



**Heartland**  
**AG SYSTEMS**

**EQUIPMENT**

**PRESENTS**

**THE**

**1612**

**SERIES**

**TENDERS**

**2026 AND NEWER**

**OPERATOR'S MANUAL  
AND PARTS LIST  
OM-1612**

HEARTLAND AG SYSTEMS  
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# WARRANTY REGISTRATION

## TO THE DEALER:

Inspect the implement thoroughly after assembly to be certain it is functioning properly before delivering it to the customer. Check off each item as it is found satisfactory or after proper adjust is made.

### PRE -DELIVERY CHECKLIST

- \_\_\_\_\_ 1. All hardware properly tightened.
- \_\_\_\_\_ 2. Lubrication of grease fittings.
- \_\_\_\_\_ 3. All decals properly located and readable.
- \_\_\_\_\_ 4. Other adjustments, "level operation", "drawbar height", etc.
- \_\_\_\_\_ 5. Proper tongue weight after all options are mounted. Adjustments made if required.
- \_\_\_\_\_ 6. Overall condition. Touch-up paint any scratches. Clean and polish
- \_\_\_\_\_ 7. Operator's manual.

Seller Information	
Date set-up	_____
Signature	_____
Dealer name	_____
Address	_____
City, state, zip	_____
Phone	_____

Review the operator's manual with the customer. Explain the following:

- \_\_\_\_\_ 1. Safe operation and service
- \_\_\_\_\_ 2. Correct machine installation and operation.
- \_\_\_\_\_ 3. Correct and periodic lubrication and maintenance.
- \_\_\_\_\_ 4. Daily and periodic inspection.
- \_\_\_\_\_ 5. Troubleshooting.
- \_\_\_\_\_ 6. Storing machine.
- \_\_\_\_\_ 7. Heartland AG Systems parts and service
- \_\_\_\_\_ 8. Have the customer write the machine model and serial number in the space provided in the manual introduction
- \_\_\_\_\_ 9. Give the customer the operator's manual and encourage the customer to read the manual carefully.

Customer Information	
Date delivered	_____
Customer name	_____
Customer address	_____
Signature	_____
Model number	_____
Serial number	_____



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# TO THE OWNER

Congratulations on your selection of the Heartland AG Systems Tender.

The Heartland AG Systems Tender has been designed to provide years of profitable and dependable service. To assure maximum performance of your Tender it is mandatory that you thoroughly study the operator's manual and follow its recommendations. Proper operation and maintenance are essential for safety and to maximize machine life.

## **It is the owner, manager, and/or operators' responsibility to:**

- Operate and maintain this tender in a safe manner and in accordance with all applicable local, state and federal codes and/or laws; and in compliance with labeling instructions by the supplier of the chemicals being used.
- Make sure each and every operator has read this manual and thoroughly understands safe and correct operating procedure.
- Make sure unauthorized people neither operate the Tender nor are in the vicinity of the Tender while it is in operation.
- Make sure the Tender is maintained to preserve and/or improve the safety, accuracy, and reliability of the system. Read and follow the maintenance schedule in this manual. Furthermore, as additional technology becomes available, the owner is responsible for improving the safety, accuracy, and reliability of the Tender.
- Fulfill all warranty obligations so as not to void the warranties. The warranty information on the following pages outlines the warranty policy of Heartland AG Systems and its suppliers.

Heartland AG Systems, dba Heartland Agriculture, LLC reserves the right to make product improvements to the equipment at any time. Heartland AG Systems shall not be obligated to make such changes to the machines already in service.

## **Warranty Policies and Terms**

The Heartland Agriculture, LLC warranty is a limited warranty that is provided to the retail purchaser in return for consideration paid as part of the purchase price for a product. The selling dealer must review the warranty coverage with the retail purchaser and obtain a signature on the Operators Manual for warranty verification.

The warranty described here is for Heartland Agriculture, LLC doing business as Heartland AG Systems and its product line Heartland AG Systems Equipment sold and registered in the United States and Canada and normally operated in the United States and Canada.

## **Warranty Period**

The warranty period for all coverage begins at the time that any person, dealer or agent first places the unit into service. At the latest, a unit is placed into service when purchased or delivered to a purchaser.

## **What's Covered**

If a defect in material or workmanship is found in a unit and reported during the Warranty period, Heartland AG Systems will pay parts and labor costs to repair the defects if the services are performed by an authorized Heartland AG Systems dealer. If parts are needed during the repair, Heartland AG Systems will, at its option, use genuine Heartland AG Systems, or remanufactured parts.

Heartland AG Systems provides no warranty, express or implied, for a component or other item that is separately warranted to the purchaser by its manufacturer, such as tires. Check with your local dealer for these details.

## **Exclusive Remedy**

The remedy of repairing a defect in material or workmanship at a Heartland AG Systems dealership under the terms of this warranty is the purchaser's exclusive remedy and is in lieu of any other remedy otherwise available.

## **No Modification or Extension of Warranty**

The Heartland AG Systems Warranty is limited to the written terms in the warranty statement. Heartland AG Systems does not authorize any person, dealer, or agent to change or extend the terms of this warranty in any manner. Any assistance to the purchaser in the repair or operation of any Heartland AG Systems product outside the terms or limitations or exclusions of this warranty will not constitute a waiver of the terms, limitations or exclusions of this warranty, nor will such assistance extend or re-establish the warranty.

The warranty is void if the unit is used in an application for which it is not designed or the unit has been scrapped, salvaged, stolen, junked or totaled.

### **Limitations and Exclusions**

The Heartland AG Systems warranty gives you specific legal rights and you may also have other rights, which vary from state to state. This section contains the entire Heartland AG Systems warranty. Heartland AG Systems makes no other representations or warranties, expressed or implied, and specifically excludes the implied warranties of merchantability and fitness for particular purpose. Heartland AG Systems will not be liable for incidental or consequential damages resulting from a breach of the written warranty or any implied warranty.

- These limitations and exclusions may not be allowed by some states or provinces and shall not apply to the extent such limitations or exclusions are not allowed by applicable state/provincial law.

### **Owner's Responsibility**

The Heartland AG Systems Warranty remains in effect during the warranty period if the owner performs the required maintenance at the recommended intervals outlined in the product's operator's manual and the unit is operated within its rated capacity. Genuine Heartland AG Systems service parts or Heartland AG Systems approved service parts that meet Heartland AG Systems specifications must be used for maintenance and repairs.

### **What Is Not Covered**

- Replacement of non-defective wear items expected to be replaced during the warranty period, including, but not limited to: lights, fuses, belts, drive sprockets and chains, hose, soil engaging tools, spray tips, fertilizer deflectors, spinner blades and accessories or items replaced due to customer demand.
- Normal maintenance parts and service, including, but not limited to lubrication, coolants, and filters.
- All travel costs associated with hauling or towing a customer's machine to and from a repair center related to any warranty repair unless specifically covered by a program or policy.
- Repairs arising from any unauthorized modification to the product.
- Repairs arising from service performed by agents not approved by Heartland AG Systems.
- Repairs arising from storage deterioration, failure to maintain the equipment, improper use of the equipment, collision or other accident, vandalism, or other casualty, or operation beyond the rated capacity or specifications.
- Repairs arising from abuse or neglect including, but not limited to operation without adequate lubricants or coolant, over-speeding, contaminated fluids, improper storage, starting, warm-up, or shutdown practices.
- Failure of the machine, its implements or attachments caused by improper field application or overloading.
- Premiums charged for over-time labor costs.
- Economic loss, including lost profits, crop loss, equipment rental or other expenses.
- Cost associated with cleaning of machine in preparation for service.
- Loss or damage during shipment.

- Cost of initial setup or installation of any optional equipment or attachments to a unit.
- Items used for repairs include, but are not limited to: solvents, cleaners, anti-seize lubricants, oil-dry, shop towels, shop supplies, special tools, etc.
- Included, but not limited to are checkups, adjustments, and shimming, tune-ups, spread pattern checks, etc.
- Unauthorized modification or field fixes.
- All costs of special tools or shop supplies incurred with repairs.
- Claims for stolen equipment or parts.
- Claims for replacing a complete assembly when the repair is less than the replacement.
- Claims involving the inspection or reconditioning of units.
- Shop comebacks: any duplicate, repeat, or comeback repair resulting from improper diagnosis, testing, or poor service work.
- Cost of removing or installing Non-Heartland AG Systems optional equipment or attachments.

#### **Base Warranty Coverage**

- Base Warranty is the factory warranty provided to the customer at no additional cost for a specific period covering the complete machine.
  - Liquid Applicators, except tires 1 Year
  - Spreaders and Tenders, except tires 1 Year
  - Nh3 Wagons, except tires 1 Year
  - Bumper Hitches 1 Year
  - Disc Covers 1 Year
  - Parts 90 Days
  - Tandem Wagons (except tires and main frame) 1 year
    - o Tandem Wagon main frame 5 Years
  - Nitromaster Toolbars shall carry the following pro-rated warranty:
    - o Year one, all components except tires 100%
    - o Year two, center section and wings 80%
    - o Year three, center section and wings 50%
    - o Year four, center section and wings 25%
    - o Year five, center section and wings 10%

### **Tires**

Tires installed on all Heartland AG Systems Equipment are warranted and serviced by their manufacturer's service outlets. Some manufacturers have separate service outlets for off road agricultural and construction equipment. Service is available by contacting the tire manufacturer's local representative.

### **Warranty Registration**

All machinery items, which are invoiced by Heartland AG Systems on separate receivables, must be registered for warranty. The warranty period for all coverage begins at the time that any person, dealer, or agent first places the unit into service. New machine warranty coverage begins when the machine is registered. Registration is accomplished when a properly completed Warranty Registration is received and processed by Heartland AG Systems.

### **Operator's Manual/Warranty Receipt Verification**

The Heartland AG Systems New Equipment Limited Warranty for Agricultural Equipment statement must be filled out and signed by the customer indicating receipt and an understanding of the operator's manual and the warranty statement,

- The original form must be mailed to the address on the form.
- Make one copy for the Dealer. This copy must be retained by your dealership the same as any other legal document.
- Make a second copy for the customer.

### **Heartland AG Systems Responsibility**

If a defect in material or workmanship is found in a product during its warranty period, Heartland AG Systems will pay parts and labor costs to repair the defect when the service is performed by an authorized Heartland AG Systems dealer or agent. If parts are needed during the repair, Heartland AG Systems will, at its option, use genuine Heartland AG Systems new or remanufactured parts. These responsibilities include, but are not limited to:

- Costs for repairs that are the result of defects in material and workmanship
- Payment to dealers per policy in a timely manner
- Service information to dealers
- Identify product deficiencies and take corrective action by field campaigns
- Make determination of premature wear
- Provide unit that is free of defects in material & workmanship

### **Dealer Responsibility**

Heartland AG Systems dealers are responsible for providing prompt, courteous, and willing service to all Heartland AG Systems equipment owners. These responsibilities include but are not limited to:

- Equipment set-up and pre-delivery
- Sell the right product for the intended application
- Inspect the unit and initiate recovery action on any shipping damage and or shortages
- Instruct customer on proper use, maintenance, and safety features of machine
- Advise and explain warranty coverage to customer
- Diagnose the problem, repair the unit, and submit claims in accordance with the terms and conditions of the warranty claim policies
- Take responsibility for saying "NO" to customers on non-warranty failures
- Apply failure analysis to questionable repairs
- Complete product update campaigns
- Have properly trained technicians and adequate tools for the job
- Retain proper documentation of failure repaired

### **Owners Responsibility**

The Heartland AG Systems warranty remains in effect during the stated warranty period if the owner performs the required maintenance at the recommended times as outlined in the products operator's manual. Genuine Heartland AG Systems or Heartland AG Systems approved service parts must be used for maintenance. Additionally, the owner will pay for all transportation or travel expenses related to any warranty repair.

These responsibilities include, but are not limited to:

- Perform maintenance as indicated in the operator's manual
- Use the unit in the correct application (non-abusive)
- Notify dealer of failures and have the machine available for repair in a timely manner
- Training operators
- Travel cost, towing charges, and service calls
- Normal wear items
- Machine damage (accidental)
- Adjustments for application
- Machine inspection (daily walk-around)

### **Warranty Eligibility**

The dealer is responsible to determine that any Heartland AG Systems equipment is covered by Heartland AG Systems warranty before performing a repair and that the repair is a warrantable failure. Any dealer who is in doubt of the equipment's warranty eligibility may call Heartland AG Systems for verification.

### **Warranty Repairs Made by the Customer**

If a Heartland AG Systems dealer determines that the customer is capable, and the customer requests permission to perform select(warranty)repairs on his product, the Heartland AG Systems dealer is authorized to grant this customer request. The servicing dealer should provide the parts to the customer upon request, and to assure that customer is properly instructed on how to perform the repairs correctly.

The servicing dealer is responsible and accountable for claim accuracy and validity; specifically, in areas such as the parts replaced date, and assurances that the parts are installed as instructed by Heartland AG Systems. The comments section of the claim should clearly state that the customer installed the parts. The claim reimbursement will be for parts and applicable handling only. No labor is allowed! All replacement parts must be held for possible recall.

### **Parts Shortages on Whole-Goods**

Dealers may submit a claim for parts shortages discovered during pre-delivery or during final assembly at the dealer's location. All claims for shortages must be submitted 5 days from the original ship date from the plant and before the warranty start date.

### **Warranty Reimbursement Policies**

Heartland AG Systems provides for warranty reimbursement due to defects in material or workmanship only. Warranty does not include restoring any machine or portion thereof, which has accumulated hours of operation, to factory new condition. This includes customer owned and used equipment.

Except for only a few items not available through Heartland AG Systems, all Heartland AG Systems manufactured equipment warranty repairs must be performed using only Heartland AG Systems genuine new or remanufactured parts and accessories. Installation of non-Heartland AG Systems parts does not qualify for warranty reimbursement and can void the machine's warranty.

### **Parts**

It is fully expected that all claims be filed using part numbers from the applicable Heartland AG Systems equipment parts book whenever such part number exists. Heartland AG Systems shall reimburse the dealer at the dealer net price (cost) in effect on the parts replaced date.

### **Labor**

Heartland AG Systems shall reimburse the dealer at 80% of the dealer's posted retail shop labor rate. The retail shop labor rate shall be subject to verification by Heartland AG Systems from copies of actual dealer invoices to customers.

### **Outside Charges**

Specialized repair such as that done by a machine shop will be accepted as part of a warranty claim at actual cost. Explain the parts used and the service work performed in the description section of the claim and retain a copy of the receipt. Retain a copy of the invoice with the shop work order to support the claim. Outside repairs that exceed the cost of the same repair, if performed by the dealer, will be reimbursed at a lower rate.

### **Freight**



Heartland AG Systems will pay the freight charges when a warranty recalled part is to be returned to Heartland AG Systems.

**Travel**

Travel will only be reimbursed when authorized by a field campaign.

**Repairing or Replacing Parts and Components**

When performing a warranty repair, a complete part or component should not be replaced under warranty if the repair can be accomplished at a lower cost. If the total cost of the repair including the cost of parts, labor, and/or outside labor or materials is less than 75% of the cost of the parts, the part must be repaired.

**Filters and Lubricants**

Replacement of lubricants and filters do not qualify for warranty reimbursement unless damage caused by a defect in material or workmanship results in contamination or sudden loss of fluid. Lack of maintenance, operator misuse, or neglect will not qualify for warranty reimbursement.

## Claim Form Guidelines

### Claims Must Have

1. Product identification number (PIN) or serial number. All characters of the PIN must be used on the warranty claim.
  - Claims for parts warranty must use the word "PARTS" for the PIN. An invoice that shows date of sale or date of installation must be supplied for all parts claims.
2. Model Number
3. Date of failure – Claims must be submitted within 30 days or repair.
4. Date of repair
5. Warranty start date. Date the unit warranty starts or date the parts were sold for parts warranty.
6. Description of the problem. Describe all problems pertinent to the claim.  
Comments should be as precise as possible, attach a separate sheet if necessary, to describe the problem.
7. Description of the work performed. List each significant action of the repair.
8. Itemize labor. Provide a breakdown of labor for each significant repair action in the "Describe Work Performed" column.
9. Shop order numbers. The shop order number field is used for recording your shop work order number that is related to the claim. The shop order number field can also be used to record the parts invoice number when claiming a parts warranty.
10. Customer information. Customer information includes the customer name, city, state, county, and postal code. It must match the warranty registration.
11. Warranty claim total. The total of all reimbursement costs requested.
12. Dealer signature and date. All claims must be signed and dated by the distributor to be validated.



**THIS MESSAGE ALERT SYMBOL INDICATES IMPORTANT SAFETY MESSAGES IN THIS MANUAL. WHEN YOU SEE THIS SYMBOL, CAREFULLY READ THE MESSAGE THAT FOLLOWS AND BE ALERT TO THE POSSIBILITY OF PERSONAL INJURY OR DEATH.**

Safety Decals on this machine use the words **DANGER**, **WARNING** or **CAUTION**, which are defined as follows:

- **DANGER:** Indicates an immediate hazardous situation which, if not avoided, will result in death or serious injury. The color associated with DANGER is RED.
- **WARNING:** Indicates a potentially hazardous situation which, if not avoided, will result in serious injury. The color associated with WARNING is ORANGE.
- **CAUTION:** Indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury. It may also be used to alert against unsafe practices. The color associated with CAUTION is YELLOW.



# WARNING

**IMPROPER OPERATION OF THIS MACHINE CAN CAUSE INJURY OR DEATH. BEFORE USING THIS MACHINE, MAKE CERTAIN EVERY OPERATOR:**

- Is instructed in safe and proper use of the machine.
- Reads and understands the Manual(s) pertaining to the machine.
- Reads and understands ALL Safety Decals on the machine.
- Clears the area of other persons.
- Learns and practices safe use of machine controls in a safe, clear area before operating this machine on a job site.

**It is your responsibility to observe pertinent laws and regulations, and follow instructions on machine operation and maintenance.**

# ***Safety Instructions***

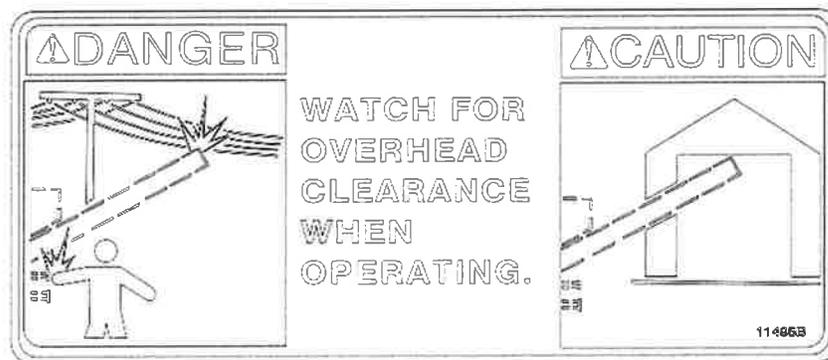


# Safety Instructions for Operation

1. **DO NOT ALLOW ANYONE TO OPERATE THE TENDER UNTIL THEY HAVE READ THIS MANUAL AND FULLY UNDERSTAND ALL SAFETY AND OPERATING PROCEDURES.**



2. **Do not permit the following individuals to operate or service this equipment:**
  - Children
  - Individuals who behave irresponsibly
  - Anyone under the influence of alcohol, medication, or drugs that impair judgment or cause drowsiness
  - Persons unfamiliar with the equipment
  - Individuals who are careless, unauthorized, or not trained in safe operating procedures
3. **Always park the unit on a level surface. Shut off the vehicle engine, remove the ignition key, and set the parking brake before performing any adjustments or repairs.**
4. **Check for overhead electrical lines or other obstructions before operating.**



5. **Never allow passengers to ride on the Tender.**
6. **Individuals with known allergies to fertilizer or chemicals must not be allowed in or near the Tender.**

7. Keep all protective shields and guards in place at all times.



8. Ensure all personnel are clear of the equipment before starting operation.



9. Tenders are designed to be mounted on a chassis for over-the-road transport of granular fertilizer and chemicals. Comply with all applicable local, state, and federal regulations, including but not limited to:

- Vehicle weight and height restrictions
- Bumper, brake, and lighting requirements

10. If any component of the Tender is not functioning properly, discontinue use immediately. Remove the unit from service until repairs are completed by a qualified service technician.

