HAYBUSTER®

Operating Instructions and Parts Reference

H-1030™

PTO Driven Tub Grinder

Product Information

DURATECH INDUSTRIES

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HAYBUSTER®

A Tradition of Innovation Since 1966

H-1030™
PTO Driven Tub Grinder

Operating Instructions and Parts Reference

DuraTech Industries International Inc. (DuraTech Industries) has made every effort to assure that this manual completely and accurately describes the operation and maintenance of the H-1030 PTO Driven Tub Grinder as of the date of publication. DuraTech Industries reserves the right to make updates to the machine from time to time. Even in the event of such updates, you should still find this manual to be appropriate for the safe operation and maintenance of your unit.

This manual, as well as materials provided by component suppliers to DuraTech Industries are all considered to be part of the information package. Every operator is required to read and understand these manuals, and they should be located within easy access for periodic review.

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A Tradition of Innovation Since 1966

Foreword

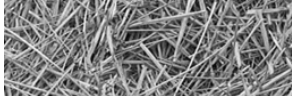
All personnel must read and understand the following sections before operating the H-1030 Tub Grinder.

- Foreword and Section 1, important safety information.
- Section 2, “Machine operation,” which explains normal operation of the machine.
- Section 2.1, “Pre-Operation Inspection”.

Appropriate use of unit

The H-1030 Tilt Tub Grinder is designed to grind material into more palatable or manageable rations for your operation. It has multiple uses:

1. Grind most types of hay
   - Big round bales
   - Loose hay
   - Square bales
2. Grind most types of grain
   - Ear corn
   - Shell corn
   - High moisture corn
   - Most small grains

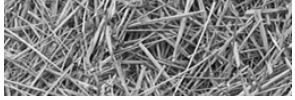


3. Grind most types of crop residue
   - Stover
   - Straw
4. Grind various sizes
   - Screens are available from 1/8” to 8”
   - Combine screen sizes to get desired cut

Operator protection

As with all machinery, care needs to be taken in order to insure the safety of the operator and those in the surrounding area.

WARNING: The **OPERATOR IS RESPONSIBLE** for the safety of the operator and those in the surrounding area. Operators and those observing the operation of the H-1030 Tub Grinder are required to wear head, eye, and ear protection, No loose clothing is allowed.



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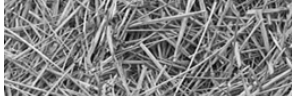

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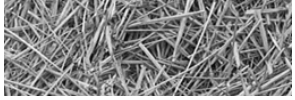

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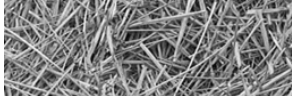

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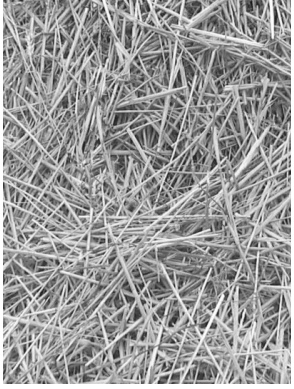
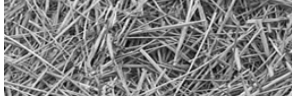


HAYBUSTER®

H-1030™

PTO Driven Tub Grinder

Part 1: Operating Instructions



Introduction

The H-1030 Tub Grinder is designed to grind material into more palatable or manageable rations for your operation. It has multiple uses:

1. Grind most types of hay
   - Big round bales
   - Loose hay
   - Square bales
2. Grind most types of grain
   - Ear corn
   - Shell corn
   - High moisture corn
   - Most small grains
3. Grind most types of crop residue
   - Stover
   - Straw
4. Grind various sizes
   - Screens are available from 1/8” to 8”
   - Combine screen sizes to get desired cut

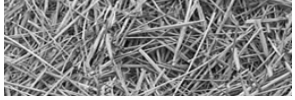
To avoid possible damage to the machine and risk of injury to the operator, consult with a DuraTech Industries International, Inc. (DuraTech Industries) representative before attempting to shred materials other than livestock forage.

Purpose

The purpose of this owner’s manual is to explain maintenance requirements and routine adjustments for the most efficient operation of your H-1030 Tub Grinder. There is also a trouble shooting section that may help in case of problems in the field. Any information not covered in this manual may be obtained from your dealer.

Special Note: When reference is made as to front, rear, left hand, or right hand of this machine, the reference is always made from standing at the rear end of the machine and looking toward the hitch. Always use serial number and model number when referring to parts or problems. Please obtain your serial number and write it below for your future reference.

MODEL: H-1030 SERIAL NO. _____



How to use this manual

Manual organization

This manual is organized into the following parts:

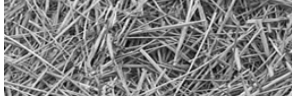
- **Part 1:** Operating Instructions
  - **Section 1:** Safety decals, safety instructions and information
  - **Section 2:** Describes the purposes of each part, and safe operating procedures.
  - **Section 3:** Describes how to maintain the H-1030 Tub Grinder.
  - **Section 4:** Describes how to trouble shoot problems with the H-1030 Tub Grinder.
- **Part 2:** Part's reference contains diagrams of each assembly, with the part number of each part. A key on the same or facing page contains a description of the part and the quantity used.

Dealer responsibilities

- Perform a daily pre-operation inspection as described in Section 2, "Operation."
- Upon delivery of the unit to the customer, it is your responsibility to conduct a training session on the safe operation of the unit for the primary operator(s). You must also conduct a "walk-around" inspection of all safety instructional decals on the machine itself. Decals are illustrated in **Part 2: Parts Reference.**
- Complete and return the Warranty Registration postcard. DuraTech Industries must receive this form before activating the warranty. Appendix A provides details of the warranty.

Operator responsibilities

- Note the important safety information in the Foreword and in Section 1, "Safety."
- Thoroughly review sections 1 and 2, which explain normal operation of the machine, and section 3, which explains maintenance requirements. These sections will function as your textbook during the dealer - conducted training course that is required before you can use the unit.
- Manuals for certain allied supplier's components are provided separately. You should also be familiar with their contents.
- Keep copies of all manuals in a readily accessible location for future reference.



Section 1: Safety

The safety of the operator is of great importance to DuraTech Industries/Haybuster. We have provided decals, shield and other safety features to aid you in using your machine safely. In addition, we ask you to be a careful operator who will properly use and service your Haybuster equipment.

WARNING: FAILURE TO COMPLY WITH SAFETY INSTRUCTIONS THAT FOLLOW WITHIN THIS MANUAL COULD RESULT IN SEVERE PERSONAL INJURY OR DEATH. BEFORE ATTEMPTING TO OPERATE THIS MACHINE, CAREFULLY READ ALL INSTRUCTIONS CONTAINED WITHIN THIS MANUAL. ALSO READ THE INSTRUCTION MANUAL PROVIDED WITH YOUR TRACTOR.

THIS MACHINE IS NOT TO BE USED FOR ANY PURPOSE OTHER THAN THOSE EXPLAINED IN THE OPERATOR'S MANUAL, ADVERTISING LITERATURE OR OTHER DURATECH INDUSTRIES WRITTEN MATERIAL PERTAINING TO THE H-1030 TUB GRINDER.

1.1 Safety-alert symbols

Decals are illustrated in **Part 2: Parts Reference.**

The safety decals located on your machine contain important and useful information that will help you operate your equipment safely.

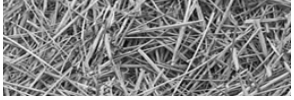
To assure that all decals remain in place and in good condition, follow the instructions below:

- Keep decals clean. Use soap and water - not mineral spirits, adhesive cleaners and other similar cleaners that will damage the decal.
- Replace all damaged or missing decals. When attaching decals, surface temperature of the machine must be at least 40° F (5° C). The surface must be also be clean and dry.
- When replacing a machine component to which a decal is attached, be sure to also replace the decal.
- Replacement decals can be purchased from your Haybuster dealer.

DuraTech Industries uses industry accepted **ISO/ANSI** standards in labeling its products for safety and operational characteristics.

Safety-Alert Symbol

Read and recognize safety information. Be alert to the potential for personal injury when you see this safety-alert symbol.



DANGER: Indicates an imminently hazardous situation that, if not avoided, will result in death or serious injury. This signal word is to be limited to the most extreme situations, typically for machine components that, for functional purposes, cannot be guarded.

DANGER:
Signal word - White Lettering/Red Background
Safety Alert Symbol - White Triangle/Red Exclamation Point

WARNING: Indicates a potentially hazardous situation that, if not avoided, could result in death or serious injury, and includes hazards that are exposed when guards are removed. It may also be used to alert against unsafe practices.

WARNING:
Signal word - Black Lettering/Orange Background
Safety Alert Symbol - Black Triangle/Orange Exclamation Point

CAUTION: Indicates a potentially hazardous situation that, if not avoided, may result in minor or moderate injury. It may also be used to alert against unsafe practices.

CAUTION:
Signal word - Black Lettering/Yellow Background
Safety Alert Symbol - Black Triangle/Yellow Exclamation Point

This manual uses the symbols to the right to denote important safety instructions and information.

The **DANGER**, **WARNING** and **CAUTION** symbols are used to denote conditions as stated in the text above. Furthermore, the text dealing with these situations is surrounded by a box with a white background, will begin with **DANGER**, **WARNING**, or **CAUTION**.

The **INFORMATION** symbol is used to denote important information or notes in regards to maintenance and use of the machine. The text for this information is surrounded by a box with a light grey background, and will begin with either **IMPORTANT** or **NOTE.**

	**1. Yellow warning triangle/black graphical symbol, indicates what the hazard is.** **Hazard Identification**
	**2. Red circle-with-slash/black graphical symbol indicates a prohibited action to avoid the hazard.** **Prohibited Action**
	**3. Blue mandatory action circles/white graphical symbol - indicates an action to take to avoid the hazard.** **Mandatory Action**

1.2 Operator - personal equipment

THE OPERATOR

Physical Condition

You must be in good physical condition and mental health and not under the influence of any substance (drugs, alcohol) which might impair vision, dexterity or judgment.

Do not operate a **H-1030** when you are fatigued. Be alert - If you get tired while operating your **H-1030,** take a break. Fatigue may result in loss of control. Working with any farm equipment can be strenuous. If you have any condition that might be aggravated by strenuous work, check with your doctor before operating

Proper Clothing

Clothing must be sturdy and snug-fitting, but allow complete freedom of movement. Avoid loosefitting jackets, scarfs, neckties, jewelry, flared or cuffed pants, unconfined long hair or anything that could become entangled with the machine.

Protect your head with a hard hat to reduce the risk of injury from flying debris.

Protect your hands with gloves when handling hammers, screens, etc.. . Heavy-duty, nonslip gloves improve your grip and protect your hands.

Good footing is most important. Wear sturdy boots with nonslip soles. Steel-toed safety boots are recommended.

To reduce the risk of injury to your eyes never operate a **H-1030** unless wearing goggles or properly fitted safety glasses with adequate top and side protection.

Tractor noise may damage your hearing. Always wear sound barriers (ear plugs or ear mufflers) to protect your hearing. Continual and regular users should have their hearing checked regularly.

1.3 Machine safety labels

The safety decals located on your machine contain important information that will help you operate your equipment. Become familiar with the decals and their locations.

DANGER: ROTATING PARTS WITHIN CAN KILL OR DISMEMBER. WAIT FOR ALL MOVEMENT TO STOP BEFORE SERVICING, UNLOADING, OR INSPECTING MACHINE.

6500082

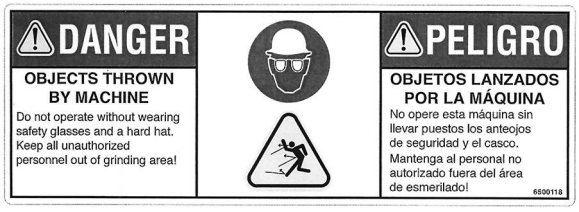
DANGER: ROTATING DRIVELINE, CONTACT CAN CAUSE DEATH, KEEP AWAY!

DO NOT OPERATE WITHOUT

- ALL DRIVELINE GUARDS, TRACTOR AND EQUIPMENT SHIELDS IN PLACE
- DRIVELINES SECURELY ATTACHED AT BOTH ENDS
- DRIVELINE GUARDS THAT TURN FREELY ON DRIVELINE

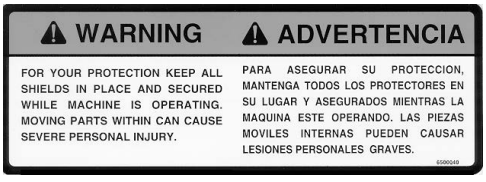
6500085

DANGER: OBJECTS THROWN BY MACHINE
DO NOT OPERATE WITHOUT WEARING SAFETY GLASSES AND A HARD HAT.
KEEP UNAUTHORIZED PERSONNEL OUT OF THE GRINDING AREA



6500118

WARNING: FOR YOUR PROTECTION KEEP ALL SHIELDS IN PLACE AND SECURED WHILE MACHINE IS OPERATING MOVING PARTS WITHIN CAN CAUSE SEVERE PERSONAL INJURY.



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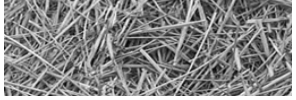


WARNING: FOR YOUR PROTECTION AND PROTECTION OF OTHERS, **PRACTICE THE FOLLOWING SAFETY RULES**.

1. BEFORE OPERATING THIS MACHINE, READ THE OPERATOR'S MANUALS SUPPLIED WITH THIS MACHINE AND YOUR TRACTOR.

2. CHECK OPERATORS MANUALS TO BE SURE YOUR TRACTOR MEETS THE MINIMUM REQUIREMENTS FOR THIS MACHINE.

3. READ ALL DECALS PLACED ON THIS MACHINE FOR YOUR SAFETY AND CONVENIENCE.

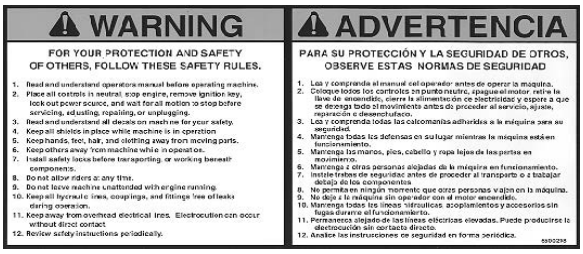
4. NEVER ALLOW RIDERS ON THIS IMPLEMENT OR THE TRACTOR.

5. KEEP OTHERS AWAY FROM THIS MACHINE WHILE IN OPERATION.

6. KEEP ALL SHIELDS IN PLACE WHILE MACHINE IS OPERATING.

7. KEEP HANDS, FEET, LOOSE CLOTHING, ETC., AWAY FROM POWER DRIVEN PARTS.

8. ALWAYS SHUT OFF MACHINE AND ENGINE BEFORE SERVICING, UNCLOGGING, INSPECTING, OR WORKING NEAR THIS MACHINE FOR ANY REASON. ALWAYS PLACE TRANSMISSION IN PARK OR SET PARK BRAKE AND WAIT FOR ALL MOVEMENT TO STOP BEFORE APPROACHING THIS MACHINE.



6500041

WARNING: NO RIDERS
SERIOUS INJURY COULD RESULT FROM RIDING ON THE MACHINE.

6500043

WARNING: THROWN OBJECT HAZARD
TO PREVENT SERIOUS INJURY OR DEATH DO NOT RAISE TUB WHEN ROTOR IS TURNING.

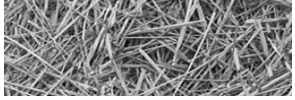
1. DISENGAGE ROTOR AND ALLOW TO COME TO A COMPLETE STOP.

2. BE CERTAIN THAT ALL PERSONNEL ARE CLEAR OF MACHINERY AREA.

3. RAISE TUB TO FULL VERTICAL POSITION.

4. STOP ENGINE AND REMOVE KEY BEFORE APPROACHING TUB AND ROTOR AREA.

6500209



WARNING: OVERHEAD CONVEYOR HAZARD
TO PREVENT SERIOUS INJURY OR DEATH:

DO NOT WALK UNDER CONVEYOR AT ANY TIME. STAY CLEAR OF CONVEYOR DURING OPERATION, RAISING, AND LOWERING. LOWER CONVEYOR FULLY BEFORE SERVICING.

KEEP OTHERS AWAY.

6500214

WARNING: HIGH-PRESSURE FLUID HAZARD, TO PREVENT SERIOUS INJURY OR DEATH:

- RELIEVE PRESSURE ON SYSTEM BEFORE REPAIRING OR ADJUSTING OR DISCONNECTING.

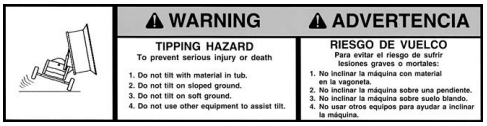
- WEAR PROPER HAND AND EYE PROTECTION WHEN SEARCHING FOR LEAKS. USE WOOD OR CARDBOARD INSTEAD OF HANDS.

- KEEP ALL COMPONENTS IN GOOD REPAIR.

6500220

WARNING: TIPPING HAZARD
TO PREVENT SERIOUS INJURY OR DEATH

1. DO NOT Tilt WITH MATERIAL IN TUB.
2.. DO NOT Tilt ON SLOPED GROUND.
3. DO NOT Tilt ON SOFT GROUND.
4. DO NOT USE OTHER EQUIPMENT TO ASSIST Tilt.



6500282

WARNING: TO PREVENT SERIOUS INJURY OR DEATH DURING OPERATION:

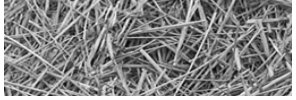
1. DO NOT OVERFILL THE TUB.

2. DO NOT APPROACH THE GRINDER OR MAKE MACHINE ADJUSTMENTS WHILE IT IS BEING LOADED.

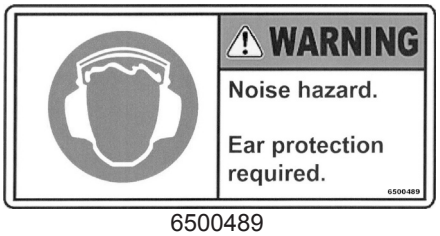
6500283

WARNING: PINCH POINT STAY BACK

6500339

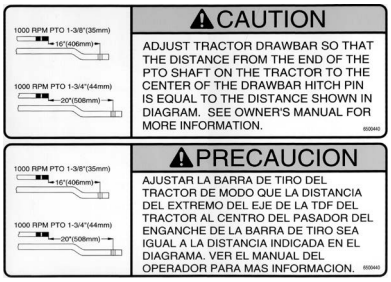


WARNING: Noise hazzard.
Ear protection required.



6500489

CAUTION: ADJUST TRACTOR DRAWBAR SO THAT THE
DISTANCE FROM THE END OF THE PTO SHAFT ON THE TRACTOR TO THE CENTER OF THE DRAWBAR HITCH PIN IS EQUAL TO THE DISTANCE SHOWN IN DIAGRAM. SEE OWNER'S MANUAL FOR MORE INFORMATION.



6500440

CAUTION: Do not operate machine unless an approved fire extingisher is installed.

6500497

1.4 Thrown objects and operator safety

An operational characteristic of all grinders is that objects may be thrown out of the hopper. Thrown objects may present a safety hazard to persons in the area. This section is to inform the operator of this characteristic, and what can be done to reduce the risk of injury to the operator and persons in the area. Keep all observers away from the machine.

Figure 1.1 shows an object being hit as the hammer is on the upswing. A general pattern for where thrown objects may land is shown in Figure 1.2.

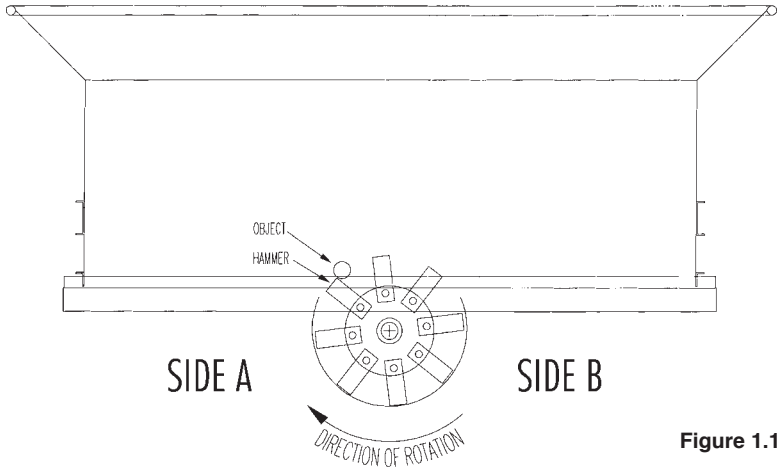


Figure 1.1

VIEWED FROM THE REAR OF THE H-1030

NOTE: The difference in the size of the area for side A versus side B. Side B is larger.

Dimensioning the size of this area is not practical. The distance a thrown object may travel is dependent on several conditions, including, but not limited to, rotor speed and diameter, condition of the hammers, style of hammers, object mass, object shape, amount of material in the tub, and how the hammer strikes the object.

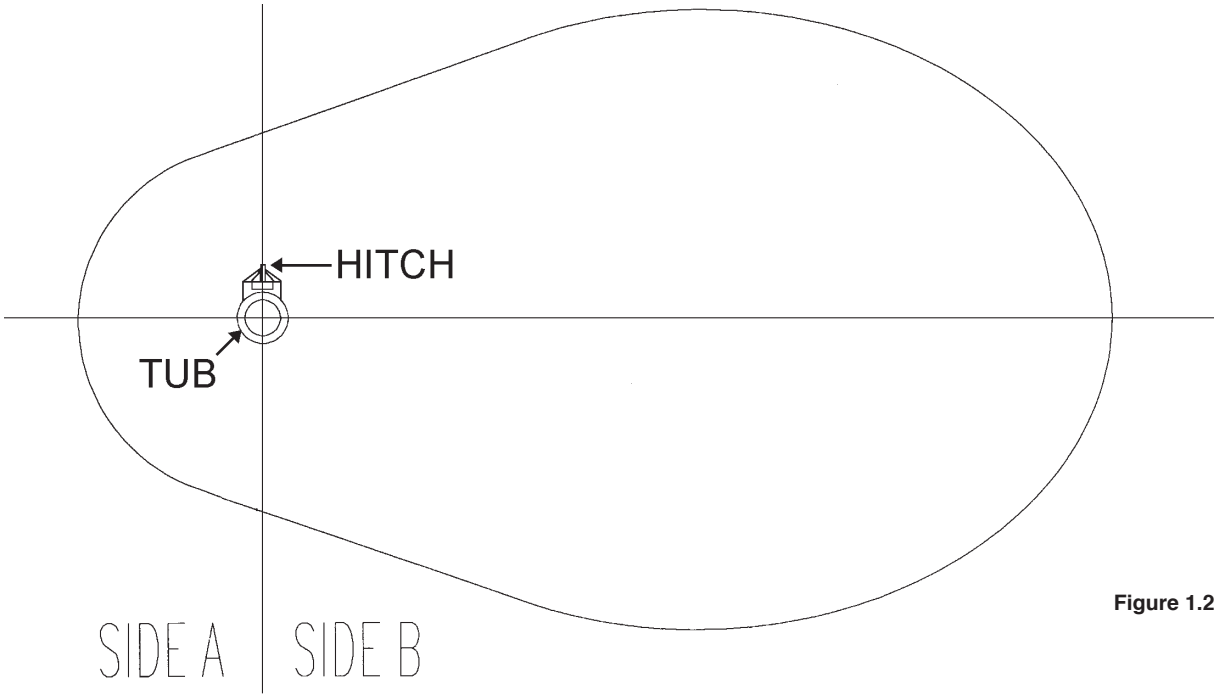
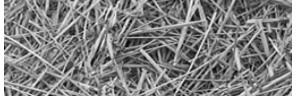


Figure 1.2



The amount of material in the tub can dampen or stop the object's potential flight. Keeping the tub full will reduce the risks. Filling the tub at least 1/2 full when starting will reduce the risk. Using a geyser plate can help reduce thrown objects. A risk may arise when the tub is being emptied, such as at the end of the grind. Running the engine at slower speeds when starting or finishing the grind will also help, especially slowing down when emptying the tub.

WARNING: To minimize the potential risk of injury or property damage, the operator must:

a) Place side B towards open areas, away from property and people.

b) Load the grinder from side A with a loader equipped with an enclosed cab.

c) Keep observers out of the area.

d) Wear a hard hat and safety glasses, at a minimum, and require that any other persons in the area are similarly equipped.

1.5 Shielding

This H-1030 Tub Grinder is equipped with shielding at all major points of potential injury. All Shields should be kept in place during operation. Bodily injury may occur if the unit is operated without shields.

WARNING: Shields are installed for your protection and to keep material off machine parts. Do not operate this Industrial Tub Grinder without shields in place.

1.6 Personal protection equipment

Operators and authorized observers of the H-1030 Tub Grinder are required to wear head, eye, and ear protection. No loose clothing is allowed.

1.7 Safety Review

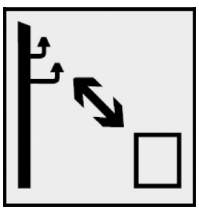
WARNING: Before attempting to operate your H-1030 Tub Grinder, carefully read and follow instructions given below and contained elsewhere in this manual.

BEFORE OPERATING

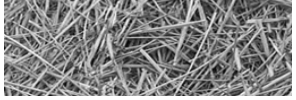
1. Read and follow all instructions contained in:
   - Operators Manual
   - Tractor Operators Manual
   - Decals placed on H-1030 Tub Grinder.

NOTE: Your dealer has additional copies of these materials.

2. Allow only properly instructed, responsible individuals to operate your machine. Carefully supervise inexperienced operators.
3. Use a tractor that meets the requirements contained in this manual. **See Appendix C, Required for Operation, page 63.**
4. Make sure the H-1030 Tub Grinder is in good operating condition and that all protective shields are in place and in proper working order. Replace damaged shields before operating.
5. Be sure all bystanders and other workers are clear before starting tractor and grinder.
6. Make no modifications to the H-1030 Tub Grinder unless specifically recommended or requested by DuraTech Industries.
7. Check periodically for broken or worn parts and make necessary repairs.
8. Be sure the unit is securely attached to tractor during grinder operation and road transport.



Keep sufficient distance away from electrical power lines.
WARNING: Electrocution is possible when running this machine during an electric storm or heavy fog.



DURING OPERATION

1. Enforce the following safety precautions to prevent serious personal injury.
   - Keep everyone clear of work area except operator seated at tractor controls.
   - **Never work on or near grinder unless engine is off, and all motion has stopped.**
   - Disengage PTO before starting engine.
2. Power take off shafts must be locked in place with protective PTO shields in place.
3. Keep hands, feet, and clothing away from power driven parts.
4. Keep shields in place and in good condition.
5. Watch out for and avoid any object that might interfere with the proper operation of the machine.
6. Loose clothing, necklaces, and similar items are more easily caught in moving parts. Avoid the use of these items and keep long hair confined.
7. Because it is possible that your H-1030 may be used in dry areas or the presence of combustibles, special precautions should be taken to prevent fires and fire fighting equipment should be readily available.

NO SMOKING IN THIS AREA

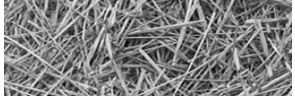
DANGER! NO OPEN FLAMES IN THIS AREA

8. Never allow riders on the machine at any time.

NORMAL SHUTDOWN PROCEDURE

WARNING: For your safety and the safety of others, you must use the following normal shutdown procedure before leaving the controls unattended for any reason, including servicing, cleaning, or inspecting. A variation of the following procedure may be used if so instructed within this manual or if an extreme emergency requires it.

1. Run H-1030 Tub Grinder until discharge conveyor is empty, and grind as much of the material in the tub as possible.
2. Reduce engine speed to idle.
3. Disengage PTO
4. Disengage hydraulics.
5. Place transmission in park and set parking brake.
6. Shut off tractor engine and remove key.
7. Wait for all movement to stop.
8. Disconnect PTO driveline from tractor.



1.8 Fire Prevention

Grinding wood, hay, and other products in a tub grinder produces a large amount of potentially combustible material. The risks of fire can be significantly reduced with proper operating and maintenance procedures. This does include frequent removal of dust, debris, and other combustible materials.

Most of the products that are ground are dry and the grinding process can produce fine, dusty material. The grinding process can produce heat and the spinning rotor will circulate air within the grinding chamber. For a fire to start, fuel, oxygen and heat in sufficient quantity, must be present. During normal operation and with a properly maintained tub grinder, the material being ground will move through the grinding chamber so quickly that it doesn't have a chance to heat up sufficiently to start a fire. Also, the rapid rate that a tub grinder can pile material will quickly smother small hot spots that might occur during normal grinding operations. Keeping the material moving through the machine and across the top of the rotor is important to keep frictional heating of the material to a minimum.

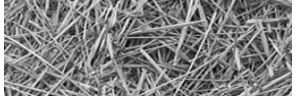
NEVER leave the vicinity of the unit with the engine running**.**

PROPER OPERATION OF THE TUB GRINDER:

- Do not grind materials any finer than necessary. Finely ground materials will produce more dust and increase the risk of fire. If finely ground materials are required, it is better to grind the materials coarse first with large opening screens installed in the grinder and then regrind them to the desired consistency by installing smaller opening screens in the grinder. Be especially cautious when grinding materials that can burn easily.
- When filling the tub grinder during start-up begin by filling the rear of the tub and avoid placing materials on the spinning rotor. When material begins to fall over the rotor, set the governor control on "Manual" and rotate the tub slowly while continuing to fill the tub. Use the tub cover to control thrown objects as much as possible. When the tub is 1/2 to 2/3 full, the governor control can be set to "auto" and grinding operations can resume normally. Do not allow the tub to stop for any significant amount of time with material over the rotor to minimize frictional heating.
- Do not smoke when working with combustible materials.

REMOVAL AND CLEANING INSTRUCTIONS:

- Clean the engine compartment or electric motor area daily or more often if conditions require it be done more frequently. When cleaning the engine compartment, always clean the top of the engine and the areas around exhaust manifolds, exhaust plumbing and turbochargers.
- Check the rotor box for debris built up around the rotor. Remove material that may be packed tight near the bearings, on shaft or other rotating components because it will become hot due to friction.
- At shutdown, always clean and remove all dust, debris, or combustible material off the entire grinder. Use high-pressure air or water if necessary. Always move the grinder and all other equipment away from the ground material pile before leaving the job site in case of smoldering combustion in the ground material.



TUB GRINDER MAINTENANCE:

- Repair any fuel or hydraulic leaks as quickly as they are discovered. Clean up spills immediately. Fuel or oil soaked materials can contribute significantly to the rapid spreading of a fire once it has begun.
- Inspect all electrical wiring periodically. Any chafed or damaged wires should be repaired immediately. Keep all electrical connections tight to prevent arcs or sparks.
- Contact between the rotor and any stationary component of the grinding chamber such as contact between the hammers and the screens must be corrected immediately.

1.9 Fire Extinguishers:

CAUTION: Do not operate machine unless an approved fire extingisher is installed.

The fire extinguishers should be ABC dry chemical extinguishers that are appropriate for use with materials normally encountered on a tub grinder.

If a fire does start, CALL THE LOCAL FIRE DEPARTMENT IMMEDIATELY. Then, use the fire extinguisher if you feel confident that you can extinguish the fire. A 10# extinguisher will last about 15-20 seconds and a 20# extinguisher will last about 20-24 seconds, so they will not stop a large fire. The fire extinguishers should be at least 10#, but the preferred are 20# .

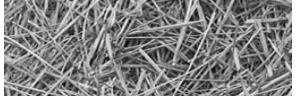
When using a fire extinguisher, use the P A S S method:

- Approach the fire with the wind at your back.
- **Pull the pin,**
- **Aim the spout,**
- **Squeeze the trigger, and**
- **Sweep along the base of the fire from about 6-8 feet away.**

Read the label on your extinguisher now, most extinguishers have descriptions of this method, and an estimated working time.

If an extinguisher is only partially used, the dry chemical will jam in the seals, allowing the extinguisher to loose its pressure charge in less than an hour, making it useless to you. It must be recharged before placing it back on the machine. Have the extinguisher recharged today; a fire will not wait for you to recharge your extinguisher tomorrow!

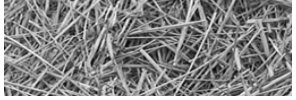
Fire extinguishers should be inspected and recharged by a professional at least annually to keep them at optimum performance! A “verification of service” collar that confirms the month and year of service should be attached to the neck of the container to confirm when the extinguisher was last serviced.



1.10 Towing

CAUTION: DO NOT TRANSPORT THE H-1030 TUB GRINDER without first securing the conveyor in the transport position (see 2.6.1, page 30).

1. Be sure all loose parts are securely fastened down.
2. Make sure all bystanders are clear.
3. Hitch H-1030 Tub Grinder to a tow vehicle with adequate load carrying and braking capacity. Be sure to attach safety chains between tow vehicle and H-1030 Tub Grinder. Tongue weight is 1,925 lbs. (873 kg).
4. Pull PTO apart and attach to transport bracket on the right hand side of the grinder.
5. Ensure that hitch jack is stored in the up position.
6. Check the turning clearance between H-1030 Tub Grinder and the towing vehicle.
7. Connect H-1030 light harness to the towing vehicle.
8. Check local ordinances regarding restrictions for H-1030 Tub Grinder travel on your planned route.
9. Be aware of machine width at all times and do not exceed 20 miles per hour.
10. Check your state laws regarding the use of lights, slow moving vehicle signs, and other possible requirements.
11. Use good judgment and drive carefully, especially over rough and uneven roads.



1.11 Service and maintenance

WARNING: Before performing any maintenance on the machine or getting into the tub, be sure rotor and all moving parts have come to a complete stop. Shut off engine and remove the key.

Before working on or near the Tub Grinder or any reason such as servicing, inspecting or unclogging the machine:

- Follow the normal shutdown procedure found on page 28 of this manual.
- If the unit is still attached to a towing vehicle, place the towing vehicle's transmission in park and set the parking/emergency brake.
- Relieve all pressure in the hydraulic system before disconnecting hydraulic lines or performing work on the system. Make sure all connections are tight and the hoses and lines are in good condition before applying pressure to the system.

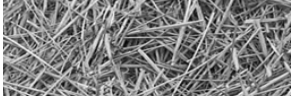
WARNING: Hydraulic fluid escaping under pressure can be invisible and have enough force to penetrate the skin. When searching for a suspected leak, use a piece of wood or a cardboard rather than your hands. If injured, seek medical attention immediately to prevent serious infection or reaction.

- If performing maintenance or servicing which requires the tub to be tilted up, make sure that the tub cylinder stop is in place on the tub tilt cylinder before you begin. For more information, see sections 2.2.9 and 2.7.

WARNING: For your protection **ALWAYS** install the tub cylinder stop on the tub tilt cylinder when the tub is tilted. **NEVER** engage tractor PTO when the tub is raised.

WARNING: FAILURE TO COMPLY WITH SAFETY INSTRUCTIONS THAT FOLLOW WITHIN THIS MANUAL COULD RESULT IN SEVERE PERSONAL INJURY OR DEATH. BEFORE ATTEMPTING TO OPERATE THIS MACHINE, CAREFULLY READ ALL INSTRUCTIONS CONTAINED WITHIN THIS MANUAL. ALSO READ THE INSTRUCTION MANUAL PROVIDED WITH YOUR TRACTOR.

THIS MACHINE IS NOT TO BE USED FOR ANY PURPOSE OTHER THAN THOSE EXPLAINED IN THE OPERATOR'S MANUAL, ADVERTISING LITERATURE OR OTHER DURATECH INDUSTRIES WRITTEN MATERIAL PERTAINING TO THE H-1030 TUB GRINDER.



Section 2: Operation

There is no substitute for a sound preventative maintenance program and a well-trained operator.

To insure long life and economical operation, learn how to operate the H-1030 Tub Grinder and how to use the controls properly. Thoroughly instruct the operator in maintenance and operation of the H-1030 Tub.

GENERAL OPERATING CONDITIONS

Operating Temperature

This equipment will operate correctly in its intended ambient, at a minimum between +5°C and +40°C (41°F and 104°F).

Relative Humidity

The equipment will operate correctly within an environment at 50% RH, +40°C (104°F). Higher RH may be allowed at lower temperatures.

Measures shall be taken by the Purchaser to avoid the harmful effects of occasional condensation.

Altitude

This equipment will operate correctly up to 1000 m (3,280 ft.) above mean sea level.

Transportation and Storage

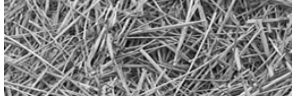
This equipment will withstand, or has been protected against, transportation and storage temperatures of -25°C to +55°C (-13°F to +131°F) and for short periods up to +70°c (+158°F).

It has been packaged to prevent damage from the effects of normal humidity, vibration and shock.

2.1 Pre-Operating Inspection

Prior to the starting the H-1030 Tub Grinder, make a visual inspection of the machine. This can be done when lubricating the machine. Any items that are worn, broken, missing or needing adjustment must be serviced accordingly before operating the H-1030 Tub Grinder.

WARNING: Before inspecting the machine, use the normal shutdown procedure found on page 28.



BEFORE OPERATING CHECKS

Before operating the H-1030 Tub Grinder, follow these instructions:

- ❑ Read and understand the operator's manual.
- ❑ Learn how to operate the controls properly. Do Not let anyone operate without instruction.
- ❑ Know the machine's safety features and understand the safety precautions.
- ❑ Be sure the machine is hitched properly to the tractor.
- ❑ Be sure to lubricate all lubrication points. See lubrication chart, page 46.
- ❑ Check for loose bolts.
- ❑ Make sure machine is properly adjusted.
- ❑ Check hydraulic oil level
- ❑ Check hydraulic components for leaks or damage.

WARNING: Hydraulic fluid escaping under pressure can be almost invisible and can have sufficient force to penetrate the skin. When searching for suspected leaks, use a piece of wood or cardboard rather than your hands. If injured, seek medical attention immediately to prevent serious infection or reaction.

- ❑ Visually examine rotor to see if any parts have excessive wear. These parts include shaft, plates, rods, hammers and moveable plate.
- ❑ Check screens and screen hold downs for wear and tightness.
- ❑ Check installation and condition of hammers.
- ❑ Visually examine rotor bearings and mounting bolts.
- ❑ Check all bearings for wear.
- ❑ Check chains and belts for proper tension and condition.
- ❑ Make sure all shields and guards are in place.
- ❑ Check condition of decals, replace if excessively worn.
- ❑ Check lug nuts for correct tightness. Lug nust should be tightened to a minimum of 120 ft-lbs (17 Kg-M).
- ❑ Check condition of tire rims.
- ❑ Check tires for proper air pressure. 36 PSI (2.5 BAR)
- ❑ Always grind with the machine and tractor stationary on level ground.
- ❑ In cold weather, allow five minutes for the machine to warm up before grinding.
- ❑ Start the machine and check the tub direction, speed control governor for proper operation.
- ❑ Watch for unusual or excessive vibration. If any occur, immediately shut off the power. Check to see what is wrong and correct it before starting the grinder again.
- ❑ If grinding grain, be sure proper grain attachment is in place.

2.2 Introduction to the machine

2.2.1 Description of the H-1030 Tub Grinder

The Tub Grinder is designed to grind most types of hay, grain and crop residue such as stover and straw. The unit incorporates a number of basic features including the rotating tub, the electronic governor, the rotor and hammer assemblies, the tub chain and drive assemblies, belly auger and discharge conveyor, and the axle and hitch assemblies.

Material is fed into the tub of the unit by appropriate means, such as a wheel loader. As the tub rotates, the material is exposed to the rotating hammers. The hammers then grind the material before the material is discharged by the belly auger and discharge conveyors.

Figure 2.1
side view showing operator station and major system components

2.2.2 Overview of Operator's Controls

Operator controls include:

- **Electronic governor:** The electronic governor regulates tub rotational speed range.
- **Electric/hydraulic conveyor switches:** The first switch controls the up/down of the conveyor and the third switch controls the fold/unfold of the conveyor. One continuous hydraulic circuit is required to power the conveyor and tub tilt functions.
- **Tractor engine speed:** The tractor engine speed should be set so 1000 PTO shaft is running at 1000 RPM.
- **Tractor PTO lever:** Engaging the tractor's PTO lever spins rotor, runs both conveyor belts and power the tub hydraulic drive. The conveyor must be unfolded to working position before the PTO can be engaged.
- **Electric/hydraulic tub tilt switch:** The second switch uses the tractor's continuous hydraulic circuit to raise and lower the tub platform.

2.2.3A Electronic governor (For S.N. Up to 1018012030)

General:

The Wachendorf A35 with ECU 710 control system will control the Tub and Discharge Conveyor functions of a Tub Grinder.

Display

Start up screen:

Company logo

Screen will show when power is applied to the display for approx. 10 sec.

Loading screen:

Company logo, with loading bar

Screen will show right after Start up screen for approx. 10 sec.

Home screen:

Home Screen will show right after the loading screen.

- Tub FWD/REV buttons will control the Tub FWD/REV outputs as described later in this manual.

- The Tub Speed gauge will indicate the Tub Speed output with a scale of 0-100.
  - o When the Tub Speed button is pressed the Encoder knob will be linked to the Tub Speed setting and the Tub Speed icon will change to red in color.

- The Engine Load gauge will indicate the Engine Load setting with a scale of 0-100.
  - o When the Engine Load button is pressed the Encoder knob will be linked to the Engine Load setting and the Engine Load icon will change to red in color.

- When the Display Light button is pressed the Encoder knob will be linked to the Display Backlight setting and the Display Light icon will change to red in color.

- The Set Speed button will set the Rotor Speed Max as described later in this manual and will be indicated by a blue arrow on the outside edge of the Rotor Speed gauge. The Rotor Speed Min will also be described later in this manual and is indicated by the green arrow.

- The Rotor RPM gauge will display the Rotor RPM with a scale of 0-3,000.

- A fault icon will pop up anytime there is a fault triggered in the controller.

Hours screen:

The Hours screen will be accessed by pressing the next button on the Home Page.

- Pressing the Fault Menu button will take the operator to the Fault Screen page.

- The Grind Hours window will display the total number of hours the machine has run with the Rotor ON. The Grind Hours can be reset using the Impulse Service Tool (EA1667-E1P REV XX_OEM.icf).

- The Service Hours window will display the total number of hours the machine has run with the Rotor ON since the last Service Hours Reset. Pressing the Service Hours Reset button will reset the Service Hours window to zero.

- The Job Hours window will display the total number of hours the machine has run with the Rotor ON since the last Job Hours Reset. Pressing the Job Hours Reset button will reset the Job Hours window to zero.

Fault screen:

The faults will show up in the fault table screen when they occur.

- The ECU column indicates which controller the fault is coming from. This system will have one ECU named ECU-0710.

- The Function column indicates which input or output has the fault.

  1. Tub Forward Coil
  2. Tub Reverse Coil
  3. Tub Speed Coil
  4. Bypass Coil
  5. Speed Sensor

- The Count column indicates how many times the fault has occurred. Press the Count Reset button to reset the count values.

- The Fault column describes the fault condition using the following J1939 FMI codes (Failure Mode Identifier). The FMI description will be listed in the table.

  FMI 1: Below Normal
  The pulse frequency is below what the ECU can measure.

  FMI 5: Open or Short to Ground
  An Open will indicate there is a break in a wire, or a bad connection at a connector.

  A Short to Ground indicates there is a break in the output wire insulation and the bare wire is touching a negative battery wire or the machine frame.

FMI 6: Short to Battery
A Short to Battery indicates the output wire is touching a positive battery wire.

- The Fault Reset button will reset any fault that does not automatically clear (ex. Speed Sensor Fault).

Hardkeys:

Next

- When the Next button is pressed, the display changes to the next screen.

Home Button

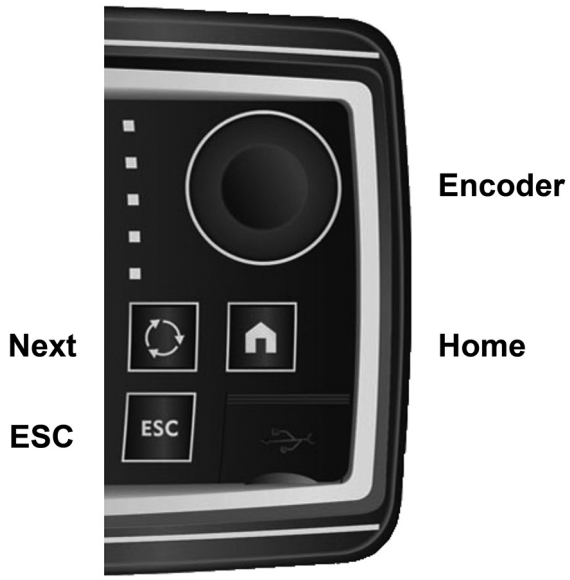
- When the home button is pressed the display will go to the home screen.

ESC Button

- When the ESC button is pressed the display will go back to the previous screen or view.

Encoder

- When the Encoder button is pressed, the display changes to the next screen.



2.2.3B Electronic governor (For S.N. 1020012030 & Up)

General:

The Wachendorf A3X with an HFX32 (for sn 1020012130 and up) control system will control the Tub and Discharge Conveyor functions of a Tub Grinder.

Display

Start up screen:

Company logo

Screen will show when power is applied to the display for approx. 10 sec.

Loading screen:

Company logo, with loading bar

Screen will show right after Start up screen for approx. 10 sec.

Home screen:

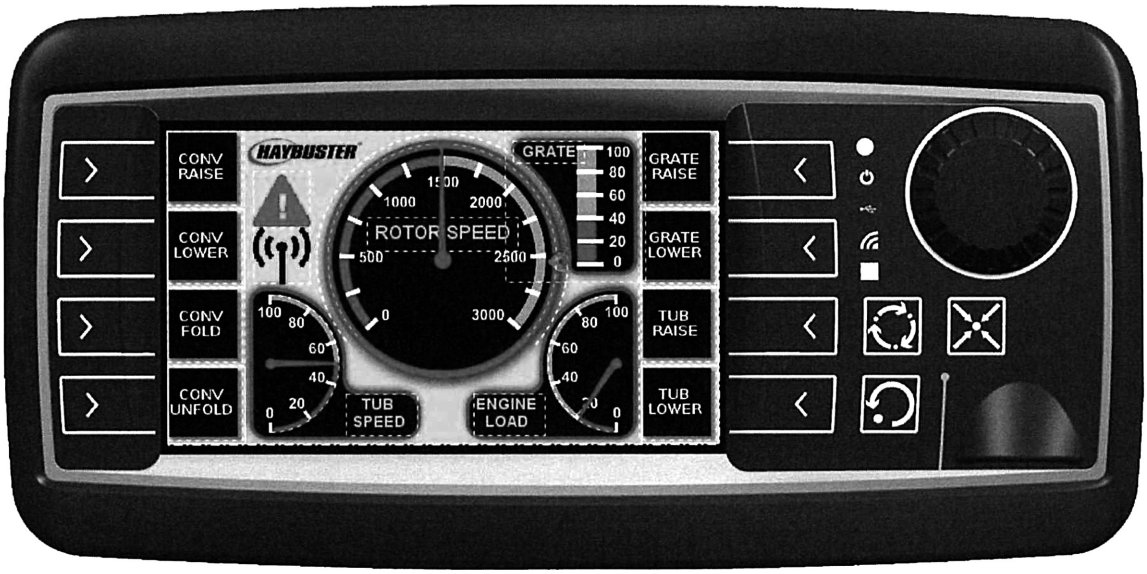
Home Screen will show right after the loading screen, when the Home button is pressed from any of the other pages, or when the Encoder is pressed from the Manual Function screen.

- Tub FWD/REV buttons will control the Tub FWD/REV outputs as described later in this manual.

- The Tub Speed gauge will indicate the Tub Speed output with a scale of 0-100.
  - When the Tub Speed button is pressed the Encoder knob will be linked to the Tub Speed setting and the Tub Speed icon will change to red in color.
  - The Tub Speed can also be adjusted by using the Tub Speed Inc. and Dec. buttons on the radio remote.
- The Engine Load gauge will indicate the Engine Load setting with a scale of 0-100.
  - When the Engine Load button is pressed the Encoder knob will be linked to the Engine Load setting and the Engine Load icon will change to red in color.
- When the Display Light button is pressed the Encoder knob will be linked to the Display Backlight setting and the Display Light icon will change to red in color.
- The Set Speed button will set the Rotor Speed Max as described later in this manual and will be indicated by a blue arrow on the outside edge of the Rotor Speed gauge. The Rotor Speed Min will also be described later in this manual and is indicated by the green arrow.
- The Rotor RPM gauge will display the Rotor RPM with a scale of 0-3,000.
- Grate Height will be displayed using a bar graph with a scale of 0-100. There will be a “Zero” button located on the Hours screen to zero the gauge. If there is no sensor detected, the Grate Height graph will disappear.
- A fault icon will pop up anytime there is a fault triggered in the controller.
- A radio icon will pop up when the transmitter is connected to the receiver.

Manual Function Screen:

The Manual Function screen will be accessed by pressing the next button or the encoder on the Home Page.



The following functions can be operated on the Manual Function screen. Functions marked with and (8) can also be operated with the radio remote.

1. Conveyor Raise*
2. Conveyor Lower*
3. Conveyor Fold
4. Conveyor Unfold
5. Grate Raise*
6. Grate Lower*
7. Tub Raise
8. Tub Lower

- When a button for one of the functions is pressed the corresponding output will be momentarily turned ON and the button will change color. When the button is released the output will be turned OFF.
- Interlocks:
    - o The Tub Raise output will be de-activated if there are pulses detected on the Rotor Speed input. An alarm window will show if the Tub Raise button is pressed while the function is locked out. If there are no pulses detected on the Rotor Speed input, the Tub Raise output will be activated after the Tilt Enable Timer expires. The Tilt Enable Time can be changed using the Impulse Service tool.

Hours screen:

The Hours screen will be accessed by pressing the next button on the Manual Function screen.

- The Zero Grate button will zero out the Grate Height bar graph on the Home screen. If there is no sensor detected, the Grate Height button will disappear. Zero Grate procedure.

  1. Retract cylinder using the Grate Lower button on the Manual Function screen.
  2. Press the Zero Grate button on the Hours screen.
  3. A pop up will ask Yes or No.

- Pressing the Fault Menu button will take the operator to the Fault Screen page.

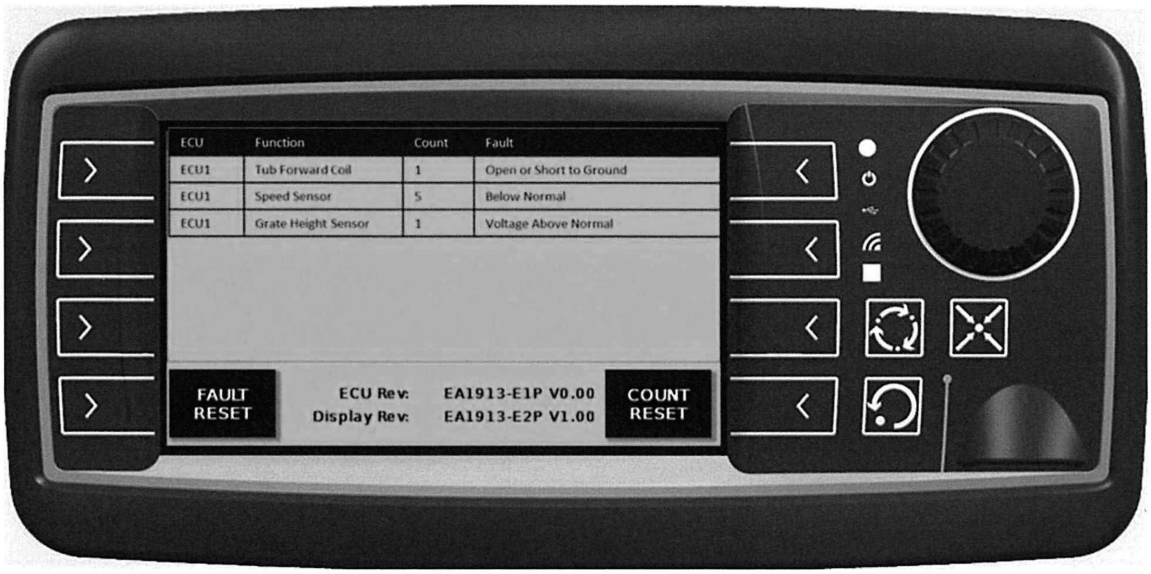
- The Grind Hours window will display the total number of hours the machine has run with the Rotor ON. The Grind Hours can be reset using the HFX Service Tool

- The Service Hours window will display the total number of hours the machine has run with the Rotor ON since the last Service Hours Reset. Pressing the Service Hours Reset button will reset the Service Hours window to zero.

- The Job Hours window will display the total number of hours the machine has run with the Rotor ON since the last Job Hours Reset. Pressing the Job Hours Reset button will reset the Job Hours window to zero.

Fault screen:

The faults will show up in the fault table screen when they occur.



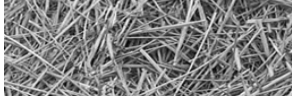
The Active Fault screen will display a table indicating the J1939 DM1 message fault codes. The fault codes will be displayed as numerical values unless otherwise specified in the Fault Codes table. (See section 4.2)

- The ECU (electronic control unit) column indicates which controller the fault is coming from.
- The SPU (suspect parameter number) column indicated what function has a fault.
- The OC (occurrence count) column indicated how many times the fault has occurred.
- The FMI (fault mode indicator) column indicated the reason for the fault.

Fault Reset Button

- The Fault Reset button will reset all active faults.

The Display and Controller Software version will be displayed on this screen.



Hardkeys:

Next

- When the Next button is pressed, the display changes to the next screen.

Home Button

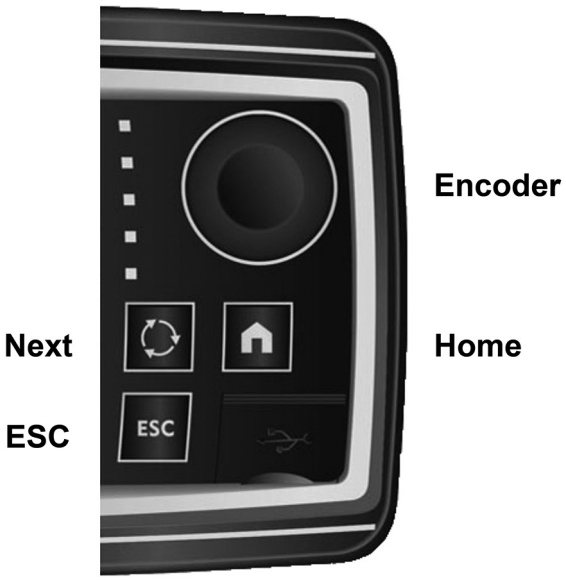
- When the home button is pressed the display will go to the home screen.

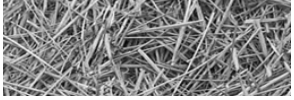
ESC Button

- When the ESC button is pressed the display will go back to the previous screen or view.

Encoder

- When the Encoder button is pressed, the display changes to the next screen.





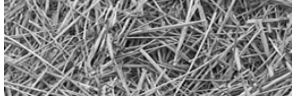
2.2.4 Rotor

The Rotor and screens are the heart of the tub grinder. The rotor on this H-1030 Tub Grinder is equipped with 64 swinging hammers. Dull edges on the hammers and/or screens will result in a loss of capacity and increased horse power requirements.

IMPORTANT: Hammer and hammer rod life can be extended by keeping the rotor rotating at 2300 RPM. **Excessive tractor horsepower and/or overfeeding the rotor can cause the hammers to lay back resulting in excessive wear on both the hammers and hammer rods.**

CAUTION: Keep all foreign objects out of the tub and away from the rotor. Foreign objects may cause personal injury or damage to the H-1030 Tub Grinder.

CAUTION: At full speed, energy is stored in the rotor. **Do not use the tractor PTO brake to stop the rotor. Reduce engine speed before disengaging the PTO.**



2.2.5 Screens

All H-1030 Tub Grinders require two screens. They come equipped from the factory with a 2” (5 cm) diameter hole screen and a 3” (8 cm) diameter hole screen. Any combination of hole sizes may be used. As a general rule, use the largest diameter screens capable of doing the job.

When using a combination, place the smallest hole diameter on the right hand side of the rotor box where the material enters the rotor.

The size of the hole in the screen determines the coarseness of grind. The larger the hole diameter, the coarser the grind. Hole sizes can vary from 1/8” diameter through 8” diameter. In general, use the larger screen sizes for grinding hay.

As a general guide, DuraTech Industries recommends the following screen sizes:

Hay	2” to 8” (5 cm to 20 cm)
Ear Corn	5/8” to 1” (1.6 cm to 2.5 cm)
Shelled Corn	3/4” (1.9 cm) dry, 5/8” (1.6 cm) high moisture
Small Grains	1/4” (.6 cm) to 3/8” (.9cm)

2.2.6 Tub

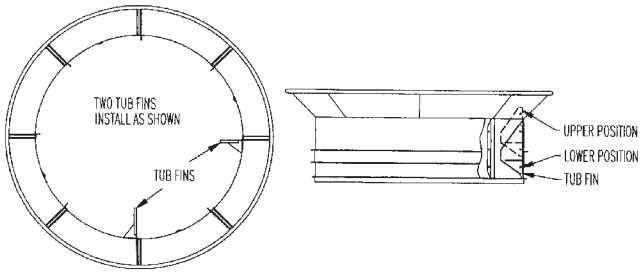
The purpose of the tub is to contain the material above the rotor, and to keep the rotor loaded

Tub Fins

Two tub fins are furnished with the H-1030 Tub Grinder.

When grinding large round bales, use only one of the tub fins, bolted in the upper position. Two tub fins across from each other may hold the bale up and reduce capacity.

When grinding small round bales, square bales, or loose hay, use two tub fins bolted in the lower position.



2.2.7 Slug Buster and Mill Grate

A slug buster or mill grate is installed above the rotor to regulate the amount of material entering the rotor chamber. The standard slug buster is used for ideal grinding conditions (dry hay). The mill grate is used for “less than ideal grinding”, (wet hay or tough grasses).

2.2.8 Conveyors, Lifting and Folding

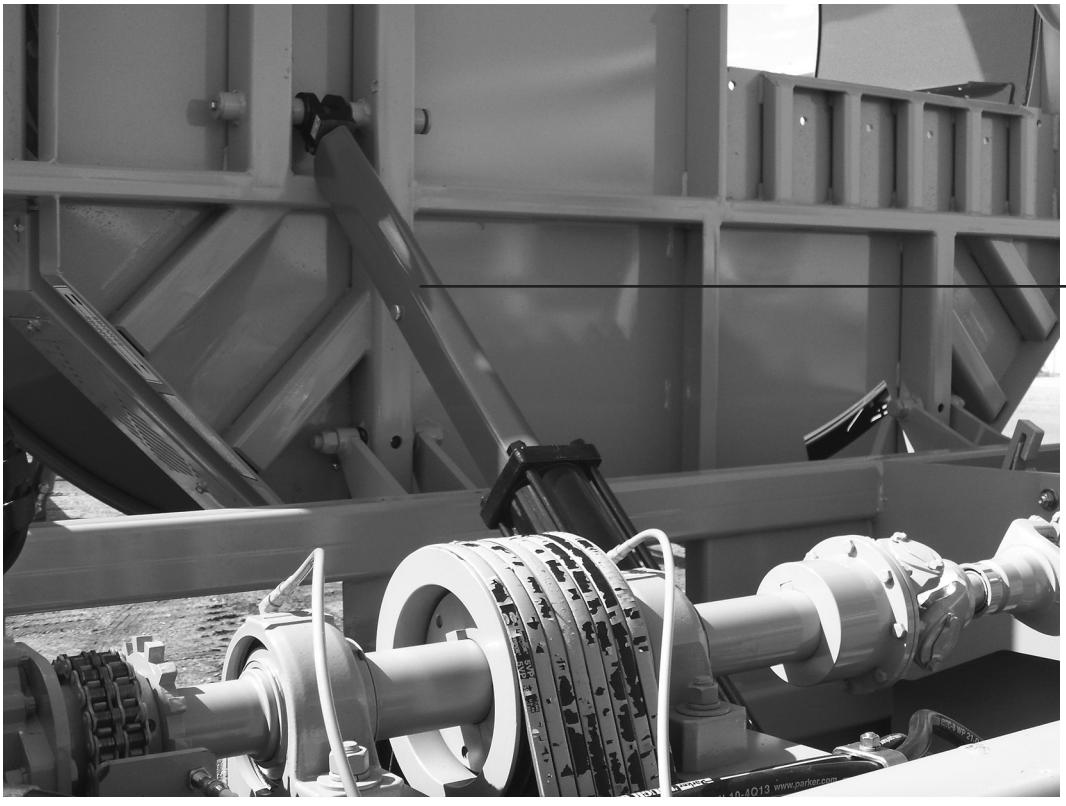
An electric switch on the H-1030 tub grinder controls the conveyor lift and fold. The tractor supplies hydraulic oil for operating the conveyor lift and fold system. Activate the tractors hydraulic circuit before operating the valve on the H-1030 tub grinder.

2.2.9 Hydraulic Tilt Platform

The H-1030 tub grinder can be tilted 90 degrees for access to the rotor, screens, and drive line. Operation of the tub tilt cylinder is performed using the controls for the tractor which is located on the tractor. After using the normal shut down procedures, the hopper platform can then be opened.

WARNING: To prevent serious injury or death, do not tilt platform on unlevel ground or with material in the tub.

WARNING: For your protection **ALWAYS** install the tub cylinder stop when the tub is tilted. **NEVER** engage tractor PTO when the tub is raised.



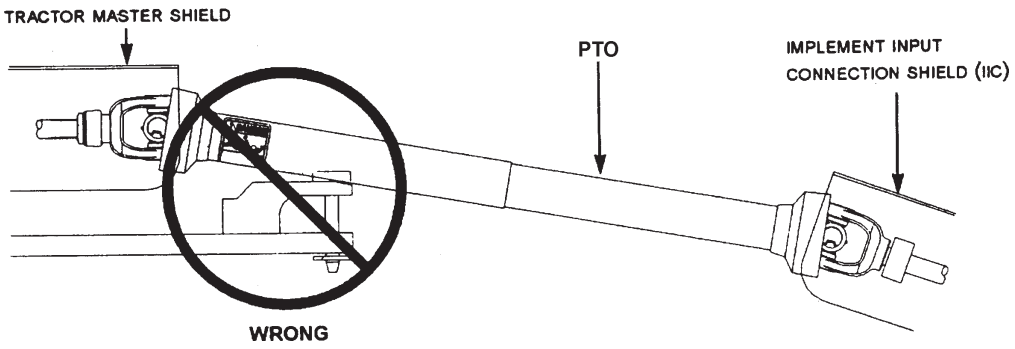
2.3 Machine Operation

2.3.1 Tractor Set Up

A tractor drawbar and 3-point arms can cause interference with the PTO driveline. This interference can cause serious damage to the PTO guarding and the PTO telescoping members.

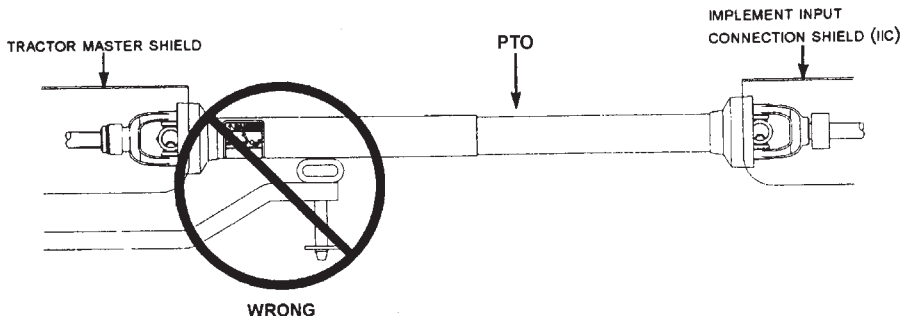
If this implement is attached to a tractor with a clevis hitch (hammer strap) style drawbar, the hammer-strap must be removed to prevent damage to the PTO guarding and the PTO telescoping members. See Figure 2.2.

Figure 2.2
incorrect clevis hitch (hammer strap) style drawbar set up

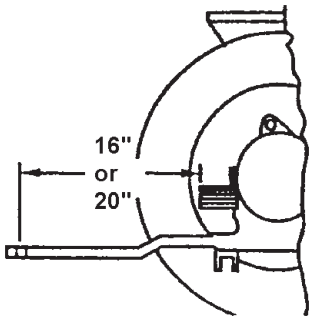


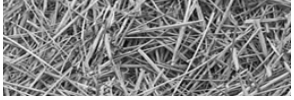
If this implement is attached to a tractor with an offset in the drawbar, be certain it is in the down position to prevent damage to the IID guarding and the IID telescoping members. See Figure 2.3.

Figure 2.3
incorrect offset style drawbar set up



If this implement is attached to a tractor with 3-point arms, the arms must be fully raised and locked in position to prevent damage to the PTO guarding and the telescoping members. Adjust the tractor drawbar so the distance from the end of the PTO shaft on the tractor to the center of the drawbar hitch pin hole is 16” (41 cm.) for a 1-3/8” shaft, or 20” (51 cm.) for a 1-3/4” shaft, as shown in the illustration to the right.





2.3.2 How to hook up to tractor

To hitch the H-1030 to a tractor, perform the following steps:

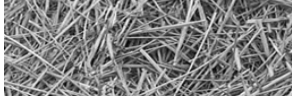
1. To reduce wear on the PTO shaft knuckle joints, tractor PTO shaft should be in line (parallel) with the H-1030 Tub Grinder. If tractor is equipped with swinging drawbar, adjust so the tractor PTO and H-1030 Tub grinder drive shaft are in line.
2. Connect hydraulic lines to the tractor.
3. Connect electrical lines to tractor.

CAUTION: To insure a safe hook-up, the H-1030 Tub Grinder and tractor should be connected with a 1" locking pin.

2.3.3 How to disconnect from tractor

To disconnect the H-1030 from a tractor, perform the following steps:

1. Park H-1030 Tub Grinder and tractor on a level spot.
2. Lower jack to ground, place blocks under jack if ground is soft.
3. Disconnect electrical wires.
4. Disconnect hydraulic lines.
5. Disconnect PTO, place shaft in shaft holder.
6. Raise hitch of H-1030 Tub Grinder to remove weight from tractor hitch by adjusting jack.
7. Remove hitch pin.
8. Drive tractor away slowly.



2.3.4 How to operate machine as a unit

INTRODUCTION

Tractor engines are designed to reach maximum power at PTO speed (1000 rpm), and most tractors are capable of engine speeds from 10 to 20 percent over PTO speed. It will be necessary to operate tractor PTO at approximately 1000 rpm.

The Electronic Governor controls the feed rate to keep the tractor at its peak power point. The operator is able to select the operating range so that when the feed of material lugs down the tractor, the Electronic Governor will reduce the feed at a high enough PTO speed for the tractor to recover automatically if a slug is encountered.

