

**FEED MIXER
450-12**

**ASSEMBLY, OPERATION
AND PARTS MANUAL**

**ROTO-MIX
P.O. box 1724
2205 E. Wyatt Earp Blvd.
Dodge City, Kansas 67801
(620) 225-1142**

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SERIAL NUMBER _____

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Limited Warranty Statement

ROTO-MIX LLC warrants to the original purchaser all products manufactured by it to be free from defects in material and workmanship under normal use and service.

ROTO-MIX's obligation under this warranty is limited to repairing or replacing, as the company may elect, free of charge and without charge for installation, at the place of business of a dealer or distributor authorized to handle the equipment covered by this warranty or at a ROTO-MIX facility, any parts that prove, in the company's judgment, to be defective in material or workmanship within one (1) year after delivery to the original purchaser, and still owned by the original purchaser. This warranty shall in no way make ROTO-MIX liable to anyone for personal injuries or damages, loss of time, or expense of any kind either direct or indirect resulting from part failure or defect. This warranty is subject to acts of God, fire and existing conditions of supply and demand, or production, or ability or inability to deliver, or for any other valid reason beyond the reasonable control of ROTO-MIX, to obtain materials, manufactured replacement parts, or make delivery thereof. No distributor, dealer, agent, or ROTO-MIX employee (other than the CEO or President in writing) is authorized to extend any other or further express or implied warranty or incur any additional obligation on ROTO-MIX's behalf in connection with the sale of this product.

If ROTO-MIX, or its duly authorized representative, shall find that such returned part or parts are defective and such defects, or defect, are included in and covered by said warranty, then such defective part or parts shall promptly be replaced without charge to the purchaser, F.O.B. the ROTO-MIX plant.

Product Registration - It is a condition of this warranty that the original purchaser must fill out the warranty card furnished by ROTO-MIX and that it be returned to ROTO-MIX within 10 days of purchase and be recorded in ROTO-MIX's owner file for this warranty to be valid. In the event an owner's card is not on file at the ROTO-MIX office, the warranty period will extend only from date equipment was picked up or shipped from the ROTO-MIX plant.

Maintenance - It is the customer's responsibility to maintain their equipment in accordance with the instructions provided in the Operator's Manual. ROTO-MIX recommends that you keep records and receipts; you may be asked to prove that maintenance instructions have been followed.

Operation - It is the customer's responsibility to operate the equipment only for the purpose for which it was designed and in accordance with all safety and operational recommendations contained in the Operators Manual. If a defect in materials or workmanship occurs, it is the customer's responsibility to cease operating the equipment until authorized repairs are made. **Damage, which occurs from continued operation, may not be covered by this warranty.**

What this Warranty Covers

This warranty covers failures caused by defects in materials or workmanship only.

This Warranty does not cover failures caused by:

- Improper operation
- Natural calamities
- Unauthorized modifications
- Unauthorized repairs
- Use of Non ROTO-MIX parts
- Neglected maintenance
- The use of PTO Shaft Adaptors
- Usage contrary to the intended purpose of the product

This Warranty does not cover replacement of Wear or Maintenance Items including, but not limited to.

- Lubricants
- Filters
- Hoses
- Tires
- Augers
- Wipers
- Chains
- Idlers
- Batteries
- Blades
- Belts

This Warranty does not cover:

- Pickup and delivery of the equipment
- Service Calls or Travel Time to and from sites
- Rental of replacement equipment during repair period
- Products that have been declared a total loss and subsequently salvaged
- Overtime labor charges
- ROTO-MIX is not responsible and will not be liable for damage caused to persons or property, commercial loss, loss of time or production, loss of use by reason of the installation or use of ROTO-MIX products or their mechanical failure.

Right to Make Changes

ROTO-MIX reserves the right to make any changes to a ROTO-MIX product at any time without incurring any obligation with respect to any product previously ordered, sold or shipped, with or without notice.

Parts Warranty

ROTO-MIX warranties replacement parts against defects in materials or workmanship for a period of 90 days or the remainder of the product warranty, whichever is longer. Remedy for defective replacement parts for units that are beyond the original product warranty, will be limited to replacement of the failed part. Failures that are due to damage, improper installation, lack of maintenance or improper operation will not be covered.

ROTO-MIX 2205 East Wyatt Earp Blvd., Dodge City, KS 67801 (620) 225-1142 Fax: (620) 225-6370

SCALES WARRANTY & SERVICE POLICY

DIGI-STAR SCALE SYSTEMS

Digi-Star, LLC warrants for a period of one year from date of installation, to correct by repair or replacement, at Digi-Star's option, any defect in material or workmanship in any part of this product. In the event of replacement, Digi-Star's sole obligation shall be to provide replacement products or parts. F.O.B. Fort Atkinson, Wisconsin.

EATON ELECTRONIC SCALES

Eaton scale systems are warranted for two years from the date of manufacture or a minimum of one year from the date of sale, with proof of purchase, to a maximum of 36 months from the date of manufacture. Defective products must be returned to Eaton or an authorized service center, freight prepaid, within warranty period, where components will be repaired or replaced at Eaton's discretion.

TYREL INDICATORS

Tyrel Corporation warrants the indicator to be free from defects in material and workmanship for 12 months from date of delivery. Tyrel Corp. will repair or replace, at their option, at no charge, any indicator found to be defective. F.O.B. Winooski, Vermont.

Defective products must be returned to ROTO-MIX, freight prepaid, within the warranty period. Any deviation from this policy must be approved by the management of ROTO-MIX.

This warranty does not apply to scale systems that have been subject to negligent maintenance, accident, modification, abuse, or natural hazards.

All warranty repair work must be done by an authorized ROTO-MIX technician. Any work done by anyone other than an authorized ROTO-MIX technician shall void the warranty.

In the event it is necessary for field service to be done, ROTO-MIX is not responsible for expenses incurred in field service or travel expenses and labor getting to and from the service point.

All parts returned for warranty work must be identified by customer name, date sold, date failed, model number, and serial number of instrument.

ROTO-MIX is not responsible and will not be liable for personal injuries or damages, loss of time or damage caused to persons or property by reason of the installation of ROTO-MIX products or their mechanical failure.

OPERATOR QUALIFICATIONS

Operation Of this mixer/feeder shall be limited to competent and experienced persons. In addition, anyone who will operate or work around a mixer/feeder must use good common sense. In order to be qualified, he or she must also know and meet all other qualifications, such as:

1. Some regulations specify that no one under the age of sixteen (16) may operate power machinery. It is your responsibility to know what these regulations are in your area and/or situation.
2. Current OSHA regulations state in part: At the time of initial assignment and at least annually thereafter, the employer shall instruct **EVERY** employee in the safe operation and servicing of all equipment with which the employee is, or will be involved.
3. Unqualified persons are to **STAY OUT OF THE WORK AREA.**
4. A person who has not read and understood all operating and safety instructions is not qualified to operate the machinery.

FAILURE TO READ THIS MIXER/FEDER MANUAL AND ITS SAFETY INSTRUCTIONS IS A MISUSE OF THE EQUIPMENT.



SAFETY

TAKE NOTE! THIS SAFETY ALERT SYMBOL FOUND THROUGHOUT THIS MANUAL IS USED TO CALL YOUR ATTENTION TO INSTRUCTIONS INVOLVING YOUR PERSONAL SAFETY AND THE SAFETY OF OTHERS. FAILURE TO FOLLOW THESE INSTRUCTIONS CAN RESULT IN INJURY OR DEATH.



THIS SYMBOL MEANS

-ATTENTION!

-BECOME ALERT!

-YOUR SAFETY IS INVOLVED!

SIGNAL WORDS: Note the use of the signal words **DANGER**, **WARNING**, and **CAUTION** with the safety messages. The appropriate signal word for each has been selected using the following guidelines:

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

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

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.

If you have questions not answered in this manual or require additional copies or the manual is damaged, please contact your dealer or ROTO-MIX, 2205 E. Wyatt Earp, Dodge City, Kansas, 67801. (Telephone) 620-225-1142 (Fax) 620-225-6370

SAFETY FIRST

REMEMBER: The careful operator is the best operator. Most accidents are caused by human error. Certain precautions must be observed to prevent the possibility of injury or death.



DO NOT ALLOW PERSONNEL OTHER THAN THE QUALIFIED OPERATOR NEAR THE MACHINE.



NEVER START MACHINE UNTIL ALL GUARDS AND SAFETY SHIELDS ARE IN PLACE.



DO NOT CLEAN, ADJUST OR LUBRICATE THE MACHINE WHILE IT IS IN MOTION.



BEFORE STARTING TRACTOR ENGINE, BE SURE PTO SHIELDS TURN FREELY.



LOOSE OR FLOPPY CLOTHING SHOULD NOT BE WORN BY THE OPERATOR.

OPERATING PRECAUTIONS & INSTRUCTIONS:

- A. Check to see that no obstructions are present in the mixer prior to start up.
- B. Before loading, run the mixer empty and check all operations.
- C. Do not overload the mixer, as the mixing efficiency may be reduced and unit damage may occur. (See loading instructions).
- D. Remove all moisture drain plugs if the mixer is going to set in the rain or snow.
- E. Be sure all shields are in place before operation.
- F. Use common sense when operating.



EQUIPMENT SAFETY GUIDELINES

Safety of the operator is one of the main concerns in designing and developing a new piece of equipment. Designers and manufactures build in as many safety features as possible. However, every year many accidents occur which could have been avoided by a few seconds of thought and a more careful approach to handling equipment. You, the operator, can avoid many accidents by observing the following precautions in this section. To avoid personal injury, study the following precautions and insist those working with you, or for you, follow them.

In order to provide a better view, certain photographs or illustrations in this manual may show an assembly with a safety shield removed. However, equipment should never be operated in this condition. Keep all shields in place. If shield removal becomes necessary for repairs, replace the shield prior to use.

Replace any CAUTION, WARNING, DANGER or instruction safety decal that is not readable or is missing. Location of such decals are indicated in this manual.

Do not attempt to operate this equipment under the influence of drugs or alcohol.

Review the safety instructions with all users annually.

This equipment is dangerous to children and persons unfamiliar with its operation. The operator should be a responsible adult familiar with farm machinery and trained in this equipment's operations. Do not allow persons to operate or assemble this unit until they have read this manual and have developed a thorough understanding of the safety precautions and of how it works.

To prevent injury or death, use a tractor equipped with a Roll Over Protective System (ROPS). Do not paint over, remove or deface any safety signs or warning decals on your equipment. Observe all safety signs and practice the instructions on them.

Never exceed the limits of a piece of machinery, in its ability to do a job, or to do so safely, is in question - **DON'T TRY IT.**



LIGHTING AND MARKING

It is the responsibility of the customer to know the lighting and marking requirements of the local highway authorities and to install and maintain the equipment to provide compliance with the regulations. Add extra lights when transporting at night or during periods of limited visibility.



KEEP ALL SHIELDS IN PLACE

Do not operate mixer/feeder without safety shields in place.

Rotating parts can crush or dismember causing personal injury or death.

Disconnect PTO driveline before removing shields for adjustment or service.



OPERATE MIXER/FEEDER SAFELY

Rotating parts can entangle or strike people, resulting in personal injury or death.

Never enter a mixer/feeder while in operation.

Operate the mixer/feeder from the operator's seat only.

Do not exceed load capacity of the mixer/feeder. (See loading instructions).

Reduce speed when turning or traveling on rough terrain.

Avoid traveling over loose fill, rocks, ditches or holes.

Keep transmissions in gear when traveling downhill.



KEEP RIDERS OFF MIXER/FEEDER

Keep riders off.

Riders are subject to injury such as being struck by foreign objects and being thrown off. Riders also obstruct the operator's view resulting in the machine being operated in an unsafe manner.





STAY CLEAR OF ROTATING DRIVELINES

Entanglement in rotating driveline can cause serious injury or death.

Keep tractor master shield and driveline shields in place at all times. Make sure rotating shields turn freely.

Wear close fitting clothing. Stop the engine and be sure PTO driveline is stopped before making adjustments, connections, or cleaning out PTO driven equipment .



PREVENT BATTERY EXPLOSIONS

Keep sparks, lighted matches, and open flame away from the top of battery. Battery gas can explode.

Never check battery charge by placing a metal object across the posts. Use a volt-meter or hydrometer.

Do not charge a frozen battery; it may explode. Warm battery to 16C (60F)



AVOID HIGH-PRESSURE FLUIDS

Escaping fluid under pressure can penetrate the skin causing serious injury or death.

Avoid the hazard relieving pressure before disconnecting hydraulic or other lines. Tighten all connections before applying pressure.

Search for leaks with a piece of cardboard. Protect hands and body from high pressure fluids.

If an accident occurs, see a doctor immediately. Any fluid injected into the skin must be surgically removed within a few hours or gangrene may result. Doctors unfamiliar with this type of injury should reference a knowledgeable medical source.

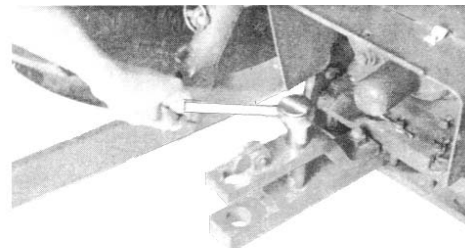




PREPARING TRACTOR FOR TRAILER MIXER

POSITIONING DRAWBAR

IMPORTANT: Drive components can be damaged from excessive speed. Under no circumstances should a feed mixer equipped with 540 RPM be operated by a tractor with 1000 RPM PTO.



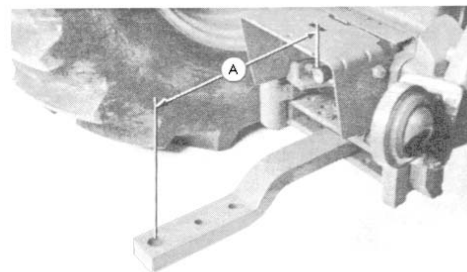
Feed mixers are available with either 540 or 1000 RPM driveline. Match tractor PTO with the feed mixer driveline.

IMPORTANT: To prevent driveline damage, adjust tractor drawbar to recommended setting. Disengage tractor PTO before turning.

Remove clevis if equipped. Turn offset drawbar down.

