

**Operator's Manual &
Illustrated Parts List**

**Model X700
Manure Spreader**



Art's Way Manufacturing

690741

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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 dealer or Art's Way Manufacturing 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 Armstrong, Iowa, 50514, (712) 208-8467.

SPECIFICATIONS AND DESIGN ARE SUBJECT TO CHANGE WITHOUT NOTICE

Art's Way Manufacturing 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. Any modification made without the written permission of Art's Way Manufacturing 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 STATEMENT OF PRODUCT LIABILITY

Art's Way Manufacturing recognizes its responsibility to provide customers with a safe and efficient product. Art's Way Manufacturing, 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, be liable for any such act. In addition, Art's Way Manufacturing, 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 X700 Manure Spreader only. Any mention of other machinery in this manual other than the X700 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 X700 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 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.

VAI

ART'S WAY

SERIAL NUMBER

MODEL

Barcode area

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FOR WARRANTY INFORMATION
REFER TO THE SEPARATE DOCUMENT
INCLUDED WITH THIS MANUAL OR GET
IT ONLINE FROM:

WWW.ARTSWAY.COM

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 strives to make our equipment as safe as possible. The Art's Way X700 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 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

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. 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 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.

Set all features to transport position before transporting the spreader on the roadway.



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

SAFETY**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.

**SAFETY****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 Art's Way 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.**
- **DO NOT LIFT THE MANURE SPREADER BY THE BOX WELDMENT "D-RINGS".**
- **DO NOT WORK UNDERNEATH SLOP GATE.**



**FAILURE TO HEED MAY RESULT IN SERIOUS PERSONAL INJURY OR DEATH
THERE ARE ADDITIONAL HAZARDS ASSOCIATED WITH THE SERVICE AND MAINTENENCE
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

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**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 **Art's Way** 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
APRON BEARINGS	15-20 HOURS	GREASE
APRON GEAR CASE	ANNUALLY	EP90 GEAR LUBE
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

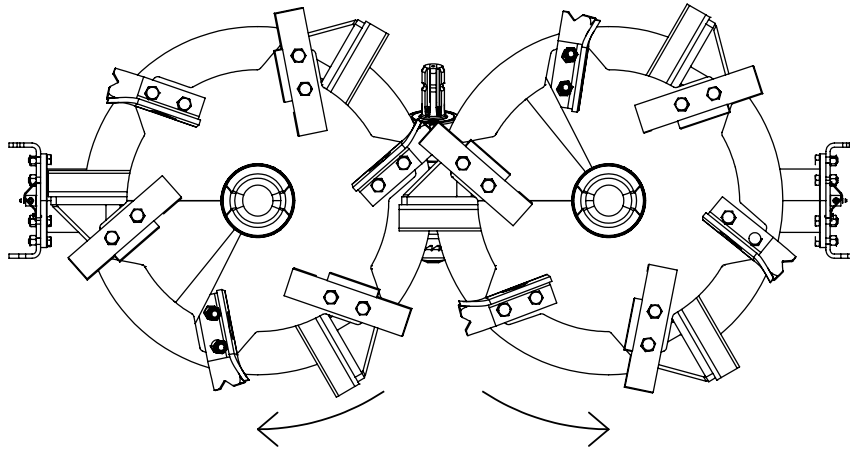
INSPECTION & ADJUSTMENTS

INSPECTION & ADJUSTMENTS

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

- **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 **Art's Way** Parts/Service dept. for more information.
- **SAFETY DECALS FOR READABILITY.** If any safety decals are removed, obstructed, or otherwise not understandable, they should be replaced immediately. Keep all decals clean!
- **AFTER A FEW HOURS OF INITIAL OPERATION,** check all nuts, bolts, and set screws to be sure they are tight and secure.
- **CHECK FREQUENTLY.** Thoroughly check all hardware each month or after 25 loads of use, torque to proper setting (see the TORQUE VALUES page) or replace if necessary.
- **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.
- **IMPORTANT: IF YOU WELD ON THIS UNIT:** Do Not allow the currents to flow through the bearings, scale wires, or load cells. Ground directly to the item being welding/repaired.
- **PERIODICALLY CHECK** all bearings and bushings for wear and replace if necessary.
- **INSPECT APRON CHAINS** for wear, proper alignment, and tension, according to the adjustment guidelines shown on before every day of operation.

BEATER MAINTENANCE

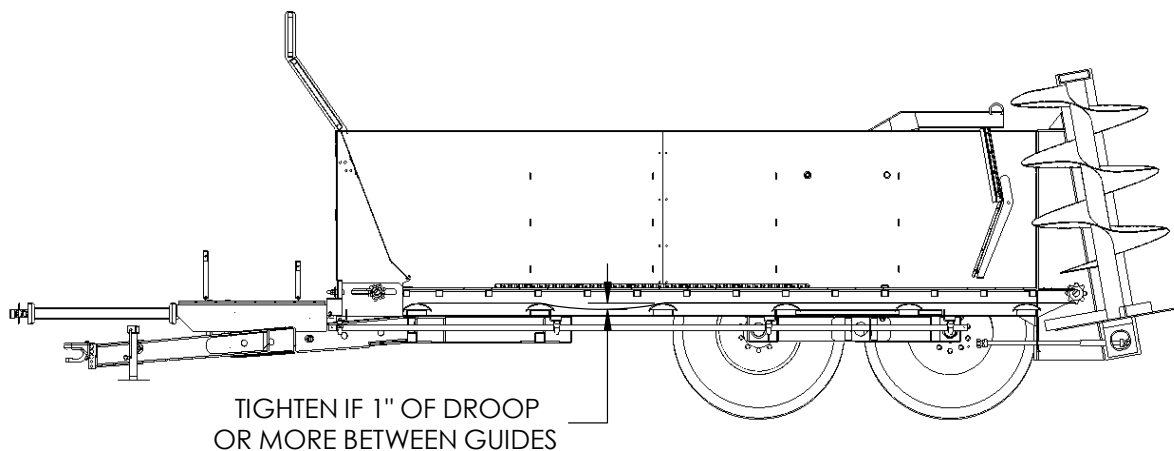


WARNING: MAKE SURE THAT ALL PARTS HAVE STOPPED MOVING AND THE IGNITION KEY IS OFF AND REMOVED BEFORE MAKING ANY ADJUSTMENTS, MAINTENANCE, OR REPAIRS.

- **BEFORE EVERY DAY OF USE**, all beater teeth, knives, and scoop hardware should be inspected for damage or signs of loosening. Replace worn or damaged hardware and refer to the TORQUE VALUES page or equivalent hardware torque chart for loose hardware.
- **REPLACE** teeth, knives, and scoops when worn or damaged. They should be replaced in a manner that will keep the corresponding beater shaft as balanced as possible.
- **CHECK OIL LEVEL** in beater gearbox before every day of use, add when needed to proper level in sight plug. Recommend changing oil in gearbox annually see LUBRICATION page.
- **GREASE BEARINGS DAILY**. Inspect grease lines for damage or wear.
- **REMOVE ANY ENTANGLEMENTS** from beaters to limit potential damage to beaters.

CAUTION: If any repairs need welding, ground to nearest spot of repair. Be sure no bearings or gearboxes are in between welder and ground connection.

APRON TENSION ADJUSTMENT GUIDELINES



BE SURE TO KEEP PROPER TENSION ON APRON CHAINS. The (4) Apron Chain tightener bolts are located in the front of the unit at each side of Apron Shaft. They should be adjusted evenly to help keep proper chain alignment.

If Apron Chain is loose, remove one link from each side of Apron Chain assembly and readjust to tension as shown above.

CAUTION: Over tightening can cause premature failure of the chain and drive components. Apron is set tight from factory to account for initial chain stretch. If apron is ran too loose binding could occur and cause damage to the unit.

OPERATION**SPREADER OPERATION**

WARNING: Before operation, be sure no one is near the spreader and the discharge area is clear of objects or persons that could be harmed if material is discharged!

WARNING: MAKE SURE THAT ALL PARTS HAVE STOPPED MOVING AND THE IGNITION KEY IS OFF AND REMOVED BEFORE MAKING ANY ADJUSTMENTS, MAINTENANCE, OR REPAIRS.

1. Verify that the "APRON REVERSE SPEED" knob on the spreader manifold is turned all the way to the "-"/clockwise position to prevent the Apron Chain from being ran in the reverse direction accidentally.

CAUTION: Never attempt to run the Apron Chain in reverse with a full load, as this could cause damage to chain or drives. The "APRON REVERSE SPEED" knob on the manifold should be locked in the "-"/clockwise position unless there is a need to clear the Beaters and should be returned to the "-"/clockwise position as soon as Beaters are cleared.

2. With the vehicle stopped and engine throttled down, slowly engage the PTO to start spinning the Beaters to 1000 RPM.

3. Raise the Slop Gate to your desired height. This should be based on the density of the manure being spread. For cattle manure a fully open gate is recommended where with poultry litter a lower gate height may be used. Use the hydraulic control connected to the "GREEN" hose ends to raise and lower the Slop Gate. 6 GPM flow is needed to run the slop gate at max speed.

4. Engage the Apron Chain, in the forward discharge direction, using the hydraulic control connected to the "BLACK" hose ends. **NEVER engage Apron Chain with Slop Gate in the fully closed position.** The "APRON DISCHARGE SPEED" knob can be adjusted to change the speed of the Apron Chain to help control flow of material to Beaters. ("+"/counter-clockwise=FASTER, "-"/clockwise=SLOWER). 16 GPM flow is needed to run the apron chain at max speed.

5. Once material starts to contact the Beaters, start tractor in motion and set it to a speed that allows for preferred spreading density.

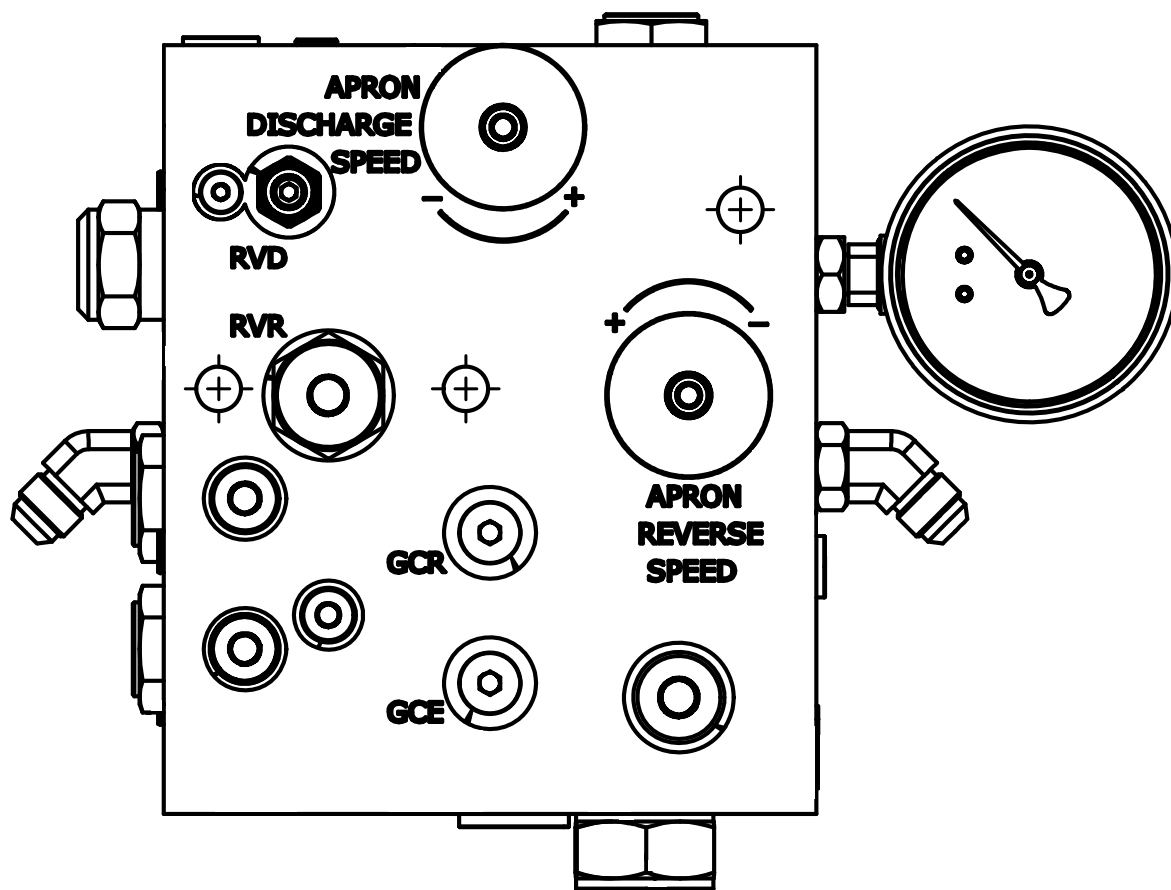
6. After all the manure is spread, turn off the Apron Chain, close the Slop Gate, and shut down the PTO/Beaters.

If the apron chain fails to move when hydraulic power is supplied from the tractor first shut down everything including the tractor itself and inspect the unit for binds, breakages, hydraulic leaks, or anything out of the ordinary. Fix any issues before continuing.

If all is well check the pressure gauge on the manifold (shown below) while supplying hydraulic power. Your manifold is equipped with a pressure relief valve to protect the system which is set to 2,250 psi. If your gauge is reading 2,250 psi or close to it then it is possible the system is going over relief.

Shut down all power including the tractor and inspect again for anomalies. If none are found then the load on the chain must be lightened. Remove manure until the load is lightened enough to move.

The pressure relief valve setting should never be increased past 2,250 psi and doing so will void any and all applicable warranty. The pressure relief valve setting can be decreased to the minimum amount of psi required to provide additional protection for different types of manure spreaders.



DEALER SETUP**DEALER SETUP REMINDERS**

If the spreader is delivered with running gear disassembled (on a flatbed) or If the spreader is delivered with running gear assembled (towed) and has the floatation tire option installed please take note of the tread direction.

Floatation tires may be installed with “forward pointing” tread direction to decrease floatation properties when in transit to distant destinations. Tires should be installed with “backward pointing” tread direction before unit is delivered to end-user to increase floatation performance in field.



TORQUE VALUES

Follow the chart below for general torque values.

Lug nuts should be torqued to 400 ft-lbs.

Torque spindle nut to 75-85 ft-lb while rotating the hub.

Loosen spindle nut and re-torque to 45-50 ft-lb.

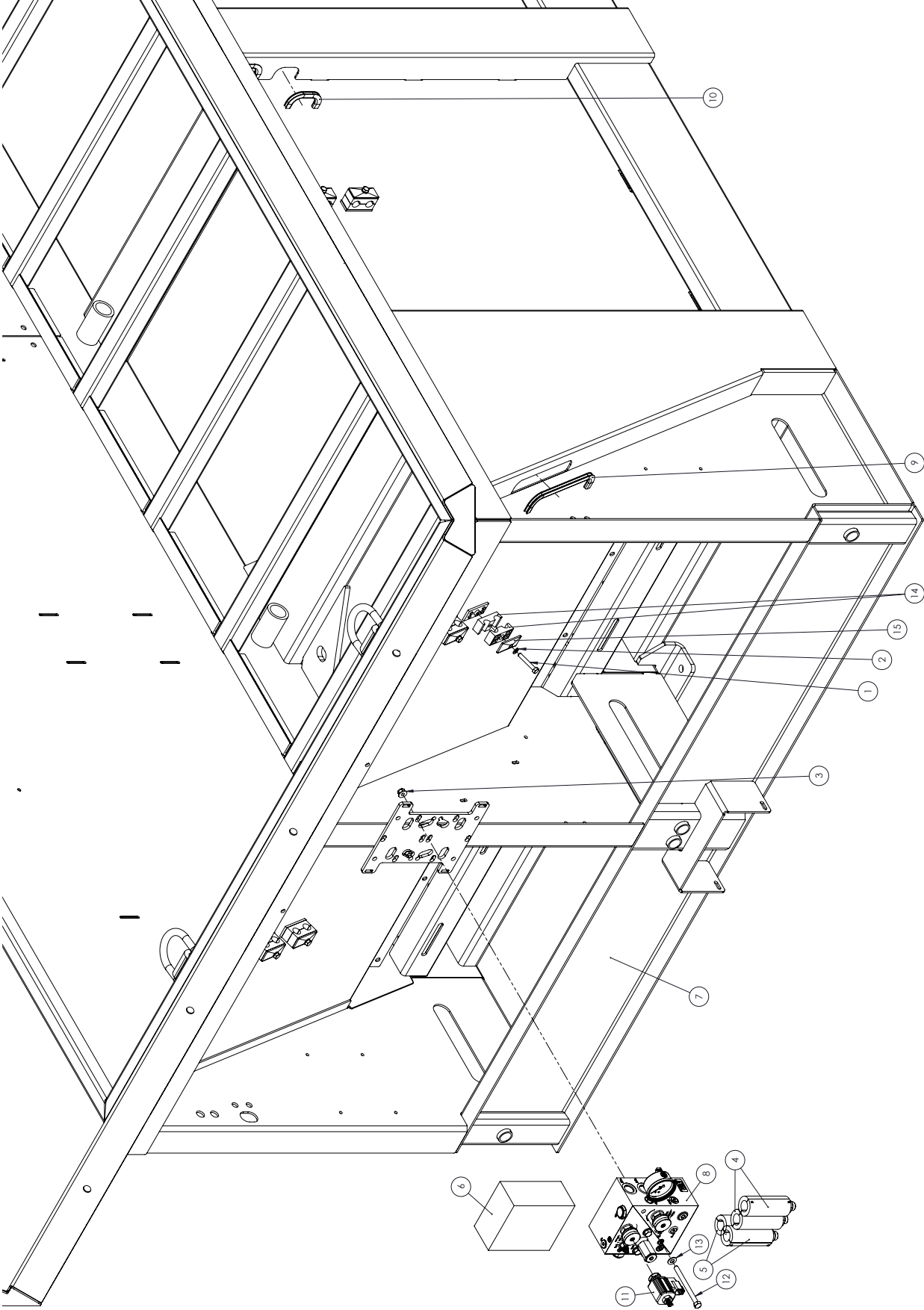
Loosen spindle nut no more than 30° max to align with cotter pin hole, if not already aligned.

SIZE	GRADE 5		GRADE 8	
	PLAIN TORQUE (K=.20)	ZINC TORQUE (K=.17)	PLAIN TORQUE (K=.20)	ZINC TORQUE (K=.17)
INCH POUNDS				
4-40	8	7	12	11
4-48	9	8	13	12
6-32	16	14	23	20
6-40	18	16	25	22
8-32	30	26	41	36
8-36	31	27	43	38
10-24	43	38	60	53
10-32	49	43	68	60
1/4"-20	96	86	144	126
1/4"-28	120	103	168	144
FOOT POUNDS				
5/16"-18	17	15	25	21
5/16"-24	19	16	27	23
3/8"-16	31	26	44	37
3/8"-24	35	30	49	42
7/16"-14	49	42	70	59
7/16"-20	55	47	78	66
1/2"-13	75	64	106	90
1/2"-20	85	72	120	102
9/16"-12	109	92	154	130
9/16"-18	121	103	171	146
5/8"-11	150	128	212	180
5/8"-18	170	144	240	204
3/4"-10	267	227	376	320
3/4"-16	297	253	420	357
7/8"-9	429	365	606	515
7/8"-14	474	403	669	568
1"-8	644	547	909	772
1"-12	722	614	1020	867
1-1/8"-7	800	700	1280	1120
1-1/8"-12	880	770	1440	1260
1-1/4"-7	1121	952	1817	1545
1-1/4"-12	1241	1055	2012	1710
1-3/8"-6	1460	1280	2380	2080
1-3/8"-12	1680	1470	2720	2380
1-1/2"-6	1950	1657	3162	2688
1-1/2"-12	2194	1865	3557	3024
TORQUE VALUES AQUIRED FROM SABRE INDUSTRIAL SUPPLIES AND FASTENAL				

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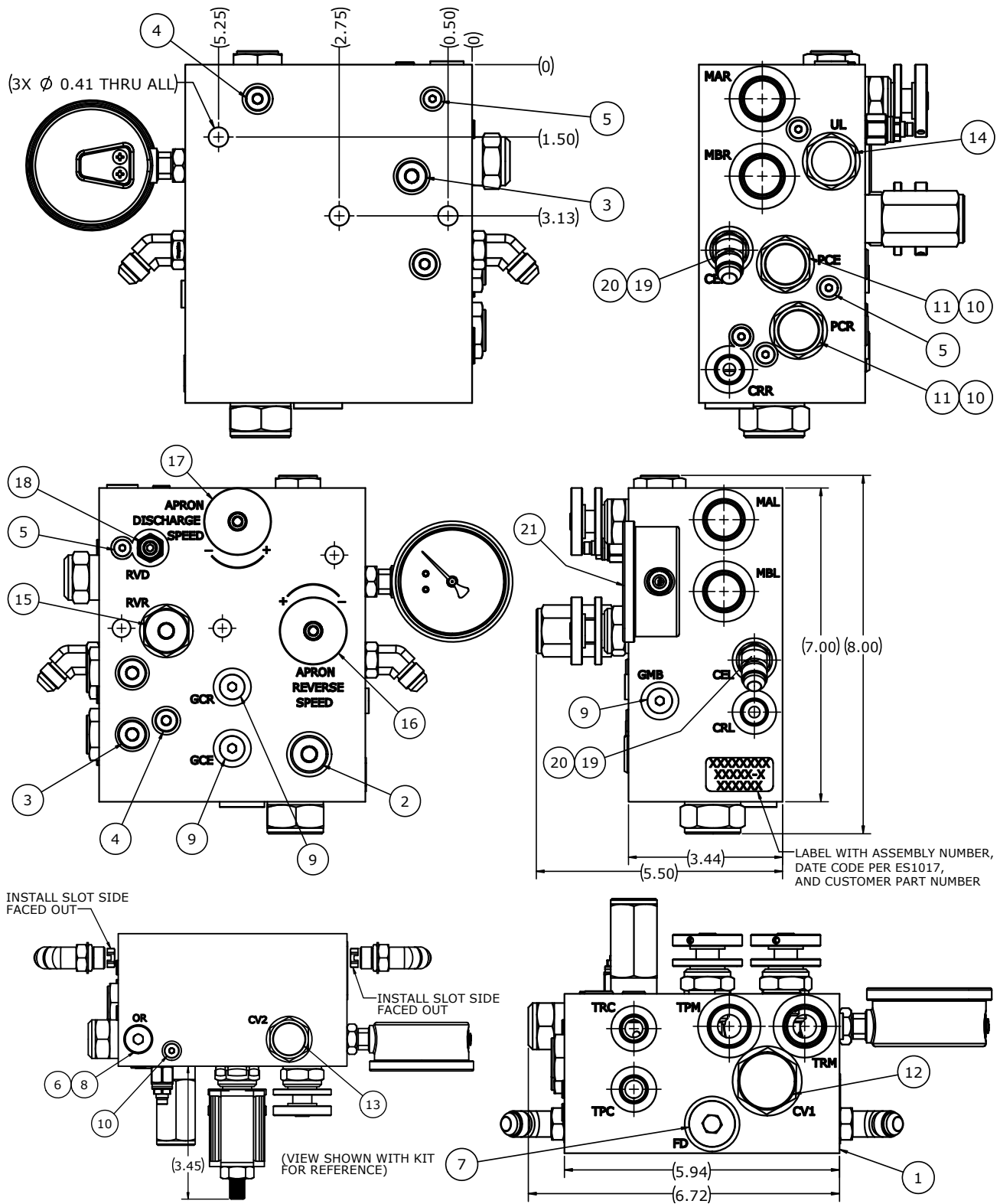
ILLUSTRATED PARTS LIST: MANURE SPREADER