11. Use only genuine Factory Service Parts for replacements. Substituting non-approved components may reduce safety, compromise performance, or affect application accuracy.



## WARNING

Always wear protective clothing, goggles, respirator and gloves when handling herbicides.



**DANGER:**

Safety instructions furnished by fertilizer manufacturers must be followed exactly to prevent serious harm to individuals and/or the environment.



**WARNING:**

Observe all Federal and State EPA regulations and all local, state, and federal codes and/or laws regarding licensing, handling, storage, transportation, application, and waste disposal of fertilizers or other chemicals used.



**CAUTION:**

Fertilizer is very corrosive and will oxidize steel over a period of time. This weakens steel parts and can cause possible safety hazard. Periodically check safety shields and structural members for corrosion. Replace or repair anything that could cause a potential safety hazard.

# Safety Instructions

The following chapter covers recommended safety instructions, along with other general recommendations and specific machine safety precautions that should be read thoroughly before operating the machine.

## **Safety**

Read and comply with the operator's manual and safety instructions before operating the machine.

Understand that your safety and the safety of other persons is measured by how you service and operate this machine. Know the positions and operations of all controls before you try to operate. **Make sure you check all controls in a safe area before starting your work.**

**Read this manual completely** and all other manuals provided with this vehicle, plus make sure you understand the controls. All equipment has a limit. Make sure you understand the speed, brakes, steering, stability, and load characteristics of this machine before you start to operate.

The safety information given in this manual does not replace safety codes, insurance needs, federal, state, and local laws. Make sure your machine has the correct equipment required by local laws and regulations.

 **WARNING: THIS SAFETY ALERT SYMBOL INDICATES IMPORTANT SAFETY MESSAGES IN THIS MANUAL. WHEN YOU SEE THIS SYMBOL, CAREFULLY READ THE MESSAGE THAT FOLLOWS AND BE ALERT TO THE POSSIBILITY OF PERSONAL INJURY OR DEATH.**

### Personal Safety

Throughout this manual and on the manual and on the machine's safety decals, you will find precautionary statements: **DANGER, WARNING, or CAUTION** followed by specific instructions or ISO two panel safety pictorial symbols. These precautions are intended for your personal safety.

Failure to follow the **DANGER, WARNING, or CAUTION** instructions may result in serious bodily injury or death.

- **DANGER:** Indicates an immediate hazardous situation that, if not avoided, will result in death or serious injury. The color associated with Danger is RED.

- **WARNING:** Indicates a potentially hazardous situation that, if not avoided, could result in death or serious injury. The color associated with Warning is ORANGE.
- **CAUTION:** Indicates a potentially hazardous situation that, if not avoided, could result in minor or moderate injury. It may also be used to alert against unsafe practices. The color associated with Caution is YELLOW.
- ISO two panel pictorial symbol decals are defined as follows:
  - The first panel indicates the nature of the hazard.
  - The second panel indicates the appropriate avoidance of the hazard.
  - Background color is YELLOW.
  - Prohibition symbols such as



and



if used, are RED.

## Safety Rules

- **DO NOT** operate or service this machine unless you have read and understood the Operator's Manual and have been properly trained in the machine's operation.
- Before starting the engine, be sure all operating controls are in neutral or park position. This will eliminate accidental movement of the machine or start-up of power-driven equipment.
- This machine requires an operator at all times. Never leave the machine running and unattended.
- **ALWAYS** be sure the work area is clear of persons before operating the machine. **NEVER** allow anyone in the work area during machine operation. **DO NOT** allow inexperienced persons to operate this machine.
- Sound horn of tow vehicle before operating the machine.
- **NO RIDERS** – A frequent cause of personal injury or death is persons falling off and being run over. Do not permit others to ride.
- For road travel, use flashing warning lamps unless prohibited by law and keep SMV visible.

- **ALWAYS** put the controls in neutral, shut the engine off, apply the parking brake and remove the key **BEFORE** exiting the tow vehicle.
- Extra weight and bad traction conditions, such as mud or ice, increase your stopping distance. Remember a loaded machine increases the distance needed to stop.
- **DO NOT** smoke while servicing the machine.
- **DO NOT** operate the machine while under the influence of alcohol or drugs.
- Hydraulic oil or diesel fuel are high pressured systems. Make sure all lines and fittings are tight and in good condition. These fluids, escaping under pressure, can have sufficient force to penetrate skin and cause serious injury. Failure can result in serious injury or death.
- Escaping hydraulic fluid under pressure can have sufficient force to penetrate skin, causing serious injury. **NEVER** check for leaks using any part of your body to feel for escaping fluid.
- Before servicing the machine, make sure the machine has cooled down. Hydraulic components can get hot enough to cause serious injury.
- After servicing the machine **ALWAYS** replace guards and shields. **NEVER** operate your machine with guards and shields removed.
- Be aware of all pinch points on the machine and keep clear
- Keep bolts tight at all times. Always replace worn or broken parts immediately after they are discovered. Do not use the vehicle if any parts are not functioning properly.
- Do not replace parts with other than genuine factory parts. Doing so could decrease the effectiveness of safety features or the accuracy of the machine.
- This machine is designed for the farming industry. Comply with your local and state laws governing weight, lighting, licensing, overhang, bumpers, maximum width, transportation of chemicals, and any other regulations that might apply.

### Safety

- When disconnecting battery terminals, remove the Negative (-) cable first; then remove the Positive (+). When connecting cables, connect the Positive (+) first, then connect the Negative (-).
- Disconnect the battery (both terminals) before welding on any part of the machine. Failure to do so may cause damage to sensitive electrical components.

- **BATTERY ACID CAUSES SEVERE BURNS.** Batteries contain sulfuric acid. Avoid contact with skin, eyes or clothing. Antidote: **EXTERNAL** – flush with water. **INTERNAL** – drink large quantities of water or milk. Follow with milk of magnesia, beaten egg or vegetable oil. Call physician immediately. **EYES** – flush with water for 15 minutes and get prompt medical attention. **BATTERIES PRODUCE EXPLOSIVE GASES.** Keep sparks, flames and cigarettes away. Ventilate when charging or using in enclosed space. Always shield eyes when working near batteries. **KEEP OUT OF REACH OF CHILDREN.**
- When working around stage batteries, remember that all of the exposed metal parts are “live”. Never lay a metal object across the terminals because a spark, short circuit, explosion or personal injury may result.

### Electrical Line Safety

- Know the area before operating the machine. Be aware of power lines, electrical boxes, debris and rocks.
- Watch for adequate overhead clearance when operating the machine.

### Machine Operation and Roll-Over Safety

- DO NOT ride or allow other persons to ride on machine. Riders can fall or can cause an accident
- DO NOT operate the machine while under the influence of alcohol or drugs.
- Be alert and always know the location of all workers in your area.

### Noise Level Safety

- Exposure to high noise level may cause hearing loss. Wearing suitable hearing protective devices protects against loud noise.

### Hazardous Chemicals

- If you are exposed to or come in contact with hazardous chemicals, you can be seriously injured. The fluids, lubricants, paints, adhesives, coolants, etc., used with your machine can be hazardous.

- Material Safety Data Sheets (MSDS) provide information about the chemical substances within a product, safe handling procedures, first aid measures and procedures to be taken when the product is accidentally spilled or released. MSDS are available from your chemical dealer. It is the operator's responsibility to be familiar with the safe handling of the chemical used.
- Before you service your machine, check the MSDS for each fluid, lubricant, etc., used in this machine. This information indicates what the risk are and how to service the machine safely. Follow this information when servicing the machine.
- Before you service this machine and before you dispose of the old fluids and lubricants, always remember the environment. **DO NOT** put oil or fluids into the ground or into containers that can leak.
- Check with your local environmental or recycling center or your dealer for correct disposal information.
- Personal Protective Equipment (PPE) is protective gear worn by pesticide handlers as specified in the use directions on a pesticide label.

### Maintenance Safety

- Before you service the machine, place a Do Not Operate tag on the machine.
- Always keep safety and informational decals clean and visible. Replace decals that are damaged, lost, painted over or cannot be read.
- When assembling, operating or servicing the machine, wear protective clothing and personal safety devices that are necessary for the particular procedure. Some personal safety devices that may be necessary are protective shoes, face and/or eye protection, hard hat, heavy gloves, filter mask and hearing protection.
- **DO NOT** wear jewelry or loose-fitting clothing that may get caught in moving parts. Always wear close-fitting clothing. Keep hands, feet, clothing and hair away from moving parts.
- Never attempt to clear obstructions or objects from the machine while the engine is running.
- Always stop the engine and remove the key from the key switch when leaving the operator's seat or the machine.
- When servicing the machine, always have the machine on a firm level surface.
- If shield or guards are removed or opened for service, always replace them before operating the machine. Never operate the machine with missing or open shields or guards.

- Keep the area used for servicing the machine clean and dry. Wet or oily floors are slippery. Wet spots can be dangerous when working with electrical equipment. Be sure all electrical outlets and tools are properly grounded.

### Tire Inflation

Consult your vehicles operator's manual for proper tire inflation.

### **First Aid Kit**

It is recommended that you have a First Aid Kit on the job site and in your maintenance area.

### **Read Operator's Manual**

Decals which display the "Read Operator's Manual" symbol are intended to direct the operator to the Operator's Manual for further information regarding safety, maintenance, adjustments and/or procedures for specific areas of the machine.

When a decal displays symbol shown, refer to the appropriate page of the Operator's Manual. Refer to the Table of Contents at the front of the manual for locating specific items about your machine.

### **Fire Extinguisher**

It is recommended that you have a fire extinguisher on your machine. A fire extinguisher is available from your dealer and can be installed on your machine.

This dry chemical fire extinguisher is approved for Class A, B and C type fires. The operating temperature is -54° to 49°C (-65° to 120°F)

### **Hand Signals**

It is recommended that all persons on the job site use hand signals for communications. Before you start, make sure all persons understand the signals that will be used.

### Start Engine



### Stop Engine



### Come To Me

Move hands forward and rearward - palms in



### Move Away from Me

Move hands forward and rearward - palms out



### Go This Far



### All Stop and Hold



## Stop

Move one hand back and forth



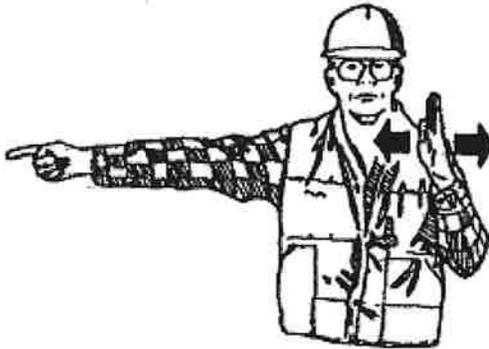
## Emergency Stop

Move both hands rapidly back and forth



## Turn Machine Left

To stop movement, stop moving hand and make a fist



## Turn Machine Right

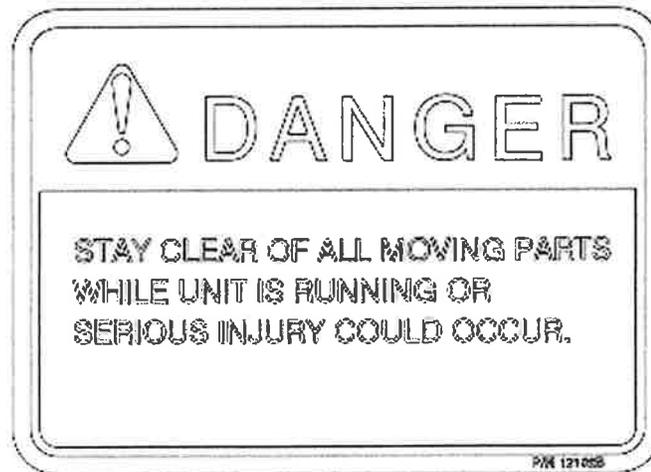
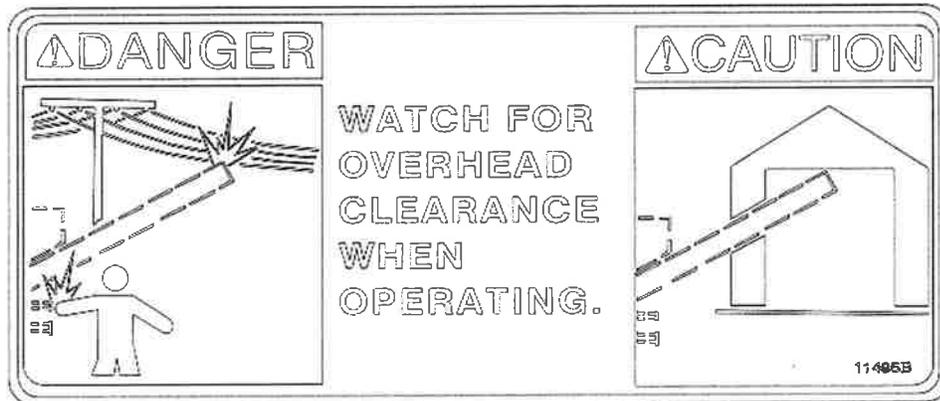
To stop movement, stop moving hand and make a fist



## Safety Decals

Check and replace any worn, torn, hard to read, or missing safety decals on your machine

### Safety Decal Pictorials

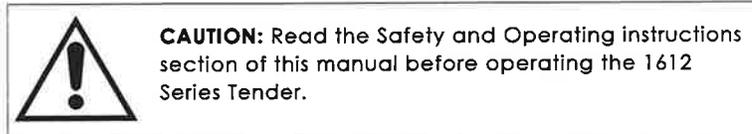


# ***Operating Instructions***

# Operating Instructions

This chapter starts with a pre-operation checklist. Then it explains certain parts of the machine and how they operate. It also presents detailed instructions for the first time operators.

## Pre-Operation Checklist



Inspect unit

- Be sure all shipping fasteners are removed
- Check tender thoroughly for screws, bolts, fittings, etc., which may have come loose during shipping.

## Transporting

Before transporting the unit, make sure it is secured to the truck bed, trailer, etc. Be sure that the tarp and auger are properly secured in place. Make sure the auger is in the “DOWN” position before transporting.

## Operating the Tender

### Truck Hydraulic

The hydraulic pump should supply 22 gallons per minute (GPM). Auger speed on the hydraulic unit is approximately 375 revolutions per minute (RPM). Specify PTO pump based on truck transmission and desired engine RPM's.

### Engine Hydraulic

Follow the engine manufacturer's recommendations in the maintenance manual. Check to see if the engine has proper oil level before starting.

## **Unit**

Make sure the auger is in the down position before transporting the tender. See that the cleanout door is shut and properly secured before loading. Always have the auger running before opening the hopper gate. Always shut the gate and empty the auger before shutting the auger off.

# ***Maintenance and Servicing***

## Daily Machine Maintenance

### Overnight Storage

Avoid overnight storage of material in machine if at all possible.

### Build-up of Material

Hosing the machine out with water after each day's use will eliminate build-up if this is done before the material has hardened. The auger may be cleaned by unloading dry gravel or similar abrasive materials. Stainless units should be washed regularly, especially 409 stainless because fertilizers containing chlorides will pit and discolor the metal.



**CAUTION:** All residue that is washed off the tender must be disposed of in accordance with local, state, and federal EPA regulations.

### Tarp

Loosen the tarp or open Flip top (or Roll tarp) so any excess moisture can escape

## Weekly Machine Maintenance

### Greasing

Grease all fittings every 75 hours of operation. Use only one (1) pump of a standard grease gun per application. **DO NOT USE AN AIR GUN.**



**IMPORTANT:** DO NOT over-grease. Over-greasing will break the seals on the bearings and allow fertilizer and dirt into the bearing; thereby, causing bearing failure.

## **Between Season Maintenance**

### **Hopper Body**

Clean all the old fertilizer out of the unit and wash it down thoroughly. Touch up with rust preventative paint where needed. Clean and lubricate guides for hopper gates.

### **Auger**

Clean auger by running coarse gravel or some other abrasive material through auger until cleaned. Be sure the clean out door is left open.



**CAUTION:** All residue that is washed off the tender must be disposed of in accordance with local, state, and federal EPA regulations.

### **Unit**

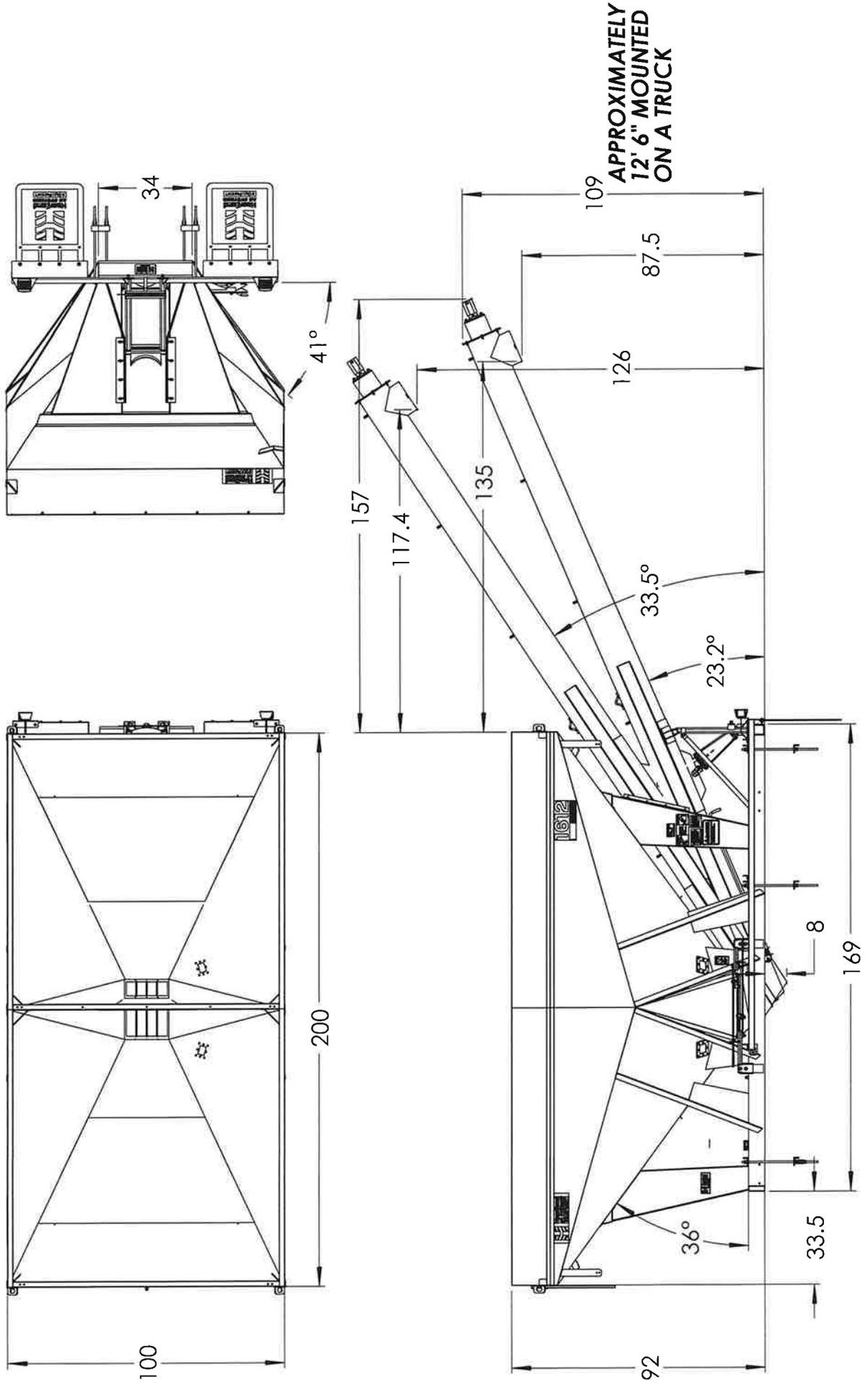
- Remove the tarp or open and secure Flip top (or Roll tarp) to prevent moisture from being trapped inside the hopper.
- If equipped with engine, remove the battery and store inside.
- If stored outside, cover the engine with a cover or tarp of some kind.