Adjust drawbar length:

PTO SPEED	DIMENSION (A)
540 RPM	14 inches (356 mm)
1000 RPM	16 inches (406 mm)

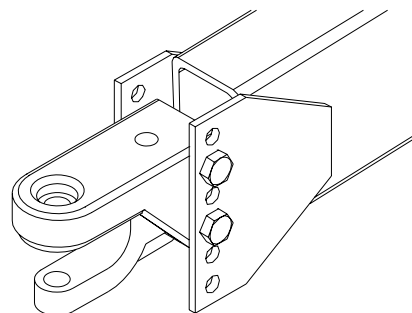


ADJUST TRAILER HITCH CLEVIS

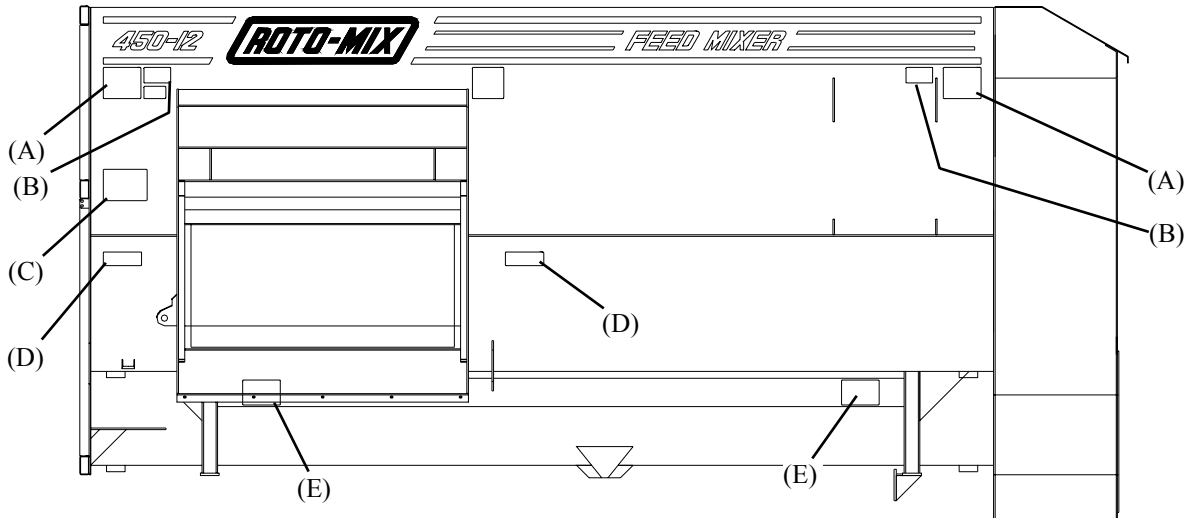
Mixer should be approximately level when attached to tractor.

Adjust clevis by changing hole location on tongue.

Hitch Pin Size — 1" x 7"



SAFETY SIGNS



(A) #440827



(C) #440819

⚠ CAUTION

TO HELP PREVENT BODILY INJURY

- Read and understand instruction manual before operating.
- Do not operate unless all safety shields are properly in place.
- Make sure electric motors are grounded.
- Before leaving operators position to clean, repair, unclog or inspect mixer;

TOW TYPE: Stop engine and remove PTO driveline.
 TRUCK MOUNT: Disengage PTO/hydraulics and stop engine.
 STATIONARY: Lock out electrical power source.

- Before starting and operating be sure everyone is clear of machine. Keep off machine and away from all moving and power driven parts while machine is operating.
- When loading while machine is operating, beware of rotating reel and augers. Be sure to keep loader bucket or any other loading apparatus away from these rotating members.

440819

(D) #440818

⚠ CAUTION

TO HELP PREVENT BODILY INJURY

Stay clear of discharge area. Spout, door and conveyor motion are remotely controlled and can operate without mixer running. Motion can be fast.

440818

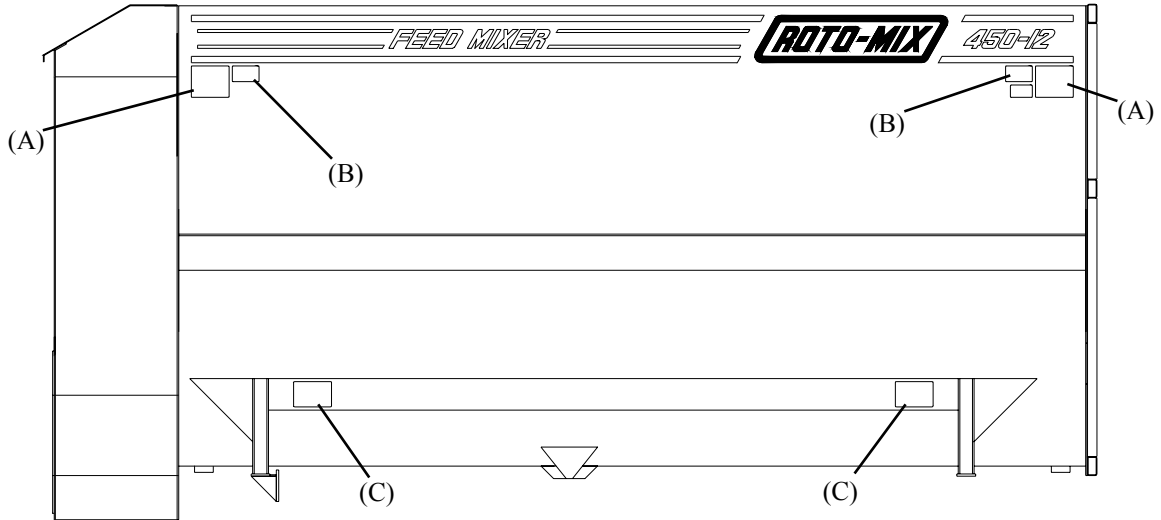
(B) #440831



(E) #440826



SAFETY SIGNS



(A) #440828



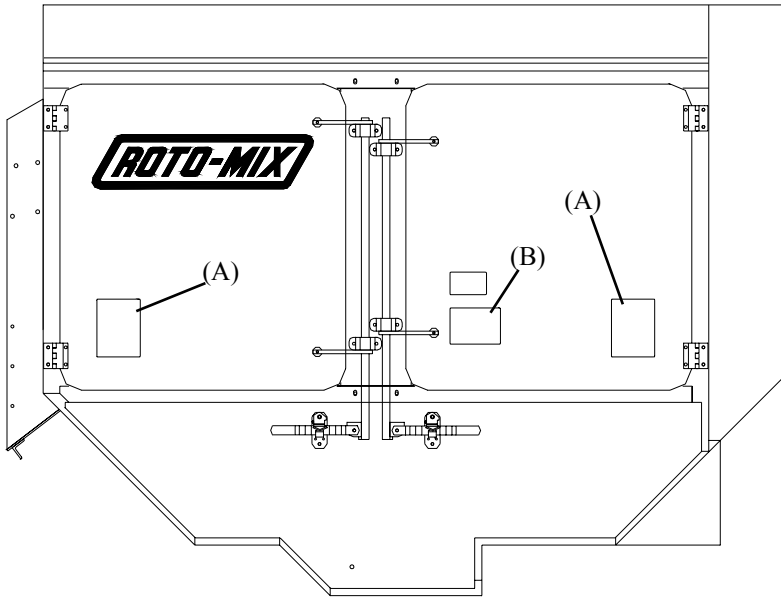
(C) #440826



(B) #440831



SAFETY SIGNS



BACK OF MIXER

(C) #440801

IMPORTANT
ALWAYS REDUCE ENGINE SPEED
TO IDLE BEFORE ENGAGING
AND DISENGAGING PTO.
DISENGAGE TRACTOR PTO
BEFORE TURNING.

440801

(A) #440822



KEEP SHIELDS IN PLACE



**EXPOSED BELTS, CHAINS
 & MOVING PARTS CAN CAUSE
 SEVERE INJURY**

- READ AND UNDERSTAND INSTRUCTION MANUAL BEFORE OPERATING.
- KEEP ALL SAFETY SHIELDS AND DEVICES IN PLACE.
- MAKE CERTAIN EVERYONE IS CLEAR BEFORE OPERATING MACHINE.
- KEEP HANDS, FEET AND CLOTHING AWAY FROM MOVING PARTS.
- SHUT OFF POWER TO ADJUST, SERVICE OR CLEAN.
- MAKE SURE MACHINE IS SECURED BEFORE OPERATING.
- DISCONNECT POWER BEFORE RESETTING MOTOR OVERLOAD.
- MAKE CERTAIN ELECTRIC MOTORS ARE GROUNDED.

440822

(B) #440819



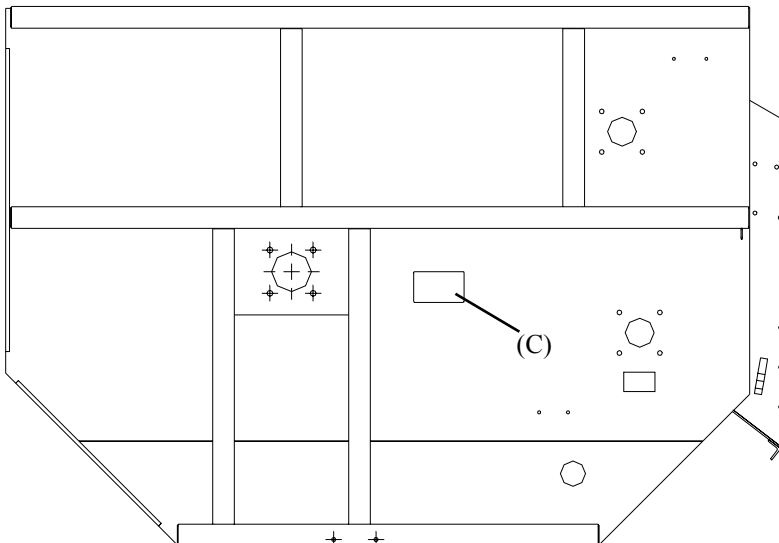
TO HELP PREVENT BODILY INJURY

- Read and understand instruction manual before operating.
- Do not operate unless all safety shields are properly in place.
- Make sure electric motors are grounded.
- Before leaving operators position to clean, repair, unclog or inspect mixer;

TOW TYPE: Stop engine and remove PTO driveline.
TRUCK MOUNT: Disengage PTO/hydraulics and stop engine.
STATIONARY: Lock out electrical power source.

- Before starting and operating be sure everyone is clear of machine. Keep off machine and away from all moving and power driven parts while machine is operating.
- When loading while machine is operating, beware of rotating reel and augers. Be sure to keep loader bucket or any other loading apparatus away from these rotating members.

440819



FRONT OF MIXER



SAFETY DECAL CARE

Keep safety decals and signs clean and legible at all times.

Replace safety decals and signs that are missing or have become illegible.

Replaced parts that displayed a safety sign should also display the current sign.

Safety decals or signs are available from your dealer or the ROTO-MIX manufacturing plant.

How to Install Safety Decals:

Be sure that the installation area is clean and dry.

Decide on the exact position before you remove the backing paper.

Remove the smallest portion of the split backing paper.

Align the decal over the specified area and carefully press the small portion with the exposed sticky backing in place.

Slowly peel back the remaining paper and carefully smooth the remaining portion of the decal in place.

Small air pockets can be pierced with a pin and smoothed out using the piece of decal backing paper.



REMEMBER

Your best assurance against accidents is a careful and responsible operator. If there is any portion of this manual or function you do not understand, contact your dealer or the ROTO-MIX plant.

BEFORE OPERATION:

Carefully study and understand this manual.

Do not wear loose-fitting clothing which may catch in moving parts.

Always wear protective clothing and substantial shoes.

Keep wheel lug nuts or bolts tightened to specified torque.

Assure that agricultural implement tires are inflated evenly.

Give the unit a visual inspection for any loose bolts, worn parts or cracked welds, and make necessary repairs. Follow the maintenance safety instructions included in this manual.

Be sure that there are no tools lying on or in the mixer/feeder.

Do not use the unit until you are sure that the area is clear, especially children and animals.

Because it is possible that this mixer/feeder 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.

Don't hurry the learning process or take the unit for granted. Ease into it and become familiar with your new mixer/feeder.

Practice operation of your mixer/feeder and its attachments. Completely familiarize yourself and other operators with its operation before using.

Securely attach to towing unit. Use a high strength, appropriately sized hitch pin with a mechanical retainer.

Do not allow anyone to stand between the tongue or hitch and the towing vehicle when backing up to the mixer/feeder.



DURING OPERATION:

Beware of bystanders, **particularly children!** Always look around to make sure that it is safe to start the engine of the towing vehicle or move the unit. This is particularly important with higher noise levels and quiet cabs, as you may not hear people shouting.

NO PASSENGERS ALLOWED - Do not carry passengers anywhere on, or in, the tractor or equipment, except as required for operation.

Keep hands and clothing clear of moving parts.

Do not clean, lubricate or adjust your mixer/feeder while it is moving.

Be especially observant of the operating area and terrain - watch for holes, rocks or other hidden hazards. Always inspect the area prior to operation.

Do not operate near the edge of drop-offs or banks.

Do not operate on steep slopes as overturn may result.

Operate up and down (not across) intermediate slopes. Avoid sudden starts and stops.

Pick the levellest possible route when transporting across fields. Avoid the edges of ditches or gullies and steep hillsides.

Be extra careful when working on inclines.

Periodically clear the equipment of brush, twigs or other materials to prevent buildup of dry combustible materials.

Maneuver the tractor or towing vehicle at safe speeds.

Avoid overhead wires or other obstacles. Contact with overhead lines could cause serious injury or death.

Avoid loose fill, rocks and holes; they can be dangerous for equipment operation or movement. Allow for unit length when making turns.

Do not walk or work under raised components or attachments unless securely positioned and blocked.

Keep all bystanders, pets and livestock clear of the work area.

Operate the towing vehicle from the operator's seat only.

Never stand alongside of the unit with engine running. Never attempt to start engine and/or operate machine while standing alongside of unit.



DURING OPERATION (CONT.)

Never leave running mixer/feeder unattended.

As a precaution, always recheck the hardware on mixer/feeder following every 100 hours of operation. Correct all problems. Follow the maintenance safety procedures.



FOLLOWING OPERATION:

Following operation, or when unhitching, stop the tractor or towing vehicle, set the brakes, disengage the PTO and all power drives, shut off the engine and remove the ignition keys.

Store the unit in an area away from human activity.

Do not park equipment where it will be exposed to livestock for long periods of time. Damage and livestock injury could result.

Do not permit children to play on or around the stored unit.

Make sure parked machine is on a hard, level surface and engage all safety devices.

Wheel chocks may be needed to prevent unit from rolling.



HIGHWAY AND TRANSPORT OPERATIONS:

Adopt safe driving practices:

Keep the brake pedals latched together at all times. **Never use independent braking with machine in tow as loss of control and/or upset of unit can result.**

Always drive at a safe speed relative to local conditions and ensure that your speed is low enough for an emergency stop to be safe and secure. Keep speed to a minimum.

Reduce speed prior to turns to avoid the risk of overturning.

Avoid sudden uphill turns on steep slopes.

Always keep the tractor or towing vehicle in gear to provide engine braking when going downhill. Do not coast.

Do not drink and drive.



HIGHWAY AND TRANSPORT OPERATIONS (CONT.):

Comply with state and local laws governing highway safety and movement of farm machinery on public roads.

Use approved accessory lighting flags and necessary warning devices to protect operators of other vehicles on the highway during daylight and nighttime transport.

The use of flashing amber lights is acceptable in most localities. However, some localities prohibit their use. Local laws should be checked for all highway lighting and marking requirements.

When driving the tractor and mixer/feeder on the road or highway under 20 MPH (40 KPH) at night or during the day, use flashing amber warning lights and a slow moving vehicle (SMV) identification emblem.

Plan your route to avoid heavy traffic.

Be a safe courteous driver. Always yield to oncoming traffic in all situations, including narrow bridges, intersections, etc.

Be observant of bridge loading ratings. Do not cross bridges rated lower than the gross weight at which you are operating.

Watch for obstructions overhead and to the side while transporting.

Always operate mixer/feeder in a position to provide maximum visibility at all times. Make allowances for increased length and weight of the mixer/feeder when making turns, stopping the unit, etc.



PERFORMING MAINTENANCE:

Good maintenance is your responsibility. Poor maintenance is an invitation to trouble.

Make sure there is plenty of ventilation. Never operate the engine of the towing vehicle in a closed building. The exhaust fumes may cause asphyxiation.

