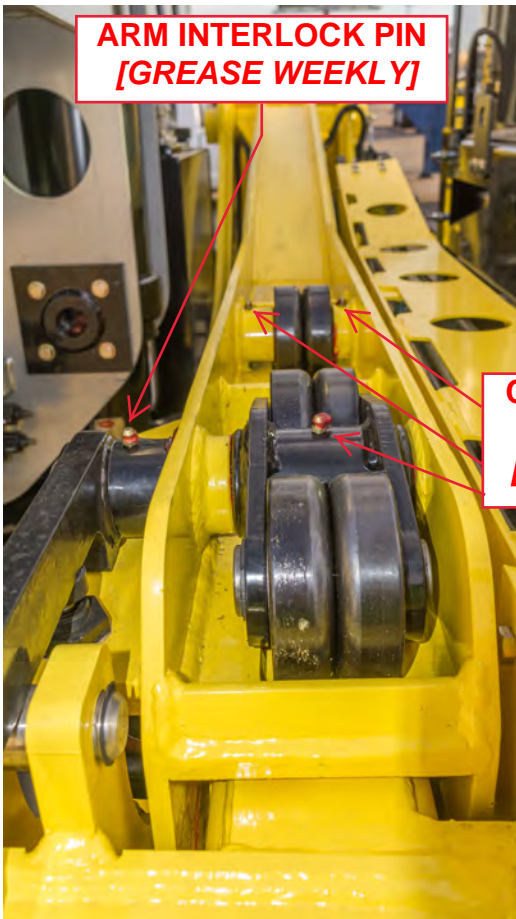
GENERAL OVERVIEW OF LOCATIONS

PLEASE PAY SPECIAL ATTENTION: THE MOST MISSED GREASE FITTINGS ARE BEHIND THE DUMP ARM (6 POINTS) AND ALSO THE BODY PIVOTS AT REAR.

CURBSIDE OF UNIT



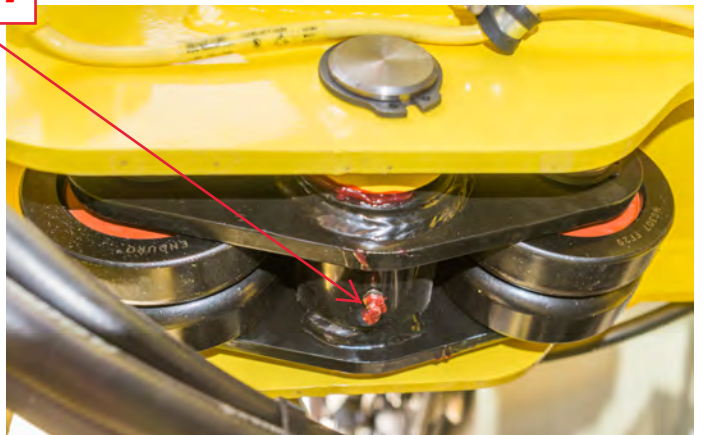
SIDE OF ARM



TOP OF ARM



SIDE OF ARM

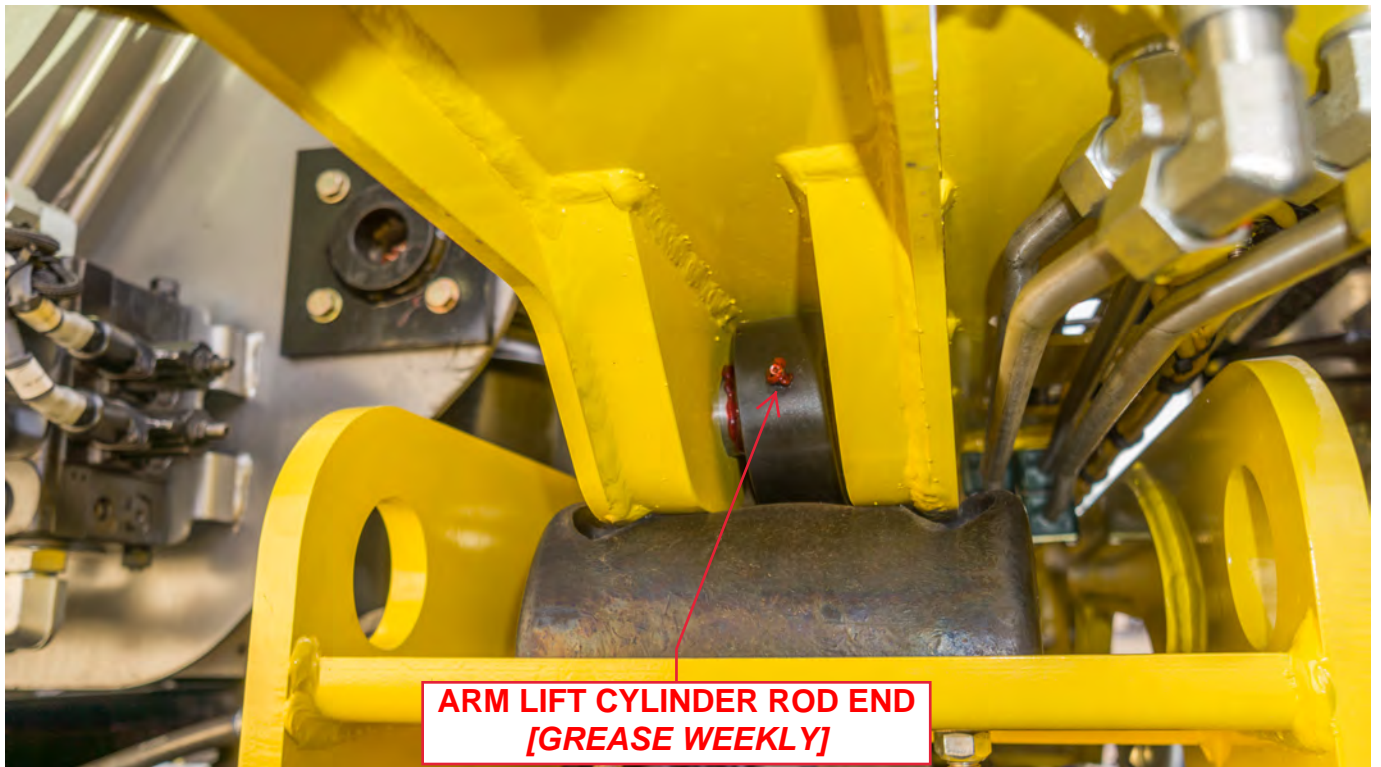


BOTTOM OF ARM

GREASE FITTING LOCATIONS (continued)
GENERAL OVERVIEW OF LOCATIONS

PLEASE PAY SPECIAL ATTENTION: THE MOST MISSED GREASE FITTINGS ARE BEHIND THE DUMP ARM (6 POINTS) AND ALSO THE BODY PIVOTS AT REAR.

CURBSIDE OF UNIT



GREASE FITTING LOCATIONS (continued)
GENERAL OVERVIEW OF LOCATIONS

PLEASE PAY SPECIAL ATTENTION: THE MOST MISSED GREASE FITTINGS ARE BEHIND THE DUMP ARM (6 POINTS) AND ALSO THE BODY PIVOTS AT REAR.

CURBSIDE OF UNIT



**GRIP DRIVE LINKS
[GREASE WEEKLY]**



**GRIP CYLINDER BASE END
[GREASE WEEKLY]**

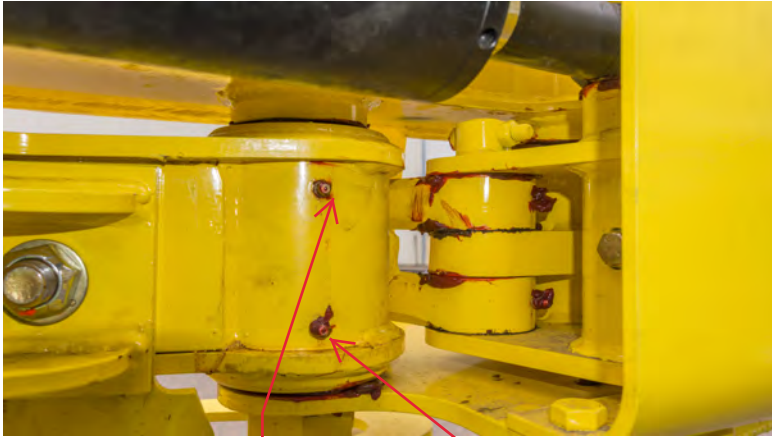
**GRIP CYLINDER ROD END
[GREASE WEEKLY]**

GREASE FITTING LOCATIONS (continued)

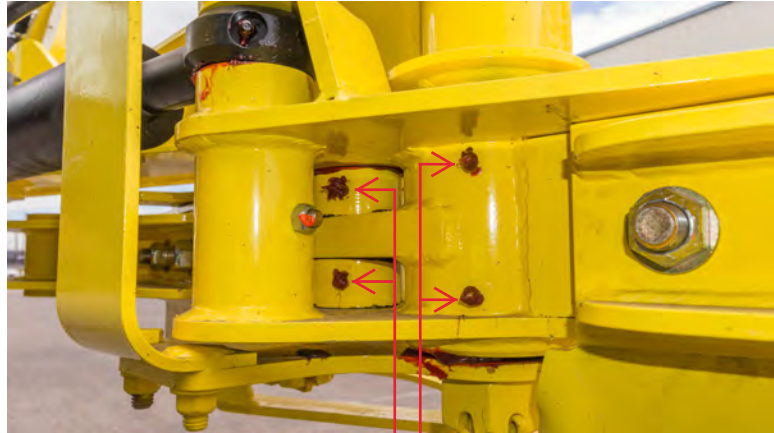
GENERAL OVERVIEW OF LOCATIONS

PLEASE PAY SPECIAL ATTENTION: THE MOST MISSED GREASE FITTINGS ARE BEHIND THE DUMP ARM (6 POINTS) AND ALSO THE BODY PIVOTS AT REAR.

CURBSIDE OF UNIT



**GRIP LINK BEARINGS
[GREASE WEEKLY]**



**GRIP DRIVE LINKS
[GREASE WEEKLY]**

**GRIP DRIVE BEARINGS
[GREASE WEEKLY]**



**DUMP CYLINDER
BASE END
[GREASE WEEKLY]**

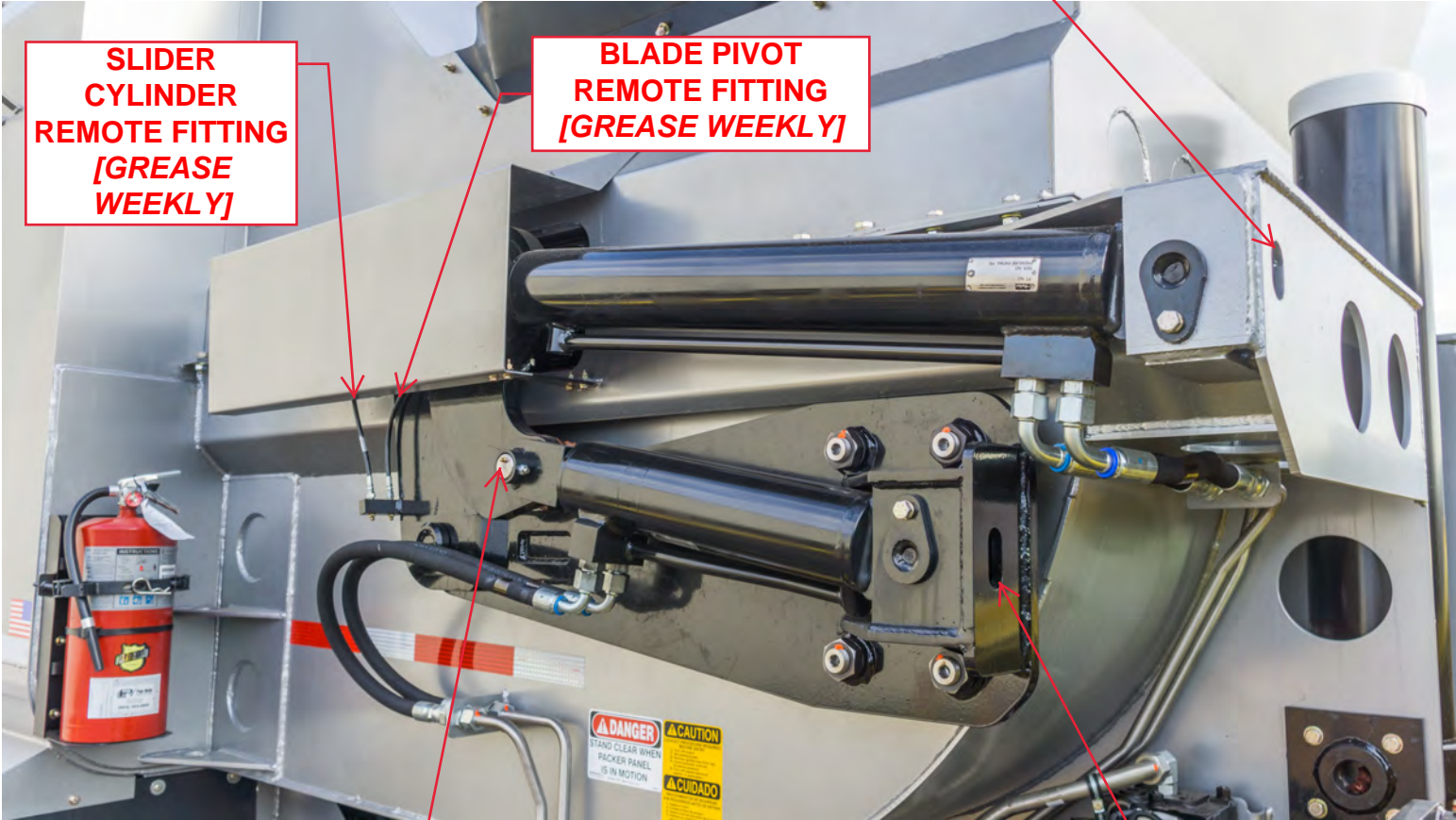
**DUMP CYLINDER ROD
END
[GREASE WEEKLY]**

GREASE FITTING LOCATIONS (continued)
GENERAL OVERVIEW OF LOCATIONS

PLEASE PAY SPECIAL ATTENTION: THE MOST MISSED GREASE FITTINGS ARE BEHIND THE DUMP ARM (6 POINTS) AND ALSO THE BODY PIVOTS AT REAR.

CURBSIDE OF UNIT

**SLIDER CYLINDER BASE
END [GREASE WEEKLY]**



**SLIDER
CYLINDER
REMOTE FITTING
[GREASE
WEEKLY]**

**BLADE PIVOT
REMOTE FITTING
[GREASE WEEKLY]**

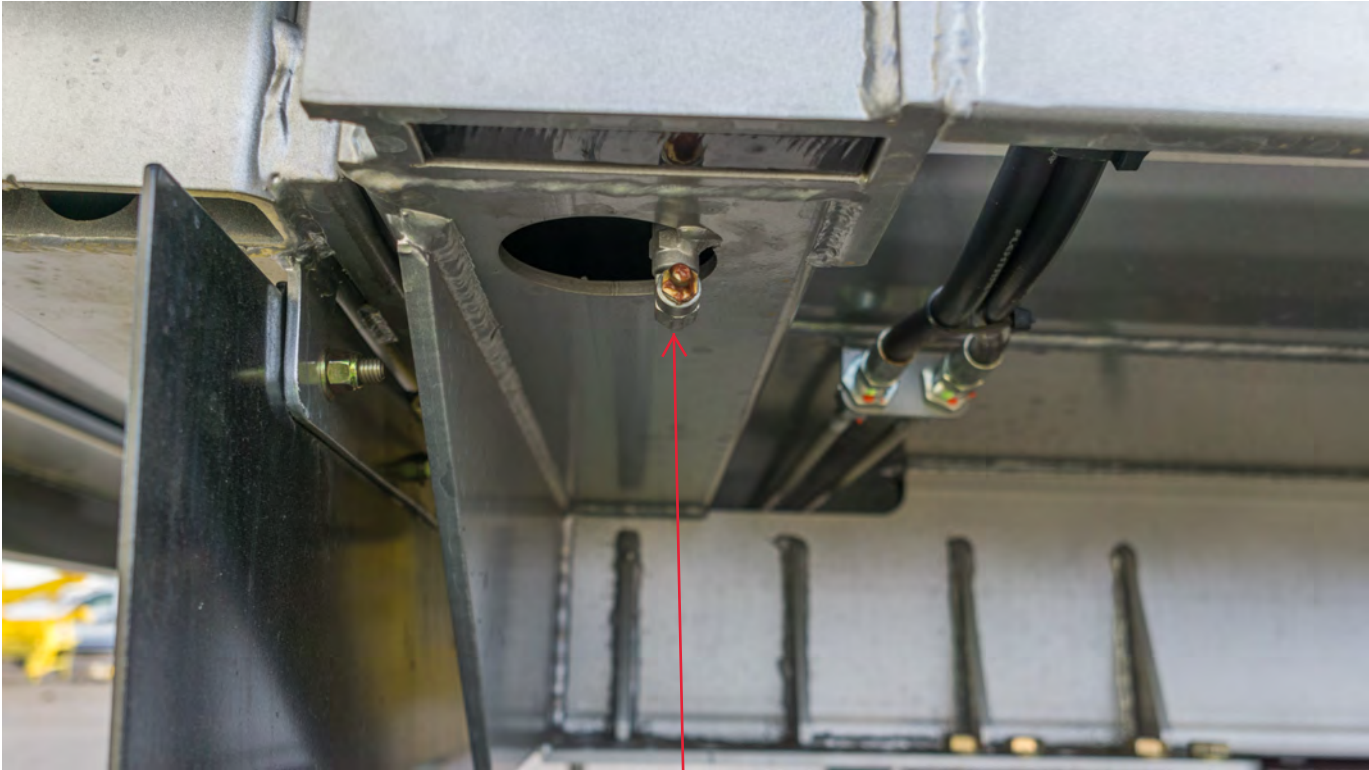
**SWEEP CYLINDER ROD
END
[GREASE WEEKLY]**

**SWEEP
CYLINDER BASE
END [GREASE
WEEKLY]**

GREASE FITTING LOCATIONS (continued)
GENERAL OVERVIEW OF LOCATIONS

PLEASE PAY SPECIAL ATTENTION: THE MOST MISSED GREASE FITTINGS ARE BEHIND THE DUMP ARM (6 POINTS) AND ALSO THE BODY PIVOTS AT REAR.

CURBSIDE OF UNIT

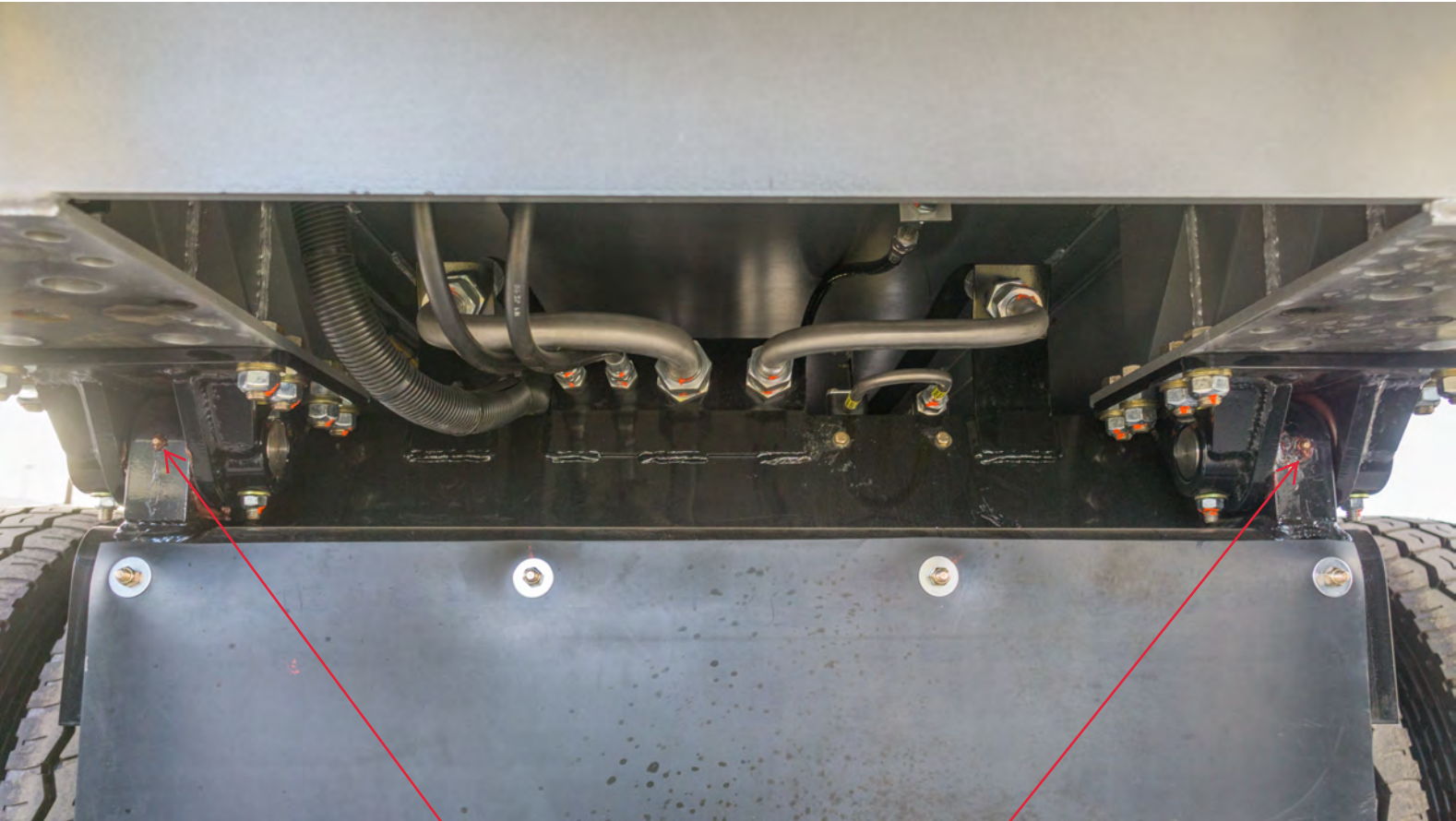


**TAILGATE HINGE
REMOTE FITTING
[GREASE WEEKLY]**

GREASE FITTING LOCATIONS (continued)
GENERAL OVERVIEW OF LOCATIONS

PLEASE PAY SPECIAL ATTENTION: THE MOST MISSED GREASE FITTINGS ARE BEHIND THE DUMP ARM (6 POINTS) AND ALSO THE BODY PIVOTS AT REAR.

UNDER REAR OF BODY



**BODY HINGE
[GREASE WEEKLY]**

GREASE FITTING LOCATIONS (continued)
GENERAL OVERVIEW OF LOCATIONS

PLEASE PAY SPECIAL ATTENTION: THE MOST MISSED GREASE FITTINGS ARE BEHIND THE DUMP ARM (6 POINTS) AND ALSO THE BODY PIVOTS AT REAR.

STREETSIDE OF UNIT



**MAIN ARM PIVOT (FRONT)
[GREASE WEEKLY]**

**ARM LIFT CYLINDER BASE
END [GREASE WEEKLY]**

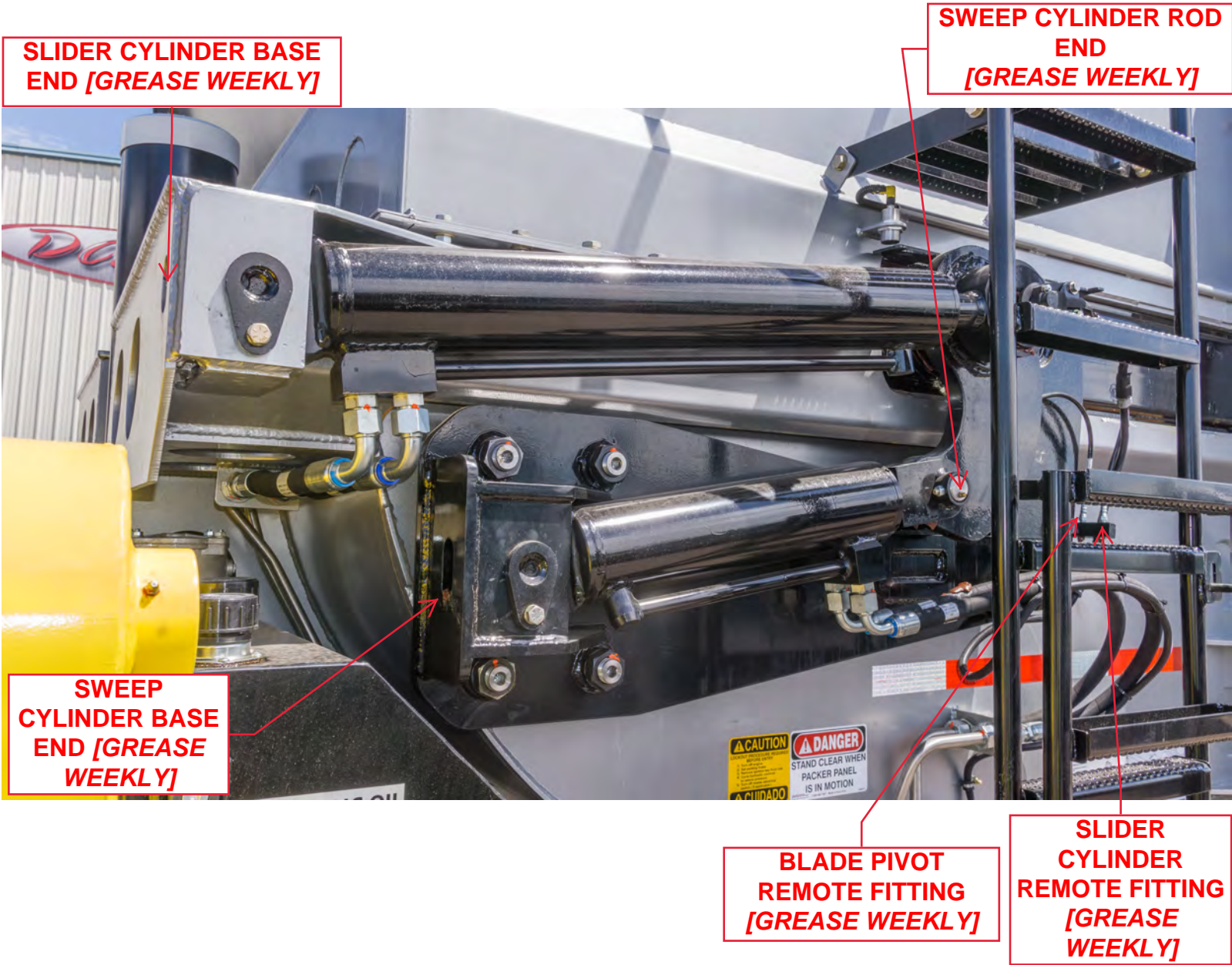
**MAIN ARM PIVOT (REAR)
[GREASE WEEKLY]**



GREASE FITTING LOCATIONS (continued)
GENERAL OVERVIEW OF LOCATIONS

PLEASE PAY SPECIAL ATTENTION: THE MOST MISSED GREASE FITTINGS ARE BEHIND THE DUMP ARM (6 POINTS) AND ALSO THE BODY PIVOTS AT REAR.

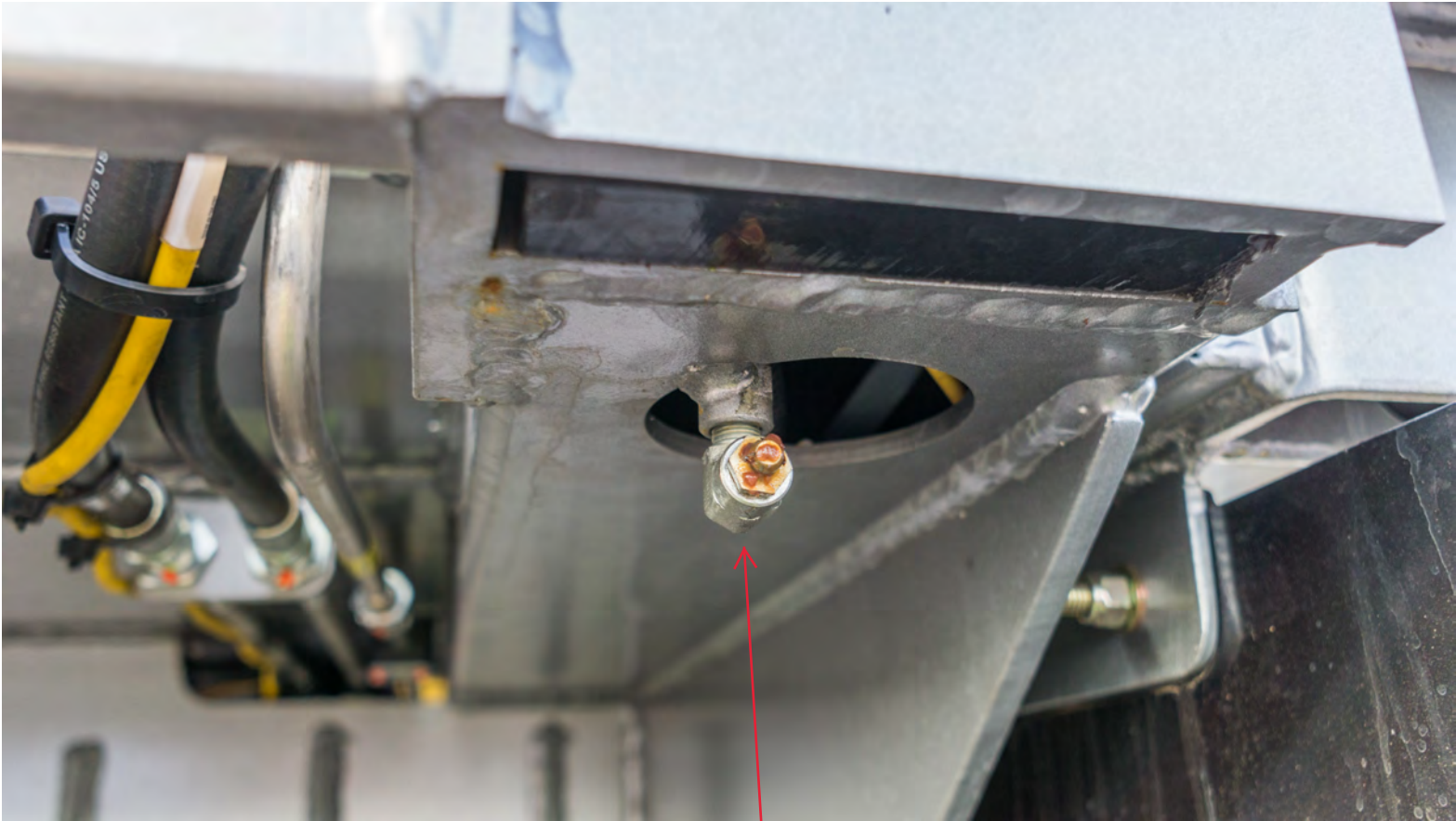
STREETSIDE OF UNIT



GREASE FITTING LOCATIONS (continued)
GENERAL OVERVIEW OF LOCATIONS

PLEASE PAY SPECIAL ATTENTION: THE MOST MISSED GREASE FITTINGS ARE BEHIND THE DUMP ARM (6 POINTS) AND ALSO THE BODY PIVOTS AT REAR.

STREETSIDE OF UNIT



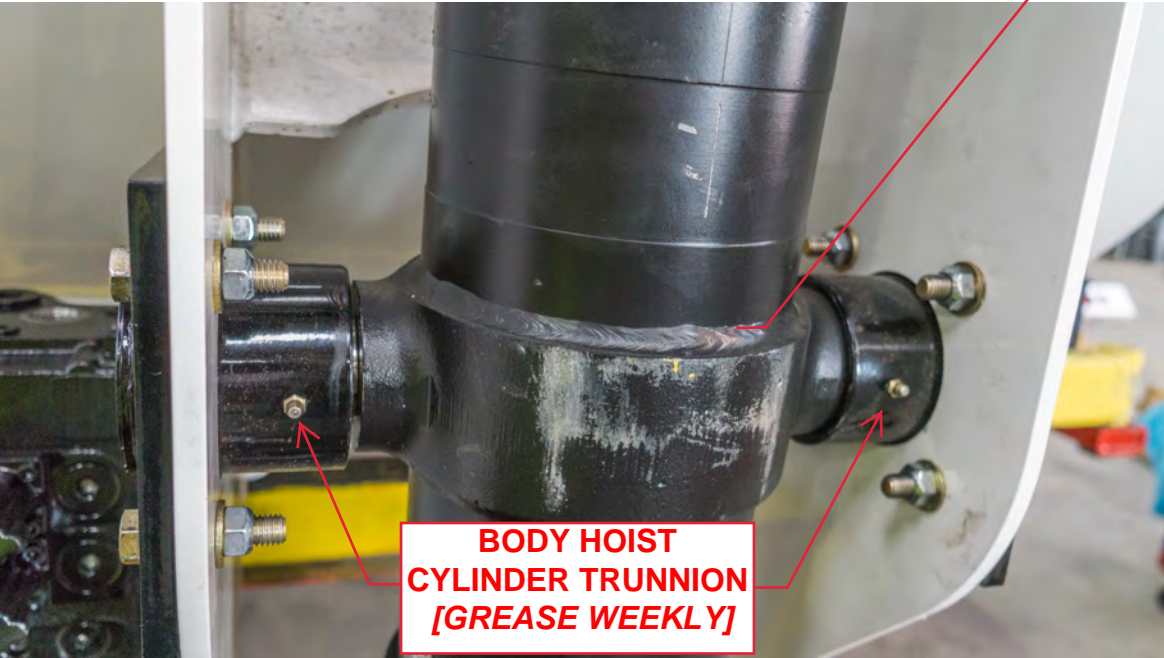
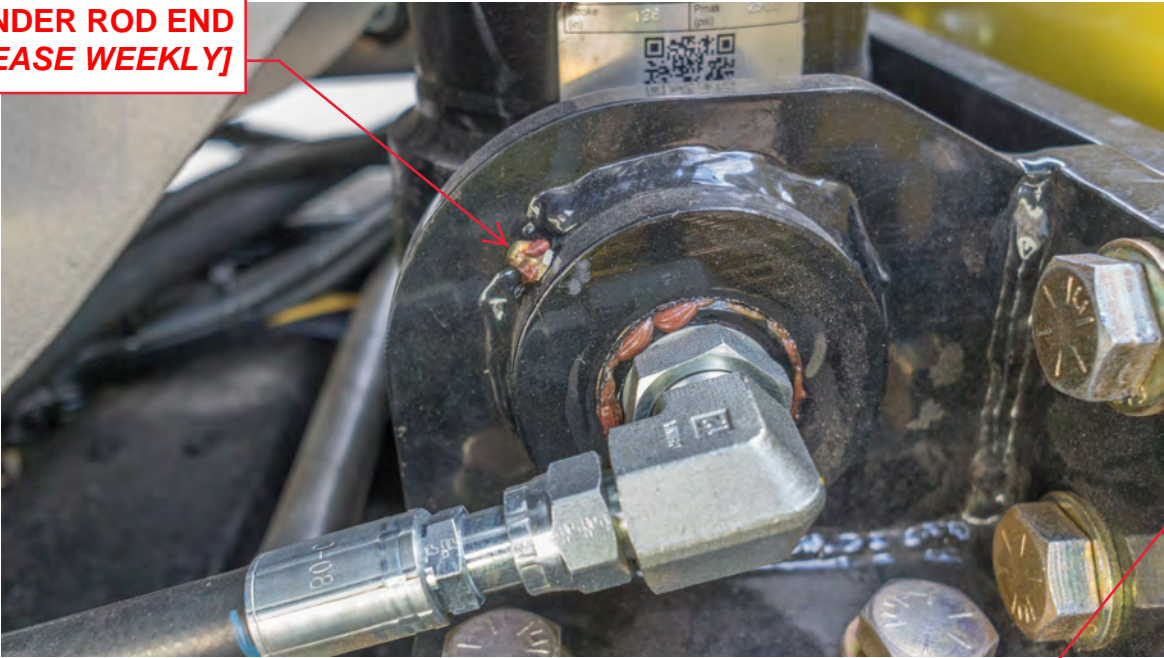
**TAILGATE HINGE
REMOTE FITTING
[GREASE WEEKLY]**

GREASE FITTING LOCATIONS (continued)
GENERAL OVERVIEW OF LOCATIONS

PLEASE PAY SPECIAL ATTENTION: THE MOST MISSED GREASE FITTINGS ARE BEHIND THE DUMP ARM (6 POINTS) AND ALSO THE BODY PIVOTS AT REAR.

FRONT OF BODY

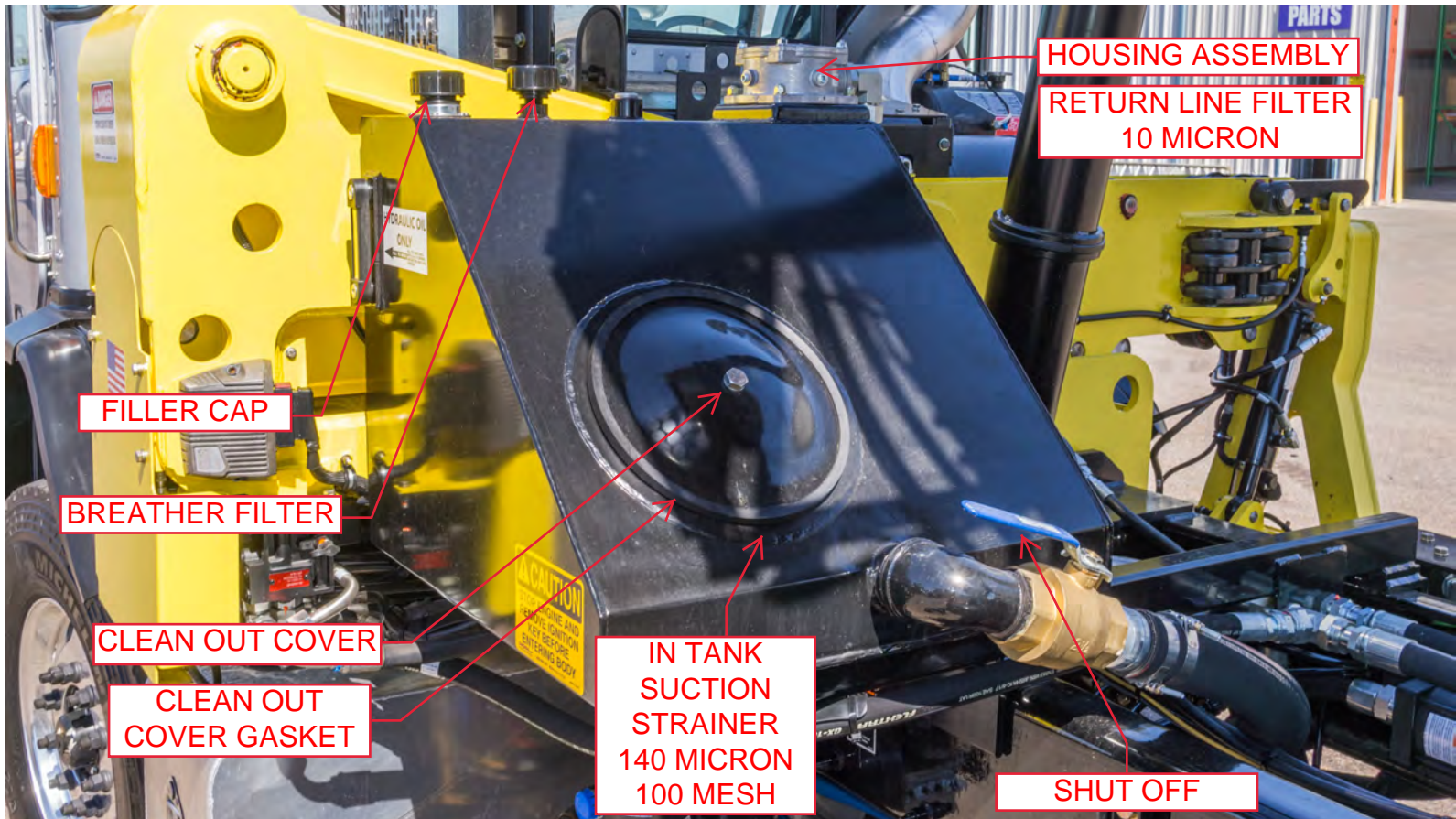
**BODY HOIST
CYLINDER ROD END
[GREASE WEEKLY]**



**BODY HOIST
CYLINDER TRUNNION
[GREASE WEEKLY]**

HYDRAULIC TANK MAINTENANCE

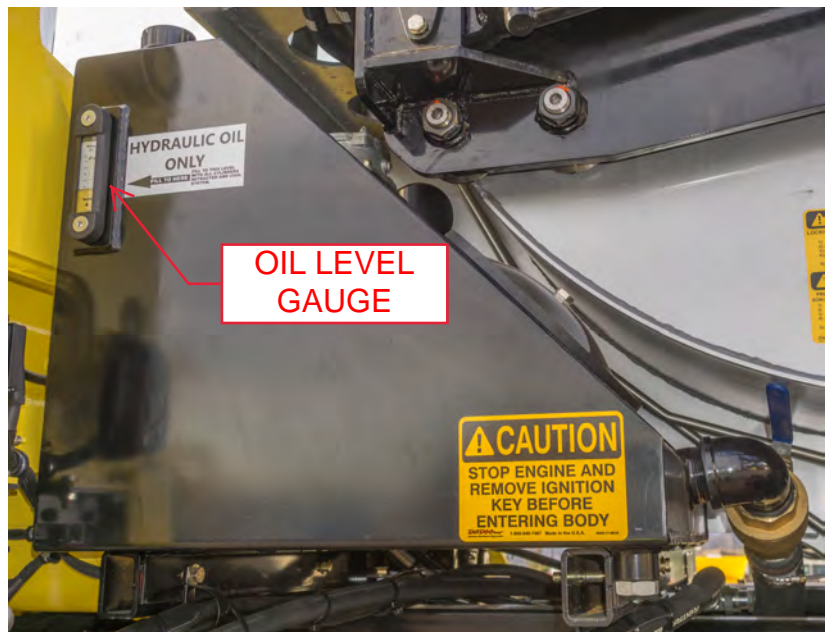
WARNING: DAMAGE TO HYDRAULIC TANK AND SYSTEM MAY OCCURE IF NON-OEM FILTERS ARE USED. DaDee Breather Filter is a REPLACEABLE, WASHABLE, REUSEABLE, 30 CFM Foam Filter. **Do NOT replace with Paper Filter.** During the warranty period OEM Filters and Breathers are required.



Inspect the oil tank at regular intervals for leaks. Keep sight glass (oil level gauge) clean for inspection of level.

PRIOR to adding oil to the system confirm that all cylinders are in the home or retracted position.

Fill when system is COLD.



HOPPER COVER, SLIDER & BLADE ASSEMBLY REMOVAL AND LIFT POINTS**HOPPER COVER AND SLIDER ASSEMBLY REMOVAL AND LIFT POINTS**

BEFORE PERFORMING ANY MAINTENANCE, CHECK THE EQUIPMENT AND AREA CAREFULLY TO IDENTIFY ALL HAZARDS PRESENT. BE SURE ALL NECESSARY SAFEGUARDS AND SAFETY DEVICES ARE USED TO INSURE THE PROTECTION OF ALL PERSONS AND EQUIPMENT.

HOPPER COVER REMOVAL:

1. Disconnect all hoses on slider and sweep cylinders on both sides of the truck.
2. Remove slider cover on curb side of truck.
3. Remove slider and sweep cylinders on both sides of the truck.
4. Remove blade rotary sensor on the street side of the truck.
5. Remove splined drive link on both sides.
6. Remove pin between slider and follower link assembly on both sides of the truck.
7. Remove ladder.
8. Removes bolts on hopper flange.
9. Lift hopper top from body using the (4) chain lifting points.



HOPPER COVER, SLIDER & BLADE ASSEMBLY REMOVAL AND LIFT POINTS (continued)

BLADE REMOVAL



1. Lift blade and slider assembly from the lower hopper using chains wrapped around splines on the ends of the blade. (See Picture)



ROLLER ASSEMBLY ADJUSTMENT

To ensure full arm life expectancy, roller assembly adjustment is imperative.

1. Roller assembly adjustment is needed in situations where the dump arm is not parallel to the chassis frame. Check for loose rollers or that the dump arm is also not level.
2. Loosen jam nuts and adjuster bolts if dump arm/rollers are loose or dump arm has up and down play.
3. Tighten adjuster bolts until rollers on rear of arm make equal contact with inner arm. All rollers should not rotate. ***DO NOT OVER TIGHTEN***. Over tightening will damage bearings.



ROLLER ASSEMBLY ADJUSTMENT (continued)

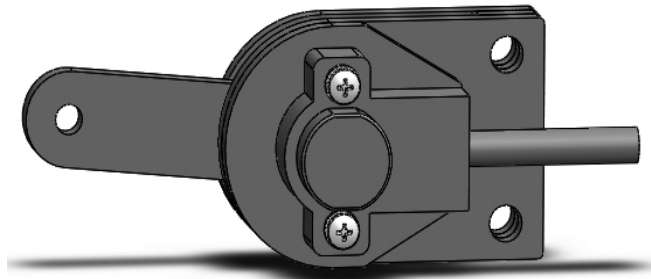
4. Tighten jam nuts after adjustments are made.
5. Check rollers again for spinning. If spinning repeat process.
6. If properly adjusted, dump arm will be parallel to the chassis frame and level, and rollers will be snug and not rotating.



ROTARY SENSOR REPLACEMENT AND CALIBRATION

MAIN ARM ROTARY SENSOR INSTALLATION

1. Remove Existing Rotary Sensor.
2. Disconnect link from drive arm.
3. New Rotary Sensor must be installed to drive with the drive arm in position shown below:



4. Note: Rotary Sensors are spring loaded to one side.
5. Sensor should be installed onto hex with cable facing away from drive arm and bolted into place.
6. Once installed and fastened in position, attach wiring harness and link to drive arm.
7. Rotary Sensor can now be Calibrated using Rotary Sensor Calibration screen on MD3 Master Module (In Cab).

MAIN ARM DRIVE LINK INSTALLATION

1. Insure that both bearings move freely before installation.
2. Do not over tighten mounting bolts.



ROTARY SENSOR REPLACEMENT AND CALIBRATION (continued)

MAIN ARM ROTARY SENSOR ASSEMBLY



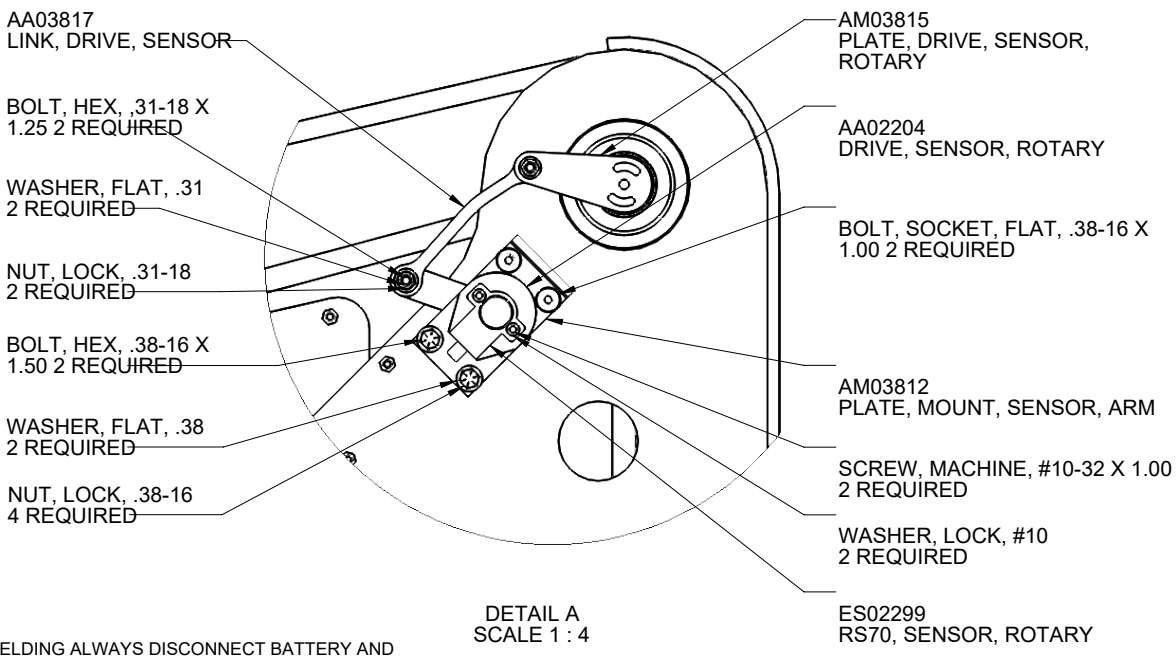
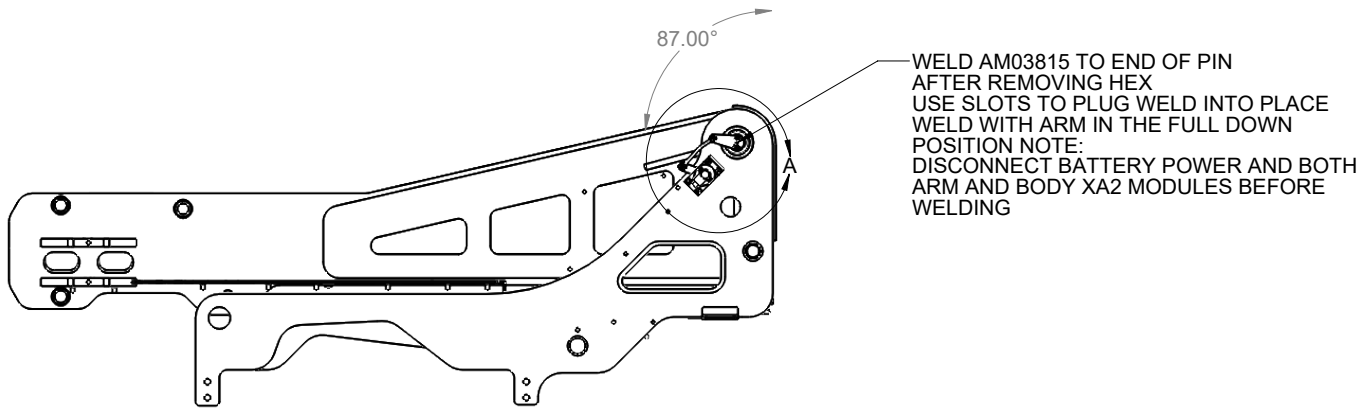
ROTARY SENSOR REPLACEMENT AND CALIBRATION (continued)

MAIN ARM ROTARY SENSOR ASSEMBLY PARTS LIST

PART #	DESCRIPTION	QTY
AA05494	KIT, MOUNT, SENSOR, MAIN ARM	1
AA03812	PLATE, MOUNT, SENSOR, ARM	1
WA03815	PLATE, DRIVE, SENSOR, ROTARY	1
AA03817	LINK, DRIVE, SENSOR	1
AA02204	DRIVE, SENSOR, ROTARY, FL	1
09S8Y-038	WASHER, FLAT, 038, F436	4
08SCCZ-038	NUT, LOCK, 038, GRADE C BOLT,	4
03CSCY-0380150	HEX, 038-16_150 GRADE 8 BOLT,	2
10FHCP-0380100	FSH, 038 -16_100 WASHER, FLAT,	2
09S8Y-031	031, F436	2
08SCCZ-031	NUT, LOCK, 031, GRADE C BOLT,	2
03CSCY-0310100	HEX, 031-16_100 GRADE 8 WASH,	2
09LWZ-019	LOCK, #10	2
11MSPPFZ-0190100	SCREW, PPH, #10-32_100	2

ROTARY SENSOR REPLACEMENT AND CALIBRATION (continued)

MAIN ARM ROTARY SENSOR ASSEMBLY DRAWING



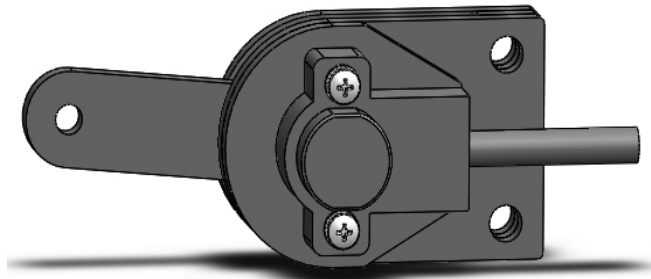
NOTE:
WHEN WELDING ALWAYS DISCONNECT BATTERY AND
THE ARM AND BODY XA2,

DETAIL A
SCALE 1 : 4

ROTARY SENSOR REPLACEMENT AND CALIBRATION

DUMP ARM ROTARY SENSOR INSTALLATION

1. Remove Existing Rotary Sensor.
2. Disconnect link from drive arm.
3. New Rotary Sensor must be installed to drive with the drive arm in position shown below:



4. Note: Rotary Sensors are spring loaded to one side.
5. Sensor should be installed onto hex with cable facing away from drive arm and bolted into place.
6. Once installed and fastened in position, attach wiring harness and link to drive arm.
7. Rotary Sensor can now be Calibrated using Rotary Sensor Calibration screen on MD3 Master Module (In Cab).

