



**Art's-Way Manufacturing Co., Inc.**

Model V180  
Manure Spreader

Operator's Manual & Illustrated Parts List  
H610120

Issued January 2018



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 Manure Spreader. 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 Manure Spreader. 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 Manure Spreader.

Even if you are an experienced operator of this or similar equipment, we ask that you read this manual before operating this Manure Spreader. 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 Manure Spreader 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 Manure Spreader, 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 Manure Spreader 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 V180 Manure Spreader only. Any mention of other machinery in this manual other than the V180 Manure Spreader 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 V180 Manure Spreader.

## PARTS & SERVICE

As the purchaser of your new Spreader, 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 Spreader. 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 and Model Number Placard

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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 Spreader.

Art's-Way Manufacturing Co., Inc. strives to make our equipment as safe as possible. The Art's-Way V180 Manure Spreader 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 Spreader 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 Spreader. (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 Spreader 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 Spreader 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 Spreader. 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 Spreader.



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

Lower the lifter wheels when the Spreader is not in use.

Install safety chain when attaching the Spreader to the tractor.



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



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 Spreader 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 Spreader while in operation.



Do not allow riders while the Spreader is in operation.



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



Stay away from overhead power lines. Electrocutation 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 Spreader. 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 Spreader 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 Spreader is securely attached to the tractor and install a safety chain to the Spreader.

Make sure the tractor brake pedals are latched together.

Do not exceed 20 mph (32 km/h) when transporting the Spreader. 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 Spreader on the highway.



Stay away from overhead obstructions and power lines during transport. Electrocution 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 Spreader 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 Spreader 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 Spreader in an area with sufficient space to maneuver the largest components and allow easy access to all sides of the machine.



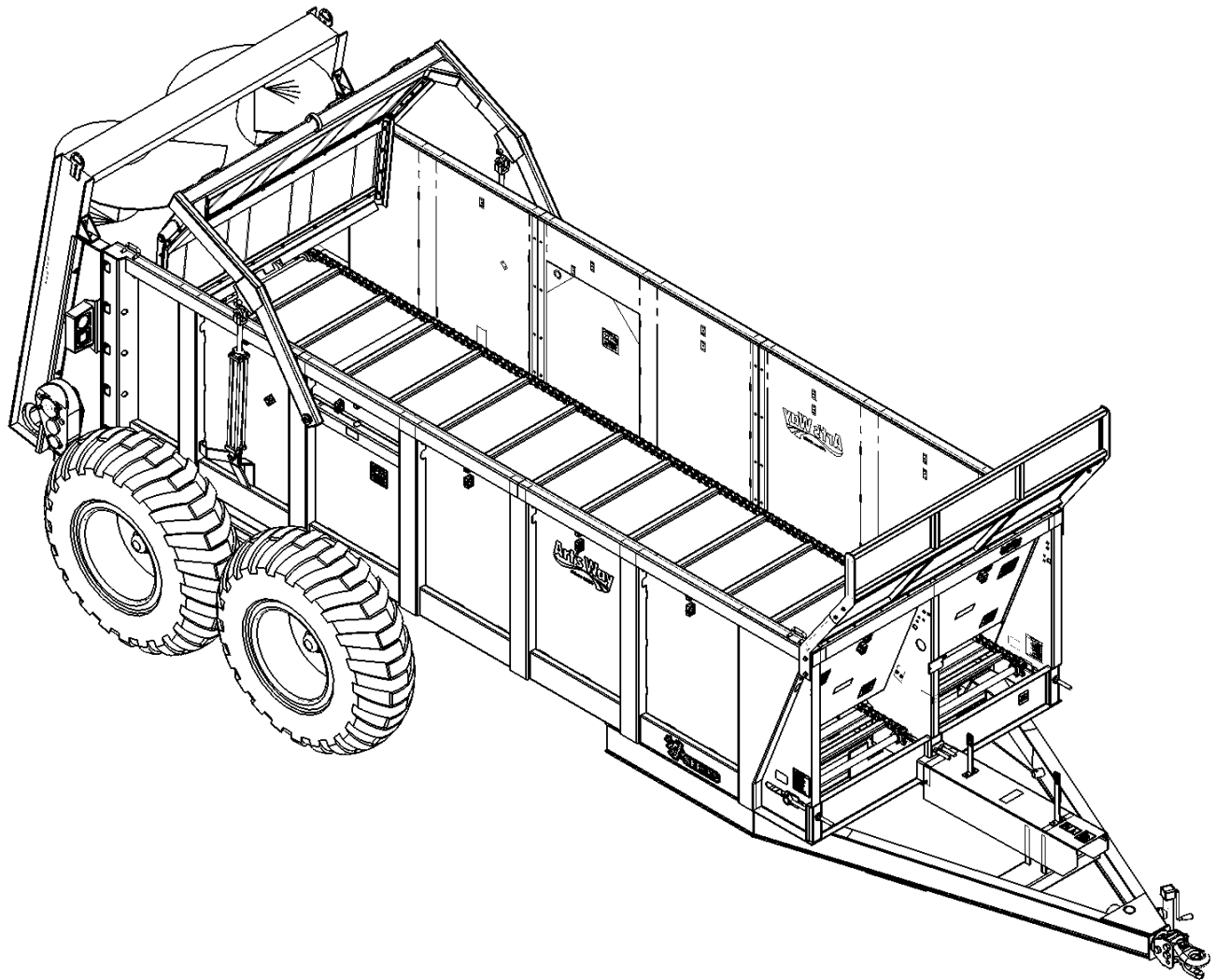
Use only forklifts, lift cranes, jacks, and tools with sufficient capacity for the loads.



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

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**OPERATOR'S INSTRUCTIONS: MANURE SPREADER**





## **UNDERSTAND SAFETY WORDS AND SYMBOLS**



**THIS SAFETY ALERT SYMBOL** is used in this manual whenever personal safety is involved and means **ATTENTION! BECOME ALERT!** It stresses an attitude of “**HEADS UP**” for safety. Read and understand all pages in this manual that bear this safety symbol and...**TAKE TIME TO BE CAREFUL!**

The Signal Word or Message areas of all safety decals are color coded to indicate the level of hazard.

**CAUTION:** Is used to direct attention to unsafe practices, and uses the color yellow.

**WARNING:** Denotes a specific potential hazard, and uses the color yellow or orange.

**DANGER:** Denotes a most serious specific potential hazard, and uses the color red.

## **READ THE OPERATORS MANUAL**

Any person who will be operating or maintaining this manure spreader should first read and understand this manual and all safety warnings on the unit.

This instruction manual should always be available to those responsible for the operation and maintenance of this manure spreader. It is the owner's responsibility to provide this safety information to his operators and employees.

Any person who does not understand the safety and operation instructions contained in this manual should not be considered qualified to operate this manure spreader.

## **FOLLOW SAFETY INSTRUCTIONS**

Specialized procedures and instructions are required and must be adhered to when working on this equipment. Failure to follow the instructions contained in this manual could result in severe personal injury, death, and/or product or property damage. Personnel when operating or maintaining this equipment must use all applicable safety procedures such as OSHA requirements, regional and local safety codes and requirements, safe working practices, and good judgment.





## **OPERATING SAFETY PRECAUTIONS**



**WHEN THE SPREADER IS IN OPERATION, IT HAS MANY MOVING PARTS, WHICH COULD CAUSE SEVERE INJURY OR DEATH TO PERSONS COMING IN CONTACT WITH THESE PARTS. TO HELP AVOID SERIOUS ACCIDENTS, THE FOLLOWING GUIDELINES MUST BE FOLLOWED.**

- **BE SURE ALL SAFETY SHIELDS** are in place before operating, including any truck and driveline shields. Exposed machinery, due to missing shielding, can cause severe injury or death. Repair or replace any damaged or missing shielding.
- **NEVER PUT ARMS OR FEET INSIDE UNIT**, or near discharge areas, nor climb on or in the spreader while it is running. NEVER allow anyone to position themselves over or near the top, or near the discharge area of the spreader while it is running. Rotating beaters, shafting, belts, pulleys, and sprockets can grab clothing or create pinch points, which can cause severe injury or death to the operator or bystanders. Always stop engine and remove ignition key so that the spreader cannot be accidentally turned on while inspection, servicing, repairing, or cleaning the spreader.
- **NEVER ATTEMPT TO RELEASE JAMMED MATERIALS OR CLEAN MATERIALS** from any area of the spreader of discharge without turning the spreader off first. Materials can hide moving parts and stopped parts can start unexpectedly, causing severe injury. Always stop engine and remove ignition key before attempting to remove jammed material or clean the spreader.
- **DO NOT ALLOW OPERATION OF THIS UNIT BY AN INEXPERIENCED OR UNQUALIFIED PERSON.** Keep all unqualified people away from spreader during operation. Operators of this unit must be alert and use good judgment at all times and must have fully read and understand this manual.
- **DO NOT WEAR LOOSE OR FLOPPY CLOTHING** while operating this unit. Loose clothing may become entangled in moving machinery.
- **BE SURE THE INSIDE OF SPREADER IS CLEAR** of any obstructions before loading.
- **SHOULD A PROBLEM OCCUR DURING THE OPERATION OF SPREADER, always turn off engine and remove ignition key before investigating problem.** If power source has not been turned off, the spreader may start unexpectedly, causing severe injury or death.



## **SAFETY**

### **TRANSPORTING SAFETY PRECAUTIONS**



**WHEN TRANSPORTING A LOADED SPREADER, USE REDUCED SPEED AND BE SURE THE VEHICLE HAS ADEQUATE BRAKES TO STOP.**

- **DO NOT ALLOW ANYONE TO RIDE ON OR INSIDE THE SPREADER.**
- **REDUCE SPEED WHEN TRAVELING** loaded and/or over rough, soft, or wet terrain. Exercise caution on side slopes and when turning corners.
- **AVOID OPERATING THE SPREADER CROSSING GULLIES OR DITCHES.**
- **WHEN WORKING ON SLOPES** or inclines, travel uphill or downhill. Keep the transmission in gear when going downhill.
- **AVOID DRIVING ON** loose fill, rocks, inclines, ditches, and holes.
- **ALWAYS PARK** the spreader on level ground and block the tires.
- **IF UNIT IS FOR HIGHWAY TRANSIT** the end user is responsible for federal, state and local vehicle safety regulation compliance (example: under ride requirements, lighting and weight limitations).

### **SAFETY DECALS**

**SAFETY DECALS ARE PLACED ON THIS UNIT FOR THE PROTECTION OF THE OPERATOR OR ANY PERSON NEAR THE UNIT.**

- **BE SURE EVERYONE WHO OPERATES THE SPREADER UNDERSTANDS ALL THE INFORMATION, WARNING, CAUTION AND DANGER DECALS.**
- **KEEP THE DECALS CLEAN** so they are readable. This applies to all caution, warning, and danger decals.
- It is the **OWNER'S RESPONSIBILITY** to provide information for safe operation of this machine.
- **REPLACE ANY DAMAGED OR WORN DECAL.** Once any part of a decal becomes non-readable, it should be replaced. Replacement decals may be ordered through your dealer or Roda Manufacturing.
- **WHEN REPLACING DECALS**, be sure the surface area is clean and dry, peel the backing off the decal, and apply to the unit. Be sure to wipe with a clean cloth to rub out all air bubbles to assure a good seal. For best adhesion decals should be applied in temperatures of 50°(f) or warmer.



## **MANURE SPREADER SAFETY**



**THERE ARE INHERENT HAZARDS ASSOCIATED WITH THE OPERATION OF A MANURE SPREADER. FOR YOUR SAFETY:**

- **ONLY PROPERLY INSTRUCTED PEOPLE SHOULD OPERATE THE SPREADER.** Do not allow children or inexperienced persons to operate spreader.
- **KEEP ALL GUARDS AND SHIELDS IN PLACE.** Moving parts can crush and dismember.
- **CLEAR THE AREA** before equipment start up.
- **KEEP HANDS, FEET, AND LOOSE CLOTHING AWAY FROM ANY MOVING PARTS.**
- **DO NOT GO NEAR THE SPREADER WHILE THE MACHINE IS OPERATING.**
- **MAKE SURE THE PTO IS SECURELY LOCKED** to both the tractor and spreader before operating this unit.
- **DO NOT OPERATE PTO AT SPEEDS HIGHER** than manufacturer's recommendations.
- **HIGHWAY TRAFFIC IS NOT TO EXCEED 10 MPH.** The tires supplied are for farm use only and are not designed for use above this speed.
- **USE ADEQUATE SAFETY CHAINS** when towing the spreader.
- **USE OF A SLOW MOVING VEHICLE SIGN IS REQUIRED** on all public roads. Obey all applicable highway safety laws and rules.
- **ALWAYS USE A TRACTOR LARGE ENOUGH TO PROVIDE SUFFICIENT BRAKING** assistance when towing a loaded spreader.
- **USE CAUTION WHEN TRAVELING** over uneven terrain and when approaching stops.
- **DO NOT LOAD THE SPREADER** unless it is hitched to the tractor.
- **DO NOT UNHITCH A LOADED SPREADER** from the tractor. Leaving it supported by only the jack.
- **PARK THE SPREADER ON LEVEL GROUND** and place blocks ahead of and behind the wheels before unhooking from tractor to avoid unexpected rolling when separated from vehicle
- **DO NOT ALLOW RIDERS ON THE SPREADER.**



**FAILURE TO HEED MAY RESULT IN SERIOUS PERSONAL INJURY OR DEATH  
THERE ARE ADDITIONAL HAZARDS ASSOCIATED WITH THE SERVICE AND MAINTENANCE  
OF YOUR SPREADER.**

**FOR YOUR SAFETY:**

- **INSPECT** when first delivered and regularly thereafter; that all connections and bolts are tight and secure before operating.
- **RETIGHTEN ALL WHEEL BOLTS** after the first hour of towing. Check periodically thereafter.
- **MAINTAIN PROPER TIRE AIR PRESSURE** at all times.
- **ALWAYS WEAR EYE PROTECTION** when operating or servicing spreader.
- **BE SURE ALL MOVEMENT HAS STOPPED** and that the PTO is disconnected and the tractor is shut off before servicing the spreader or components.
- **ESCAPING HYDRAULIC FLUID UNDER PRESSURE** can penetrate skin and cause serious injury. Relieve all pressure from the hydraulic system before connecting or disconnecting the lines or making repairs. Check all hoses and fittings before start-up and periodically during operation.
- **NEVER MAKE ANY ALTERATIONS** or modifications to this equipment.



**FAILURE TO HEED MAY RESULT IN SERIOUS PERSONAL INJURY OR DEATH**

## **PRE-OPERATION**

### **IMPORTANT: READ BEFORE OPERATING SPREADER.**

**IT IS THE RESPONSIBILITY OF THE OWNER TO MAKE SURE THE SPREADER IS SET UP PROPERLY. THE FOLLOWING RECOMMENDATIONS SHOULD BE HELPFUL.**

- **CHECK FOR PROPER ASSEMBLY**, adjustment and lubrication. Check to be sure all bolts and setscrews are tight. Check to be sure that all belts and belt tighteners are properly adjusted. Review Operating Safety Precautions and Lubrication instructions for more information.
- **BE SURE ALL SHIELDS** are properly in place, including any drive-line shields
- **CHECK FOR AND REMOVE ANY FOREIGN OBJECTS** in the spreader box and discharge area.
- **BE SURE NO ONE IS NEAR THE SPREADER.**
- **TEST RUN THE SPREADER.**
- **WITH THE SPREADER EMPTY**, start the apron and beaters.
- **RUN FOR AT LEAST 5 MINUTES.**
- **CHECK THE SPREADER DRIVE COMPONENTS TO BE SURE THEY ARE NOT ABNORMALLY HOT.**

If any of these items are not running as indicated, immediately repair or contact your service representative. Always refer to Operating Safety Precautions before operating or servicing the spreader.