Before working on the mixer/feeder, stop the towing vehicle, set the brakes, disengage the PTO and all power drives, shut off the engine and remove the ignition keys.

Be certain all moving parts on attachments have come to a complete stop before attempting to perform maintenance.

Always use a safety support and block the wheels. Never use a jack to support the machine.



PERFORMING MAINTENANCE (CONT.):

Always use the proper tools or equipment for the job at hand.

Use extreme caution when making adjustments.

Never use your hands to locate hydraulic leaks on attachments. Use a small piece of cardboard or wood. Hydraulic fluid escaping under pressure can penetrate the skin.

When disconnecting hydraulic lines, shut off hydraulic supply and relieve all hydraulic pressure.

Openings in the skin and minor cuts are susceptible to infection from hydraulic fluid. If injured by escaping hydraulic fluid, see a doctor at once. Gangrene can result. Without immediate treatment, serious infection and reactions can occur.

Replace all shields and guards after servicing and before moving.

After servicing, be sure all tools, parts and service equipment are removed.

Do not allow grease or oil to build up on any step or platform.

Never replace hex bolts with less than grade five (5) bolts unless otherwise specified.

Where replacement parts are necessary for periodic maintenance and servicing, genuine factory replacement parts must be used to restore your equipment to original specifications. ROTO-MIX will not claim responsibility for use of unapproved parts and/or accessories and other damages as a result of their use.

If equipment has been altered in any way from original design, ROTO-MIX does not accept any liability for injury or warranty.

A fire extinguisher and first aid kit should be kept readily accessible while performing maintenance on this mixer/feeder.

READ THE FOLLOWING BEFORE WELDING ON THIS MIXER/FEEDER

When welding on your mixer/feeder, do not allow the current to flow through the ball bearings or the roller chains. Ground directly to the item being welded.

Always disconnect the scale instrumentation from the weigh bars or load cells and the power source. Be sure the current does not pass through weigh bars or load cells or scale indicator. The alternator should always be disconnected if the mixer/feeder is not disconnected from the towing vehicle.

CHAIN TENSION

All the single roller chain should be tightened to the point of .042" (1 mm) (dime) clearance is reached between the coils of the 1-1/4" idler tension springs and .068" (1.7 mm) (nickel) clearance is reached between the coils of the 1-3/4" idler tension springs.

LOADING INSTRUCTIONS & PRECAUTIONS

- A.** Do not add side board extensions to the mixer.
- B.** Do not overload the mixer. Mixer capacity can be reached by weight or volume. By volume, the rotor bars and wipers should always be visible at the peak of the rotor cycle. If the rotor is completely submerged under the mix, mixing efficiency may be reduced, spillage may occur, and damage to the mixer may result. Maximum capacity by weight can be calculated by multiplying 28 pounds times mixer cubic foot capacity.
- C.** Load molasses and/or liquid protein supplements first with mixer not running, then add one (1) commodity ingredient before starting the mixer. For the shortest mixing time and maximum mixing efficiency, these items should be added at the first of the loading process.
- D.** When adding minute supplements or medication in non-liquid form, these ingredients should be loaded in the middle of the loading sequence.

E. RATIONS WITH GROUND HAY:

- 1.** Load molasses (or liquids) first with the mixer not running.
- 2.** Load one (1) commodity ingredient and start mixer.
- 3.** Finish loading commodities, silage, or ground hay. Loading ground hay after mixing liquids with another commodity will prevent molasses hay balls.

NOTE: These procedures may not work on all rations. Loading sequences may be changed to give best possible mix.

ATTENTION:

- F.** Never load the mixer from the right side (side opposite the discharge) with a front end loader or payloader.

OPERATION:

Trailer mounted mixers can be furnished with single tractor controls or dual controls. Dual controls are standard unless specified.

1. Single controls operate as follows: Spout goes down first - door opens second. Door closes first - spout goes up second.
2. The disadvantage of the single control is that it does not let you adjust the spout height without first closing the door.

ROTO-HAY PROCESSOR

The ROTO-HAY PROCESSOR is designed for processing hay into the mixer. This eliminates the need for grinding hay, which saves the time and expense of grinding and can save up to 18% loss from wind and handling.

THE ROTO-HAY PROCESSOR MUST BE PROPERLY USED ALWAYS USE DRY HAY

Drain rain water out of mixer before use. 1" of rain in a 354-12 equals (54 gal) 440 lbs. of water which will increase the moisture in 1000 lbs. of dry hay (12%) to 38% moisture or 500 lbs. of dry hay to 53% moisture.

The ROTO-HAY PROCESSOR will handle small amounts of damp hay, but this is done at your own risk. ROTO-MIX will not warranty bent or broken rotor tubes, bent or broken augers, or bent hay pans caused from misuse, wet hay, foreign objects, and/or overloading.

HAY PREPARATION:

1. **SMALL BALES** - (60 to 150 lbs., 2 or 3 wire) Remove twine or wire from bales and break bales apart by pushing into a pole with a front end loader.
2. **LARGE SQUARE BALES** - (3' x 4' x 8' or 4' x 4' x 8')
 - A. Position bale so you can get to end of bale with front end loader.
 - B. Remove twine or wrapping.
 - C. With front end loader, pull a 12" flake away from the bale so it can be picked up with loader bucket - or - by adding 3 or 4 teeth (12" long) to the top of your loader bucket, you can stab the end of the bale and pick up a 12" flake to lay on the mixer hay pan.
3. **ROUND BALES**
 - A. Remove twine or wrapping.
 - B. Cut bale with a ROTO-BALE CUTTER a minimum of 5 times to part the bale into a minimum of 12" chunks. More times may be desired for ease of handling.
 - C. Break bales apart by pushing into a pole with a front end loader so the hay can be loaded in quantities of approximately 200 lbs. at a time.

LOADING INSTRUCTIONS FOR HAY PROCESSOR

Load all commodities except liquids on the discharge (auger) side with the hay pan in the raised position. The raised hay pan does not affect the mixing action

1. If molasses and/or liquid protein is used, load on the rotor side of the mixer first with the mixer not running.
2. Load one (1) grain or dry commodity in a minimum amount equal to the amount of hay to be put into mixer with the mixer not running.
3. Start the mixer and run approximately one (1) minute before adding hay.
4. With the mixer running at a minimum rotor speed of 4 RPM, load prepared hay towards the front of the hay pan on discharge side of mixer. For best results, when loading with a tractor front end loader or payloader, each bucket load should not exceed 200 lbs at one time. Allow time for the hay to be processed into the mixer before loading another 200 lbs. Repeat until desired amount of hay is processed (**DO NOT OVERLOAD**). Let the mixer run until desired length of hay is reached.
5. Finish loading dry commodities.
6. Load wet feeds, such as silage, after all commodities and hay are in the mixer.
7. If water is to be added to the ration - **Do this last!**

MIXER INFORMATION

The mixer trailers are equipped with recapped tires with a new tread cap.

LUBRICATION CHART

SHUT OFF POWER BEFORE LUBRICATING THE MACHINE.

LOOSE OR FLOPPY CLOTHING SHOULD NOT BE WORN BY THE OPERATOR.

OIL BATH: Fill the oil bath with 30 weight motor oil to sight plug level. Change as needed.

GREASE BANK: Grease every 100 hours.

FRONT END BEARINGS: Grease every 100 hours.

GEARBOX: Prior to operation, remove the uppermost plug and replace with vent plug provided. After the first 100 hours of operation, drain the initial oil, preferably warm. Flush the gear case with an approved nonflammable, nontoxic solvent and refill with oil. Thereafter oil should be changed every 2500 hours or every 12 months, whichever occurs first. Fill the gearbox with 1-1/2 pints of (Mobil Delvac *Synthetic Gear Lube 75W-90*).



STATIONARY POWER CHART

450-12

STATIONARY COMPOST MIXER

ELECTRIC BELT RATIO

60HP-1780 RPM 5V-2 Groove 16" &
5V-3 Groove 10.9"
2 Belts....5V-1060

STATIONARY COMPOST CONVEYOR

ELECTRIC BELT RATIO

10HP-1760 RPM 3V-3 Groove 3.35" &
3V-3 Groove 14.0"
3 Belts 3VX-850

CHAIN RATIO

60 SDS 18 Sprocket &
60 SK 40 Sprocket

450-12 SPECIFICATIONS

Capacity (Cu. ft.).....	465
Struck level capacity (Cu. ft.)	510
Top Auger Bearing (Front)	2-7/16" 4-Bolt
Top Auger Bearing (Rear)	3-1/2" 4-Bolt
Bottom Auger Bearing (Front).....	2-7/16" 4-Bolt
Bottom Auger Bearing (Rear).....	4" 4-Bolt
Rotor Bearing (Front)	2-15/16" 4-Bolt
Rotor Bearing (Rear).....	3-1/2" 4-Bolt
Top Auger Sprockets	100 B 60 & 120 A 24
Bottom Auger Sprockets.....	120 B 54H & 140 C 12H
Rotor Sprocket	140 A 86
Jackshaft Sprockets	80 SF 48 & 100 B 17H Trk & Stat 1000 PTO 100 E 25H & 100 B 13H - Trl 540 PTO
Drive Sprockets.....	80 SK 19H - Trk & Stat 1000 PTO 100 SF 15H - Trl 540 PTO
Top Auger Flighting	3/8" x 24"OD RH 16" Pitch
Bottom Auger Flighting.....	1/2" x 24"OD RH & LH Full Pitch
Tub Bottom Construction	1/4" Steel
Auger Bottom Construction.....	1/4" Steel
Right Side Sheet Construction.....	3/16" Steel
Left Side Sheet Construction	3/16" Steel
Front End Sheet Construction.....	1/4" Steel
Rear End Sheet Construction.....	1/4" Steel

PTO CHART
450-12

	PTO (% ENGINE SPEED)	GEARBOX RATIO	INPUT SPROCKET	JACKSHAFT SPROCKET
DIESEL	(80-85)			
AUTOMATIC	250 ft./lb. min.	2:1 Gearbox	19 Tooth	17 Tooth
TRANS	Engine rotation			48 Tooth

(For other engine or transmission applications, consult factory.)

1000 PTO TRACTOR DRIVE (STANDARD)		15 Tooth		13 Tooth 48 Tooth
--	--	----------	--	----------------------

540 PTO TRACTOR DRIVE (OPTIONAL – REQUIRES HEAVY DRIVELINE)		15 Tooth		13 Tooth 25 Tooth
--	--	----------	--	----------------------

STATIONARY 1750 RPM ELECTRIC	BELT RATIO 50HP 5V-2 Groove 16" & 5V-3 Groove 10.9" 2 Belts 5V-1060
	40HP 5V-2 Groove 16" & 5V-3 Groove 10.9" 2 Belts 5V-1060

NOTE: IF OPTIONAL HAY PROCESSOR IS INSTALLED A 50HP MOTOR IS REQUIRED.

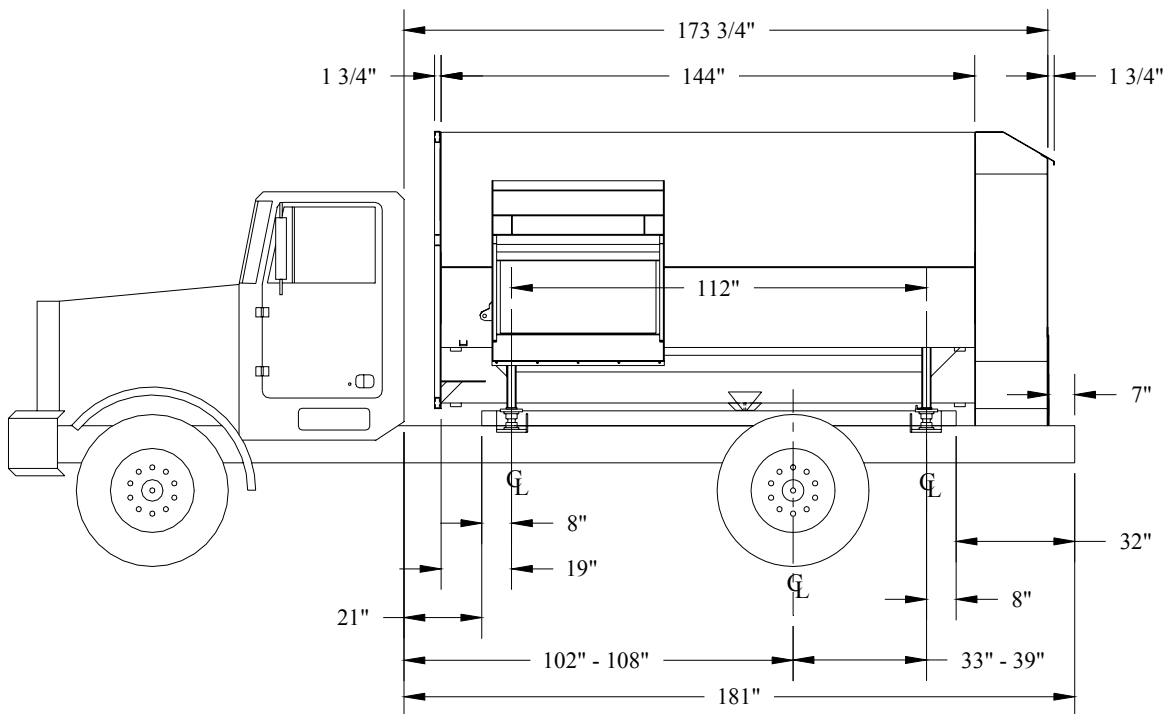
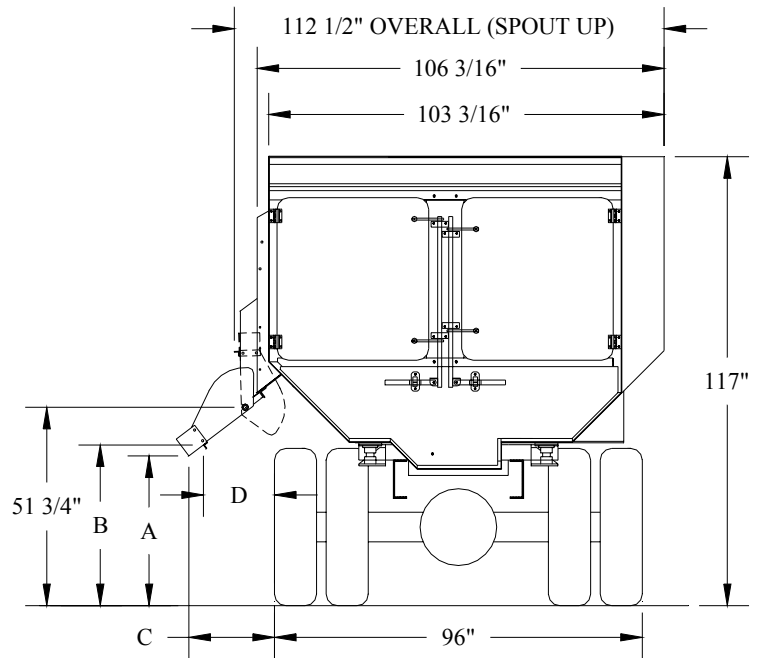
450-12 TRUCK DIMENSIONS