### **Care Of The Roller Chain**

To prevent freezing of the roller chain due to rusting, remove and store submerged in fuel oil between seasons. Do not use regular oil for this purpose.

# ***Parts***

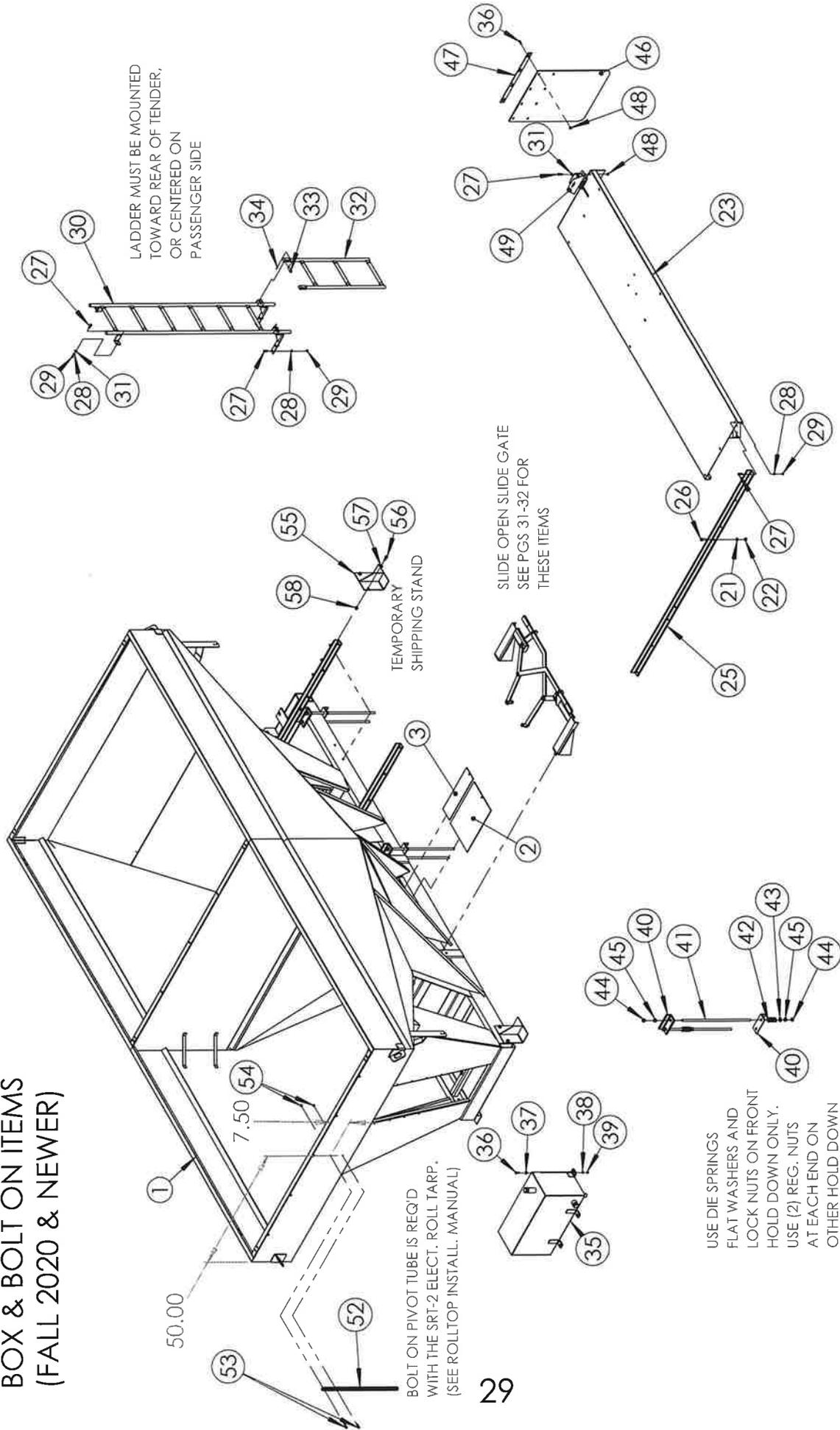
# 1612 TENDER SPECIFICATIONS W/ 21 1/2' AUGER



*THIS SHEET INTENTIONALLY  
LEFT BLANK*

**SERIES 16112 TENDER  
(STANDARD 2 COMPARTMENT TENDER)  
BOX & BOLT ON ITEMS  
(FALL 2020 & NEWER)**

16112BXISO2020+  
02/18/20



BOLT ON PIVOT TUBE IS REQ'D WITH THE SRT-2 ELECT. ROLL TARP. (SEE ROLLTOP INSTALL. MANUAL)

LADDER MUST BE MOUNTED TOWARD REAR OF TENDER, OR CENTERED ON PASSENGER SIDE

SLIDE OPEN SLIDE GATE SEE PGS 31-32 FOR THESE ITEMS

USE DIE SPRINGS FLAT WASHERS AND LOCK NUTS ON FRONT HOLD DOWN ONLY. USE (2) REG. NUTS AT EACH END ON OTHER HOLD DOWN RODS (SEE PG. 42)

# SERIES 1612 TENDER

## BOX AND BOLT ON ITEMS (FALL 2020 & NEWER)

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	48300119	BODY AND FRAME WELDMENT 409 SS	1
	48300119S	BODY AND FRAME WELDMENT 304 SS	
2	48300065	DISCHARGE GATE, FRONT 409 SS	1
	48300065S	DISCHARGE GATE, FRONT 304 SS	
3	48300138	DISCHARGE GATE REAR 409 SS	1
	48300138S	DISCHARGE GATE REAR 304SS	

SLIDE GATE KIT P/N: 70573A

FOR BLOWN UP SERVICE PARTS FOR SLIDE OPEN SLIDE GATE SEE PGS 31-32 IN THE MANUAL

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
4	70574	SPACER	2
5	18984800	WASHER NYLON 1/2	18
6	70575	MOUNTING BRACKET RIGHT	1
7	70576	MOUNTING BRACKET LEFT	1
8	18470200	BOLT, HEX 1/4 X 2 NC SS	2
9	70577	DOOR LEVER	1
10	70578	DOOR LEVER RIGHT	1
11	18567400	NUT SS NYLOCK 1/2	6
12	18824800	WASHER FLAT 1/2 SS	16
13	18470175	BOLT SS CAP 1/2 X 1 3/4	2
14	18027436	BOLT SS CAP 1/2 X 2 1/2	2
15	18027438	BOLT, HEX 1/2 X 3 SS	2
16	54143A	HANDLE COVER	2
17	18569200	NUT 1/4 NYLOCK SS	2
18	70579	SLIDE GATE BAR LEFT	1
19	70580	SLIDE GATE BAR RIGHT	1
20	18027417	BOLT HX SS NC 1/2 X 2	4
21 *	18991400	WASHER LOCK 1/2 SS	(4) 10
22 *	18997400	NUT, HEX 1/2-13 NC SS	(4) 10

1612TFP INCLUDES ITEMS 23-26, QTY 18 OF ITEMS 27-29, & QTY 6 OF ITEMS 21 & 22

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
23	48300224A	FENDER LH	1
24	48300225	FENDER, RIGHT HAND	1
25	48300062	FENDER MOUNT	3
26	18022026	BOLT SS HX 1/2 X 1 1/2	6
27 *	18026824	BOLT HX SS 3/8 X 1 1/4	(18) 28
28 *	18881201	LOCKWASHER, 3/8 SS	(18) 24
29 *	18476800	NUT 3/8 SS	(18) 24

1612LAD INCLUDES ITEMS 30, 32-34, QTY 2 OF ITEM 31, & QTY 6 OF ITEMS 27-29

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
30	48300234	LADDER	1
31 *	18991200	WASHER FLAT 3/8 SS	(2) 6
32	47007572	LADDER EXTENSION	1
33	18541430	CLEVIS PIN, 1/2 X 2	2
34	18560622	COITER PIN, 1/8 X 1	2

HYDRAULIC OIL TANK (SEE PGS, 39-40) INCLUDES QTY 4 OF ITEM 31

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
35	38711	OIL TANK	1
36	18056824	BOLT HX ZC 3/8 X 1 1/4	12
37	18811200	WASHER FLAT USS ZC 3/8	4
38	18891200	LOCKWASHER, 3/8 ZC	4
39	18436800	NUT 3/8 NCZC	4

18384 BODY MOUNTING KIT COMPLETE  
SEE PGS 41-42 FOR LOCATION

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
40	75739	HOLD DOWN ANGLE	12
41	18386	HOLD DOWN ROD	12
42	18387	DIE SPRING	4
43	18851600	WASHER, FLAT 5/8 SAE	4
44	18457900	NUT, LOCK 5/8 NC	8
45	18417900	NUT, 5/8 NC	40

33243 MUD FLAP PACKAGE

INCLUDES ITEMS 46-47, QTY 8 OF ITEM 48, & QTY 8 OF ITEM 27

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
46	76714	MUD FLAP (SET OF 2)	2
47	47006302	MOUNTING STRAP	2
48 *	18496800	FLANGE NUT, 3/8-16 NC	(8) 12

1612TLK INCLUDES ITEM 49, AND QTY 4 OF ITEMS 27, 31, & 48,  
AND STANDARD LIGHT PKG. 71554 (INCLUDES ITEMS 50-51)

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
49	47007356	LIGHT BRACKET	2
50	01829	TAIL LIGHT-LEFT (W/ LIC. ILL) LED	1
51	01836	TAIL LIGHT - RIGHT (W/O LIS.) LED	1

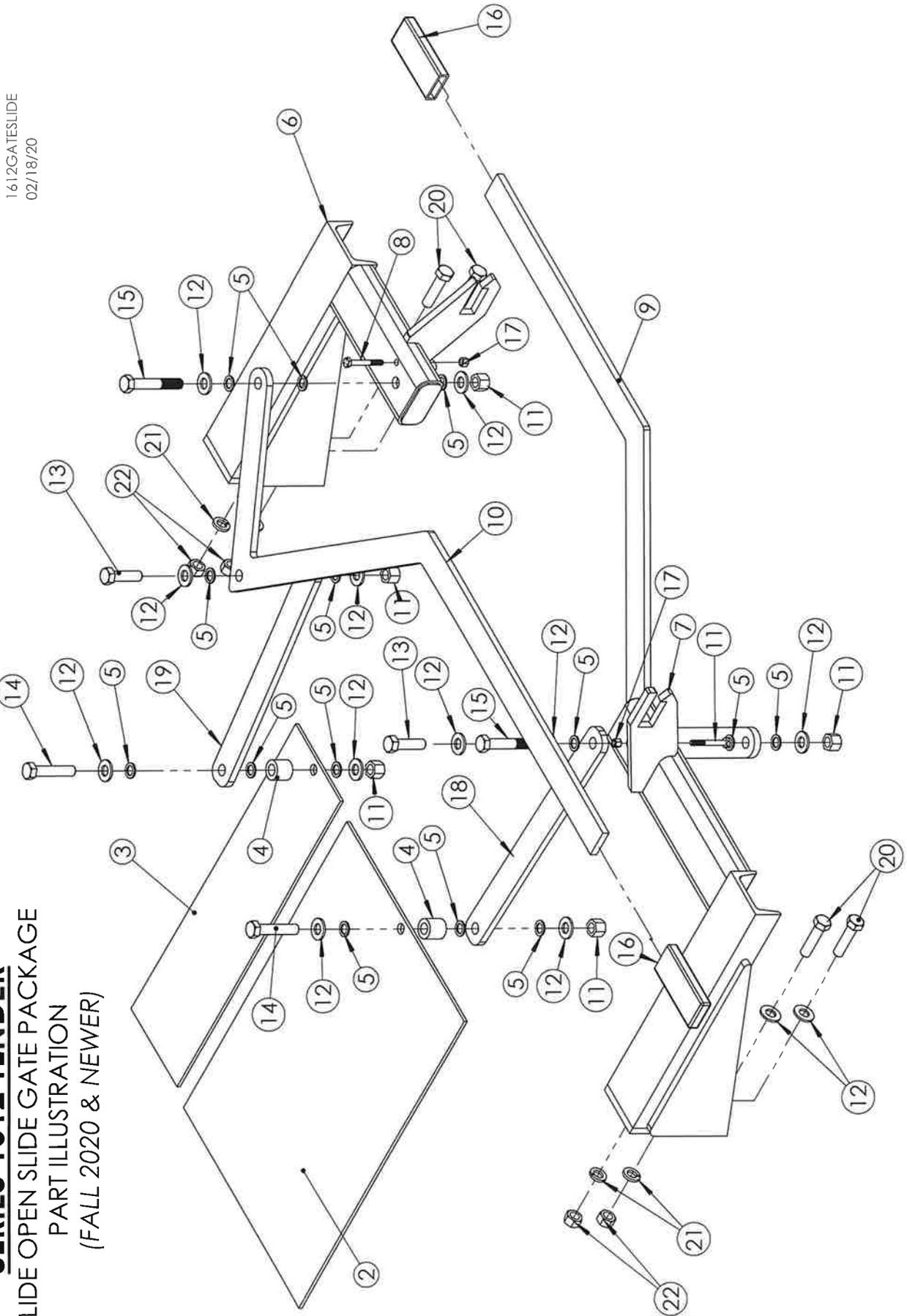
ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
OPT.	SRT100200	(NOT SHOWN) ELECTRIC ROLL TARP	1
52	47003956	ROLL TARP PIVOT TUBE	1
53	18026826	BOLT CAP SS 3/8 X 1 1/2	2
54	18997900	NUT, 3/8-16 SERRATED FLANGE SS	2

ITEMS 55-58 ARE USED FOR STORAGE AND TRANSPORT ONLY,  
MAY BE RETURNED FOR CREDIT

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
55	22197	SHIPPING STAND	4
56	18475240	BOLT HX CAP 1/2-13 X 1 1/4 LG SS	8
57	18851400	WASHER FLAT 1/2 SAE ZC	8
58	18457600	LOCK NUT, 1/2-13NC ZC	8

ITEMS MARKED WITH \* , ARE USED IN MULTIPLE LOCATIONS

**SERIES 1612 TENDER**  
SLIDE OPEN SLIDE GATE PACKAGE  
PART ILLUSTRATION  
(FALL 2020 & NEWER)



1612GATESLIDE  
02/18/20

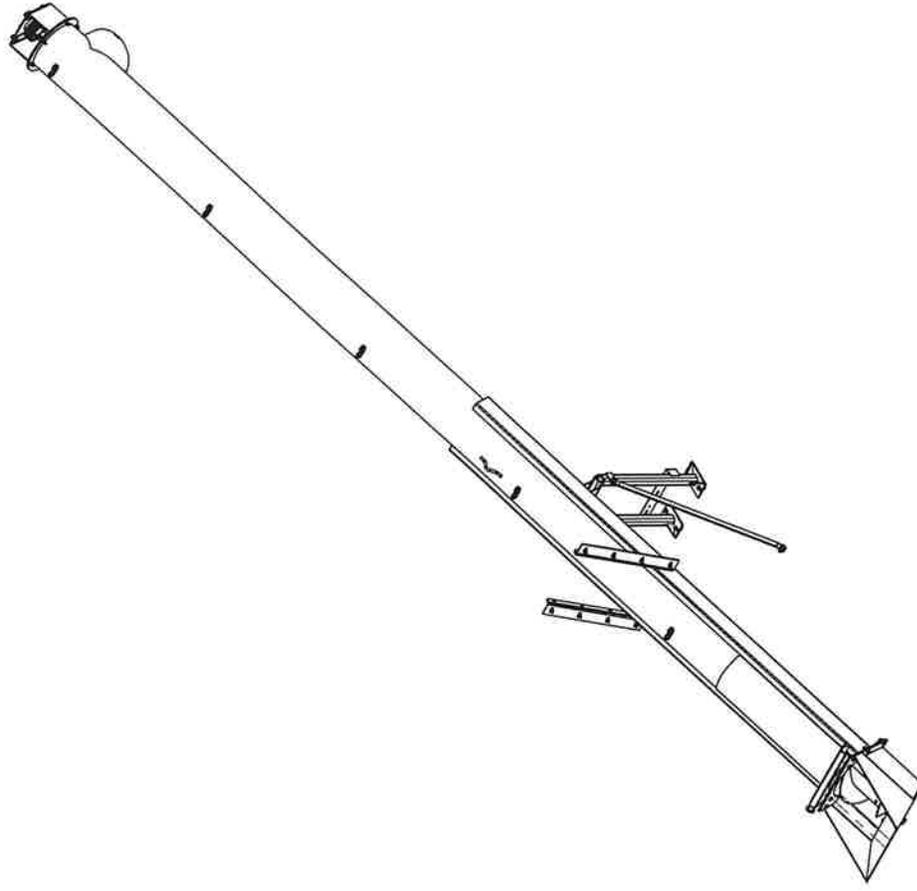
**SERIES 1612 TENDER**  
 SLIDE OPEN SLIDE GATE PACKAGE  
 PART LISTING (P/N: 70573A)  
 (FALL 2020 & NEWER)

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
REF. 2	48300065	DISCHARGE GATE, FRONT 409 SS	1
REF. 3	48300138	DISCHARGE GATE REAR 409 SS	1
4	70574	SPACER	2
5	18984800	WASHER NYLON 1/2	18
6	70575	MOUNTING BRACKET RIGHT	1
7	70576	MOUNTING BRACKET LEFT	1
8	18470200	BOLT, HEX 1/4 X 2 NC SS	2
9	70577	DOOR LEVER	1
10	70578	DOOR LEVER RIGHT	1
11	18567400	NUT SS NYLOCK 1/2	6
12	18824800	WASHER FLAT 1/2 SS	16
13	18470175	BOLT SS CAP 1/2 X 1 3/4	2
14	18027436	BOLT SS CAP 1/2 X 2 1/2	2
15	18027438	BOLT, HEX 1/2 X 3 SS	2
16	54143A	HANDLE COVER	2
17	18569200	NUT 1/4 NYLOCK SS	2
18	70579	SLIDE GATE BAR LEFT	1
19	70580	SLIDE GATE BAR RIGHT	1
20	18027417	BOLT HX SS NC 1/2 X 2	4
21	18991400	WASHER LOCK 1/2 SS	10
22	18997400	NUT, HEX 1/2-13 NC SS	10

# AUGER SCREW & TUBE PART LISTING

P/N(S): 1612T12 (409) / 1612S12 (304)