## **LUBRICATION**

**ALWAYS STOP THE MANURE SPREADER AND DISCONNECT POWER BEFORE SERVICING, REPAIRING, OR CLEANING. USE SAFE SHOP PROCEDURE AND EXERCISE CAUTION WHEN WORKING ON THIS MACHINE!**

It is extremely important to properly lubricate your new RODA machine before it is used for the first time. If the mechanical drive components of your unit are not protected from shock and frictional abrasion, the wear rate of these components will be vastly accelerated and their life span will be drastically reduced. For proper care and maintenance, your machine should be serviced with engine oil, multipurpose grease, and fluids specified below.

It is extremely important that the lubrication guide be followed. For lubricating bearings, use good quality multipurpose grease. Pump the grease in slowly. Roller chains should be lubricated with engine oil, or a spray-on chain lubricant and then the spreader operated under a no-load condition. This will allow the roller chains to be thoroughly lubricated and thus minimize heat-up during operation.

DESCRIPTION	INTERVAL	LUBRICANT
TANDEM PIVOTS	15-20 HOURS	GREASE
APRON BEARINGS	15-20 HOURS	GREASE
APRON GEAR CASES	ANNUALLY	75W-90 SYNTHETIC OIL
APRON CHAIN	WHEN PARKED	30WT OIL
BEATER GEAR CASE	ANNUALLY	EP90 GEAR LUBE
UNIVERSAL JOINTS	15-20 HOURS	GREASE
AXLE HUBS	BI-ANNUALLY	GREASE
PTO SHAFTS	15-20	GREASE
SLIP CLUTCH	BI-ANNUALLY	GREASE
CAST FLANGE BEARINGS	15-20 HOURS	GREASE
PILLOW BLOCK BEARINGS	15-20 HOURS	GREASE
SLOP GATE PIVOT POINT	15-20 HOURS	GREASE

**ALWAYS REPLACE ALL SHIELDS AFTER MAINTENANCE AND LUBRICATION IS COMPLETE**

## **INSPECTION & ADJUSTMENTS**

**ALWAYS STOP SPREADER, SHUT OFF VEHICLE ENGINE AND REMOVE IGNITION KEY BEFORE SERVICING, REPAIRING, OR CLEANING, USE SAFE SHOP PROCEDURES AND EXERCISE CAUTION WHEN WORKING ON THIS SPREADER!**

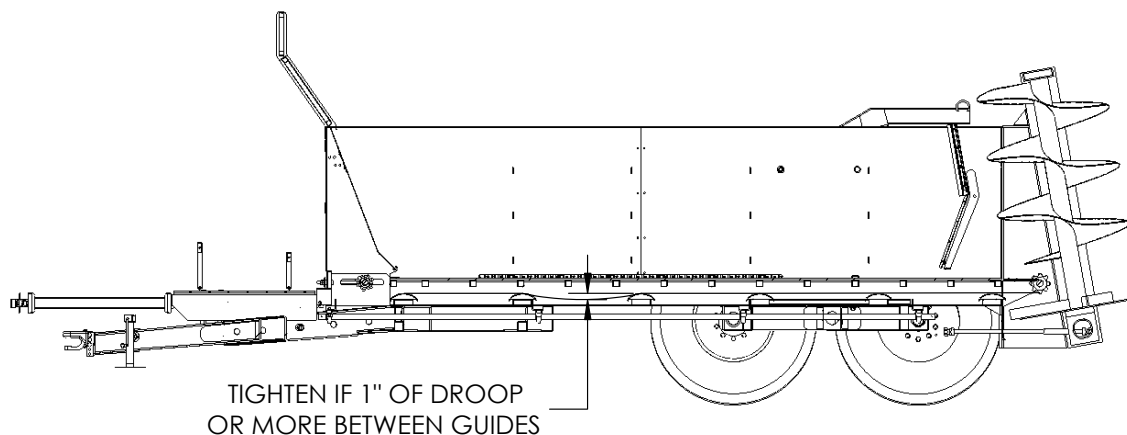
- **SHIELDING** to be sure all shielding is in place and functioning properly. Replace all damaged or missing shielding immediately-Contact your nearest dealer or the Roda parts/service dept. for more information. Check bolts and Set Screws after a few hours of use and each month thereafter, and tighten if necessary.
- **AFTER A FEW HOURS OF INITIAL OPERATION**, check all bolts and set screws to be sure they are tight and secure.
- **CHECK BEATER TEETH.** Bolts must stay tight to prevent teeth from being flung from beaters. Look for wear on teeth and replace any that are worn out or damaged.
- **SAFETY DECALS FOR READABILITY.** If any safety decals are removed, obstructed, or otherwise not understandable, they should be replaced immediately. Keep all decals clean!
- **IMPORTANT: IF YOU WELD ON THIS UNIT:** Do Not allow the currents to flow through the bearings. Ground directly to the item being welded.
- **PERIODICALLY CHECK** all set screws and bolts and retighten if necessary.
- **APRON CHAINS** for wear, proper alignment and tension, according to the adjustment guidelines as shown.
- **BE SURE TO KEEP PROPER TENSION ON APRON CHAINS.** The (4) apron tightener bolts are located at the front of the unit at each end of the apron shaft. They should be adjusted evenly for their respective assembly as shown below:

## **OPERATION**

- **BEFORE OPERATING, BE SURE NO ONE IS NEAR THE SPREADER AND THAT THE DISCHARGE AREA IS CLEAR OF ALL OBJECTS OR PERSONS THAT COULD BE HARMED IF MATERIAL WAS DISCHARGED!**
- **WITH THE VEHICLE STOPPED** and the engine throttled down, engage the apron and beater levers.
- **START VEHICLE IN MOTION.**
- **THE SPREAD RATE IS CONTROLLED BY THE VEHICLE GROUND SPEED.** The type of material being spread affects the rate at which material is discharged from the spreader. Semi-liquid materials will discharge faster than the more solid type materials.
- **WHEN THE SPREADER IS EMPTY DURING FREEZING TEMPERATURES,** be sure that the spreader is cleaned out to prevent the apron from freezing down.
- **IF THE BEATER QUILTS TURNING,** stop the vehicle, turn off the motor, remove the ignition key, and check driveline of the spreader, starting in the front with the PTO and working towards the rear of the spreader.
- **NEVER LOAD THE SPREADER SO THE LOAD IS ON THE BEATERS.**

\*If a problem should occur while unloading the spreader, or if you want to clean off the spreader after it is empty, NEVER leave the VEHICLE without first turning off the engine and removing ignition key.





If apron is loose, remove one link from each side of that apron chain assembly and readjust to tension as shown. **CAUTION:** Over tightening can cause premature failure of the drive components.

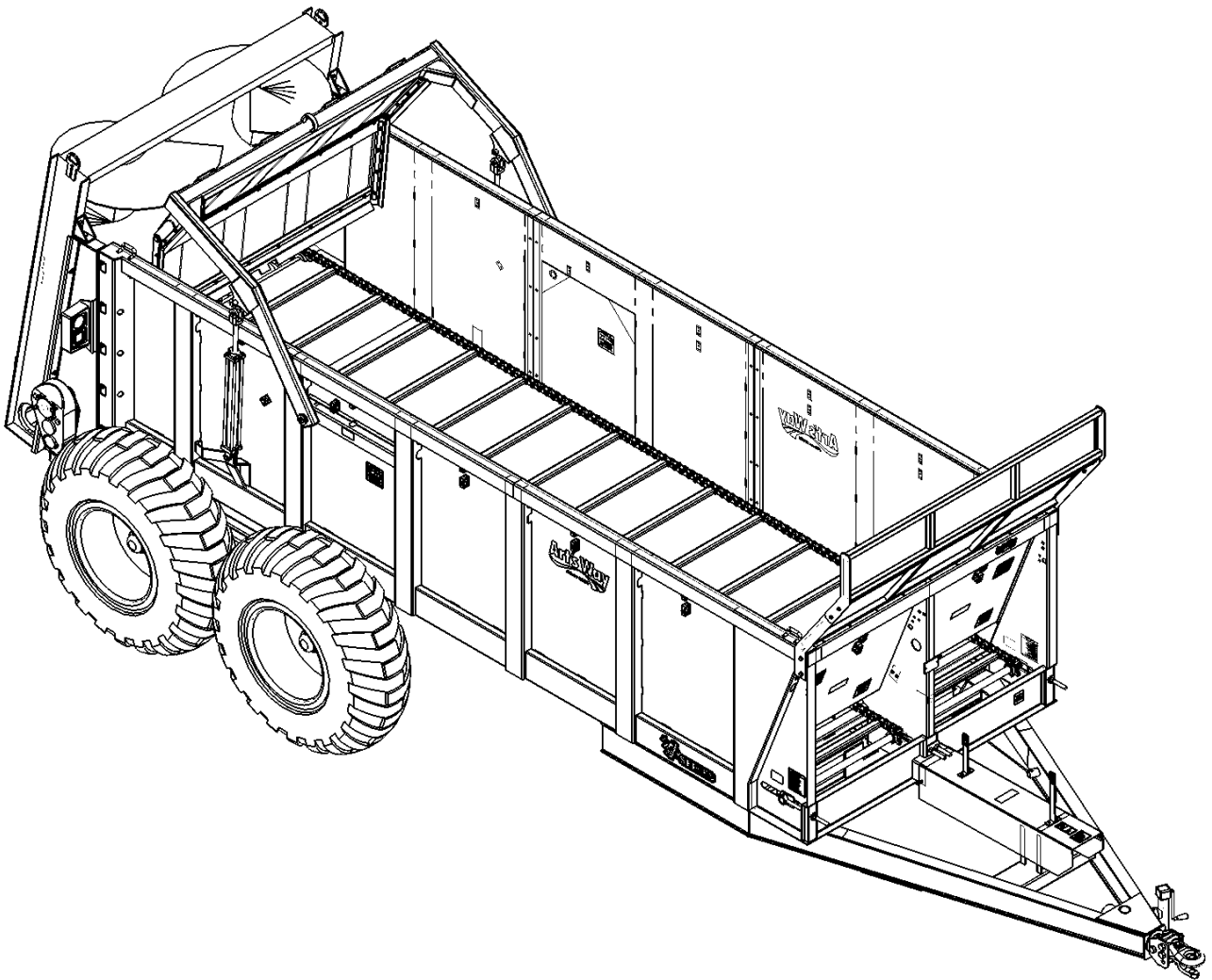
## **SPREADER OPERATION**

**ALWAYS REFER TO THE OPERATING SAFETY PRECAUTIONS AND SAFETY DECAL SECTIONS OF THIS MANUAL BEFORE OPERATING THIS SPREADER**

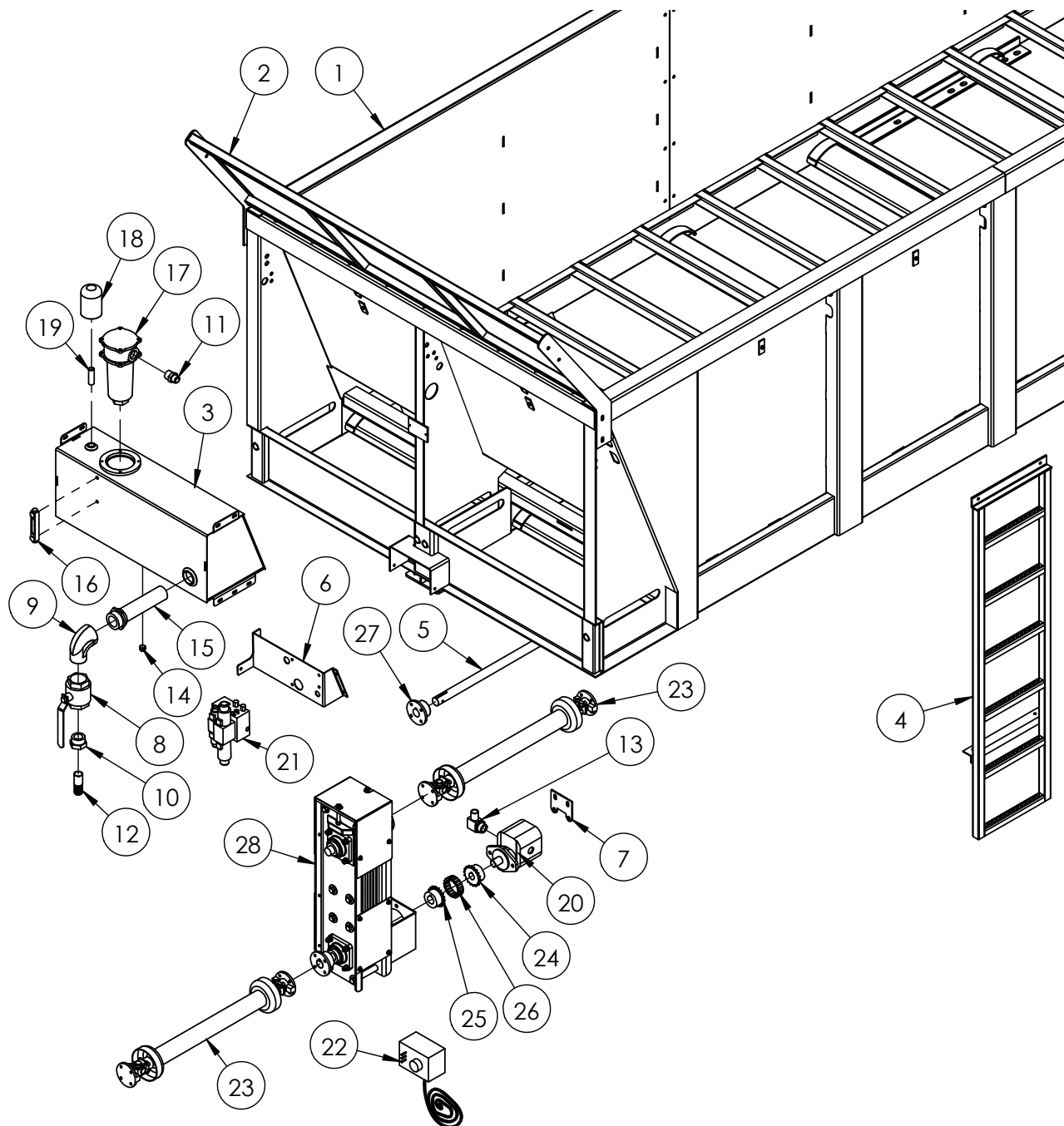
### **LOADING**

- **BEFORE LOADING THE SPREADER**, be sure there are no obstructions in the beaters or discharge opening. Inspect the spreader to see that it is in good mechanical condition and that all shields are in place and functional.
- **NEVER CHECK THE SPREADER WHILE IT IS OPERATING**
- **IN FREEZING WEATHER**, make sure the apron is not frozen with manure. If this appears likely, turn off vehicle engine, remove ignition keys, loosen the frozen area and operate before loading.
- **AVOID LOADING ROCKS AND OTHER SOLID OBJECTS INTO THE SPREADER**
- **NEVER COVER BEATERS** when loading, beaters should spin freely before engaging.