GRINDING

Place materials to be ground directly into the tub. The best method for filling the H-1030 Tub Grinder is:

1. Engage Rotor and increase speed to 1000 RPM on the PTO shaft
2. Fill the tub about half full of unground materials before starting tub rotation.
3. Start tub.
4. Place additional materials in the tub.

LOOSE HAY

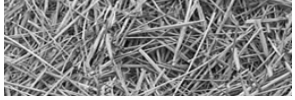
The best capacity will be obtained if the tub is consistently kept no less than half full of loose hay. When loading the tub, place materials slightly to the front rather than directly over the rotor. For best results feed the tub with small portions.

WET OR FROZEN HAY

This is the toughest material for any grinder to handle. When filling the tub with wet or frozen hay, deposit small quantities on a more frequent basis rather than filling the tub with one load.

LARGE ROUND BALES

Place large round bales in the tub on end or on the side. Try grinding bales each way to determine which method will work best for you.



IMPORTANT: Never drop a large round bale into the tub from a high level. Ease the bale over the edge and down into the tub carefully. Dropping a large bale directly on top of the rotor will cause damage to the rotor.

CROP RESIDUE

When grinding crop residues, use the same methods as with loose hay. Extremely wet or frozen materials should be placed sparingly into the tub.

SMALL GRAINS

Grinding small grains requires special attachments. These attachments fit directly over the rotor. It is not recommended that small grains be ground without the use of one of the small grain attachments. (See Appendix B: H-1030 Specifications under the heading “Options”.)

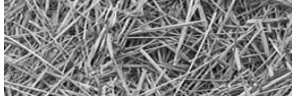
EAR CORN

Grinding ear corn requires a special attachment. This attachment fits directly over the rotor and uses crossbars in the tub to feed corncobs into the rotor. (See Appendix B: H-1030 Specifications under the heading “Options”.)

IF LODGING OCCURS

Materials may lodge against the side of the tub and not feed down to the rotor. If this occurs, reverse the tub direction briefly and then start the tub in a forward direction again. This practice normally dislodges any materials.

WARNING: Never attempt to dislodge material inside the rotor when the machine is in operation by physically pushing down on materials. **WHEN THE MACHINE IS IN OPERATION, STAY OUT OF THE TUB.**



2.4 Shutdown procedures

2.4.1 Normal Shutdown Procedure

CAUTION: At full speed, energy is stored in the rotor. **Do not use the tractor PTO brake to stop the rotor.**

WARNING: The stored up energy in the rotor causes it to rotate long after disengaging the tractor PTO. Before performing any maintenance on the machine or getting into the tub, be sure rotor and all moving parts have come to a complete stop.

Before working on or near the H-1030 Tub Grinder for any reason, including servicing, inspecting or unclogging machine:

1. Run H-1030 Tub Grinder until discharge conveyor is empty, and grind as much of the material in the tub as possible.
2. Reduce engine speed to idle.
3. Disengage PTO
4. Disengage hydraulics.
5. Place transmission in park and set parking brake.
6. Shut off tractor engine and remove key.
7. Wait for all movement to stop.
8. Disconnect PTO driveline from tractor.

2.4.2 Emergency Shutdown Procedure

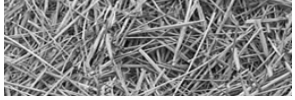
Disengage PTO and tractor hydraulics

2.5 Storage

2.5.1 Preparing for storage

To prepare the unit for storage, perform the following steps:

1. Check the wheel bearings for lubrication requirements and adjustments at the end of the season.
2. Check the pressure roller bearings for lubrication and adjustments at the end of the season.
3. Clean the machine thoroughly to prevent rust and to make inspections easier. Clean and repaint the tub floor to prevent rust and sticking problems at start up time.
4. Check for loose or worn chains, belts, sprockets, and pulleys.
5. Check the condition of bearings.



2.5.2 Removing from storage

To prepare the unit for use after storage, perform the following steps:

1. Perform a thorough pre-operation inspection.

2.6 Road Transport

2.6.1 Set up to transport

Inspect H-1030 Tub Grinder for any loose parts, tools, or any materials. Remove them or fasten them securely to the H-1030 Tub Grinder.

To set up the H-1030 for transport, perform the following steps:

1. Fold the conveyor.
2. Check for local restrictions on towing.

2.6.2 Change back to operate

To set up H-1030 for operation, perform the following steps:

1. Connect H-1030 Tub grinder to tractor.
2. Connect hydraulic hoses and electrical cable to tractor
3. Lower the discharge conveyor.
4. Unfold conveyor to working length.

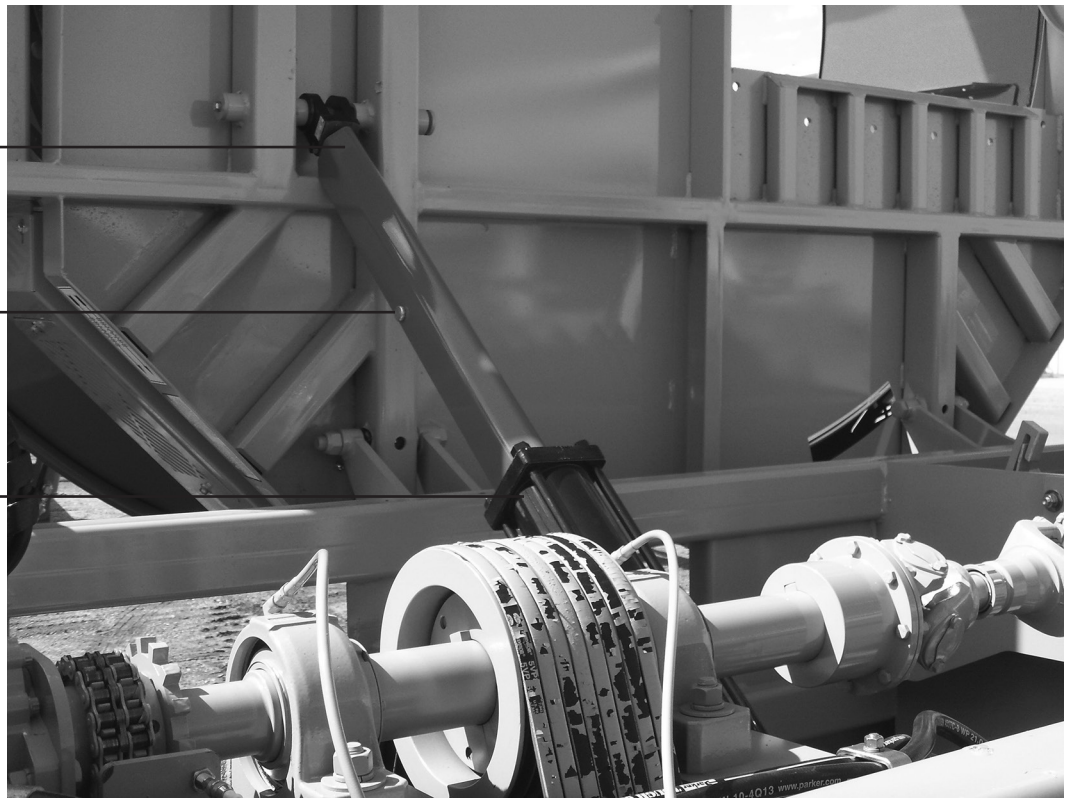
2.7 Raising the Tub Platform

WARNING: To prevent serious injury or death, do not tilt platform on unlevel ground or with material in the tub.

To raise the tub platform, perform the following steps:

1. Park machine on firm level ground or surface.
2. Remove all material from tub.
3. Disengage the PTO.
3. Clear personnel from work area.
4. Raise platform.
5. Install tub cylinder stop.

WARNING: For your protection **ALWAYS** install the tub cylinder stop when the tub is tilted. **NEVER** engage tractor PTO when the tub is raised.



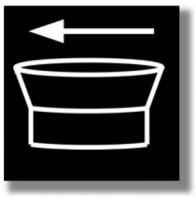
2.8A Operation of the Electronic Governor (For S.N. Up to 1018012030)

Auto/Manual Mode

- The system has two modes of operation: Auto Mode and Manual Mode. The mode of operation can be toggled using the Auto/Manual button on the display.

Tub

- **Tub Forward**



- **ON**

If the Tub Forward button is pressed on the display, and the Tub Forward output is de-active, and the Tub Reverse output is de-active, and either the Rotor Speed input is greater than zero, or the system is in Manual Mode:

- Tub Forward output will be activated.
- Tub Speed output will be ramped from minimum output to the output setting indicated by the display.
- Tub Forward indicator on the display will change color from black to red.

- **OFF**

If the Tub Forward output is active, and the system is switched from Manual Mode to Auto Mode while the Rotor Speed input is zero, or the Tub Forward button is pressed, or the Tub Reverse button is pressed on the display:

- Tub Forward output will be de-activated.
- Tub Speed output will be de-activated.
- Tub Forward indicator on the display will change color from red to black.

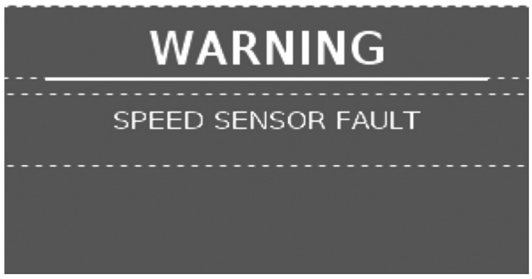
If the Rotor Speed input goes to zero when the Tub Forward output is active and the system is in Auto Mode:

- Tub Forward output will be de-activated.
- Tub Speed output will be de-activated.
- Tub Forward indicator on the display will change color from red to black.
- Speed Sensor Fault will be activated.

- **Warning**

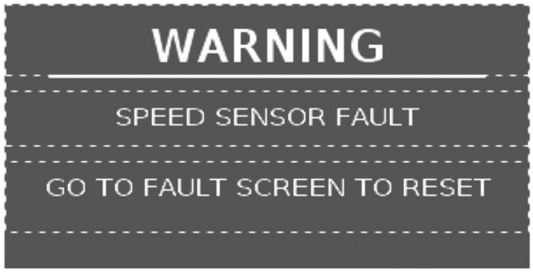
  If the Tub Forward button is pressed on the display, and the Tub Forward output is de-active, and the Tub Reverse output is de-active, and the Rotor Speed input is less than zero, and the system is in Auto Mode:

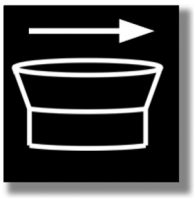
  - The following alarm window will be shown on the display for 3 seconds:



If the Tub Forward button is pressed on the display, and the Tub Forward output is de-active, and the Tub Reverse output is de-active, and the Rotor Speed input is less than zero, and the system is in Auto Mode, and the Speed Sensor Fault is active:

- The following alarm window will be shown on the display for 3 seconds:



- **Tub Reverse** 

  - **ON**

  If the Tub Reverse button is pressed on the display, and the Tub Foward output is de-active, and the Tub Reverse output is de-active, and either the Rotor Speed input is greater than zero, or the system is in Manual Mode:

  - Tub Reverse output will be activated.
  - Tub Speed output will be ramped from minimum output to the output setting indicated by the display.
  - Tub Reverse indicator on the display will change color from black to red.

o **OFF**

If the Tub Reverse output is active, and the system is switched from Manual Mode to Auto Mode while the Rotor Speed input is zero, or the Tub Forward button is pressed, or the Tub Reverse button is pressed on the display:

- Tub Reverse output will be de-activated.
- Tub Speed output will be de-activated.
- Tub Reverse indicator on the display will change color from red to black.

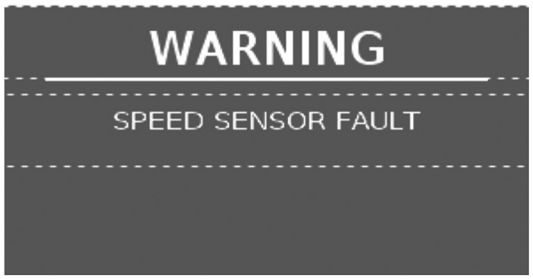
If the Rotor Speed input goes to zero when the Tub Reverse output is active and the system is in Auto Mode:

- Tub Reverse output will be de-activated.
- Tub Speed output will be de-activated.
- Tub Reverse indicator on the display will change color from red to black.
- Speed Sensor Fault will be activated.

o **Warning**

If the Tub Reverse button is pressed on the display, and the Tub Forward output is de-active, and the Tub Reverse output is de-active, and the Rotor Speed input is less than zero, and the system is in Auto Mode:

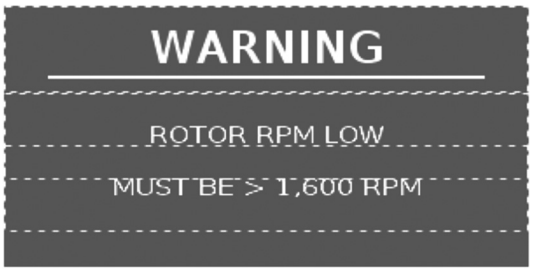
- The following alarm window will be shown on the display for 3 seconds:



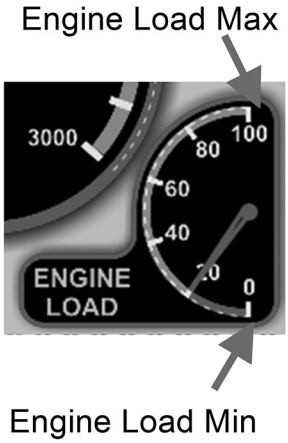
If the Tub Reverse button is pressed on the display, and the Tub Forward output is de-active, and the Tub Reverse output is de-active, and the Rotor Speed input is less than zero, and the system is in Auto Mode, and the Speed Sensor Fault is active:

- The following alarm window will be shown on the display for 3 seconds:

- **Tub Speed**
  - The Tub Speed ramp rate and output current will have adjustable parameters in the Impulse Service Tool.
  - Manual Mode:
    - The Tub will operate in an open loop control mode and will not compensate for rotor rpm changes.
    - There will be a Tub Speed gauge on the display to indicate the percentage of output from 0-100 percent.
    - The Tub Speed will be adjustable on Home Screen of the display.
  - Auto Mode:
    - The Tub will operate in a closed loop control mode and will compensate for rotor rpm changes.
    - The Tub Speed will be adjustable on Home Screen of the display. This will be the maximum speed the Tub will operate at and is the same speed used in Manual Mode.
    - The Engine Load will be used to reduce the Tub Speed to provide an anti-stall function to the rotor. This setting will be adjustable on the Home Screen of the display and will be displayed as 0-100%.
    - Rotor Speed Max (Blue Arrow) is the setpoint at which the Tub starts to slow down. This is set using the Set Speed button on the display. This value will not be allowed to go above the Set Speed Limit High RPM and below the Set Speed Limit Low RPM. These values can be changed with the Impulse Service Tool.
    - If the Set Speed button is pressed when the Rotor Speed is less than the Set Speed Limit Low RPM:
      - The following alarm window will be shown on the display for 3 seconds.



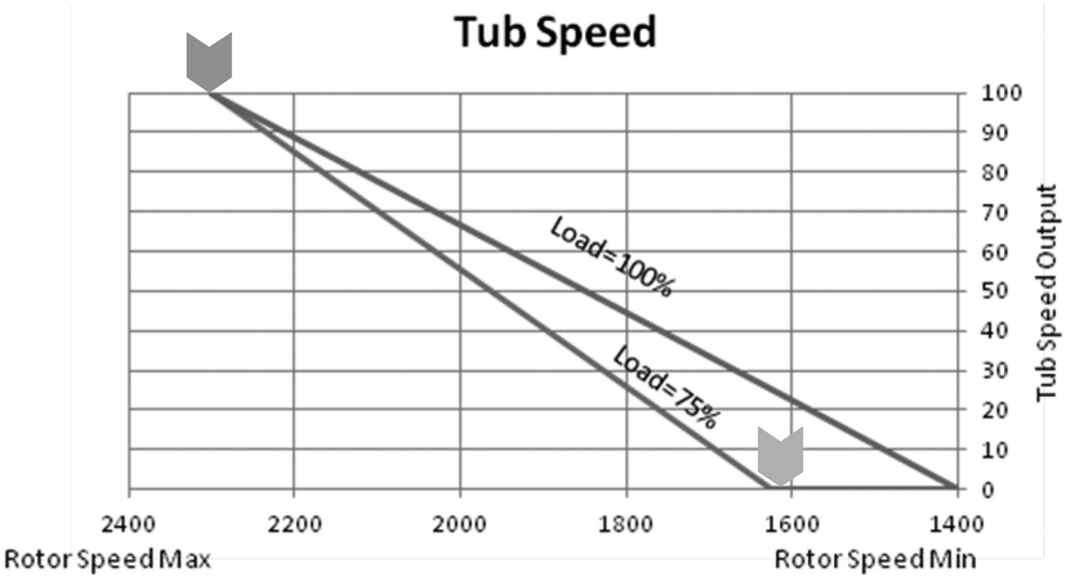
- If the Set Speed button is pressed when the Rotor Speed is greater than the Set Speed Limit High RPM:
  - The following alarm window will be shown on the display for 3 seconds.



- Rotor Speed Min Limit is the RPM where the Tub will stop when the Engine Load is set to 100%.
- Rotor Speed Min (Green Arrow) is the setpoint the Tub will slow down to. If the Engine Load is set to less than 100%, the Tub will still start to slow down at the Rotor Speed Max setpoint but the Tub will be stopped at the Engine Load percentage between the Rotor Speed Max and the Rotor Speed Min Limit.
- Load Example:
  - Rotor Speed Max = 2,300 rpm
  - Rotor Speed Min Limit = 1,400 rpm
  - Engine Load Display = 75%

Calculate Engine Load RPM: 0.75 * (2300-1400) = 675 rpm

Calculate Rotor Speed Min: 2,300 – 675 = 1,625 rpm

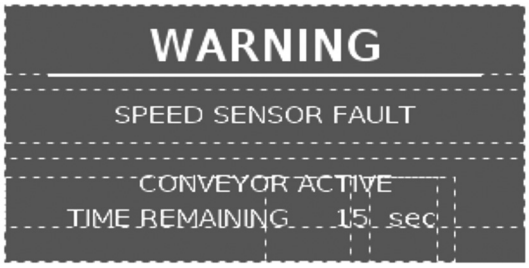


Conveyor

- If the Conveyor button is pressed on the display and the Conveyor Forward output is de-active and the Rotor Speed input is greater than zero or the system is in Manual Mode:
    - Conveyor Forward output will be activated.
    - Conveyor Forward indicator on the display will change color from black to red.

- If the Conveyor Forward output is active, or the Conveyor button is pressed on the display:
    - Conveyor Forward output will be de-activated.
    - Conveyor Forward indicator on the display will change color from red to black.

- If the Conveyor Fwd output is active, and the Speed Sensor Fault is active:
    - Conveyor Forward output will be de-activated after the Conveyor Speed Off Timer expires. The Conveyor Speed Off Time can be changed with the Impulse Service Tool.
    - Conveyor Forward indicator on the display will change color from red to black.
    - The following alarm window will be shown on the display while the countdown is active:



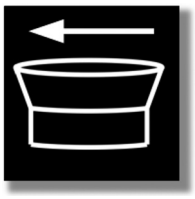
2.8B Operation of the Electronic Governor (For S.N. 1020012130 and Up)

Auto/Manual Mode

- The system has two modes of operation: Auto Mode and Manual Mode. The mode of operation can be toggled using the Auto/Manual button on the display.

Tub

- **Tub Forward**



- **ON**

If the Tub Forward button is pressed on the display or the radio remote, and the Tub Forward output is de-active, and the Tub Reverse output is de-active, and either the Rotor Speed input is greater than zero, or the system is in Manual Mode:

- Tub Forward output will be activated.
- Tub Speed output will be ramped from minimum output to the output setting indicated by the display.
- Tub Forward indicator on the display will change color from black to red.

- **OFF**

If the Tub Forward output is active, and the system is switched from Manual Mode to Auto Mode while the Rotor Speed input is zero, or the Tub Forward button is pressed on the display or radio remote, or the Tub Reverse button is pressed on the display:

- Tub Forward output will be de-activated.
- Tub Speed output will be de-activated.
- Tub Forward indicator on the display will change color from red to black.

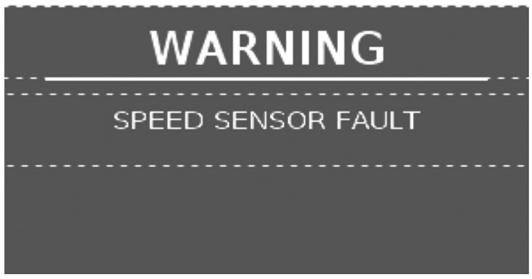
If the Rotor Speed input goes to zero when the Tub Forward output is active, and the system is in Auto Mode:

- Tub Forward output will be de-activated.
- Tub Speed output will be de-activated.
- Tub Forward indicator on the display will change color from red to black.
- Speed Sensor Fault will be activated.

- **Warning**

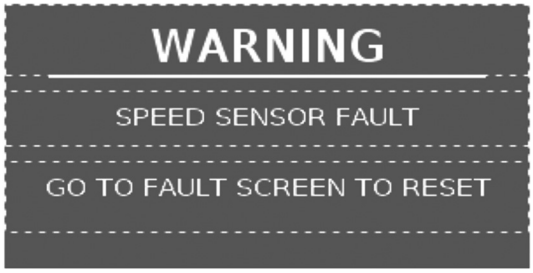
  If the Tub Forward button is pressed on the display, and the Tub Forward output is de-active, and the Tub Reverse output is de-active, and the Rotor Speed input is less than zero, and the system is in Auto Mode:

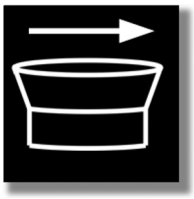
  - The following alarm window will be shown on the display for 3 seconds:



If the Tub Forward button is pressed on the display, and the Tub Forward output is de-active, and the Tub Reverse output is de-active, and the Rotor Speed input is less than zero, and the system is in Auto Mode, and the Speed Sensor Fault is active:

- The following alarm window will be shown on the display for 3 seconds:



- **Tub Reverse** 

  - **ON**

  If the Tub Reverse button is pressed on the display or radio remote, and the Tub Forward output is de-active, and the Tub Reverse output is de-active, and either the Rotor Speed input is greater than zero, or the system is in Manual Mode:

  - Tub Reverse output will be activated.
  - Tub Speed output will be ramped from minimum output to the output setting indicated by the display.
  - Tub Reverse indicator on the display will change color from black to red.

o **OFF**

If the Tub Reverse output is active, and the system is switched from Manual Mode to Auto Mode while the Rotor Speed input is zero, or the Tub Forward button is pressed on the display or the radio remote, or the Tub Reverse button is pressed on the display:

- Tub Reverse output will be de-activated.
- Tub Speed output will be de-activated.
- Tub Reverse indicator on the display will change color from red to black.

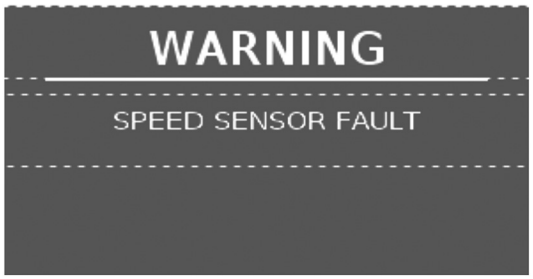
If the Rotor Speed input goes to zero when the Tub Reverse output is active and the system is in Auto Mode:

- Tub Reverse output will be de-activated.
- Tub Speed output will be de-activated.
- Tub Reverse indicator on the display will change color from red to black.
- Speed Sensor Fault will be activated.

o **Warning**

If the Tub Reverse button is pressed on the display, and the Tub Forward output is de-active, and the Tub Reverse output is de-active, and the Rotor Speed input is less than zero, and the system is in Auto Mode:

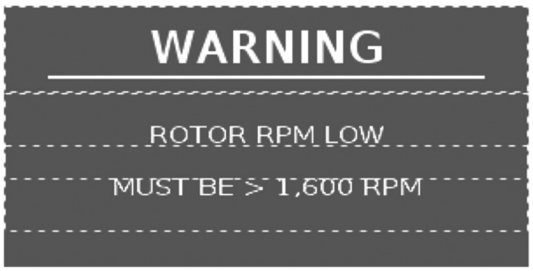
- The following alarm window will be shown on the display for 3 seconds:



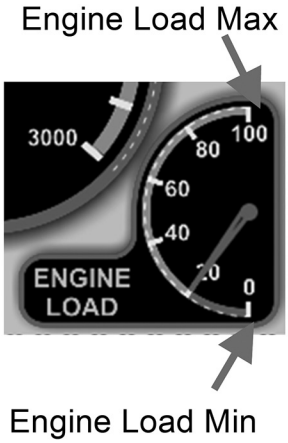
If the Tub Reverse button is pressed on the display, and the Tub Forward output is de-active, and the Tub Reverse output is de-active, and the Rotor Speed input is less than zero, and the system is in Auto Mode, and the Speed Sensor Fault is active:

- The following alarm window will be shown on the display for 3 seconds:

- **Tub Speed**
  - The Tub Speed ramp rate and output current will have adjustable parameters in the Impulse Service Tool.
  - Manual Mode:
    - The Tub will operate in an open loop control mode and will not compensate for rotor rpm changes.
    - There will be a Tub Speed gauge on the display to indicate the percentage of output from 0-100 percent.
    - The Tub Speed will be adjustable on Home Screen of the display.
  - Auto Mode:
    - The Tub will operate in a closed loop control mode and will compensate for rotor rpm changes.
    - The Tub Speed will be adjustable on Home Screen of the display. This will be the maximum speed the Tub will operate at and is the same speed used in Manual Mode.
    - The Engine Load will be used to reduce the Tub Speed to provide an anti-stall function to the rotor. This setting will be adjustable on the Home Screen of the display and will be displayed as 0-100%.
    - Rotor Speed Max (Blue Arrow) is the setpoint at which the Tub starts to slow down. This is set using the Set Speed button on the display. This value will not be allowed to go above the Set Speed Limit High RPM and below the Set Speed Limit Low RPM. These values can be changed with the Impulse Service Tool.
    - If the Set Speed button is pressed when the Rotor Speed is less than the Set Speed Limit Low RPM:
      - The following alarm window will be shown on the display for 3 seconds.



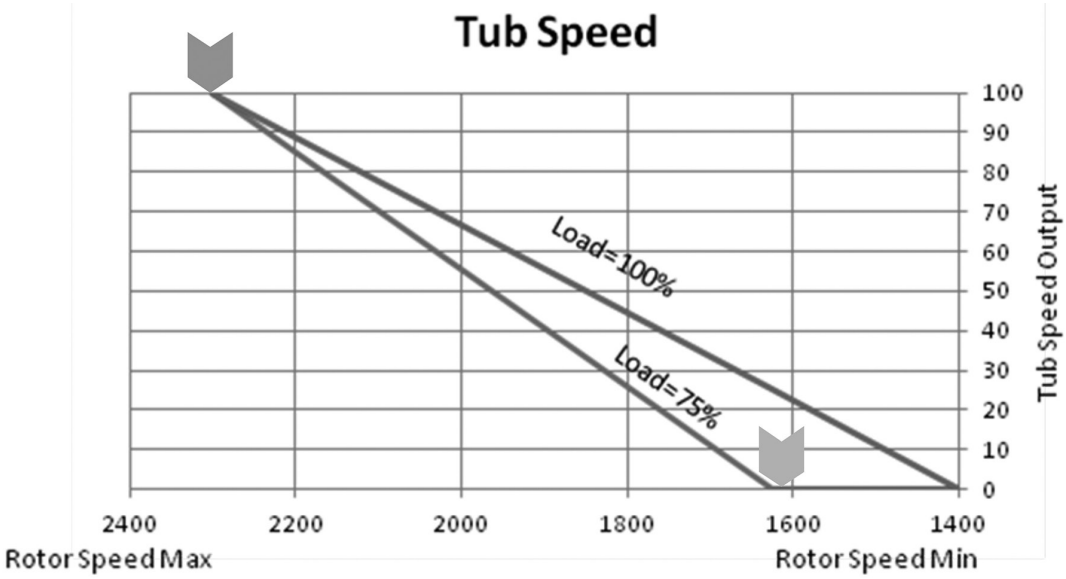
- If the Set Speed button is pressed when the Rotor Speed is greater than the Set Speed Limit High RPM:
  - The following alarm window will be shown on the display for 3 seconds.



- Rotor Speed Min Limit is the RPM where the Tub will stop when the Engine Load is set to 100%.
- Rotor Speed Min (Green Arrow) is the setpoint the Tub will slow down to. If the Engine Load is set to less than 100%, the Tub will still start to slow down at the Rotor Speed Max setpoint but the Tub will be stopped at the Engine Load percentage between the Rotor Speed Max and the Rotor Speed Min Limit.
- Load Example:
  - Rotor Speed Max = 2,300 rpm
  - Rotor Speed Min Limit = 1,400 rpm
  - Engine Load Display = 75%

Calculate Engine Load RPM: 0.75 * (2300-1400) = 675 rpm

Calculate Rotor Speed Min: 2,300 – 675 = 1,625 rpm

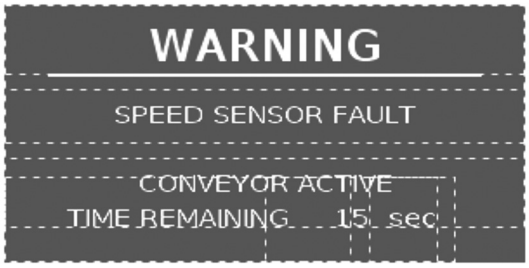


Conveyor

- If the Conveyor button is pressed on the display and the Conveyor Forward output is de-active and the Rotor Speed input is greater than zero or the system is in Manual Mode:
    - Conveyor Forward output will be activated.
    - Conveyor Forward indicator on the display will change color from black to red.

- If the Conveyor Forward output is active, or the Conveyor button is pressed on the display:
    - Conveyor Forward output will be de-activated.
    - Conveyor Forward indicator on the display will change color from red to black.

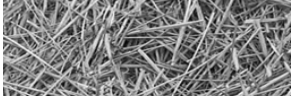
- If the Conveyor Fwd output is active, and the Speed Sensor Fault is active:
    - Conveyor Forward output will be de-activated after the Conveyor Speed Off Timer expires. The Conveyor Speed Off Time can be changed with the Impulse Service Tool.
    - Conveyor Forward indicator on the display will change color from red to black.
    - The following alarm window will be shown on the display while the countdown is active:



Bypass

- If the Conveyor output is active and either the Tub FWD or Tub REV outputs are active the Bypass output will be activated.

- If the Conveyor output is de-active or the Tub FWD and Tub REV outputs are de-active the Bypass output will be de-activated.

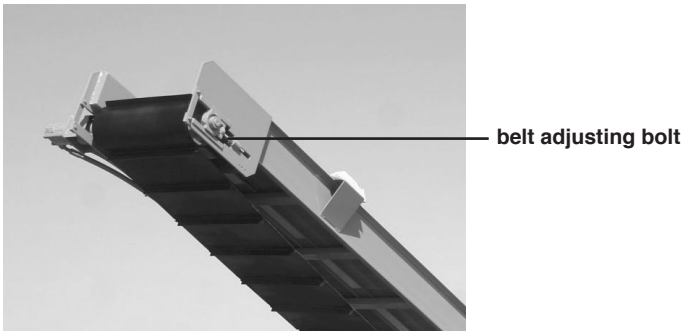


2.9 Adjusting the conveyor belt tension

The rollers on the discharge conveyor are adjustable to allow for belt stretching and tracking. If the conveyor belt slows down or stops during operation, slippage may be the cause. To eliminate slippage, tighten the adjusting bolts on the conveyor equally. This will help to keep the belt centered on the rollers.

IMPORTANT: Do not overtighten conveyor belts. Use only enough tension to eliminate belt slippage.

Figure 2.6
discharge conveyor belt adjusting bolts



2.10 Adjusting the conveyor belt tracking

A. When a new belt is installed: Use only genuine DuraTech Industries parts.

1. Begin by adjusting the drive roller so that the mounting bearings are the same distance from the end of the conveyor frame. This ensures that the roller centerline is square with conveyor frame. Adjust the idler roller tension bolts so that they are equal on both sides of the conveyor.

B. If the belt is running to the right side, perform the following steps:

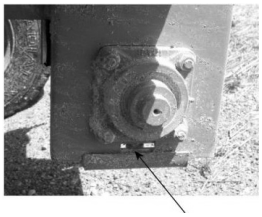
1. Adjust the idler roller tension bolt on the right side of the conveyor. Increase tension by approximately 2 full turns of the adjusting nut.
2. Make certain that all personnel are clear of machine and the start engine. Engage the tractor PTO.

NOTE: The rotor will also be turning.

3. Observe conveyor belt tracking from a safe location.
4. If further adjustment is required, disengage tractor PTO, and shut down the machine using the normal shutdown procedure.
5. Some adjustment of the drive roller may be required if no improvement is noted by increasing the idler roller tension.
6. Repeat steps 1-5 until proper tracking is achieved.

C. If the belt is running to the left side, perform the following steps:

1. Adjust the idler roller tension bolt on the right side of the conveyor. Increase the tension by approximately 2 full turns of the adjusting nut.
2. Make certain that all personnel are clear of machine and start engine. Engage the tractor PTO.
3. Observe the tracking of the conveyor belt from a safe location.
4. If further adjustment is required, disengage tractor PTO and shutdown using the normal shutdown procedure.
5. Some adjustment of the drive roller may be required if no improvement is noted by increasing the idler roller tension.
6. Repeat steps 1-5 until proper tracking is achieved.

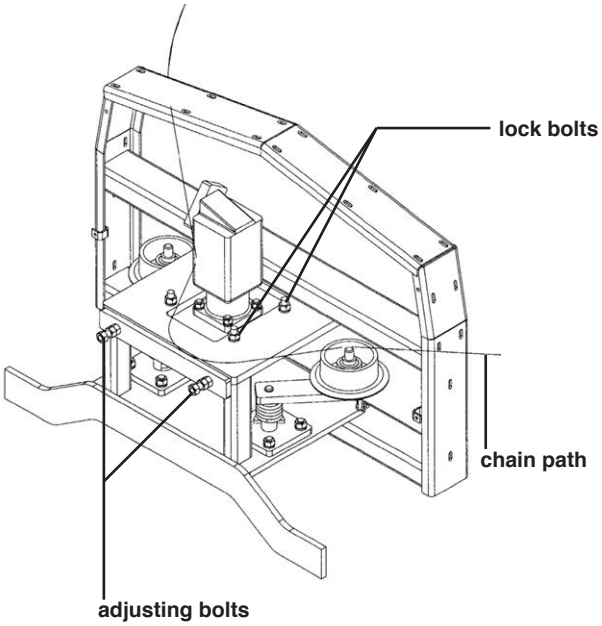


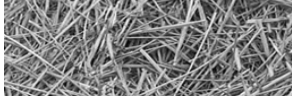
idler roller tension adjusting bolt

2.11 Adjusting tub chain tension

To adjust the tub chain tension, perform the following steps:

1. Loosen (4) bolts holding motor mounting plate.
2. Turn (2) adjusting bolts to set chain tension.
3. Tighten the (4)bolts holding motor mounting plate.





2.12 Main drive belt adjustment

Power is transferred from the drive shaft to the rotor through drive belts and two sheaves. Maintaining the proper tension on these belts is critical for reaching optimum grinder performance. A spring tensioning system is used on the H-1030 grinder to maintain tension as belts stretch over time. To properly tension the drive belts turn the tensioning rod until the spring caps come into contact with the tubes that the springs are seated into. **DO NOT OVERTIGHTEN!**

The two sheaves must be running parallel, if they are not the belts will not track, premature belt wear or belts running off of the sheaves will result. Adjust sheave alignment if needed.

Discharge Conveyor Flow Control Valve

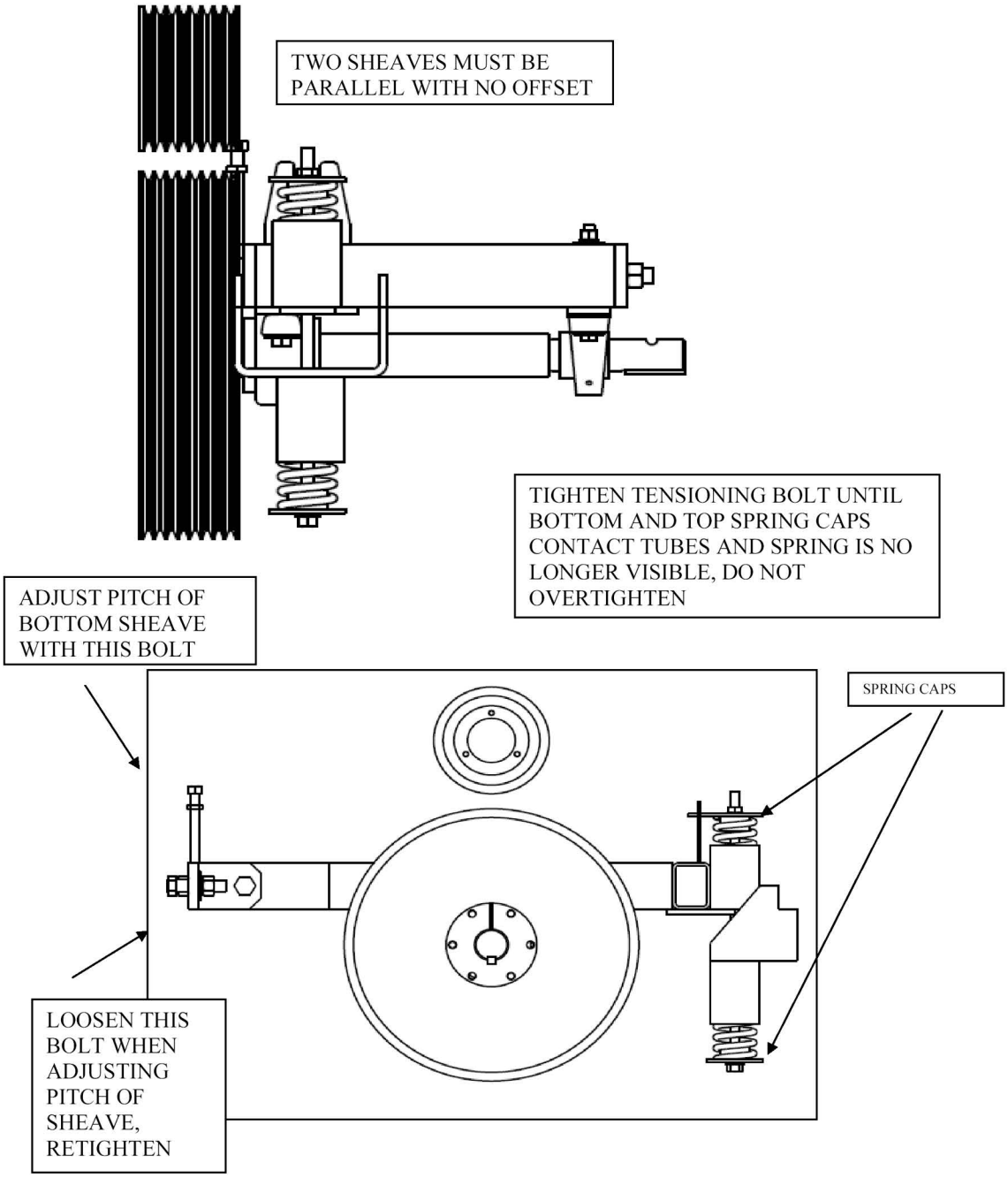
A flow control valve is located on the side of the discharge conveyor. This valve allows the operator to control the speed of the discharge conveyor; it will not vary the speed of the belly augers.

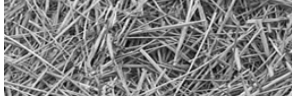
Adjusting the discharge conveyor flow control valve

The discharge conveyor flow control valve can be used to slow the discharge conveyor down which is helpful when grinding in windy conditions, when loading trucks, or when the grinder output is low. The flow to the hydraulic motor can be varied from approximately zero to the maximum flow by adjusting the valve from min (0) to max setting (10).

Note: Whenever this valve is used to decrease the speed of the discharge conveyor, heat will be generated. The hydraulic system may not be able to dissipate the excess heat generated in warm operating conditions. Always be aware of the hydraulic oil temperature; a thermometer is located on the side of the hydraulic reservoir. If the oil temperature becomes greater than 175°F (79°C) adjust the valve to max setting (10).

Figure 2.7
sheave alignment





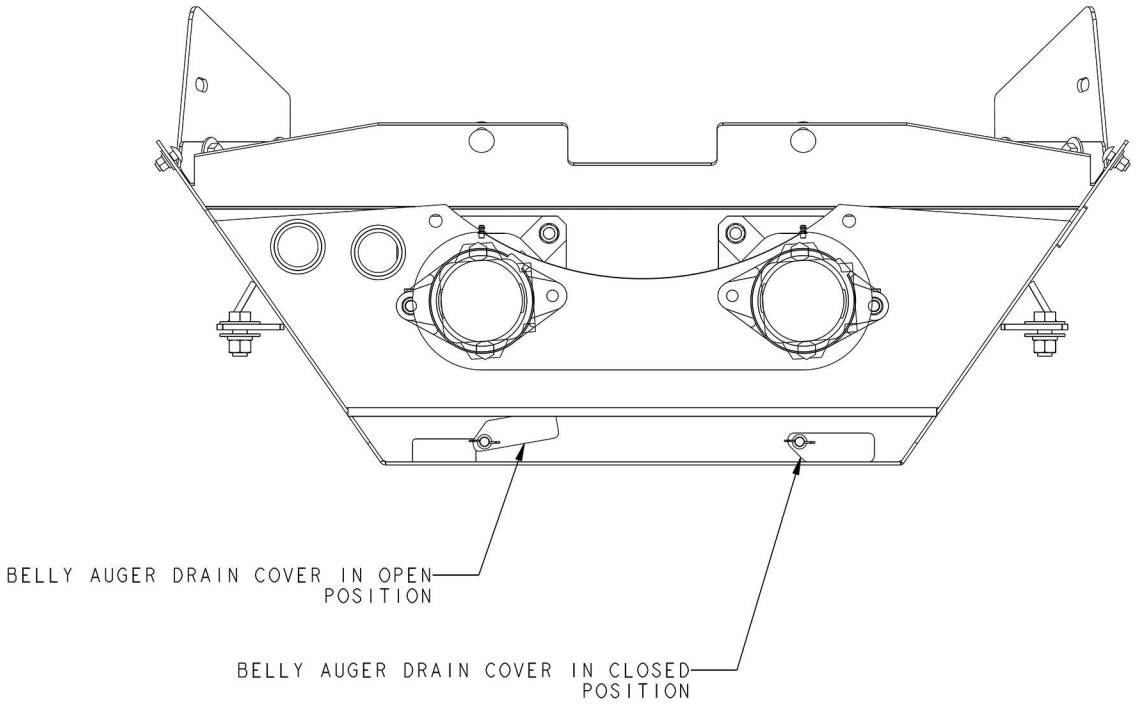
2.13 Sensor test

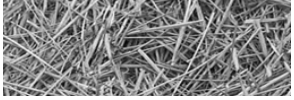
Set the gap between the sensor and the sprocket to 3/32” (2.4 mm). Sensor resistance should be 900 ohms +/- 10%.

2.14 Belly auger drain covers

Belly auger drain covers should be in the open position to allow any moisture to drain out.

When grinding small grains the belly auger covers should be in the closed position to keep the grain from spilling out.





Section 3: General Maintenance

SERVICE AND MAINTENANCE

CAUTION: If for any reason arc welding is to be done, always ground cylinder to frame of machine to prevent arcing in bearings.

1. Before working on or near the H-1030 Tub Grinder for any reason, including servicing, inspecting or unclogging machine:
    a. Run H-1030 Tub Grinder until discharge conveyor is empty, and grind as much of the material in the tub as possible.
    b. Reduce engine speed to idle.
    c. Disengage PTO
    d. Disengage hydraulics.
    e. Place transmission in park and set parking brake.
    f. Shut off tractor engine and remove key.
    g. Wait for all movement to stop.
    h. Disconnect PTO driveline from tractor.

2. When replacing any part on your H-1030 Tub Grinder, be sure to use only DuraTech Industries authorized parts.

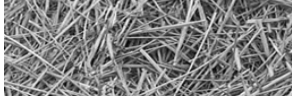
3. Relieve all pressure in the hydraulic system before disconnecting the lines or performing other work on the system. Make sure all connections are tight and the hoses and lines are in good condition before applying pressure to the system.

WARNING: Hydraulic fluid escaping under pressure can be invisible and have enough force to penetrate the skin. When searching for a suspect leak, use a piece of wood or cardboard rather than your hands. If injured, seek medical attention immediately to prevent serious infection or reaction.

4. Visually examine to see if any internal parts show excessive wear. Repair or replace needed parts. These parts include rotor plates and holes in the plates that support the rods. Enlarged holes can cause rods to break.

    Also check rods, rod locking and retaining devices, hammers, screens, screen tracks and hold downs, main shaft, hinges or anything else that could wear and perhaps fail if not properly maintained, and cause damage to the rotor and/or personnel safety. Check bearing alignment and mounting bolts to insure a firm foundation and reduced vibration.

    Keep all foreign objects out of the tub and away from the rotor. Foreign objects may result in personal injury or cause severe damage to hammers, screens, rods, and other parts that will cause rotor failure.



5. Check for loose or worn chains, belts, sprockets and pulleys.

6. Keep sprockets and pulleys aligned.

7. Inspect rotor and all rotating parts for wrapped twine or wire build up.

8. If machine is going to sit idle for an extended period of time, tub floor should be cleaned to prevent rust and sticking problems at start up time.

9. The proper tire pressure is 36 PSI (2.5 BAR).

10. The wheel bearings should be checked for lubrication and adjustments yearly, preferably at the end of the season.

If a generous amount of grease is on the bearing and in the housing, and if the grease is soft, the grease will not need changing.

If the lubricant is caked and the bearing seems dry, wash the bearing to remove old grease. Repack the bearing.

3.1 Lubrication

CAUTION: Follow normal shutdown procedure before adjusting or lubricating.

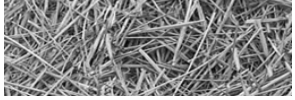
When operating the H-1030 Tub Grinder during cold weather, perform all lubrication after bearings are at operating temperatures.

BEARING LUBRICATION

Bearings operating in the presence of dust and water should contain as much grease as speed will permit, since a full bearing with a slight leakage is the best protection against entrance of foreign material. In the higher speed ranges, too much grease will cause overheating.

High-speed operation, abnormal bearing temperature may indicate faulty lubrication. Normal temperature may range from “cool to warm to the touch” up to a point. Unusually high temperatures “too hot to touch for more than a few seconds” accompanied by excessive leakage of grease indicates too much grease. High temperatures with no grease showing at the seals, particularly if the bearing seems noisy, usually indicate too little grease. Normal temperature and a slight showing of grease at the seals indicate proper lubrication.

The following chart is a general guide for relubrication. Certain conditions may require a change of lubrication periods as dictated by experience.



Lubrication Chart

REF. NO.	LOCATION	NUMBEROF GREASE FITTINGS	FREQUENCY	
1	Jack Shaft Bearings	2	10 hrs.	*
2	Tub Chain Idler Pivot	2	Daily	
3	Rotor Bearings	2	10 hrs.	*
4	Tub Pivot	2	40 hrs.	*
5	Belly Auger Bearings	4	10 hrs.	*
6	Bull Wheel	2	10 hrs.	
7	Discharge Conveyor Bearings	4	40 hrs.	*
8	Discharge Conveyor Lift Pivot	2	40 hrs.	
9	PTO	2	100 hrs	
10	Wheel Bearings	-	Annually	
11	Tub Pressure Roller	-	Sealed	
12	Roller Chains	-	Oil Daily in Dusty Conditions	

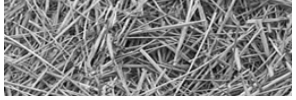


Figure 3.1
rotor bearing lubrication point

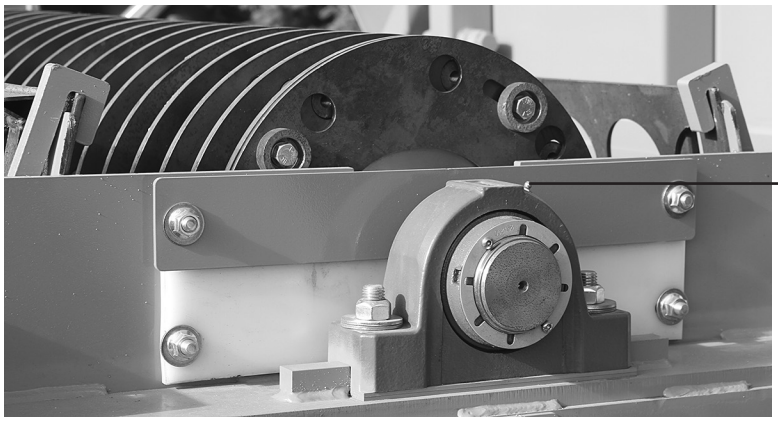


Figure 3.2
rotor bearing and belly auger bearing lubrication points

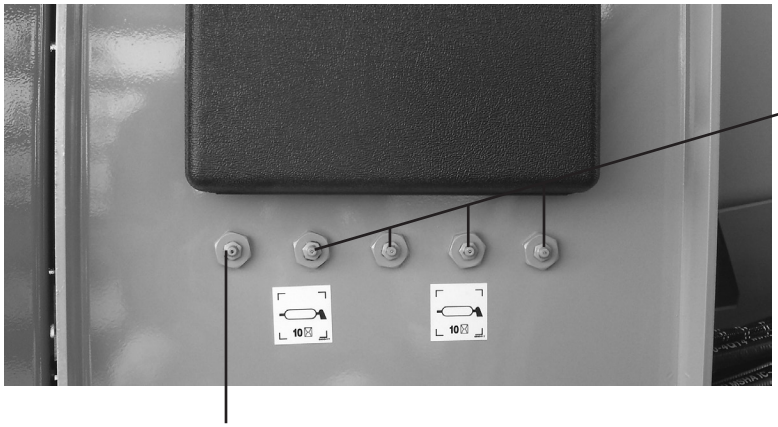
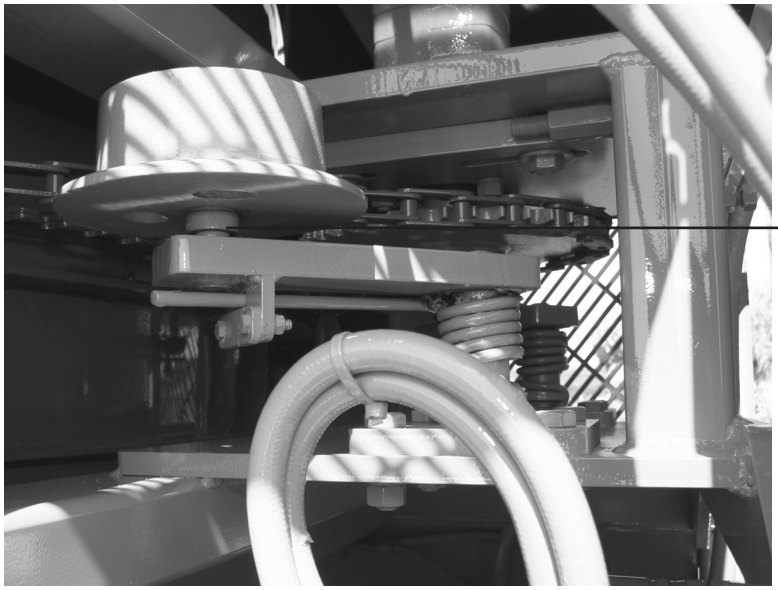


Figure 3.3
tub chain idler pivot lubrication point



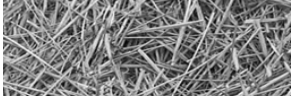
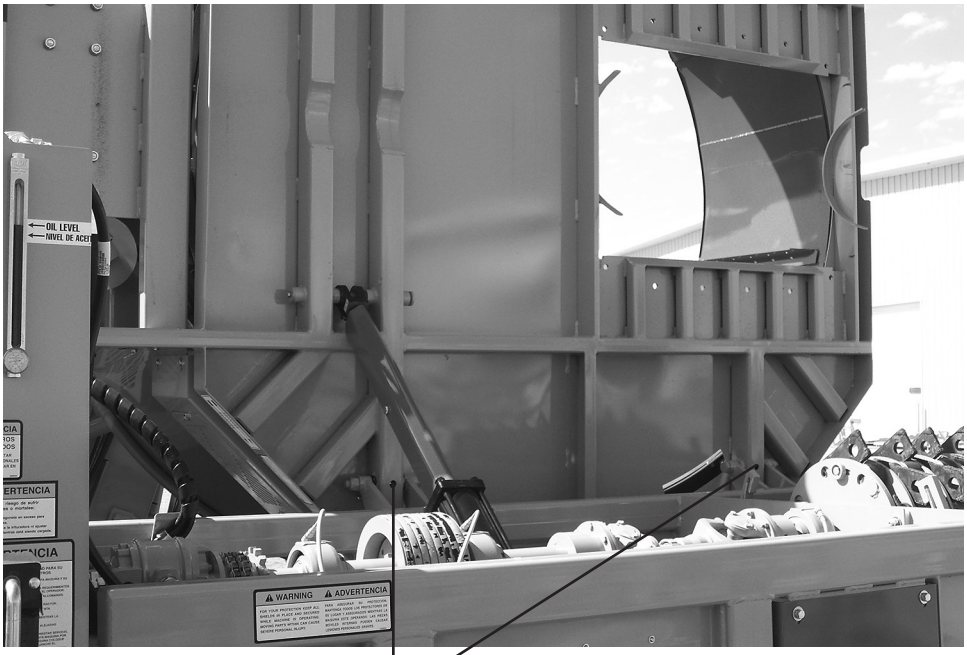


Figure 3.4
tub pivot lubrication points



tub pivot lubrication points (Ref #4)

Figure 3.5
tub roller, tub pressure roller and roller chain

pressure roller

roller chain (Ref #12)

tub pressure roller (Ref #11)

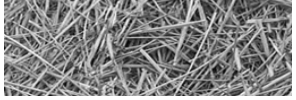


Figure 3.6
PTO lubrication points

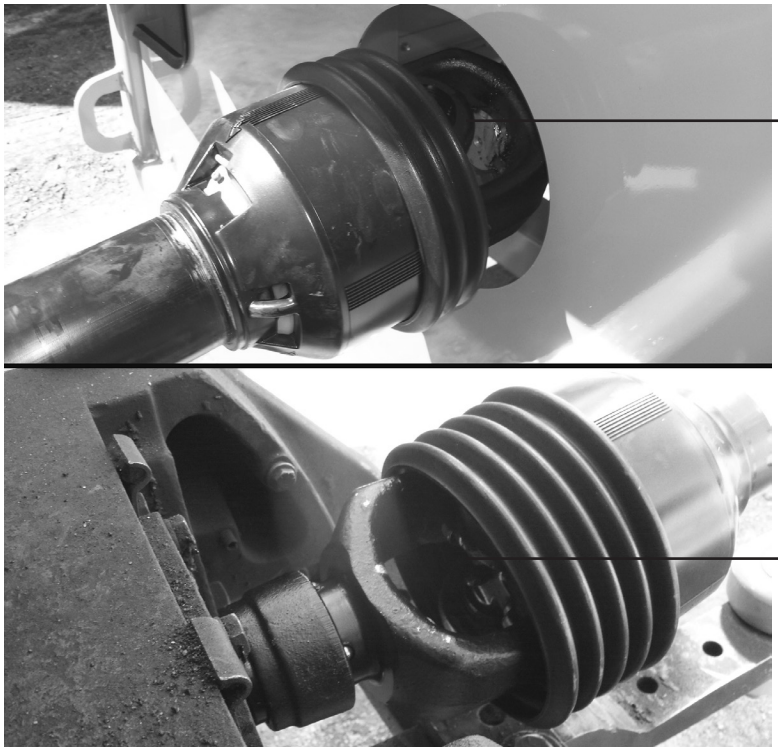


Figure 3.7
discharge conveyor bearings (2 of 4)

Figure 3.8
discharge conveyor bearings lubrication points (2 of 4)

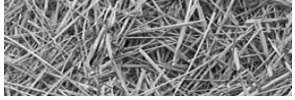


Figure 3.9
conveyor lift pivot
lubrication points

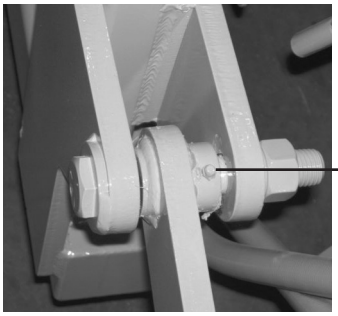
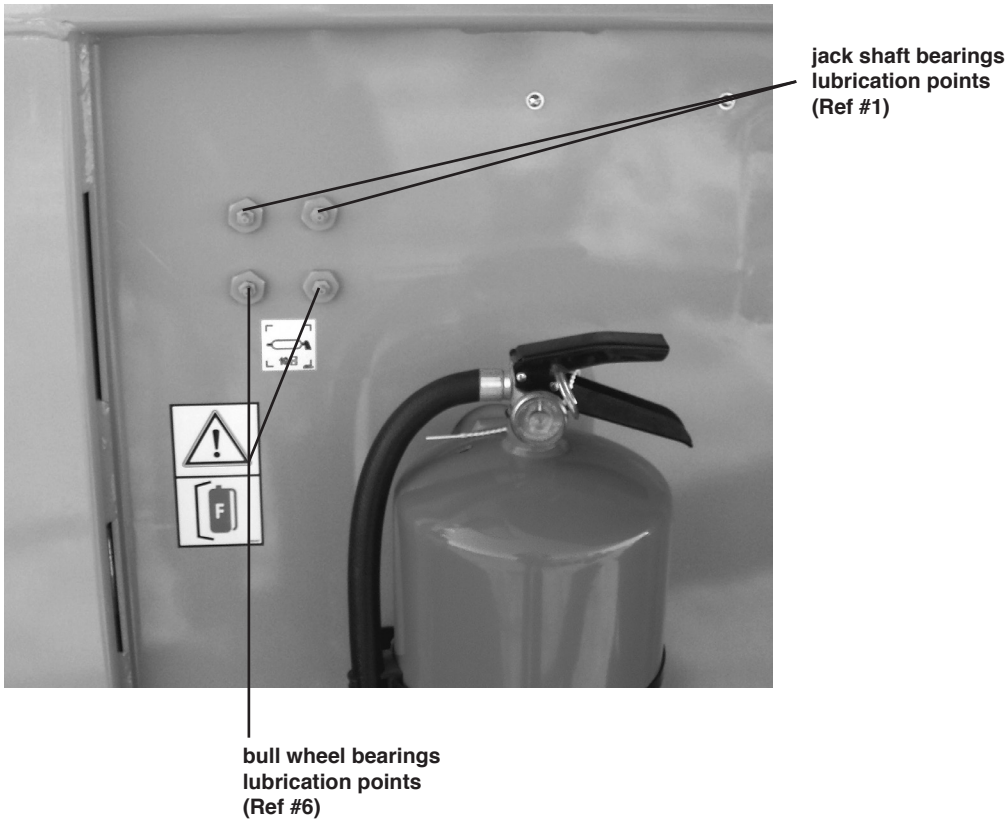


Figure 3.10
jack shaft and bull wheel
bearings lubrication points



3.2 Hydraulic system

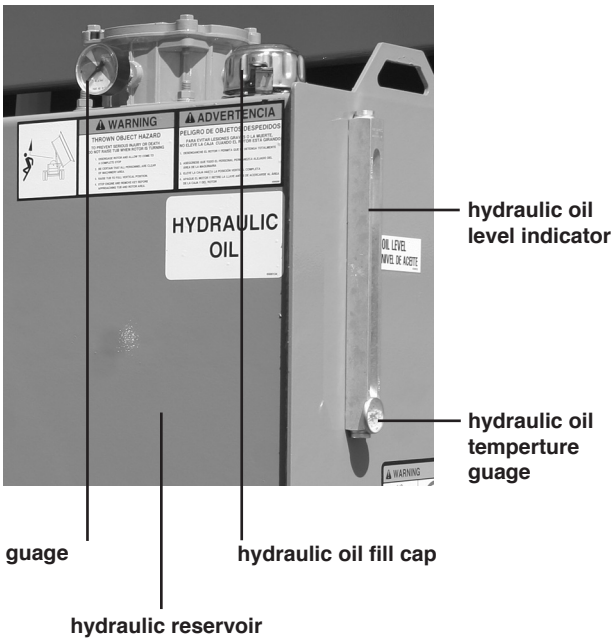
CAUTION: Lack of proper oil level in the reservoir tank will cause system to heat under continuous running. Check the hydraulic oil level daily and replace as necessary.

Hydraulic Oil Reservoir Capacity: 60 gallons

All machines have been pre-run at the factory to insure all functions are preforming correctly. The hydraulic reservoir contain approximately 60 gallons of hydraulic oil.

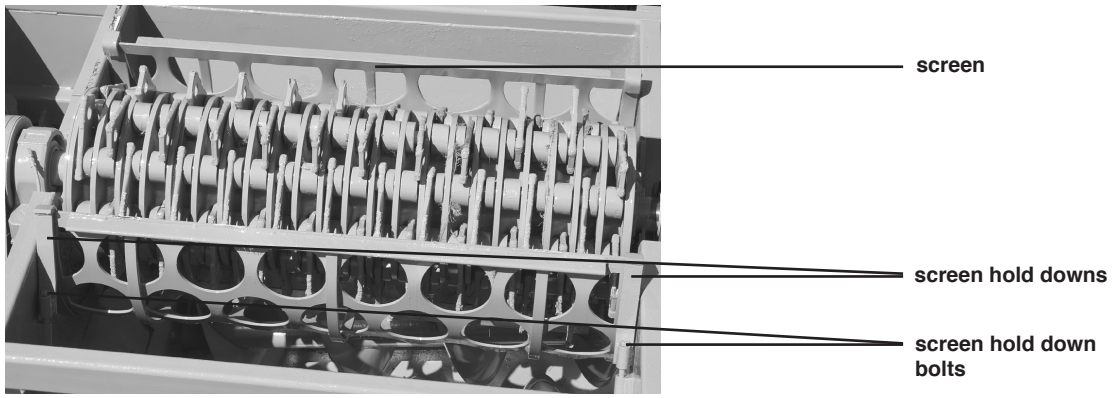
The in tank hydraulic oil filters should be changed after the first 10 hours of operation. Change hydraulic oil and filters after the first 100 hours of operation. Thereafter, change hydraulic oil filters every 500 hours and change hydraulic oil and filters at least every 1000 hours of operation. Change the in tank oil filter if the oil filter pressure gauge indicates a plugged filter

Check the hydraulic oil regularly, and if the oil has a burnt smell or milky appearance, change it immediately.



DuraTech Industries recommends using Cenex Qwicklift HTB if your machine has a Qwicklift decal on the hydraulic tank. Other acceptable fluids include Mobil 423, Farmland Super HTB, Conoco Hydroclear Power Tran Fluid, or other similar fluids. If the hydraulic tank does not have a decal, then all the above fluids are acceptable.

3.3 Screens



CHANGING SCREENS

> **CAUTION:** Keep all foreign objects out of the tub and away from the rotor. Foreign objects may cause personal injury or damage to the machine.
>
> **CAUTION:** Follow normal shutdown procedure before entering tub to do any service work.

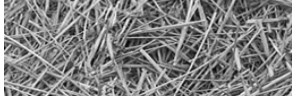
To change screens on the H-1030, perform the following steps:

1. Raise the tub platform using the following steps

> **WARNING:** To prevent serious injury or death, do not tilt platform on unlevel ground or with material in the tub.
>
> **WARNING:** For your protection **ALWAYS** install the tub cylinder stop or tub prop when the tub is tilted. **NEVER** engage tractor PTO when the tub is raised.

   a. Park machine on level ground or surface.
   b. Remove all material from tub.
   c. Clear personnel from work area.
   e. Raise platform.
   f. Install tub cylinder stop.

2. Loosen and remove bolts on the screen hold down.
3. With a large hook or bar, pull the screen from its chamber.
4. Make sure material is clear from screen track.
5. Install the new screen.
6. Replace the screen hold down, and bolts.
7. Tighten all bolts securely.



3.4 Hammermill maintenance

Visually examine the mill to see if any of the internal parts show excessive wear. These parts should include rotor discs and the holes in the discs that support the rods. Enlarged holes can cause rods to break or bend. Also check rods, rod locking or retaining devices, hammers, screens, screen tracks and hold downs, main shaft, platform locking devices, hinges or anything else that could wear and perhaps fail and causing damage to the hammermill and/or personnel safety if not properly maintained. The bearings should also be checked along with mounting bolts to insure a firm foundation and reduced vibration.

CAUTION: Keep all foreign objects out of the tub and away from the mill. Foreign objects may result in personal injury or damage to the machine.

The hammers have been designed and manufactured to provide the best compromise between hardness for good wearing qualities and strength for dependability and resistance to breakage.

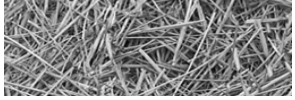
WARNING: The hammers have been heat treated, and any alteration of the hammers by heating, grinding, resurfacing or any other process can change the mechanical properties of the hammer and make it unsuitable or dangerous to use.

Because of the high capacity of the machine, the hammers will wear and must be considered expendable. Each hammer has four cutting edges. For maximum life, it is suggested that hammers be rotated periodically to even out the wear over the entire rotor. If one end of a hammer is allowed to wear too long, one of the hammer's cutting edges will be lost.

Screens also have two cutting edges. When cutting edges become rounded, the screen can be turned end for end exposing the new cutting edges. The results of badly worn hammers and screens is loss of capacity, and added horse power requirements.

Hammer rods are case hardened to maximize wearability and toughness, although hammer rods must be considered expendable.

NOTE: Hammer and hammer rod life can be extended by keeping rotor rotating at 2300 RPM. Over powering or over feeding the rotor will cause the swinging hammers to lay back resulting in excessive wear on both the hammers and the rods.



3.5 Balanced Hammer maintenance and replacement

IMPORTANT SAFETY INSTRUCTIONS

Please Read All Instructions

CAUTION!... Turn off and **Lockout** the power source to your hammermill, before servicing the equipment.

JACOBS hammers have been designed and manufactured to provide the best compromise between hardness for good wearing qualities and strength for dependability and resistance to breakage. ***Any alteration of the hammer by heating, grinding, resurfacing or any other process can change the mechanical properties of the hammer and make it unsuitable or dangerous to use. Alteration will void any consideration for possible warranty.***

JACOBS hammers are designed to grind the normal ingredients used in the manufacture of feed and related products. Other products that may be reduced in size include such products as paper, wood residue, chips, sawdust, shavings or hogged material. ***JACOBS hammers are not designed to grind or crush,*** on a primary basis, hard materials such as coal or minerals. Metal, rocks or other similar materials can cause hammer failure and should never be allowed to enter a hammermill.

