



Art's-Way Manufacturing Co., Inc.

Model 9016HD
High Dump

Operator's Manual & Illustrated Parts List
671035

Issued August 2020



This symbol means ATTENTION! BECOME ALERT! YOUR SAFETY IS INVOLVED. The message that follows the symbol contains important information about your safety. Carefully read the message. Make sure you fully understand the causes of possible injury or death.

IF THIS MACHINE IS USED BY AN EMPLOYEE, IS LOANED, OR IS RENTED, MAKE SURE THAT THE OPERATOR UNDERSTANDS THE TWO INSTRUCTIONS BELOW.

BEFORE THE OPERATOR STARTS THE ENGINE:

GIVE INSTRUCTIONS TO THE OPERATOR ON SAFE AND CORRECT USE OF THE MACHINE.

MAKE SURE THE OPERATOR READS AND UNDERSTANDS THE OPERATOR'S MANUAL FOR THIS MACHINE.

⚠ WARNING

IMPROPER OPERATION OF THIS MACHINE CAN CAUSE INJURY OR DEATH.

BEFORE STARTING THE ENGINE, DO THE FOLLOWING:

1. READ THE OPERATOR'S MANUAL.
2. READ ALL SAFETY DECALS ON THE MACHINE.
3. CLEAR THE AREA OF OTHER PERSONS.
4. LEARN AND PRACTICE SAFE USE OF MACHINE CONTROLS IN A SAFE AND CLEAR AREA BEFORE YOU OPERATE THIS MACHINE ON A JOB SITE.

It is your responsibility to observe pertinent laws and regulations and to follow manufacturer's instructions on machine operation and maintenance.

See your Authorized Art's-Way Manufacturing Co., Inc. dealer or Art's-Way Manufacturing Co., Inc. for additional operator's manuals, illustrated parts catalogs, and service manuals.

TO THE OWNER

Congratulations on the purchase of your new Art's-Way High Dump. You have selected a top quality machine that is designed and built with pride to ensure you have many years of efficient and reliable service.

Many people have worked on the design, production, and delivery of this High Dump. The information in this manual is based on the knowledge, study, and experience through years of specializing in the manufacturing of farm machinery. This manual is designed to provide you with important information regarding safety, maintenance, and machine operation so you can and will get the best possible performance from your High Dump.

Even if you are an experienced operator of this or similar equipment, we ask that you read this manual before operating this High Dump. The way you operate, adjust, and maintain this unit will have much to do with its successful performance. Any further questions you may have about this product of Art's-Way equipment should be directed to your local Art's-Way dealer or to Art's-Way Manufacturing Co., Inc. Armstrong, Iowa, 50514, (712) 864-3131.

SPECIFICATIONS AND DESIGN ARE SUBJECT TO CHANGE WITHOUT NOTICE

Art's-Way Manufacturing Co., Inc. is continually making product improvements. In doing so, we reserve the right to make changes and/or add improvements to our products without obligation for the equipment previously sold.

Modifications to this High Dump may affect the performance, function, and safety of its operation. Therefore, no modifications are to be made without the written permission of Art's-Way Manufacturing Co., Inc. Any modification made without the written permission of Art's-Way Mfg. Co. Inc. shall void the warranty of this product.

In the interest of continued safe operation of this High Dump, pay particular attention to the safety alert symbol(s) throughout this manual.

Art's-Way Manufacturing Co., Inc. STATEMENT OF PRODUCT LIABILITY

Art's-Way Manufacturing Co., Inc. recognizes its responsibility to provide customers with a safe and efficient product. Art's-Way Manufacturing Co., attempts to design and manufacture its products in accordance with all accepted engineering practices effective at the date of design. This statement should not be interpreted to mean that our products will protect against the user's own carelessness or failure to follow common safety practices nor will Art's-Way Manufacturing Co., be liable for any such act. In addition, Art's-Way Manufacturing Co., assumes no liability for any altered product or any modified product by users or anyone other than an authorized dealer.

IMPORTANT WARRANTY INFORMATION

The warranty for this High Dump appears on page 6 of this manual. In order to establish proper warranty registration, the Warranty Registration must be completed and returned to the factory. Failure to comply with this requirement will result in invalidating the warranty!

LIMITATIONS OF THIS MANUAL

This manual contains operating instructions for your 9016HD High Dump only. Any mention of other machinery in this manual other than the 9016HD High Dump is for reference only. This manual does not replace nor is it to be used for any machinery that may be attached to or used in conjunction with the 9016HD High Dump.

PARTS & SERVICE

As the purchaser of your new high dump, it is very important to consider the following factors:

A. Original Quality

B. Availability of Service Parts

C. Availability of Adequate Service Facilities

Art's-Way Manufacturing Co., Inc. has an excellent dealership network ready to answer any questions you may have about your high dump. Parts for your machine may be ordered through our dealers. When placing a parts order, please have the **model** and **serial number** ready. This will allow the dealer to fill your order as quickly as possible.

For your convenience, we have provided this space for you to record your model number, serial number, and the date of purchase, as well as your dealer's name and address.



SERIAL NO.

MODEL NO.

Manufactured by
Art's Way Manufacturing Co., Inc.
Armstrong IA USA

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LIMITED WARRANTY FOR NEW ART'S WAY MANUFACTURING CO. FARM MACHINERY (U.S. ONLY)

- A. GENERAL PROVISIONS:** Art's Way Manufacturing Co., Inc. (Art's Way Mfg.) warrants the products it sells to be free from defects in material and workmanship for the periods of time set forth in the Warranty Table below. Art's Way Mfg. obligation and liability under this limited warranty, is to repair or replace (at Art's Way Mfg. option) any part(s) that upon manufacture were defective in material or workmanship. Warranty service shall be performed by an authorized Art's Way Mfg. dealer or authorized service center and will be completed using Art's Way Mfg. supplied parts. Parts supplied by Art's Way Mfg. are shipped F.O.B. Art's Way. The original purchaser shall be responsible for service calls and transportation of the farm machinery to and from their dealer or service center. The original purchaser is also responsible for any expedited repair charges (i.e., overtime and "next day air" deliveries) requested by the original purchaser. The original purchaser is also responsible for any repair service, parts, and labor on repairs made to the farm machinery at the time the warranty service was being performed.
- B. SECURING WARRANTY SERVICE:** The original purchaser must (1) contact their authorized dealer and report the break-down. (2) The authorized dealer shall provide objective evidence of the farm machinery's warranty status to Art's Way Mfg. (3) The authorized dealer shall provide all documentation to Art's Way Mfg. which supports that the farm machinery was thoroughly inspected prior to set-up and delivery to the original purchaser. (4) The original purchaser shall make the farm machinery available to their Art's Way Mfg. authorized dealer and/or Art's Way Mfg. authorized service center within 30 days of the reported break-down. All parts or assemblies replaced under the limited warranty must be held for inspection for ninety (90) days, or until credit has been issued, or a claim has been returned to a dealer. When a claim is returned to a dealer with instructions to return and/or hold the part(s) for inspection, parts must be handled as instructed or the claim may be denied.
- C. SPARE PARTS WARRANTY:** Art's Way Mfg. warrants that it will replace or repair (excluding labor) as Art's Way Mfg. elects, without charge, any genuine spare part purchased from Art's Way Mfg. which is defective in material or workmanship within ninety (90) days of the date of installation. This warranty applies to parts that, in Art's Way Mfg. judgement, prove to be defective in either material or workmanship. All parts to be shipped F.O.B. Art's Way Mfg. All spare parts replaced under the spare parts warranty must be held for inspection for ninety (90) days or until credit has been issued, or a claim has been returned to a dealer. When a claim is returned to a dealer with instructions to return and/or hold the part(s) for inspection, parts must be handled as instructed or the claim may be denied.
- D. LIMITATIONS:** Art's Way Mfg. Limited Warranty does not extend coverage to product being used in a commercial application (i.e. rented equipment). Art's Way Mfg. Limited Warranty does not extend to parts and elements not manufactured by Art's Way Mfg., and which carry the warranty of another manufacturer. Art's Way Mfg. makes no other warranty expressed or implied and makes no warranty of merchantability or fitness for any particular purpose beyond that expressly stated in this warranty. Art's Way Mfg. liability is limited to the terms set forth in this warranty and does not include any liability for direct, indirect, incidental or consequential damages or expenses of delay and Art's Way Mfg. liability is limited to the repair and replacement of defective parts as set forth herein. Any improper use and/or maintenance, including operation after the discovery of defective or worn parts, operation beyond the rated capacity, substitution of parts not approved by Art's Way Mfg. or any alteration or repair by others than the authorized Art's Way Mfg. dealer or authorized service center which affect the product materially and adversely, shall void the warranty. No dealer, employee or representative is authorized to change this warranty in any way or grant any other warranty unless such change is made in writing and signed by an officer of Art's Way Mfg. Some states do not allow limitations on how long an implied warranty lasts or exclusions or limitations of incidental or consequential damages, so the above limitations or exclusions may not apply to you. This warranty gives you the specific legal rights, and you may have other rights that vary from state to state.

NOTE: As of April 1, 2015, all previously distributed information concerning the limited warranty coverage of any Art's Way Manufacturing Company, Inc. manufactured product is to be considered null and void and replaced by this document.

Art's Way Mfg. Farm Machinery	Warranty Coverage
Grinder / Mixer – Model 6520, 6530, 6140, 6105, and Portable and Stationary equipment	1 (one) Year from Date of Delivery to Original Purchaser
Manure Spreader	1 (one) Year from Date of Delivery to Original Purchaser
Graders and Land Planes	1 (one) Year from Date of Delivery to Original Purchaser
Beet Harvesting Machinery	1 (one) Harvest Season from Date of Delivery to Original Purchaser
Shredders – Model 180C and 240C	1 (one) Year from Date of Delivery to Original Purchaser
Plows	1 (one) Year from Date of Delivery to Original Purchaser
Forage Blowers – Model 1060 and 2060	1 (one) Year from Date of Delivery to Original Purchaser
Forage Boxes/Receivers – Model 5300 and 1250	1 (one) Year from Date of Delivery to Original Purchaser
Rakes	1 (one) Year from Date of Delivery to Original Purchaser
Dump Boxes	1 (one) Year from Date of Delivery to Original Purchaser
Augers	1 (one) Year from Date of Delivery to Original Purchaser
Running Gear	1 (one) Year from Date of Delivery to Original Purchaser
Snow Blowers	1 (one) Year from Date of Delivery to Original Purchaser
Harvester Reel	1 (one) Year from Date of Delivery to Original Purchaser

SAFETY FIRST

SAFETY INSTRUCTIONS

"A careful operator is the best insurance against an accident." Quote from the National Safety Council.

Most accidents can be prevented if the operator:

1. Fully understands how the machine functions.
2. Can anticipate situations which may produce problems.
3. Can make necessary corrections before problems develop.

**THIS SYMBOL MEANS ATTENTION!
BECOME ALERT!
YOUR SAFETY IS INVOLVED!**



- Universal Safety Alert Symbol

The American Society of Agricultural Engineers has adopted the Universal Safety Alert Symbol as a way to identify areas of potential danger if the equipment is not operated correctly. Please be alert whenever you see this symbol in the manuals or on your high dump.

Art's-Way Manufacturing Co., Inc. strives to make our equipment as safe as possible. The Art's-Way 9016HD High Dump conforms to applicable safety standards at the time of manufacturing. A safety conscious equipment operator makes an effective accident-prevention program complete.

Safety features and instructions for the high dump are detailed in the Safety Guidelines section of this Operator's Manual. It is the responsibility of the owner to ensure that all operators read and understand the manual before they are allowed to operate the High Dump. (Occupational Safety and Health Administration (OSHA) regulations 1928.57).

NOTICES OF DANGER, WARNING, AND CAUTION

Signal Words: Note the use of signal words **DANGER**, **WARNING**, and **CAUTION** on the high dump and in this manual. The appropriate signal word for each has been selected using the following guidelines:

DANGER

Indicates a hazardous situation which, if not avoided, will result in death or serious injury.

WARNING

Indicates a hazardous situation which, if not avoided, could result in death or serious injury.

CAUTION

Indicates a potentially hazardous situation which, if not avoided, could result in minor or moderate injury.

NOTICE

NOTICE is used to address practices not related to physical injury.

SAFETY INSTRUCTIONS

Safety instructions (or equivalent) signs indicate specific safety-related instructions or procedures.

Note: Contains additional information important to a procedure and will be found within the regular text body of this manual.

SAFETY INSTRUCTIONS

GENERAL

Most work related accidents are caused by failure to observe basic safety rules or precautions. An accident can often be avoided by recognizing potentially hazardous situations before an accident occurs. As you operate and maintain the High Dump you must be alert to potential hazards. You should also have the necessary training, skills, and tools to perform any assembly procedure.

Improper operation and/or maintenance of this unit could cause a dangerous situation that results in injury or death.

Do not use this unit until you read and understand the information contained in this manual. Do not use this equipment for anything other than its intended purpose.



Safety precautions and warnings are provided in this manual and on the unit. If these hazard warnings are not heeded, bodily injury or death could occur to you or to other persons.

Art's-Way Manufacturing Co., Inc. cannot anticipate every possible circumstance that might involve a potential hazard. The warnings in this manual and on the product are, therefore, not all-inclusive. If a method of operation not specifically recommended by us is used, you must satisfy yourself that it is safe for you and for others. You should also ensure that the unit will not be damaged or be made unsafe by the methods that you choose.

The information, specifications, and illustrations in this manual are based on the information that was available at the time this material was written and can change at any time.

Safety Alert Symbols



death.

This is the safety alert symbol. It is used to alert you to potential personal injury hazards. Obey all safety messages that follow this symbol to avoid possible injury or death.

This manual contains DANGERS, WARNINGS, CAUTIONS, NOTICES, SAFETY INSTRUCTIONS, and NOTES which must be followed to prevent the possibility of improper service, damage to the equipment, personal injury, or death. The following key words call the readers attention to potential hazards.

Hazards are identified by the "Safety Alert Symbol" and followed by a signal word such as "DANGER", "WARNING", or "CAUTION".

**SAFETY
INSTRUCTIONS**

Remember:

"The Best Operator is a Safe Operator"

CAUTION



Read and understand the operator's manual and all the safety decals before operating the high dump. Review all safety instructions with all operators annually.

BEFORE OPERATING

SAFETY
INSTRUCTIONS

Do not wear loose fitting clothing as it may catch in moving parts.



Make sure all guards and shields are installed, including the tractor power take-off (PTO) master shield, before starting or operating the high dump.



Be sure that the correct implement driveline parts are used and that they are properly secured.

Lower the lifter wheels when the high dump is not in use.

Install safety chain when attaching the high dump to the tractor.



Clear the area of bystanders, especially children, when making repairs, adjustments, or performing maintenance on the high dump.



Do not allow riders.

Put all tractor and machine controls in "neutral" and disengage the PTO before starting. Follow the starting instructions according to the OEM tractor manual.



Operate the high dump only while seated on the tractor seat.



Make sure the unit is adequately supported with safety blocks or safety stands when changing tires or performing maintenance.

DURING OPERATION

CAUTION



Entanglement Hazard
Keep hands, feet, hair, and clothing away from moving parts. Wait for all movement to stop before approaching equipment. Before making adjustments:

1. Shut off the tractor,
2. Set parking brake,
3. Put machine in neutral, and
4. Remove key while making adjustments.



Keep all shields and guards in place and in good working condition.



Keep all bystanders, especially children, away from the high dump while in operation.



Do not allow riders while the high dump is in operation.



Do not attempt to unclog, clean, or adjust the high dump while it is running.



Stay away from overhead power lines. Electrocution can occur even without direct contact.



Keep all hydraulic lines, fittings, and couplers tight and free of leaks. (Refer to Safety Guidelines – Hydraulic Safety).



Use caution when ascending or descending on the high dump. Wet shoes or boots are slippery.

MAINTENANCE SAFETY

SAFETY
INSTRUCTIONS

Follow all operating, maintenance, and safety instructions found in this Manual.



Before servicing, adjusting, repairing, or unclogging the machine, always make sure the tractor engine is stopped, key in your pocket, the machine is lowered to the ground, all controls are placed in neutral, the parking brake is set, and all the moving parts have stopped.



Use sufficient tools, jacks, and hoists that have the capacity for the job.



Use support blocks or safety stands when changing tires or performing maintenance.



Follow good shop practices of keeping the service area clean and dry, and use adequate light for the job at hand.



Before applying pressure to the hydraulic system, make sure all lines, fittings, and couplers are tightly secured and in good condition.



Make sure all shields/guards are in place and properly secured when performing maintenance.

HYDRAULIC SAFETY

SAFETY INSTRUCTIONS

Follow all operating, maintenance, and safety instructions found in this Manual.

Make sure components in the hydraulic system are kept clean and in good working condition.



Relieve pressure from the hydraulic system before servicing or disconnecting from the tractor.



Keep all hydraulic lines, fittings, and couplers tightly secured and free of leaks.



Replace any worn, cut, abraded, flattened, or crimped hoses.



Do not make any temporary repairs to the hydraulic lines, fittings, or hoses using tape, clamps, or cement. The hydraulic system operates under extremely high pressure and temporary repairs may fail suddenly and create a hazardous/dangerous situation.



Wear proper hand and eye protection when searching for a high-pressure hydraulic leak. Use a piece of wood or cardboard as a backstop instead of hands to identify and isolate a leak. If injured by a concentrated high-pressure stream of hydraulic fluid, seek medical attention immediately. Serious infection or toxic reaction can develop if hydraulic fluid penetrates the surface of the skin.



Before applying pressure to the system, make sure all components are tight and that the hydraulic lines, hoses, and couplings are not damaged.

TRANSPORTATION SAFETY

SAFETY INSTRUCTIONS

Follow all operating and safety instructions found in this manual when transporting this equipment.

Make sure the high dump complies with all local regulations regarding transporting equipment on public roads and highways.



Make sure the Slow Moving Vehicle (SMV) emblem and all lights and reflectors required by local highway and transportation authorities are properly in place, clean, and clearly visible to traffic.



Do not allow riders on any machinery during transport.

Make sure the high dump is securely attached to the tractor and install a safety chain to the high dump.

Make sure the tractor brake pedals are latched together.

Do not exceed 20 mph (32 km/h) when transporting the high dump. Always reduce speed on rough roads and surfaces, or when going down inclines.

Use caution when turning and always use the turn signals on the tractor to indicate your turning intentions to the other traffic.

The weight of the trailed machine should NEVER exceed the weight of the towing vehicle.

Check all clearances carefully whenever the machine is towed.

Lower the elevator into the transport position before transporting the high dump on the highway.



Stay away from overhead obstructions and power lines during transport. Electrocutation can occur even without direct contact.

STORAGE SAFETY

SAFETY INSTRUCTIONS

Follow all operating and safety instructions found in this manual when storing this equipment.



Store the high dump in an area away from human activity.



Do not permit children to play on or around the stored machine at any time.

Make sure that the high dump is stored in an area with a firm and level base to prevent the machine from tipping or sinking into the ground.



Block the wheels to prevent the machine from rolling.

TIRE SAFETY**SAFETY
INSTRUCTIONS**

Follow all operating and safety instructions found in this manual when working around tires.

Have only a qualified tire dealer or tire repair service perform tire repairs.

Do not attempt to install a tire on a wheel or rim unless you have the proper equipment and experience to do the job.

Do not substitute tires with a lesser road rating and/or capacity for the original equipment tires.

⚠ WARNING

Explosive Force Hazard
Tire replacement, repair, and/or maintenance should be done by a qualified tire dealer or qualified repair service.

Failure to follow proper procedures when installing a tire on a wheel or rim can produce an explosive force that will result in serious injury or death.

Do not attempt to install a tire without proper equipment and experience to perform the job.

ASSEMBLY SAFETY**SAFETY
INSTRUCTIONS**

Follow all assembly, operating, and safety instructions found in this manual when assembly this equipment.



Use adequate manpower to perform assembly procedures safely.

Assemble the high dump in an area with sufficient space to maneuver the largest components and allow easy access to all sides of the machine.



Use only forklifts, lift cranes, jacks, and tools with sufficient capacity for the loads.



Do not allow spectators, especially children, in the working area.

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OPERATOR'S INSTRUCTIONS: HIGH DUMP

GENERAL INFORMATION

The purpose of this manual is to assist the operator in maintaining and operating the **Art's Way** Dump Box. Read it carefully: it furnishes information and instructions that will help you achieve years of dependable service.

Each section of this manual is clearly identified and is divided into smaller sections.

All replacement parts should be obtained from or ordered through your **A/W** dealer. Give complete information when ordering service parts including the model number and serial numbers. Record numbers in the space provided as a handy record for quick reference.

Model No._____ **Serial No.**_____

A/W reserves the right to make improvements in design, or changes in specifications at any time, without incurring any obligation to owners of units previously sold.

IDENTIFYING TERMS

"LEFT" and "RIGHT" are determined from a position standing at the rear of the unit looking toward the direction of travel. "Front" is the leading end and "Rear" is the trailing end when the tractor is traveling forward.

TRACTORS

This Operator's Manual uses the term "Tractor" when identifying the power source for the dump box. However, the same safety and operating practices apply to other power sources such as hydraulic and electric motors.

WARRANTY REGISTRATION

The **DELIVERY AND WARRANTY REGISTRATION CARD** found in the front of this manual must be completed and signed to validate your warranty protection. You must read and understand the places where you attest to having received instructions as to care, adjustments, safe operation and applicable warranty policy. The terms and conditions of the warranty are specified on the rear cover of this manual.

PRE-DELIVERY CHECK LIST

After the **Art's Way** Dump Box has been completely set-up, check to be certain it is in correct running order before delivering it to the customer. The following is a list of points to inspect. Check off each item as you have made the proper adjustments and found the item operating satisfactorily. Any adjustment must be made according to specifications defined in this manual.