DUMP ARM DRIVE LINK INSTALLATION

1. Insure that both bearings move freely before installation.
2. Do not over tighten mounting bolts.



ROTARY SENSOR REPLACEMENT AND CALIBRATION (continued)

DUMP ARM ROTARY SENSOR ASSEMBLY



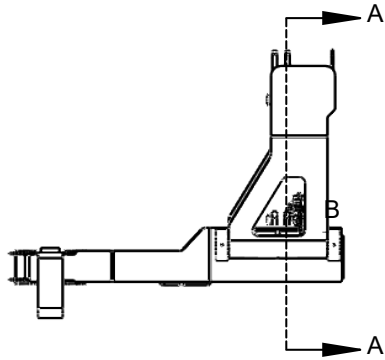
ROTARY SENSOR REPLACEMENT AND CALIBRATION (continued)

DUMP ARM ROTARY SENSOR ASSEMBLY PARTS LIST

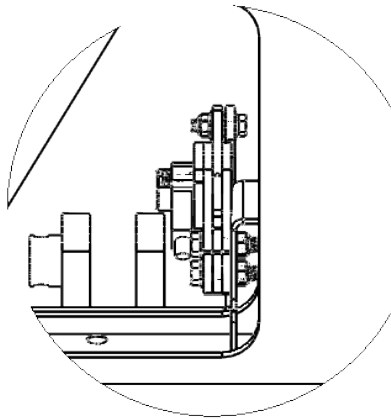
PART#	DESCRIPTION	QTY
AA05493	KIT, MOUNT, SENSOR, DUMP ARM	1
WA04179	PLATE, MOUNT, DRIVE, SENSOR	1
AA03817	LINK, DRIVE, SENSOR	1
AA02204	DRIVE, SENSOR, ROTARY, FL	1
WA02832	TAB, DRIVE, SENSOR, ARM	1
09S8Y-038	WASHER, FLAT, 038, F436	2
08SCCZ-038	NUT, LOCK, 038, GRADE C	2
03CSCY-0380150	BOLT, HEX, 038-16_150 GRADE 8	2
09S8Y-031	WASHER, FLAT, 031, F436	2
08SCCZ-031	NUT, LOCK, 031, GRADE C	2
03CSCY-0310100	BOLT, HEX, 031-16_100 GRADE 8	2
09LWZ-019	WASH, LOCK, #10	2
11MSPPFZ-0190100	SCREW, PPH, #10-32_100	2
03CSCY-0250075	BOLT, HEX, 025-20_075, GRADE 8	2
08SCCZ-025	NUT, LOCK, 025, GRADE C	2
09S8Y-025	WASHER, FLAT, 025, F436 CLAMP,	2
25ALD-2012	'P', 025_100	2

ROTARY SENSOR REPLACEMENT AND CALIBRATION (continued)

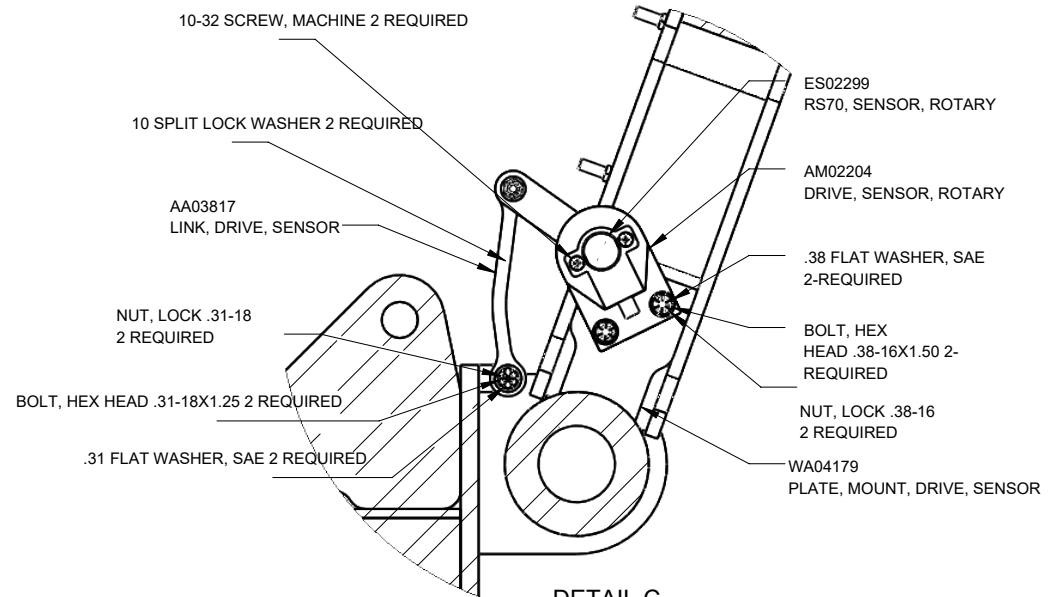
DUMP ARM ROTARY SENSOR ASSEMBLY DRAWING



SECTION A-A



DETAIL B
SCALE 1 : 4

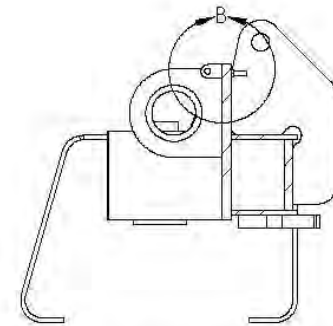
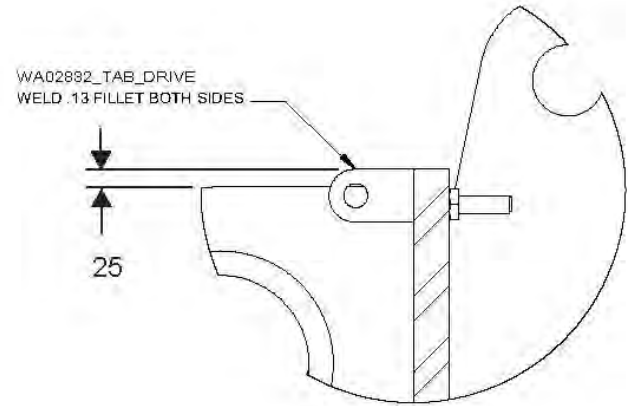
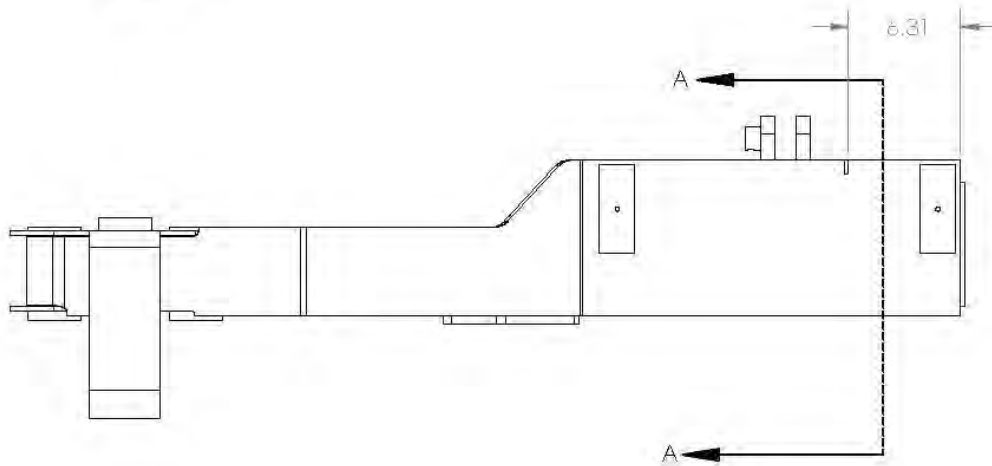
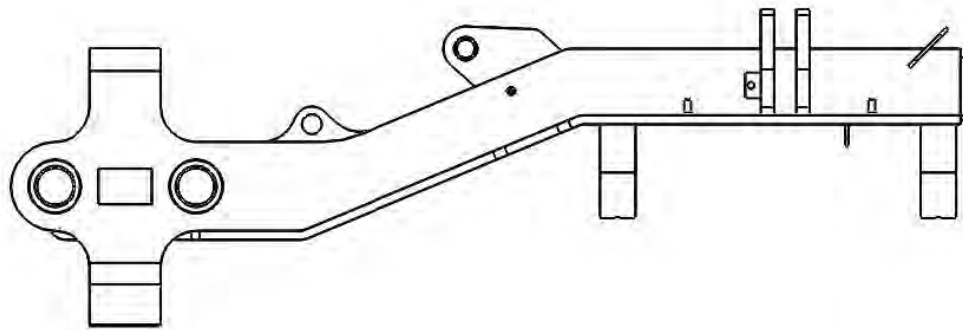


DETAIL C
SCALE 1 : 4

- 10-32 SCREW, MACHINE 2 REQUIRED
- 10 SPLIT LOCK WASHER 2 REQUIRED
- AA03817 LINK, DRIVE, SENSOR
- NUT, LOCK .31-18 2 REQUIRED
- BOLT, HEX HEAD .31-18X1.25 2 REQUIRED
- .31 FLAT WASHER, SAE 2 REQUIRED
- ES02299 RS70, SENSOR, ROTARY
- AM02204 DRIVE, SENSOR, ROTARY
- .38 FLAT WASHER, SAE 2-REQUIRED
- BOLT, HEX HEAD .38-16X1.50 2-REQUIRED
- NUT, LOCK .38-16 2 REQUIRED
- WA04179 PLATE, MOUNT, DRIVE, SENSOR

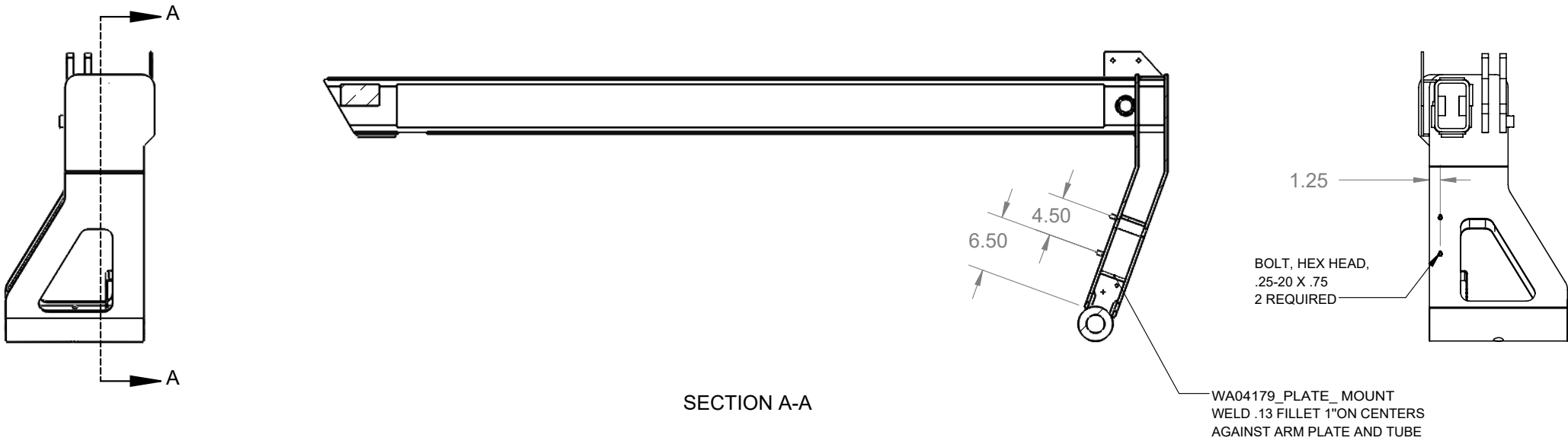
ROTARY SENSOR REPLACEMENT AND CALIBRATION (continued)

DUMP ARM ROTARY SENSOR ASSEMBLY DRAWING



ROTARY SENSOR REPLACEMENT AND CALIBRATION (continued)

DUMP ARM ROTARY SENSOR ASSEMBLY DRAWING



SECTION A-A

WA04179_PLATE_MOUNT
WELD .13 FILLET 1" ON CENTERS
AGAINST ARM PLATE AND TUBE

BOLT, HEX HEAD,
.25-20 X .75
2 REQUIRED

ROTARY SENSOR REPLACEMENT AND CALIBRATION (continued)

DUMP ARM ROTARY SENSOR ASSEMBLY



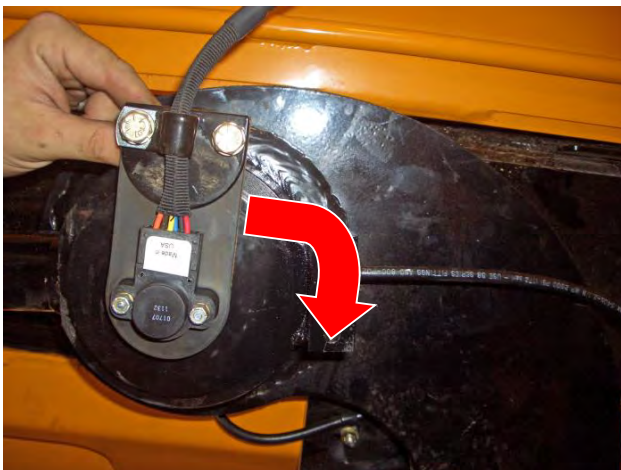
ROUTE DUMP ROTARY SENSOR AND GRIP PROX HARNESSSES AS SHOWN. CLAMP INTO PLACE USING 'P' CLAMPS PROVIDED.



CLAMP, 'P', .25 X 1.00
WASHER, FLAT, .25
LOCKNUT, HEX, .25-20 GR C

ROTARY SENSOR REPLACEMENT AND CALIBRATION (continued)**PACKER BLADE ROTARY SENSOR INSTRUCTIONS**

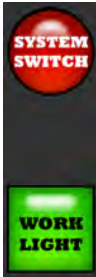
1. Packer blade needs to be in home position (Slide needs to be fully forward and Sweep needs to be fully swept up).
2. Remove existing Rotary Sensor.
3. Note: Rotary Sensors are spring loaded to one side.
4. Sensor must be installed to allow full travel clockwise and counterclockwise without hitting stops on sensor.
5. Sensor should be pre-loaded to approximately the mid-rotation point.



6. Once installed and fastened in position, attach wiring harness.
7. Rotary Sensor can now be Calibrated using Rotary Sensor Calibration screen on MD3 Master Module (In Cab).

ROTARY SENSOR REPLACEMENT AND CALIBRATION

AUTO ROTARY SENSOR CALIBRATION ON SYSTEM START UP



1. Turn Main Power Switch On (**Red Switch**)
2. Set-up Packer, Hold (**F3**) for 5 seconds
3. Set-up Arm, Hold (**F4**) for 5 seconds

Unit is now calibrated automatically

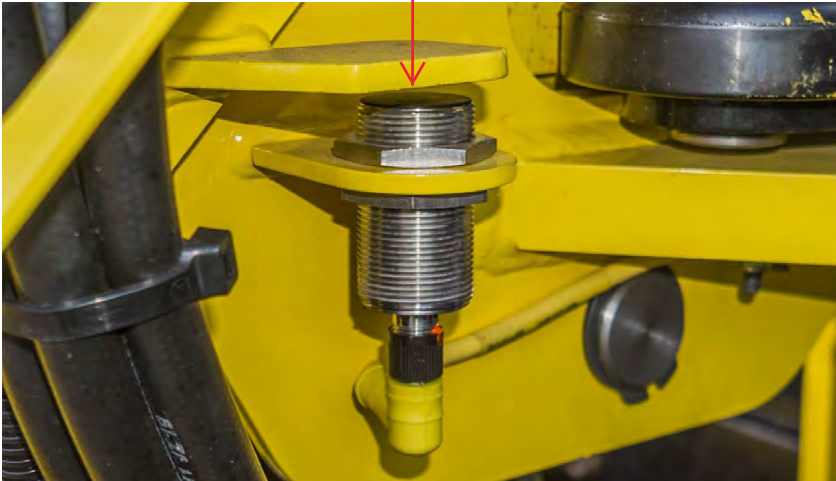
ROTARY SENSOR REPLACEMENT AND CALIBRATION (continued)

MANUAL ROTARY SENSOR CALIBRATION



1. From MD3 Master Module, go to the Function Page
2. From Function Page enter RSC Sub Page using OK button
3. From this page you hit either the **F1**, **F2** or **F3** button depending on the Rotary Sensor you are Zeroing (**All items need to be in the home position**)
4. Return to Main Page on MD3 once done or system set-up page

PROXIMITY SWITCHES LOCATION AND REPLACEMENT

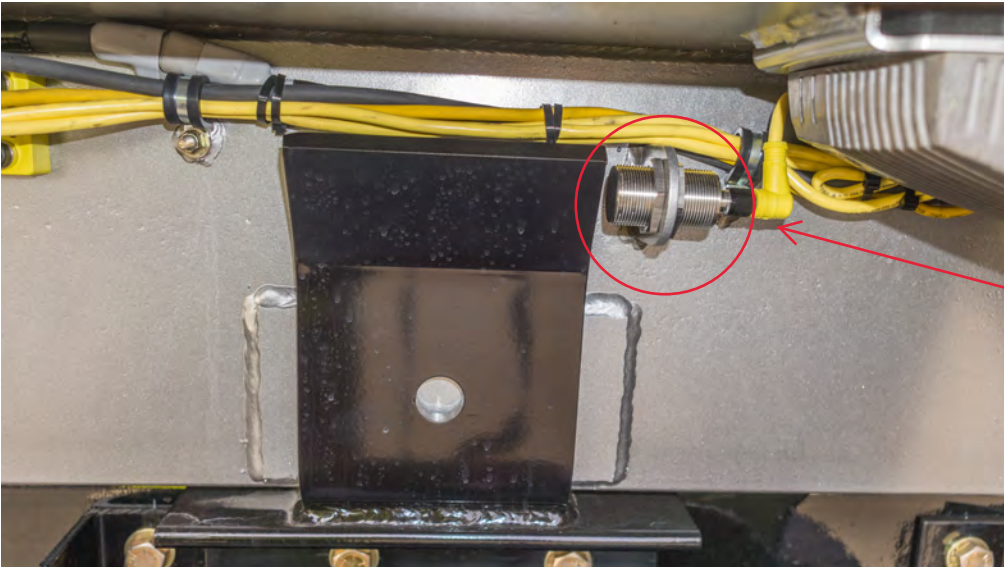


All PROX Switches are the same and have an adjust gap of .25".



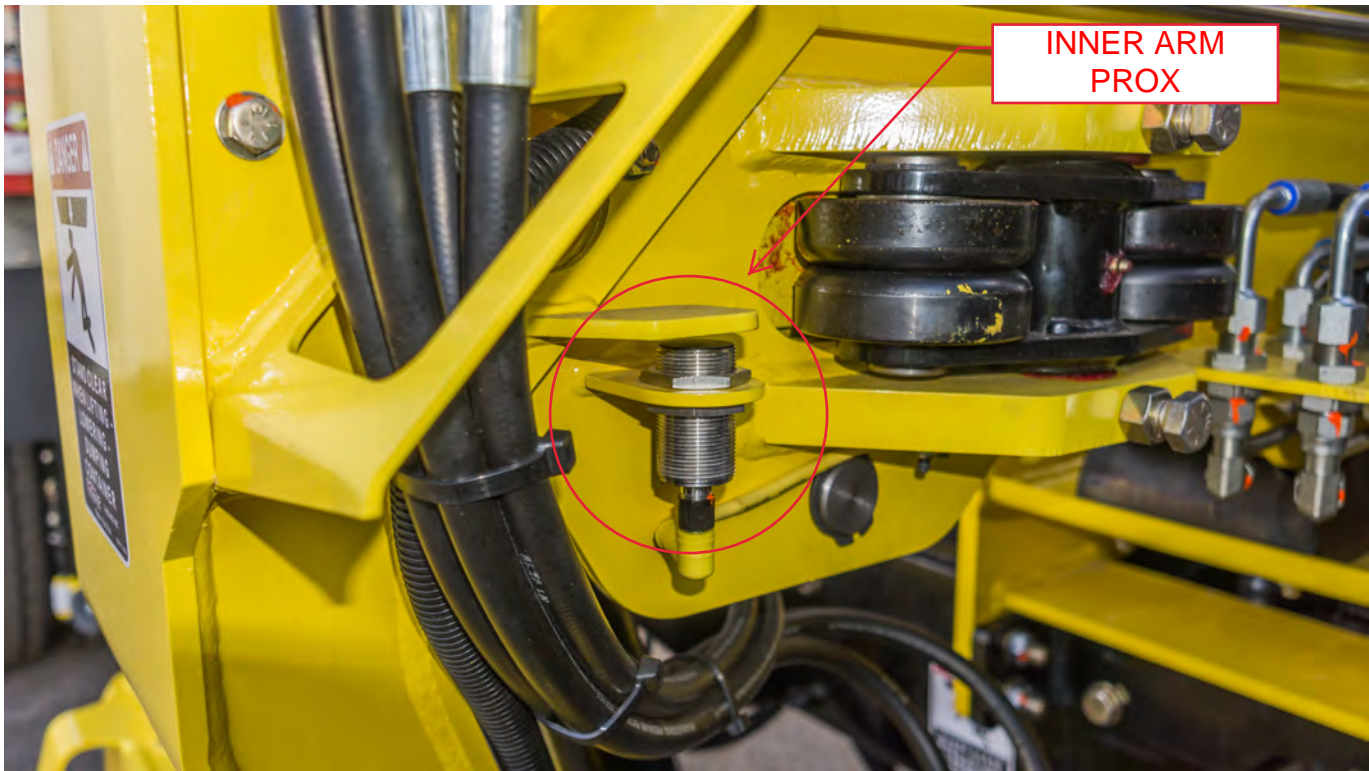
PROXIMITY SWITCHES LOCATION AND REPLACEMENT (continued)

TAILGATE PROX

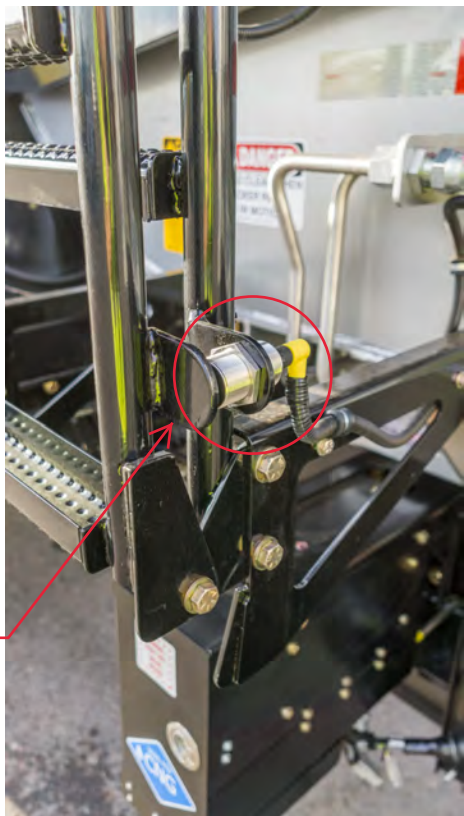


BODY DOWN PROX

PROXIMITY SWITCHES LOCATION AND REPLACEMENT (continued)



GRIPPER PROX



LADDER PROX

PACKER VALVE ADJUSTMENTS BEFORE MARCH 2017



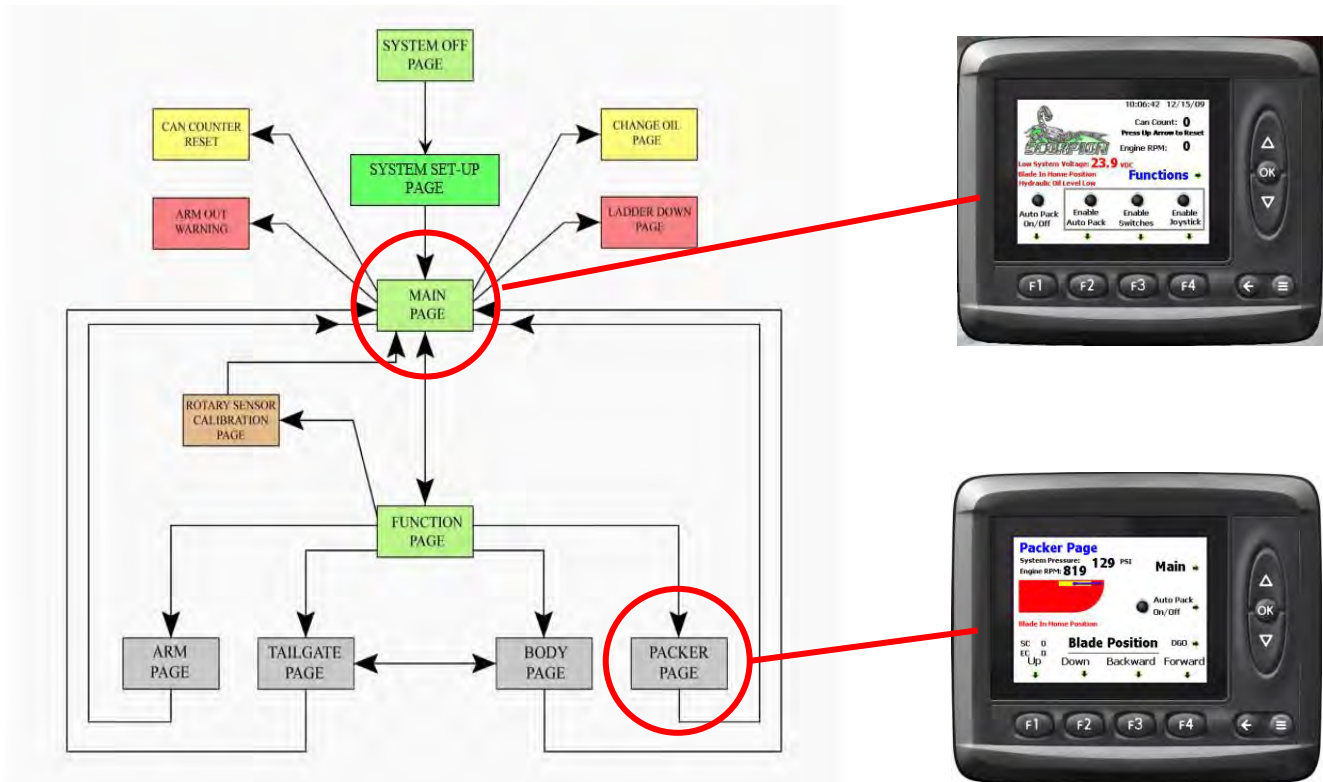
**MAKE SURE YOU
HAVE PROPER
CLEARANCE AROUND ALL
MOVING COMPONENTS!**

Extend arm out to provide access to Packer Valve. Once arm is out **DISABLE LST Switches** (F3 Button on MD3 Main page) and **DISABLE Joystick** (F4 Button on MD3 Main page)

CONFIRM that the LST Switches and Joystick are DISABLED.

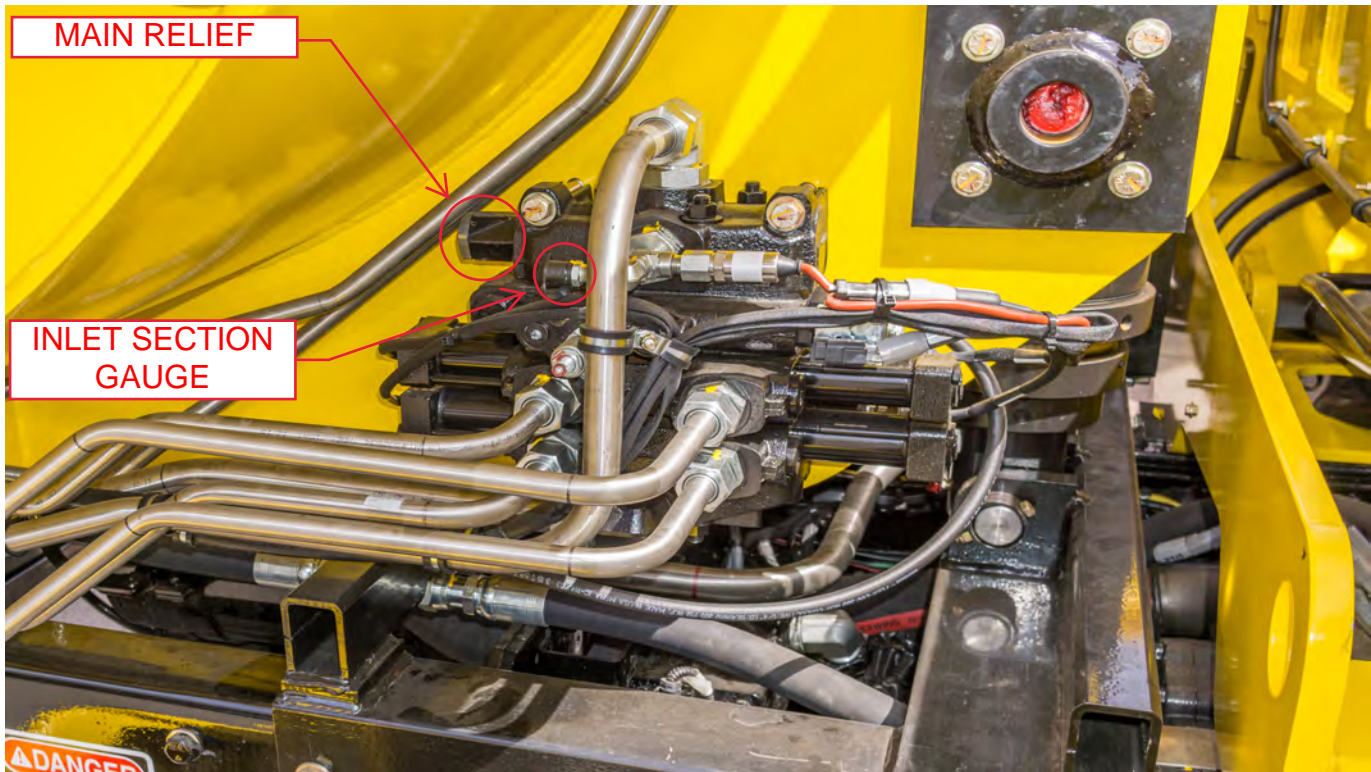
The procedure to adjust both the main pressure and the pilot pressure on the Packer Valve requires two people. One person is in the cab manually operating the blade from the Packer Page of the IQAN MD3 module. The second person is at the Packer Valve mounted on the curb side of the body.

ALL PRECAUTIONS SHOULD BE TAKEN TO PROVIDE FOR THE SAFETY OF THE TECHNICIAN AND THE EQUIPMENT.



PACKER VALVE ADJUSTMENTS (continued)

MAIN PRESSURE ADJUSTMENT

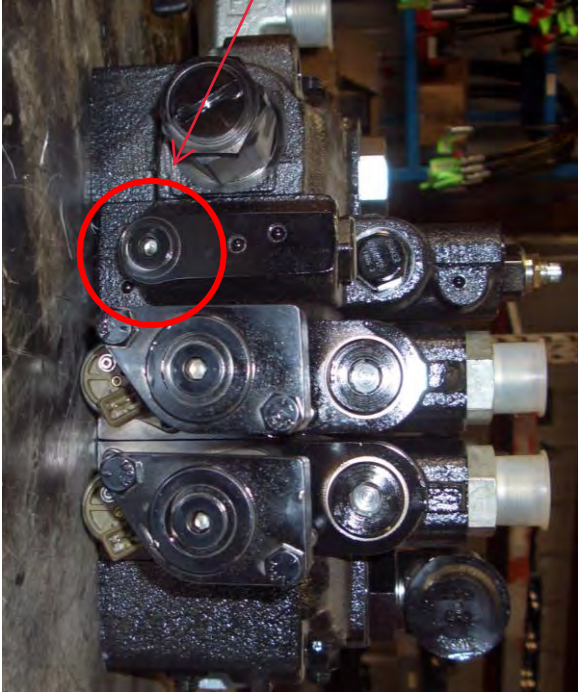


NOTE: 1 ½" wrench required for adjustment

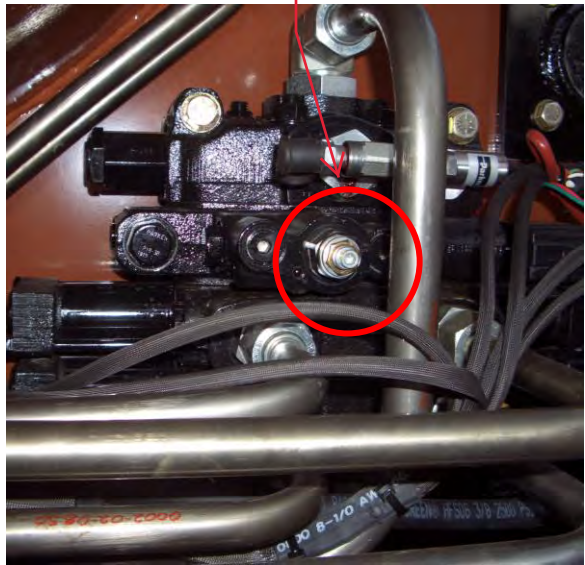
- 1) Loosen the 1 ½" hex nut on the MAIN RELIEF CARTRIDGE.
- 2) With engine idling and pump ON the technician in the cab will hold the manual sweep button (Blade DOWN or F2 Button on MD3 Packer page) to fully extend the Sweep Cylinders. As the button remains held down and the cylinders fully extend the system will build to full pressure. The technician in the cab will be able to CONFIRM THE CURRENT system pressure reflected on the screen of the MD3 Packer page. Once visually confirmed they will RELEASE the button, relieving the system pressure.
- 3) The technician at the valve will incrementally adjust pressure at the Main Relief Cartridge by rotating the plug held by the hex nut CLOCKWISE TO INCREASE or COUNTER CLOCKWISE TO DECREASE pressure. A suggested incremental rotation is 1/8 turn. With each increment, the operator in the cab will again hold down the manual sweep button to build system pressure and visually confirm the current system pressure reflected on the Packer page. **The correct Main Relief Pressure is 3000 psi. (Range ± 50 psi.)**
- 4) When the pressure has been set the hex nut on the Main Relief Cartridge should be re-tightened.
- 5) **VERIFY** pressure setting once the hex nut has been tightened.

PACKER VALVE ADJUSTMENTS (continued)
PILOT PRESSURE ADJUSTMENT

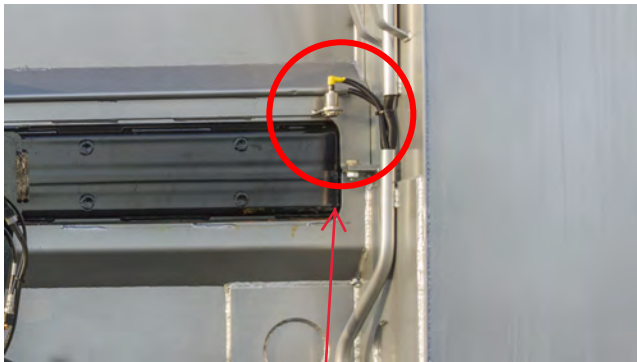
UTILITY PORT



PRESSURE REDUCING VALVE



PILOT PRESSURE BUILDUP CARTRIDGE



SLIDE EXTEND PROX

SLIDE EXTEND SOLENOID

PACKER VALVE ADJUSTMENTS (continued)

PILOT PRESSURE ADJUSTMENT

NOTE: 9/64" & 3/16" allen wrench; 11/16 & 9/16 wrench or socket needed for these adjustments

- 1) Install 0 – 1000 psi gage in the UTILITY PORT.
- 2) Unplug SLIDE EXTEND Plug from Solenoid
- 3) Loosen the 9/16" hex nut on the PILOT PRESSURE BUILDUP CARTRIDGE. Raise reducing two times prior to adjust build up.
- 4) With engine idling and pump ON the technician in the cab will hold the manual slide extend button (Blade BACKWARD or F3 Button on MD3 Packer page). As the button remains held down the second technician adjusts the PILOT PRESSURE BUILDUP with a 9/64" allen wrench. The fitting is rotated CLOCKWISE TO INCREASE or COUNTER CLOCKWISE TO DECREASE. **The correct Pilot Pressure Buildup setting is 550 psi. (Range ± 25 psi)**
- 5) While holding the allen wrench in place at the correct setting TIGHTEN the hex nut on the PILOT PRESSURE BUILDUP CARTRIDGE
- 6) **VERIFY** pressure setting once hex nut has been tightened.
- 7) REINSTALL Plug on Solenoid
- 8) DISCONNECT Slide Extend Prox.
- 9) Loosen 11/16" hex nut on PILOT PRESSURE REDUCING VALVE.
- 10) With the engine idling the technician in the cab will hold the manual slide extend button (Blade BACKWARD or F3 Button on MD3 Packer page) until cylinders are fully extended.
- 11) While the engine is idling the second technician adjusts the PILOT PRESSURE REDUCING VALVE with a 3/16" allen wrench. The fitting is rotated CLOCKWISE TO INCREASE or COUNTER CLOCKWISE TO DECREASE. **The correct Pilot Pressure Reducing setting is 450 psi. (Range ± 25 psi)**
- 12) While holding the allen wrench in place at the correct setting TIGHTEN the hex nut on the PILOT PRESSURE REDUCING VALVE
- 13) **VERIFY** setting after hex nut has been tightened.
- 14) The technician in the cab will increase the RPM to FULL RPM. Second technician will confirm that the Pilot Pressure does not exceed a maximum of 400 psi.
- 15) Reinstall Plug on Extend Prox.

PACKER VALVE ADJUSTMENTS AFTER MARCH 2017



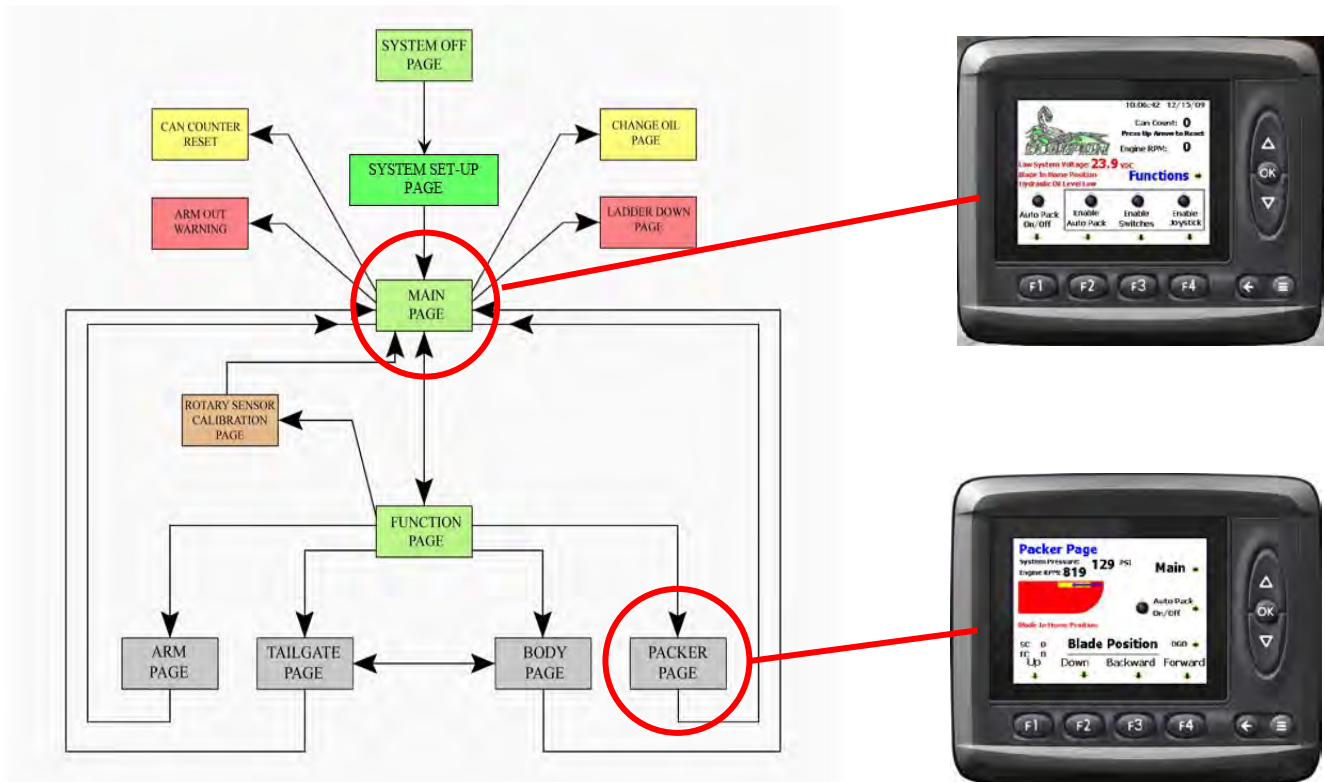
**MAKE SURE YOU
HAVE PROPER CLEARANCE
AROUND ALL MOVING
COMPONENTS!**

Extend arm out to provide access to Packer Valve. Once arm is out **DISABLE LST Switches** (F3 Button on MD3 Main page) and **DISABLE Joystick** (F4 Button on MD3 Main page)

CONFIRM that the LST Switches and Joystick are **DISABLED**.

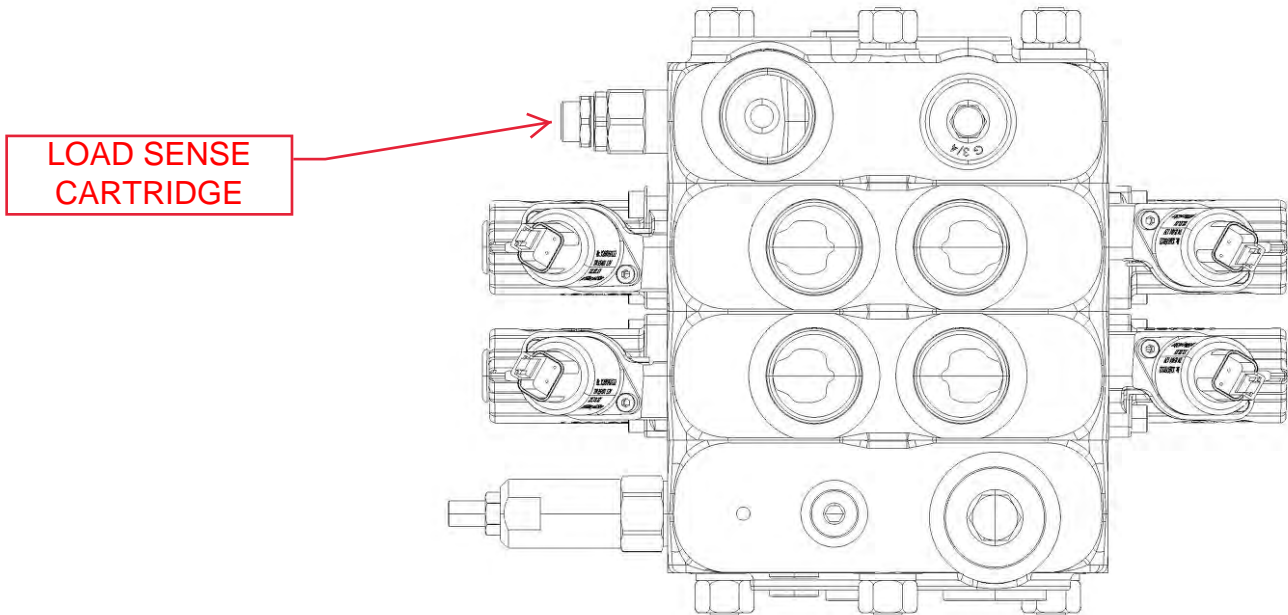
The procedure to adjust both the main pressure and the pilot pressure on the Packer Valve requires two people. One person is in the cab manually operating the blade from the Packer Page of the IQAN MD3 module. The second person is at the Packer Valve mounted on the curb side of the body.

ALL PRECAUTIONS SHOULD BE TAKEN TO PROVIDE FOR THE SAFETY OF THE TECHNICIAN AND THE EQUIPMENT.



PACKER VALVE ADJUSTMENTS

Load Sense Pressure Adjustment

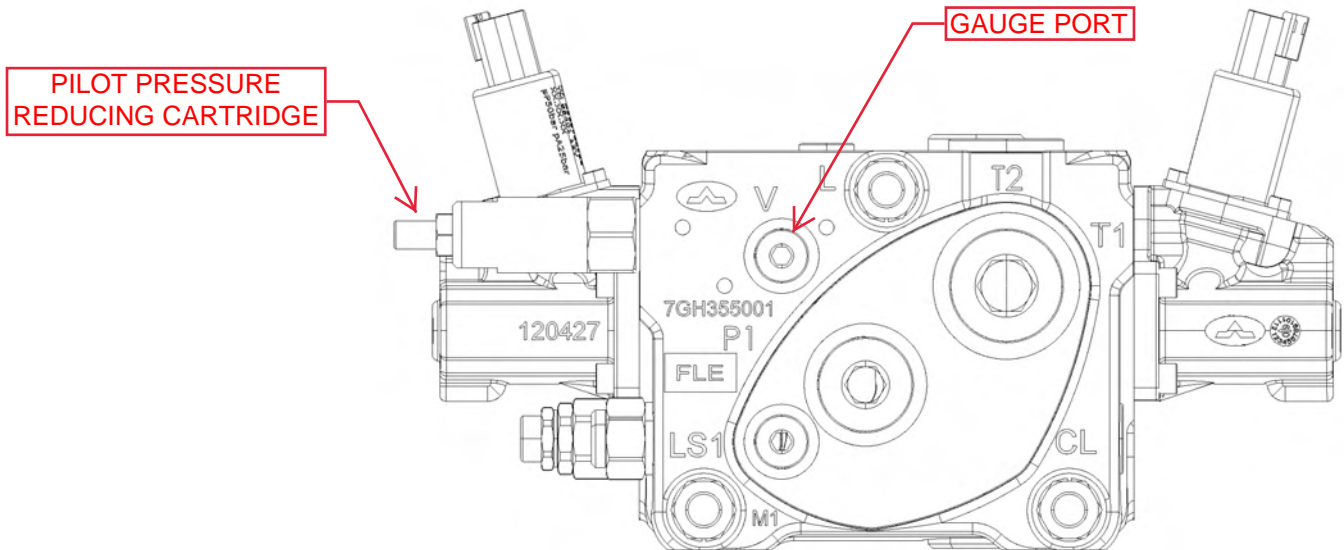


NOTE: 19mm wrench and 5mm allen required for adjustment

- 1) Loosen the 19mm hex nut on the Load Sense Relief Cartridge.
- 2) With engine, idling and pump ON the technician in the cab will hold the manual sweep button (Blade DOWN or F2 Button on MD3 Packer page) to fully extend the Sweep Cylinders. As the button remains held down and the cylinders fully extend the system will build to full pressure. The technician in the cab will be able to CONFIRM THE CURRENT system pressure reflected on the screen of the MD3 Packer page. Once visually confirmed they will RELEASE the button, relieving the system pressure.
- 3) The technician at the valve will incrementally adjust pressure at the Load Sense Relief Cartridge by rotating the allen screw held by the hex nut CLOCKWISE TO INCREASE or COUNTER CLOCKWISE TO DECREASE pressure. A suggested incremental rotation is 1/8 turn. With each increment, the operator in the cab will again hold down the manual sweep button to build system pressure and visually confirm the current system pressure reflected on the Packer page. **The correct Main Relief Pressure is 2800 psi. (Range \pm 50 psi.)**
- 4) When the pressure has been set the hex nut on the Load Sense Relief Cartridge should be re-tightened.
- 5) **VERIFY** pressure setting once the hex nut has been tightened.

PACKER VALVE ADJUSTMENTS

Pilot Reducing Adjustment



NOTE: 4mm allen wrench and 14mm wrench needed for these adjustments

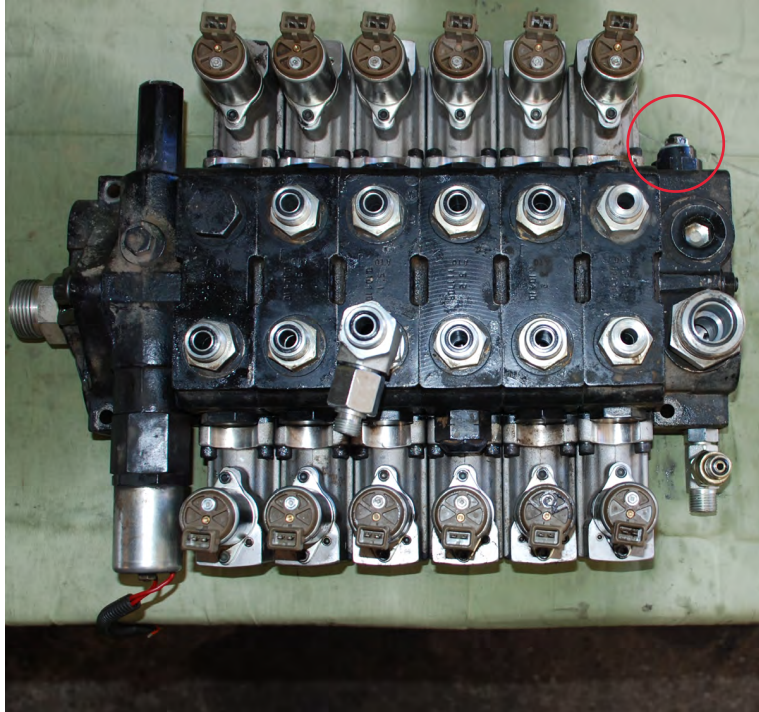
- 1) Install 0 – 1000 psi gauge in the “V” PORT.
- 2) Loosen the 14mm hex nut on the PILOT REDUCING CARTRIDGE.
- 3) With engine idling and pump ON the technician in the cab will hold the manual slide extend button (Blade BACKWARD or F3 Button on MD3 Packer page). As the button remains held down the second technician adjusts the PILOT REDUCING CARTRIDGE with a 4mm allen wrench. The allen screw is rotated CLOCKWISE TO INCREASE or COUNTER CLOCKWISE TO DECREASE. **The correct Pilot Reducing setting is 450 psi. (Range ± 25 psi)**
- 4) While holding the allen wrench in place at the correct setting TIGHTEN the hex nut on the PILOT REDUCING CARTRIDGE.
- 5) **VERIFY** pressure setting once hex nut has been tightened.
- 6) Remove Gauge.

NOTE: Pilot pressure is pre-set and is not adjustable.

ARM VALVE ADJUSTMENTS

Pressure Adjustment

BEFORE MARCH 2017



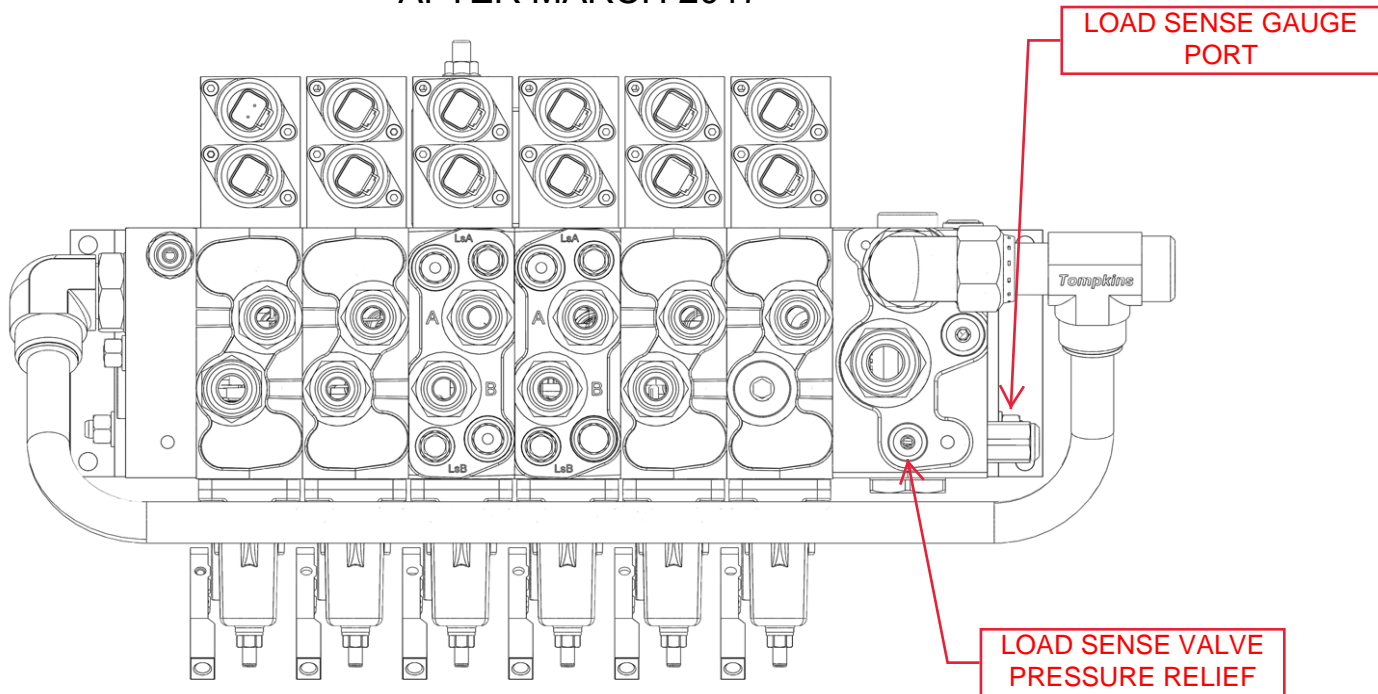
NOTE: 9/16" wrench and 5/32" Allen wrench required for adjustment

- 1) Install 0 -5000 psi pressure gauge on main relief gauge port. Loosen the 9/16" hex nut on the Main Pressure Relief Cartridge.
- 2) With engine, idling and pump ON the technician in the cab will hold will hold joystick to the arm out position. Fully extend the arm. As the joystick is held in the out position and the arm is fully extended the system will build to full pressure. The technician outside will be able to CONFIRM THE CURRENT system pressure reflected on the pressure gauge. Once visually confirmed they will RELEASE the joystick, relieving the system pressure.
- 3) The technician at the valve will incrementally adjust pressure at the Main Pressure Relief Cartridge by rotating the allen screw held by the hex nut **CLOCKWISE TO INCREASE** or **COUNTER CLOCKWISE TO DECREASE** pressure. A suggested incremental rotation is 1/8 turn. With each increment, the operator in the cab will again hold joystick in the arm out position to build system pressure and visually confirm the current system pressure reflected on the Packer page. **The correct Main Pressure Relief Pressure is 2800 psi.(Range ± 50 psi.)**
- 4) When the pressure has been set the hex nut on the Main Pressure Relief Cartridge should be re-tightened.
- 5) **VERIFY** pressure setting once the hex nut has been tightened.
- 6) Remove Gauge.