Visually examine mill to see if any internal parts show excessive wear. Repair or replace needed parts. These parts should include body, liner, rotor discs and holes in the discs that support the rods. Enlarged or elongated holes in the rotor discs can cause rods to break. Damage to the hammermill and/or personnel can result if rods, rod lock devices, hinges, or any wear part attached to the mill is not properly maintained. Bearings and motor alignment should also be checked along with mounting bolts to insure a firm foundation and reduced vibration.

Check and clean all magnets daily. If foreign material is found, the source of this material should be determined and eliminated. Another method of cleaning should be considered to insure complete removal. ***Foreign material in a mill can cause sever damage*** to hammers, screens, rods, and other parts. It may cause part and subsequent hammermill failure.

When installing or changing hammers, be sure to follow directions on the installation diagram. If the hammers being installed have been balanced by rod, carefully follow the color coding or other instructions. Misplacement could cause excessive vibration. After installing a new set of hammers or turning a corner, watch for unusual or ***excessive vibration*** upon start up of the hammermill. If any occurs, ***immediately shut off the power.*** Check to see what is wrong and correct it before starting the mill again. Do not mix hammers from two different sets. Hammers are usually balanced per rod and not per hammer. Do not turn two hole hammers, end for end, if the hammers have excessive wear. There may not be enough metal to support them and breakage could occur.

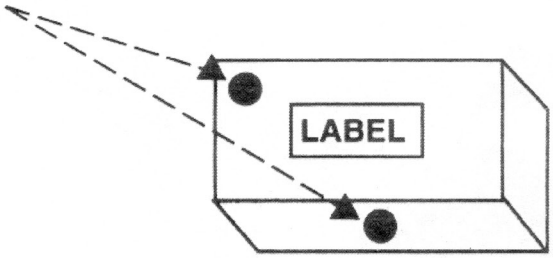
ALWAYS WEAR SAFETY GLASSES when hammers are being installed, changed from one corner to another, or removed. ***Do not hit hammers*** during any of the above processes. Striking a hammer may cause particles to fly-off and become a safety hazard.

CAUTION: READ ALL INSTRUCTIONS

- Verify box or boxes of hammers to equal complete set.
- Check parts to verify size and quantity is correct prior to installation.
- These hammers have been *balanced & color coded* to reduce vibration. To maintain the balance, hammers must be installed following the sequence below.

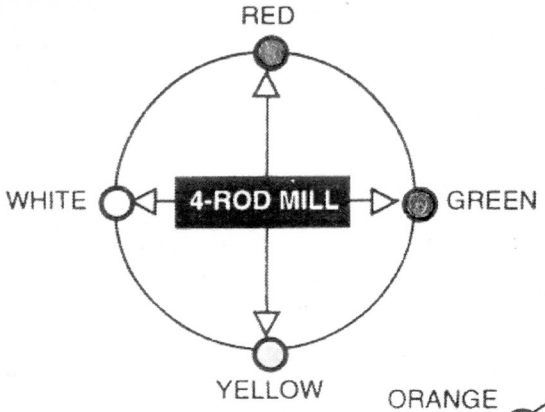
To save you freight and handling, a single set of hammers may be shipped in several boxes. Boxes will be color coded in two locations.

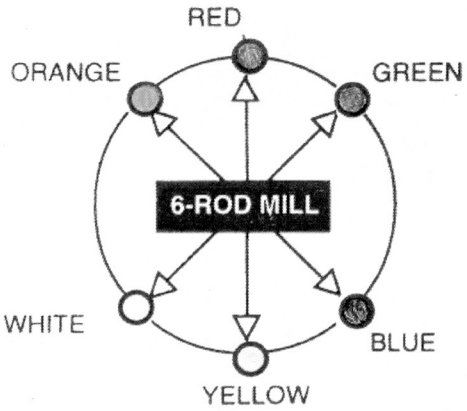
A complete set of hammers will consist of boxes marked the same color code.

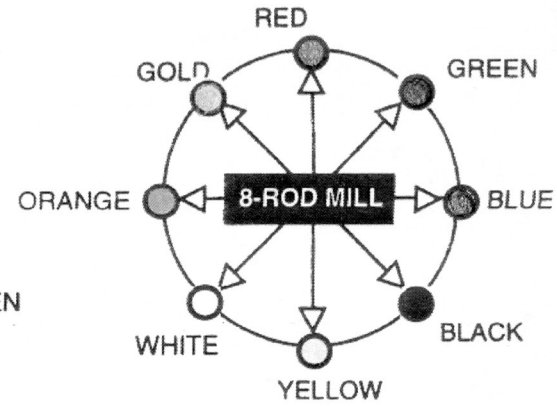


COLOR LEGEND:

Hammers are balanced =			
	RED	opposite	**YELLOW**
	BLUE	"	**ORANGE**
	GREEN	"	**WHITE**
	BLACK	"	**GOLD**







CAUTION: Before entering tub to do any service work, raise the tub platform following the instructions on page 31 under the heading "Raising the Tub Platform". After raising the tub platform follow procedures 5 through 8 of the normal shutdown procedure on page 28.

We recommend the following:

A. Always replace hammers in pairs, 180 degrees apart. (illustrations A & B below).

B. Tips placed 180 degrees apart should be the same weight.

To replace the hammers on this machine, perform the following steps:

1. Raise the tub platform following the instructions on page 34 under the heading "Raising the Tub Platform".

WARNING: To prevent serious injury or death, do not tilt platform on unlevel ground or with material in the tub.

WARNING: For your protection **ALWAYS** install the tub cylinder stop on the tub tilt cylinder when the tub is tilted. **NEVER** engage tractor PTO when the tub is raised.

2. Loosen two bolts at rear of rotor that holds the movable plate in place.
3. Rotate movable plate counter clockwise to align holes allowing hammer rods to be removed through rear of rotor.
4. Remove one row of hammers and replace, taking note as to where spacers are located. (illustrations A & B below).
5. After all hammers have been replaced or turned, turn movable plate to lock rods in place and then tighten bolts.
6. When starting the rotor after installing a new set of hammers or turning corners, watch for unusual or excessive vibration. If any occurs, immediately shut off the rotor. Check to see what is wrong and correct it before starting the rotor again.

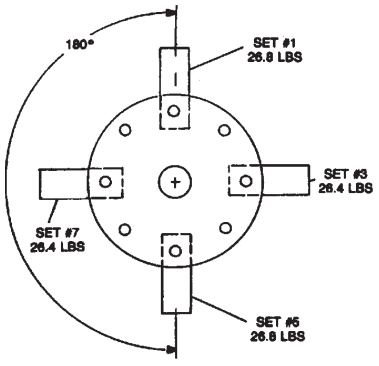


ILLUSTRATION A

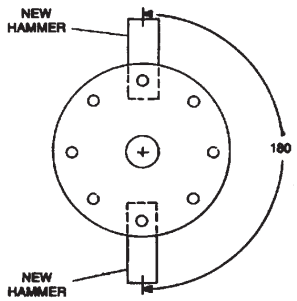


ILLUSTRATION B

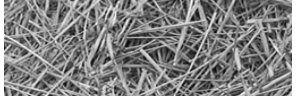
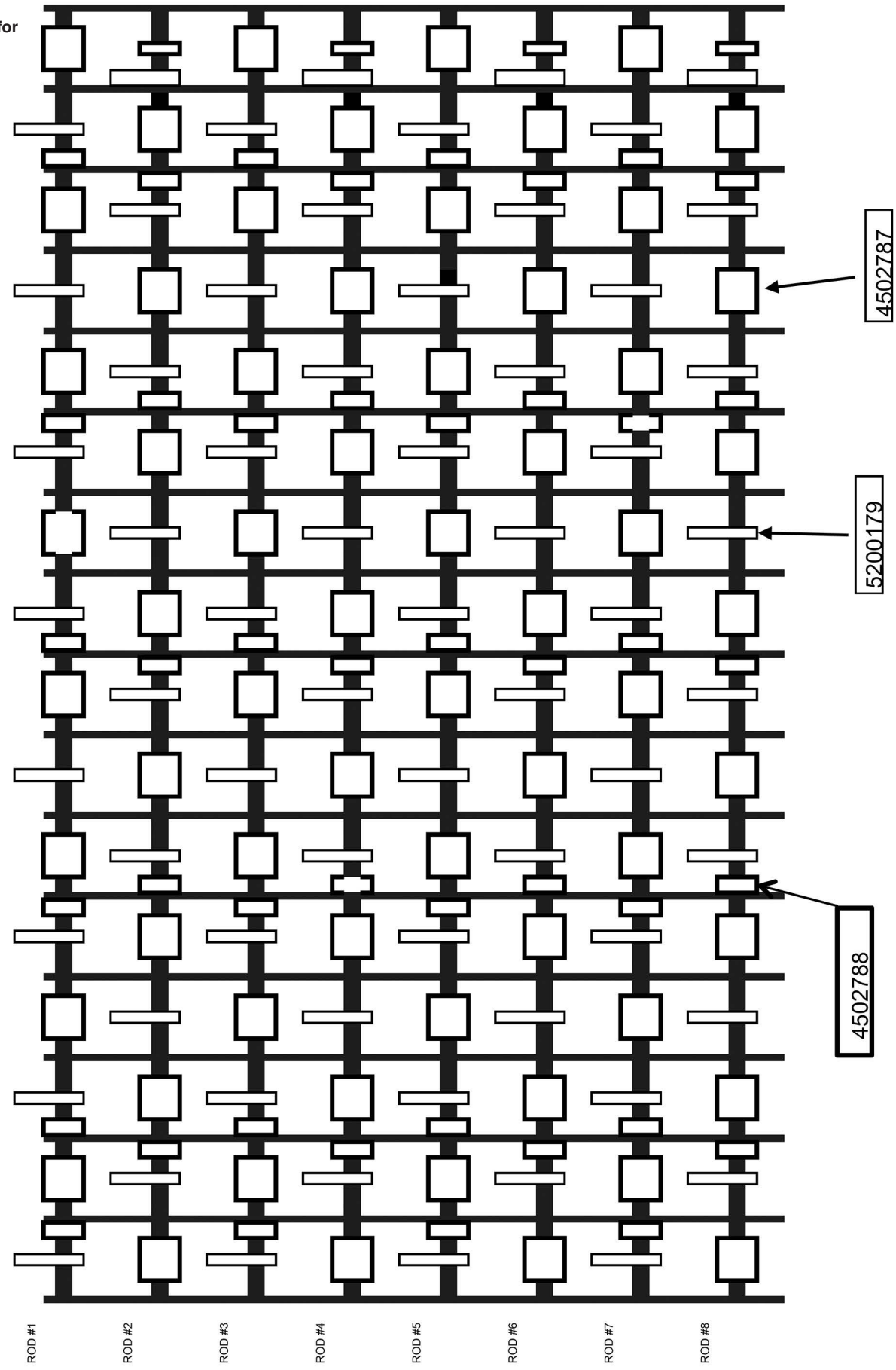


Figure 3.11
hammer spacing chart for the H-1030



3.6 Dodge Rotor bearing installation

WARNING: To ensure the rotor is not unexpectedly started, turn off and lock out or tag the power sources before proceeding. Failure to observe these precautions could result in bodily injury.

NOTE: Bearing housing caps and bases are not interchangeable and must be matched with mating half. Install the non-expansion bearing first.

Instruction Manual For IMPERIAL Adapter Mounted DODGE ISAF

Pillow Blocks and IP Unitized SphericalRoller Bearing Pillow Blocks, Flanges, Piloted Flanges & Take Ups

GENERAL INFORMATION

DODGE ISAF and IP Spherical Roller Bearing mounted units incorporate a unique way of seating, mounting, and dismounting the unit to and from the shaft. The patented sealing system (Pat. #5,908,249) has proven effective in protecting the internal bearing components, due to its constant pressure, while suit allowing a full + or 1 degree of misalignment.. The patented IMPERIAL system (Pat. #5,489.156) pulls the bearing on the adapter based upon a predetermined clockwise rotation of the locknut. Dismounting is accomplished via counterclockwise rotation of the locknut Keep in mind that the thread on the locknut as well as on the adapter is a left hand thread.

WARNING: To ensure that drive is not unexpectedly started, turn off and lock out or tog power source before proceeding. Failure to observe these precautions could result in bodily Injury.

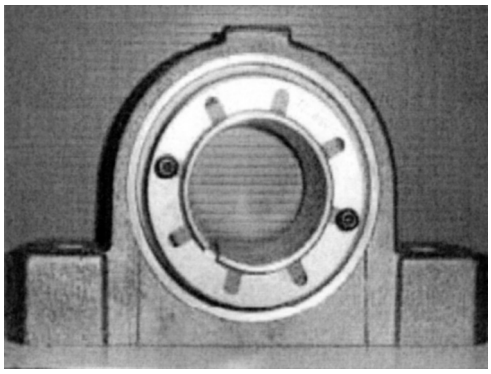
INSPECTION

Inspect shaft Ensure that the shaft is smooth, straight, clean, and within commercial tolerance Inspect unit. Do not allow unit to be exposed to any dirt or moisture.

Keep weight off bearing during mounting via a sling or jacks

WARNING: Because of the possible danger to persons(s) or property from accidents which may result from the improper use of products, it is important that correct procedures be followed. Products must be used in accordance with the engineering information specified in the catalog. Proper installation, maintenance and operation procedures must be observed. The instructions in the instruction manuals must be followed. Inspections should be made as necessary to assure safe operation under prevailing conditions. Proper guards and other suitable safety devices or procedures as may be desirable or as may be specified in safety codes should be provided. and are neither provided by Baldor Electric nor are the responsibility of Baldor Electric. This Unit and its associated equipment must be installed, adjusted and maintained by qualified personnel who are familiar with the construction and operation of all equipment in the system and the potential hazards involved.

MOUNTING



Picture 1

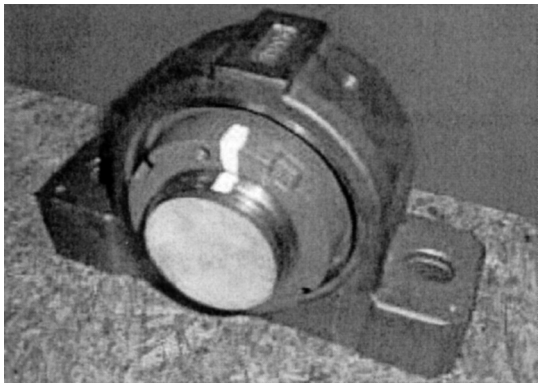
Install the non expansion unit first.

1. Apply a coating of light oil or other rust inhibitor to the adapter area of the shaft.
2. Before mounting bearing to shaft, remove lockplate from bearing and turn locknut counterclockwise one to two turns to allow adapter to expand fully. The unit is now shaft ready. Slide the bearing to the desire position on the shaft.
3. Proper locking of this unit to the shaft is based on turning the locknut clockwise 1 to 1-1/4 turns. The turning of the locknut must start from a "ZERO reference point." This "ZERO reference point' is defined as the point when the clearance between adapter sleeve, shaft and bearing bore has been removed, and all surfaces are in metal to metal contact

3A. To reach the 'ZERO Reference Point," rotate locknut clockwise, using both hands, as tight as possible Continue to tighten locknut 1 to 1-1/4 turns.

NOTE: All Weight Must Be Removed From The Bearing When Obtaining The "ZERO Reference Point."

4. Once "ZERO reference point" is reached, scribe a line through both locknut face and adapter face (Picture 2). Then continue to tighten the locknut (Picture 3) by turning it clockwise using hammer and drift or spanner by the appropriate rotation angle shown on Table 1. Proper mounting has been achieved when the scribed line on the locknut has rotated from the scribed line on the adapter face by the angle shown on Table 1. To reach the full rotation of the locknut, the use of hammer blows onto spanner or drift may be needed for proper mounting.



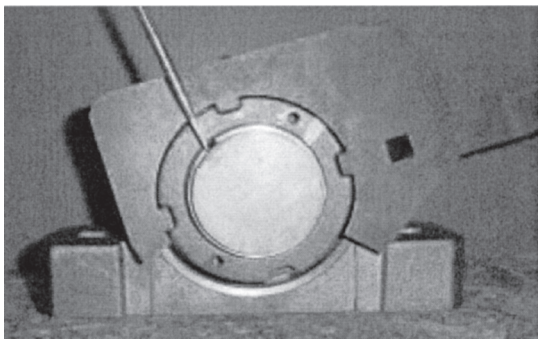
Picture 2

5. a) Slide lockplate over shaft and align tang of lockplate with slot in adapter sleeve.

   b) Find a locknut hole that aligns with a lockplate hole. If the closest locknut hole is beyond a lockplate hole, then tighten, not loosen, the locknut to meet a lockplate hole

   c) Insert lockwasher and tighten button head screws to lock assembly. (Ref. Picture 4)

6. Bolt down pillow block or flange unit to the structure.



Picture 3

7. Repeat steps 1 through 6 for the expansion bearing except immediately after Step 2 do the following:

EXPANSION

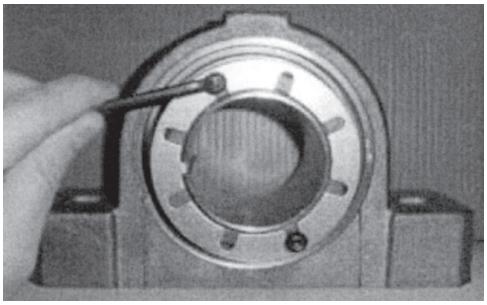
Pillow Blocks (Locknut facing outboard)

Align pillow block housing mounting holes with substructure mounting holes. Position insert in center of travel on rear expanding bearing.

NOTE: This is necessary because in the process of mounting, bearing is being drawn toward locknut. **Also remember to keep weight off of bearing.**

NOTE: Use hardened washers and properly tightened bolts to obtain sufficient clamp force between the bearing block and the mounting structure.

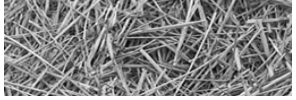
Picture 4



3.7 Cleaning the display unit

NOTE: Do **NOT** use high pressure when cleaning the display screen unit.

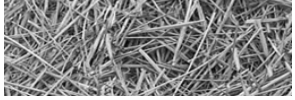
Using high pressure washers will cause damage to the display screen and is not covered by warranty.



Section 4: Troubleshooting the H-1030

4.1 Control parameters for electronic governor

Control Parameter	Value	Value Range	Description
Tub Speed			
Tub Speed Min (mA)	300	0-2,000	Minimum output current to the Tub Speed solenoid coil. The units are in milliamps.
Tub Speed Max (mA)	1,225	0-2,000	Maximum output current to the Tub Speed solenoid coil. The units are in milliamps.
Tub Speed Ramp Up (ms)	2,000	0-10,000	The amount of time the Tub Speed output will ramp from minimum output to maximum output. The units are in milli-seconds.
Tub Speed Ramp Down (ms)	0	0-10,000	The amount of time the Tub Speed output will ramp from maximum output to minimum output. The units are in milli-seconds.
Service			
Speed Input – Pulses Per Rev	15	0-100	Number of gear teeth for the speed sensor target ring.
Rotor Speed Input – Sample Time (ms)	10	0-10,000	Time between each sample the controller takes of the speed input. There are 25 samples the controller averages the signal over.
Tilt Enable Time (sec)	1	0-100	The time delay before the Tilt Enable output turns on after the Rotor Speed equals zero.
Rotor Speed Min Limit	1400	0-3000	The lower RPM limit for the anti-stall feature. When the Engine Load setting is at 100% the anti-stall feature will meter the Tub Speed output down to this RPM.
Set Speed Limit Low RPM	1600	0-3000	The lower RPM limit for the Set Speed button.
Set Speed Limit High RPM	2600	0-3000	The high RPM limit for the Set Speed button.
Conveyor Speed Off Time (ms)	30	0-100	The amount of time the Conveyor will stay ON for after a Speed Sensor fault occurs.
Grind Hours *Only shown in EA1667-E1P REV XX OEM.icf	0	0-65535	Changing this number will change the overall number of Grind Hours the machine has recorded. Take the number of hours and multiply by 10. After changing this number in the value box do not click Flash Parameters, just cycle power to the controller.



4.1A Monitor parameters for electronic governor

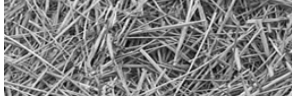
(For S.N. Up to 1018012030)

Monitor Parameter	Description
Rotor RPM	The speed the Rotor is turning.
Tub Speed (mA)	The output current to the Tub Speed solenoid coil. The units are in milliamps.
Tub FWD (0=OFF, 1=ON)	The digital output state of the Tub FWD solenoid coil.
Tub REV (0=OFF, 1=ON)	The digital output state of the Tub REV solenoid coil.
Conveyor (0=OFF, 1=ON)	The digital output state of the Conveyor solenoid coil.
Bypass (0=OFF, 1=ON)	The digital output state of the Bypass solenoid coil.
Tub Tilt Enable (0=OFF, 1=ON)	The digital output state of the Tub Tilt Enable solenoid coil.
Grind Hours	The number of Grind Hours recorded.
Service Hours	The number of Service Hours recorded.
Job Hours	The number of Job Hours recorded.

Notes:
System voltage – 12vdc

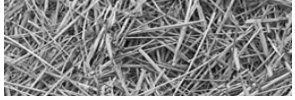
(For S.N. 1020012130 and Up)

Monitor Parameter	Description
Rotor RPM	The speed the Rotor is turning.
Grate Height	The height of the grate in inches.
Tub Speed (mA)	The output current to the Tub Speed output. The units are in milliamps.
Tub FWD (0=OFF, 1=ON)	The digital output state of the Tub FWD output.
Tub REV (0=OFF, 1=ON)	The digital output state of the Tub REV output.
Conveyor FWD (0=OFF, 1=ON)	The digital output state of the Conveyor FWD output.
Bypass (0=OFF, 1=ON)	The digital output state of the Bypass output.
Conveyor Raise (0=OFF, 1=ON)	The digital output state of the Conveyor Raise output.
Conveyor Lower (0=OFF, 1=ON)	The digital output state of the Conveyor Lower output.
Conveyor Fold (0=OFF, 1=ON)	The digital output state of the Conveyor Fold output.
Conveyor Unfold (0=OFF, 1=ON)	The digital output state of the Conveyor Unfold output.
Tub Raise (0=OFF, 1=ON)	The digital output state of the Tub Raise output.
Tub Lower (0=OFF, 1=ON)	The digital output state of the Tub Lower output.
Grate Raise (0=OFF, 1=ON)	The digital output state of the Grate Raise output.
Grate Lower (0=OFF, 1=ON)	The digital output state of the Grate Lower output.
Grind Hours	The number of Grind Hours recorded.
Service Hours	The number of Service Hours recorded.
Job Hours	The number of Job Hours recorded.



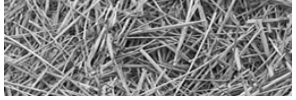
4.2 Fault Codes

ECU	SPN-FMI	Description
ECU1	701-5	Tub Forward Output: Open or Short to Ground
ECU1	701-6	Tub Forward Output: Short to Battery
ECU1	702-5	Tub Reverse Output: Open or Short to Ground
ECU1	702-6	Tub Reverse Output: Short to Battery
ECU1	703-5	Tub Speed Output: Open or Short to Ground
ECU1	703-6	Tub Speed Output: Short to Battery
ECU1	704-5	Bypass Output: Open or Short to Ground
ECU1	704-6	Bypass Output: Short to Battery
ECU1	705-1	Speed Sensor: Below Normal
ECU1	706-5	Conv Forward Output: Open or Short to Ground
ECU1	706-6	Conv Forward Output: Short to Battery
ECU1	706-5	Conv Raise Output: Open or Short to Ground
ECU1	706-6	Conv Raise Output: Short to Battery
ECU1	707-5	Conv Lower Output: Open or Short to Ground
ECU1	707-6	Conv Lower Output: Short to Battery
ECU1	708-5	Conv Fold Output: Open or Short to Ground
ECU1	708-6	Conv Fold Output: Short to Battery
ECU1	709-5	Conv Unfold Output: Open or Short to Ground
ECU1	709-6	Conv Unfold Output: Short to Battery
ECU1	710-5	Tub Raise Output: Open or Short to Ground
ECU1	710-6	Tub Raise Output: Short to Battery
ECU1	711-5	Tub Lower Output: Open or Short to Ground
ECU1	711-6	Tub Lower Output: Short to Battery
ECU1	712-5	Grate Raise Output: Open or Short to Ground
ECU1	712-6	Grate Raise Output: Short to Battery
ECU1	713-5	Grate Lower Output: Open or Short to Ground
ECU1	713-6	Grate Lower Output: Short to Battery
ECU1	714-3	Grate Sensor: Voltage Above Normal
ECU1	714-4	Grate Sensor: Voltage Below Normal



4.3 General Troubleshooting

1. No grinding capacity	1. The screen is plugged. 2. The hammers or screens are badly worn. 3. Materials are too light or fluffy.	1. Clean out the holes in the screen. 2. Replace or turn worn parts. 3. Mix the lighter material with heavier material. 4. Use a larger screen. 5. Use the grapple loader to force feed the material.
2. The tub slows down or turns slowly.	1. The electronic governor is not adjusted properly. 2. The electronic governor system malfunctions. 3. The hydraulic pressure is low.	1. See the sections on the electronic governor in the operations section of this manual. 2. See Troubleshooting the electronic governor in this manual. 3a. Check oil pressure. 3b. Look for internal leakage or wear in the orbit motor or pump.
3. The machine vibrates excessively.	1. A hammer is broken. 2. The rotor bearing is defective. 3. The driveline is worn or misaligned. 4. Foreign material is wrapped in the rotor. 5. The hammer pattern is incorrect.	1. Replace the broken hammer. See page 54 for more information about replacing hammers. 2. Replace the rotor bearing. 3. Replace worn part or the complete driveline. 4. Remove the foreign material. 5. See page 54 for more information about replacing hammers.
4. The engine looses excessive RPM's before the tub stops.	1. The electronic governor is not adjusted properly.	1. See the sections on the electronic governor in the operations section of this manual.
5. The tub stalls.	1. The tub hydraulic system pressure is set too low. 2. The tub is overloaded due to wet or tough grinding materials. 3. Too much material in the tub. 4. The tub is binding. 5. The hydraulic oil is too hot causing electronic governor valve to bind.	1a. Check oil pressure. 1b. Readjust the pressure relief valve to 2,000 PSI max. 2. Reduce amount of material in tub or shift the hydraulic tub drive to low range. 3. Reduce the amount of material in tub. 4. Remove material buildup between the tub and the platform framework. 5. Reduce the load on the hydraulic system, or stop and allow the hydraulic oil to cool.
6. The hydraulic oil overheats.	1. Pressure relief valve in control valve is faulty. 2. The tub is overloaded. 3. Worn pump, control valve, hyd. motors, etc. 4. Creating excessive heat with discharge conveyor flow control valve.	1. Check oil pressure. 2. Reduce the amount of material in the tub. 3. Rebuild or replace the hydraulic components as necessary. 4. Allow discharge conveyor to run at full speed.



Appendix A: Warranty

DuraTech Industries International Inc. warrants to the original purchaser for 12 months from purchase date that this product will be free from defects in material and workmanship when used as intended and under normal maintenance and operating conditions. This warranty is limited to the replacement of any defective part or parts returned to our factory in Jamestown, North Dakota, USA, within thirty (30) days of failure.

This warranty shall become void if in the judgment of DuraTech Industries International, Inc. the machine has been subject to misuse, negligence, alterations, damaged by accident or lack of required normal maintenance, or if the product has been used for a purpose for which it was not designed.

All claims for warranty must be made through the dealer which originally sold the product and all warranty adjustments must be made through same.

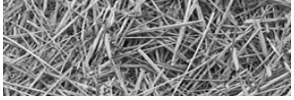
This warranty does not apply to tires or bearings or any other trade accessories not manufactured by DuraTech Industries International Inc. Buyer must rely solely on the existing warranty, if any, of these respective manufacturers.

DuraTech Industries International Inc., shall **not** be held liable for damages of any kind, direct, contingent, or consequential to property under this warranty. DuraTech Industries International Inc., cannot be held liable for any damages resulting from causes beyond its control. DuraTech Industries International Inc., shall **not** be held liable under this warranty for rental costs or any expense or loss for labor or supplies.

DuraTech Industries International Inc., reserves the right to make changes in material and/or designs of this product at any time without notice.

This warranty is void if DuraTech Industries International Inc. does not receive a valid warranty registration card at its office in Jamestown, North Dakota, USA, within 10 days from date of original purchase.

All other warranties made with respect to this product, either expressed or implied, are hereby disclaimed by DuraTech Industries International Inc.



Appendix B: H-1030 Specifications

Weight ..... 13,300 lbs. (6,033 kg)
Width at Flare ..... 10 ft 2 in. (3.1 m)
Loading Height ..... 9 ft 2 in (279 cm)
Transport Height ..... 10 ft 1 in (3.07 m)
Transport Length ..... 19 ft 4 in (5.87 m)
Wheels ..... Drop center rims, Tapered roller bearings
Bearings ..... All standard size, grease sealed
Recommended Tire Size ..... 16.5L X 16.1 High flotation implement (14 ply)
Recommended Cylinder Speed ..... 2,170 rpm

Capacity ..... Hay - up to 40 tons/hr.
..... Ear corn - up to 800 Bu/hr.
..... Grain and shelled corn -Up to 3,400 Bu/hr.

Rotor - Std No. of Hammers 64
Hammer Size ..... HD 1/2" (12.7 mm) A.B. Hardened Swing
Rotor - Shaft diameter ..... 3-1/2 in. (9 cm) stress proof steel

Rotor Size ..... 43 in. (109.2 cm) long, 26 in. (66.04 cm)
..... diameter with hammers extended

Screen Area ..... 2,400 sq. in. (6,096 sq. cm.)
Screens Available (inches) ..... 1/8, 3/16, 1/4, 3/8, 1/2, 5/8, 3/4, 1, 1-1/2, 2, 3, 4,5, 6, 7 Round holes.

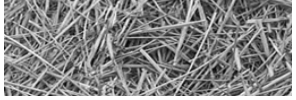
Feed Delivery ..... 21 ft. (6.4 m) folding rubber belt conveyor w/cleats
..... 24 in. (60.96 cm) Wide

Tub size @ base ..... 99.5 in. (2.43 m)
Tub Depth ..... 44.1 in. (1.12 m)
Tub Drive ..... Electro-Hydraulic

Options

AVAILABLE OPTIONS FOR DURATECH INDUSTRIES H-1030 TUB GRINDER:

- Ear Corn Kit
- Geyser Plate
- Grain Grinding Hopper
- Various Screens Sizes
- Material Guide



Appendix C: Required for operation

Tractor - 150 to 315 hp

1000 RPM PT0 Shaft

Dual Hydraulics, double acting control valve, 8 GPM, 1500 psi (46 lpm x 10,345 Kpa)

See also Section 2.3.1, Tractor Set Up.

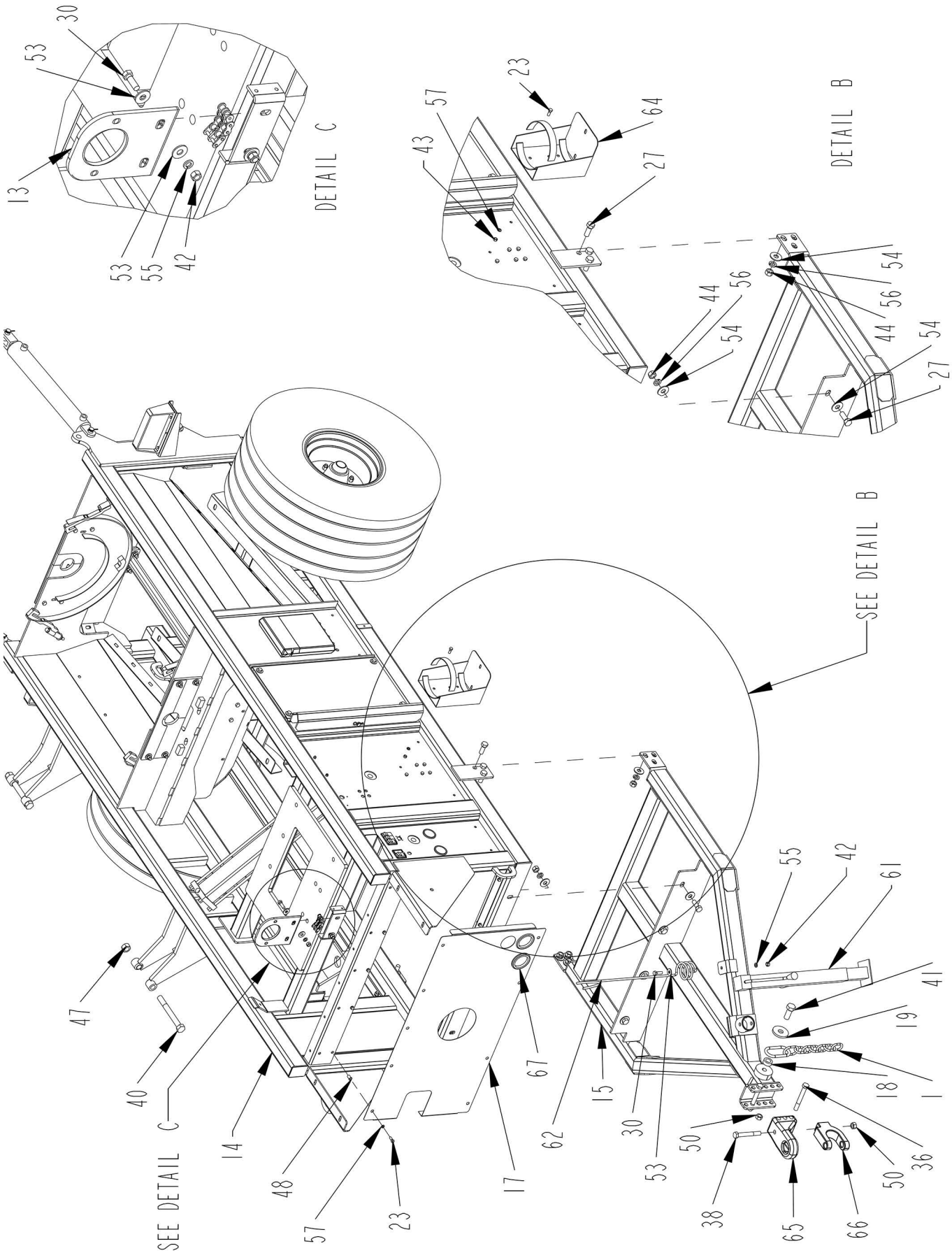
Genuine DuraTech Parts

HAYBUSTER®

H-1030™

PTO Driven Tub Grinder

Part 2: Parts Reference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ITEM	PART	QTY.	PART DESCRIPTION
1	1100285	1	CHAIN\3/8\SFTY\AG\21000LB
2	2600861	2	WHL\ASSY\16.5SLX16.1X14PLY8BOLT-WHL\16.1X14\3/8POS
3	2900140	2	HUB\ASSY\H817\8BOLT\8”B.C.\6”PILOT
4	4100030	4	PIN 1” X 3-1/2” HYD. CYL.
5	4100144	1	CYL\HYD\4X30\1-3/4 ROD\CLEVIS ENDS\O-RING PORTS
6	4100328	2	CYL\HYD\3X20\1-1/2ROD\PAR
7	4500737	1	STOP\CYL\PLATFORM
8	4502392	2	CVR\SEAL\RTR
9	4502430	1	BELT\SEAL\TRNSTN\CNVYR
10	4502619	1	MNT\MNFLD\HOSE\HYD
11	4502643	4	HOLDDOWN\SCRN\LASERED
12	4502656	1	GUIDE\SCRN
13	4502665	1	BRKT\PUMP
14	4502751	1	FRM\GRDR\H1030
15	4502773	1	HITCH\PTO\H1100
16	4502798	4	SEAL\RTR
17	4502800	1	SHLD\PTO
18	4704337	1	BUSHING\MNT\CHAIN\SAFETY
19	4704338	1	WASHER\CHAIN\SAFETY
20	4705480	1	DOOR\FRM\MN
21	4705483	1	DOOR\FRM\MN
22	4705484	1	DOOR\FRM\MN
23	4800003	22	BOLT\HEX\3/8X1
24	4800010	8	BOLT\HEX\5/8X2
25	4800018	12	BOLT\HEX\1/2X1-1/4
26	4800024	4	BOLT\HEX\1/4X3/4
27	4800033	10	BOLT\HEX\3/4X2
28	4800046	2	PIN\CLEVIS\3/4X3
29	4800077	4	BOLT\HEX\1/2X5-1/2
30	4800082	3	BOLT\HEX\1/2X1-1/2
31	4800107	2	PIN\HAIR\1/8(#9)
32	4800114	8	BOLT\HEX\1/2X2
33	4800142	2	BOLT\HEX\3/8X1-3/4
34	4800178	4	BOLT\HEX\1/2X1-3/4
35	4800203	8	PIN\COT\5/32X2
36	4800248	2	BOLT\HEX\3/4X6
37	4800277	8	BOLT\HEX\1/4X1
38	4800492	1	BOLT\HEX\3/4X5-1/2\GR8\NC
39	4800546	2	BOLT\HEX\1X5\NC
40	4800601	2	BOLT\HEX\1X9\NC
41	4800980	1	BOLT\HEX\1X2-1/2\GR5\NC
42	4900001	31	NUT\HEX\1/2\NC
43	4900002	8	NUT\HEX\3/8\NC
44	4900004	10	NUT\HEX\3/4\NC
45	4900005	8	NUT\HEX\5/8\NC
46	4900009	14	NUT\HEX\1/4\NC
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58	5000024	14	WASH\LOCK\1/4
59	5701058	1	TAILLIGHT\RED;RIGHT\LED\ASSY\4PIN
60	5701059	1	TAILLIGHT\RED;LEFT\LED\ASSY\4PIN
61	5800633	1	JACK\7000\SDWND\SQ\15”TRVL
62	7500170	1	HOSE MINDER
63	7500590	1	ENCL\OPS\8-1/2X11X1-5/8
64	7500853	1	BRKT\EXTINGUISHER\20LB
65	7501047	1	HITCH\BASE\#3\PPI\1”PIN
66	7501048	1	HITCH\CLEVIS\PPI\1”PIN
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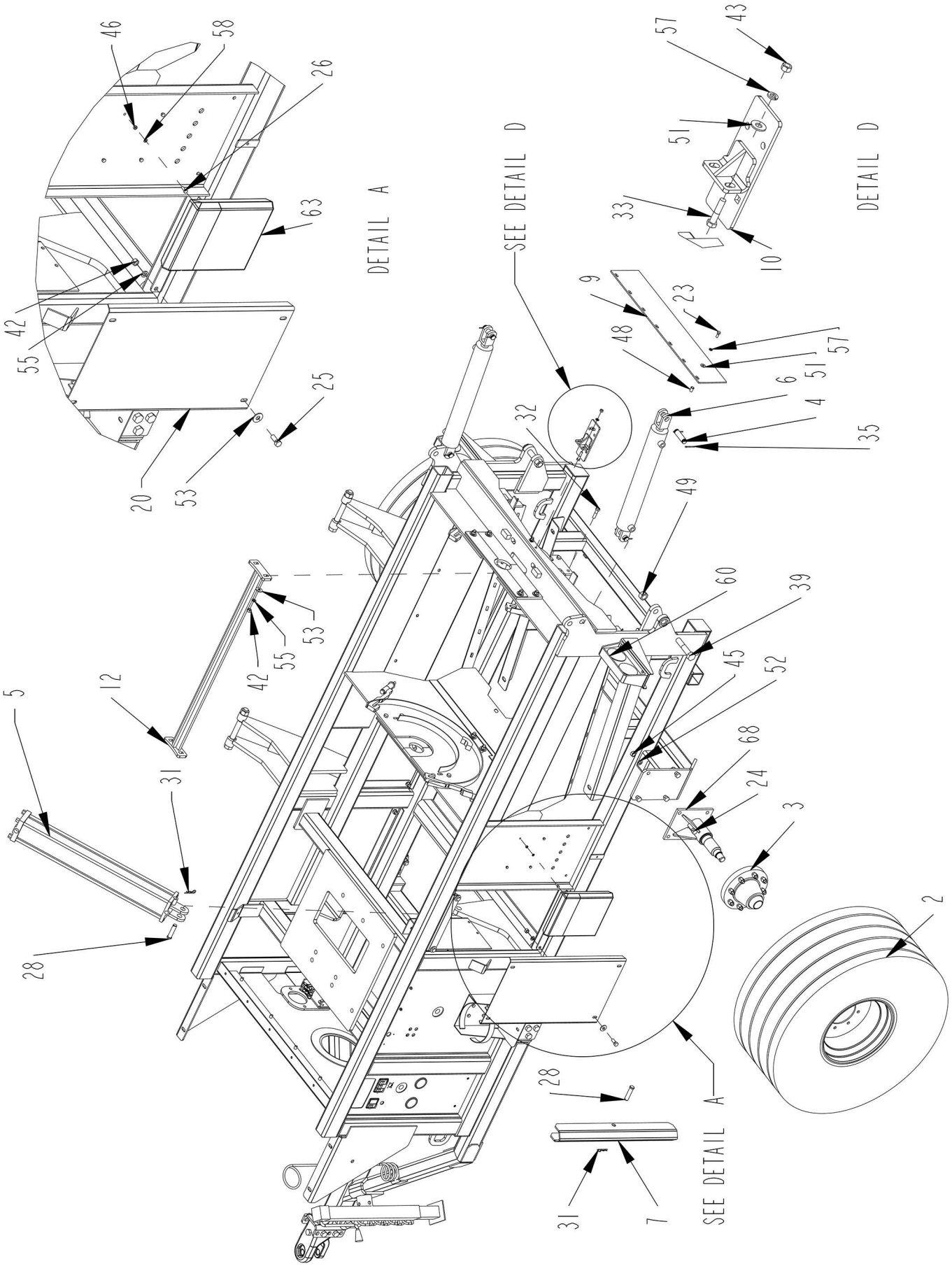
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ITEM	PART	QTY.	PART DESCRIPTION
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2	2600861	2	WHL\ASSY\16.5SLX16.1X14PLY8BOLT-WHL\16.1X14\3/8POS
3	2900140	2	HUB\ASSY\H817\8BOLT\8”B.C.\6”PILOT
4	4100030	4	PIN 1” X 3-1/2” HYD. CYL.
5	4100144	1	CYL\HYD\4X30\1-3/4 ROD\CLEVIS ENDS\O-RING PORTS
6	4100328	2	CYL\HYD\3X20\1-1/2ROD\PAR
7	4500737	1	STOP\CYL\PLATFORM
8	4502392	2	CVR\SEAL\RTR
9	4502430	1	BELT\SEAL\TRNSTN\CNVYR
10	4502619	1	MNT\MNFLD\HOSE\HYD
11	4502643	4	HOLDDOWN\SCRN\LASERED
12	4502656	1	GUIDE\SCRN
13	4502665	1	BRKT\PUMP
14	4502751	1	FRM\GRDR\H1030
15	4502773	1	HITCH\PTO\H1100
16	4502798	4	SEAL\RTR
17	4502800	1	SHLD\PTO
18	4704337	1	BUSHING\MNT\CHAIN\SAFETY
19	4704338	1	WASHER\CHAIN\SAFETY
20	4705480	1	DOOR\FRM\MN
21	4705483	1	DOOR\FRM\MN
22	4705484	1	DOOR\FRM\MN
23	4800003	22	BOLT\HEX\3/8X1
24	4800010	8	BOLT\HEX\5/8X2
25	4800018	12	BOLT\HEX\1/2X1-1/4
26	4800024	4	BOLT\HEX\1/4X3/4
27	4800033	10	BOLT\HEX\3/4X2
28	4800046	2	PIN\CLEVIS\3/4X3
29	4800077	4	BOLT\HEX\1/2X5-1/2
30	4800082	3	BOLT\HEX\1/2X1-1/2
31	4800107	2	PIN\HAIR\1/8(#9)
32	4800114	8	BOLT\HEX\1/2X2
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34	4800178	4	BOLT\HEX\1/2X1-3/4
35	4800203	8	PIN\COT\5/32X2
36	4800248	2	BOLT\HEX\3/4X6
37	4800277	8	BOLT\HEX\1/4X1
38	4800492	1	BOLT\HEX\3/4X5-1/2\GR8\NC
39	4800546	2	BOLT\HEX\1X5\NC
40	4800601	2	BOLT\HEX\1X9\NC
41	4800980	1	BOLT\HEX\1X2-1/2\GR5\NC
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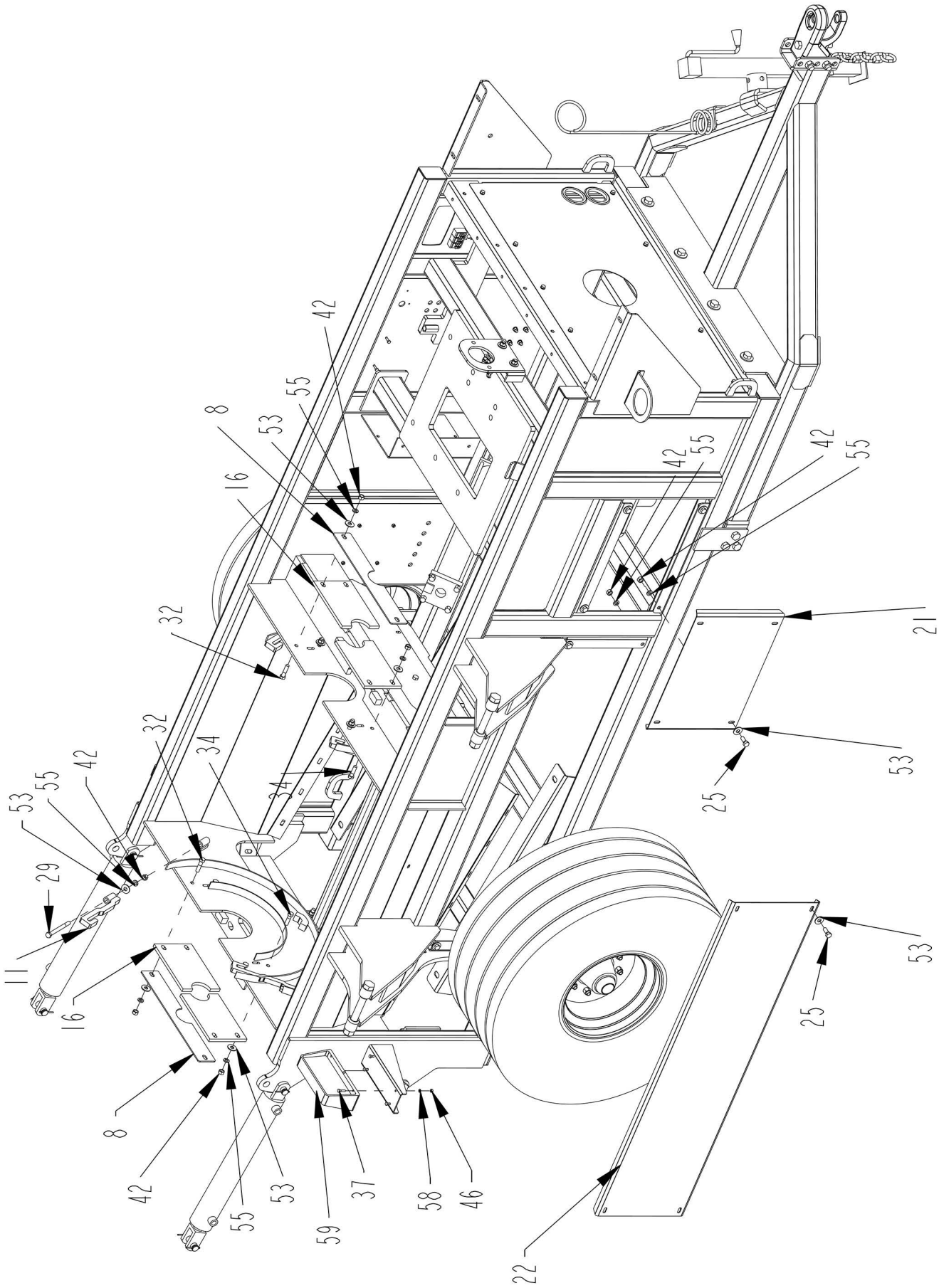
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5	4100144	1	CYL\HYD\4X30\1-3/4 ROD\CLEVIS ENDS\O-RING PORTS
6	4100328	2	CYL\HYD\3X20\1-1/2ROD\PAR
7	4500737	1	STOP\CYL\PLATFORM
8	4502392	2	CVR\SEAL\RTR
9	4502430	1	BELT\SEAL\TRNSTN\CNVYR
10	4502619	1	MNT\MNFLD\HOSE\HYD
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12	4502656	1	GUIDE\SCRN
13	4502665	1	BRKT\PUMP
14	4502751	1	FRM\GRDR\H1030
15	4502773	1	HITCH\PTO\H1100
16	4502798	4	SEAL\RTR
17	4502800	1	SHLD\PTO
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36	4800248	2	BOLT\HEX\3/4X6
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55	5000006	31	WASH\LOCK\1/2
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65	7501047	1	HITCH\BASE\#3\PPI\1”PIN
66	7501048	1	HITCH\CLEVIS\PPI\1”PIN
67	7501068	2	GRMMT\RBBR\3-5/8X3IDX3/8T
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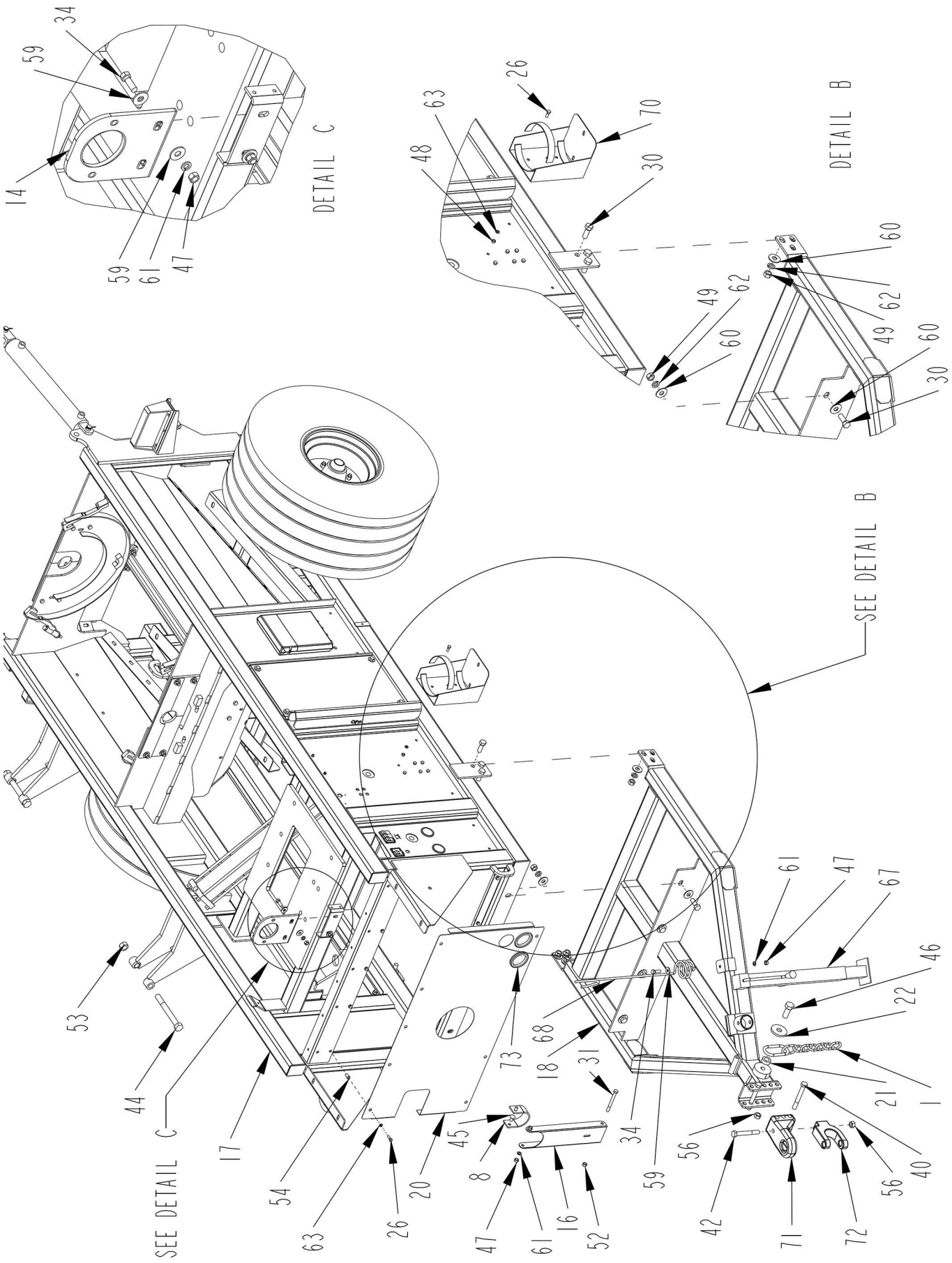
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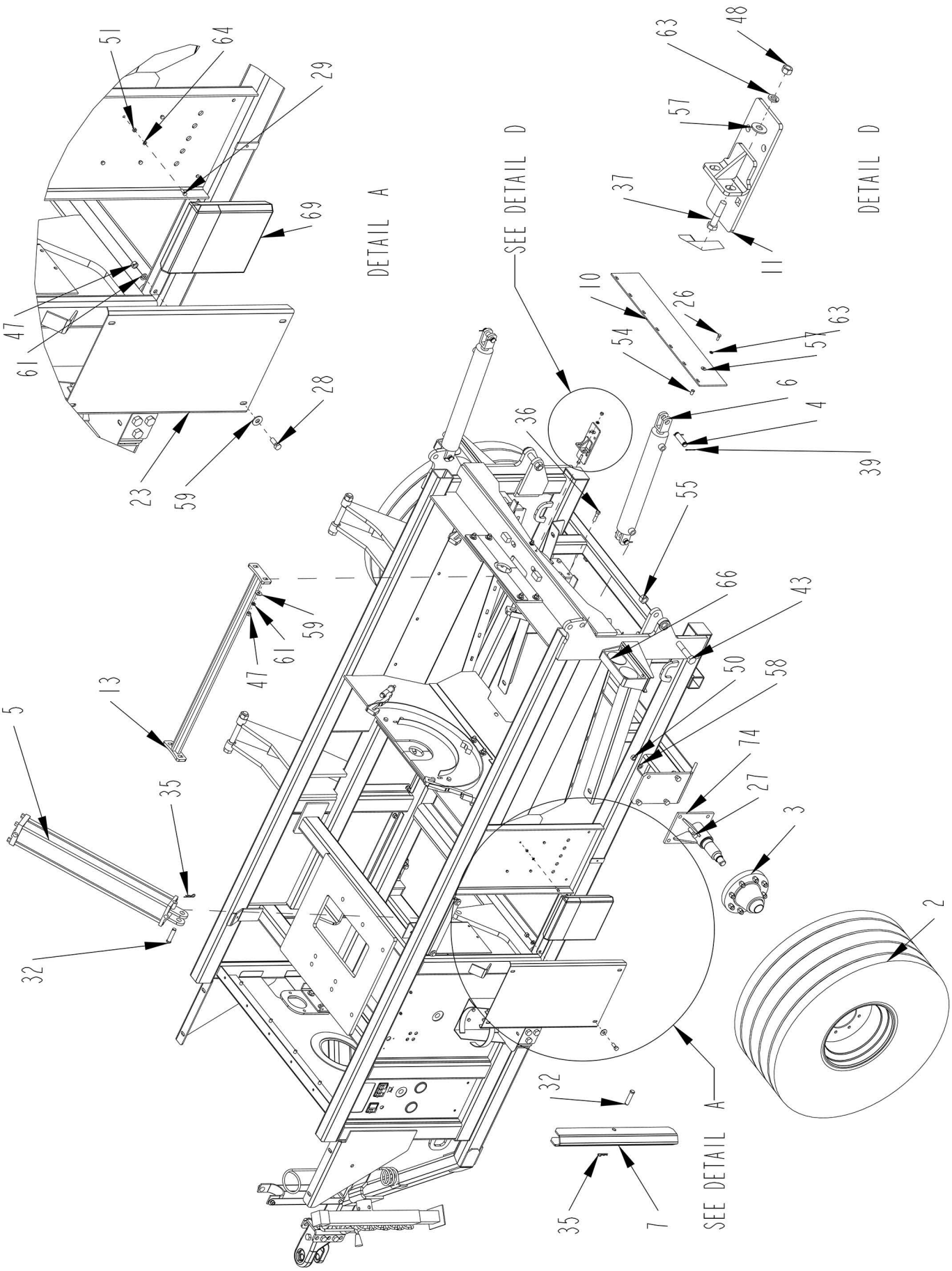
4	4100030	4	PIN 1” X 3-1/2” HYD. CYL.
5	4100144	1	CYL\HYD\4X30\1-3/4 ROD\CLEVIS ENDS\O-RING PORTS
6	4100328	2	CYL\HYD\3X20\1-1/2ROD\PAR
7	4500737	1	STOP\CYL\PLATFORM
8	4500754	1	BELT\BRKT\PTO
9	4502392	2	CVR\SEAL\RTR
10	4502430	1	BELT\SEAL\TRNSTN\CNVYR
11	4502619	1	MNT\MNFLD\HOSE\HYD
12	4502643	4	HOLDDOWN\SCRN\LASERED
13	4502656	1	GUIDE\SCRN
14	4502665	1	BRKT\PUMP
15	4502673	1	MNT\PTO
16	4502674	1	BRKT\STAND\PTO\1030
17	4502751	1	FRM\GRDR\H1030
18	4502773	1	HITCH\PTO\H1030
19	4502798	4	SEAL\RTR
20	4502800	1	SHLD\PTO
21	4704337	1	BUSHING\MNT\CHAIN\SAFETY
22	4704338	1	WASHER\CHAIN\SAFETY
23	4705480	1	DOOR\FRM\MN
24	4705483	1	DOOR\FRM\MN
25	4705484	1	DOOR\FRM\MN
26	4800003	22	BOLT\HEX\3/8X1
27	4800010	8	BOLT\HEX\5/8X2
28	4800018	12	BOLT\HEX\1/2X1-1/4
29	4800024	4	BOLT\HEX\1/4X3/4
30	4800033	10	BOLT\HEX\3/4X2
31	4800041	1	BOLT\HEX\1/2X5
32	4800046	2	PIN\CLEVIS\3/4X3
33	4800077	4	BOLT\HEX\1/2X5-1/2
34	4800082	3	BOLT\HEX\1/2X1-1/2
35	4800107	2	PIN\HAIR\1/8(#9)
36	4800114	8	BOLT\HEX\1/2X2
37	4800142	2	BOLT\HEX\3/8X1-3/4
38	4800178	4	BOLT\HEX\1/2X1-3/4
39	4800203	8	PIN\COT\5/32X2
40	4800248	2	BOLT\HEX\3/4X6
41	4800277	8	BOLT\HEX\1/4X1
42	4800492	1	BOLT\HEX\3/4X5-1/2\GR8\NC
43	4800546	2	BOLT\HEX\1X5\NC
44	4800601	2	BOLT\HEX\1X9\NC
45	4800908	2	BOLT\CRG\1/2X1
46	4800980	1	BOLT\HEX\1X2-1/2\GR5\NC
47	4900001	33	NUT\HEX\1/2\NC
48	4900002	8	NUT\HEX\3/8\NC
49	4900004	10	NUT\HEX\3/4\NC
50	4900005	8	NUT\HEX\5/8\NC
51	4900009	14	NUT\HEX\1/4\NC
52	4900014	1	NUT\TPLCK\1/2\NC
53	4900015	2	NUT\NYLCK\1\NC
54	4900083	16	NUT\INSERT\3/8\.LONG\0.15-0.312\(.418/CD)
55	4900127	2	NUT\TPLCK\1\NC
56	4900139	3	NUT\TPLCK\3/4\GR8\NC
57	5000001	9	WASH\FLAT\3/8
58	5000003	8	WASH\LOCK\5/8
59	5000004	33	WASH\FLAT\1/2
60	5000005	14	WASH\FLAT\3/4
61	5000006	33	WASH\LOCK\1/2
62	5000012	10	WASH\LOCK\3/4
63	5000019	24	WASH\LOCK\3/8
64	5000024	14	WASH\LOCK\1/4
65	5701058	1	TAILLIGHT\RED;RIGHT\LED\ASSY\4PIN
66	5701059	1	TAILLIGHT\RED;LEFT\LED\ASSY\4PIN
67	5800633	1	JACK\7000\SDWND\SQ\15”TRVL
68	7500170	1	HOSE MINDER
69	7500590	1	ENCL\OPS\8-1/2X11X1-5/8
70	7500853	1	BRKT\EXTINGUISHER\20LB
71	7501047	1	HITCH\BASE\#3\PPI\1”PIN
72	7501048	1	HITCH\CLEVIS\PPI\1”PIN
73	7501068	2	GRMMT\RBBR\3-5/8X3IDX3/8T
74	8101600	2	SPNDL\2800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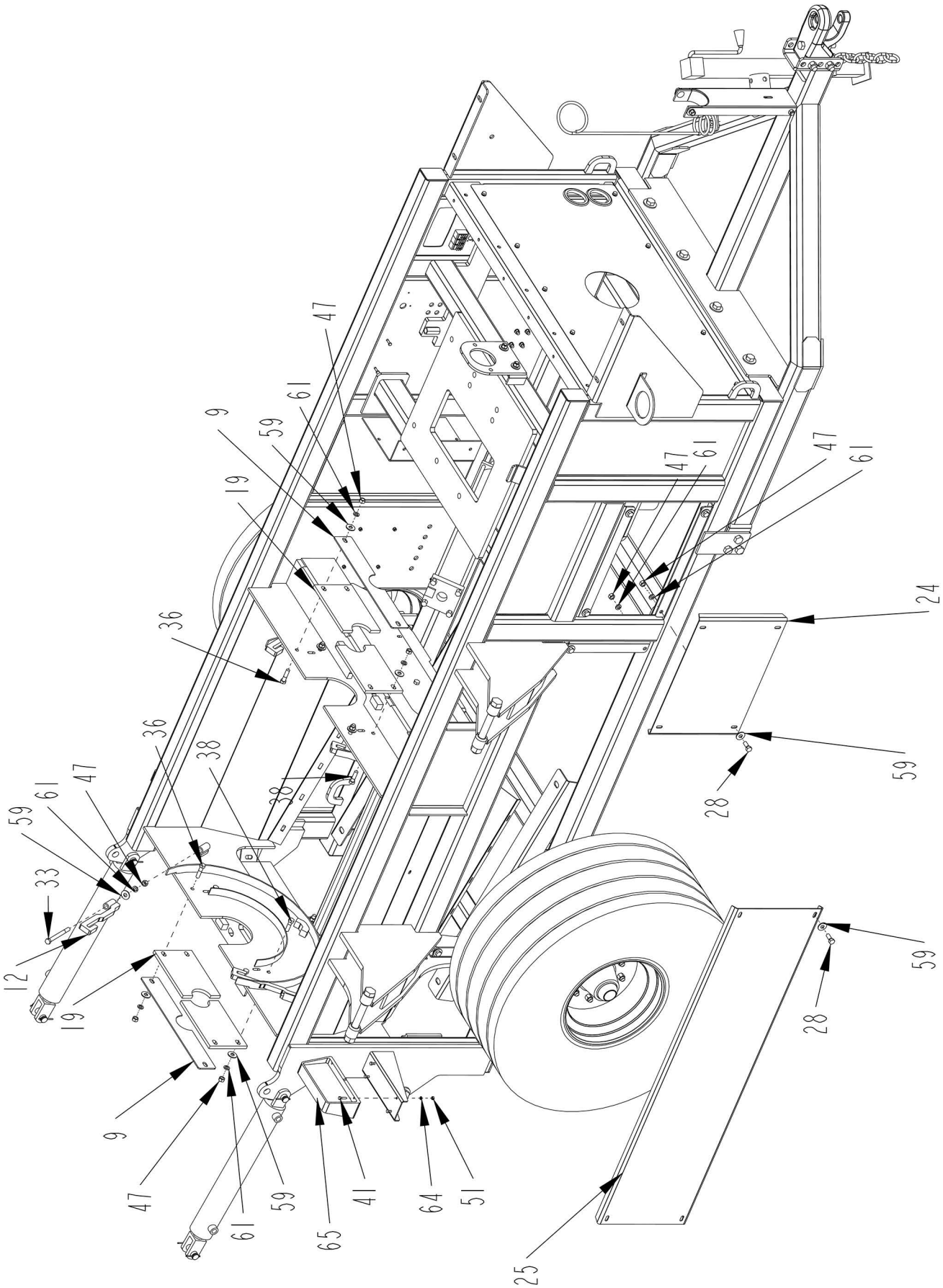
ITEM	PART	QTY.	PART DESCRIPTION
1	1100285	1	CHAIN\3/8\SFTY\AG\21000LB
2	2600861	2	WHL\ASSY\16.5SLX16.1X14PLY8BOLT-WHL\16.1X14\3/8POS
3	2900140	2	HUB\ASSY\H817\8BOLT\8”B.C.\6”PILOT
4	4100030	4	PIN 1” X 3-1/2” HYD. CYL.
5	4100144	1	CYL\HYD\4X30\1-3/4 ROD\CLEVIS ENDS\O-RING PORTS
6	4100328	2	CYL\HYD\3X20\1-1/2ROD\PAR
7	4500737	1	STOP\CYL\PLATFORM
8	4500754	1	BELT\BRKT\PTO
9	4502392	2	CVR\SEAL\RTR
10	4502430	1	BELT\SEAL\TRNSTN\CNVYR
11	4502619	1	MNT\MNFLD\HOSE\HYD
12	4502643	4	HOLDDOWN\SCRN\LASERED
13	4502656	1	GUIDE\SCRN
14	4502665	1	BRKT\PUMP
15	4502673	1	MNT\PTO
16	4502674	1	BRKT\STAND\PTO\1030
17	4502751	1	FRM\GRDR\H1030
18	4502773	1	HITCH\PTO\H1030
19	4502798	4	SEAL\RTR
20	4502800	1	SHLD\PTO
21	4704337	1	BUSHING\MNT\CHAIN\SAFETY
22	4704338	1	WASHER\CHAIN\SAFETY
23	4705480	1	DOOR\FRM\MN
24	4705483	1	DOOR\FRM\MN
25	4705484	1	DOOR\FRM\MN
26	4800003	22	BOLT\HEX\3/8X1
27	4800010	8	BOLT\HEX\5/8X2
28	4800018	12	BOLT\HEX\1/2X1-1/4
29	4800024	4	BOLT\HEX\1/4X3/4
30	4800033	10	BOLT\HEX\3/4X2
31	4800041	1	BOLT\HEX\1/2X5
32	4800046	2	PIN\CLEVIS\3/4X3
33	4800077	4	BOLT\HEX\1/2X5-1/2
34	4800082	3	BOLT\HEX\1/2X1-1/2
35	4800107	2	PIN\HAIR\1/8(#9)
36	4800114	8	BOLT\HEX\1/2X2
37	4800142	2	BOLT\HEX\3/8X1-3/4
38	4800178	4	BOLT\HEX\1/2X1-3/4
39	4800203	8	PIN\COT\5/32X2
40	4800248	2	BOLT\HEX\3/4X6
41	4800277	8	BOLT\HEX\1/4X1
42	4800492	1	BOLT\HEX\3/4X5-1/2\GR8\NC
43	4800546	2	BOLT\HEX\1X5\NC
44	4800601	2	BOLT\HEX\1X9\NC
45	4800908	2	BOLT\CRG\1/2X1
46	4800980	1	BOLT\HEX\1X2-1/2\GR5\NC
47	4900001	33	NUT\HEX\1/2\NC
48	4900002	8	NUT\HEX\3/8\NC
49	4900004	10	NUT\HEX\3/4\NC
50	4900005	8	NUT\HEX\5/8\NC
51	4900009	14	NUT\HEX\1/4\NC
52	4900014	1	NUT\TPLCK\1/2\NC
53	4900015	2	NUT\NYLCK\1\NC
54	4900083	16	NUT\INSERT\3/8\.LONG\0.15-0.312\(.418/CD)
55	4900127	2	NUT\TPLCK\1\NC
56	4900139	3	NUT\TPLCK\3/4\GR8\NC
57	5000001	9	WASH\FLAT\3/8
58	5000003	8	WASH\LOCK\5/8
59	5000004	33	WASH\FLAT\1/2
60	5000005	14	WASH\FLAT\3/4
61	5000006	33	WASH\LOCK\1/2
62	5000012	10	WASH\LOCK\3/4
63	5000019	24	WASH\LOCK\3/8
64	5000024	14	WASH\LOCK\1/4
65	5701058	1	TAILLIGHT\RED;RIGHT\LED\ASSY\4PIN
66	5701059	1	TAILLIGHT\RED;LEFT\LED\ASSY\4PIN
67	5800633	1	JACK\7000\SDWND\SQ\15”TRVL
68	7500170	1	HOSE MINDER
69	7500590	1	ENCL\OPS\8-1/2X11X1-5/8
70	7500853	1	BRKT\EXTINGUISHER\20LB
71	7501047	1	HITCH\BASE\#3\PPI\1”PIN
72	7501048	1	HITCH\CLEVIS\PPI\1”PIN
73	7501068	2	GRMMT\RBBR\3-5/8X3IDX3/8T
74	8101600	2	SPNDL\2800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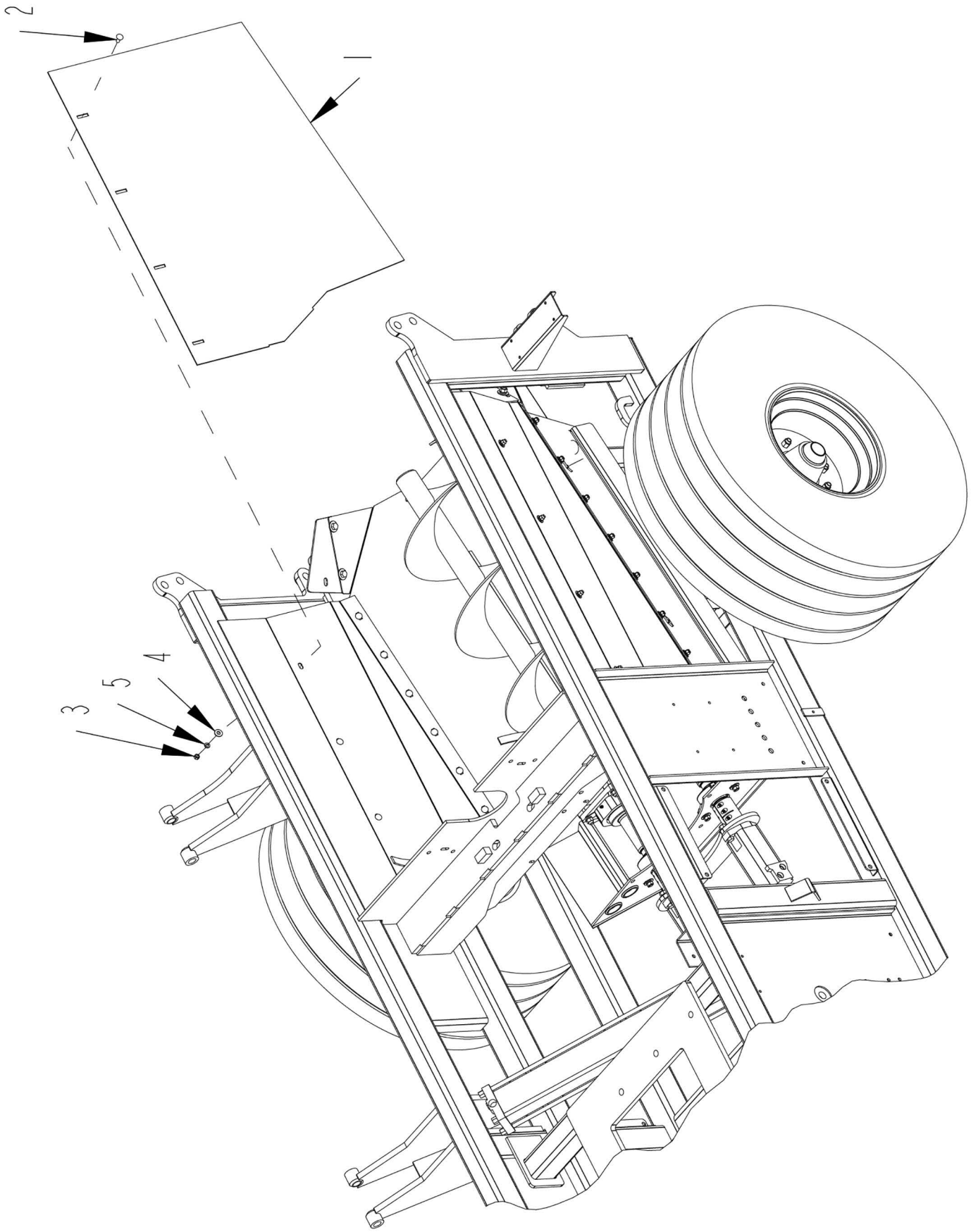
ITEM	PART	QTY.	PART DESCRIPTION
1	1100285	1	CHAIN\3/8\SFTY\AG\21000LB
2	2600861	2	WHL\ASSY\16.5SLX16.1X14PLY8BOLT-WHL\16.1X14\3/8POS
3	2900140	2	HUB\ASSY\H817\8BOLT\8”B.C.\6”PILOT
4	4100030	4	PIN 1” X 3-1/2” HYD. CYL.
5	4100144	1	CYL\HYD\4X30\1-3/4 ROD\CLEVIS ENDS\O-RING PORTS
6	4100328	2	CYL\HYD\3X20\1-1/2ROD\PAR
7	4500737	1	STOP\CYL\PLATFORM
8	4500754	1	BELT\BRKT\PTO
9	4502392	2	CVR\SEAL\RTR
10	4502430	1	BELT\SEAL\TRNSTN\CNVYR
11	4502619	1	MNT\MNFLD\HOSE\HYD
12	4502643	4	HOLDDOWN\SCRN\LASERED
13	4502656	1	GUIDE\SCRN
14	4502665	1	BRKT\PUMP
15	4502673	1	MNT\PTO
16	4502674	1	BRKT\STAND\PTO\1030
17	4502751	1	FRM\GRDR\H1030
18	4502773	1	HITCH\PTO\H1030
19	4502798	4	SEAL\RTR
20	4502800	1	SHLD\PTO
21	4704337	1	BUSHING\MNT\CHAIN\SAFETY
22	4704338	1	WASHER\CHAIN\SAFETY
23	4705480	1	DOOR\FRM\MN
24	4705483	1	DOOR\FRM\MN
25	4705484	1	DOOR\FRM\MN
26	4800003	22	BOLT\HEX\3/8X1
27	4800010	8	BOLT\HEX\5/8X2
28	4800018	12	BOLT\HEX\1/2X1-1/4
29	4800024	4	BOLT\HEX\1/4X3/4
30	4800033	10	BOLT\HEX\3/4X2
31	4800041	1	BOLT\HEX\1/2X5
32	4800046	2	PIN\CLEVIS\3/4X3
33	4800077	4	BOLT\HEX\1/2X5-1/2
34	4800082	3	BOLT\HEX\1/2X1-1/2
35	4800107	2	PIN\HAIR\1/8(#9)
36	4800114	8	BOLT\HEX\1/2X2
37	4800142	2	BOLT\HEX\3/8X1-3/4
38	4800178	4	BOLT\HEX\1/2X1-3/4
39	4800203	8	PIN\COT\5/32X2
40	4800248	2	BOLT\HEX\3/4X6
41	4800277	8	BOLT\HEX\1/4X1
42	4800492	1	BOLT\HEX\3/4X5-1/2\GR8\NC
43	4800546	2	BOLT\HEX\1X5\NC
44	4800601	2	BOLT\HEX\1X9\NC
45	4800908	2	BOLT\CRG\1/2X1
46	4800980	1	BOLT\HEX\1X2-1/2\GR5\NC
47	4900001	33	NUT\HEX\1/2\NC
48	4900002	8	NUT\HEX\3/8\NC
49	4900004	10	NUT\HEX\3/4\NC
50	4900005	8	NUT\HEX\5/8\NC
51	4900009	14	NUT\HEX\1/4\NC
52	4900014	1	NUT\TPLCK\1/2\NC
53	4900015	2	NUT\NYLCK\1\NC
54	4900083	16	NUT\INSERT\3/8\.LONG\0.15-0.312\(.418/CD)
55	4900127	2	NUT\TPLCK\1\NC
56	4900139	3	NUT\TPLCK\3/4\GR8\NC
57	5000001	9	WASH\FLAT\3/8
58	5000003	8	WASH\LOCK\5/8
59	5000004	33	WASH\FLAT\1/2
60	5000005	14	WASH\FLAT\3/4
61	5000006	33	WASH\LOCK\1/2
62	5000012	10	WASH\LOCK\3/4
63	5000019	24	WASH\LOCK\3/8
64	5000024	14	WASH\LOCK\1/4
65	5701058	1	TAILLIGHT\RED;RIGHT\LED\ASSY\4PIN
66	5701059	1	TAILLIGHT\RED;LEFT\LED\ASSY\4PIN
67	5800633	1	JACK\7000\SDWND\SQ\15”TRVL
68	7500170	1	HOSE MINDER
69	7500590	1	ENCL\OPS\8-1/2X11X1-5/8
70	7500853	1	BRKT\EXTINGUISHER\20LB
71	7501047	1	HITCH\BASE\#3\PPI\1”PIN
72	7501048	1	HITCH\CLEVIS\PPI\1”PIN
73	7501068	2	GRMMT\RBBR\3-5/8X3IDX3/8T
74	8101600	2	SPNDL\2800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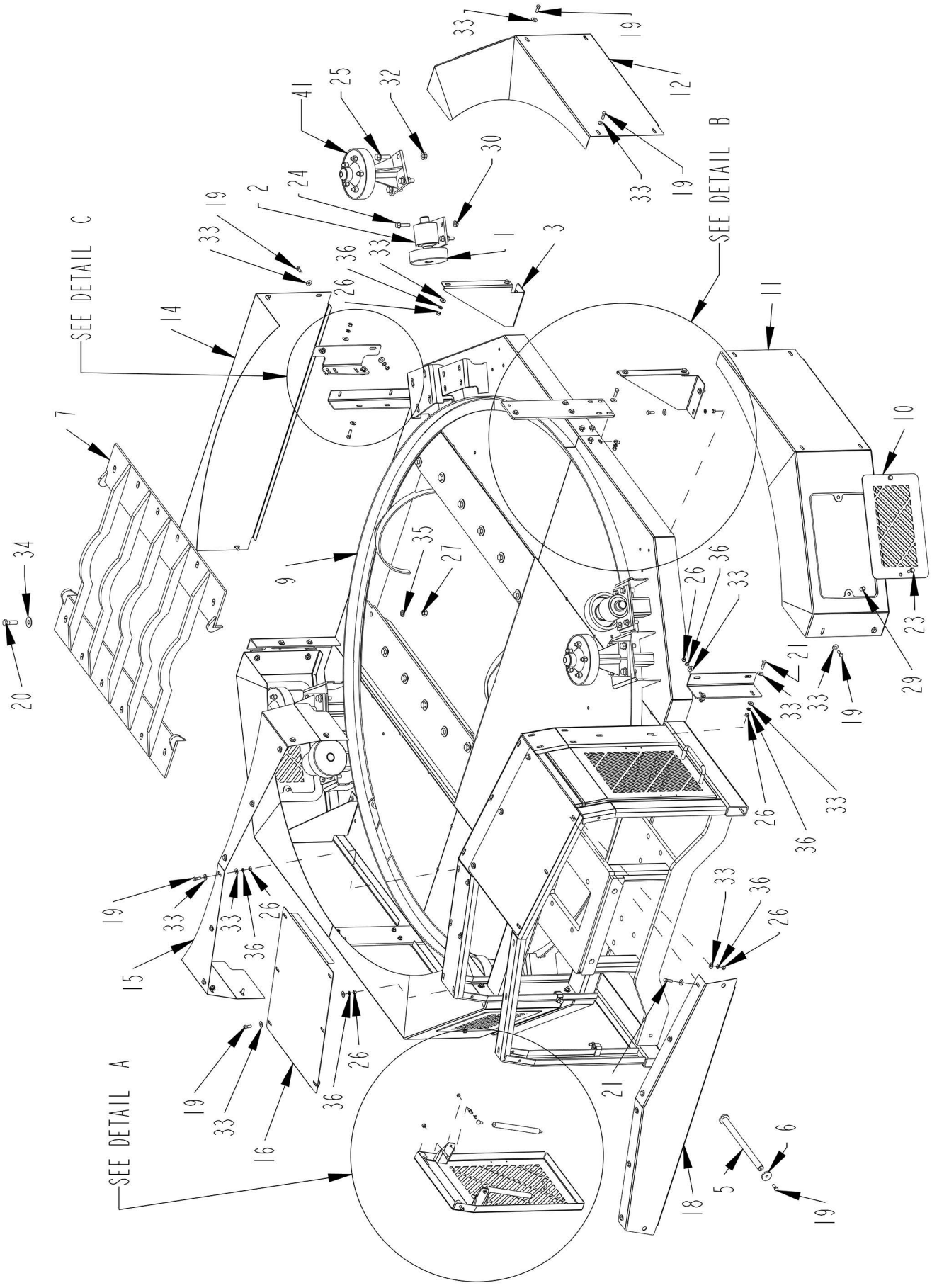
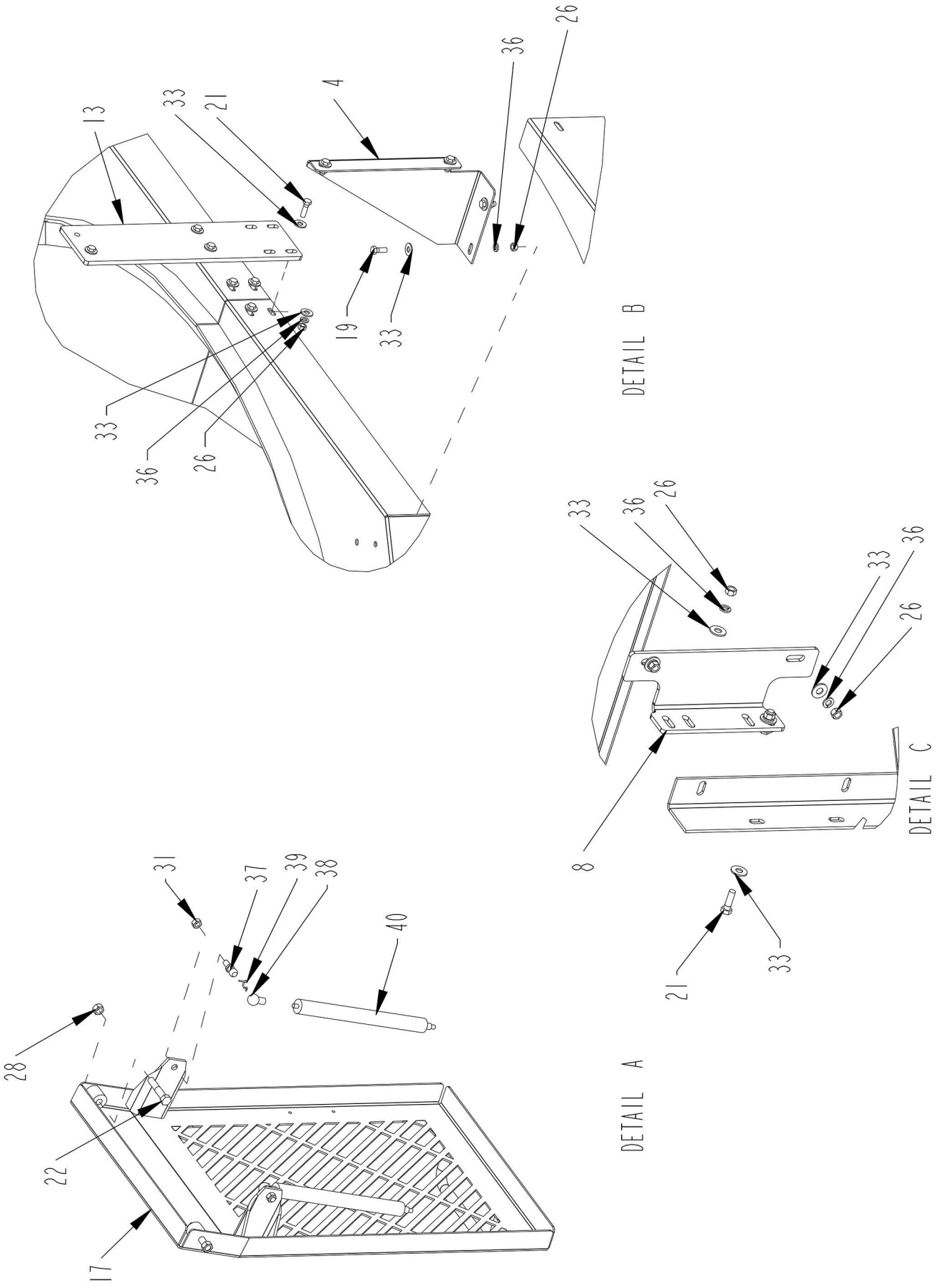
BELLY SIDESHEETS