- ☐ All mechanisms are operating trouble free.
- ☐ All bolts and other fasteners are tight.
- ☐ Check all pivot points for freedom of movement.
- ☐ All grease fittings have been lubricated . See "Lubrication" section in this manual,
- ☐ Wheel bolts checked
- ☐ Pins properly installed
- ☐ Hydraulic Systems Bled

Dealer's Name

Signature of Pre-Delivery Inspector

Date of Inspection

Model No.

Serial No.

DELIVERY CHECK LIST

The following check list is an important reminder of valuable information that **MUST** be passed on to the customer at the time the unit is delivered. Check off each item as you explain it to the customer.

- ☐ Give the customer their Operator's Manual. Instruct them to be sure to read and completely understand its contents **BEFORE** attempting to operate the unit.
- ☐ Explain the warranty.
- ☐ Explain and review with the customer the Safety Precautions section of this manual.
- ☐ Explain and review with the customer the Operating Instructions section of this manual.
- ☐ Explain that regular lubrication and proper adjustments are required for continued proper operation and long life. Review with the customer the Lubrication and Adjustments section of this manual.
- ☐ Check hydraulic pressure capacity of tractor (2250 PSI min) as hydraulic pressure lower than 2250 will reduce load dumping capacity. The system is designed to operate at 3000 PSI maximum with a flow of 16 GPM for correct cycle time.
- ☐ Check hydraulic fluid level in tractor reservoir, the dump box needs a minimum usable quantity of 7 gallons.
- ☐ Fluid in dump box hydraulic system is compatible with tractor hydraulic system.
- ☐ Complete the Delivery Registration Card and have customer sign it and return it to **Art's Way**

I acknowledge that above points were reviewed with me at the time of delivery.

Customer's Signature

Date Delivered

SAFETY PRECAUTIONS



This symbol is used to call your attention to instructions concerning your personal safety. Be sure to observe and follow these instructions. Take time to be careful!

DANGER



“DANGER” indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury.

WARNING



“WARNING” indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.

CAUTION



“CAUTION” indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury. It may also alert against unsafe practices.

BEFORE you attempt to operate this dump box, read and study the following safety information. In addition, **MAKE SURE** that every individual who operates or works with this equipment, whether family member or employee, is familiar with these safety precautions. Art's Way provides guards for exposed moving parts for the operator's protection; however, some areas cannot be guarded or shielded in order to assure proper operation. The **OPERATOR'S MANUAL AND DECALS** on the machine itself warn you of dangers and **SHOULD BE READ AND OBSERVED CLOSELY**.

POWER SOURCE SHUTDOWN PROCEDURE

Before cleaning, unclogging, adjusting, lubricating or servicing this machine:

1. Shut off the tractor engine, remove the starter key and take it with you.
2. The Dump Box should be completely lowered.
3. Wait for the all machine motion to stop.
4. Remove ALL power connections from the tractor.

Failure to follow these precautions could result in death or serious injury.

SAFETY PRECAUTIONS, continued



Do not unclog, adjust, lubricate or service the dump box unless the "Power Source Shut Down Procedure" (Page 3) has been performed.

KEEP hands, feet and clothing away from moving parts!

DO NOT allow minors to be near the machine unless properly supervised!

KEEP the dump box away from power lines. Contact with electric lines may result in serious injury or death by electrocution!

USE only properly rated running gear and tires!

ALWAYS engage the tractor parking brake before proceeding to unload the dump box!

DO NOT allow people other than a qualified operator near the unit!

DO NOT exceed a maximum towing speed of 25 MPH (40 KM/H) while transporting the dump box!

DO NOT travel on public highways unless adequate warning devices are used to alert other drivers!

DO NOT drive too close to ditches or creeks; be sure surrounding ground has adequate strength to support the weight of the loaded dump box!

DO NOT attempt to ride on the pole of the running gear!

ALWAYS use a safety or locking hitchpin!

ALWAYS keep the towing vehicle in gear when descending steep grades!

ALWAYS travel slowly around curves and along sidehills to prevent tipping!

BE SURE the tires are properly and evenly inflated at all times!

BE SURE the wheel nuts and other fasteners are kept securely tightened at all times!

ALWAYS follow state and local regulations regarding a safety chain and auxiliary lighting when towing farm equipment on a public highway. Be sure to check with local law enforcement agencies for your own particular regulations. Only a safety chain (Not an elastic or nylon/plastic tow strap) should be used to retain the connection between the towing and towed machines in the event of separation of the primary attaching system.

SAFETY PRECAUTIONS, continued

BLOCK the tires, front and back, so that the Dump Box will not roll when disconnecting from the towing vehicle.

MAINTAIN 300lbs liquid ballast in non-dump side tires! Maintain at least 1000 lbs of ballast in each of the weight boxes.

CHECK lug nuts periodically. 5/8" NUTS TORQUE TO 90 FT.- LB.

CHECK lug nuts periodically 3/4" nuts torque to 420 FT-LBS.

22.5 INCH TIRE OPERATING AIR PRESSURE 70 P.S.I...

30.5L-32, 14PLY TIRE OPERATING AIR PRESSURE 26 P.S.I



To ensure continued safe operation, replace damaged or worn-out parts with genuine Miller service parts, before attempting to operate equipment.

BE A SAFE OPERATOR

**BE A SAFE OPERATOR
BY THINKING — BEFORE ACTING
AND
BY READING YOUR OPERATORS MANUAL**

AVOID ACCIDENTS

Most accidents, whether they occur in industry, on the farm, at home, or on the highway, are caused by the failure of some individual to follow simple and fundamental safety rules or precautions. For this reason most accidents can be prevented by recognizing the real cause and doing something about it before the accident occurs.

Regardless of the care used in the design and construction of any type of equipment, there are many conditions that can not be completely safeguarded against without interfering with reasonable accessibility and efficient operation.

A CAREFUL OPERATOR IS THE BEST INSURANCE AGAINST AN ACCIDENT.

THE COMPLETE OBSERVANCE OF ONE SIMPLE RULE WOULD PREVENT MANY THOUSANDS OF SERIOUS INJURIES EACH YEAR, THAT RULE IS:

PERFORM MANDATORY SHUTDOWN PROCEDURE.

DO NOT DUMP WHILE MOVING.



CAUTION



1. Read and understand the Operator's Manual before operating the unit.
2. Keep children, visitors and all untrained personnel away from machine while in operation.
3. Keep all shields and safety devices in place.
4. Perform mandatory shutdown procedures.
5. Keep hands, feet and clothing away from moving parts.
6. Check overhead clearance before operating. (High voltage lines, etc.).
7. Keep unit level when operating.
8. Maintain proper tire pressure when transporting machine. (Refer to Manufacturers Recommendations).

SAFETY LABEL LOCATION


Each Dump Box has been produced and assembled with the operator's safety in mind. As a reminder to the operator of proper operation of the machine, several labels of warning and instruction have been attached. Information on labels is by necessity less than in the operator's manual. Do not depend solely on the labels for safe and proper operation. Use your operator's manual.

DO NOT remove any of these labels. They are for your protection! Take note of their messages and observe!

Periodically check all labels and replace any that are missing, worn, or illegible. When replacing, clean machine surface thoroughly using soap and water or cleaning solvent to remove dirt and grease. Contact your dealer or Art's Way at 712-8643131 if any labels are not understood!

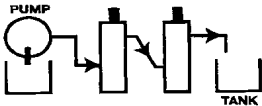
The A/W Dump Box was designed as a dump box. DO NOT use for other purposes!

SAFETY DECALS



CAUTION

ALL SERIES SYSTEMS
MUST BE BLED OF AIR.




1. Move control valve for the lift cylinders to DOWN position and hold for two or more minutes in the retracted position.
2. Now move the control valve for the lift cylinders to the UP position and watch the rods extend. If cylinders do not extend evenly, repeat initial purge procedure in DOWN position. When cylinders extend evenly, run them to full extension.
3. Now move control valve for the lift position to DOWN position and retract both cylinders fully. Hold control valve DOWN for an additional full 2 minutes to assure fully purged cylinders.
4. NEVER try to operate cylinders with any AIR retained within the system.

After initial purging, when dumping box, hold hydraulic valve open a minimum of 5 seconds beyond the end of the cylinder stroke in the down position.

If system is bled, it will require 13 gallons of hydraulic fluid to be fully charged. 19.00677

OPERATING INSTRUCTIONS


Failure to equalize the cylinders by purging the air from them can severely damage both cylinders and box.



CAUTION

BEFORE loading first load each day, hold valve for the lift cylinders down for 60 seconds with box in down position.


Equalize the lift cylinders on each load, hold valve for the lift cylinders down for 5 seconds with the box in down position.



CAUTION

Use extreme caution when operating box on uneven ground.


Do not raise box unless wagon is parked beside a truck and in proper unloading position.



CAUTION

Always be sure to raise the tank at least 12 inches before dumping.


Avoid lowering box with a load whenever possible.



CAUTION

Do not exceed 40,000 pounds (evenly distributed load) on 9016BT.

Always maintain 7 gallons reserve oil in the hydraulic reservoir. (Pumping air into wagon's hydraulic system will cause severe damage).



CAUTION

Do not tow Dump Box over 20 M.P.H.

Maintain liquid ballast in non-dump side tires. Maintain 1000 lbs. of ballast in weight boxes.


Check Lug Nuts Periodically. 5/8" Nuts Torque to 90 ft. lb.

22.5 inch tire Operating Air Pressure 70. P.S.I.

19.00678



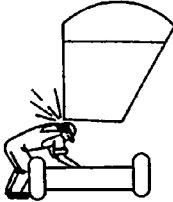
WARNING




AVOID HIGH-PRESSURE FLUIDS

AVOID THE HAZARD BY RELIEVING PRESSURE BEFORE DISCONNECTING HYDRAULIC OR OTHER LINES. TIGHTEN ALL CONNECTIONS BEFORE APPLYING PRESSURE.

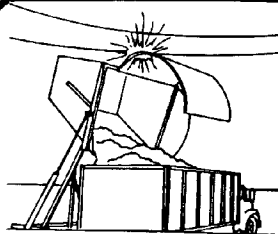
SEARCH FOR LEAKS WITH A PIECE OF CARDBOARD. PROTECT HANDS AND BODY FROM HIGH PRESSURE FLUIDS. 21.00024






DANGER

KEEP CLEAR OF DANGER AREAS. NEVER PLACE ANY PART OF THE BODY BETWEEN BOX AND FRAME WHILE BOX IS IN THE RAISED POSITION.





WARNING

BEFORE RAISING BOX, ALWAYS BE SURE THERE IS A 35' MINIMUM OVERHEAD CLEARANCE.

SETUP AND ASSEMBLY INSTRUCTIONS

All references to left and right or front and rear are determined with the operator sitting on the tractor facing forward. The container itself is normally set-up at the factory for either left hand or right hand operation depending on model.

SMV Emblem

A Slow Moving Vehicle (SMV) Emblem bracket has been supplied with the dump box. The location of the SMV Emblem varies according to safety laws for different states and localities. Your dealer can assist you in mounting the SMV Emblem in the proper location.

Lights

Your **Art's Way** Dump Box is also equipped with running and turn signal lights for those areas where they are required by state or local safety laws.

Your **Art's Way** dump box Model **9016-HD** is set-up so it normally dumps to the left. Model **9016-HD** is set-up to dump to the right. The Figures shown in this manual show the assembly of the left hand model. Assembly of the right hand model is the same but opposite to the side shown. For normal assembly proceed as follows:

1. Remove all of the contents from the container. Please inspect all items carefully for discrepancies or shortages of pieces or hardware items.



CAUTION

Handle the component assemblies carefully to avoid injury; they are very heavy and awkward. Use a lift truck or overhead hoist to aid in handling the heavy components.

2. Mount the wheels on the wagon hubs. Fasten the wheels and tires to the hubs with the (8) wheel nuts torqued from 90 to 105 ft. lbs. Check tire pressure for appropriate PSI as listed on the tire. Two tires require liquid ballast, **25%** full. See your local tire dealer for this service. The tires containing the fluid are to be mounted opposite the dump side for counter weight.

SET-UP AND ASSEMBLY INSTRUCTIONS, continued

11. Assemble the weight box to the frame of the dump box with (8) 5/8" x 2" Gr5 bolts, (8) 5/8" diameter flat washers, (4) straps, (8) 5/8" lockwashers and a (8) 5/8" nuts as shown in Figure 6. Fill the weight boxes with at least **1000** lbs of sand or similar material for ballast.

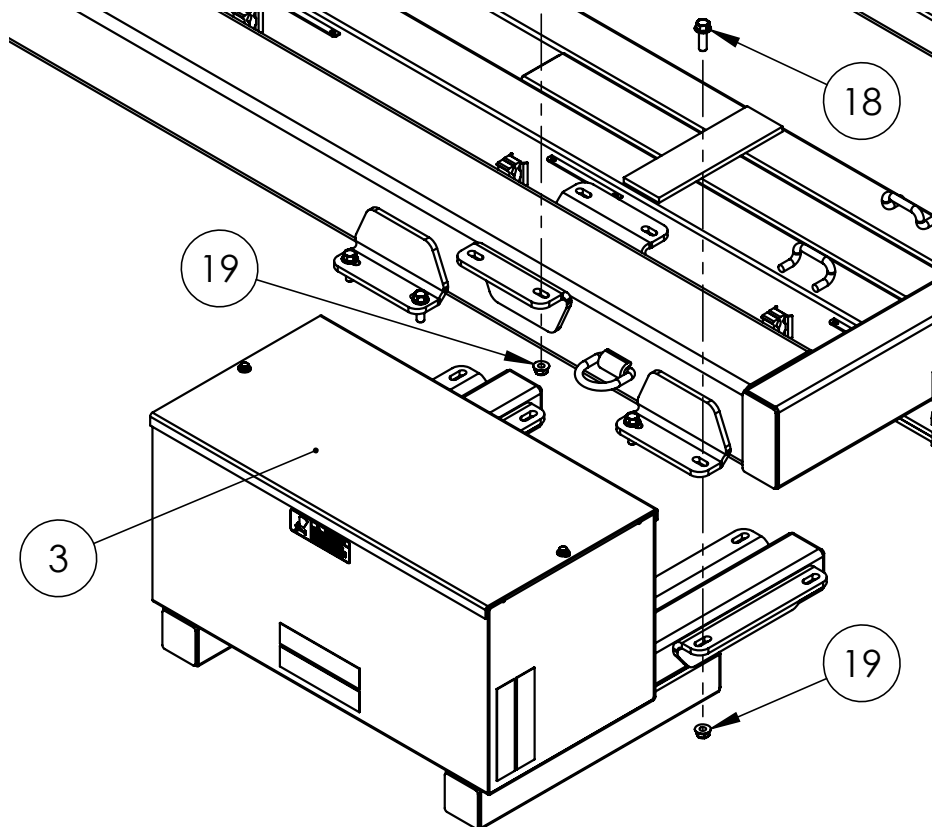
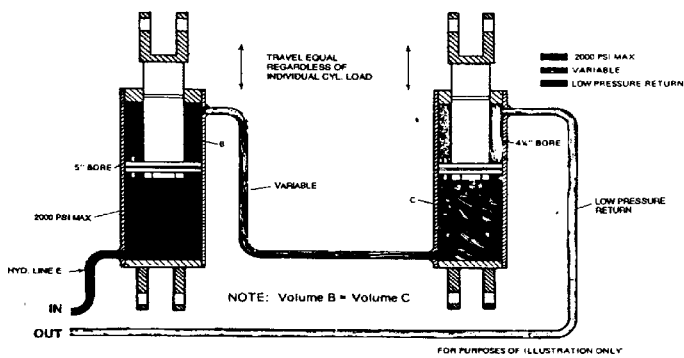


Figure 6

HYDRAULIC CYLINDER SYSTEMS

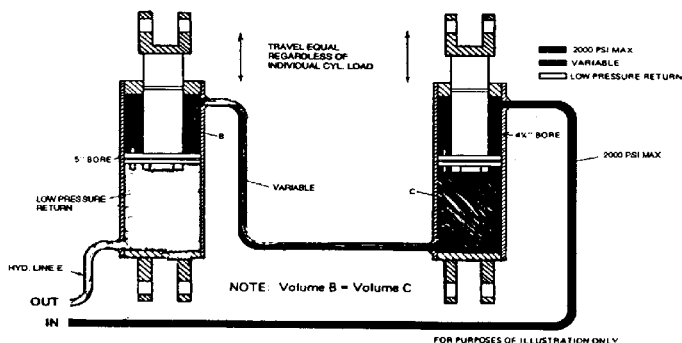
CYLINDERS EXTENDING



The lift cylinders are automatically kept in balance. External by-pass automatically allows oil to flow to lifting cylinder when piston reaches the end of its stroke in the retracting position.

With the cylinders extending, as 2000-PSI oil goes into the bottom of the large cylinder, the fluid at the top of the large cylinder is forced into the bottom of the small cylinder so that both pistons rise at the same time.

CYLINDERS RETRACTING



With the cylinders retracting, as 2000-PSI oil goes into the top of the small cylinder, the fluid at the bottom of the small cylinder is forced into the top of the large cylinder so that both pistons lower at the same time.

HYDRAULIC SYSTEM

1. The hydraulic system of the dump box, as delivered, is charged with hydraulic fluid: In the retracted position there are 13 gallons of fluid in the cylinders. To extend (raise and tilt the box) will require an additional 7 gallons.
2. As a regular step of normal operation, hold control valve open for five additional seconds after cylinders are fully retracted after dumping, to ensure equalization phasing of the cylinders.
3. Before initial operation, or if the system has sat for some period of time without being used or the system has been opened for maintenance (see paragraph 5), do the following before operating the dump box: with the tractor running at a low idle, hold the hydraulic valve in the down position for two minutes. (This will recharge the system through the internal by-pass valves).

If cylinders do not extend evenly, repeat Step 3.

4. If either or both cylinders fail to fully extend, check the fluid supply. If low, add fluid. (Make certain that seven gallons of space is available in reservoir to lower the unit to down position).
5. If any hoses are removed, make certain that all are reconnected according to "Instructions for installing and recharging cylinders in the field."

OPERATING INSTRUCTIONS



FAILURE TO EQUALIZE THE CYLINDERS BY PURGING THE AIR FROM THEM CAN SEVERELY DAMAGE BOTH CYLINDERS AND BOX.

1. Before loading the box each work day, hold valve in "down" position for 60 seconds. (This purges any air intruding during over night cooling. Each time the box is dumped, hold valve open 5 seconds after box stops moving at the "down" position, remember that additional time may be required to raise the stabilizer cylinder in the down position. Once the box is full and you are ready to dump, you will become aware of two unique features of the **Art's Way** Dump Box which will make dumping quick and easy.

One feature is that the box moves horizontally a distance of approximately 25" toward the receiving unit as the box is being lifted. The other feature is the integral lip. These two features provide the operator with ample space between the dump box and the receiving unit without having to get too close for dumping.

2. The actual pivot height of the boxes vary from 120" to 177" which will accommodate most receiving units. The actual clearance height over a container will be approximately 4" less than pivot height.
3. The 47 degree maximum dumping angle allows material to slide out easily.
5. The dumping cycle time will depend on the hydraulic flow of the tractor. The higher the GPM rating of the hydraulics, the faster the cycle. (This system is designed for 2250 PSI and 16 GPM).

OPERATING INSTRUCTIONS, continued

FILLING THE BOX

1. Your dump box is designed for filling directly from the harvesting equipment. It may be towed directly behind or beside harvesters in the field. A low 9'6" average loading height allows elevators, conveyors, augers, and blowers from the harvester to clear the box easily during loading.
2. One of the outstanding features of the dump box is the synchronized equal-force hydraulic cylinder system. This means that you can fill the box to capacity without worrying about the load distribution in the box. (Do not exceed rated load).
3. The capacity of the dump box is stated throughout this manual in two ways:
 - a. Volume capacity (cubic feet)
 - b. Lifting capability (pounds)

Each of these is generally stated without any regard to the density (weight per unit of volume) of the commodity being handled. Because the densities of different commodities vary greatly, so will the usable capacity of the dump box vary from commodity to commodity.

DUMPING THE BOX



CAUTION

Use extreme caution when operating box on uneven ground.

Do not raise box unless wagon is parked beside a truck and in proper unloading position.



CAUTION

Avoid lowering box with a load whenever possible.



CAUTION

Do not exceed **40,000** pounds (evenly distributed load) on 9016**HD**.



CAUTION

Always maintain 7 gallons reserve oil in the hydraulic reservoir. (Pumping air into the dump box's hydraulic system will cause severe damage).

OPERATING INSTRUCTIONS, continued

Transporting

The dump box has been equipped with amber reflectors on the front and red reflectors to the rear.

There are also red and amber transport lights on the rear frame. The plug for the light cord is mounted in the front. For your safety, and the safety of others, it is recommended that the transport lights are used when traveling public roadways.



NEVER EXCEED A MAXIMUM TOWING SPEED OF 25 mph (40 kmh) WHEN TRANSPORTING THE DUMP BOX!

DO NOT allow anyone to operate this equipment who has not been trained in its safe operation!

1. **Before unloading the dump box, park the box on level ground for unloading, and engage the tractor parking brake.**

Fasteners

Retighten all fasteners every 50 loads or as required.

Storage

For off- season storage the following procedures are recommended:

1. Remove all crop material from the dump box.
2. Lubricate all grease points.
3. Run the dump box for several minutes to distribute lubrication.
4. Store inside.