ARM VALVE ADJUSTMENTS

Load Sense Pressure Adjustment

AFTER MARCH 2017

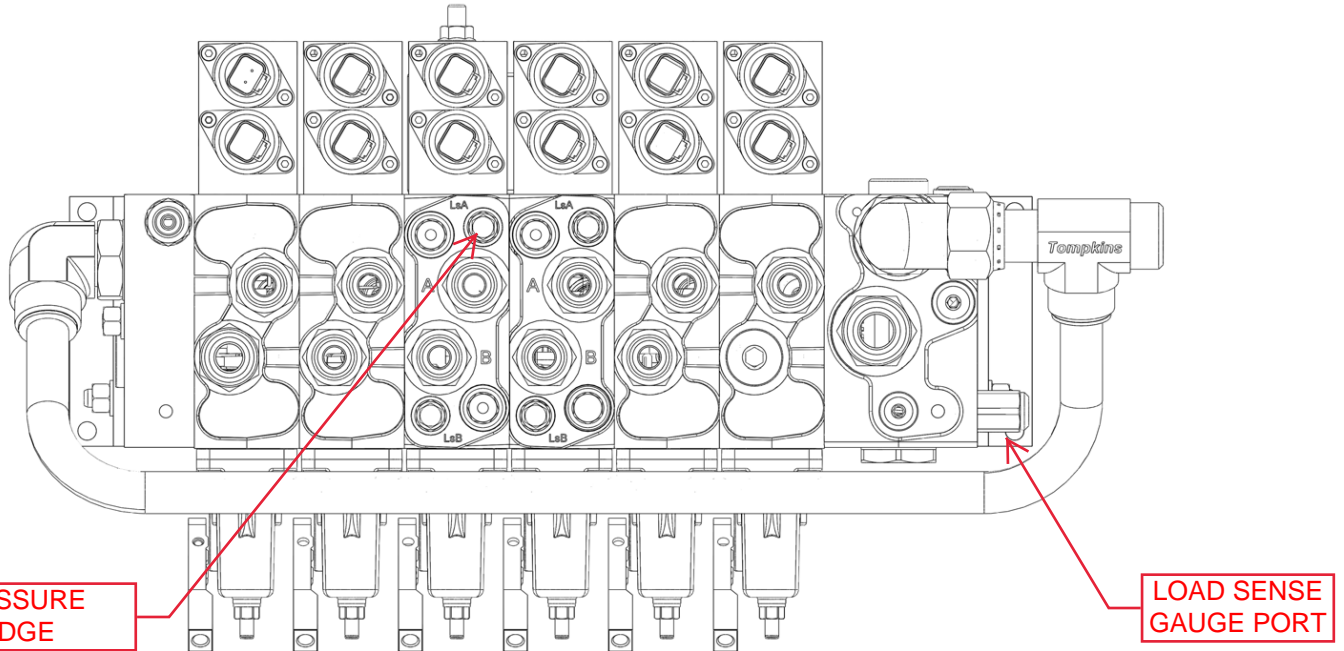


NOTE: 10mm wrench and 3mm allen required for adjustment

- 1) Install 0 -5000 psi pressure gauge on load sense gauge port. Loosen the 10mm hex nut on the Load Sense Relief Cartridge.
- 2) With engine, idling and pump ON the technician in the cab will hold will hold joystick to the arm out position. Fully extend the arm. As the joystick is held in the out position and the arm is fully extended the system will build to full pressure. The technician outside will be able to CONFIRM THE CURRENT system pressure reflected on the pressure gauge. Once visually confirmed they will RELEASE the joystick, relieving the system pressure.
- 3) The technician at the valve will incrementally adjust pressure at the Load Sense Relief Cartridge by rotating the allen screw held by the hex nut CLOCKWISE TO INCREASE or COUNTER CLOCKWISE TO DECREASE pressure. A suggested incremental rotation is 1/8 turn. With each increment, the operator in the cab will again hold joystick in the arm out position to build system pressure and visually confirm the current system pressure reflected on the Packer page. **The correct Main Relief Pressure is 2800 psi.(Range ± 50 psi.)**
- 4) When the pressure has been set the hex nut on the Load Sense Relief Cartridge should be re-tightened.
- 5) **VERIFY** pressure setting once the hex nut has been tightened.
- 6) Remove Gauge.

ARM VALVE ADJUSTMENTS (continued)

Grip Pressure Adjustment

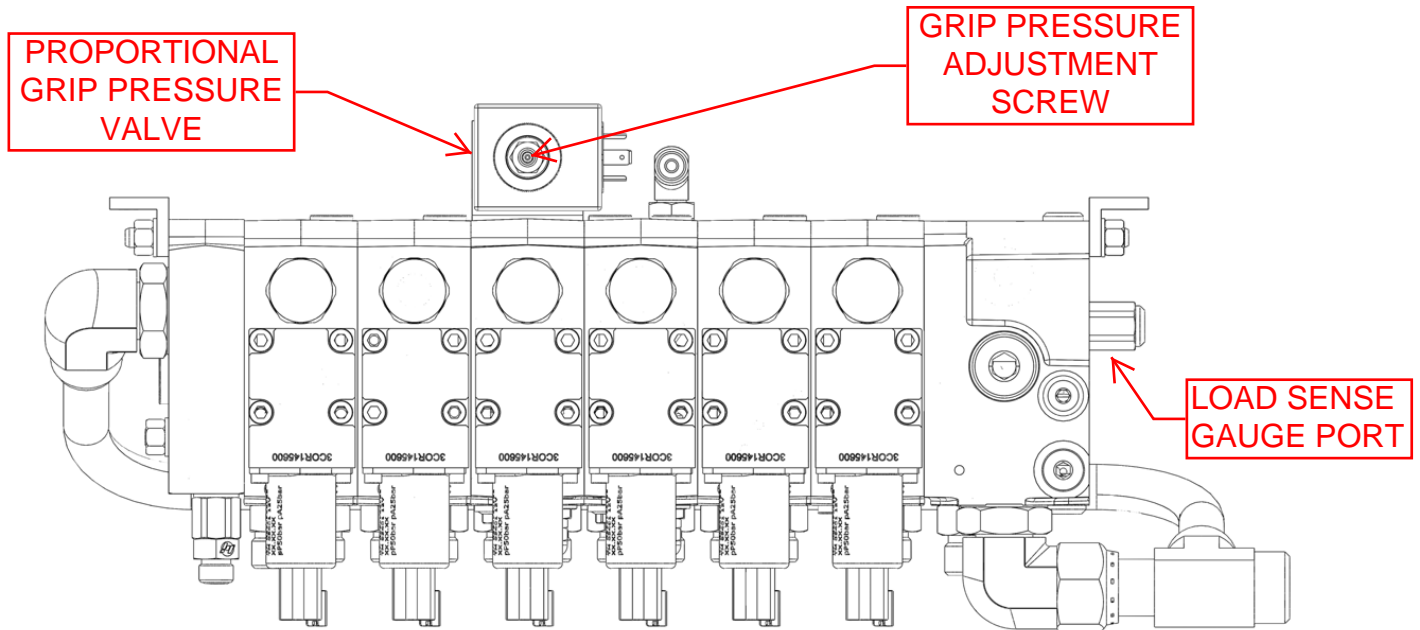


NOTE: 3mm allen wrench and 10mm wrench needed for these adjustments

- 1) Install 0 – 5000 psi gauge in the load sense port.
- 2) Loosen the 10mm hex nut on the grip pressure cartridge.
- 3) With engine idling and pump ON the technician in the cab will hold grip extend button. As the button remains held down the second technician adjusts the grip pressure cartridge with a 3mm allen wrench. The allen screw is rotated **CLOCKWISE TO INCREASE** or **COUNTER CLOCKWISE TO DECREASE**. **The correct grip pressure setting is 2000 psi. (Range \pm 25 psi)**
- 4) While holding the allen wrench in place at the correct setting **TIGHTEN** the hex nut on the GRIP PRESSURE CARTRIDGE.
- 5) **VERIFY** pressure setting once hex nut has been tightened.
- 6) Remove Gauge.

ARM VALVE ADJUSTMENTS (continued)

Proportional Grip Pressure Adjustment

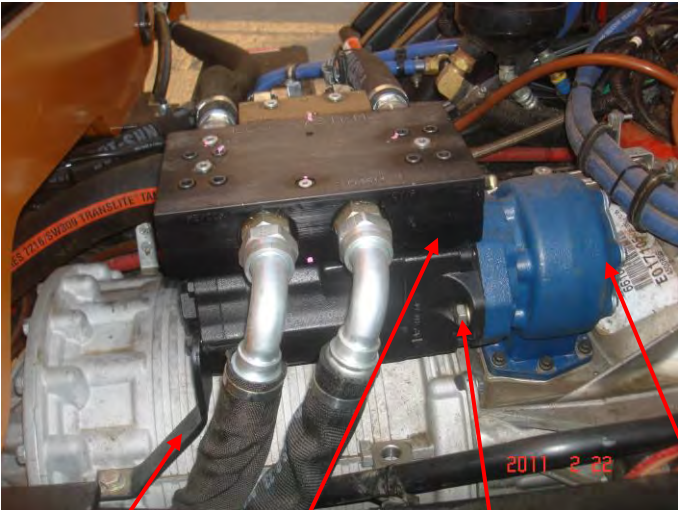


NOTE: 4mm allen wrench and 13mm wrench needed for these adjustments

- 1) Install 0 – 3000 psi gauge in the load sense gauge port. Unplug harness from coil.
- 2) Loosen the 13mm hex nut on the proportional grip pressure valve.
- 3) With engine idling and pump ON the technician in the cab will hold grip extend button. As the button remains held down the second technician adjusts the proportional grip pressure valve with a 4mm allen wrench. The allen screw is rotated **CLOCKWISE TO INCREASE** or **COUNTER CLOCKWISE TO DECREASE**. **The correct grip pressure setting is 1800 psi. (Range ± 25 psi)**
- 4) While holding the allen wrench in place at the correct setting **TIGHTEN** the hex nut on the GRIP PRESSURE VALVE.
- 5) **VERIFY** pressure setting once hex nut has been tightened.
- 6) Remove Gauge.

TRANSPORTING SCORPION ASL WITH CONSTANT DRIVE PTO

Do Not Drive Vehicle with Pump installed into PTO and Oil Tank Shutoff Valve turned off!



BRACKET

PUMP

PTO

SPLINE

1/2" Mounting Bolts
One on each side

1. Turn Oil Tank shutoff Valve OFF at back of Oil Tank
2. Remove both 1/2" Pump mounting bolts from PTO
3. Remove mounting bolt from Pump Support Bracket to Transmission (if equipped)
4. Slide Pump back from PTO so that Spline drive is completely disengaged from PTO
5. Secure pump away from spline shaft for transport

SECTION 5 - BODY AND ATTACHING PARTS

DESCRIPTION	SECTION
Body Mounting	5-1
Body	5-2
Tailgate	5-3
Hopper Top	5-4
Packer Assembly	5-5
Oil Tank	5-6
Loader Dump Arm	5-7
Loader Inner Arm	5-8
Loader Outer Arm	5-9
Loader Base	5-10
Arm Interlock	5-11
	5-11 [A]
Gripper Assembly	5-12

BODY MOUNTING PARTS LIST

Reference Number	Part Number	Part Description	Amount Required
1	AM00339	PIN, PROP	2
2	AM00348	PIN, PIVOT, BODY	2
3	WM00330	MOUNT, PROP, BODY	1
4	WA00255	COLLAR, OUTER ARM	2
5	AM00975	PIN, HOIST, BODY	1

BODY MOUNTING

2.

**BODY PIVOT PIN
[BOTH SIDES]**

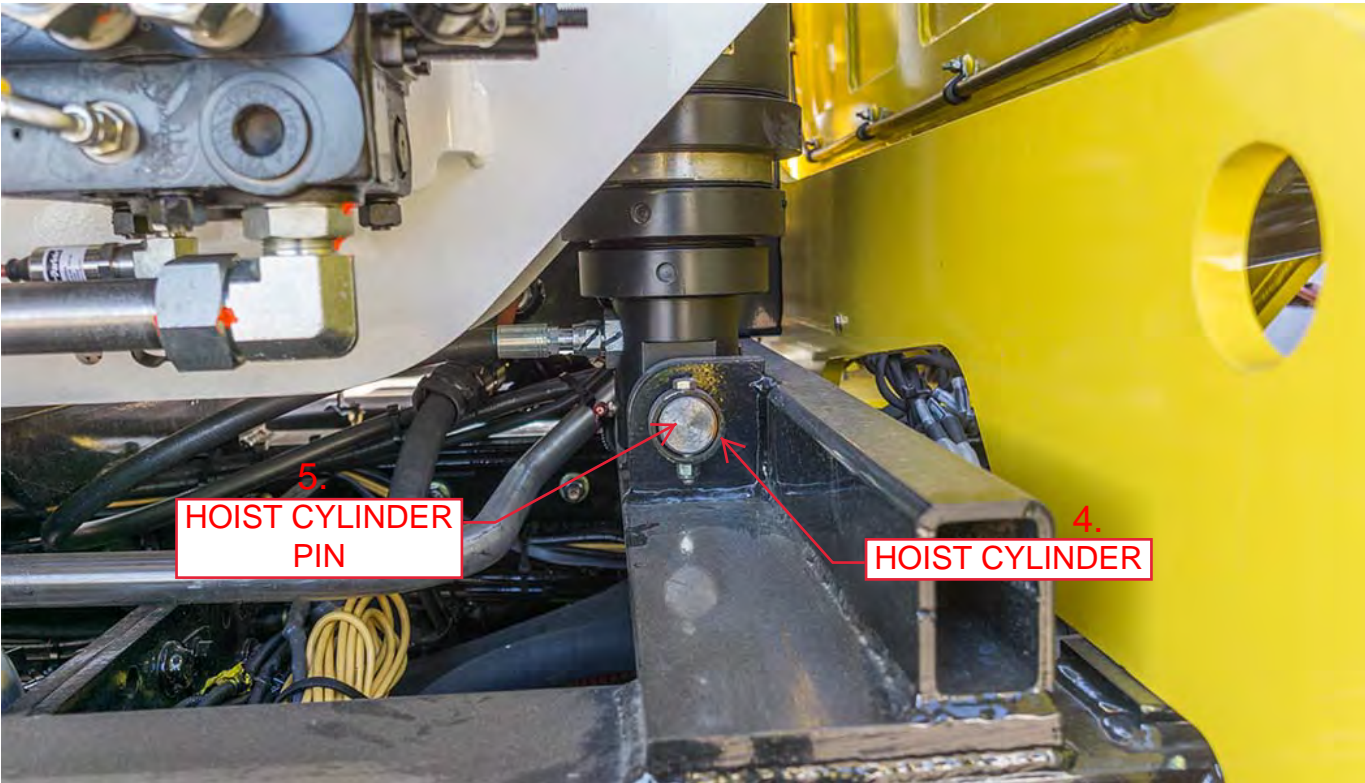


3.

**BODY PROP
WELDMENT**



BODY MOUNTING (continued)



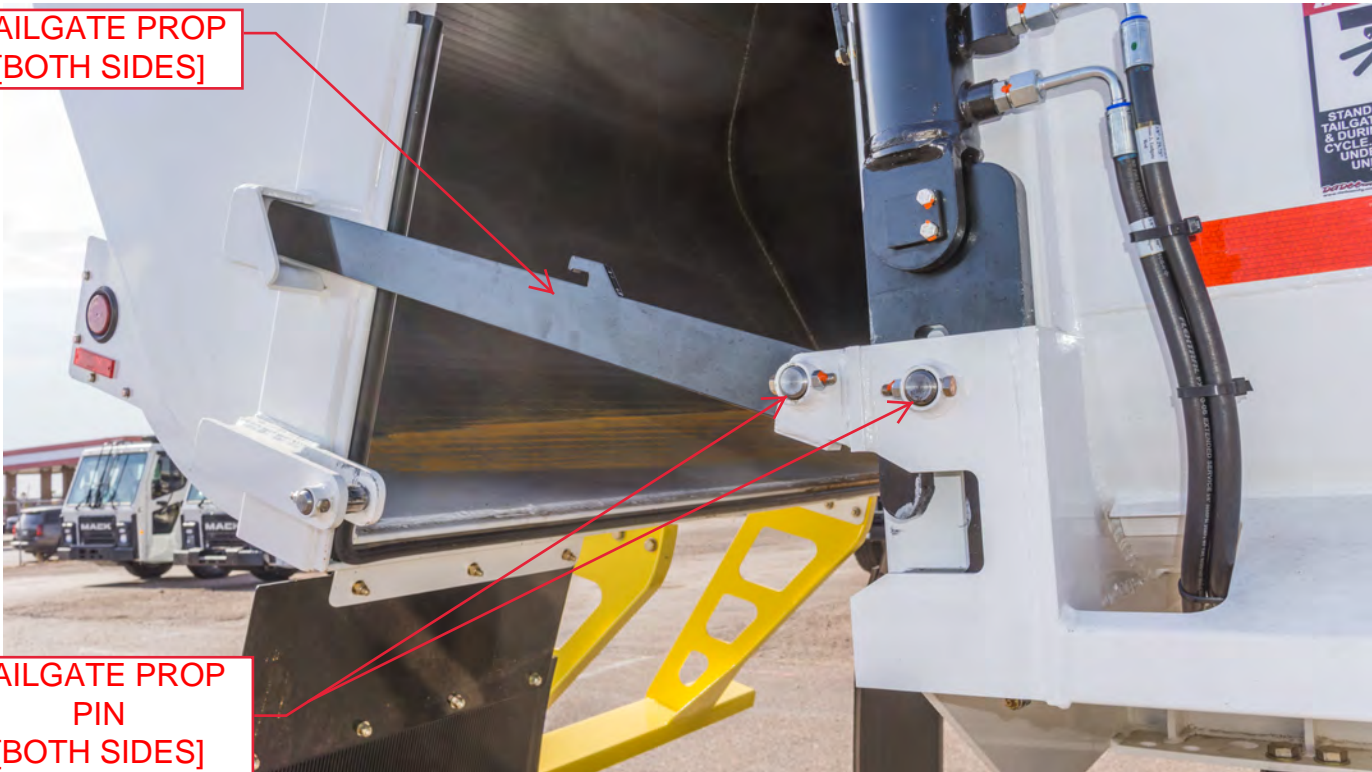
BODY PARTS LIST

Reference Number	Part Number	Part Description	Amount Required
1	WT01140	LOCK, TAILGATE	1
2	WT01168	PIN, TAILGATE	2
3	HC03935	CYLINDER, HOIST, 3 STAGE, 138" STROKE, TRUNION	4
4	HC00886	CYLINDER, HOIST, 3 stg, 114"	2
5	HC01416	CYLINDER, HOIST, 3 stg, 140"	1
6	HC02442	CYLINDER, TAILGATE (PORTED)	1
7	AB00230	CABLE, TAILGATE	2
8	WT00147	PIN, LOCK, TAILGATE	2
9	WT00355	PROP, TAILGATE	2
10	WB00114	BRACKET, RIGHT , LADDER	2
11	WB00343	UPPER, LADDER	1
12	WB00344	LOWER, LADDER	1
13	WB01073	BRACKET, LEFT. LADDER	1
14	WB01069	STEP, TOP, LADDER	1
15	WB00080	COVER, CYLINDER	1
16	WM00229	PLATE, LOCK, TAILGATE	1
17	WM00531	PIN, TAILGATE	1
18	CONSULT	BODY WELDMENT	1

BODY



9.
TAILGATE PROP
[BOTH SIDES]



BODY (continued)



2.
TAILGATE
CYLINDER PIN
WELDMENT
[BOTH SIDES]

16.
TAILGATE LOCK
[CURBSIDE]

16.
TAILGATE LOCK
[STREETSIDE]

1.

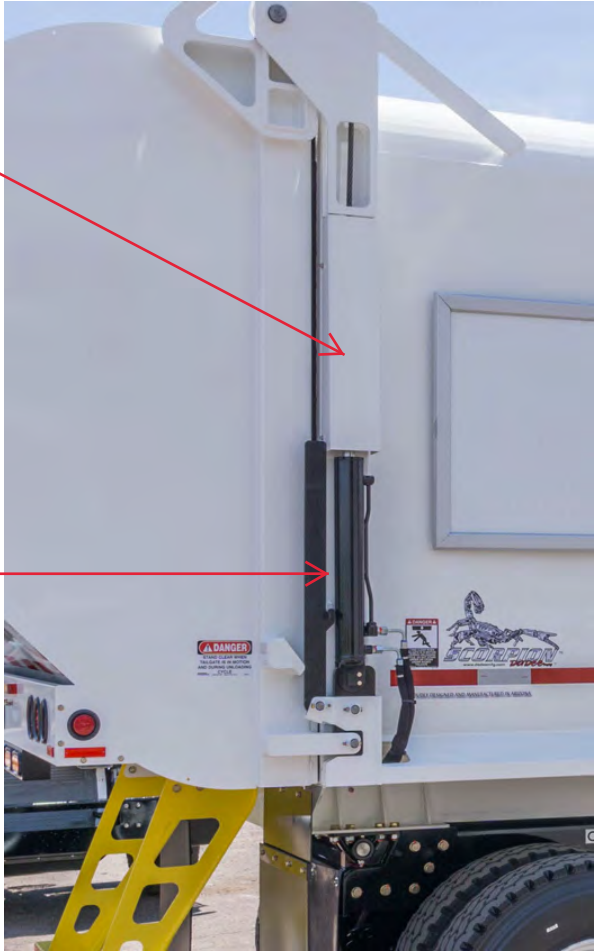
BODY (continued)

15.
TAILGATE
CYLINDER
COVER
[BOTH SIDES]

6.
TAILGATE
CYLINDER
[BOTH SIDES]

TAILGATE CABLE
[BOTH SIDES]

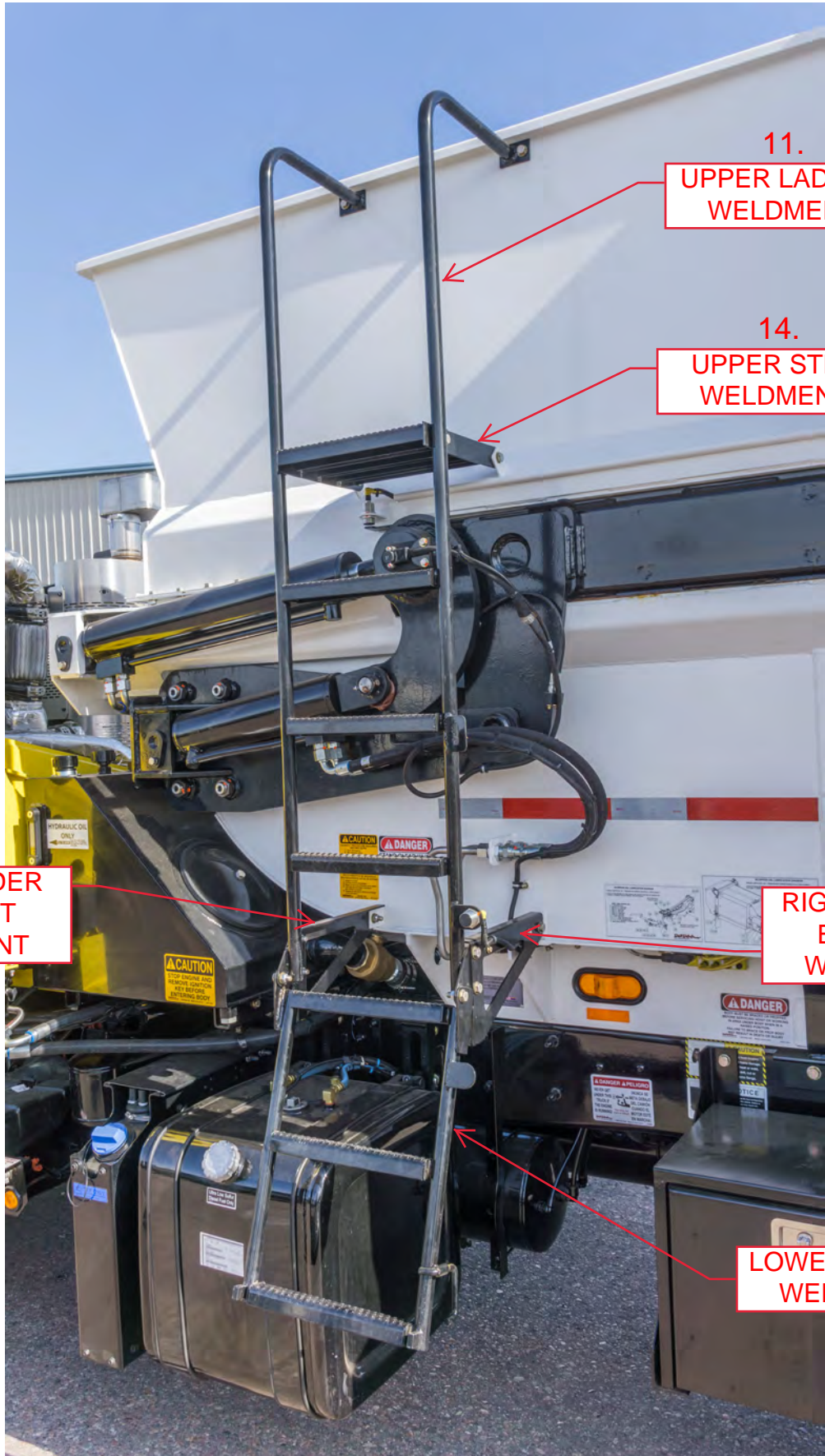
7.



17.
TAILGATE HINGE
PIN WELDMENT
[BOTH SIDES]



BODY (continued)



11.
UPPER LADDER
WELDMENT

14.
UPPER STEP
WELDMENT

13.
LEFT LADDER
BRACKET
WELDMENT

10.
RIGHT LADDER
BRACKET
WELDMENT

12.
LOWER LADDER
WELDMENT

BODY (continued)

4.

**BODY HOIST
CYLINDER**



BODY (continued)

**FOR 32/33 YD BODIES
AFTER OCTOBER 2015**



**BODY HOIST
CYLINDER**

3.

**FOR 32/33 YD BODIES
BEFORE OCTOBER 2015**



**BODY HOIST
CYLINDER**

5.

TAILGATE PARTS LIST

Reference Number	Part Number	Part Description	Amount Required
1	WT00127	COVER, LIGHT, TAILGATE	1
2	AT03726	SEAL, "P", TAILGATE	1*
3	WT00133	TAILGATE, 6 YD	1
4	WT00598	BUMPER, TAILGATE	1
5	WM01273	PIN, LOCK, TAILGATE	2
6	WT01742	LIGHT BOX, LOWER	1
7	WT02468	TAILGATE, 3 YD	1
8	AP01057	BUSHING, 1.25 X 1.0 X 1.25 LON	2

*IF ORDERING "SEAL, "P", TAILGATE IN EXTENDED
VERSION THE AMOUNT REQUIRED IS 2

TAILGATE



**3 YD TAILGATE
WELDMENT**

7.



**6 YD TAILGATE
WELDMENT**

3.

TAILGATE (continued)



TAILGATE TOP LIGHT COVER

1.

TAILGATE BOTTOM LIGHT COVER

6.

REAR ICC BUMPER WELDMENT

4.

TAILGATE (continued)

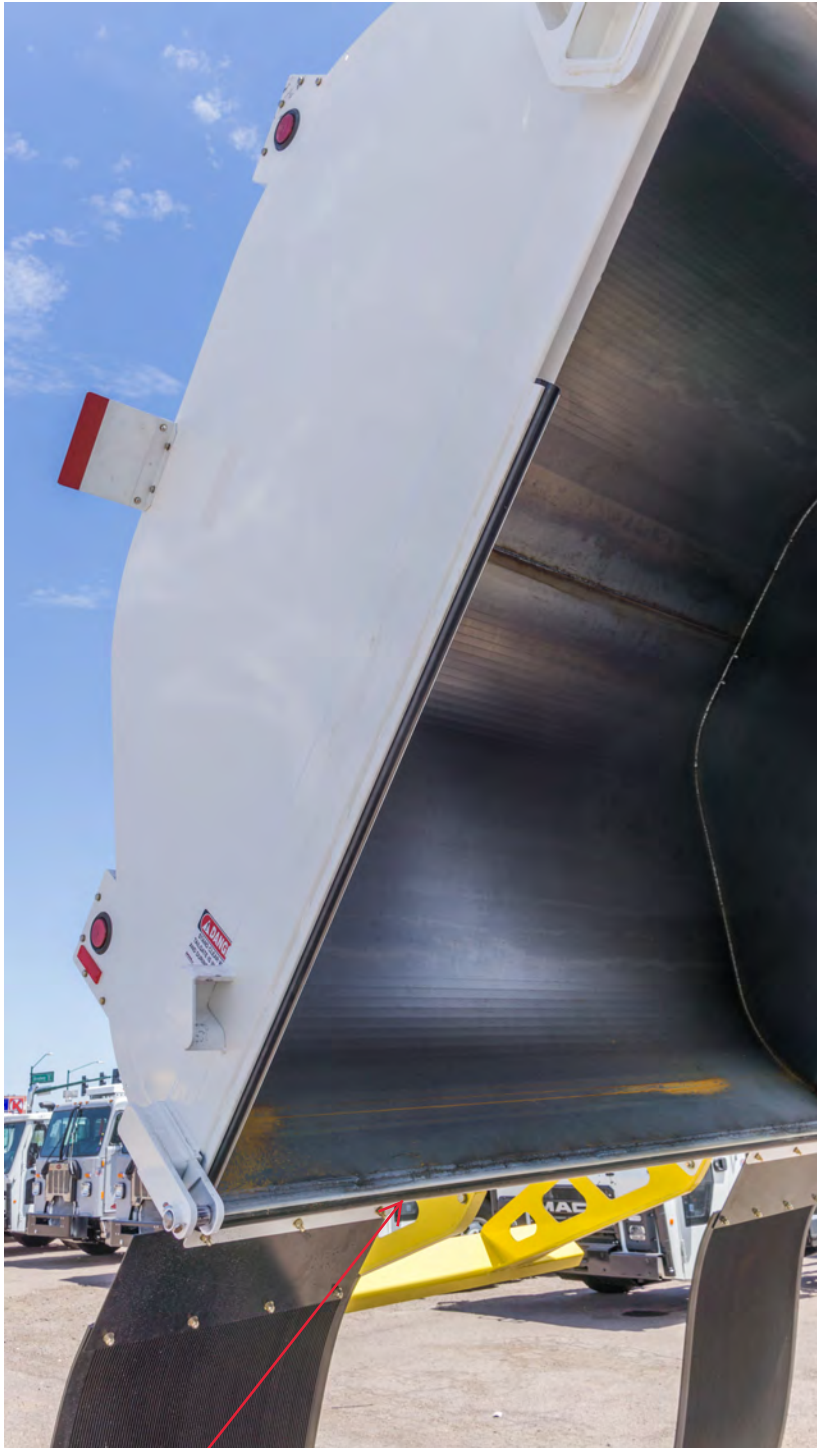


5.
TAILGATE LOCK
PIN WELDMENT

8.
TAILGATE LOCK
PIN BUSHING

2.
TAILGATE SEAL

TAILGATE (continued)

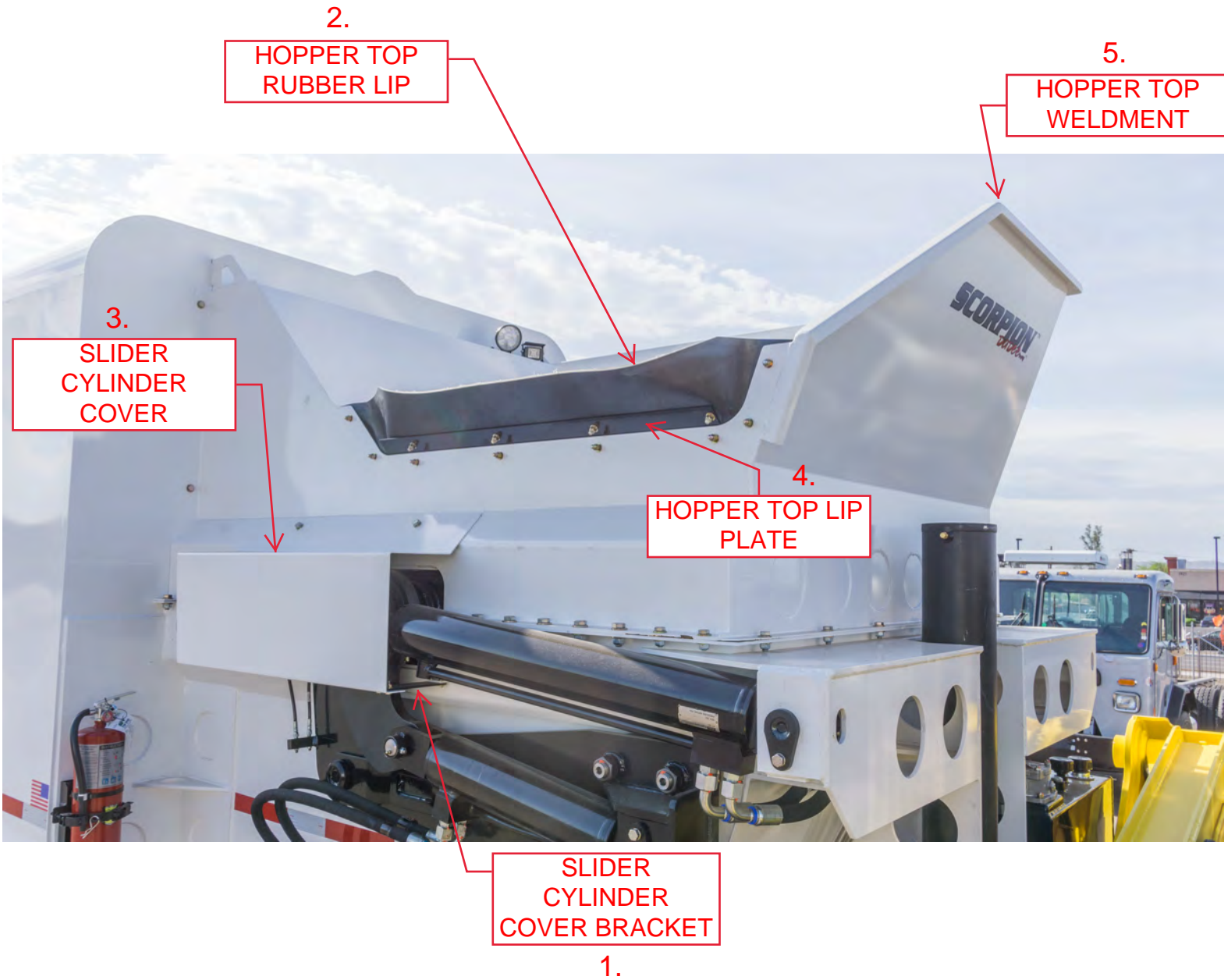


2.
*EXTENDED
TAILGATE SEAL

HOPPER PARTS LIST

Reference Number	Part Number	Part Description	Amount Required
1	AB01087	BRACKET, COVER, BODY	1
2	WH00128	LIP, RUBBER,HOPPER TOP	1
3	WH00129	COVER, RIGHT, HOPPER TOP	1
4	WH01216	PLATE, LIP, HOPPER TOP	1
5	WH00116	HOPPER TOP	1

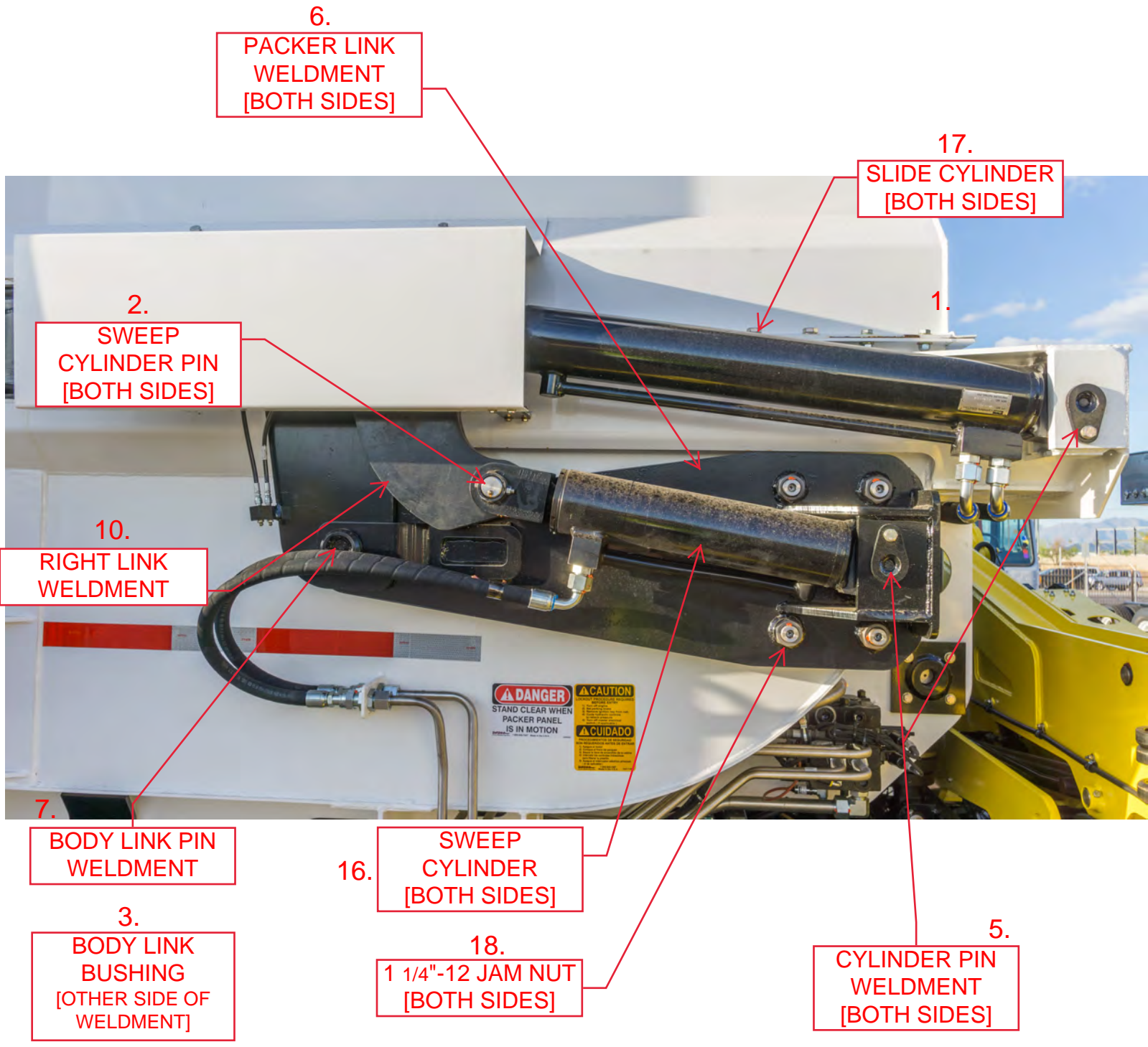
HOPPER



PACKER ASSEMBLY PARTS LIST

Reference Number	Part Number	Part Description	Amount Required
1	WB00083	PLATE, WEAR, HOPPER	2
2	WM00551	PIN, LINK, BODY	2
3	AM00581	BUSHING, LINK, BODY	2
4	WB00593	RAIL, BODY	4 [2 EACH SIDE OF BODY]
5	WM00486	PIN, CYLINDER, BODY	4
6	WP00548	LINK, BODY	2
7	WM00880	PIN, LINK, BODY	2
8	WH00130	PLATE, WEAR, HOPPER TOP	2
9	WP00190	BLADE, SWEEP	1
10	WP00199	LINK, SWEEP, RIGHT	1
11	WP00201	LINK, SWEEP, LEFT	1
12	WP00158	PLATE, WEAR SLIDER	4
13	WP00156	SLIDER, RIGHT	1
14	WP00162	SLIDER, LEFT	1
15	WP00166	SLIDER, CROSSMEMBER	1
16	HC02452	CYLINDER, SWEEP, 4.0	2
17	HC02451	CYLINDER, SLIDE, 4.0	2
18	AA01133	NUT, JAM (1.25-12 THREAD)	8
19	AP00860	BEARING, 'V' ROLLER	8 [4 EACH SIDE OF BODY]
20	WP00861	PLATE, DRIVE	1
21	WP00223	PLATE, LINK, BLADE	1
22	WP01098	BRACKET, SENSOR, BLADE	1
23	AB01253	RETAINER, BLADE	1

PACKER ASSEMBLY



PACKER ASSEMBLY (continued)



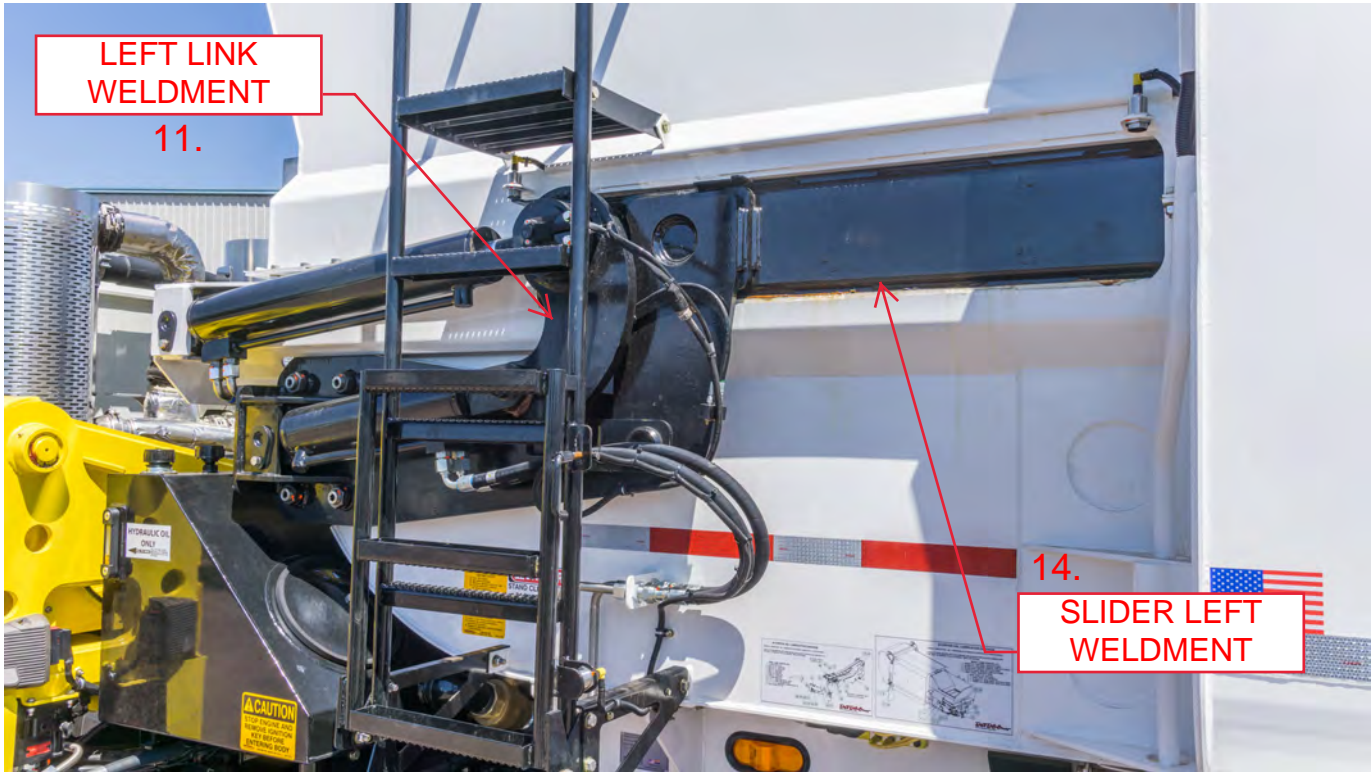
**BODY RAIL
[BOTH SIDES]**

4.

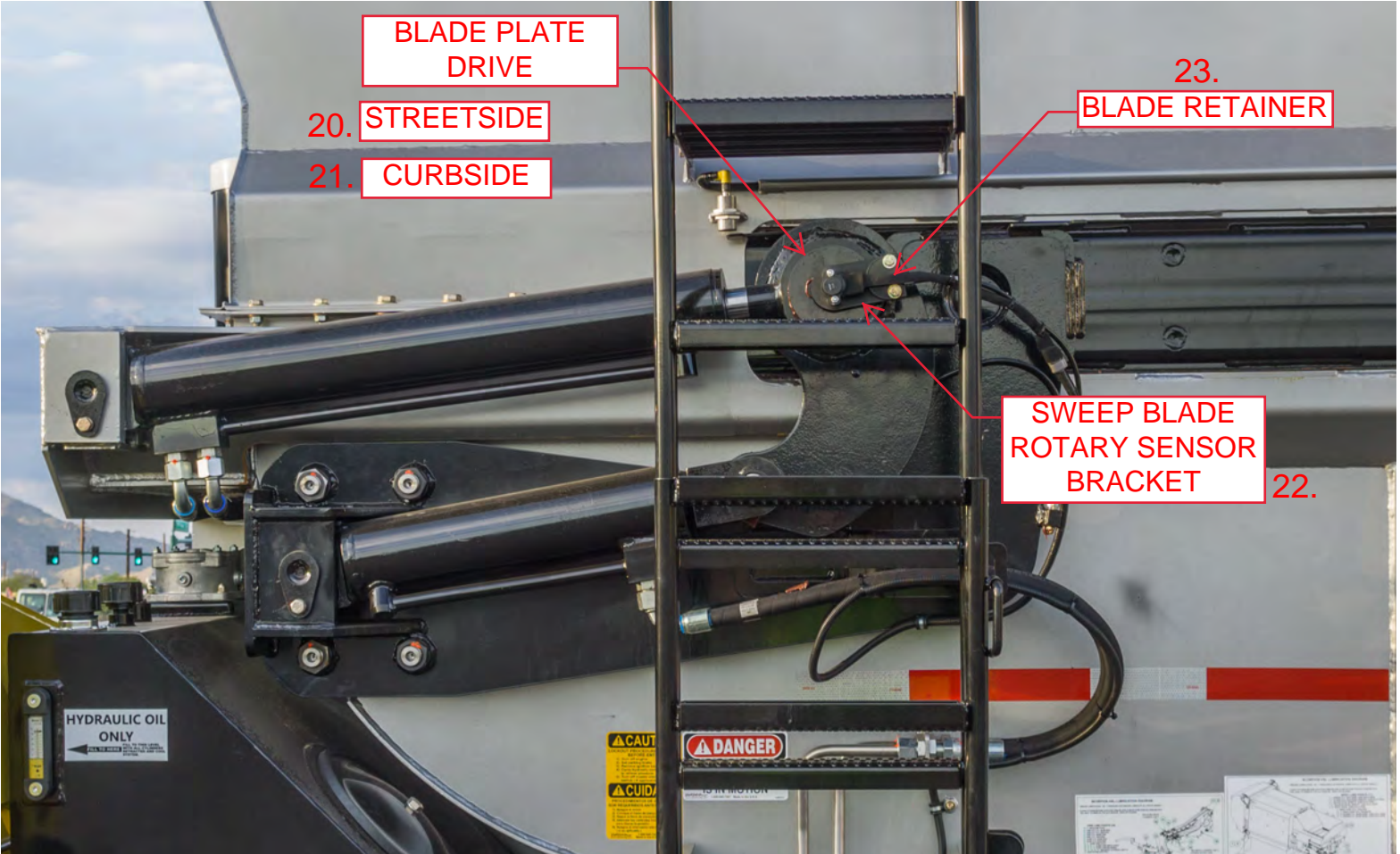


**19.
V-ROLLERS
[BOTH SIDES]**

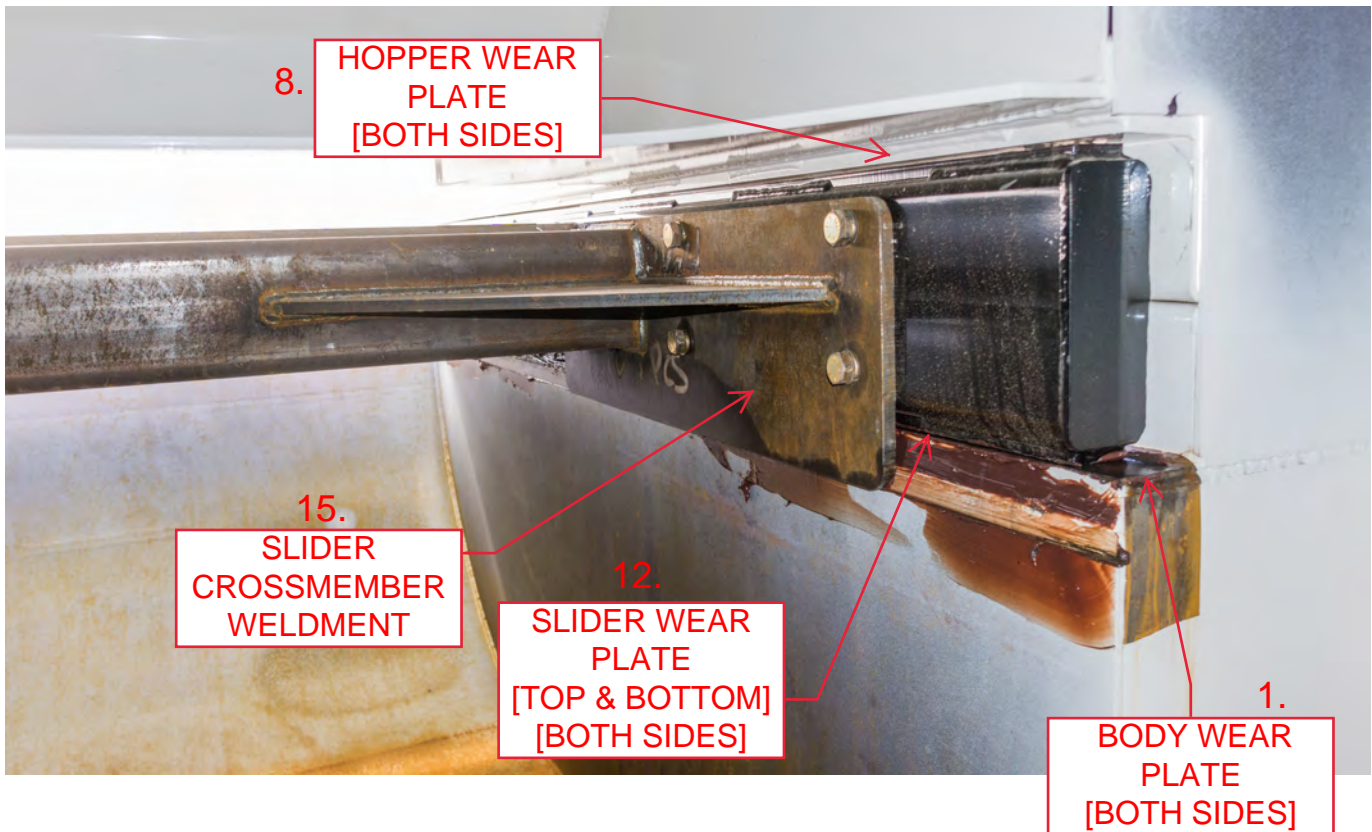
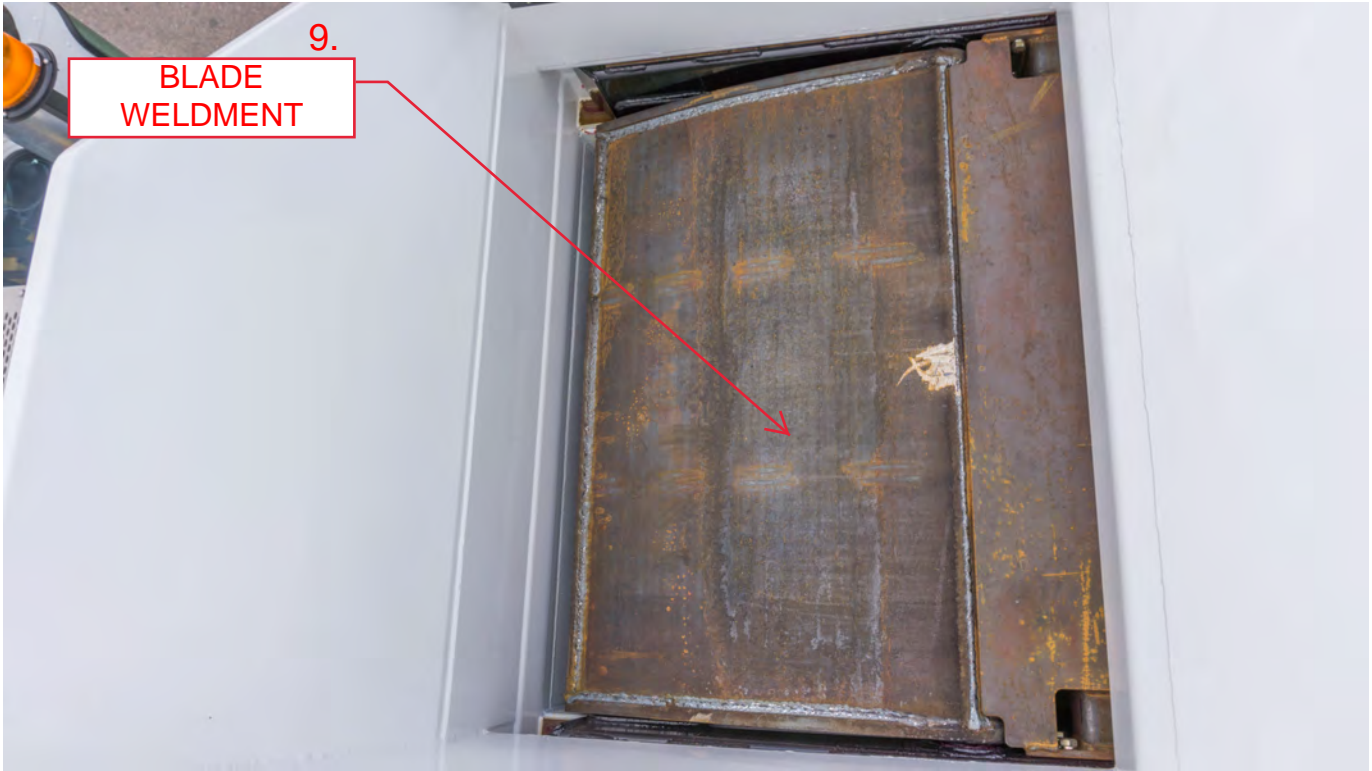
PACKER ASSEMBLY (continued)