HYDRAULICS ASSEMBLY



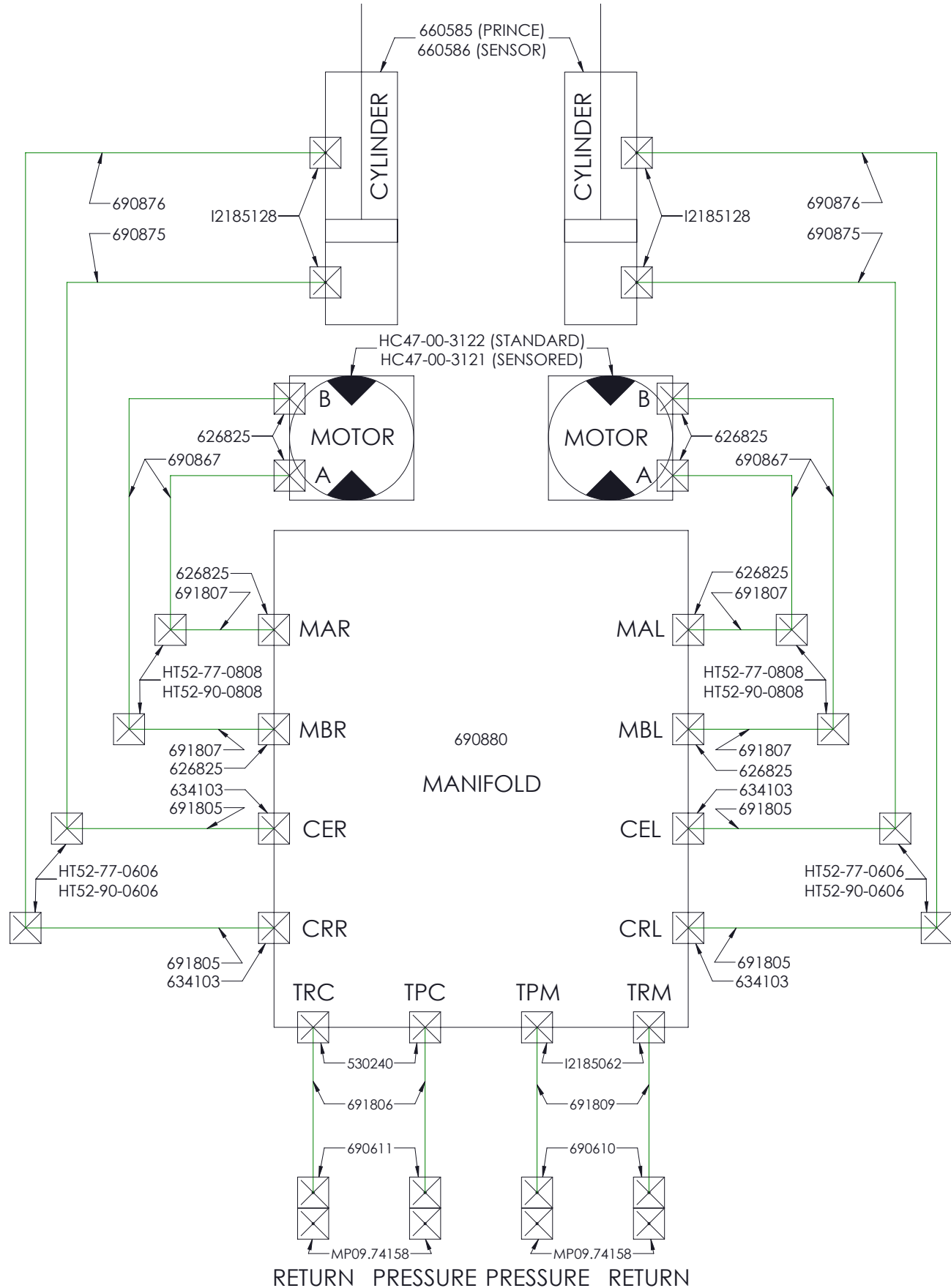
ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	017120	BOLT, HHCS 5/16-18 X 2 G	28
2	023620	WASHER, LOCK 5/16	28
3	600120	NUT, HFH NYLOC 3/8-16	3
4	690610	FITTING, HYD GRIPS BLACK	1
5	690611	FITTING, HYD GRIPS GREEN	1
6	690746	X700 HYDRAULIC KIT	1
7	690771	MAIN BOX WELDMENT,	1
8	690880	BLOCK, HYD F13890A1	1
9	691097	EDGE PROTECTOR, HOSES	2
10	691098	EDGE PROTECTOR, HOSES	36
11	691800 *	VALVE, PWM RAVEN	1
12	991160	BOLT, HHCS 3/8-16 X 4"	3
13	I120394	WASHER, FLAT 3/8 SAE	3
14	MP17.01144	SECTION, HOSE CLAMP	56
15	U51800177	TOP CAP, HOSE CLAMP	28
PART NUMBERS WITH * AFTER ARE ON SCALED UNITS ONLY			

MANIFOLD ASSEMBLY



<u>ITEM NO.</u>	<u>PART NUMBER</u>	<u>DESCRIPTION</u>	<u>QTY.</u>
1	N/A	BODY, X-SERIES MANURE SPREADER MFLD	1
2	691250	SAE-8 PLUG ZERO-LEAK	1
3	710834	SAE-6 PLUG, ZERO-LEAK	3
4	691251	SAE-4 PLUG, ZERO-LEAK	3
5	691252	SAE-2 PLUG, ZERO-LEAK	7
6	710820	ORIFICE PLUG 5/16-24 0.031	1
7	274425	PLUG SAE -10 HOLLOW HEX	1
8	601112	PLUG SAE -06 HOLLOW HEX	1
9	488970P	PLUG SAE -04 HOLLOW HEX	3
10	691253	PILOT PISTON -10 SINGLE W/OUT SEALS	2
11	691254	CART, CHECK VALVE 35 PSI	2
12	646208	CART, CHECK VALVE 5 PSI	1
13	691255	CART. CHECK VALVE REV 50 PSI	1
14	691256	CART, LOGIC SPOOL N/C L/S ELEMENT	1
15	691257	CART, RELIEF VALVE DIFF AREA 1200 PSI	1
16	691258	CART, NEEDLE VALVE, FINE ADJ.	1
17	691259	CART, NEEDLE VALVE	1
	691800 *	PWM VALVE KIT (NEEDED RAVEN UNITS ONLY)	
18	691260	CART, RELIEF VALVE 100-3000 PSI	1
19	691261	SAE-6, 0.120 ORIFICE CHECK	2
20	634103	FITTING 45 DEG -6 MJIC / -6 MORB	2
21	646200	GAUGE - 2.5" LIQUID, STEM MOUNT, SAE -4	1
PART NUMBERS WITH * AFTER ARE ON SCALED UNITS ONLY			

HYDRAULICS DIAGRAM

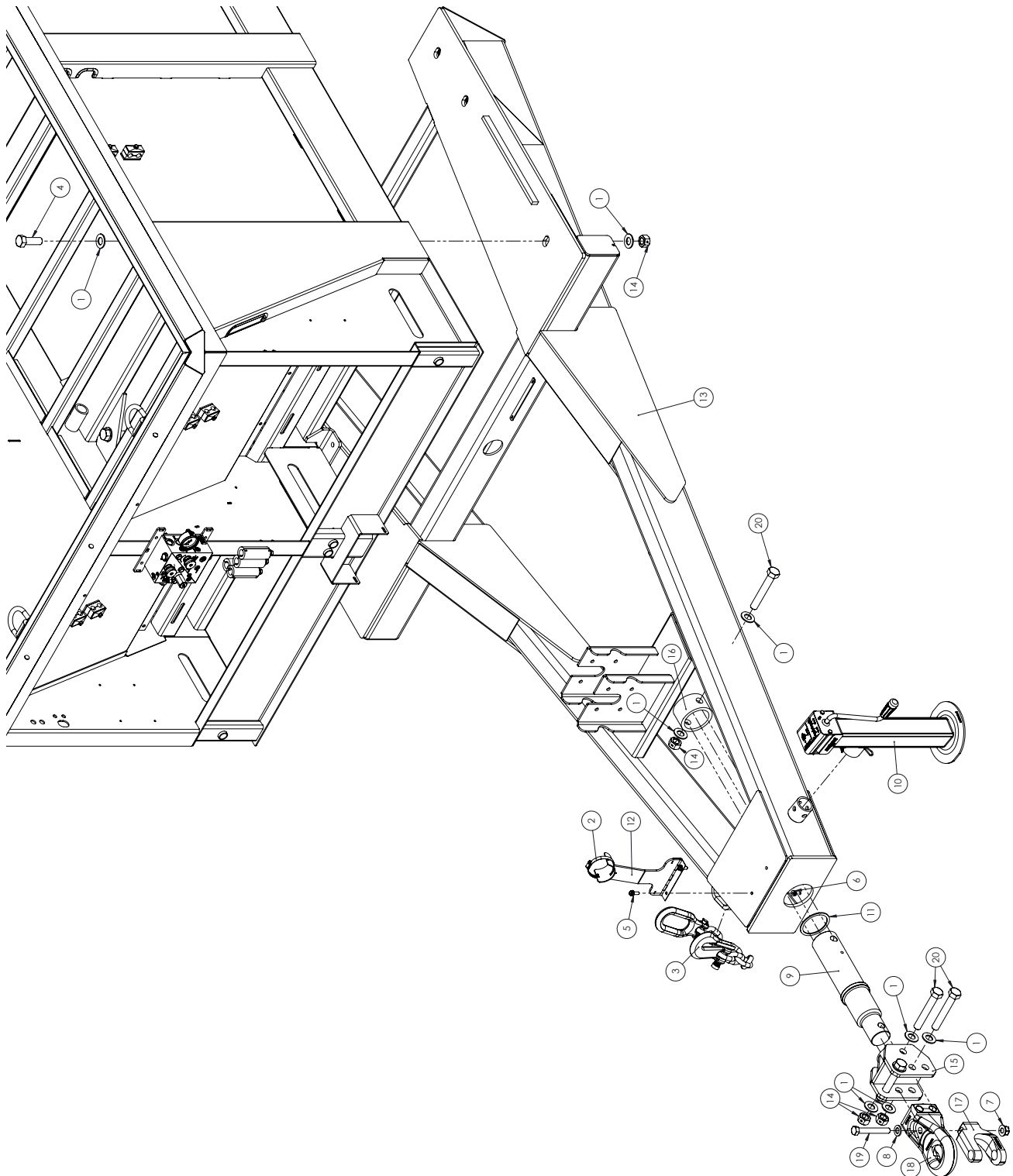


IDENTIFICATION KEY	
LABEL	MEANING
OR	ORIFICE
CV1	CHECK VALVE 1
CV2	CHECK VALVE 2
MAR	MOTOR "A" RIGHT
MBR	MOTOR "B" RIGHT
MAL	MOTOR "A" LEFT
MBL	MOTOR "B" LEFT
CRR	CYLINDER RETRACT RIGHT
CER	CYLINDER EXTEND RIGHT
CRL	CYLINDER RETRACT LEFT
CEL	CYLINDER EXTEND LEFT
PCR	PILOT CHECK RETRACT
PCE	PILOT CHECK EXTEND
GCE	GAUGE CYLINDER EXTEND
GCR	GAUGE CYLINDER RETRACT
GMA	GAUGE MOTOR "A"
GMB	GAUGE MOTOR "B"
TRC	TRACTOR RETURN CYLINDER
TPC	TRACTOR PRESSURE CYLINDER
TPM	TRACTOR PRESSURE MOTOR
TRM	TRACTOR RETURN MOTOR
UL	UNLOADER
RVR	RELIEF VALVE RETRACT
RVD	RELIEF VALVE DISCHARGE
FD	FLOW DIVIDER

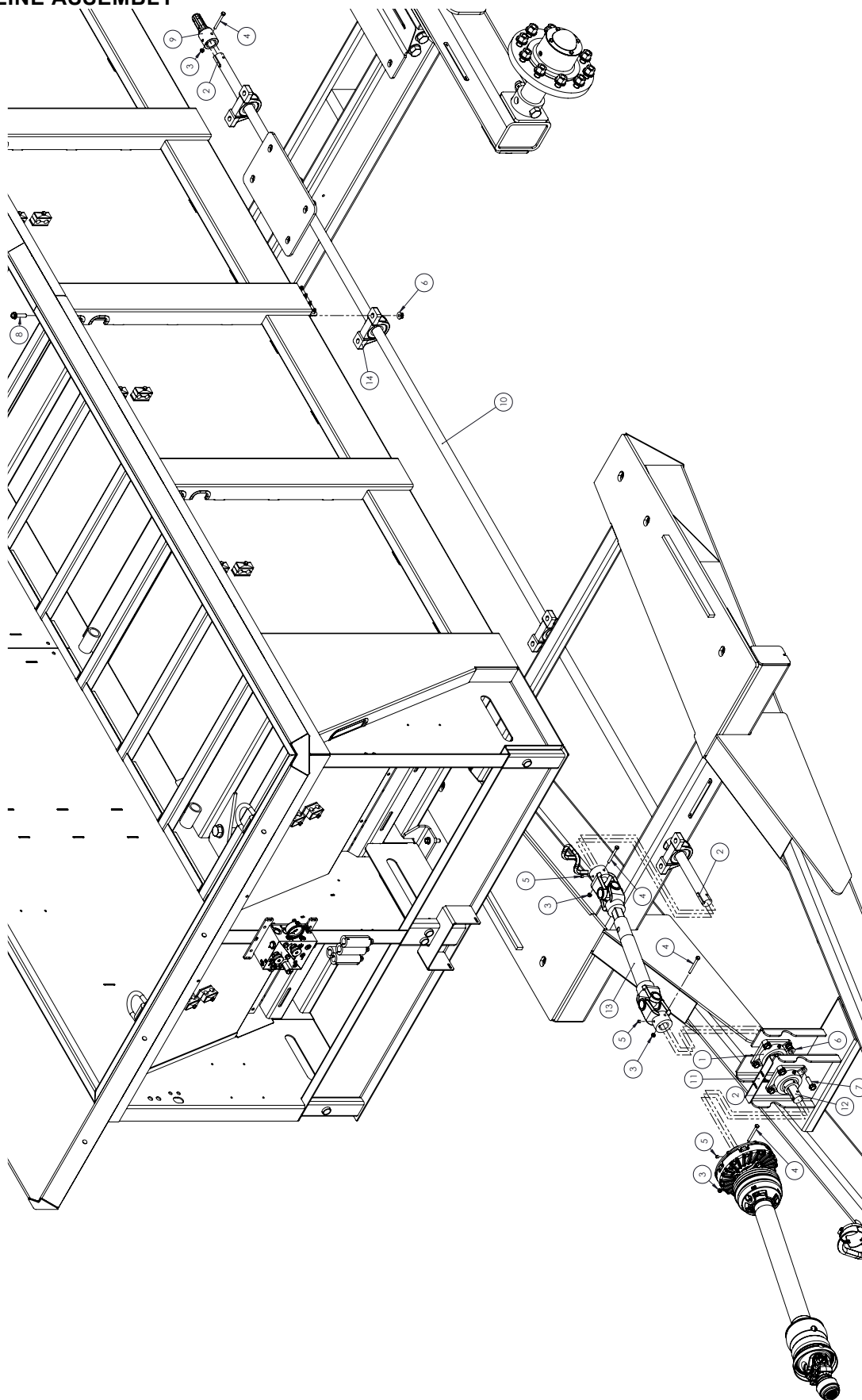
ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	1107389	WASHER, FLAT 1 SAE	8
2	600160	NUT, HFH TOPLOCK 3/4-10	8
3	600430	BOLT, HFH 3/4-10 X 2-1/2"	8
4	600490	BOLT, HHCS 1-8 X 6"	4
5	616010	X700 AXLE, TANDEM	1
6	638600	TANDEM WLDT, ROCKER	2
7	690670	SHIM, TANDEM ROCKER	2
8	690785	TANDEM ROCKER PIN WLDT,	2
9	691045 *	WEIGH SPINDLE	4
	691040	STANDARD SPINDLE	
10	691050	HUB ASSY, 10 BOLT/11.25"	4
11	990510	NUT, LOCK 2-WAY 1-8	8
12	E552023	NUT, SLOTTED 1-1/4-12	4
13	J08H4722	BOLT, HHCS 1-8 X 6 1/2 GR8 ZN	4
14	MP906827	.25"X 3" COTTER PIN	4
15	R61502	WASHER, FLAT 1-3/8" STD	4
PART NUMBERS WITH * AFTER ARE ON SCALED UNITS ONLY			

<u>ITEM NO.</u>	<u>PART NUMBER</u>	<u>DESCRIPTION</u>	<u>QTY.</u>
1	691051	HUB CAST, GROVE	1
2	691052	STUD, HUB 3/4-16 X 3" G8	10
3	691053	RACE, INNER BEARING	1
4	691054	RACE, OUTER BEARING	1
5	691055	CONE, INNER BEARING NTN	1
6	691056	CONE, OUTER BEARING NTN	1
7	691057	SEAL, HUB	1
8	691058	HUB CAP, GASKET, & BOLTS	1
9	691092	HUB CAP	1
10	691091	GASKET, HUB CAP	1
11	136470	BOLT, HHCS 5/16-18X5/8 GR5 ZN	4
12	691059	LUGNUT, S-FLANGE 3/4-16	10
13	JJD7798	ZERK, 1/8-27 NPT	1

TONGUE ASSEMBLY

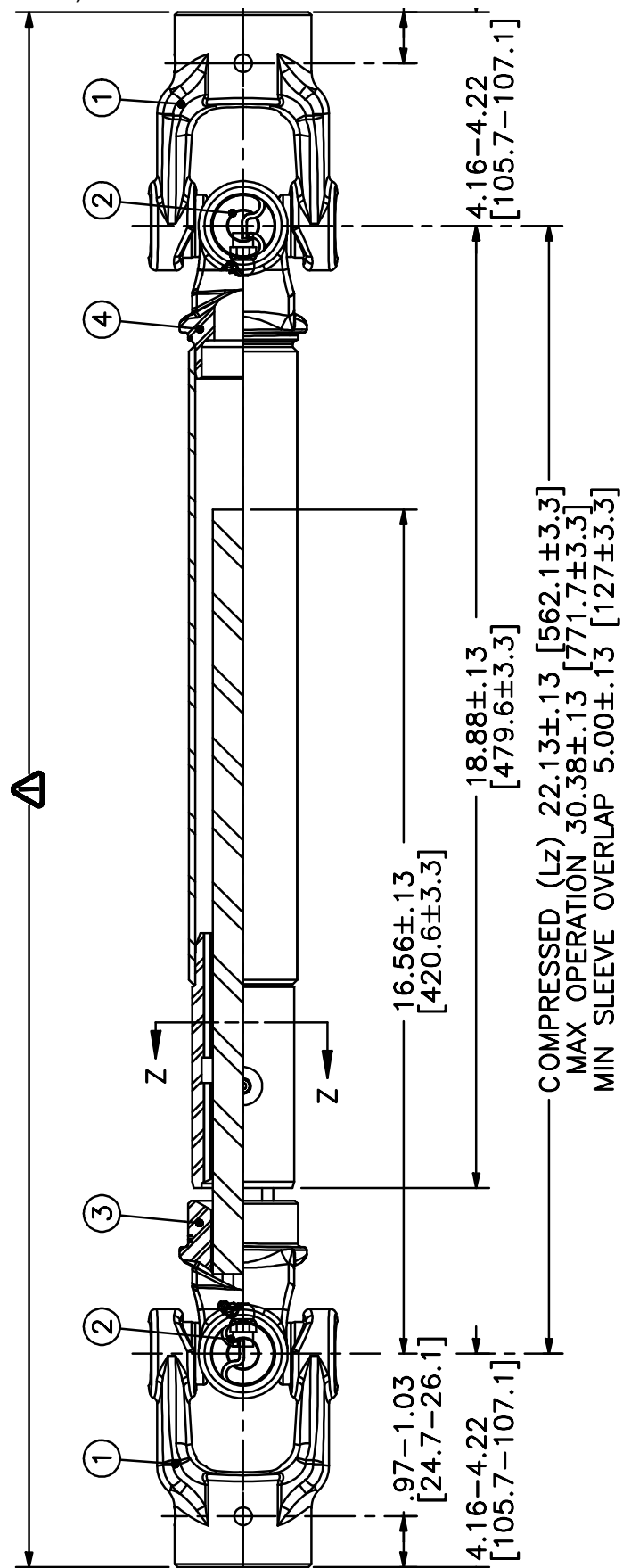


ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	1107389	WASHER, FLAT 1 SAE	20
2	455160	HOSE CLAMP	1
3	472910	CHAIN ASSY, SAFETY	1
4	497590	BOLT, HHCS 1-8 X 3 GR8	6
5	600050	BOLT, HFH 3/8-16 X 1.00"	2
6	600120	NUT, HFH NYLOC 3/8-16	2
7	600160	NUT, HFH TOPLOCK 3/4-10	1
8	600330	WASHER, FLAT 3/4"	1
9	619840 *	WEIGH BAR, TONGUE	1
	H160075	SWIVEL SHAFT	
10	630900	JACK, NICKEL PLATED	1
11	691038 *	SPACER, TONGUE WEIGH BAR	1
	H160076	SPACER, SWIVEL SHAFT	
12	691150	PTO SADDLE REST X900	1
13	692795	TONGUE WLDT, X700	1
14	990510	NUT, LOCK 2-WAY 1-8	10
15	H160071	HITCH RECEIVER	1
16	H160077	SWIVEL HITCH STOP	1
17	HH76-02-8199	HITCH, CLEVIS	1
18	HH76-02-8238	HITCH, CAT4 AUSTEMPERED	1
19	I4261288	HBOLT 0.7500-10X5.5 GR8 ZN	1
20	J08H4722	BOLT, HHCS 1-8 X 6 1/2 GR8 ZN	4
PART NUMBERS WITH * AFTER ARE ON SCALED UNITS ONLY			

DRIVELINE ASSEMBLY

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	010560	BEARING, 1-1/2"	2
2	021530	KEY, SQUARE 3/8 X 2	4
3	025670	NUT, LOCK 5/16-18	4
4	160230	BOLT, HHCS 5/16-18 X 3 GR5	4
5	218660	SCREW, HSSS 3/8-16 X 3/8	3
6	600140	NUT, HFH NYLOC 1/2-13	16
7	600230	BOLT, HFH 1/2-13	8
8	600240	BOLT, HFH 1/2-13 X 2.00"	8
9	607060	PUMP ADAPTER, WELDED	1
10	H140012	DRIVE SHAFT	1
11	H160025-04	SUPPORT, PTO SHIELD	1
12	H160028	PTO DRIVE SHAFT	1
13	H160073	SLIP SLEEVE SHAFT ASSY	1
14	HK08-55-1027	BEARING, PILLOW BLOCK 1-1/2"	4
LINE ITEM	H160105	PTO, 1-3/8" X 21SPL 1000 RPM CV, CLUTCH, & OVRRUN	N/A
	H160106	PTO, 1-3/4" X 20SPL 1000 RPM CV, CLUTCH, & OVRRUN	