DETERMINING USABLE CAPACITY

Usable capacity is rated in two ways, in pounds and in cubic feet. In no case should the upper limit of certified dumping weight of 40,000 lbs. ever be exceeded. Remember, at no time shall the maximum dumping weight be exceeded, even if volume capacity has not been reached. For commodities weighing 45 pounds per cubic foot or more, the load must be reduced to below the maximum allowable weight. Example: A load of sand at 90 pounds would lower your dumping capacity to only 15,000 pounds or half of a normal load because of the increased density of the product. The reason for this is due to the disadvantageous leverage of a high density load as the box swings outward during the dumping cycle. Additionally, the materials being handled by the dump box must be of a flowable type configuration, materials which compact or stick in bulk will damage the unit severely by not unloading freely during the dumping cycle.

GENERAL COMMODITIES WEIGHTS

<u>MATERIAL</u>	<u>LBS. BU.</u>	<u>LBS. CU. FT</u>
ALFALFA MEAL	21	17
ALFALFA SEED	60	48
ALMONDS, BROKEN OR WHOLE	35-37	28-30
APPLES, GREEN	48	39
APPLES, DRIED	24	19
AMMONIUM SULPHATE	56	45
BARK, WOOD, REFUSE	12-25	10-20
BARLEY	47	38
BEANS, CASTOR	45	36
BEANS, NAVY , DRY	60	48
BEETS	56	45
BLUEGRASS SEED	141	11
BRAN	20	16
BUCKWHEAT	50-52	40-42
CABBAGE	50	40
CARROTS	50	40
CHERRIES	56	45
CHESTNUTS	50	40
CLOVER, SEED	60	48
CORN, SWEET	35	28
CORN, SEED IN EAR	56	45
CORN, SHELLLED	56	45
CORN, POP IN EAR	35	28
CORN MEAL	47-50	38-40
COTTONSEED, DRY DELINTED	44	35
COTTONSEED, MEAL	44-50	35-40
CRANBERRIES	40	32
CUCUMBERS	50	40
FESCUE, MEADOW	22	18
FESCUE, OTHER VARIETIES	14	11
FLAXSEED	56	45
FLOUR, WHEAT	44-50	35-40
FORAGE (CAUTION-VARIES GREATLY)	31-45	25-36
GRAIN, DISTILLERS, DRY	37	30
GRAPES	48	39
GRASS SEED	12-15	10-12
HEMP SEED	44	35
HOMINY	46	37
HOPS, DRY SPENT	44	35
HOPS, WET SPENT	62-68	50-55

<u>MATERIAL</u>	<u>LBS. BU.</u>	<u>LBS. CU. FT.</u>
MALT, WHOLE, DRY	34-37	27-30
MALT, MEAL	45-50	36-40
MILLET SEED, COMMON	50	40
MUSTARD SEED	56	45
MILO, CORN SORGHUM	56	45
OATS	32	26
ONIONS	57	46
ORCHARD GRASS SEED	14	11
PEACHES, FRESH	48	39
PEANUTS, UNSHELLED, RAW	19-25	15-20
PEAS, GREEN	56	45
PLUMS	64	51
POTATOES	60	48
POTATOES, SWEET	54	43
RICE, ROUGH	45	36
RUTABAGAS	60	48
RYE	55	44
SAWDUST	12-16	10-13
SHAVINGS, WOOD	19	15
SLASH, SOFTWOOD	.28/CMT	
SLASH, HARDWOOD	.33/CMT	
SHAVINGS, HARDWOOD	.40/CMT	
SILAGE, CORN	31-45	25-36
SOYBEANS, WHOLE	60	48
SUGAR CANE	13-27	10-22
SUGAR BEETS	68	55
SUNFLOWER SEEDS	20-26	16-21
TIMOTHY SEED	45	40
TOBACCO, SCRAPS	19-21	15-25
TOMATOES	60	48
TURNIPS	60	48
WALNUTS	50	40
WHEAT	60	48
WHEAT, CRACKED	56	45
WOOD CHIPS, SCREENED	15-25	12-20

The preceding are simply general listings for some of the various commodities that may be used in a dump box. Please remember that moisture and compaction or processing will change the specific weight of a commodity greatly from that which is listed, and as such, the aforementioned listings are guidelines only. You may have to weigh one (1) CU. FT. of material to verify how much you may put into a dump cart safely.

LUBRICATION



CAUTION! BEFORE LUBRICATING THE MACHINE, SHUT OFF THE TRACTOR ENGINE AND ENGAGE THE PARKING BRAKE. BE CAREFUL!

Sufficient oil and grease will prevent excessive part wear and early failure. Lubricate according to instructions. Grease fittings are provided on the running gear at several important pivot points. Fittings should be lubricated at least four times a year. Use a good grade of lithium base grease. Wipe dirt from the fittings before greasing to prevent any dirt from being forced into the bearings or pivots. Replace any missing fittings. To minimize dirt build-up, avoid excessive greasing.

NOTE: In addition to the fittings, inspect and repack the wheel bearings at least twice a year.

Daily or after every 30 loads

Grease Fitting Locations:

1. Slide Channels
2. Tank Pivots
3. Upper Rollers
4. Lower Rollers

ADJUSTMENTS

INSTRUCTIONS FOR INSTALLING AND REPHASING CYLINDER IN THE FIELD

LIFT CYLINDERS

1. Mount the cylinders on elevator but do not hook up the rod ends.
2. Hook up all hoses, lines, fittings and valves.
3. After the system is properly plumbed, hook it up to the hydraulic power source, and make sure there is an adequate supply of hydraulic fluid in the reservoir. (Approximately 20 gallons of fluid are required to fully charge and extend all cylinders at once).
4. Remove the bleed plug located at the top of the front lift cylinder. Move the control valve for the lift cylinder to the down position and hold until fluid starts coming out of the bleed port. Release the control valve and replace the bleed plug. Repeat the procedure on the rear lift cylinder.
5. Move control valve to "down" position and hold for two or more minutes. Then move control to the "up" position and watch the rods extend. If the cylinders are fully charged, the rods will reach the end of their strokes at the same time. If they do not, move control valve to "down" position, retract both cylinders and repeat everything as described under this paragraph. Continue repeating this sequence until both cylinders extend and retract together, reaching the ends of the strokes at the same time.

TILT CYLINDERS

6. Mount base of cylinders on elevator but do not hook up the rod ends. Support the tilt cylinders by blocking them off the main frame so that the cylinder rods can fully extend without touching or moving any part of the box.
7. Repeat Steps 2, 3 and 5
8. Attach rod ends to dump box

ADJUSTMENTS, continued

TIRES



WARNING

Always order and install tires and wheels with appropriate capacity to meet or exceed the anticipated weight to be placed on the running gear.

The pressure should be frequently checked and maintained at the appropriate values. Non-dump side tires must be filled with liquid ballast.

WHEELS



WARNING

Frequently check the wheel nuts to make sure they are securely fastened. Nuts should be torqued from 90 - 105 ft-lb.

WHEEL BEARINGS

To adjust the wheel bearings, remove the grease cap and cotter pin. Tighten the slotted nut until there is a slight drag on the wheel. Then, back the nut off one notch and lock its position with the cotter pin. Replace the grease cap after the adjustment is made.

HYDRAULIC TROUBLE SHOOTING GUIDELINES

Most of the failure in hydraulic systems have essentially the same symptoms—a gradual or sudden loss of high pressure, with consequent loss of power in the work cylinder, causing it to stall out under light loads, or to move more slowly than normal. Any one of the system components may be at fault, and by following instructions, the problem can usually be pinpointed in a short time. These instructions are intended for spotting problems in a system which previously has been working properly. A reasonably accurate pressure gauge and flow gauge must be used, and the original pump working pressure and GPM flow must be known.

TEST METHOD

The most likely test point in the system is: the piston blow-by. Leakage past the cylinder piston can be detected by testing each cylinder at mid stroke in a fixed length position for fluid by-pass.

TRACTOR PUMPS

Many of the newer tractors and self-propelled machines sold today incorporate a constant pressure-full bypass or closed center type of hydraulic pump. These pumps will not lift to full capacity unless a relief valve of fifty percent greater pressure is first installed. Checking this system for pressure only is not sufficient, as flow is required to move a hydraulic cylinder in and out, and this will not be present if the system has reached hydraulic lock pressure and flow has been shut down while pressure is retained with a check valve. **Art's Way** hydraulic systems require 2250 PSI and an oil flow of 16 GPM to achieve normal operation, hydraulic systems not giving this output will demonstrate less than satisfactory performance. Please consult owner's manual of the power unit for further full explanation of the hydraulic system operating parameters.

New box systems occasionally experience a climbing or creeping of cylinders from time to time. This is usually caused by aerated oil trapped between the two cylinder glands, normally causing the smaller cylinder to rise several inches and extending the smaller stabilizer cylinder. In this instance, rechecking fitting tightness and checking for damaged lines should remedy the problem. Another cause normally found is a small oil bypass around the four-way valve on the power unit. This will push both cylinders evenly a small distance until pressures are even, again causing the small stabilizer cylinder to extend first. Additionally, owners will find that when the units are parked unhooked during periods of extreme temperature variations, that thermal expansion of the oil will cause the cylinders to rise six to ten inches in a tightly sealed hydraulic circuit. This is considered normal and simply repurging the circuit before further use will correct the system.

TROUBLE SHOOTING

PROBLEM	POSSIBLE CAUSE	POSSIBLE REMEDY
BOX DOES NOT RAISE OR LOWER	NO HYDRAULIC POWER	<ul style="list-style-type: none"> -CONNECT HYDRAULIC CIRCUIT TO POWER SOURCE. -ACTUATE PROPER TRACTOR HYDRAULIC CONTROL LEVER. -ENGAGE PTO IF REQUIRED -CHECK QUICK-COUPERS TO BE CERTAIN THEY ARE COMPLETELY ENGAGED OR COMPATIBLE. -CHECK RESERVOIR OIL LEVEL. -LOWER BACK PRESSURE BY REPLACING CLOGGED OIL FILTER.
	INTERNAL LEAKAGE IN THE LIFT CYLINDERS.	-REPLACE PISTON SEALS IN LIFT CYLINDERS.
	BOX OVERLOADED.	-REMOVE PART OF LOAD.
	INSUFFICIENT HYDRAULIC PRESSURE.	-USE POWER SOURCE CAPABLE OF PROVIDING 2250 PSI MINIMUM AT FULL RESTRICTION AND FLOW.
	HYDRAULIC CIRCUIT CROSSED.	-TRACE HYDRAULIC CIRCUIT AND CONNECT SO FRONT AND REAR CYLINDER PORTS ARE IN SERIES.
BOX RAISES OR LOWERS SLOWLY	NOT ENOUGH HYDRAULIC OIL VOLUME IN LINE.	<ul style="list-style-type: none"> -USE POWER SOURCE CAPABLE OF PROVIDING 16 GPM MINIMUM. -REPLACE WORN PUMP. -REPLACE WORN CONTROL VALVES. -CHECK ADJUSTMENT OF VALVE. -SPEED CONTROL (SEE TRACTOR OWNER'S MANUAL). -REPLACE CLOGGED OIL FILTER. -SPEED UP TRACTOR ENGINE. -DO NOT DEPRESS TRACTOR CLUTCH (JOHN DEERE). -SLOW VALVE SPEED.
	FLOW RESTRICTOR IN DEALER INSTALLED HOSES.	
	HYDRAULIC SUPPLY LINES ARE TOO SMALL DIAMETER	
	INTERNAL LEAKAGE IN LIFT CYLINDERS.	-REPLACE PISTON SEALS IN LIFT CYLINDERS.
	BOX OVERLOADED	-REMOVE PART OF LOAD.

TROUBLE SHOOTING, continued

PROBLEM	POSSIBLE CAUSE	POSSIBLE REMEDY
BOX CHATTERS WHEN RAISING OR LOWERING, OR DOES NOT RAISE TO FULL HEIGHT	AIR IN HYDRAULIC SYSTEM.	-ACTUATE CYLINDERS TO FULLY RETRACTED STROKE TO PURGE SYSTEM OF AIR.
	OIL LEVEL LOW - CHECK FOR MINIMUM USABLE OIL.	-ADD HYDRAULIC OIL (SEE TRACTOR OWNER'S MANUAL) USE HYDRAULIC FLUID ONLY.
	INSUFFICIENT RESERVOIR CAPACITY.	-CHANGE POWER SOURCE TO PROVIDE A MINIMUM RESERVOIR CAPACITY OF 7 GALLONS USABLE OIL.
BOX DOES NOT DUMP PROPERLY.	BOX RAISES SLOWLY.	-SEE TROUBLESHOOTING SECTION - BOX RAISES SLOWLY.
	BOX DUMPED ON SIDE HILL.	-DUMP BOX ON LEVEL GROUND.
BOX RAISES ONE END.	HYDRAULIC CIRCUIT NOT COMPLETELY FILLED.	-CHECK FOR LINE LEAKS - BAD SEALS - LEAKY QUICK COUPLER.
	DRY CYLINDER INSTALLED AND NOT PURGED.	-POWER SOURCE HAS TOO LITTLE HYDRAULIC FLOW (GPM)
	BROKEN OIL LINE.	

OPTIONAL FEATURES & ACCESSORIES







SAFETY CHAIN

If the Dump Box is going to be transported on a public highway, a safety chain must be obtained and installed. Always follow state and local regulations regarding a safety chain and auxiliary lighting when farm equipment on a public highway. Be sure to check with local law enforcement agencies for your own particular regulations. Only a safety chain (not an elastic or nylon/plastic tow strap) should be used to retain the connection between the towing and towed machines in the event of separation of the primary attaching system.

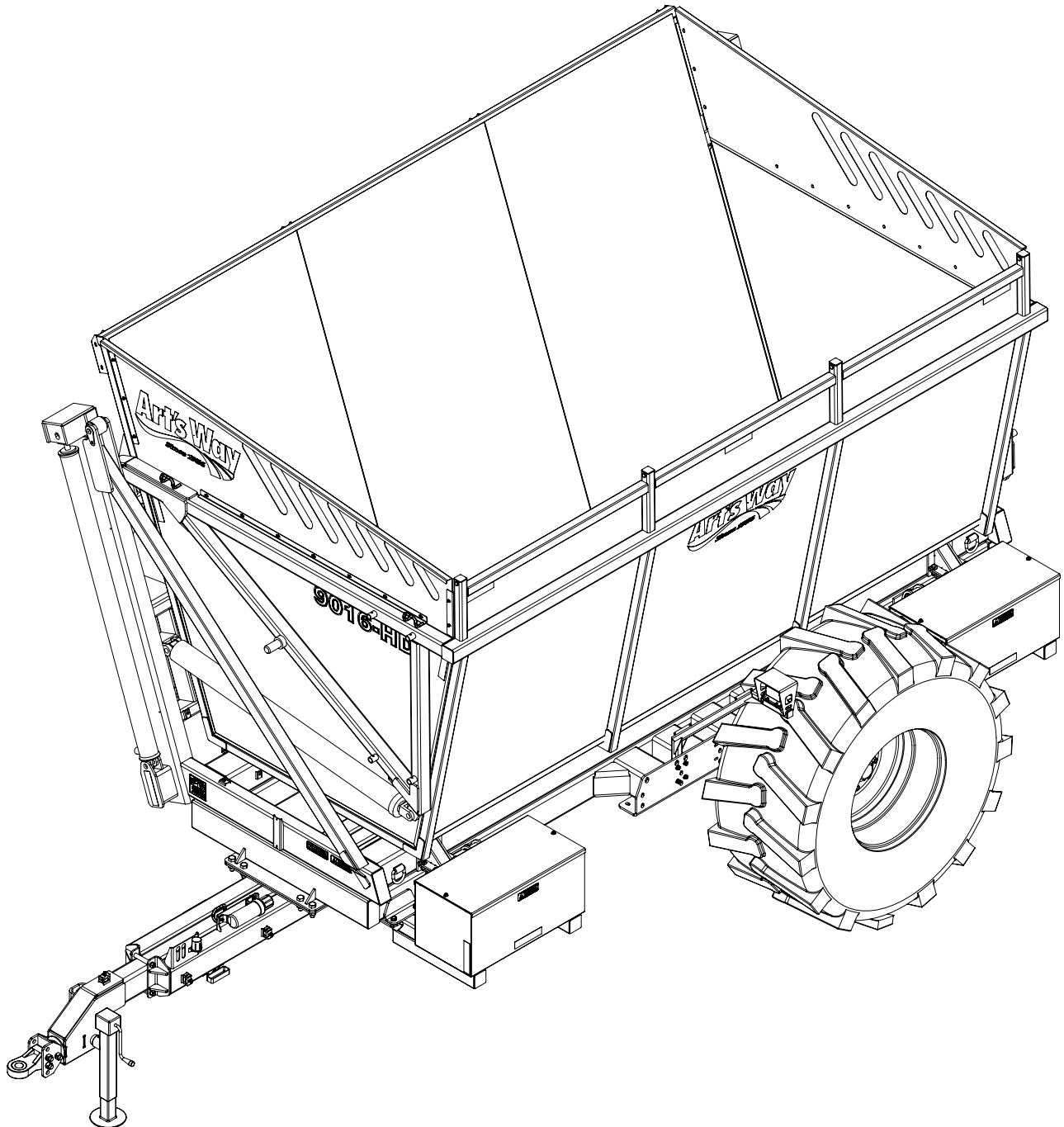
TORQUE SPECIFICATIONS

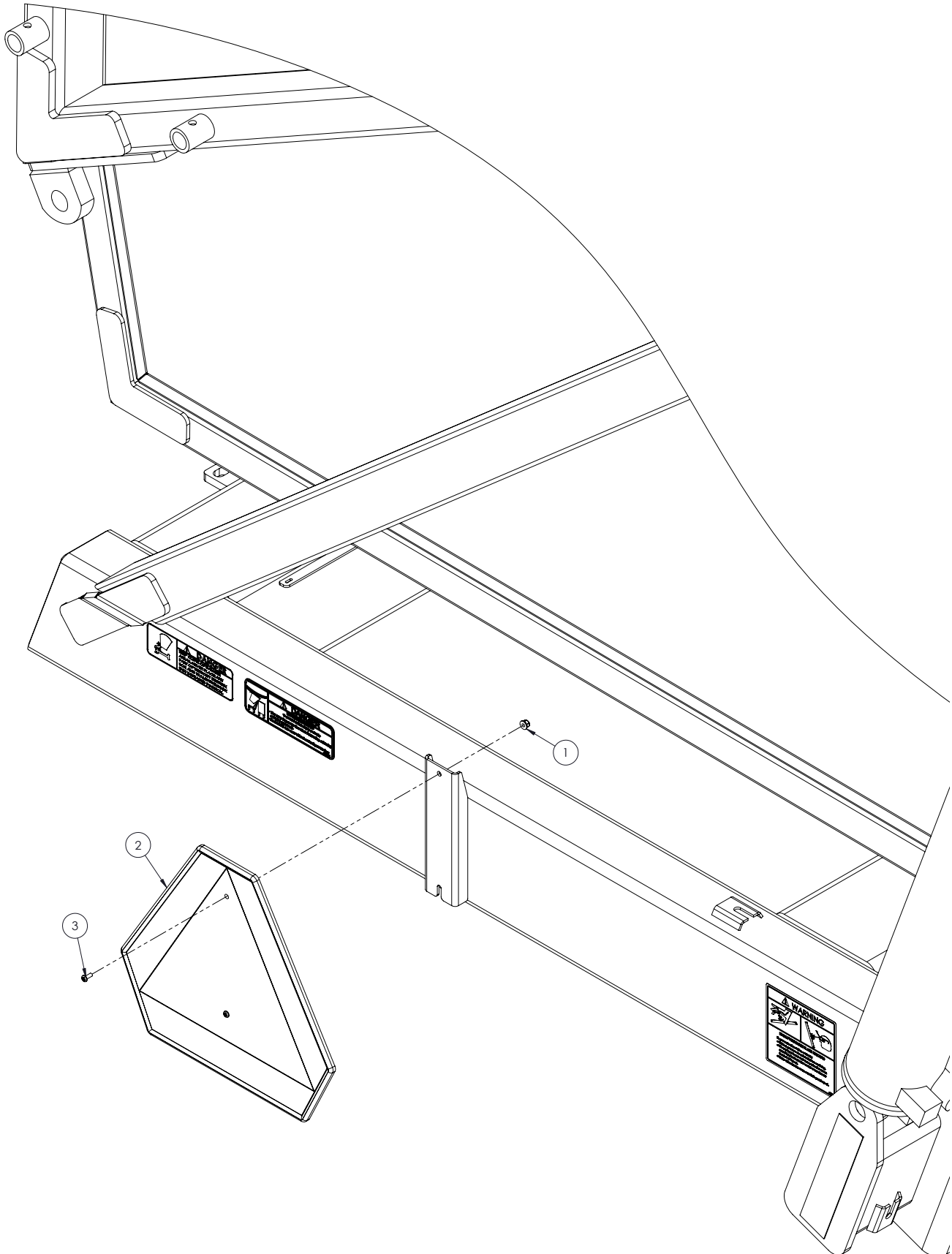
NOTE: Use these torque values when tightening hardware (excluding: Locknuts and Self-tapping, Thread Forming and Sheet Metal Screws) unless specified otherwise.