PACKER ASSEMBLY (continued)



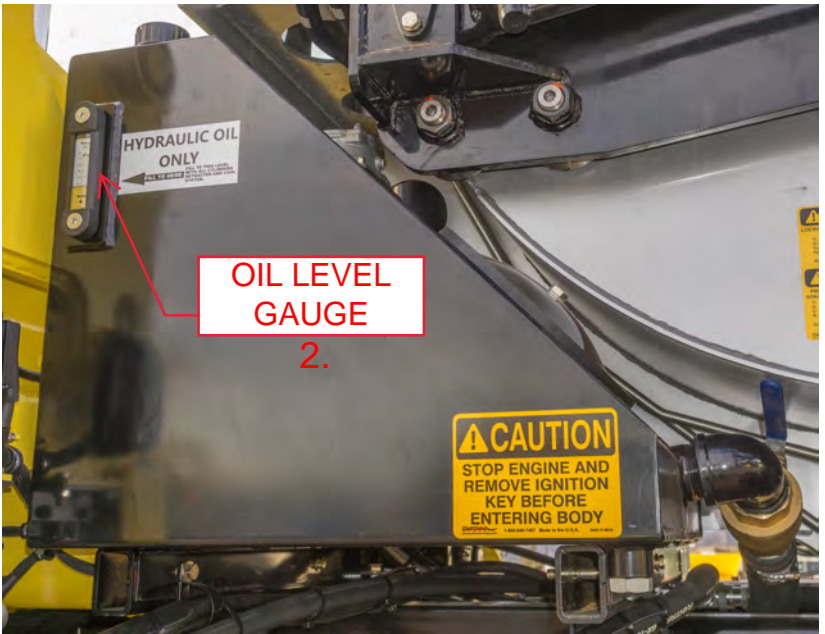
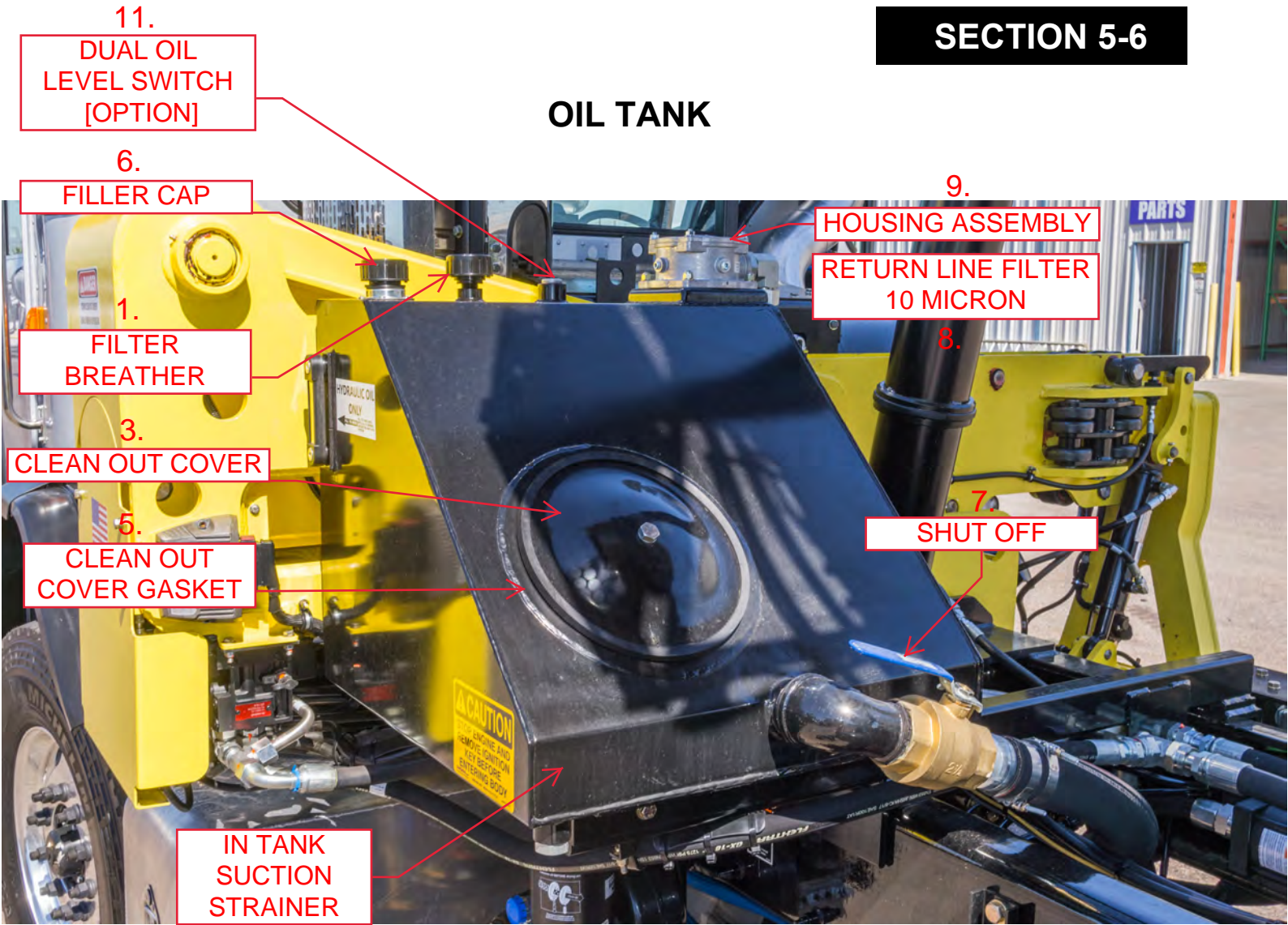
PACKER ASSEMBLY (continued)



OIL TANK PARTS LIST

Reference Number	Part Number	Part Description	Amount Required
1	HF01060	BREATHER, OIL TANK	1
2	AM01066	GAUGE, SIGHT, OIL	1
3	AM01067	COVER, CLEAN OUT	1
4	ES01100	SENSOR, TEMPERATURE, OIL	1
5	AM01642	GASKET, COVER, CLEAN OUT	1
6	HF02896	CAP, FILLER/BREATHER,TANK	1
7	HA01058	OIL TANK SHUT OFF VALVE	1
8	HF00912	ELEMENT, FILTER, RETURN	1
9	HF01064	FILTER HOUSING	1
10	HF01065	STRAINER, SUCTION	1
11	AM05168	HYDRAULIC OIL LEVEL SWITCH DUAL	PRODUCT OPTION

OIL TANK

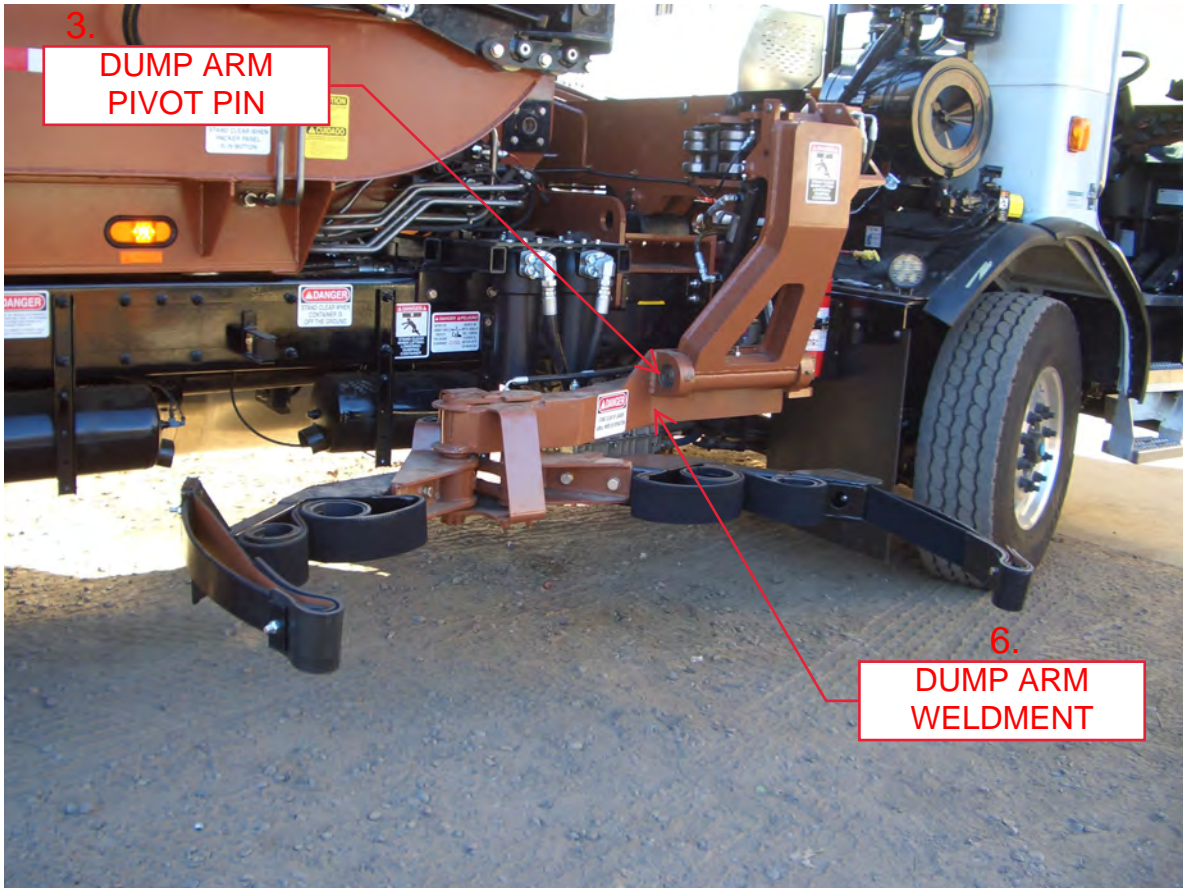


LOADER DUMP ARM PARTS LIST

Reference Number	Part Number	Part Description	Amount Required
1	WA00294	SPACER, BEARING, GRIP GEAR	1
2	WA00295	PIN, CYLINDER, DUMP ARM	1
3	WA00296	PIN, PIVOT, DUMP ARM	1
4	WA01030	LINK, G-LINK	2
5	WA01039	PIN, CYLINDER, DUMP ARM	2
6	WA00271	ARM, DUMP, SHORT	1
7	WA01033	CRANK, G-LINK	1
8	WA01034	DRIVEN, G-LINK	1
9	WA01043	PIN, G-LINK	1
10	WA01044	PIN, G-LINK	2
11	WA03234	ARM, DUMP	1
12	AA01045	NUT, HEX, CASTLE, 1.5-12	2
13	AA00672	BEARING, SPHERICAL, 2.0 INCH	2
14	AM01595	BUSHING, 2.5 X 2 X 1.75	4
15	HC05293	CYLINDER, GRIP, CUSHION	1
16	STOCK	.25" X 3" COTTER PIN	2

LOADER DUMP ARM

BEFORE JANUARY 2015



LOADER DUMP ARM (continued)

AFTER JANUARY 2015

The length of the loader dump arm was extended 4 inches. Please note the type of loader dump arm when ordering parts as gripper cylinder hose size is impacted by this change.

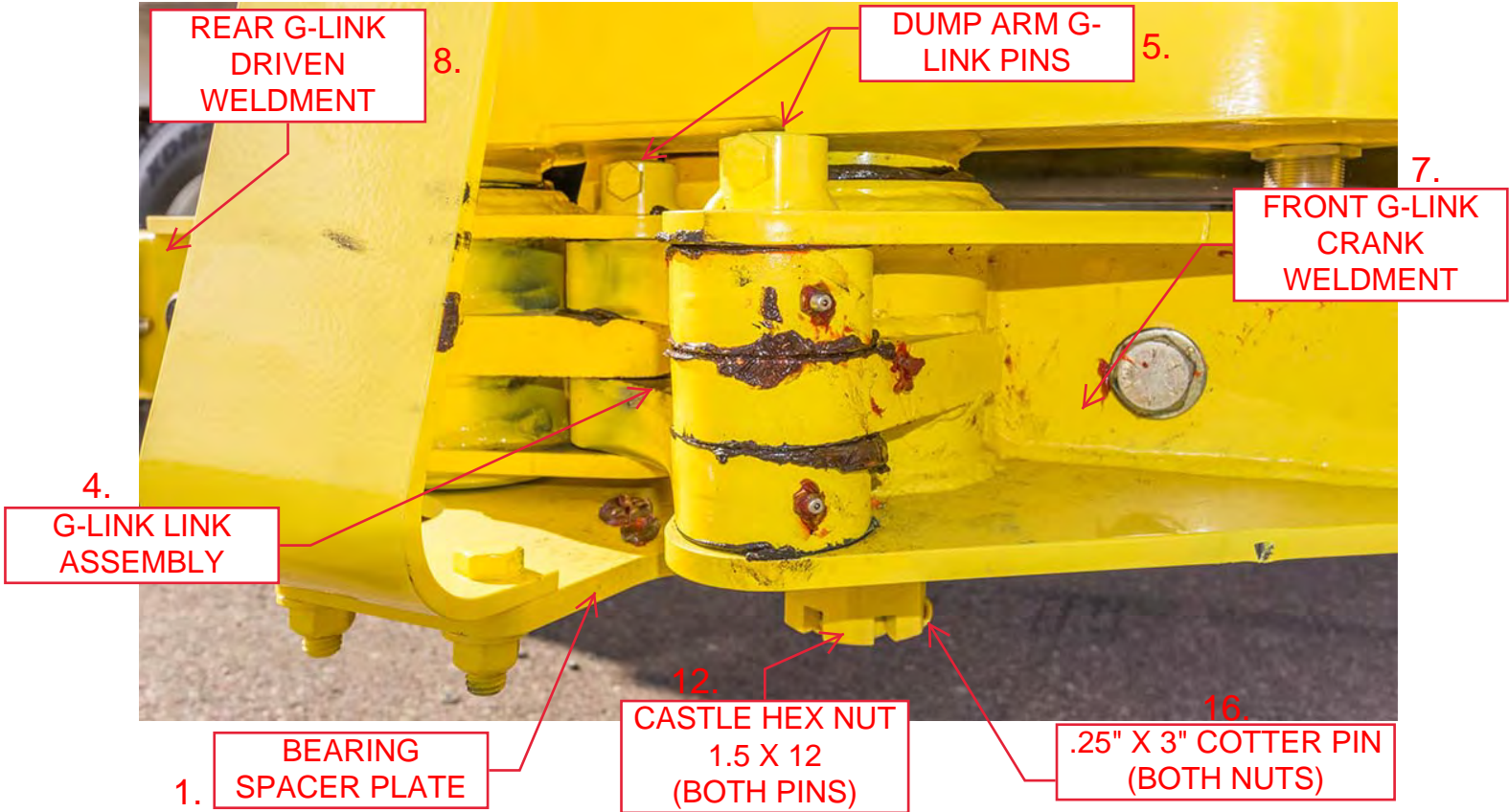
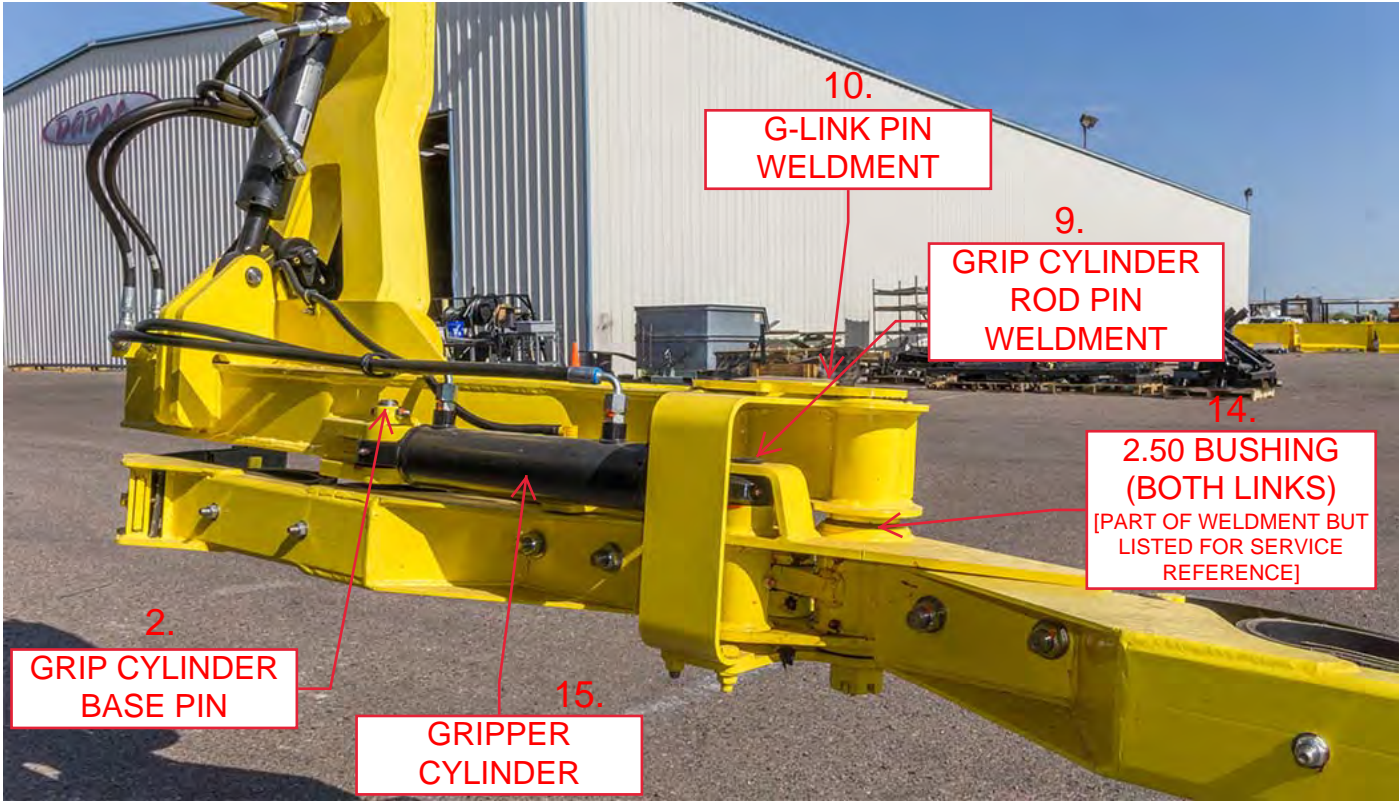


LOADER DUMP ARM (continued)



13.
2" SPHERICAL BEARING
[INSIDE EACH END OF DUMP ARM]

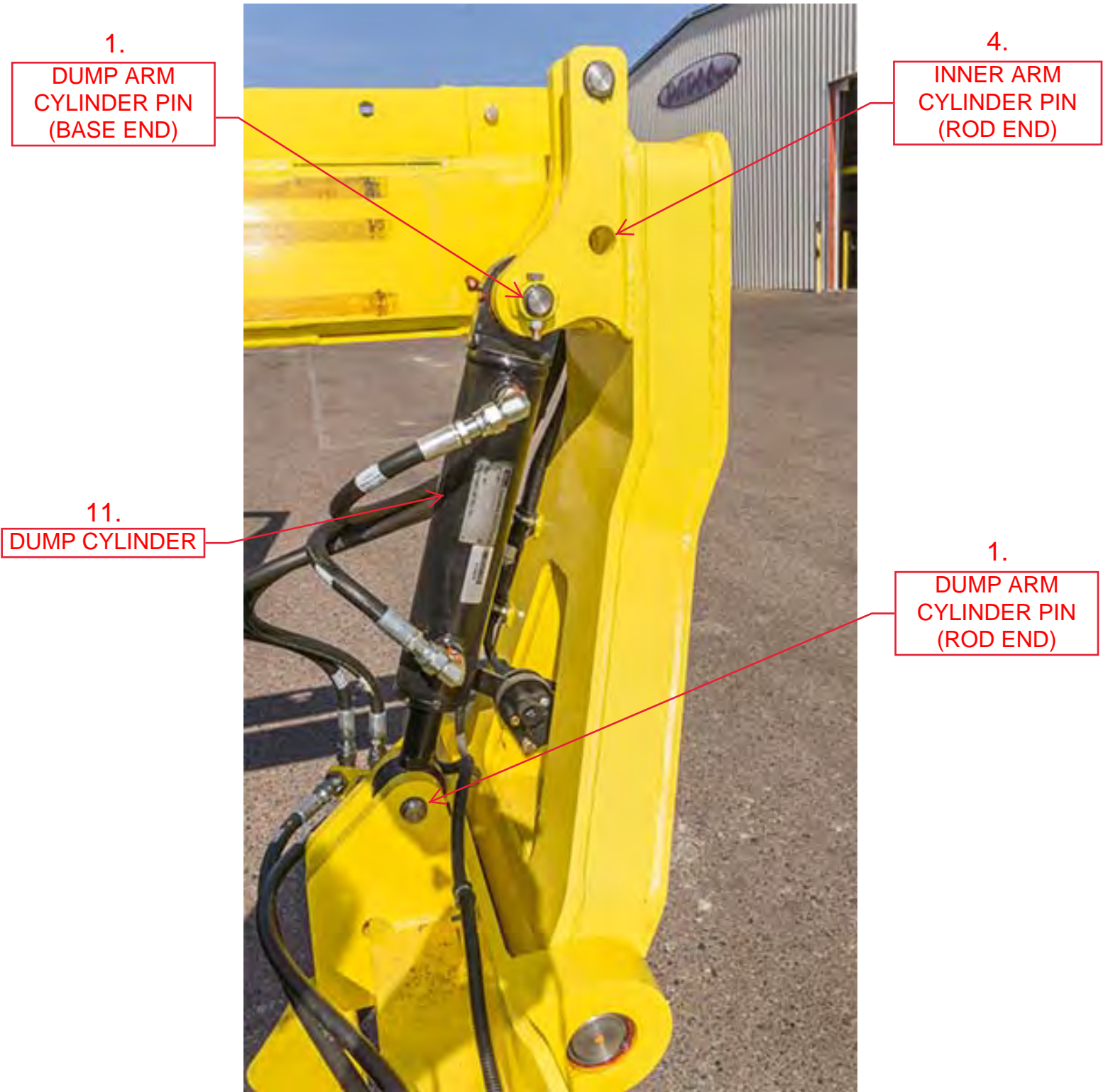
LOADER DUMP ARM (continued)



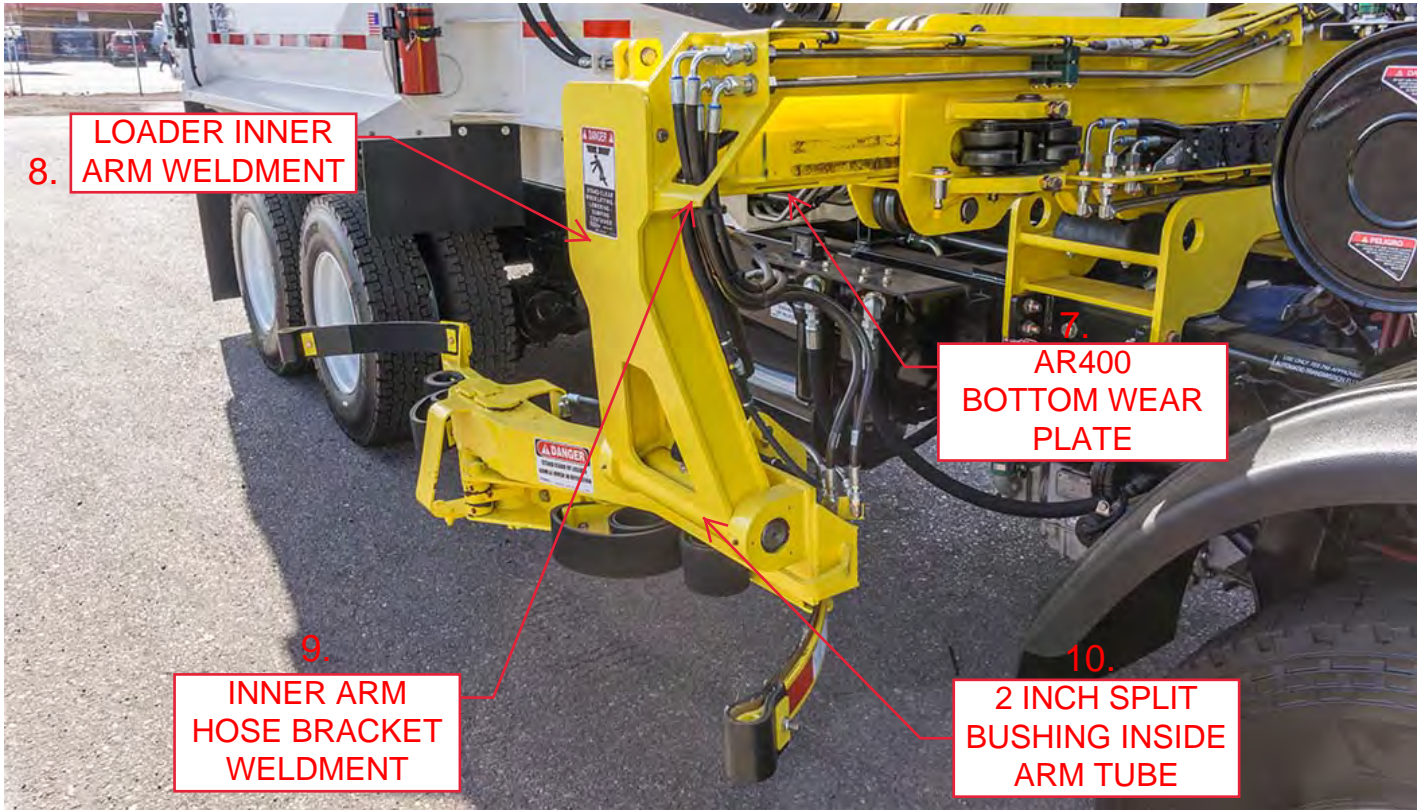
LOADER INNER ARM PARTS LIST

Reference Number	Part Number	Part Description	Amount Required
1	WA00295	PIN, CYLINDER, DUMP ARM	2
2	WA00260	PLATE, WEAR, TOP, INNER	1
3	WA00261	PLATE, WEAR, SIDE, INNER	3
4	AA00298	PIN, CYLINDER, INNER ARM	1
5	WA00465	PLATE, WEAR, SIDE, INNER	1
6	WA00476	PLATE, WEAR, SIDE, INNER	1
7	WA00617	PLATE, WEAR, BOTTOM	1
8	WA00258	INNER ARM LOADER	1
9	WA00609	BRACKET, HOSE, INNER	1
10	AA00680	BUSHING, SPLIT, 2.0 ID,	2
11	HC00670	CYLINDER, GRIP/DUMP	1

LOADER INNER ARM



LOADER INNER ARM (continued)



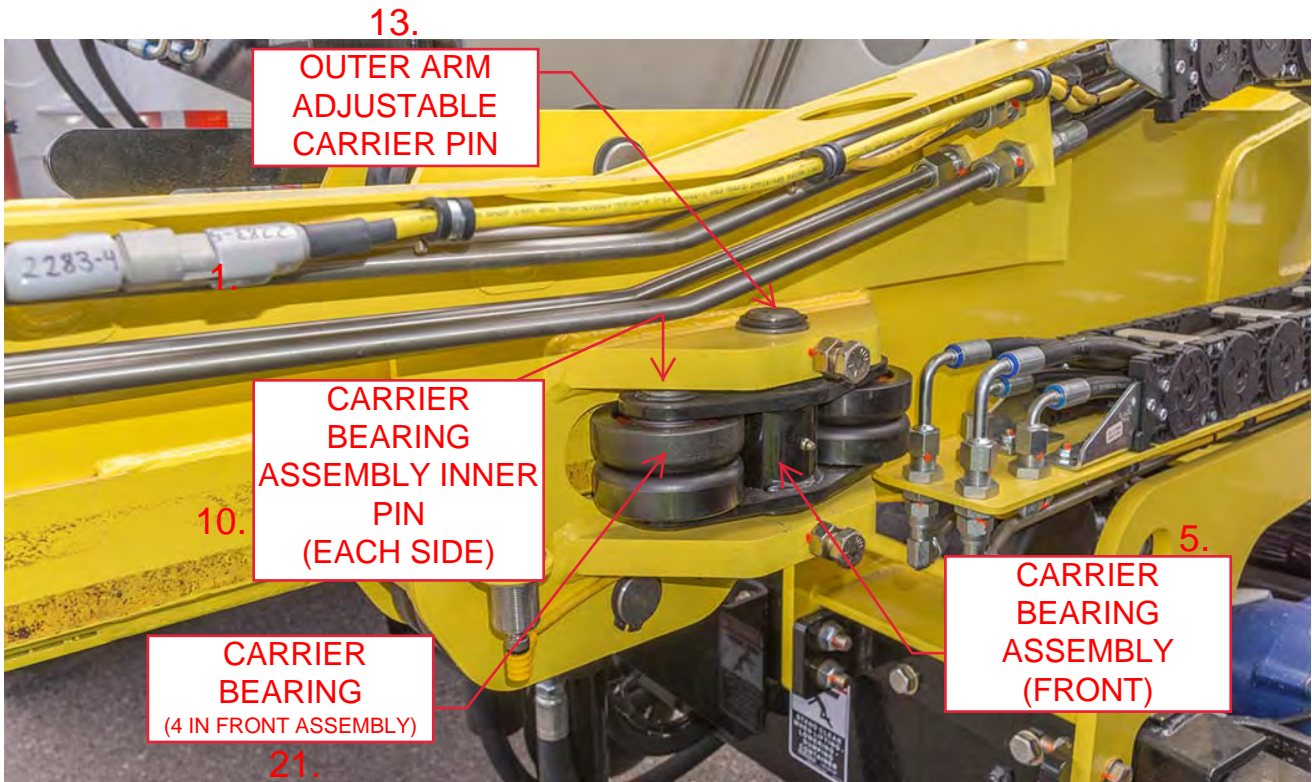
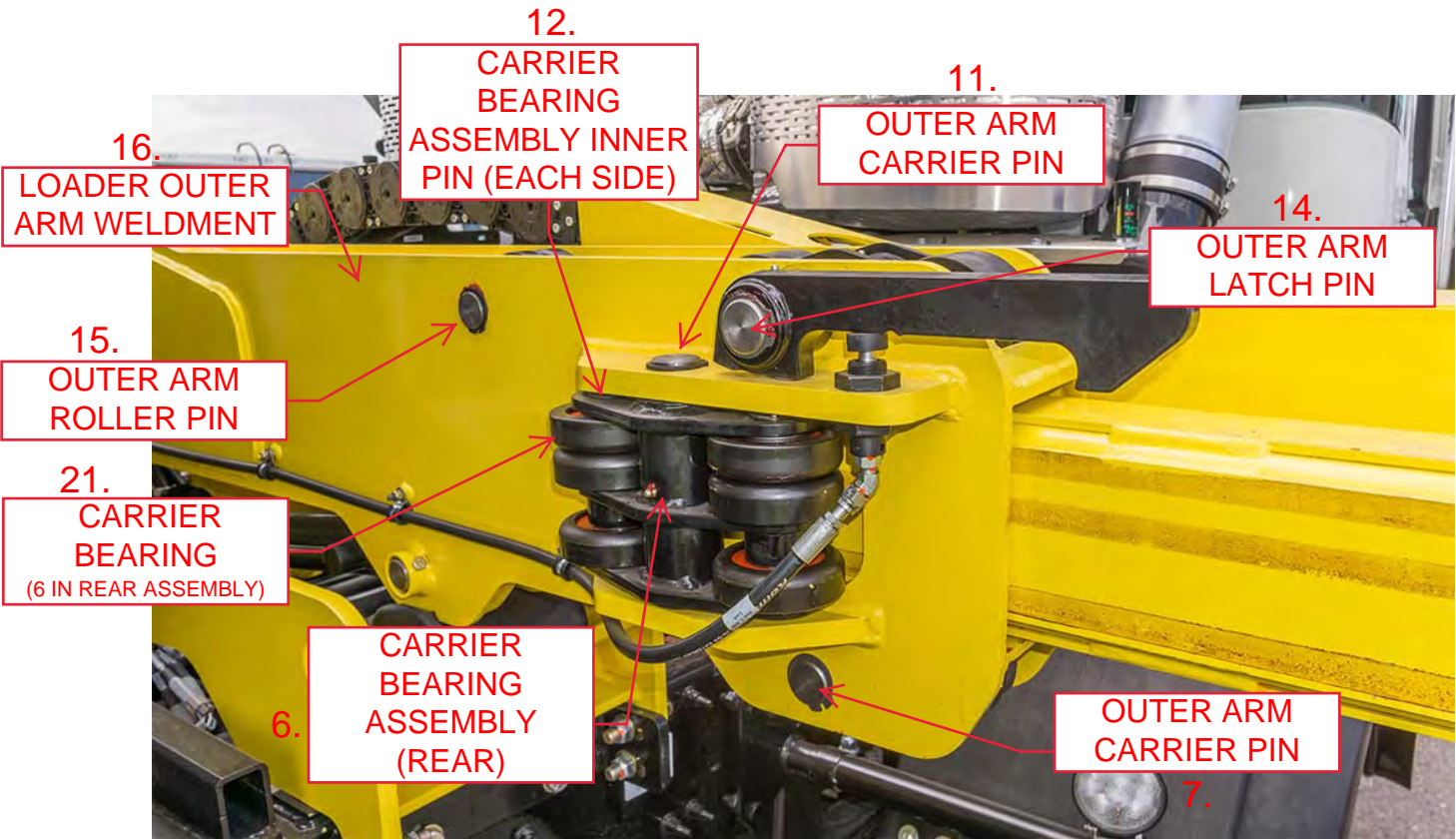
BRASS WEAR PLATE



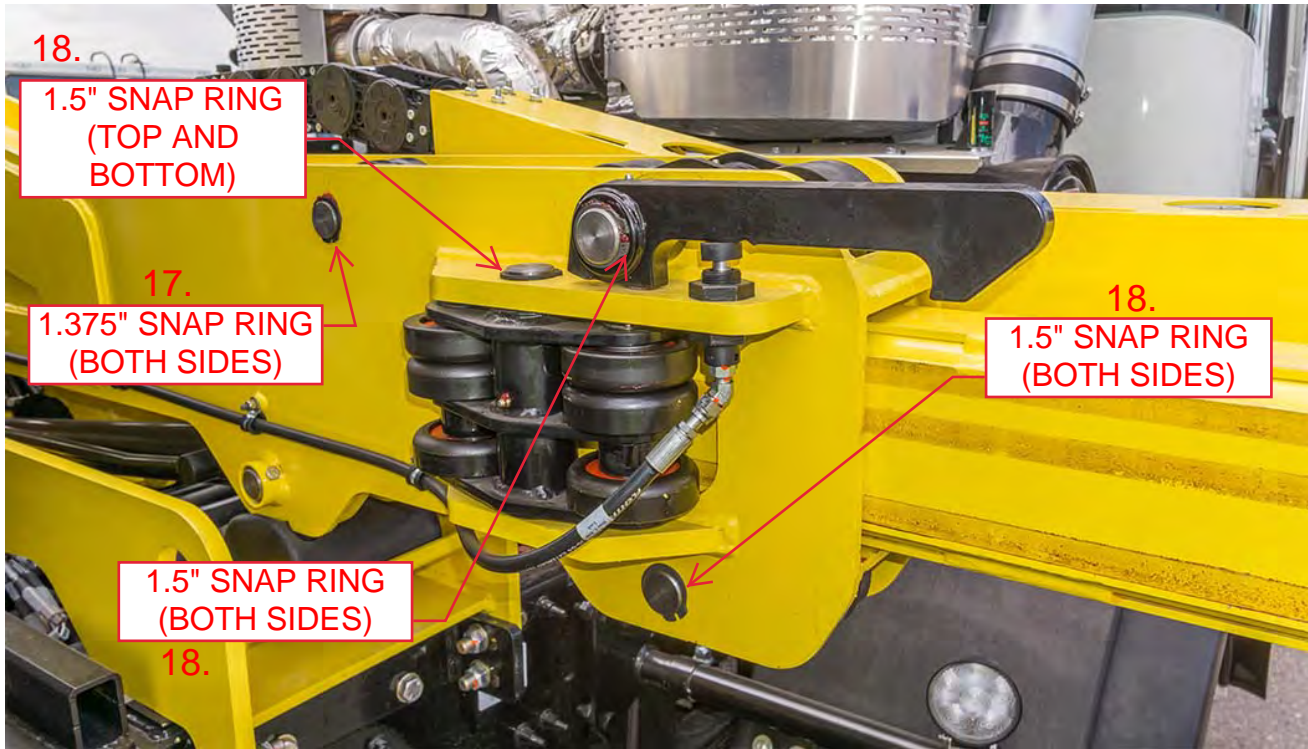
LOADER OUTER ARM PARTS LIST

Reference Number	Part Number	Part Description	Amount Required
1	HC00534	CYLINDER, LIFT, ARM	1
2	HC00361	CYLINDER, IN/OUT	1
3	WA00307	PIN, BASE	1
4	WA02917	PIN, PIVOT, MAIN	1
5	AA00572	CARRIER, BEARING	3
6	AA00574	CARRIER, BEARING	1
7	AA00297	PIN, CARRIER, OUTER ARM	1
8	AA00299	PIN, CYLINDER, OUTER ARM	1
9	AA00299	PIN, CYLINDER, OUTER ARM	1
10	AA00306	PIN, CARRIER, BEARING	2
11	AA00471	PIN, CARRIER, OUTER ARM	1
12	AA00474	PIN, CARRIER, BEARING	2
13	AA01159	PIN, CARRIER, ADJUST	1
14	AA01469	PIN, LATCH, OUTER ARM	1
15	AA01863	PIN, ROLLER, OUTER ARM	1
16	WA00245	OUTER ARM	1
17	AA00653	RETAINER RING, 1.375	18
18	AA00654	RETAINER RING, 1.5	8
19	AA00655	RETAINER RING, 2.0	2
20	AA00684	CARRIER, HOSE, ASSEMBLY	1
21	AA00658	BEARING, 3.99 O.D, 1.375 I.D.	20
22	AA00672	BEARING, SPHERICAL, 2.0 INCH	2
23	STOCK	5/8"-11 X 2" BOLT	2
24	STOCK	5/8" - 11 JAM NUT	2

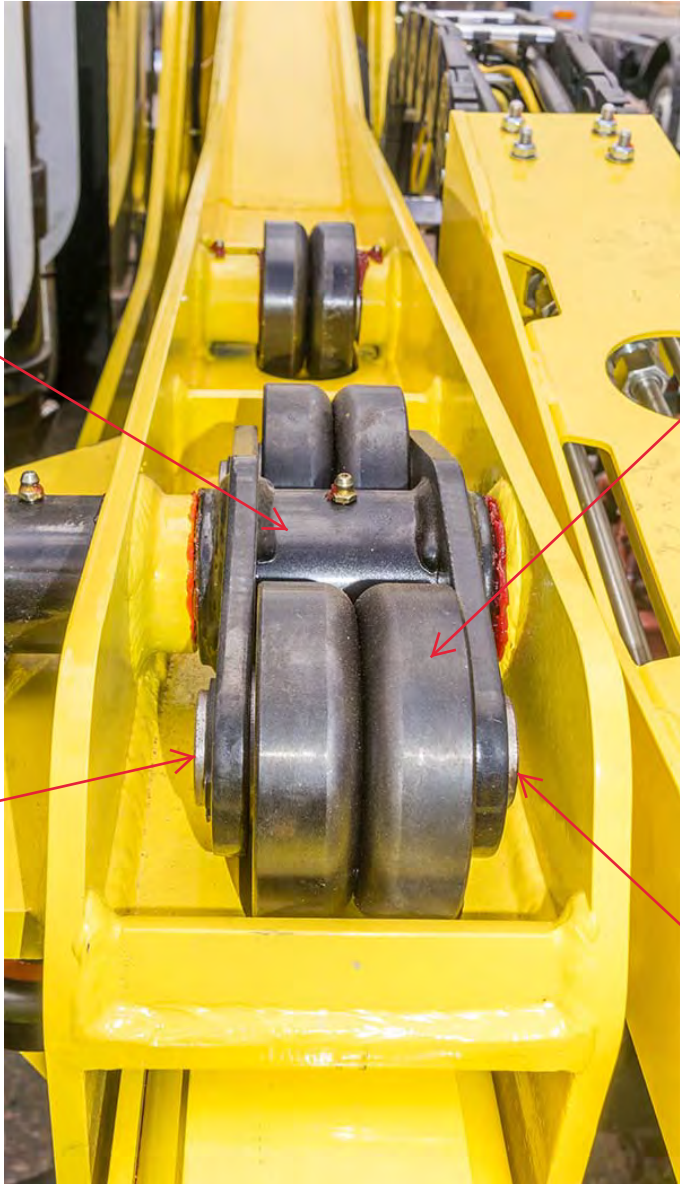
LOADER OUTER ARM



LOADER OUTER ARM (continued)



LOADER OUTER ARM (continued)



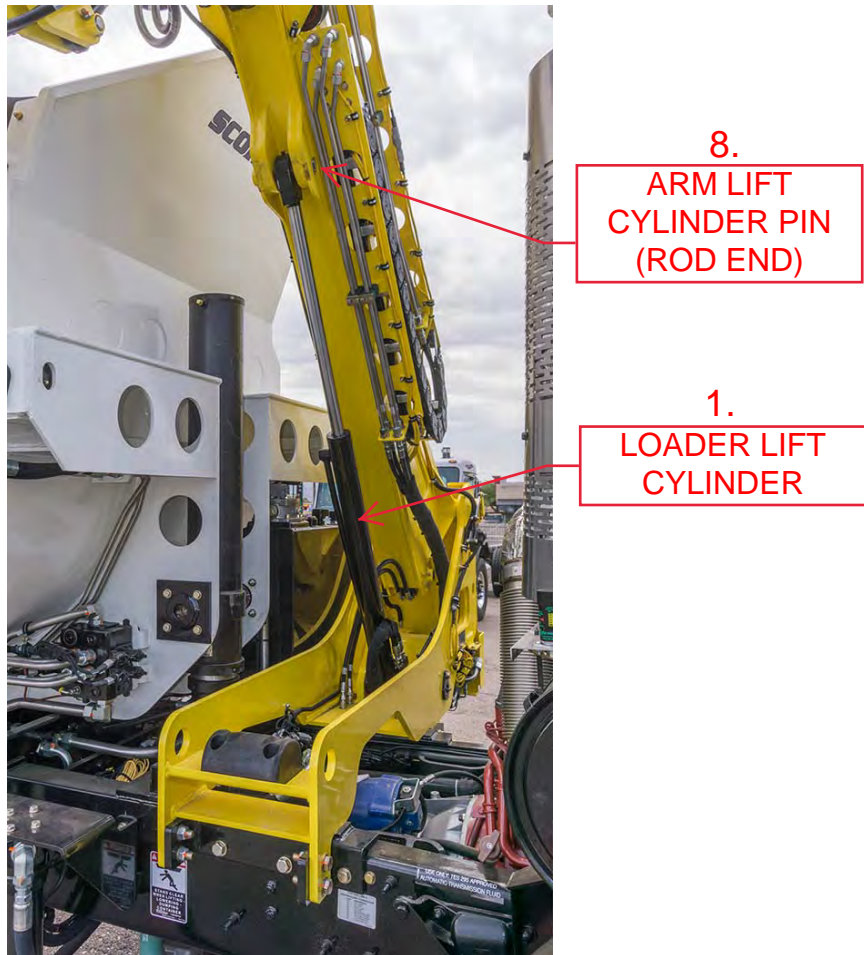
5.
CARRIER
BEARING
ASSEMBLY
(UPPER)

21.
CARRIER
BEARING
(6 IN UPPER ASSEMBLY)

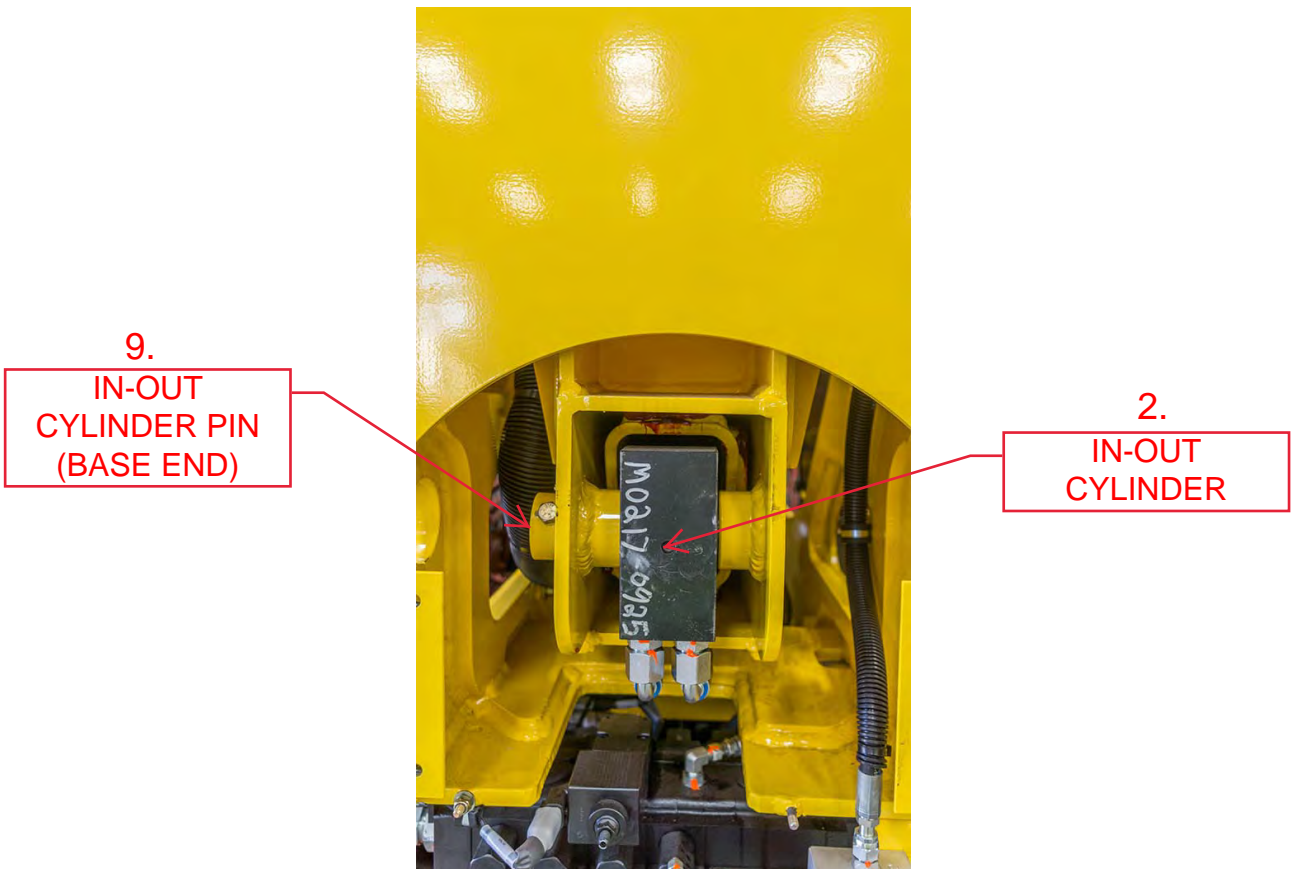
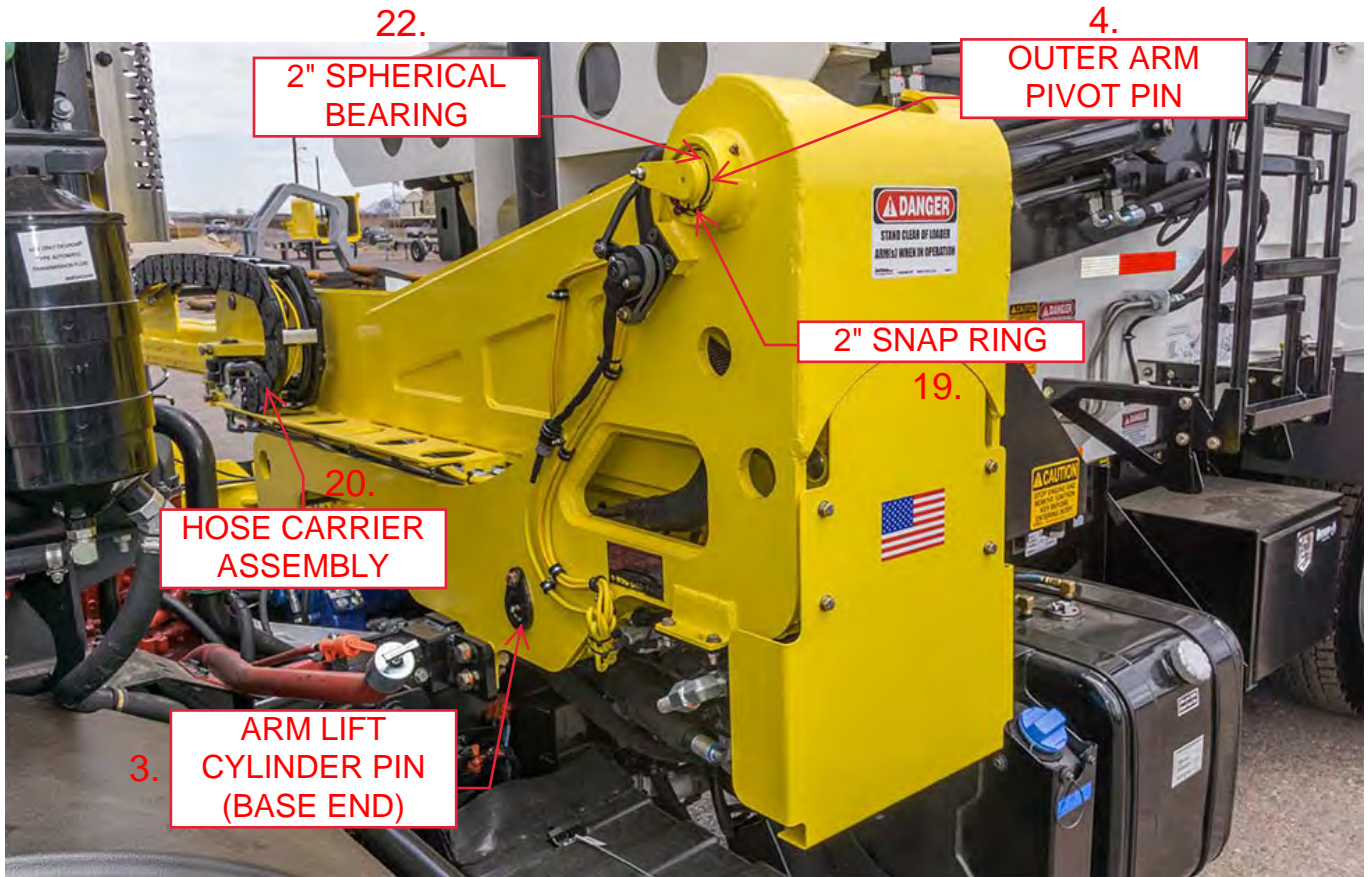
10.
CARRIER
BEARING
ASSEMBLY
INNER PIN
(EACH SIDE)

18.
1.5" SNAP RING

LOADER OUTER ARM (continued)



LOADER OUTER ARM (continued)



LOADER BASE PARTS LIST

Reference Number	Part Number	Part Description	Amount Required
1	AA00485	COVER, VALVE, BASE	1
2	WA00231	BASE LOADER	1
3	AA00650	BUMPER, RUBBER, ARM	1

LOADER BASE



ARM RUBBER BUMPER

3.