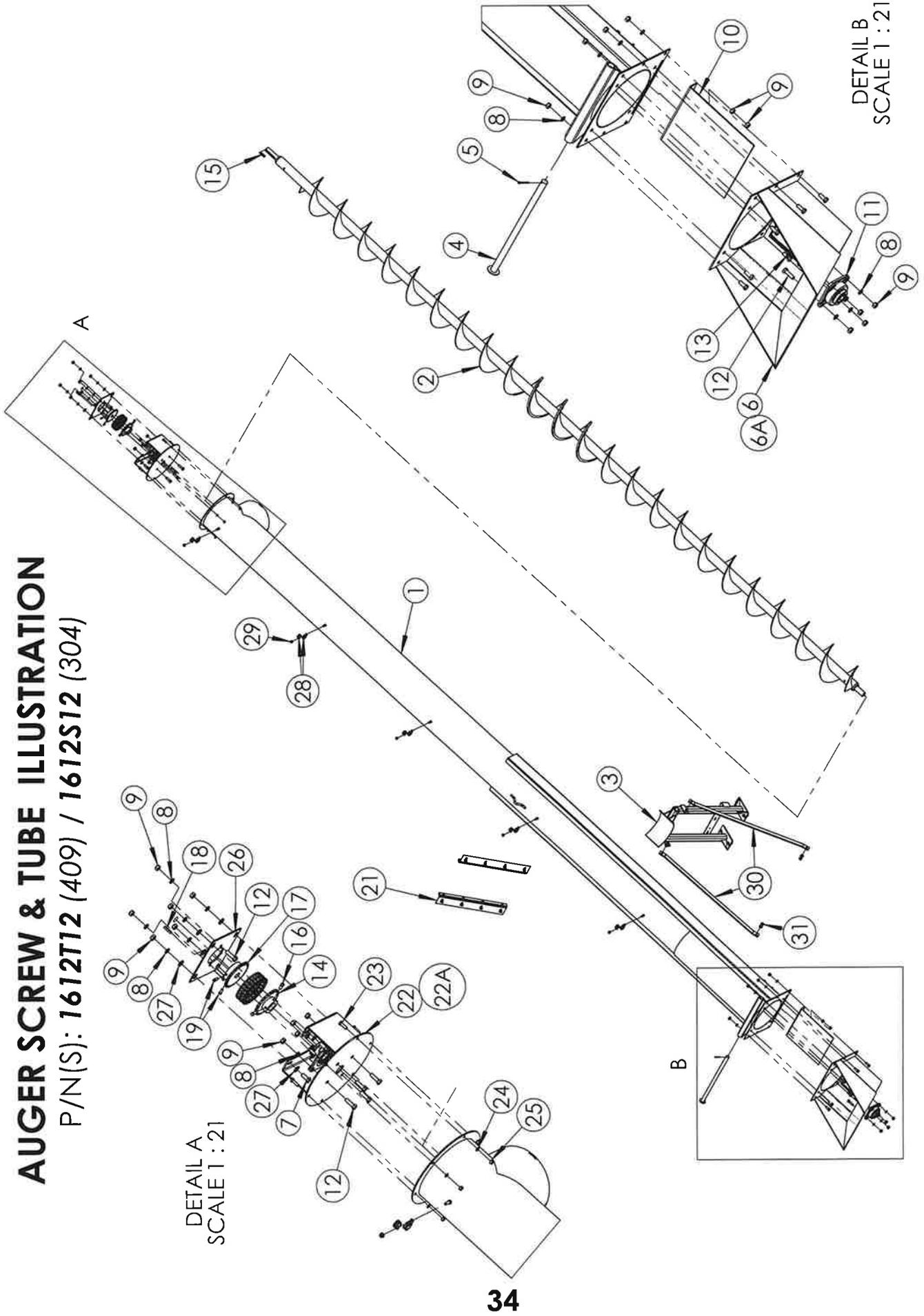
1612T12 INCLUDES ITEMS 6 & 22  
 1612S12 INCLUDES ITEMS 6A & 22A



ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	48300239S	AUGER TUBE 12" (21 1/2')	1
2	48300241	SCREW SS 11" X 261.75 W/ POLY EDGE	1
3	48300179	AUGER CRADLE WELMENT	1
4	48300196	PIVOT SHAFT WELMENT	1
5	18560826	COTTER PIN 3/16 X 1 1/2	1
6 *	48300096	BOOT WELMENT (409)	1
6A *	48300096S	BOOT WELMENT (304)	1
7	18475240	BOLT HX CAP 1/2-13 X 1 1/4 LG SS	14
8	18991400	WASHER LOCK 1/2 SS	24
9	18997400	NUT, HEX 1/2-13 NC SS	26
10	48300139S	CLEANOUT DOOR	1
11	52065	BEARING	2
12	18470175	BOLT SS CAP 1/2 X 1 3/4	10
13	18300323	RETAINING WASHER, 1-1/2 ID	1
14	48300161	SPROCKET #50 24 TOOTH 1.50 BORE 3/8 KEY	1
15	2-1711	PIN ROTATION STOP	1
16	18767326	SCREW SET 3/8 X 3/4 SQHD NCSC	2
17	10183	SPROCKET #50B24, 1" BORE	1
18	47006519	KEY, SQUARE (1/4 X 1 1/2)	1
19	18767450	SETScrew, 5/16 X 3/4 SQHD	2
20	29941 W 53159	COUPLING CHAIN #50-2 X 23 LINKS W/ CONNECTOR	1
21	48399157	WEAR STRIP MOUNT KIT	1
22 *	48300055	END CAP WELMENT-AUGER (409)	1
22A *	48300055S	END CAP WELMENT-AUGER (304)	1
23	18026824	BOLT HX SS 3/8 X 1 1/4	6
24	18881201	LOCKWASHER, 3/8 SS	6
25	18476800	NUT 3/8 SS	6
26	48300058	MOTOR MOUNT	1
27	18824800	WASHER FLAT 1/2 SS	8
28	41771	HYDRAULIC HOSE CLAMP 1.125"	10
29	18987900	NUT SER FLG SS 3/8	5
30	48300250	BRACE, AUGER CRADLE	2
31	48399179	AUGER CRADLE BOLT KIT	1

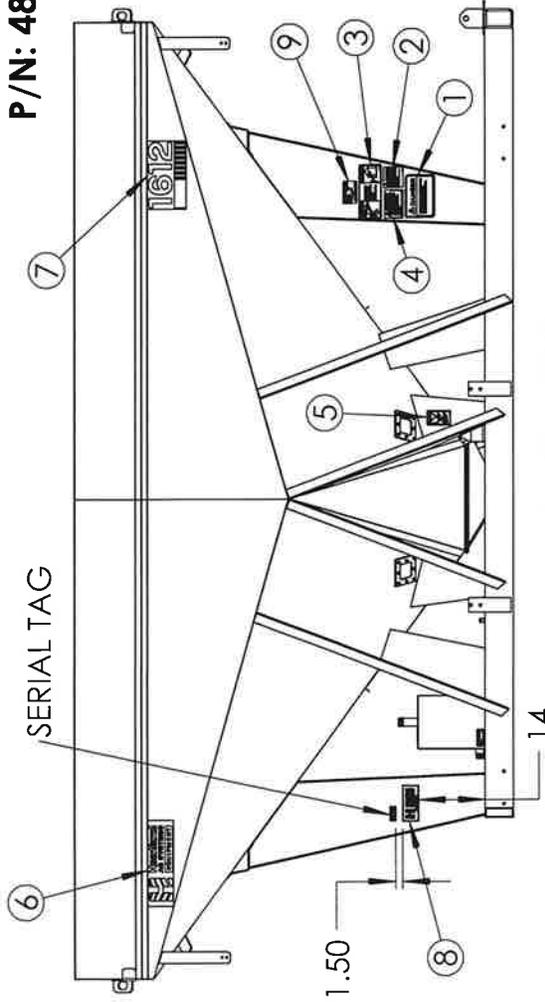
# AUGER SCREW & TUBE ILLUSTRATION

P/N(S): 1612T12 (409) / 1612S12 (304)



# 1612 DECAL LAYOUT

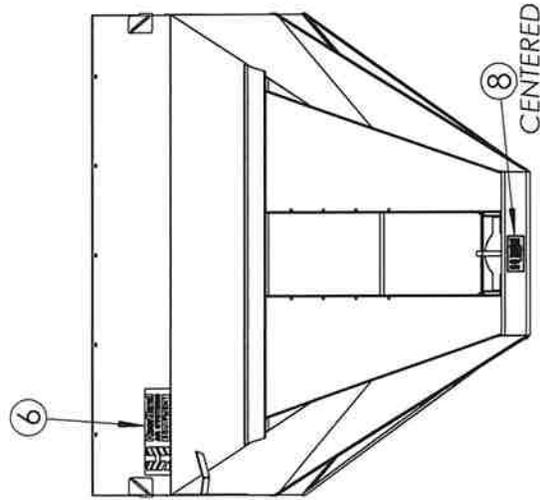
P/N: 48300224



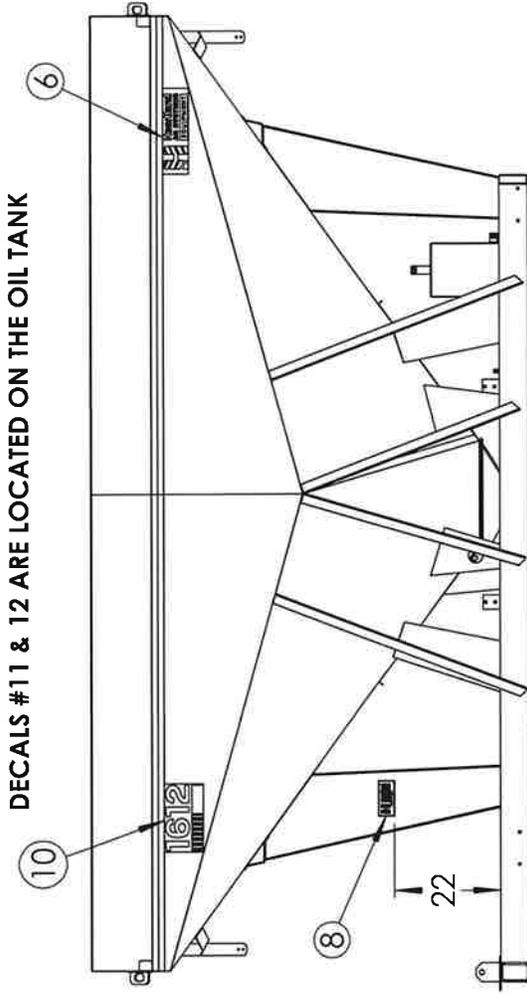
LH SIDE VIEW  
(GATE OPENING CRANK SIDE OF UNIT)

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	12182B	DANGER STAY CLEAR DECAL	1
2	12429A	READ SERVICE MANUAL DECAL	1
3	11495B	WATCH FOR OVERHEAD DECAL	1
4	28954	FEATHER CYLINDER DECAL	1
5	28864	DECAL, DANGER STAY AWAY FROM HINGE AREA	1
6	54135	HEARTLAND AG SYSTEMS DECAL (LARGE)	3
7	71626	1612 DECAL (DRIVER)	1
8	699107L	HEARTLAND AG SYSTEMS DECAL (MEDIUM)	3
9	USA	MADE IN USA DECAL	1
10	71625	1612 DECAL (DITCH)	1
11	276534	HYDRAULIC OIL DECAL	1
12	28223	DECAL, DRAIN OIL	1

DECALS #6, 7 & 10 ARE POSITIONED SO THAT THEY WILL NOT BE COVERED WHEN A ROLL TARP IS INSTALLED



REAR VIEW

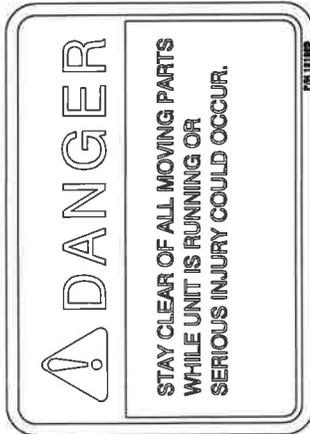


RH SIDE VIEW

# 1612 DECAL ILLUSTRATION

P/N: 48300224

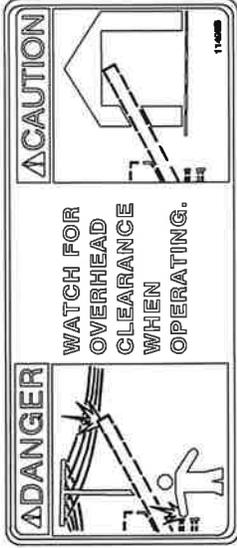
12182B



12429A



11495B



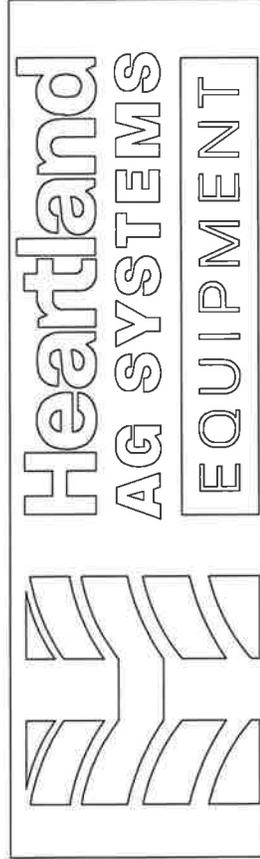
28864



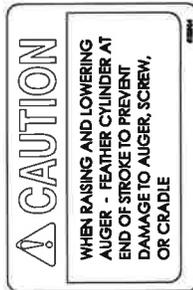
USA



54135



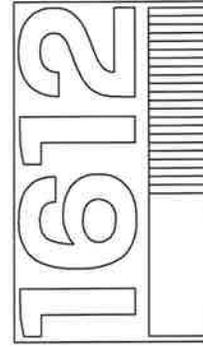
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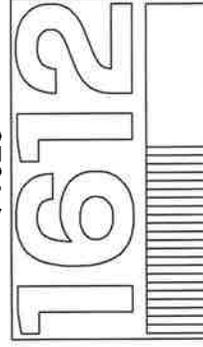
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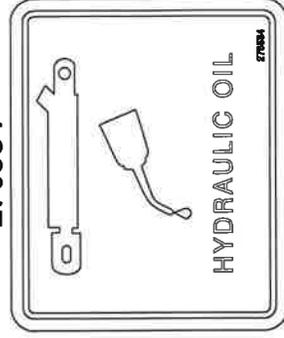
71626



71625



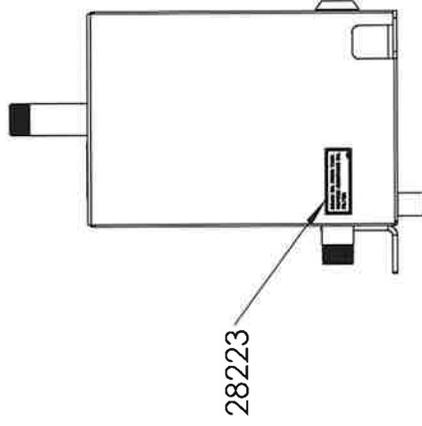
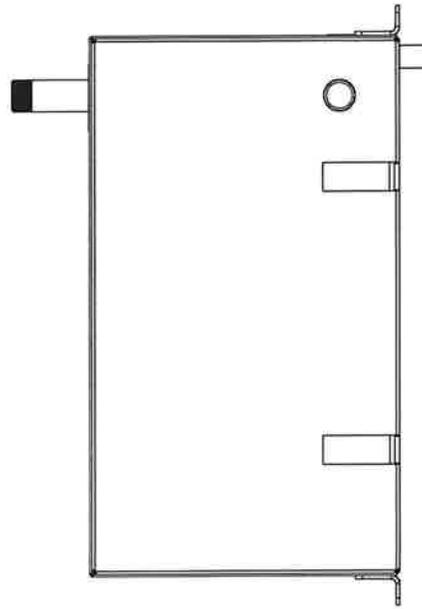
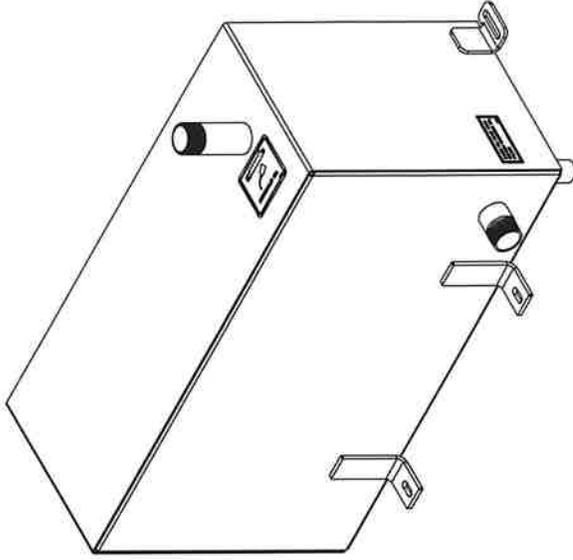
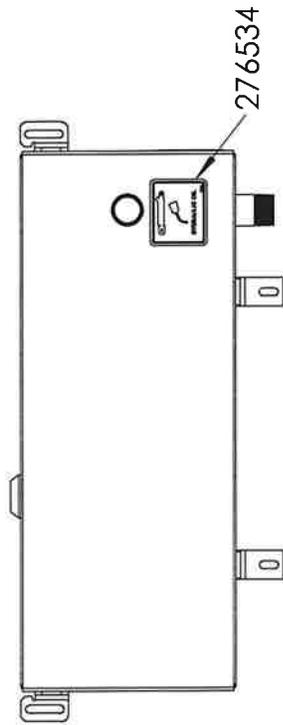
276534