ITEM	PART	QTY.	PART DESCRIPTION
1	4502974	2	SH\SIDE\BELLY
2	4800053	8	BOLT\CRG\3/8X1\NC
3	4900002	8	NUT\HEX\3/8\NC
4	5000001	8	WASH\FLAT\3/8
5	5000019	8	WASH\LOCK\3/8
	4502978		**KIT\SH\SIDE\BOX\RTR\1030**


SEE DETAIL A
SEE DETAIL B
SEE DETAIL C

PLATFORM ASSEMBLY (FOR S.N. UP TO 1015001030)

ITEM	PART	QTY.	PART DESCRIPTION
1	1200013	4	RLLR\TUB\1-1/2\W/O FLANGE
2	4702007	4	BRG\PB\RLLR\TUB\ASY\W/BEARING INSERTS
3	4501915	2	BRKT\SHLD\CHAIN\DRIVE\TUB
4	4501916	2	BRKT\SHLD\CHAIN\DRIVE\TUB
5	4501931	1	PIN\PLFRM\TILTCYL
6	4501932	2	WASH\1-3/4 O.D.
7	4502120	1	GRATE\MILL\LOWERED\H1000
8	4502641	2	MNT\SHLD\TUB\REAR
9	4502752	1	FRM\PLFRM\1030
10	4502774	4	DOOR\SHLD\TUB
11	4705463	2	SHLD\TUBDRIVE
12	4705464	2	SHLD\TUBDRIVE
13	4705465	2	BRKT\SHLD\SIDE
14	4705466	1	SHLD\DRV\CHAIN\TUB\REAR
15	4705467	1	SHLD\DRIVE\TUB
16	4705470	2	CVR\DRV\TUB
17	4705471	2	DOOR\DRIVE\TUB
18	4705472	1	CVR\FR\FRM\MN
19	4800003	50	BOLT\HEX\3/8X1
20	4800010	12	BOLT\HEX\5/8X2
21	4800098	22	BOLT\HEX\3/8X1-1/4\NC
22	4800146	4	BOLT\HEX\3/8X2
23	4800914	8	BOLT\FLG\SERR\3/8X1-1/4\NC
24	4800930	16	BOLT\FLG\SERR\1/2X2\NC
25	4800949	16	BOLT\FLG\5/8X2\GR8\NC
26	4900002	62	NUT\HEX\3/8\NC
27	4900005	12	NUT\HEX\5/8\NC
28	4900023	4	NUT\TPLCK\3/8\NC
29	4900083	8	NUT\INSERT\3/8\.LONG\0.15-0.312\(.418/CD)
30	4900100	16	NUT\FLG\TPLCK\1/2\NC
31	4900142	4	NUT\TPLCK\5/16\NC
32	4900178	16	NUT\FLG\TPLCK\5/8\GR8\NC
33	5000001	124	WASH\FLAT\3/8
34	5000002	12	WASH\FLAT\5/8
35	5000003	12	WASH\LOCK\5/8
36	5000019	62	WASH\LOCK\3/8
37	7500664	8	BALL STUD\SHOCK\FITTING\M6
38	7500665	8	END FITTING\GAS SPRING \m6
39	7500666	8	SAFETY CLIP
40	7500680	4	SPRNG\GAS\60LB\9416K174
41	4501317	4	RLLR\PRESS\COMPL
	4705468		**PLFRM\ASSY\1030**
	NOT SHOWN		
	4500737	1	STOP\CYL\PLFRM
	4800046	1	PIN\CLEVIS\3/4X3
	4800107	1	PIN\HAIR\1/8(#9)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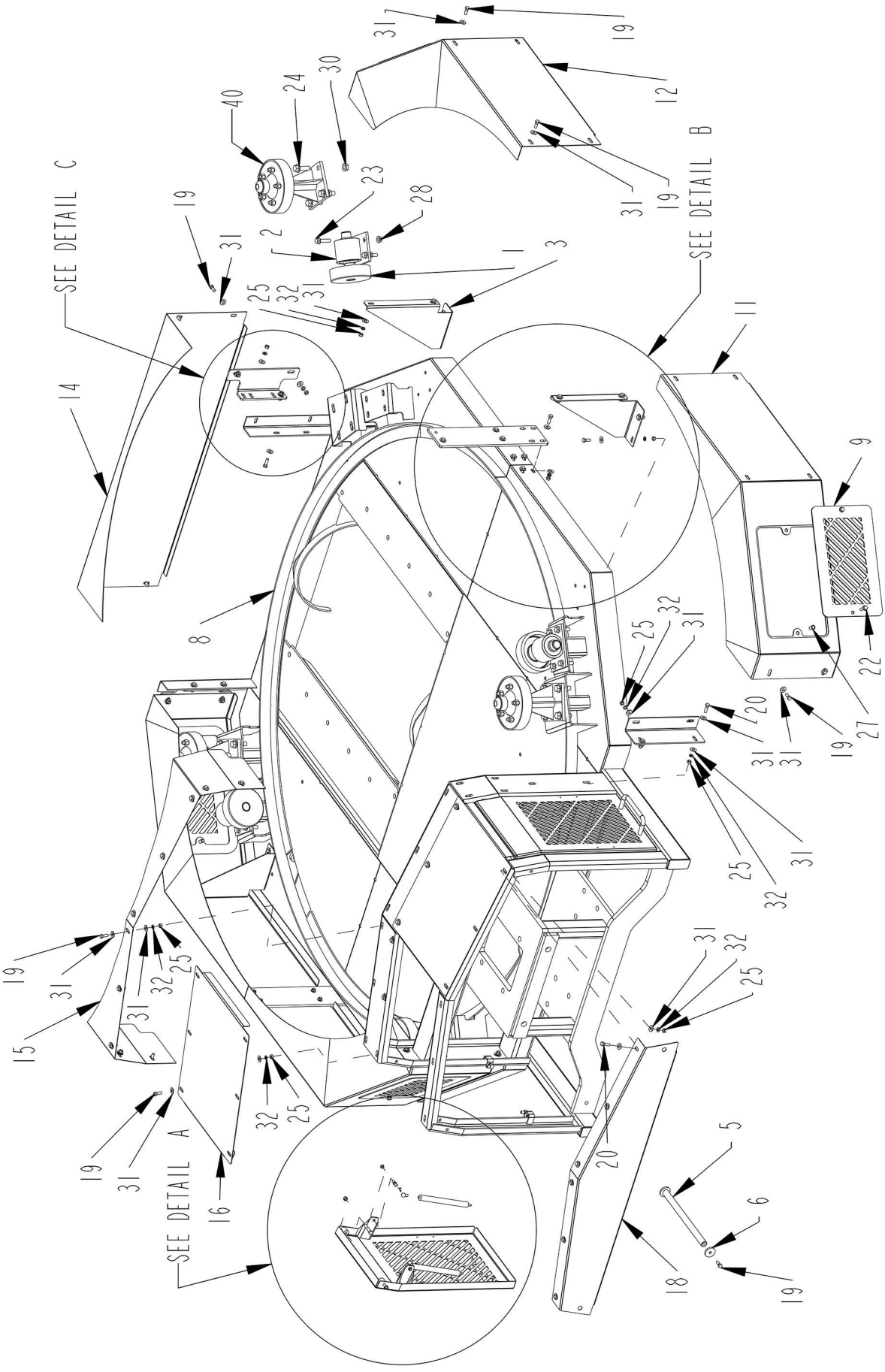
DETAIL A

ITEM	PART	QTY.	PART DESCRIPTION
1	1200013	4	RLLR\TUB\1-1/2\W/O FLANGE
2	4702007	4	BRG\PB\RLLR\TUB\ASY\W/BEARING INSERTS
3	4501915	2	BRKT\SHLD\CHAIN\DRIVE\TUB
4	4501916	2	BRKT\SHLD\CHAIN\DRIVE\TUB
5	4501931	1	PIN\PLFRM\TILTCYL
6	4501932	2	WASH\1-3/4 O.D.
7	4502120	1	GRATE\MILL\LOWERED\H1000
8	4502641	2	MNT\SHLD\TUB\REAR
9	4502752	1	FRM\PLFRM\1030
10	4502774	4	DOOR\SHLD\TUB
11	4705463	2	SHLD\TUBDRIVE
12	4705464	2	SHLD\TUBDRIVE
13	4705465	2	BRKT\SHLD\SIDE
14	4705466	1	SHLD\DRV\CHAIN\TUB\REAR
15	4705467	1	SHLD\DRIVE\TUB
16	4705470	2	CVR\DRV\TUB
17	4705471	2	DOOR\DRIVE\TUB
18	4705472	1	CVR\FR\FRM\MN
19	4800003	50	BOLT\HEX\3/8X1
20	4800010	12	BOLT\HEX\5/8X2
21	4800098	22	BOLT\HEX\3/8X1-1/4\NC
22	4800146	4	BOLT\HEX\3/8X2
23	4800914	8	BOLT\FLG\SERR\3/8X1-1/4\NC
24	4800930	16	BOLT\FLG\SERR\1/2X2\NC
25	4800949	16	BOLT\FLG\5/8X2\GR8\NC
26	4900002	62	NUT\HEX\3/8\NC
27	4900005	12	NUT\HEX\5/8\NC
28	4900023	4	NUT\TPLCK\3/8\NC
29	4900083	8	NUT\INSERT\3/8\.LONG\0.15-0.312\(.418/CD)
30	4900100	16	NUT\FLG\TPLCK\1/2\NC
31	4900142	4	NUT\TPLCK\5/16\NC
32	4900178	16	NUT\FLG\TPLCK\5/8\GR8\NC
33	5000001	124	WASH\FLAT\3/8
34	5000002	12	WASH\FLAT\5/8
35	5000003	12	WASH\LOCK\5/8
36	5000019	62	WASH\LOCK\3/8
37	7500664	8	BALL STUD\SHOCK\FITTING\M6
38	7500665	8	END FITTING\GAS SPRING \m6
39	7500666	8	SAFETY CLIP
40	7500680	4	SPRNG\GAS\60LB\9416K174
41	4501317	4	RLLR\PRESS\COMPL
	4705468		**PLFRM\ASSY\1030**
	NOT SHOWN		
	4500737	1	STOP\CYL\PLFRM
	4800046	1	PIN\CLEVIS\3/4X3
	4800107	1	PIN\HAIR\1/8(#9)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SEE DETAIL A
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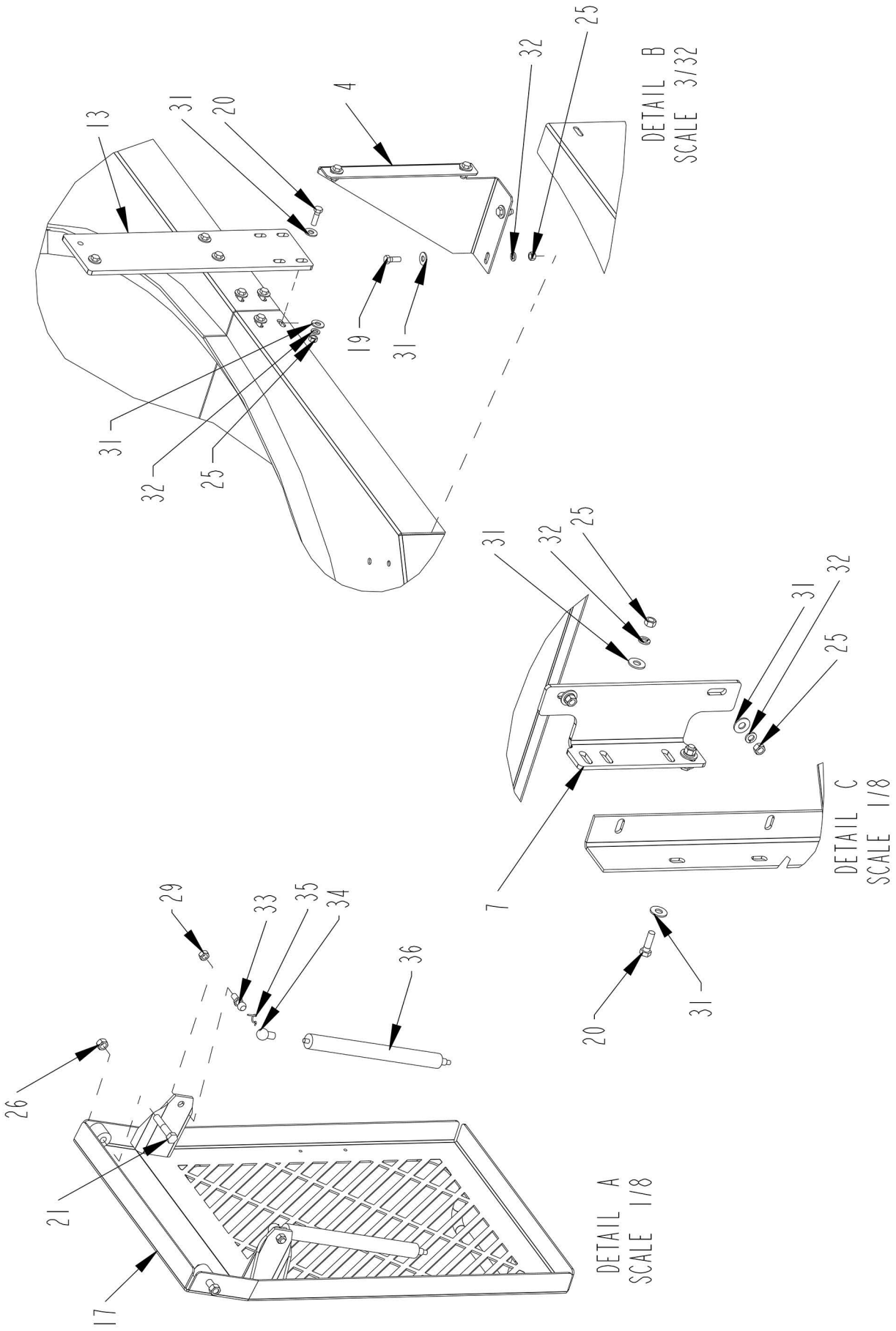
ITEM	PART	QTY.	PART DESCRIPTION
1	1200013	4	RLLR\TUB\1-1/2\W/O FLANGE
2	4702007	4	BRG\PB\RLLR\TUB\ASY\W/BEARING INSERTS
3	4501915	2	BRKT\SHLD\CHAIN\DRIVE\TUB
4	4501916	2	BRKT\SHLD\CHAIN\DRIVE\TUB
5	4501931	1	PIN\PLFRM\TILTCYL
6	4501932	2	WASH\1-3/4 O.D.
7	4502641	2	MNT\SHLD\TUB\REAR
8	4502752	1	FRM\PLFRM\1030
9	4502774	4	DOOR\SHLD\TUB
10	4502797	1	SPCR\DRIVE
11	4705463	2	SHLD\TUBDRIVE
12	4705464	2	SHLD\TUBDRIVE
13	4705465	2	BRKT\SHLD\SIDE
14	4705466	1	SHLD\DRV\CHAIN\TUB\REAR
15	4705467	1	SHLD\DRIVE\TUB
16	4705470	2	CVR\DRV\TUB
17	4705471	2	DOOR\DRIVE\TUB
18	4705472	1	CVR\FR\FRM\MN
19	4800003	50	BOLT\HEX\3/8X1
20	4800098	22	BOLT\HEX\3/8X1-1/4\NC
21	4800146	4	BOLT\HEX\3/8X2
22	4800914	8	BOLT\FLG\SERR\3/8X1-1/4\NC
23	4800930	16	BOLT\FLG\SERR\1/2X2\NC
24	4800949	16	BOLT\FLG\5/8X2\GR8\NC
25	4900002	62	NUT\HEX\3/8\NC
26	4900023	4	NUT\TPLCK\3/8\NC
27	4900083	8	NUT\INSERT\3/8\.LONG\0.15-0.312\(.418/CD)
28	4900100	16	NUT\FLG\TPLCK\1/2\NC
29	4900142	8	NUT\TPLCK\5/16\NC
30	4900178	16	NUT\FLG\TPLCK\5/8\GR8\NC
31	5000001	124	WASH\FLAT\3/8
32	5000019	62	WASH\LOCK\3/8
33	7500664	8	BALL STUD\SHOCK\FITTING\M6
34	7500665	8	END FITTING\GAS SPRING \m6
35	7500666	8	SAFETY CLIP
36	7500680	4	SPRNG\GAS\60LB\9416K174
	4705468		**PLFRM\ASSY\1030**
	NOT SHOWN		
	4500737	1	STOP\CYL\PLFRM
	4800046	1	PIN\CLEVIS\3/4X3
	4800107	1	PIN\HAIR\1/8(#9)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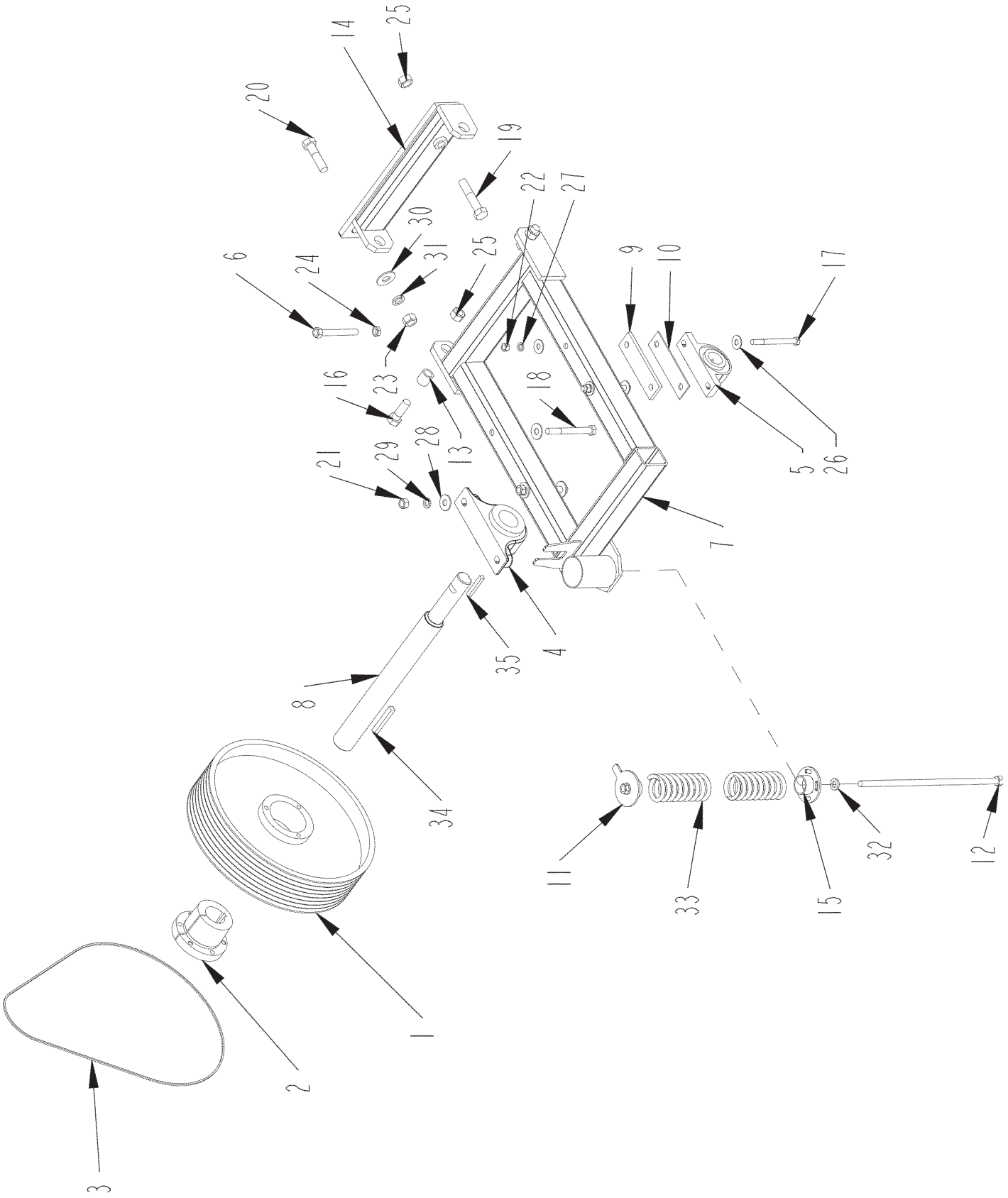
ITEM	PART	QTY.	PART DESCRIPTION
1	1200013	4	RLLR\TUB\1-1/2\W/O FLANGE
2	4702007	4	BRG\PB\RLLR\TUB\ASY\W/BEARING INSERTS
3	4501915	2	BRKT\SHLD\CHAIN\DRIVE\TUB
4	4501916	2	BRKT\SHLD\CHAIN\DRIVE\TUB
5	4501931	1	PIN\PLFRM\TILTCYL
6	4501932	2	WASH\1-3/4 O.D.
7	4502641	2	MNT\SHLD\TUB\REAR
8	4502752	1	FRM\PLFRM\1030
9	4502774	4	DOOR\SHLD\TUB
10	4502797	1	SPCR\DRIVE
11	4705463	2	SHLD\TUBDRIVE
12	4705464	2	SHLD\TUBDRIVE
13	4705465	2	BRKT\SHLD\SIDE
14	4705466	1	SHLD\DRV\CHAIN\TUB\REAR
15	4705467	1	SHLD\DRIVE\TUB
16	4705470	2	CVR\DRV\TUB
17	4705471	2	DOOR\DRIVE\TUB
18	4705472	1	CVR\FR\FRM\MN
19	4800003	50	BOLT\HEX\3/8X1
20	4800098	22	BOLT\HEX\3/8X1-1/4\NC
21	4800146	4	BOLT\HEX\3/8X2
22	4800914	8	BOLT\FLG\SERR\3/8X1-1/4\NC
23	4800930	16	BOLT\FLG\SERR\1/2X2\NC
24	4800949	16	BOLT\FLG\5/8X2\GR8\NC
25	4900002	62	NUT\HEX\3/8\NC
26	4900023	4	NUT\TPLCK\3/8\NC
27	4900083	8	NUT\INSERT\3/8\.LONG\0.15-0.312\(.418/CD)
28	4900100	16	NUT\FLG\TPLCK\1/2\NC
29	4900142	8	NUT\TPLCK\5/16\NC
30	4900178	16	NUT\FLG\TPLCK\5/8\GR8\NC
31	5000001	124	WASH\FLAT\3/8
32	5000019	62	WASH\LOCK\3/8
33	7500664	8	BALL STUD\SHOCK\FITTING\M6
34	7500665	8	END FITTING\GAS SPRING \m6
35	7500666	8	SAFETY CLIP
36	7500680	4	SPRNG\GAS\60LB\9416K174
	4705468		**PLFRM\ASSY\1030**
	NOT SHOWN		
	4500737	1	STOP\CYL\PLFRM
	4800046	1	PIN\CLEVIS\3/4X3
	4800107	1	PIN\HAIR\1/8(#9)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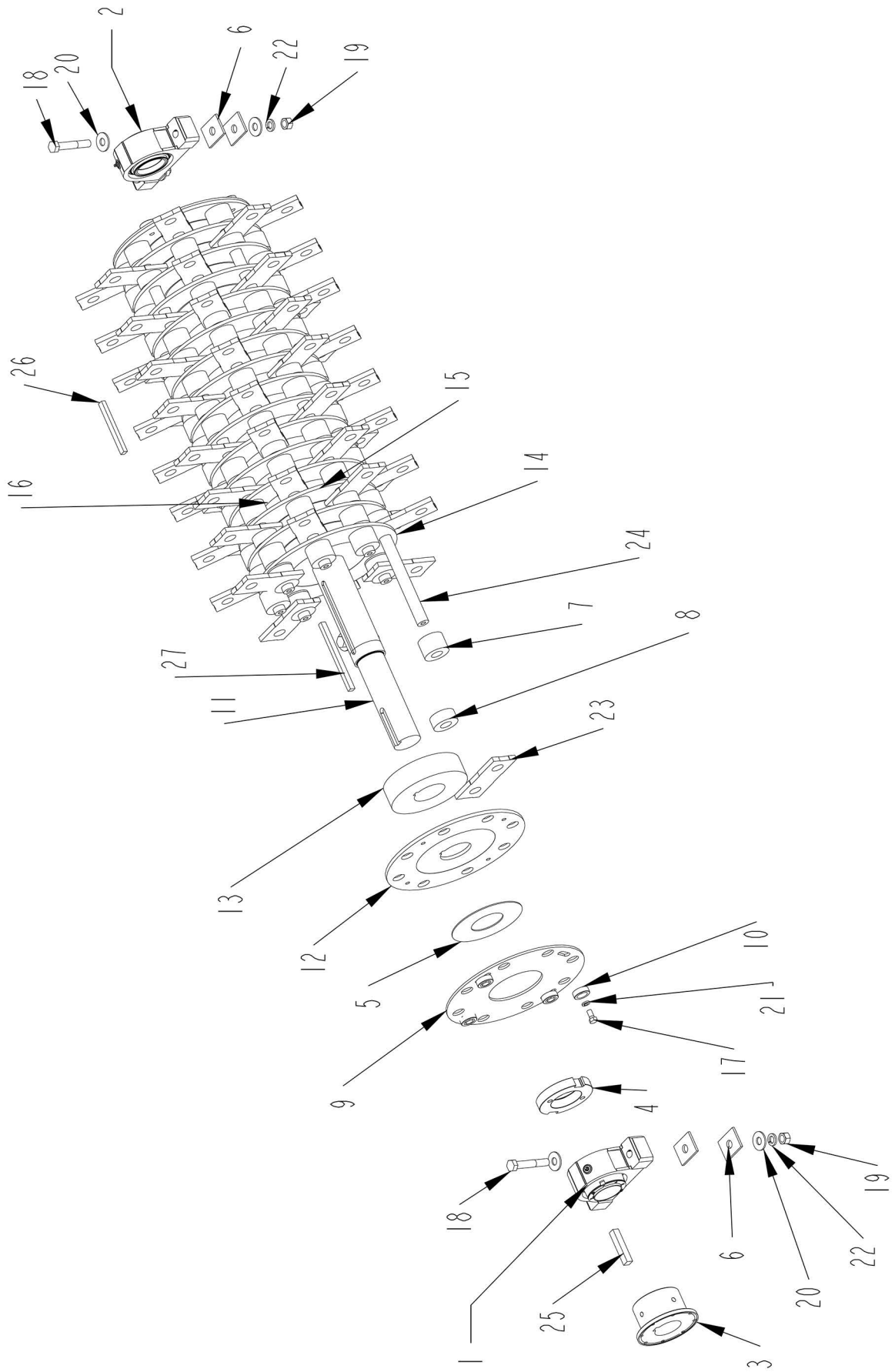
ITEM	PART	QTY.	PART DESCRIPTION
1	1400605	1	SHVE\5V-8\21.2\85V2120J
2	1400642	1	BUSH\QD\J\2-3/4
3	1600102	8	V-BELT\5VP850
4	2000509	1	BRG\PB\2-3/4\E\DODGE
5	2000510	1	BRG\PB\2\2BOLT
6	4501170	1	BOLT\FRM\TGHTNR\CHAIN\TUB
7	4502330	1	WHL\BULL\FRM\OFFSET
8	4502331	1	SHFT\WHL\BULL\OFFSET
9	4502333	1	SHIM\BRG\WHL\BULL
10	4502334	1	SHM\THN\BRG\WHL\BLL
11	4502338	1	CAP\SPRNG\TNSNR
12	4502340	1	ROD\TNSNR\WHL\BULL
13	4502380	2	TUBE\WHL\BLL
14	4502419	1	ADJ\WHL\BLL
15	4502425	1	CAP\TNSNR\WHL\BLL
16	4800140	2	BOLT\HEX\1X3\NC
17	4800155	2	BOLT\HEX\5/8X7
18	4800295	2	BOLT\HEX\3/4X7
19	4800546	1	BOLT\HEX\1X5\NC
20	4800647	1	BOLT\HEX\1X4\NC
21	4900004	4	NUT\HEX\3/4\NC
22	4900005	2	NUT\HEX\5/8\NC
23	4900031	1	NUT\HEX\1\NC
24	4900104	1	NUT\JAM\3/4\NC
25	4900127	3	NUT\TPLCK\1\NC
26	5000002	4	WASH\FLAT\5/8
27	5000003	2	WASH\LOCK\5/8
28	5000005	4	WASH\FLAT\3/4
29	5000012	2	WASH\LOCK\3/4
30	5000014	1	WASH\FLAT\1
31	5000053	1	WASH\LOCK\1
32	5000115	1	WASH\FLAT\3/4\EXTRTHK\GR8
33	6100091	2	SPG\COMP\8X3-1/2OD\1/2WD
34	6200013	1	KEY\SQ\5/8X4-1/2
35	6200062	1	KEY\SQ\1/2X3-1/2
	4502328		**WHL\BULL\OFFSET\H1130**
	NOT SHOWN		
	3700961		HOSE\LUB\1/8X40\MPS-MPS
	3700963		HOSE\LUB\1/8X34\MPS-MPS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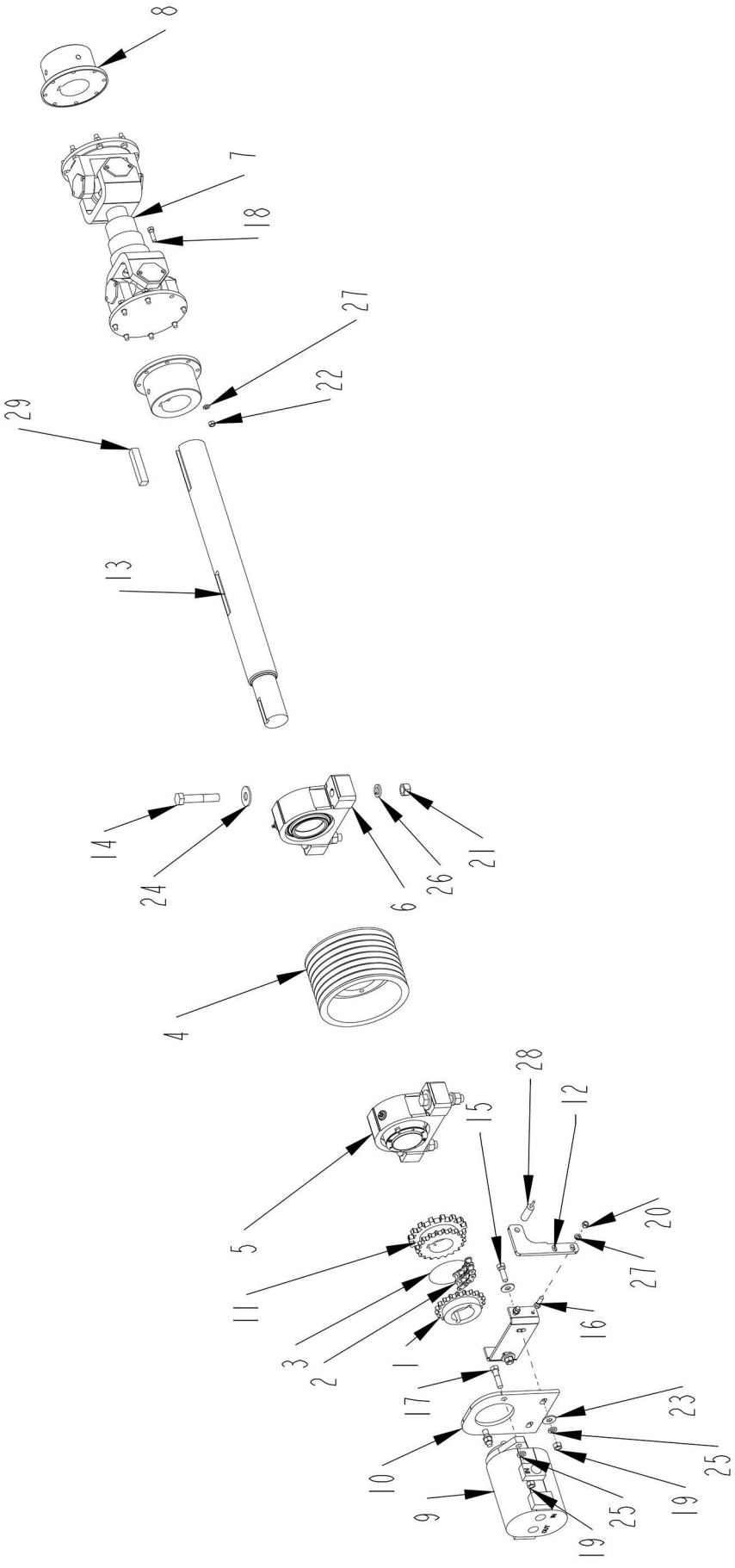
ITEM	PART	QTY.	PART DESCRIPTION
1	2001052	1	BRG\PB\3\IMPRL\NON-EXP
2	2001053	1	BRG\PB\3\IMPRL\EXP
3	3600834	1	FLG\3ID\1610\DRVLIN
4	4500142	2	NUT\CYL\3-1/2
5	4502322	1	WASH\THRUST\ROTOR\H1130
6	4502669	8	SHIM\BRG
7	4502787	64	SPCR\SHOCK\HMMR\RTR
8	4502788	48	SPCR\HMMR\RTR
9	4702292	2	PL\RTR\MVBL\6IDX15-3/4\1-1/4ROD
10	4704292	8	WASHER\PL\MOVEABLE\RTR
11	4705473	1	SHFT\RTR\3-1/2X61-7/8\3”BRG
12	4705474	2	PL\RTR\3/8X3-1/2ID\1-1/4RDS\TPPD
13	4705475	6	SPCR\CAST\8.645ODX3.503IDX2.311 THICK
14	4705476	5	PL\RTR\3.5X3/8X15.75\1-1/4RDS\FCD
15	4705477	10	PL\RTR\3/82X3-1/2ID\GRV\1-1/4RDS
16	4705478	10	SPCR\RTR\1150\8X2.416
17	4800085	8	BOLT\HEX\1/2X1
18	4800139	4	BOLT\HEX\3/4X4-1/2
19	4900004	4	NUT\HEX\3/4\NC
20	5000005	8	WASH\FLAT\3/4
21	5000006	8	WASH\LOCK\1/2
22	5000012	4	WASH\LOCK\3/4
23	5200258	1 SET	HMMR\SWING\1/2X3\2-HOLE\1-1/4RD\3’LONG\HF\SET **(1 SET=64 HAMMERS) (for SN up to 1117007030)**
23a	5200263	1 SET	HMMR\FORGED\1-1/4\SET\H1030 **(1 SET=64 HAMMERS) (for SN 1018007130 & up)**
24	5300104	8	43X1-1/4 HAMMER ROD
25	6200024	1	KEY\SQ\3/4X4
26	6200035	1	KEY\RECT\1/2X5/8X6-1/4
27	6200070	2	KEY\RECT\1/2X5/8X8-1/4
	4705479		**RTR\NEW\43X1-1/4RD\1030**
	4705481		**RTR\ASSY\43X1-1/4RD\1030 (complete)**
SCREENS			
	5400094		⅛” (3.18 mm) Round Hole Screen Half
	5400075		3/16” (4.76 mm) Round Hole Screen Half
	5400009		¼” (6.35 mm) Round Hole Screen Half
	5400010		⅜” (9.52 mm) Round Hole Screen Half
	5400011		½ “ (12.7 mm) Round Hole Screen Half
	5400012		⅝” (15.88 mm) Round Hole Screen Half
	5400013		¾” (19.05 mm) Round Hole Screen Half
	5400014		1” (25.4 mm) Round Hole Screen Half
	5400067		1 ½” (38.1 mm) Round Hole Screen Half
	5400015		2” (50.8 mm) Round Hole Screen Half
	5400016		3” (76.2 mm) Round Hole, Screen Half
	5400061		4” (101.6 mm) Round Hole, Screen Half
	5400108		5” (127 mm) Round Hole Screen Half
	5400147		6” (152.4 mm) Round Hole Screen Half
	5400148		7” (177.8 mm) Round Hole Screen Half
	5400079		Dummy or Open Screen Half
	5400151		4” (101.6 mm) X 6” (152.4) Rectangular Screen Half
	5400152		5” (127 mm) X 7” (177.8 mm) Rectangular Screen Half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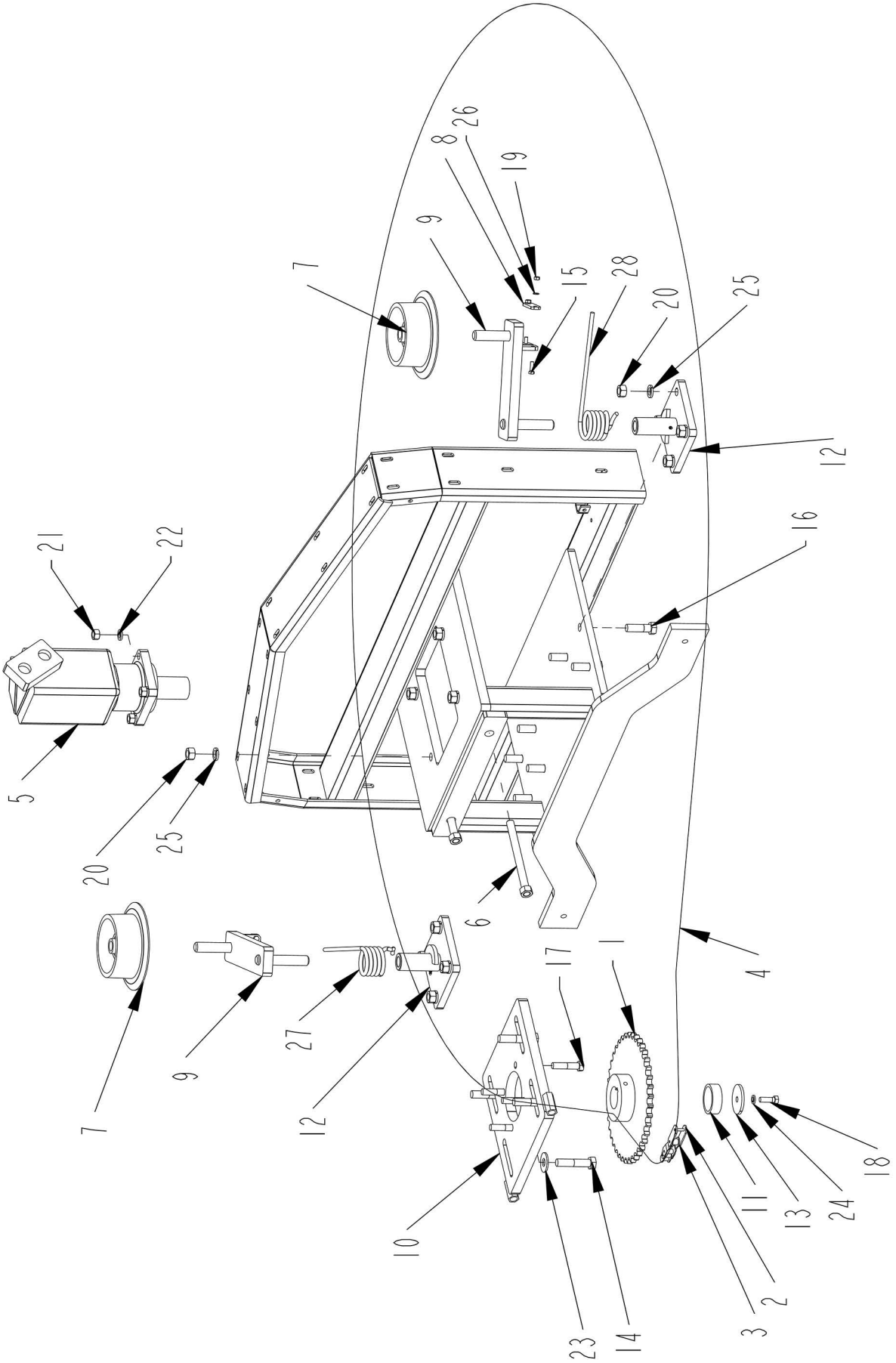
ITEM	PART	QTY.	PART DESCRIPTION
1	4702627	1	SPKT\60\TPR\20\2012\REV
2	1100064	1	CHAIN\60DBL\CL
3	1100193	1	CHAIN\60DBL\19
4	1400637	1	SHVE\5V-8\9.25\F
5	2001052	1	BRG\PB\3\IMPRL\NON-EXP
6	2001053	1	BRG\PB\3\IMPRL\EXP
7	3600833	1	1610 DRIVELINE 17-1/2” COMP.
8	3600834	2	FLG\3ID\1610\DRVLIN
9	4200142	1	PUMP\HYD\TNDM\1.78CIDX1.3CID
10	4502665	1	BRKT\PUMP
11	4502784	1	SPKT\SNSR
12	4502785	1	BRKT\SENSOR
13	4705461	1	SHFT\JACK\PUMPDRIVE
14	4800063	4	BOLT\HEX\3/4X4
15	4800082	2	BOLT\HEX\1/2X1-1/2
16	4800098	2	BOLT\HEX\3/8X1-1/4\NC
17	4800114	2	BOLT\HEX\1/2X2
18	4800487	16	BOLT\HEX\3/8X1-1/4\GR8/NF
19	4900001	4	NUT\HEX\1/2\NC
20	4900002	2	NUT\HEX\3/8\NC
21	4900004	4	NUT\HEX\3/4\NC
22	4900125	16	NUT\HEX\3/8\GR8\NF
23	5000004	4	WASH\FLAT\1/2
24	5000005	4	WASH\FLAT\3/4
25	5000006	4	WASH\LOCK\1/2
26	5000012	4	WASH\LOCK\3/4
27	5000019	18	WASH\LOCK\3/8
28	5700703	1	SWITCH\PROX\NPN\5MM
29	6200024	1	KEY\SQ\3/4X4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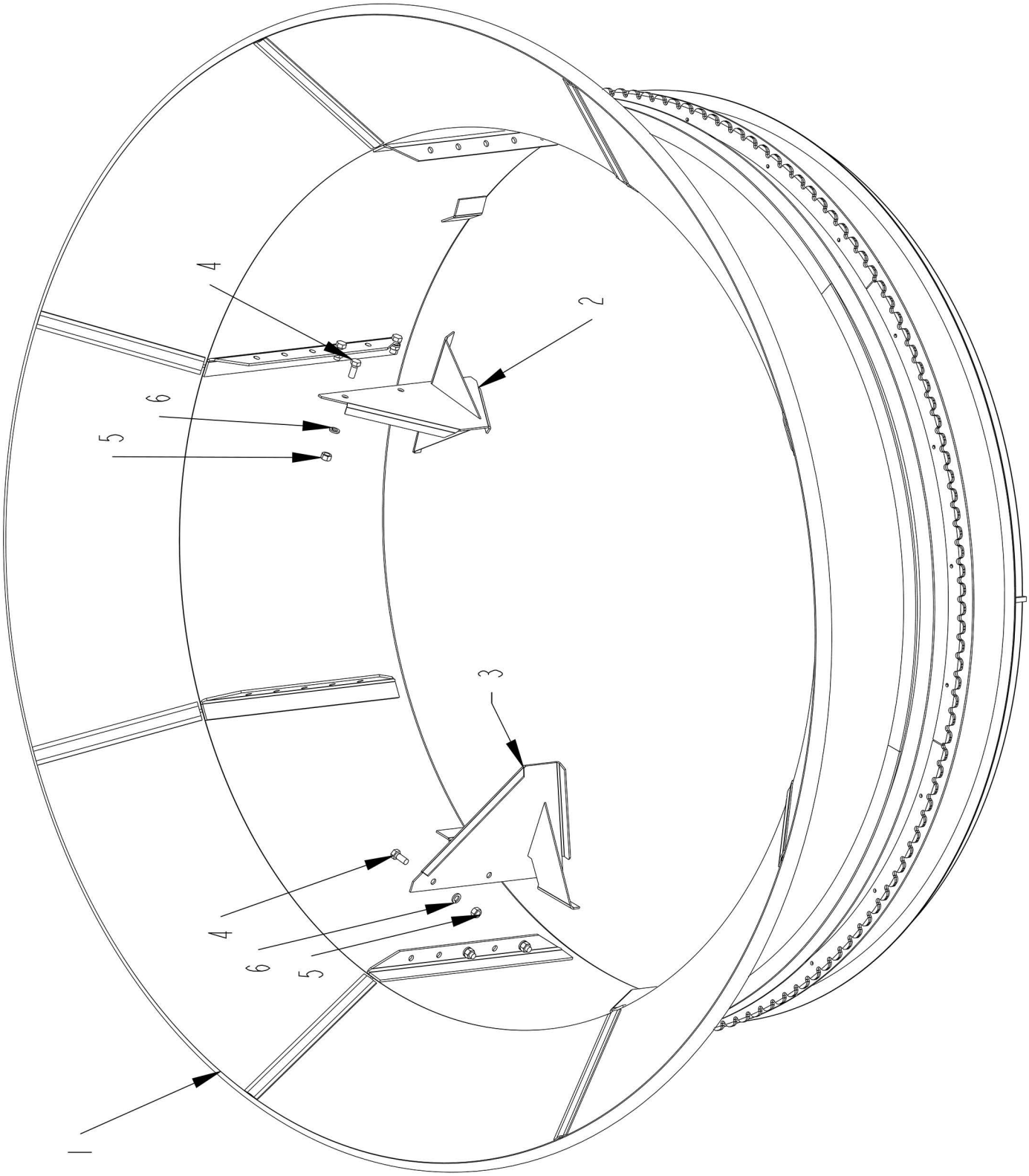
ITEM	PART	QTY.	PART DESCRIPTION
1	1000237	1	SPKT\80\B\40\2-1/4\1/2KW
2	1100070	1	CHAIN\2080\CL
3	1100071	1	CHAIN\2080\OL
4	1100310	1	CHAIN\2080\165
5	4200121	1	MTR\HYD\40.6\1000\2-1/4\1-5/16FOR
6	4501328	2	BOLT\HEX\3X4X8-1/2
7	4501331	2	RLLR\DR\TUB
8	4501383	2	BRKT\SPRING\
9	4501705	2	BRKT\RLLR\TNSN
10	4501707	1	BRKT\MTR\DRV\TUB
11	4502797	1	SPCR\DRIVE
12	4703168	2	BRKT\RLLR\TNSN
13	4703713	1	WASH\MTR\ORBIT
14	4800011	4	BOLT\HEX\3/4X3-1/2
15	4800013	4	BOLT\HEX\5/16X1
16	4800115	8	BOLT\HEX\3/4X2-1/2
17	4800196	4	BOLT\HEX\5/8X2-3/4
18	4800575	1	BOLT\HEX\1/2X1-1/2\NF
19	4900003	4	NUT\HEX\5/16\NC
20	4900004	14	NUT\HEX\3/4\NC
21	4900005	4	NUT\HEX\5/8\NC
22	5000003	4	WASH\LOCK\5/8
23	5000005	4	WASH\FLAT\3/4
24	5000006	1	WASH\LOCK\1/2
25	5000012	12	WASH\LOCK\3/4
26	5000022	4	WASH\LOCK\5/16
27	6100078	1	SPG\DR\TUB
28	6100079	1	SPG\DR\TUB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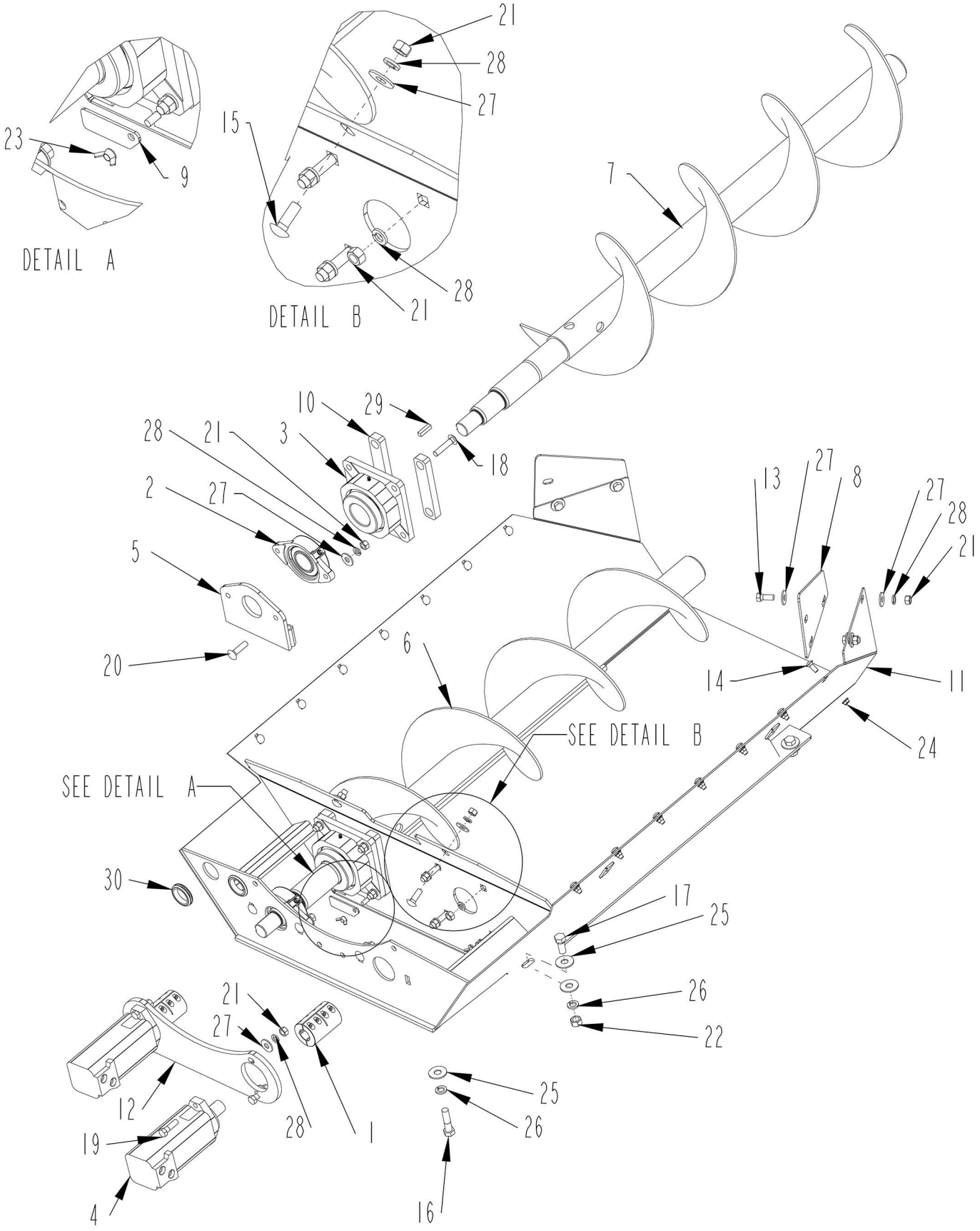
TUB ASSEMBLY