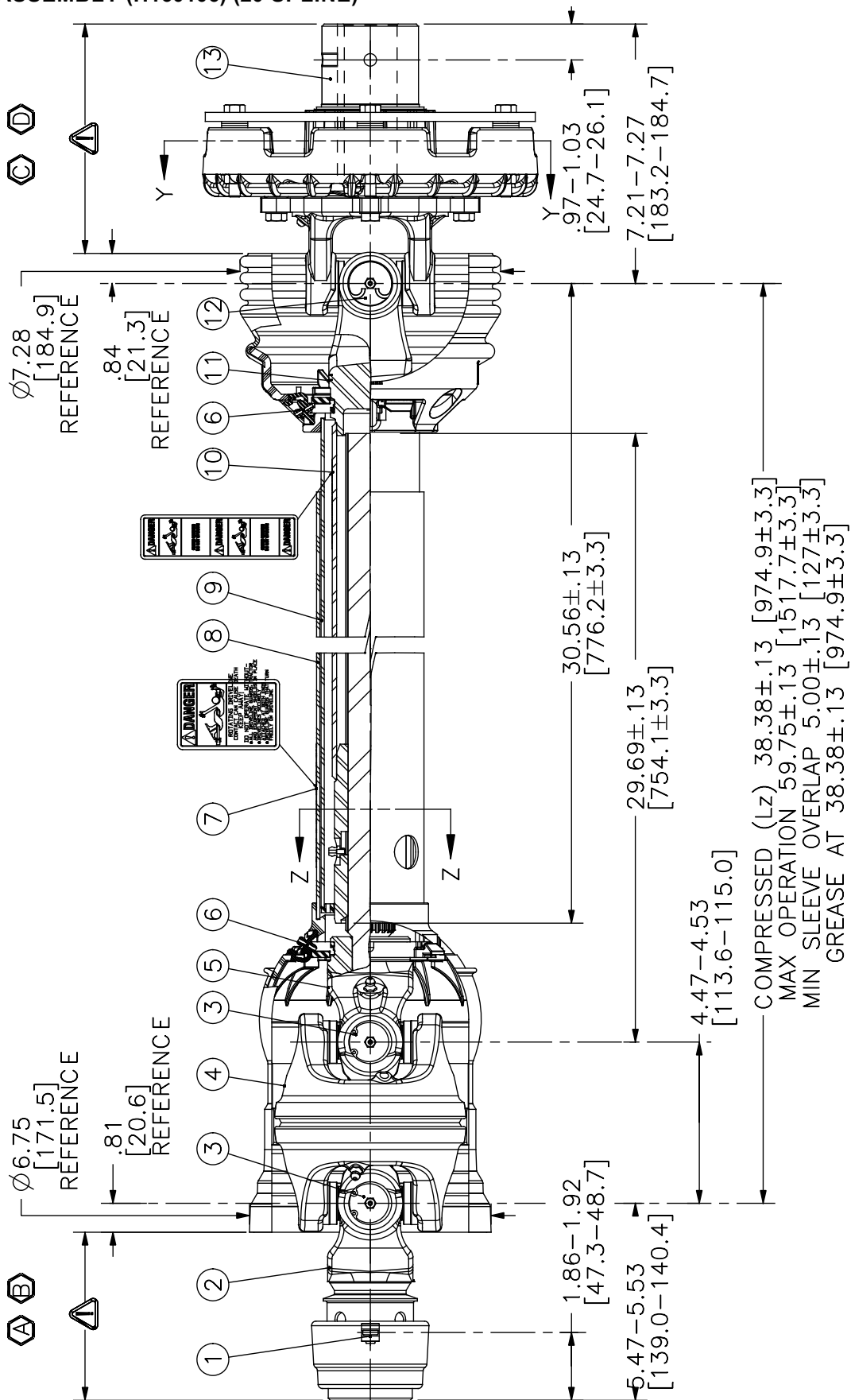
SHAFT ASSEMBLY (H160073)



<u>ITEM NO.</u>	<u>PART NUMBER</u>	<u>DESCRIPTION</u>	<u>QTY.</u>
A	H95-25413	JOINT & SHAFT HALF ASM.	1
B	H94-25413	JOINT & TUBE HALF ASM.	1
1	H35040-1003	YOKE	2
2	H03-10045	35R CROSS KIT	2
3	H99-25413	YOKE & SHAFT (1.19 SQUARE)	1
4	H98-25413	TOKE, TUBE, & SLIP SLEEVE	1

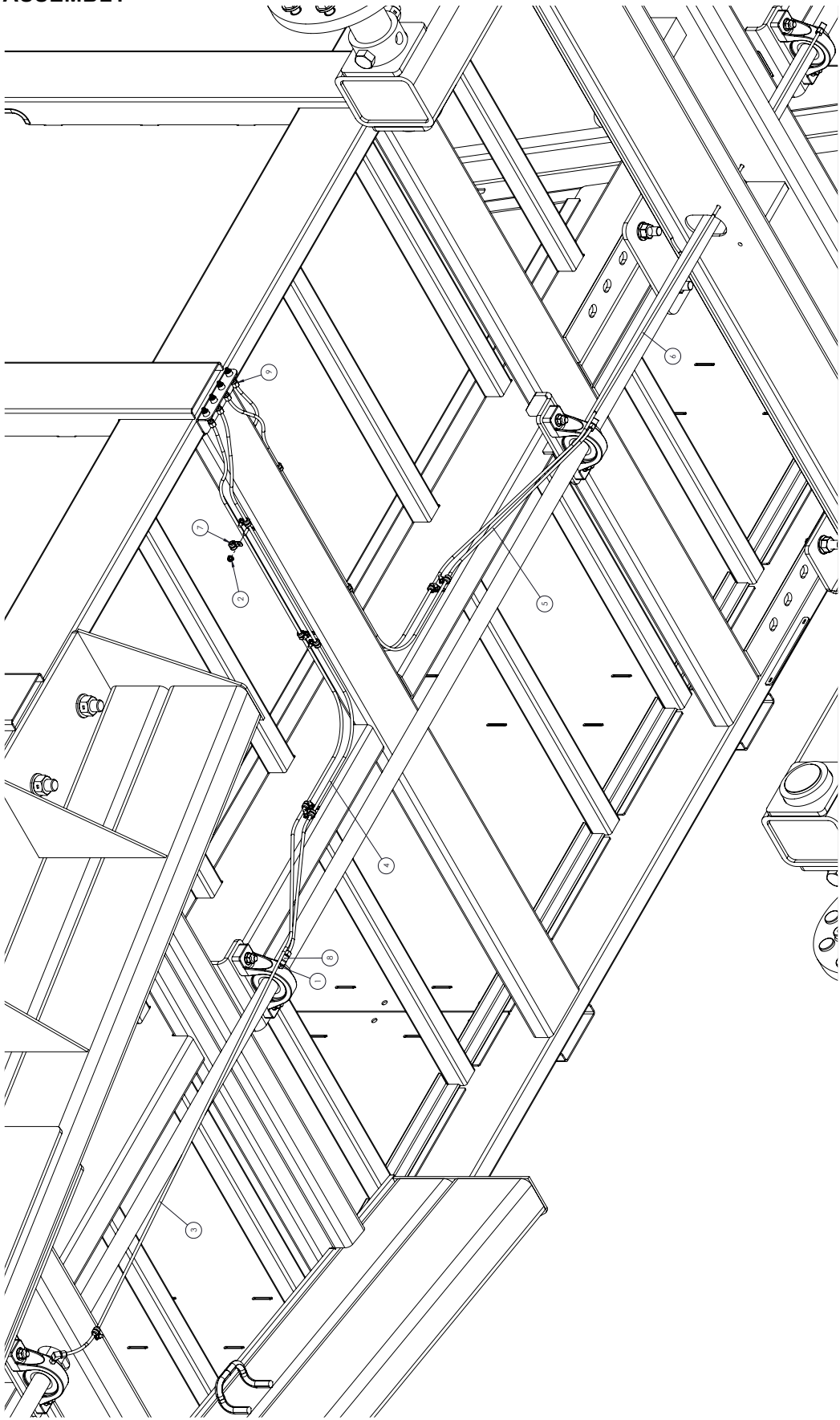
<u>ITEM NO.</u>	<u>PART NUMBER</u>	<u>DESCRIPTION</u>	<u>QTY.</u>
A	H93-25415	JOINT & SHAFT HALF ASM. W/GUARD	1
B	H95-25415	JOINT & SHAFT HALF ASM.	1
C	H92-25415	JOINT & TUBE HALF ASM. W/GUARD	1
D	H94-25415	JOINT & TUBE HALF ASM.	1
1	H26-15120	SSL/AUTO-LOK REPAIR KIT	1
2	H86810-1016	WWCV AUTO-LOK YOKE ASM.	1
3	H03-15436	AB6/AW22/CAT 4 80-EBL CROSS KIT	2
4	H26-15159	WWCV CENTER HOUSING	1
5	H99-25415	WWCV YOKE & SHAFT (1.31-20 SPINE)	1
6	H19-15126	GUARD REPAIR KIT	2
7	H13-10021	SAFETY SIGN	1
8	H97-25415	OUTER GUARD	1
9	H96-25415	INNER GUARD	1
10	H13-10022	SAFETY SIGN	1
11	H98-25415	YOKE, TUBE, & SLIP SLEEVE	1
12	H03-15287	35EBL CROSS KIT	1
15	H38-15088	FRICTION CLUTCH ASM.	1

SHAFT ASSEMBLY (H160106) (20 SPLINE)



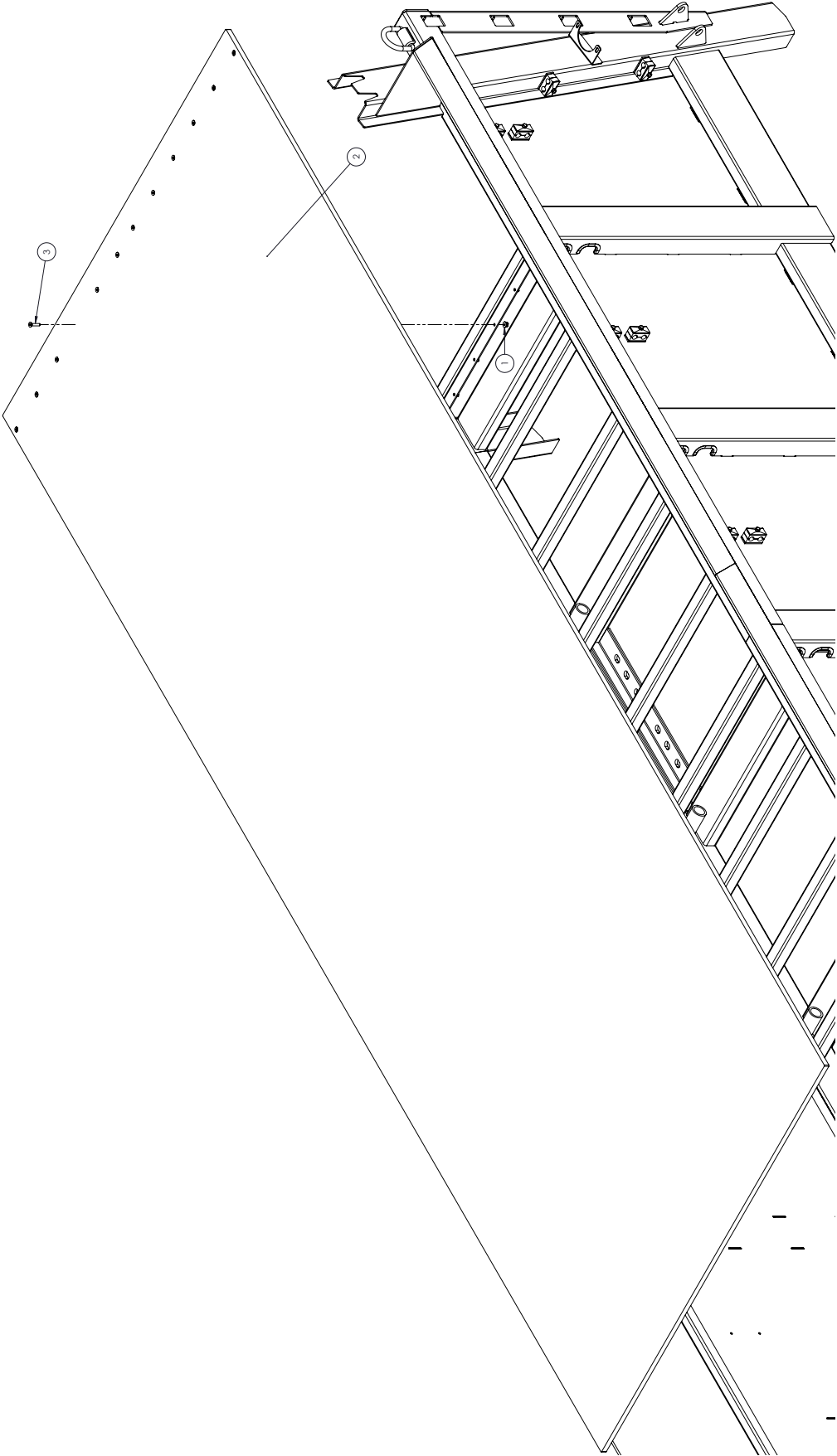
<u>ITEM NO.</u>	<u>PART NUMBER</u>	<u>DESCRIPTION</u>	<u>QTY.</u>
A	H93-26285	JOINT & SHAFT HALF ASM. W/GUARD	1
B	H95-26285	JOINT & SHAFT HALF ASM.	1
C	H92-25415	JOINT & TUBE HALF ASM. W/GUARD	1
D	H94-25415	JOINT & TUBE HALF ASM.	1
1	H26-13387	SSL/AUTO-LOK REPAIR KIT	1
2	H86810-1038	WWCV AUTO-LOK YOKE ASM.	1
3	H03-15436	A86/AW22/CAT 4 80-EBL CROSS KIT	2
4	H26-15159	WWCV CENTER HOUSING	1
5	H99-25415	WWCV YOKE & SHAFT (1.31-20 SPINE)	1
6	H19-15126	GUARD REPAIR KIT	2
7	H13-10021	SAFETY SIGN	1
8	H97-25415	OUTER GUARD	1
9	H96-25415	INNER GUARD	1
10	H13-10022	SAFETY SIGN	1
11	H98-25415	YOKE. TUBE. & SLIP SLEEVE	1
12	H03-15287	35EBL CROSS KIT	1
13	H38-15088	FRICTION CLUTCH ASM.	1

GREASE ASSEMBLY



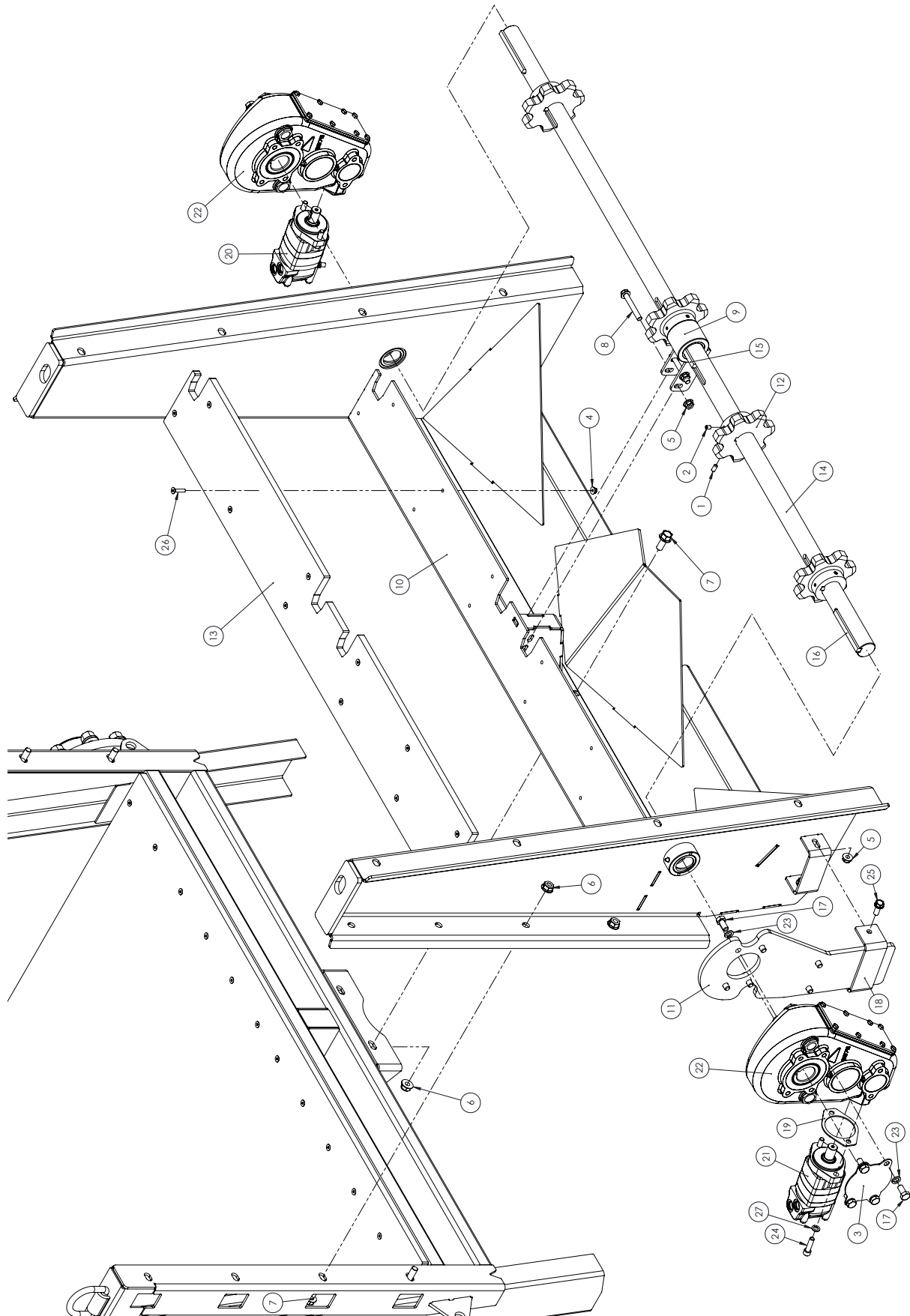
<u>ITEM NO.</u>	<u>PART NUMBER</u>	<u>DESCRIPTION</u>	<u>QTY.</u>
1	244270	ADAPTER, STRAIGHT	4
2	600100	NUT, HFH NYLOC 1/4-20	13
3	691226	HOSE, GREASE 1/4" X 113"	1
4	691227	HOSE, GREASE 1/4" X 64"	1
5	691228	HOSE, GREASE 1/4" X 65"	1
6	691229	HOSE, GREASE 1/4" X 113"	1
7	HJ14-00-0142	CLAMP, 1/4"	13
8	HT78-26-0204	CONNECTOR BRASS, 90, 1/8	4
9	HT78-47-0204	CONNECTOR, BRASS, STR., 1/8	4

MAIN FLOOR ASSEMBLY

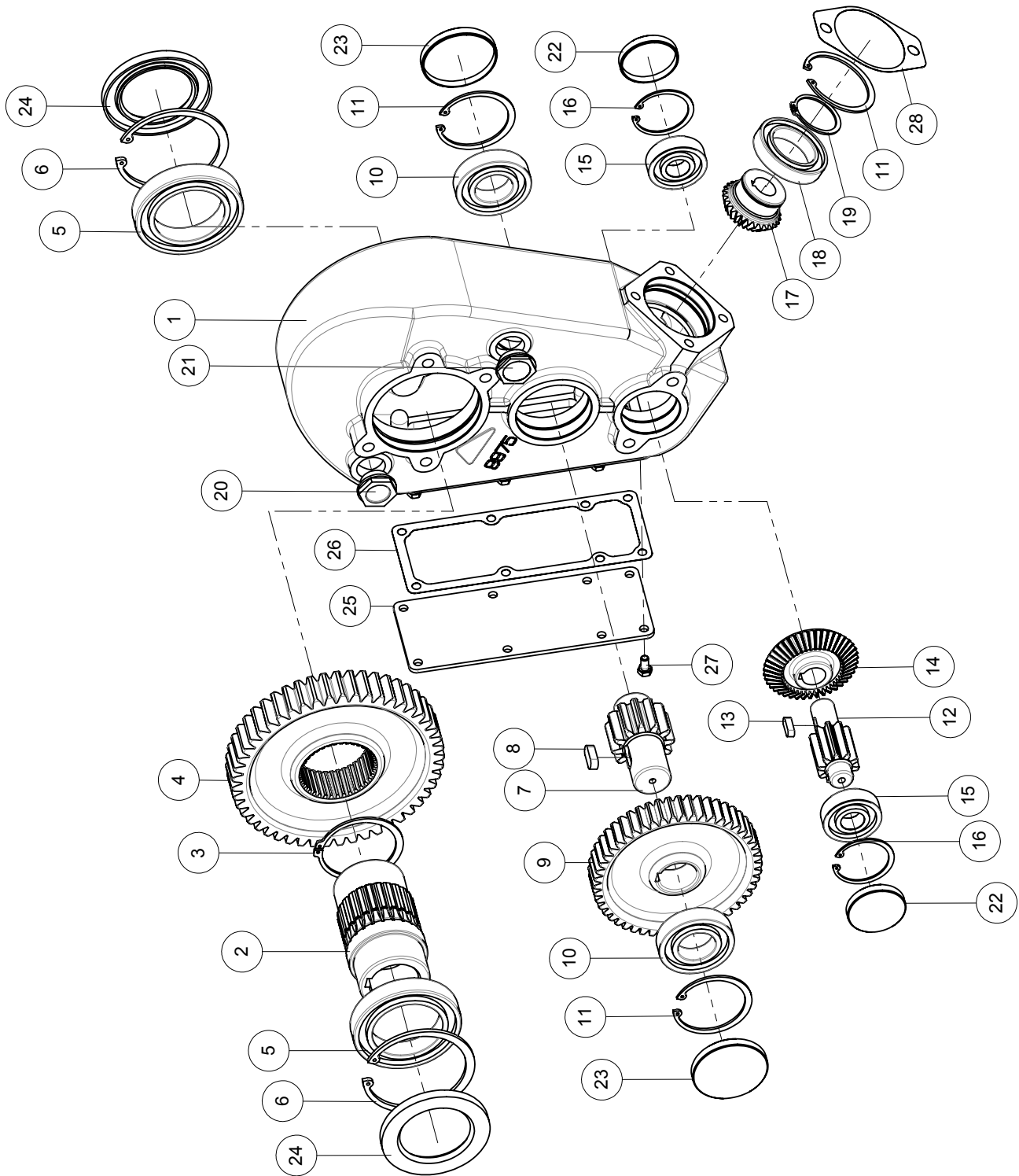


<u>ITEM NO.</u>	<u>PART NUMBER</u>	<u>DESCRIPTION</u>	<u>QTY.</u>
1	600110	NUT, HFH NYLOC 5/16-18	12
2	691780	PLASTIC FLOOR, MAIN	1
3	MP907624	SCREW - FHSCS 5/16-18 X	12