All torque values are in Lb-Ft except those marked with an * which are Lb-In (for metric torque value Nm, multiply Lb-Ft value by 1.355 or Lb-In value by 0.113)

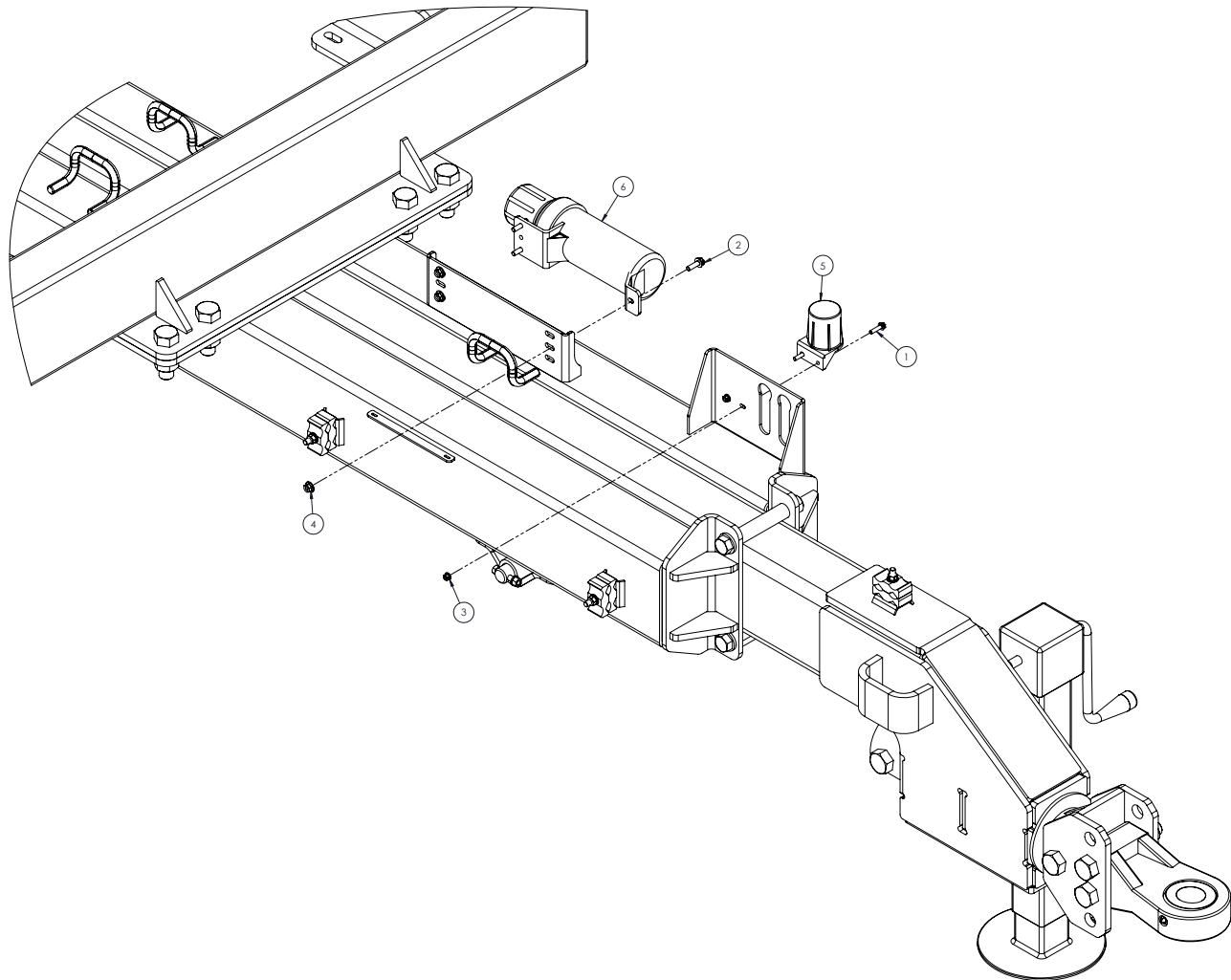
Unified National Thread	Grade 2 		Grade 5 		Grade 8 	
	Dry	Lubed	Dry	Lubed	Dry	Lubed
8-32 8-36	19* 20*	14* 15*	30* 31*	22* 23*	41* 43*	31* 32*
10-24 10-32	27* 31*	21* 23*	43* 49*	32* 36*	60* 68*	45* 51*
1/4-20 1/4-28	66* 76*	50* 56*	9 10	75* 86*	12 14	9 10
5/16-18 5/16-24	11 12	9	17 19	13 14	25	18 20
3/8-16 3/8-24	29 23	15 17	30 35	23 25	45 50	35
7/16-14 7/16-20	32 36	24 27	50 55	35 40	70 80	55 60
1/2-13 1/2-20	50 55	35 40	75 90	55 65	110 120	80 90
9/16-12 9/16-18	70 80	55 60	110 120	80 90	150 170	110 130
5/8-11 5/8-18	100 110	75 85	150 180	110 130	220 240	170 180
3/4-10 3/4-16	175 200	130 150	260 300	200 220	380 420	280 320
7/8-9 7/8-14	170 180	125 140	430 470	320 360	600 660	460 500
1-8 1-14	250 270	190 210	640 710	480 530	900 1000	680 740
Metric Course Thread	Grade 8.8 		Grade 10.9 		Grade 12.9 	
	Dry	Lubed	Dry	Lubed	Dry	Lubed
M6-1	8	6	11	8	13.5	10
M8-1.25	19	14	27	20	32.5	24
M10-1.5	37.5	28	53	39	64	47
M12-1.75	65	48	91.5	67.5	111.5	82
M14-2	103.5	76.5	145.5	108	176.5	131
M16-2	158.5	117.5	223.5	165.5	271	200

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ILLUSTRATED PARTS LIST: HIGH DUMP: GENERAL

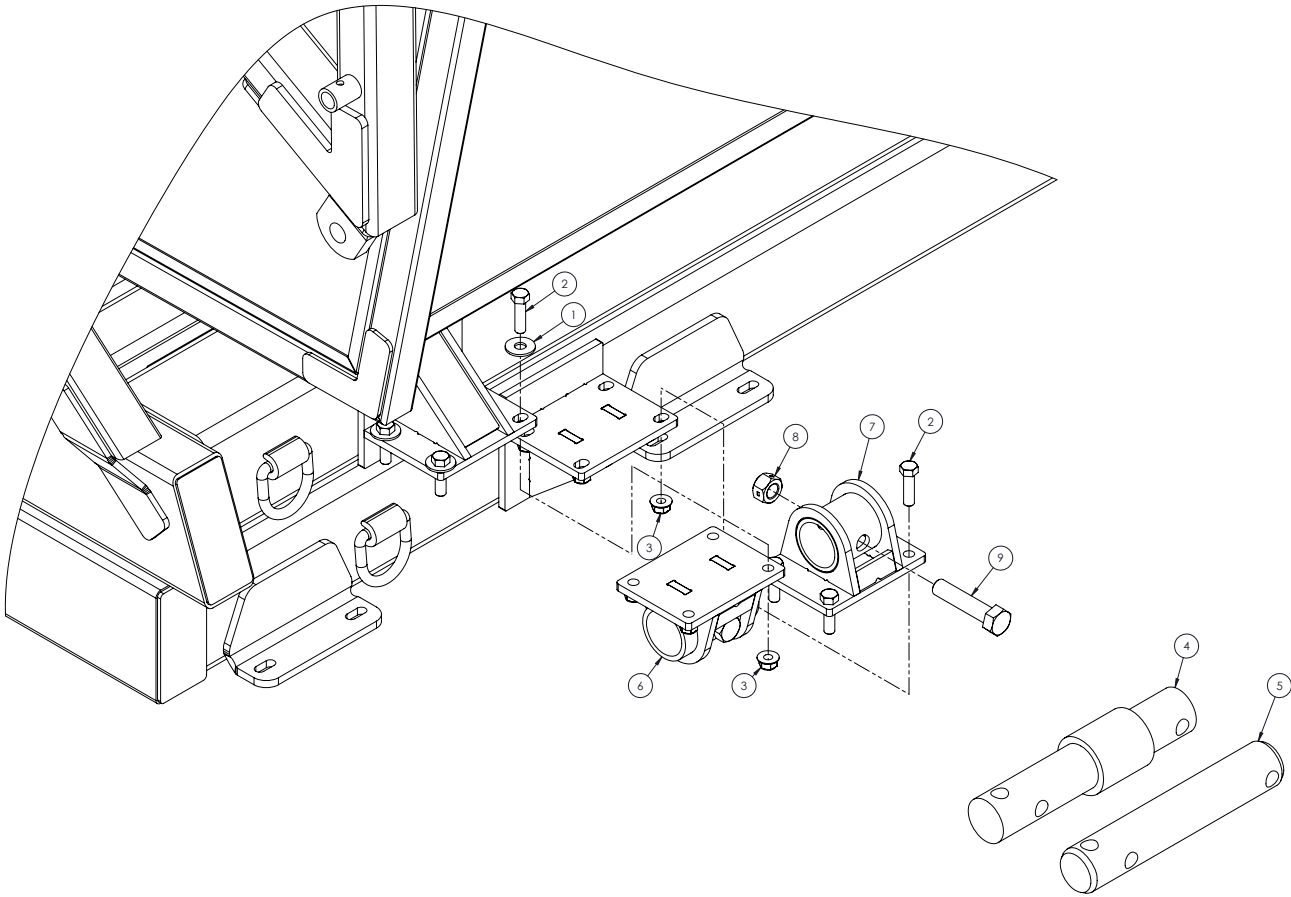
SMV SIGN ASSEMBLY

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	600100	NUT, HFH NYLOC 1/4-20	2
2	E224138	EMBLEM, CAUTION SMV	1
3	I159920	SCREW, PHMS 10-24 X 1/2"	2

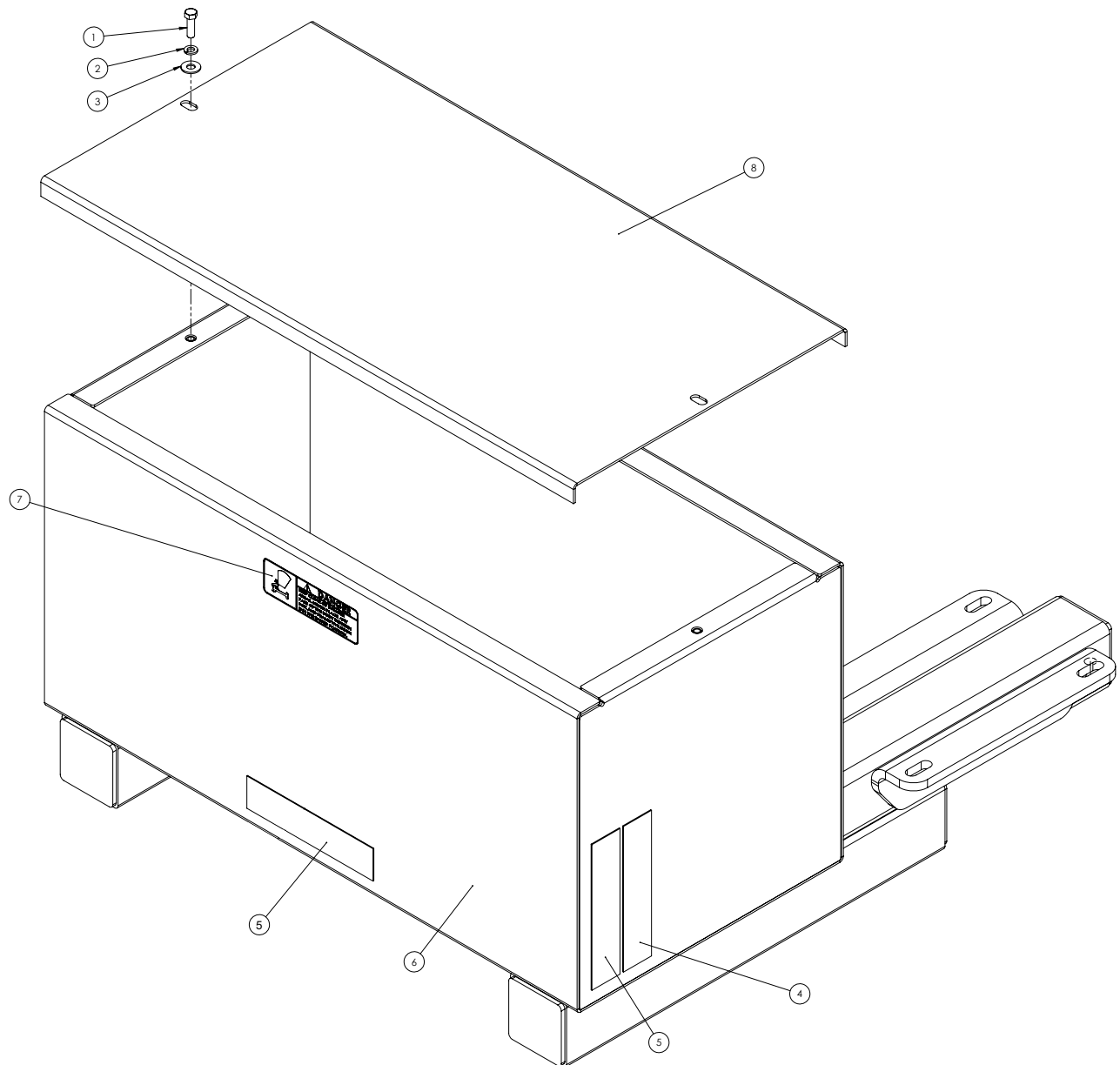
MANUAL & PLUG HOLDERS

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	600020	BOLT, HFH 1/4-20 X 1.00"	2
2	600060	BOLT, HFH 5/16-18 X 1"	3
3	600100	NUT, HFH NYLOC 1/4-20	2
4	600110	NUT, HFH NYLOC 5/16-18	3
5	JPT1296	BRACKET, STORAGE HOLDER 7 POLE	1
6	MP907739	TUBE - OP MAN HOLDER	1

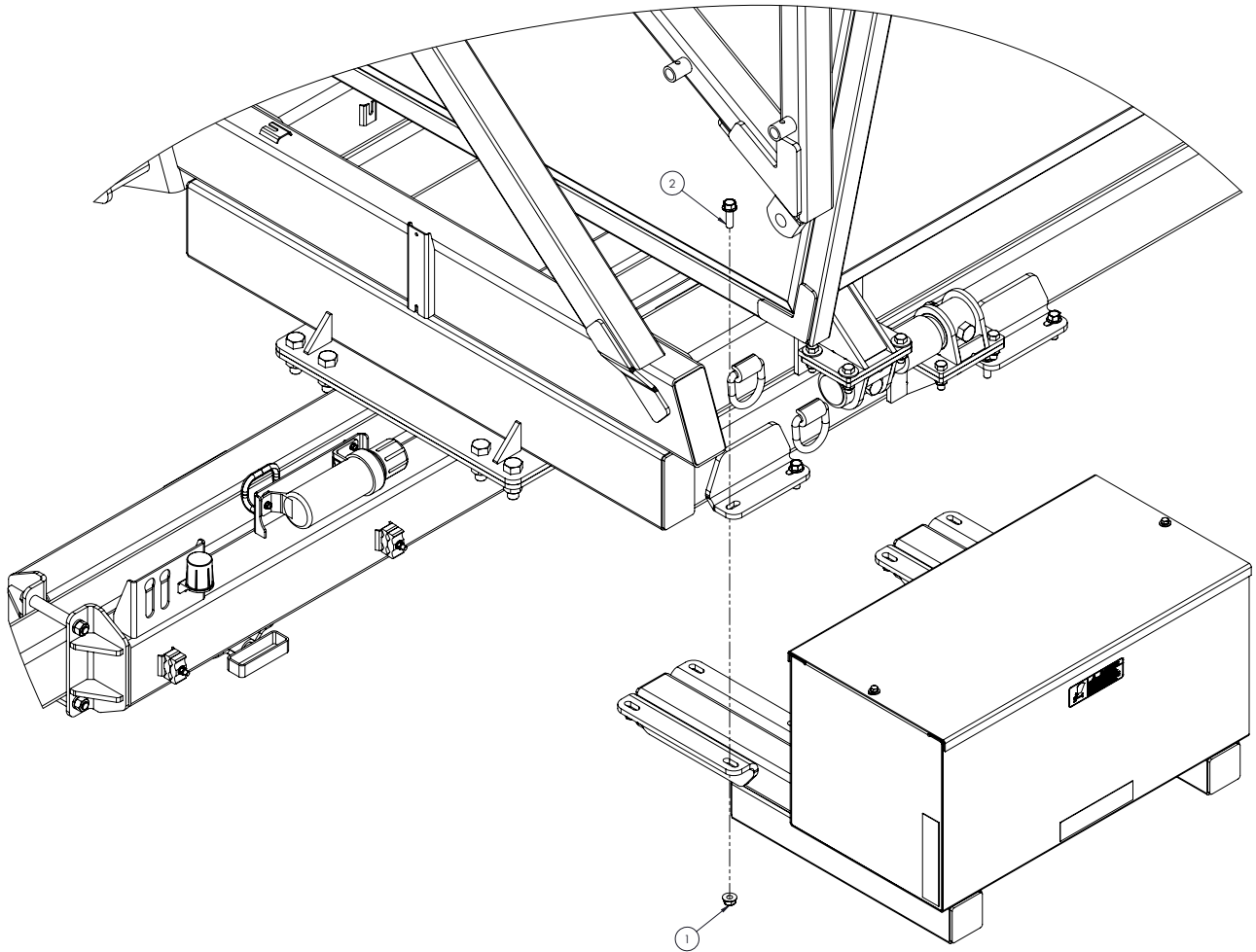
CONNECTION BARS ASSEMBLY



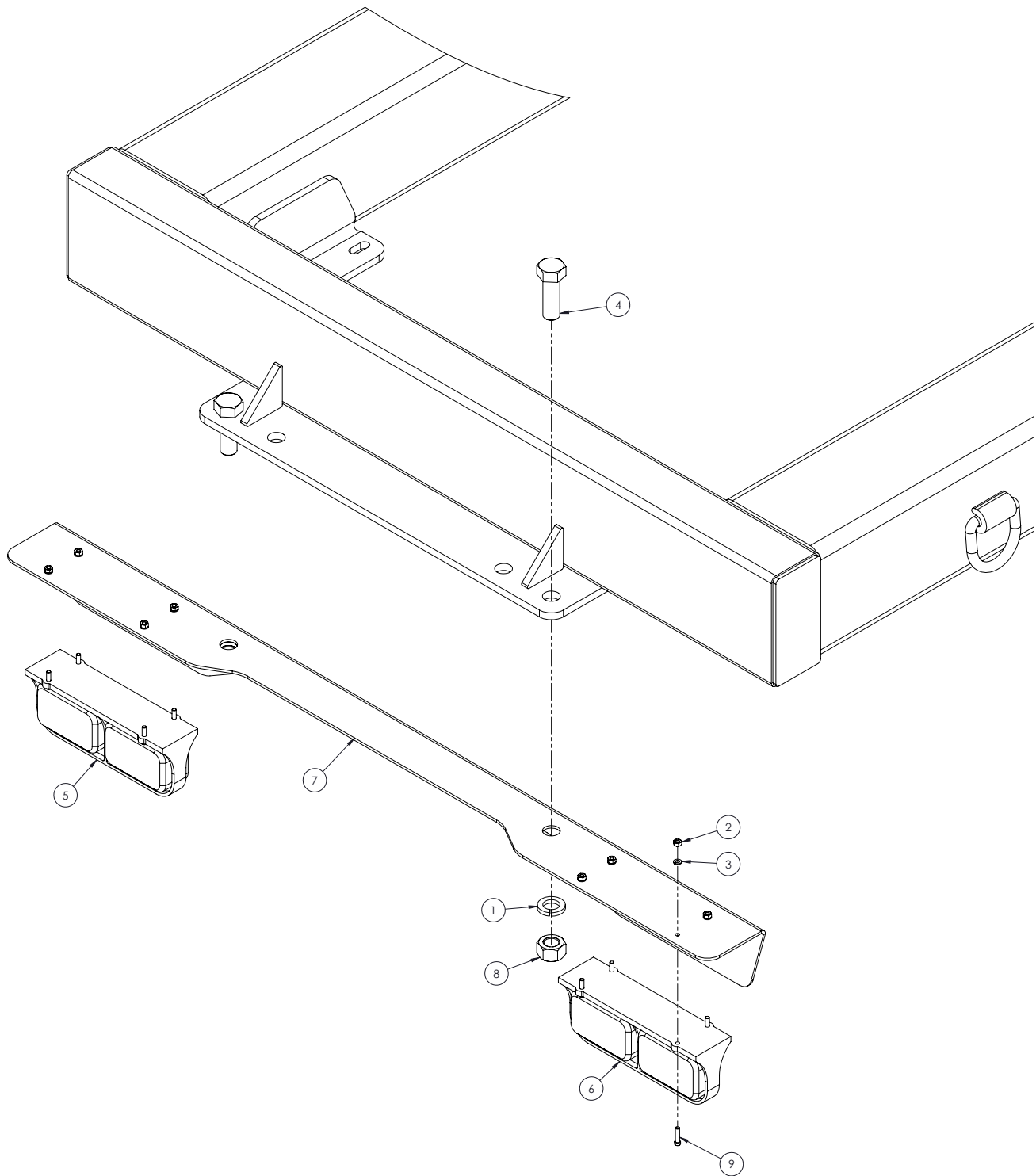
ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	020430	WASHER, FLAT 5/8 STD	16
2	442940	HBOLT 0.6250-11X2-1/4	32
3	600150	NUT, HFH NYLOC 5/8-11	32
4	628180	BAR, WEIGHBAR (FOR SCALE OPTION)	4
5	631000	BAR, BLANK (STANDARD OPTION)	4
6	671012	HOLDER WLDT, BAR	4
7	671018	HOLDER WLDT, BAR	4
8	990510	NUT, LOCK 2-WAY 1-8	8
9	TG0679	BOLT, HHCS 1-8 X 4-1/2", GR8	8