ITEM	PART	QTY.	PART DESCRIPTION
1	4502397	1	TUB\1030
2	4502409	1	AGTTR\TUB\FIN\10
3	4502410	1	AGTTR\TUB\FIN\14
4	4800106	6	BOLT\HEX\5/8X1-1/2
5	4900005	6	NUT\HEX\5/8\NC
6	5000003	6	WASH\LOCK\5/8
	4705469		**TUB\ASSY\1030**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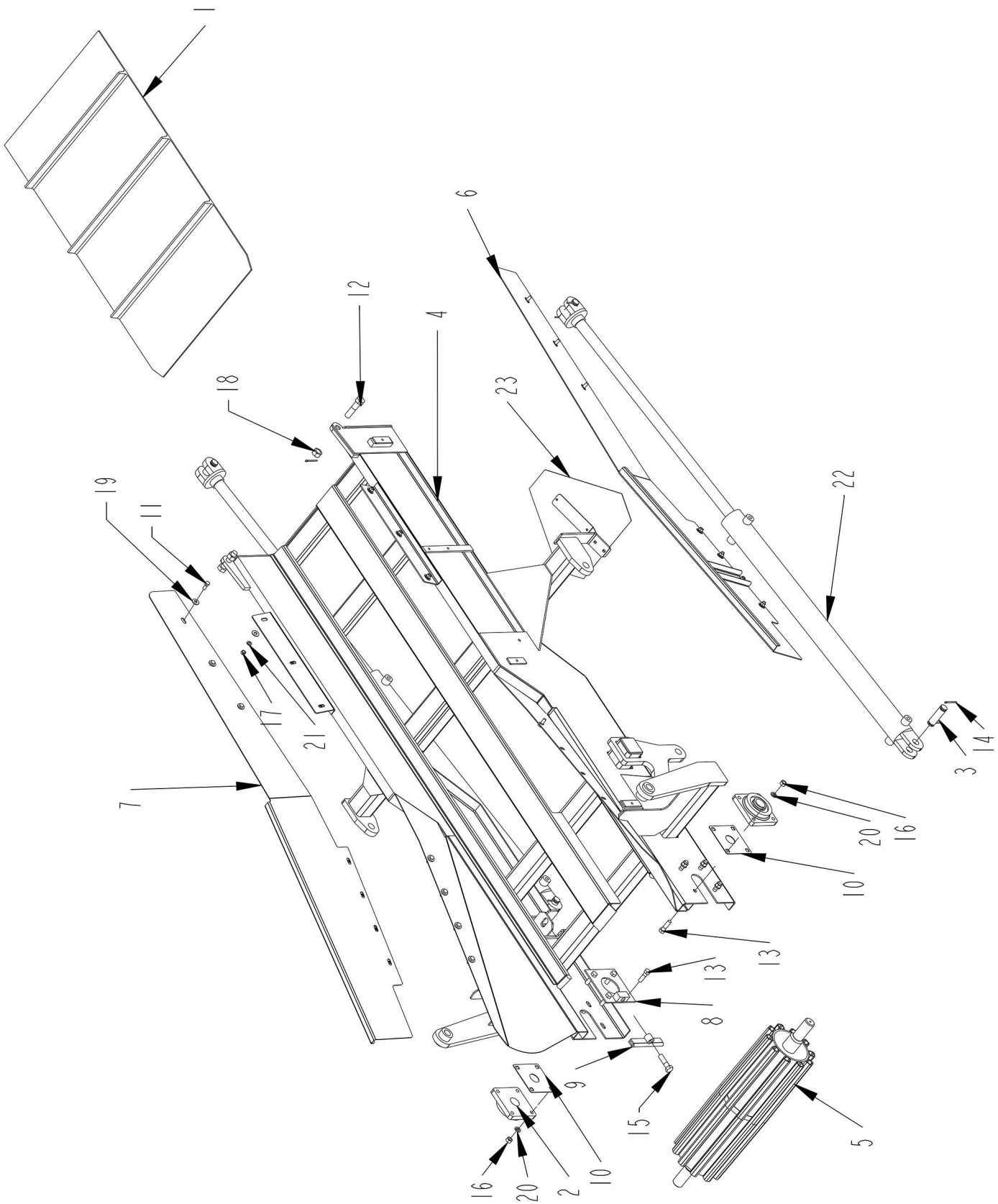
BELLY AUGER ASSEMBLY

ITEM	PART	QTY.	PART DESCRIPTION
1	1400659	2	CPLR\RIGID\1.5X1.25
2	2000587	2	BRG\FLG\2”-BLT\SSCRW
3	2000588	2	BRG\FLG\2-1/2\4-BLT\D-LOCK
4	3900010	2	MTR\HYD\24\2000\SAE;A
5	4502312	2	ADJSTR\BRG\FR
6	4502393	1	AUGER\RIGHT
7	4502395	1	AUGER\LEFT\1030
8	4502427	2	SH\SIDE\PAN\CNVYR
9	4502603	2	CVR\HOLE\DRN
10	4502666	4	SPCR\BRG\AGR\CNVYR
11	4502754	1	PAN\CNVYR\BELLY\H1030
12	4502755	1	BRKT\MTR\DRIVE
13	4800018	4	BOLT\HEX\1/2X1-1/4
14	4800053	14	BOLT\CRG\3/8X1\NC
15	4800061	2	BOLT\CRG\1/2X1-1/2\NC
16	4800079	4	BOLT\HEX\5/8X2-1/2
17	4800106	4	BOLT\HEX\5/8X1-1/2
18	4800129	8	BOLT\CRG\1/2X2-1/2\NC
19	4800178	4	BOLT\HEX\1/2X1-3/4
20	4800334	4	BOLT\CRG\1/2X2\NC
21	4900001	22	NUT\HEX\1/2\NC
22	4900005	4	NUT\HEX\5/8\NC
23	4900032	2	NUT\WING\3/8\NC
24	4900076	14	NUT\FLG\SERR\3/8\NC
25	5000002	12	WASH\FLAT\5/8
26	5000003	8	WASH\LOCK\5/8
27	5000004	18	WASH\FLAT\1/2
28	5000006	22	WASH\LOCK\1/2
29	6200007	2	KEY\SQ\3/8X1-1/2
30	7500360	2	GRMT\RBBR\2X1.75IDX1/4T
	4502398		**CNVYR\BELLY\AUGER\ASSY\1030**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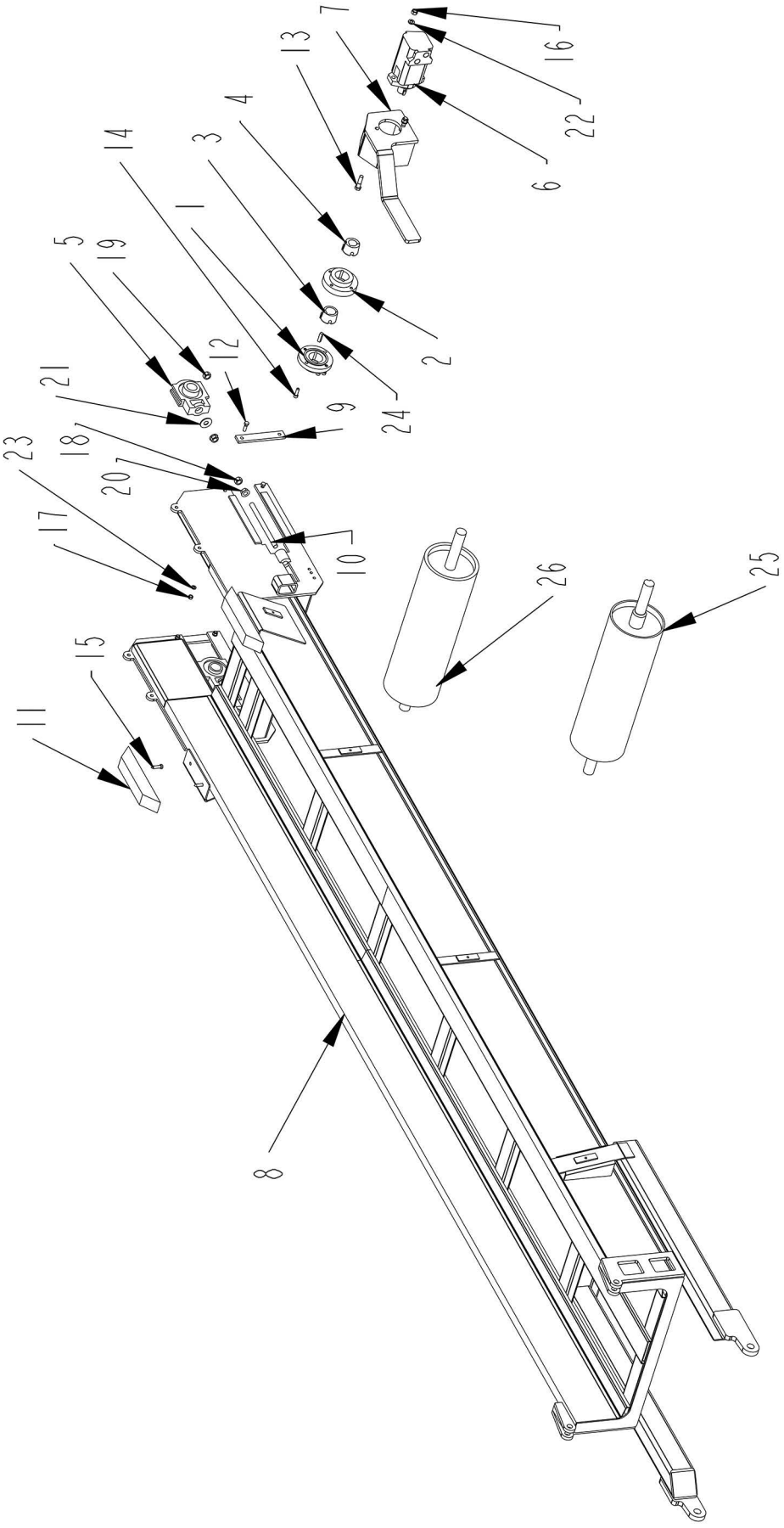
ITEM	PART	QTY.	PART DESCRIPTION
1	1700255	1	BELT\CNVYR\24X513\CLEATED
2	2000303	2	BRG\FLG\1-1/2\BOLT
3	4100030	4	PIN 1” X 3-1/2” HYD. CYL.
4	4502396	1	CONV\LOWER\H1030\FLDNG
5	4502418	1	RLLR\IDLER\32-3/4X8\CNVYR\DISCH
6	4502428	1	TRNSTN\CNVYR\LFT
7	4502429	1	TRNSTN\CNVYR\RGHT
8	4701528	1	BRKT\ADJ\TRACKING\CNVYR\DISCH
9	4701529	1	HOOK\ROD\ADJ\BELT\CNVYR\DISCH
10	4704067	2	PL\SEAL\BRG
11	4800003	14	BOLT\HEX\3/8X1
12	4800017	2	BOLT\HEX\3/4X3
13	4800178	8	BOLT\HEX\1/2X1-3/4
14	4800203	8	PIN\COT\5/32X2
15	4800351	1	BOLT\HEX\1/2X2-3/4
16	4900001	8	NUT\HEX\1/2\NC
17	4900002	14	NUT\HEX\3/8\NC
18	4900139	2	NUT\TPLCK\3/4\GR8\NC
19	5000001	28	WASH\FLAT\3/8
20	5000006	8	WASH\LOCK\1/2
21	5000019	14	WASH\LOCK\3/8
22	4100175	2	CYL\HYD\3X36\PARALLEL
23	7501353	1	SIGN\SMV\PLSTC-BCKNG WITH SPADE & BRKT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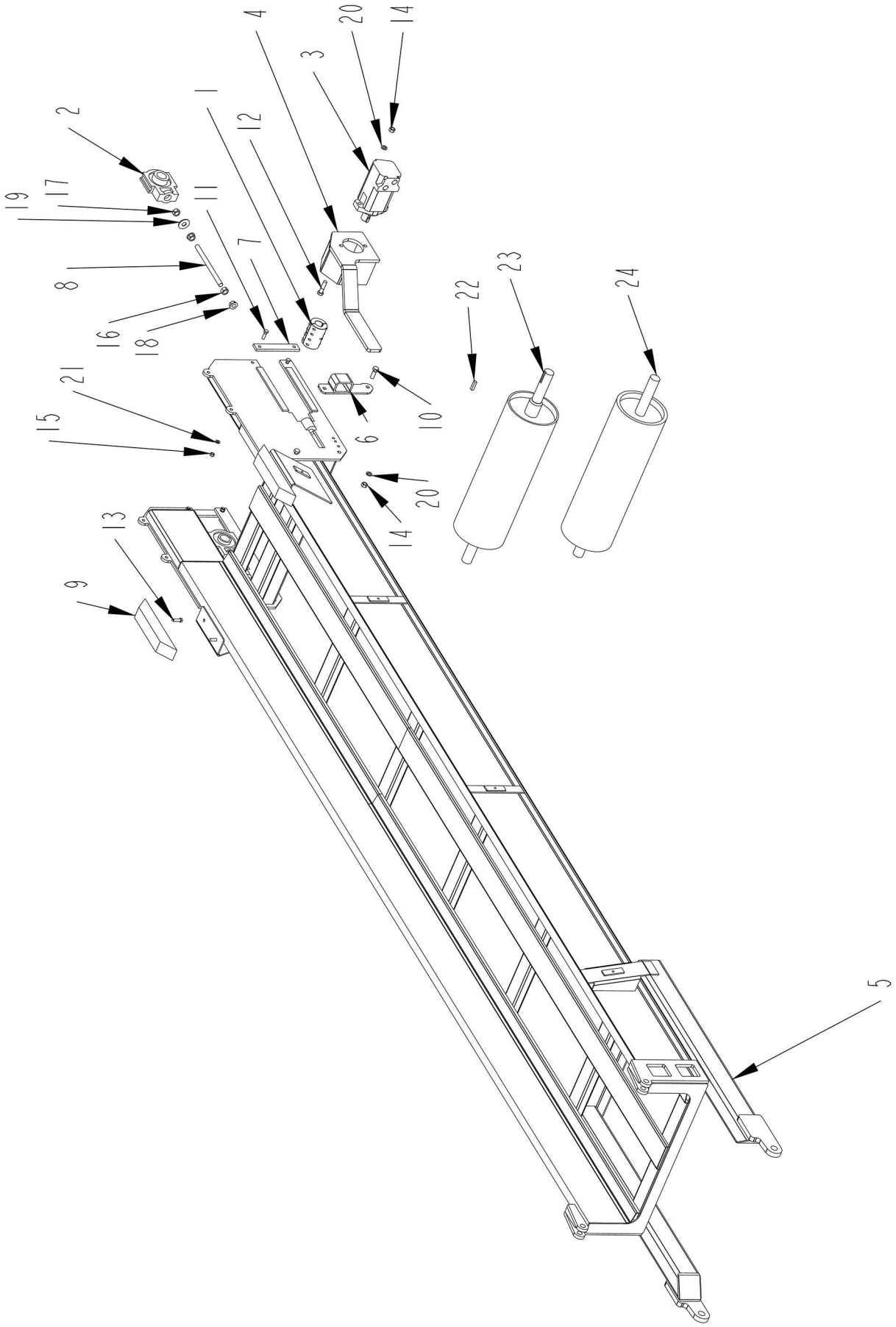
ITEM	PART	QTY.	PART DESCRIPTION
1	1400632	1	CPLR\RIGID\MALE\FLANGE\DODGE\003001
2	1400633	1	CPLR\RIGID\FEMALE\FLANGE\DODGE\003002
3	1400634	1	BUSH\TAPER\1-1/2SH\3/8KW\DODGE\119056
4	1400635	1	BUSH\TAPER\1-1/4SH\5/16KW
5	2000320	2	BRG\TUU\1-1/2\W-ECC\BSEAL
6	3900014	1	MTR\HYD\9.6\2000\1-1/4SH
7	4502227	1	BRKT\ARM\TORQUE\MTR
8	4502394	1	CONV\UPPER\FLDNG
9	4702204	2	STRAP\REINF\GUIDE\BRG\CNVYR
10	4702205	2	BOLT\ADJ\RLLR\DRV\CNVYR
11	4704099	2	BMPR\CNVYR\DISCH
12	4800098	4	BOLT\HEX\3/8X1-1/4\NC
13	4800114	2	BOLT\HEX\1/2X2
14	4800167	4	SCR\CAP\ALN\3/8X1-1/4\NC
15	4801198	4	SCR\LAG\3/8X1-1/2
16	4900001	2	NUT\HEX\1/2\NC
17	4900002	4	NUT\HEX\3/8\NC
18	4900005	2	NUT\HEX\5/8\NC
19	4900012	2	NUT\TPLCK\5/8\NC
20	4900110	4	NUT\FLG\SERR\5/8\NC
21	5000002	2	WASH\FLAT\5/8
22	5000006	2	WASH\LOCK\1/2
23	5000019	4	WASH\LOCK\3/8
24	6200021	1	KEY\SQ\3/8X1-1/2\HARDEND
25	7500840	option	RLLR\MAG\8X24\KEYED\SHAFT **(option part only**)
26	7501373	1	RLLR\DSCHG\24X8\RBBR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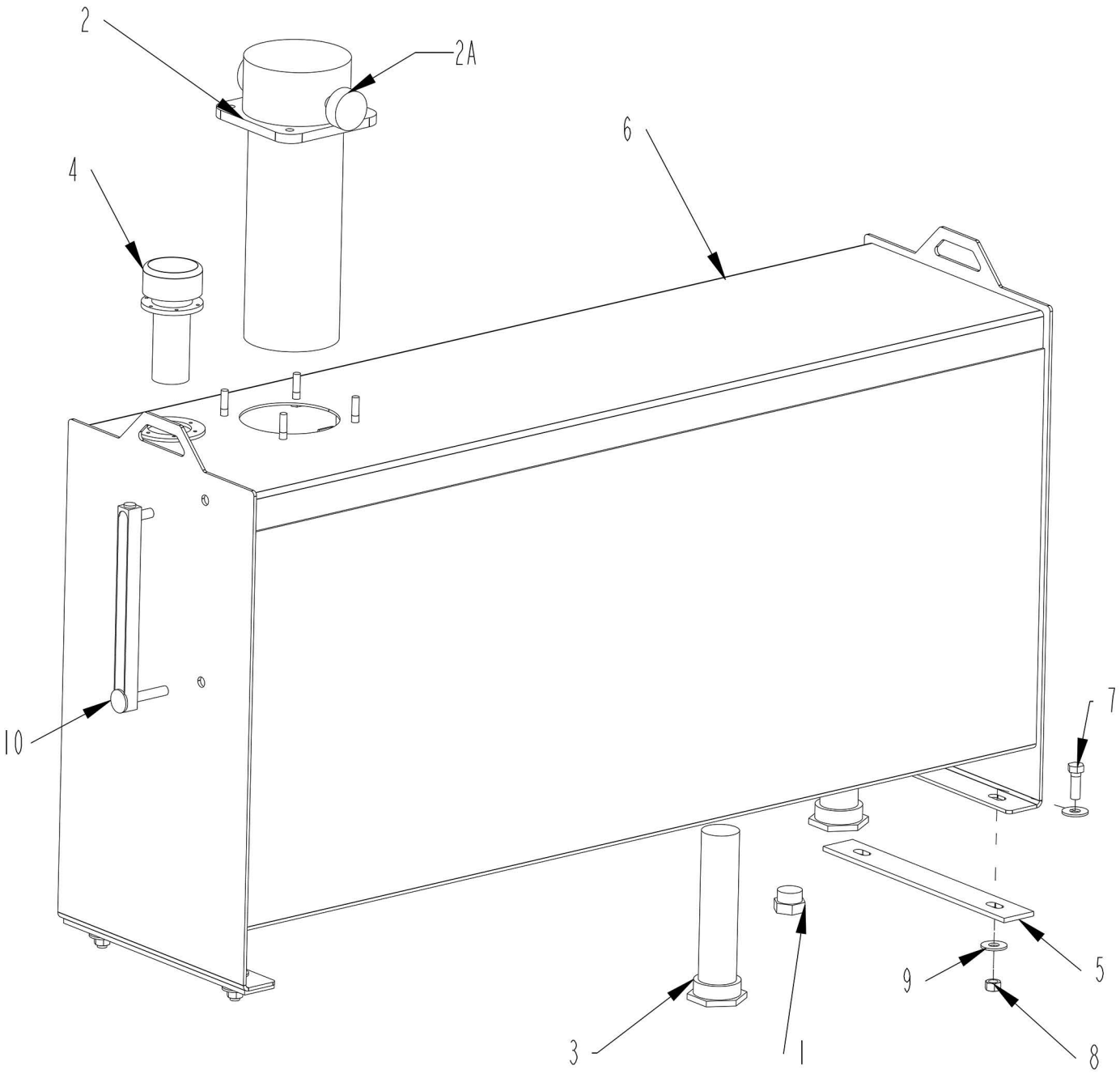
ITEM	PART	QTY.	PART DESCRIPTION
1	1400659	1	CPLR\RIGID\1.5X1.25
2	2000320	2	BRG\TUU\1-1/2\W-ECC\BSEAL
3	3900014	1	MTR\HYD\9.6\2000\1-1/4SH
4	4502227	1	BRKT\ARM\TORQUE\MTR
5	4502394	1	CONV\UPPER\FLDNG
6	4502811	1	BRKT\ARM\TORQUE
7	4702204	2	STRAP\REINF\GUIDE\BRG\CNVYR
8	4702205	2	BOLT\ADJ\RLLR\DRV\CNVYR
9	4704099	2	BMPR\CNVYR\DISCH
10	4800082	2	BOLT\HEX\1/2X1-1/2
11	4800098	4	BOLT\HEX\3/8X1-1/4\NC
12	4800114	2	BOLT\HEX\1/2X2
13	4801198	4	SCR\LAG\3/8X1-1/2
14	4900001	4	NUT\HEX\1/2\NC
15	4900002	4	NUT\HEX\3/8\NC
16	4900005	2	NUT\HEX\5/8\NC
17	4900012	2	NUT\TPLCK\5/8\NC
18	4900110	4	NUT\FLG\SERR\5/8\NC
19	5000002	2	WASH\FLAT\5/8
20	5000006	4	WASH\LOCK\1/2
21	5000019	4	WASH\LOCK\3/8
22	6200007	1	KEY\SQ\3/8X1-1/2
23	7500840	opt.	RLLR\MAG\8X24\KEYED\SHAFT **(option part only)**
24	7501373	1	RLLR\DSCHG\24X8\RBBR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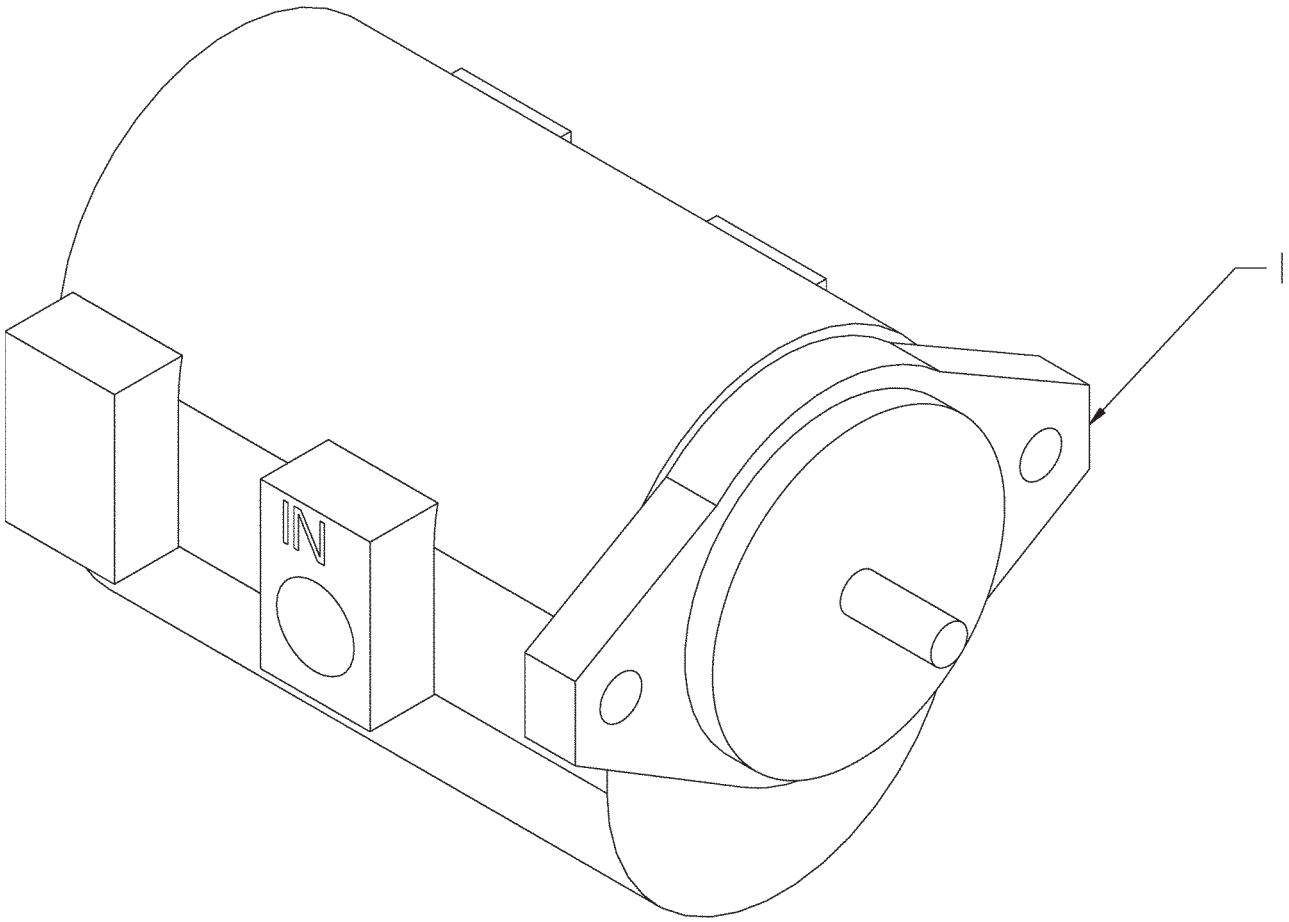
ITEM	PART	QTY.	PART DESCRIPTION
1	3800301	1	FTG\1-5/16MOR\PLUG
2	4400043	1	FILTER\HYDRAULIC\RETURN\IN-TANK ELEMENT 4400074
2a	4400066		GAUGE\FLTR\25PSI\1/8NPTF\COLOR CODED
3	4400067	2	FLTR\SCRN\2-1/2MORX1-7/8FOR\30GPM\ST30-100-RV3
4	4400071	1	VENT\W/LOCK\CAP\HYD
5	4502424	2	BELT\CUSH\TNK\OIL\60GAL
6	4502799	1	TANK\OIL\60GAL
7	4800082	4	BOLT\HEX\1/2X1-1/2
8	4900014	4	NUT\TPLCK\1/2\NC
9	5000004	8	WASH\FLAT\1/2
10	7500615	1	GAUGE\LEVEL\10\W/THERMOMETER
	4502526		**TANK\OIL\ASSY\H1030**
	WEAR PARTS		
	4400074		FLTR\ELMT\10MIC\INTANK (replacement filter)
	4400158		O-RING\2.337IDX.116\BUNA\AS568-932 (FOR 4400067)
	4400159		GASKET\NECK\4400071
	4400160		GASKET\CAP\4400071
	7501587		O-RING\5/8IDX3/32\BUNA90\AS568-114 (USED ON 7500615)

ITEM	PART NO.	QTY.	PART DESCRIPTION
1	4200142	1	PUMP\HYD\TNDM\1.78CIDX1.3CID
	4200161		PUMP\SEAL\KIT\4200142

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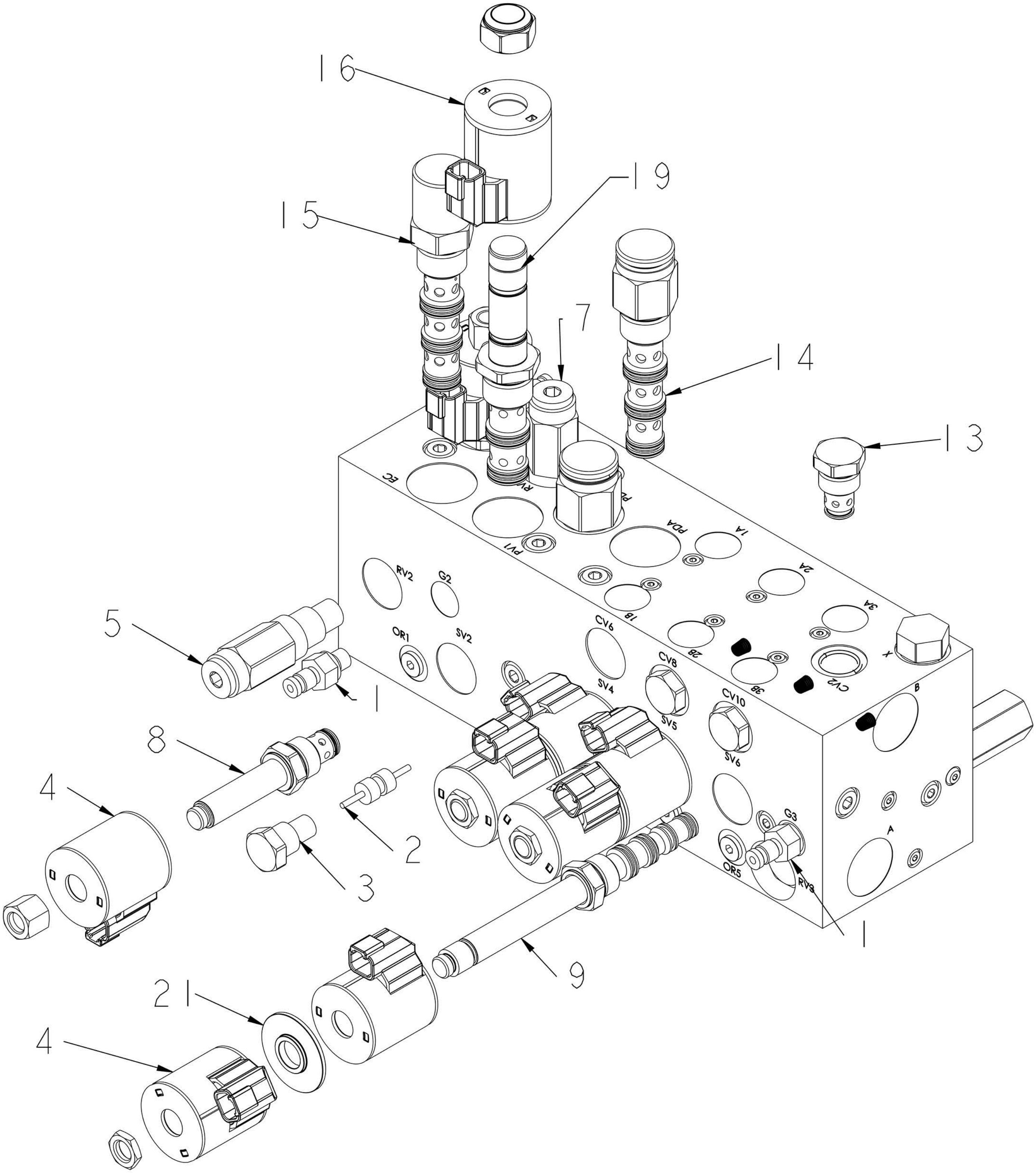
A Tradition of Innovation Since 1966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CV8
CV10
SV4
SV5
SV6
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G3
OR5
RV3

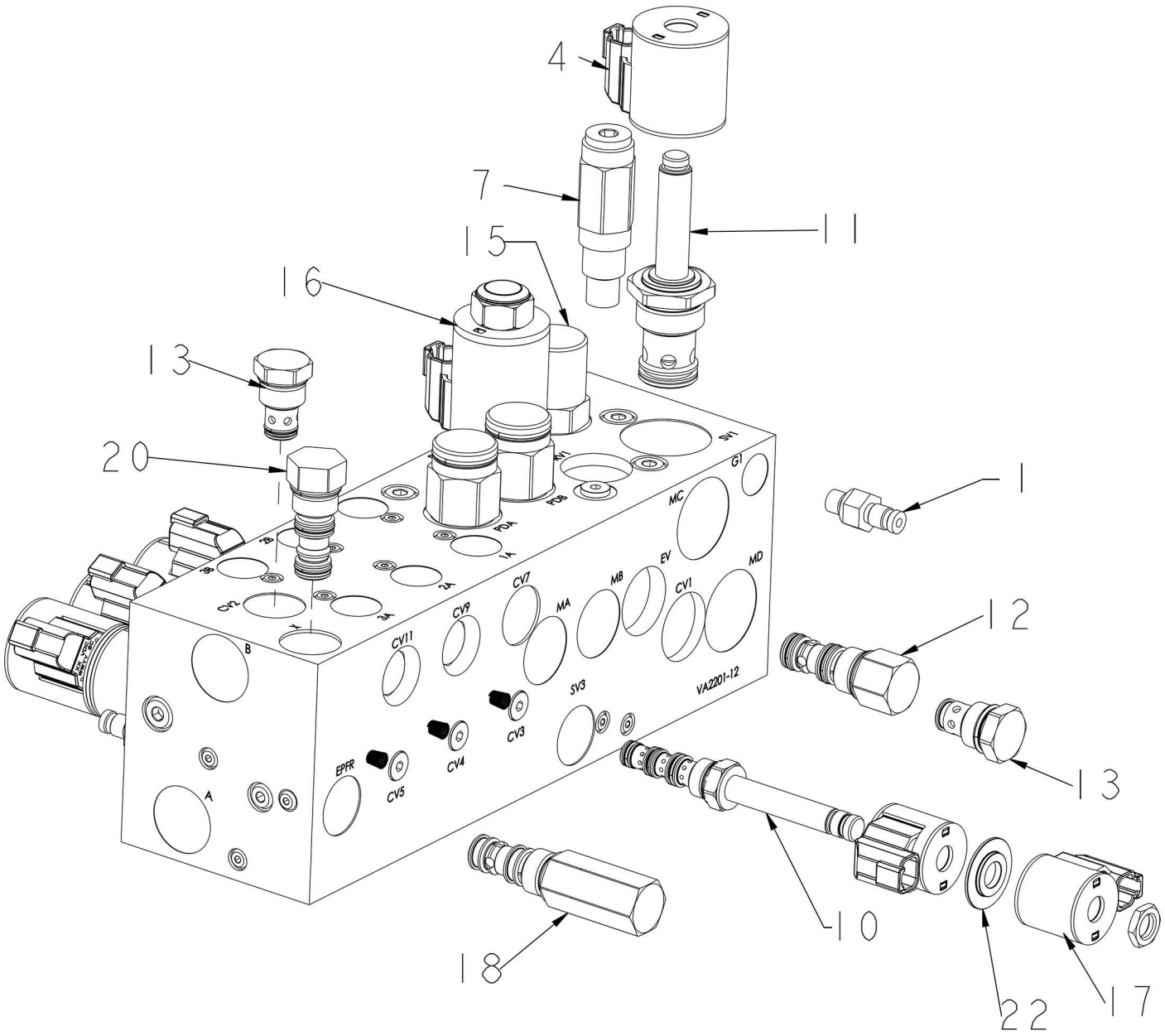
ITEM	PART	QTY.	PART DESCRIPTION
1	3800971	3	FTG\7/16MOR\DIAG\MALE;QUICK;CPLR
2	4000230	3	VALVE\HYD\PILOT\PISTON
3	4000231	6	VALVE\CHECK\CART\
4	4000347	8	VALVE\HYD\SOL\12V\E10\DTZ\W/DIODE
5	4000510	1	VLV\HYD\RELIEF\CART\3000
6	4000541	1	VLV\HYD\AUX\BLK\MFLD\12V
7	4000548	1	VLV\HYD\RELIEF\CART\2500
8	4000549	1	VALVE\HYD\CART\N:OPEN\2WAY;2POS
9	4000550	3	VALVE\HYD\CART\5WAY;3POS
10	4000551	1	VALVE\HYD\CART\3POS,4WAY\OPEN;CENTER
11	4000552	1	VALVE\HYD\CART\N.O.;POPPET
12	4000553	1	VALVE\CART\VENTED PRESS BLOCK\EV10
13	4000554	2	VALVE\CHECK\5PSI\#10
14	4000555	2	VALVE\HYD\CART\4POS3WAY\PILOTED
15	4000556	1	VALVE\HYD\CART\COMP\80PSI
16	4000557	1	VALVE\HYD\SOL\12V\E70\DTZ\W/DIODE
17	4000558	2	VALVE\HYD\SOL\12V\E08\DTZ\W/DIODE
18	4000559	1	VALVE\HYD\CART\PRESS;COMP\160PSI
19	4000560	1	VALVE\HYD\CART\PROPOR\NC\2WAY
20	4000561	1	VALVE\HYD\CART\PLUG\3WAY
21	4000562	3	VALVE\HYD\SOL\SPACER\E10
22	4000563	1	VALVE\HYD\SOL\SPACER\E8

Note - Items 18 -4000559 and 20 - 4000561 change valve from open center to closed center

Open center
4000559 goes in port ‘EPFR’ , 4000561 goes in ‘X’

Closed center
4000561 goes in port ‘EPFR’ , 4000559 goes in ‘X’

HYDRAULIC VALVE - 4000598 VIEW 2 (FOR S.N. UP TO 1018012030)

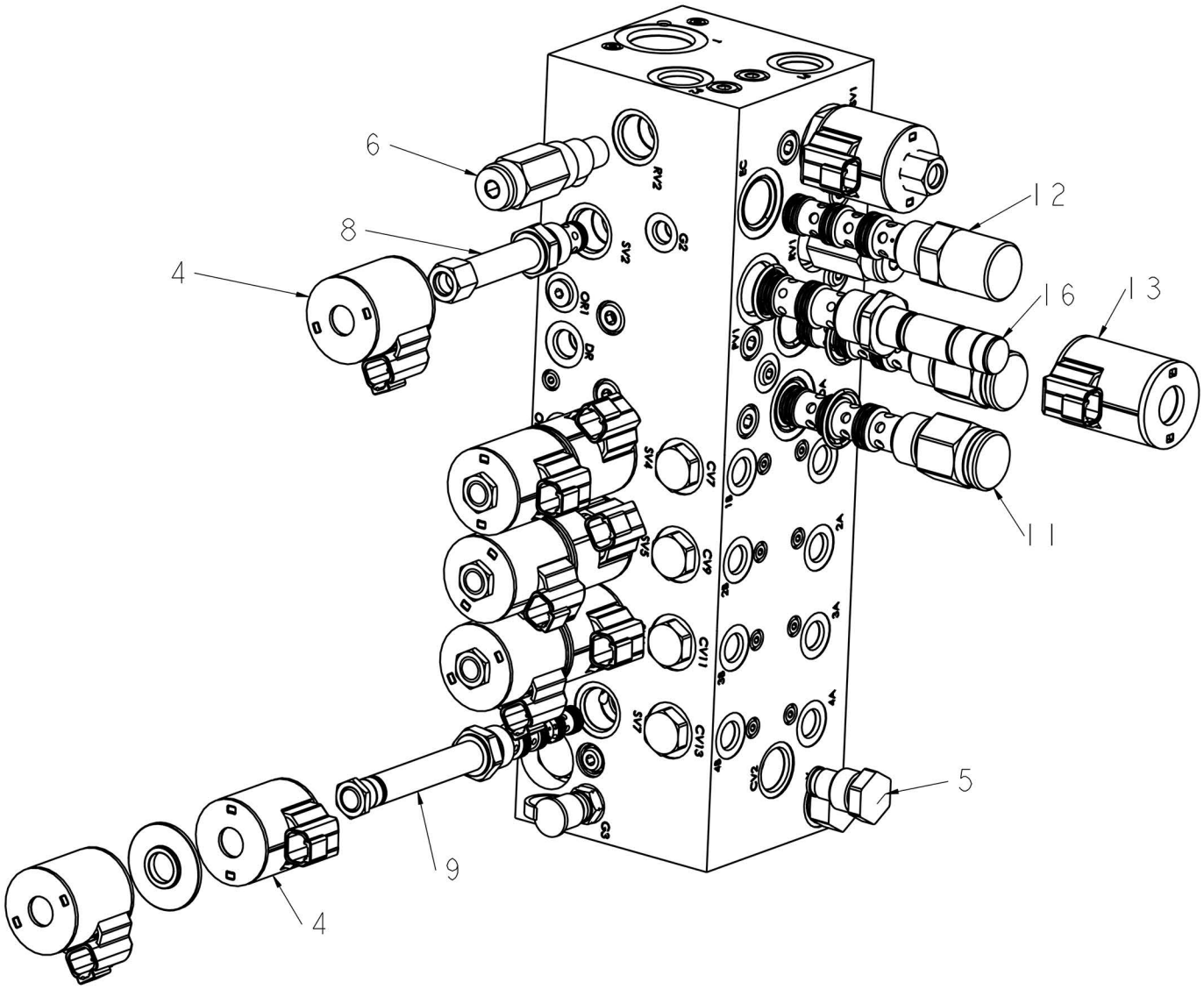


ITEM	PART	QTY.	PART DESCRIPTION
1	3800971	3	FTG\7/16MOR\DIAG\MALE;QUICK;CPLR
2	4000230	3	VALVE\HYD\PILOT\PISTON
3	4000231	6	VALVE\CHECK\CART\
4	4000347	8	VALVE\HYD\SOL\12V\E10\DTZ\W/DIODE
5	4000510	1	VLV\HYD\RELIEF\CART\3000
6	4000541	1	VLV\HYD\AUX\BLK\MFLD\12V
7	4000548	1	VLV\HYD\RELIEF\CART\2500
8	4000549	1	VALVE\HYD\CART\N:OPEN\2WAY;2POS
9	4000550	3	VALVE\HYD\CART\5WAY;3POS
10	4000551	1	VALVE\HYD\CART\3POS,4WAY\OPEN;CENTER
11	4000552	1	VALVE\HYD\CART\N.O.;POPPET
12	4000553	1	VALVE\CART\VENTED PRESS BLOCK\EV10
13	4000554	2	VALVE\CHECK\5PSI\#10
14	4000555	2	VALVE\HYD\CART\4POS3WAY\PILOTED
15	4000556	1	VALVE\HYD\CART\COMP\80PSI
16	4000557	1	VALVE\HYD\SOL\12V\E70\DTZ\W/DIODE
17	4000558	2	VALVE\HYD\SOL\12V\E08\DTZ\W/DIODE
18	4000559	1	VALVE\HYD\CART\PRESS;COMP\160PSI
19	4000560	1	VALVE\HYD\CART\PROPOR\NC\2WAY
20	4000561	1	VALVE\HYD\CART\PLUG\3WAY
21	4000562	3	VALVE\HYD\SOL\SPACER\E10
22	4000563	1	VALVE\HYD\SOL\SPACER\E8

Note - Items 18 -4000559 and 20 - 4000561 change valve from open center to closed center

Open center
4000559 goes in port ‘EPFR’ , 4000561 goes in ‘X’

Closed center
4000561 goes in port ‘EPFR’ , 4000559 goes in ‘X’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ITEM	PART	QTY.	PART DESCRIPTION
1	4000230	4	VALVE\HYD\PILOT\PISTON
2	4000231	8	VALVE\HYD\CART\CHECK\CV0820\100P
3	4000324	1	POPPET\2-WAY\NORMAL\OPEN
4	4000347	10	VALVE\HYD\SOL\12V\E10\DTZ\W/DIODE
5	4000446	2	VALVE\CHECK\CART\CV1020
6	4000510	1	VLV\HYD\RELIEF\CART\3000
7	4000548	1	VLV\HYD\RELIEF\CART\2500
8	4000549	1	VALVE\HYD\CART\N:OPEN\2WAY;2POS
9	4000550	4	VALVE\HYD\CART\5WAY;3POS
10	4000553	1	VALVE\CART\VENTED PRESS BLOCK\EV10
11	4000555	2	VALVE\HYD\CART\4POS3WAY\PILOTED
12	4000556	1	VALVE\HYD\CART\COMP\80PSI
13	4000557	1	VALVE\HYD\SOL\12V\E70\DTZ\W/DIODE
14	4000558	2	VALVE\HYD\SOL\12V\E08\DTZ\W/DIODE
15	4000559	1	VALVE\HYD\CART\PRESS;COMP\160PSI
16	4000560	1	VALVE\HYD\CART\PROPOR\NC\2WAY
17	4000561	1	VALVE\HYD\CART\PLUG\3 WAY
18	4000595	1	VALVE\HYD\CART\3POS,4WAY\OPEN:CENTER
19	4000598	1	

NOTE - VALVE IS SHOWN AS AN OPEN CENTER SYSTEM

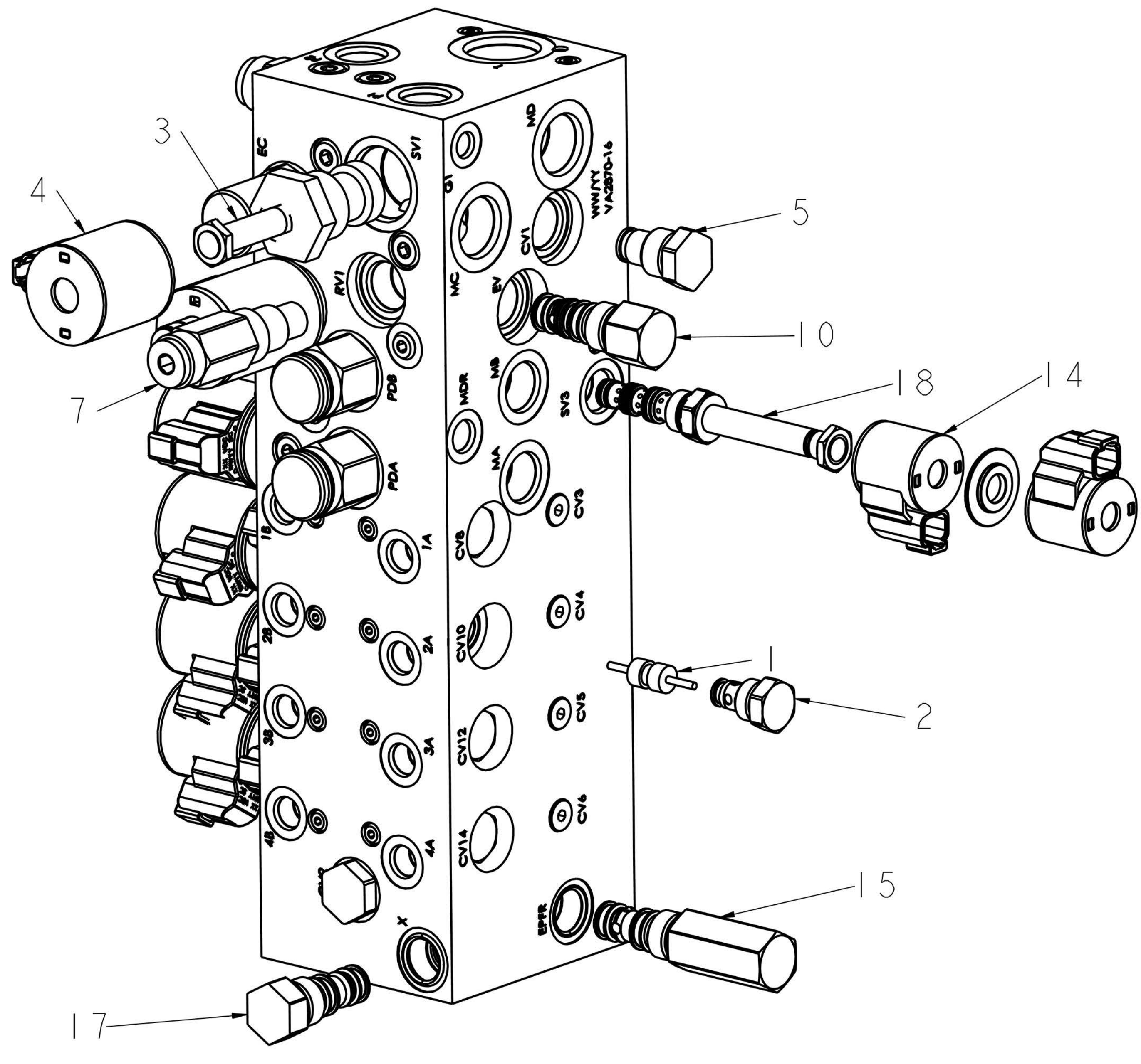
15 - 4000559 IS IN PORT ‘EPFR’

17 - 4000561 IS IN PORT ‘X’

TO CHANGE TO A CLOSED CENTER SYSTEM, MOVE

15 - 4000559 TO PORT ‘X’

17 - 4000561 TO PORT ‘EPFR’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ITEM	PART	QTY.	PART DESCRIPTION
1	4000230	4	VALVE\HYD\PILOT\PISTON
2	4000231	8	VALVE\HYD\CART\CHECK\CV0820\100P
3	4000324	1	POPPET\2-WAY\NORMAL\OPEN
4	4000347	10	VALVE\HYD\SOL\12V\E10\DTZ\W/DIODE
5	4000446	2	VALVE\CHECK\CART\CV1020
6	4000510	1	VLV\HYD\RELIEF\CART\3000
7	4000548	1	VLV\HYD\RELIEF\CART\2500
8	4000549	1	VALVE\HYD\CART\N:OPEN\2WAY;2POS
9	4000550	4	VALVE\HYD\CART\5WAY;3POS
10	4000553	1	VALVE\CART\VENTED PRESS BLOCK\EV10
11	4000555	2	VALVE\HYD\CART\4POS3WAY\PILOTED
12	4000556	1	VALVE\HYD\CART\COMP\80PSI
13	4000557	1	VALVE\HYD\SOL\12V\E70\DTZ\W/DIODE
14	4000558	2	VALVE\HYD\SOL\12V\E08\DTZ\W/DIODE
15	4000559	1	VALVE\HYD\CART\PRESS;COMP\160PSI
16	4000560	1	VALVE\HYD\CART\PROPOR\NC\2WAY
17	4000561	1	VALVE\HYD\CART\PLUG\3 WAY
18	4000595	1	VALVE\HYD\CART\3POS,4WAY\OPEN:CENTER
19	4000598	1	

NOTE - VALVE IS SHOWN AS AN OPEN CENTER SYSTEM

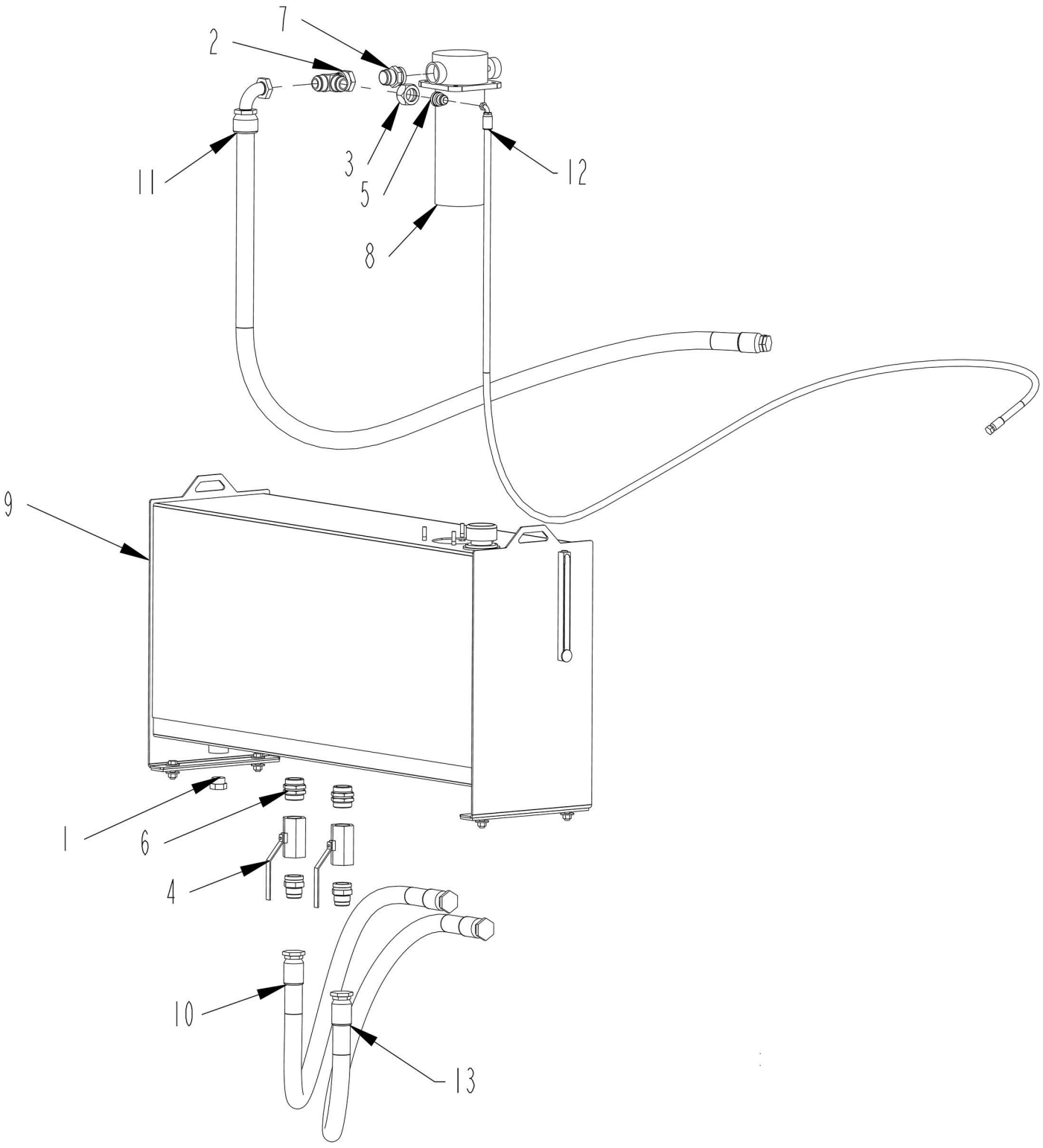
15 - 4000559 IS IN PORT ‘EPFR’

17 - 4000561 IS IN PORT ‘X’

TO CHANGE TO A CLOSED CENTER SYSTEM, MOVE

15 - 4000559 TO PORT ‘X’

17 - 4000561 TO PORT ‘EPFR’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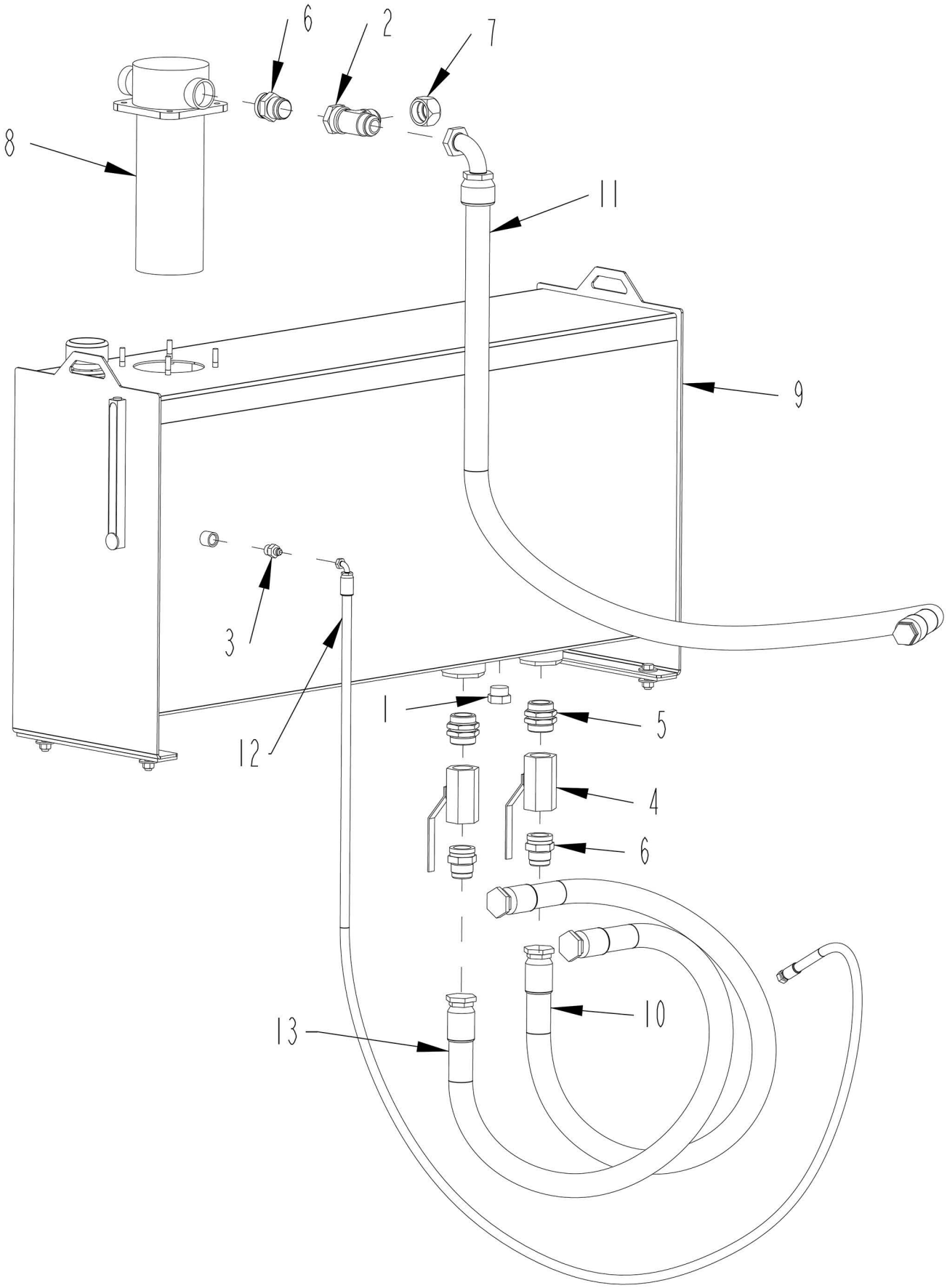
ITEM	PART	QTY.	PART DESCRIPTION
1	3800301	1	FTG\1-5/16MOR\PLUG\HEX
2	3800486	1	FTG\1-5/8FJICX1-5/8MJICX1-5/8MJIC\RUN;TEE
3	3800488	1	FTG\1-5/8NUTFJICS
4	3800740	2	VALVE\BALL\1-1/2\1-7/8FOR\1/4 TURN\W/LOCK
5	3800743	1	FTG\1-5/8FJICX1-1/16MJIC\ADPT
6	3800745	2	FTG\1-7/8MORX1-7/8MOR\ADPT
7	3800808	3	FTG\1-7/8MORX1-5/8MJIC\ST
8	4400043	1	FILTER\HYDRAULIC\RETURN\IN-TANK ELEMENT 4400074
9	4502799	1	TANK\OIL\60GAL
10	3701595	1	HOSE\HYD\1-1/4X49\1-5/8FJICX1-5/8FJIC SUPPLY PORT FRONT PUMP TO RIGHT TANK PORT SCREEN
11	3701567	1	HOSE\HYD\1-1/4X74\1-5/16FJCX1-5/8FJC90DEG T PORT AUX. VALVE TO TANK
12	3701706	1	HOSE\HYD\3/8X91\3/4FJC90X9/16FJC DR PORT AUX. VALVE TO TANK
13	3701595	1	HOSE\HYD\1-1/4X49\1-5/8FJICX1-5/8FJIC SUPPLY PORT REAR PUMP TO LEFT TANK SCREEN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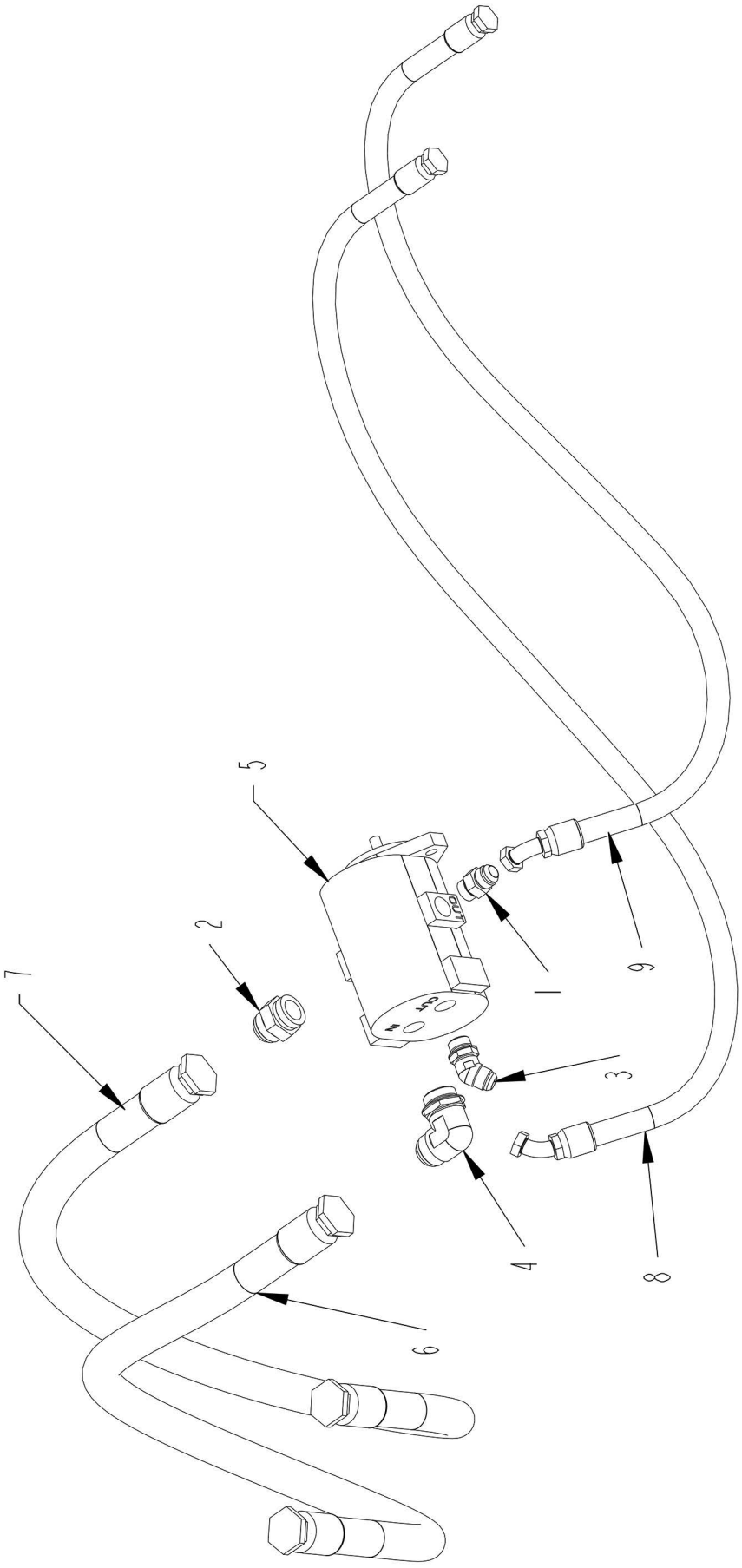
ITEM	PART	QTY.	PART DESCRIPTION
1	3800301	1	FTG\1-5/16MOR\PLUG\HEX
2	3800486	1	FTG\1-5/8FJICX1-5/8MJICX1-5/8MJIC\RUN;TEE
3	3800530	1	FTG\3/4MORX9/16MJIC\ST
4	3800740	2	VALVE\BALL\1-1/2\1-7/8FOR\1/4 TURN\W/LOCK
5	3800745	2	FTG\1-7/8MORX1-7/8MOR\ADPT
6	3800808	3	FTG\1-7/8MORX1-5/8MJIC\ST
7	3801030	1	FTG\1-5/8FJIC\CAP
8	4400043	1	FILTER\HYDRAULIC\RETURN\IN-TANK ELEMENT 4400074
9	4502799	1	TANK\OIL\60GAL
10	3701595	1	HOSE\HYD\1-1/4X49\1-5/8FJICX1-5/8FJIC SUPPLY PORT FRONT PUMP TO RIGHT TANK PORT SCREEN
11	3701567	1	HOSE\HYD\1-1/4X74\1-5/16FJCX1-5/8FJC90DEG T PORT AUX. VALVE TO TANK
12	3701728	1	HOSE\HYD\3/8X80\3/4FJC90X9/16FJC DR PORT AUX. VALVE TO TANK
13	3701595	1	HOSE\HYD\1-1/4X49\1-5/8FJICX1-5/8FJIC SUPPLY PORT REAR PUMP TO LEFT TANK SCREEN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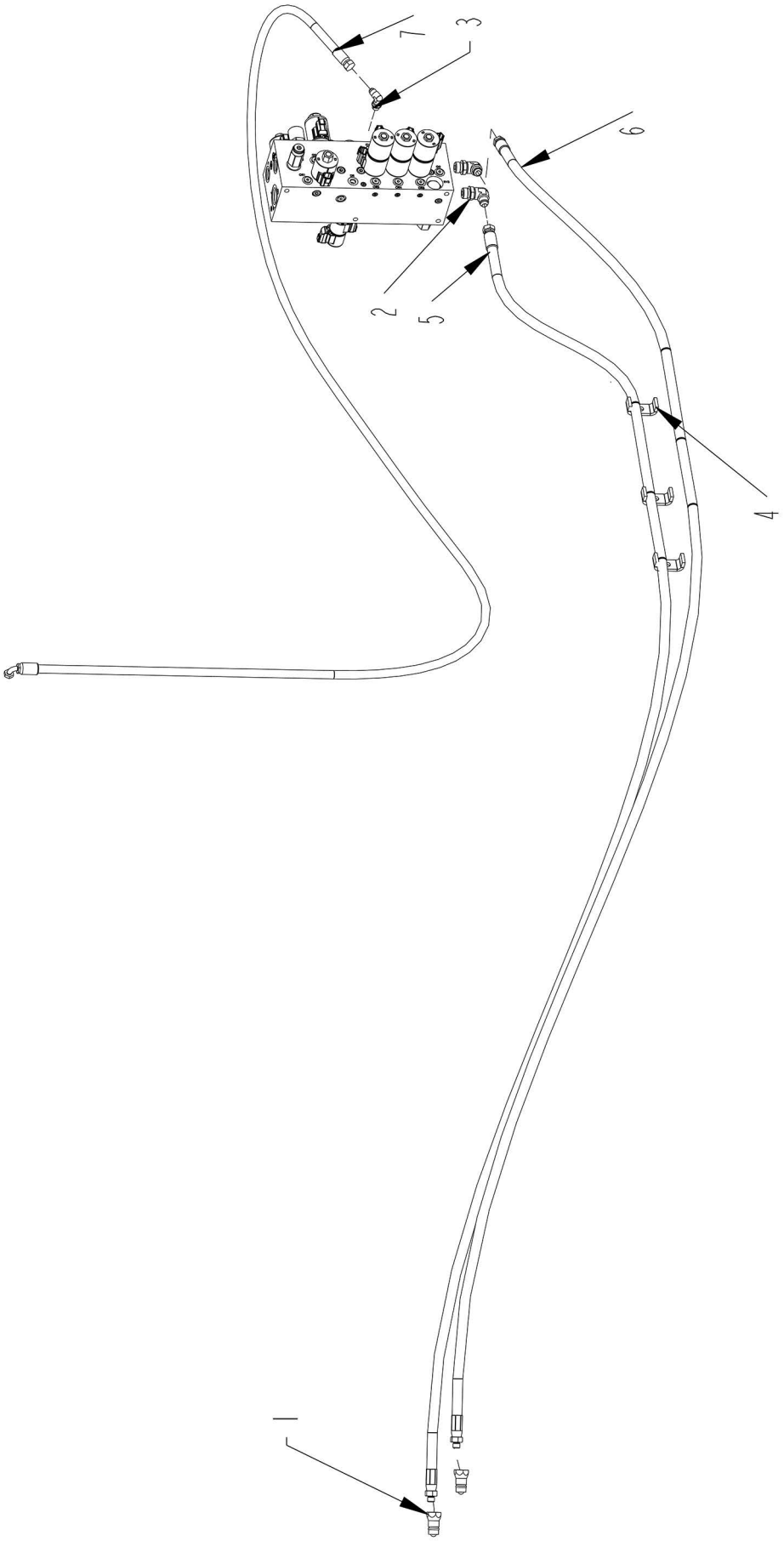
ITEM	PART	QTY.	PART DESCRIPTION
1	3800277	1	FTG\1-1/16MORX1-1/16MJIC\ST
2	3800470	1	FTG\1-5/8MORX1-5/8MJIC\ST
3	3800532	1	FTG\1-1/16MORX1-1/16MJIC\45
4	3800741	1	FTG\1-5/8MORX1-5/8MJIC\90
5	4200142	1	PUMP\HYD\TNDM\1.78CIDX1.3CID
6	3701595	1	HOSE\HYD\1-1/4X49\1-5/8FJICX1-5/8FJIC SUPPLY PORT FRONT PUMP TO RIGHT TANK PORT SCREEN
7	3701595	1	HOSE\HYD\1-1/4X49\1-5/8FJICX1-5/8FJIC SUPPLY PORT REAR PUMP TO LEFT TANK SCREEN
8	3701592	1	HOSE\HYD\3/4X43\1-1/16FJX1-1/16FJC45DEG PUMP TO P1 PORT AUX. VALVE
9	3701593	1	HOSE\HYD\3/4X55\1-1/16FJX1-1/16FJC45DEG PUMP TO P2 PORT AUX. VALVE