**HEIGHT DIMENSIONS BASED ON
38" TRUCK FRAME**

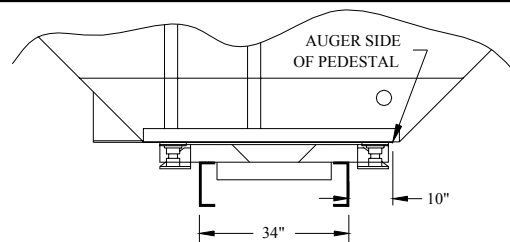
**ADD 3 1/2" TO HEIGHT IF CROSS
OVER BARS ARE INSTALLED.**

**APPROXIMATE WEIGHT
450-12 ON TRUCK..... 13,225 lb**

	14" SPOUT	24" SPOUT
A	35-1/2"	28"
B	40"	34"
C	26"	35"
D	18"	26"



450-12 TRUCK MOUNTING DIMENSIONS



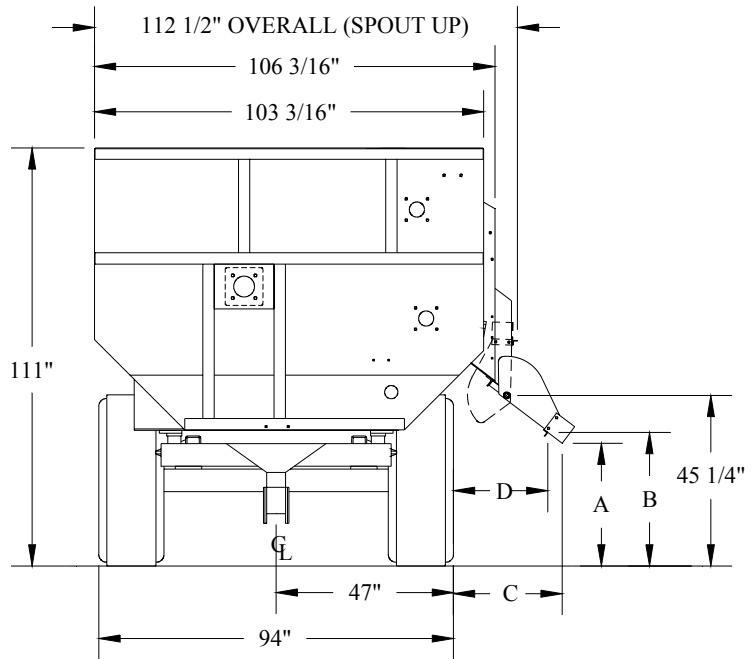
All Dimensions & Specifications are Approximate and Subject to Change Without Notice.

450-12 TRAILER DIMENSIONS

HEIGHT DIMENSIONS ARE BASED ON A 43" O.D. TIRE .

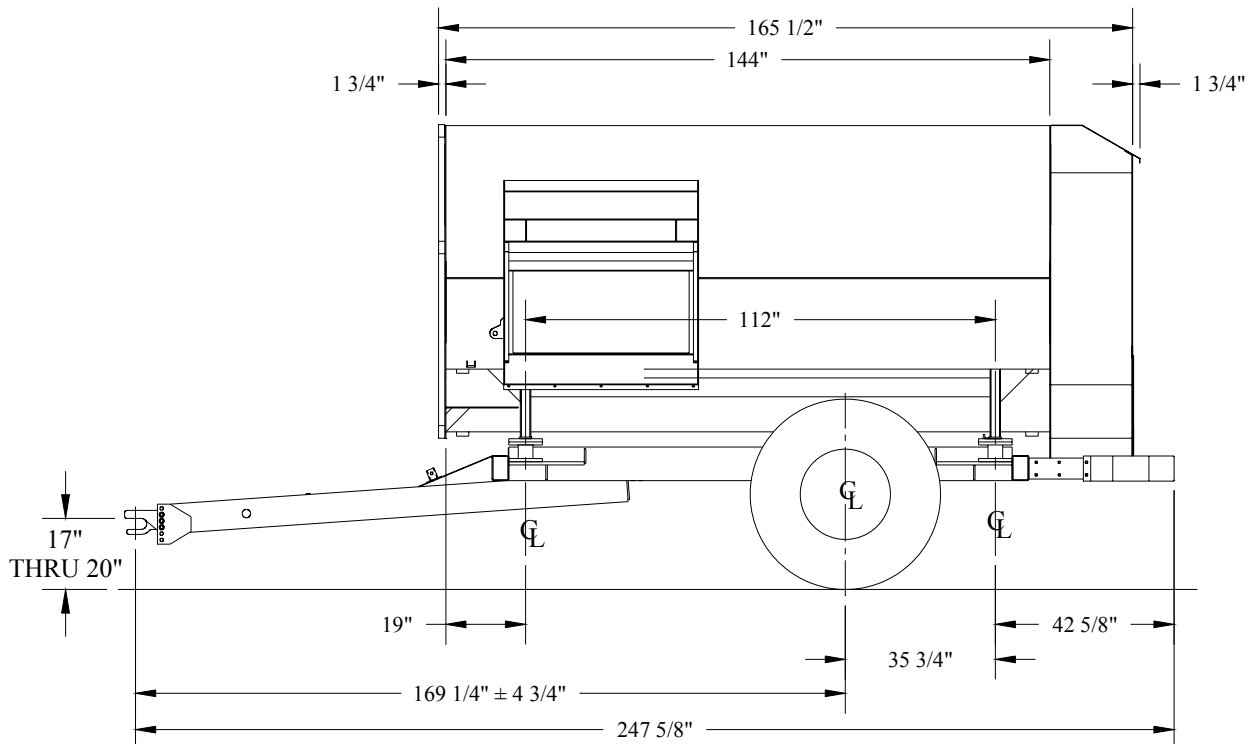
ADD 3 1/2" TO HEIGHT IF CROSS OVER BARS ARE INSTALLED.

**APPROXIMATE WEIGHT
450-12 ON TRAILER..... 14,600 lb**



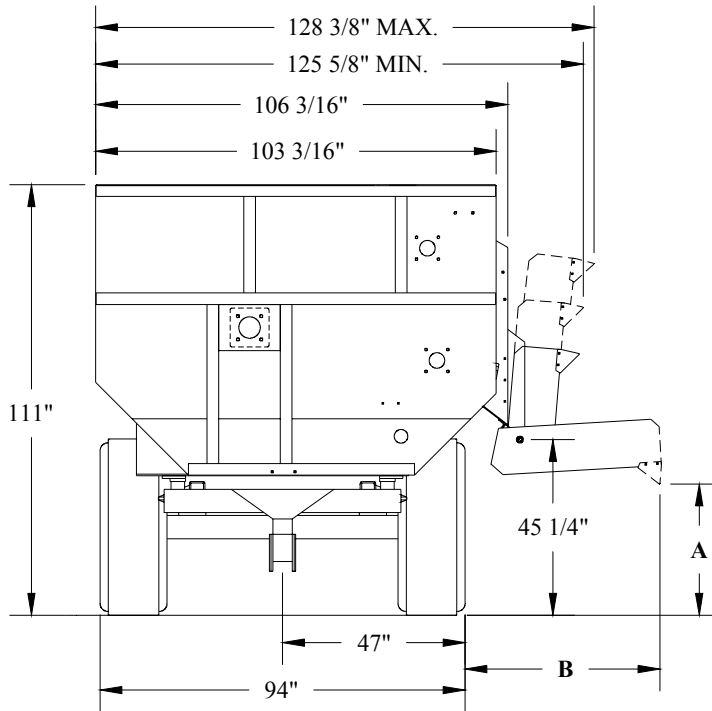
	14 SPOUT	24" SPOUT
A	29"	21 1/2"
B	33 1/2"	27 1/2"
C	28"	32"
D	20"	24"

NOTE: TIRES CAN BE MOVED IN OR OUT 4" ON EACH SIDE BY 2" INCRE-



All Dimensions & Specifications are Approximate and Subject to Change Without Notice.

450-12 TRAILER DIMENSIONS

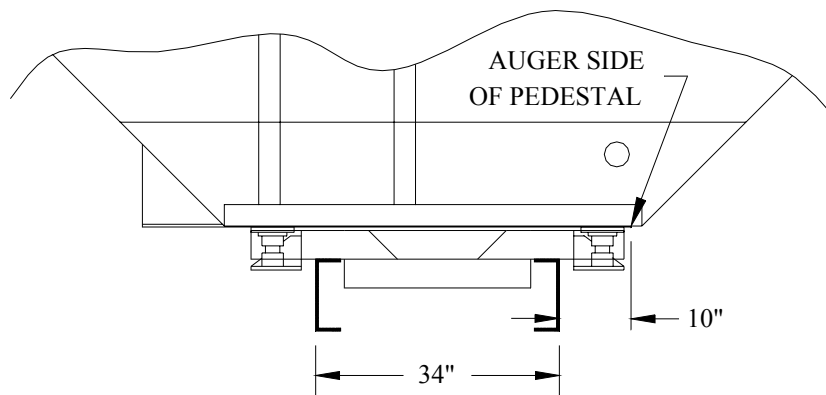


CONVEYOR WEIGHT

24" 330LB.
 36" 415LB.
 48" 500LB.

	24" CONV.		36" CONV.		48" CONV.	
	@0°	@30°	@0°	@30°	@0°	@30°
A	33"	47"	34"	53"	35"	59"
B	38"	36"	50"	48"	62"	60"

450-12 TRAILER MOUNTING DIMENSIONS



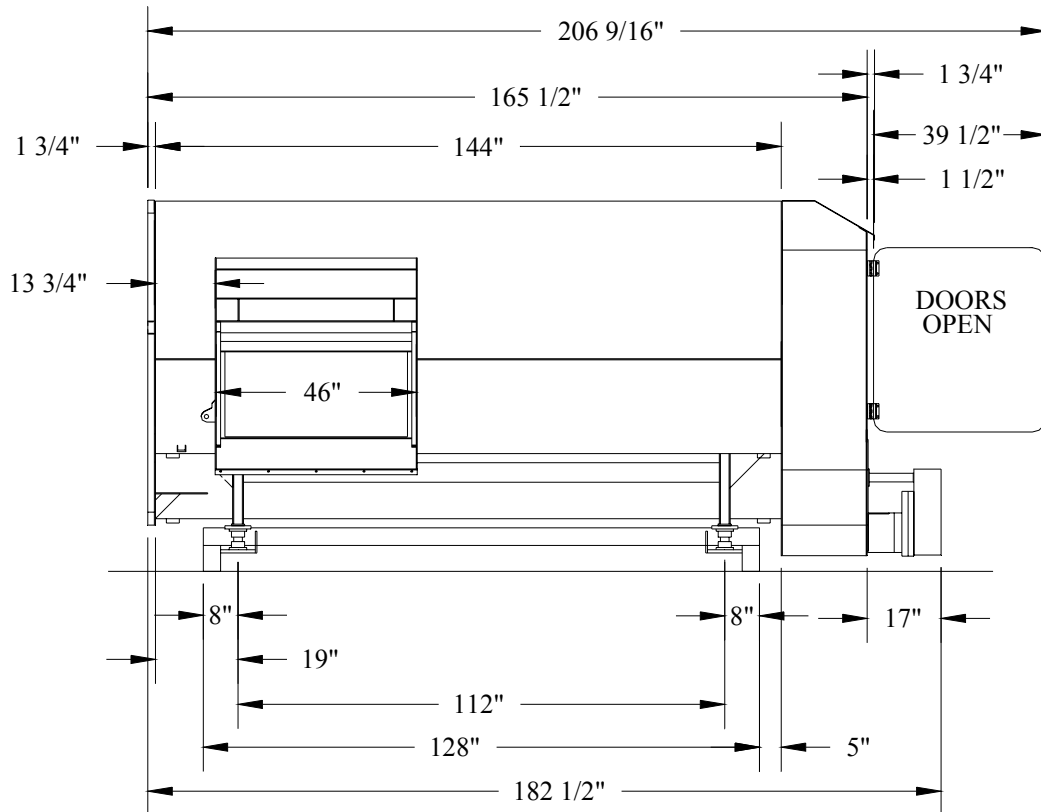
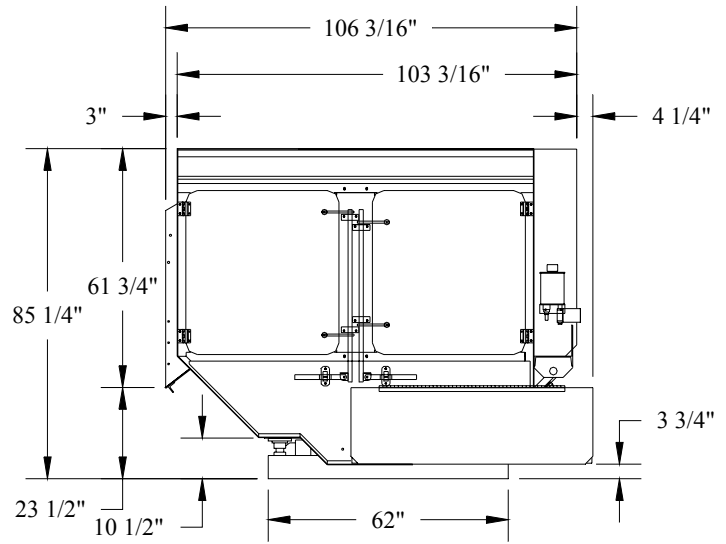
All Dimensions & Specifications are Approximate and Subject to Change Without Notice.

450-12 STATIONARY DIMENSIONS

**APPROXIMATE WEIGHT
LESS MOTOR**

450-12 STATIONARY..... 14,950 lb

**NOTE: ADD 3 1/2" TO HEIGHT IF
CROSS OVER BARS ARE INSTALLED.**

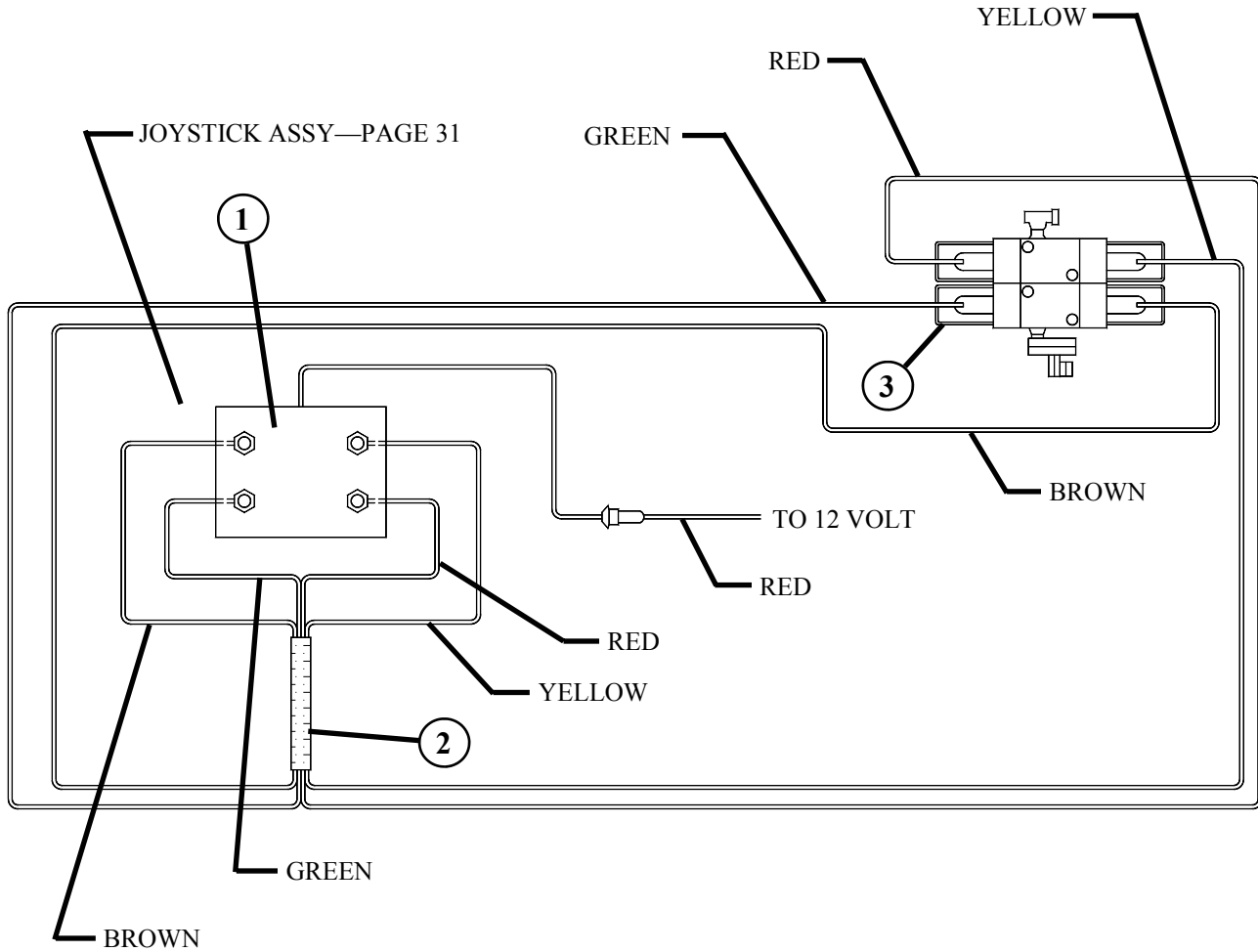


All Dimensions & Specifications are Approximate and Subject to Change Without Notice.