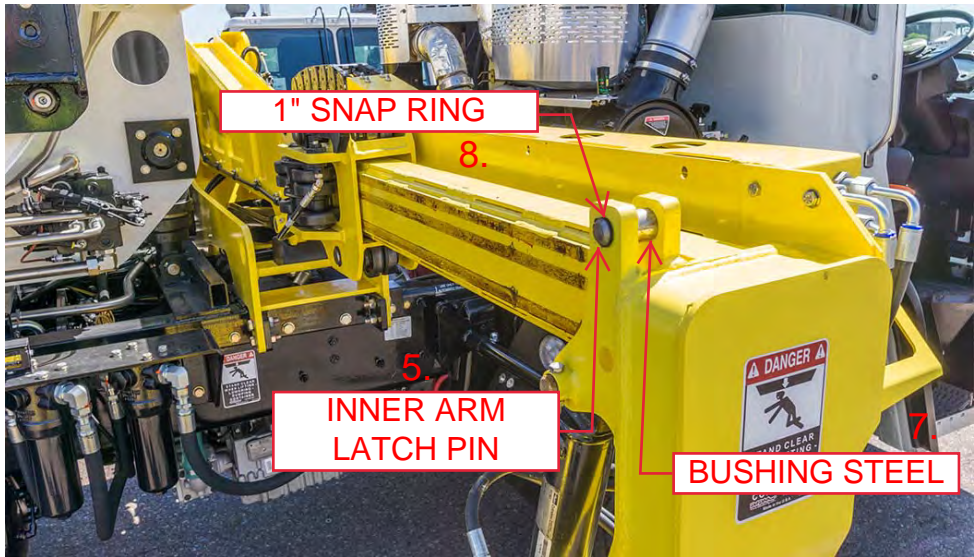
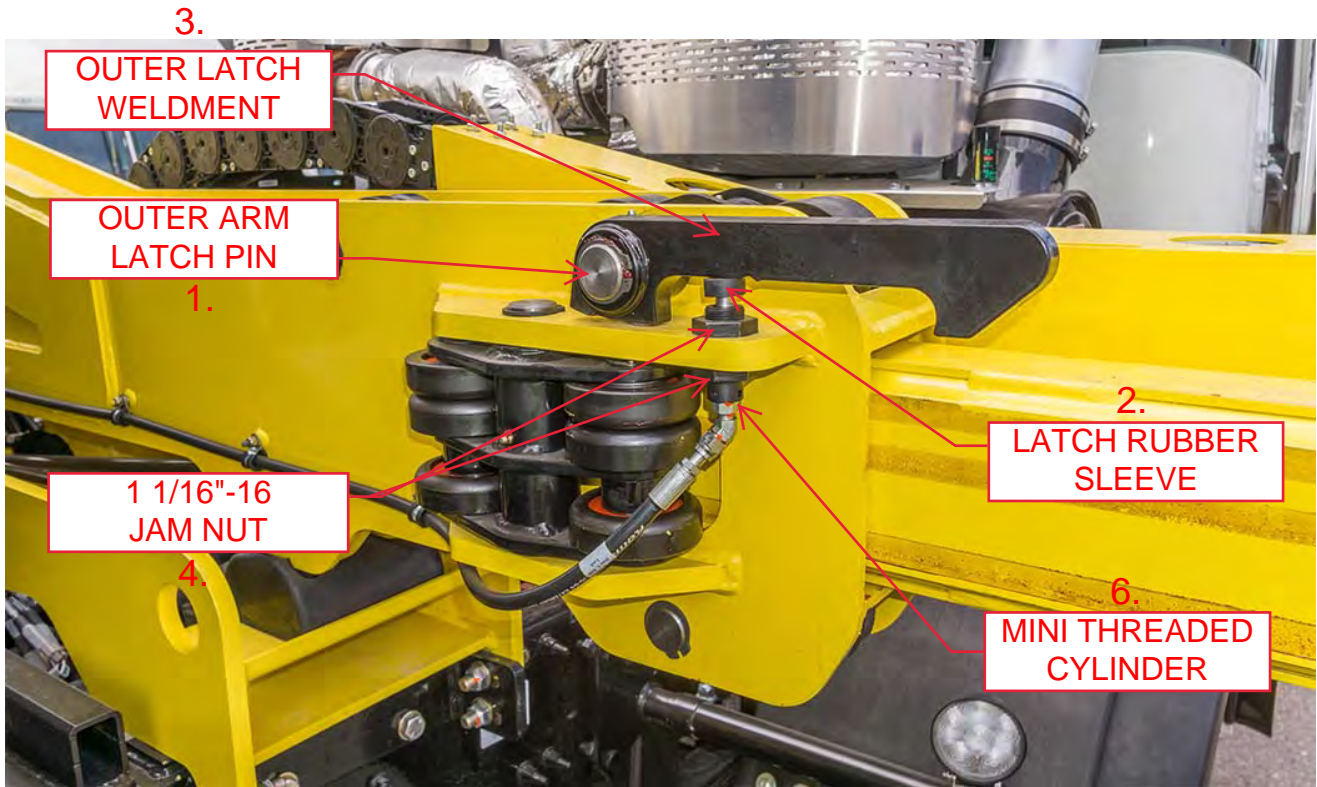
2. LOADER BASE WELDMENT

1. BASE VALVE SHIELD

ARM INTERLOCK PARTS LIST

Reference Number	Part Number	Part Description	Amount Required
1	AA01469	PIN, LATCH, OUTER ARM	1
2	WA02910	SLEEVE, RUBBER, LATCH	1
3	WA01471	LATCH, INNER ARM	1
4	AA01577	NUT, JAM (1 1/16 -16 THREAD)	2
5	AA01468	PIN, LATCH, INNER ARM	1
6	HC01474	CYLINDER, THREADED, MINI	1
7	AP01057	BUSHING, 1.25 X 1.0 X 1.25 LON	1
8	STOCK	RETAINER RING, 1.0	2

ARM INTERLOCK



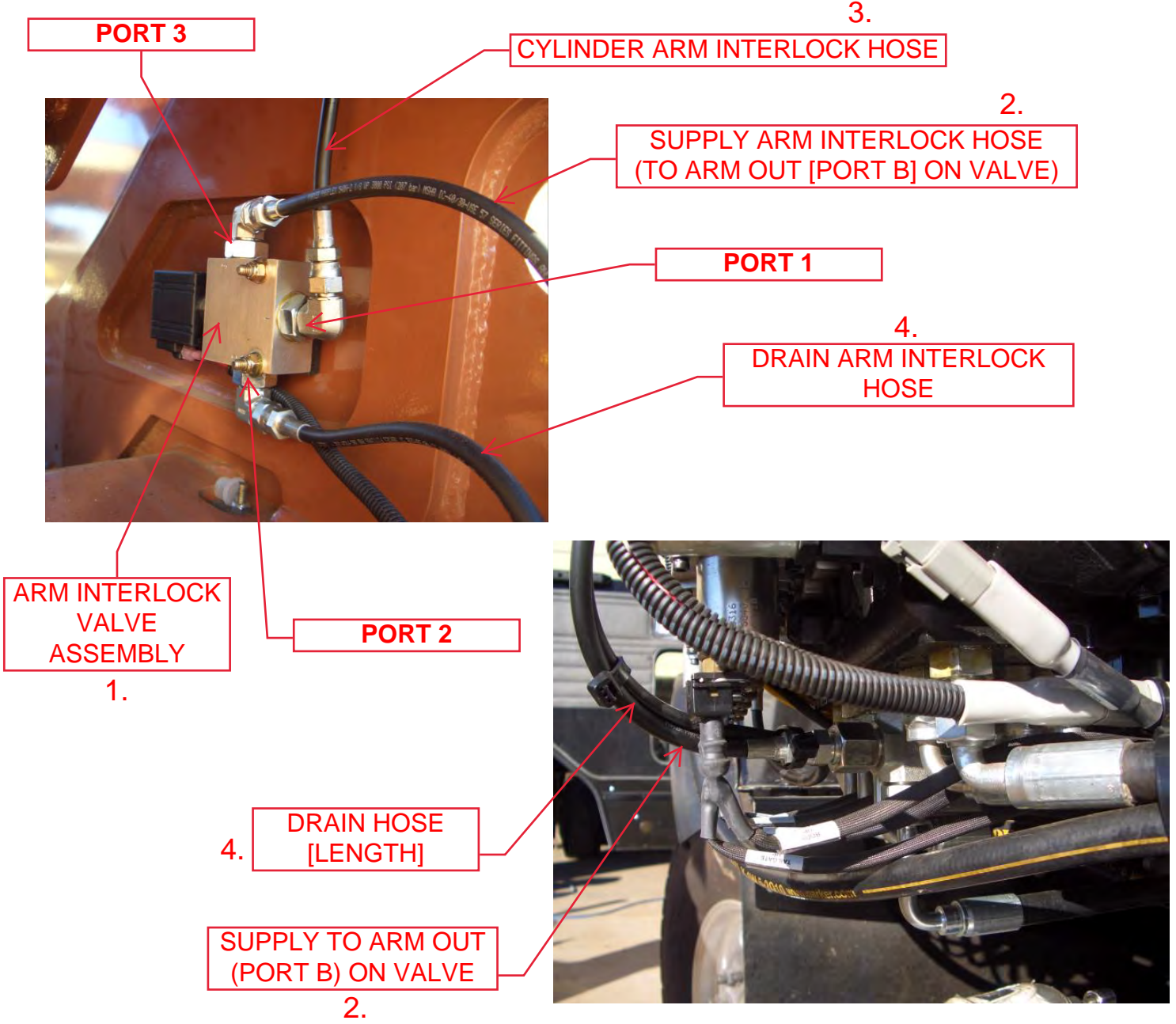
ARM INTERLOCK PARTS LIST

BEFORE MARCH 2017

Reference Number	Part Number	Part Description	Amount Required
1	HV01493	VALVE, ARM INTERLOCK	1
2	HH03734-22	HOSE1, ARM LOCK	1
3	HH03734-24	HOSE2, ARM LOCK	1
4	HH04276	HOSE, LINE, DRAIN, 04	CUT TO LENGTH [1]

ARM INTERLOCK

BEFORE MARCH 2017



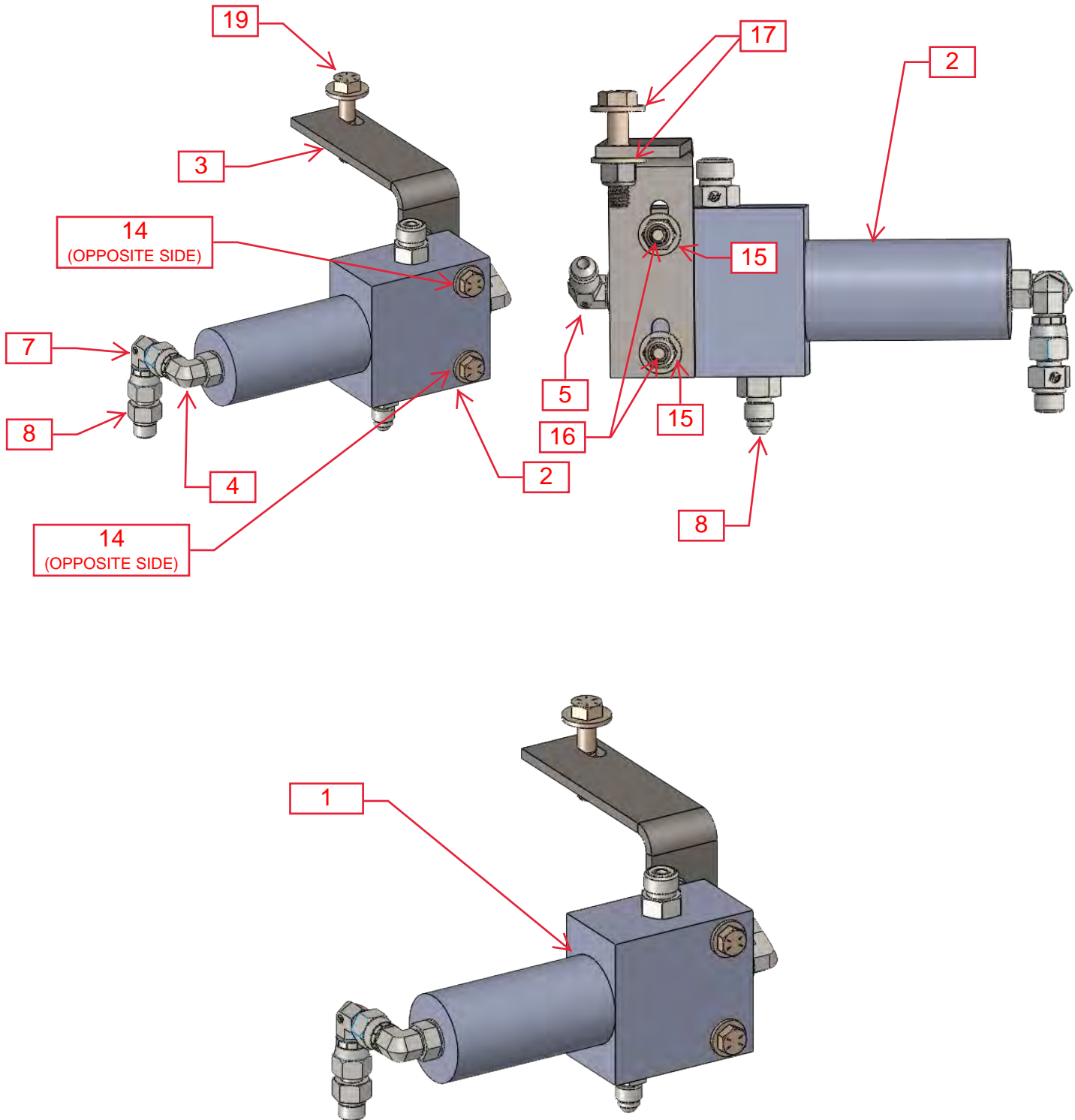
ARM INTERLOCK PARTS LIST

AFTER MARCH 2017

Reference Number	Part Number	Part Description	Amount Required
1	AA05439	KIT, VALVE, LOCK, ARM	1
2	HV05442	VALVE, CHECK, LOCK, ARM	1
3	AA05440	ANGLE, MOUNT. VALVE	1
4	HA05443	KIT, ADAPTOR, LOCK, ARM	1
5	HA04246-01	04-FJIC / 04-MORB 90	1
6	HA04197-01	04-MJIC / 04-MORB 90	1
7	HA04212-07	04-MJIC / 06-MORB 90	1
8	HA04245-02	04-MJIC / 04-FJIC 90	1
9	HA04208-03	04-MJIC / 04-MORB	2
10	HA04222-02	04-MORFS / 04-MORB	1
11	HA04213-02	04-MJIC / 06-MORB / 04-MJIC RUN TEE	1
12	HA04233	04-FJIC / 04-BARB	2
13	HH04276	HOSE, LINE, DRAIN, 04	20"
14	HH05052-07	HOSE 1, ARM LOCK	1
15	09S8Y-025	WASHER, FLAT, F436	4
16	08N8CY-025	NUT, NYLOCK, 025-20	2
17	3CSCY-0250225	BOLT, HEX, 025-20, 225	2
18	09S8Y-031	WASHER, FLAT, F436	2
19	08N8CY-031	NUT, NYLOCK, 031-18	1
20	3CSCY-0310150	BOLT, HEX, 031-18, 150	1

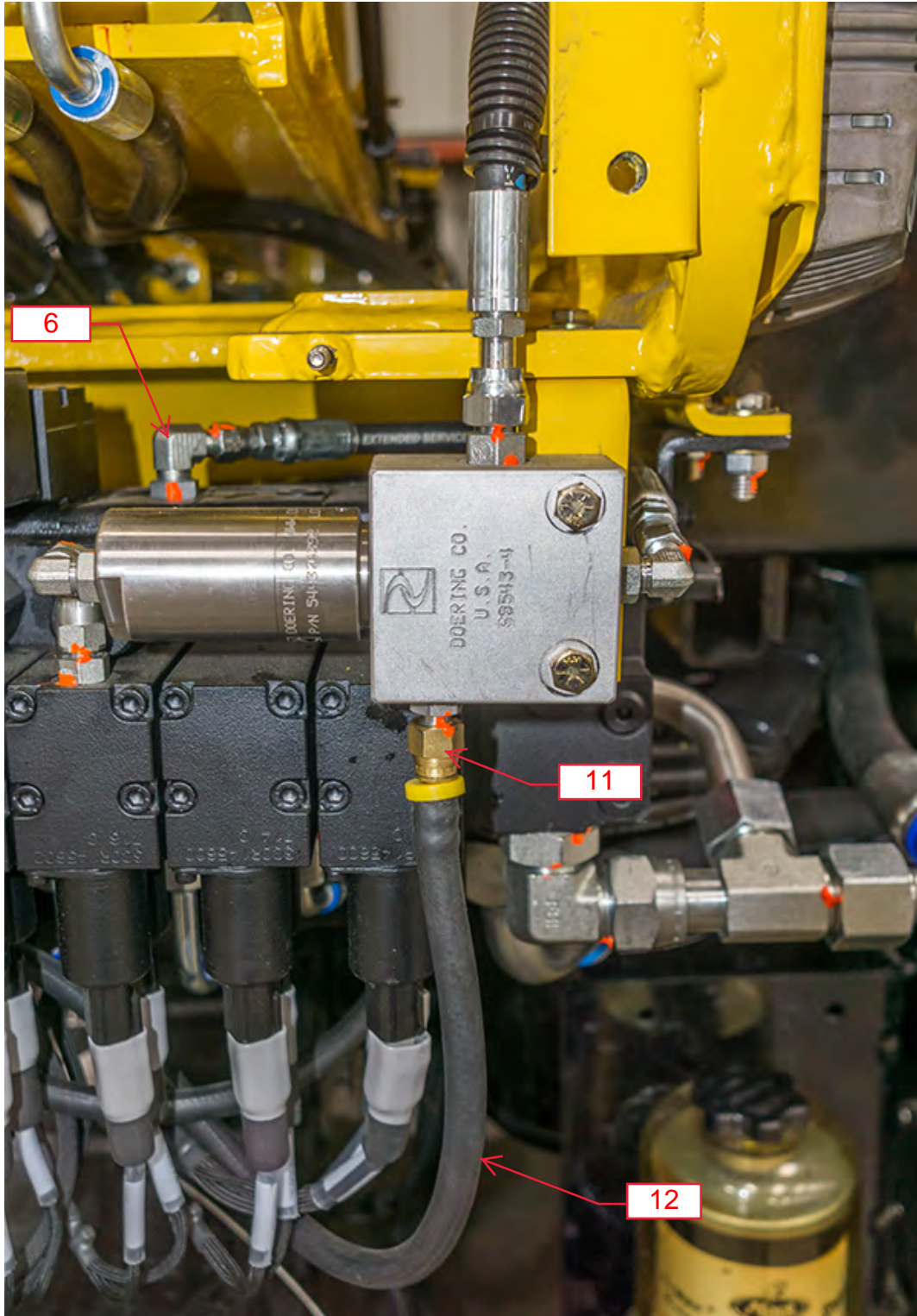
ARM INTERLOCK

AFTER MARCH 2017



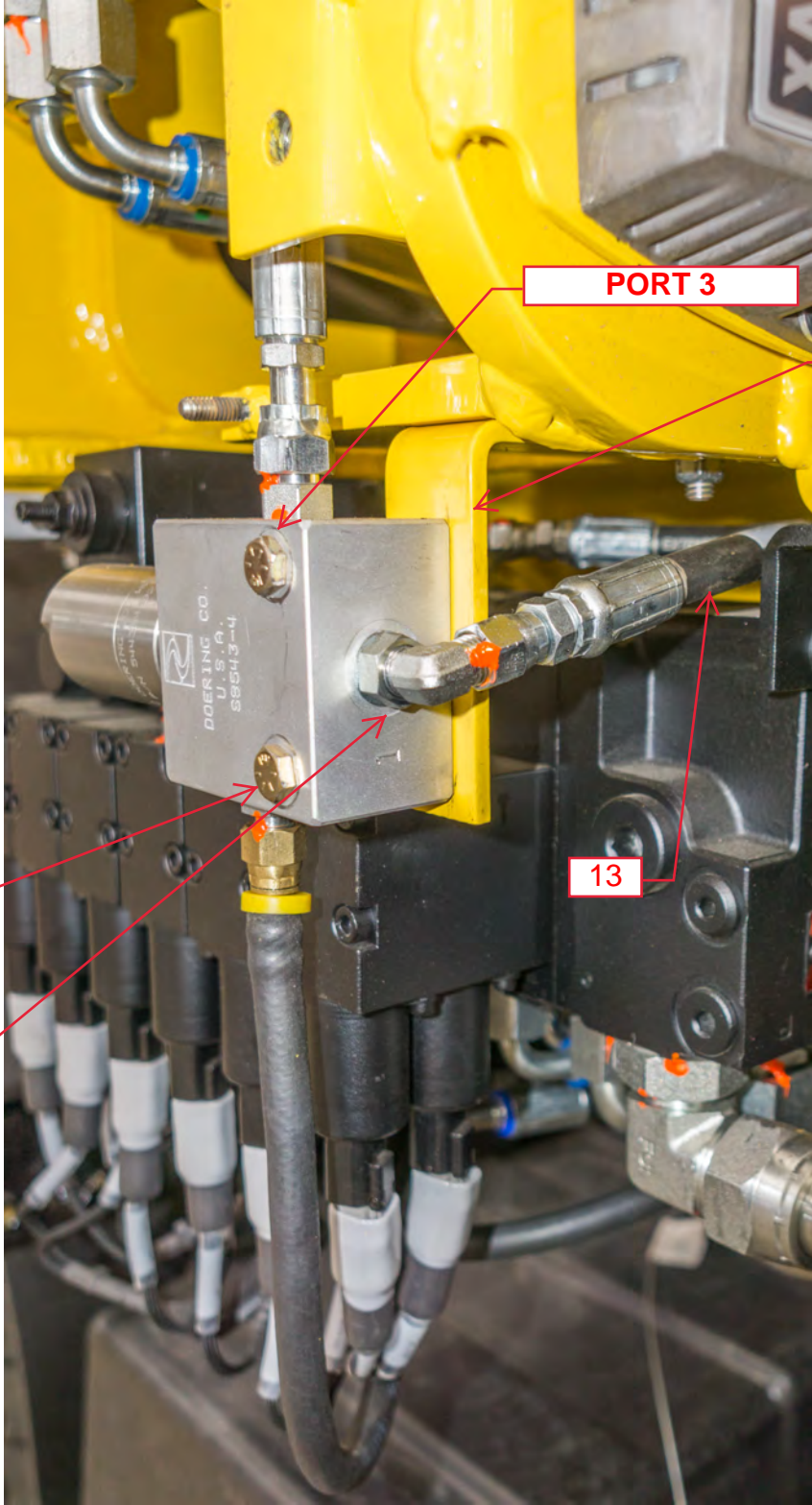
ARM INTERLOCK (continued)

AFTER MARCH 2017



ARM INTERLOCK (continued)

AFTER MARCH 2017



PORT 2

PORT 1

PORT 3

3

13

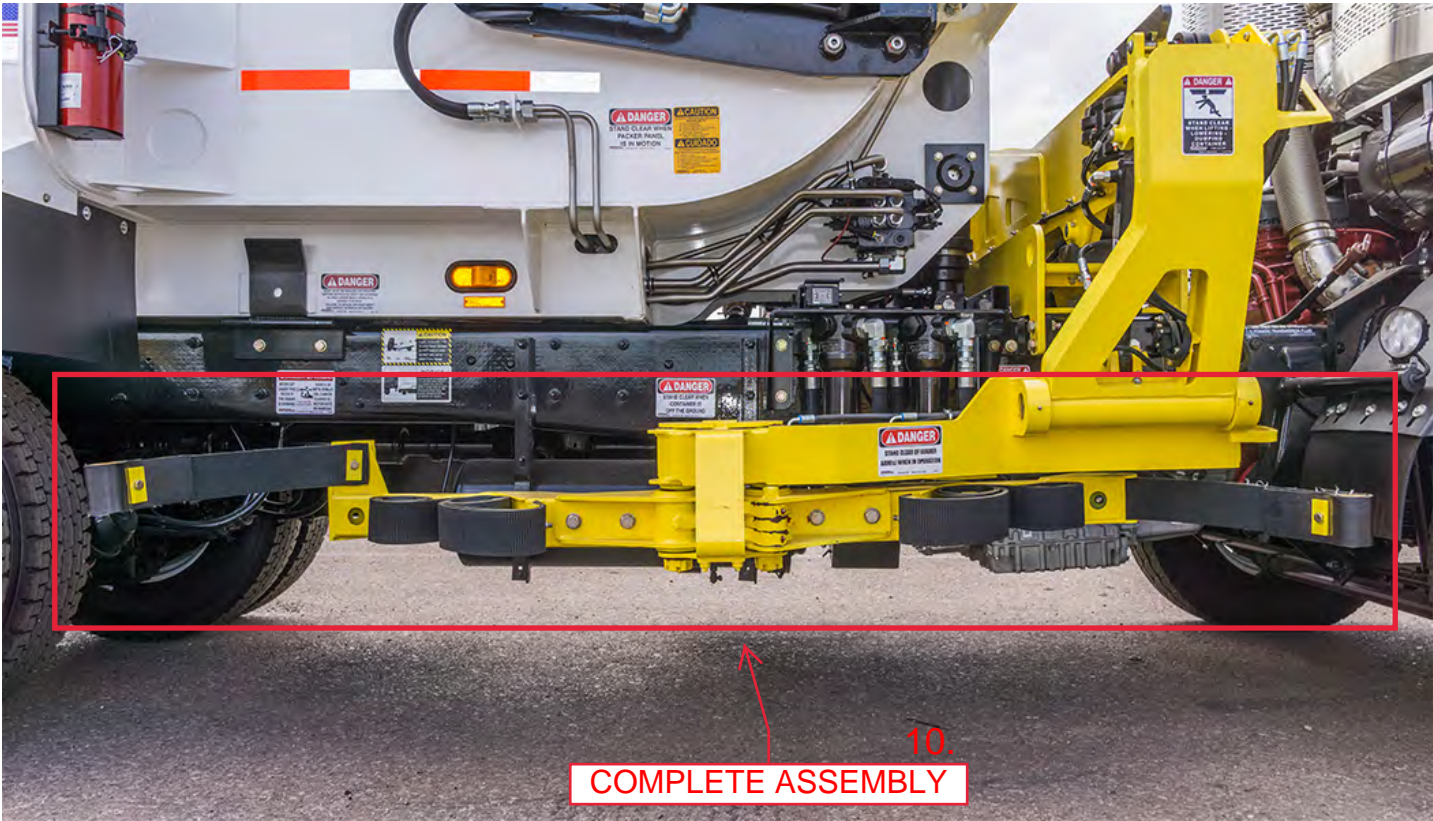
GRIPPER ASSEMBLY PARTS LIST

48-300 Gallon Gripper

Reference Number	Part Number	Part Description	Amount Required
1	AA00953	BELT, OUTER, ROUGH	2
2	WA01014	SPRING, GRIP	2
3	AA01393	TAB, RETAINER, BELT, GRABBER	11
4	AA00687	WELDMENT, FRONT, GRIP ARM(60-300)	1
5	AA00689	GRIP ARM, REAR	1
6	AA01570	GRIP, BELT, INNER	2
7	AA01571	GRIP, BELT, ROLL, INNER	2
8	AA01572	GRIP, BELT, MID	2
9	AA01573	GRIP, BELT, ROLL, MID	2
10	AA05156	GRIP ARM, 48-300, COMPLETE	1

GRIPPER ASSEMBLY

48-300 Gallon Gripper



GRIPPER ASSEMBLY

48-300 Gallon Gripper (continued)



2. REAR SPRING

2.

FRONT SPRING

3. RETAINER

8. MID BELT GRIP

9. MID BELT ROLL GRIP

6. INNER BELT GRIP

7. INNER BELT ROLL GRIP

4. FRONT WELDMENT

5. REAR WELDMENT

1. FRONT SPRING BELT

1. REAR SPRING BELT



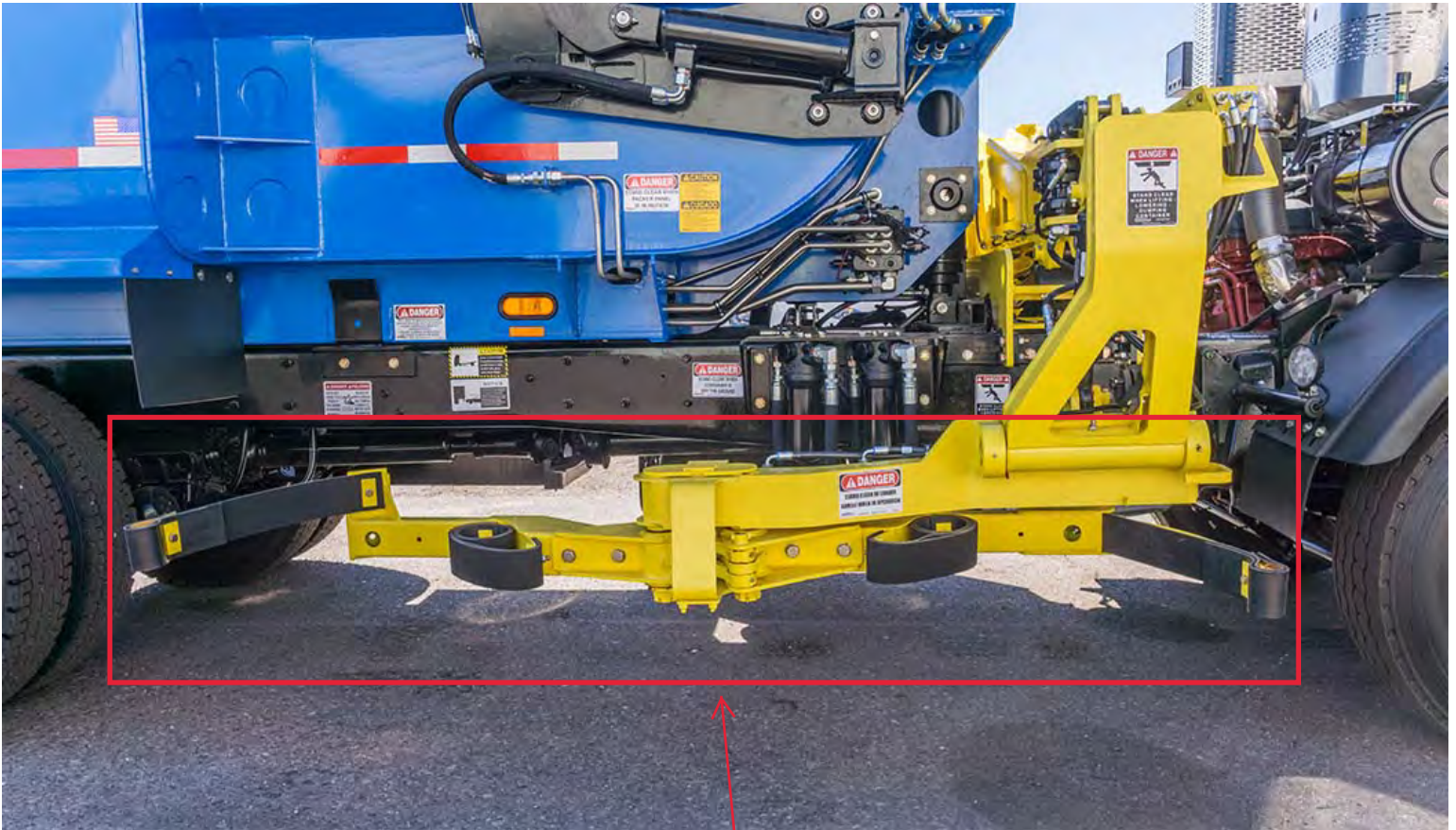
GRIPPER ASSEMBLY PARTS LIST

60-300 Gallon Gripper

Reference Number	Part Number	Part Description	Amount Required
1	AA00953	BELT, OUTER, ROUGH	2
2	WA01014	SPRING, GRIP	2
3	AA01393	TAB, RETAINER, BELT, GRABBER	9
4	AA00687	WELDMENT, FRONT, GRIP ARM(60-300)	1
5	AA00689	GRIP ARM, REAR	1
6	AA01574	GRIP ARM, 60-300, COMPLETE	1
7	AA01570	GRIP, BELT, INNER	2
8	AA01571	GRIP, BELT, ROLL, INNER	2

GRIPPER ASSEMBLY

60-300 Gallon Gripper

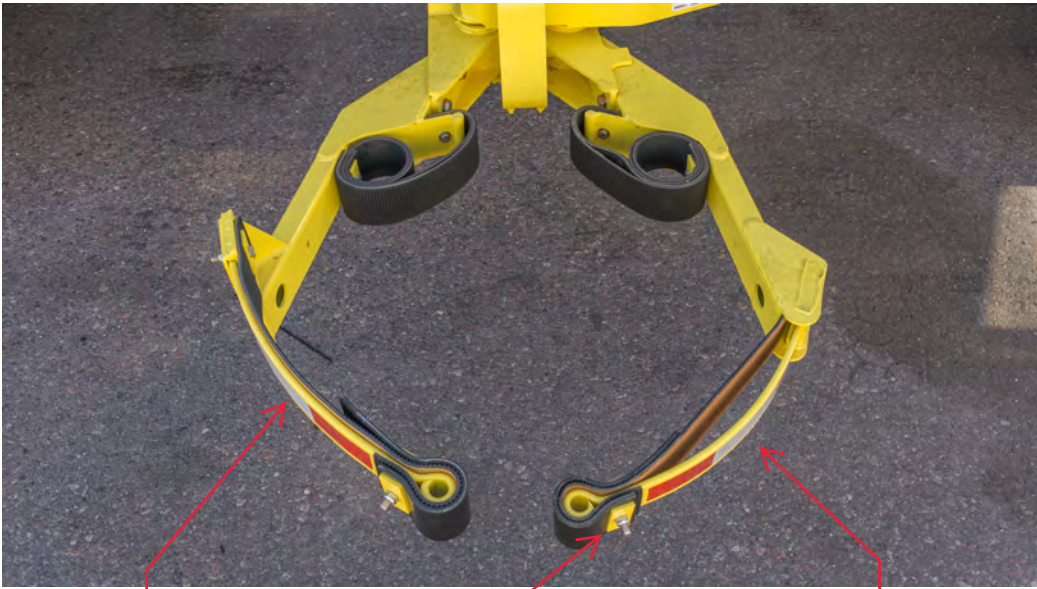


COMPLETE ASSEMBLY

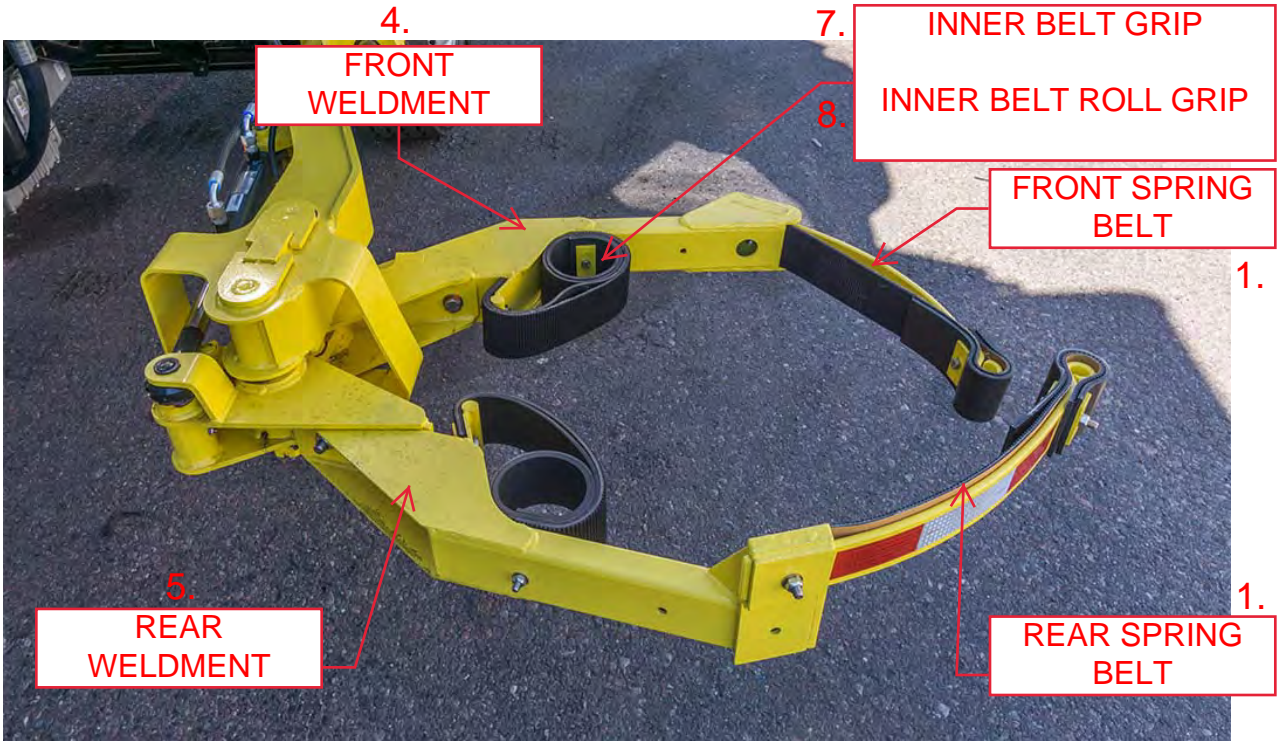
6.

GRIPPER ASSEMBLY

60-300 Gallon Gripper (continued)



- REAR SPRING 2.
- RETAINER 3.
- FRONT SPRING 2.



- 4. FRONT WELDMENT
- 7. INNER BELT GRIP
- 8. INNER BELT ROLL GRIP
- 1. FRONT SPRING BELT
- 5. REAR WELDMENT
- 1. REAR SPRING BELT

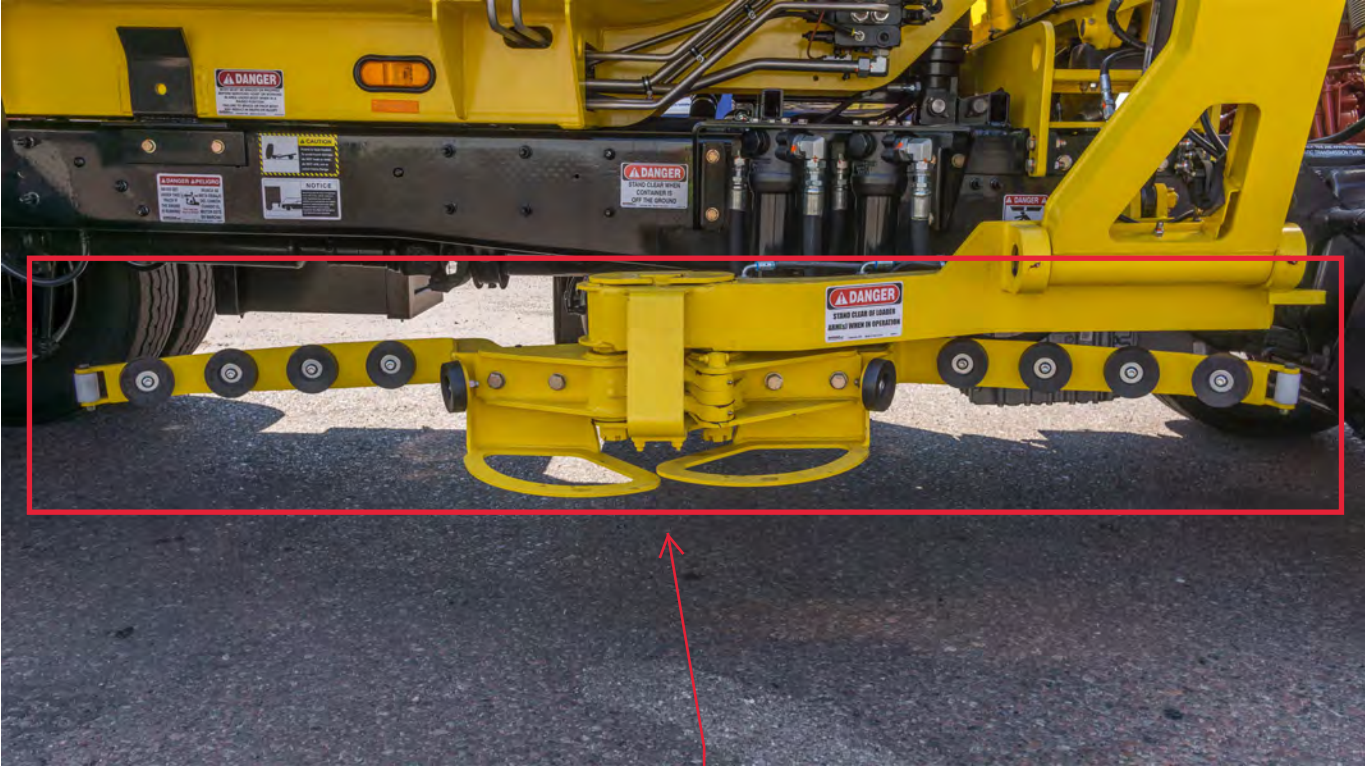
GRIPPER ASSEMBLY PARTS LIST

Same Day Gripper

Reference Number	Part Number	Part Description	Amount Required
1	AA03310	ARM, GRIP, SAME DAY, 30-90	2
2	AA03303	ROLLER, ARM, GRIP, 30-90	2
3	WA03299	ARM, GRIP, SAME DAY, 30-90	2
4	WA03305	RADIUS, GRIP, FRONT, 30-90	1
5	WA03308	RADIUS, GRIP, REAR, 30-90	1
6	AA03304	PAD, GRIP, ROUND	10
7	STOCK	1/2" x 3" SOCKET HEAD SHOULDER BOLT	2
8	STOCK	5/8" USS FLAT WASHER	10
9	STOCK	5/8-11 X 2" BUTTON HEAD SOCKET CAP SCREW	10

GRIPPER ASSEMBLY

Same Day Gripper

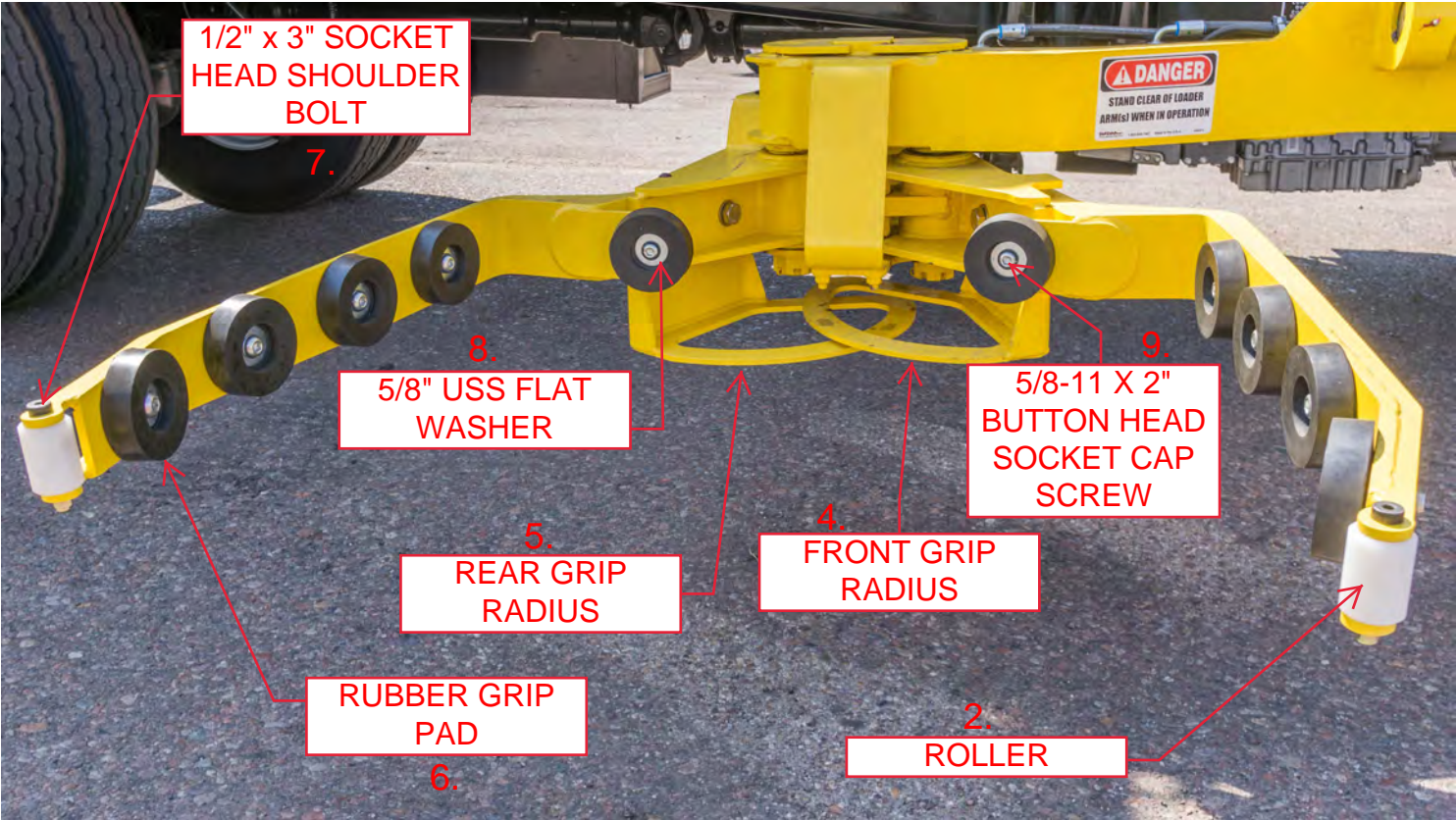


COMPLETE ASSEMBLY
[TWO GRIP ARMS REQUIRED]

1.

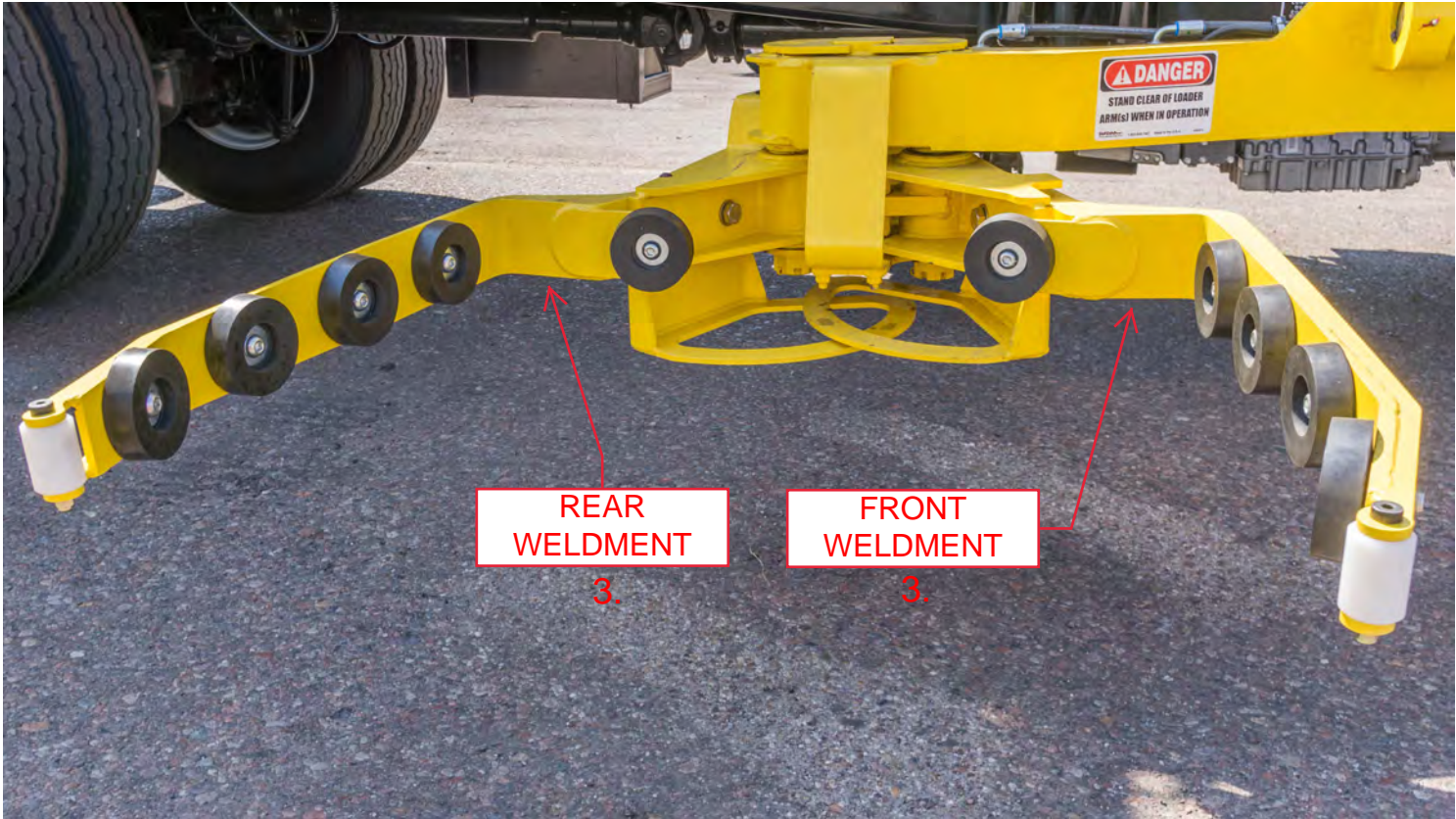
GRIPPER ASSEMBLY

Same Day Gripper (continued)



GRIPPER ASSEMBLY

Same Day Gripper (continued)



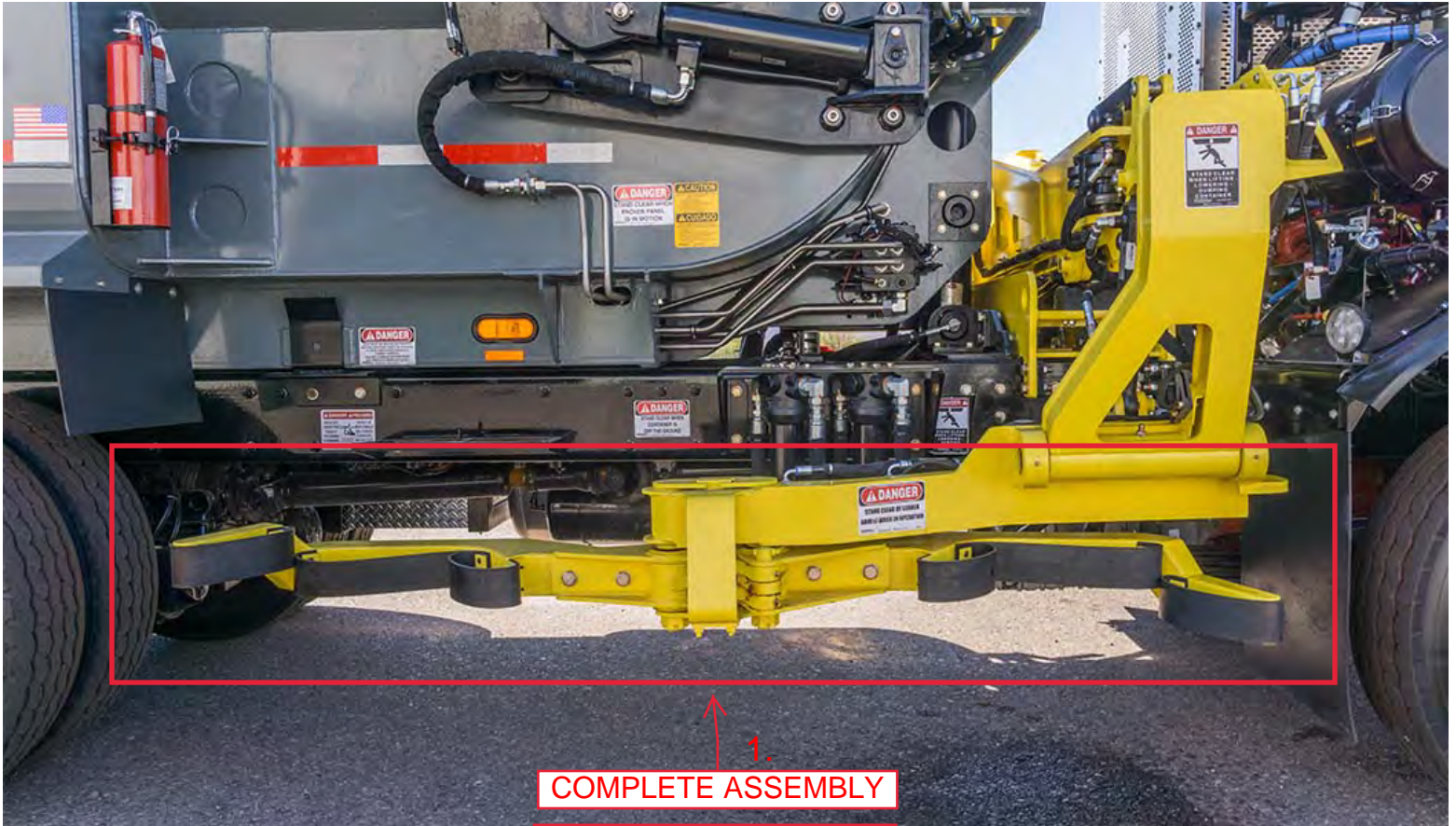
GRIPPER ASSEMBLY PARTS LIST

35-90 Gallon Standard Gripper

Reference Number	Part Number	Part Description	Amount Required
1	AA01451	GRIP ARM, 35-90, COMPLETE	1
2	AA01452	GRIP ARM, 35-90, SINGLE ARM	2
3	AA01464	GRIP, BELT, INNER, 35-90	2
4	AA01465	GRIP, BELT, SMOOTH, 35-90	2
5	AA01499	GRIP, BELT, SIDE, GRIP, 35-90	2
6	WA01453	GRIP ARM, 35-90	2

GRIPPER ASSEMBLY

35-90 Gallon Standard Gripper



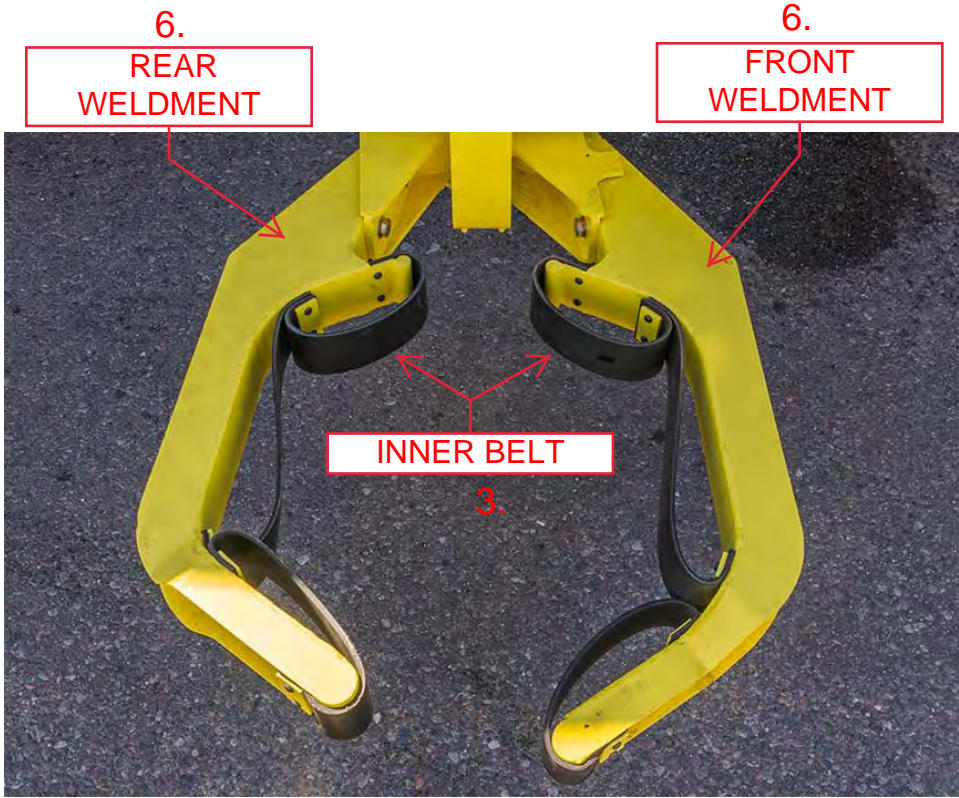
COMPLETE ASSEMBLY

SINGLE ARM ASSEMBLY

2.