REAR GANG ASSEMBLY

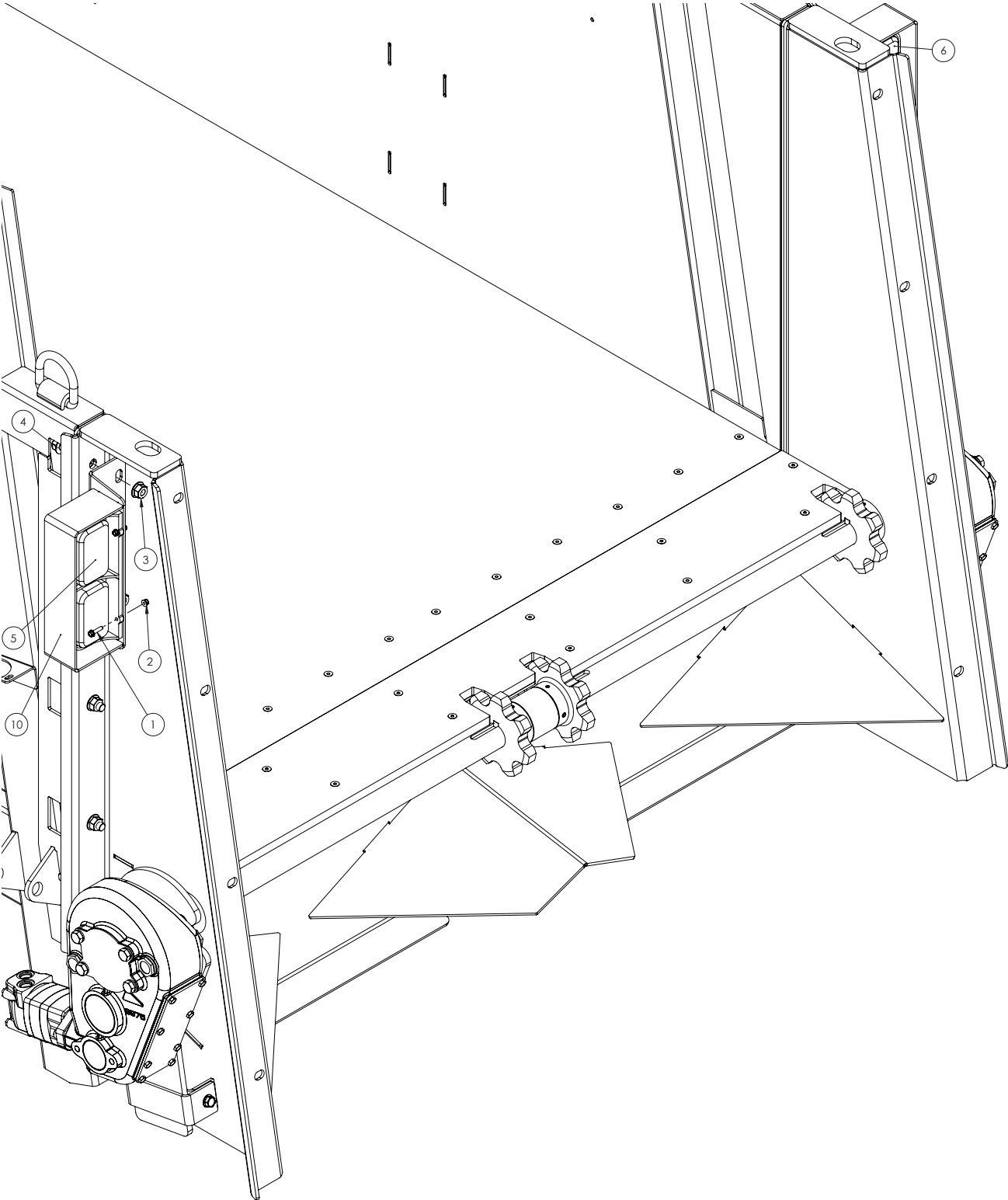


ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	1070121	SET SCREW 3/8"-16 X 3/4"	4
2	120970	SCREW, HSSS 3/8-16 X 1/2"	4
3	598420	END PLATE, GEARBOX	2
4	600110	NUT, HFH NYLOC 5/16-18	12
5	600140	NUT, HFH NYLOC 1/2-13	6
6	600150	NUT, HFH NYLOC 5/8-11	6
7	600210	BOLT, HFH 5/8-11	6
8	607670	BOLT, HFH 1/2-13 X 2.00"	2
9	609500	MOUNT, BUSHING	1
10	690776	X700 REAR GANG	1
11	691714	TORQUE PLATE	2
12	691720	SPROCKET, 7 TOOTH 88C	4
13	691785	PLASTIC FLOOR, REAR	1
14	691831	REAR APRON SHAFT,	1
15	691832	KEY, SQUARE 2-1/4"	4
16	691834	KEY, SQ 1/2" X 5-11/16"	2
17	H4138	BOLT, HHCS M14-2 X 30 GR8.8 ZN	20
18	H610131	BRACKET, U	2
19	H610132	GASKET, MOTOR/GEARBOX	2
20	HC47-00-3121 *	MOTOR, HYD, RPM SENSOR	1
	HC47-00-3122	MOTOR, HYD	
21	HC47-00-3122	MOTOR, HYD	1
22	HO74-01-5069	GEARBOX, RIGHT ANGLE	2
23	HZ83-66-1414	WASHER, LOCK 5/8	20
24	HZ86-11-1245	SHCS, M12-1.75 X 45	4
25	MP904557	HHDBLT - 1/2-13 X 1-1/4" WHZ	4
26	MP907624	SCREW - FHSCS 5/16-18 X	12
27	MP907700	WASHER, LOCK M12	4
PART NUMBERS WITH * AFTER ARE ON SCALED UNITS ONLY			

GEARBOX ASSEMBLY (HO74-01-5069)

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
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

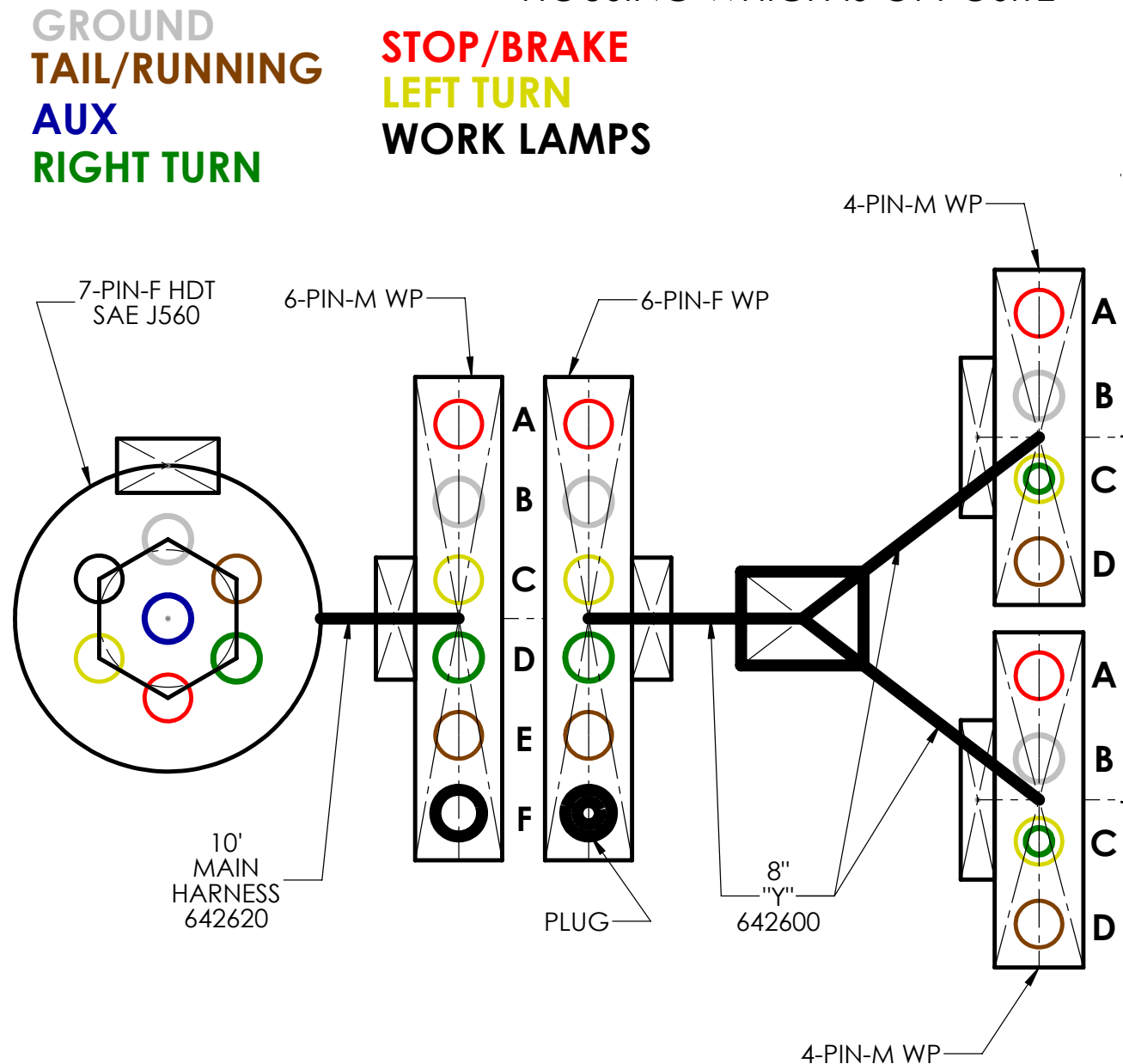
LIGHTS ASSEMBLY



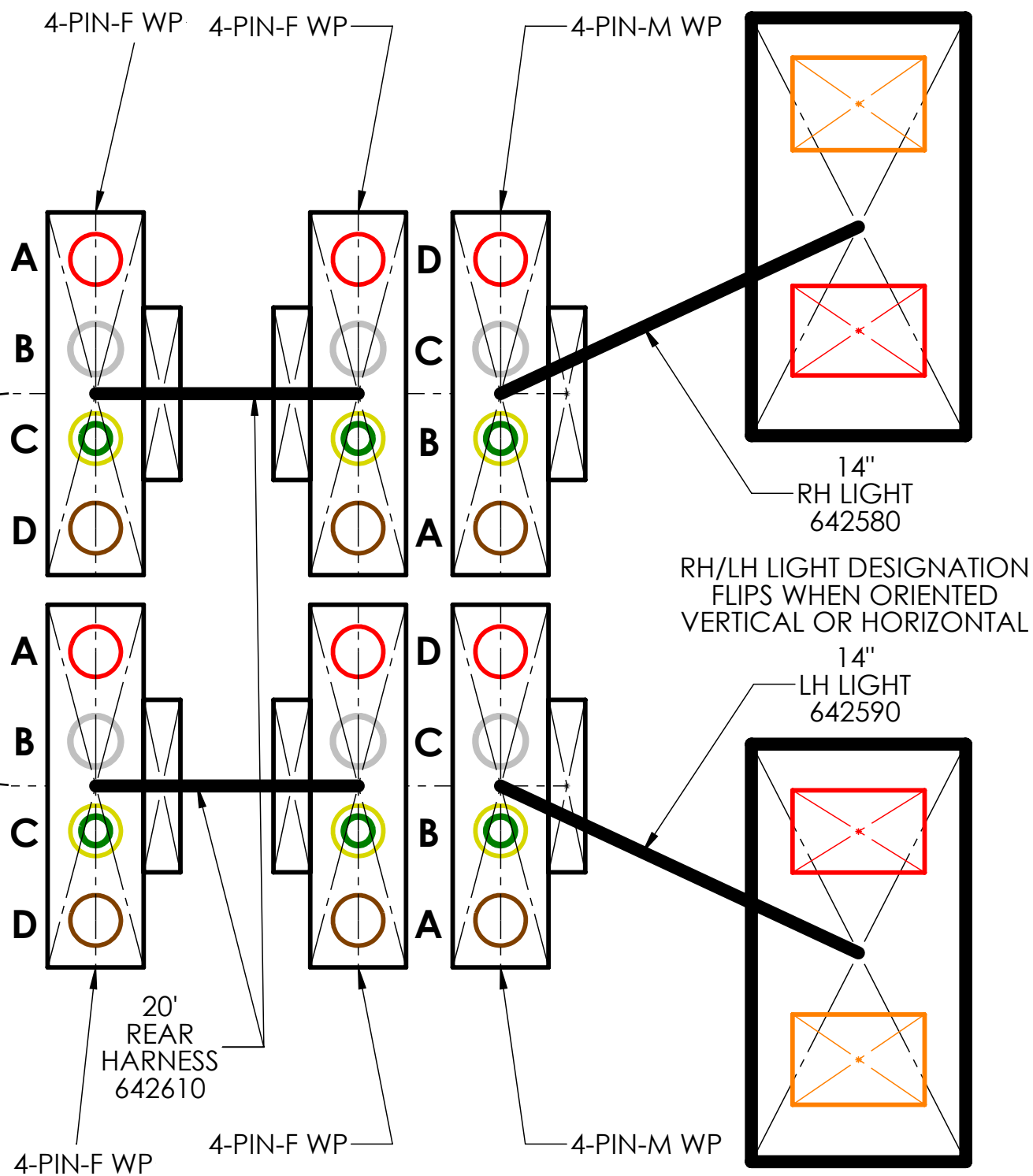
<u>ITEM NO.</u>	<u>PART NUMBER</u>	<u>DESCRIPTION</u>	<u>QTY.</u>
1	600020	BOLT, HFH 1/4-20 X 1.00"	8
2	600100	NUT, HFH NYLOC 1/4-20	8
3	600150	NUT, HFH NYLOC 5/8-11	4
4	600210	BOLT, HFH 5/8-11	4
5	642580	LIGHT, LED	1
6	642590	LIGHT, LED	1
NOT SHOWN	642600	HARNESS, Y-SPLITTER	1
	642610	HARNESS, 20' LIGHT	2
	642620	HARNESS, MAIN LIGHT	1
10	691940	LIGHT BRACKET	2

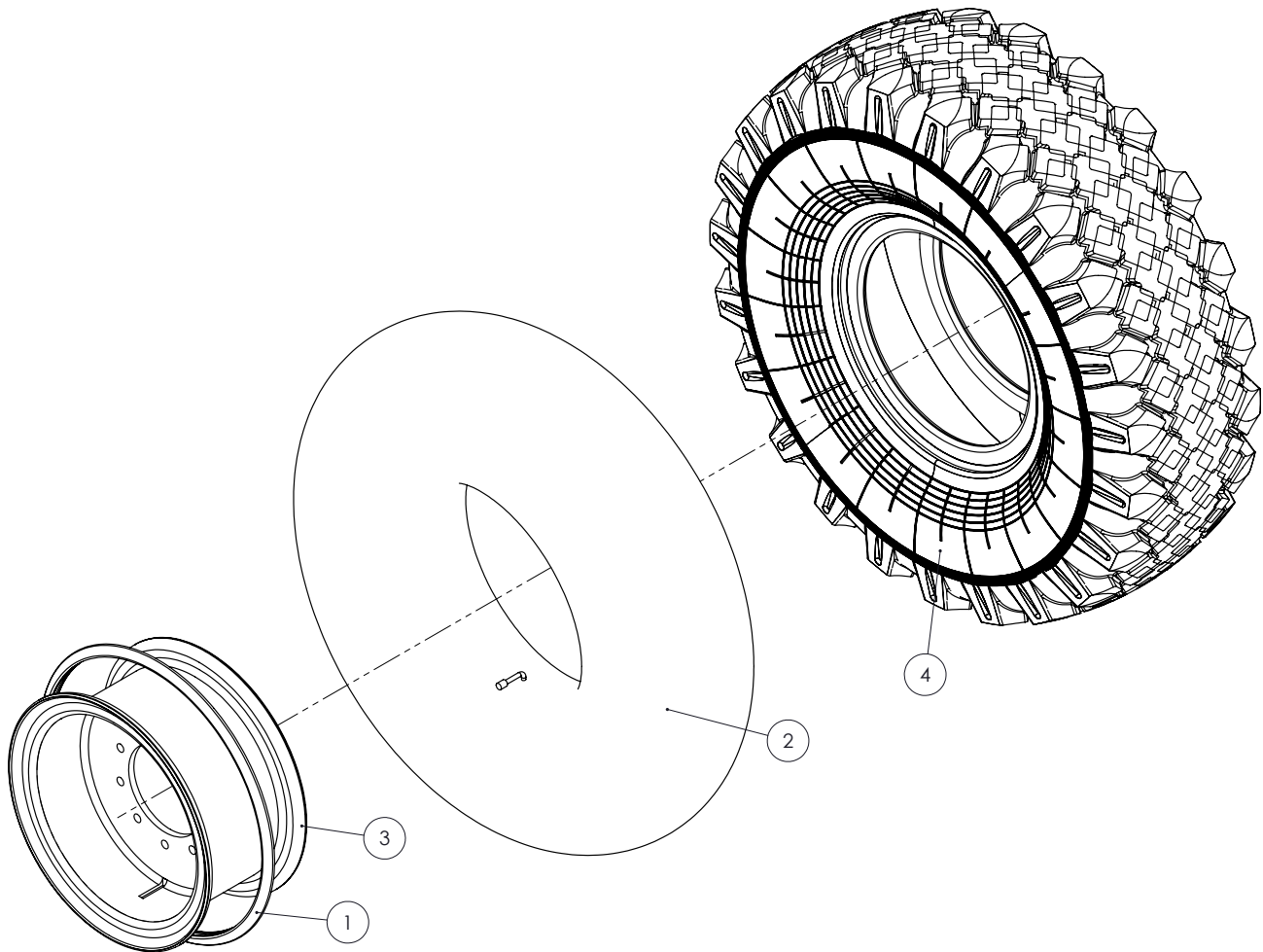
LIGHTS DIAGRAM

M-F DESIGNATION REFERS TO THE PINS NOT THE CONNECTOR HOUSING WHICH IS OPPOSITE



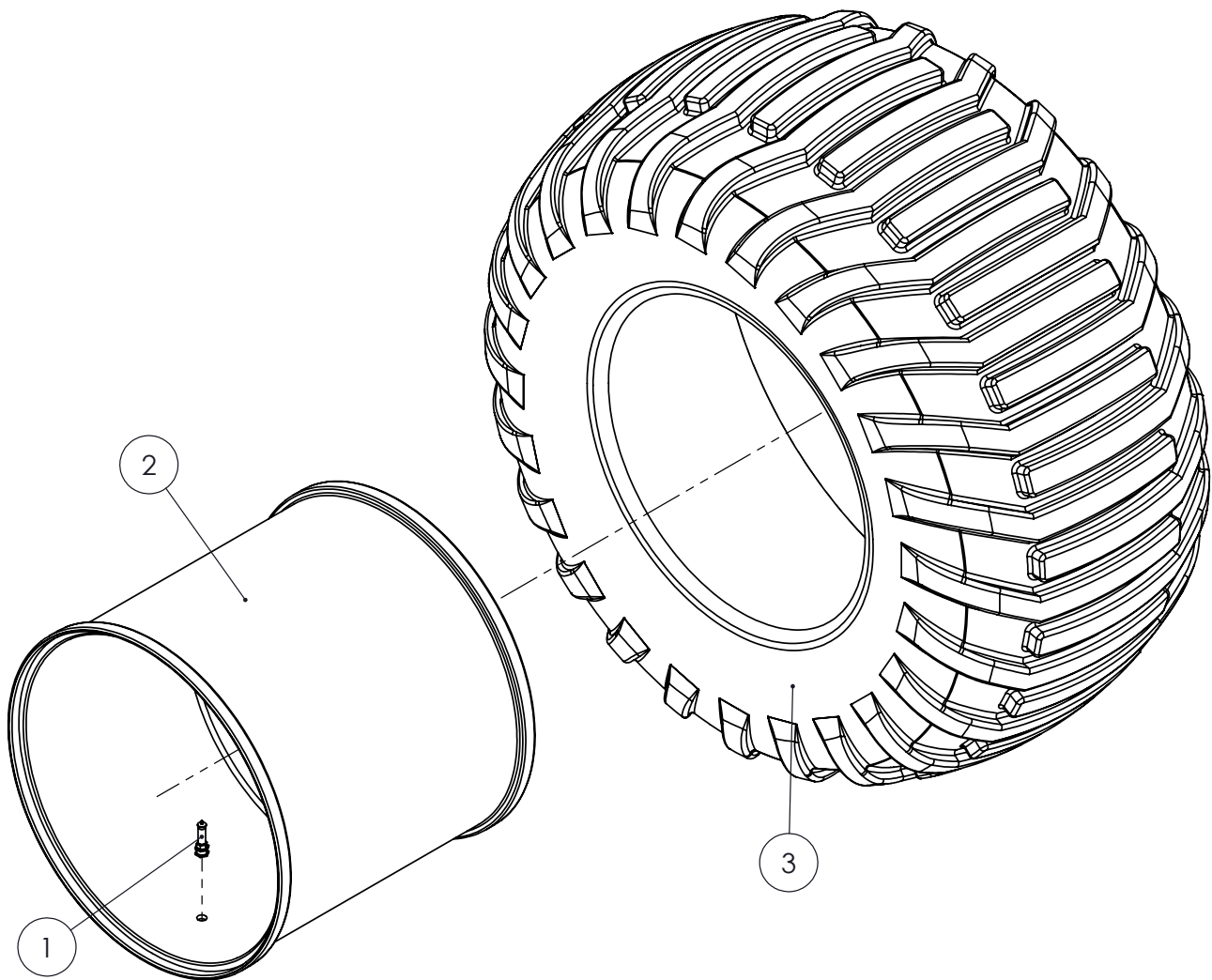
ALL END CONNECTORS ARE SHOWN LOOKING AT THE PIN SIDE WITH LOCKING TABS POINTING THE DIRECTION SHOWN



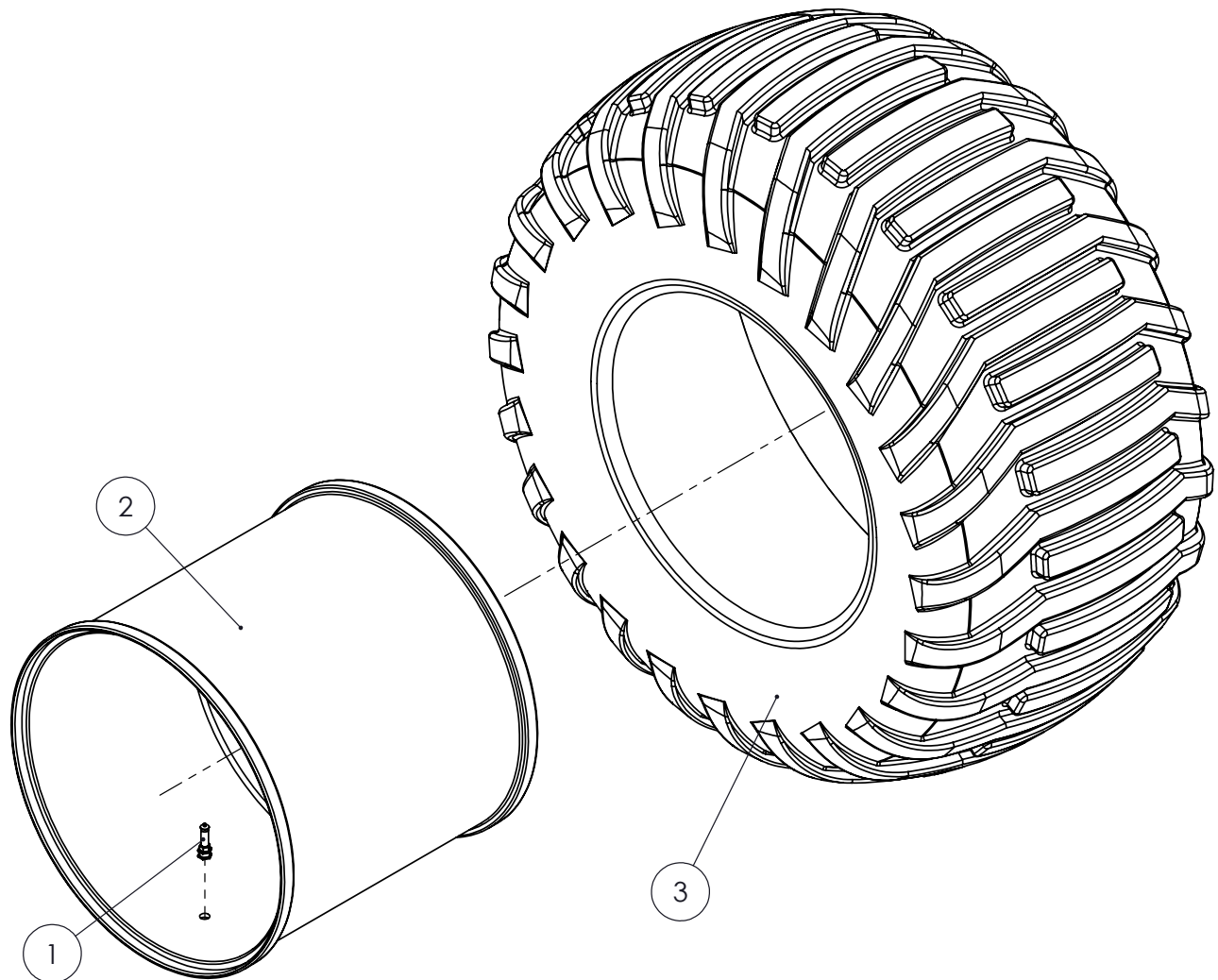
WHEEL ASSEMBLY (USED MILITARY)

<u>ITEM NO.</u>	<u>PART NUMBER</u>	<u>DESCRIPTION</u>	<u>QTY.</u>
1	606100	RUBBER RING, WHEEL LOCKING	1
2	606105	TUBE, W/ STEM	1
3	659004	RIM, 1.5" OFFSET	1
4	HN69-07-4073	TIRE, 425/65RX22.5	1