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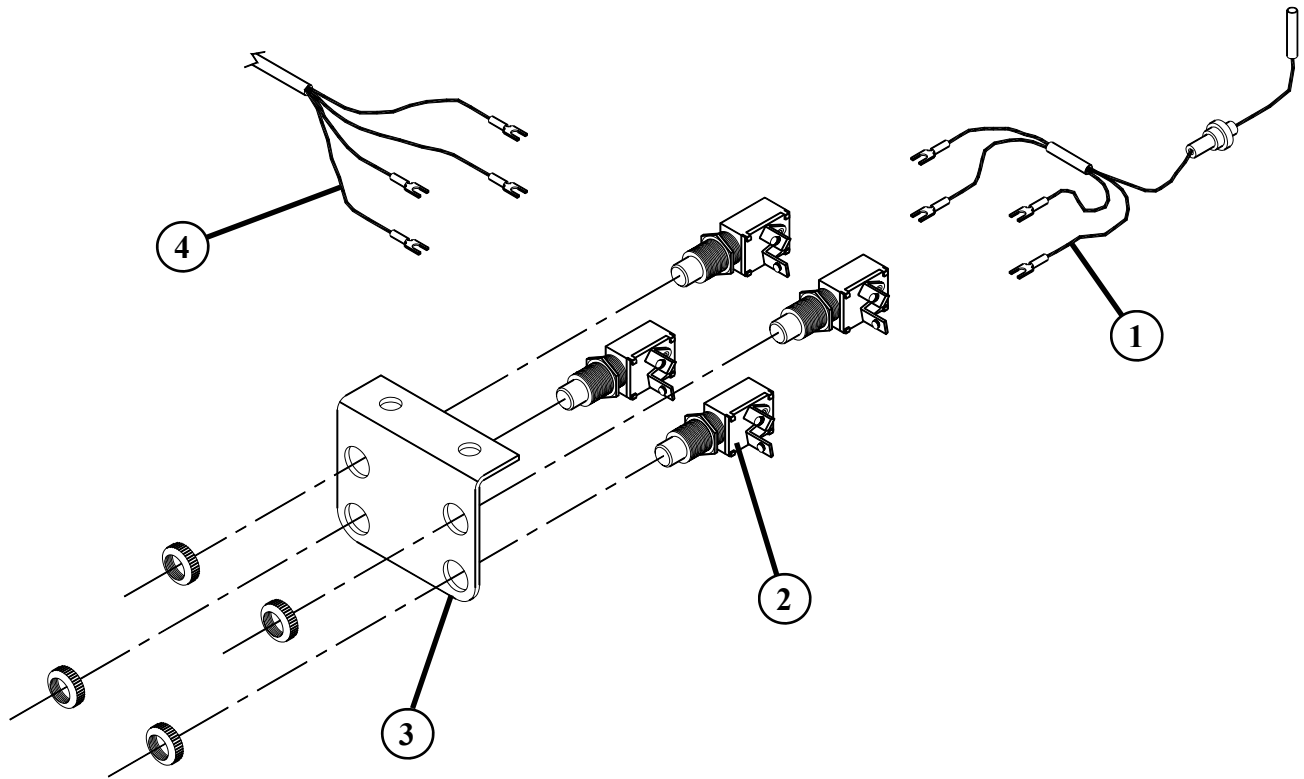
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JOYSTICK ASSEMBLY	32
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450-12 WIRING SCHEMATIC FOR STRAIGHT DOOR



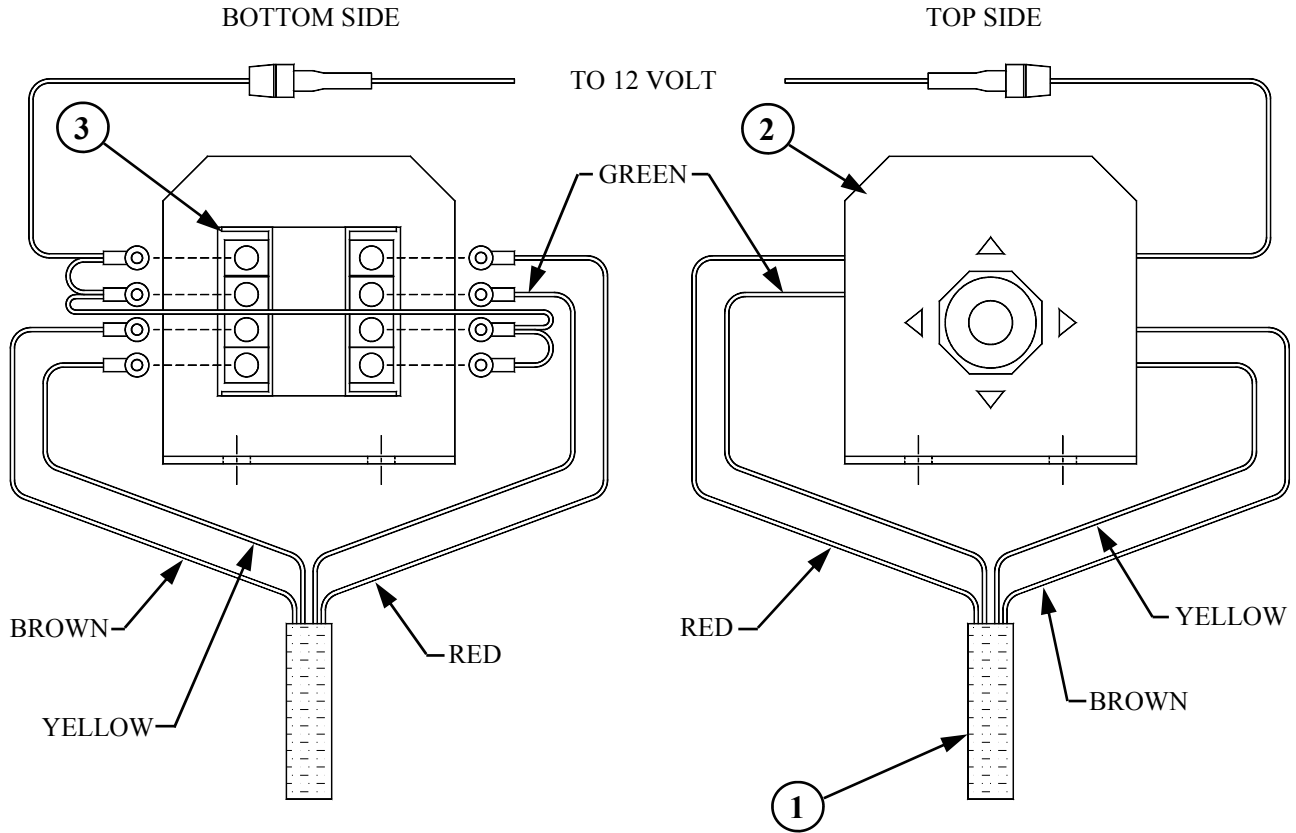
REF. NO	PART NO.	DESCRIPTION	QTY.
1			
A	780080	PUSH BUTTON SWITCH PANEL ASSEMBLY	
B	780081	JOYSTICK SWITCH PANEL ASSEMBLY	1
2	781055	TRUCK TO MIXER WIRE ASSEMBLY	1
3	780123	HYDRAULIC CONTROL VALVE	1

450-12 PUSH BUTTON SWITCH PANEL ASSEMBLY



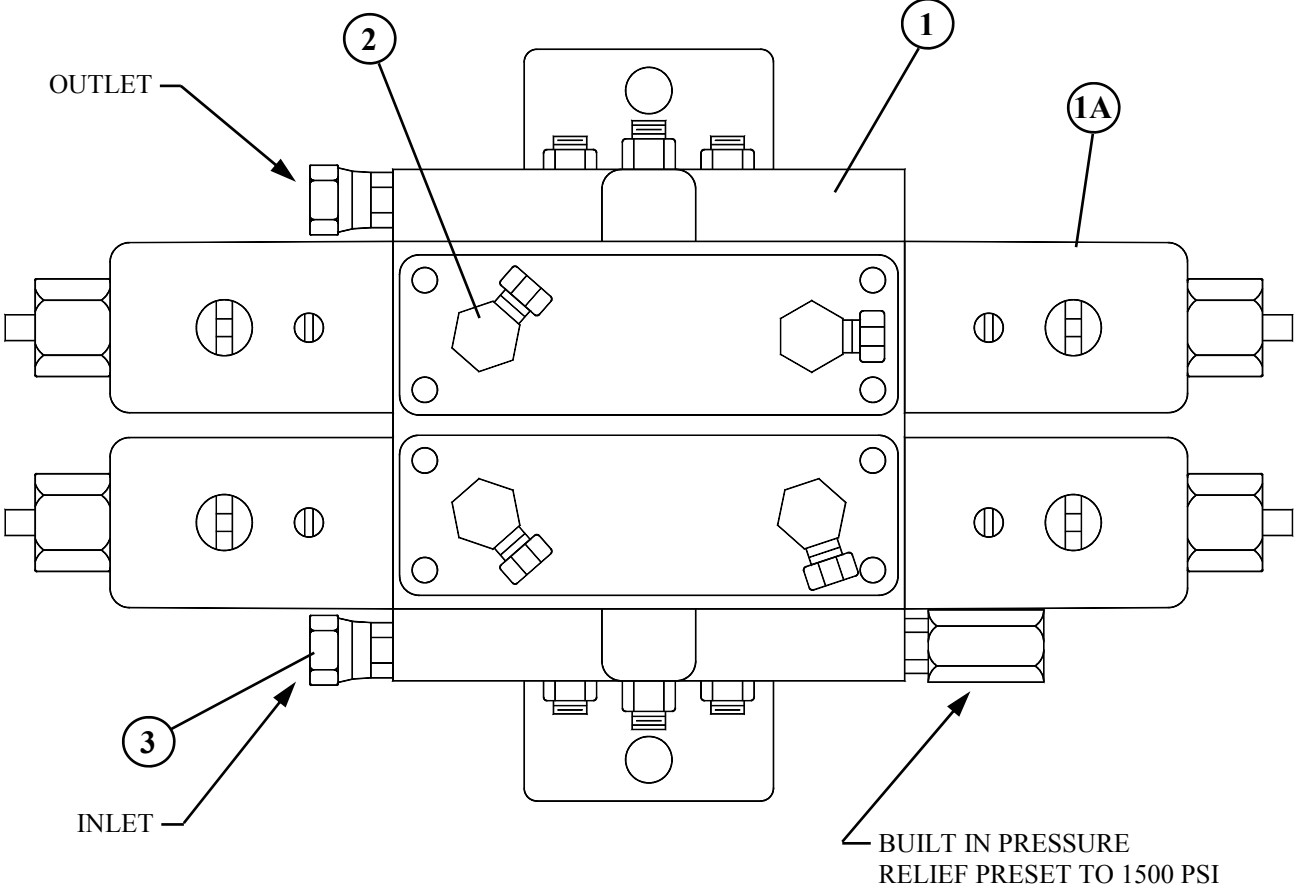
REF. NO	PART NO.	DESCRIPTION	QTY.
1	781056	SWITCH WIRE ASSEMBLY	1
2	357702	PUSH BUTTON SWITCH.....	4
3	183392	SWITCH PANEL	1
4	781055	TRUCK TO MIXER WIRE ASSEMBLY	1

450-12 JOYSTICK ASSEMBLY



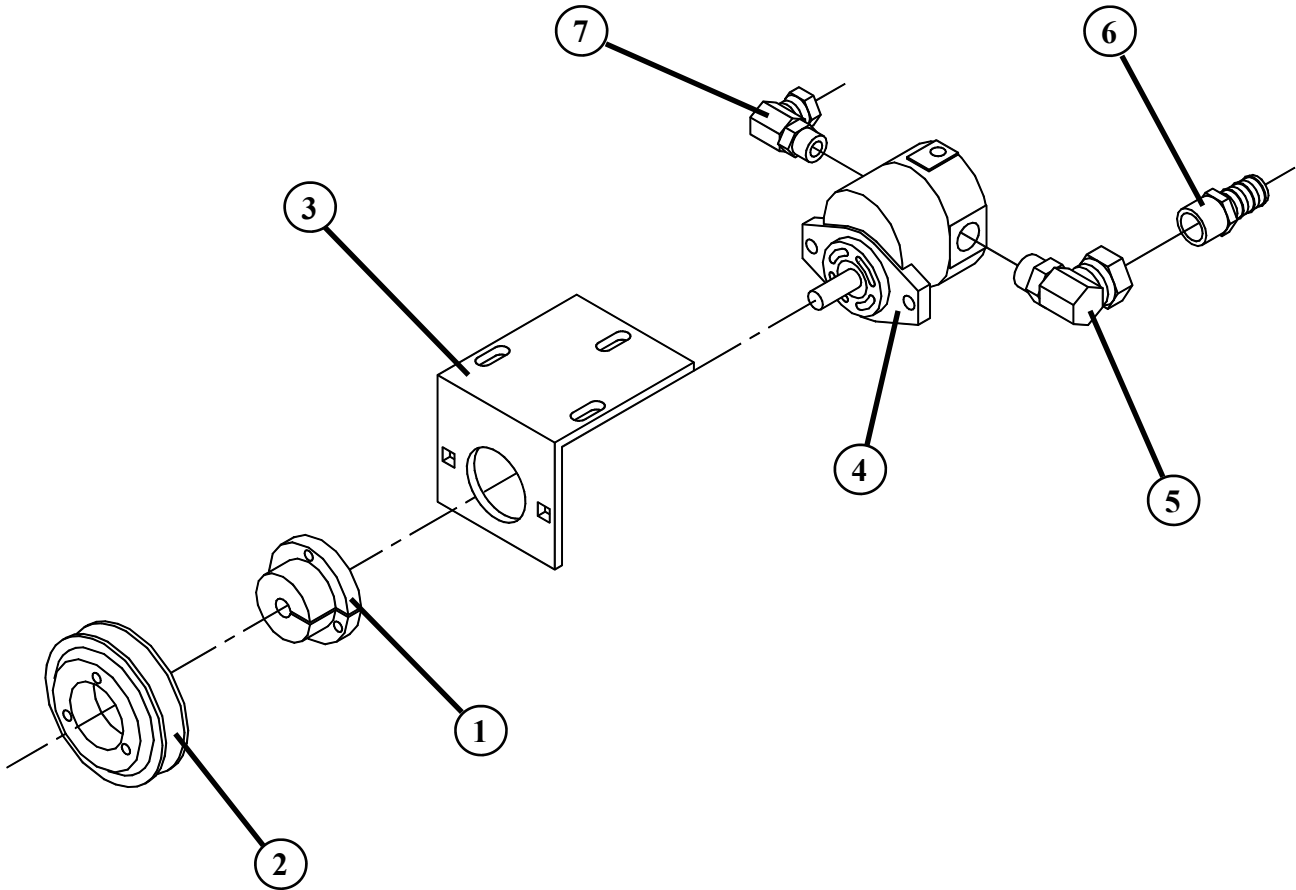
REF. NO	PART NO.	DESCRIPTION	QTY.
1	781056	SWITCH WIRE ASSEMBLY.....	1
2	185575	JOYSTICK BRACKET.....	1
3	357705	JOYSTICK SWITCH.....	1