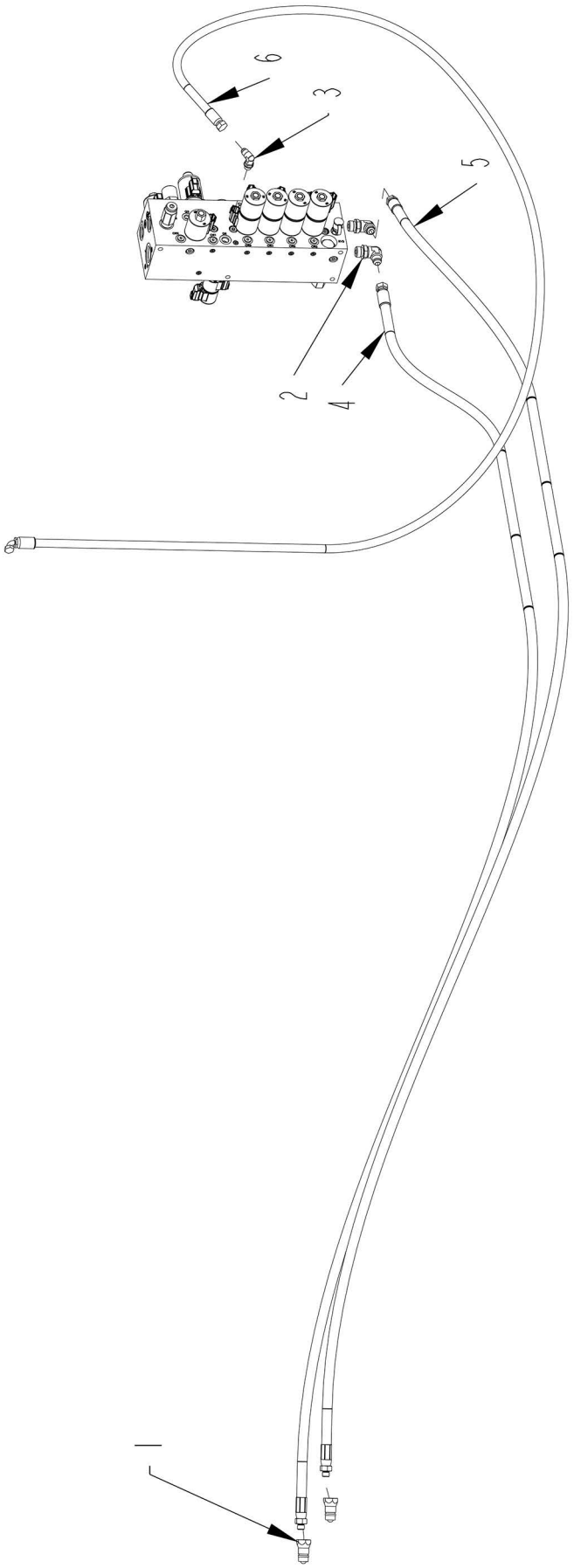
AUX. VALVE HYDRAULICS VIEW A (FOR S.N. UP TO 1018012030)



AUX. VALVE HYDRAULICS VIEW A (FOR S.N. UP TO 1018012030)

ITEM	PART	QTY.	PART DESCRIPTION
1	3800694	2	FTG\3/4FOR\QUICK;CPLR\MALE
2	3800696	2	FTG\7/8MORX3/4MJIC\90
3	3800757	1	FTG\9/16MORX9/16MJIC\90
4	4700777	3	CLMP\HOSE\1/2
5	3700985	1	HOSE\HYD\1/2X144\3/4MORX3/8FJICS TRACTOR TO IN PORT AUX. VALVE
6	3700985	1	HOSE\HYD\1/2X144\3/4MORX3/8FJICS TRACTOR TO OUT PORT AUX. VALVE
7	3701568	1	HOSE\HYD\3/8X91\3/4FJC90X9/16FJC

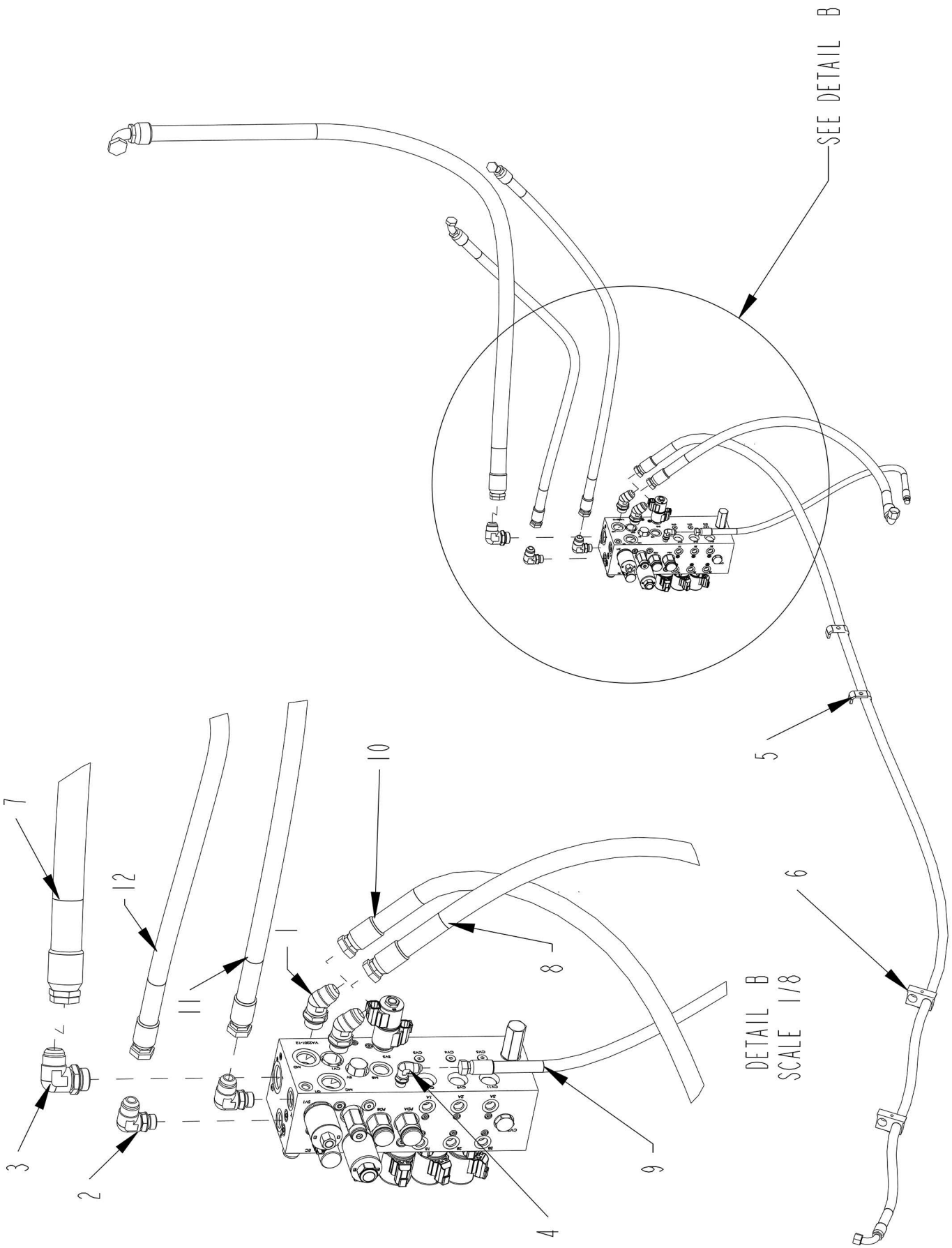
AUX. VALVE HYDRAULICS VIEW A (FOR S.N. 1020012130 AND UP)



AUX. VALVE HYDRAULICS VIEW A (FOR S.N. 1020012130 AND UP)

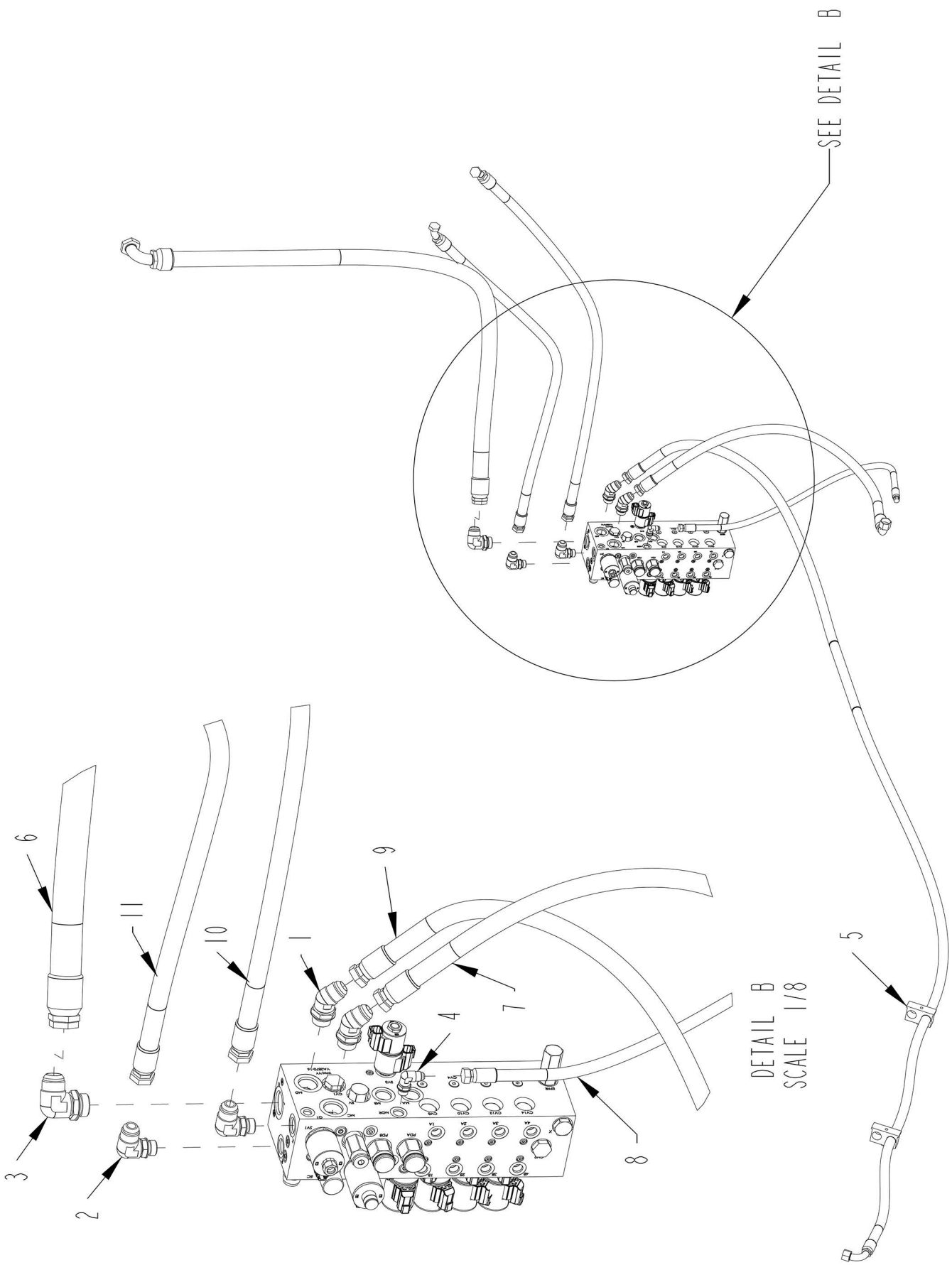
ITEM	PART	QTY.	PART DESCRIPTION
1	3800694	2	FTG\3/4FOR\QUICK;CPLR\MALE
2	3800696	2	FTG\7/8MORX3/4MJIC\90
3	3800757	1	FTG\9/16MORX9/16MJIC\90
4	4700777	3	CLMP\HOSE\1/2
5	3700985	1	HOSE\HYD\1/2X144\3/4MORX3/8FJICS TRACTOR TO IN PORT AUX. VALVE
6	3700985	1	HOSE\HYD\1/2X144\3/4MORX3/8FJICS TRACTOR TO OUT PORT AUX. VALVE
7	3701728	1	HOSE\HYD\3/8X80\3/4FJC90X9/16FJC DR PORT AUX. VALVE TO TANK

AUX. VALVE HYDRAULICS VIEW B (FOR S.N. UP TO 1018012030)



AUX. VALVE HYDRAULICS VIEW B (FOR S.N. UP TO 1018012030)

ITEM	PART	QTY.	PART DESCRIPTION
1	3800532	2	FTG\1-1/16MORX1-1/16MJIC\45
2	3800535	2	FTG\7/8MORX1-1/16MJIC\90
3	3800728	1	FTG\1-5/16MORX1-5/16MJIC\90
4	3800757	1	FTG\9/16MORX9/16MJIC\90
5	4700777	2	CLMP\HOSE\1/2
6	7501337	2	CLMP\HOSE\CUSH\3/4
7	3701567	1	HOSE\HYD\1-1/4X74\1-5/16FJCX1-5/8FJC90DEG T PORT AUX VALVE TO TANK FILTER
8	3701150	1	HOSE\HYD\3/4X32\1-1/16FJC90X1-1/16FJC MC PORT AUX VALVE TO MOTOR PORT B BELLY AUGER
9	3701571	1	HOSE\HYD\3/8X32\9/16FJCX7/16FJC MDR PORT TO BELLY ORBIT
10	3701575	1	HOSE\HYD\3/4X184\1-1/16FJC90X1-1/16FJC MD PORT AUX VALVE TO EX PORT CONV. FLOW CONTROL VALVE
11	3701592	1	HOSE\HYD\3/4X43\1-1/16FJX1-1/16FJC45DEG PUMP TO P1 AUX. VALVE PORT
12	3701593	1	HOSE\HYD\3/4X55\1-1/16FJX1-1/16FJC45DEG PUMP TO P2 AUX. VALVE PORT


SEE DETAIL B
DETAIL B
SCALE 1/8
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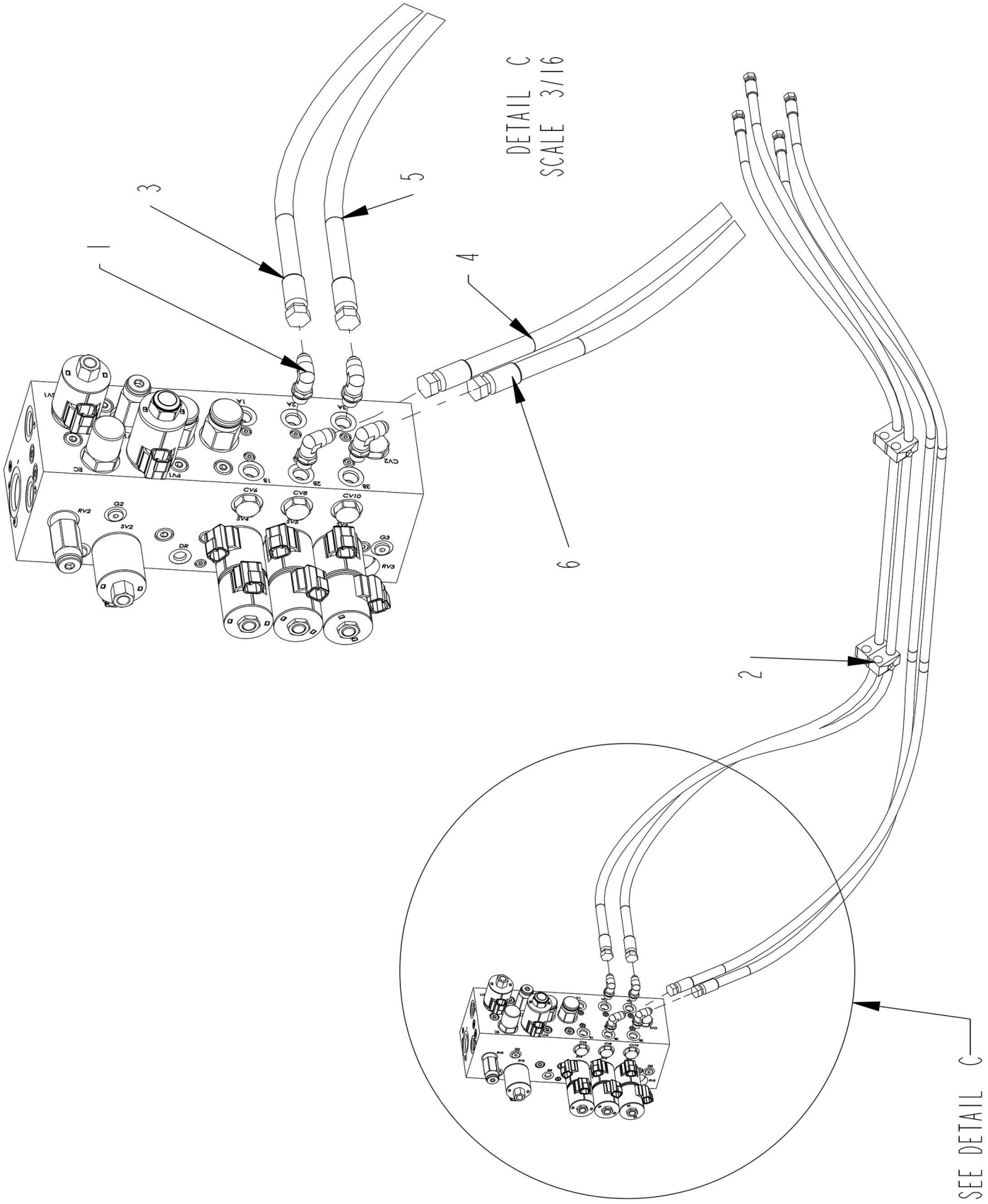
AUX. VALVE HYDRAULICS VIEW B (FOR S.N. 1020012130 AND UP)

ITEM	PART	QTY.	PART DESCRIPTION
1	3800532	2	FTG\1-1/16MORX1-1/16MJIC\45
2	3800535	2	FTG\7/8MORX1-1/16MJIC\90
3	3800728	1	FTG\1-5/16MORX1-5/16MJIC\90
4	3800757	1	FTG\9/16MORX9/16MJIC\90
5	7501337	2	CLMP\HOSE\CUSH\3/4
6	3701567	1	HOSE\HYD\1-1/4X74\1-5/16FJCX1-5/8FJC90DEG T PORT AUX VALVE TO TANK FILTER
7	3701150	1	HOSE\HYD\3/4X32\1-1/16FJC90X1-1/16FJC MC PORT AUX VALVE TO MOTOR PORT B BELLY AUGER
8	3701571	1	HOSE\HYD\3/8X32\9/16FJCX7/16FJC MDR PORT TO BELLY ORBIT
9	3701575	1	HOSE\HYD\3/4X184\1-1/16FJC90X1-1/16FJC MD PORT AUX VALVE TO EX PORT CONV. FLOW CONTROL VALVE
10	3701592	1	HOSE\HYD\3/4X43\1-1/16FJX1-1/16FJC45DEG PUMP TO P1 AUX. VALVE PORT
11	3701593	1	HOSE\HYD\3/4X55\1-1/16FJX1-1/16FJC45DEG PUMP TO P2 AUX. VALVE PORT


DETAIL C
SCALE 3/16
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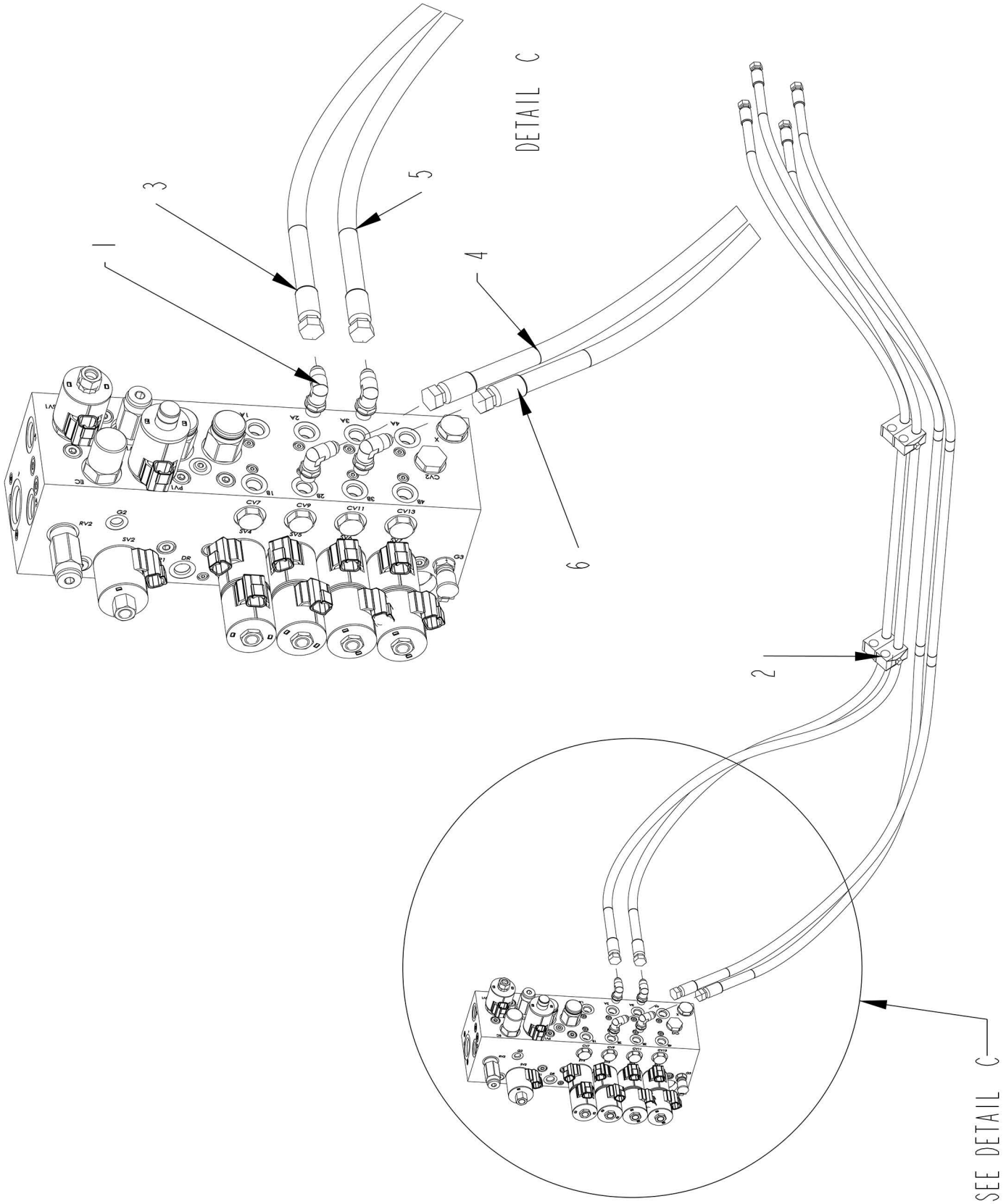
SEE DETAIL C

AUX. VALVE HYDRAULICS VIEW C (FOR S.N. UP TO 1018012030)

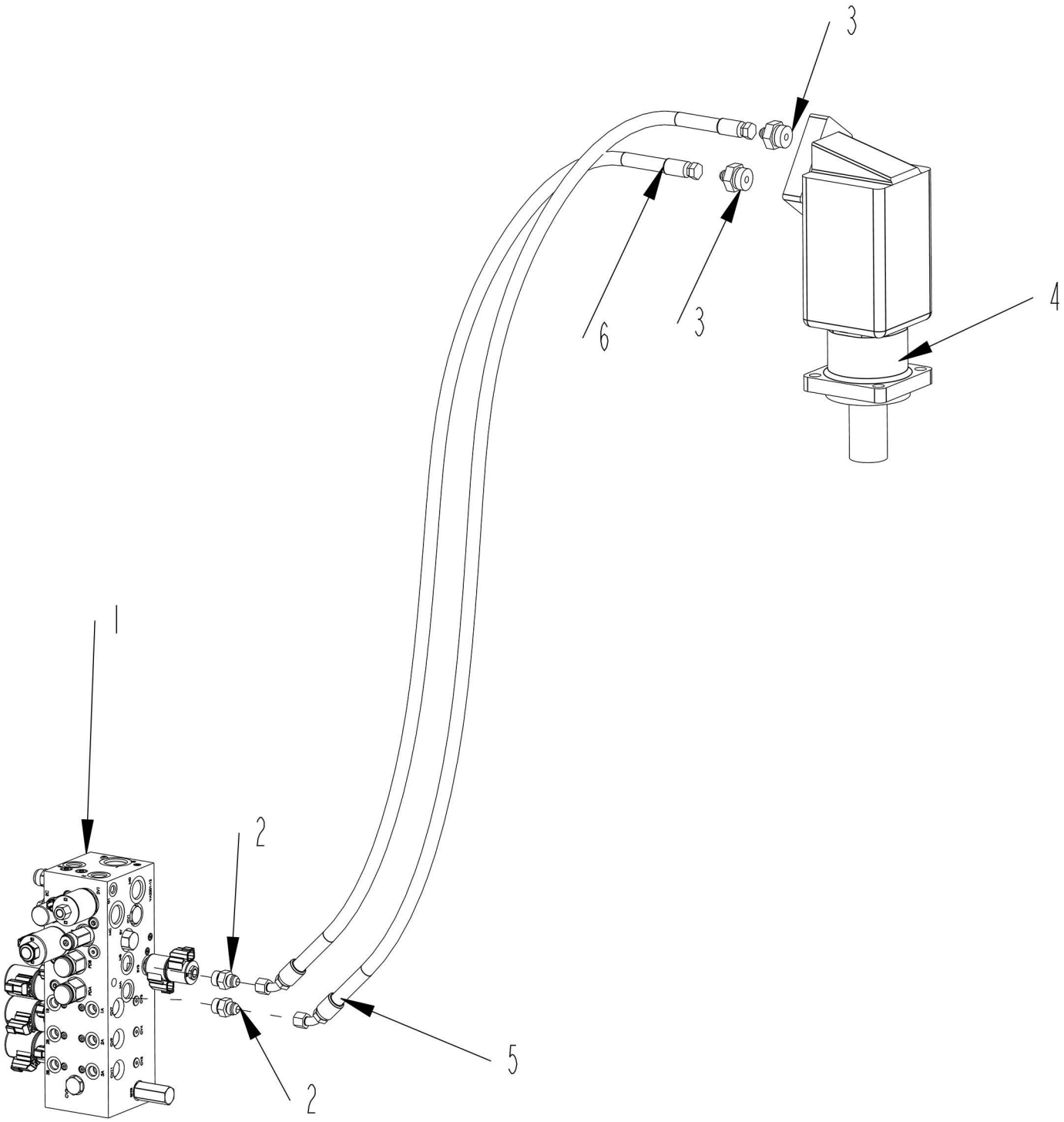
ITEM	PART	QTY.	PART DESCRIPTION
1	3800757	4	FTG\9/16MORX9/16MJIC\90
2	7501387	2	CLMP\HOSE\CUSH\3/8\TWIN
3	3701015	1	HOSE\HYD\3/8X115\9/16FJIC PORT 2A CONVEYOR LIFT TO FRONT BOTTOM FORWARD DIVIDER BLOCK
4	3701015	1	HOSE\HYD\3/8X115\9/16FJIC PORT 2B CONVEYOR LIFT TO REAR BOTTOM FORWARD DIVIDER BLOCK
5	3701015	1	HOSE\HYD\3/8X115\9/16FJIC PORT 3A CONVEYOR FOLD TO FRONT BOTTOM REAR DIVIDER BLOCK
6	3701015	1	HOSE\HYD\3/8X115\9/16FJIC PORT 3B CONVEYOR FOLD TO REAR BOTTOM REAR DIVIDER BLOCK

AUX. VALVE HYDRAULICS VIEW C (FOR S.N. 1020012130 AND UP)



AUX. VALVE HYDRAULICS VIEW C (FOR S.N. 1020012130 AND UP)

ITEM	PART	QTY.	PART DESCRIPTION
1	3800757	4	FTG\9/16MORX9/16MJIC\90
2	7501387	2	CLMP\HOSE\CUSH\3/8\TWIN
3	3701015	1	HOSE\HYD\3/8X115\9/16FJIC PORT 2A CONVEYOR LIFT TO FRONT BOTTOM FORWARD DIVIDER BLOCK
4	3701015	1	HOSE\HYD\3/8X115\9/16FJIC PORT 2B CONVEYOR LIFT TO REAR BOTTOM FORWARD DIVIDER BLOCK
5	3701015	1	HOSE\HYD\3/8X115\9/16FJIC PORT 3A CONVEYOR FOLD TO FRONT BOTTOM REAR DIVIDER BLOCK
6	3701015	1	HOSE\HYD\3/8X115\9/16FJIC PORT 3B CONVEYOR FOLD TO REAR BOTTOM REAR DIVIDER BLOCK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3
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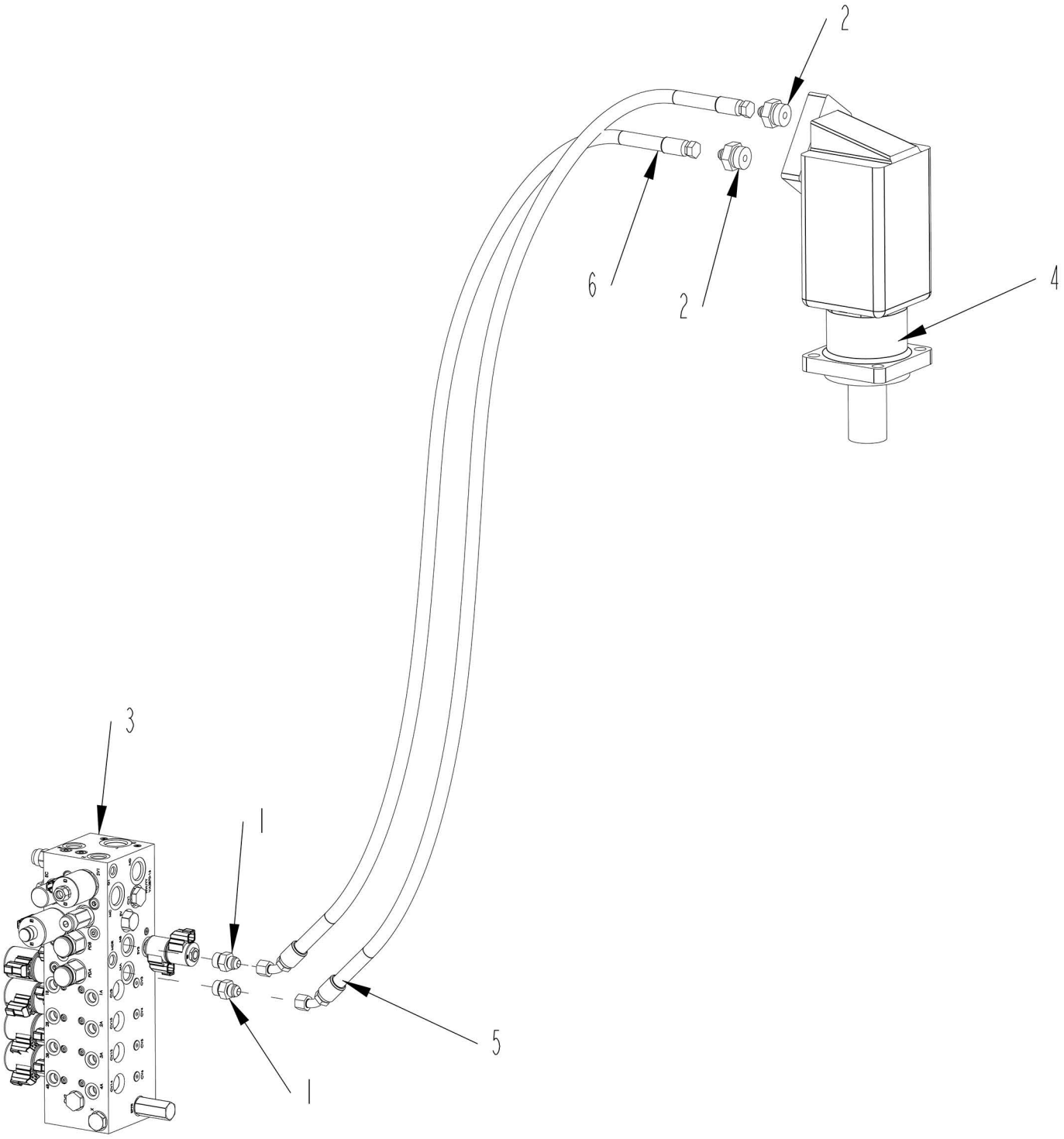
TUB ROTATION HYDRAULICS (FOR S.N. UP TO 1018012030)

ITEM	PART	QTY.	PART DESCRIPTION
1	4000541	1	VLV\HYD\AUX\BLK\MFLD\12V
2	3800328	2	FTG\7/8MORX3/4MJIC\ADPT
3	3800938	2	FTG\1-5/16MORX3/4MJIC\ADPT
4	4200121	1	MTR\HYD\40.6\1000\2-1/4\1-5/16FOR
5	3701566	1	HOSE\HYD\1/2X175\3/4FJICSX3/4FJIC45 PORT MA AUX. VALVE TO UPPER PORT ORBIT MOTOR
6	3701566	1	HOSE\HYD\1/2X175\3/4FJICSX3/4FJIC45 PORT MB AUX. VALVE TO UPPER PORT ORBIT MOTOR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2
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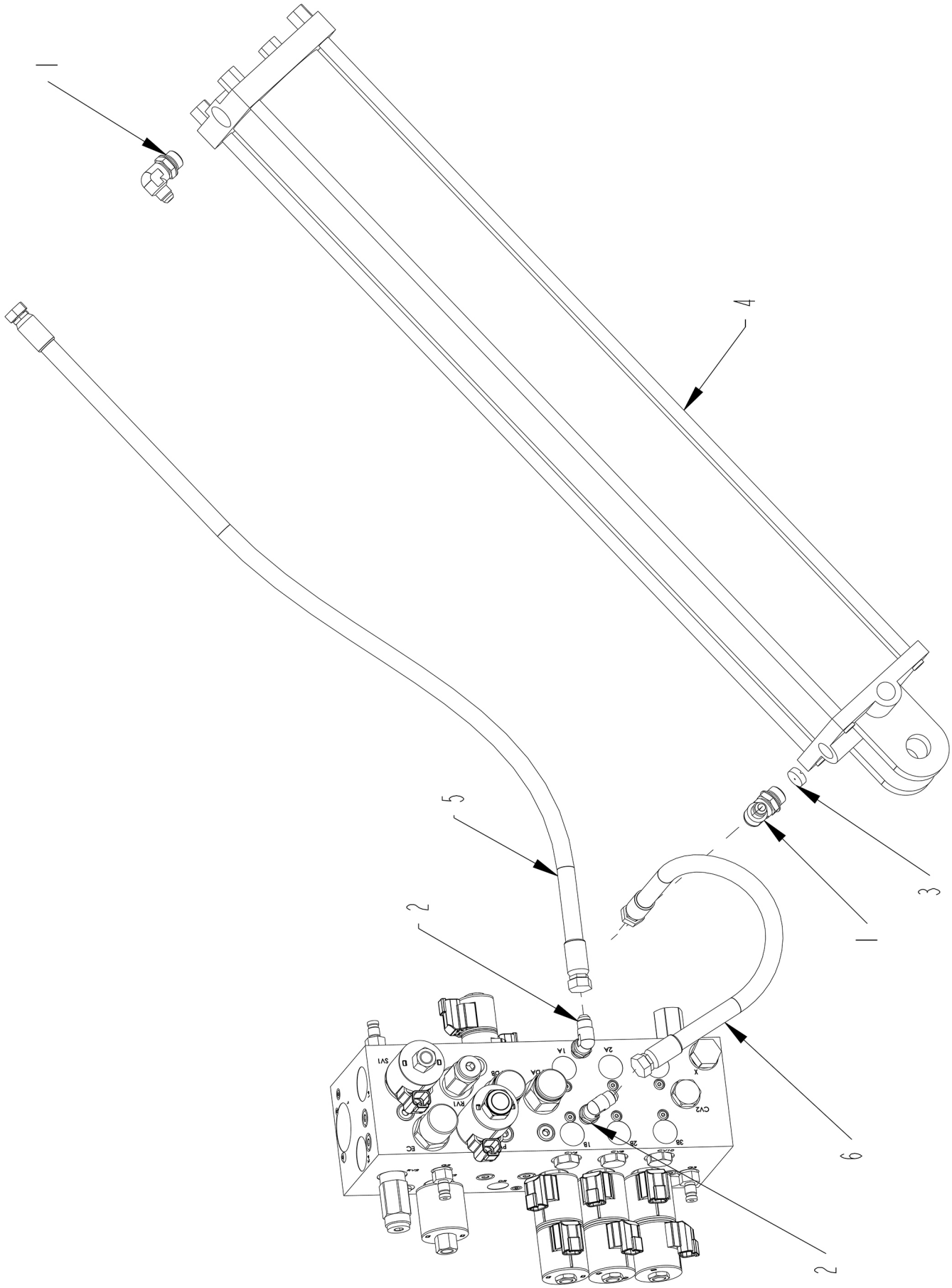
5

TUB ROTATION HYDRAULICS (FOR S.N. 1020012130 AND UP)

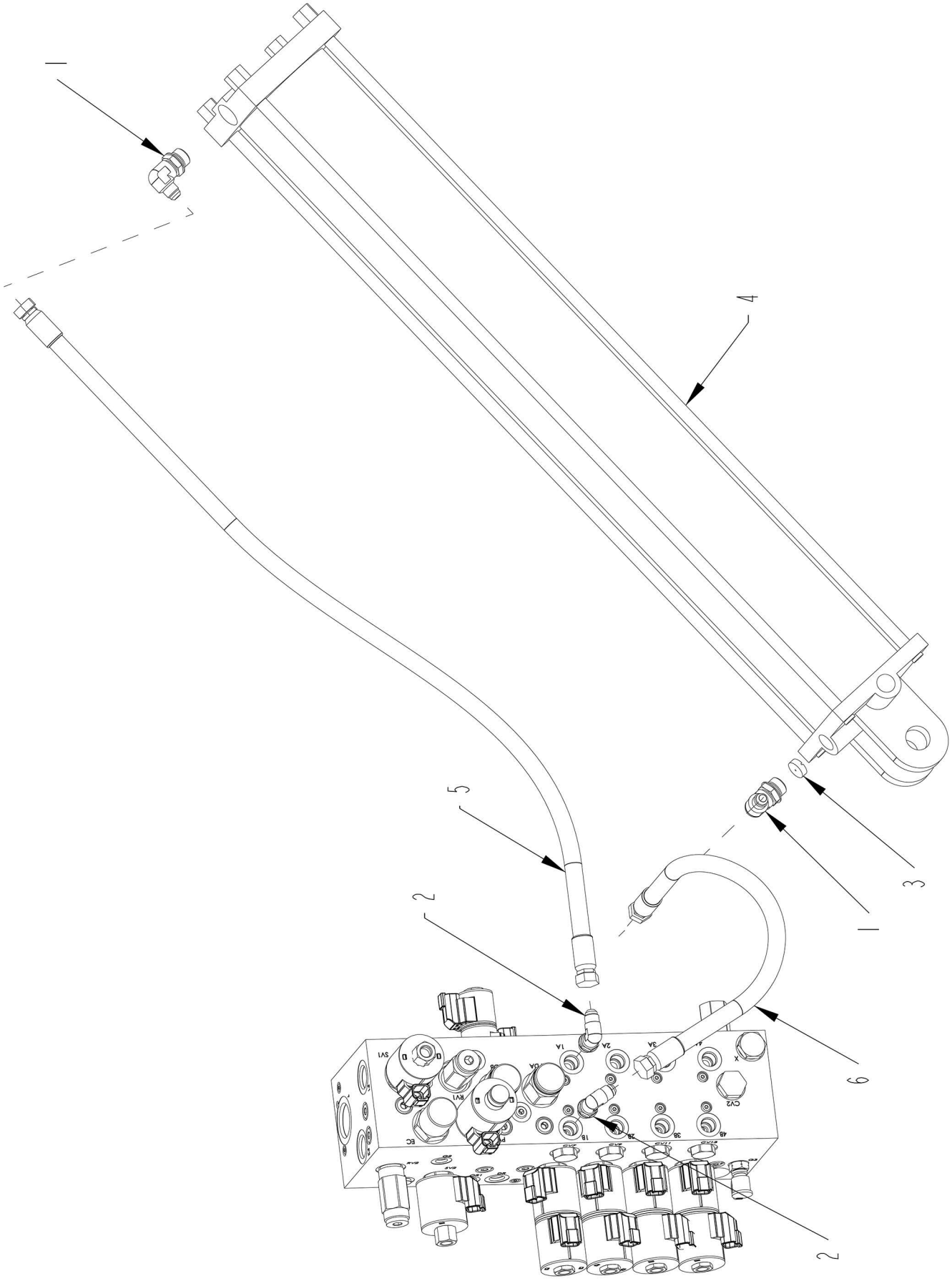
ITEM	PART	QTY.	PART DESCRIPTION
1	3800328	2	FTG\7/8MORX3/4MJIC\ADPT
2	3800938	2	FTG\1-5/16MORX3/4MJIC\ADPT
3	4000598	1	VLV\HYD\AUX\BLK\MFLD\12V
4	4200121	1	MTR\HYD\40.6\1000\2-1/4\1-5/16FOR
5	3701566	1	HOSE\HYD\1/2X175\3/4FJICSX3/4FJIC45 PORT MA AUX. VALVE TO UPPER PORT ORBIT MOTOR
6	3701566	1	HOSE\HYD\1/2X175\3/4FJICSX3/4FJIC45 PORT MB AUX. VALVE TO LOWER PORT ORBIT MOTOR

TUB TILT HYDRAULICS (FOR S.N. UP TO 1018012030)



TUB TILT HYDRAULICS (FOR S.N. UP TO 1018012030)

ITEM	PART	QTY.	PART DESCRIPTION
1	3800453	2	FTG\3/4MORX9/16MJIC\90
2	3800757	2	FTG\9/16MORX9/16MJIC\90
3	3800844		FTG\3/4MOR\ORIFICE\0.062”
4	4100144	1	CYL\HYD\4X30\1-3/4 ROD\CLEVIS ENDS\O-RING PORTS
5	3701569	1	HOSE\HYD\3/8X47.5\9/16FJICS 1A PORT AUX VALVE TO ROD END TUB TILT CYL.
6	3701060	1	HOSE\HYD\3/8X20\9/16FJICS 1B PORT AUX VALVE TO BASE END TUB TILT CYL.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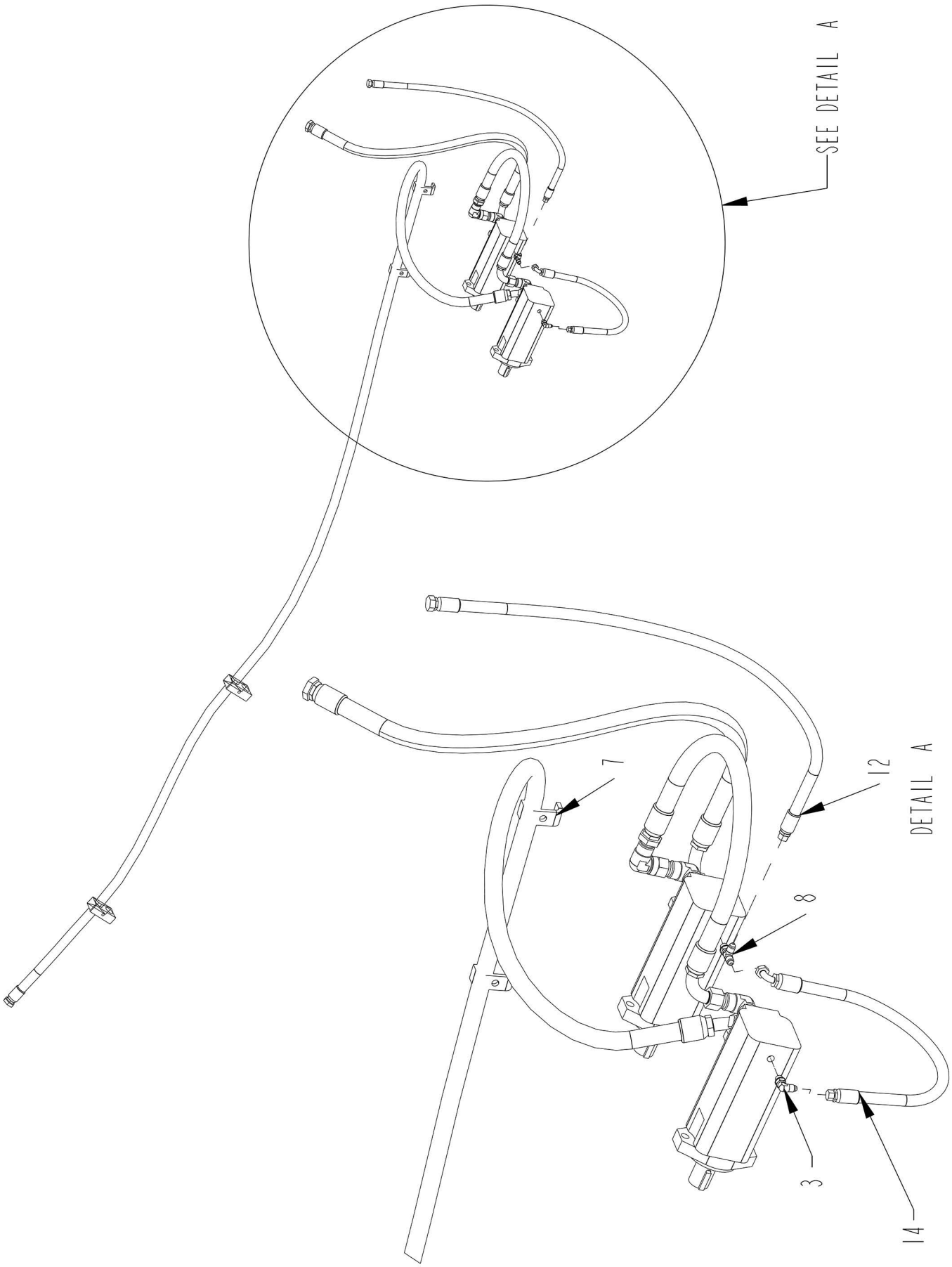
TUB TILT HYDRAULICS (FOR S.N. 1020012130 AND UP)

ITEM	PART	QTY.	PART DESCRIPTION
1	3800453	2	FTG\3/4MORX9/16MJIC\90
2	3800757	2	FTG\9/16MORX9/16MJIC\90
3	3800844		FTG\3/4MOR\ORIFICE\0.062”
4	4100144	1	CYL\HYD\4X30\1-3/4 ROD\CLEVIS ENDS\O-RING PORTS
5	3701569	1	HOSE\HYD\3/8X47.5\9/16FJICS 1A PORT AUX VALVE TO ROD END TUB TILT CYL.
6	3701060	1	HOSE\HYD\3/8X20\9/16FJICS 1B PORT AUX VALVE TO BASE END TUB TILT CYL.


SEE DETAIL A
DETAIL A
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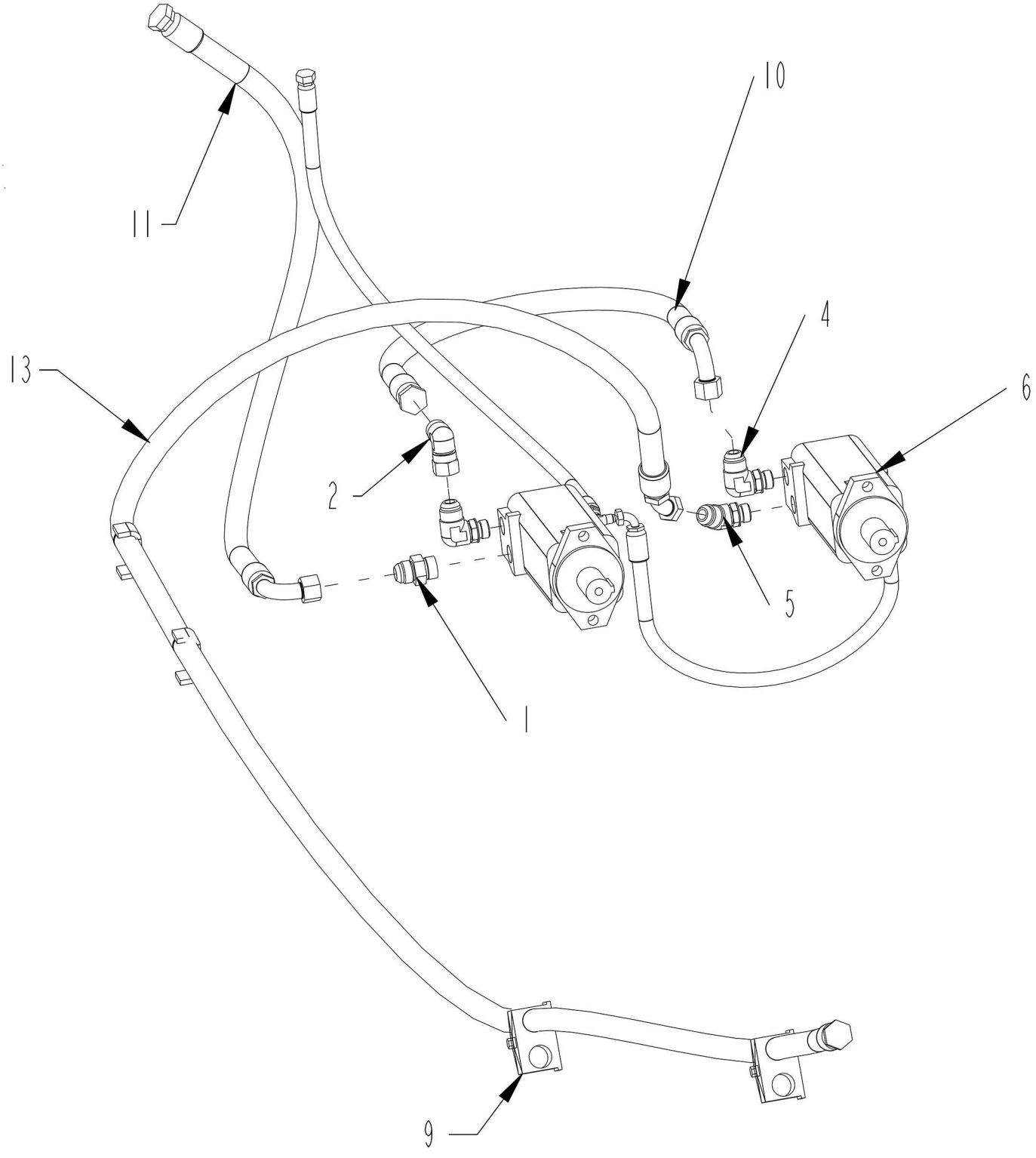
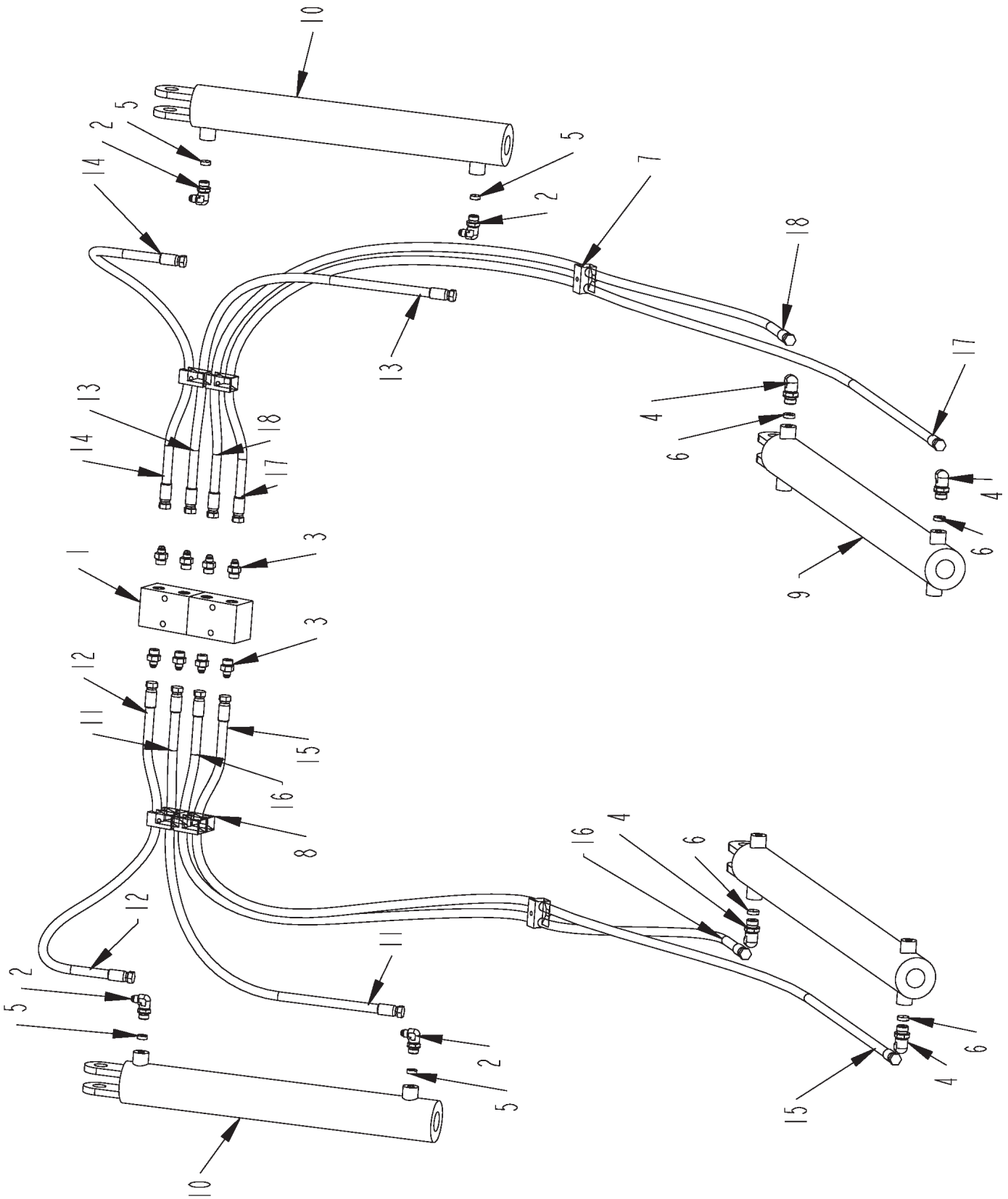
BELLY AUGER HYDRAULICS VIEW B




HAYBUSTER®
A Tradition of Innovation Since 1966

ITEM	PART	QTY.	PART DESCRIPTION
1	3800277	1	FTG\1-1/16MORX1-1/16MJIC\ST
2	3800280	1	FTG\1-1/16MJICX1-1/16FJIC\90\SW
3	3800472	1	FTG\7/16MORX7/16MJIC\90
4	3800535	2	FTG\7/8MORX1-1/16MJIC\90
5	3800669	1	FTG\MORXMJIC\45
6	3900010	2	MTR\HYD\24\2000\SAE;A
7	4700777	2	CLMP\HOSE\1/2
8	3800988	1	FTG\7/16MJICX7/16MJICX7/16MOR\TEE
9	7501337	2	CLMP\HOSE\CUSH\3/4
10	3701483	1	HOSE\HYD\3/4X13.5\1-1/16FJC90X1-1/16FJC PORT B OF LEFT ORBIT MOTOR TO POT B OF RIGHT ORBIT MOTOR
11	3701150	1	HOSE\HYD\3/4X32\1-1/16FJC90X1-1/16FJC MC PORT AUX. VALVE TO MOTOR B BELLY COVNEYOR
12	3701571	1	HOSE\HYD\3/8X32\9/16FJCX7/16FJC MDR PORT AUX. VALVE TO BELLY ORBIT
13	3701594	1	HOSE\HYD\3/4X162\1-1/16FJX1-1/16FJC45DEG BELLY ORBIT TO IN PORT CONVEYOR FLOW CONTROL VALVE
14	3701484	1	HOSE\HYD\3/8X21.25\7/16FJICX7/16FJIC\90 CASE DRAIN TEE RIGHT ORBIT TO CASE DRAIN LEFT ORBIT MOTOR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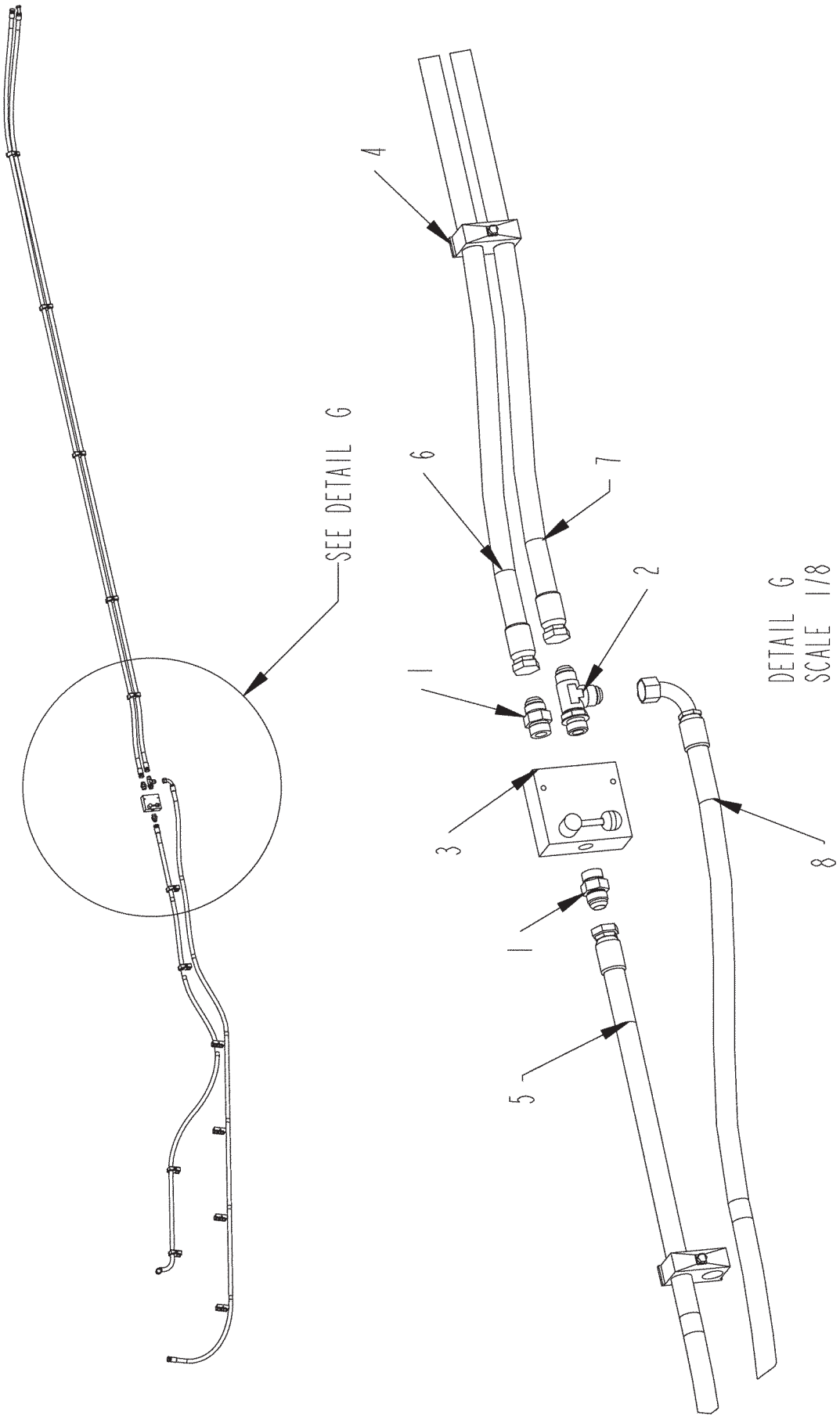
ITEM	PART	QTY.	PART DESCRIPTION
1	3800428	2	MNFLD\DBL;TEE\BLK\3/4FOR
2	3800453	4	FTG\3/4MORX9/16MJIC\90
3	3800530	8	FTG\3/4MORX9/16MJIC\ST
4	3800538	4	FTG\7/8MORX9/16MJIC\90
5	3800844	4	FTG\3/4MOR\ORIFICE\0.062”
6	3801016	4	FTG\7/8MOR\ORIFICE\.0.052”
7	7501336	4	CLMP\HOSE\CUSH\3/8
8	7501387	2	CLMP\HOSE\CUSH\3/8\TWIN
9	4100175	2	CYL\HYD\3X36\PARALLEL
10	4100261	2	CYL\HYD\3X20\1-1/2ROD -CANADIAN TOOL & DIE
10A	4100328		CYL\HYD\3X20\1-1/2ROD -RAM INDUSTRIES
11	3700989	1	HOSE\HYD\3/8X53\9/16FJICS ROD END LEFT LIFT CYLINDER TO REAR PORT FRONT DIVIDER BLOCK
12	3700913	1	HOSE\HYD\3/8X34\9/16FJICS CAP END LEFT LIFT CYLINDER TO FRONT PORT FRONT DIVIDER BLOCK
13	3700989	1	HOSE\HYD\3/8X53\9/16FJICS ROD END RIGHT LIFT CYLINDER TO REAR PORT FRONT DIVIDER BLOCK
14	3700913	1	HOSE\HYD\3/8X34\9/16FJICS CAP ENF RIGHT LIFT CYLINDER TO FRONT PORT FRONT DIVIDER BLOCK
15	3700990	1	HOSE\HYD\3/8X111\9/16FJICS ROD END LEFT FOLD CYLINDER TO REAR PORT REAR DIVIDER BLOCK
16	3700735	1	HOSE\HYD\3/8X73\9/16FJIC CAP END LEFT FOLD CYLINDER TO FRONT PORT REAR DIVIDER BLOCK
17	3700990	1	HOSE\HYD\3/8X111\9/16FJICS ROD END RIGHT FOLD CYLINDER TO REAR PORT REAR DIVIDER BLOCK
18	3700735	1	HOSE\HYD\3/8X73\9/16FJIC CAP END RIGHT FOLD CYLINDER TO FRONT PORT REAR DIVIDER BLOCK