WHEEL ASSEMBLY (RH GOODYEAR FLOATATION 690623)

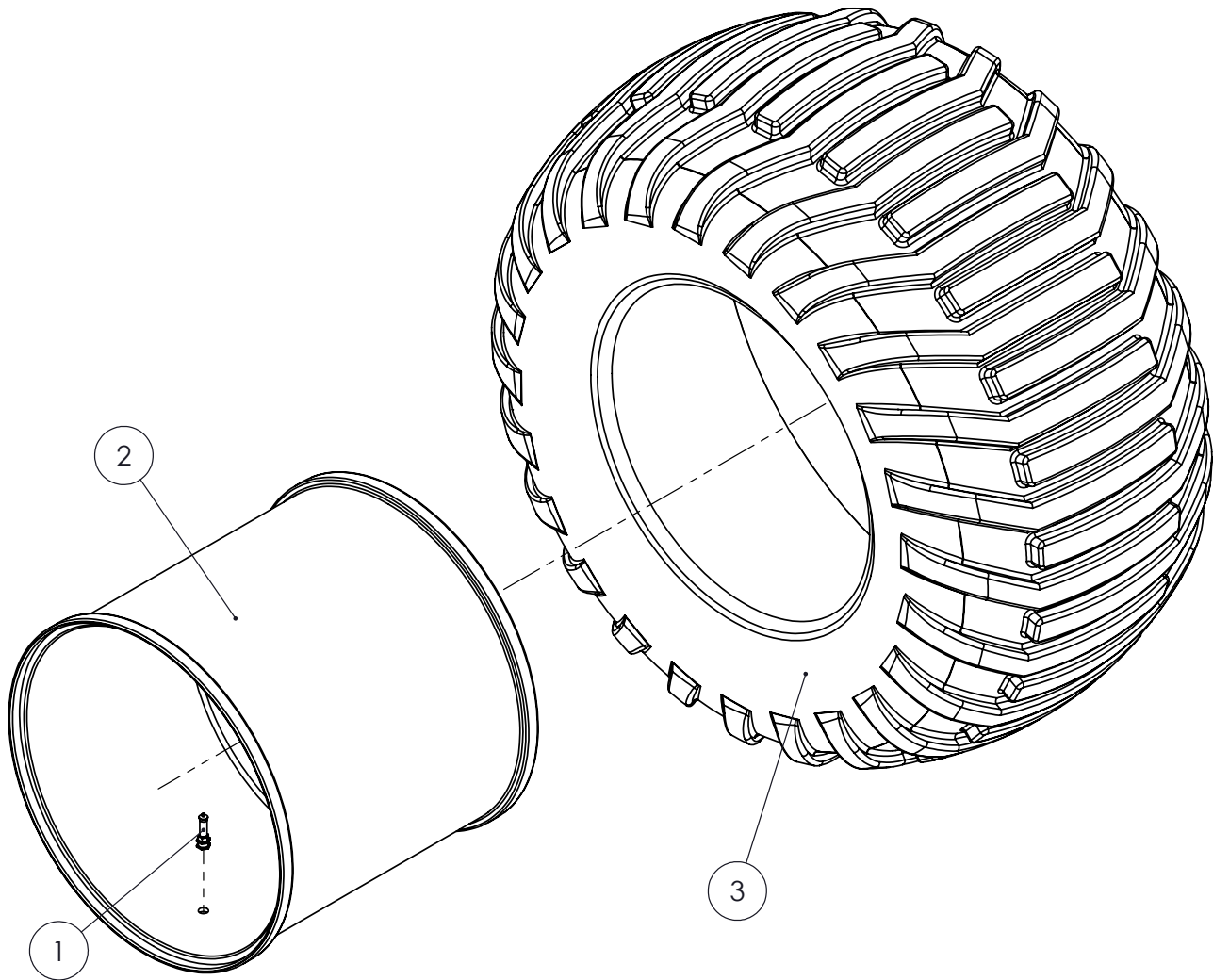


ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	269490	STEEL VALVE STEM	1
2	659005	RIM, 22.5"X20"	1
3	MP12.11073	TIRE, 600/50R22.5	1

WHEEL ASSEMBLY (LH GOODYEAR FLOATATION 690624)

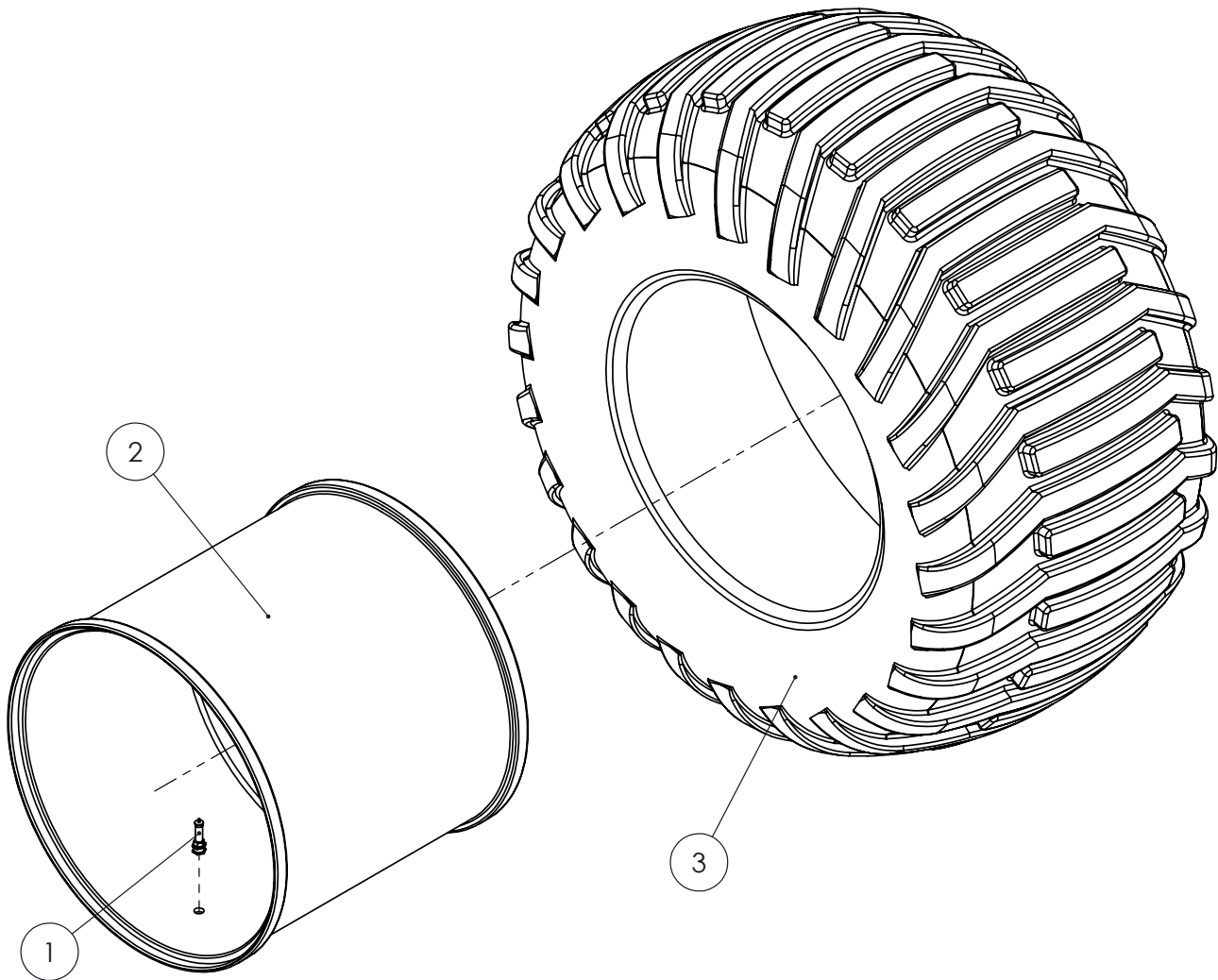
ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	269490	STEEL VALVE STEM	1
2	659005	RIM, 22.5"X20"	1
3	MP12.11073	TIRE, 600/50R22.5	1

WHEEL ASSEMBLY (RH BKT FLOATATION 690621)



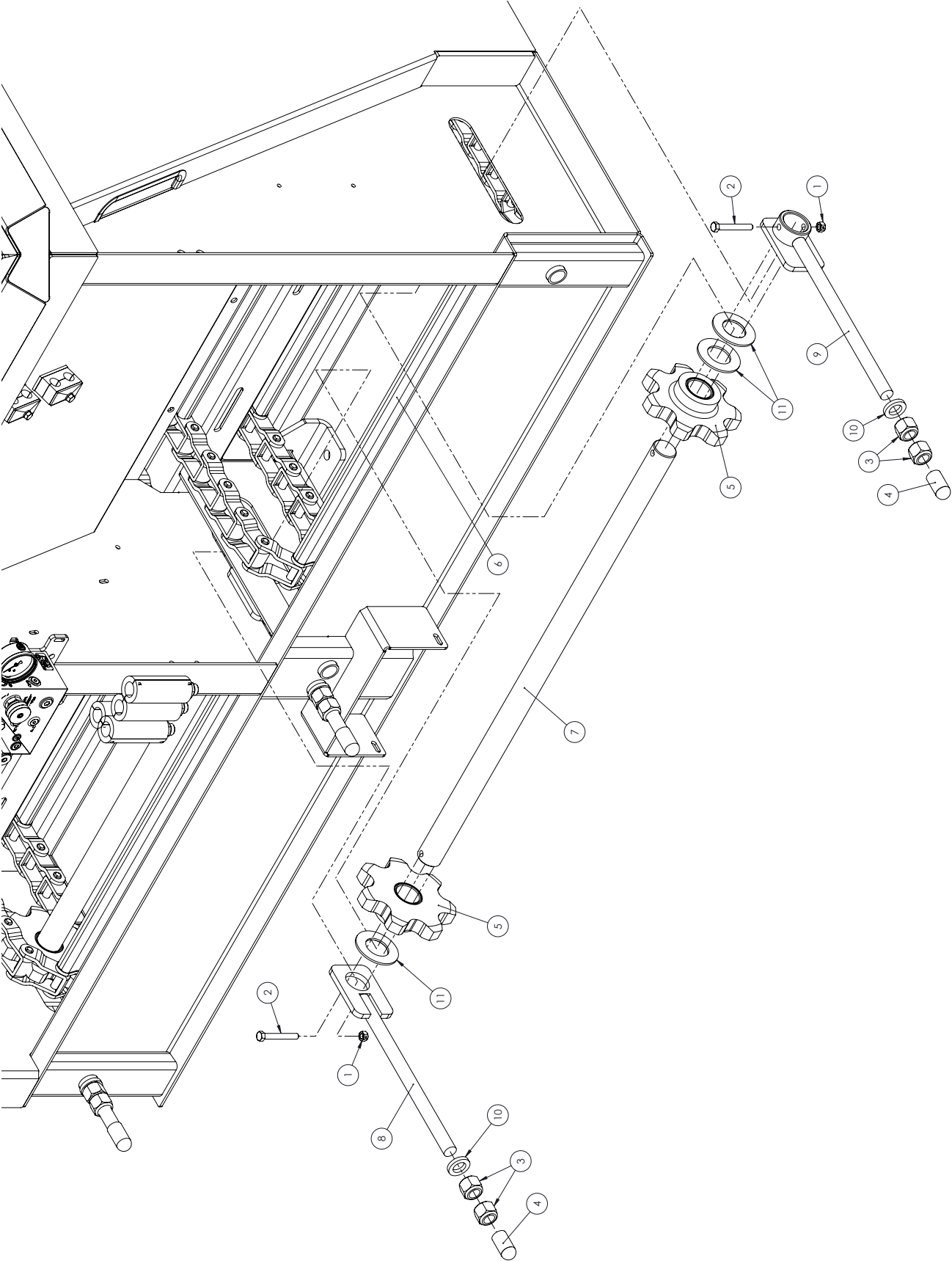
ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	269490	STEEL VALVE STEM	1
2	659005	RIM, 22.5"X20"	1
3	690619	TIRE, 600/50R22.5	1

WHEEL ASSEMBLY (LH BKT FLOATATION 690622)

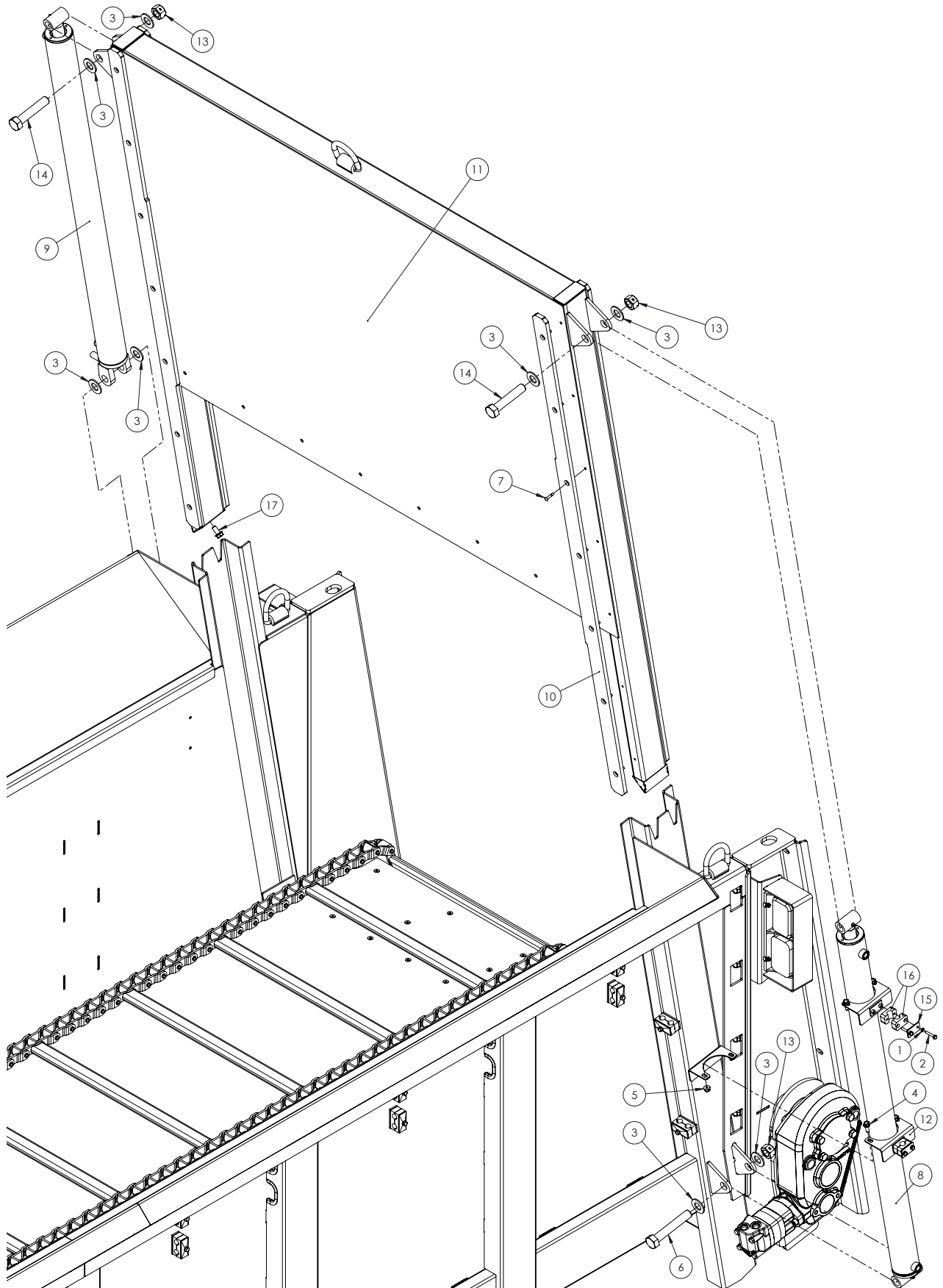


ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	269490	STEEL VALVE STEM	1
2	659005	RIM, 22.5"X20"	1
3	690619	TIRE, 600/50R22.5	1

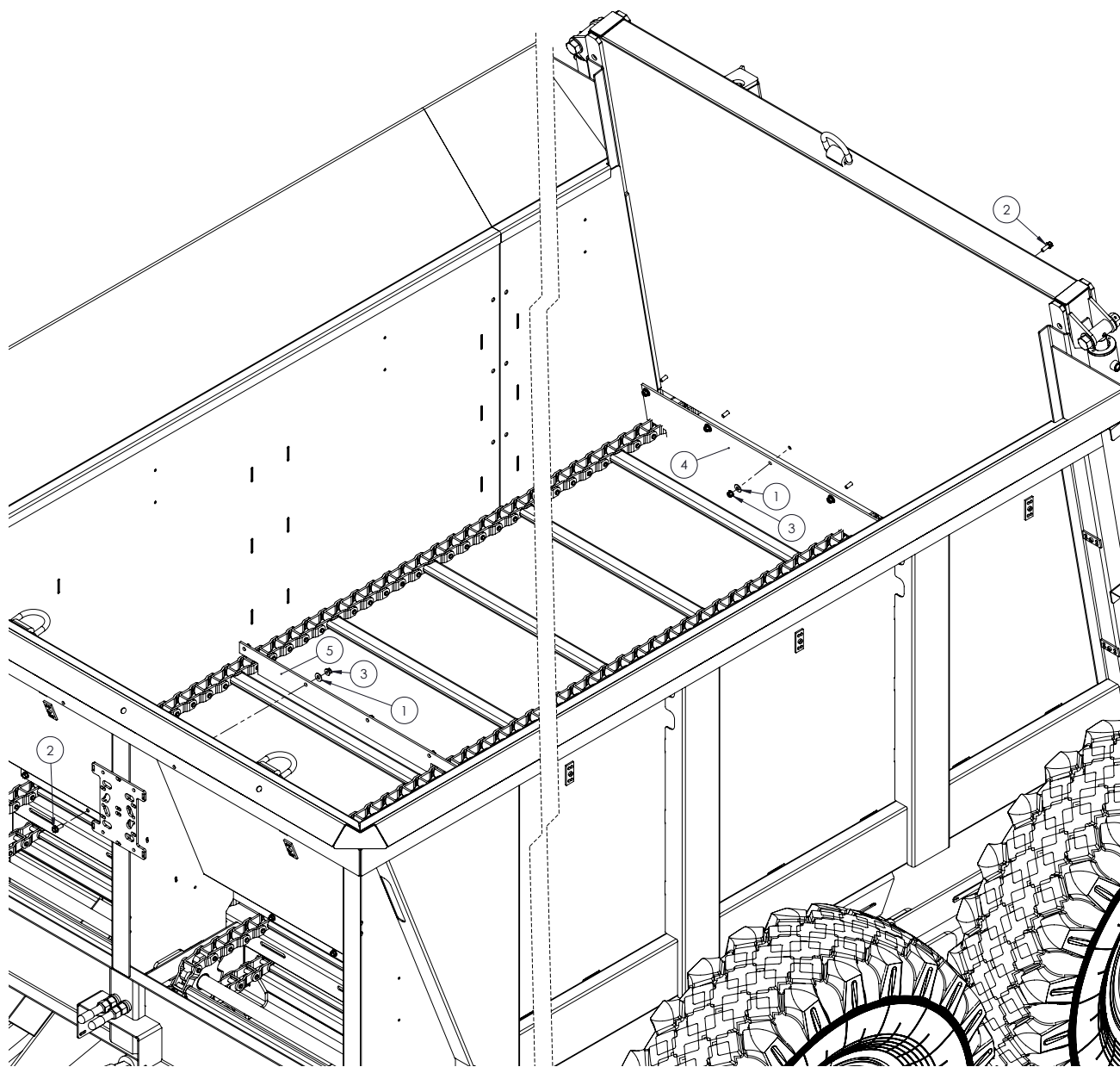
APRON CHAIN ASSEMBLY



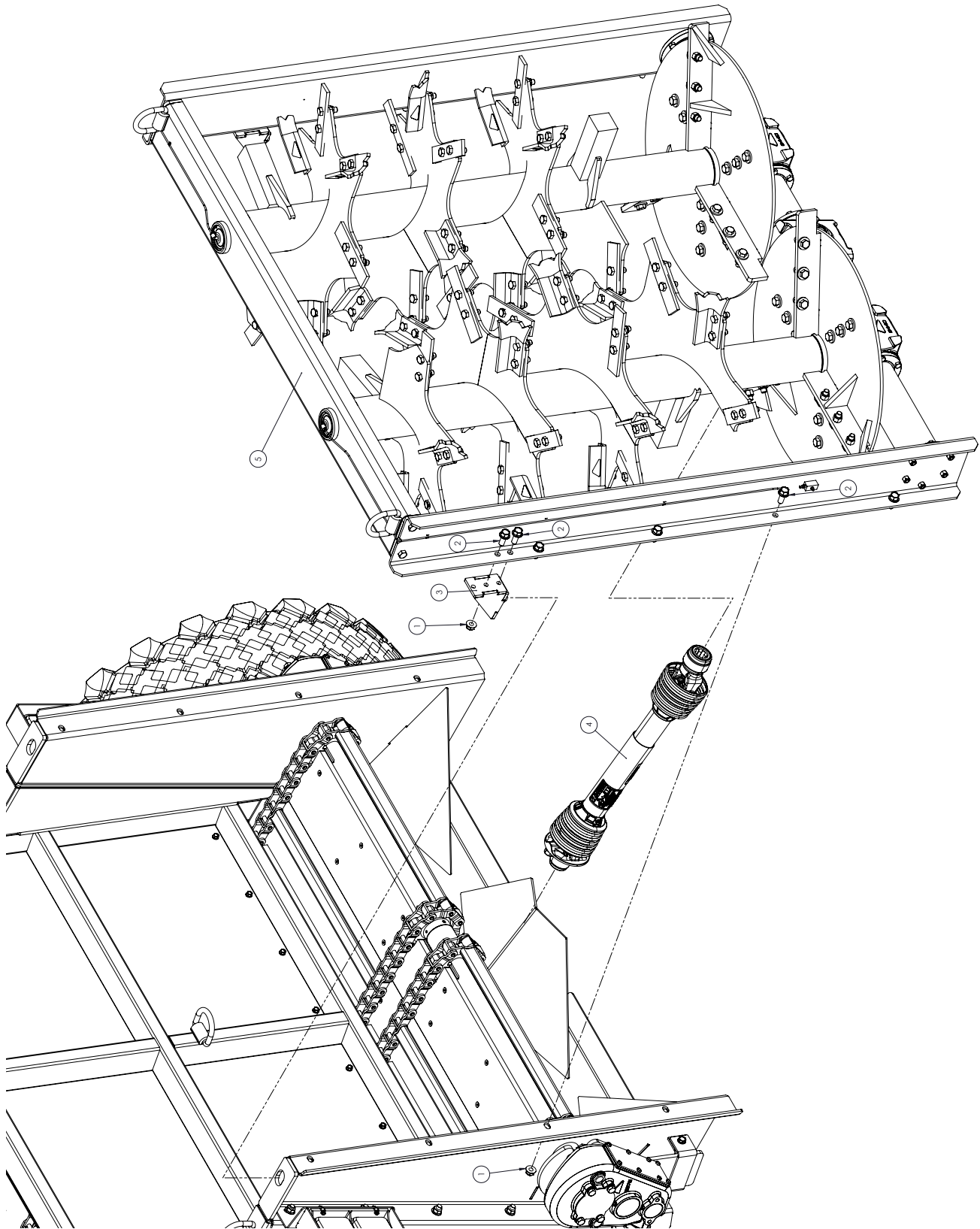
ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	023060	NUT, LOCK 3/8-16 2 WAY	4
2	037790	BOLT, HHCS 3/8-16 X 2	4
3	600510	NUT, NYLOC 7/8-9 GR 8	8
4	691088	RUBBER CAP FOR 7/8" ROD	4
5	691725	SPROCKET, IDLER 7 TOOTH 88C	4
6	691730	X700 88C CHAIN	2
	691731	APRON CHAIN WLDT, SERVICE (10 LINKS, 2 SLATS)	-
	691732	APRON CHAIN WLDT, SERVICE (2 LINKS, 1 SLAT)	
	691739	APRON CHAIN SLAT (WELD IN)	
	397490P	CONNECTING LINK	
	034360	COTTER PIN FOR CONNECTING LINK	
7	691836	APRON TENSIONER SHAFT	2
8	H610203	INSIDE APRON TIGHTENER	2
9	H610206	OUTSIDE APRON TIGHTENER	2
10	I651239R1	WASHER, FLAT 29/32 X 1-1/2	4
11	V063596	WASHER, FLAT 1-1/2 SAE ZN	6
CONNECTING LINKS AND COTTER PINS INCLUDED WITH SERVICE CHAINS. COMPLETE APRON CHAIN NOT ELIGIBLE FOR IMMEDIATE WARRANTY SERVICE.			