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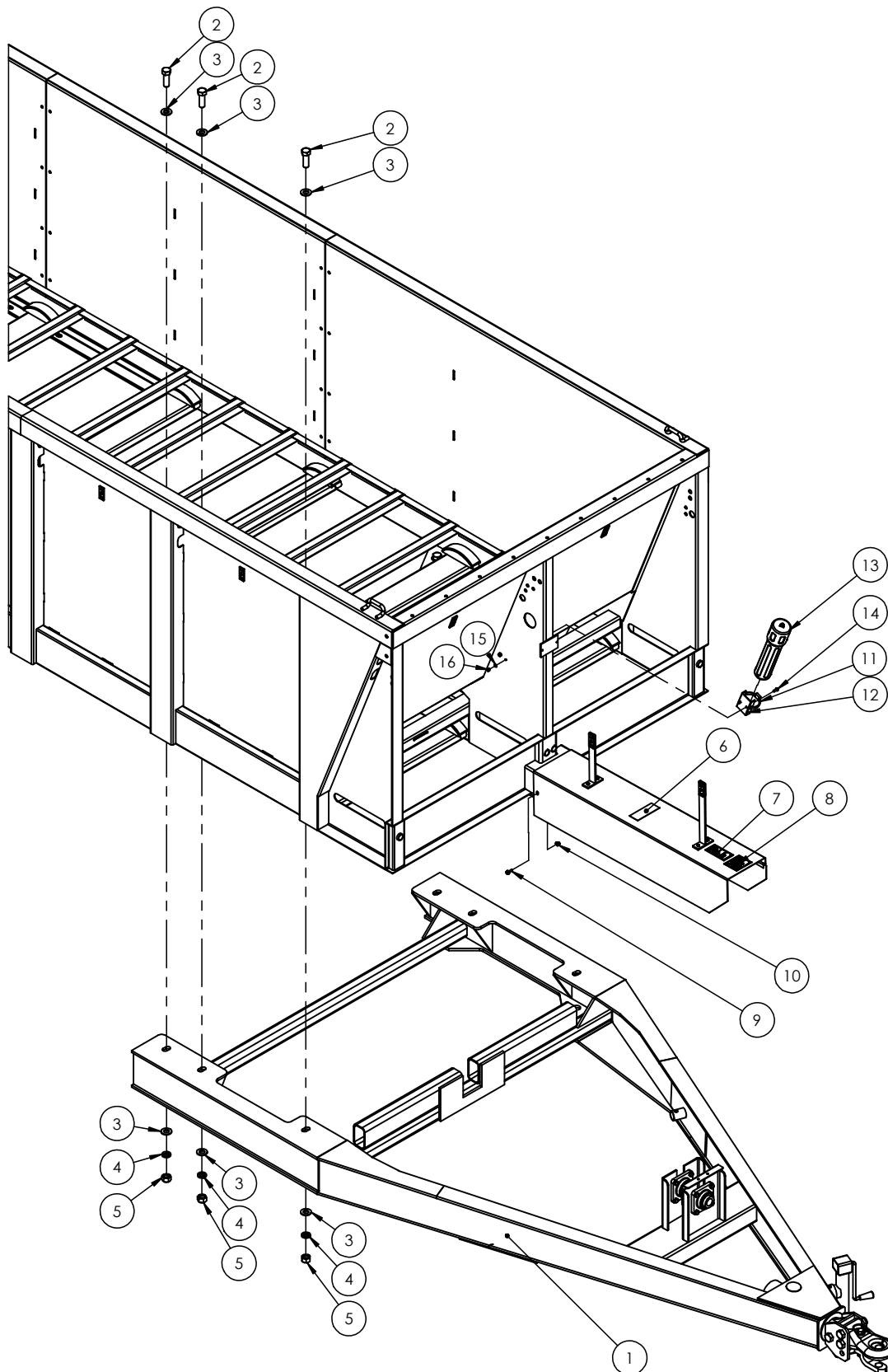
**ILLUSTRATED PARTS LIST: MANURE SPREADER**

## FRAME ASSEMBLY - TRUCK MOUNT



ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	598010	V-SERIES BOX	1
2	H160020	V-SERIES SPLASH GUARD	1
3	H160037	V-SERIES HYD TANK	1
4	H160043	LADDER	1
5	H160054	TRUCK MNT DRIVE SHAFT	1
6	H160070	MANIFOLD MNT 2	1
7	H160083	PUMP MNT BRKT	1
8	HT71-61-3232	BALL VALVE, BRASS, 2" FULL PORT	1
9	HT21-26-3232	ELBOW, BLACK, 90, STR 2"	1
10	HT51-16-3220	BUSHING, Z/HP, 2" X 1-1/4"	1
11	HT54-46-1620	CONNECTOR, #16 MALE JIC X 1-1/4" MALE PIPE THREAD	1
12	HT81-03-2020	NIPPLE, PLATED, KING, 1-1/4"	1
13	HT99-25-2020	ELBOW, 90, 1-1/4" BARB X #20 MALE ORING	1
14	HT51-86-1212	PLUG, MAGNETIC, 3/4"	1
15	HC28-01-3155	FILTER, SUCTION STRAINER, EXTERNAL, 2" X 2", W/ BY PASS	1
16	HC34-01-3117	GAUGE, SIGHT/TEMP 5" METRIC THREAD BLACK ANODIZED	1
17	HC28-01-3131	TANK, HYD MOUNTED FILTER WITH SYNTHETIC ELEMENT AA# 5931	1
18	HC28-01-3100	FILTER, HYD BREATHER	1
19	HC28-02-3129	TANK, HYD BREATHER ADAPTOR	1
20	HC50-00-3154	PUMP, SINGLE GEAR, 5.1 CU. INCH, 1-1/4" KEYED, CCW, P51S	1
21	HC67-08-3192	VALVE MANIFOLD, DUAL PUMP, MAIN SYSTEM HYDRAULIC	1
22	HC67-08-3193	BRAND CONTROLLER, WITH 25' CABLE AND DEUTSCH CONNECTORS	1
23	HO66-07-5063	PTO, CUSTOM DRIVE SHAFT MEASURING ___" FROM FACE TO FACE	2
24	HO20-00-5050	COUPLER, 6018 COUPLER SPROCKET 1-1/4" BORE	1
25	HO20-00-5051	COUPLER, 6018 COUPLER SPROCKET 1-1/2" BORE	1
26	HO20-00-5052	COUPLER, CHAIN 6018 DOUBLE	1
27	HO66-05-5047	PTO, YOKE 1-1/2" COMPANION FLANGE	1
28	BELT DRIVE SYSTEM (VER- SION 4)	5 V-BELT DRIVE	1

## FRAME ASSEMBLY - HITCH



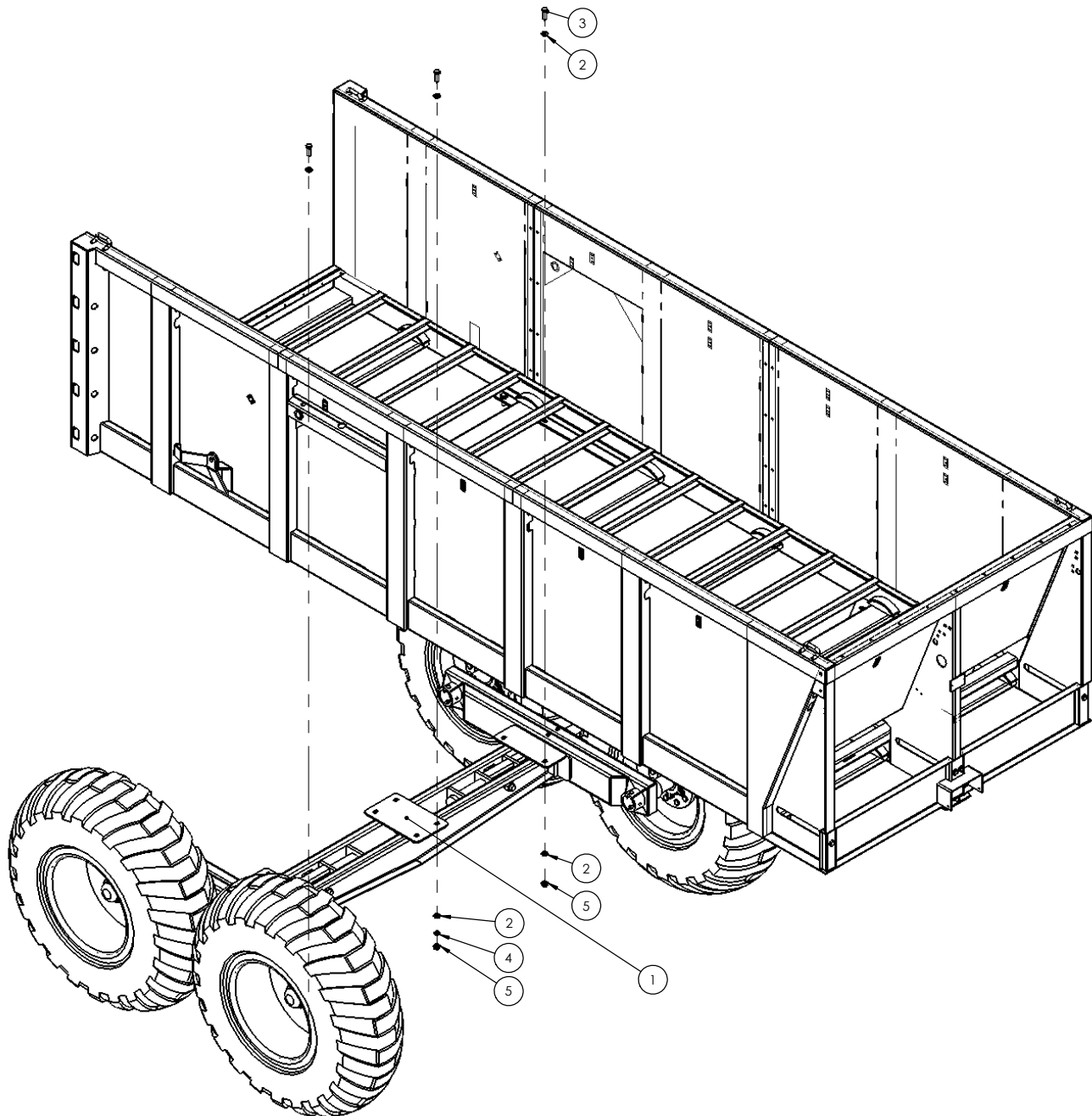
<u>ITEM NO.</u>	<u>PART NUMBER</u>	<u>DESCRIPTION</u>	<u>QTY.</u>
1	H160997	V SERIES TONGUE	1
2	497590	HBOLT 1.0000-8X3X3-N	6
3	042180	WASHER, FLAT 1 X 2 X 3/16	12
4	003350	WASHER, LOCK 1 X 1 21/32 X 1/4	6
5	J14H805	NUT, HEX 1.00-8 GR5 ZN	6
6	HJ22-00-0089	DECAL, WARNING	1
7	268860	DECAL, DANGER	1
8	384020	DECAL, DANGER 1050 RPM	1
9	600060	BOLT, HFH 5/16-18	2
10	600110	NUT, HFH NYLOC	2
11	205920	CLAMP, 4-1/8 X 5	1
12	458081	BRACKET, TUBE	1
13	449190	TUBE, MANUAL HOLDER	1
14	012140	BOLT, HEX, 5/16" X 3/4" Z5	2
15	023620	WASHER, LOCK 5/16 ZN 5	2
16	023630	NUT, HEX 5/16-18 GR5 ZN	2

This technical drawing is an exploded view of a mechanical assembly, likely a robotic gripper or a similar precision instrument. The components are numbered 1 through 24. The main body (1) is a large, L-shaped frame. A central joint (2) connects the two main arms. A motor or actuator (3) is mounted on one arm, driving a series of gears (4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24). The assembly is designed for precise movement and force transmission.



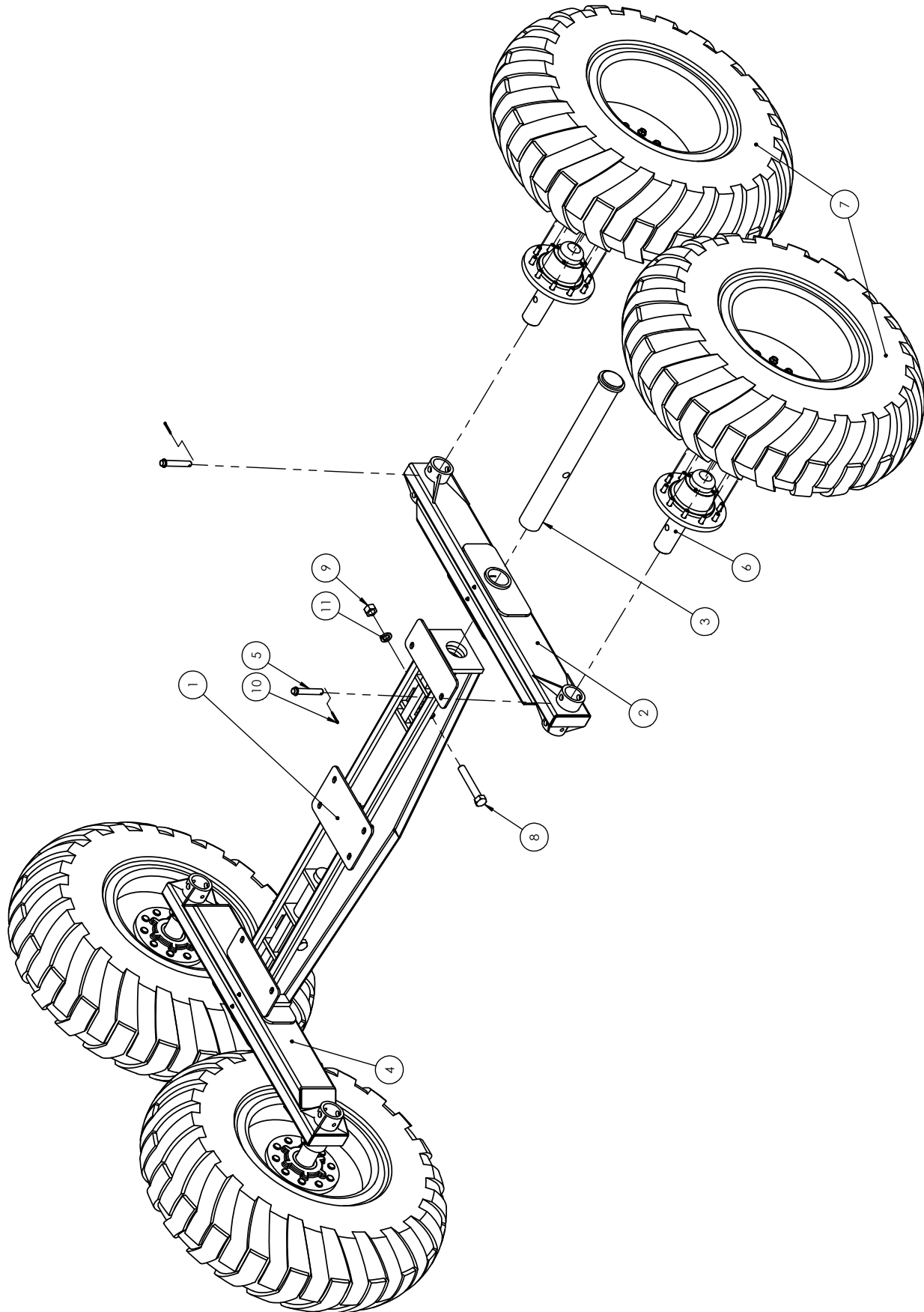
ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	H160011	TONGUE ASSY	1
2	H160022	LONG HOSE HOLDER	1
3	H160023	SHORT HOSE HOLDER	1
4	H160025	SHIELD WLDT, PTO	1
5	H160071	HITCH RECEIVER	1
6	H160075	SWIVEL SHAFT	1
6	597420	SWIVEL SHAFT (WEIGH BAR)	1
7	H160076	SWIVEL HITCH WASHER	1
8	H160077	SWIVEL HITCH STOP	1
9	HH76-02-8199	CLEVIS FOR HITCH	1
10	JK40016	NUT, LOCK 3/4-10 GR8 ZN	1
11	HH76-02-8238	HITCH, CAT4 AUSTEMPERED HITCH	1
12	HJ99-00-0144	PLUG, BLK, ROUND PLASTIC, 2-1/2" ID PIPE	1
13	010560	BEARING, FLANGE 4 BOLT, 1-1/2" W/LOCKING COLLAR	2
14	042960	HBOLT 0.2500-20X1X1-N	4
15	600100	NUT, HFH NYLOC	4
16	990510	HN, 2-WAY LOCK 1-8 GR5 ZN	4
17	HZ85-03-1664	BOLT, HEX, 1" X 6" Z8	4
18	600140	NUT, HFH NYLOC	8
19	014770	BOLT, HHCS .50-13X1.50	6
20	HJ76-02-0103	BULLDOG SIDEWINDER JACK	1
21	H160025-04	SUPPORT, PTO SHIELD	1
22	1770500	BOLT, 1/2-13 X 1-3/4 GR5 ZN	2
23	I4261288	HBOLT 0.7500-10X5.5 GR8 ZN	1
24	600330	WASHER, FLAT 3/4	1
NOTE:	MUST PICK ONE OF ITEM NO. 6		