GRIPPER ASSEMBLY

35-90 Gallon Standard Gripper (continued)



SECTION 6 – ELECTRICAL

DESCRIPTION	SECTION
Cab and Chassis Electrical	6-1
Body Electrical	6-2
Arm Electrical	6-3
Electrical Schematics	6-4

CAB AND CHASSIS ELECTRICAL PARTS LIST

Reference Number	Part Number	Part Description
1	AM00694	IQAN LST LEVERS*
2	AM00695	IQAN-LL-2N4 JOYSTICK
3	AM00697	IQAN MD3 MODULE
4	CONSULT	CAMERA MONITOR

***Product Option**

NOT PICTURED:

CONTROL HARNESES

Part Number	Part Description	Amount Required
EH01209	HARNESS, CONTROL-LIGHTING, CAB	1
EH01210	HARNESS, JUMPER, LST	1
EH01211	HARNESS, JUMPER, J1939	1
EH00970-1	HARNESS, CAN-BUS, MD3 TO ARM XA2	1
EH00970-2	HARNESS, CAN-BUS, ARM XA2 TO CHASSIS [27 YD BODY]	1
EH02031-2	HARNESS, CAN-BUS, ARM XA2 TO CHASSIS [30 YD BODY]	1
EH01250-2	HARNESS, CAN-BUS, ARM XA2 TO CHASSIS [33 YD BODY]	1
EH05157	HARNESS, CAN-BUS, CAB, XC23	PRODUCT OPTION
EH05158	HARNESS, LST, XC23	PRODUCT OPTION
EH05356	HARNESS, RELAY, COOLER	PRODUCT OPTION
EH05378	HARNESS, SWITCH, FILTER, PRESSURE	PRODUCT OPTION

LIGHTING HARNESES

Part Number	Part Description	Amount Required
EH01150	HARNESS, CHASSIS, REAR CHASSIS TO BODY, LIGHTING, [27 YD BODY]	1
EH02033	HARNESS, CHASSIS, REAR CHASSIS TO BODY, LIGHTING, [30 YD BODY]	1
EH01252	HARNESS, CHASSIS, REAR CHASSIS TO BODY, LIGHTING, [33 YD BODY]	1
EH01148	HARNESS, CHASSIS, CAB TO MID CHASSIS, LIGHTING	1
EH01149	HARNESS, CHASSIS, WORK LIGHT TO MID CHASSIS, LIGHTING	1
EH01143	HARNESS, CHASSIS, MID TO REAR CHASSIS, LIGHTING, [27 YD BODY]	1
EH02035	HARNESS, CHASSIS, MID TO REAR CHASSIS, LIGHTING, [30 YD BODY]	1
EH01251	HARNESS, CHASSIS, MID TO REAR CHASSIS, LIGHTING, [33 YD BODY]	1
EH02399	HARNESS, CHS, WORK LIGHT (DUAL), ALLEY LIGHTING	PRODUCT OPTION
EH02400	HARNESS, CHS, STROBE LIGHT	PRODUCT OPTION
EH02401	HARNESS, ARM WORK LIGHT, ALLEY LIGHTING	PRODUCT OPTION
EH05905	HARNESS, STROBES, DUAL	PRODUCT OPTION
EH05907	HARNESS, TAILLIGHT, CHASSIS, RP170	PRODUCT OPTION

CAB AND CHASSIS ELECTRICAL



BODY ELECTRICAL PARTS LIST

Reference Number	Part Number	Part Description	Amount Required
1	AM00696	IQAN XA2 I/O MODULE	1
2	AB00710	MANIFOLD BLOCK, 8 POSITION	1
3	ES00707	SENSOR, PROXIMITY, INDUCT	5
4	EH00968	HARNESS, BODY XA2, ASSY	1
5	EH00971-10	HARNESS, LADDER, PROX	1
6	EH00971-6	HARNESS, BODY UP, PROX	1
7	EH00971-8	HARNESS, SLIDER, EXTEND, PROX	1
8	EH00971-9	HARNESS, SLIDER, RETRACT, PROX	1
9	EH00974*	HARNESS, VALVE, PACKER *[BEFORE 3/2017]	1
10	EH02999	HARNESS, SWITCH, PROX, TAILGATE [BODY SPECIFIC]	1
11	EH05641*	HARNESS, VALVE, PACKER, WALVOIL, NON-PROPORTIONAL *[AFTER 3/2017]	1
12	CONSULT	BACKUP CAMERA	CONSULT FACTORY
13	CONSULT	HOPPER CAMERA	CONSULT FACTORY
14	ES02299	SENSOR, ROTARY, NEW STYLE	1
15	EH00969-1*	HARNESS, JUMPER, BLADE ROTARY SENSOR *[BEFORE 5/2012]	1
16	EH02283-1*	HARNESS, JUMPER, BLADE ROTARY SENSOR, V2 *[AFTER 5/2012]	1

NOT PICTURED:

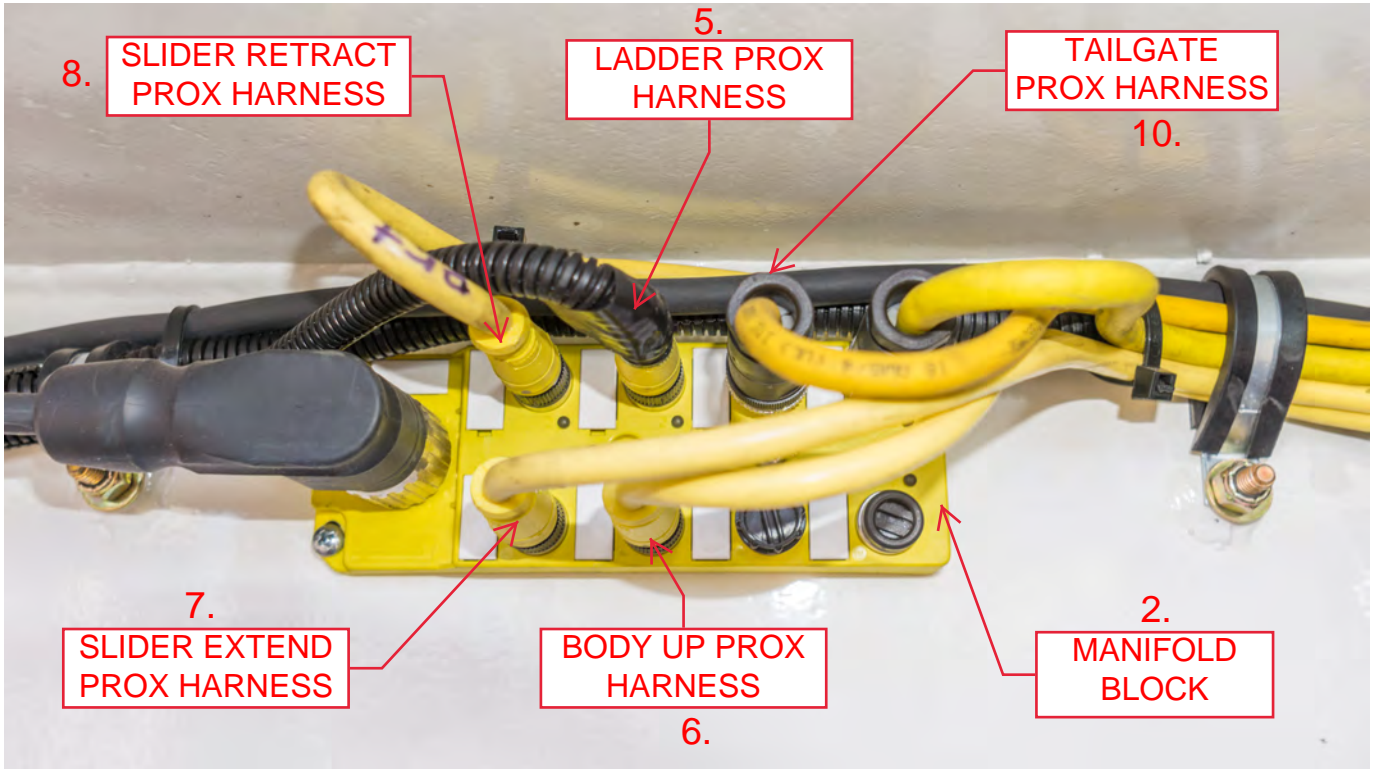
CONTROL HARNESSES

Part Number	Part Description	Amount Required
EH00970-3	HARNESS, CAN-BUS, CHASSIS TO BODY XA2 [27 YD BODY]	1
EH02031-3	HARNESS, CAN-BUS, CHASSIS TO BODY XA2 [30 YD BODY]	1
EH01250-3	HARNESS, CAN-BUS, CHASSIS TO BODY XA2 [33 YD BODY]	1
EH00973	HARNESS, BODY ALARM [27 YD BODY]	1
EH02032	HARNESS, BODY ALARM [30 YD BODY]	1
EH02036	HARNESS, BODY ALARM [33 YD BODY]	1

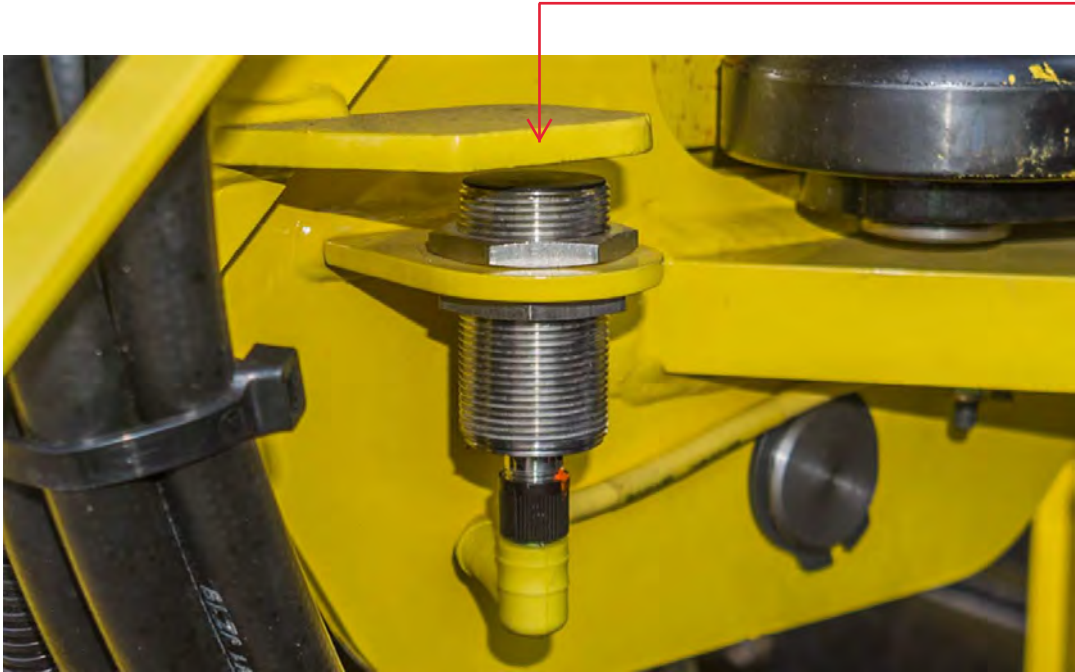
LIGHTING HARNESSES

Part Number	Part Description	Amount Required
EH01147	HARNESS, BODY, STROBE LIGHT, UPPER TAILGATE, LIGHTING	1
EH01278	HARNESS, LIGHTING, MAIN TO TAILGATE	1
EH01276	HARNESS, LITE, MAIN-MID-BODY	1
EH01279	HARNESS, LIGHT, R. TAIL [ALL BODY SIZES]	2
EH02034	HARNESS, LIGHT, MAIN-MID-BODY, 30L [30 YD BODY]	2
EH02037	HARNESS, LIGHT, MAIN-MID 33L [33 YD BODY]	2
EH01277	HARNESS, REAR , ICC MARKER	1
EL01145	LIGHT, WORK, LED	1
ES01101	SENSOR, PRESSURE, OIL	1
EH05608	HARNESS, REVERSE, TIED-TO, LIGHT, DUAL	1
EH05900	HARNESS, LIGHT, BODY, FENDER, DUAL	1
EH05902	HARNESS, LIGHT, MARKER, BODY, FRONT	1
EH05904	HARNESS, LIGHT, BODY, FENDER, DUAL, REVERSE	1

BODY ELECTRICAL



BODY ELECTRICAL



All PROX Switches are the same and have an adjust gap of 1/4"-7/16"



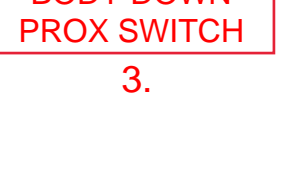
**BODY DOWN
PROX SWITCH**

3.



**SLIDER EXTEND
PROX SWITCH**

3.



**SLIDER RETRACT
PROX SWITCH**

3.



BODY ELECTRICAL (continued)



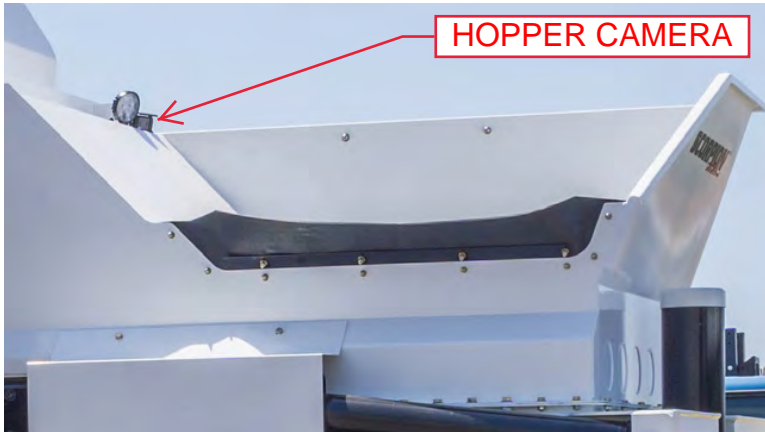
3.
LADDER DOWN
PROX SWITCH



3.
TAILGATE DOWN
PROX SWITCH



12.
BACKUP CAMERA



13.
HOPPER CAMERA

BODY ELECTRICAL (continued)



SWEEP BLADE
ROTARY SENSOR 14.

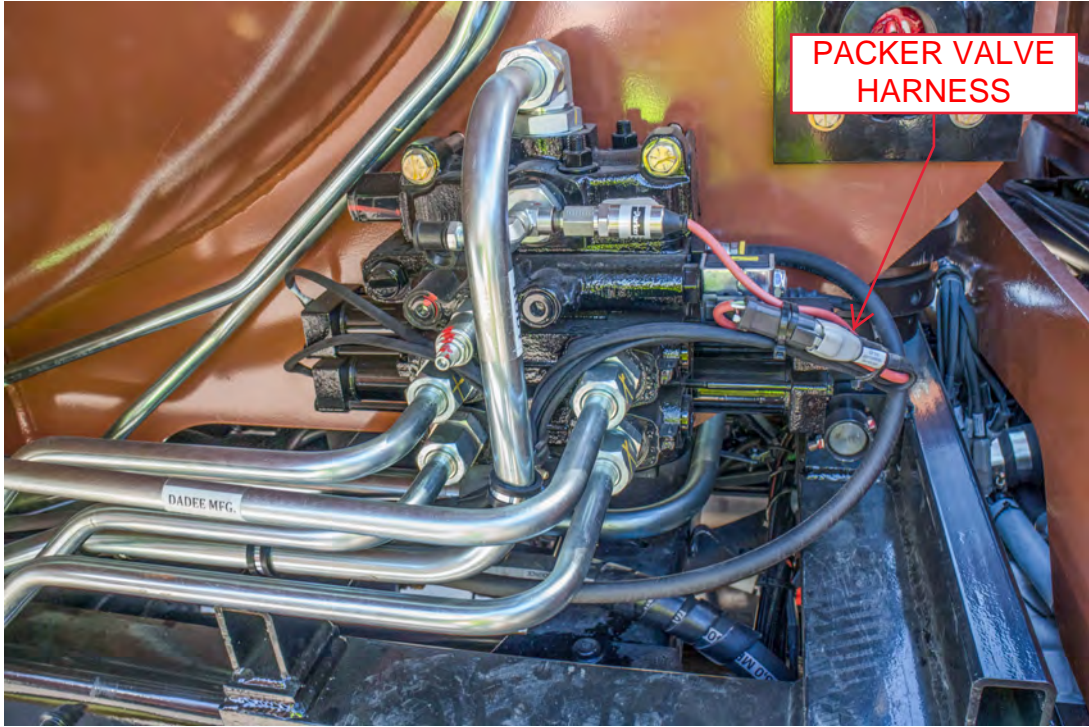
SWEEP BLADE
ROTARY SENSOR
HARNESS

BEFORE 5/12: 15.

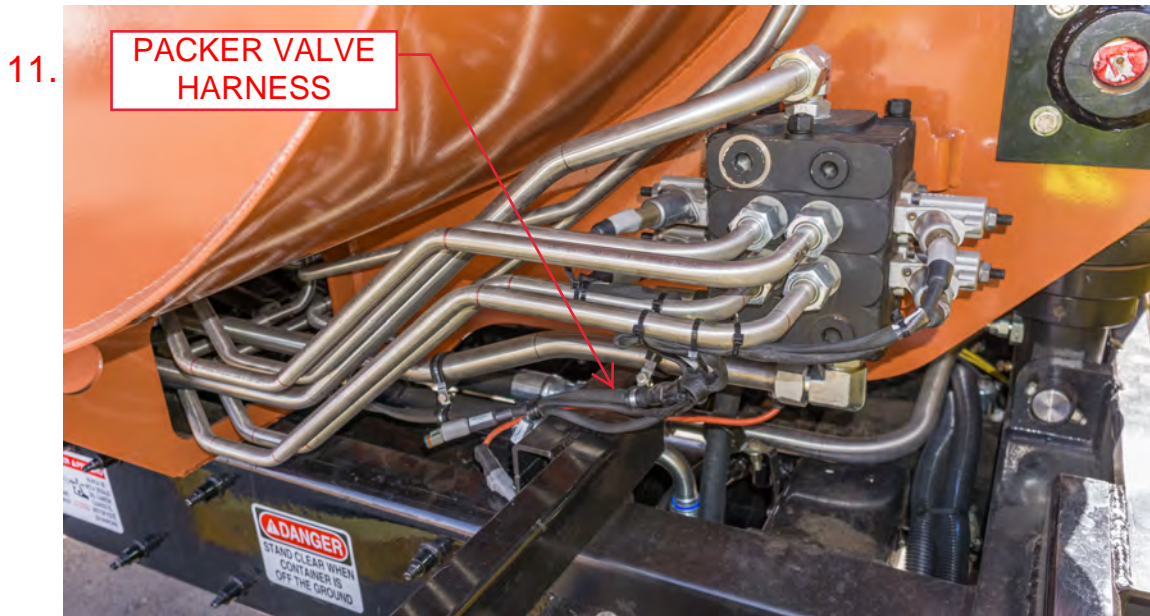
AFTER 5/12: 16.

BODY ELECTRICAL (continued)

BEFORE MARCH 2017



AFTER MARCH 2017



ARM ELECTRICAL PARTS LIST

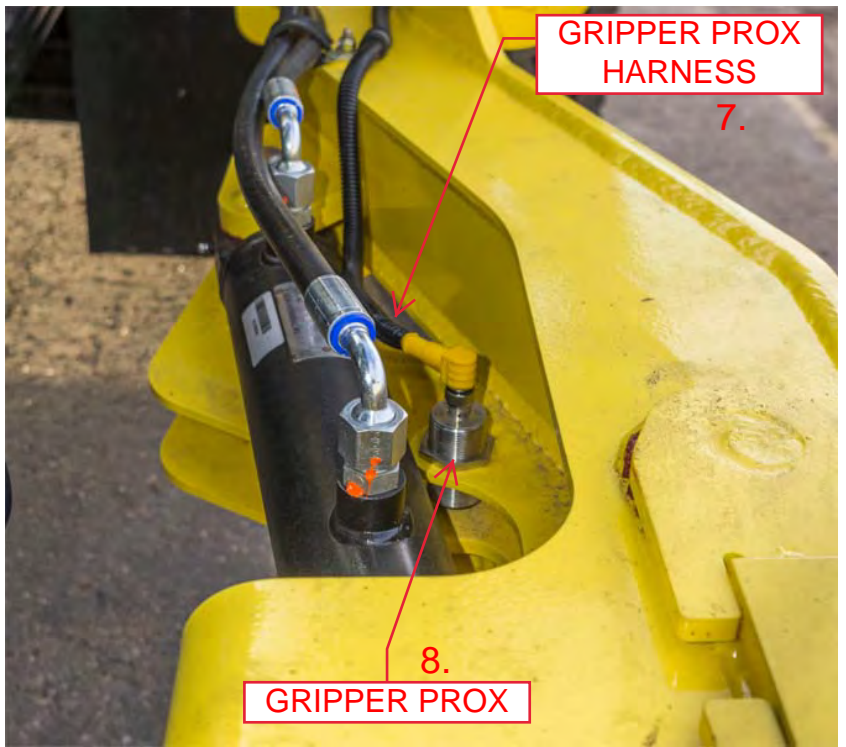
Reference Number	Part Number	Part Description	Amount Required
1	AM00696	IQAN XA2 I/O MODULE	1
2	EH01017-1	HARNESS, PROX, ARM IN	1
3	ES00712*	SENSOR, ROTARY, MODIFIED *[OLD STYLE BEFORE 5/2012]	2
4	ES02299*	SENSOR, ROTARY, NEW STYLE *[NEW STYLE AFTER 5/2012]	2
5	EH00969-3*	HARNESS, JUMPER, DUMP ARM ROTARY SENSOR *[BEFORE 5/2012]	1
6	EH02283-3*	HARNESS, JUMPER, DUMP ARM *[AFTER 5/2012]	1
7	EH01017-2	HARNESS, PROX, GRIP	1
8	ES00707	SENSOR, PROXIMITY, INDUCT	2
9	EH00969-2*	HARNESS, JUMPER, MAIN ARM ROTARY SENSOR *[BEFORE 5/2012]	1
10	EH02283-2	HARNESS, JUMPER, MAIN ARM *[AFTER 5/2012]	1
11	EH01015*	HARNESS, ARM XA2 *[BEFORE 3/2017]	1
12	EH05272*	HARNESS, ARM XA2, WALVOIL *[AFTER 3/2017]	1

NOT PICTURED:

Part Number	Part Description	Amount Required
EH05251	HARNESS, PRESSURE, GRIP	1
EH01213	HARNESS, JUMPER, PTO, PUMP	1
EH01214	HARNESS, JUMPER, FRT PUMP	1

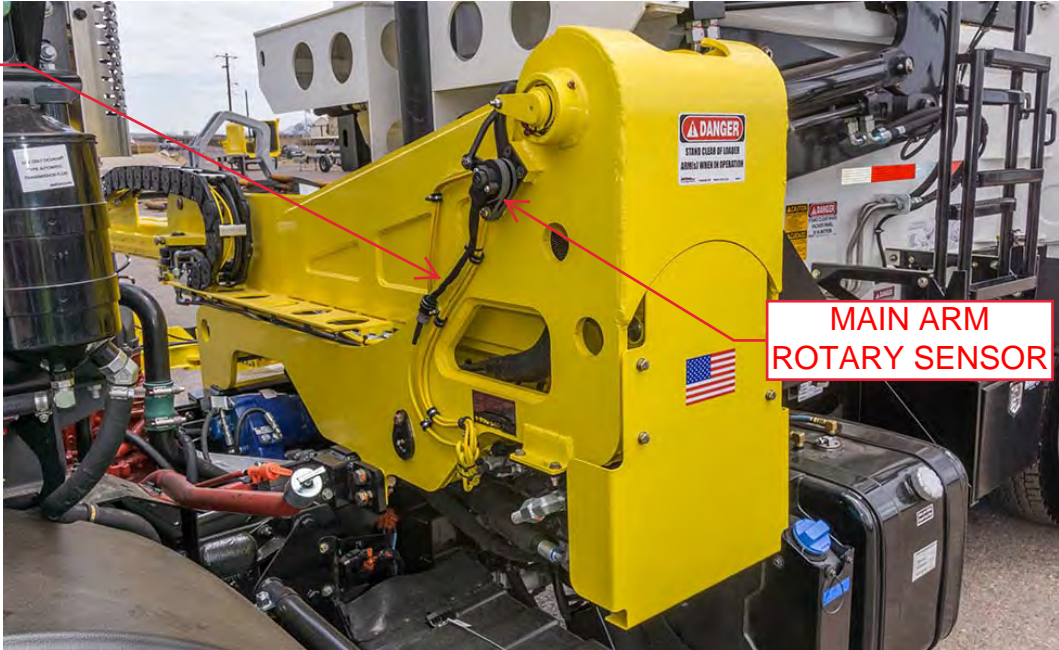
EH02283-3 is a 2 piece assembly consisting of:
EH02283-4 (Sensor End) [QTY. 1] & **EH02283-5** (XA2 end) [QTY. 1]

ARM ELECTRICAL



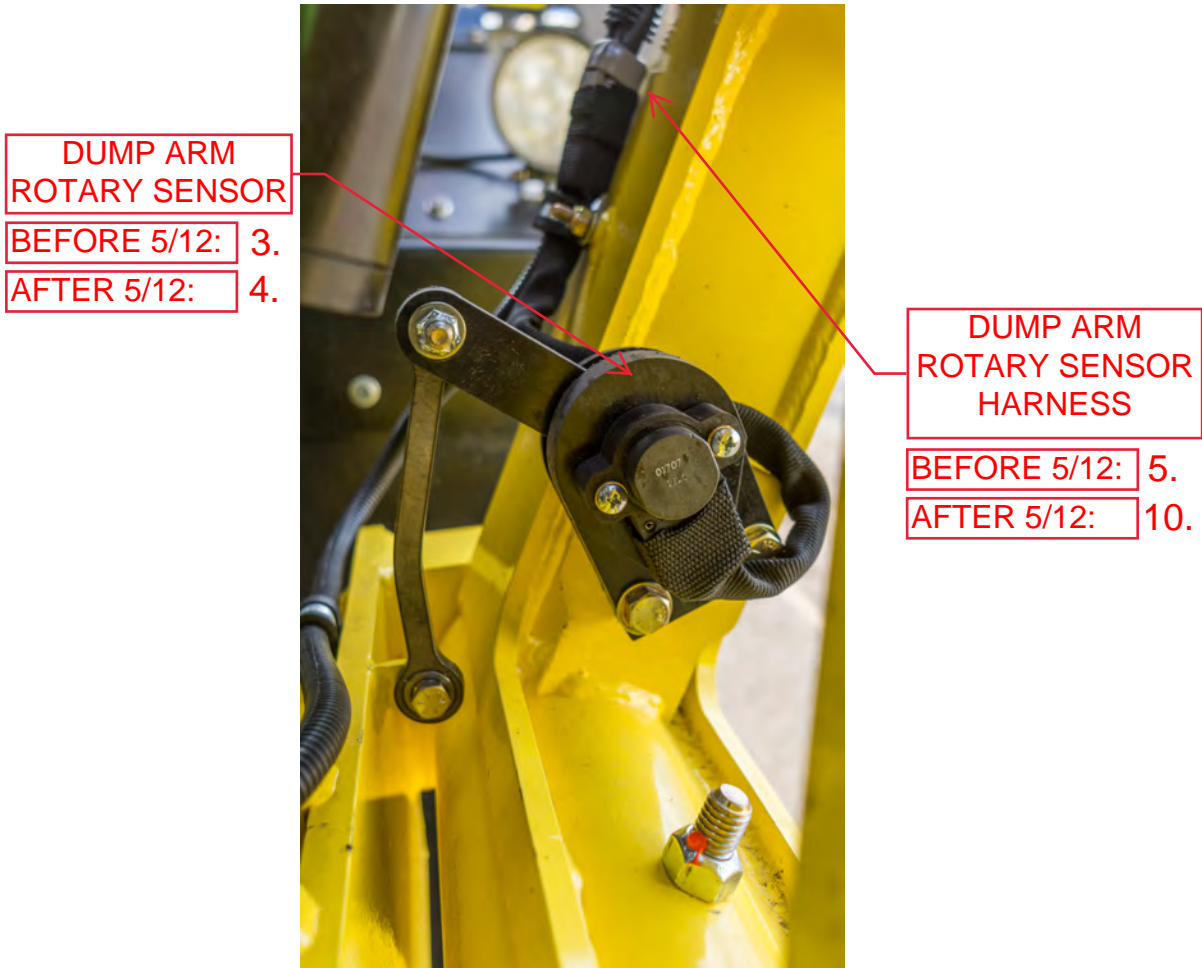
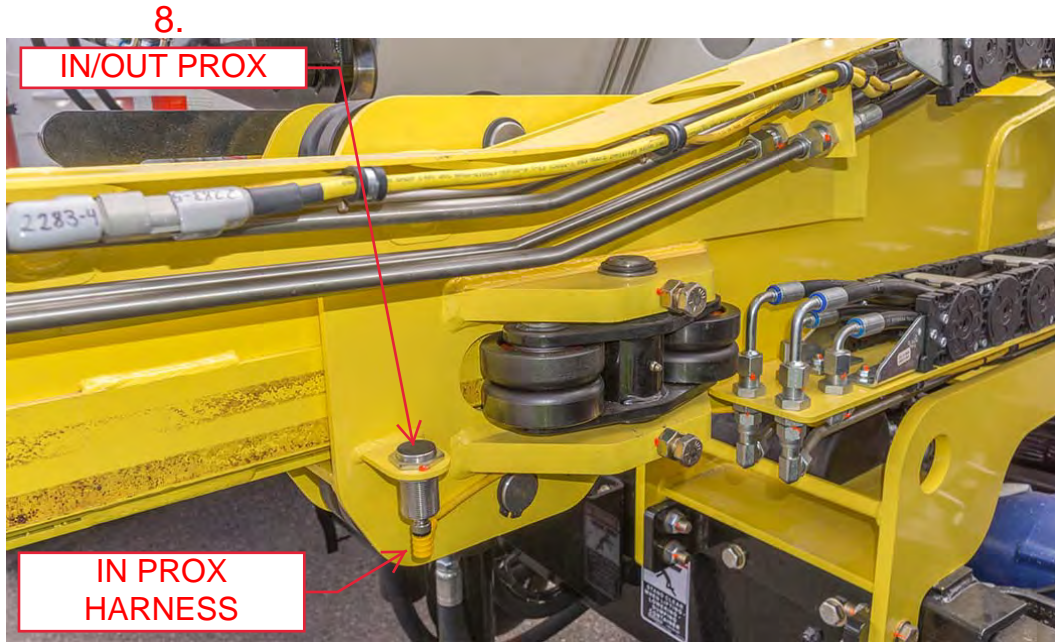
ARM XA2 HARNESS BEFORE 3/17: 11.
AFTER 3/17: 12.

MAIN ARM ROTARY SENSOR HARNESS
BEFORE 5/12: 9.
AFTER 5/12: 10.



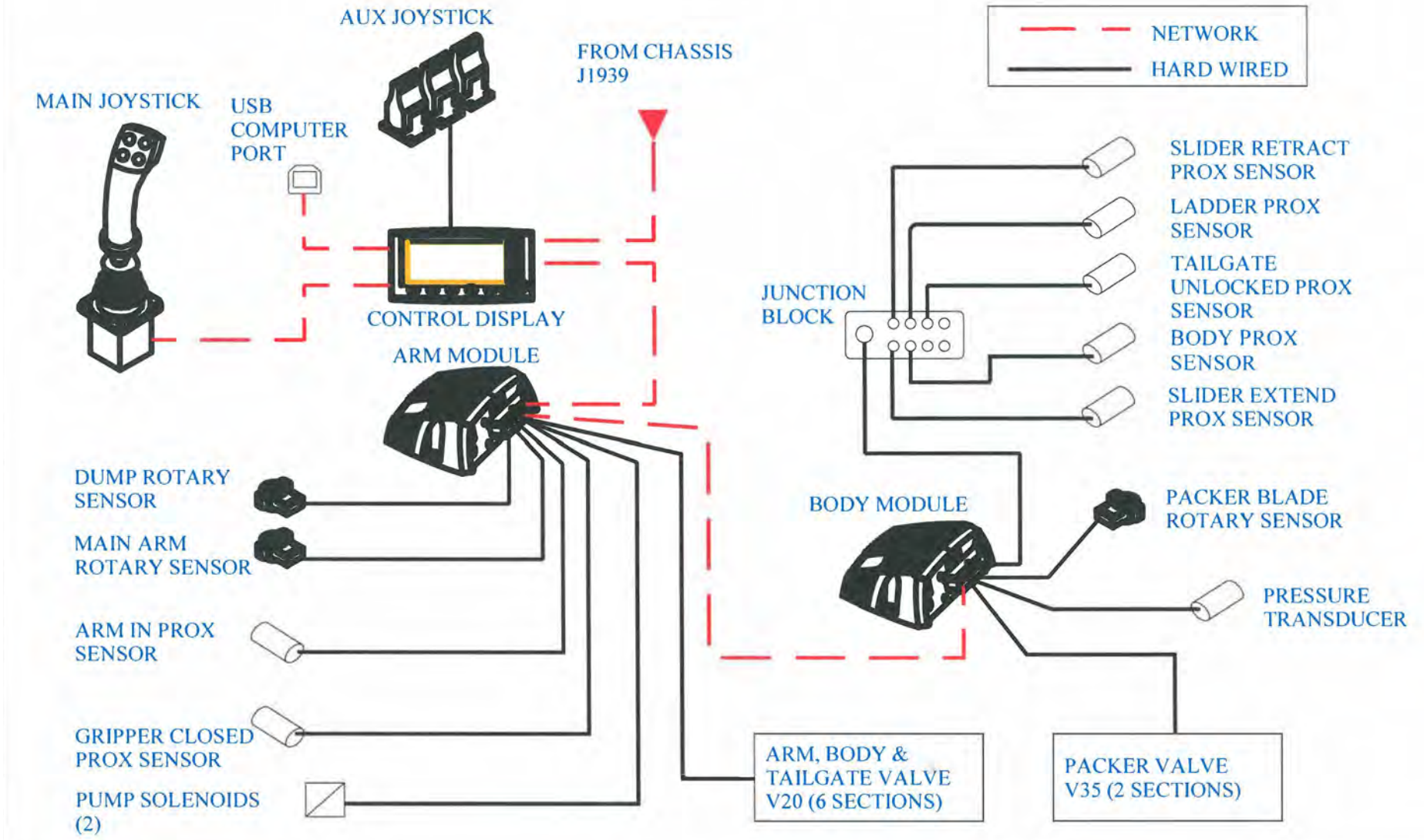
BEFORE 5/12: 3.
AFTER 5/12: 4.

ARM ELECTRICAL



ELECTRICAL SCHEMATICS

DIAGRAM BLOCK

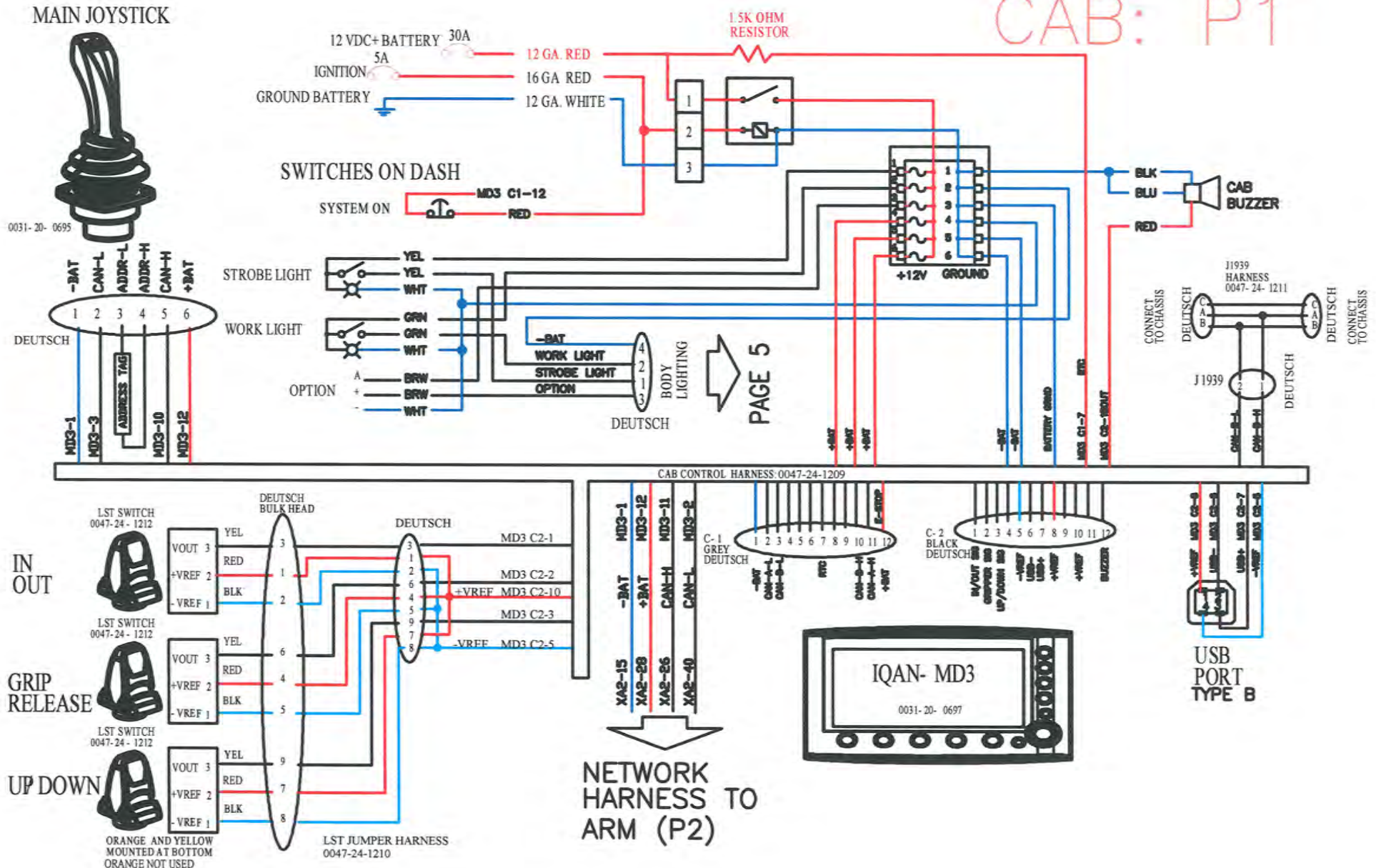


BEFORE 3/17/17

ELECTRICAL SCHEMATICS

CAB: P1

CAB: P1

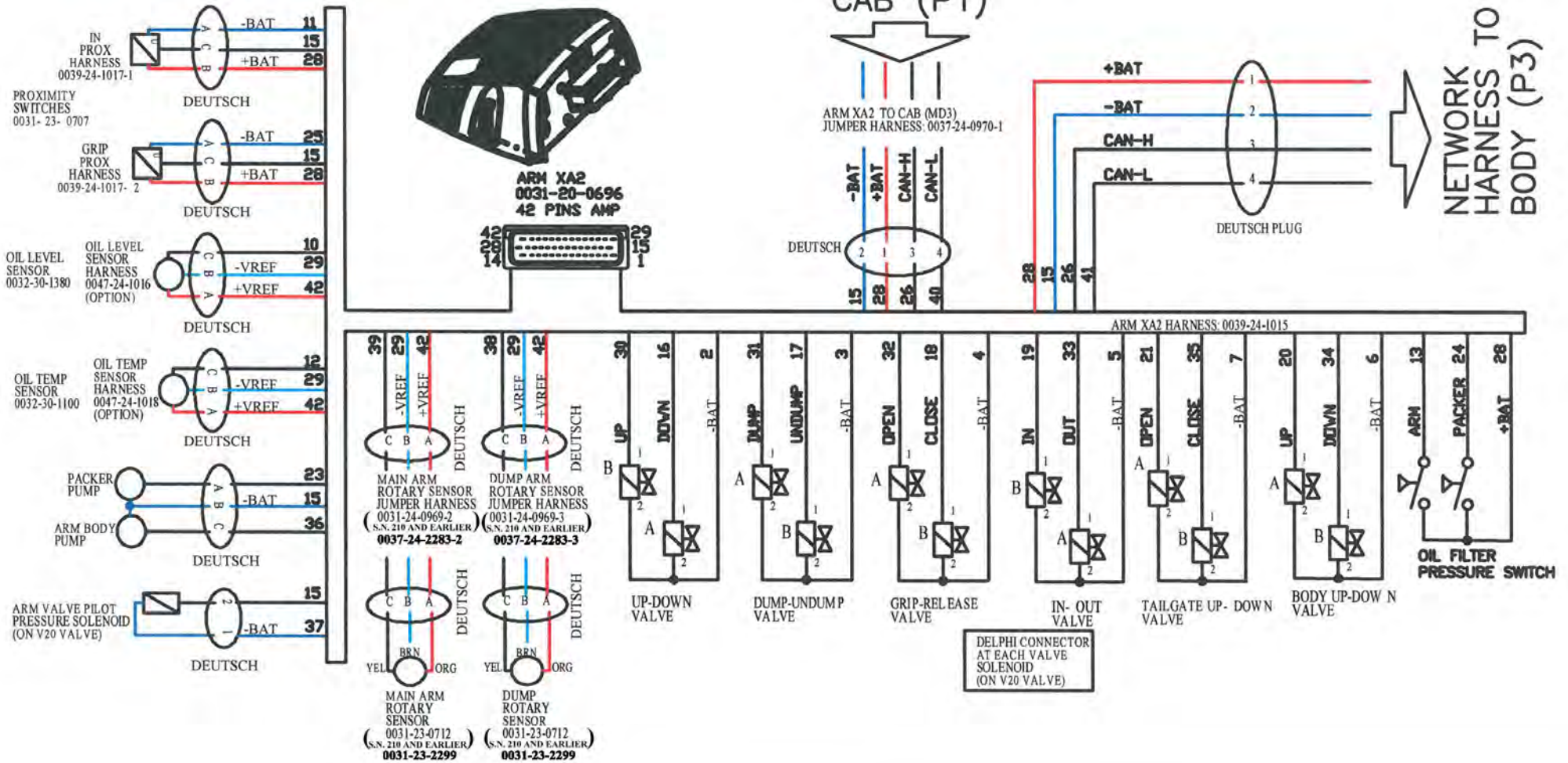


PAGE 5

ELECTRICAL SCHEMATICS

ARM: P2

ARM: P2



ELECTRICAL SCHEMATICS

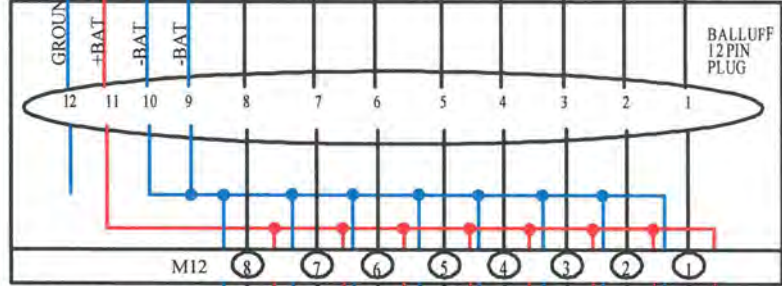
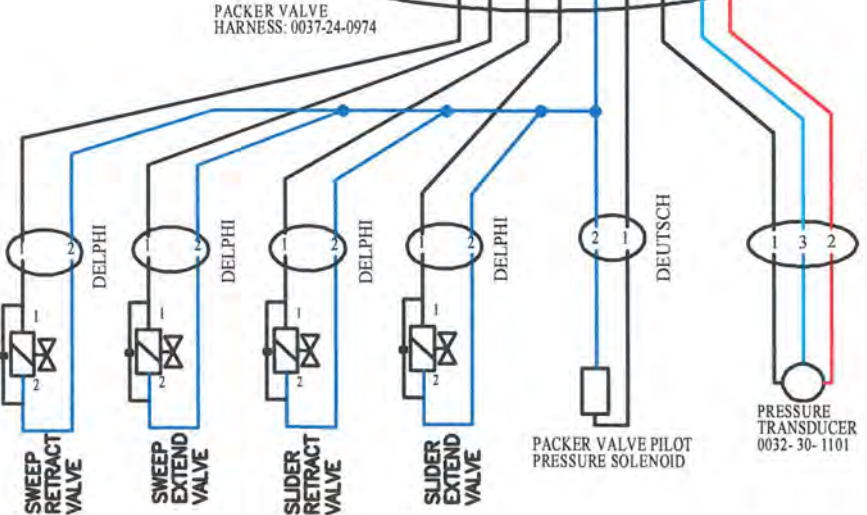
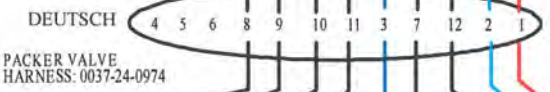
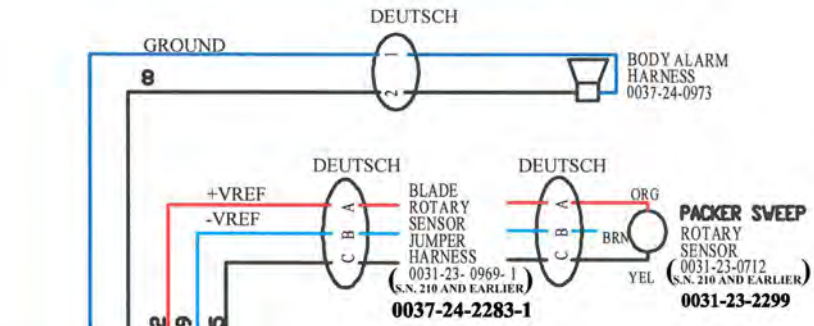
BODY: P3

BODY: P3

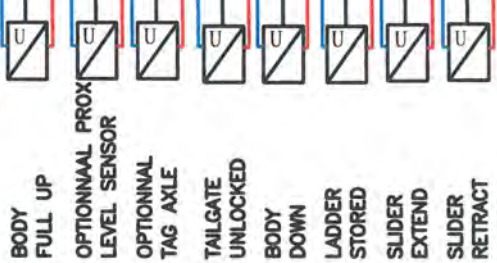
NETWORK HARNESS FROM ARM (P2)