SEE DETAIL G
4
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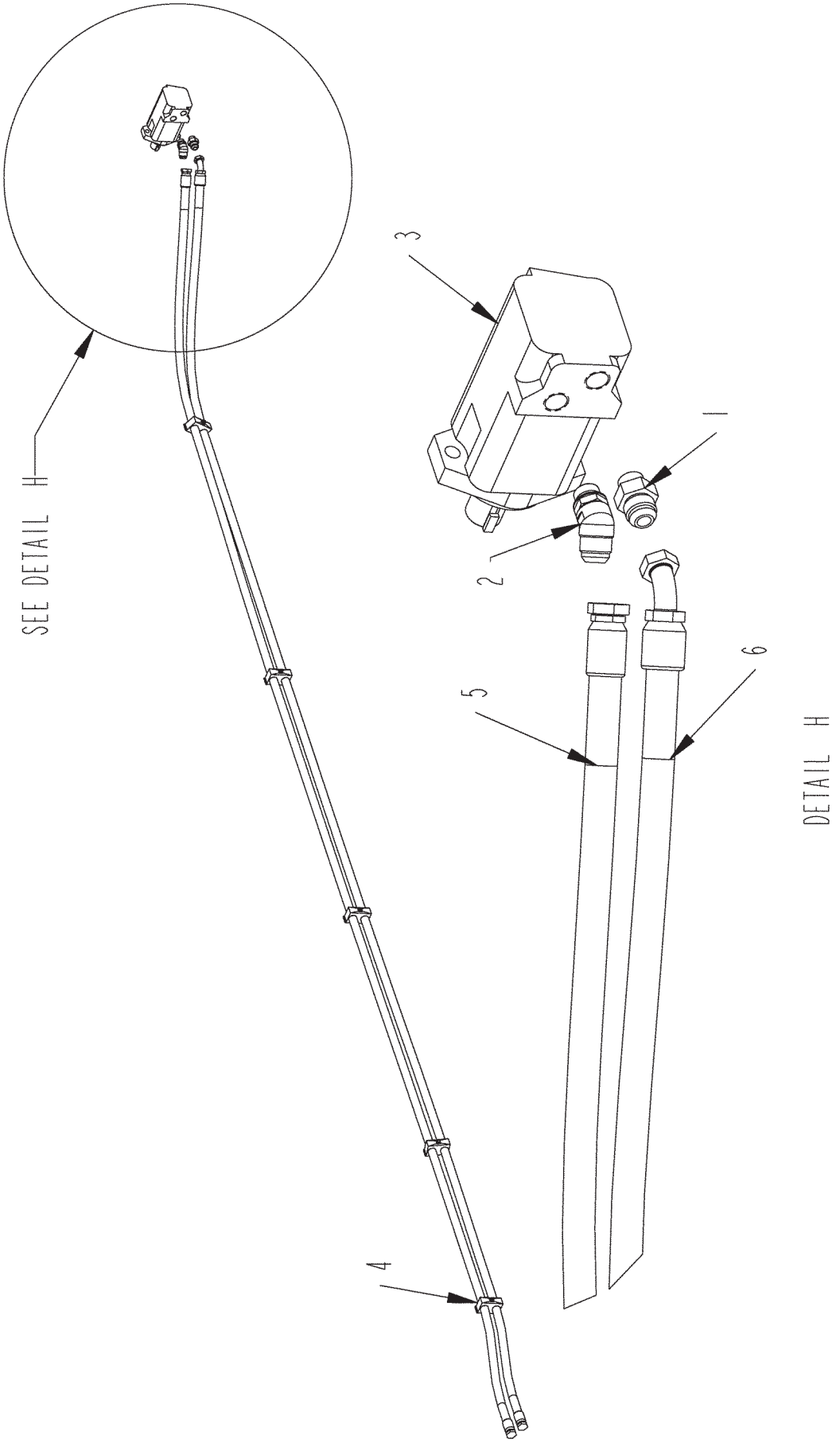
DETAIL G
SCALE 1/8

ITEM	PART	QTY.	PART DESCRIPTION
1	3800277	2	FTG\1-1/16MORX1-1/16MJIC\ST
2	3800463	1	FTG\1-1/16MORX1-1/16MJICX1-1/16MJIC\RUN;TEE
3	4000482	1	VALVE\HYD\FLO;CNTRL\0-30\MAN
4	7501337	13	CLMP\HOSE\CUSH\3/4
5	3701594	1	HOSE\HYD\3/4X162\1-1/16FJX1-1/16FJC45DEG BELLY ORBIT TO IN PORT CONVEYOR FLOW CONTROL VALVE
6	3701573	1	HOSE\HYD\3/4X193\1-1/16FJCX1-1/16FJC CF PORT CONVEYOR FLOW CONTROL TO PORT B CONVEYOR ORBIT
7	3701574	1	HOSE\HYD\3/4X188\1-1/16FJX1-1/16FJC45DEG PORT A CONVEYOR ORBIT TO EX PORT ON DISCHARGE CONVEYOR FLOW CONTROL VALVE
8	3701575	1	HOSE\HYD\3/4X184\1-1/16FJC90X1-1/16FJC EX PORT DISCHARGE CONVEYOR FLOW CONTROL TO MD PORT AUX. VALVE


SEE DETAIL H
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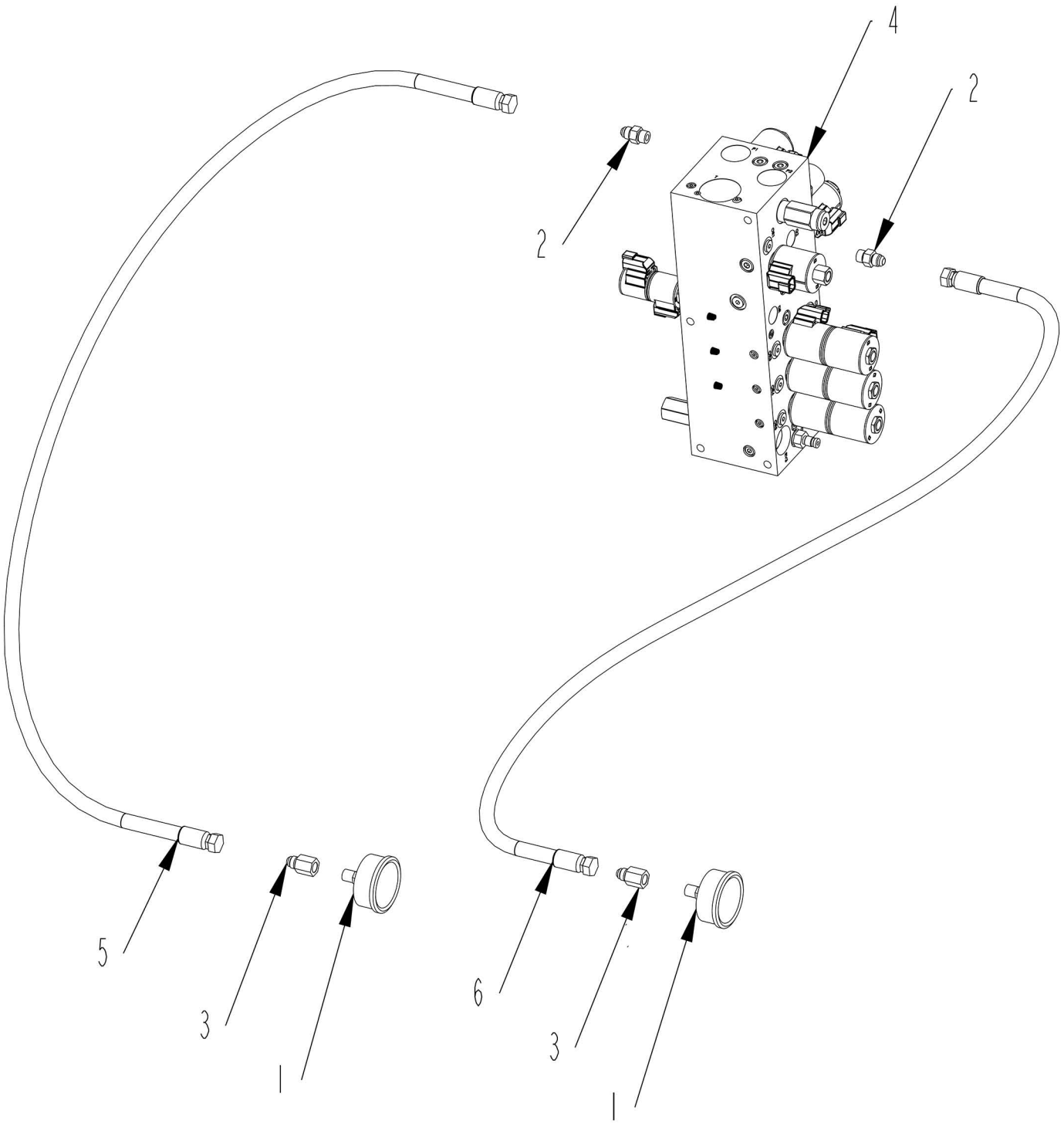
DETAIL H

ITEM	PART	QTY.	PART DESCRIPTION
1	3800527	1	FTG\7/8MORX1-1/16MJIC\ST
2	3800669	1	FTG\MORXMJIC\45
3	3900014	1	MTR\HYD\9.6\2000\1-1/4SH
4	7501337	5	CLMP\HOSE\CUSH\3/4
5	3701573	1	HOSE\HYD\3/4X193\1-1/16FJCX1-1/16FJC CF PORT CONVEYOR FLOW CONTROL TO PORT B CONVEYOR ORBIT
6	3701574	1	HOSE\HYD\3/4X188\1-1/16FJX1-1/16FJC45DEG PORT A CONVEYOR ORBIT TO EX PORT ON DISCHARGE CONVEYOR FLOW CONTROL VALVE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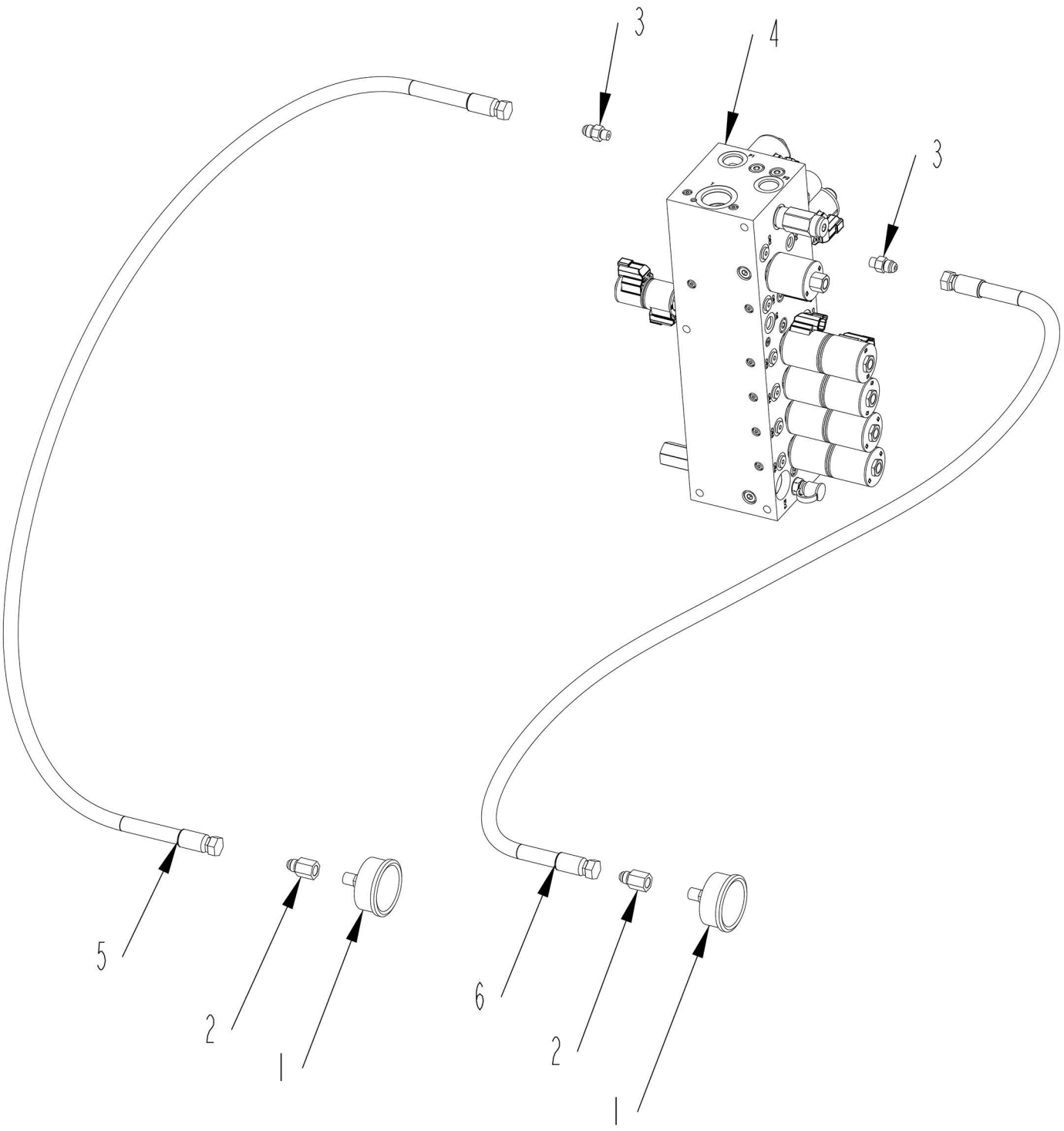
PRESSURE GAUGES HYDRAULICS (FOR S.N. UP TO 1018012030)

ITEM	PART	QTY.	PART DESCRIPTION
1	3800381	2	GAUGE\3000PSI\REAR STEM
2	3800763	2	FTG\7/16MORX9/16MJIC\ST
3	3800758	2	FTG\9/16MJICX1/4FP\ADPT
4	4000541	1	VLV\HYD\AUX\BLK\MFLD\12V
5	3700971	1	HOSE\HYD\3/8X63\9/16FJICS
6	3700971	1	HOSE\HYD\3/8X63\9/16FJICS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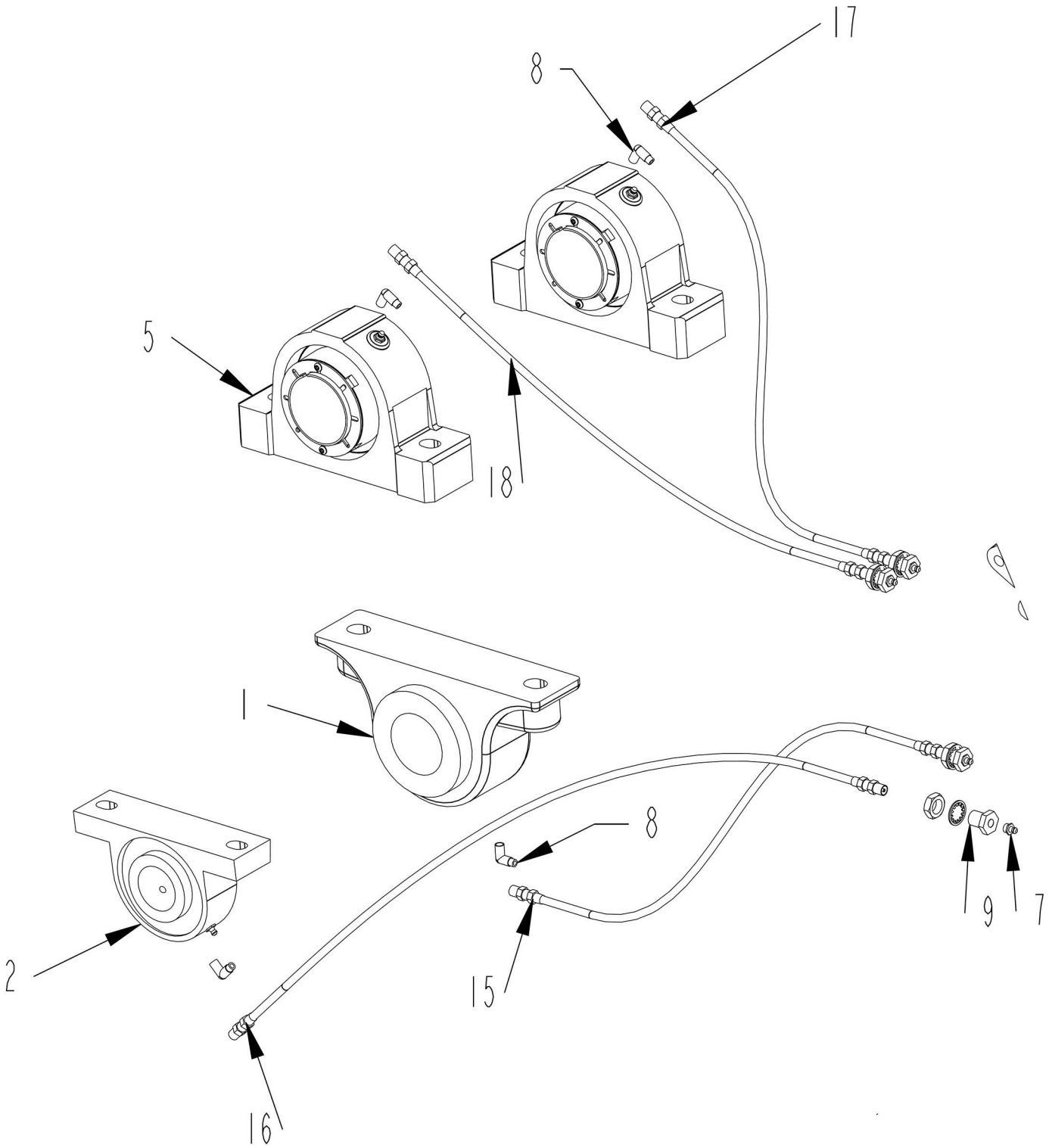
PRESSURE GAUGES HYDRAULICS (FOR S.N. 1020012130 AND UP)

ITEM	PART	QTY.	PART DESCRIPTION
1	3800381	2	GAUGE\3000PSI\REAR STEM
2	3800758	2	FTG\9/16MJICX1/4FP\ADPT
3	3800763	2	FTG\7/16MORX9/16MJIC\ST
4	4000598	1	VLV\HYD\AUX\BLK\MFLD\12V
5	3700971	1	HOSE\HYD\3/8X63\9/16FJICS
6	3700971	1	HOSE\HYD\3/8X63\9/16FJICS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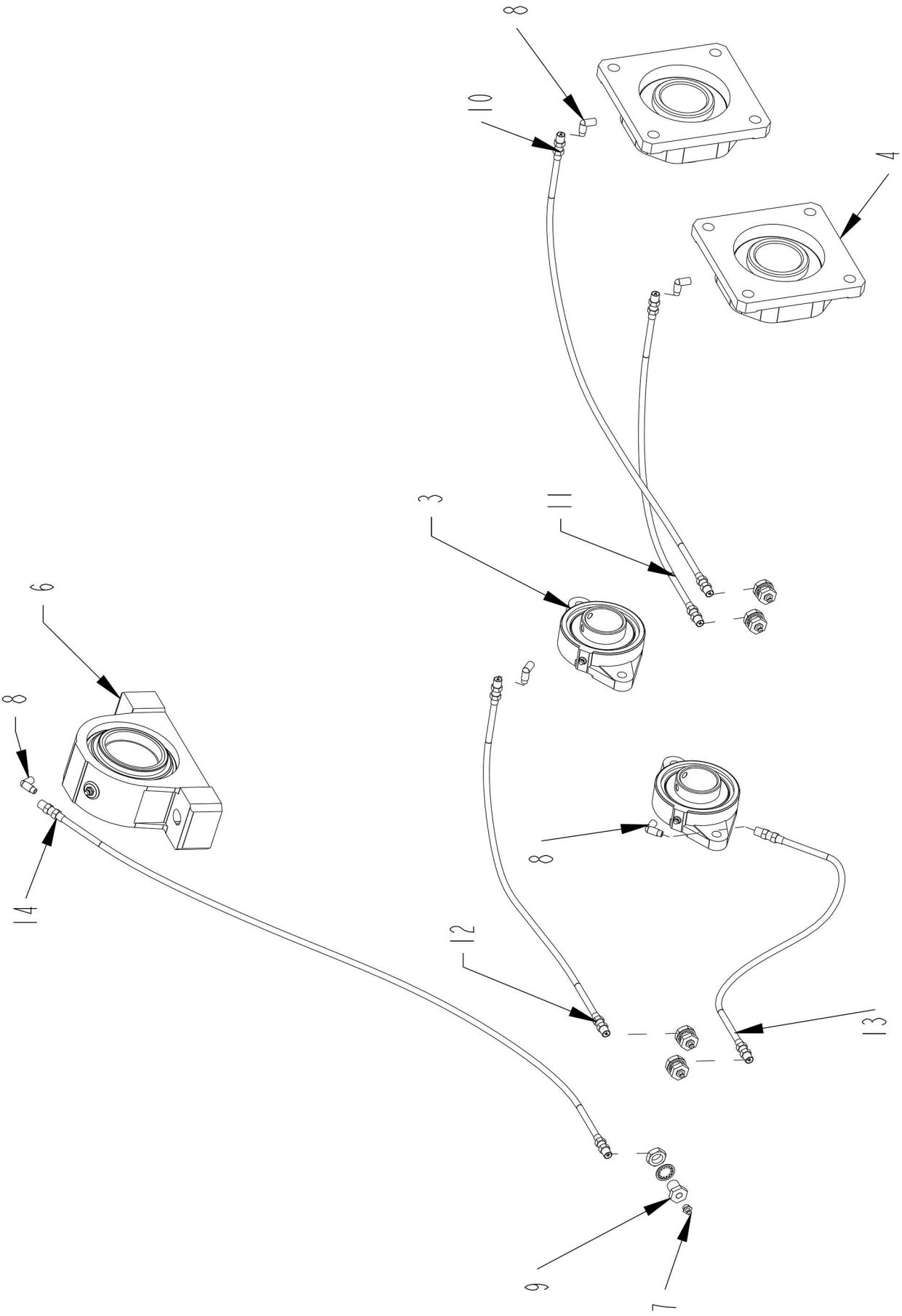
ITEM	PART	QTY.	PART DESCRIPTION
1	2000509	1	BRG\PB\2-3/4\E\DODGE
2	2000510	1	BRG\PB\2\2BOLT
3	2000587	2	BRG\FLG\2”-BLT\SSCRW
4	2000588	2	BRG\FLG\2-1/2\4-BLT\D-LOCK
5	2001052	1	BRG\PB\3\IMPRL\NON-EXP
6	2001053	2	BRG\PB\3\IMPRL\EXP
7	3800043	11	FTG\LUB\1/8MPXZRK\SHORT
8	3800111	9	FTG\1/8MPX1/8FP\90\ST;EL
9	3800895	9	FTG\1/8FP\CPLG\ANCHOR\5/8NF
10	3701597	1	HOSE\LUB\1/8X37\MPS-MPS
11	3701598	1	HOSE\LUB\1/8X23\MPS-MPS
12	3701599	1	HOSE\LUB\1/8X31\MPS-MPS
13	3701600	1	HOSE\LUB\1/8X16\MPS-MPS
14	3701601	1	HOSE\LUB\1/8X39\MPS-MPS
15	3701599	1	HOSE\LUB\1/8X31\MPS-MPS
16	3701602	1	HOSE\LUB\1/8X35\MPS-MPS
17	3701603	1	HOSE\LUB\1/8X30\MPS-MPS
18	3701603	1	HOSE\LUB\1/8X30\MPS-MPS
	3701604		**HOSE\KIT\LUB\1030**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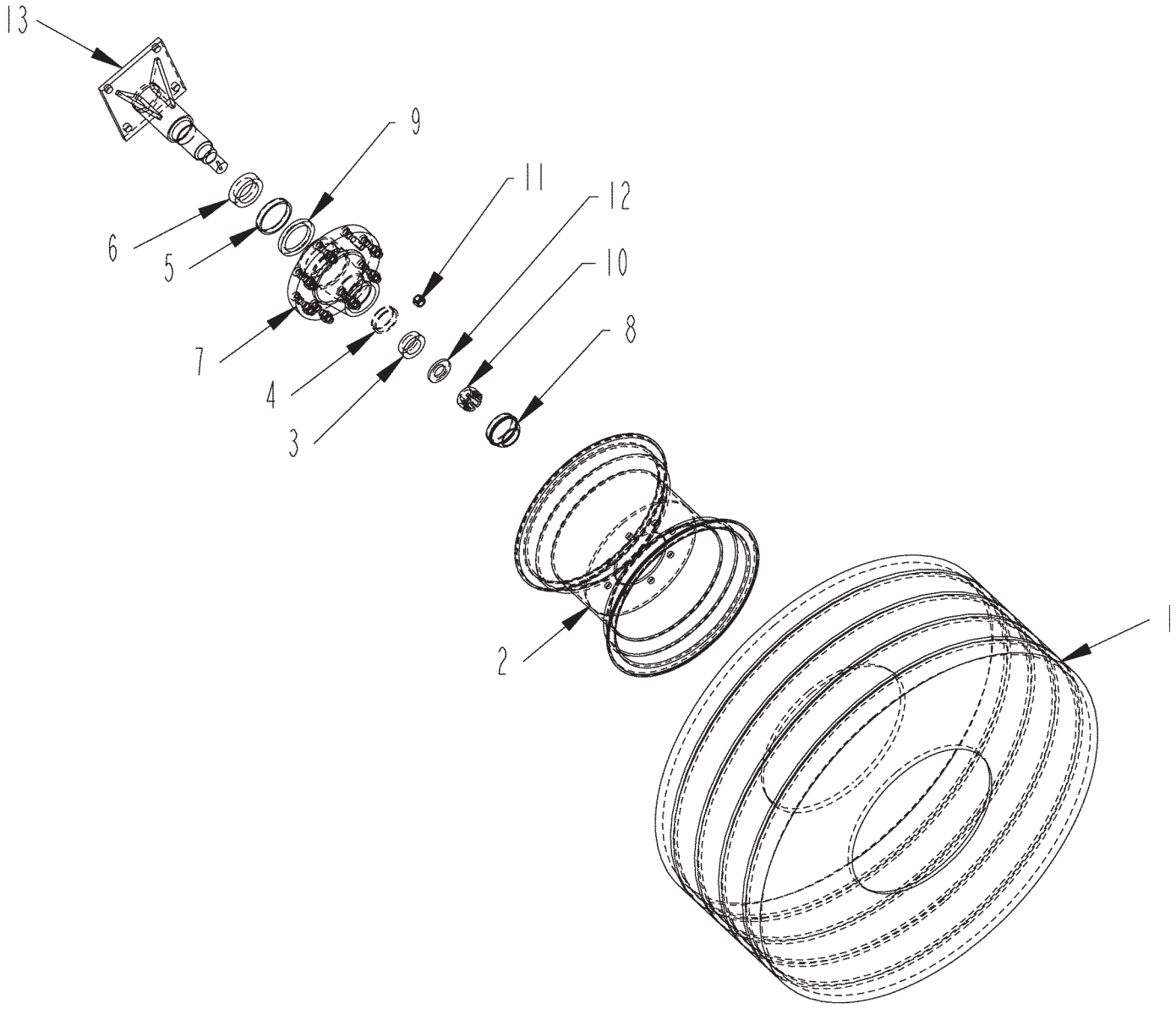
ITEM	PART	QTY.	PART DESCRIPTION
1	2000509	1	BRG\PB\2-3/4\E\DODGE
2	2000510	1	BRG\PB\2\2BOLT
3	2000587	2	BRG\FLG\2”-BLT\SSCRW
4	2000588	2	BRG\FLG\2-1/2\4-BLT\D-LOCK
5	2001052	1	BRG\PB\3\IMPRL\NON-EXP
6	2001053	2	BRG\PB\3\IMPRL\EXP
7	3800043	11	FTG\LUB\1/8MPXZRK\SHORT
8	3800111	9	FTG\1/8MPX1/8FP\90\ST;EL
9	3800895	9	FTG\1/8FP\CPLG\ANCHOR\5/8NF
10	3701597	1	HOSE\LUB\1/8X37\MPS-MPS
11	3701598	1	HOSE\LUB\1/8X23\MPS-MPS
12	3701599	1	HOSE\LUB\1/8X31\MPS-MPS
13	3701600	1	HOSE\LUB\1/8X16\MPS-MPS
14	3701601	1	HOSE\LUB\1/8X39\MPS-MPS
15	3701599	1	HOSE\LUB\1/8X31\MPS-MPS
16	3701602	1	HOSE\LUB\1/8X35\MPS-MPS
17	3701603	1	HOSE\LUB\1/8X30\MPS-MPS
18	3701603	1	HOSE\LUB\1/8X30\MPS-MPS
	3701604		**HOSE\KIT\LUB\1030**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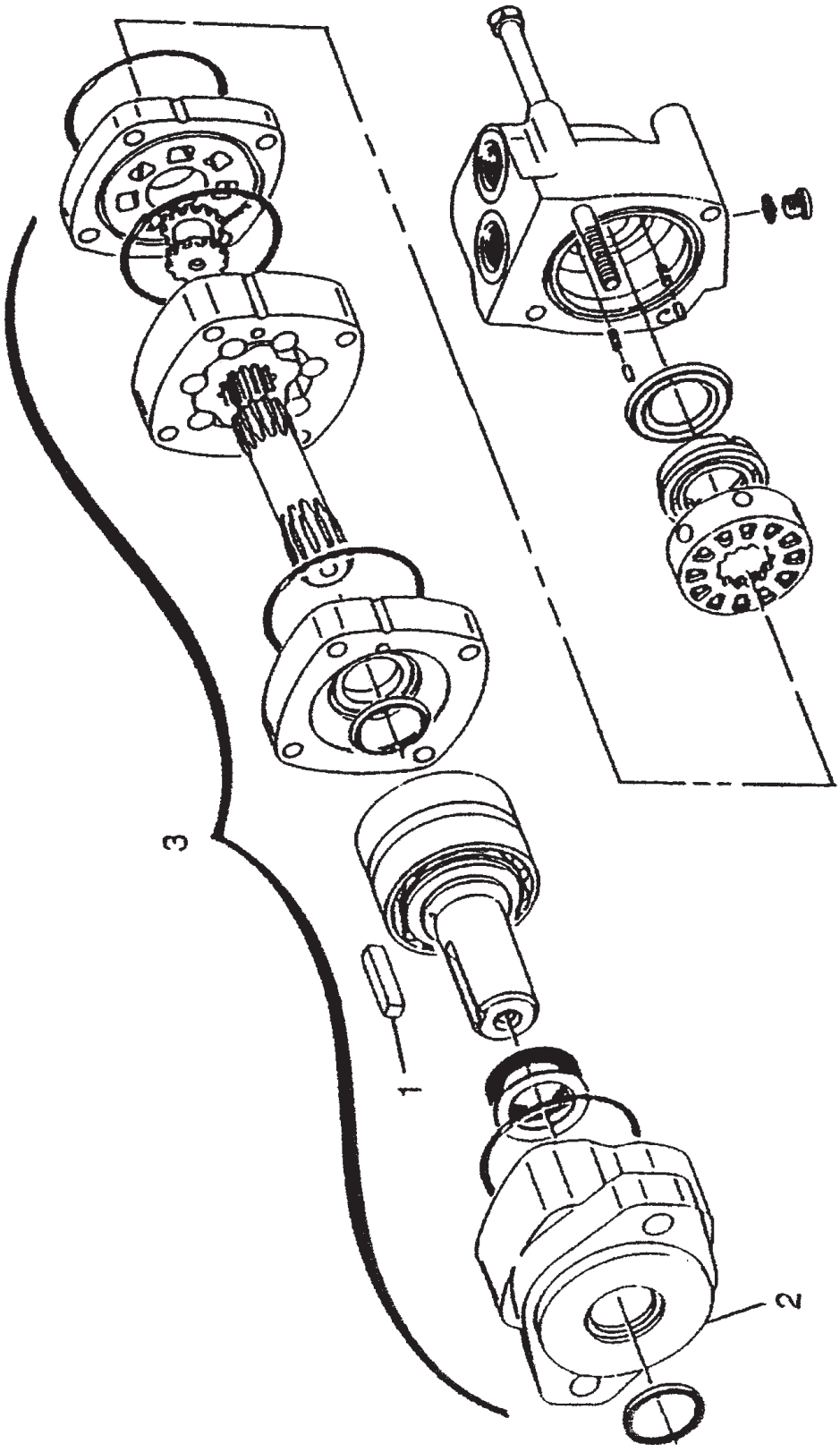
ITEM	PART	QTY.	PART DESCRIPTION
1	2600053	1	TIRE\16.5LX16.1SL\14PLY
2	2600649	1	WHL\8-BOLT\16.1X14C\8K
3	2900125	1	HUB\H817\CONE\OUTER
4	2900126	1	HUB\H817\CUP\OUTER
5	2900127	1	CUP\INNER\WHL:HUB(48510
6	2900128	1	HUB\H817\CONE\INNER
7	2900140	1	HUB\8-BOLT\W/RACES\W/NUTS
8	2900130	1	CAP\DUST\H817
9	2900131	1	SEAL\GREASE\H817
10	4900053	1	NUT\CASTLE\1-1/4\NF
11	4900114	8	NUT\TAPER\WHEEL\5/8\NF
12	5000065	1	WASH\2.5OD\1.25ID\224
13	8101600	1	SPNDL\2800
	2600861		**WHL\ASSY\16.5SLX16.1\14PLY** (INCLUDES 1 & 2)
	2900140		**HUB\8-BOLT\COMP\H-817** (INCLUDES 3,4,5,6,7,8,9 & 11)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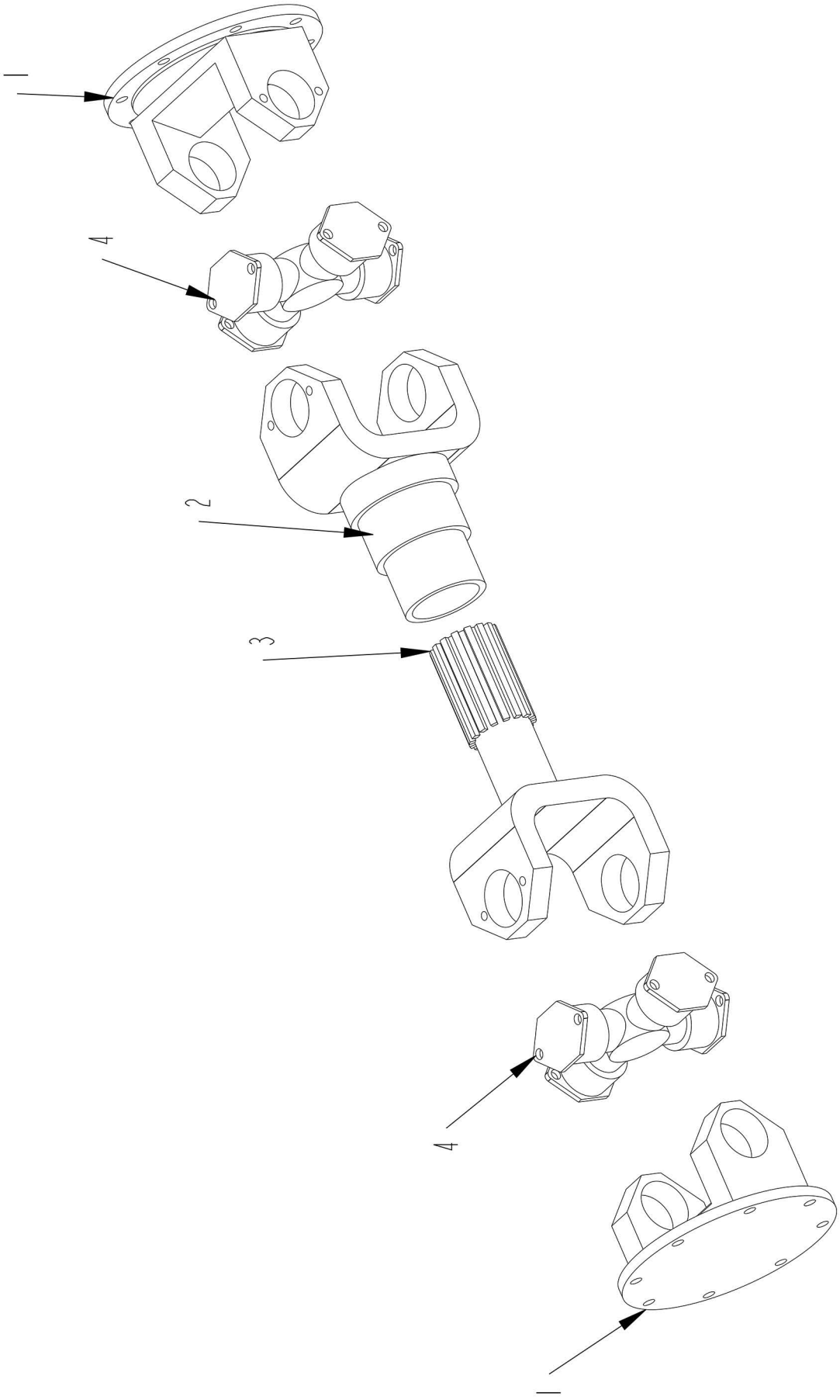
ITEM	PART	QTY.	PART DESCRIPTION
3	**3900014**	**1**	**MTR\HYD\9.6\2000\1-1/4SH**
1	6200004	1	KEY\SQ\5/16X1-1/2
2	3900011	1	MTG FLG(2000 SER)
4	7501005	1	KIT\SEAL\2000ORBIT
3	**3900010**	**1**	**MTR\HYD\11.9\2000\SAE;A;>**
1	6200004	1	KEY\SQ\5/16X1-1/2
2	3900011	1	MTG FLG(2000 SER)
4	7501005	1	KIT\SEAL\2000ORBIT
3	**4200121**		**PUMP\EATON\25501-RSA\B MT**
	7501148		SEAL\KIT\PUMP\25500\EATON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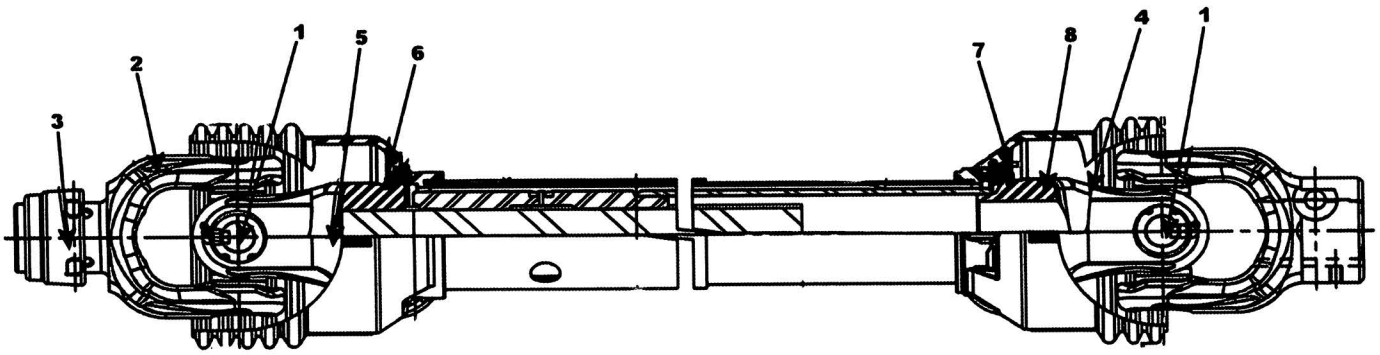
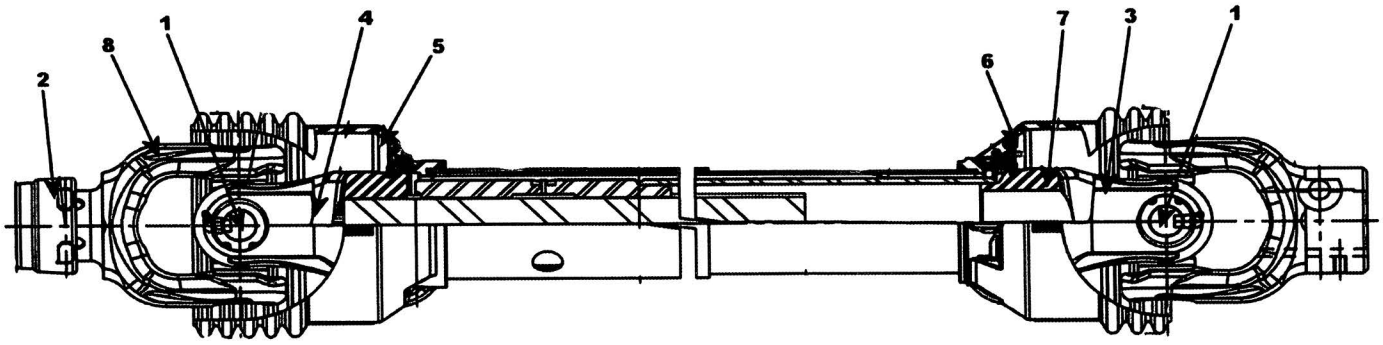
3600833 DRIVE LINE ASSEMBLY

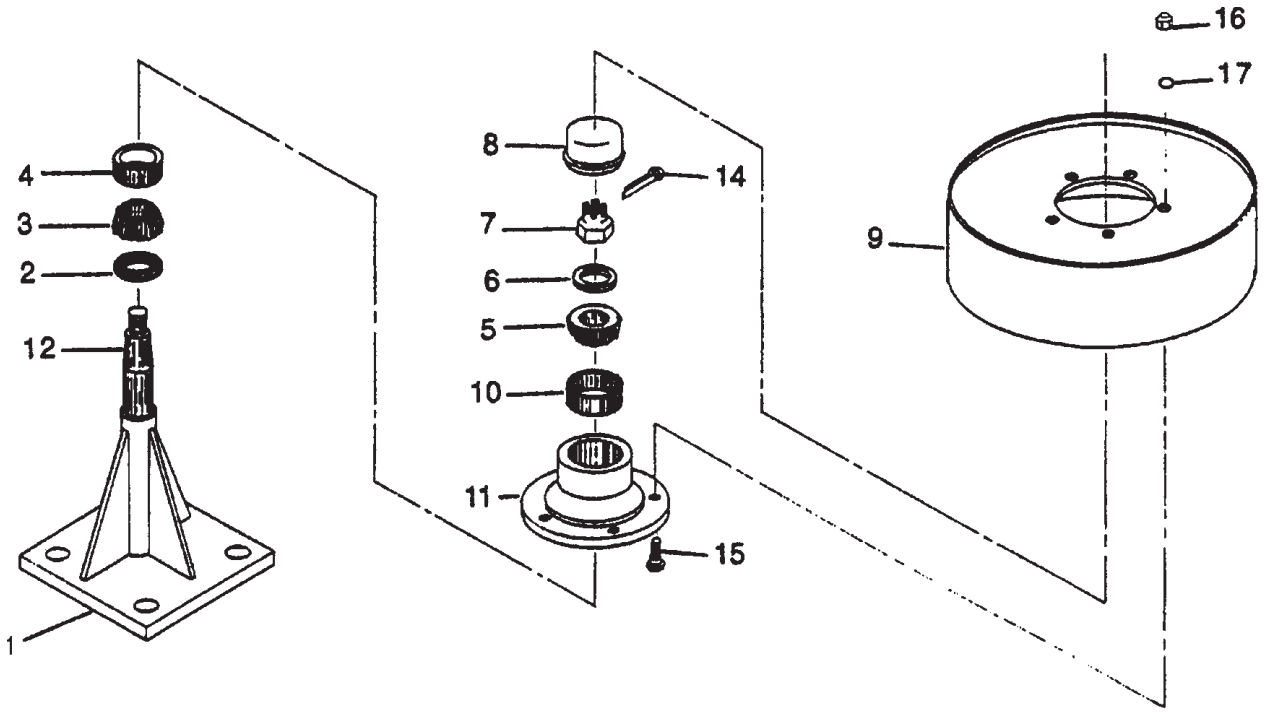
ITEM	PART	QTY.	PART DESCRIPTION
1	3600857	2	FLANGE YOKE 1610
2	3600858	1	SLIP YOKE 1610
3	3600859	1	YOKE SHAFT 1610
4	3600860	2	JOURNAL AND BEARING KIT 1610
	3600833		**DRLIN\COMP\17.5\1610**



ITEM	PART	QTY.	PART DESCRIPTION
	3600831		**PTO\COMP\77E\20SP\1-3/4**
1	3600738	2	CROSS&BRG\77E\WSLR
2	3600741	1	YOKE\77E\1-3/4\LOCK\AUTO
3	3600775	1	LOCK\SAFTY;SLD\KIT\1-3/4\77E
4	3600852	1	JOINT&TUBE\77E\3600831
5	3600853	1	YOKE&SHAFT\77E\3600831
6	3600854	1	GUARD\PTO\1-3/4\77E\20SPLN\OUTER
7	3600855	1	GUARD\PTO\1-3/4\77E\20SPLN\INNER
8	3600856	1	YOKE&TUBE&SLEEVE\77E\3600831
	3600871		PTO\HALF\TRACTOR\3600831
	3600873		PTO\HALF\MACHINE\3600831 & 3600832

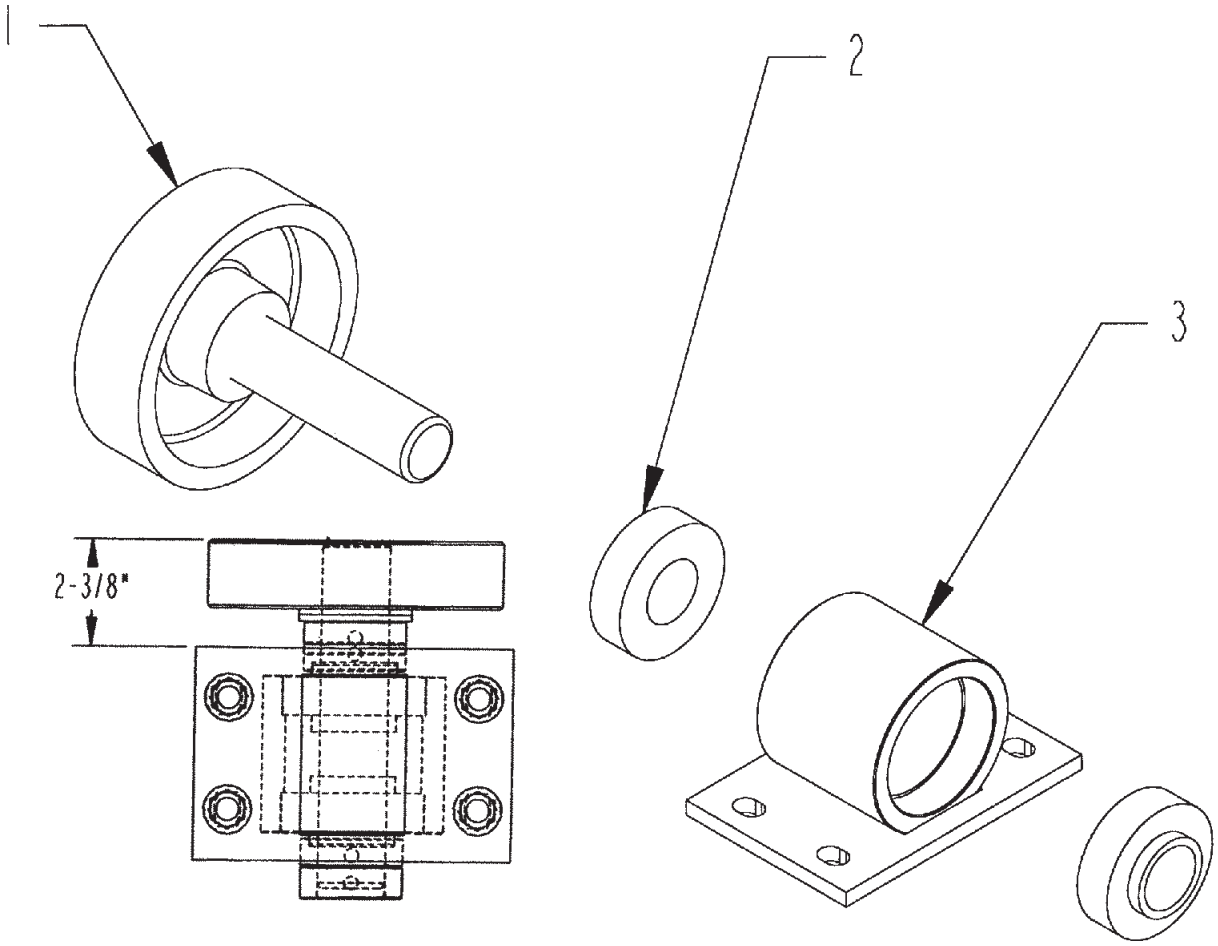
ITEM	PART	QTY.	PART DESCRIPTION
	3600832		**PTO\COMP\77E\21SP\1-3/8**
1	3600738	2	CROSS&BRG\77E\WSLR
2	3600777	1	LOCK\SAFTY;SLD\KIT\1-3/8\77E
3	3600852	1	JOINT&TUBE\77E\3600831
4	3600853	1	YOKE&SHAFT\77E\3600831
5	3600854	1	GUARD\PTO\1-3/4\77E\20SPLN\OUTER
6	3600855	1	GUARD\PTO\1-3/4\77E\20SPLN\INNER
7	3600856	1	YOKE&TUBE&SLEEVE\77E\3600831
8	3600861	1	YOKE\77E\1-3/8\LOCK\AUTO
	3600872		PTO\HALF\TRACTOR\3600832
	3600873		PTO\HALF\MACHINE\3600831 & 3600832

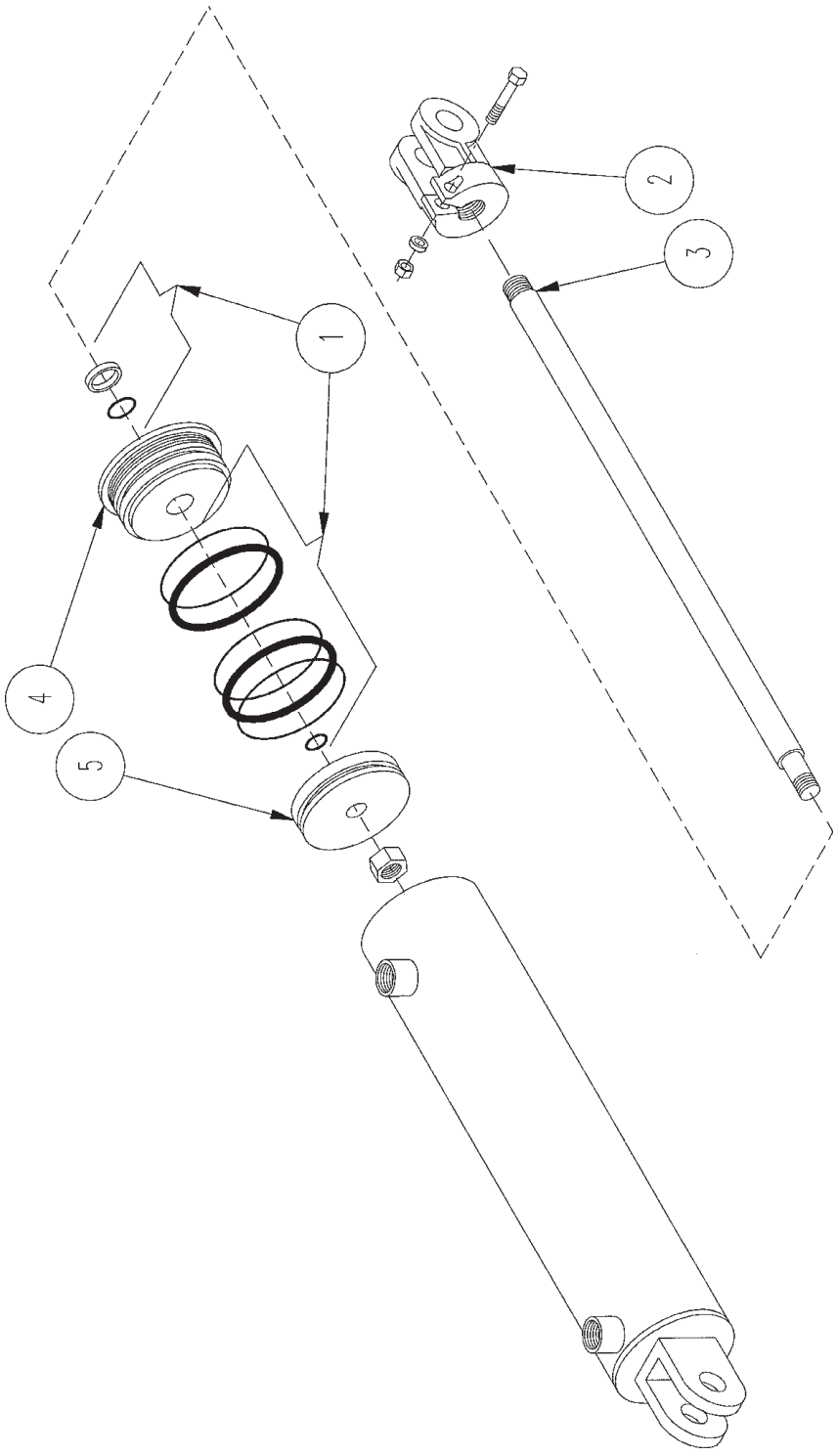




ITEM	PART	QTY.	PART DESCRIPTION
1	4501313	1	BRKT\RLLR\PRESS\10”
2	2900055	1	SEAL/WHEEL HUB(16069)
3	2900018	1	CONE\OUTER\WHL;HUB 67048
4	2900004	1	CUP\OUTER\WHL;HUB 67010
5	2900061	1	OUTERCONE/WHL;HUB(11949
6	5000094	1	WASH\SPNDL\5/8
7	4900112	1	NUT\SLOT.\5/8\NF
8	2900064	1	CAP/WHL;HUB(985)
9	4700115	1	DRUM\RLLR\PRESS
10	2900056	1	OUTERCUP/WHL;HUB(11910)
11	**2900057**	**1**	**HUB\5-BOLT\(985)\COMP W/BEARINGS, SEALS & DUST CAP (includes 2, 3, 4, 5, 8, 10, 11, 15, 16)**
12	3000025	1	SPNDL\PRESS\RLLR\10”
14	4800172	1	PIN\COT\1/8X2
15	2900010	5	BOLT\WHL\WHL;HUB\100 SR
16	4900094	5	NUT\TPR\WHL\1/2\13/16OD\NF
17	5000004	5	WASH\FLAT\1/2
	4501317		**RLLR\PRESS\COMPL**

ITEM	PART	QTY.	PART DESCRIPTION
1	1200013	1	RLLR\TUB\1-1/2\W/O FLANGE
2	2000584	2	BRG\CYL\1-1/2\DLOK
3	4702007	1	BRG\PB\RLLR\TUB\ASY\W/BRG INSRT (includes #2)
	NOT SHOWN		
	4800930	4	BOLT\FLG\SERR\1/2X2\NC
	4900100	4	NUT\FLG\TPLCK\1/2\NC

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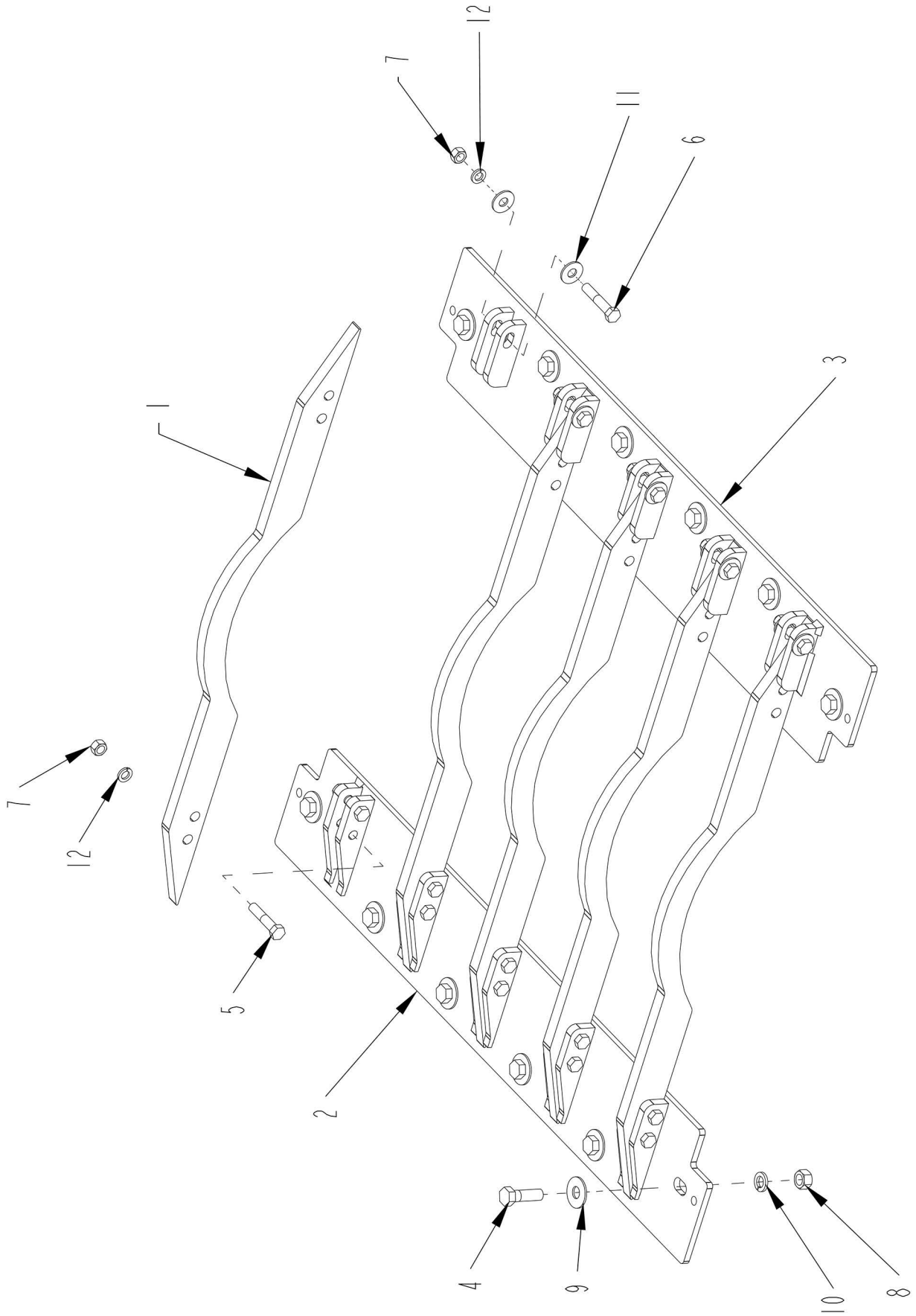
ITEM	PART	QTY.	PART DESCRIPTION
	4100144		**CYL\HYD\4X30\1-3/4 ROD\CLEVIS ENDS\O-RING PORTS**
1	4100180	1	KIT\SEAL\CYL\HYD\4X30\1-3/4”ROD
2	4100181	1	YOKE\CYL\HYD\4X30\1-3/4\ROD
3	4100182	1	ROD\CYL\HYD\4X30\1-3/4\ROD
4	4100183	1	GLAND\CYL\HYD\4X30\1-3/4\ROD
5	4100184	1	PISTON\CYL\HYD\4X30\1-3/4\ROD
	4100219		
	4100175		**CYL\HYD\3X36\PARALLEL\CLEV\7/8FOR\R6-30HB2-36**
1	4100143	1	KIT\SEAL\CYL\HYD\3X24\>
2	4100132	1	YOKE ON 1.25” RAM ON 2.5”
3	4100174	1	ROD\CYL\HYD\1-1/2\3X36\>
4	4100102	1	GLAND\CYL\HYD\3”\W/1-1/2 ROD
5	4100104	1	PISTON\CYL\HYD\3”\RAM
	4100261		**CYL\HYD\3X20\1-1/2ROD\PAR**
1	4100289	1	KIT\SEAL\CYL\HYD\3X20
3	4100291	1	CYL\HYD\ROD\1-1/2\3X20
4	4100288	1	CYL\HYD\GLAND\3”\1-1/2”ROD\CTD
5	4100290	1	CYL\HYD\PISTON\3”\1-1/2”ROD\CTD
	4100328		**CYL\HYD\3X20\1-1/2ROD -RAM INDUSTRIES**
1	4100143	1	SEAL KIT FOR 4100328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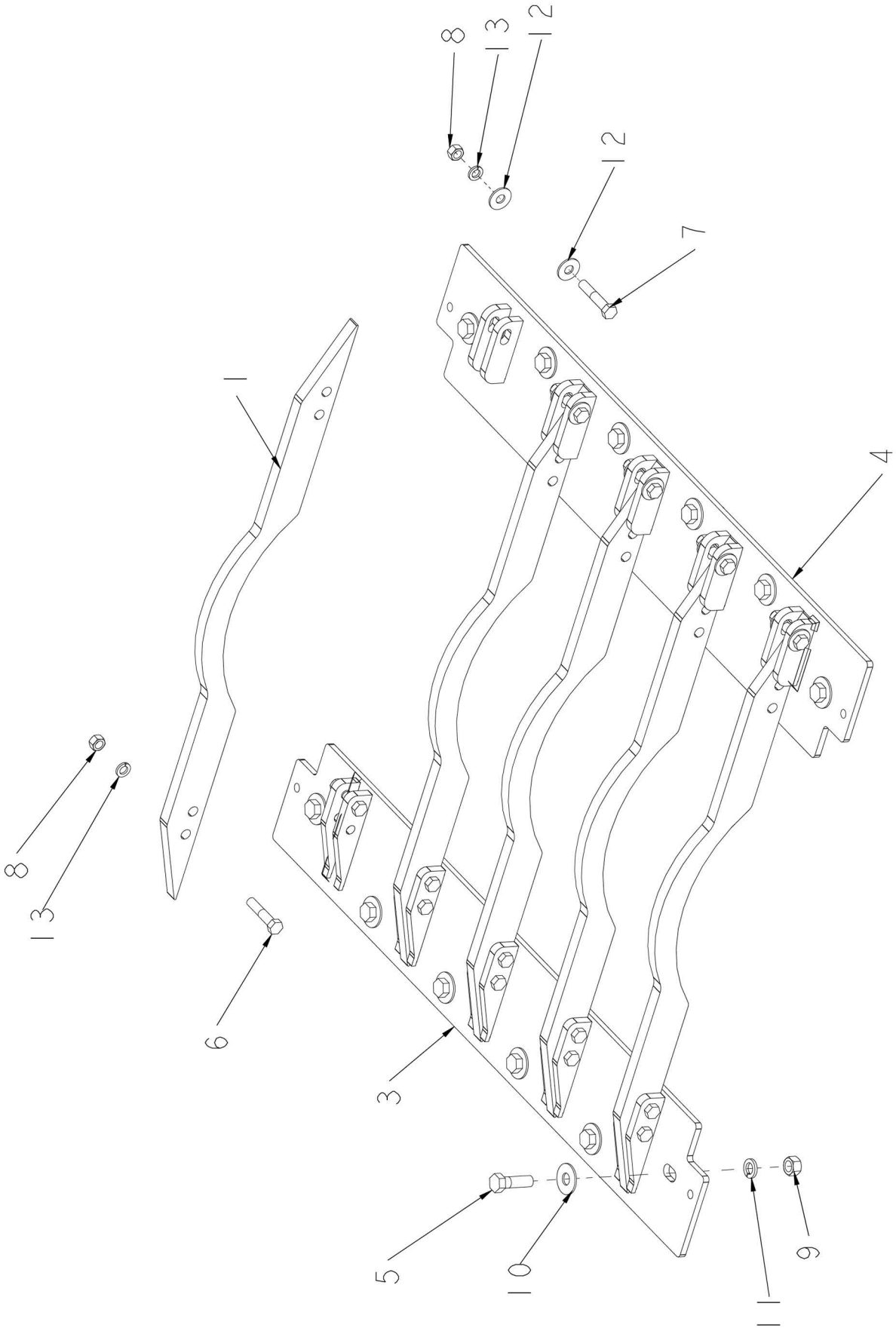
MILL GRATE - 5 BAR - 2-1/4 (FOR S.N. UP TO 1018012030)

ITEM	PART	QTY.	PART DESCRIPTION
1	4502680	5	BAR\GRATE\MILL
2	4502821	1	PL\SIDE\GRATE\MILL
3	4502822	1	PL\SIDE\GRATE\MILL
4	4800010	12	BOLT\HEX\5/8X2
5	4800070	10	BOLT\HEX\1/2X2-1/2
6	4800351	5	BOLT\HEX\1/2X2-3/4
7	4900001	15	NUT\HEX\1/2\NC
8	4900005	12	NUT\HEX\5/8\NC
9	5000002	12	WASH\FLAT\5/8
10	5000003	12	WASH\LOCK\5/8
11	5000004	10	WASH\FLAT\1/2
12	5000006	15	WASH\LOCK\1/2
	4502535		**GRATE\MILL\BOLTED\ASSY\H1030**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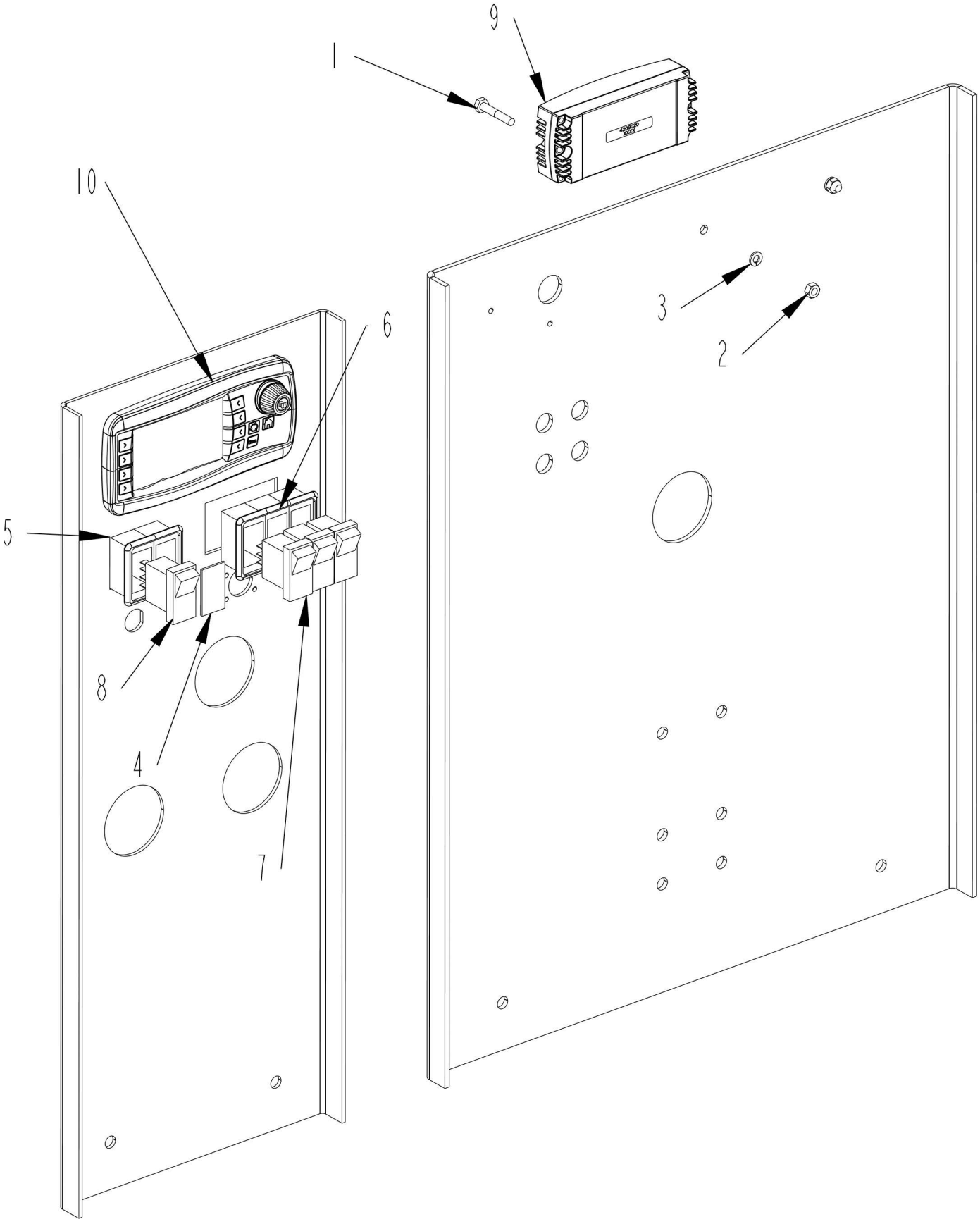
MILL GRATE - 5 BAR - 2-1/4 (FOR S.N. 1020012130 AND UP)