699107L



# 1612 OIL TANK DECAL LAYOUT

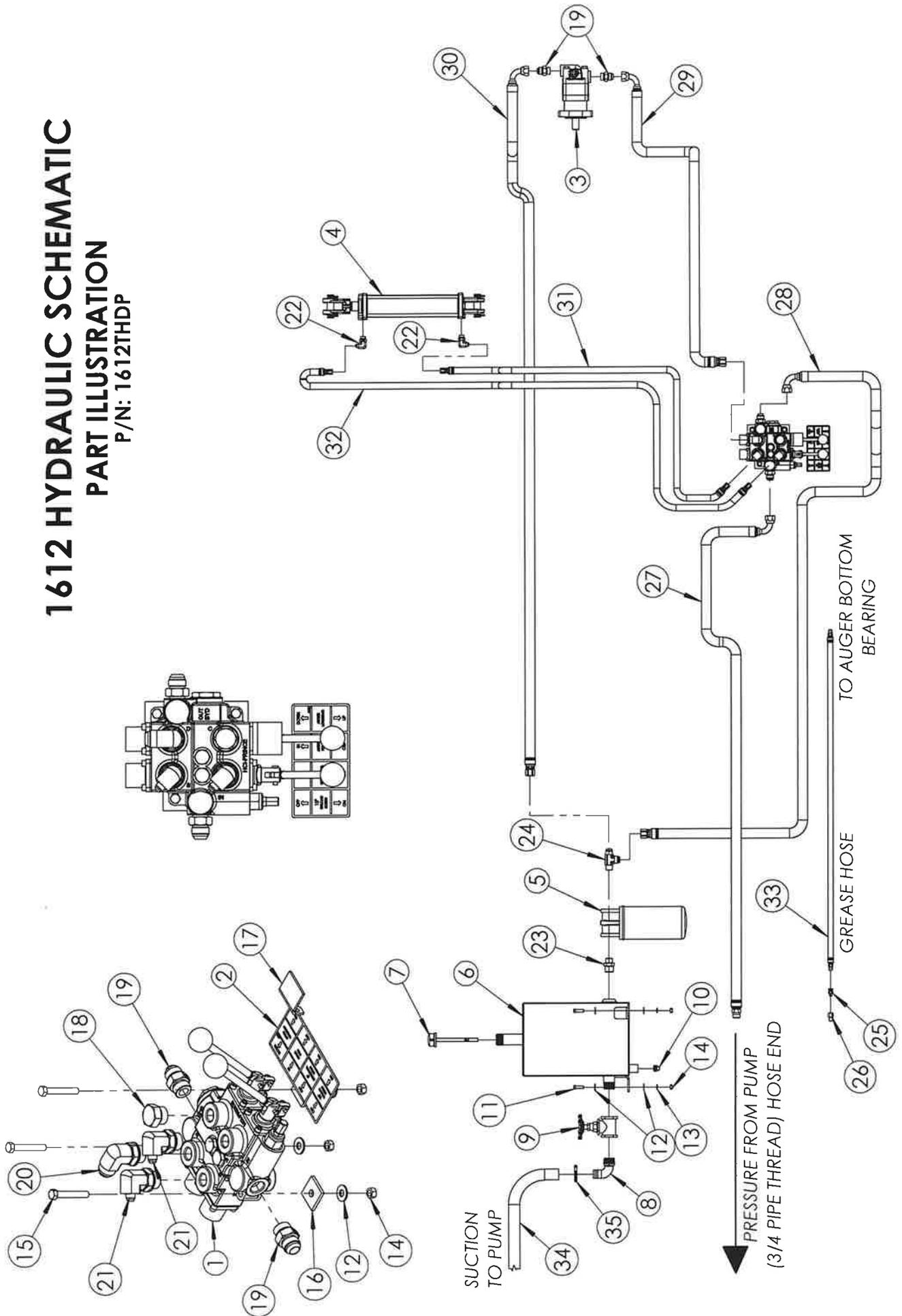


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# 1612 HYDRAULIC SCHEMATIC

## PART ILLUSTRATION

P/N: 1612THDP



# 1612 HYDRAULIC SCHEMATIC

## PART LISTING

P/N: 1612THDP

**NOTES:**  
FOR DECAL PLACEMENT SEE DECAL PAGE(S)

**FITTING PACKAGE P/N: 611612**  
INCLUDES ITEMS 18 THRU 26

**HOSE PACKAGE P/N: 601612**  
INCLUDES ITEMS 27 THRU 33

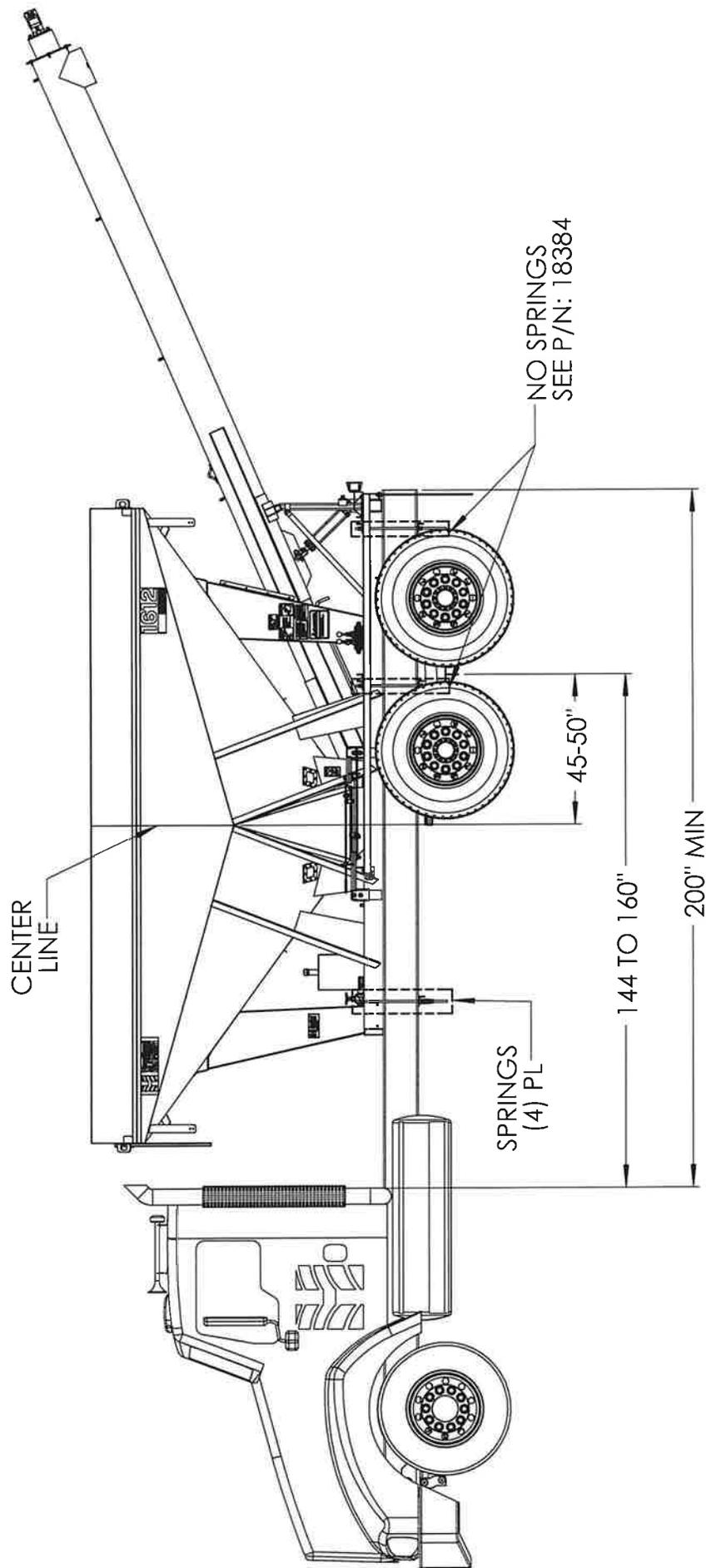
**FILTER ELEMENT ONLY P/N: 11128**

### OPTIONAL

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	48300227	CONTROL VALVE	1
2	28882A	DECAL-CONTROL VALVE	1
3	51930	MOTOR, CHAR-LYNN 104-1041-006	1
4	47005489	HYDRAULIC CYLINDER, 3 X 12	1
5	01170	FILTER, OIL, 3/4 NPT SPIN ON ASSEMBLY	1
6	38711	OIL TANK	1
7	02153	DIPSTICK WELDMENT	1
8	72368	HOSE BARB, 90 DEG, 1-1/4 NPT X 1-1/4 HB	1
9	02006	1 1/4" GATE VALVE	1
10	72175	OIL TANK PLUG 1/2" NPT	1
11	18056824	BOLT HX ZC 3/8 X 1 1/4	4
12	18811200	WASHER FLAT USS ZC 3/8	11
13	18891200	LOCKWASHER, 3/8 ZC	4
14	18436800	NUT 3/8 NCZC	7
15	18056834	BOLT, HEX 3/8-16 X 2 1/2 NC ZC	3
16	48300092	VALVE SPACER/LADDER MOUNT	3
17	48300229	LOCK OUT, VALVE HANDLE	1
18	6408-12	#12 O-RING PLUG	1
19	6400-12-12	ADAPTER #12 MJIC TO #12 MORB	4
20	445001	ELBOW #12 MJIC X #12 M O-RING (6801-12-12)	1
21	6801-06-12	ELBOW #6 MJIC X #12 M O-RING	2
22	6801-06-08	ELBOW #6 MJIC X #8 M O-RING	2
23	51933	HEX PIPE NIPPLE (5404-16-12)	1
24	2605-12-12-12	RUN TEE	1
25	1404-02-02	ADAPTER	1
26	5405-04/28-02	ADAPTER 1/4-28M X 1/8-27 FNPT	1
27	612171	HOSE, 3/4 X 171" 3/4 M PIPE X #12 JICFS 90	1
28	612132	HOSE, 3/4 X 132" #12 JICFS X #12 JICFS 90	1
29	612276	HOSE, 3/4 X 276" #12 JICFS X #12 JICFS 90	1
30	612333	HOSE, 3/4 X 333" #12JICFS X #12 JICFS 90	1
31	606072	HOSE, 3/8 X 72" #6 JICFS EA END	1
32	606090	HOSE, 3/8 X 90" #6 JICFS EA END	1
33	612060	HOSE, 1/4 X 60" 1/8 M PIPE EA END	1

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
34	51191	HOSE, SUCTION 1 1/4 ID X 80" LG	1
35	200254	HOSE CLAMO 1 1/16" - 2"	1

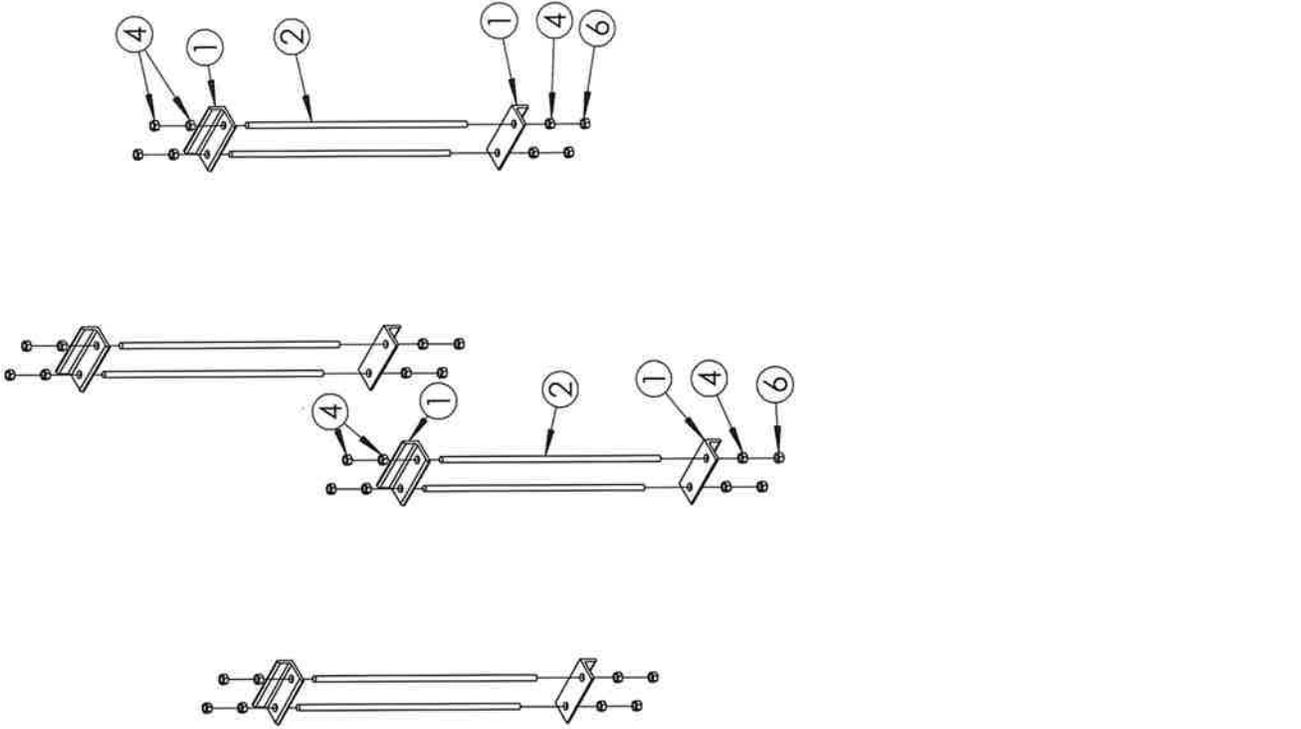
# MOUNTING ILLUSTRATION 1612 TRUCK MOUNTED TENDER



# TRUCK MOUNTING KIT

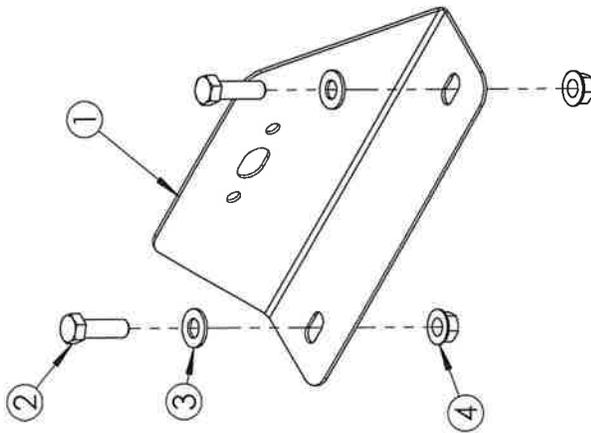
## P/N: 18384

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	75739	HOLD DOWN ANGLE	12
2	18386	HOLD DOWN ROD	12
3	18387	DIE SPRING	4
4	18417900	NUT, 5/8 NC	36
5	18851600	WASHER, FLAT 5/8 SAE	4
6	18457900	NUT, LOCK 5/8 NC	12

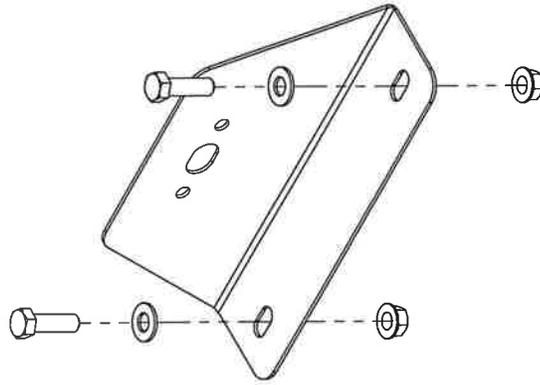


# TENDER LIGHT KIT

P/N: 1612TLK



ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	47007356S	LIGHT BRACKET	2
2	18026824	BOLT HX SS 3/8 X 1 1/4	4
3	18991200	WASHER FLAT 3/8 SS	4
4	18496800	FLANGE NUT, 3/8-16 NC	4
5	71554	TENDER LIGHT KIT	1



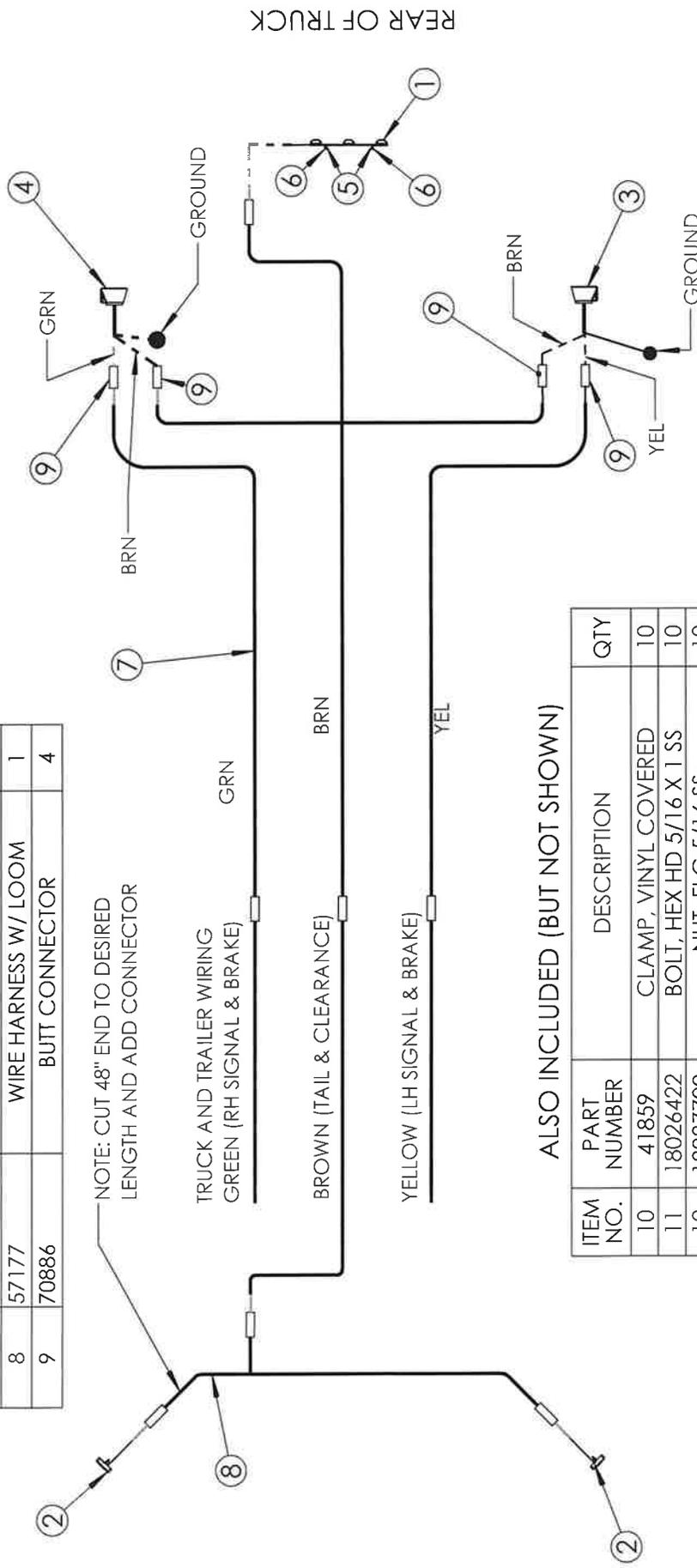
# LIGHT KIT

## P/N: 71554

USE HARDWARE INCLUDED W/ ITEMS 3 & 4  
TO ATTACH TAIL LIGHTS

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	M191-3RL	REAR LIGHTBAR	1
2	18104	CLEARANCE LIGHT AMBER	2
3	01829	TAIL LIGHT LH	1
4	01836	TAIL LIGHT RH	1
5	18569200	NUT 1/4 NYLOCK SS	2
6	18025718	BOLT CAP SS 1/4 X 3/4	2
7	57175	WIRE HARNESS W/ LOOM	1
8	57177	WIRE HARNESS W/ LOOM	1
9	70886	BUTT CONNECTOR	4

NOTE: CUT 48" END TO DESIRED LENGTH AND ADD CONNECTOR



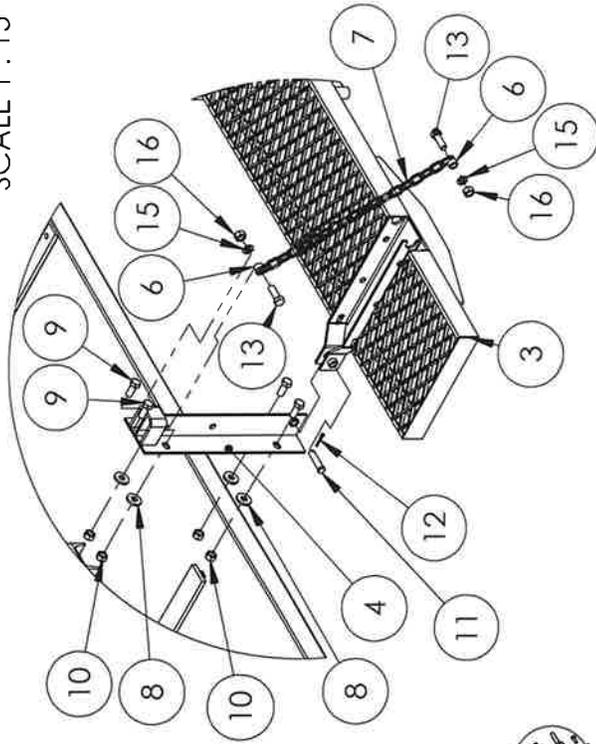
### ALSO INCLUDED (BUT NOT SHOWN)

ITEM NO.	PART NUMBER	DESCRIPTION	QTY
10	41859	CLAMP, VINYL COVERED	10
11	18026422	BOLT, HEX HD 5/16 X 1 SS	10
12	18987700	NUT, FLG 5/16 SS	10
13	18704216	SCREW, RD HD #10-24 X 1 ZC	10
14	18415812	NUT, HEX#10-24 SS	10
15	18881001	FLAT WASHER, 1/4 SS	10
16	18475700	NUT, 1/4 SS	4
17	57182	CLIP, LARGE FRAME	6

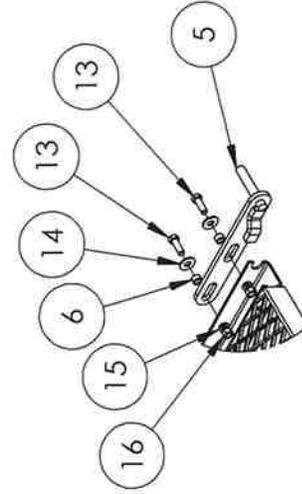
NOTE: FAR LED LIGHTS  
ON THE TRUCK NEEDS EITHER  
AN LED FLASHER, OR A  
50 WATT 6 OHM RESISTOR  
ADDED TO THE WIRE HARNESS