SLOP GATE ASSEMBLY

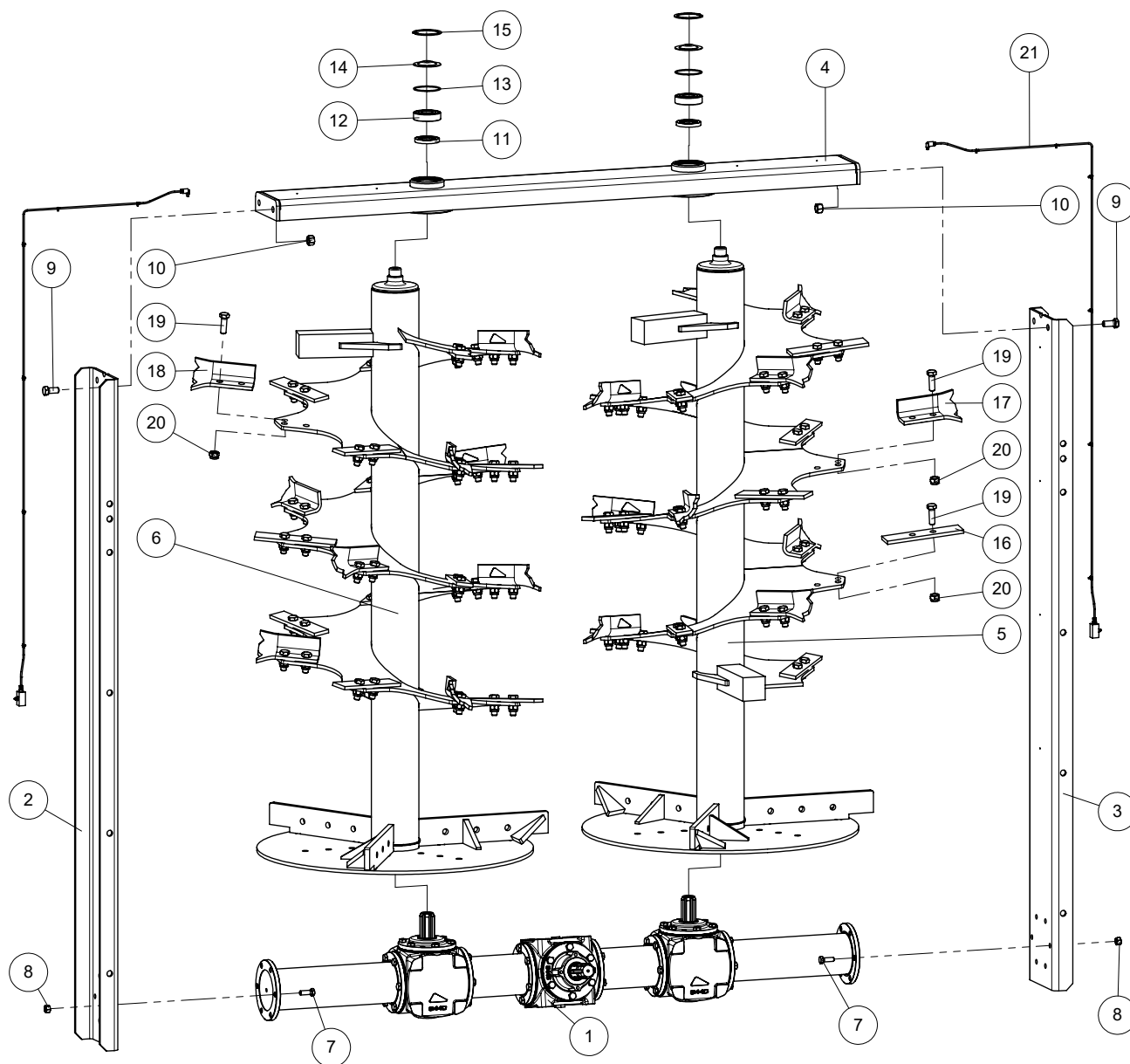
<u>ITEM NO.</u>	<u>PART NUMBER</u>	<u>DESCRIPTION</u>	<u>QTY.</u>
1	029440	WASHER, LOCK 1/4 SAE	8
2	047000	BOLT, HHCS 1/4-20 X 1-1/2	8
3	1107389 * 2 EXTRA	WASHER, FLAT 1 SAE	10
4	600050	BOLT, HFH 3/8-16 X 1.00"	8
5	600120	NUT, HFH NYLOC 3/8-16	8
6	600490	BOLT, HHCS 1-8 X 6"	2
7	660570	1/4" BLIND RIVET	28
8	660585	CYLINDER, HYD	1
9	660586 *	CYLINDER, HYD SENSOR	1
	660585	CYLINDER, HYD STANDARD	
10	660595	PLASTIC SLIDE,	4
11	690720	SLOP GATE WELDMENT,	1
12	690765	CYLINDER HOLDER WLDMNT	4
13	990510	NUT, LOCK 2-WAY 1-8	4
14	991060	BOLT, HHCS 1-8 X 5	2
15	HC14-00-3169	TOP CAP, HOSE CLAMP	4
16	HC14-00-3171	SECTION, HOSE CLAMP	8
17	MP903952	HHDBLT - 1/2-13 X 1 WHZ	2
PART NUMBERS WITH * AFTER ARE ON SCALED UNITS ONLY			

FLASHING ASSEMBLY

<u>ITEM NO.</u>	<u>PART NUMBER</u>	<u>DESCRIPTION</u>	<u>QTY.</u>
1	021190	WASHER, FLAT 3/8 STD	16
2	600050	BOLT, HFH 3/8-16 X 1.00"	16
3	600120	NUT, HFH NYLOC 3/8-16	16
4	691837	SLOP GATE FLAP,	1
5	691839	FRONT FLAP, 88C CHAIN	1

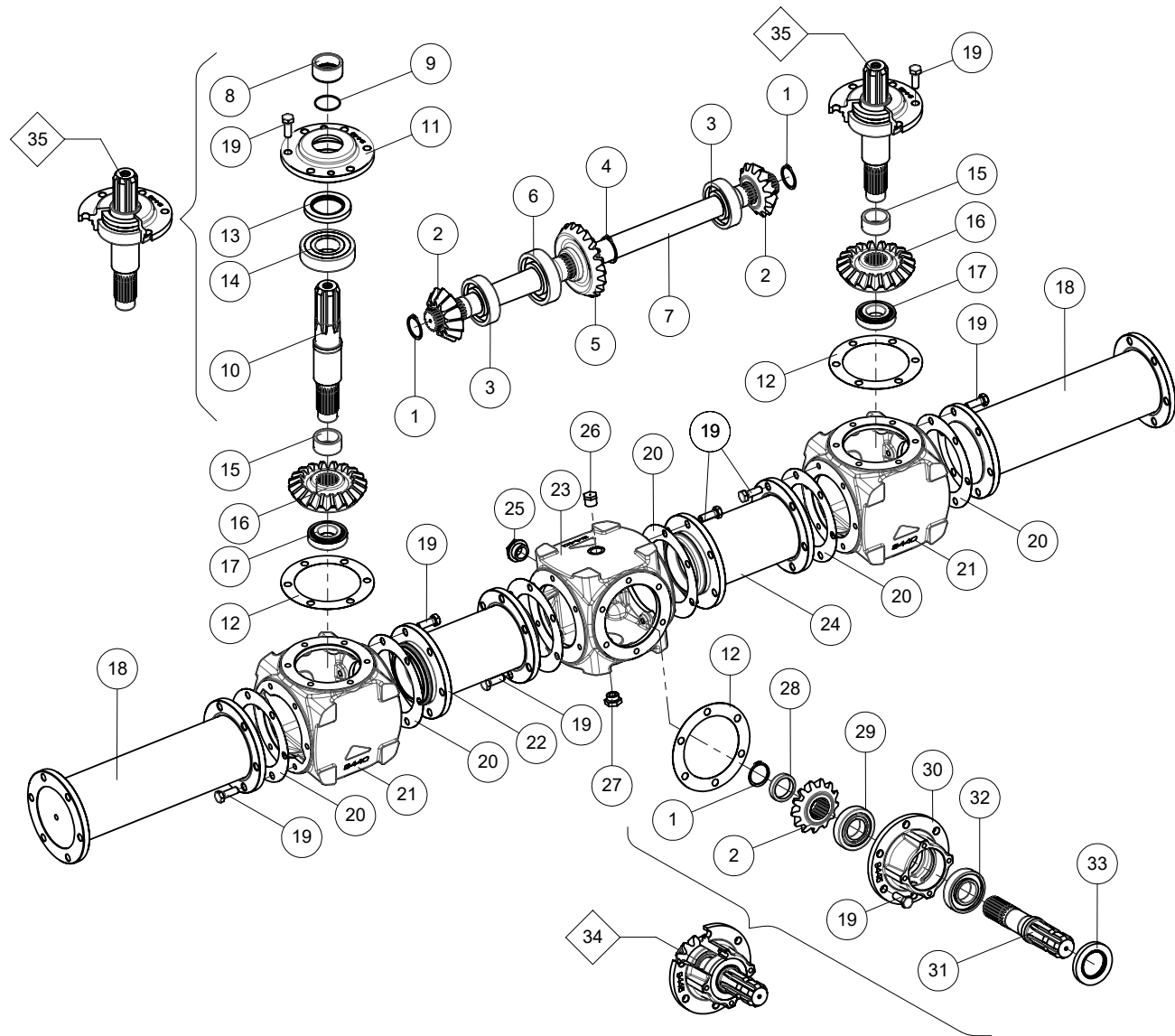
BEATERS ASSEMBLY

<u>ITEM NO.</u>	<u>PART NUMBER</u>	<u>DESCRIPTION</u>	<u>QTY.</u>
1	600150	NUT, HFH NYLOC 5/8-11	10
2	600210	BOLT, HFH 5/8-11	12
3	691715	BEATER LOCATOR	2
4	H140049	PTO, REAR W/ SHEAR	1
5	H140503	BEATERS, X700	1

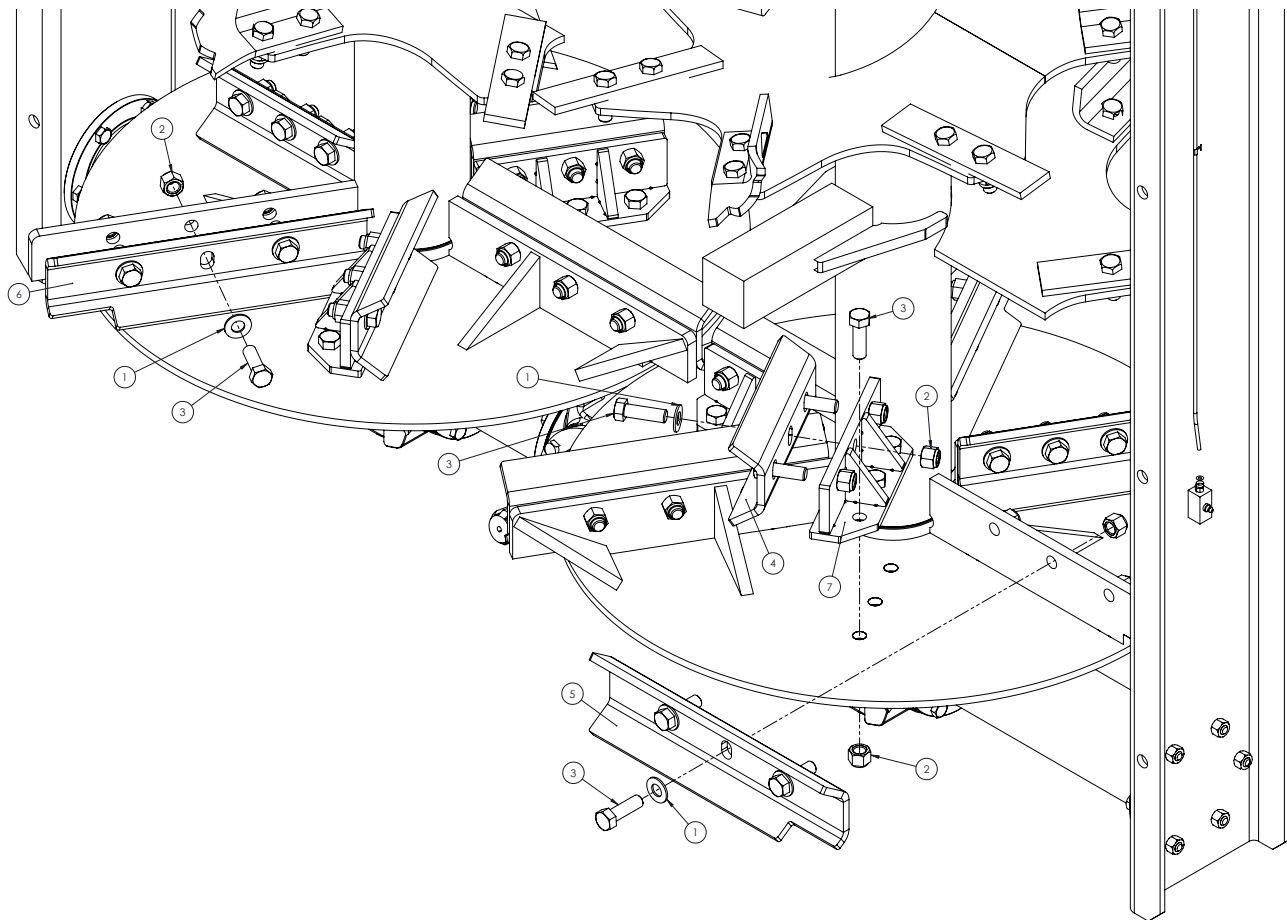
BEATERS ASSEMBLY (H140503)

<u>ITEM NO.</u>	<u>PART NUMBER</u>	<u>DESCRIPTION</u>	<u>QTY.</u>
1	H14936	GEAR BOX SRT8/1830/820-RO	1
2	H14944	RIGHT PANEL	1
3	H14945	LEFT PANEL	1
4	H14950	COMPLETE CROSSBAR	1
5	H19704	LEFT BEATER	1
6	H19705	RIGHT BEATER	1
7	H3768	SCREW,HEX-HD M12X35	12
8	H4478	NUT M12	12
9	H8940	SCREW, HEX-HD M16X35	4
10	H3690	NUT M16	4
11	H7331	OIL SEAL 45/72/10	2
12	H3340	BEARING 1307 E	2
13	H3462	O-RING 176	2
14	H7724	COVERPLATE	2
15	H3435	CIRCLIP I 80	2
16	H9569	KNIFE	24
17	H14626	RIGHT BLADE	11
18	H14627	LEFT BLADE	11
19	H9802	SCREW, HEX-HD M16X1.5X50	92
20	H9113	NUT M16X1.5	92
21	H14952	LUBRIFICATION KIT	1

BEATER GEARS ASSEMBLY (H14936)

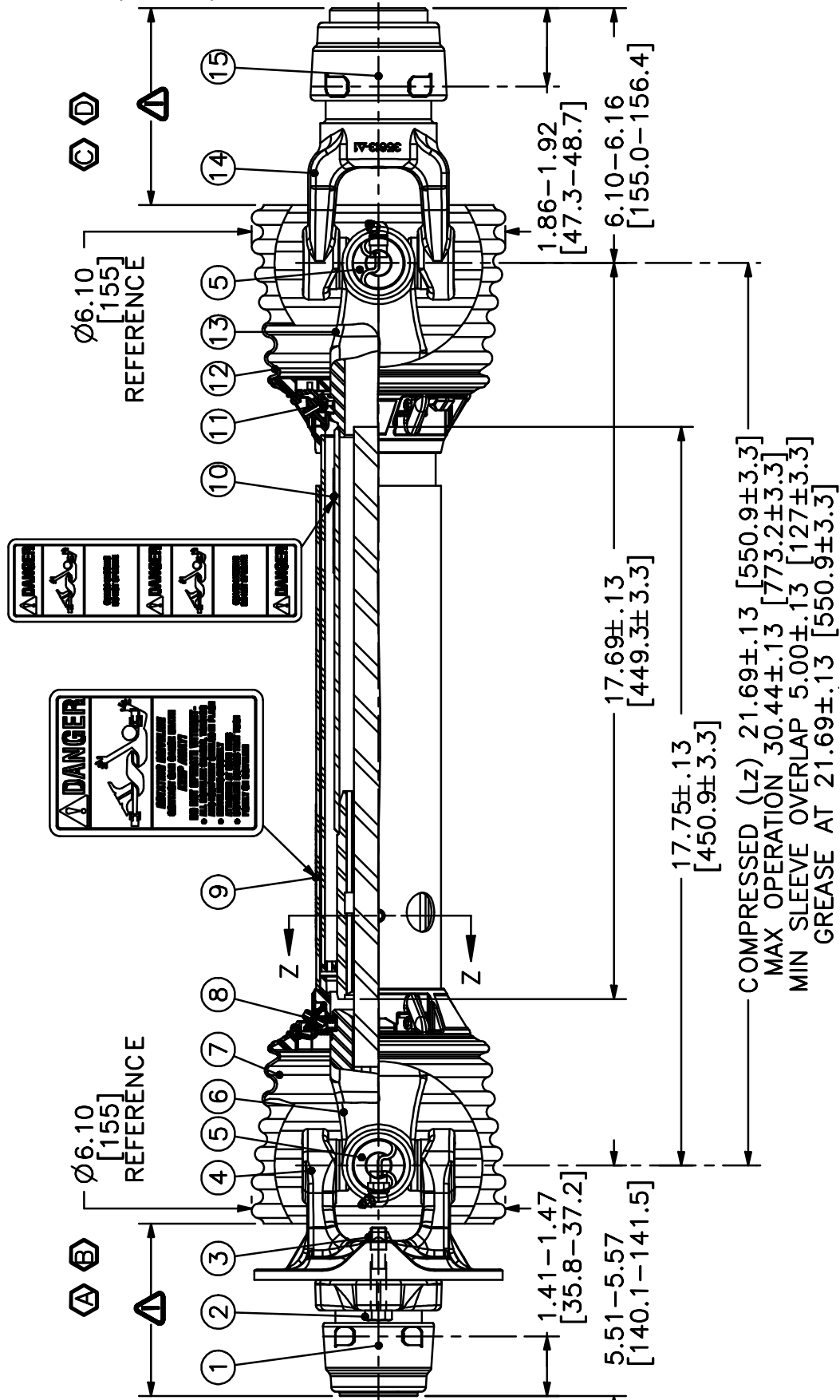


<u>ITEM NO.</u>	<u>PART NUMBER</u>	<u>DESCRIPTION</u>	<u>QTY.</u>
1	H3426	CIRCLIP E 40	3
2	H9476	PINION Z=13	3
3	H3346	BEARING 6308	2
4	H3427	CIRCLIP E 45	1
5	H9502	GEAR Z=20	1
6	H7478	BEARING 6309	1
7	H14937	SHAFT	1
8	H9524	SPACER	2
9	H9926	O-RING 2175	2
10	H9507	SHAFT	2
11	H9446	CALOTTE	2
12	H9536	GASKET	3
13	H7480	OIL SEAL 55/85/10-DL	2
14	H13102	BEARING 6309-2RS	2
15	H9516	SPACER	2
16	H9477	GEAR Z=20	2
17	H3354	BEARING 30207	2
18	H14940	SPACER L=405	2
19	H3768	SCREW,HEX-HD M12X35	54
20	H9525	GASKET	6
21	H9441	HOUSING	2
22	H14938	SPACER L=210	1
23	H9440	HOUSING	1
24	H14939	SPACER L=210	1
25	H9179	OIL LEV. INDIC. Ø1"GAS ALL.	1
26	H9706	OIL BREATHER PLUG Ø1/2"GAS	1
27	H9707	OIL PLUG Ø1/2"GAS	1
28	H12629	SPACER	1
29	H4910	BEARING 30208	1
30	H9445	HUB	1
31	H9509	SHAFT	1
32	H3342	BEARING 6208	1
33	H9537	OIL SEAL 48/80/10-DL	1
34	H12150	COMPLETE HUB	1
35	H9539	COMPLETE CALOTTE	2

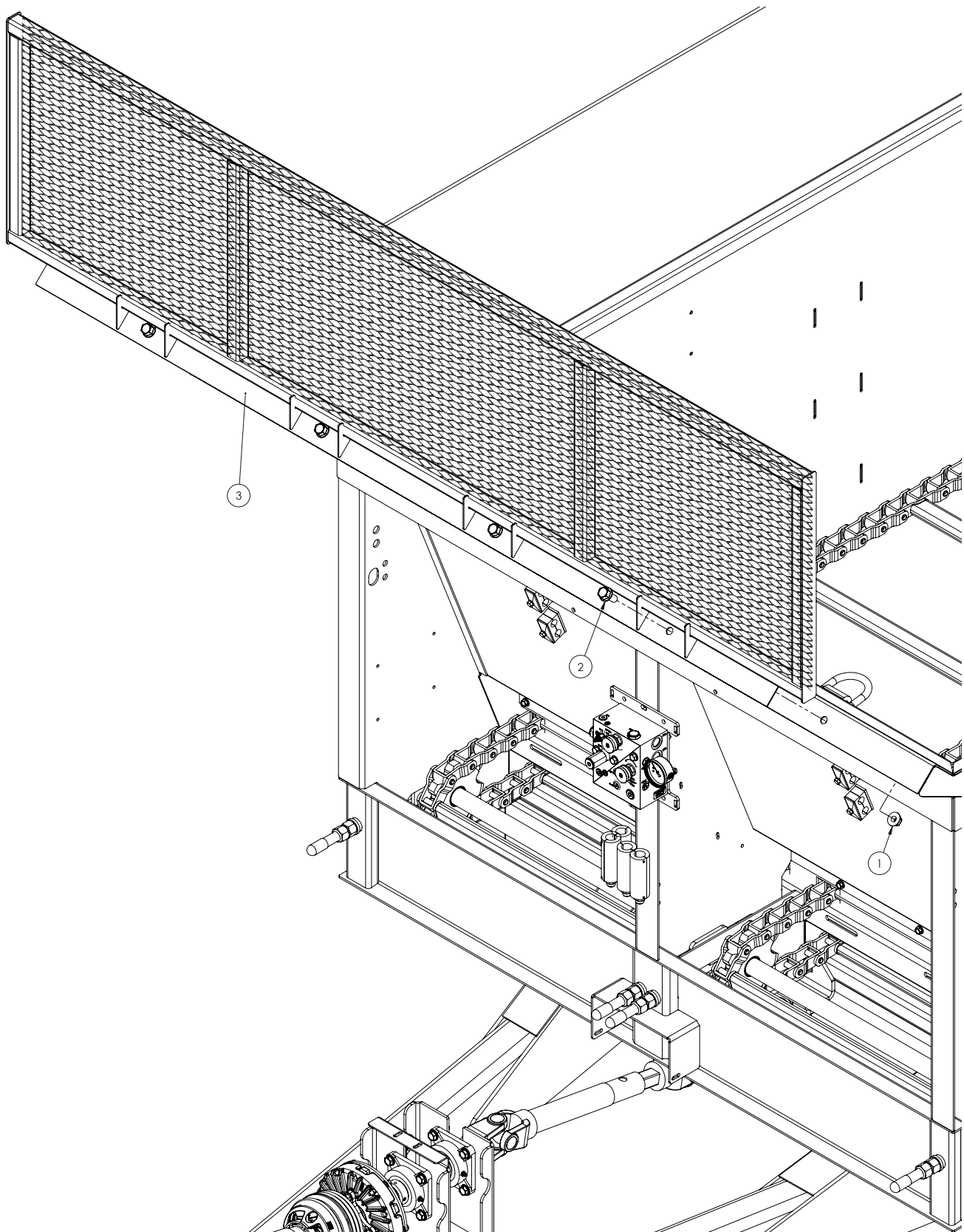
LITTER KIT (OPTIONAL)