WEIGHTBOX ASSEMBLY

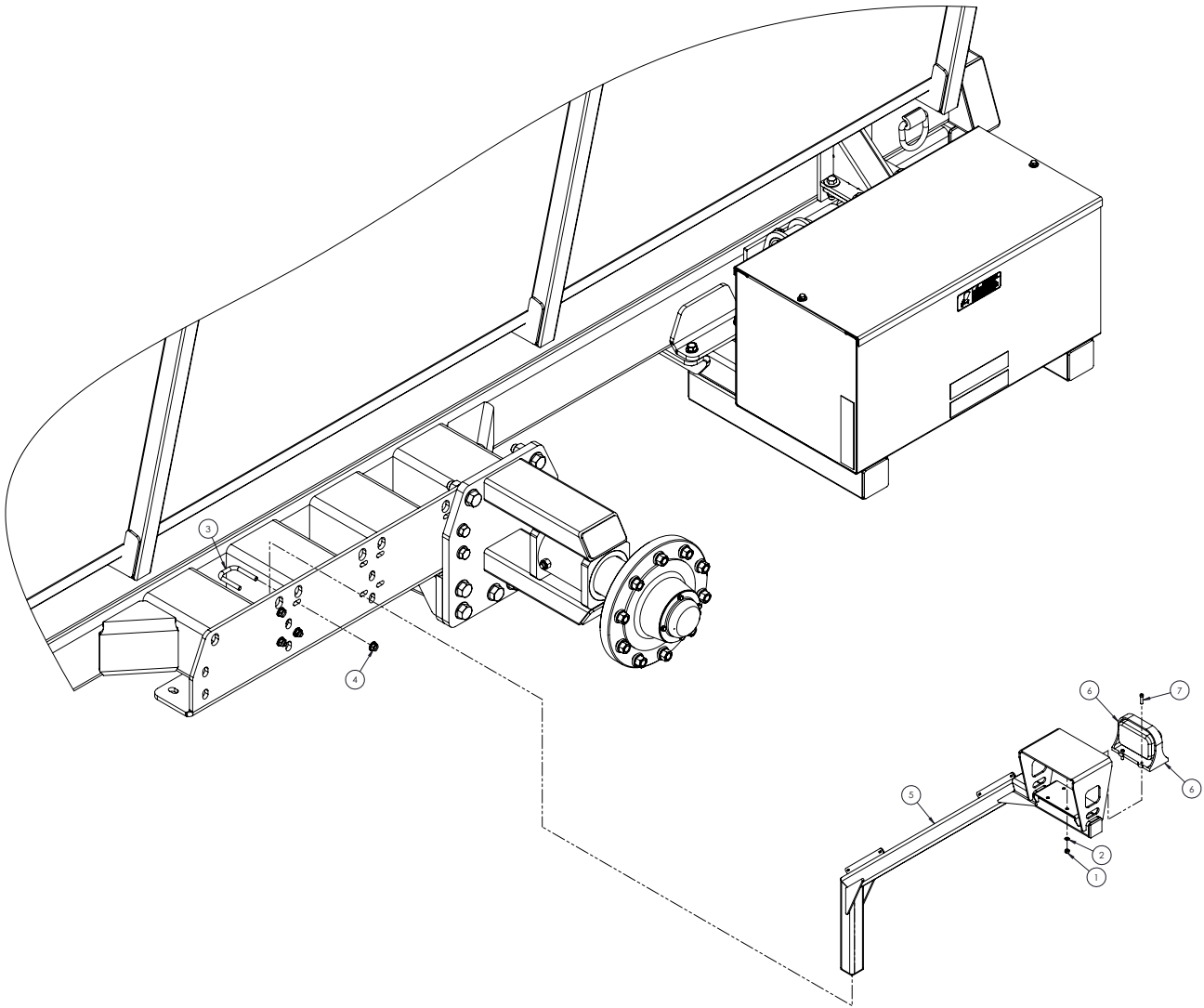
ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	006690	BOLT, HHCS 3/8-16 X 1-1/4	2
2	021180	WASHER, LOCK 3/8	2
3	021190	WASHER, FLAT 3/8 STD	2
4	476450	TAPE, RED RETROREFLECTIVE	1
5	476460	TAPE, YELLOW RETROREFLECTIVE	3
6	618210	WEIGHT BOX WELDMENT	1
7	MP19.00113	DECAL, DANGER	1
8	MP19.00937.7	COVER, WEIGHT BOX	1

WEIGHTBOX INSTALLATION ASSEMBLY

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	600150	NUT, HFH NYLOC 5/8-11	16
2	600300	BOLT, HFH 5/8-11	16

REAR LIGHTS

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	003350	WASHER, LOCK 1"	2
2	027660	NUT, HEX 1/4-20 GR5 ZN	7
3	029440	WASHER, LOCK 1/4 SAE	8
4	497590	BOLT, HHCS 1-8 X 3 GR8	2
5	642580	LIGHT, LED	1
6	642590	LIGHT, LED	1
7	671011	MOUNT PLATE, LIGHT	1
8	J14H805	NUT, HEX 1-8	2
9	V067301	SCREW, SHCS 1/4-20 X 1	8

AMBER CLEARANCE LIGHTS

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	027660	NUT, HEX 1/4-20 GR5 ZN	8
2	029440	WASHER, LOCK 1/4 SAE	8
3	290890	BOLT, U, 1/2-13X2.06X3.25	4
4	600140	NUT, HFH NYLOC 1/2-13	8
5	619065	MOUNT, AMBER LIGHT	2
6	642585	LIGHT, LED	2
7	V067301	SCREW, SHCS 1/4-20 X 1	8

WIRING HARNESS/SCHEMATIC

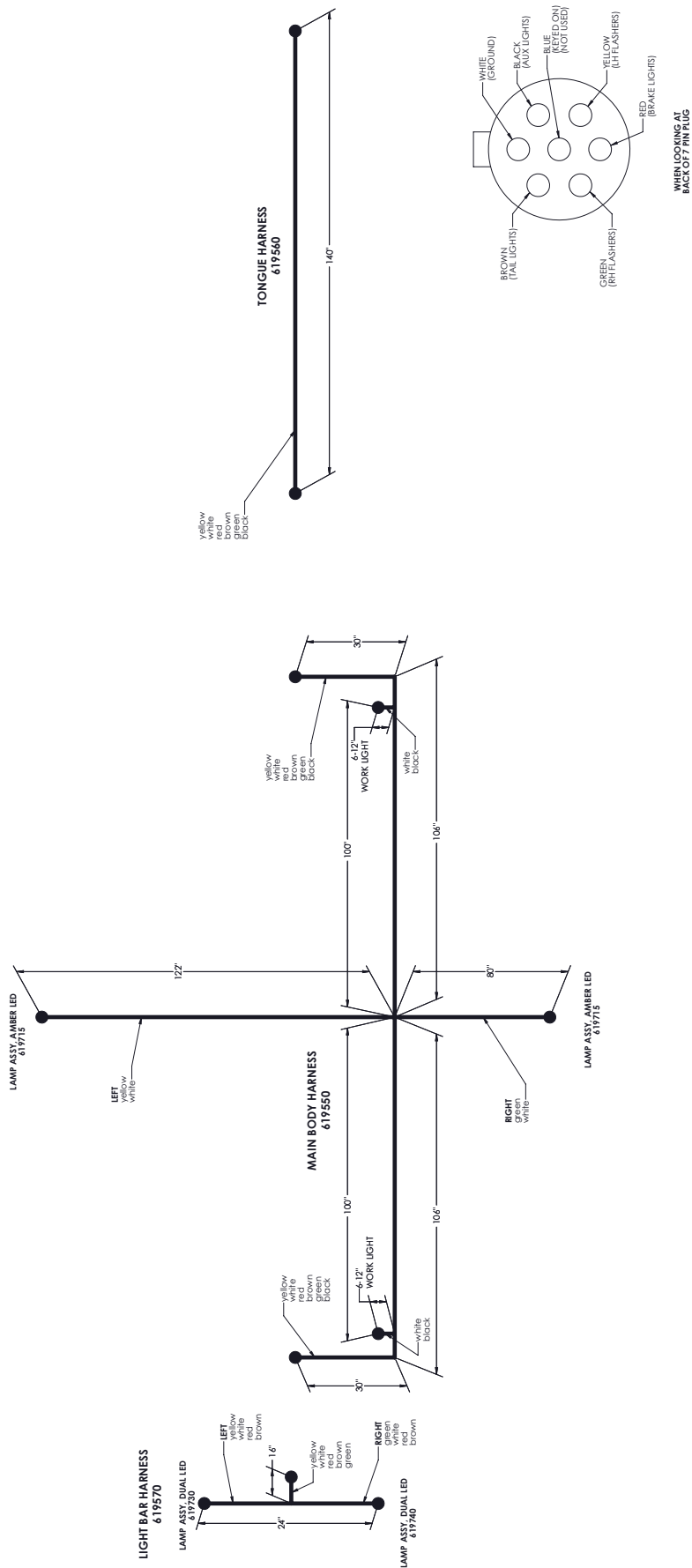
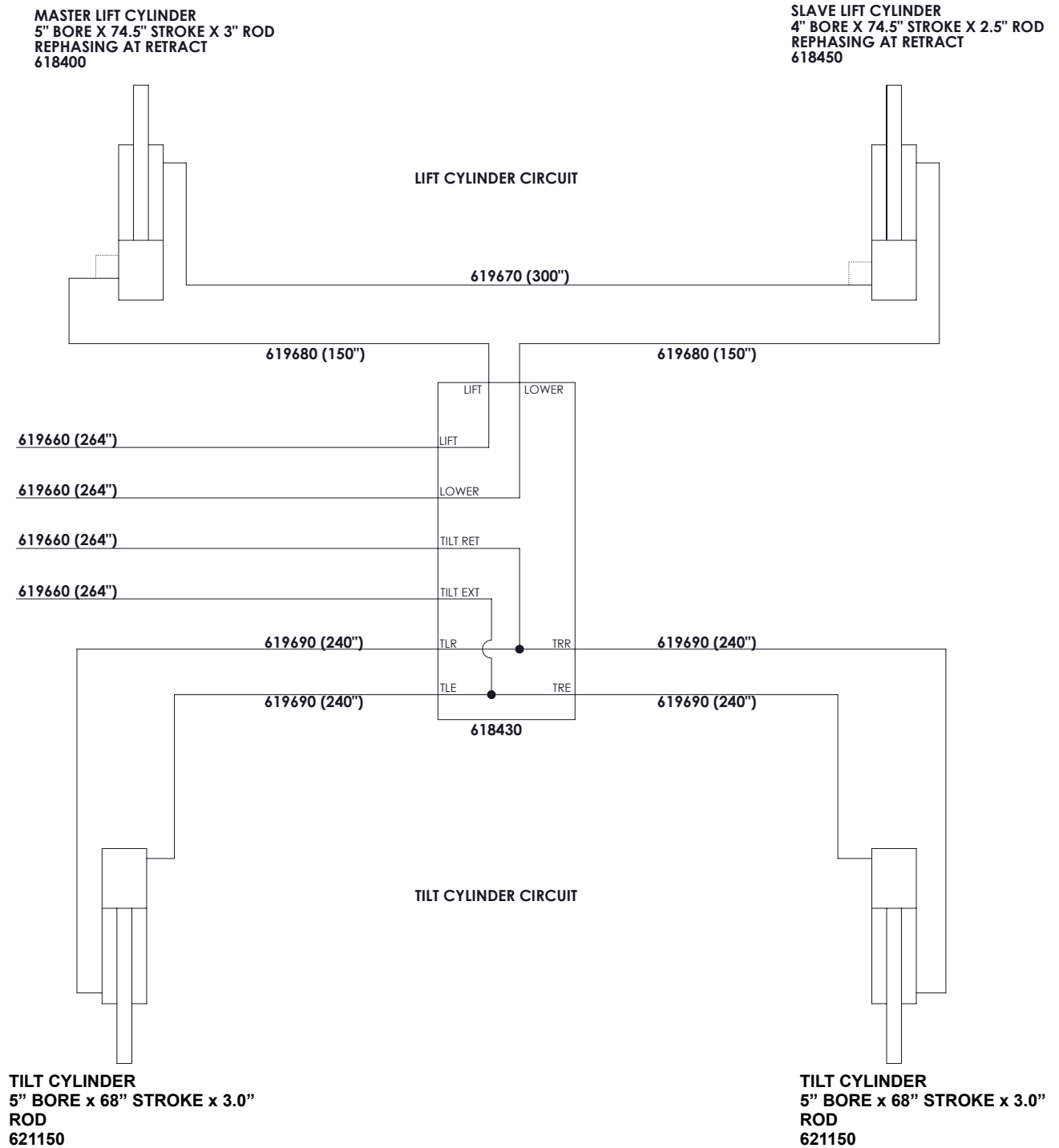


Table 4 – Tractor and self-propelled machine receptacle

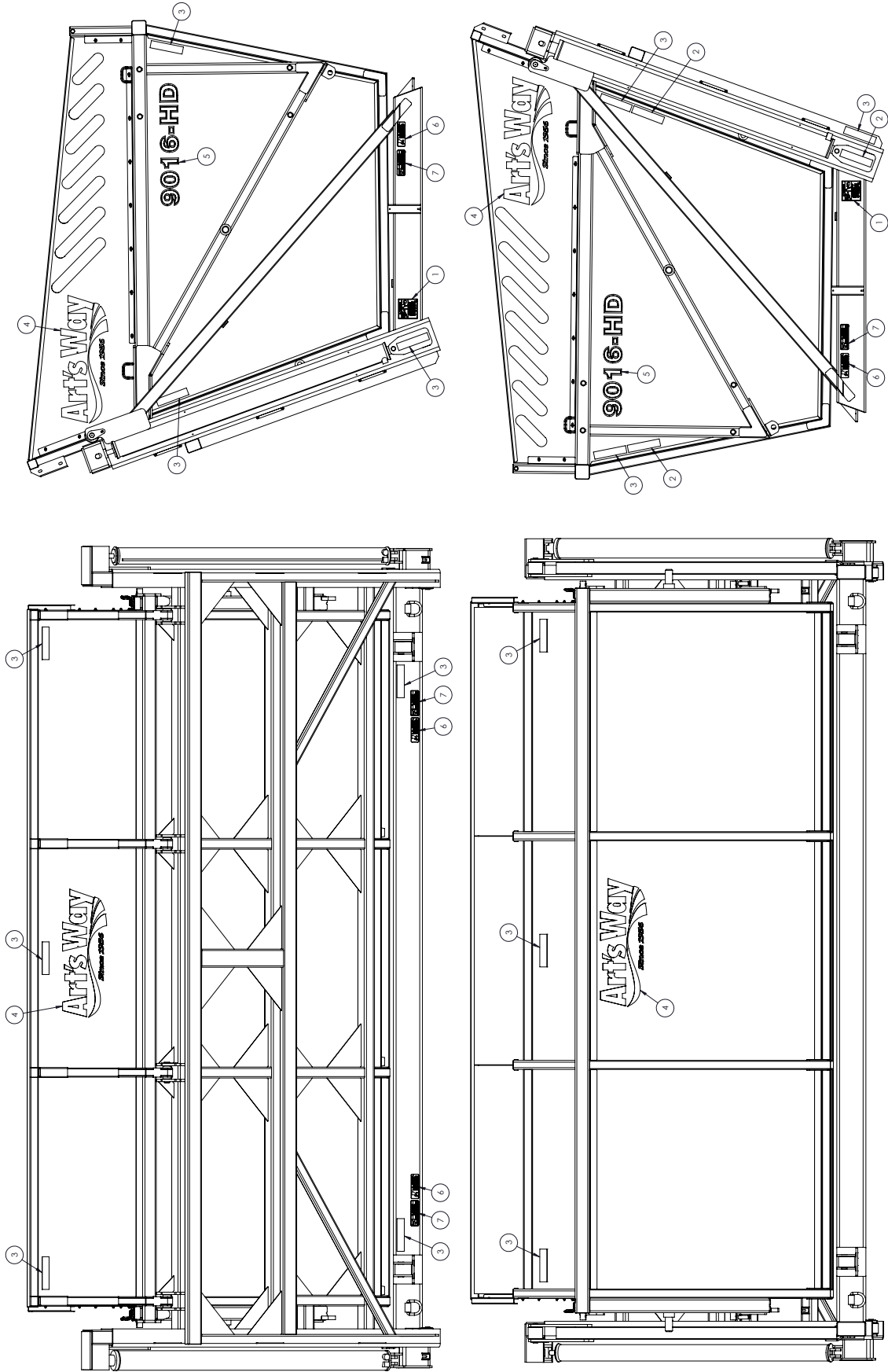
Conductor Identification	Wire Color	Terminal Number	Circuit
Whit	White	1	Ground
Blk	Black	2	Work lamps
Yel	Yellow	3	Left-hand flashing and turn indicators
Red	Red	4	Stop lamps
Gm	Green	5	Right-hand flashing and turn indicators
Brn	Brown	6	Tail lamps
Blu	Blue	7	Switched power (12 volt)

NOTE: Terminal 7 is to be controlled by the ignition/start key switch.

HYDRAULICS



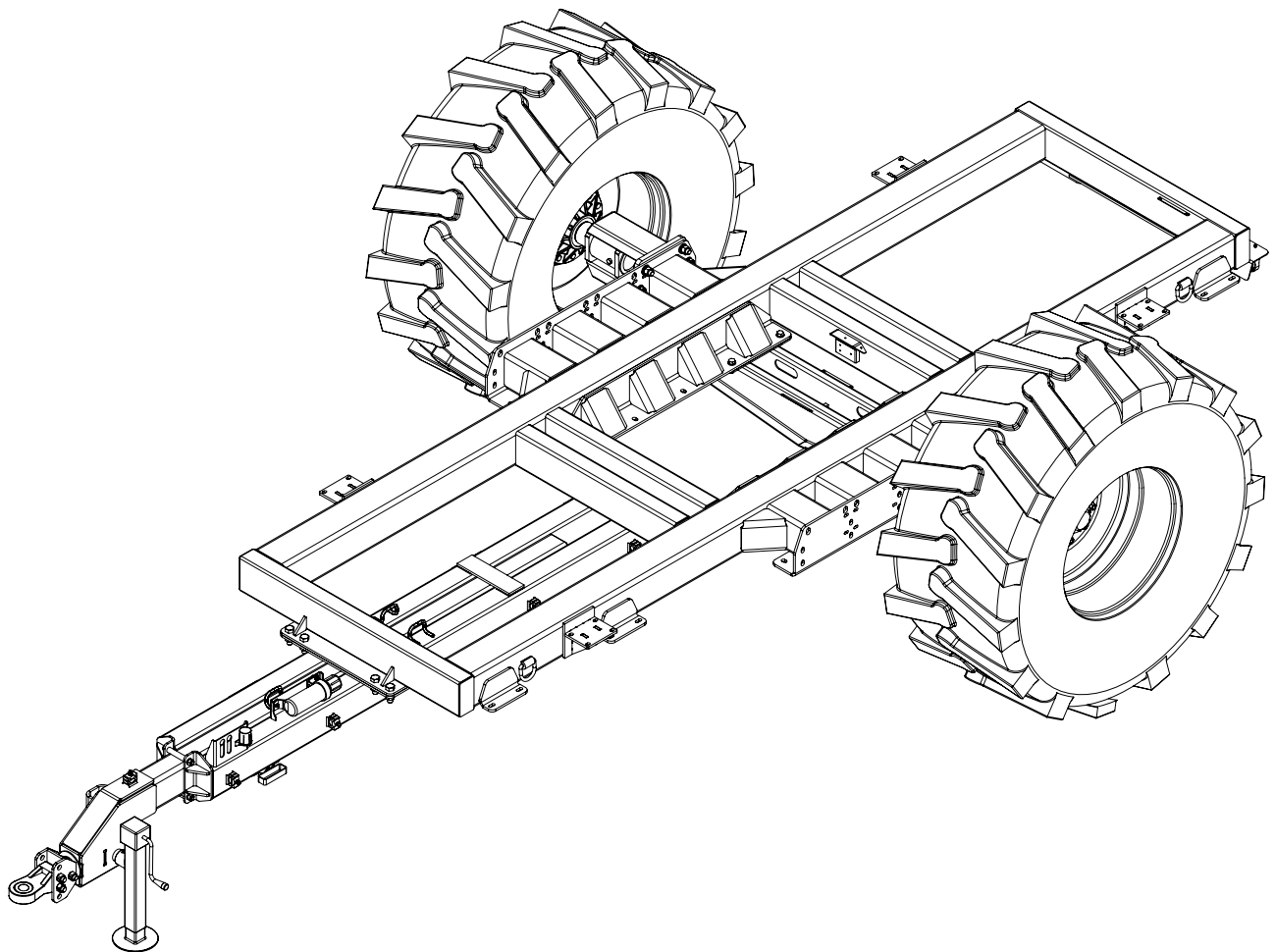
DECALS

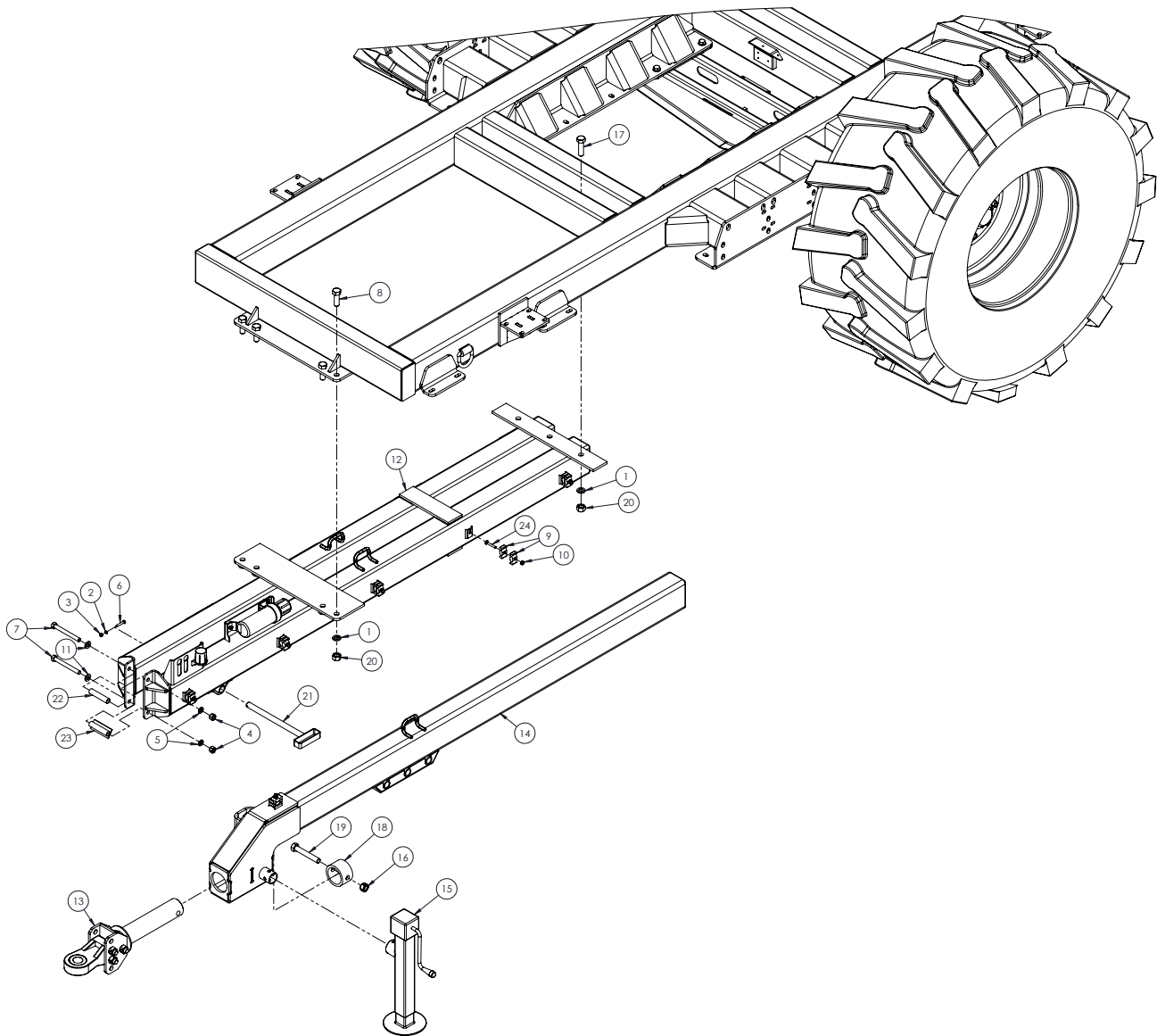


ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	346310	DECAL, WARNING HIGH PRESSURE	2
2	476450	TAPE, RED RETROREFLECTIVE	3
3	476460	TAPE, YELLOW RETROREFLECTIVE	14
4	618010	DECAL, ARTSWAY	4
5	671038	DECAL, 9016HD	2
6	MP19.00113	DECAL, DANGER	4
7	MP19.01223	DECAL, DANGER	4