# 1612 CATWALK AND SAFETY BAR PARTS ILLUSTRATION

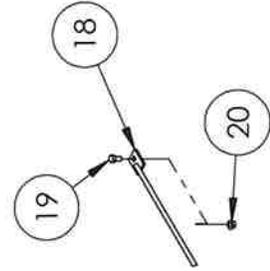
DETAIL A  
SCALE 1:15



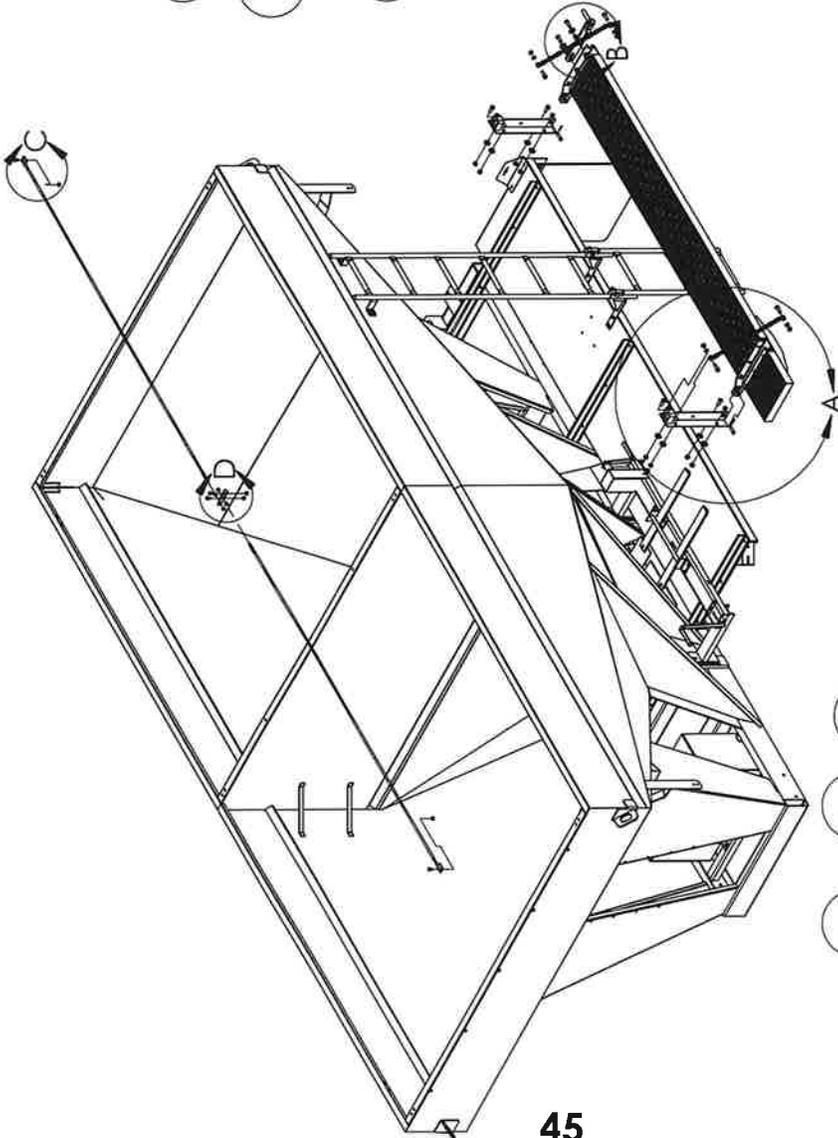
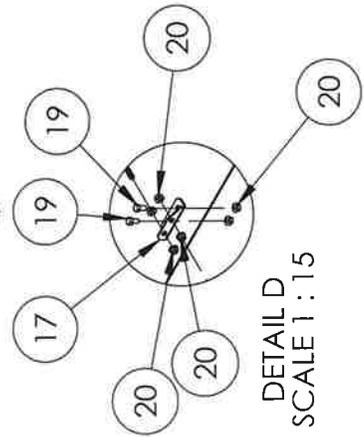
DETAIL B  
SCALE 1:15



DETAIL C  
SCALE 1:15



DETAIL D  
SCALE 1:15



## 1612 CATWALK AND SAFETY BAR PART LISTING

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
*1	1612 TENDER	1612 MOUNTED WITH FENDERS	1
*2	1612TLAD	LADDER PACKAGE (SEE PGS. 29-30)	1
3	47019278	CATWALK EXTENDED	1
4	47019213	END MTG BRACKET	2
5	47019212	TRANSPORT LOCK	1
6	47019202	SPACER BUSHING	6
7	47019211	SUPPORT CHAIN	2
8	47019217	BACKING WASHER	8
9	18475240	BOLT HX CAP 1/2-13 X 1 1/4 LG SS	8
10	18997400	HEX NUT, 1/2-13NC S.S.	8
11	18541430	CLEVIS PIN, 1/2 X 2	2
12	18560722	COTTER PIN, 5/32 X 1	2
13	18057426	BOLT, HX CAP 1/2-13 X 1 1/2 LG	6
14	18811400	WASHER, FLAT 1/2 ZC USS	2
15	18891400	WASHER, 1/2 LOCK ZC	6
16	18417400	NUT, HX 1/2 NC ZC	6
17	47007965	MOUNTING BRACKET	1
18	47003643	MOUNTING BAR	2
19	18026820	BOLT, HX CAP 3/8-16 X 3/4 LG	4
20	18987900	NUT SER FLG SS 3/8	8
21	699125	SAFETY DECAL	1
22	47997965	SAFETY HARNESS AND LANYARD	1

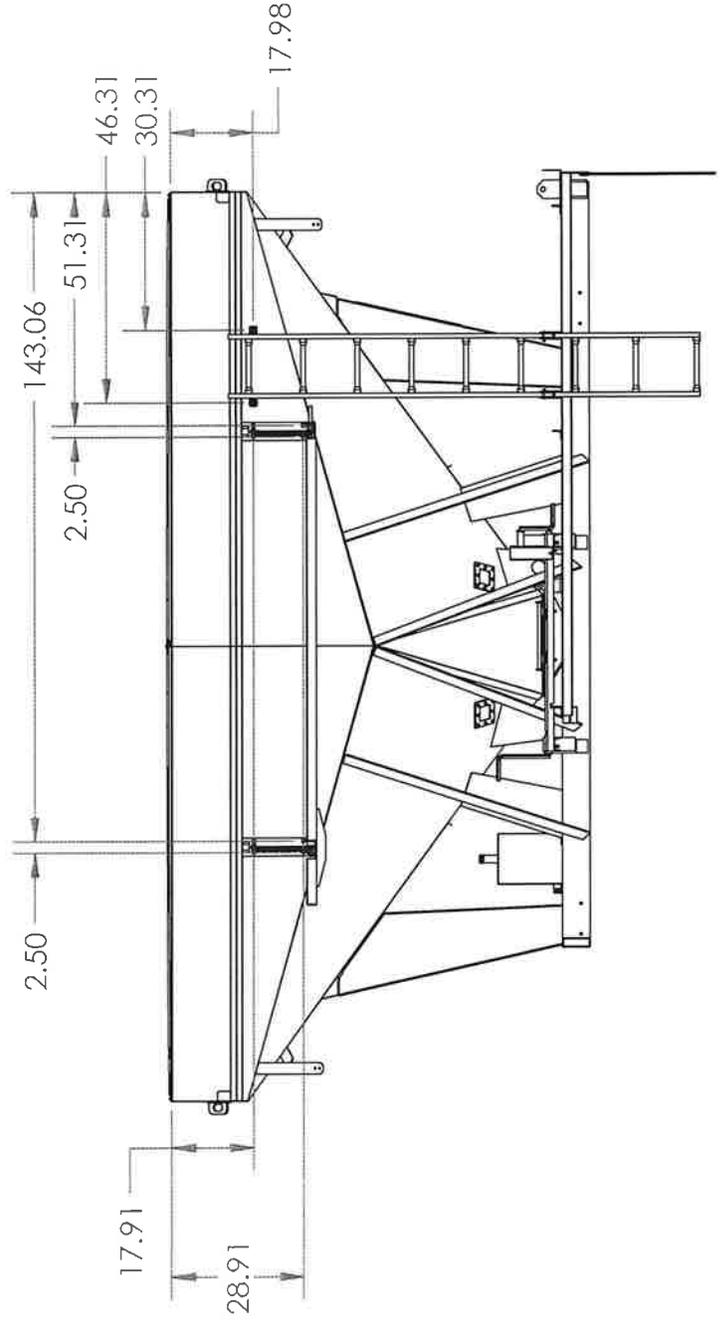
\*ITEMS 1 & 2 INCLUDED IN ABOVE TABLE FOR REFERENCE.

CATWALK W/ SAFETY BAR P/N: 16129215 INCLUDES ITEMS #3 THRU 22

SAFETY BAR KIT P/N: 47993643, INCLUDES ITEMS #17 THRU 21

## 1612 CATWALK MOUNTING INSTRUCTIONS

1. Mount the catwalk on the left hand (driver side) of the tender box.
2. Position (1) end mounting bracket (item 4) so that the edge of the bracket is flush with the lower edge of the stiffener bend, and the outside hole is approximately 51.31 from the edge of the tender box. Using the bracket as a template, mark all 4 holes.
3. Slide the bracket to the second position (143.06") as shown on the diagram, and mark the 4 holes. Front and rear brackets must be level with each other. (see illustration below)
4. Drill  $\varnothing$  17/32 holes.
5. Mount the end brackets (item 4) with (4) bolts (item 9), (4) backing washers (item 8), and (4) nuts (item 10) (per bracket). Backing washers go on the inside of the box. Install hardware finger tight at this time.
6. Position the catwalk (item 3) to the front and rear bracket, and mount with (2) clevis pins (item 11) and (2) cotter pins (item 12)
7. Securely fasten all brackets at this time.
8. Assemble a transport lock (item 5) to the outside channel of the catwalk as shown (see Detail B). Position the bushings (item 6) in the slots in the transport lock, and position the hardware so that the head of the bolt (item 13) and the flat washer (item 14) are next to the transport lock and the lock washer (item 15), and the nut (item 16) are next to the channel on the catwalk. Securely tighten the hardware.
9. Assemble the support chains (item 7) to the catwalk and the brackets with the spacers (item 6), bolts (item 13), lock washers (item 15), and nuts (item 16). Test fold and unfold the catwalk to insure proper function.

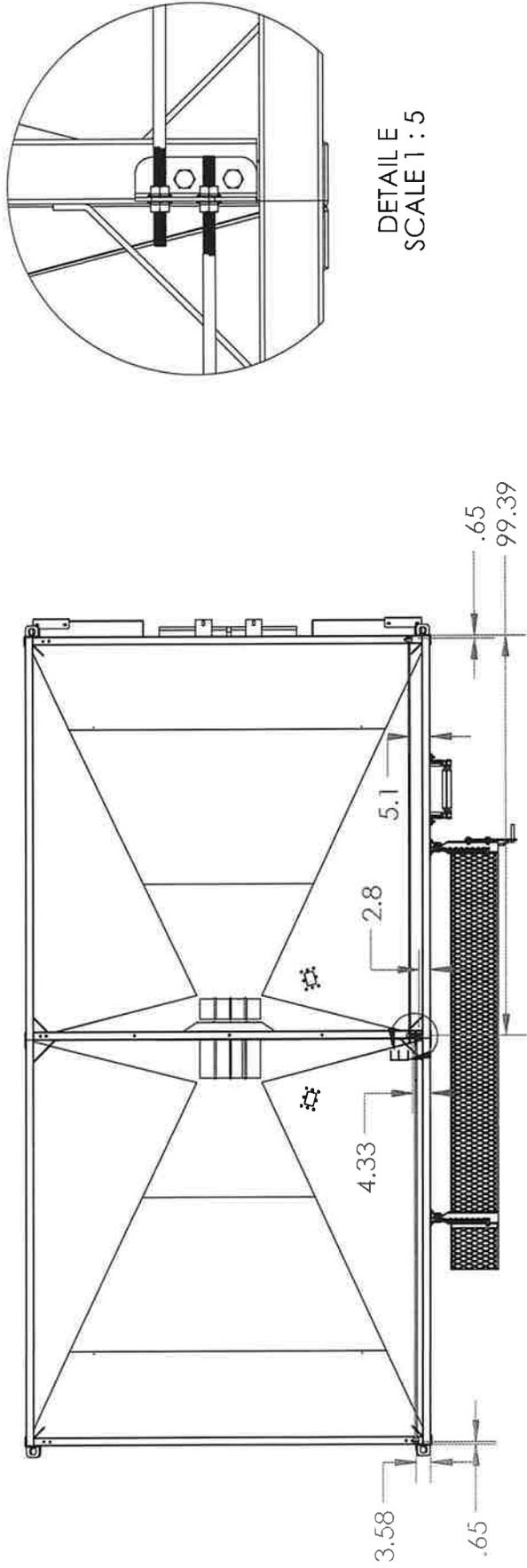


## 1612 SAFETY BAR MOUNTING INSTRUCTIONS

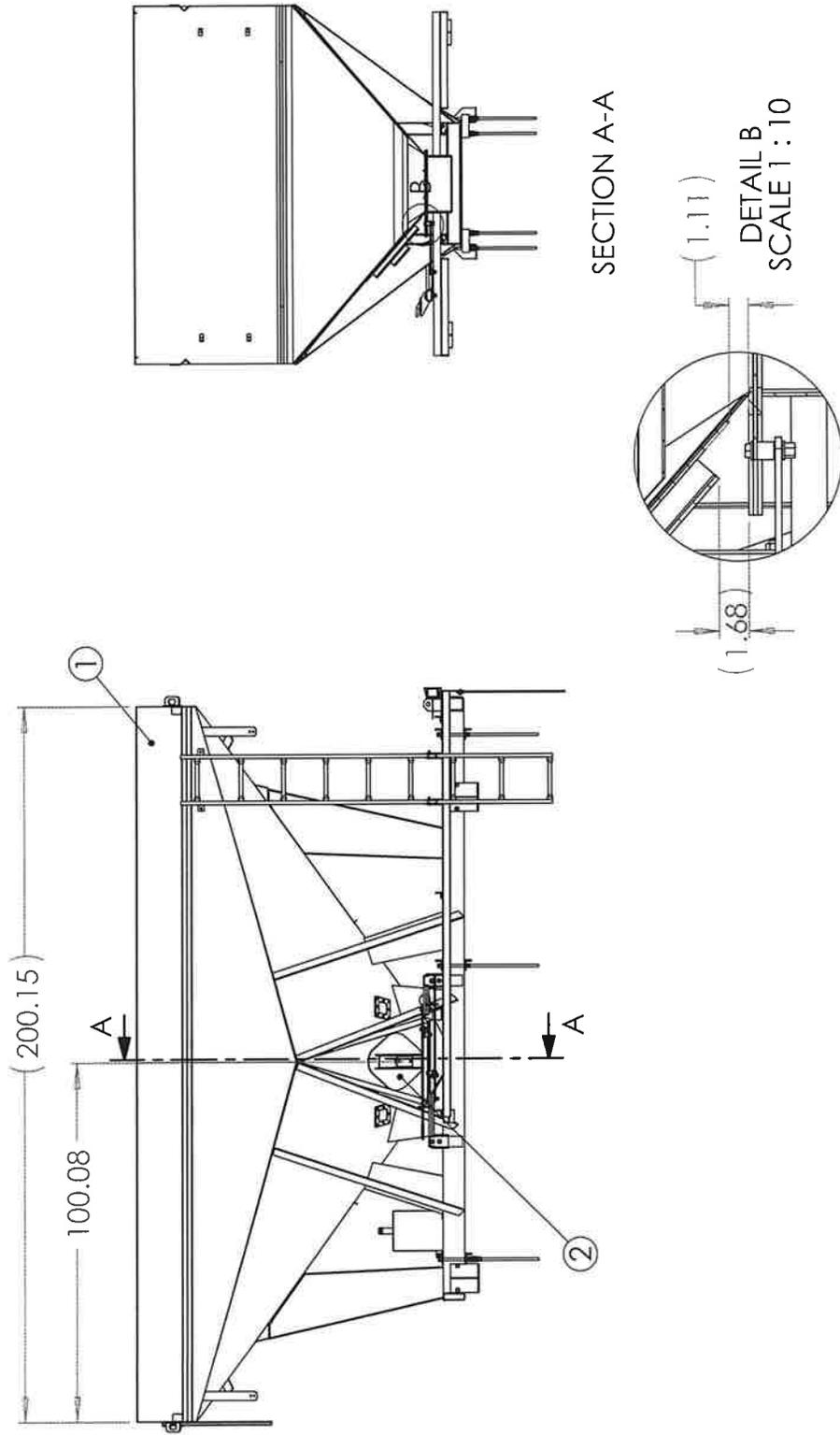
1. Position the mounting bracket (item 17) on the center rib as shown, mark the holes, remove the bracket, drill the holes, secure bracket with bolts (item 19) and flange nuts (item 20). (Drill bit size 13/32) (If using an Heartland Ag Systems Bow Divider the holes exist in the divider but will need to be drilled into the center rib of the tender.)
2. Thread one of the supplied flange nuts (item 20) onto mounting bar (item 18) and place it into the mounting bracket (item 17). (SEE DETAIL E) partially secure with other flange nut (item 20).
3. Mount the end plate of the mounting bar item (18) to the tender using bolt (item 19) and flange nut (item 20).
4. Repeat steps 2-3 for the other side
5. Finish by tightening the flange nuts (item 20) securing the mounting bars (item 18) to the mounting bracket (item 17)

Also required is a Catwalk Safety Harness kit which includes the lanyard and safety harness. (Heartland Ag Systems P/N:47997965) (included)

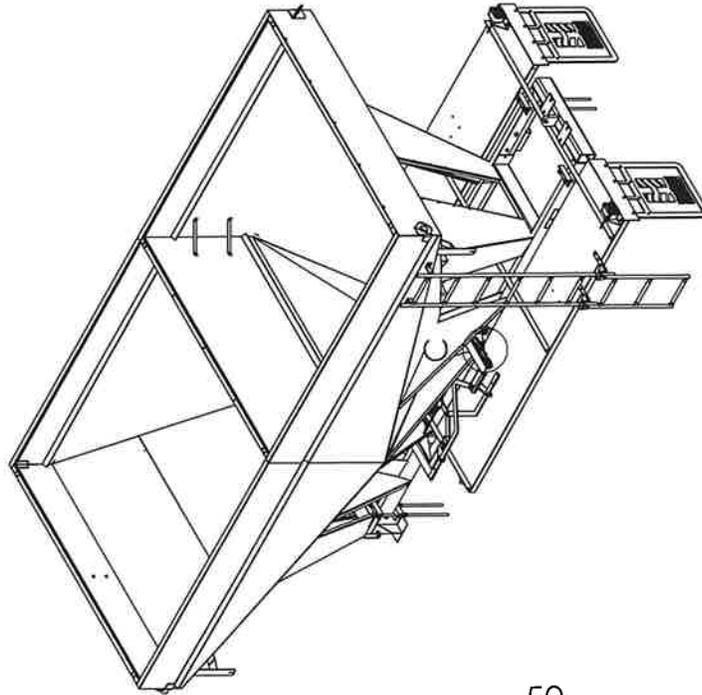
48



**MARTIN ENGINEERING VIBRATORS**  
**JUNE 2020 & NEWER**  
**SINGLE FRONT MOUNT**  
**PN: 70895**

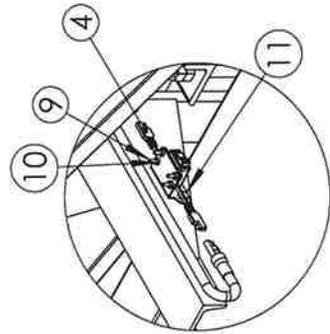


**MARTIN ENGINEERING VIBRATORS  
 JUNE 2020 & NEWER  
 SINGLE FRONT MOUNT  
 PN: 70895**



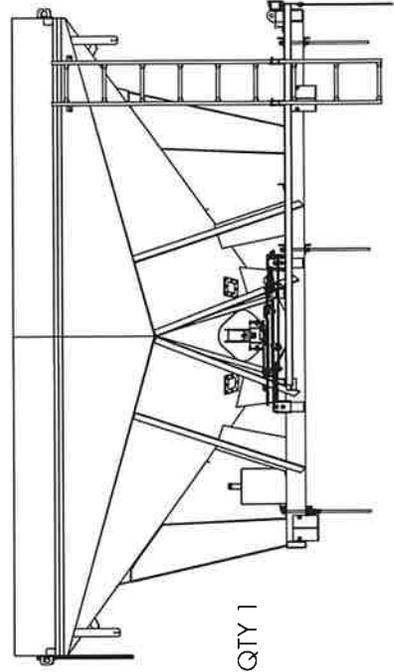
(ITEM 1 SHOWN FOR REFERENCE ONLY)