<u>ITEM NO.</u>	<u>PART NUMBER</u>	<u>DESCRIPTION</u>	<u>QTY.</u>
1	035210	WASHER, FLAT 5/8	36
2	1100840	NUT, ESNA 5/8-18	54
3	213250	BOLT, HHCS 5/8-18	54
4	691030	SHORT SCOOP KNIFE	6
5	691031	LONG SCOOP KNIFE LH	3
6	691032	LONG SCOOP KNIFE RH	3
7	691033	SHORT SCOOP BRACE	6

SHAFT ASSEMBLY (H140049)

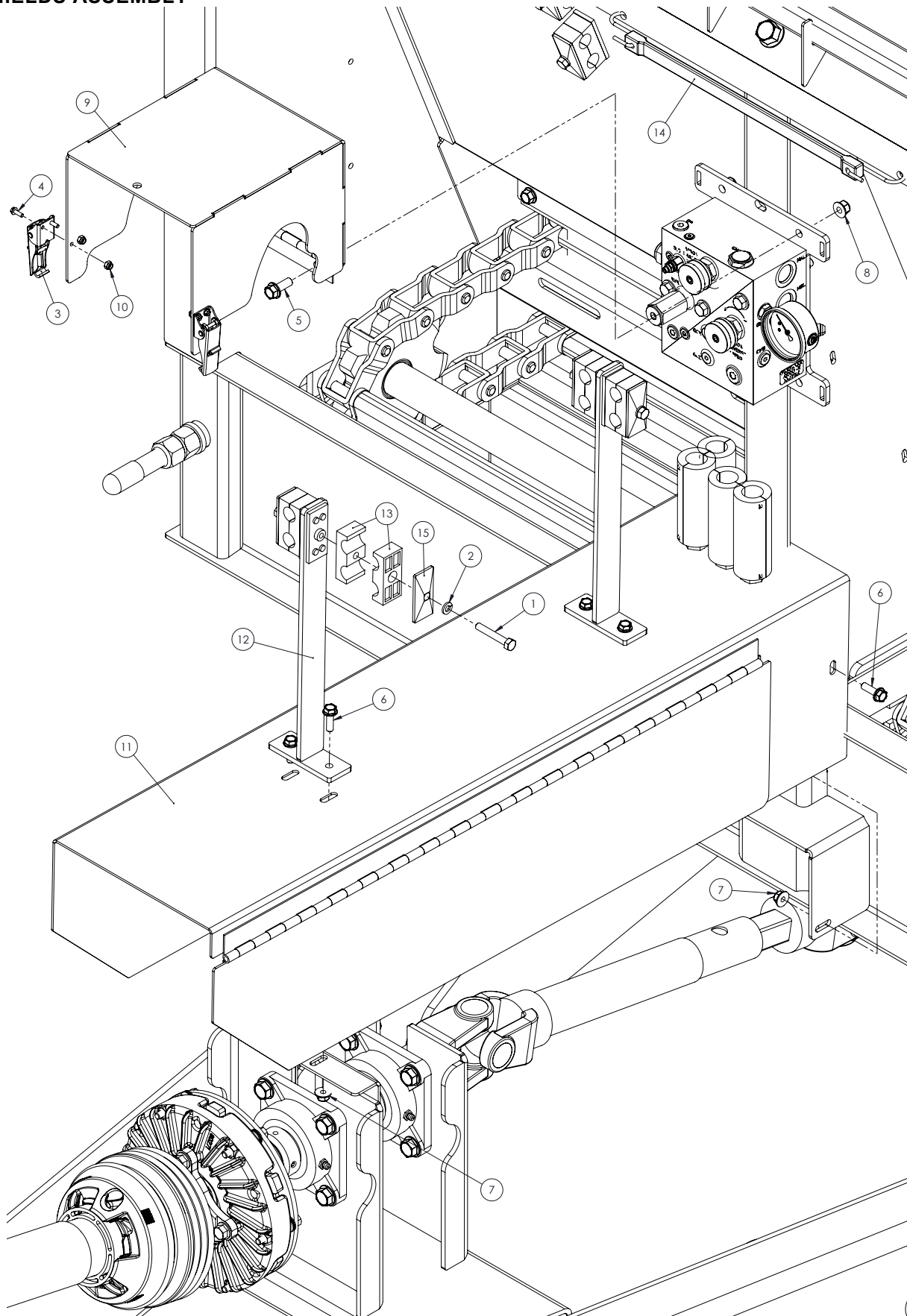


<u>ITEM NO.</u>	<u>PART NUMBER</u>	<u>DESCRIPTION</u>	<u>QTY.</u>
A	H93-25686	JOINT & SHAFT HALF ASM. W/GUARD	1
B	H95-25686	JOINT & SHAFT HALF ASM.	1
C	H92-25686	JOINT & TUBE HALF ASM. W/GUARD	1
D	H94-25686	JOINT & TUBE HALF ASM.	1
1	H26-15120	SSL/AUTO-LOK REPAIR KIT	1
2	H11-10483	BOLT. 3/8-16 X 2.00 LG., GR. 5	1
3	H11-10035	LOCKNUT. 3/8-16	1
4	H40-10139	BALL SHEAR ASM.	1
5	H03-10045	35R CROSS KIT	2
6	H99-25686	YOKE & SHAFT (1.19 SQ.)	1
7	H97-25686	OUTER GUARD	1
8	H19-11146	GUARD REPAIR KIT	1
9	H13-10021	SAFETY SIGN	1
10	H13-10022	SAFETY SIGN	1
11	H19-11147	GUARD REPAIR KIT	1
12	H96-25686	INNER GUARD	1
13	H98-25686	YOKE, TUBE & SLIP SLEEVE	1
14	H35610-1005	SAFETY SLIDE LOCK ASM.	1
15	H26-13387	SSL/AUTO-LOK REPAIR KIT	1

ROCK GUARD ASSEMBLY

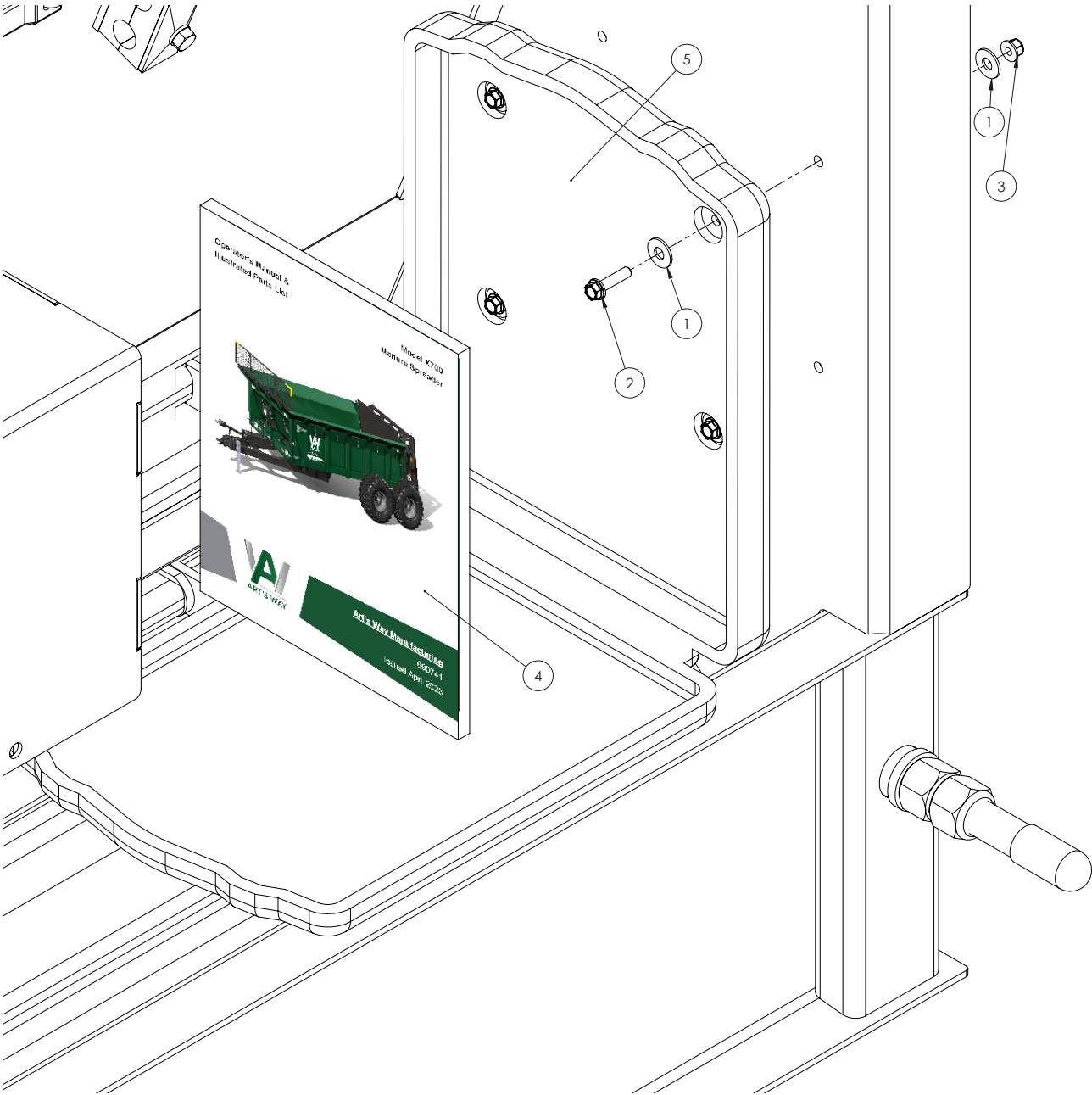
<u>ITEM NO.</u>	<u>PART NUMBER</u>	<u>DESCRIPTION</u>	<u>QTY.</u>
1	600150	NUT, HFH NYLOC 5/8-11	4
2	600210	BOLT, HFH 5/8-11	4
3	690755	ROCK GUARD WELDMENT,	1

SHIELDS ASSEMBLY



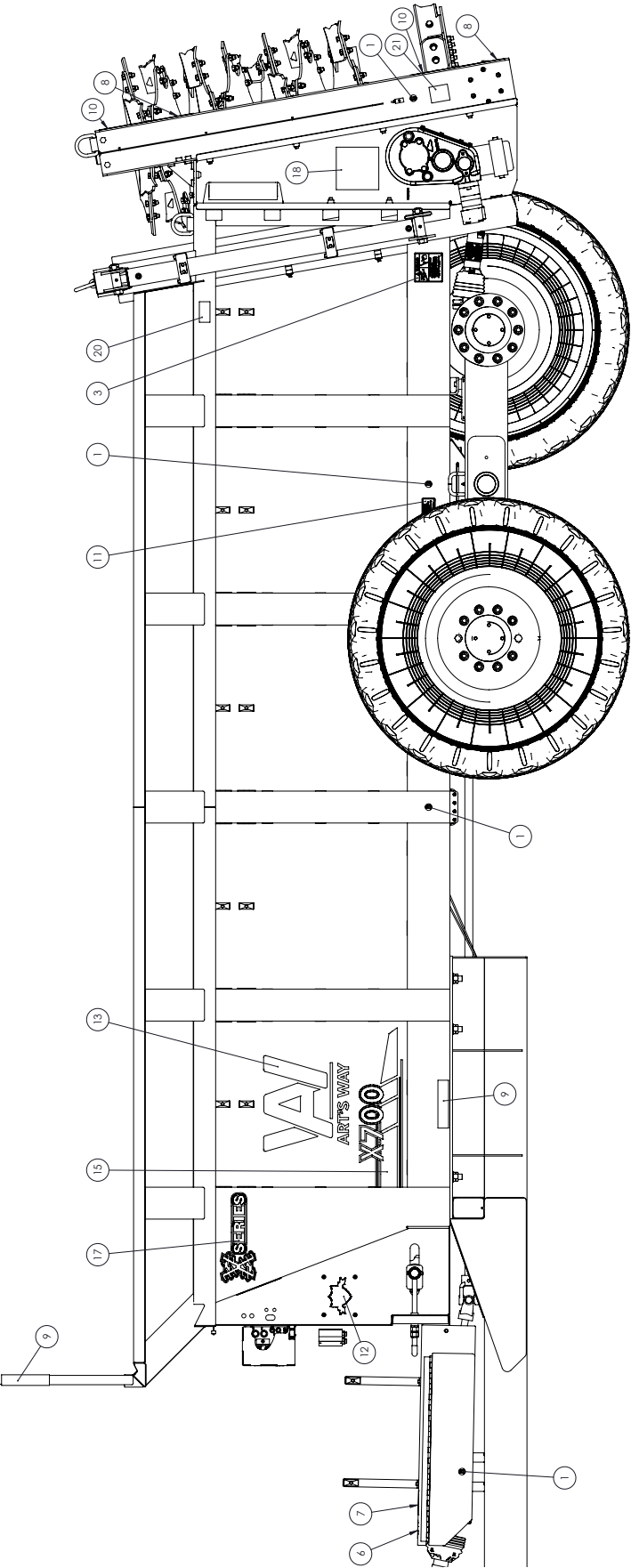
<u>ITEM NO.</u>	<u>PART NUMBER</u>	<u>DESCRIPTION</u>	<u>QTY.</u>
1	017120	BOLT, HHCS 5/16-18 X 2 G	4
2	023620	WASHER, LOCK 5/16	4
3	163400	LATCH, TENSION 17L	2
4	600015	BOLT, HFH #8-32 X 0.50"	4
5	600050	BOLT, HFH 3/8-16 X 1.00"	2
6	600060	BOLT, HFH 5/16-18 X 1"	6
7	600110	NUT, HFH NYLOC 5/16-18	6
8	600120	NUT, HFH NYLOC 3/8-16	2
9	690690	SHIELD WLDT, BLOCK	1
10	710802	NUT, LOCK #8-32 NYLOCK	4
11	H140025	PTO SHIELD ASSY	1
12	H160022	LONG HOSE HOLDER	2
13	MP17.01144	SECTION, HOSE CLAMP	8
14	MP906533	RUBBER STRAP, 15"	1
15	U51800177	TOP CAP, HOSE CLAMP	4

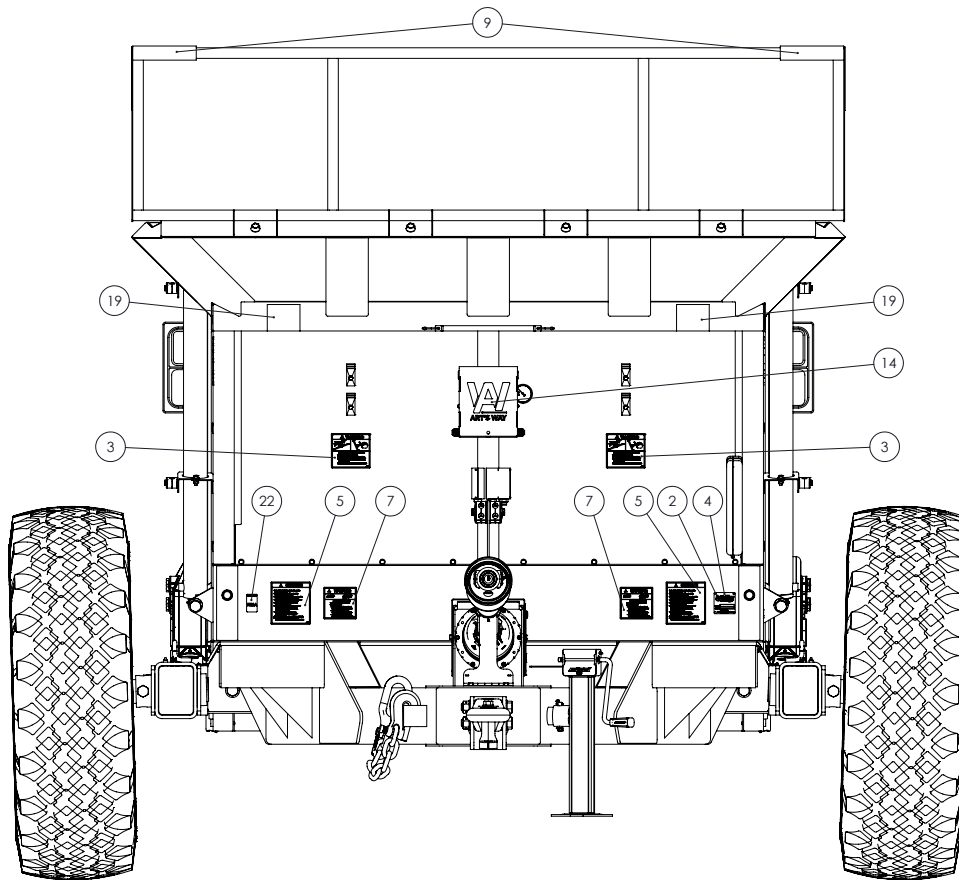
MANUAL ASSEMBLY



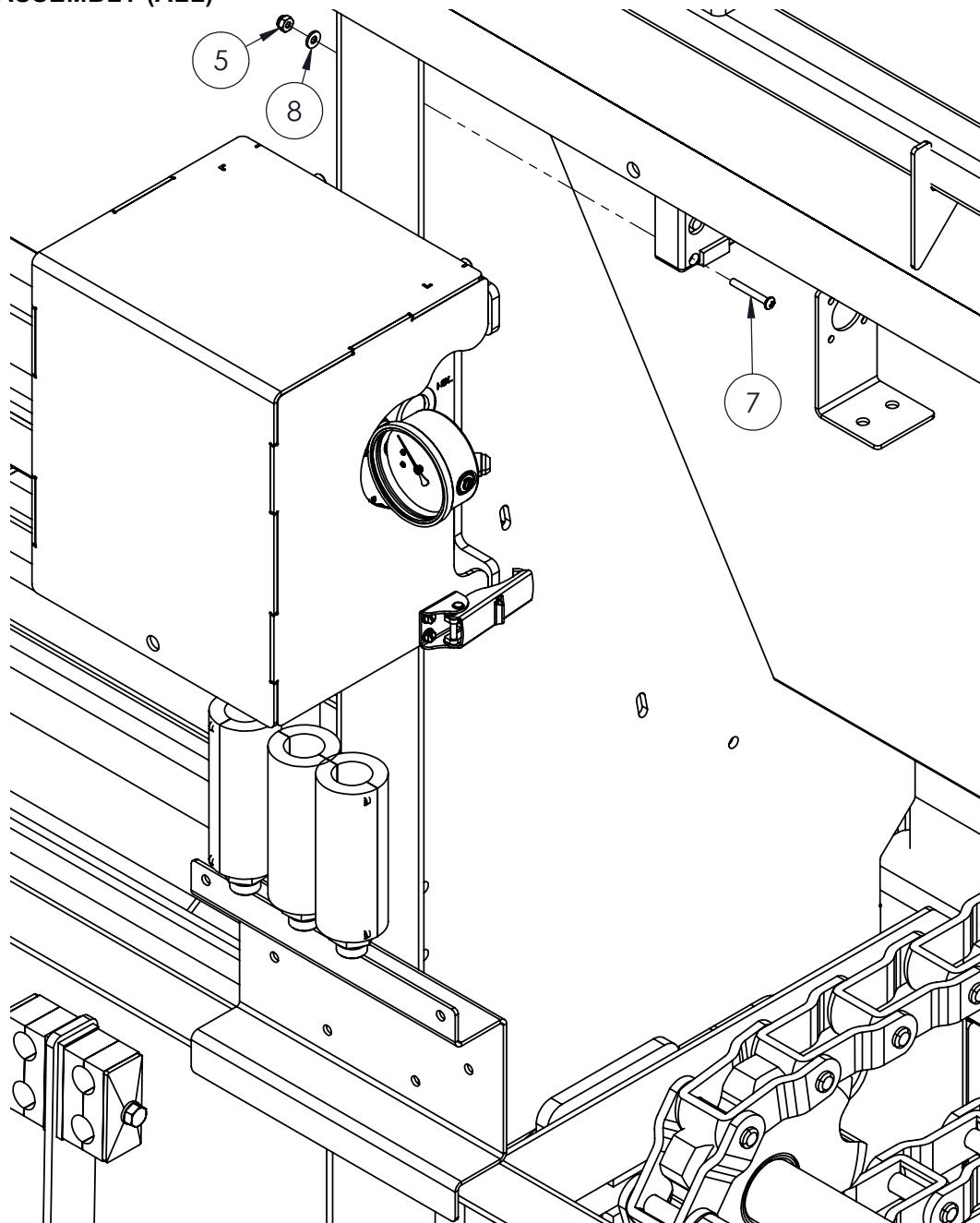
<u>ITEM NO.</u>	<u>PART NUMBER</u>	<u>DESCRIPTION</u>	<u>QTY.</u>
1	023260	WASHER, FLAT 1/4 STD	8
2	600020	BOLT, HFH 1/4-20 X 1.00"	4
3	600100	NUT, HFH NYLOC 1/4-20	4
4	690741	MANUAL, X700 88C OPM+IPL	1
5	720900	STORAGE BOX, MANUAL FLAT	1