**450-12 FLUID TECH HYDRAULIC VALVE
(780123)**



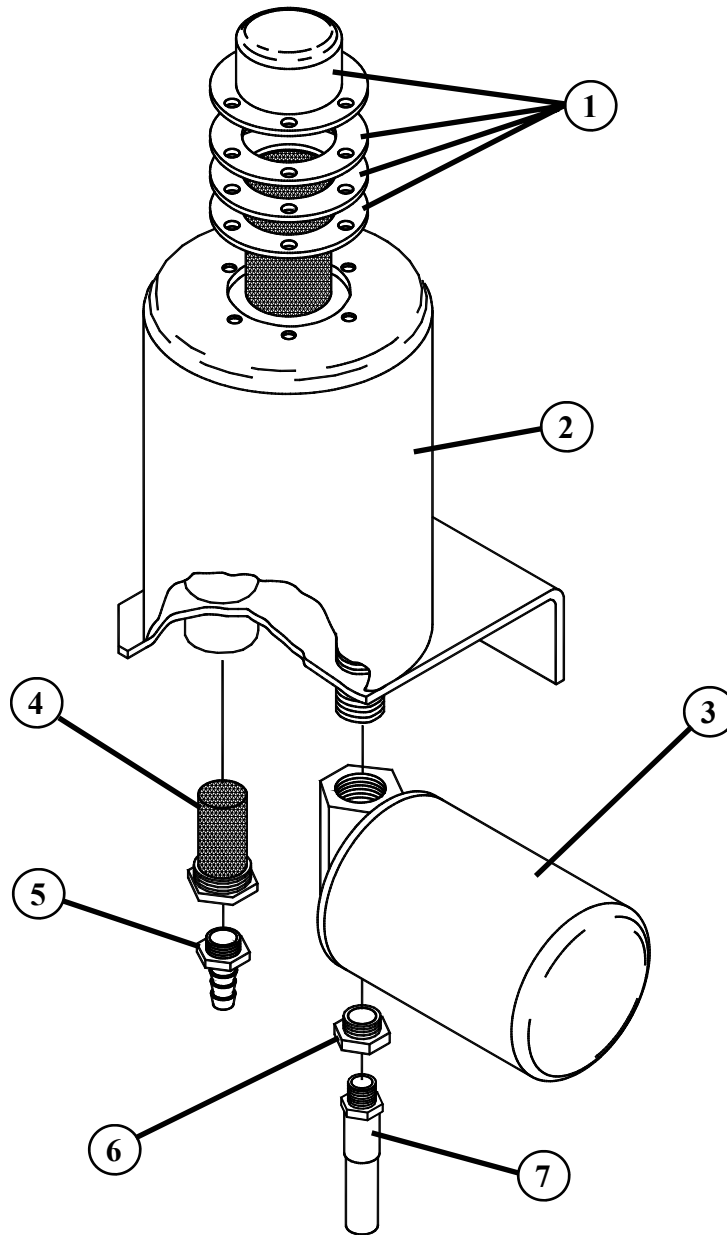
REF. NO	PART NO.	DESCRIPTION	QTY.
1	362209	FLUID TECH HYDRAULIC VALVE	1
1A	362206	12V SING MV5 HYD MCSR 1500-10-50-12-TD	2
2	368030	9/16" MOR x 3/8" FPSW 90°	4
3	368115	9/16" MOR x 3/8" FPSW STRT. ADP	2

450-12 HYDRAULIC PUMP (780064)



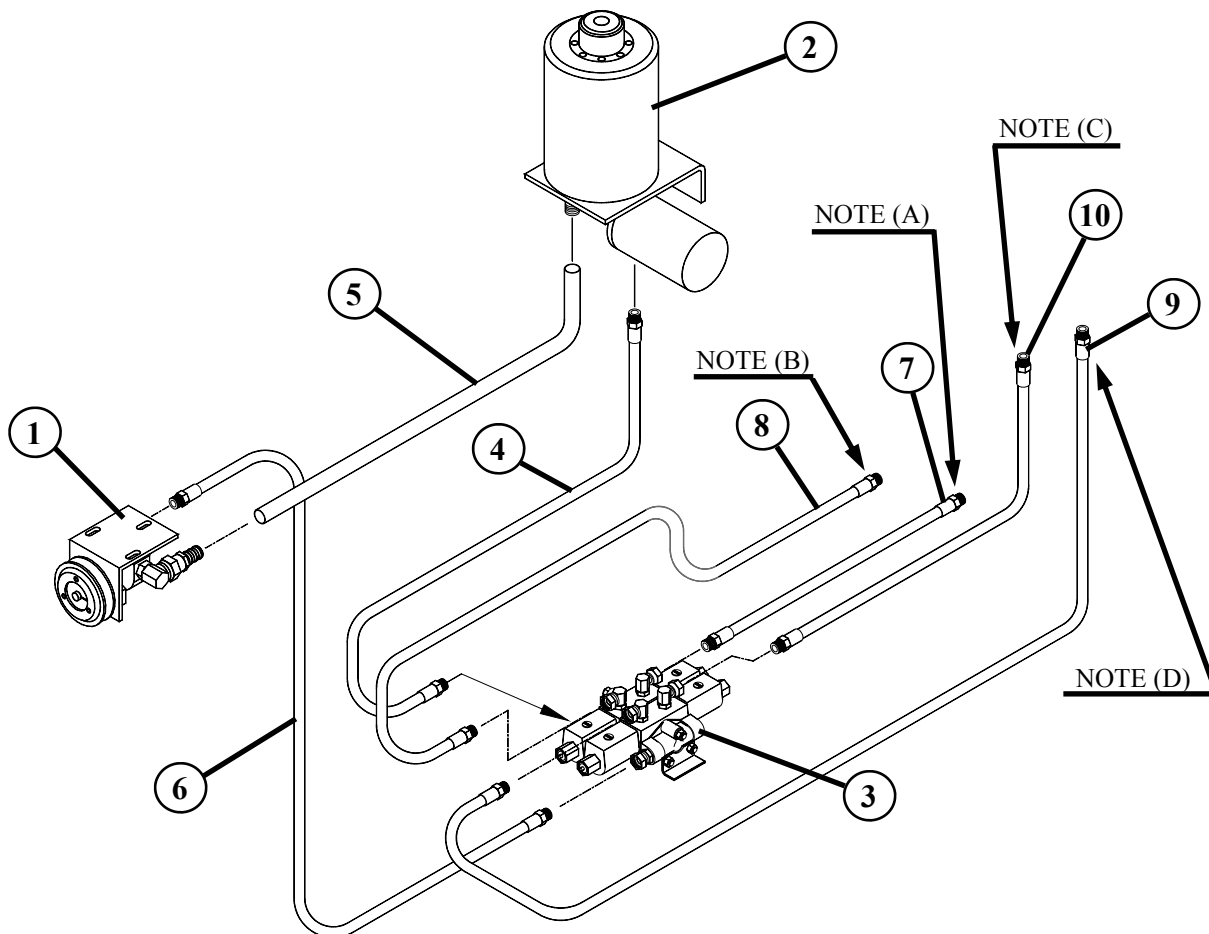
REF. NO	PART NO.	DESCRIPTION	QTY.
1	336008	SH BUSHING 1/2" BORE	1
2	324040	1B x 4.0" SH BELT SHEAVE	1
3	182766	HYDRAULIC PUMP BRACKET	1
4	362017	HYDRAULIC PUMP	1
5	368050	3/4" FP x 7/8" MOR 90° SWIVEL	1
6	368512	3/4" MP x 3/4" HOSE BARB.....	1
7	368040	3/8" FP x 3/4" MOR 90° SWIVEL	1

**450-12 OIL RESERVOIR
(780205)**



REF. NO	PART NO.	DESCRIPTION	QTY.
1	362550	FILLER CAP	1
2	870477	OIL RESERVOIR WELDMENT	1
3	362400	FILTER ASSEMBLY	1
4	362504	SUCTION SCREEN	1
5	368512	3/4" HOSE BARB	1
6	310815	3/4" TO 3/8" REDUCER BUSHING	1
7	781059	3/8" x 20" HYD. HOSE ASSY. (3/8" MP ENDS)	1

450-12 HYDRAULIC SCHEMATIC STRAIGHT DOOR



NOTE A: CONNECT TO SPOUT CYLINDER BASE

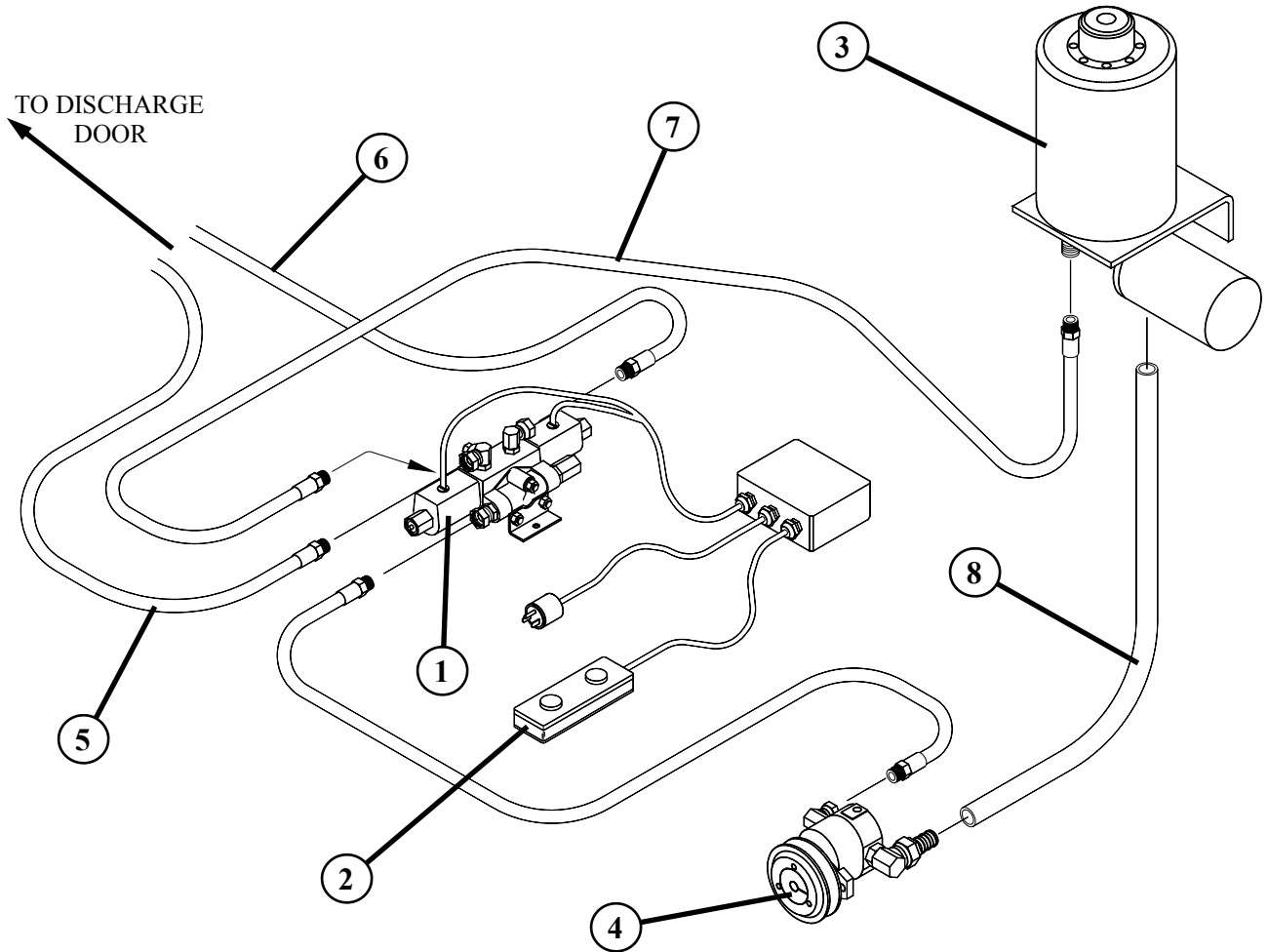
NOTE B: CONNECT TO SPOUT CYLINDER ROD END