## FRAME ASSEMBLY - TANDEM WHEELS



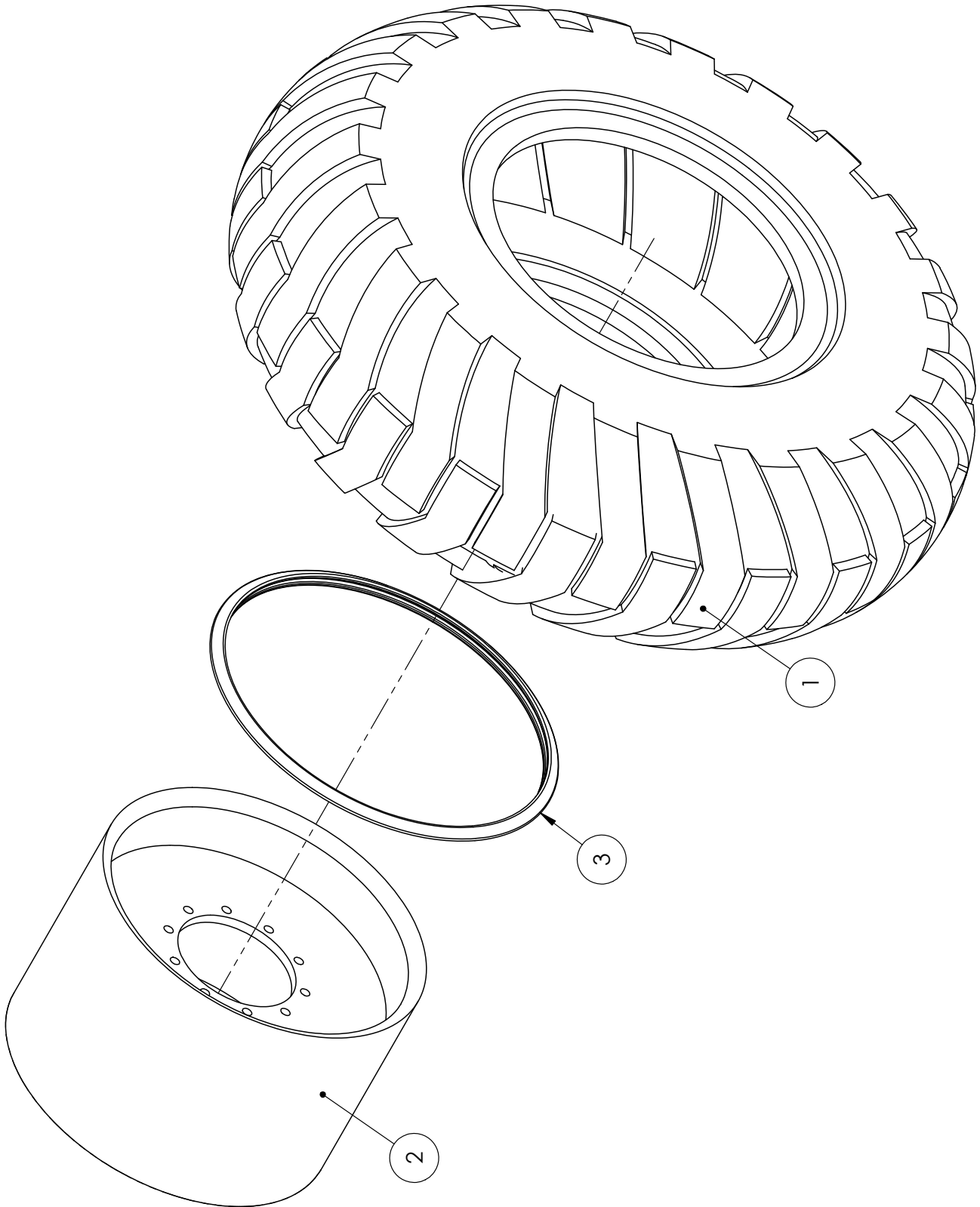
<u>ITEM NO.</u>	<u>PART NUMBER</u>	<u>DESCRIPTION</u>	<u>QTY.</u>
1	H610127	V SERIES TANDEM ASM	1
2	600330	WASHER, FLAT 3/4	16
3	600340	BOLT, HHCS	8
4	036800	LW 3/4" SAE MED	4
5	600320	NUT, SERRATED FL	8

## TANDEM WHEELS ASSEMBLY



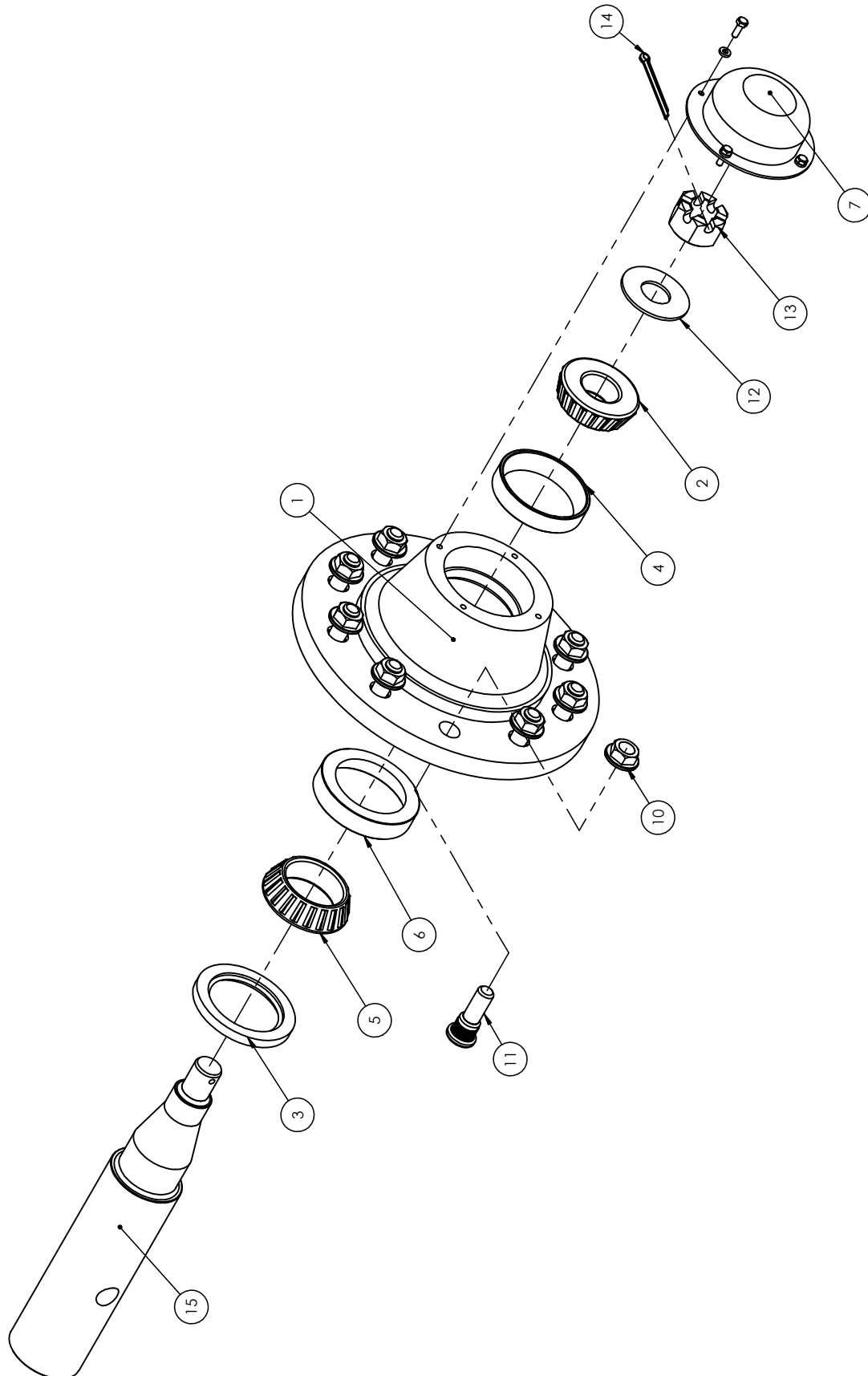
<u>ITEM NO.</u>	<u>PART NUMBER</u>	<u>DESCRIPTION</u>	<u>QTY.</u>
1	H160007	AXLE (TANDEM)	1
2	H610124	TANDEM BEAM ASSY, LEFT	1
3	H160009	PIVOT PIN ASSY	2
4	H610126	TANDEM BEAM ASSY, RIGHT	1
5	H160017	SPINDLE PIN ASSY (TANDEM)	4
6	H160052	V SERIES HUB/SPINDLE	4
7	HN69-07-4019	WHEEL, 16R20 USED	4
8	HZ85-03-2080	BOLT, HEX, 1-1/4" X 8" Z8	2
9	HZ85-42-2020	NUT, LOCK, DEFORMED, 1-1/4"-7 Z8	2
10	114370	PIN, COTTER, 1/4" X 2" Z5	4
11	E829047	WASHER, LOCK 1-1/4	2

TANDEM WHEELS - WHEEL ASSEMBLY



<u>ITEM NO.</u>	<u>PART NUMBER</u>	<u>DESCRIPTION</u>	<u>QTY.</u>
1	HN69-07-4073	20.5 X 25 TIRE	1
2	HN69-07-4074	HD SPLIT RIM, 10-BOLT	1
3	606100	L RING, WHEEL LOCKING	1

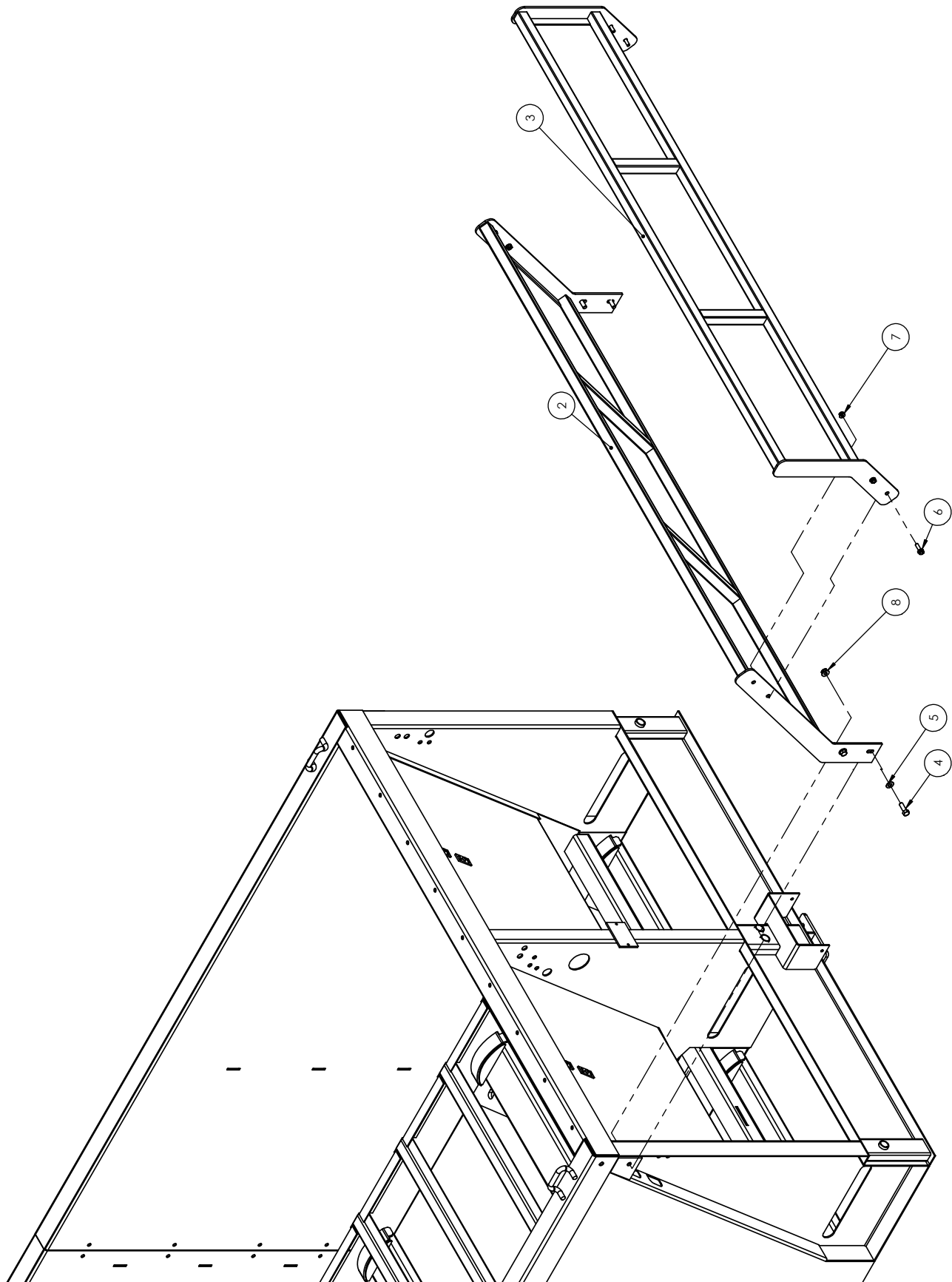
## TANDEM WHEELS - HUB &amp; SPINDLE ASSEMBLY