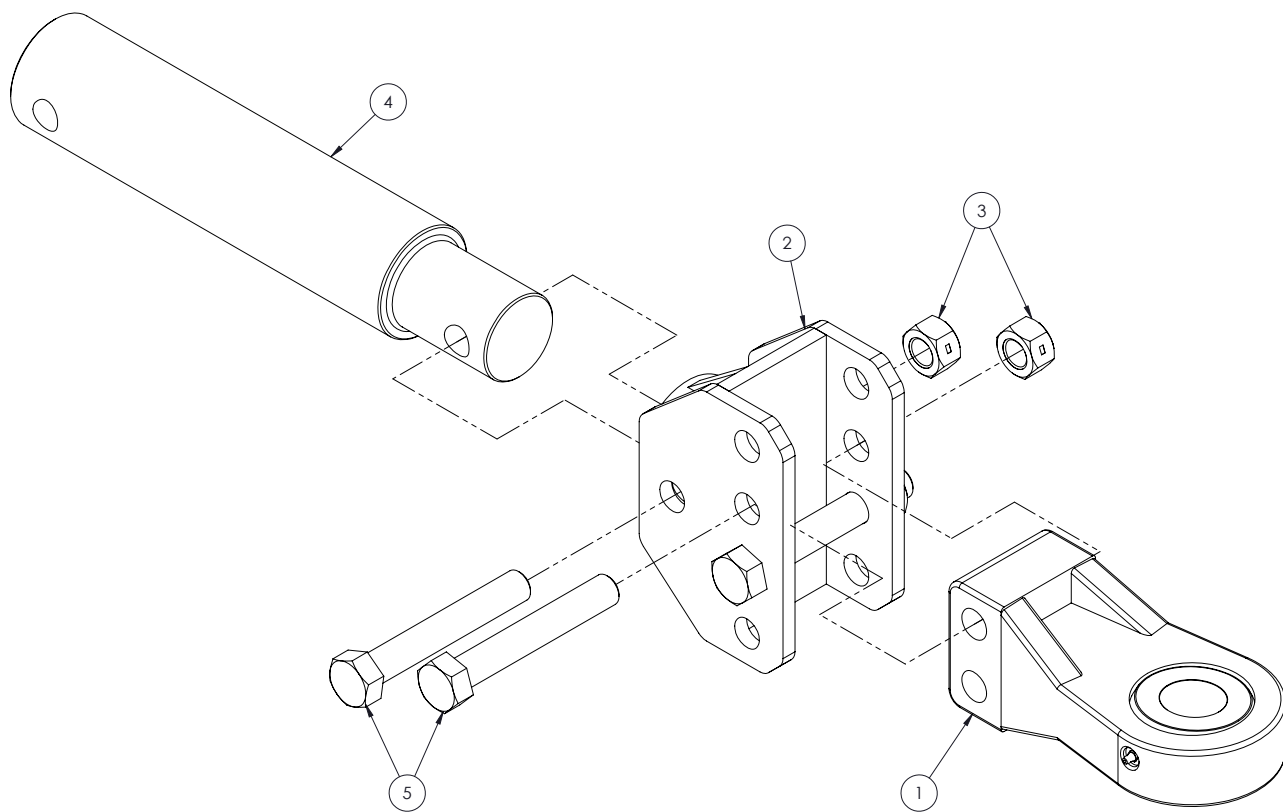
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ILLUSTRATED PARTS LIST: HIGH DUMP: RUNNING GEAR

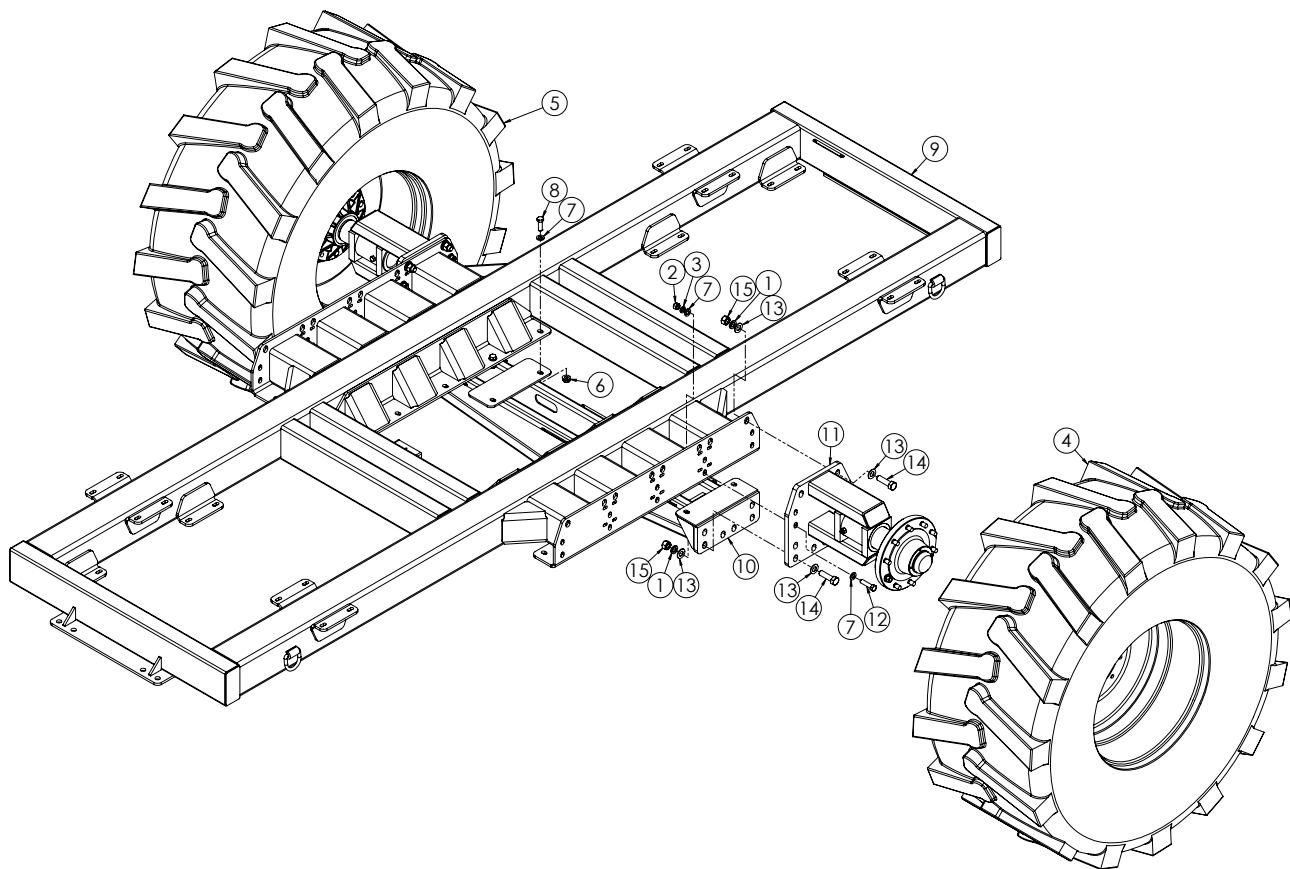


RUNNING GEAR ASSEMBLY

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	003350	WASHER, LOCK 1"	25
2	021180	WASHER, LOCK 3/8	1
3	027260	NUT, HEX 3/8-16 GR5	1
4	036750	NUT, HEX 3/4-10	10
5	036800	WASHER, LOCK 3/4 SAE	10
6	037790	BOLT, HHCS 3/8-16 X 2	1
7	479980	BOLT, HHCS 3/4-10 X 7 GR 8 ZN	2
8	497590	BOLT, HHCS 1-8 X 3 GR8	6
9	527700	CLAMP, HOSE	22
10	600120	NUT, HFH NYLOC 3/8-16	11
11	600330	WASHER, FLAT 3/4	26
12	618135	HITCH SUPPORT	1
13	618300	HITCH ASSEMBLY	1
14	618350	TONGUE WLDT	1
15	630900	JACK, NICKEL PLATED	1
16	990510	NUT, LOCK 2-WAY 1-8	1
17	E672105	BOLT, HHCS 1-8 X 3-1/2 GR5 ZN	19
18	H160077	SWIVEL HITCH STOP	1
19	J08H4722	BOLT, HHCS 1-8 X 6 1/2 GR8 ZN	1
20	J14H805	NUT, HEX 1-8	25
21	MP19.01259	PIN WLDT, HITCH	1
22	MP19.01268	TUBE	1
23	MP19.01270	TUBE, PIN	1
24	V061812	BOLT, CRG, 3/8-16 X 2.50 GR5 ZN	11

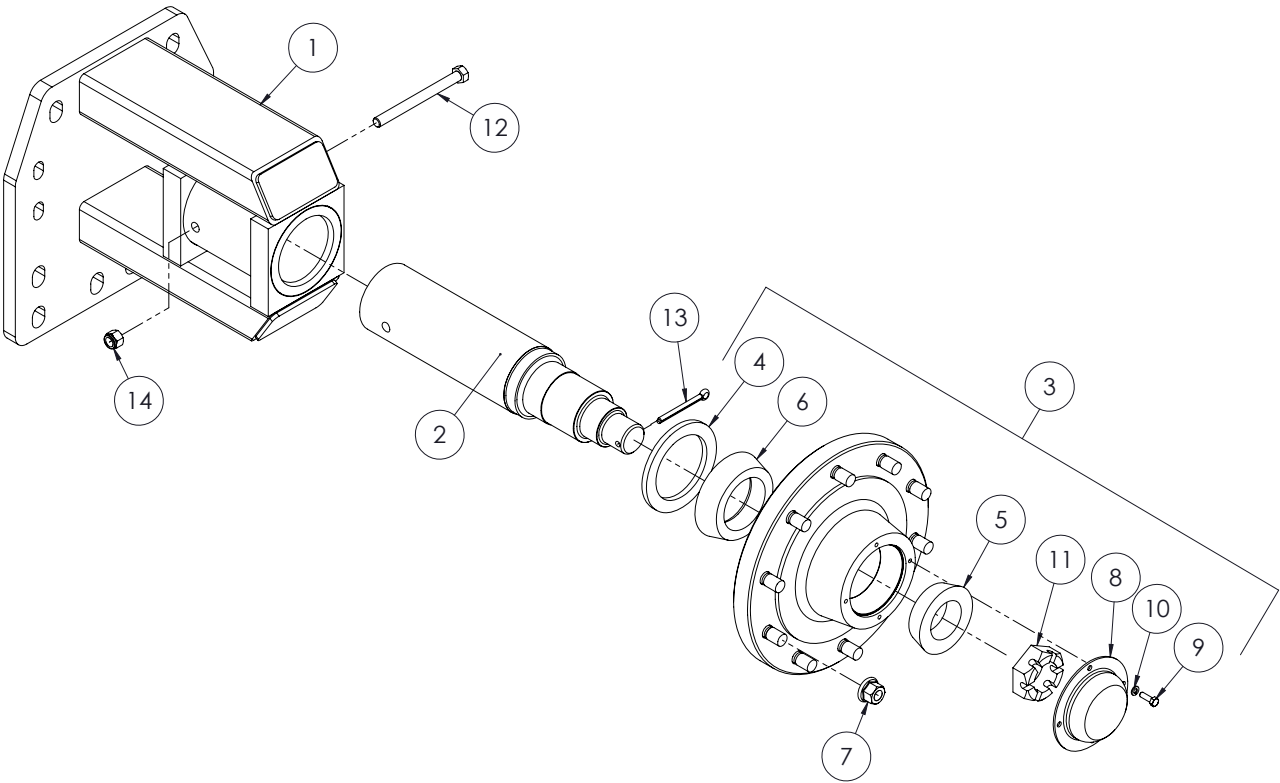
HITCH ASSEMBLY

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	576420	HITCH, SPH. PINTLE	1
2	621060	HITCH 4 HOLE	1
3	990510	NUT, LOCK 2-WAY 1-8	3
4	H160075	SWIVEL SHAFT	1
5	J08H4722	BOLT, HHCS 1-8 X 6 1/2 GR8 ZN	3

AXLE ASSEMBLY

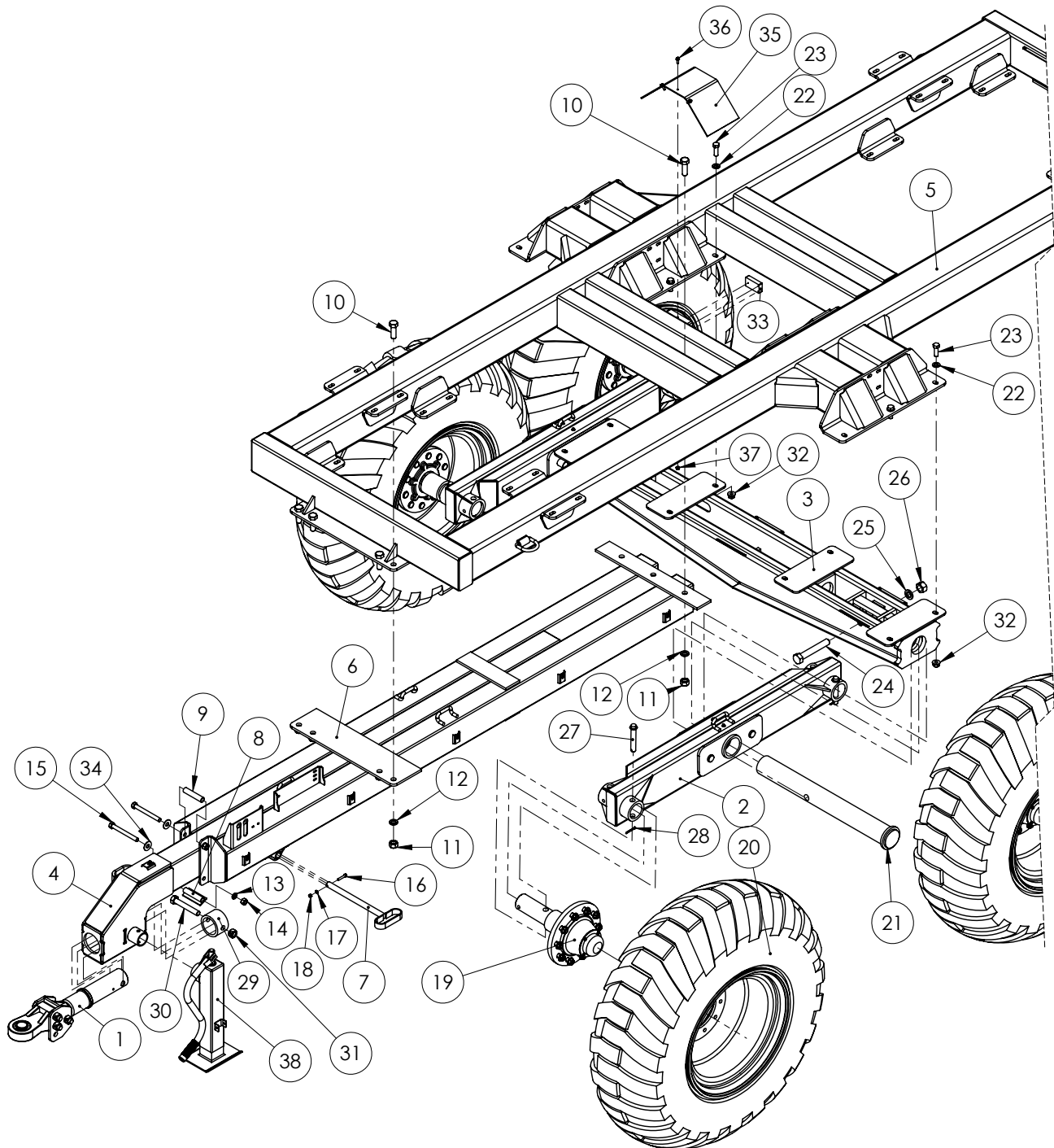
ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	003350	WASHER, LOCK 1"	16
2	036750	NUT, HEX 3/4-10	8
3	036800	WASHER, LOCK 3/4 SAE	8
4	563510	WHEEL & TIRE ASSY, LH	1
5	563520	WHEEL & TIRE ASSY, RH	1
6	600160	NUT, HFH TOPLOCK 3/4-10	8
7	600330	WASHER, FLAT 3/4	24
8	600340	BOLT, HHCS	8
9	660200	FRAME WELDMENT	1
10	660204	SINGLE AXLE	1
11	660215	SPINDLE ASSY, 9016 CART	2
12	990570	BOLT, HHCS 3/4-10 X 3	8
13	1107389	WASHER, FLAT 1 SAE	32
14	E672105	BOLT, HHCS 1-8 X 3-1/2 GR5 ZN	16
15	J14H805	NUT, HEX 1-8	16