DECALS ASSEMBLY

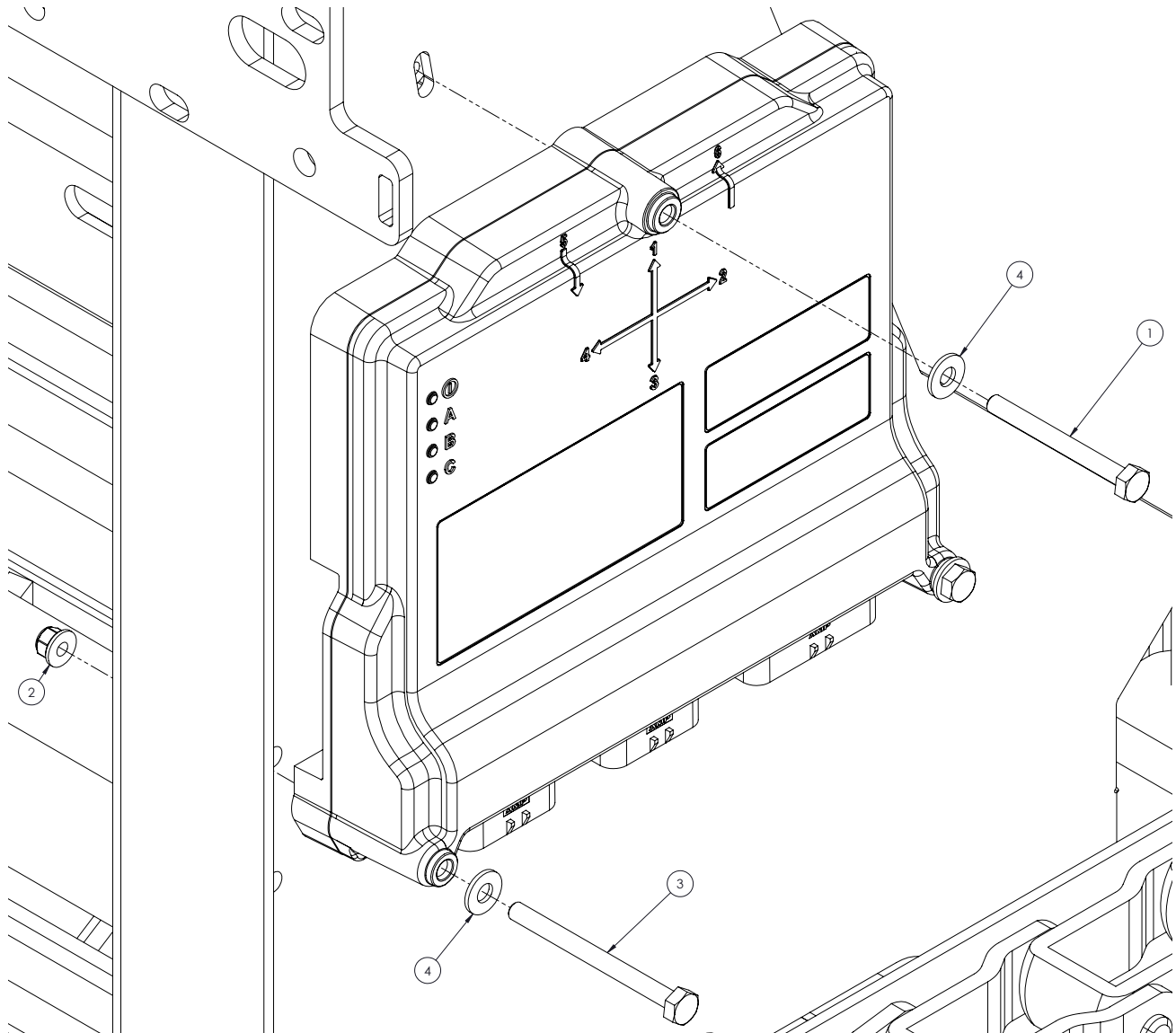




ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	146670	DECAL, GREASE SYMBOL	6
2	204510	NAIL, 1/4" GRIP	4
3	346310	DECAL, WARNING HIGH PRESSURE	4
4	355600	TAG, SERIAL NUMBER PLATE	1
5	368040	DECAL, WARNING MOVING PART	2
6	384020	DECAL, DANGER 1050 RPM	1
7	467450	DECAL, WARNING	3
8	476450	TAPE, RED RETROREFLECTIVE	4
9	476460	TAPE, YELLOW RETROREFLECTIVE	6
10	476470	TAPE, RED-ORANGE FLORESCENT	4
11	597390	DECAL, IMPORTANT	2
12	608085	DECAL, MADE IN AMERICA	2
13	720105	DECAL, NEW ARTS WAY LOGO	2
14	720120	DECAL, NEW ARTS WAY LOGO	1
15	720810	DECAL, X700, LH	1
16	720815	DECAL, X700, RH	1
17	720830	DECAL, "X" SERIES	2
18	HJ22-00-0080	DECAL, DANGER	2
19	HJ22-00-0091	DECAL, THROWN	2
20	HJ22-00-0113	DECAL, HYDRAULIC	2
21	HJ22-00-0114	DECAL, ROTATING	2
22	K18534203	DECAL, FEMA	1

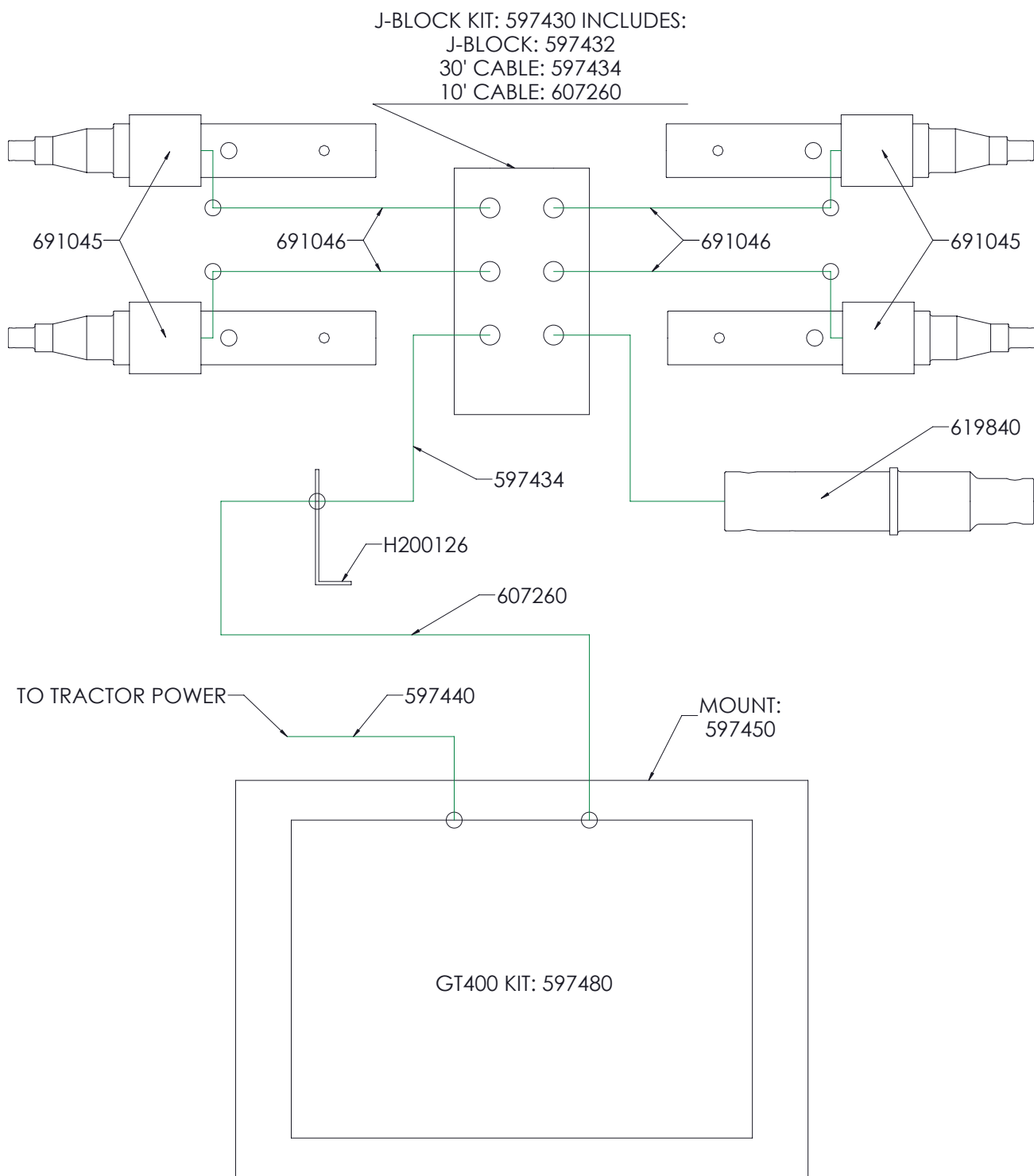
SCALE ASSEMBLY (ALL)

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
NOT SHOWN	597430 *	407659 J-BLOCK KIT	1
	597440 *	146698 10' CABLE	1
	597450 *	840459 MOUNTING BRACKET	1
	691046 *	408473 30' CABLE	4
5	710802 *	NUT, LOCK #8-32 NYLOCK	3
NOT SHOWN	H200126 *	BULKHEAD MOUNT	1
7	P98315 *	SCREW, RHMS 8-32 X 1-1/4	3
8	P99544 *	WASHER, FLAT 8-32 ZN	3
PART NUMBERS WITH * AFTER ARE ON SCALED UNITS ONLY			

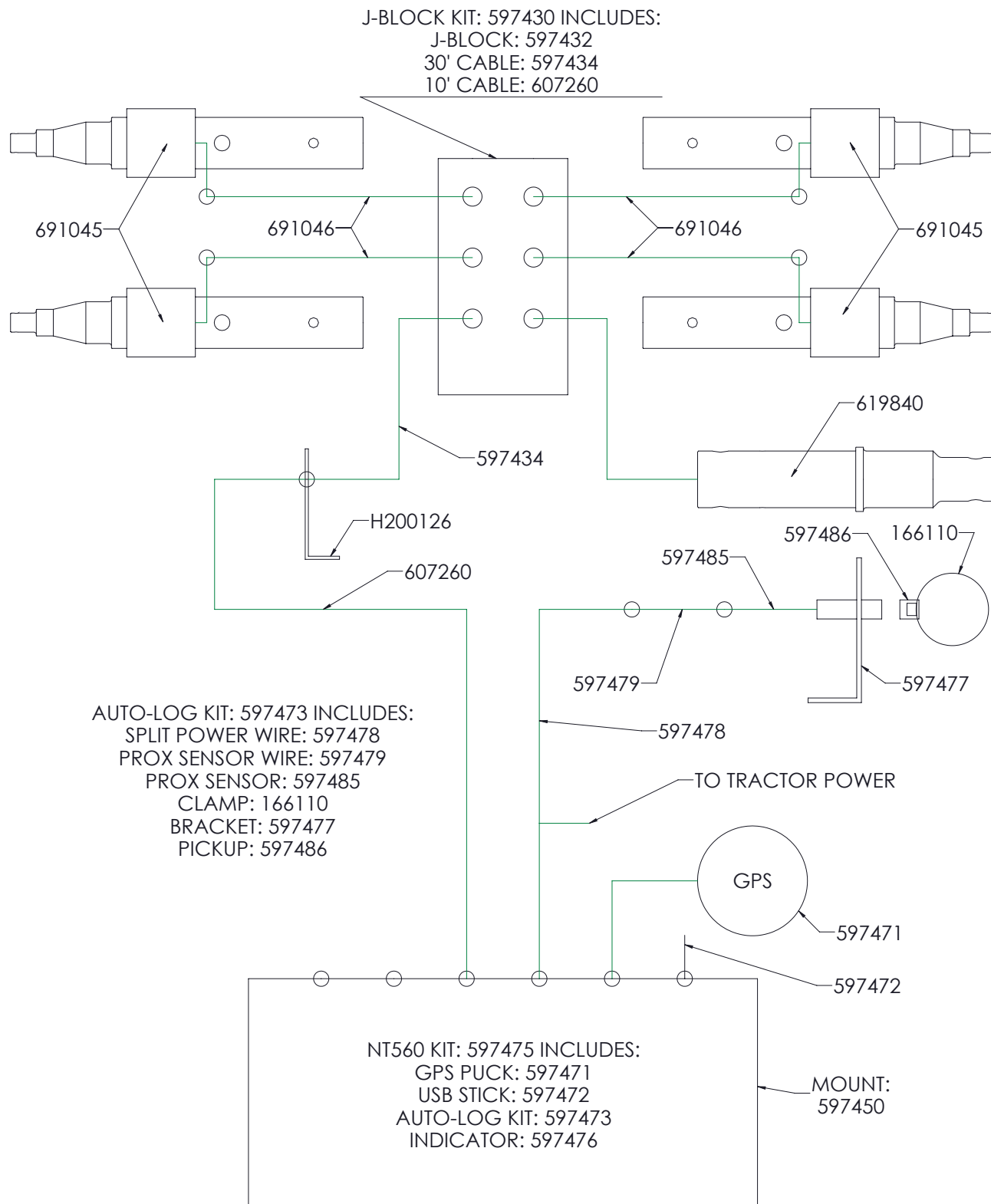
SCALE ASSEMBLY (RAVEN ONLY)

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	031560 *	BOLT, HHCS 1/4-20 X 2-1/2	1
2	600100 *	NUT, HFH NYLOC 1/4-20	3
3	G146609 *	BOLT, HHCS 1/4-20 X 3	2
4	I120392 *	WASHER, FLAT 5/16	3
PART NUMBERS WITH * AFTER ARE ON SCALED UNITS ONLY			

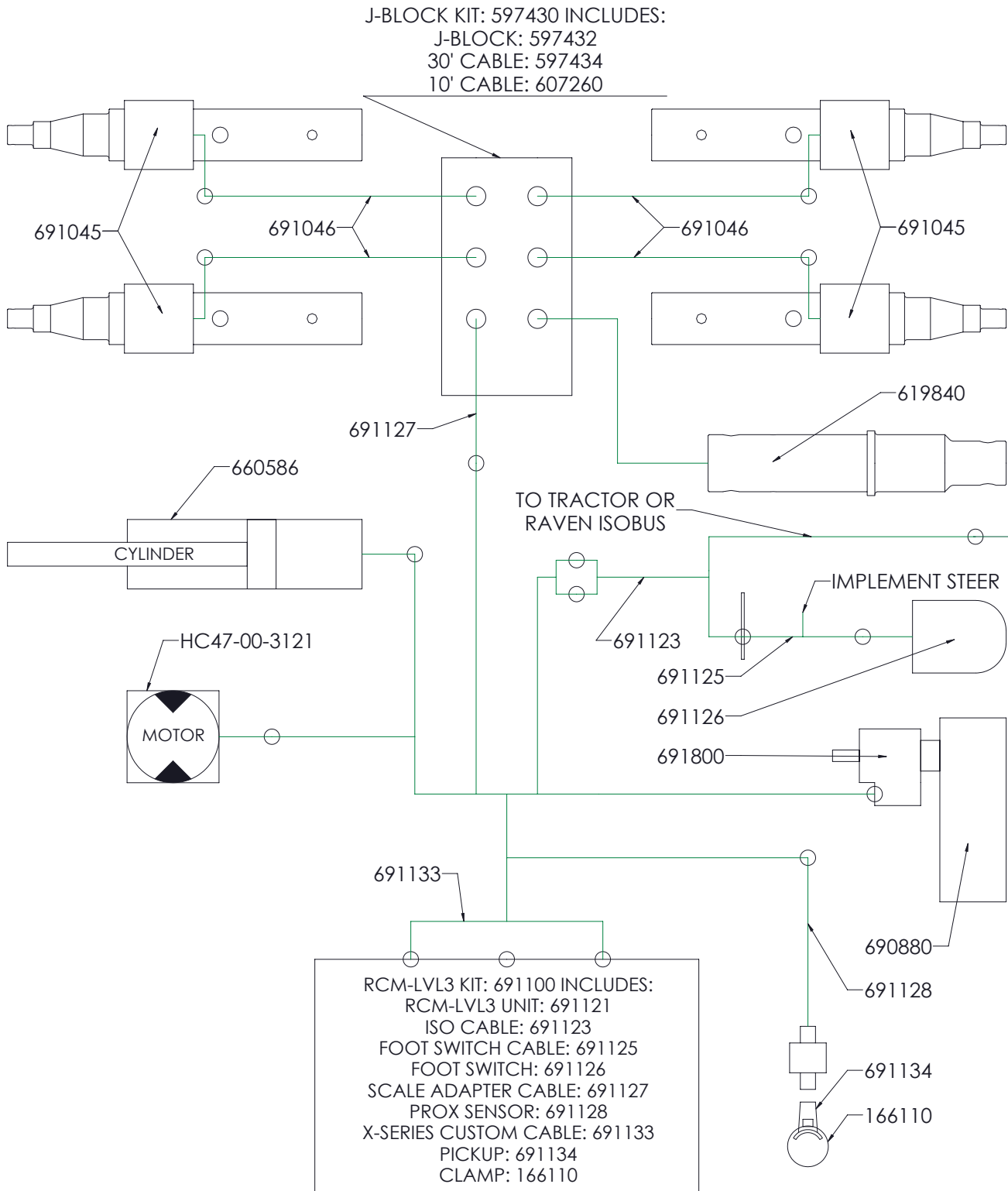
SCALE DIAGRAM (GT400)



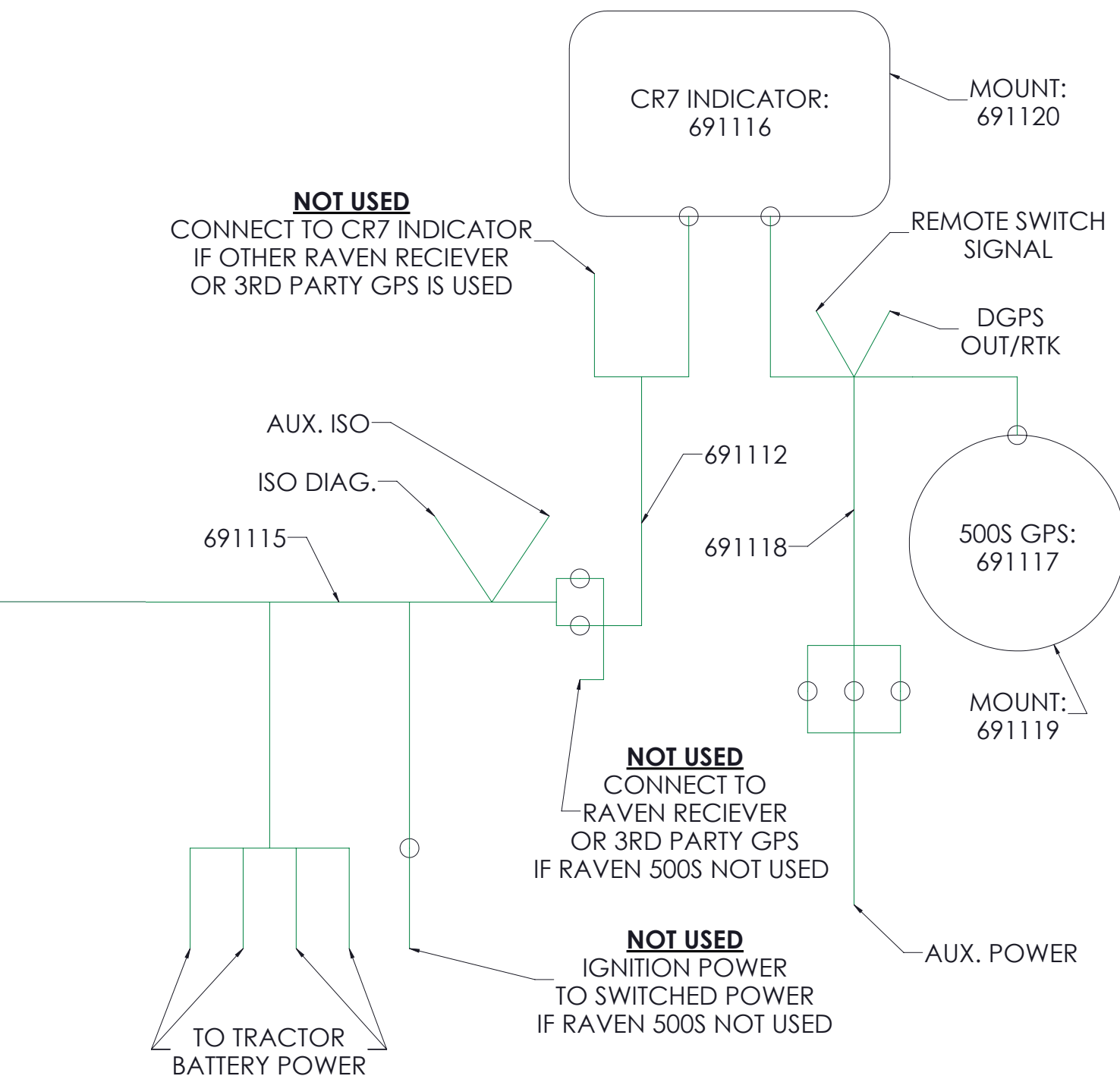
SCALE DIAGRAM (NT560)



SCALE DIAGRAM (RAVEN RCM-LVL3 ISOBUS)



SCALE DIAGRAM (RAVEN ISOBUS CR7 INDICATOR & GPS)



CR7 INDIC. & 500S GPS KIT: 691111 INCLUDES:

CR7 INDICATOR: 691116

500S GPS: 691117

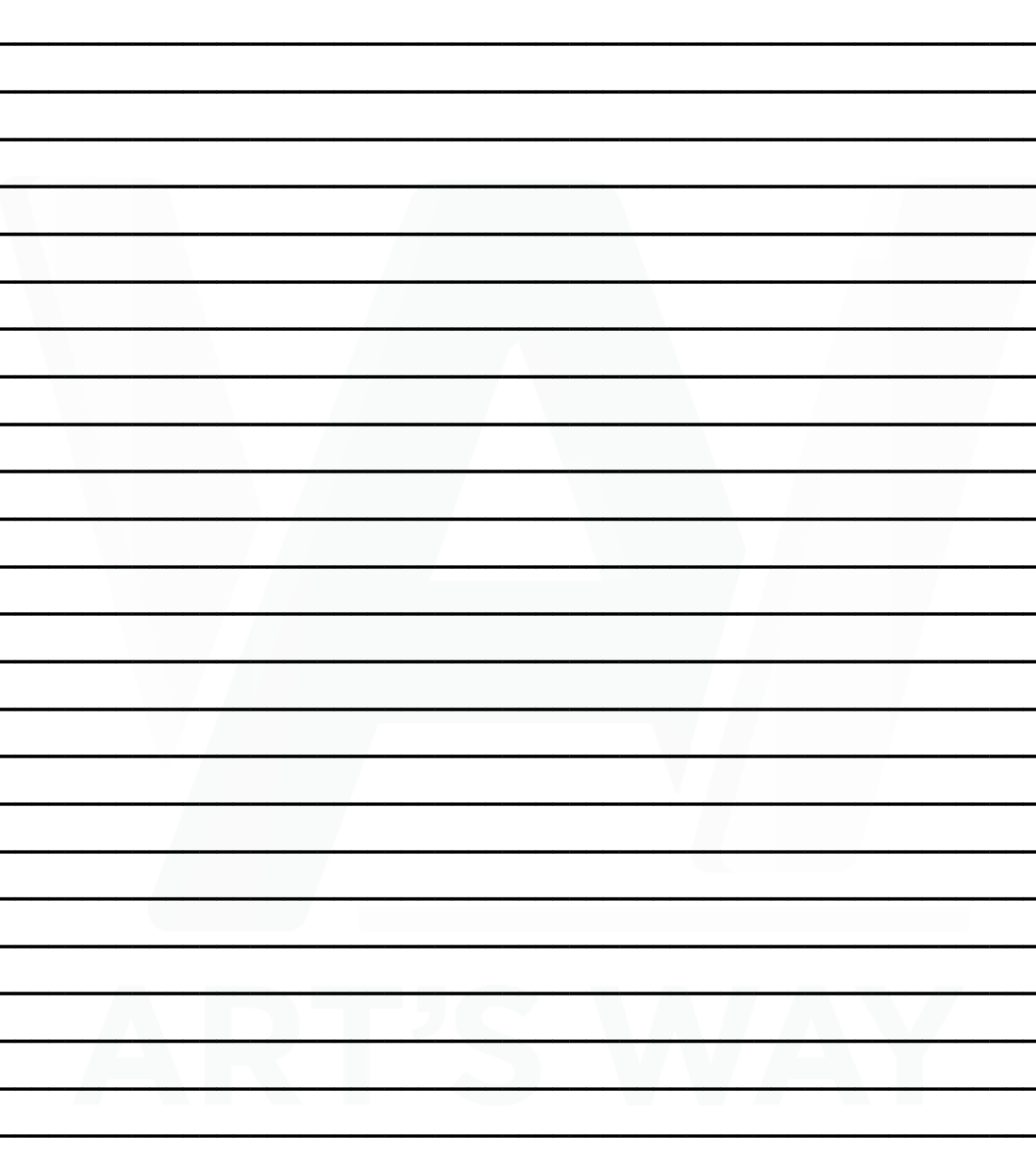
INDIC. TO GPS CABLE: 691118

500S MOUNT: 691119

CR7 RAM MOUNT: 691120

NOTES:

Manual No. 690741



NOTES:



NOTES:



Art's Way Manufacturing TECHNICAL MANUALS

Manuals are available from your local dealer or Art's Way Manufacturing 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.

Manuals are also available at WWW.ARTSWAY.COM free to download for your convenience.

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

Art's Way Manufacturing reserves the right to make improvements in design or changes in specifications at any time without incurring any obligation to install them on units previously sold.

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