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	1612	1612 BODY	1
2	47007997	VIBRATOR MOUNT	1
3	MDCV12-700-MM-96-06	VIBRATOR	1
4	CG-100451	SWITCH (INCLUDED WITH VIBRATOR)	1
5	76737	VIBRATOR SWITCH PLATE	1
6	18097540	BOLT, HEX CAP 1/2-13 X 4 1/2 LG GRADE 8 ZC	2
7	18851400	WASHER FLAT 1/2 SAE ZC	2
8	18457400	NUT, NYLOCK 1/2-13 GRADE 8 ZC	2
9	18704218	SCREW MACH RD PH SS 8-32 X 3/4 LG	4
10	18474201	NUT HX NYLOCK #8-32 SS	4
11	18026422	BOLT CAP SS 5/16 X 1	2
12	18476351	NUT HX SS 5/16 SELF LOCK	2
13	195569-86	CORD EXTENSION 86" (INCLUDED W/ VIBRATOR)	1
14	735320	12GA/2 TRAILER WIRE	1



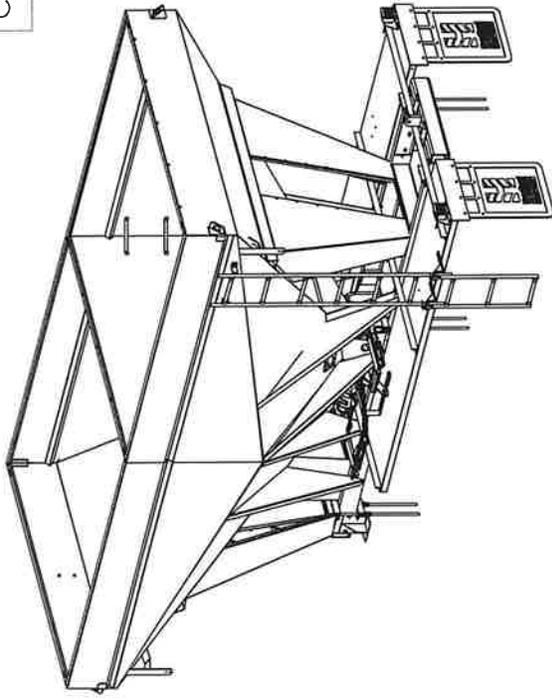
DETAIL C  
 SCALE 1:10

ALSO REQUIRED BUT NOT SHOWN  
 32504 - VINYL INSULATED RING - QTY 1  
 38262 - STEP SOWN BUTT CONNECTOR - QTY 1

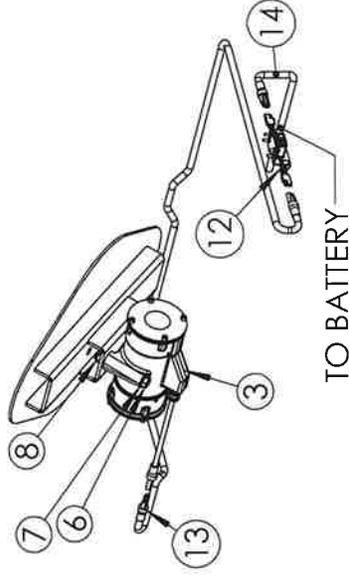


**MARTIN ENGINEERING VIBRATORS  
 JUNE 2020 & NEWER  
 SINGLE FRONT MOUNT  
 PN: 70895**

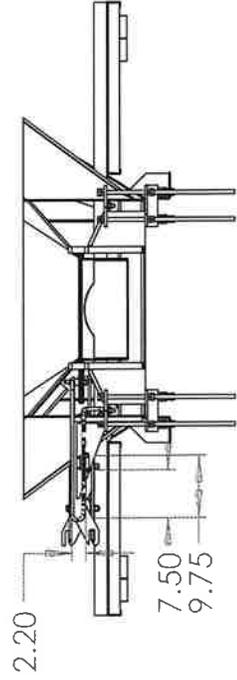
TENDER W/ VIBRATOR



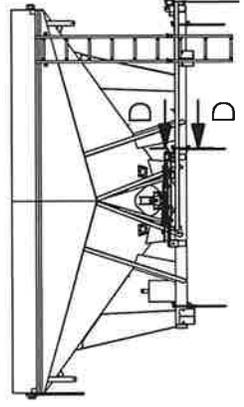
VIBRATOR ONLY



1. CABLE 13 COMES PRE ASSEMBLED TO VIBRATOR
2. ATTACH P/N 38262 (STEP DOWN BUTT CONNECTOR) TO THE END OF CONNECTOR
3. INSERT CUT TO LENGTH WIRE (P/N:735320 INTO THE OPEN END OF THE BUTT CONNECTOR AND SEAL
4. SEND P/N: 32504 (VINYL INSULATED RING) LOOSE



SECTION D-D  
 SCALE 1 : 30

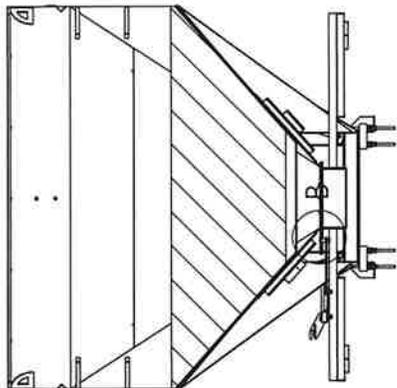
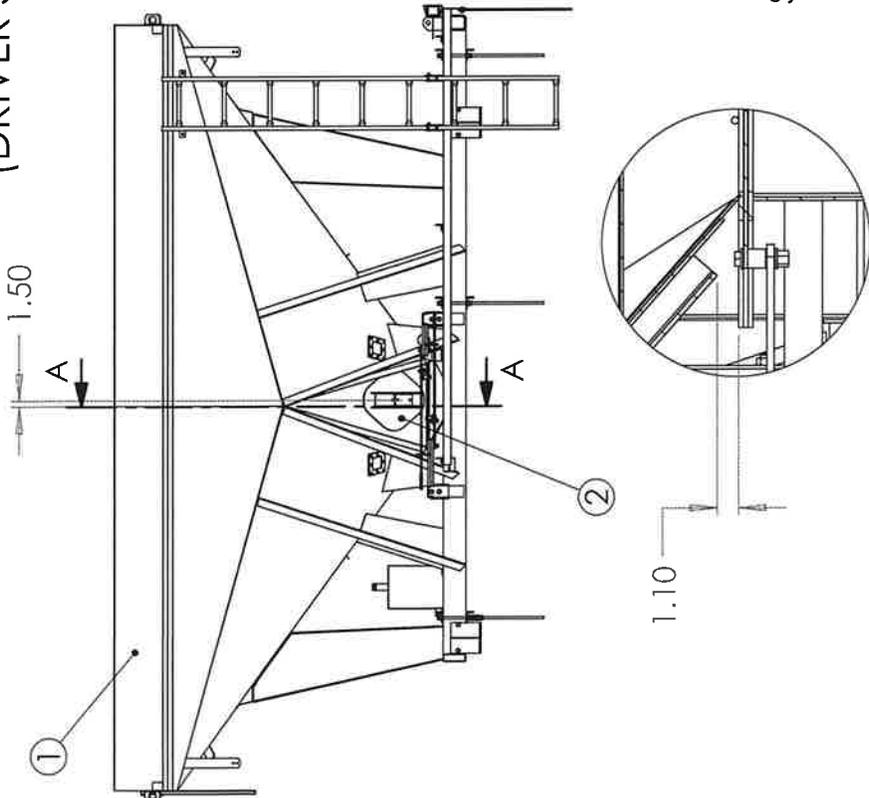




MARTIN ENGINEERING VIBRATORS  
JUNE 2020 & NEWER

P/N: 70894

DUAL MOUNT  
(DRIVER SIDE DETAIL)



SECTION A-A

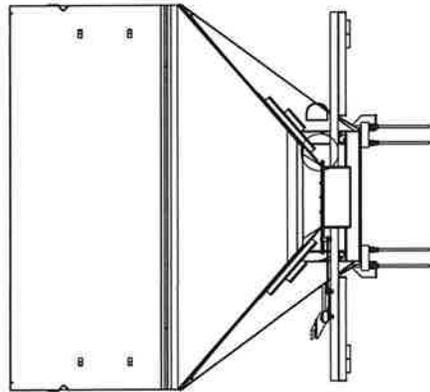
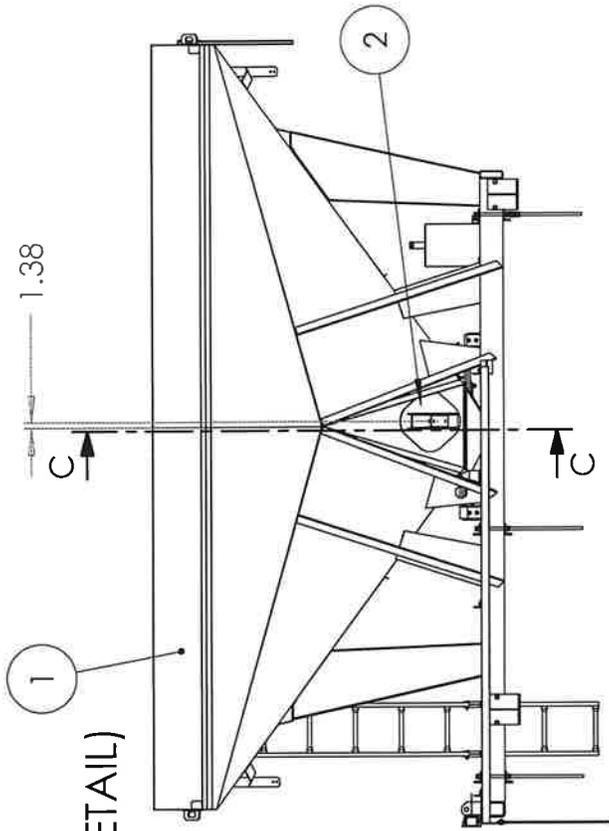
DRIVER SIDE WELD DETAIL

DETAIL B  
SCALE 1:10

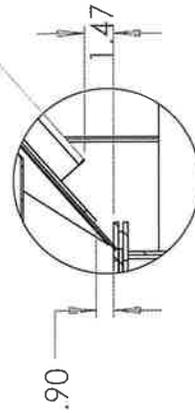
MARTIN ENGINEERING VIBRATORS  
JUNE 2020 & NEWER

P/N: 70894

DUAL MOUNT  
(PASSENGER SIDE WELD DETAIL)

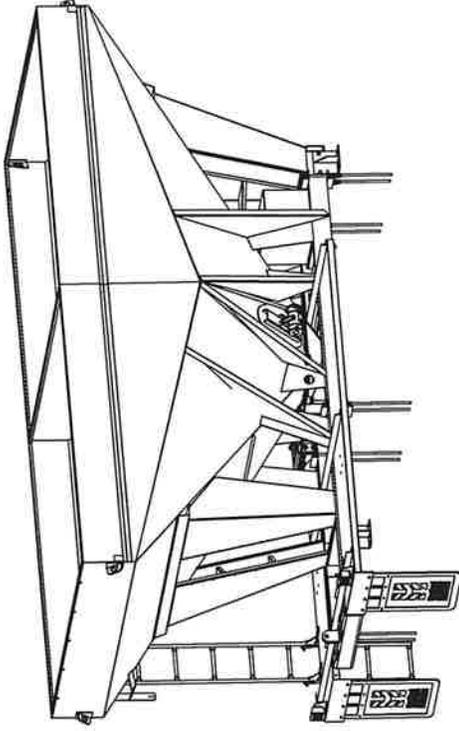
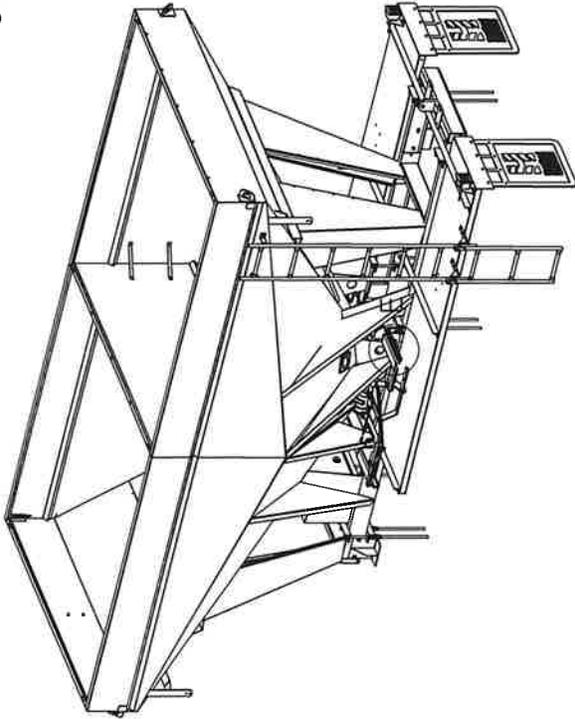


SECTION C-C



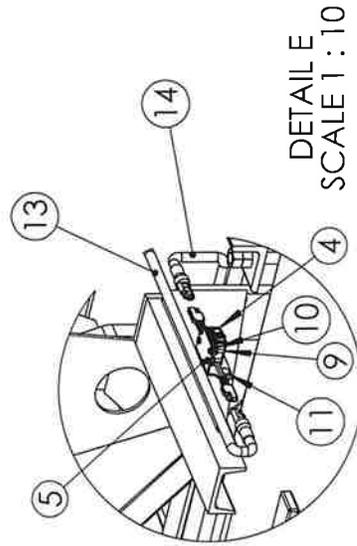
DETAIL D  
SCALE 1 : 10

MARTIN ENGINEERING VIBRATORS  
 JUNE 2020 & NEWER  
 P/N: 70894  
 DUAL MOUNT



(ITEM 1 SHOWN FOR REFERENCE ONLY)

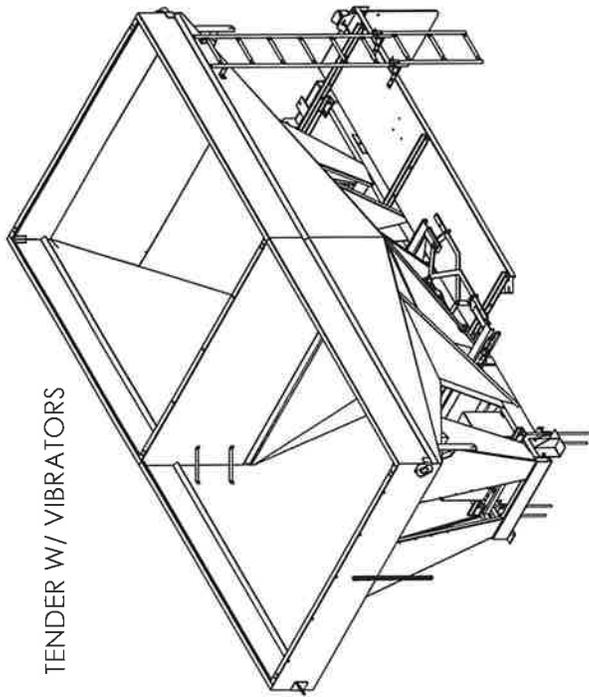
ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	1612	1612 BODY	1
2	70892	VIBRATOR MOUNT	2
3	MDCV12-700-MM-96-06	VIBRATOR	2
4	CG-100451	SWITCH (INCLUDED WITH VIBRATOR)	2
5	76737	VIBRATOR SWITCH PLATE	2
6	18097540	BOLT, HEX CAP 1/2-13 X 4 1/2 LG GRADE 8 ZC	4
7	18851400	WASHER FLAT 1/2 SAE ZC	4
8	18457400	NUT, NYLOCK 1/2-13 GRADE 8 ZC	4
9	18704218	SCREW MACH RD PH SS 8-32 X 3/4 LG	8
10	18474201	NUT HX NYLOCK #8-32 SS	8
11	18026422	BOLT CAP SS 5/16 X 1	4
12	18476351	NUT HX SS 5/16 SELF LOCK	4
13	195569-86	CORD EXTENSION 86" (INCLUDED W/ VIBRATOR)	1
14	735320	12GA/2 TRAILER WIRE	1
15	195569-86	CORD EXTENSION 86" (INCLUDED W/ VIBRATOR)	1
16	735320	12GA/2 TRAILER WIRE	1



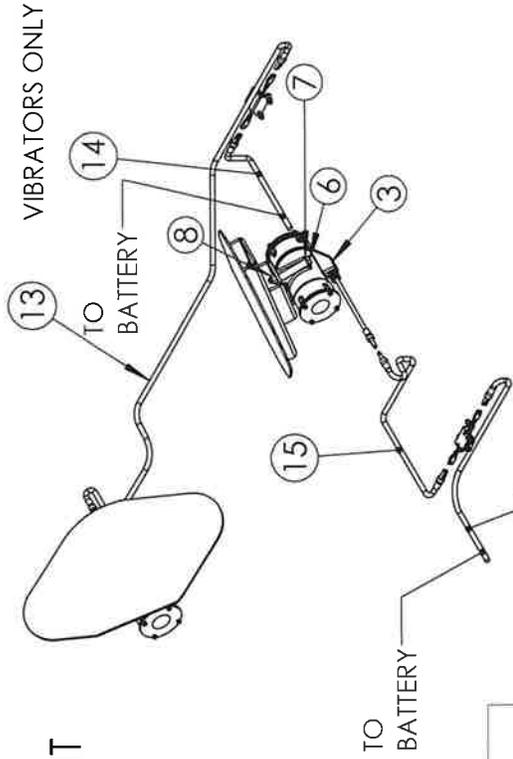
DETAIL E  
 SCALE 1 : 10

ALSO REQUIRED BUT NOT SHOWN  
 32504 - VINYL INSULATED RINGS - QTY 2  
 38262 - STEP DOWN BUTT CONNECTORS - QTY 2

MARTIN ENGINEERING VIBRATORS  
 JUNE 2020 & NEWER  
 P/N: 70894  
 DUAL MOUNT



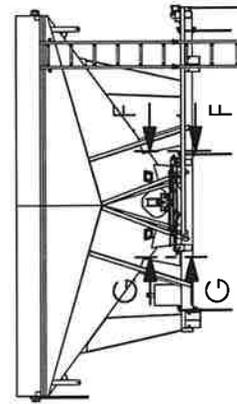
TENDER W/ VIBRATORS



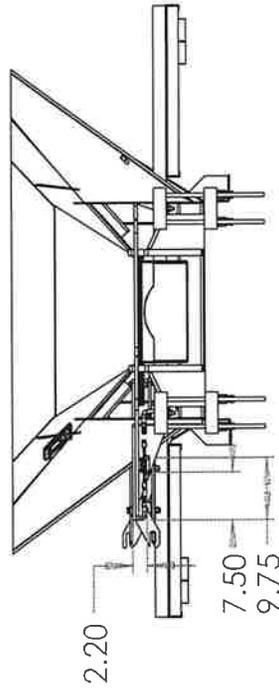
VIBRATORS ONLY

REPLACEMENT PARTS:  
 CG-100454 - FUSE 20 AMP

1. CABLES 13 & 15 COME PREASSEMBLE TO VIBRATOR
2. ATTACH P/N 38262 (STEP DOWN BUTT CONNECTOR) TO THE CONNECTOR
3. INSERT CUT TO LENGTH WIRE (P/N: 735320) INTO THE OPEN END OF THE BUTT CONNECTOR AND SEAL
4. REPEAT FOR OTHER VIBRATOR
5. SEND P/N: 32504 (VINYL INSULATED RING) LOOSE