HUB ASSEMBLY



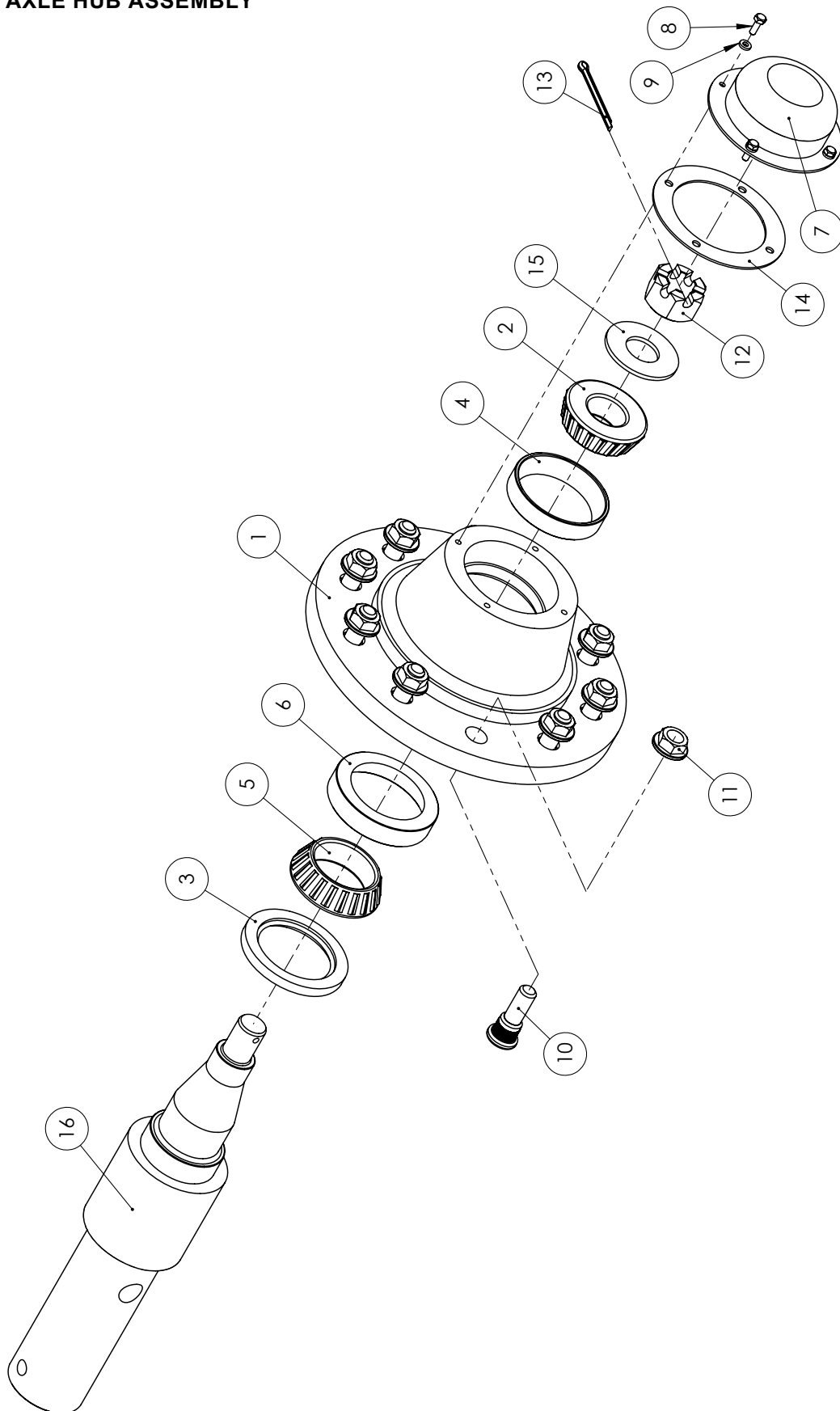
ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	660213	SPINDLE HOLDER	1
2	MP19.01002	SPINDLE	1
3	522060	HUB ASSY, 10 BOLT	1
4	522110P	SEAL, GREASE	1
5	522100	BEARING CONE OUTER	1
6	522090	BEARING CONE, INNER	1
7	455740P	NUT, HEX FLANGE, 3/4-10 HUB	10
8	455720	HUB CAP, BOLT ON	1
9	005900	BOLT, HHCS 5/16-18 X 1"	4
10	023620	WASHER, LOCK 5/16	4
11	522120	NUT, CASTLE 2-12	1
12	E672446	BOLT, HHCS 5/8-11 X 7" GR5 ZN	1
13	MP19.01131	COTTER PIN 5/16 X 3-1/2	1
14	I19508R1	NUT, LOCK 5/8-11	1

TANDEM RUNNING GEAR ASSEMBLY

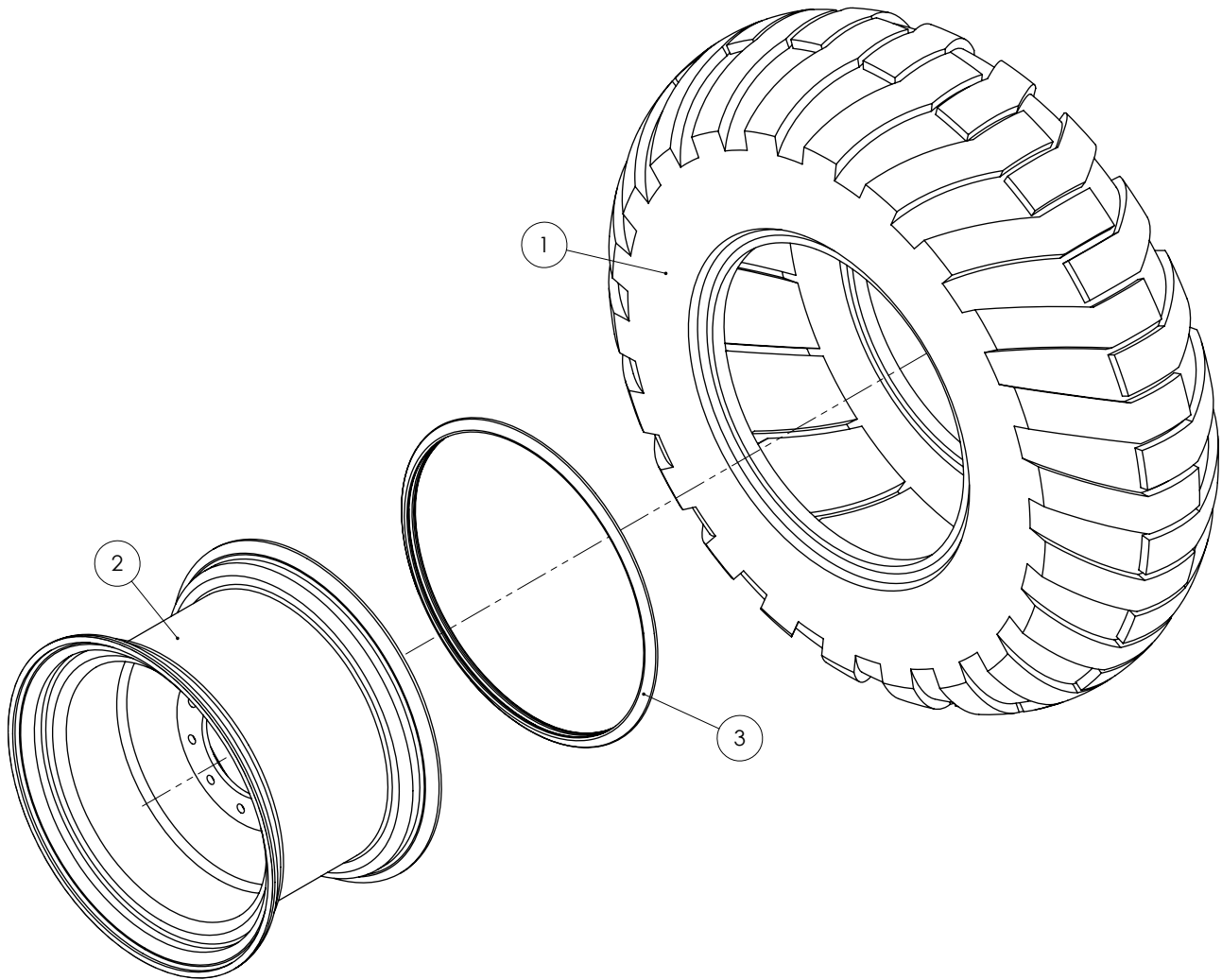


ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	-	HITCH ASSY, (SEE HITCH ASSEMBLY PAGE)	1
2	618150	BEAM, WALKING TANDEM	2
3	618040	BEAM, AXLE SUPPORT	1
4	618350	TONGUE WLDT	1
5	618020	FRAME WELDMENT	1
6	618130	HITCH SUPPORT	1
7	MP19.01259	PIN WLDT, HITCH	1
8	MP19.01270	TUBE, PIN	1
9	MP19.01268	TUBE	1
10	497590	BOLT, HHCS 1-8 X 3 GR8	7
11	J14H805	NUT, HEX 1-8	7
12	003350	WASHER, LOCK 1"	7
13	036800	WASHER, LOCK 3/4 SAE	2
14	036750	NUT, HEX 3/4-10	2
15	479980	BOLT, HHCS 3/4-10 X 7 GR 8 ZN	2
16	037790	BOLT, HHCS 3/8-16 X 2	1
17	021180	WASHER, LOCK 3/8	1
18	027260	NUT, HEX 3/8-16 GR5 ZN	1
19	-	HUB/SPINDLE(SEE HUB ASSEMBLY PAGE)	4
20	HN69-07-4019	WHEEL, 16R20 USED	4
21	H160009	PIVOT PIN ASSY	2
22	600330	WASHER,FLAT 3/4	8
23	600340	BOLT, HHCS	8
24	HZ85-03-2080	BOLT, HEX, 1-1/4" X 8" Z8	2
25	E829047	WASHER, LOCK 1-1/4	2
26	HZ85-42-2020	NUT, LOCK, DEFORMED, 1-1/4"-7 Z8	2
27	H160017	SPINDLE PIN ASSY (TANDEM)	4
28	114370	PIN, COTTER, 1/4" X 2" Z5	2
29	H160077	SWIVEL HITCH STOP	1
30	J08H4722	BOLT, HHCS 1-8 X 6 1/2 GR8 ZN	1
31	990510	NUT, LOCK 2-WAY 1-8	1
32	600160	NUT, HFH TOPLOCK 3/4-10	8
33	619830	JUNCTION BLOCK, 6 PORT	1
34	990710	WASHER, FLAT 3/4 STD	2
35	526720	DEFLECTOR, RUBBER	1
36	600060	BOLT, HFH 5/16-18 X 1"	3
37	600110	NUT, HFH NYLOC 5/16-18	3
38	U51800143	JACK	1

TANDEM AXLE HUB ASSEMBLY



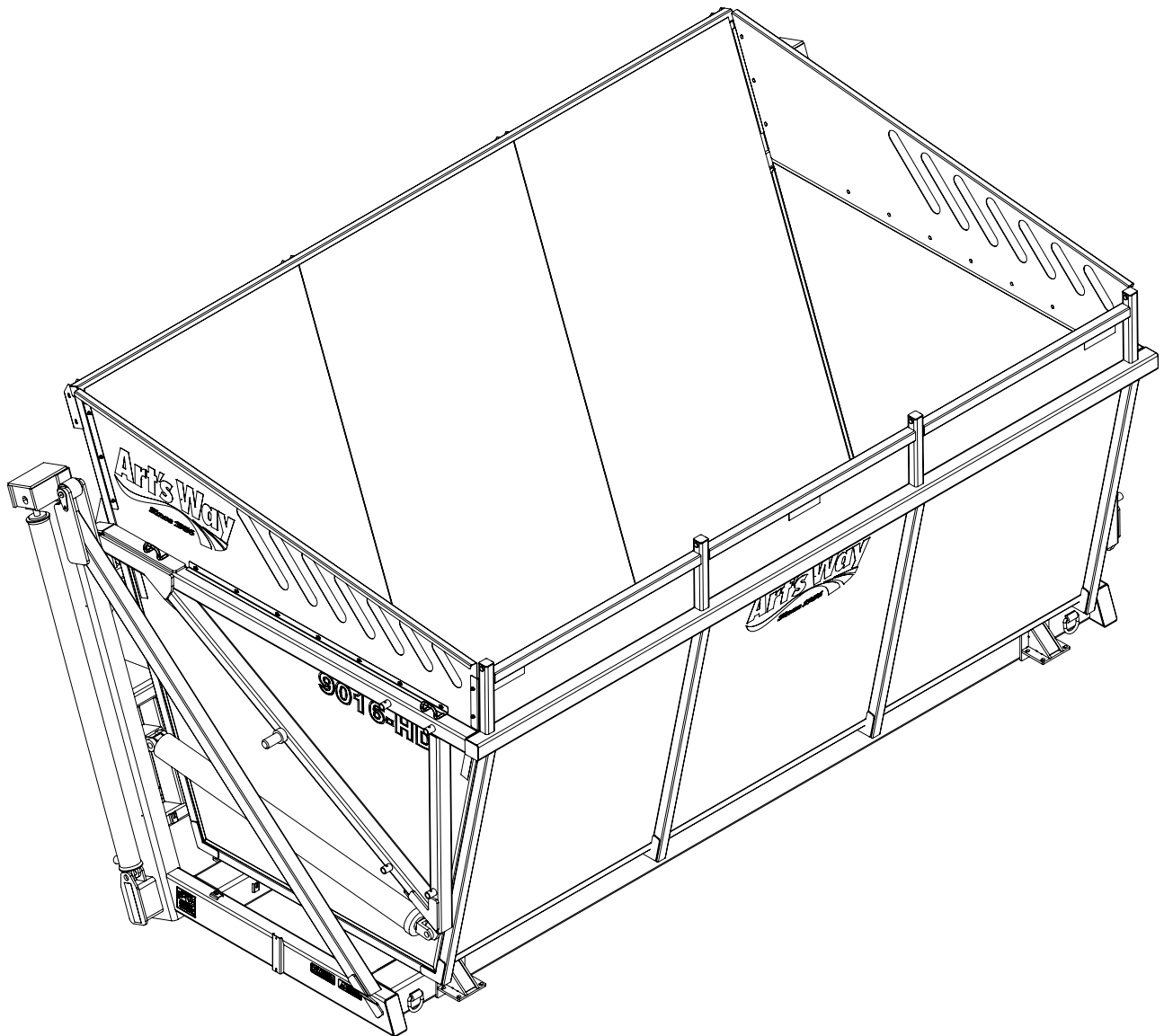
ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	HN69-05-4072	873 HUB MACHINED CASTING	1
2	HN69-02-4045	OUTSIDE BEARING #460	1
3	HN69-02-4028	GREASE SEAL #33464 SA	1
4	HN69-02-4068	OUTSIDE BEARING RACE #453A	1
5	HN69-02-4064	INSIDE BEARING #33275	1
6	HN69-02-4066	INSIDE BEARING RACE #33462	1
7	HN69-02-4030	4-BOLT DUST CAP	1
8	HZ82-03-0412	1/4" HEX HEAD BOLT, .75"	4
9	HZ82-66-0404	WASHER, LOCK SPLIT, 1/4" Z5	4
10	HN69-02-4061	WHEEL, STUD 3/4"	10
11	HN69-02-4042	3/4" LUG NUT	10
12	E552023	NUT, SLOTTED 1-1/4 12 GR5	1
13	MP906827	.25"X 3" COTTER PIN	1
14	455750P	GASKET, HUB	1
15	R61502	FW 1.375	1
16	690560	SPINDLE, STANDARD	1

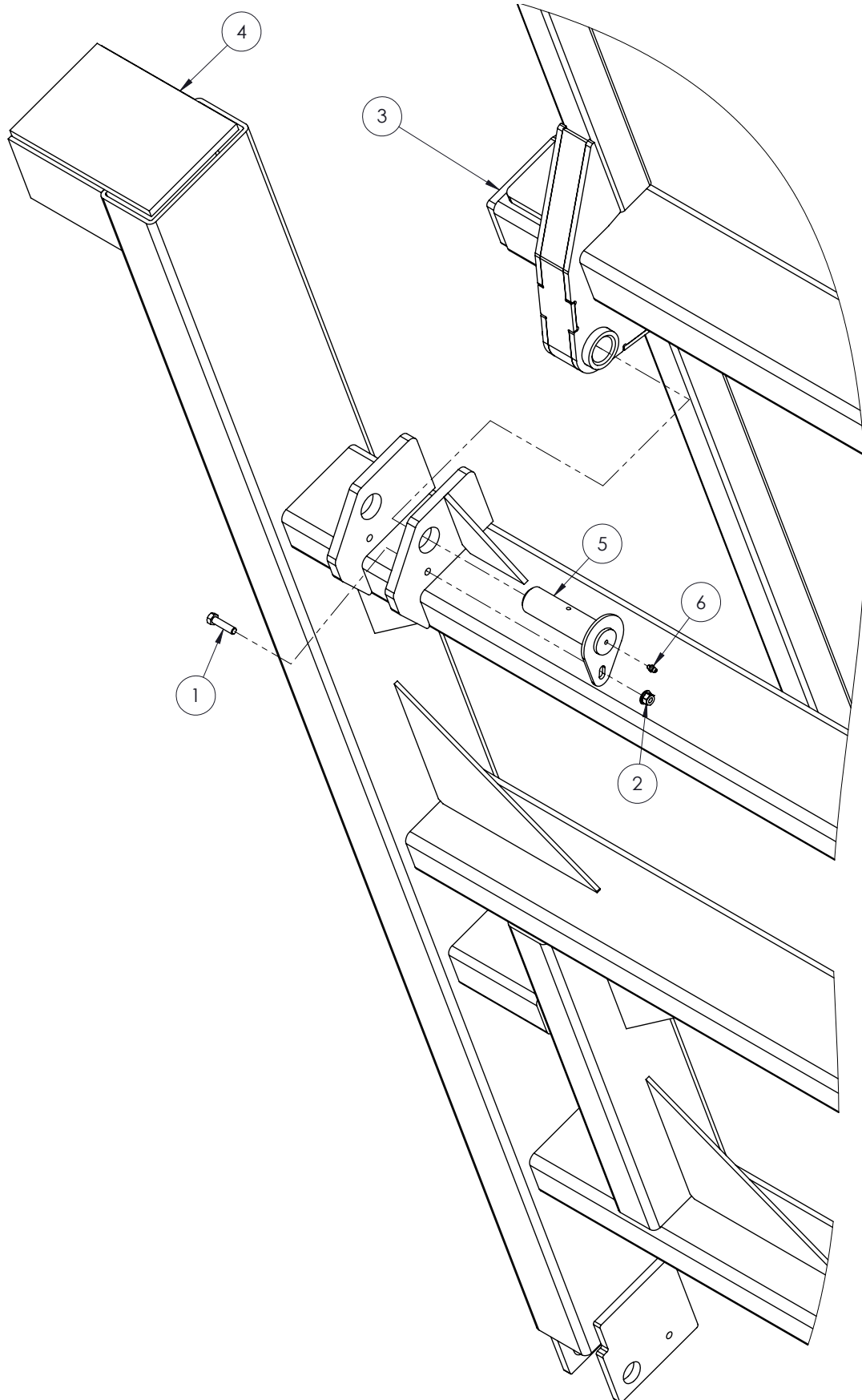
RIM AND TIRE ASSEMBLY

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	HN69-07-4073	20.5 X 25 TIRE	1
2	HN69-07-4074	RIM	1
3	606100	L RING, WHEEL LOCKING	1

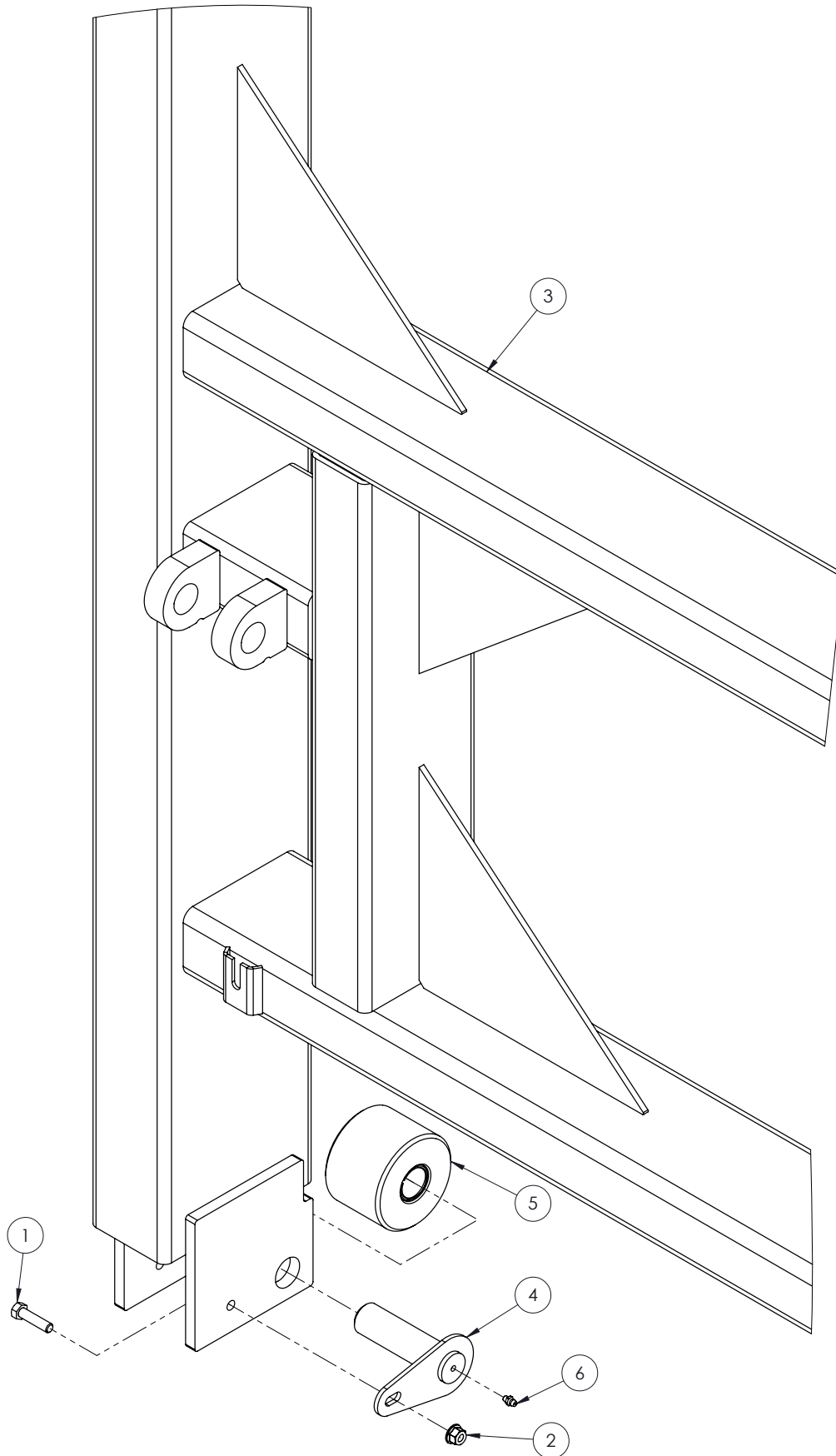
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ILLUSTRATED PARTS LIST: HIGH DUMP: TANK AND LIFT