ITEM	PART	QTY.	PART DESCRIPTION
1	4502680	5	BAR\GRATE\MILL
2	4502689	1	GRATE\MILL\BOLTED\ASSY\H1030
3	4502690	1	PL\SIDE\GRATE\MILL
4	4502691	1	PL\SIDE\GRATE\MILL
5	4800010	12	BOLT\HEX\5/8X2
6	4800070	10	BOLT\HEX\1/2X2-1/2
7	4800351	5	BOLT\HEX\1/2X2-3/4
8	4900001	15	NUT\HEX\1/2\NC
9	4900005	12	NUT\HEX\5/8\NC
10	5000002	12	WASH\FLAT\5/8
11	5000003	12	WASH\LOCK\5/8
12	5000004	10	WASH\FLAT\1/2
13	5000006	15	WASH\LOCK\1/2

4502689 **GRATE\MILL\BOLTED\ASSY\H1030**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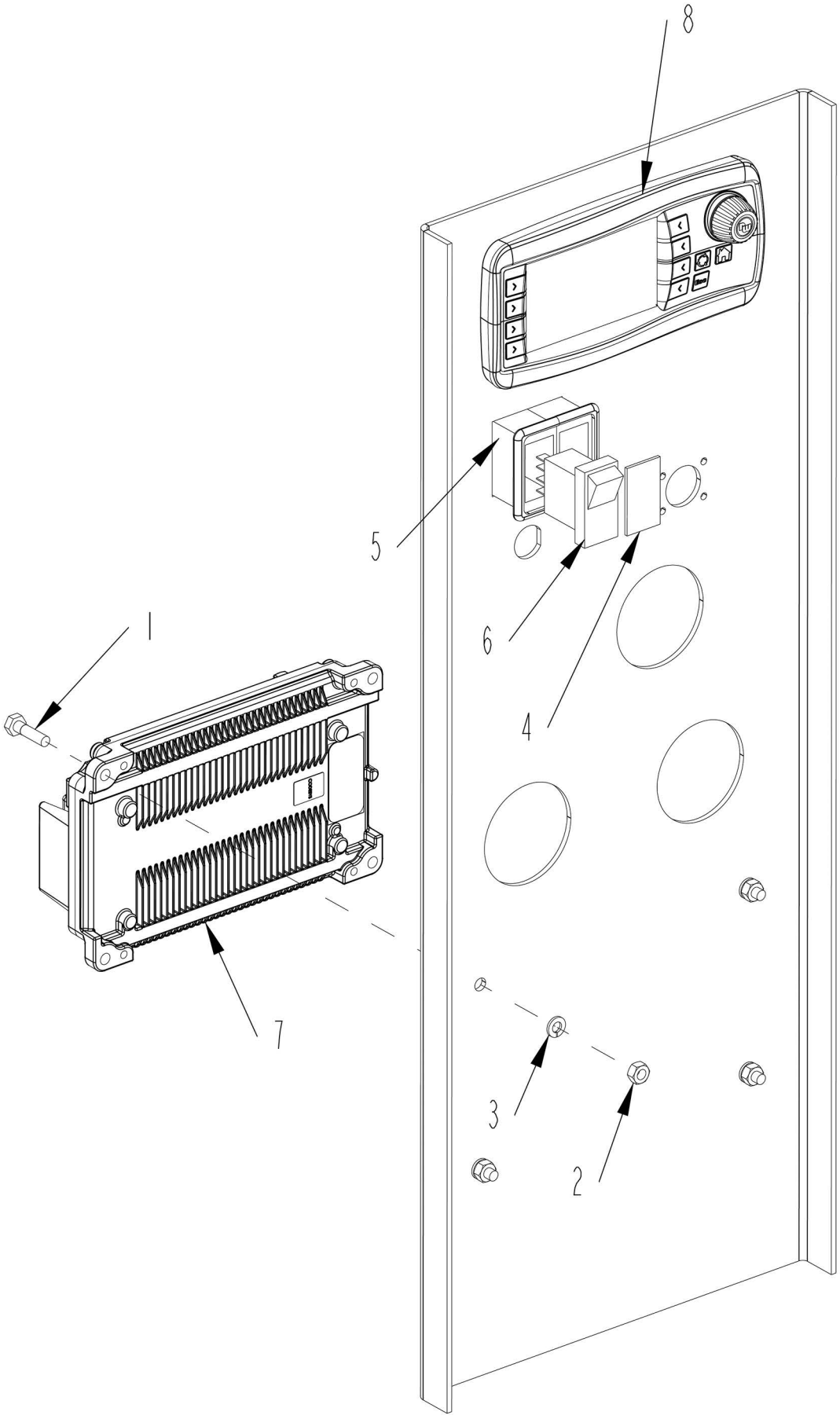
ITEM	PART	QTY.	PART DESCRIPTION
1	4800505	2	BOLT\HEX\1/4X1-1/2\NC
2	4900009	2	NUT\HEX\1/4\NC
3	5000024	2	WASH\LOCK\1/4
4	5700329	1	SWITCH\RCKR\PLUG
5	5700333	4	SWITCH\RCKR\MNT\PNL\MTPL
6	5700448	1	SWITCH\RCKR\MNT\PNL\MDDL
7	5700542	3	SWITCH\RCKR\DPDT\24VUNLIT\15A\MOMNTRY\W/RASED BRCKT
8	5700547	1	SWITCH\RCKR\DPST\12V\2LIT\15A\LATCH\W/RASED BRCKT
9	5701071	1	CNTRL\ECU-710
10	5701072	1	DSPLY\WACH\OPUSA3SL1CANB00V
	NOT SHOWN		
	4300089	1	SNSR\PROX\M12X60
	5701073	1	KIT\MNT\DASH\WACHENDORF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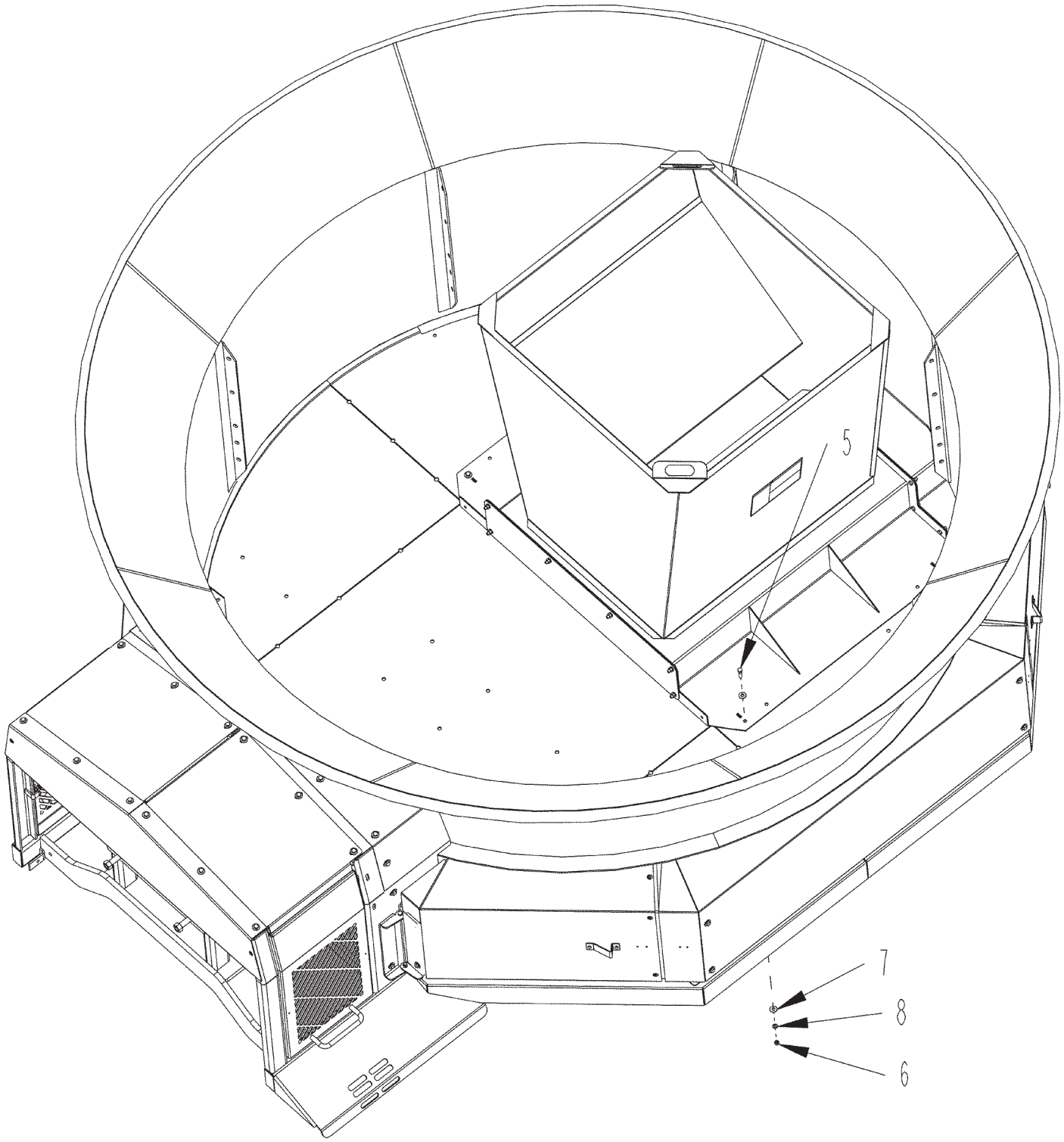
ITEM	PART	QTY.	PART DESCRIPTION
1	4800277	4	BOLT\HEX\1/4X1
2	4900009	4	NUT\HEX\1/4\NC
3	5000024	4	WASH\LOCK\1/4
4	5700329	1	SWITCH\RCKR\PLUG
5	5700333	2	SWITCH\RCKR\MNT\PNL\MTPL
6	5700547	1	SWITCH\RCKR\DPST\12V\2LIT\15A\LATCH\W/RASED BRCKT
7	5701189	1	CNTRL\HFX32
8	5701234	1	DSPLY\WACH\OPUS\A3X
	NOT SHOWN		
	4300089	1	SNSR\PROX\M12X60
	5701073	1	KIT\MNT\DASH\WACHENDORF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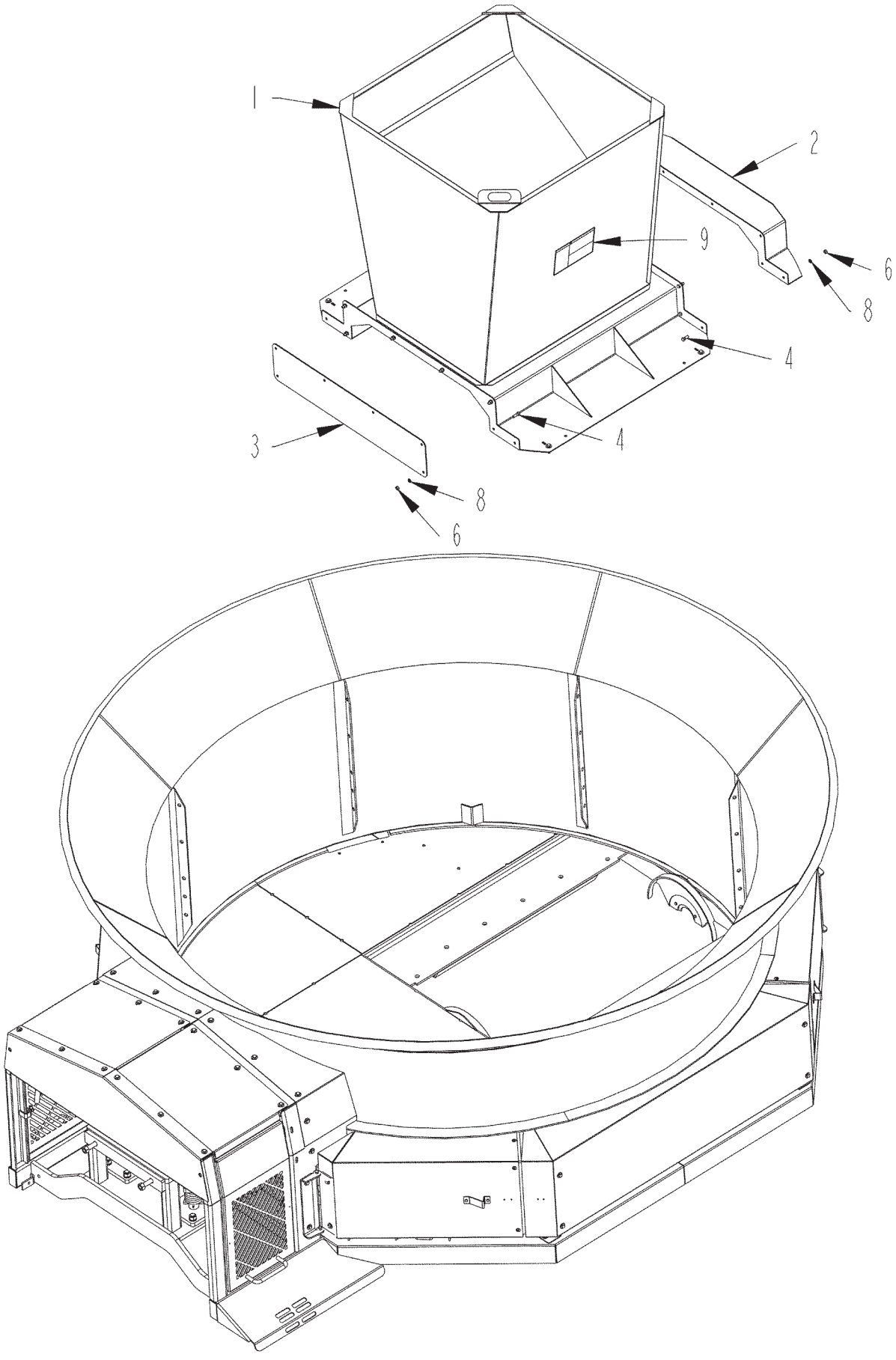
ITEM	PART	QTY.	PART DESCRIPTION
	4501349		**HPPR\GRAIN\ASSY\COMPLETE**
1	4501335	1	HPPR\GRAIN
2	4501339	1	CVR\RTR\HPPR\GRAIN
3	4501341	1	CVR\END\HPPR\GRAIN
4	4800003	14	BOLT\HEX\3/8X1
5	4800034	4	BOLT\HEX\3/8X1-1/2
6	4900002	18	NUT\HEX\3/8\NC
7	5000001	8	WASH\FLAT\3/8
8	5000019	18	WASH\LOCK\3/8
9	6500452	2	DECAL\INFO\GRAIN;HPPR

Grain Hopper Option Installation:

1. Orient tub so that two interior tub angles are centered in front of cylinder box.
2. Bolt front(Item 2) and rear(Item 3) covers to grain hopper with hardware. Check to see that hopper baffle orientation is correct.
3. Place rounded end of hopper tight against the tub seal ring.
4. Check to see the hopper is centered side to side over rotor.
5. Drill four 7/16” holes through tub floor using hopper as guide.
6. Secure hopper to the floor with provided 3/8” hardware.

IMPORTANT! DO NOT ROTATE TUB WITH HOPPER INSTALLED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ITEM	PART	QTY.	PART DESCRIPTION
	4501349		**HPPR\GRAIN\ASSY\COMPLETE**
1	4501335	1	HPPR\GRAIN
2	4501339	1	CVR\RTR\HPPR\GRAIN
3	4501341	1	CVR\END\HPPR\GRAIN
4	4800003	14	BOLT\HEX\3/8X1
5	4800034	4	BOLT\HEX\3/8X1-1/2
6	4900002	18	NUT\HEX\3/8\NC
7	5000001	8	WASH\FLAT\3/8
8	5000019	18	WASH\LOCK\3/8
9	6500452	2	DECAL\INFO\GRAIN;HPPR

Grain Hopper Option Installation:

1. Orient tub so that two interior tub angles are centered in front of cylinder box.
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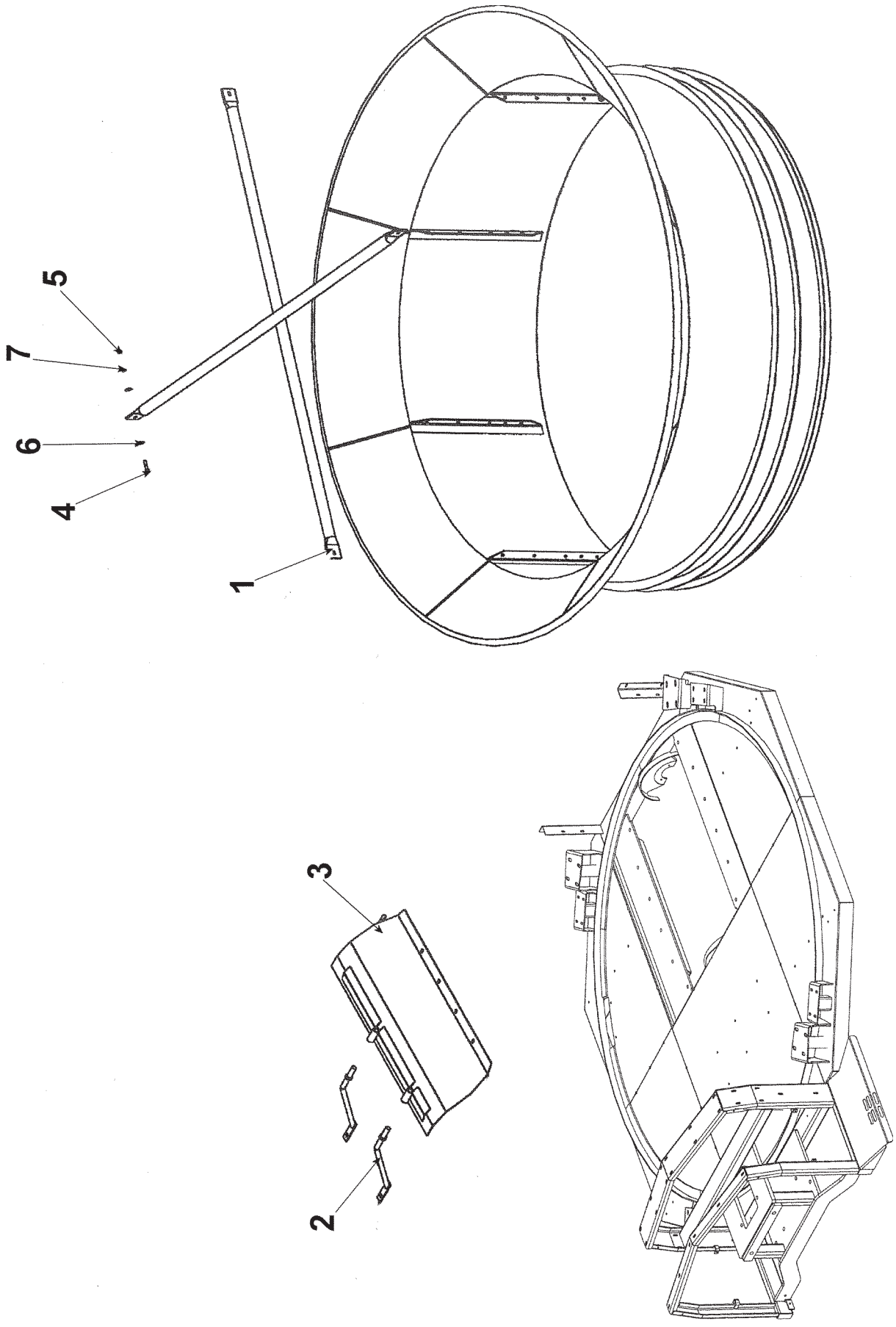
IMPORTANT! DO NOT ROTATE TUB WITH HOPPER INSTALLED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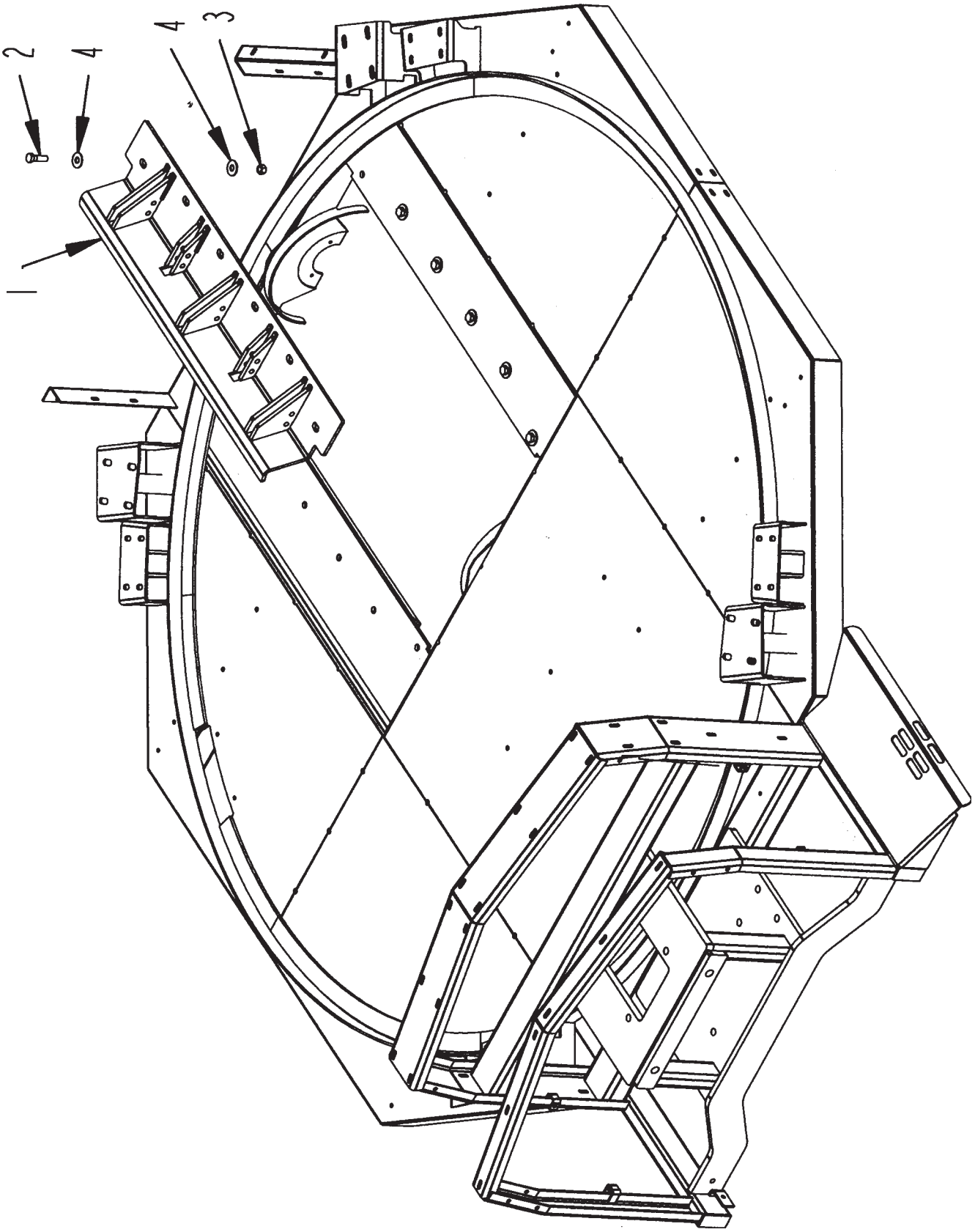
EAR CORN KIT (OPTION)

ITEM	PART	QTY.	PART DESCRIPTION
1	4500122	2	PIPE\CROSS\1-1/2X95
2	4500751	2	BRKT\COVER\ROTOR\EARCORN
3	4502959	1	COV\RTR\EARCORN\H-1030
4	4800114	4	BOLT\HEX\1/2X2
5	4900001	4	NUT\HEX\1/2\NC
6	5000004	8	WASH\FLAT\1/2
7	5000006	4	WASH\LOCK\1/2
	4502848		**AGTTR\CORN_EAR\KIT\H1030**

The Ear Corn Attachment is designed specifically for grinding ear corn.
It should not be used when grinding hay, other bulk materials or small grains.
This attachment fits directly over the rotor and bolts to the tub platform.
Agitator bars inside the tub move ear corn to the rotor.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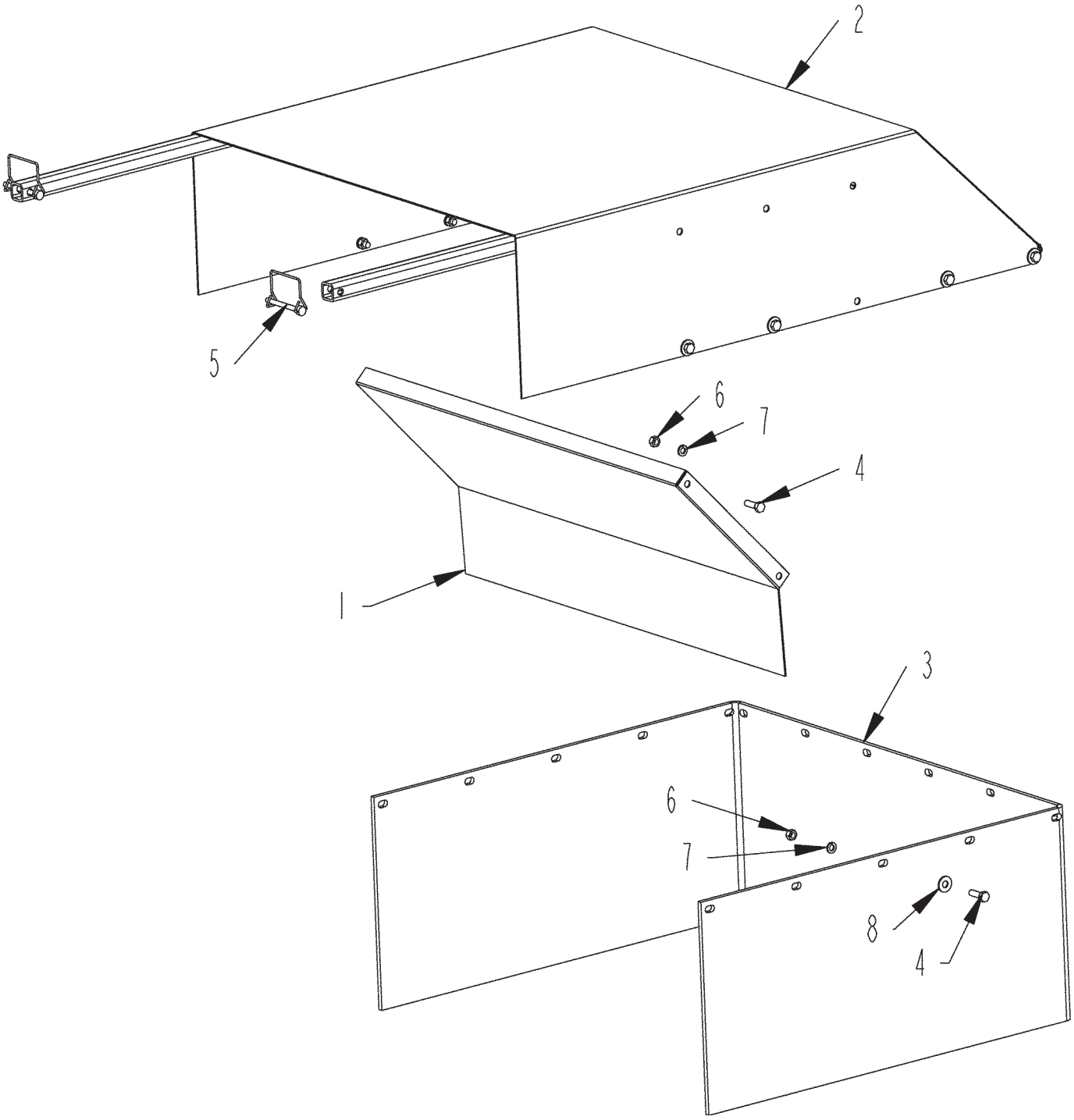
GEYSER PLATE (OPTION)

ITEM	PART	QTY.	PART DESCRIPTION
1	4502281	1	PL\GEYSER **(FOR SN UP TO 1018012030)**
1A	4502692	1	PL\GEYSER **(FOR SN 1019012130 & UP)**
2	4800010	6	BOLT\HEX\5/8X2
3	4900012	6	NUT\TPLCK\5/8\NC
4	5000002	12	WASH\FLAT\5/8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MATERIAL GUIDE ASSEMBLY (OPTION)

ITEM	PART	QTY.	PART DESCRIPTION
1	4501616	1	DEFL\GUIDE\MATL\CNVY\UPPR
2	4501617	1	GUIDE\MATL\CNVY\UPPR\24
3	4501618	1	BELT\GUIDE\MATL\CNVYR\UPPR
4	4800013	18	BOLT\HEX\5/16X1
5	4800559	2	PIN\LYNCH\5/16X2-1/2\W/SQ;WIRE;KEEPER
6	4900003	18	NUT\HEX\5/16\NC
7	5000022	18	WASH\LOCK\5/16
8	5000023	16	WASH\FLAT\5/16
	4501609		**GUIDE\DSCH\CNVYR\24\KIT\1150**


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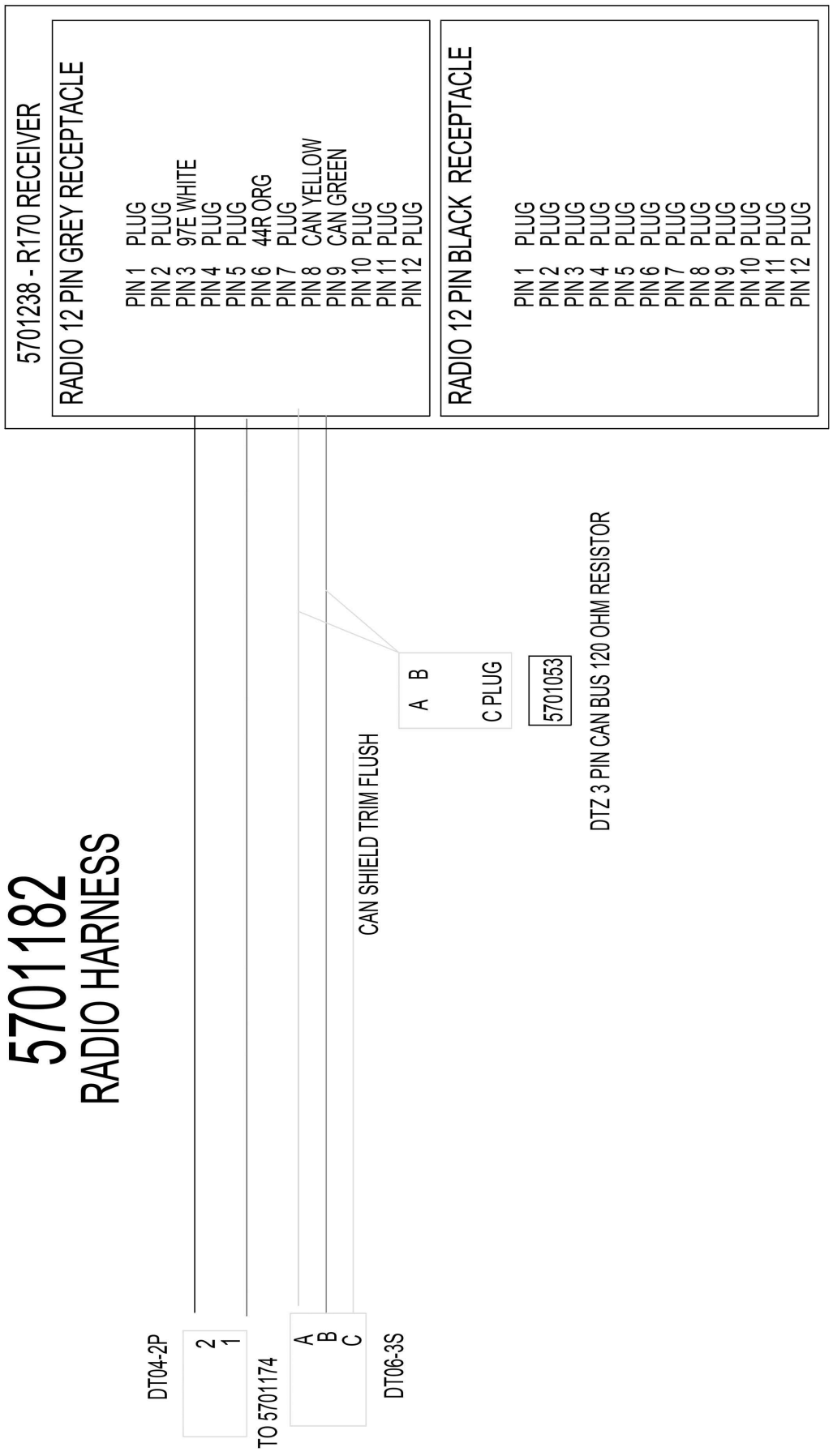
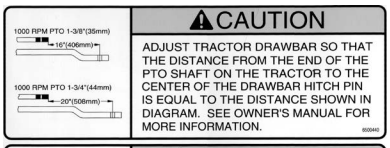

5701238 - R170 RECEIVER
RADIO 12 PIN GREY RECEPTACLE
PIN 1 PLUG
PIN 2 PLUG
PIN 3 97E WHITE
PIN 4 PLUG
PIN 5 PLUG
PIN 6 44R ORG
PIN 7 PLUG
PIN 8 CAN YELLOW
PIN 9 CAN GREEN
PIN 10 PLUG
PIN 11 PLUG
PIN 12 PLUG
RADIO 12 PIN BLACK RECEPTACLE
PIN 1 PLUG
PIN 2 PLUG
PIN 3 PLUG
PIN 4 PLUG
PIN 5 PLUG
PIN 6 PLUG
PIN 7 PLUG
PIN 8 PLUG
PIN 9 PLUG
PIN 10 PLUG
PIN 11 PLUG
PIN 12 PLUG
5701182
RADIO HARNESS
CAN SHIELD TRIM FLUSH
A B
C PLUG
5701053
DTZ 3 PIN CAN BUS 120 OHM RESISTOR
DT04-2P
2
1
TO 5701174
A
B
C
DT06-3S

HAYBUSTER

6500020

H-1030

6500520



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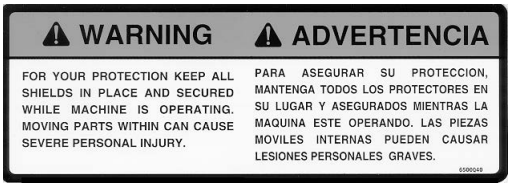

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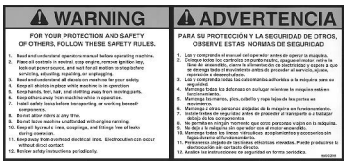

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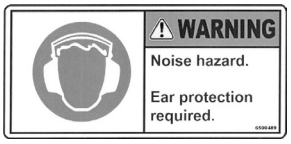

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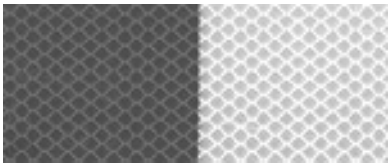

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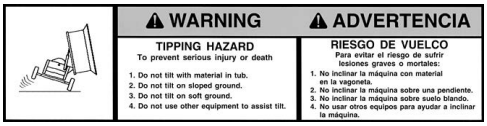
6500052

6500056

6500497



6500282

6500082

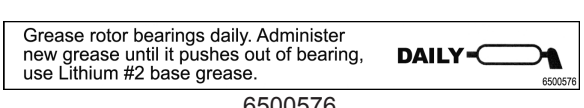
6500283

HYDRAULIC OIL

6500124

6500085

6500363



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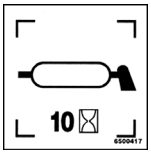

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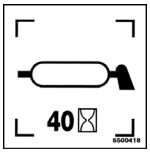


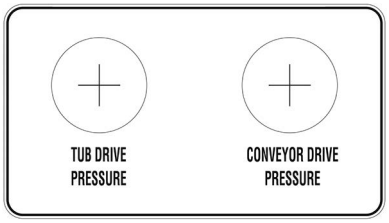
6500418

6500339

ITEM	PART	QTY.	PART DESCRIPTION
1	6500020	3	DECAL\LOGO\HYBSTR\SNBRS\3
2	6500040	2	DECAL\WARN\SHIELD\PROT
3	6500041	1	DECAL\WARN\PROTECTION
4	6500043	2	DECAL\WARN\NO;RIDERS
5	6500052	1	DECAL\INFO\OIL;LEVEL
6	6500056	2	DECAL\INFO\ROTATION\STR
7	6500082	4	DECAL\WARN\ROTATN;PART;>
8	6500085	1	DECAL\DNGR\ROTATNG;DR-LNE
9	6500118	1	DECAL\DNGR\OBJCTS;THROWN HAZARD
10	6500124	1	DECAL\INFO\HYD;OIL
11	6500142	1	DECAL\INFO\TUB;ROTATON;>
12	6500209	1	DECAL\WARN\THROWN;OBJCT;>
13	6500214	2	DECAL\WARN\OVRHED;CNVYR;>
14	6500215	2	DECAL\WARN\FOLDNG;CNVYR;
15	6500220	1	DECAL\WARN\HI;PRESS;FLUID
16	6500245	8 ft.	DECAL\TAPE\REFL\RED\WHT
17	6500282	1	DECAL\WARN\TIPPING;HZRD
18	6500283	1	DECAL\WARN\OVERLOAD;TUB
19	6500302	20 ft.	DECAL\LOGO\STRIP\3\RD&BLK
20	6500339	4	DECAL\WARN\PINCH;POINT
21	6500363	3	DECAL\LOGO\BIGBITE\UNVRSL
22	6500417	7	DECAL\GREASE\10 HRS
23	6500418	4	DECAL\GREASE\40 HRS
24	6500440	1	DECAL\CAUT\ADJ_DRWBAR\16&20
25	6500489	1	DECAL\WARN\PPE\HEARING
26	6500497	1	DECAL\EXTINGUISHER\FIRE
27	6500520	3	DECAL\LOGO\H1030
28	6500538	1	DECAL\GAUGE\PRESSURE\1030
29	6500539	1	DECAL\SWITCH\TWO\1030
30	6500540	1	DECAL\SWITCH\THREE\1030
31	6500550	1	DECAL\NOTICE\DISPLAY\CLEANING
32	6500576	2	DECAL\BRG\RTR\GREASE\DAILY
	6500498		**DECAL\KIT\H1030**

NOT SHOWN

7500077		PAINT\YELLOW\SPRAY\12OZ
7500092		PAINT\YELLOW\QUART
7500091		PAINT\YELLOW\GALLON
7500078		PAINT\RED\SPRAY\12OZ
7500105		PAINT\RED\QUART
7500104		PAINT\RED\GALLON



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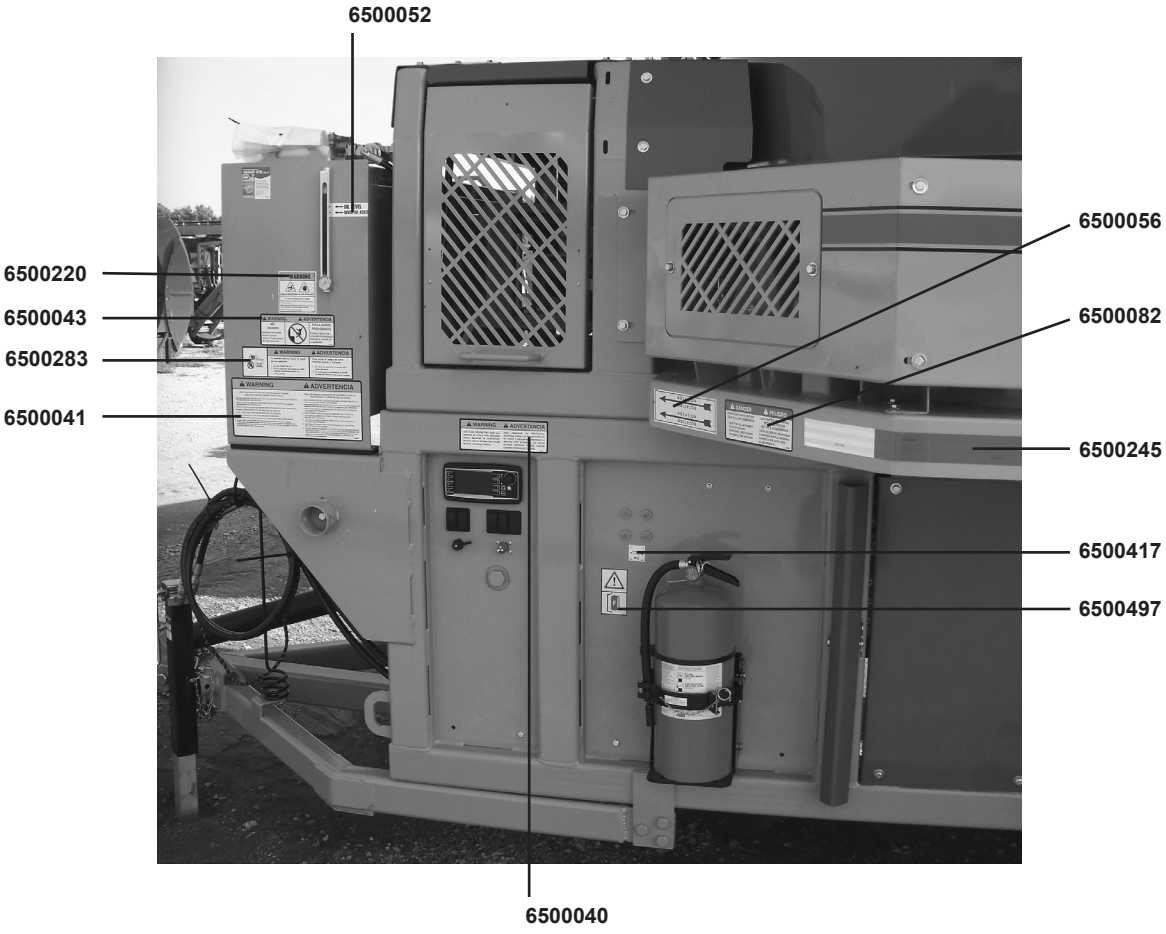
6500539

6500540

6500550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6500497
6500040


6500020
6500302
6500363
HAYBUSTER
H-1030
6500520


6500043
6500040


6500124
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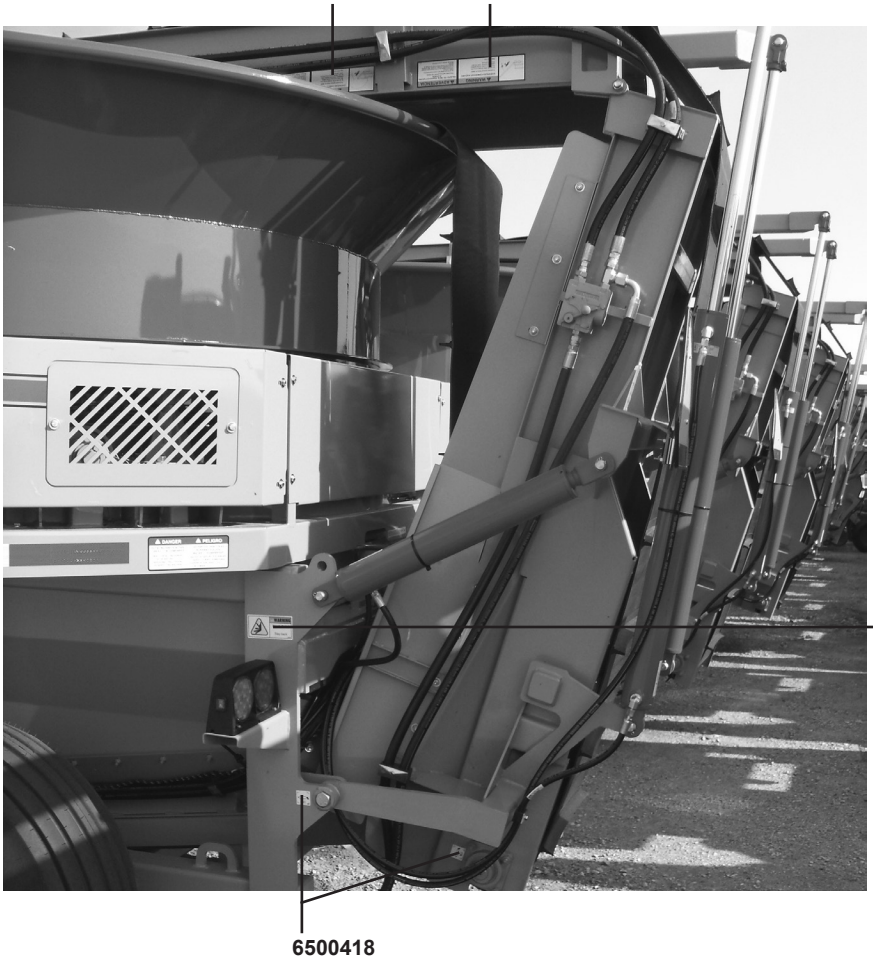
6500363
6500520
6500085
HYDRAULIC OIL
HAYBUSTER
BIG BITE
H-1030


6500215
6500214
6500339
6500418


6500416
DANGER
PELIGRO
WARNING
Pinch Point
6500339

6500417

6500417


HAYBUSTER®
A Tradition of Innovation Since 1966

H-1030 Tub Grinder Documentation Comment Form

DuraTech Industries welcomes your comments and suggestions regarding the quality and usefulness of this manual. Your comments help us improve the documentation to better meet your needs.

- Did you find any errors?
- Is the information clearly presented?
- Does the manual give you all the information you need to operate the equipment safely and effectively?
- Are the diagrams and illustrations correct?
- Do you need more illustrations?
- What features do you like most about the manual? What features do you like least?

If you find errors or have specific suggestions, please note the topic, chapter and page number.

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Jamestown, ND 58402-1940
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Contact us through our website: www.duratechindustries.net

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Please fill out the delivery report on the following pages. The white copy is to be returned to:

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58402-1940

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APPENDIX A SCHEMATIC FOLDOUTS


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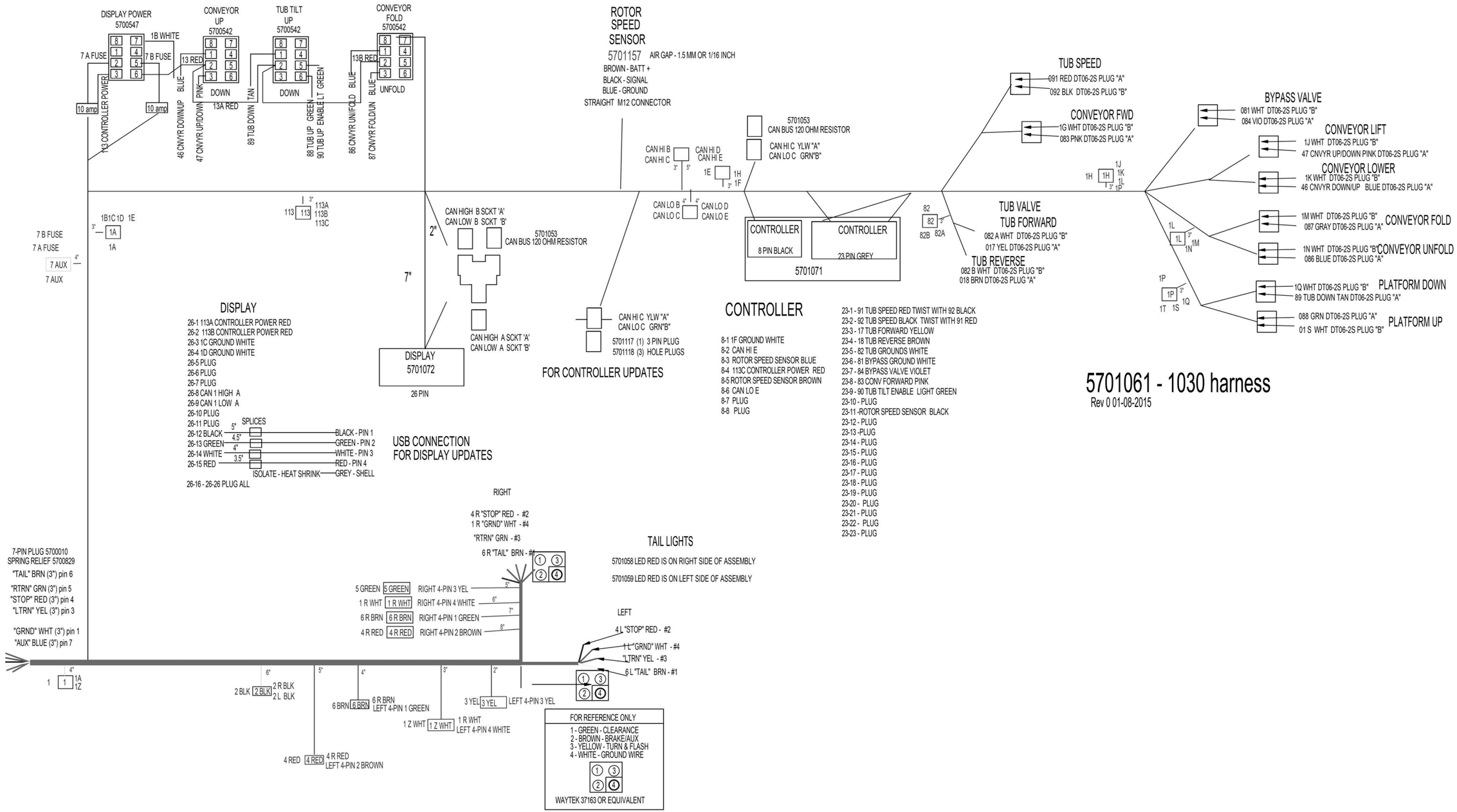
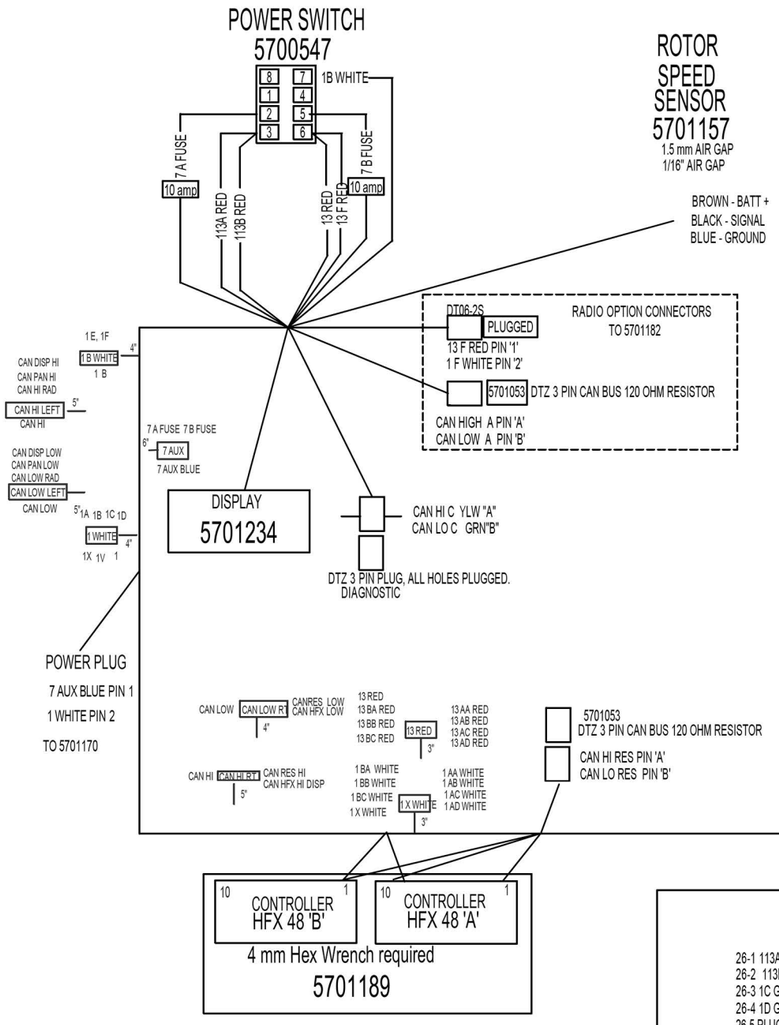

DISPLAY POWER 5700547
CONVEYOR UP 5700542
TUB TILT UP 5700542
CONVEYOR FOLD 5700542
7 A FUSE
7 B FUSE
1B WHITE
13 RED
13B RED
10 amp
10 amp
13 CONTROLLER POWER
46 CNVYR DOWN/UP BLUE
47 CNVYR UP/DOWN PINK
13A RED
DOWN
89 TUB DOWN TAN
88 TUB UP GREEN
90 TUB UP ENABLE LT GREEN
86 CNVYR UN/FOLD BLUE
87 CNVYR FOLD/UN BLUE
UNFOLD
ROTOR SPEED SENSOR
5701157 AIR GAP - 1.5 MM OR 1/16 INCH
BROWN - BATT +
BLACK - SIGNAL
BLUE - GROUND
STRAIGHT M12 CONNECTOR
5701053 CAN BUS 120 OHM RESISTOR
CAN HI C YLW "A"
CAN LO C GRN"B"
CONTROLLER
8 PIN BLACK
23 PIN GREY
5701071
TUB SPEED
091 RED DT06-2S PLUG "A"
092 BLK DT06-2S PLUG "B"
CONVEYOR FWD
1G WHT DT06-2S PLUG "B"
083 PNK DT06-2S PLUG "A"
TUB VALVE
TUB FORWARD
082 A WHT DT06-2S PLUG "B"
017 YEL DT06-2S PLUG "A"
TUB REVERSE
082 B WHT DT06-2S PLUG "B"
018 BRN DT06-2S PLUG "A"
BYPASS VALVE
081 WHT DT06-2S PLUG "B"
084 VIO DT06-2S PLUG "A"
CONVEYOR LIFT
1J WHT DT06-2S PLUG "B"
47 CNVYR UP/DOWN PINK DT06-2S PLUG "A"
CONVEYOR LOWER
1K WHT DT06-2S PLUG "B"
46 CNVYR DOWN/UP BLUE DT06-2S PLUG "A"
1M WHT DT06-2S PLUG "B"
087 GRAY DT06-2S PLUG "A"
CONVEYOR FOLD
1N WHT DT06-2S PLUG "B"
086 BLUE DT06-2S PLUG "A"
CONVEYOR UNFOLD
1Q WHT DT06-2S PLUG "B"
89 TUB DOWN TAN DT06-2S PLUG "A"
PLATFORM DOWN
088 GRN DT06-2S PLUG "A"
01 S WHT DT06-2S PLUG "B"
PLATFORM UP
7 B FUSE
7 A FUSE
7 AUX
7 AUX
1B1C1D 1E
1A
113A
113B
113C
CAN HIGH B SCKT 'A'
CAN LOW B SCKT 'B'
CAN HIGH A SCKT 'A'
CAN LOW A SCKT 'B'
DISPLAY 5701072
26 PIN
DISPLAY
26-1 113A CONTROLLER POWER RED
26-2 113B CONTROLLER POWER RED
26-3 1C GROUND WHITE
26-4 1D GROUND WHITE
26-5 PLUG
26-6 PLUG
26-7 PLUG
26-8 CAN 1 HIGH A
26-9 CAN 1 LOW A
26-10 PLUG
26-11 PLUG
26-12 BLACK
26-13 GREEN
26-14 WHITE
26-15 RED
SPLICES
BLACK - PIN 1
GREEN - PIN 2
WHITE - PIN 3
RED - PIN 4
ISOLATE - HEAT SHRINK
GREY - SHELL
26-16 - 26-26 PLUG ALL
USB CONNECTION FOR DISPLAY UPDATES
FOR CONTROLLER UPDATES
5701117 (1) 3 PIN PLUG
5701118 (3) HOLE PLUGS
CONTROLLER
8-1 1F GROUND WHITE
8-2 CAN HI E
8-3 ROTOR SPEED SENSOR BLUE
8-4 113C CONTROLLER POWER RED
8-5 ROTOR SPEED SENSOR BROWN
8-6 CAN LO E
8-7 PLUG
8-8 PLUG
23-1 - 91 TUB SPEED RED TWIST WITH 92 BLACK
23-2 - 92 TUB SPEED BLACK TWIST WITH 91 RED
23-3 - 17 TUB FORWARD YELLOW
23-4 - 18 TUB REVERSE BROWN
23-5 - 82 TUB GROUNDS WHITE
23-6 - 81 BYPASS GROUND WHITE
23-7 - 84 BYPASS VALVE VIOLET
23-8 - 83 CONV FORWARD PINK
23-9 - 90 TUB TILT ENABLE LIGHT GREEN
23-10 - PLUG
23-11 -ROTOR SPEED SENSOR BLACK
23-12 - PLUG
23-13 -PLUG
23-14 - PLUG
23-15 - PLUG
23-16 - PLUG
23-17 - PLUG
23-18 - PLUG
23-19 - PLUG
23-20 - PLUG
23-21 - PLUG
23-22 - PLUG
23-23 - PLUG
5701061 - 1030 harness
Rev 0 01-08-2015
RIGHT
4 R "STOP" RED - #2
1 R "GRND" WHT - #4
"RTRN" GRN - #3
6 R "TAIL" BRN - #6
TAIL LIGHTS
5701058 LED RED IS ON RIGHT SIDE OF ASSEMBLY
5701059 LED RED IS ON LEFT SIDE OF ASSEMBLY
7-PIN PLUG 5700010
SPRING RELIEF 5700829
"TAIL" BRN (3") pin 6
"RTRN" GRN (3") pin 5
"STOP" RED (3") pin 4
"LTRN" YEL (3") pin 3
"GRND" WHT (3") pin 1
"AUX" BLUE (3") pin 7
5 GREEN RIGHT 4-PIN 3 YEL
1 R WHT RIGHT 4-PIN 4 WHITE
6 R BRN RIGHT 4-PIN 1 GREEN
4 R RED RIGHT 4-PIN 2 BROWN
LEFT
4 L "STOP" RED - #2
1 L "GRND" WHT - #4
"LTRN" YEL - #3
6 L "TAIL" BRN - #1
2 BLK 2 R BLK 2 L BLK
6 BRN 6 R BRN LEFT 4-PIN 1 GREEN
1 Z WHT 1 R WHT LEFT 4-PIN 4 WHITE
4 RED 4 R RED LEFT 4-PIN 2 BROWN
3 YEL LEFT 4-PIN 3 YEL
FOR REFERENCE ONLY
1 - GREEN - CLEARANCE
2 - BROWN - BRAKE/AUX
3 - YELLOW - TURN & FLASH
4 - WHITE - GROUND WIRE
WAYTEK 37163 OR EQUIVALENT

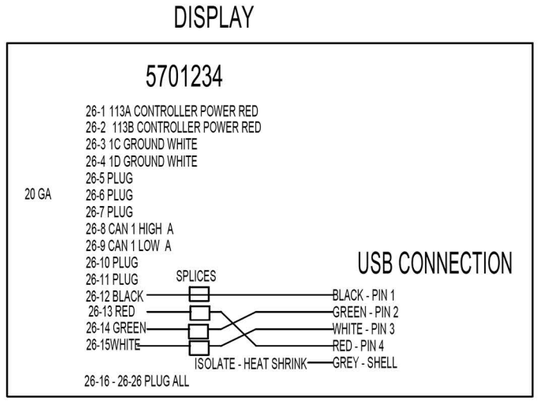
5701174 - PTO TUB GRINDERS

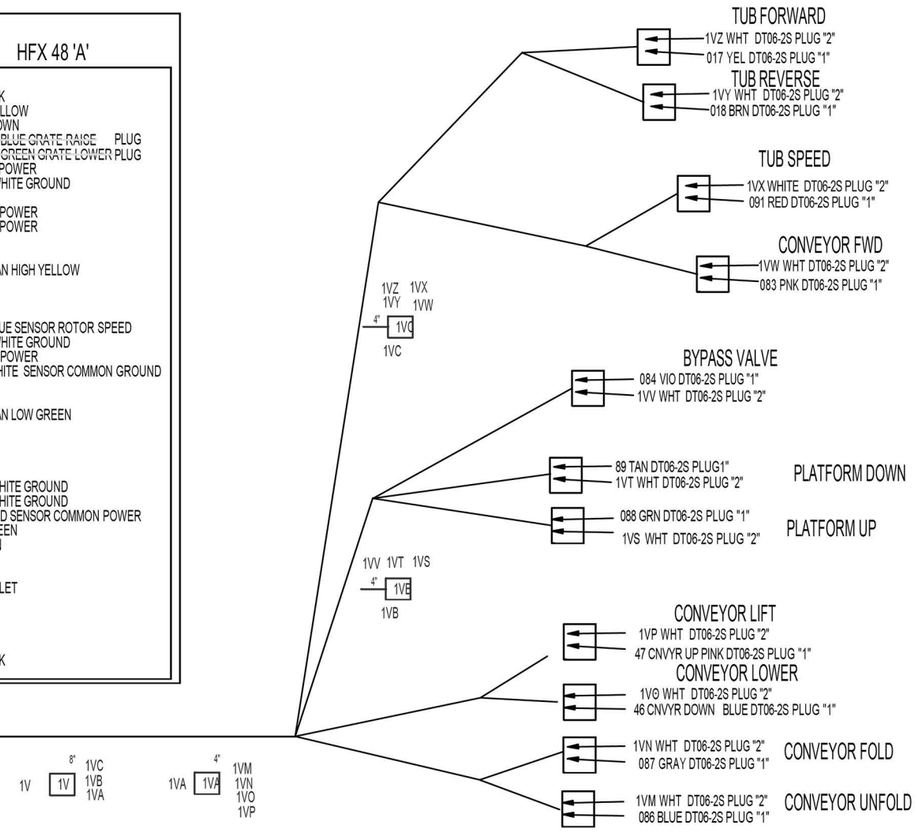
Rev 0 2020-01-20



5701189

HFX 48 'B'		HFX 48 'A'	
SOCKET 1	100BA POWER	SOCKET 1	83 PINK
SOCKET 2	100BB POWER	SOCKET 2	017 YELLOW
SOCKET 3	100BC POWER	SOCKET 3	18 BROWN
SOCKET 4	PLUG	SOCKET 4	105 LT BLUE GRATE RAISE PLUG
SOCKET 5	PLUG	SOCKET 5	106 LT GREEN GRATE LOWER PLUG
SOCKET 6	PLUG	SOCKET 6	100A6 POWER
SOCKET 7	PLUG	SOCKET 7	1AA WHITE GROUND
SOCKET 8	PLUG	SOCKET 8	PLUG
SOCKET 9	PLUG	SOCKET 9	100AA POWER
SOCKET 10	PLUG	SOCKET 10	100AB POWER
SOCKET 11	PLUG	SOCKET 11	PLUG
SOCKET 12	1BA WHITE GROUND	SOCKET 12	PLUG
SOCKET 13	1BB WHITE GROUND	SOCKET 13	HFXCAN HIGH YELLOW
SOCKET 14	PLUG	SOCKET 14	PLUG
SOCKET 15	PLUG	SOCKET 15	PLUG
SOCKET 16	PLUG	SOCKET 16	PLUG
SOCKET 17	PLUG	SOCKET 17	192 BLUE SENSOR ROTOR SPEED
SOCKET 18	PLUG	SOCKET 18	1AB WHITE GROUND
SOCKET 19	PLUG	SOCKET 19	100AC POWER
SOCKET 20	PLUG	SOCKET 20	191 WHITE SENSOR COMMON GROUND
SOCKET 21	PLUG	SOCKET 21	PLUG
SOCKET 22	1BC GROUND	SOCKET 22	PLUG
SOCKET 23	PLUG	SOCKET 23	HFXCAN LOW GREEN
SOCKET 24	PLUG	SOCKET 24	PLUG
SOCKET 25	PLUG	SOCKET 25	PLUG
SOCKET 26	PLUG	SOCKET 26	PLUG
SOCKET 27	PLUG	SOCKET 27	PLUG
SOCKET 28	PLUG	SOCKET 28	1AC WHITE GROUND
SOCKET 29	PLUG	SOCKET 29	1AD WHITE GROUND
SOCKET 30	PLUG	SOCKET 30	190 RED SENSOR COMMON POWER
SOCKET 31	PLUG	SOCKET 31	88 GREEN
SOCKET 32	47 PINK	SOCKET 32	89 TAN
SOCKET 33	46 BLUE	SOCKET 33	PLUG
SOCKET 34	87 GREY	SOCKET 34	PLUG
SOCKET35	86 BLUE	SOCKET35	84 VIOLET
SOCKET 36	PLUG	SOCKET 36	PLUG
SOCKET 37	PLUG	SOCKET 37	PLUG
SOCKET 38	PLUG	SOCKET 38	PLUG
SOCKET 39	PLUG	SOCKET 39	PLUG
SOCKET 40	PLUG	SOCKET 40	91 PINK





5701170 - PTO TUB tail lights harness