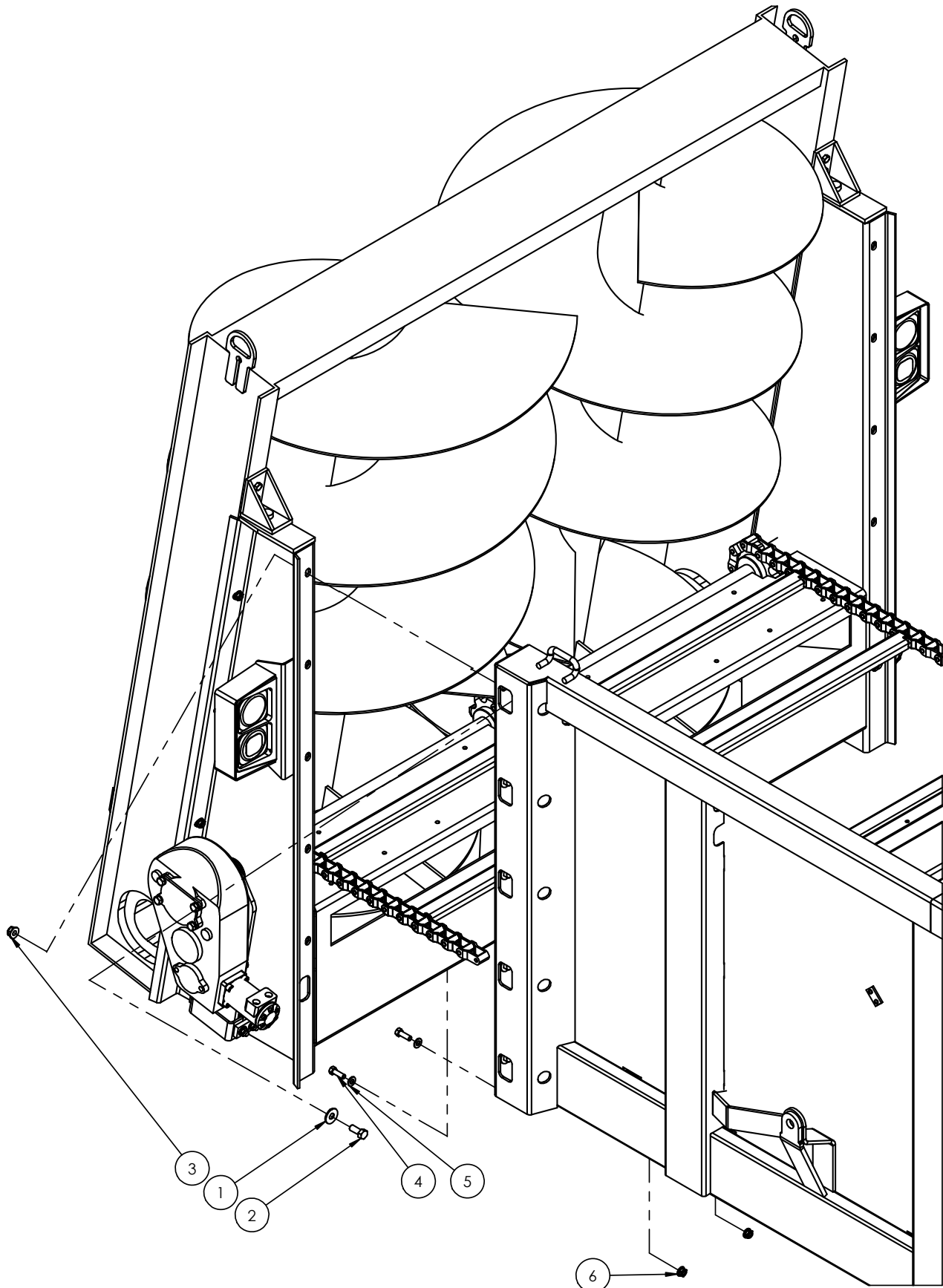
<u>ITEM NO.</u>	<u>PART NUMBER</u>	<u>DESCRIPTION</u>	<u>QTY.</u>
1	HN69-05-4072	873 HUB MACHINED CASTING	1
2	G202643	OUTSIDE BEARING #460	1
3	HN64-02-4028	GREASE SEAL #33464 SA	1
4	HN69-02-4068	OUTSIDE BEARING RACE #453A	1
5	G202644	INSIDE BEARING #33275	1
6	HN69-02-4066	INSIDE BEARING RACE #33462	1
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	HN69-02-4042	3/4" LUG NUT	10
11	HN69-02-4061	WHEEL, STUD 3/4"	10
12	1100925	WASHER, FLAT 1-3/8 X 3-5/32 X 1/8	1
13	HZ82-49-2020	NUT, SLOTTED 1-1/4 12 GR5	1
14	MP906827	.25"X 3" COTTER PIN	1
15	HN69-06-4056	SPINDLE, 3-3/8 DIA.	1
15	597410	SPINDLE, 3-3/8 DIA. (WEIGH BAR)	1
NOTE:	MUST PICK ONE OF ITEM NO. 15		

## FRAME ASSEMBLY - GUARDS



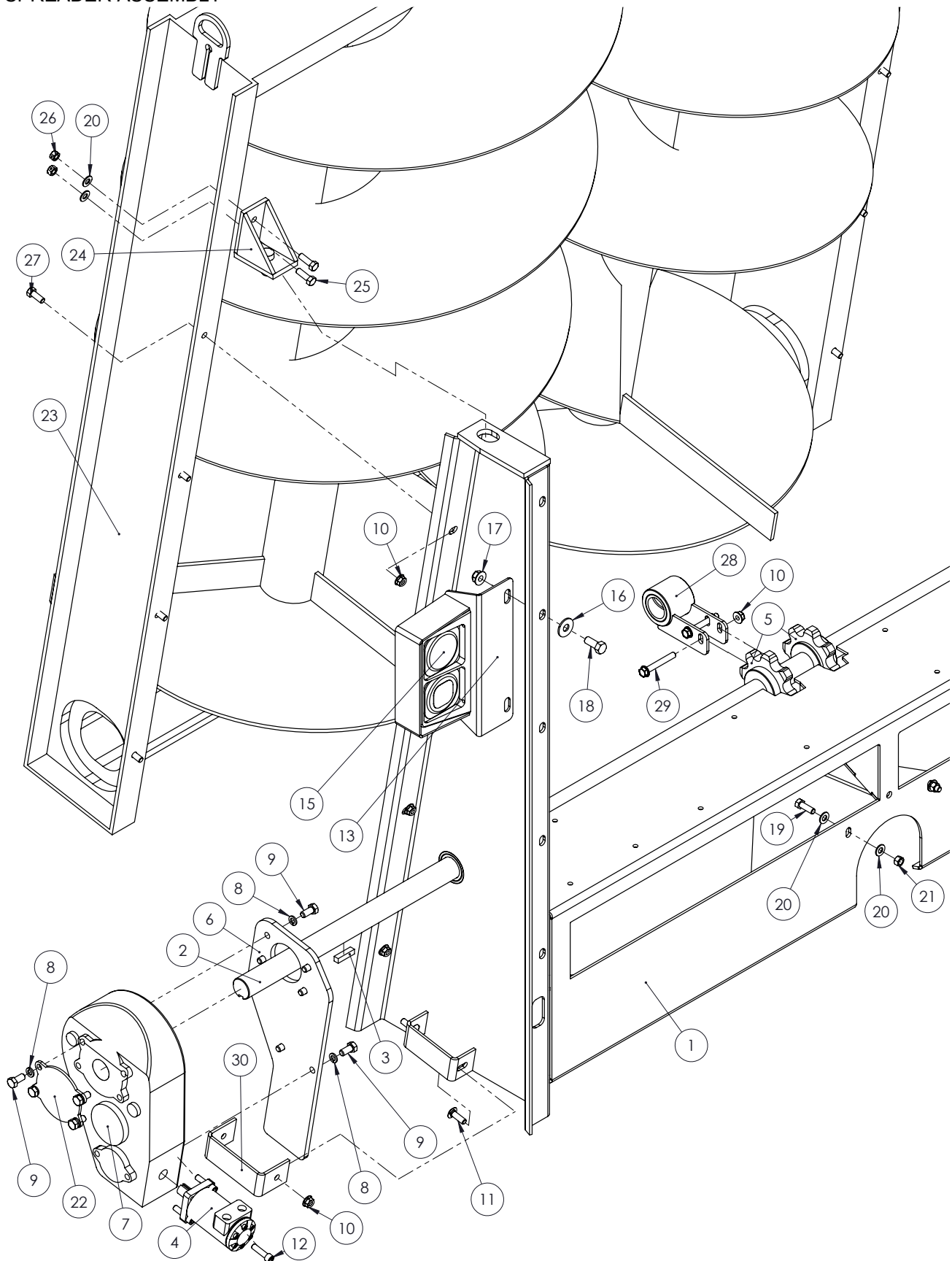
<u>ITEM NO.</u>	<u>PART NUMBER</u>	<u>DESCRIPTION</u>	<u>QTY.</u>
2	H160020	V SERIES SPLASH GUARD	1
3	H160029	CAB PROTECTOR EXT	1
4	014770	BOLT, HHCS .50-13X1.50	4
5	005200	WASHER, FLAT 1/2 STD	4
6	600280	BOLT, HFH 3/8-16	4
7	600120	NUT, HFH NYLOC	4
8	600140	NUT, HFH NYLOC	4

## FRAME ASSEMBLY - SPREADER

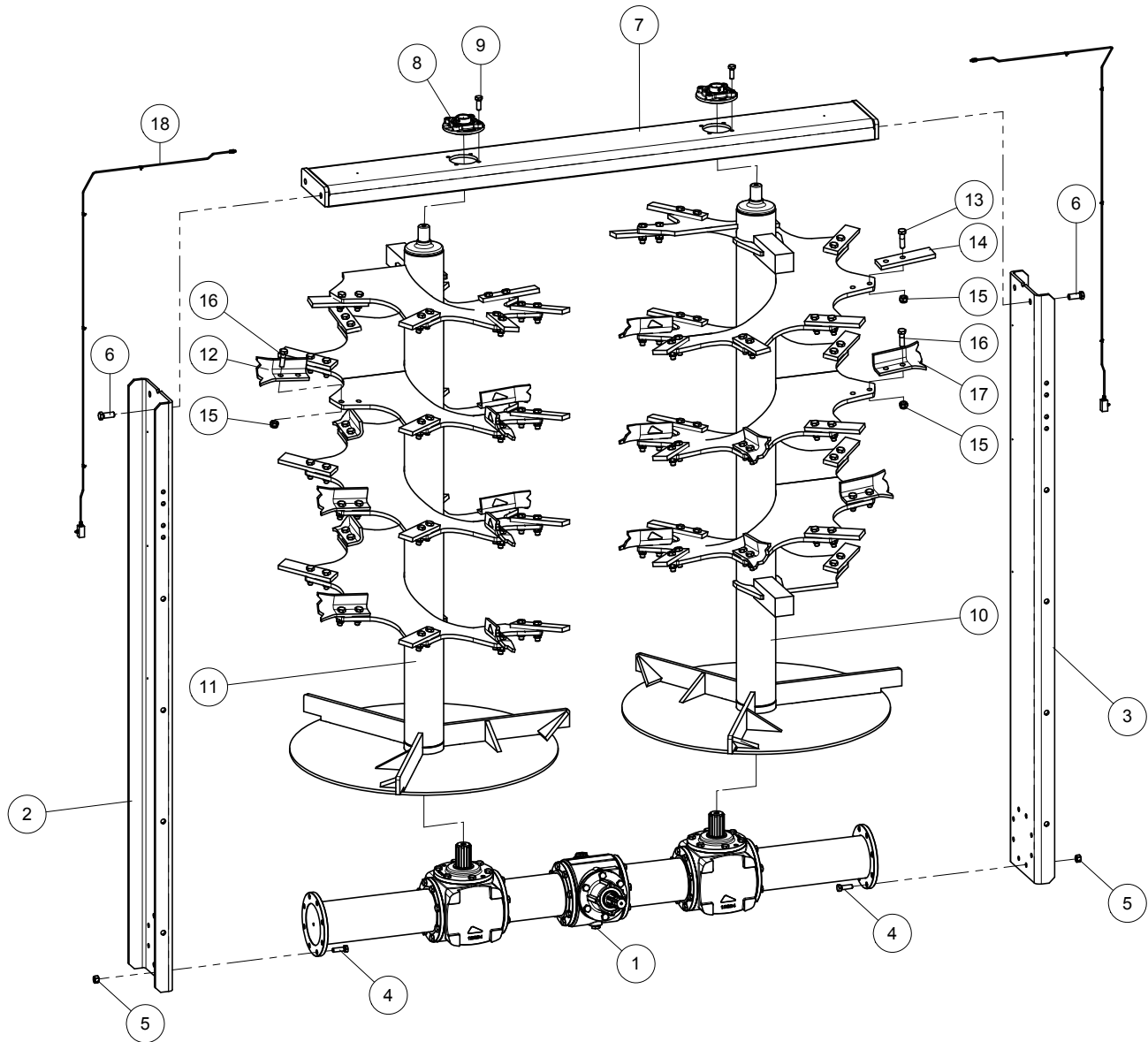


<u>ITEM NO.</u>	<u>PART NUMBER</u>	<u>DESCRIPTION</u>	<u>QTY.</u>
1	020430	WASHER,FLAT 5/8 STD	10
2	438880	BOLT, HEX	10
3	600150	NUT, HFH NYLOC	10
4	014770	BOLT, HHCS .50-13X1.50	2
5	005200	WASHER, FLAT 1/2 STD	2
6	600140	NUT, HFH NYLOC	2

## SPREADER ASSEMBLY



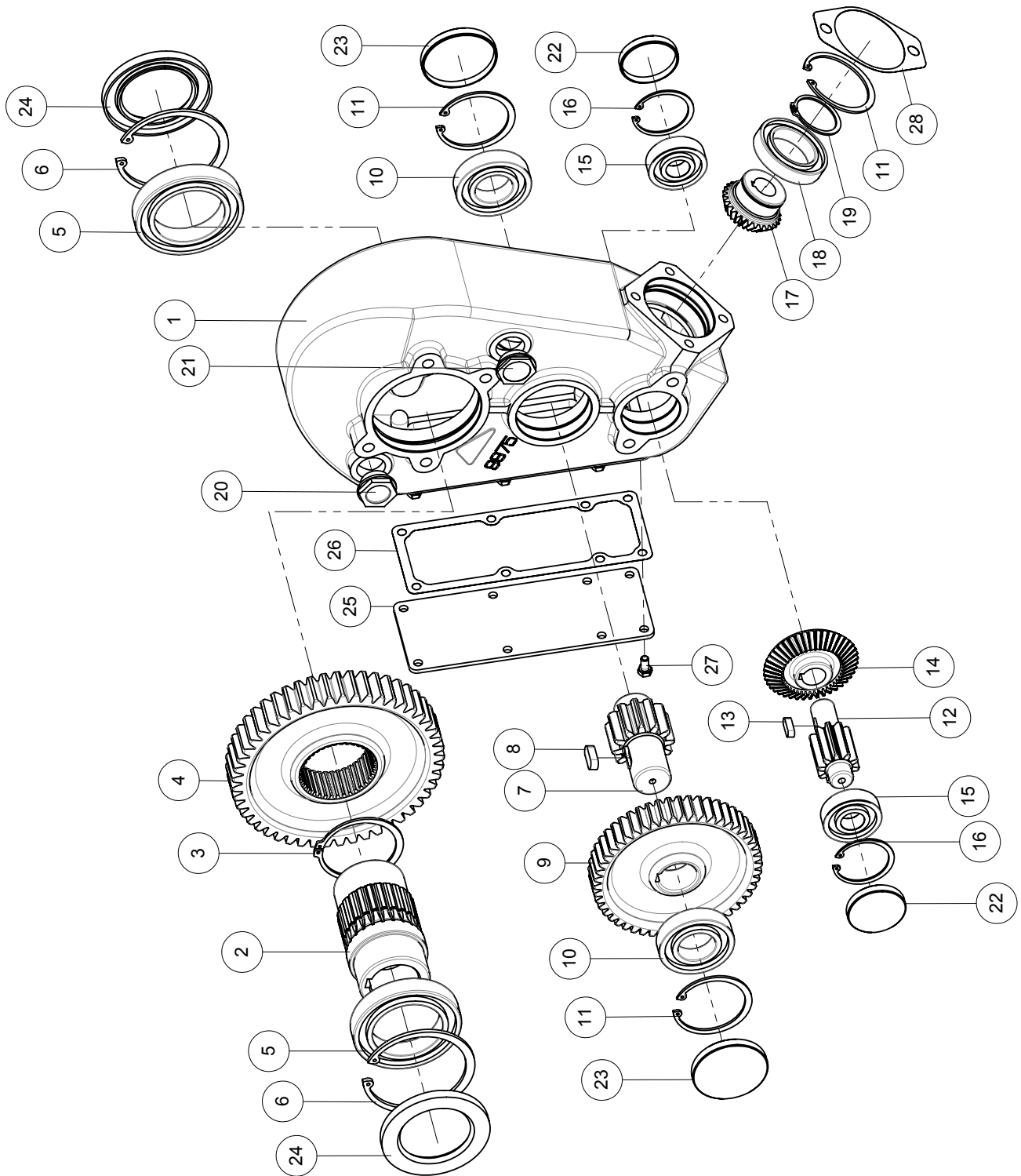
ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	H160002	REAR GANG	1
2	H160006	SHAFT, APRON	1
3	R66305	KEY, SQUARE 1/2" X 2"	4
4	HC14-00-3122	MOTOR, HYD EATON 2000 SE	2
5	HM08-56-3077	SPROCKET, 66T 8T	4
6	H15560	TORQUE PLATE	2
7	HO74-01-5069	GEARBOX, BERMA, RIGHT ANGLE	2
8	005370	WASHER, LOCK 1/2	20
9	H4138	BOLT, HHCS M14-2 X 30 GR8.8 ZN	20
10	600140	NUT, HFH NYLOC 1/2-13	14
11	156850	BOLT, CRG 1/2-13 X 1-1/2"	4
12	HZ86-11-1245	SHCS, M12-1.75 X 45	8
13	H160074	LIGHT BRKT	2
14	485660	LIGHT, 4-PIN DUAL D-LEFT	1
15	485670	LIGHT, 4-PIN DUAL D-RIGHT	1
16	020430	WASHER, FLAT 5/8 STD	2
17	600150	NUT, HFH NYLOC 5/8-11	2
18	438880	BOLT, HEX	2
19	014770	BOLT, HHCS .50-13X1.50	2
20	005200	WASHER, FLAT 1/2 STD	8
21	005360	NUT, HEX 1/2-13	2
22	598420	GEARBOX PLATE	2
23	H160503	LIFTHOOK WLDT,	1
24	H200101	BEATER LOCATOR PIN	2
25	014770	BOLT, HHCS 1/2-13 X 1-1/2"	4
26	127890	NUT, HEX LOCK 1/2-13 TOP LOCK	4
27	010730	HBOLT 1/2-13 X 1.25" GR5 ZN	8
28	609500	MOUNT, BUSHING WELDMENT	1
29	607670	BOLT, HFH 1/2-13 X 2.00"	2
30	H610131	BRACKET, HYD. MOTOR	2