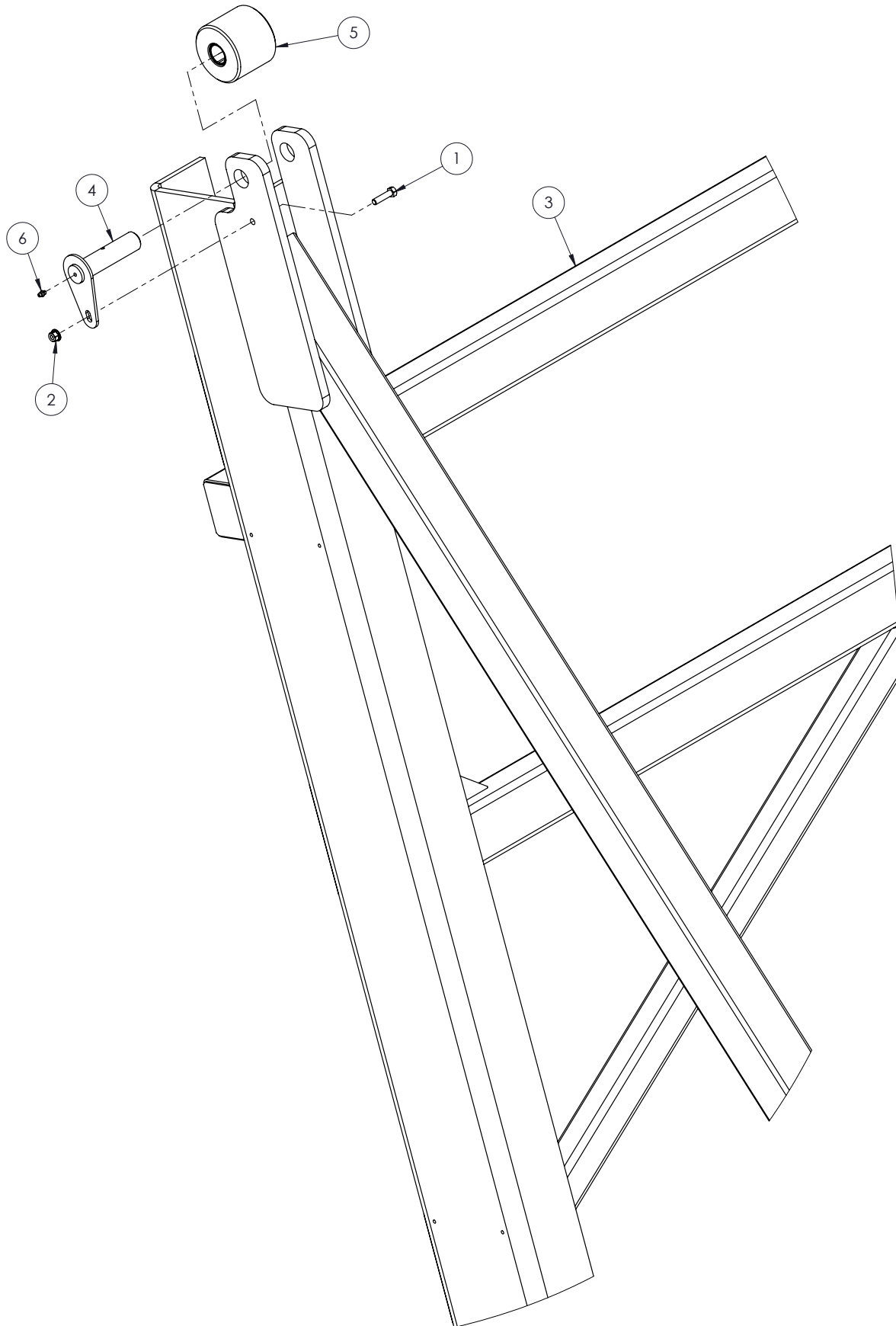


TANK, ELEVATOR ASSEMBLY

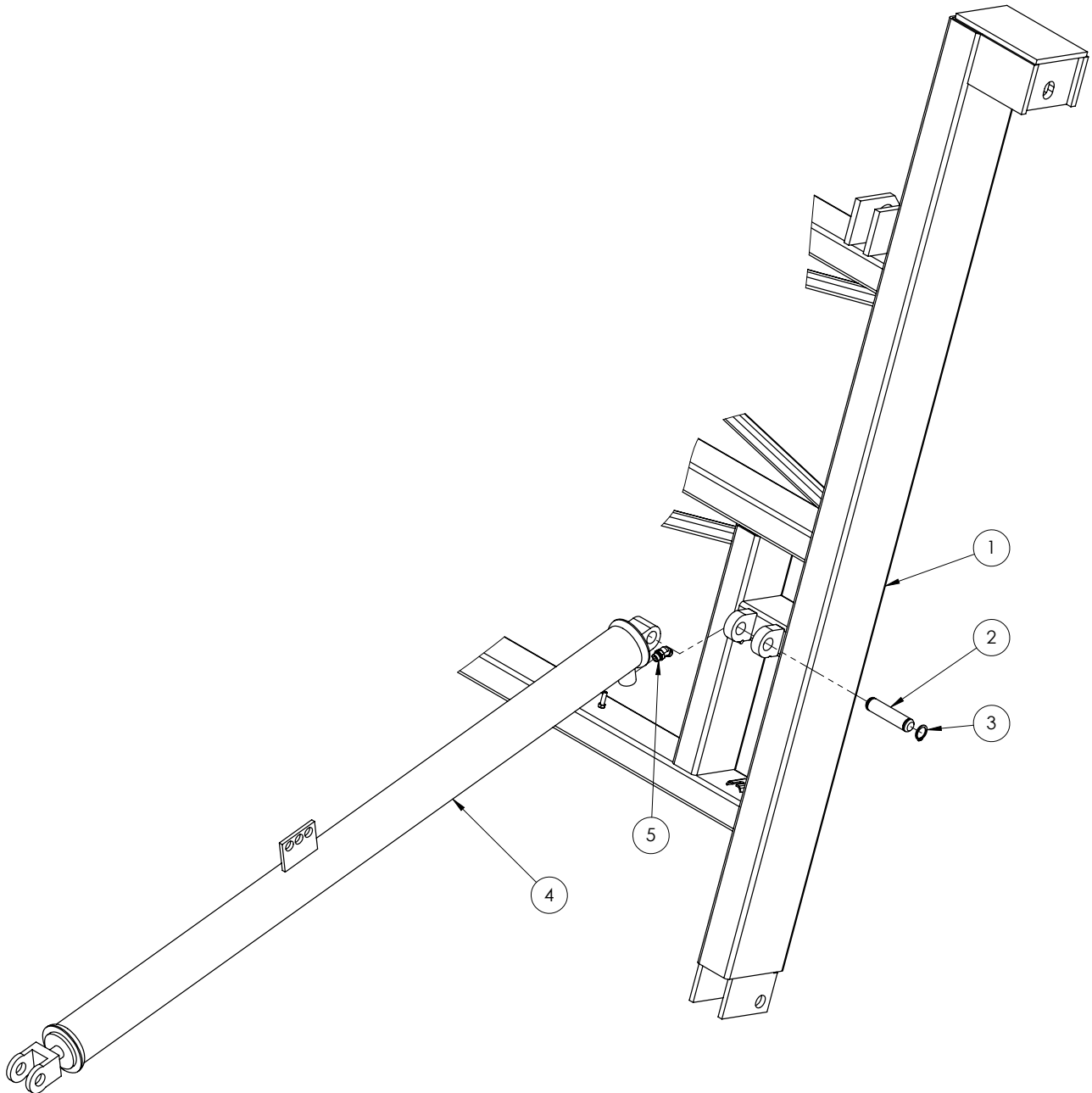
ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	011370	BOLT, HHCS 3/8-16 X 1-1/2	4
2	600120	NUT, HFH NYLOC 3/8-16	4
3	660600	TANK WLDT, 9016HD	1
4	671020	ELEVATOR WLDT, LIFT	1
5	671028	PIN WLDT, PIVOT	4
6	MP905081	FITTING, 1/4-28 STR ZN	4

ELEVATOR, ROLLER ASSEMBLY

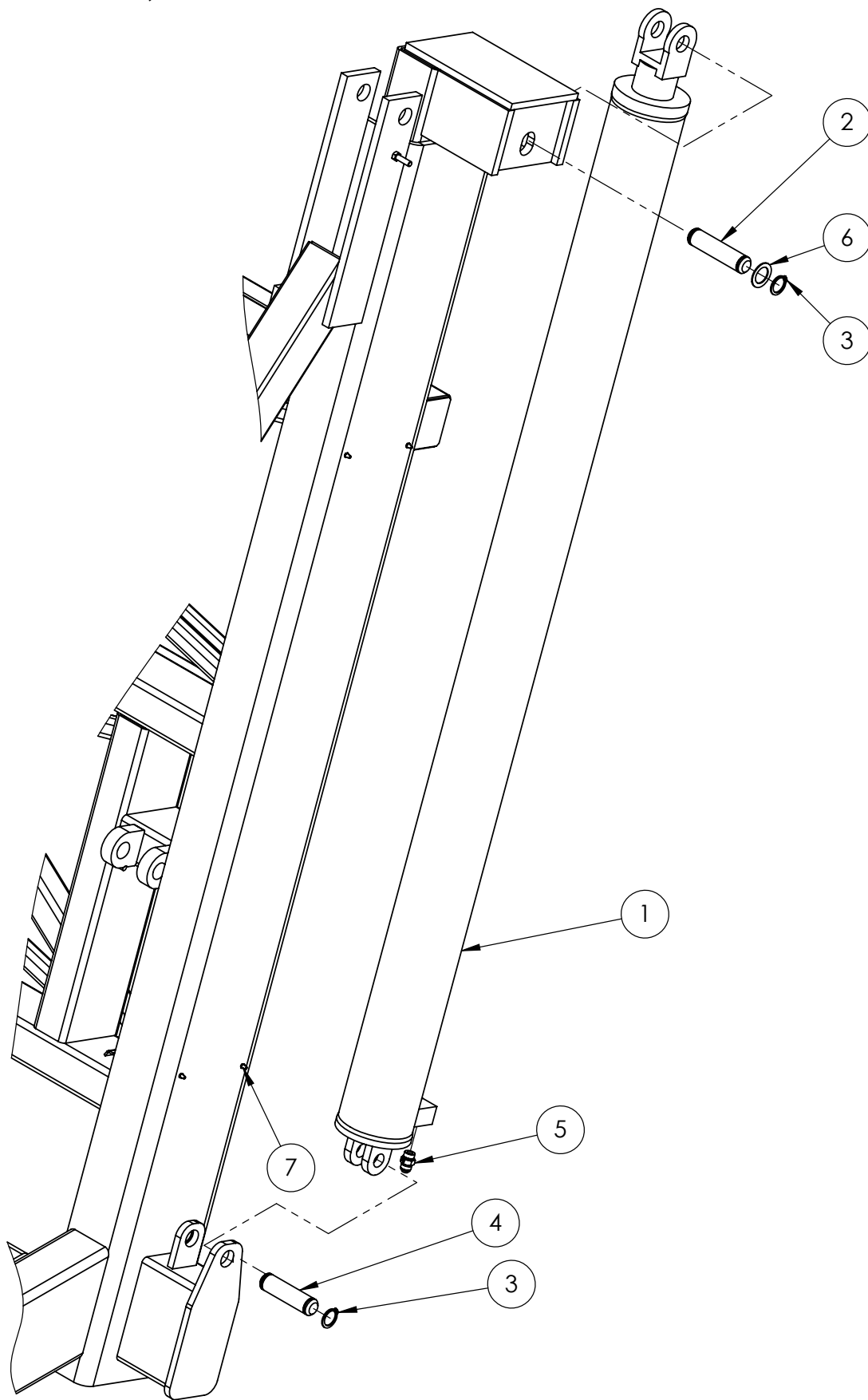
ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	011370	HBOLT 0.3750-16X1.5X1.5-N	2
2	600120	NUT, HFH NYLOC 3/8-16	2
3	671020	ELEVATOR WLDT, LIFT	1
4	671032	PIN WLDT, ROLLER	2
5	MP19.00454	ROLLER, ELEVATOR	2
6	MP905081	FITTING, 1/4-28 STR ZN	2

FRAME, ROLLER ASSEMBLY

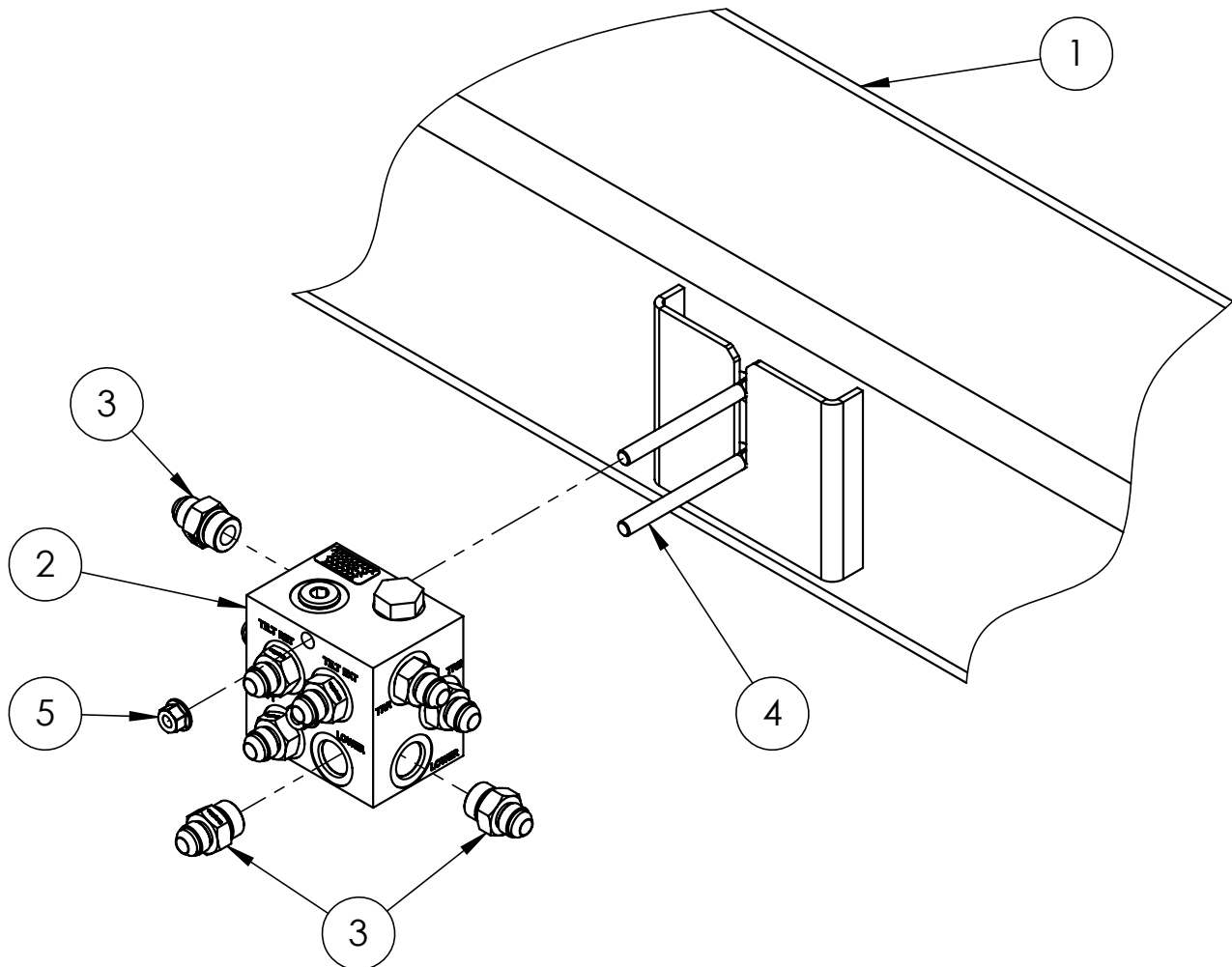
ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	011370	HBOLT 0.3750-16X1.5X1.5-N	2
2	600120	NUT, HFH NYLOC 3/8-16	2
3	671026	FRAME WLDT, LIFT	1
4	671036	PIN WLDT, UPPER ROLLER	2
5	MP19.00453.7	ROLLER, ELEVATOR	2
6	MP905081	FITTING, 1/4-28 STR ZN	2

ELEVATOR, CYLINDER ASSEMBLY

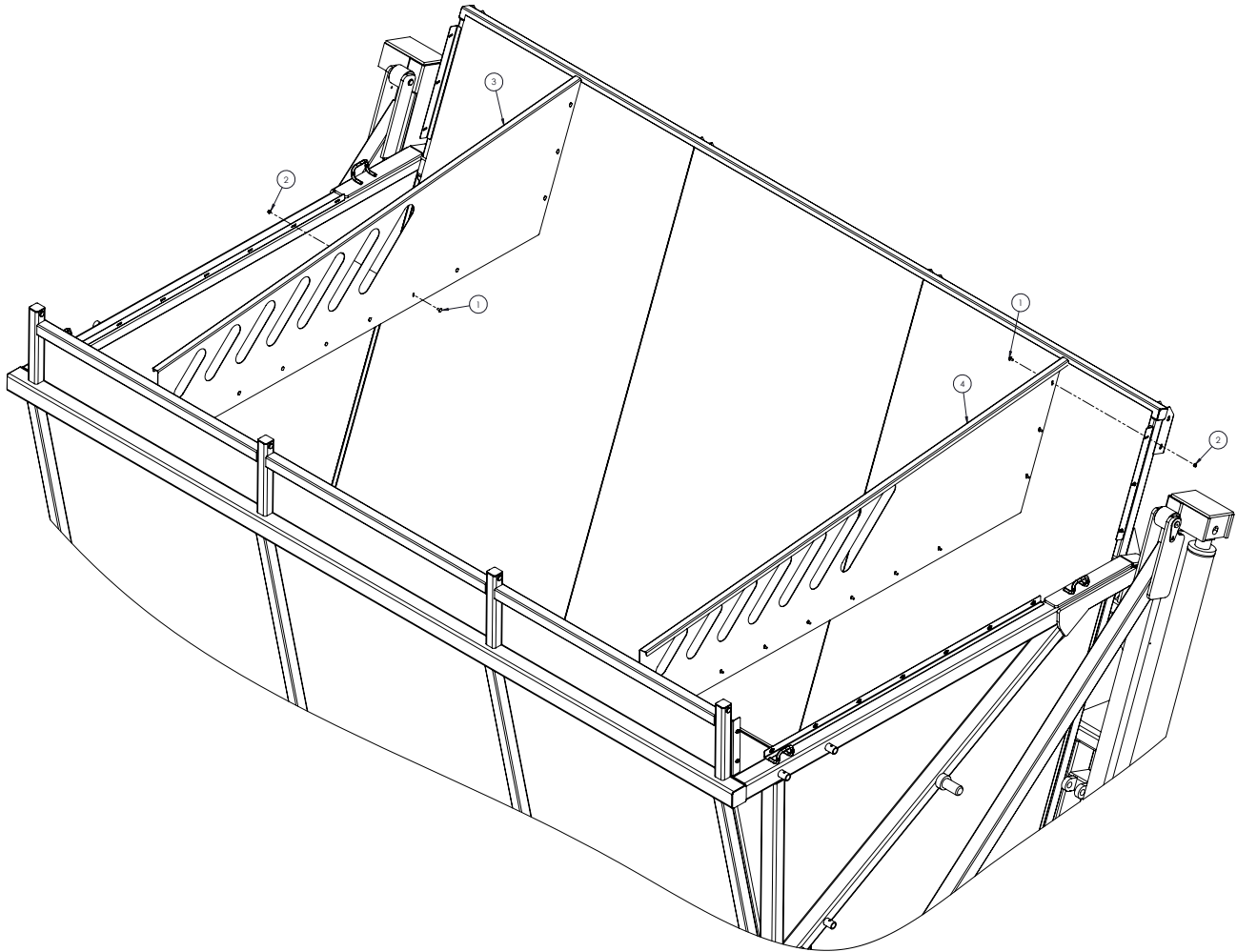
ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	671020	ELEVATOR WLDT, LIFT	1
2	MP19.01215	PIN - 1.25 X 5.38	2
3	I609053R1	RING, RETAINING 1-1/4	4
4	621150	CYLINDER, HYD 5 X 68 X 3.00	2
5	MP09.74156	FITTING, HYD 45°	4

FRAME - ELEVATOR, CYLINDER ASSEMBLY

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	618400	CYLINDER, HYD 5 X 74.50 X 3.00 (MASTER)	1
	618450	CYLINDER, HYD 4 X 74.50 X 2.50 (SLAVE)	1
2	MP19.01215	PIN - 1.25 X 5.38	2
3	I609053R1	RING, RETAINING 1-1/4	8
4	MP19.00629	PIN, CYLINDER 1.25 X 4.88	2
5	MP09.74155	FITTING, HYD STRAIGHT	4
6	025770	WASHER, MACH 1.25 X 1.87	4
7	115590	FITTING, GREASE	8

FRAME, HYDRAULIC BLOCK ASSEMBLY

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	617950	FRAME, DUMPBOX 9016	-
2	618430	MANIFOLD, HYD	-
3	MP32.02101	FITTING, HYD STRAIGHT	-
4	991190	BOLT, CRG 3/8-16 X 3-1/2	-
5	600120	NUT, HFH NYLOC 3/8-16	-

TANK, GUARD ASSEMBLY

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	012410	BOLT, CRG 5/16-18X3/4	24
2	020190	NUT, LOCK 5/16-18 FLG	24
3	660636	PANEL, TOP END	1
4	660639	PANEL, TOP END	1

NOTES:

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Art's-Way Manufacturing Co., Inc. TECHNICAL MANUALS

Manuals are available from your local dealer or Art's-Way Manufacturing Co., Inc. for the operation, service, and repair of your machine. For prompt convenient service, contact your local dealer for assistance in obtaining the manuals for your machine.

Your local dealer can expedite your order for operator manuals, illustrated parts catalogs, service manuals, and maintenance records.

Always give the Machine Name, Model, and Serial Number so your local dealer can provide the correct manuals for your machine.

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ART'S-WAY MANUFACTURING CO., INC.

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