BODY XA2 HARNESS: 0037-24-0968



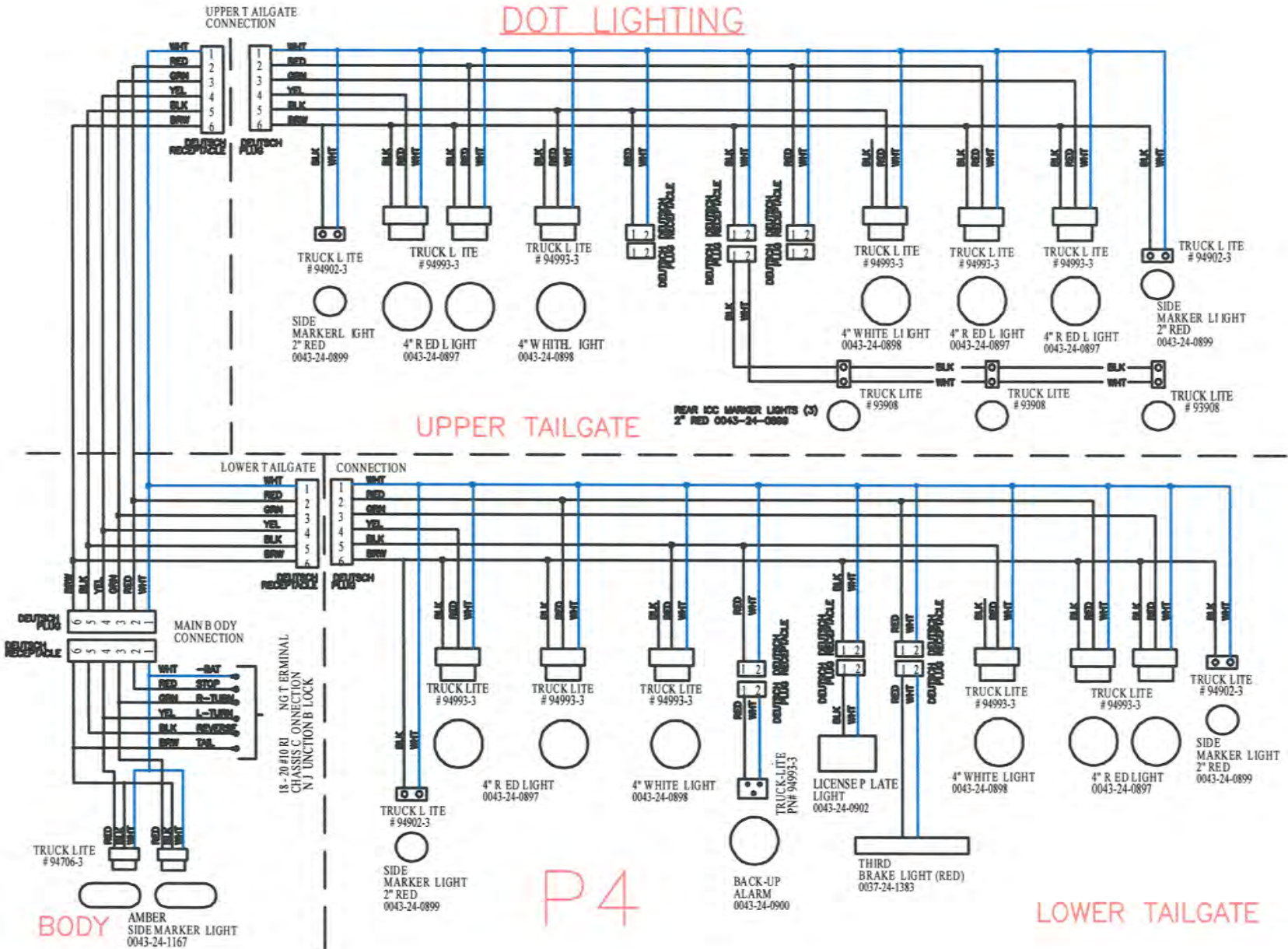
BALLUFF JUNCTION BLOCK 0031-20-0710



ALL PROXIMITY SWITCHES 0031-23-0707

ELECTRICAL SCHEMATICS

DOT LIGHTING



ELECTRICAL SCHEMATICS

OPTIONAL LIGHTING

P5

OPTIONAL LIGHTING

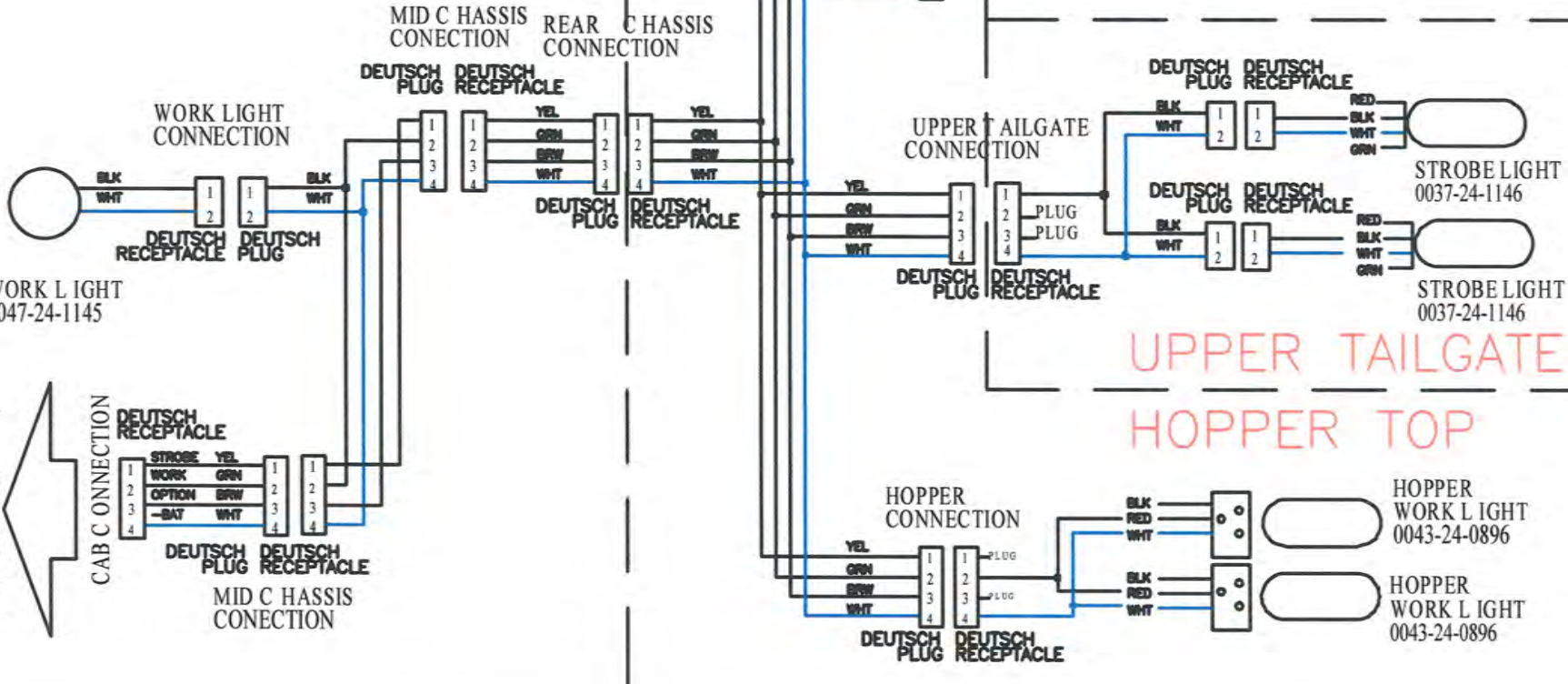
CHASSIS

BODY

LOWER TAILGATE

UPPER TAILGATE

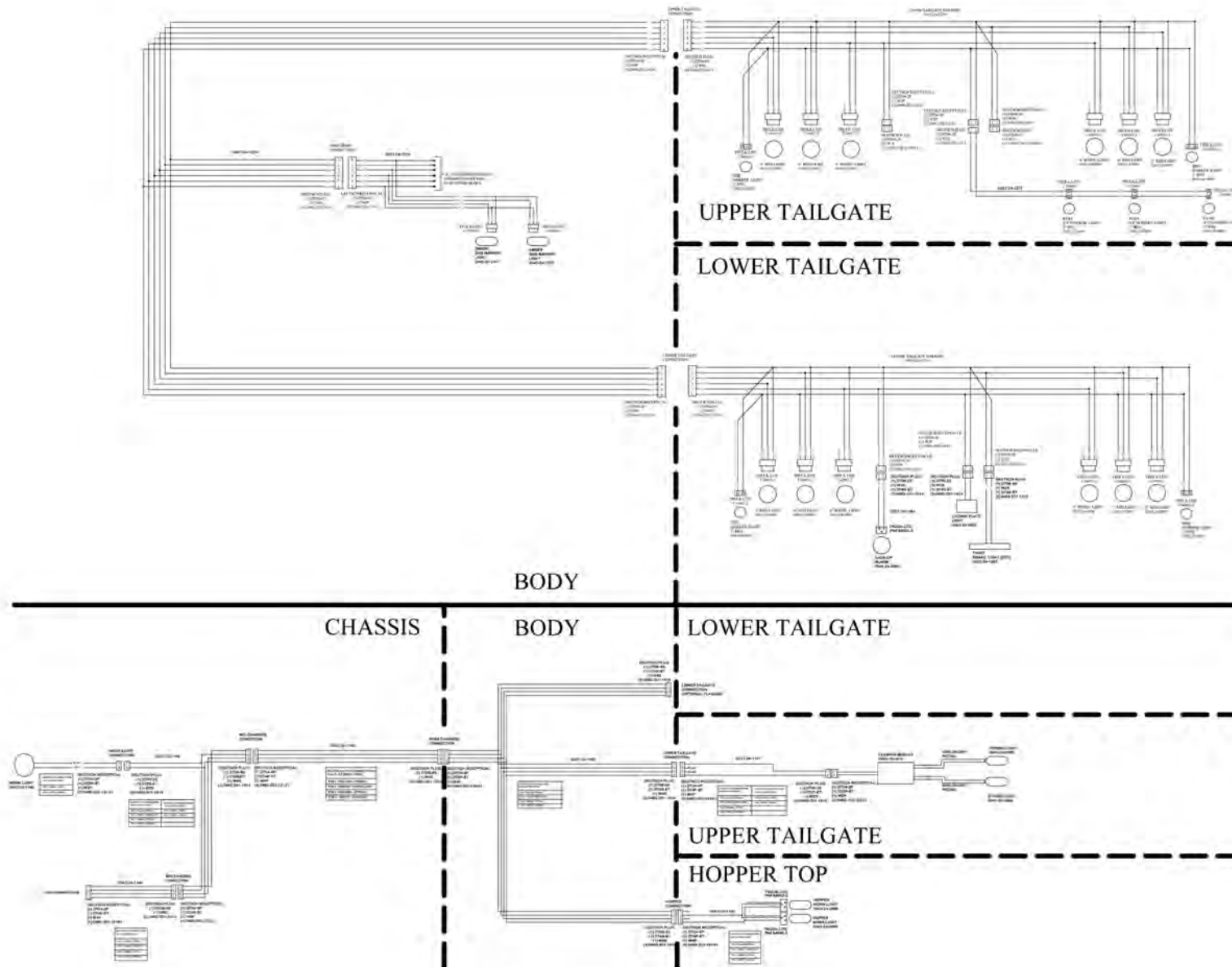
HOPPER TOP



PAGE 1

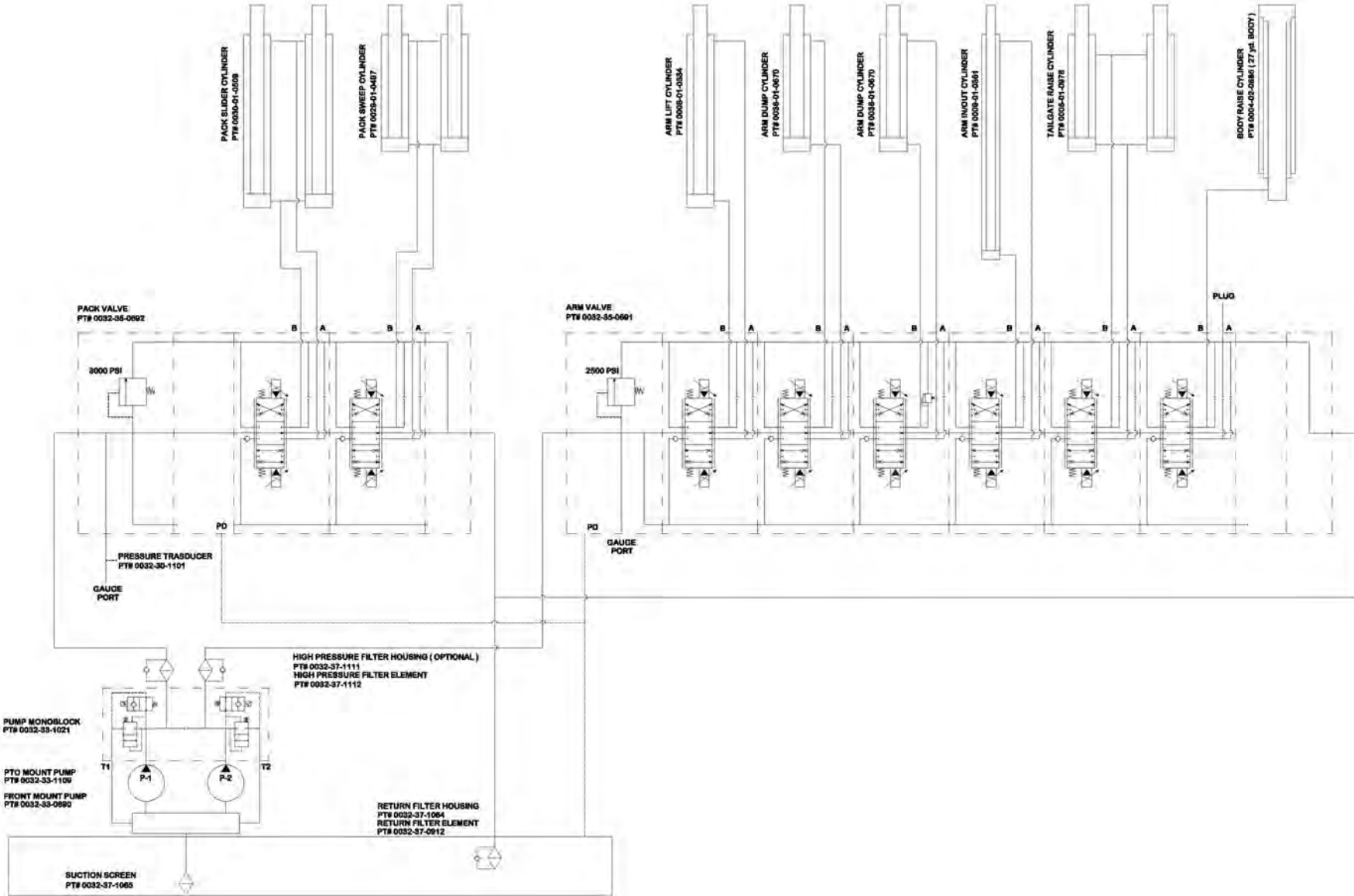
ELECTRICAL SCHEMATICS

SCORPION LIGHTING SCHEMATIC



ELECTRICAL SCHEMATICS

VALVE, PTO, AND PUMP

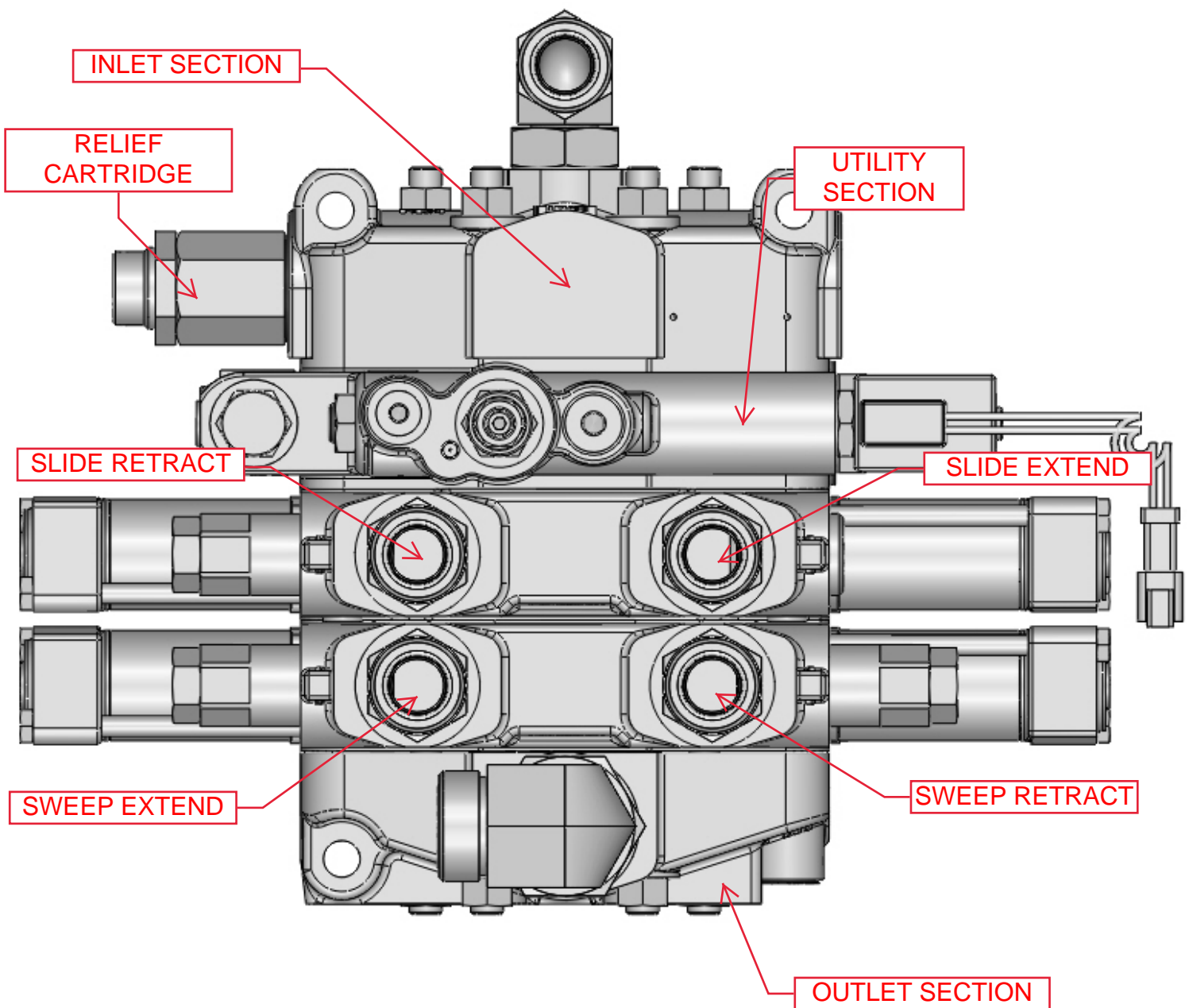


SECTION 7 – HYDRAULICS

DESCRIPTION	SECTION
Chassis Hydraulics	7-1
Body Hydraulics	7-2
Arm Hydraulics	7-3
High Pressure Filter Assembly	7-4

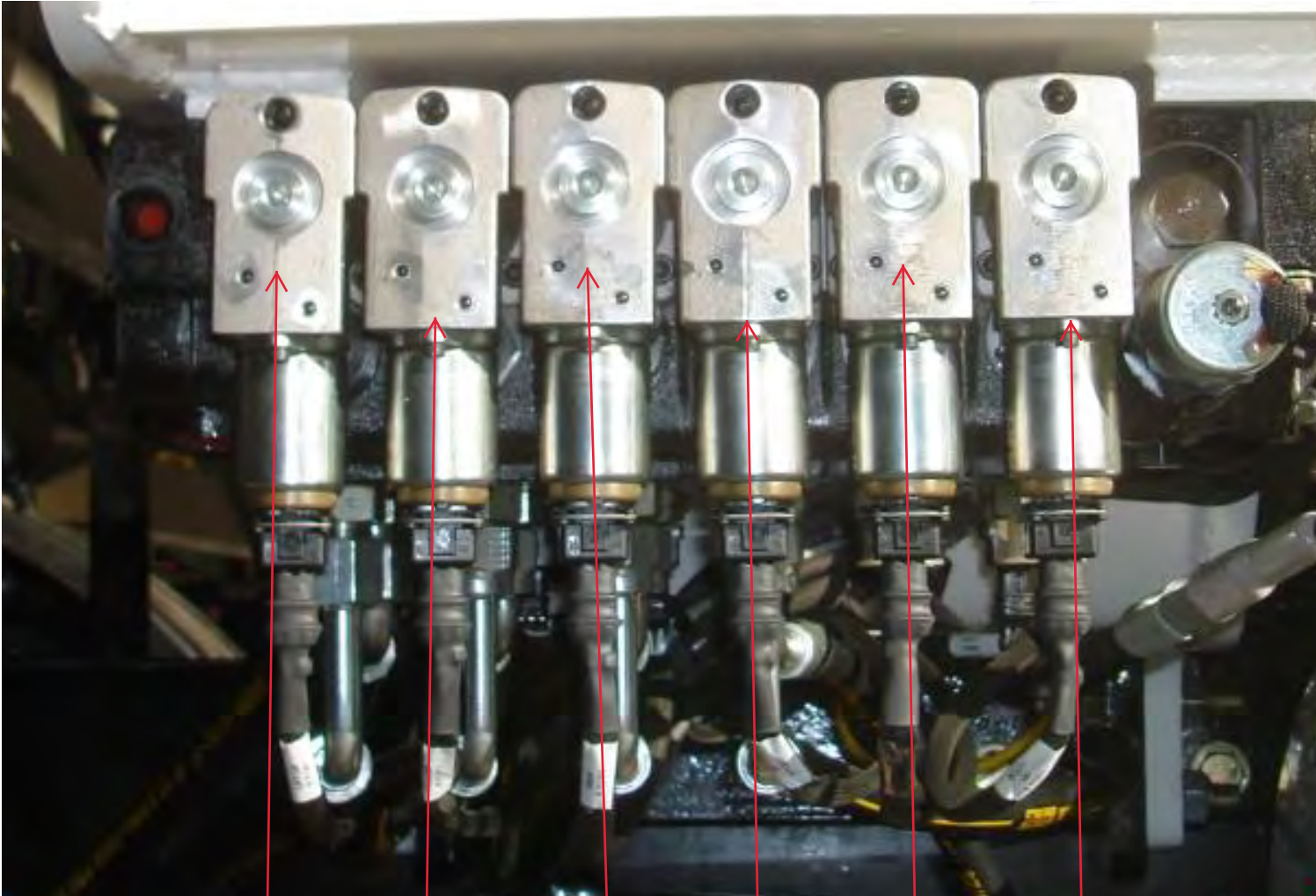
**SECTION 7 – HYDRAULICS
PACKER VALVE
BEFORE MARCH 2017**

Part Number	Part Description	Amount Required
HV03468	VALVE, V35, 2 STACK, PARKER	1



SECTION 7 – HYDRAULICS
ARM VALVE
BEFORE MARCH 2017

Part Number	Part Description	Amount Required
HV03467	VALVE, V20, 6 STACK, PARKER	1



LIFT UP

UNDUMP

GRIP

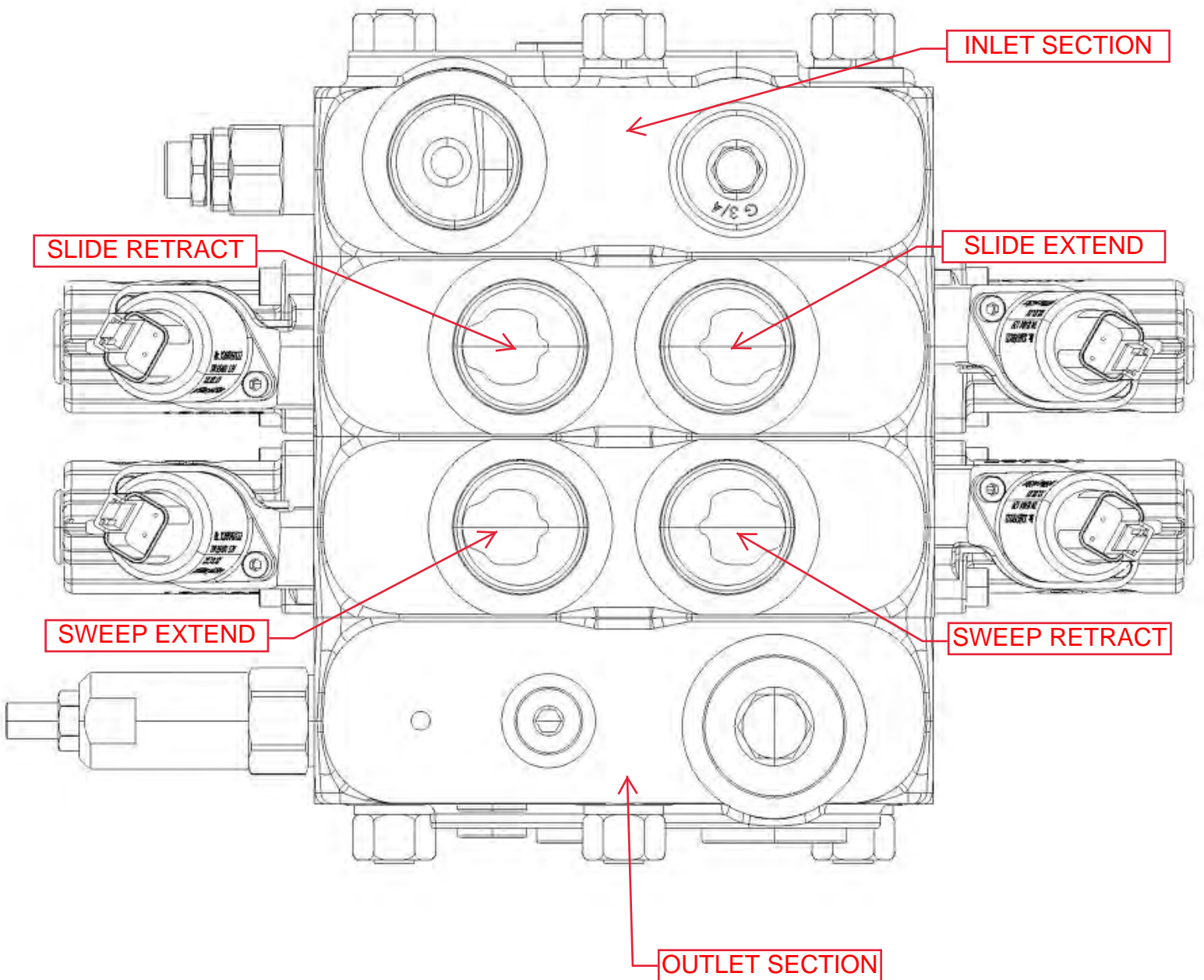
OUT

TAILGATE UP

BODY UP

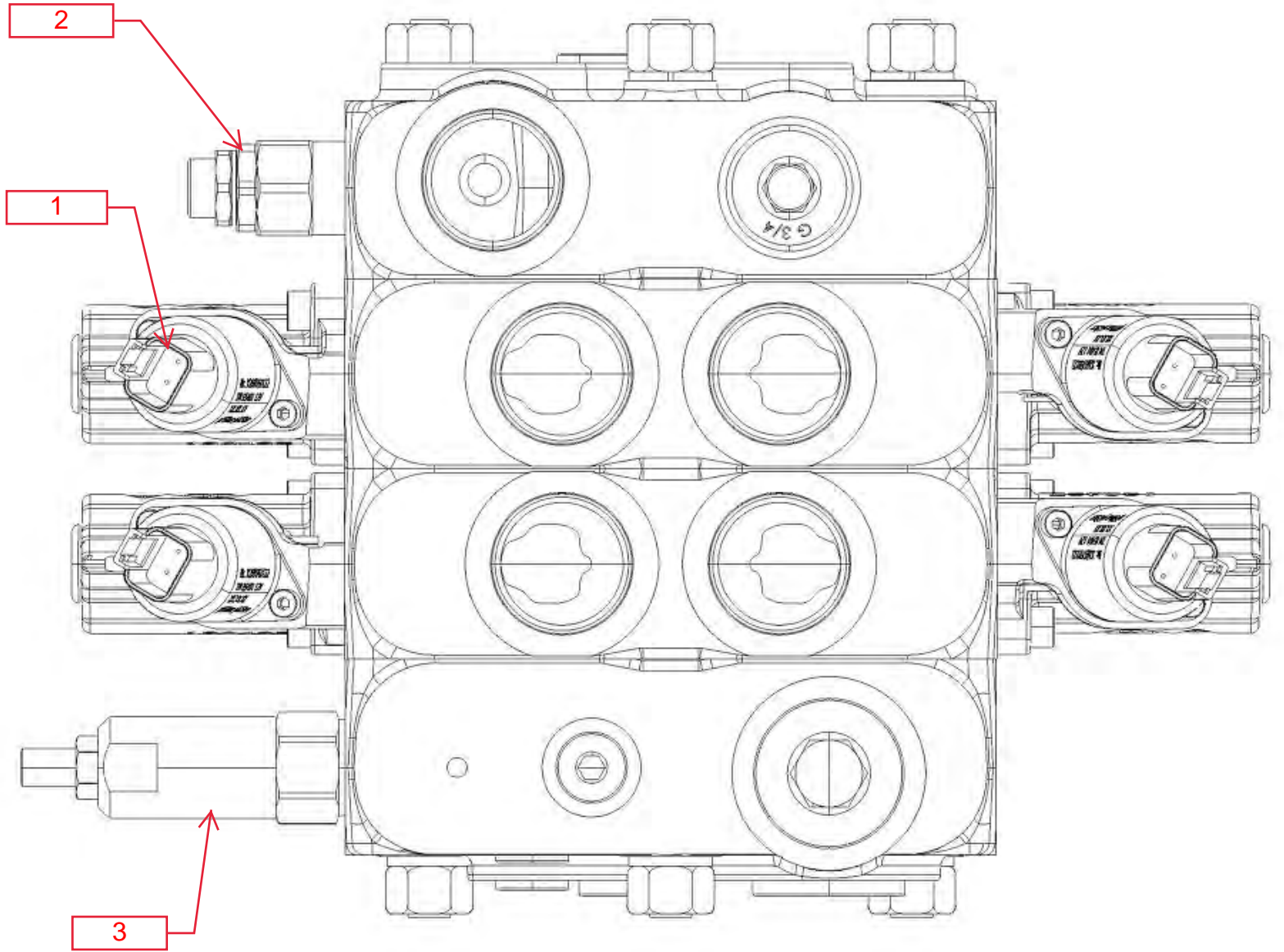
**SECTION 7 – HYDRAULICS
PACKER VALVE
AFTER MARCH 2017**

Part Number	Part Description	Amount Required
HV05253	VALVE, PACK, BODY	1



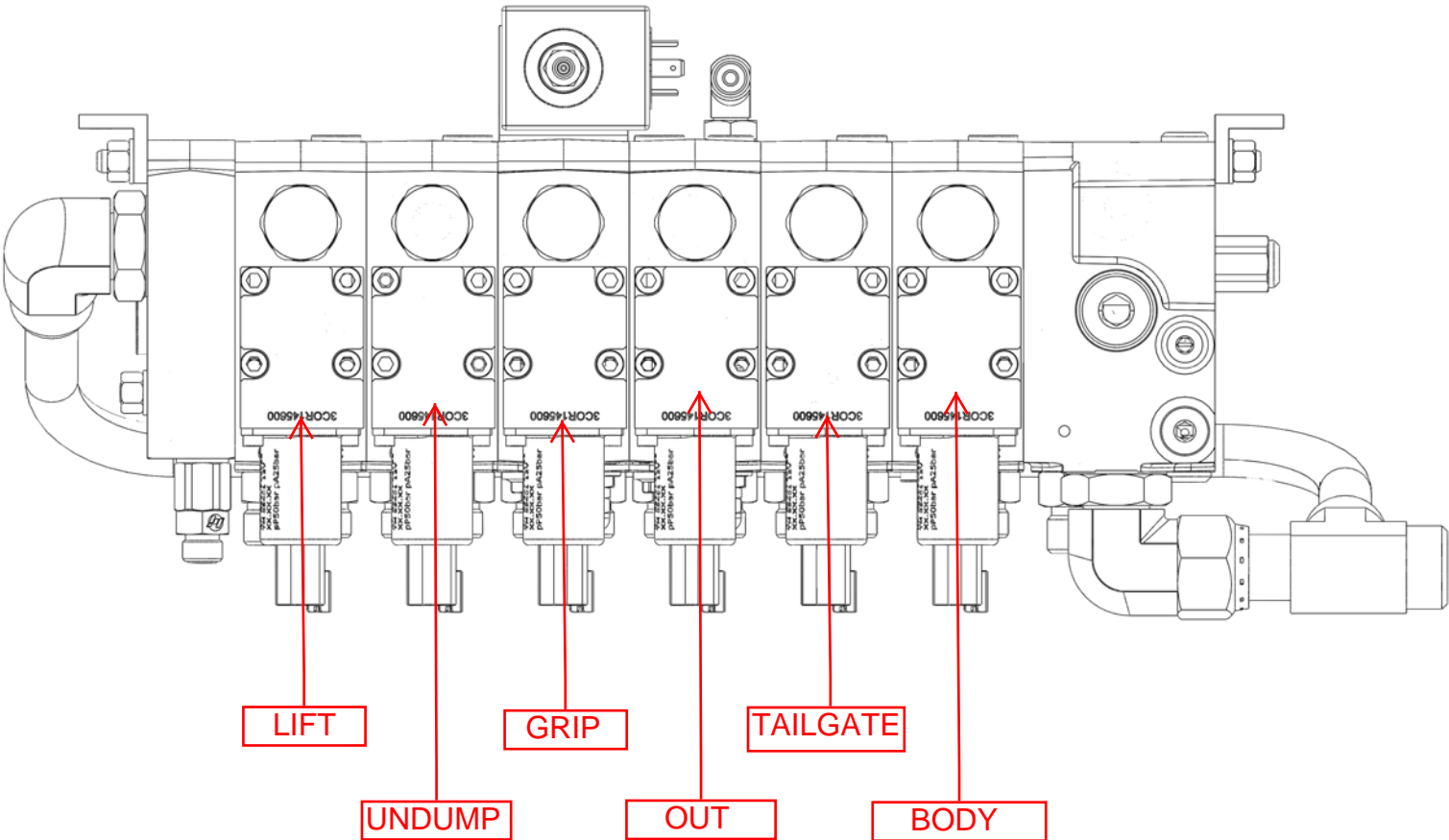
**SECTION 7 – HYDRAULICS
PACKER VALVE
AFTER MARCH 2017**

Reference Number	Part Number	Part Description	Amount Required
	HV05253-01	KIT, SEAL, COMPLETE	1
1	HV05252-02	VALVE, SOLENOID	4
2	HV05253-02	VALVE, LOAD SENSE	1
3	HV05253-03	VALVE, REDUCING, PILOT	1

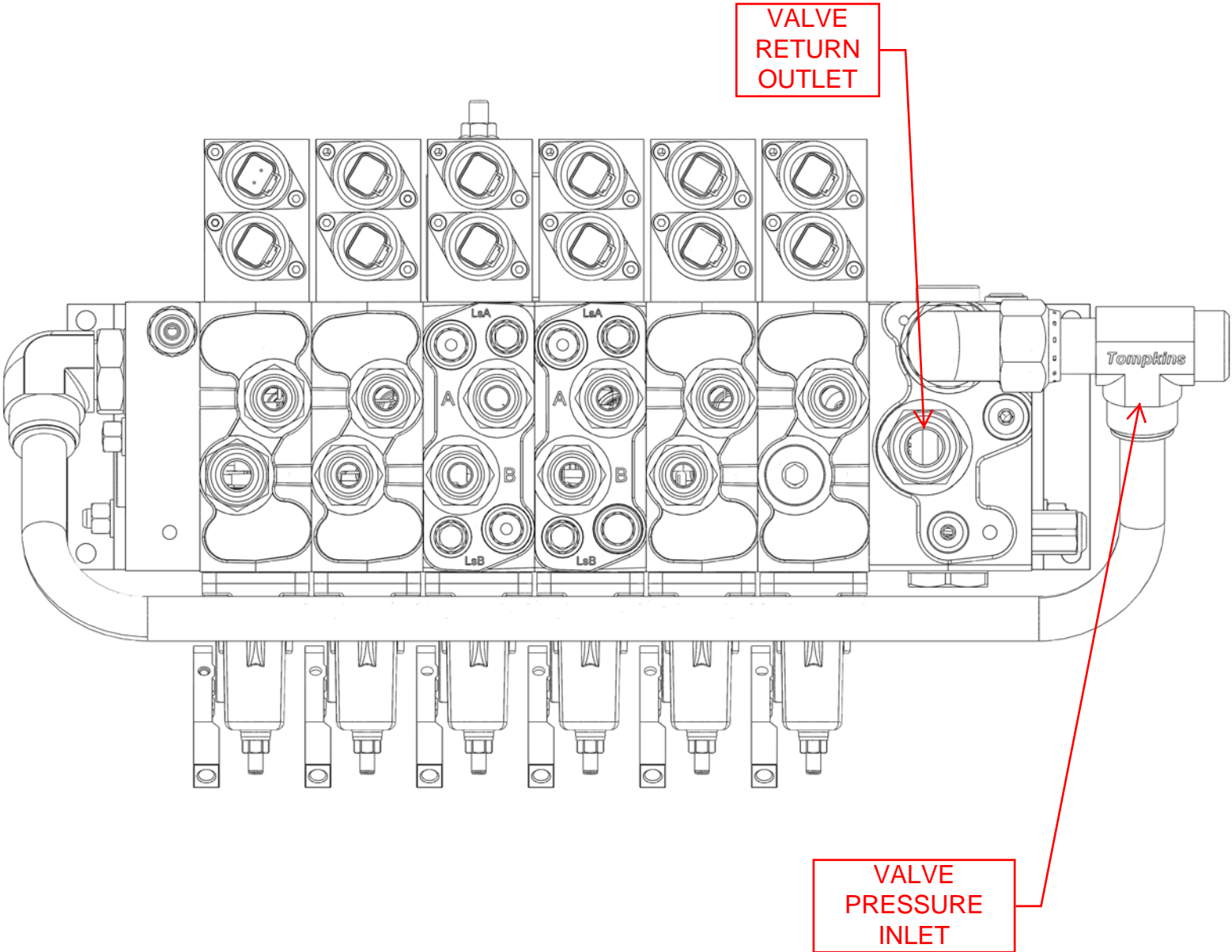


**SECTION 7 – HYDRAULICS
ARM VALVE
AFTER MARCH 2017**

Reference Number	Part Number	Part Description	Amount Required
1	HV05252	VALVE, ARM, DPC130-6	1



**SECTION 7 – HYDRAULICS
ARM VALVE
AFTER MARCH 2017**



CHASSIS HYDRAULICS PARTS LIST
TUBING

Reference Number	Part Number	Part Description	Amount Required
1	HT00820	TUBE 1, SUPPLY, CHASSIS	1
2	HT00821	TUBE 1, RETURN, CHASSIS	1
3	HT00822	TUBE 1, TAILGATE, BASE, CHASSIS	2
4	HT00824	TUBE 2, SUPPLY, CHASSIS	1
5	HT00825	TUBE 2, RETURN, CHASSIS	1
6	HT00964	TUBE, RETURN, TANK, BODY	1

**CHASSIS HYDRAULICS
TUBING**

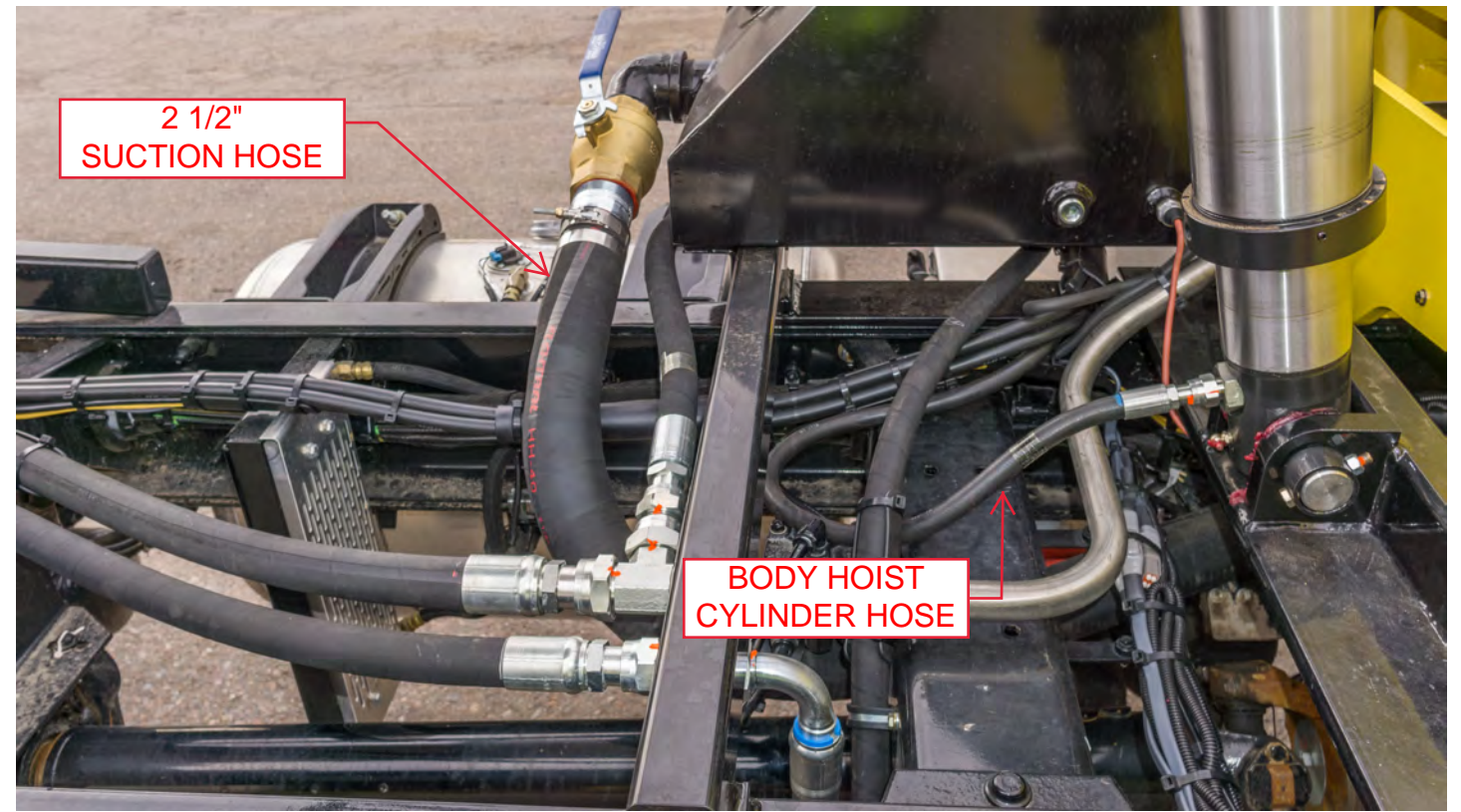
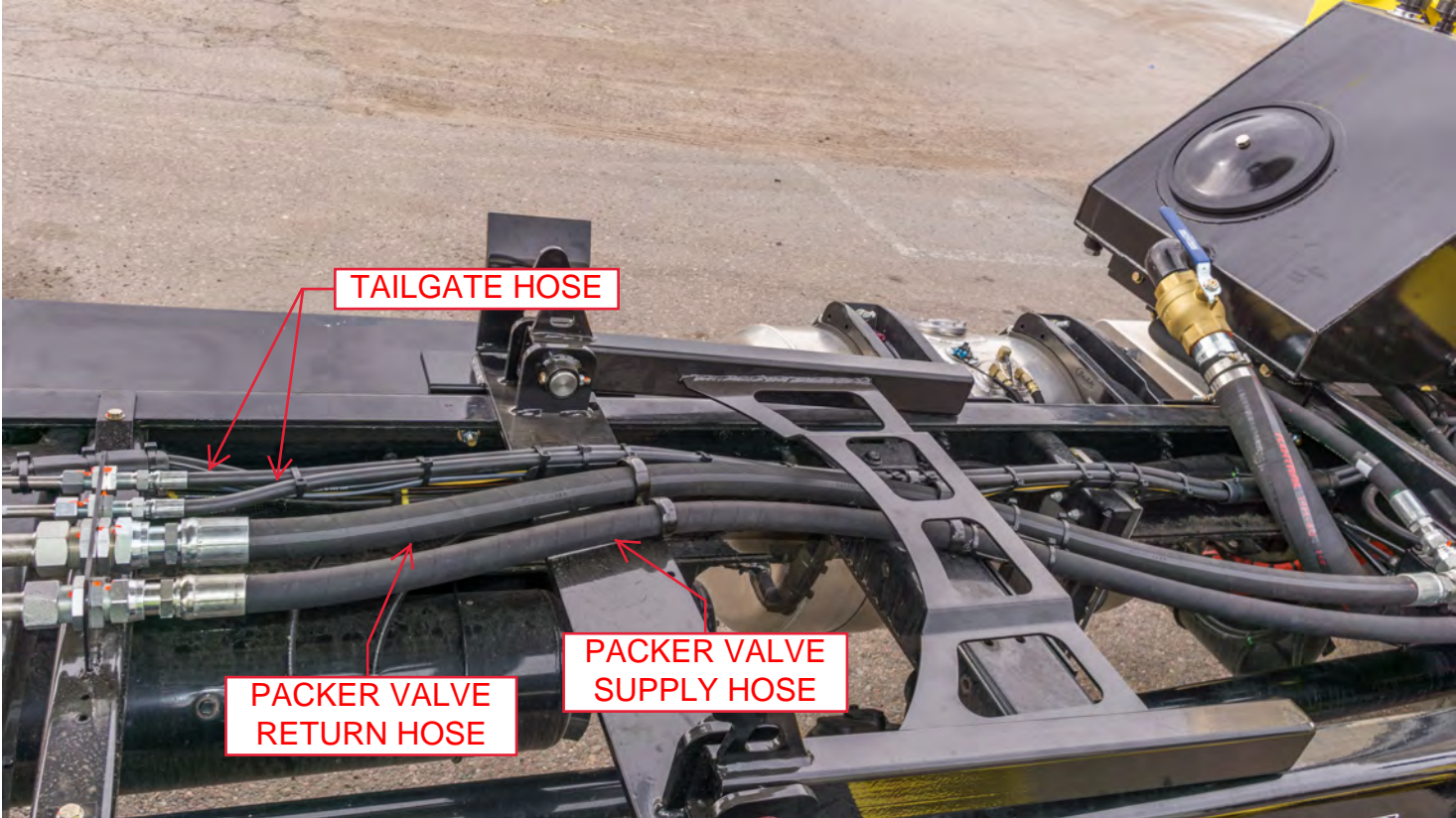


CHASSIS HYDRAULICS
TUBING (continued)



**CHASSIS HYDRAULICS
HOSES**

**ALL CHASSIS HOSES ARE SPECIFIC TO BODY SIZE
AND CHASSIS MAKE AND MODEL**



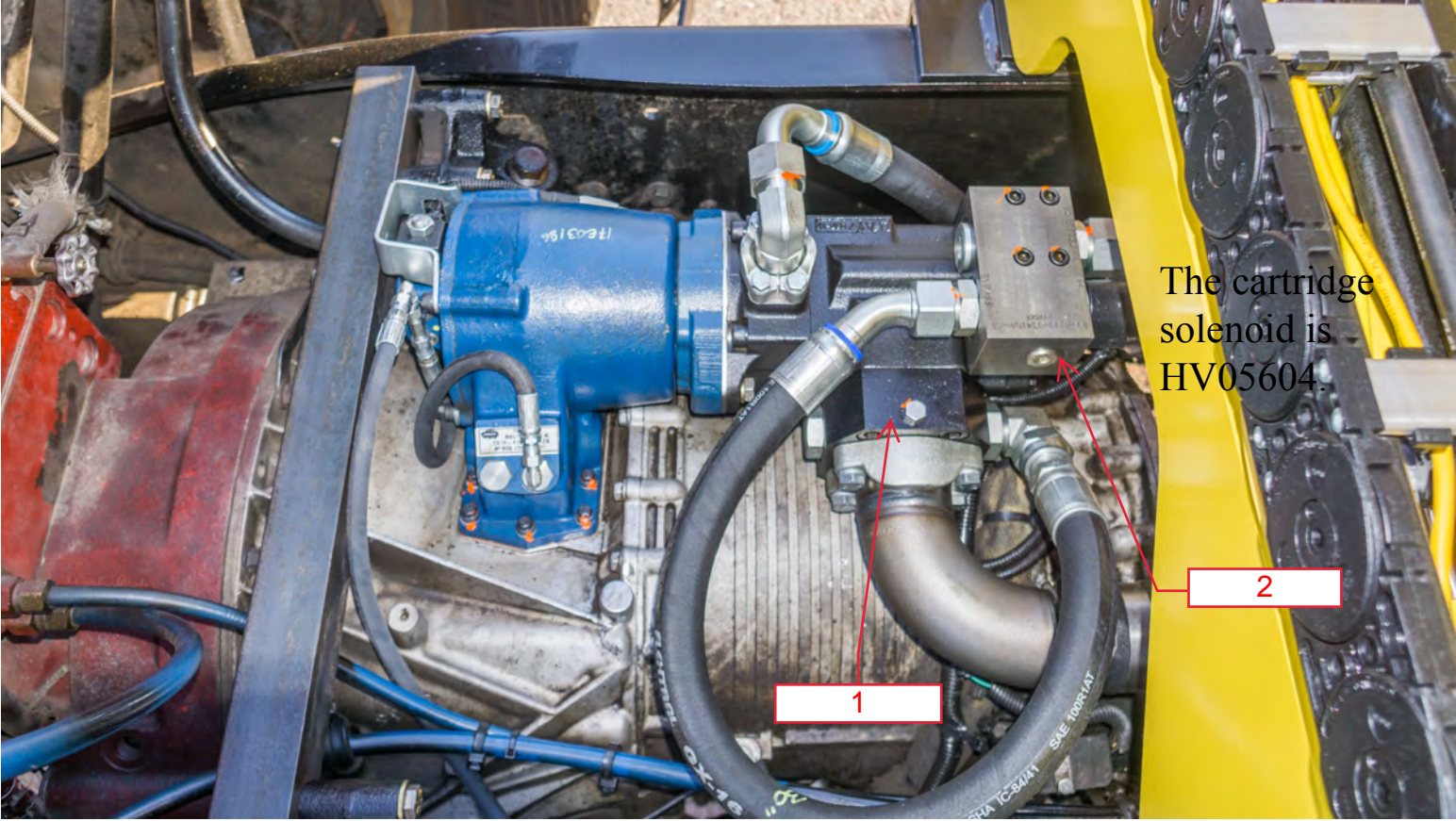
CHASSIS HYDRAULICS PARTS LIST
PTO PUMP

**ALL PUMP HOSES ARE SPECIFIC TO CHASSIS
MAKE AND MODEL**

Reference Number	Part Number	Part Description	Amount Required
1	HP02903	PUMP, VANE, TANDUM, 31/31	1
2	HV05270	VALVE, PUMP, UNLOADER, C61-16	1

CHASSIS HYDRAULICS
PTO PUMP

**ALL PUMP HOSES ARE SPECIFIC TO CHASSIS
MAKE AND MODEL**



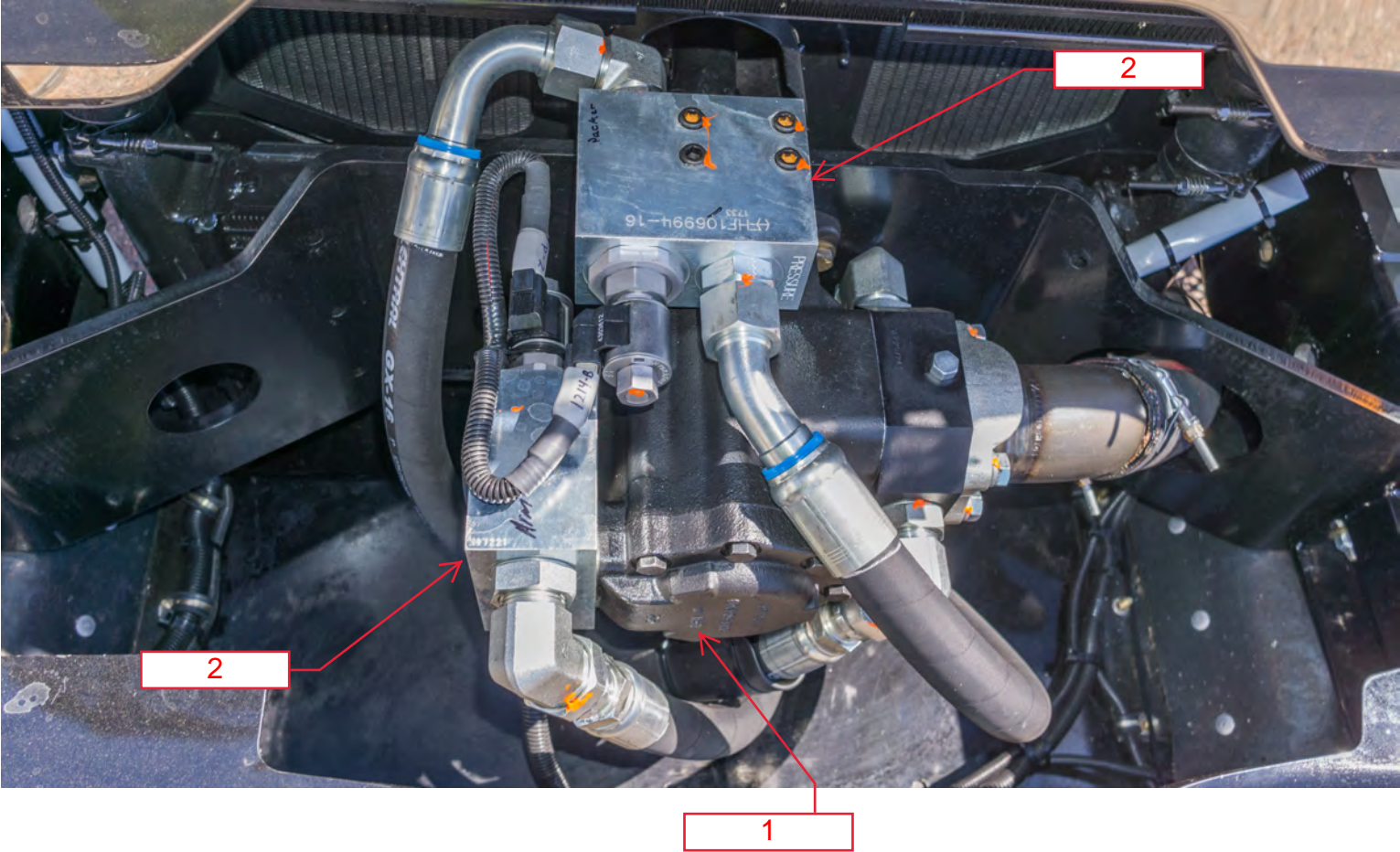
CHASSIS HYDRAULICS PARTS LIST
FRONT MOUNT PUMP

**ALL PUMP HOSES ARE SPECIFIC TO CHASSIS
MAKE AND MODEL**

Reference Number	Part Number	Part Description	Amount Required
1	HP05140	PUMP, VANE, FPM 31/31	1
2	HV05270	VALVE, PUMP, UNLOADER, C61-16	2

CHASSIS HYDRAULICS
FRONT MOUNT PUMP

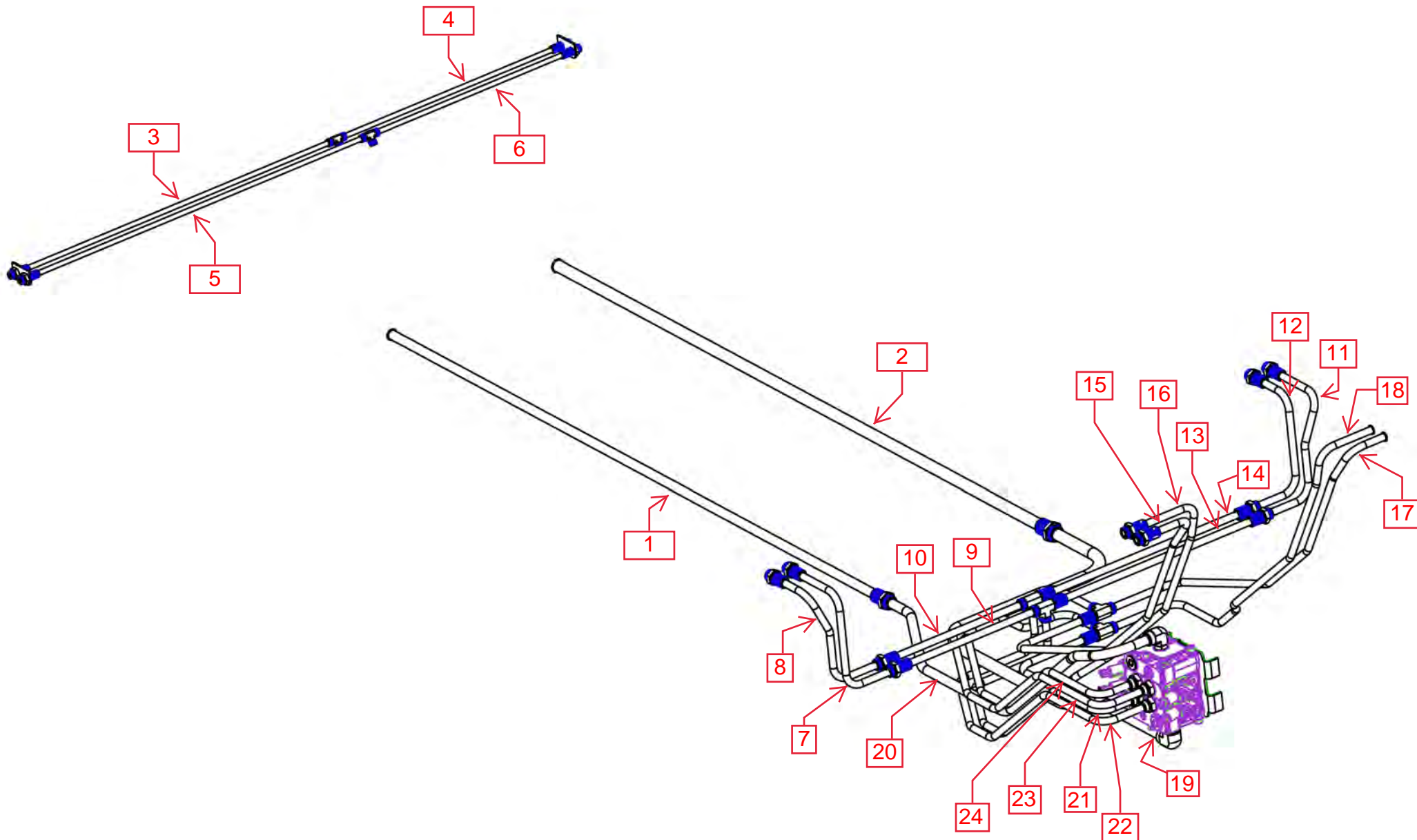
**ALL PUMP HOSES ARE SPECIFIC TO CHASSIS
MAKE AND MODEL**



BODY HYDRAULICS PARTS LIST
TUBING
BEFORE MARCH 2017

Reference Number	Part Number	Part Description	Amount Required
1	HT00826	TUBE 1, SUPPLY	1
2	HT00827	TUBE 1, RETURN	1
3	HT00828	TUBE 1, TAILGATE, BASE	1
4	HT00829	TUBE 2, TAILGATE, BASE	1
5	HT00830	TUBE 1, TAILGATE, ROD	1
6	HT00831	TUBE 2, TAILGATE, ROD	1
7	HT00832	TUBE 1, SWEEP, RT, BASE	1
8	HT00833	TUBE 1, SWEEP, RT, ROD	1
9	HT00834	TUBE 2, SWEEP, RT, BASE	1
10	HT00835	TUBE 2, SWEEP, RT, ROD	1
11	HT00836	TUBE 1, SWEEP, LT, BASE	1
12	HT00837	TUBE 1, SWEEP, LT, ROD	1
13	HT00838	TUBE 2, SWEEP, LT, BASE	1
14	HT00839	TUBE 2, SWEEP, LT, ROD	1
15	HT00841	TUBE 2, SLIDE, RT, BASE	1
16	HT00843	TUBE 2, SLIDE, RT, ROD	1
17	HT00845	TUBE 2, SLIDE, LT, BASE	1
18	HT00847	TUBE 2, SLIDE, LT, ROD	1
19	HT00848	TUBE 2, RETURN, VALVE, PACK	1
20	HT00849	TUBE 2, SUPPLY, VALVE, PACK	1
21	HT00850	TUBE 3, SWEEP, FRT, BASE	1
22	HT00851	TUBE 3, SWEEP, FRT, ROD	1
23	HT00852	TUBE 3, SLIDE, FRT, BASE	1
24	HT00853	TUBE 3, SLIDE, FRT, ROD	1