NOTE C: CONNECT TO DOOR CYLINDER BASE

NOTE D: CONNECT TO DOOR CYLINDER ROD END

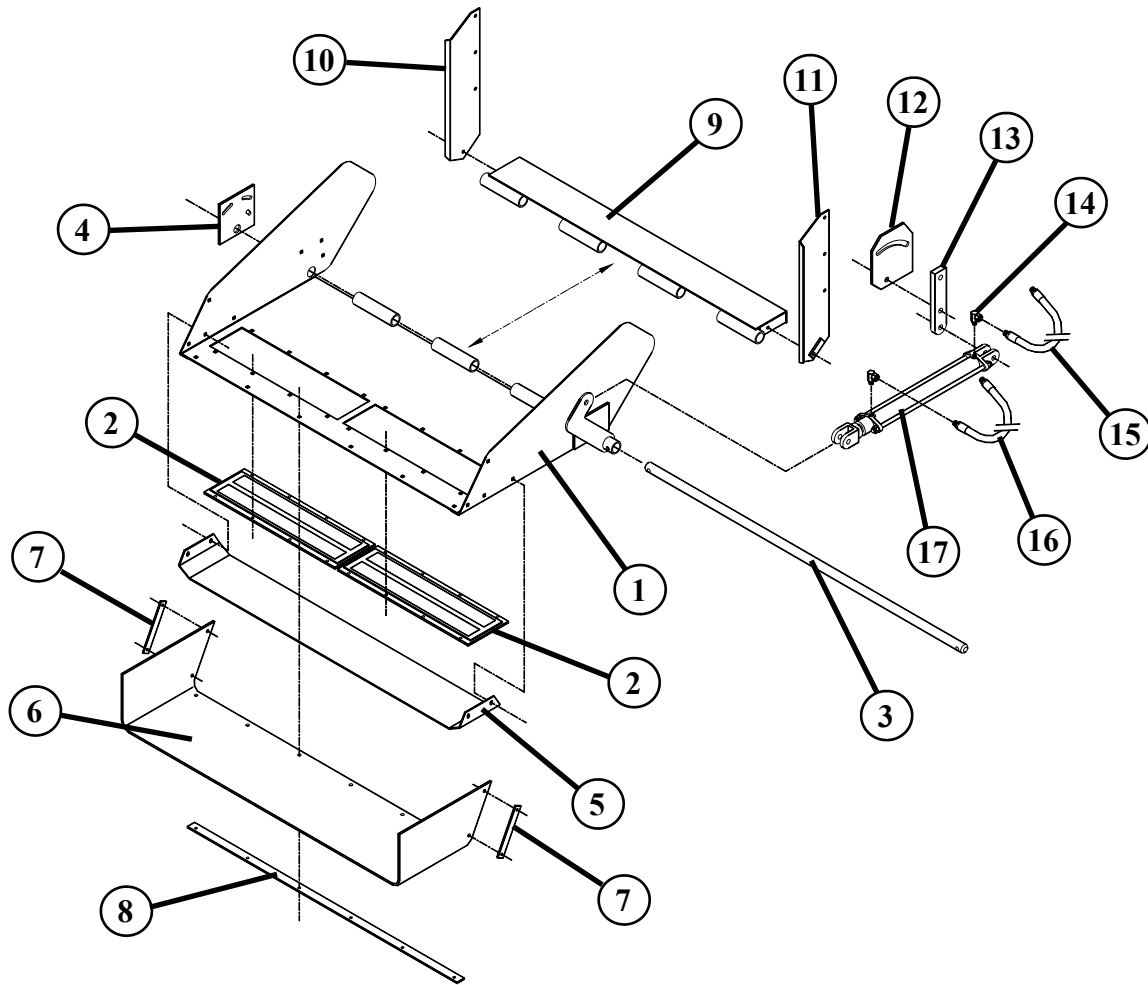
REF. NO	PART NO.	DESCRIPTION	QTY.
1	780064	HYDRAULIC PUMP ASSEMBLY.....	1
2	780205	RESERVOIR ASSEMBLY.....	1
3	780123	HYDRAULIC VALVE ASSEMBLY.....	1
4	781059	HYD. HOSE ASSY. 3/8" x 20" w/3/8" MP ENDS.....	1
5	184291	HYD. HOSE ASSY. 3/4" x 144" (SUCTION LINE).....	1
6	781073	HYD. HOSE ASSY. 3/8" x 144" w/3/8" MP ENDS.....	1
7	781066	HYD. HOSE ASSY. w/3/8" MP & 1/4" MP ENDS.....	1
8	781069	HYD. HOSE ASSY. w/3/8" MP & 1/4" MP ENDS.....	1
9	781061	HYD. HOSE ASSY. w/3/8" MP ENDS.....	1
10	781098	HYD. HOSE ASSY. w/3/8" MP ENDS.....	1

450-12 STATIONARY HYDRAULIC SCHEMATIC



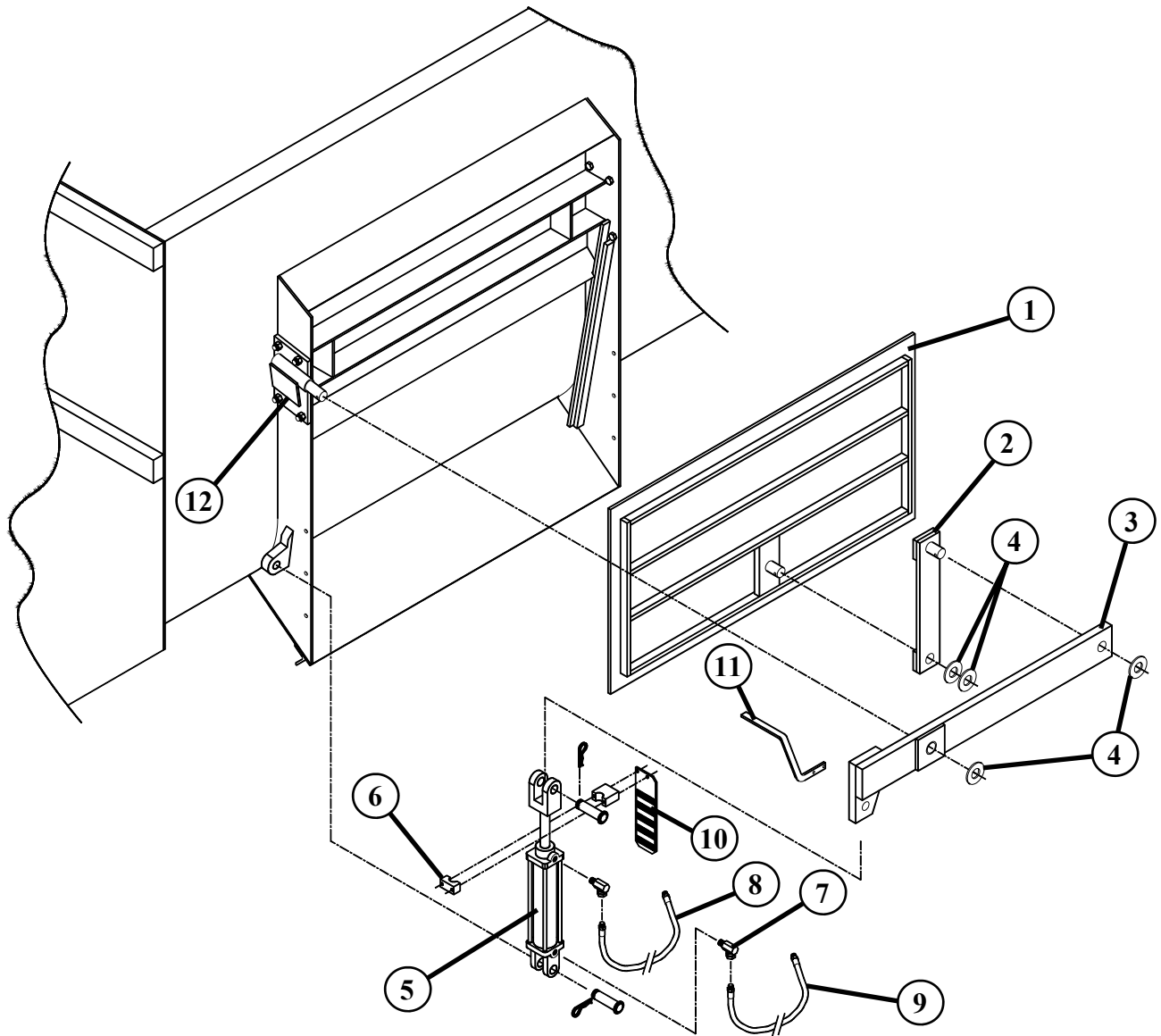
REF. NO	PART NO.	DESCRIPTION	QTY.
1	781004	HYDRAULIC VALVE ASSEMBLY	1
2	357700	PENDANT SWITCH.....	1
3	781005	OIL RESERVOIR ASSEMBLY	1
4	362010	HYDRAULIC PUMP D05AA1A.....	1
5	781075	HYD. HOSE ASSY. 3/8" x 180" WITH 3/8" MP ENDS	1
6	781077	HYD. HOSE ASSY. 3/8" x 192" WITH 3/8" MP ENDS	2
7	781099	HYD. HOSE ASSY. 3/8" x 120" WITH 3/8" MP ENDS	2
8	189088	SUCTION HOSE 3/4" x 94"	1

450-12 SPOUT ASSEMBLY



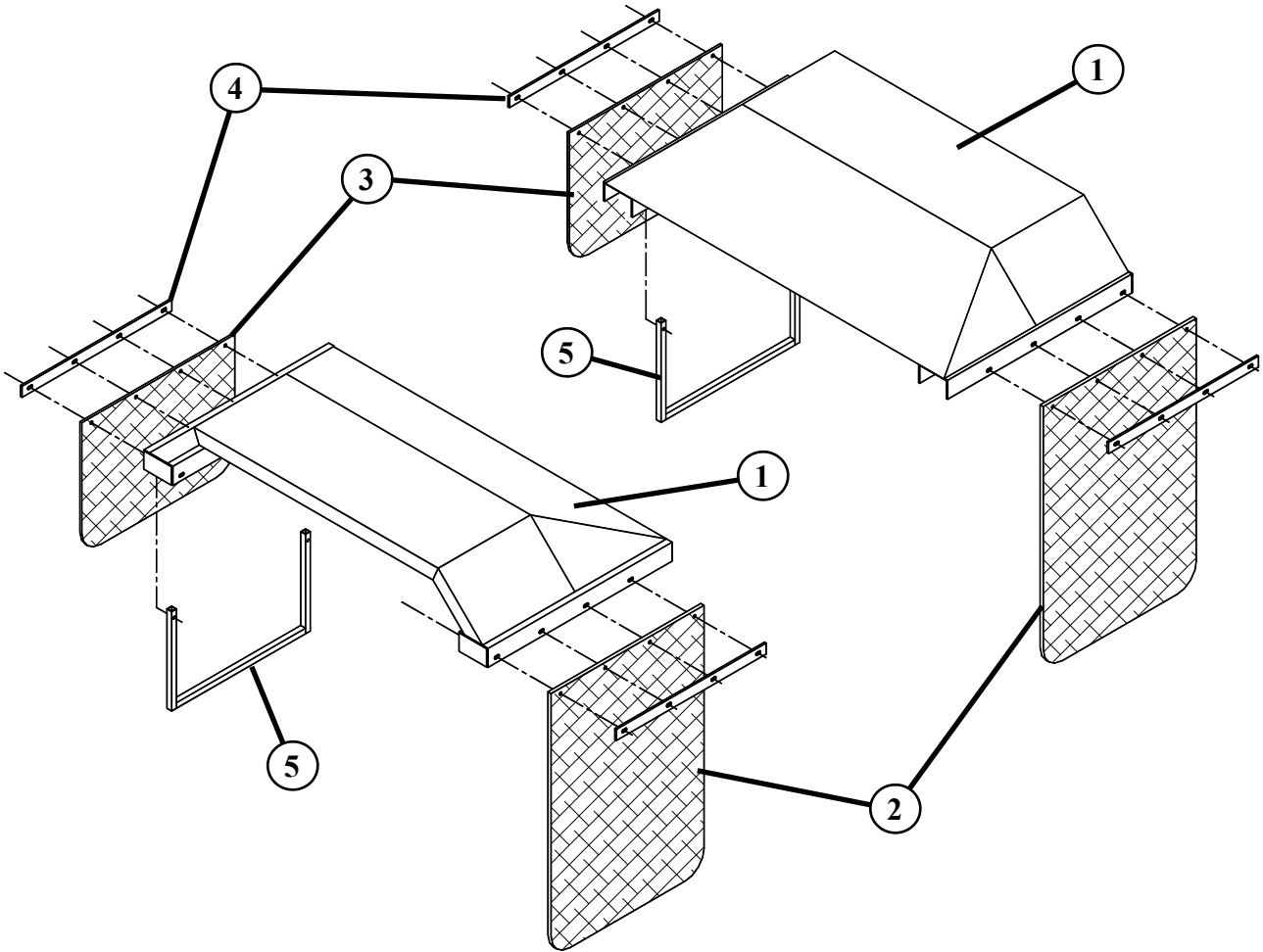
REF. NO	PART NO.	DESCRIPTION	QTY.
1	872284	24" SPOUT WELDMENT (SHOWN).....	1
	872283	14" SPOUT WELDMENT (NOT SHOWN).....	1
2	375005	AM 2200 ARCO MAGNET.....	2
3	182238	SPOUT HINGE SHAFT.....	1
4	872237	SPOUT HINGE ADJUSTMENT WELDMENT.....	1
5	189079	SPOUT MAGNET GUARD.....	1
6	183145	SPOUT RUBBER.....	1
7	183160	BACK-UP STRAP.....	2
8	183152	BACK-UP ANGLE 47".....	1
9	873034	SPOUT HINGE WELDMENT.....	1
10	187091	SPOUT HINGE LEFT HAND SIDE.....	1
11	873072	SPOUT HINGE RIGHT HAND SIDE WELDMENT.....	1
12	185895	SPOUT CYLINDER BRACKET.....	1
13	185896	SPOUT CYLINDER BAR.....	1
14	368011	HYD. ADAPTER 1/4"MP x 1/4" FPSW 900 1/16" ORFICE.....	2
15	781066	HYD. HOSE 3/8" x 60" (3/8"MP x 1/4"MP).....	1
16	781069	HYD HOSE 3/8" x 76" (3/8"MP x 1/4"MP).....	1
17	364040	HYDRAULIC CYLINDER 1 1/2" x 16".....	1