SECTION G-G  
 SCALE 1 : 30



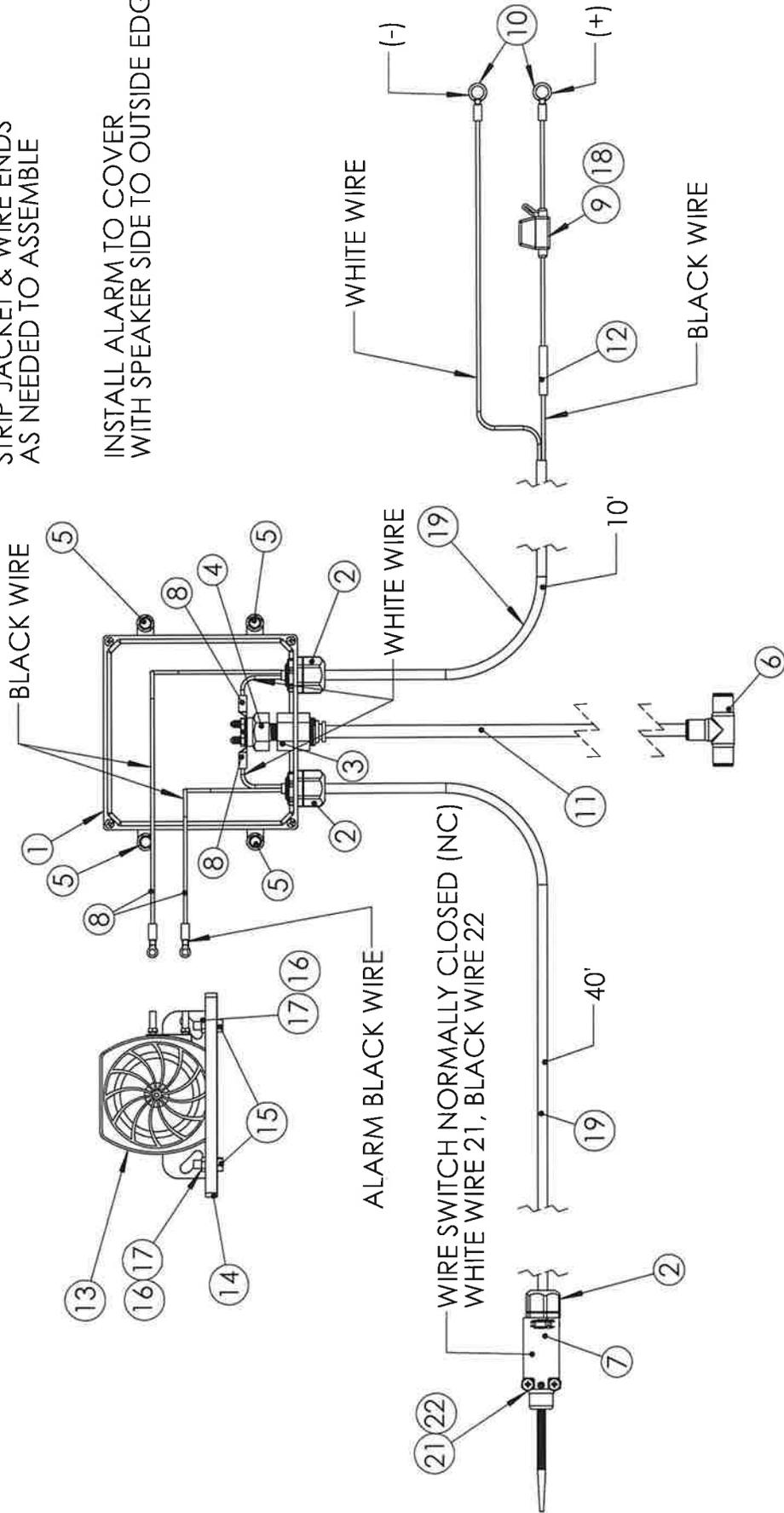
SECTION F-F  
 SCALE 1 : 30

# AUGER WARNING SYSTEM

PART #: 70660

STRIP JACKET & WIRE ENDS  
AS NEEDED TO ASSEMBLE

INSTALL ALARM TO COVER  
WITH SPEAKER SIDE TO OUTSIDE EDGE

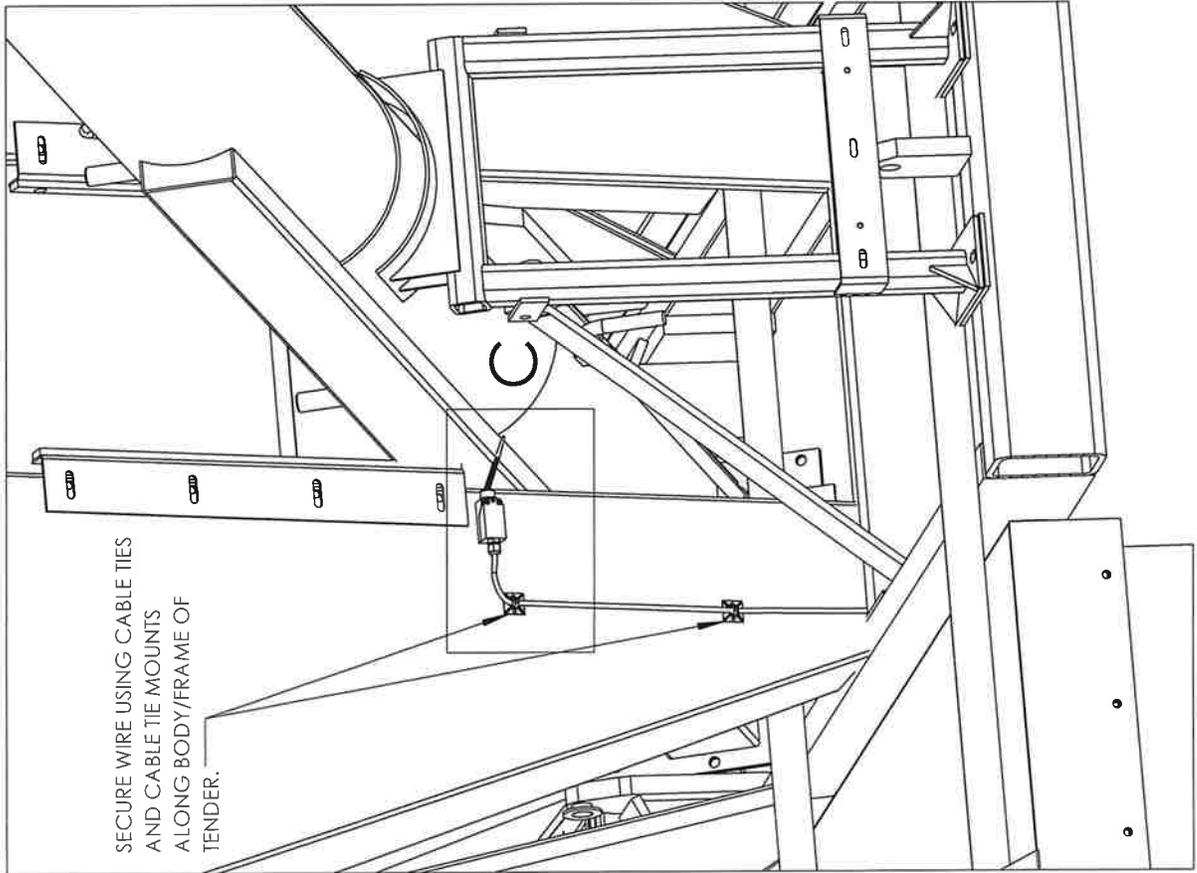


# AUGER WARNING SYSTEM

PART #: 70660

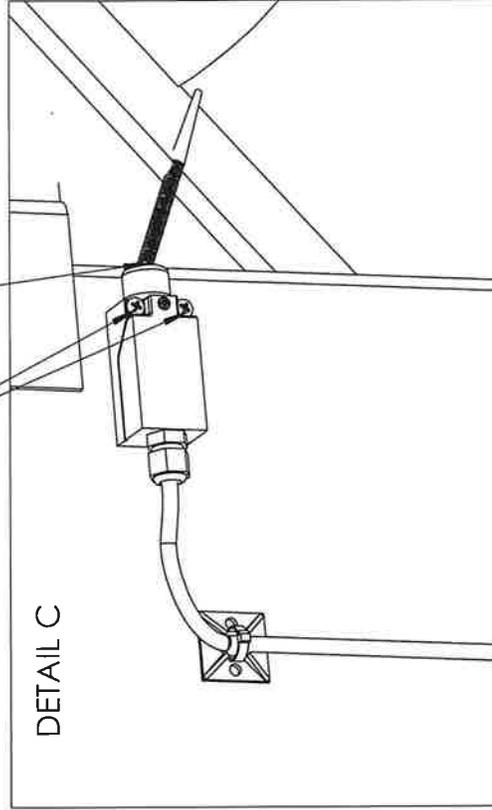
ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	70875	ALARM BOX	1
2	70878	CORDGRIP	3
3	70877	FEMALE BULKHEAD CONNECTOR WITH NUT	1
4	70876	STOP LIGHT SWITCH	1
5	70879	1/4" X 1" SELF TAPPING SCREW, SS, DRILL TIP	4
6	70880	UNION TEE, 3/8	1
7	70881	LIMIT SWITCH	1
8	70656	RING TERMINAL, HEAT SHRINK, 16-14 GA AND #10 SCREW SIZE	4
9	70882	IN LINE FUSE HOLDER	1
10	70883	RING TERMINAL, HEAT SHRINK, 16-14 GA AND 3/8" SCREW SIZE	2
11	70884	AIR BRAKE TUBING	8'
12	70886	SPLICE CONNECTOR, 16-14 GA, HEAT SHRINK	1
13	70887	ALARM	1
14	70875-2	ALARM BOX COVER (INCLUDED W/ ALARM BOX)	1
15	18055718	BOLT HX 1/4 X 3/4	2
16	18881001	WASHER FLAT 1/4 SS	2
17	18569200	NUT 1/4 NYLOCK SS	2
18	70888	FUSE, 7.5A	1
19	70885	PORTABLE CORD	50'
20	70658	ADHEASIVE BACKED CABLE TIE HOLDER, OUTDOOR	12
21	71043	NUT, NYLOCK, 10-24, SS	2
22	71044	SCREW, PAN HEAD, 10-24 X 2", SS	2
23	70659	CABLE TIE, 7-1/2" LONG, OUTDOOR	12

# 1612 TENDER MOUNTING LOCATION



LOCATE SWITCH AS SHOWN ON REAR GUSSET SO THAT TOGGLE ARM IS TRIGGERED WHEN AUGER IS SEATED IN CRADLE. AN AUDIBLE CLICK CAN BE HEARD WHEN SWITCH IS TRIGGERED.

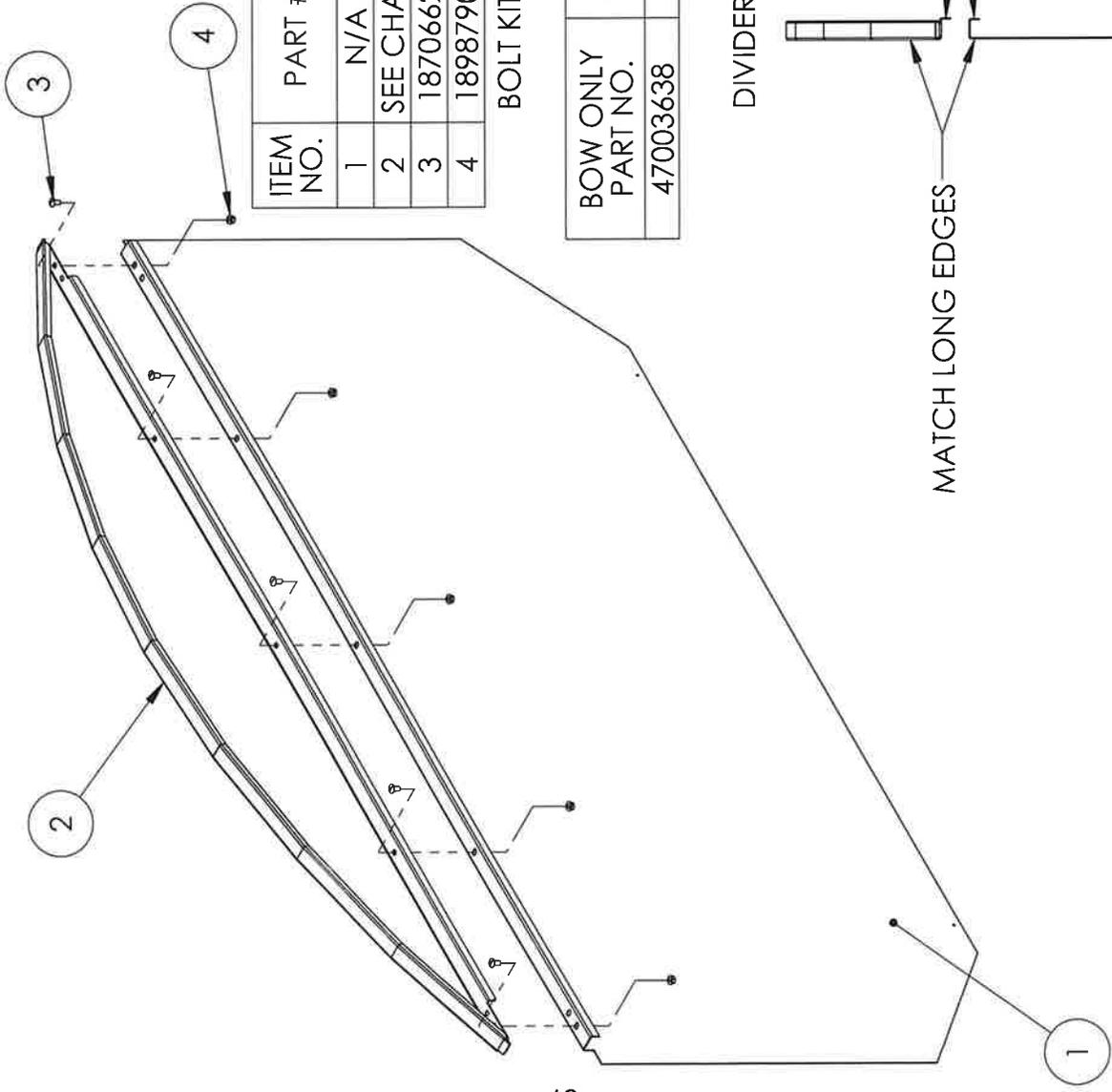
MATCH DRILL HOLES FOR SWITCH AND A TATCH USING ITEMS 21-22.



# ARCH DIVIDER LAYOUT & PARTS LISTING

ARCH DIVIDER  
06/04/19

(1612)



ITEM NO.	PART #	DESCRIPTION	QTY
1	N/A	DIVIDER PANEL(ON TENDER)	N/A
2	SEE CHART	BOW DIVIDER	1
3	18706621	SCREW, SLOTTED TRUSS HEAD 3/8 X 3/4 S.S.	5
4	18987900	NUT, SER. FLG. S.S. 3/8	5

BOLT KIT P/N: 47883641 CONTAINS ITEMS 3 AND 4

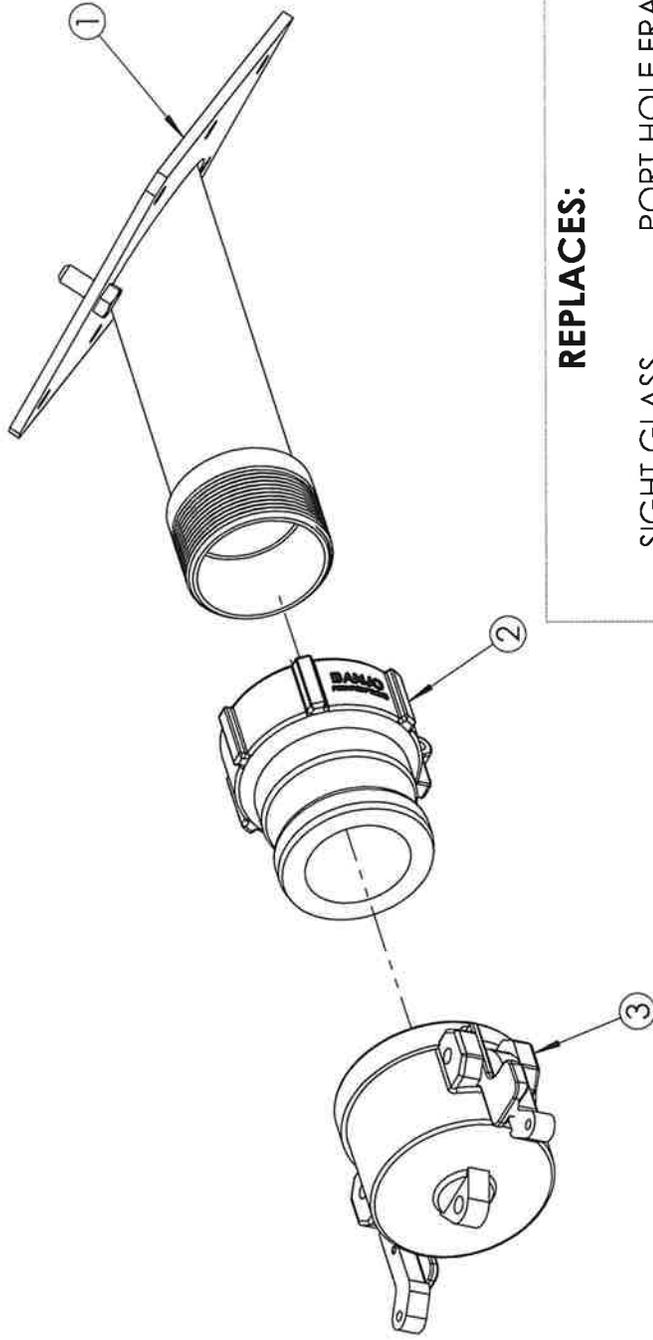
BOW ONLY PART NO.	BOW W/ HARDWARE PART NO.	FITS UNIT
47003638	47993638	1612 (12" HIGH ARCH)

DIVIDERS ARE ORDERED INDIVIDUALLY

MATCH LONG EDGES  
MATCH SHORT EDGES

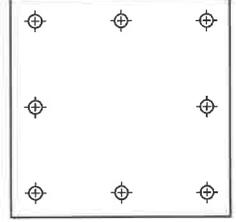
# OPTIONAL BOLT ON POKE HOLE & FLUSH TUBE P/N: 71850

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	71849	POKE HOLE/FLUSH TUBE WELDT	1
2	200A	BANJO 2" CAM LEVER COUPLING, MALE ADAPTER FEMALE THREADS	1
3	200172	2" FEMALE COUPLER CAP	1

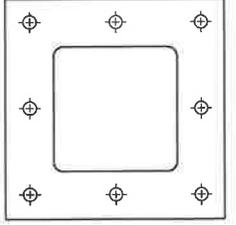


**REPLACES:**

SIGHT GLASS  
P/N: 76608



PORT HOLE FRAME  
P/N: 76609



**ORDER 1 PER WINDOW TO BE REPLACED**

SECURE USING THE HARDWARE REMOVED FROM WINDOWS  
(18026422 - BOLT CAP SS 5/16 X 1 - QTY 7 (8 WILL BE REMOVED))  
(18476351 - NUT HX SS 5/16 SELF LOCK QTY 8)