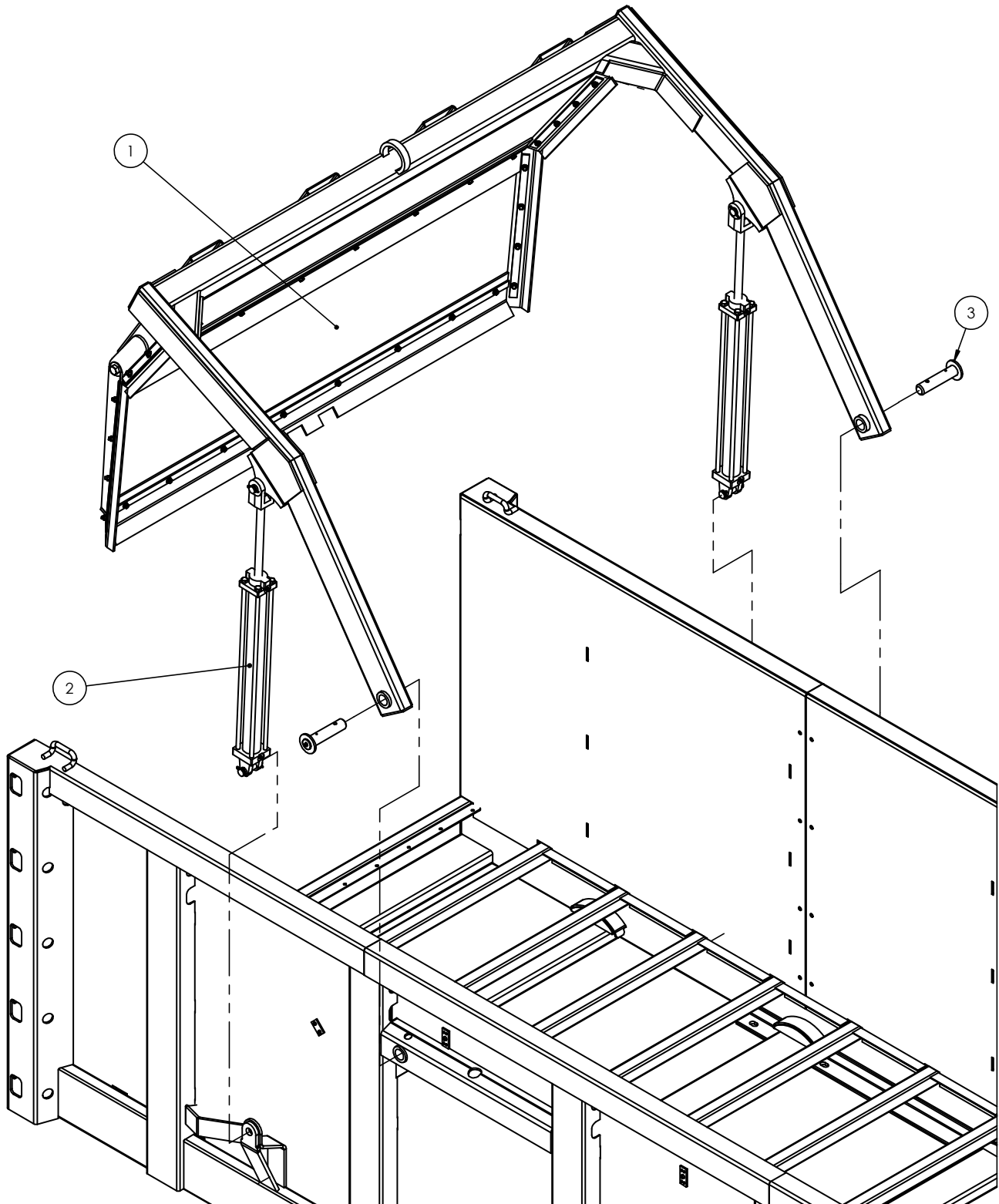
<u>ITEM NO.</u>	<u>PART NUMBER</u>	<u>DESCRIPTION</u>	<u>QTY.</u>
1	H14250	GEARBOXES SRT18/2100	1
2	H14790	RIGHT PANEL	1
3	H14791	LEFT PANEL	1
4	H3489	SCREW, HEX-HD M14X45	16
5	H1799	NUT M14	16
6	H9156	SCREW, HEX-HD M18X45	4
7	H14792	CROSS BAR	1
8	H9905	UCFC 208 Ø40	2
9	H3311	SCREW, HEX-HD M14X40	8
10	H14788	RIGHT BEATER	1
11	H14789	LEFT BEATER	1
12	H14627	LEFT BLADE	10
13	H14054	SCREW, HEX-HD M16X1.5X60	72
14	H14787	KNIFE	36
15	H9113	NUT M16X1.5	112
16	H14061	SCREW, HEX-HD M16X1.5X55	40
17	H14626	RIGHT BLADE	10
18	H14780	LUBRIFICATION KIT	1

## SPREADER - GEARBOX ASSEMBLY



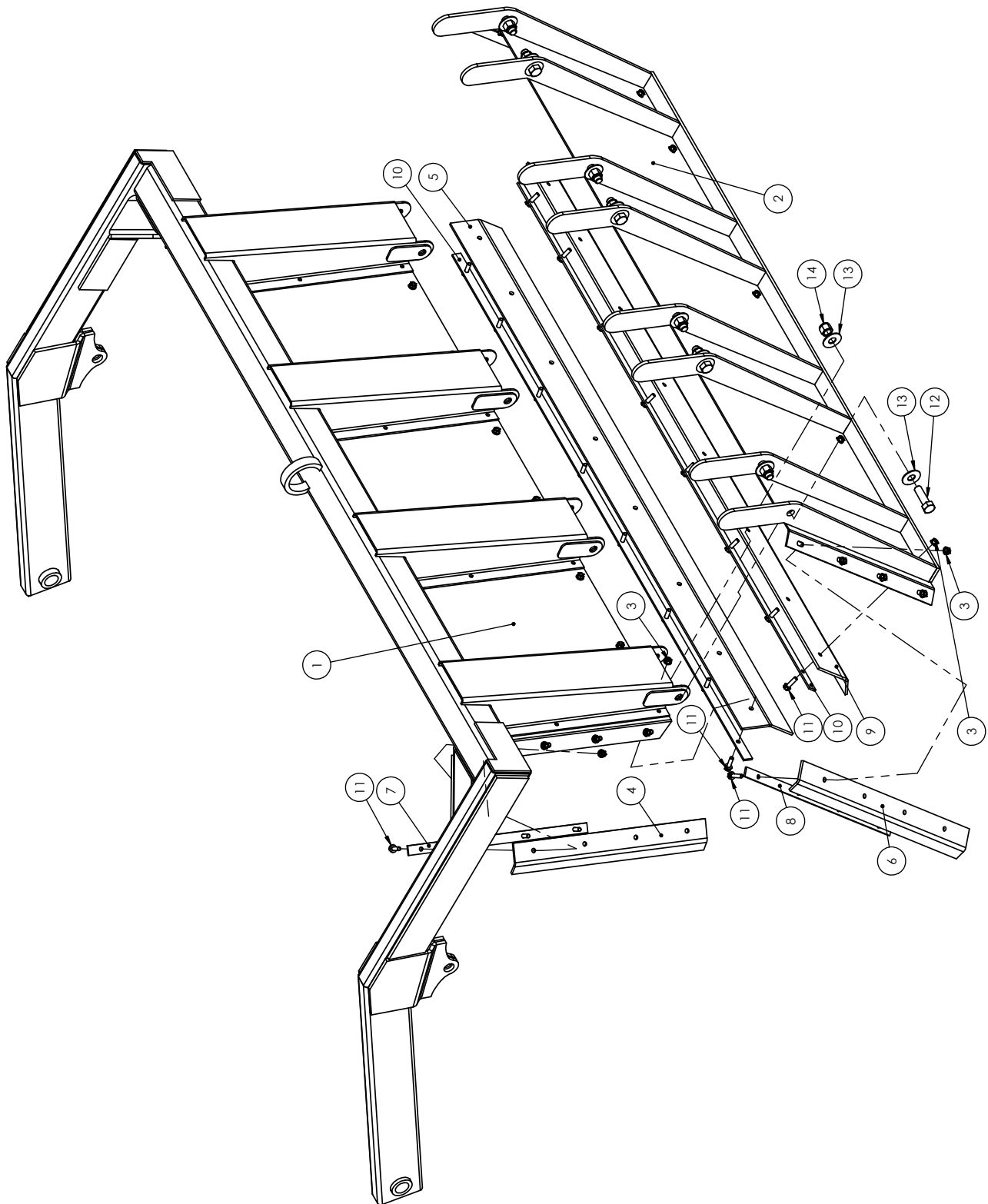
<u>ITEM NO.</u>	<u>PART NUMBER</u>	<u>DESCRIPTION</u>	<u>QTY.</u>
1	H9975	HOUSING RT350	1
2	H14551	HUB Ø2"	1
3	H9918	CIRCLIP E 82	1
4	H9974	GEAR Z=49	1
5	H9982	BEARING 6015	2
6	H9984	CIRCLIP I 115	2
7	H8670-5	PINION Z=12	1
8	H4174	KEY 12X8X30	1
9	H8670-4	GEAR Z=50	1
10	H3342	BEARING 6208	2
11	H3435	CIRCLIP I 80	3
12	H8670-3	PINION Z=10	1
13	H3396	KEY 8X7X25	1
14	H8670-2	GEAR Z=43	1
15	H8596	BEARING 6305	2
16	H3433	CIRCLIP I 62	2
17	H9923	PINION Z=28	1
18	H1538	BEARING 6010	1
19	H3428	CIRCLIP E 50	1
20	H9175	OIL BREATHER PLUG Ø1"GAS	2
21	H1831	OIL LEVEL INDIC. Ø1"GAS	2
22	H8625	PLUG Ø62	2
23	H8243	PLUG Ø80	2
24	H9983	OIL SEAL 75/115/10	2
25	H9976	COVER	1
26	H9977	GASKET	1
27	H3284	SCREW,HEX-HD M8X16	8
28	H610132	GASKET	1

## FRAME ASSEMBLY - SLOP GATE



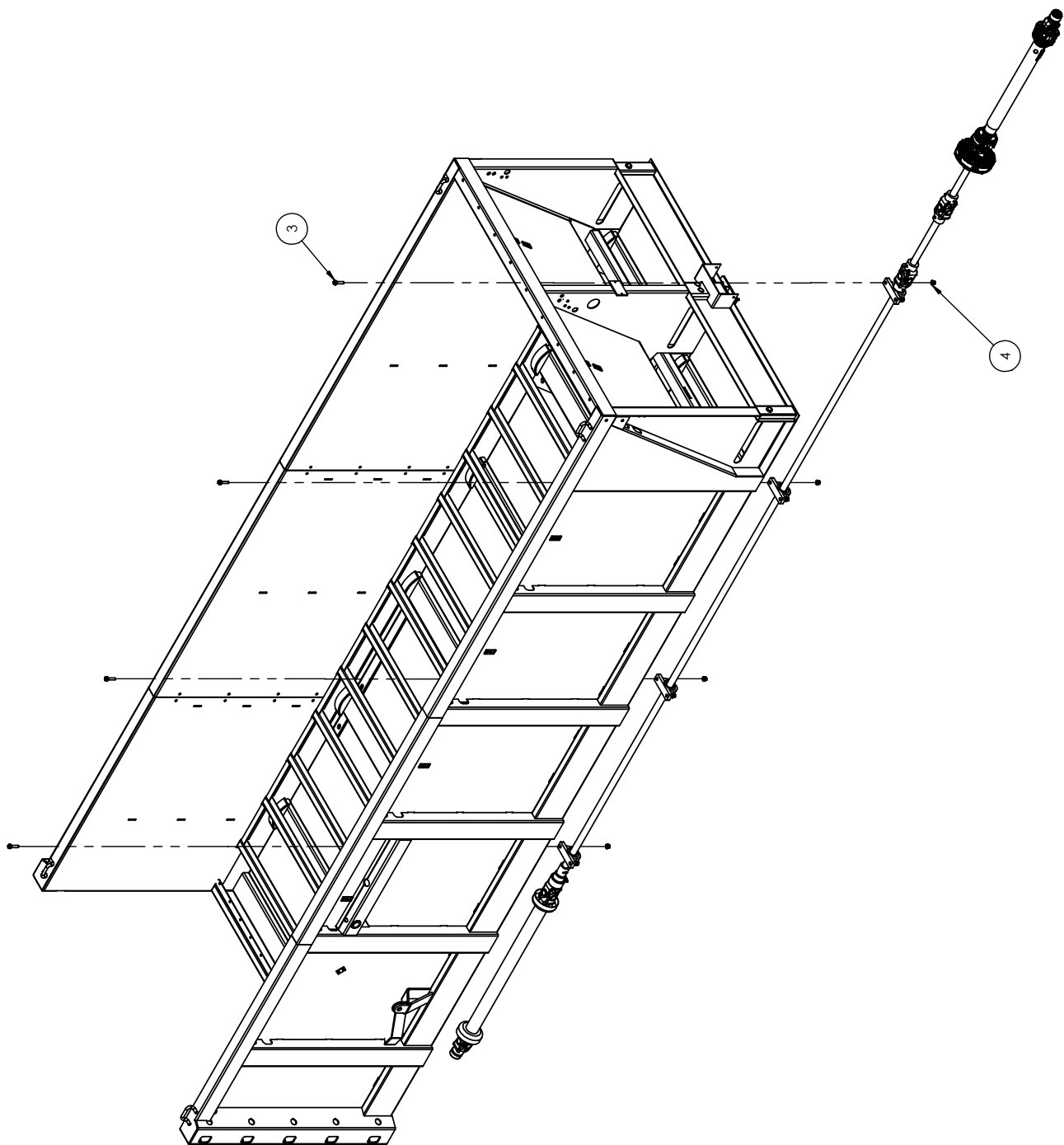
<u>ITEM NO.</u>	<u>PART NUMBER</u>	<u>DESCRIPTION</u>	<u>QTY.</u>
1	H160015	SLOP GATE	1
2	HC21-01-3116	CYLINDER, HYD 2" X 24" STROKE 3000#	2
3	H160019	SLOP GATE PIVOT PIN	2