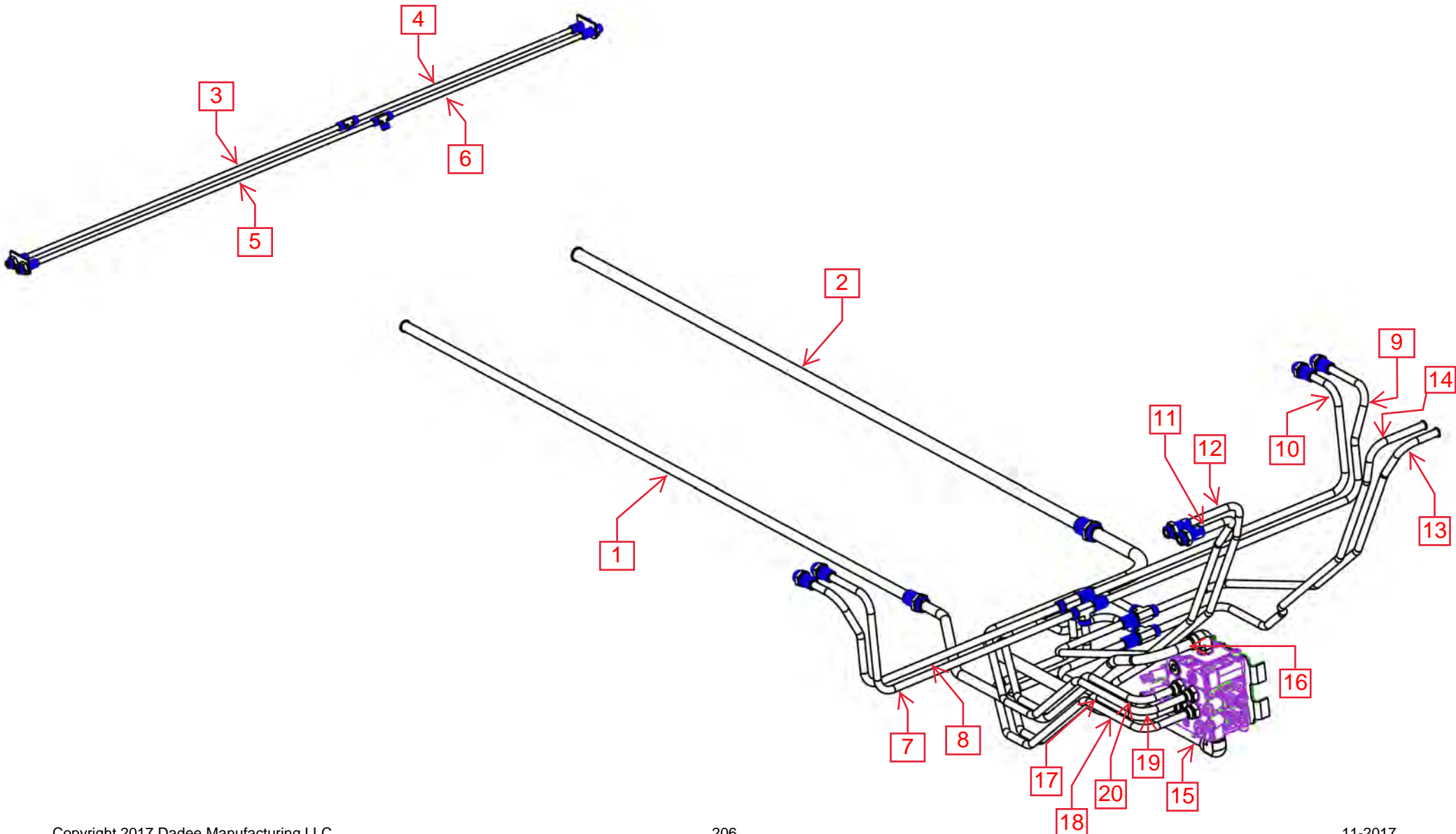
BODY HYDRAULICS TUBING BEFORE MARCH 2017



BODY HYDRAULICS PARTS LIST
TUBING
AFTER MARCH 2017

Reference Number	Part Number	Part Description	Amount Required
1	HT00826	TUBE 1, SUPPLY	1
2	HT00827	TUBE 1, RETURN	1
3	HT00828	TUBE 1, TAILGATE, BASE	1
4	HT00829	TUBE 2, TAILGATE, BASE	1
5	HT00830	TUBE 1, TAILGATE, ROD	1
6	HT00831	TUBE 2, TAILGATE, ROD	1
7	HT05030	TUBE 1, SWEEP, RIGHT, BASE, BODY, SCORPION	1
8	HT05031	TUBE 1, SWEEP, RIGHT, ROD, BODY, SCORPION	1
9	HT05032	TUBE 1, SWEEP, LEFT, BASE, BODY, SCORPION	1
10	HT05033	TUBE 1, SWEEP, LEFT, ROD, BODY, SCORPION	1
11	HT00841	TUBE 2, SLIDE, RT, BASE	1
12	HT00843	TUBE 2, SLIDE, RT, ROD	1
13	HT00845	TUBE 2, SLIDE, LT, BASE	1
14	HT00847	TUBE 2, SLIDE, LT, ROD	1
15	HT05028	TUBE 2, RETURN, BODY, SCORPION	1
16	HT05029	TUBE 2, SUPPLY, BODY, SCORPION	1
17	HT05034	TUBE 3, SWEEP, FRONT, BASE, BODY, SCORPION	1
18	HT05035	TUBE 3, SWEEP, FRONT, ROD, BODY, SCORPION	1
19	HT05036	TUBE 3, SLIDE, FRONT, BASE, BODY, SCORPION	1
20	HT05037	TUBE 3, SLIDE, FRONT, ROD, BODY, SCORPION	1

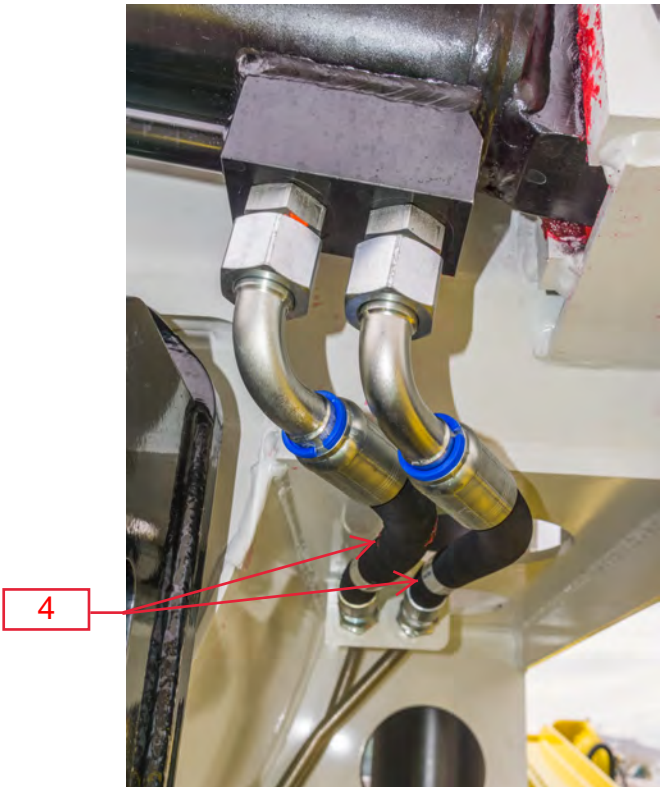
**BODY HYDRAULICS
TUBING
AFTER MARCH 2017**



BODY HYDRAULICS PARTS LIST
HOSES

Reference Number	Part Number	Part Description	Amount Required
1	HH03735-01	HOSE 3, TAILGATE, BASE	2
2	HH03735-02	HOSE 2, TAILGATE	2
3	HH03735-03	HOSE 3, TAILGATE, ROD	2
4	HH03735-04	HOSE 1, SWEEP	4
5	HH03735-05	HOSE 1, SLIDE	4
6	HH03735-06	HOSE, GREASE, SLIDER	4
7	HH03735-07	HOSE, GREASE, TAILGATE	2
8	HH03735-09	HOSE, RETURN, TANK	1

**BODY HYDRAULICS
HOSES**



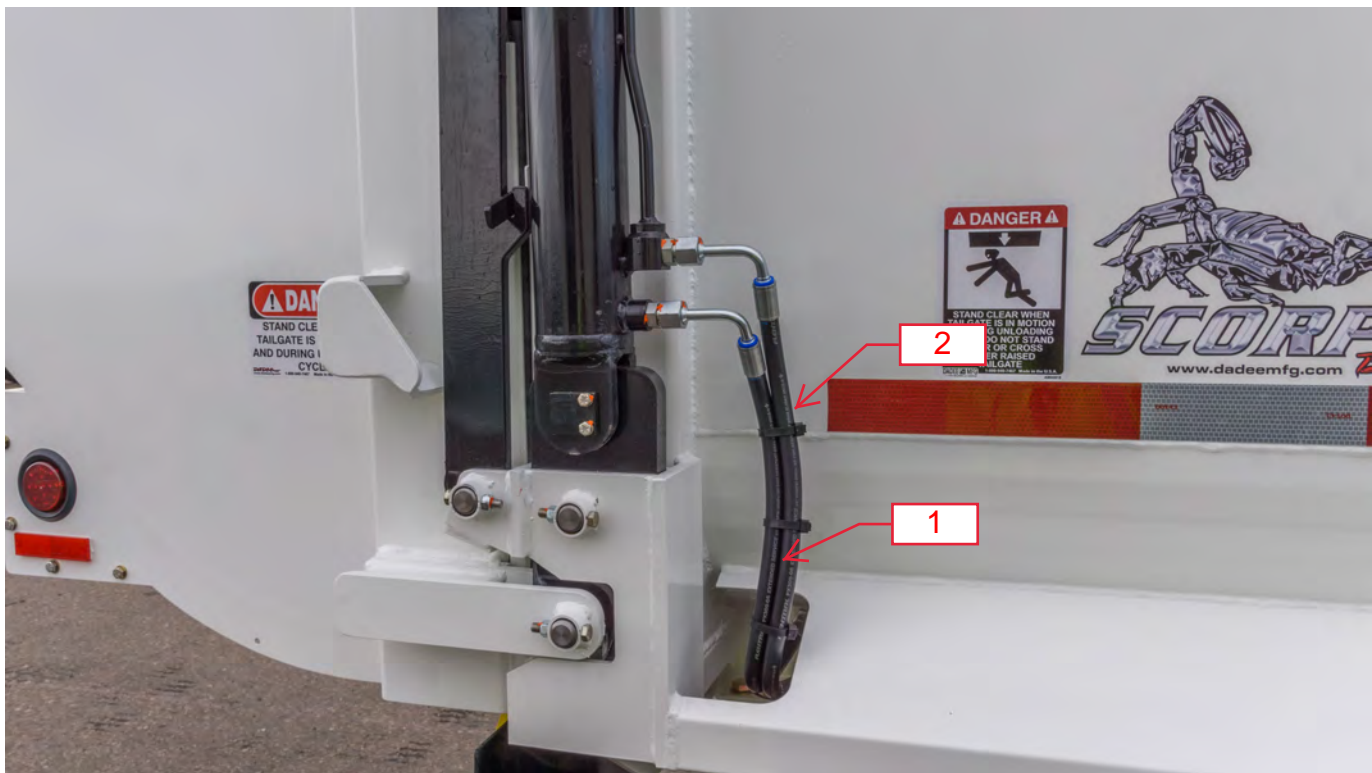
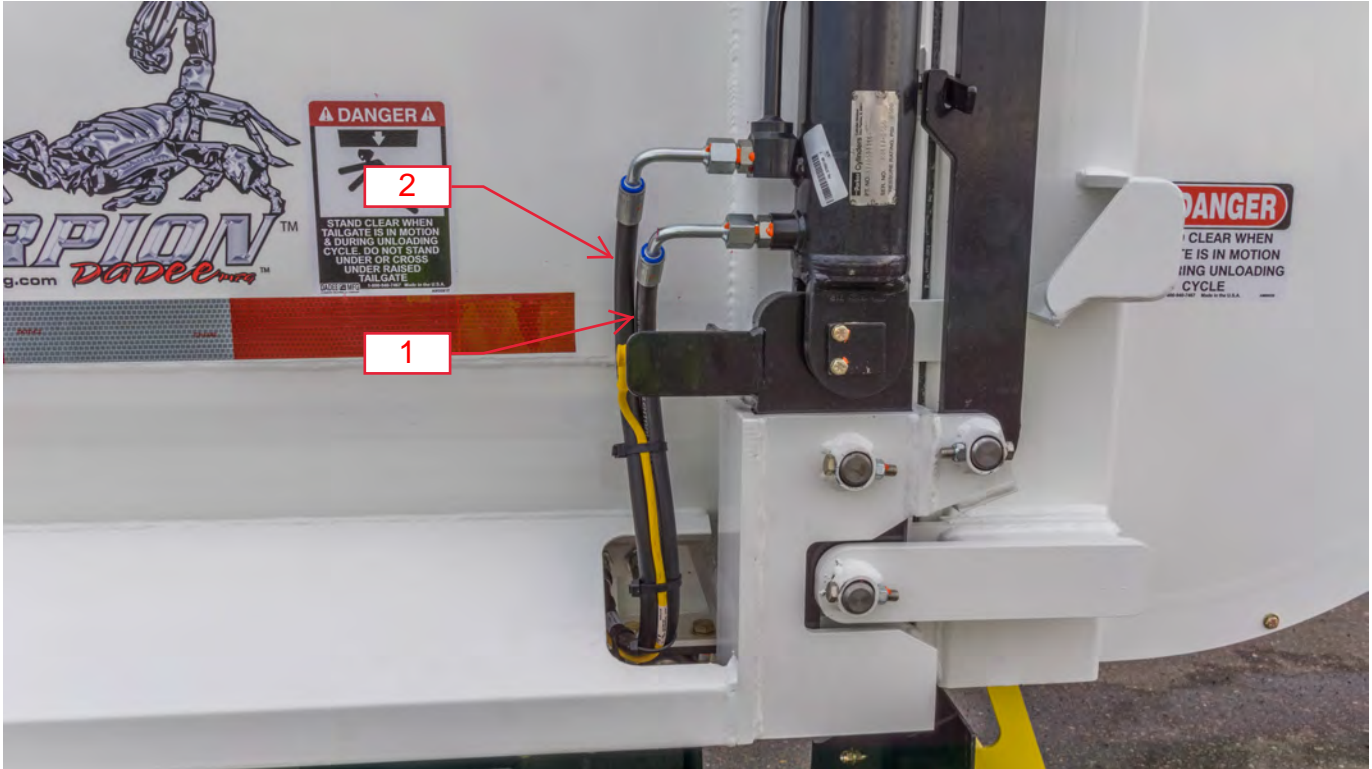
BODY HYDRAULICS

HOSES (continued)



BODY HYDRAULICS

HOSES (continued)



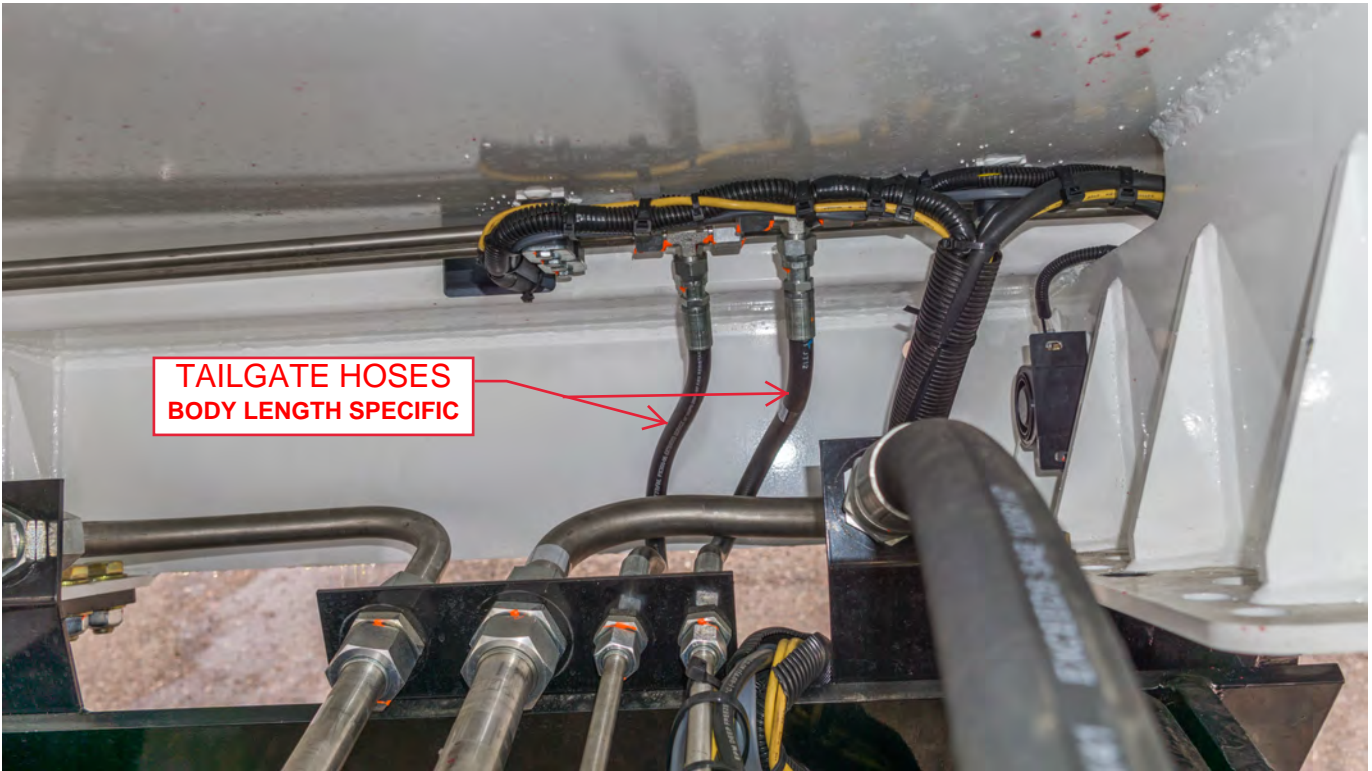
BODY HYDRAULICS

HOSES (continued)



**PACKER VALVE SUPPLY
BODY LENGTH SPECIFIC**

**PACKER VALVE RETURN
BODY LENGTH SPECIFIC**



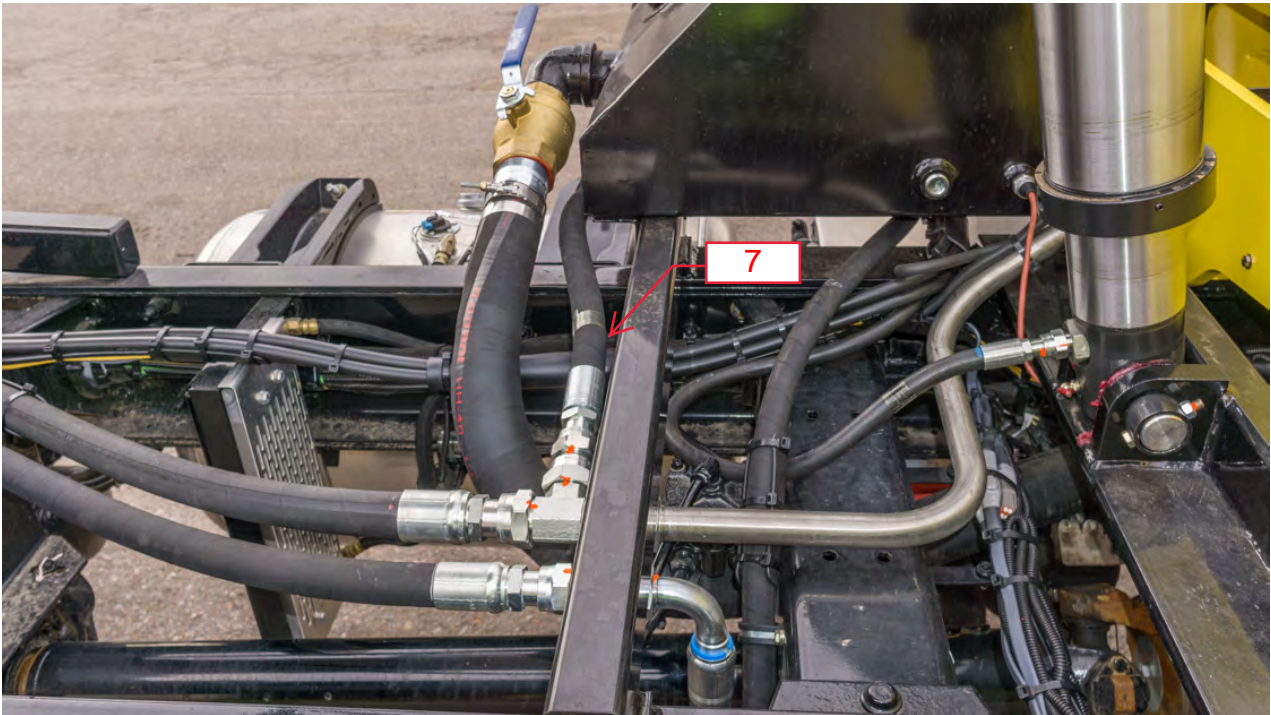
**TAILGATE HOSES
BODY LENGTH SPECIFIC**

BODY HYDRAULICS
HOSES (continued)



LEFT AND RIGHT SIDES

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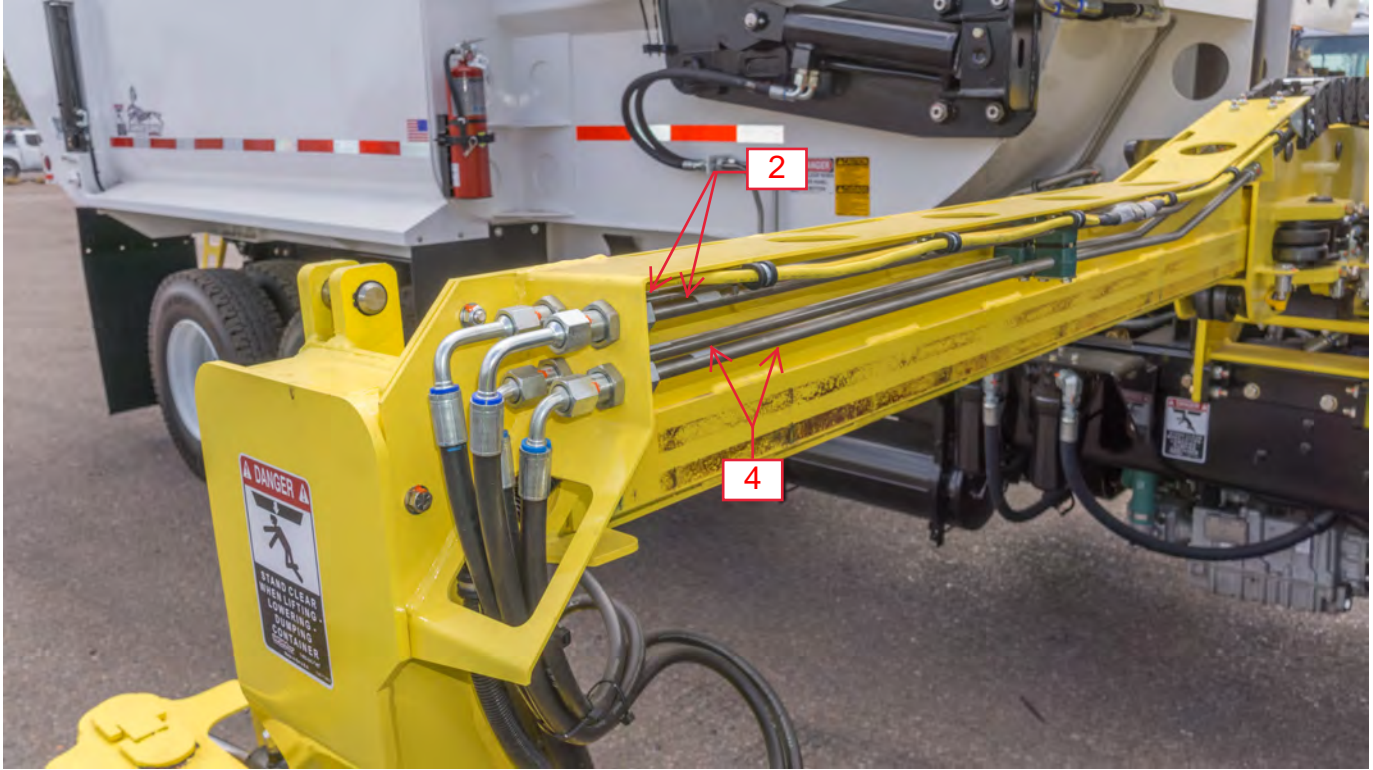
7

ARM HYDRAULICS PARTS LIST
TUBING

Reference Number	Part Number	Part Description	Amount Required
1	HT00776	TUBE 1, DUMP RETRACT	1
2	HT00778	TUBE 2, DUMP RETRACT	2
3	HT00782	TUBE 1, DUMP EXTEND	1
4	HT00784	TUBE 2, DUMP EXTEND	2
5	HT00788	TUBE 1, GRIP RETRACT	1
6	HT00794	TUBE 1, GRIP EXTEND	1
7	HT05050	TUBE 1, SUPPLY, VALVE, ARM	1

*This tube is used for units produced after March 2017

ARM HYDRAULICS
TUBING



ARM HYDRAULICS
TUBING (continued)



ARM HYDRAULICS
TUBING (continued)

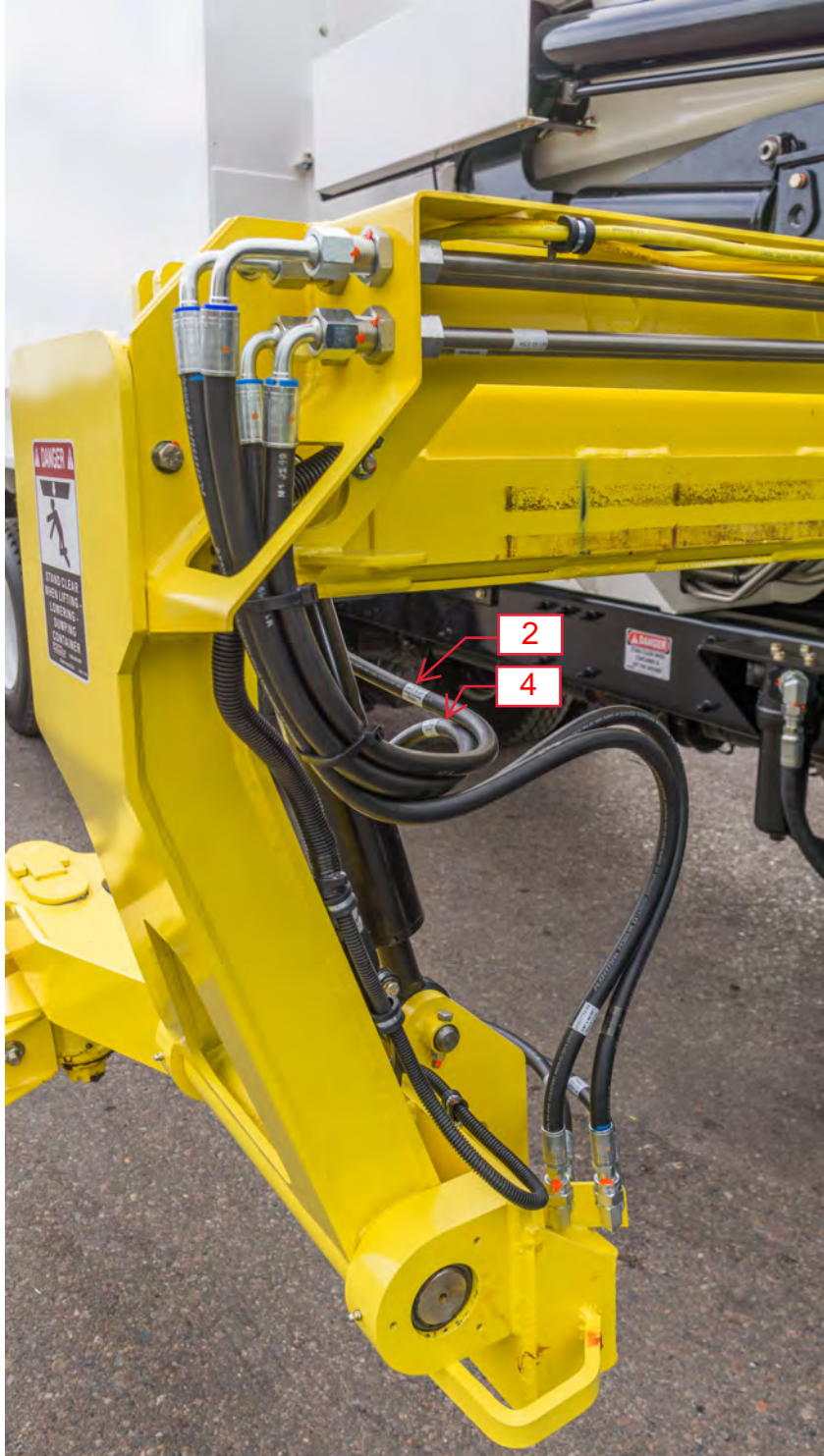


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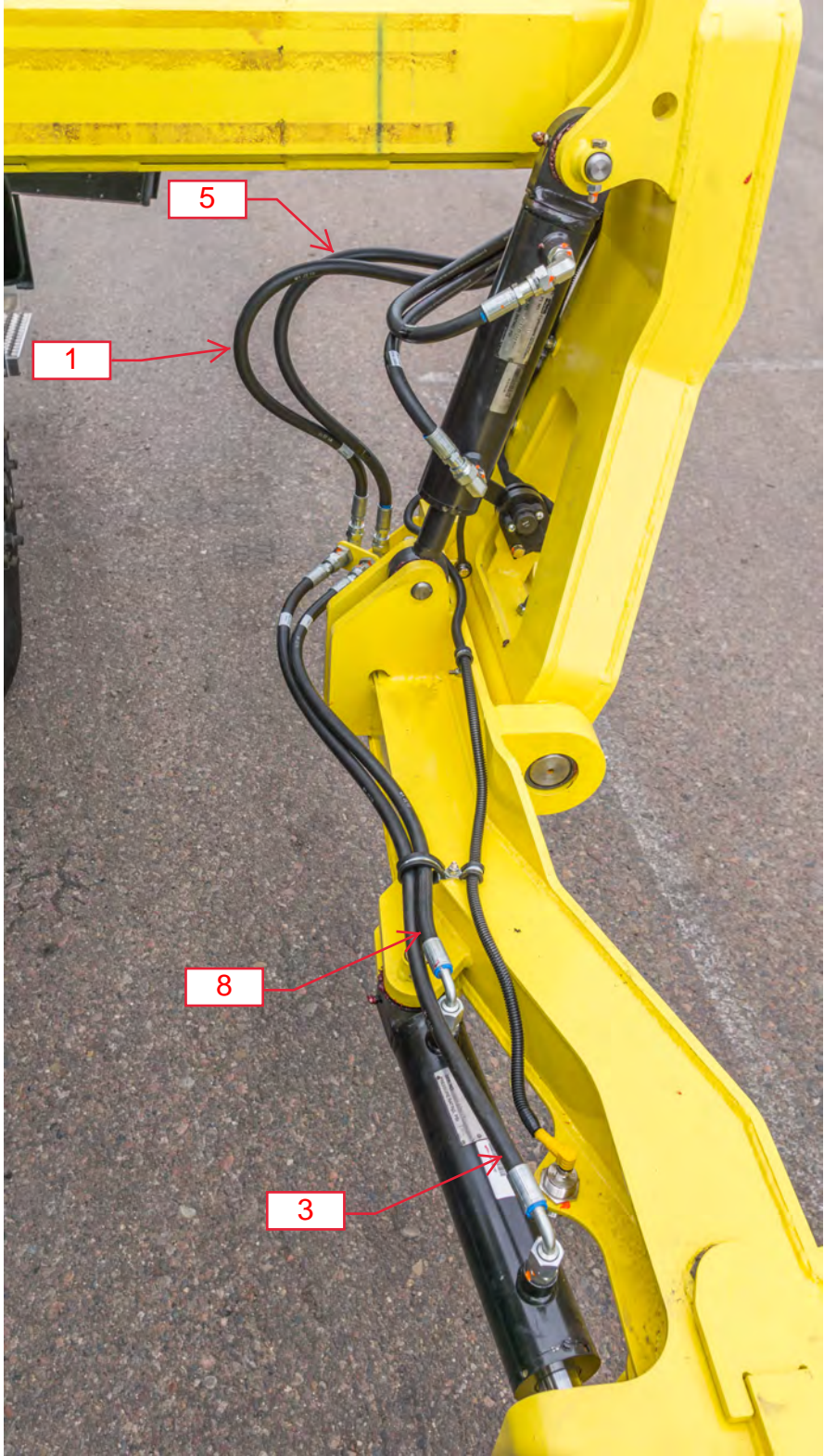
ARM HYDRAULICS PARTS LIST
HOSES

Reference Number	Part Number	Part Description	Amount Required
1	HH05337-05	HOSE 4, GRIP EXTEND	1
2	HH03734-01	HOSE 4, DUMP EXTEND	1
3	HH03734-02	HOSE 5, GRIP RETRACT	1
4	HH03734-03	HOSE 4, DUMP RETRACT	1
5	HH03734-04	HOSE 4, GRIP RETRACT	1
6	HH03734-08	HOSE 2, IN RETRACT	1
7	HH03734-07	HOSE 2, OUT EXTEND	1
8	HH03734-11	HOSE 5, GRIP EXTEND	1
9	HH03734-14	HOSE 3, DUMP RETRACT	2
10	HH03734-19	HOSE 3, DUMP EXTEND	2
11	HH03734-20	HOSE 2, DUMP RETRACT	4
12	HH03734-24	HOSE2, ARM LOCK	1
13	HH05052-06	HOSE 2, ARM LOCK	1

ARM HYDRAULICS
HOSES



ARM HYDRAULICS
HOSES (continued)



ARM HYDRAULICS
HOSES (continued)



BEFORE MARCH 2017

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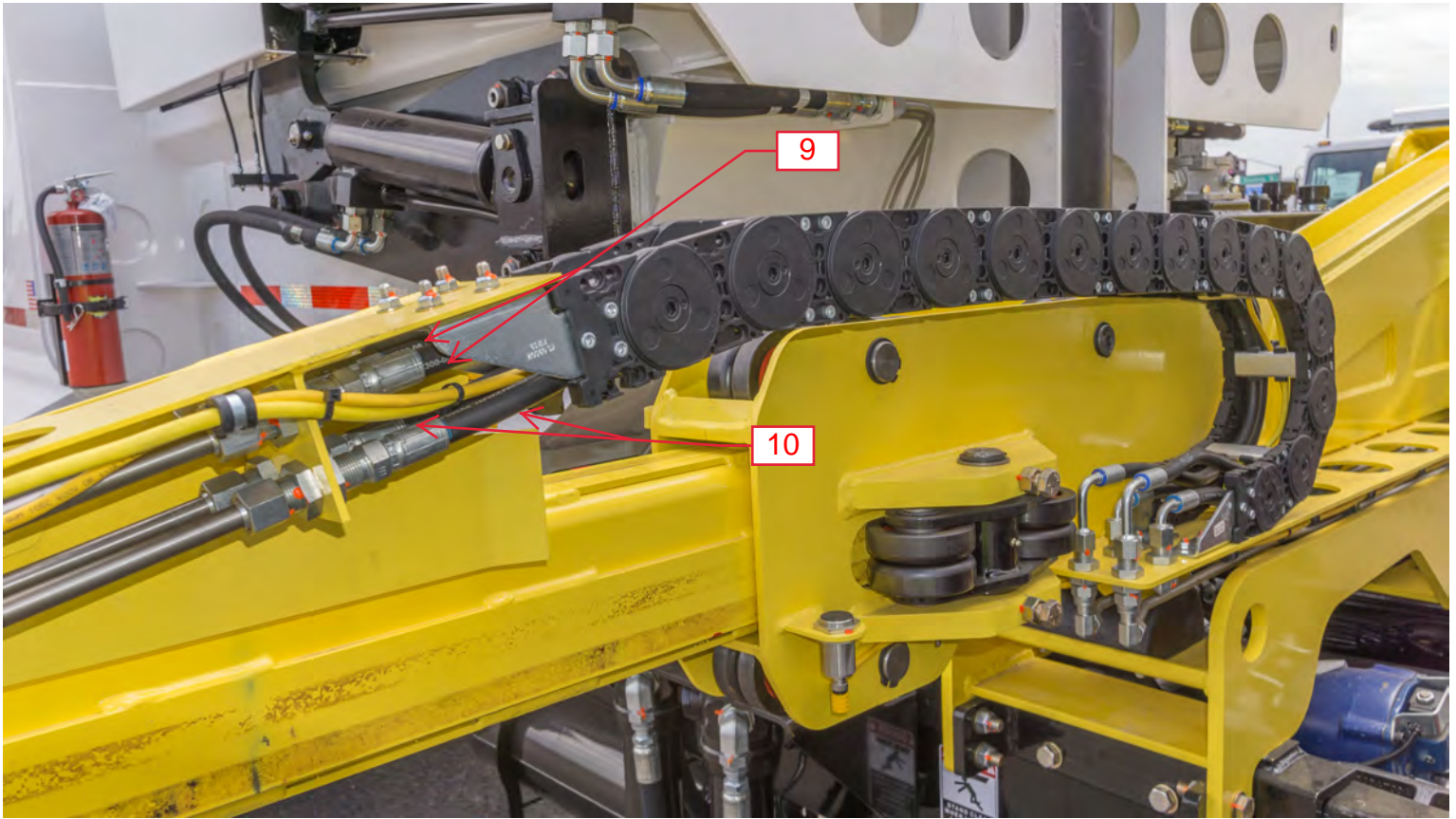
AFTER MARCH 2017

ARM HYDRAULICS

HOSES (continued)



ARM HYDRAULICS
HOSES (continued)



ARM HYDRAULICS

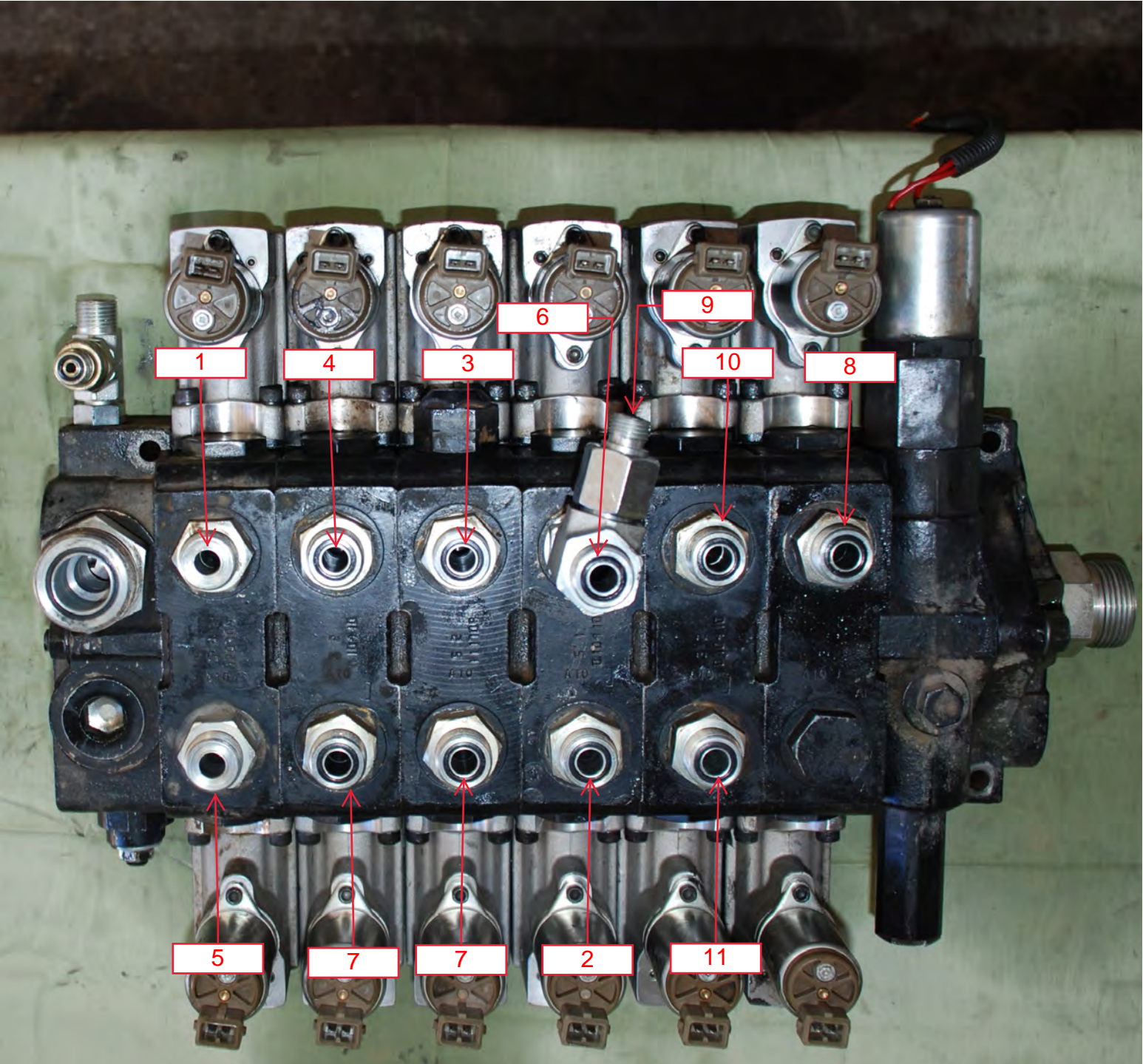
HOSES (continued)



**ARM HYDRAULICS PARTS LIST
BEFORE MARCH 2017
VALVING HOSES**

Reference Number	Part Number	Part Description	Amount Required
1	HH03734-05	HOSE 1, LIFT EXTEND	1
2	HH03734-08	HOSE 1, IN RETRACT	1
3	HH03734-09	HOSE 1, GRIP EXTEND	1
4	HH03734-10	HOSE 1, DUMP EXTEND	1
5	HH03734-13	HOSE 1, LIFT RETRACT	1
6	HH03734-15	HOSE 1, OUT EXTEND	1
7	HH03734-17	HOSE 1, DUMP RETRACT	2
8	HH03734-21	HOSE, BODY EXTEND	1
9	HH03734-22	HOSE1, ARM LOCK	1
10	CONSULT	HOSE 1, TAILGATE RETRACT [BODY/ CHASSIS SPECIFIC]	1
11	CONSULT	HOSE 1, TAILGATE EXTEND [BODY/ CHASSIS SPECIFIC]	1

**ARM HYDRAULICS
BEFORE MARCH 2017
VALVING HOSES**

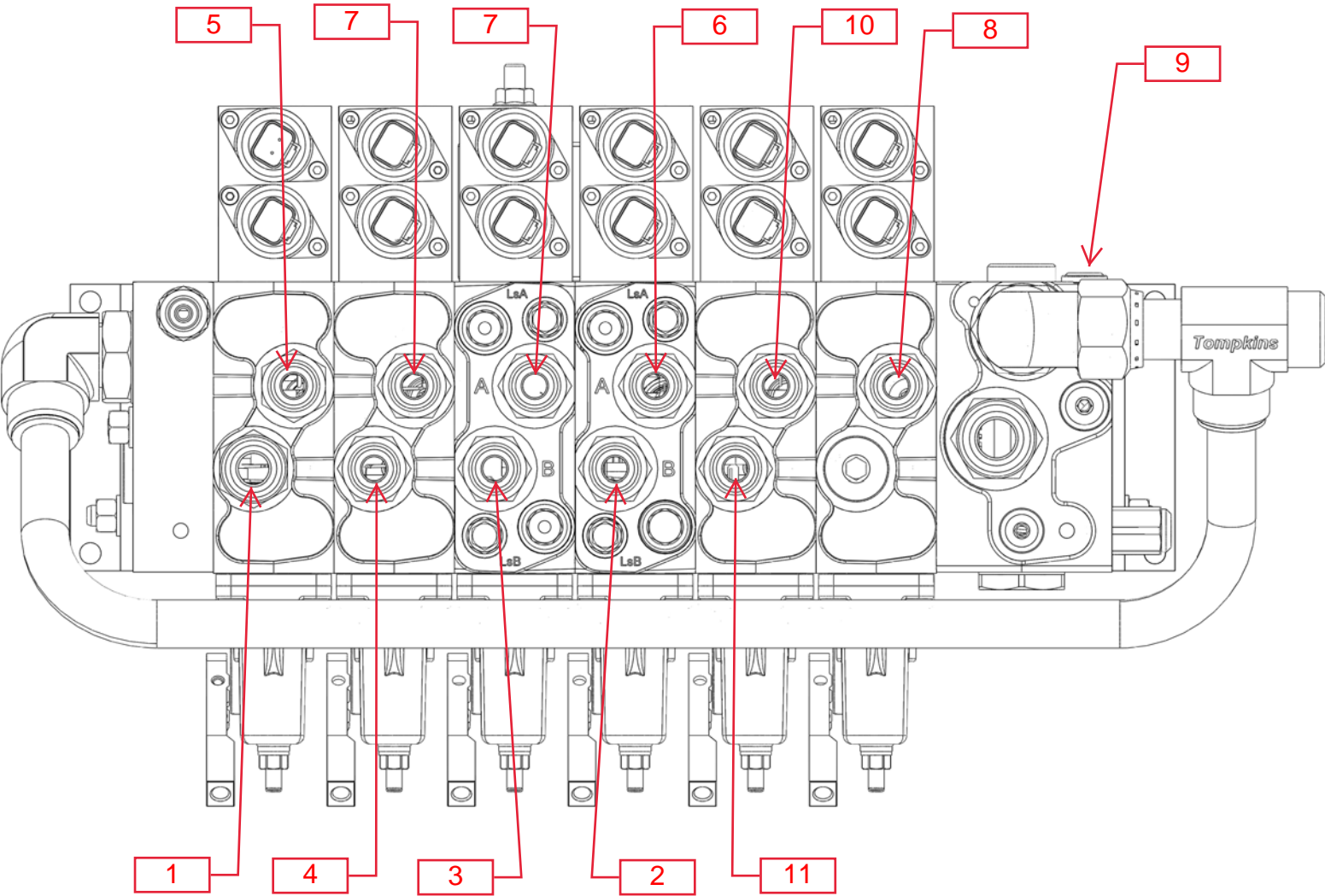


**ARM HYDRAULICS PARTS LIST
AFTER MARCH 2017
VALVING HOSES**

Reference Number	Part Number	Part Description	Amount Required
1	HH05337-01	HOSE 1, LIFT EXTEND	1
2	HH05337-02	HOSE 1, IN RETRACT	1
3	HH05337-03	HOSE 1, GRIP RETRACT	1
4	HH05337-04	HOSE 1, DUMP EXTEND	1
5	HH05337-12	HOSE 1, LIFT RETRACT	1
6	HH03734-15	HOSE 1, OUT EXTEND	1
7	HH03734-17	HOSE 1, DUMP RETRACT	2
8	HH03734-21	HOSE, BODY EXTEND	1
9	HH05052-07	HOSE 1, ARM LOCK	1
10	CONSULT	HOSE 1, TAILGATE RETRACT [BODY/ CHASSIS SPECIFIC]	1
11	CONSULT	HOSE 1, TAILGATE EXTEND [BODY/ CHASSIS SPECIFIC]	1

**ARM HYDRAULICS
AFTER MARCH 2017**

VALVING HOSES



HIGH PRESSURE FILTER ASSEMBLY PARTS LIST
[FOR UNITS PRODUCED WITH HV05252 & HV05253 COMPONENTS]

Reference Number	Part Number	Part Description	Amount Required
	HF05418	KIT, SEAL, FILTER, PRESSURE	2
1	HF05254	FILTER, PRESSURE	2
2	HF05255	ELEMENT, FILTER, PRESSURE	2
3	ES05256	SWITCH, INDICATOR, PRESSURE	2

HIGH PRESSURE FILTER ASSEMBLY

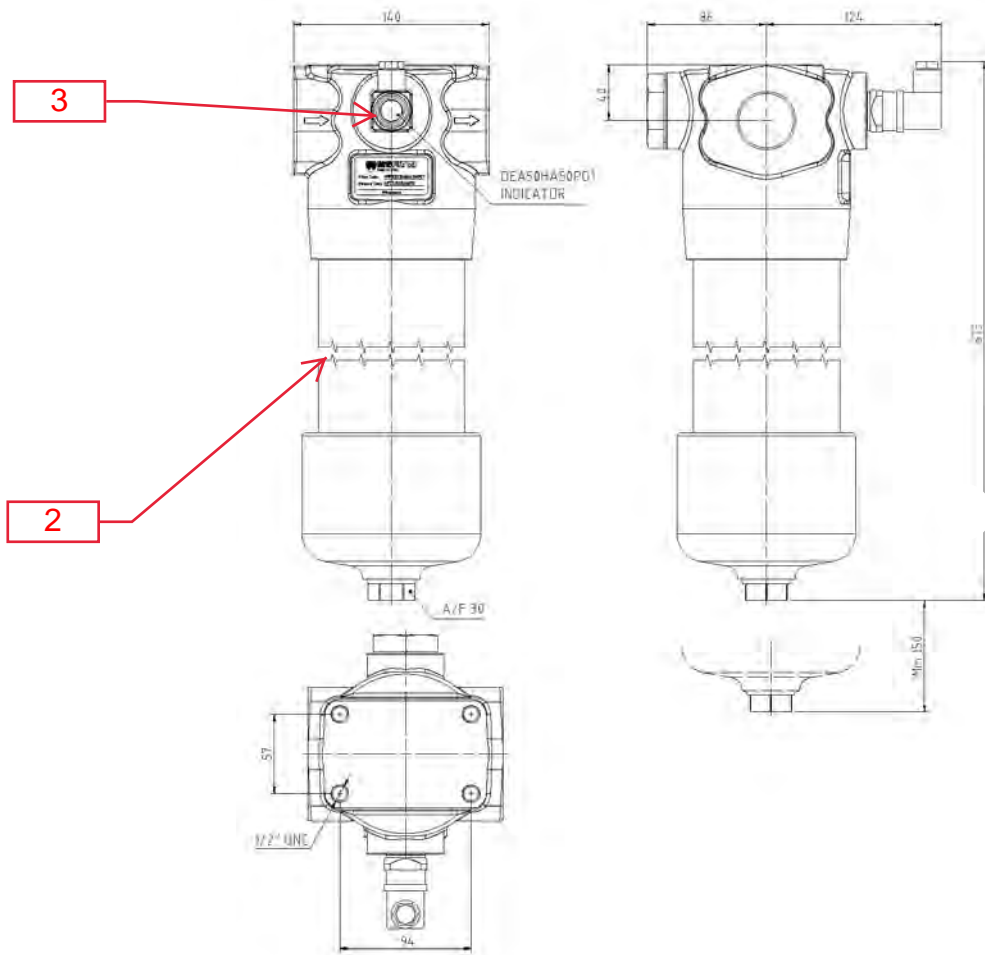
[FOR UNITS PRODUCED WITH HV05252 & HV05253 COMPONENTS]



1

HIGH PRESSURE FILTER ASSEMBLY (continued)

[FOR UNITS PRODUCED WITH HV05252 & HV05253 COMPONENTS]



Each Scorpion ASL that is equipped with High Pressure Filters has (2) Assemblies. One assembly is the filter for the packer hydraulic circuit, and one is for the arm hydraulic circuit.

The high pressure filter elements should be replaced after the first 30 days of operation. Replace every 90 days thereafter or when indicated by visual indicator on each assembly.

**HIGH PRESSURE FILTER ASSEMBLY (continued)
HOSES**

[FOR UNITS PRODUCED WITH HV05252 & HV05253 COMPONENTS]

**ALL HIGH PRESSURE FILTER ASSEMBLY HOSES
ARE SPECIFIC TO PUMP CONFIGURATION AND
CHASSIS MAKE AND MODEL**