## SLOP GATE ASSEMBLY



<u>ITEM NO.</u>	<u>PART NUMBER</u>	<u>DESCRIPTION</u>	<u>QTY.</u>
1	H160015-01	SLOP GATE	1
2	H160015-02	SWINGING SECTION	1
3	600120	NUT, HFH NYLOC	32
4	H160030	FLASHING,SLOP GATE, UPPER SIDE	2
5	H160033	FLASHING,SLOP GATE-MIDDLE	1
6	H160031	FLASHING,SLOPGATE, LOWER SIDE	2
7	H160040	UPPER SIDE SLOP GATE STRAP	2
8	H160039	LOWER SIDE SLOP GATE STRAP	2
9	H160032	FLASHING,SLOP GATE-BOTTOM	1
10	H160038	BOTTOM SLOP GATE STRAP	2
11	600280	BOLT, HFH 3/8-16	32
12	990560	HBOLT 0.7500-10X2.5X2.5-N	8
13	990710	WASHER, FLAT 3/4 STD	16
14	1100238	NYLON INSERT LOCKNUT, 3/4-10 UNC	8

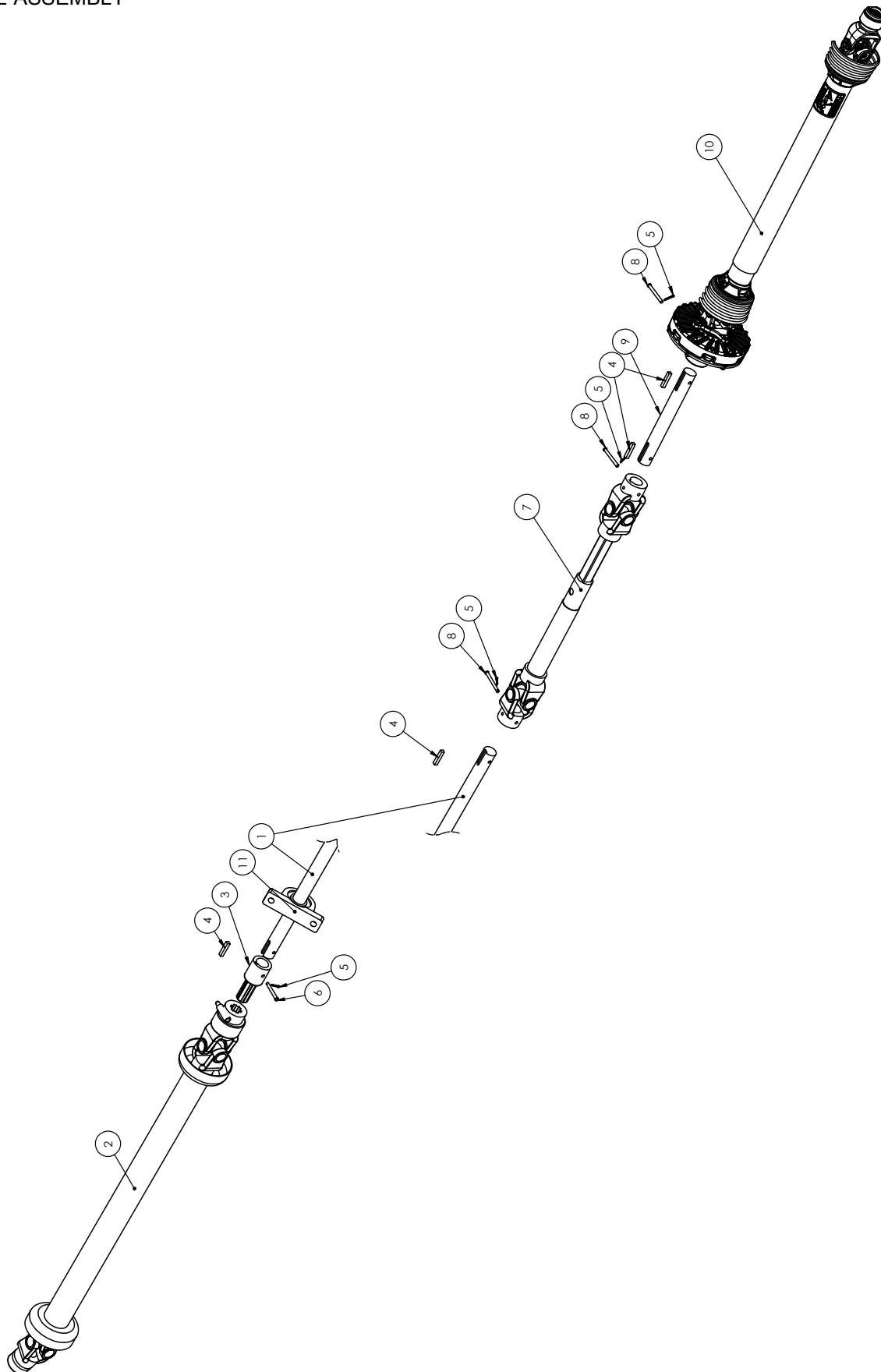
FRAME ASSEMBLY - DRIVE





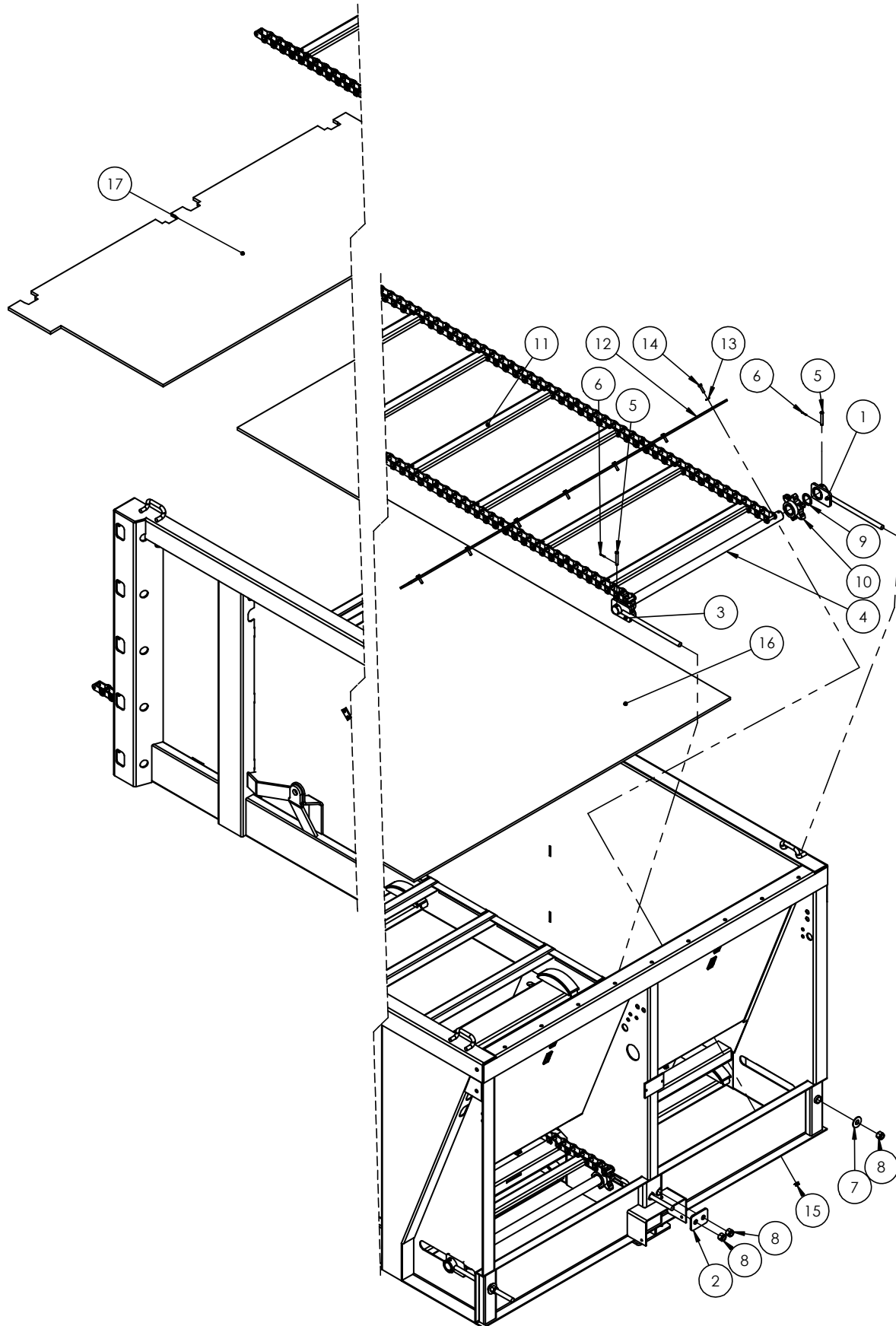
<u>ITEM NO.</u>	<u>PART NUMBER</u>	<u>DESCRIPTION</u>	<u>QTY.</u>
3	600290	BOLT, HFH 1/2-13	8
4	600140	NUT, HFH NYLOC	8

## DRIVE ASSEMBLY



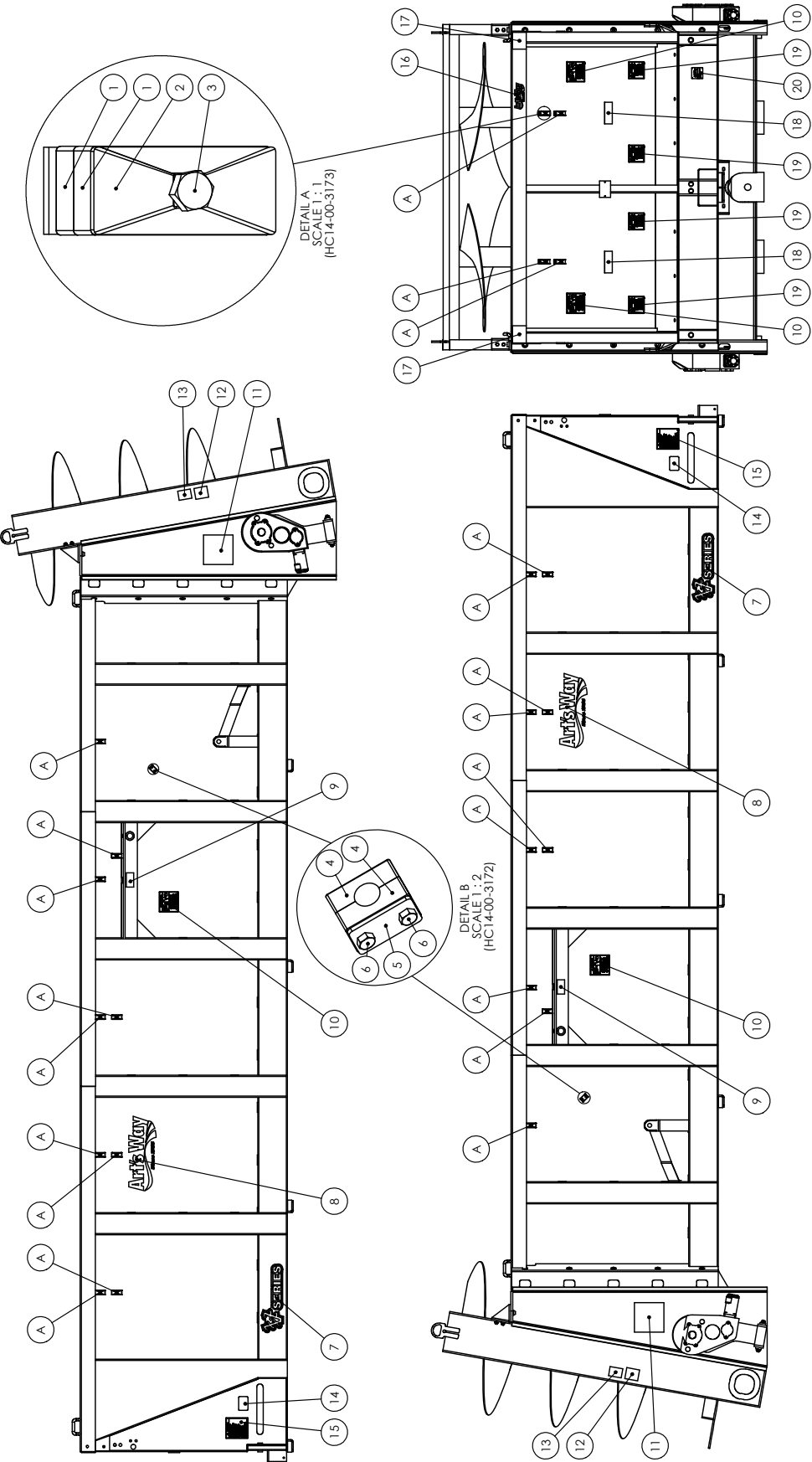
<u>ITEM NO.</u>	<u>PART NUMBER</u>	<u>DESCRIPTION</u>	<u>QTY.</u>
1	H160012	DRIVE SHAFT	1
2	H160048	REAR PTO ASM V180	1
3	H200186	PUMP ADAPTER, 540 RPM	1
4	HK3838-2	3/8"X 3/8" KEY, 2	4
5	HZ82-71-0212	1/8" X .75" COTTER PIN	4
6	HZ82-70-0536	5/16" X 2.50" CLEVIS PIN	1
7	598080	SLIP SLEEVE SHAFT ASSY, 44R	1
8	HZ82-70-0540	5/16" X 3.00" CLEVIS PIN	3
9	H160028	PTO DRIVE SHAFT	1
10	H160045	PTO, FRONT	1
11	HK08-55-1027	BEARING, 1.50", PILLOW BLOCK	4

## FRAME ASSEMBLY - CONVEYOR &amp; FLOOR



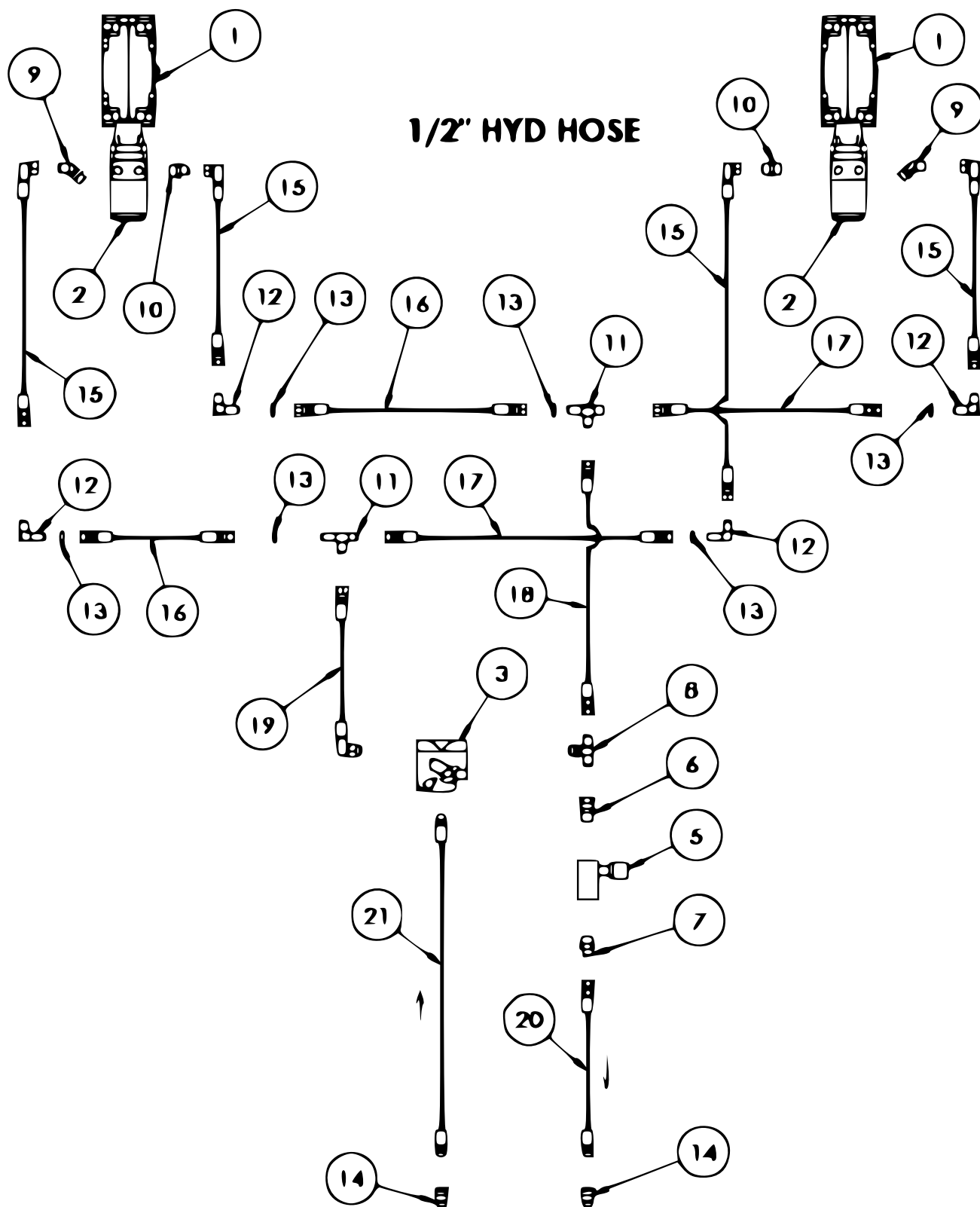
<u>ITEM NO.</u>	<u>PART NUMBER</u>	<u>DESCRIPTION</u>	<u>QTY.</u>
1	H160005	OUTSIDE APRON TIGHTENER	2
2	H160024	CENTER TENSIONER PLATE	1
3	H160004	INSIDE APRON TIGHTENER	2
4	H160003	APRON IDLER SHAFT	2
5	I21037R1	PIN, CLEVIS 3/8 X 2-1/2 HARDENED GR5 ZN+	4
6	023090	PIN, COTTER 3/32 X .75	4
7	990710	WASHER, FLAT 3/4 STD	2
8	1100238	NYLON INSERT LOCKNUT, 3/4-10 UNC	4
9	041460	WASHER, FLAT 1.62 X 2.12	4
10	H200074	6-TOOTH IDLER SPRKT	4
11	H160082	APRON CHAIN, 18' BOX	2
12	H160034	FLASHING,FRONT	1
13	022920	WASHER, FLAT 5/16 STD	7
14	030030	BOLT, HHCS 5/16-18 X1-1/4 GR5 ZN	7
15	600110	NUT, HFH NYLOC	7
16	H160044	UHMW FLOOR, 16' SECTION	1
17	598370	UHMW FLOOR,	1

FRAME ASSEMBLY - DECALS & HYDRAULIC HOSE CLAMPS



<b>ITEM NO.</b>	<b>PART NUMBER</b>	<b>DESCRIPTION</b>	<b>QTY.</b>
1	HC14-00-3173	HOSE CLAMP, DOUBLE	44
2	HC14-00-3167	HOSE CLAMP, COVER	22
3	117530	HBOLT 0.3125-18X1 3/4 ZN	22
4	HC14-00-3172	HOSE CLAMP, SINGLE	4
5	HC14-00-3169	HOSE CLAMP, COVER	2
6	047000	BOLT, HHCS 1/4-20X1-1/2	4
7	HJ22-00-0105	DECAL, V-SERIES	2
8	582430	DECAL, ARTSWAY	2
9	HJ22-00-0113	DECAL, HYDRAULIC	2
10	346310	DECAL, WARNING HIGH PRESSURE	4
11	HJ22-00-0135	DECAL, FLYING	2
12	HJ22-00-0114	DECAL, ROTATING	2
13	HJ22-00-0087	DECAL, THROWN	2
14	HJ22-00-0101	DECAL, US FLAG	2
15	368040	DECAL, CAUTION SAFETY INSTRUCTIONS	2
16	582450	DECAL, ARTSWAY	1
17	HJ22-00-0091	DECAL, THROWN	2
18	HJ22-00-0089	DECAL, WARNING	2
19	467450	DECAL, WARNING MOVING PART	4
20	355500	TAG, SERIAL NUMBER FINISHED	1

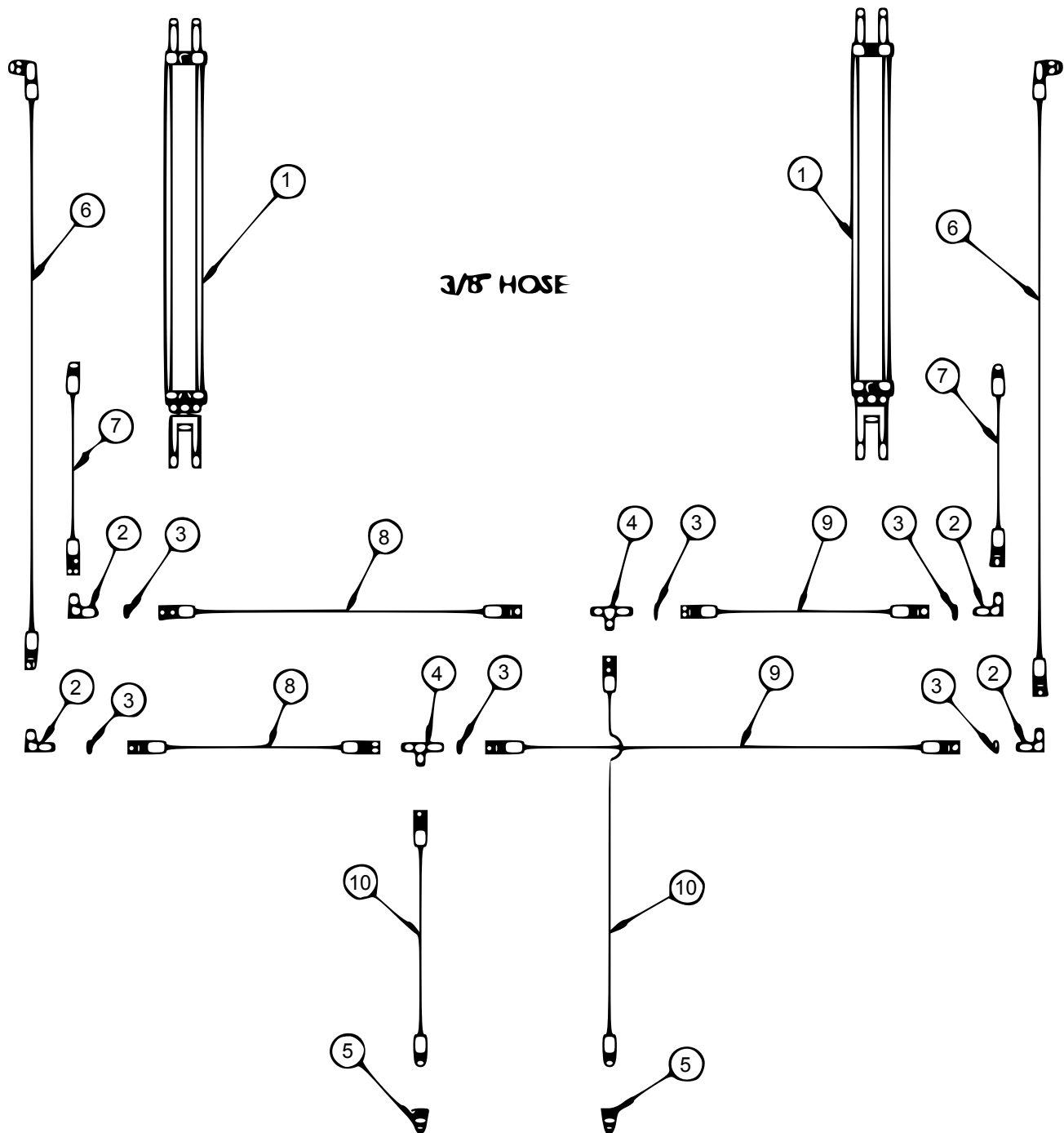
## HYDRAULICS ASSEMBLY





<b>ITEM NO.</b>	<b>PART NUMBER</b>	<b>DESCRIPTION</b>	<b>QTY.</b>
1	HW25SDA008030	WORM GEAR DRIVE	2
2	HC47-00-3123	MOTOR, HYD EATON H-SERIES 11.3 CU IN 4 BOLT 1" KEYED	2
3	HC67-04-3137	VALVE, FLOW CONTROL 10 ORB	1
5	HC67-04-3196	VALVE, FLOW CONTROL 3/4-NPT	1
6	HT54-45-1012	ADAPTER, HYD, #10 STRAIGHT UNION X 3/4" MALE PIPE	1
7	HT54-46-1012	CONNECTOR, #10 MALE JIC X 3/4" MALE PIPE THREAD	1
8	HT53-43-1010	TEE, HYD, #10 MALE JIC X #10 MALE JIC X #10 ORING	1
9	HT53-20-1010	ELBOW, 7/8-14, M-FLARE X M-"O" RING	2
10	HT53-46-1010	CONNECTOR, HYD, #10 MALE JIC X #10 MALE ORING, STR THREAD	2
11	HT52-79-0808	BULKHEAD, RUN TEE 3/4"-16 X 3/4"-16 X 3/4"-16	2
12	HT52-77-0808	BULKHEAD, 90 DEGREE 3/4"-16 X 3/4"-16	4
13	HT52-90-0808	BULKHEAD, ADAPTER NUT 3/4"-16	6
14	HT55-73-0808	PIONEER TIP, 3/4-16, M	2
15	H160085/160097	HOSE TO AND FROM APRON MOTOR (18' OR 16')	4
16	H160086	RIGHT FRONT BULKHEAD HOSE (APRON)	2
17	H160087	LEFT FRONT BULKHEAD HOSE (APRON)	2
18	H160088	EXHAUST HOSE, BULKHEAD TO TEE (APRON)	1
19	H160089	HOSE, BULKHEAD TO RESTRICTOR (APRON)	1
20	H160090	HOSE, TRACTOR RETURN (APRON)	1
21	H160091	HOSE, TRACTOR SUPPLY (APRON)	1

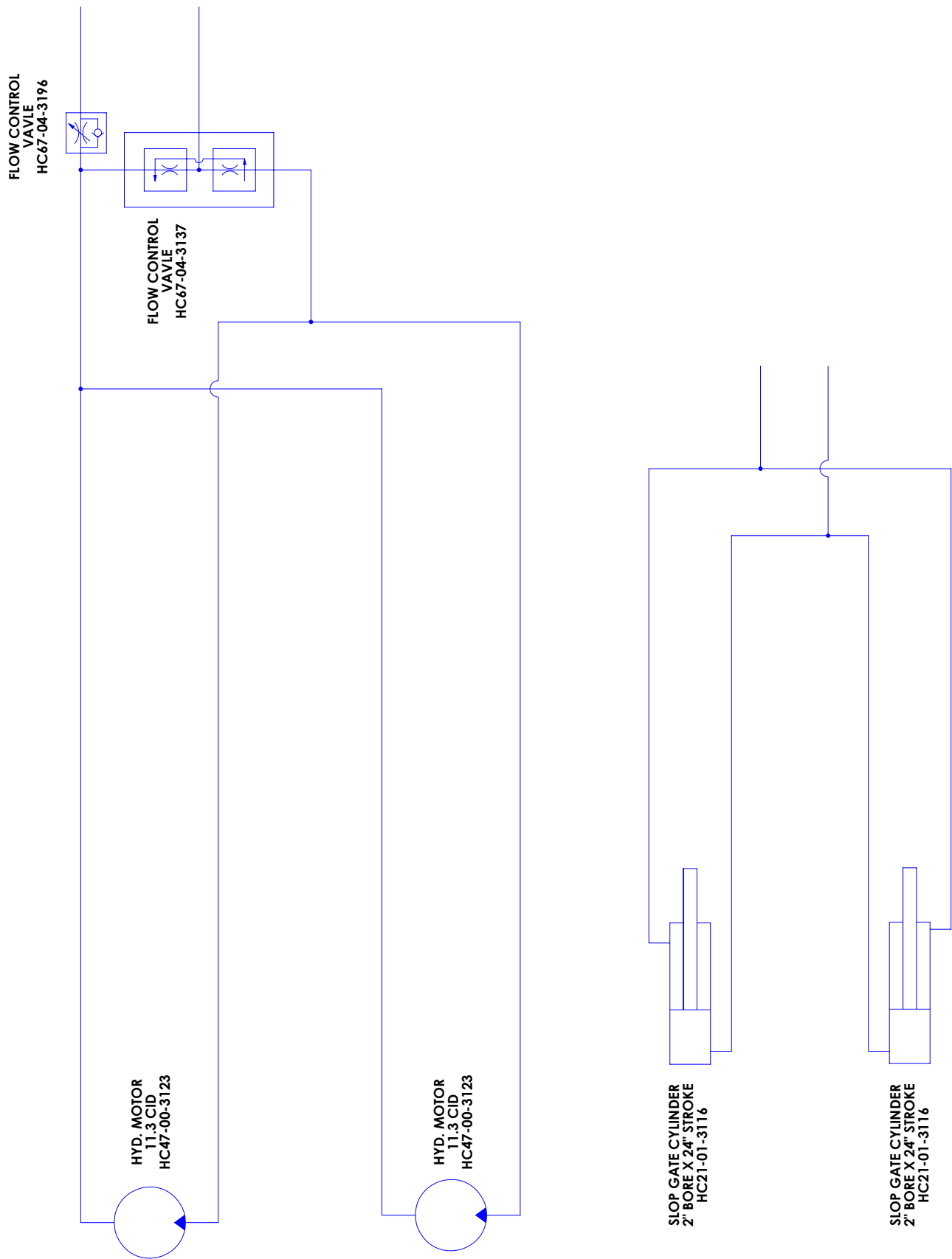
## HYDRAULICS ASSEMBLY - (CONTINUED)



<u>ITEM NO.</u>	<u>PART NUMBER</u>	<u>DESCRIPTION</u>	<u>QTY.</u>
1	HC21-01-3116	CYLINDER, HYD 2" X 24" STROKE	2
2	HT52-77-0606	BULKHEAD, 90 DEGREE 9/16"-18 X 9/16"-18	4
3	HT52-90-0606	BULKHEAD, ADAPTER NUT 9/16"-18	6
4	HT52-79-0606	BULKHEAD, RUN TEE 9/16"-18 X 9/16"-18 X 9/16"-18	2
5	HT55-73-0808	PIONEER TIP, 3/4-16, M	2
6	H160092/H160098	HOSE, BOTTOM HYD CYLINDER (SLOP GATE) (18' OR 16')	2
7	H160093/H160099	HOSE, TOP HYD CYLINDER (SLOP GATE) (18' OR 16')	2
8	H160094	RIGHT FRONT BULKHEAD HOSE (SLOP GATE)	2
9	H160095	LEFT FRONT BULKHEAD HOSE (SLOP GATE)	2
10	H160096	HOSE, TRACTOR CONNECTION (SLOP GATE)	2

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HYDRAULICS SCHEMATIC



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