450-12 DISCHARGE DOOR ASSEMBLY



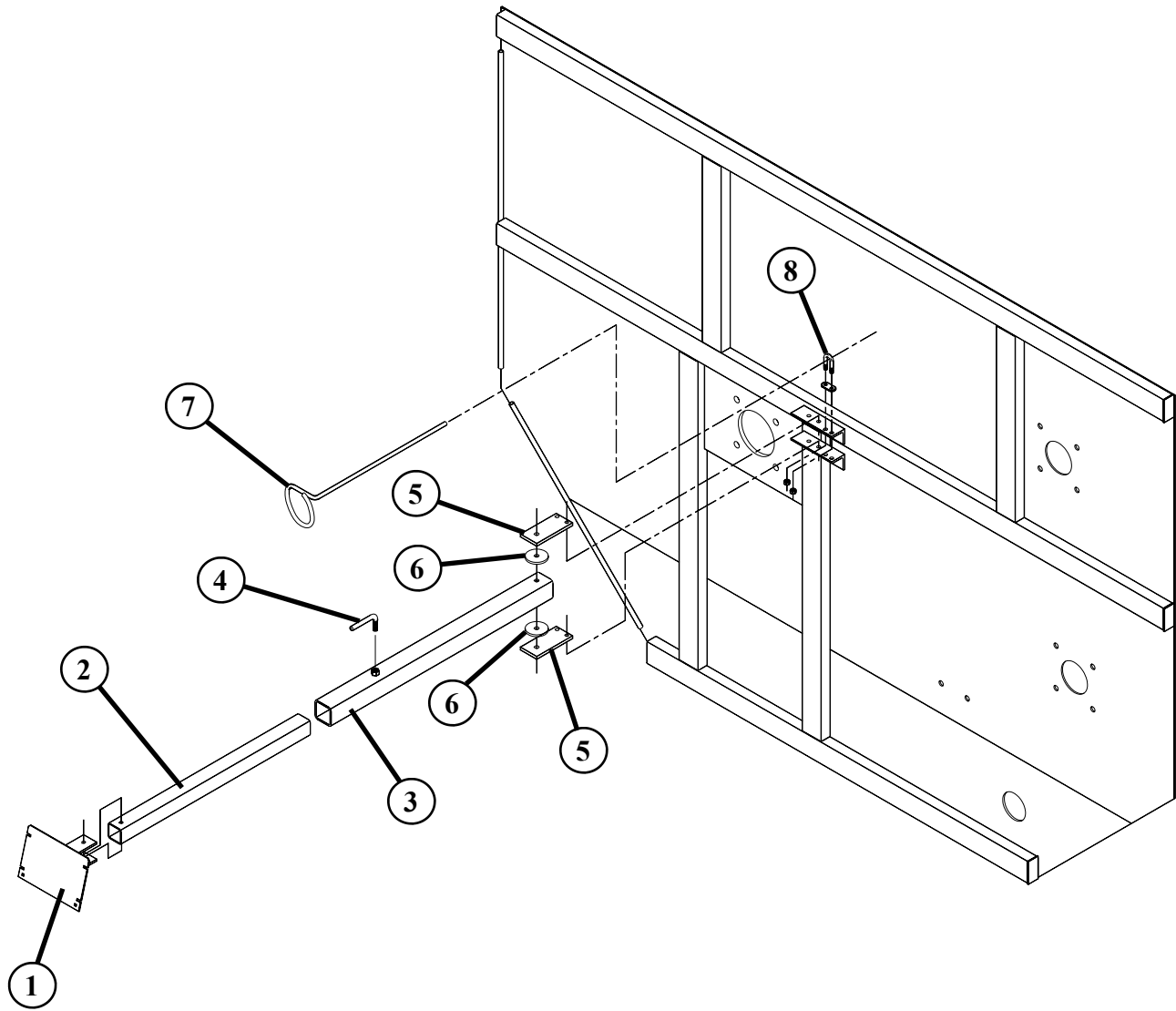
REF. NO	PART NO.	DESCRIPTION	QTY.
1	873118	STRAIGHT DOOR PLATE WELDMENT 46"	1
2	872248	STRAIGHT DOOR ARM WELDMENT	1
3	873119	STRAIGHT DOOR LEVER ARM WELDMENT.....	1
4	402518	FLAT WASHER 1 1/8" SAE	4
5	364055	HYDRAULIC CYLINDER 2" x 8"	1
6	184267	DOOR CYLINDER MARKER CLAMP (2 PIECE)	1
7	368007	HYD. ADAPTER 3/8"MP x 3/8"FPSW 90° x .109" ORFICE	2
8	781061	HYD. HOSE 3/8" x 42" (3/8"MP ENDS).....	1
9	781098	HYD. HOSE 3/8" x 32" (3/8"MP ENDS).....	1
10	184259	DOOR CYLINDER MARKER PLATE (TRUCK)	1
11	150385	DOOR MARKER BAR (TRAILER).....	1
12	872258	PIVOT PIN PLATE W.A.	

450-12 FENDERS



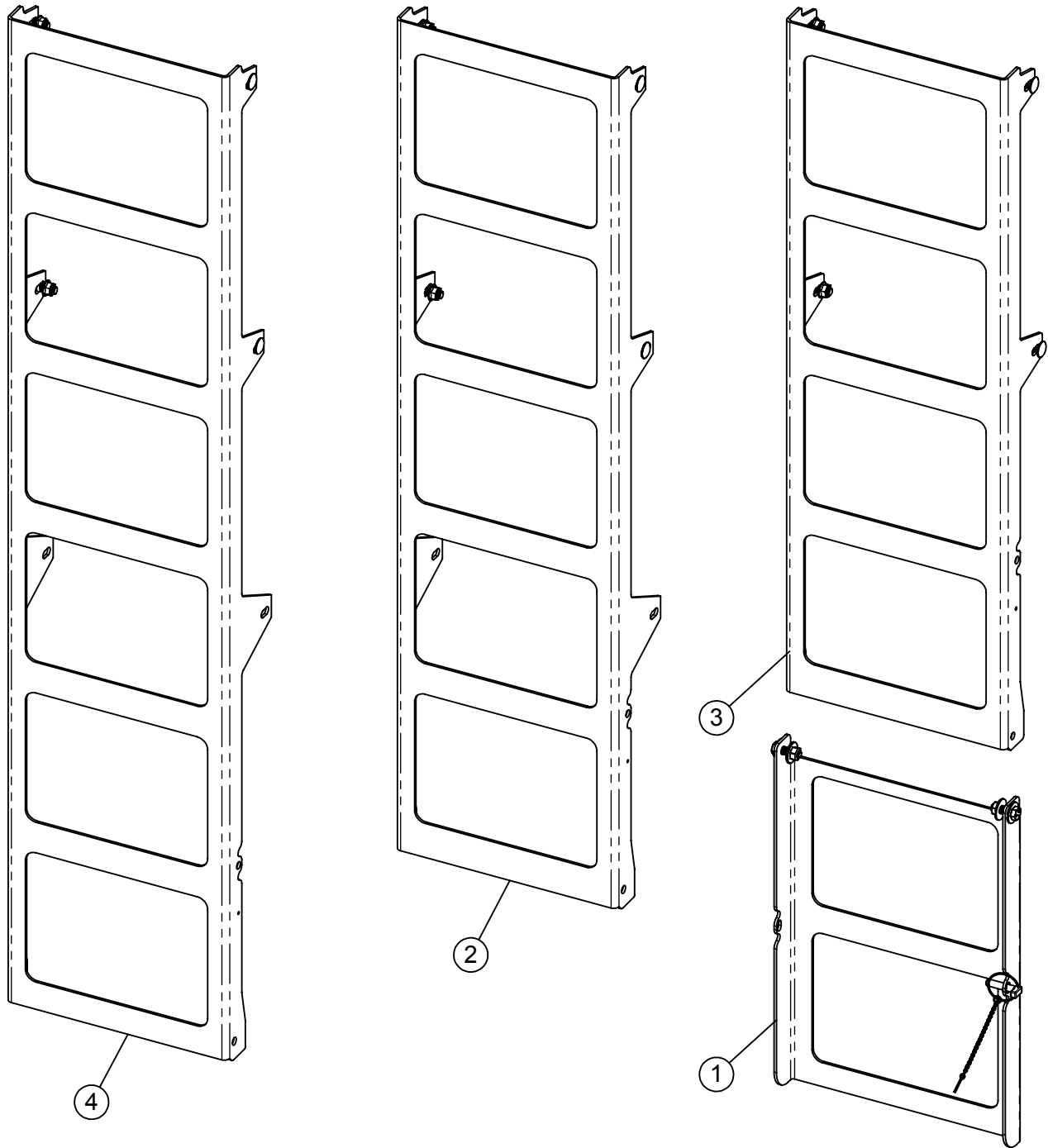
REF. NO	PART NO.	DESCRIPTION	QTY.
1	872108	SINGLE AXLE FENDER WELDMENT	2
2	370200	REAR MUD FLAP	2
3	370202	FRONT MUD FLAP	2
4	183087	MUD FLAP STRAP	4
5	872120	MUD FLAP BRACKET WELDMENT	2

450-12 SCALE INDICATOR ARM ASSEMBLY



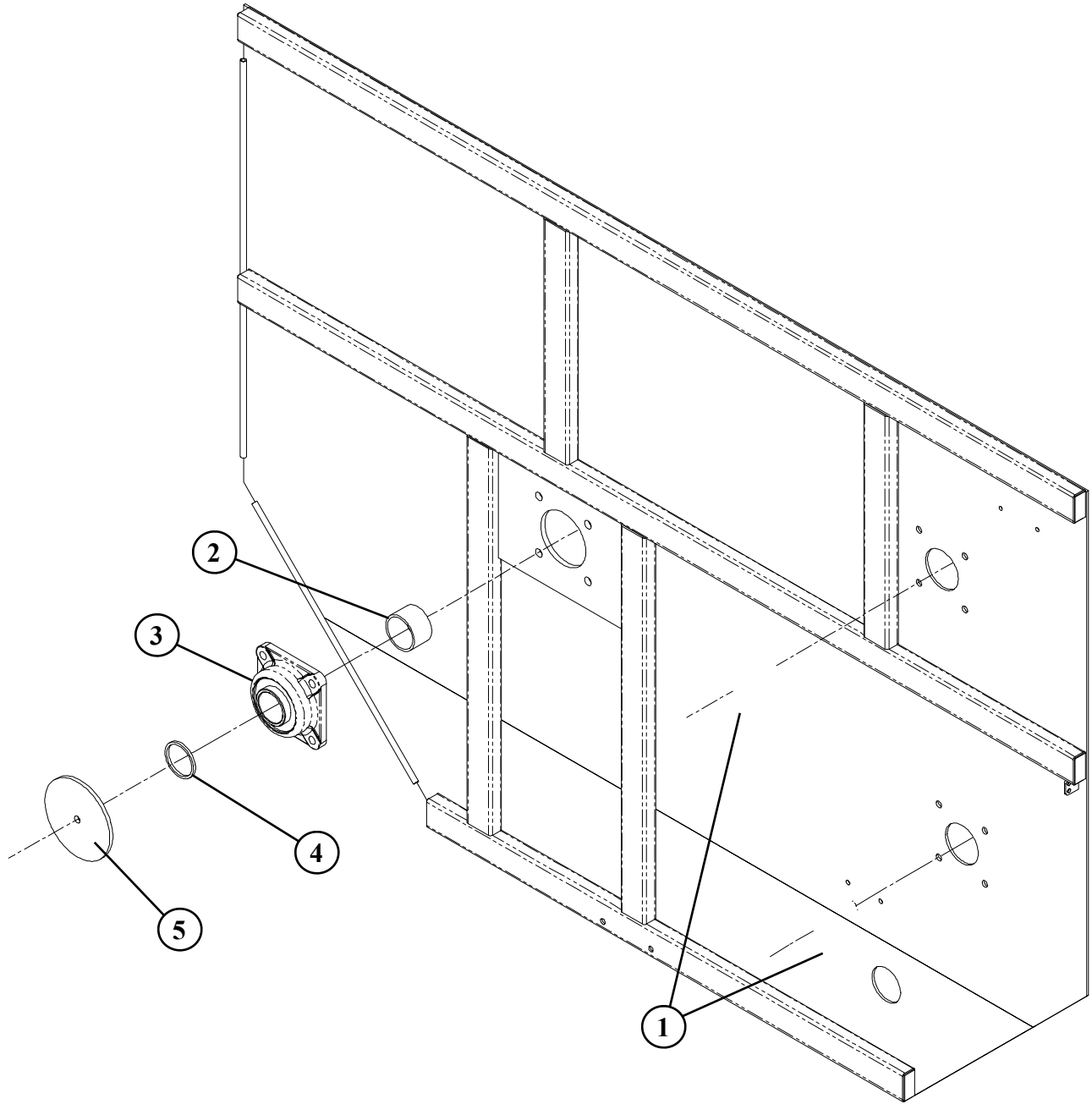
REF. NO	PART NO.	DESCRIPTION	QTY.
1	872126	TRAILER SCALE INDICATOR ARM WELDMENT	1
2	185490	TRAILER SCALE INDICATOR TUBE.....	1
3	872125	TRAILER SCALE ARM WELDMENT	1
4	185492	LOCKING HANDLE 1/2"	1
5	185491	SCALE ARM HINGE PLATE.....	2
6	185493	SCALE HINGE WASHER.....	2
7	184283	HOSE CARRIER.....	1
8	412205	CABLE CLAMP 3/8".....	1

LADDER OPTIONS AVAILABLE



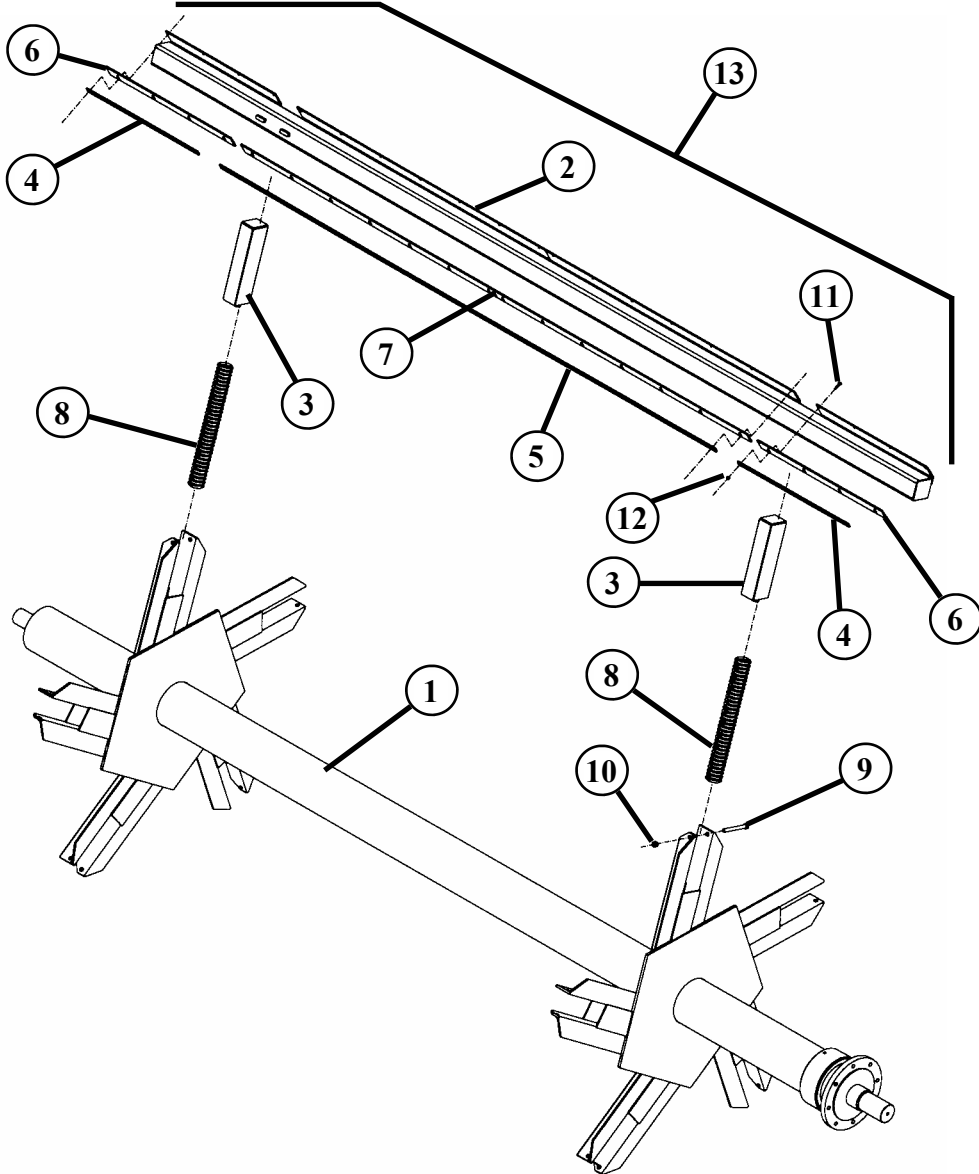
ITEM #	PART #	DESCRIPTION	QTY.
1	780095	LADDER BUNDLE, (2 RUNG EXTN)	1
2	780288	LADDER BUNDLE, (6 RUNG)	1
3	780289	LADDER BUNDLE, (5 RUNG)	1
4	780906	LADDER BUNDLE, (7 RUNG)	1

450-12 FRONT END BEARING ASSEMBLY



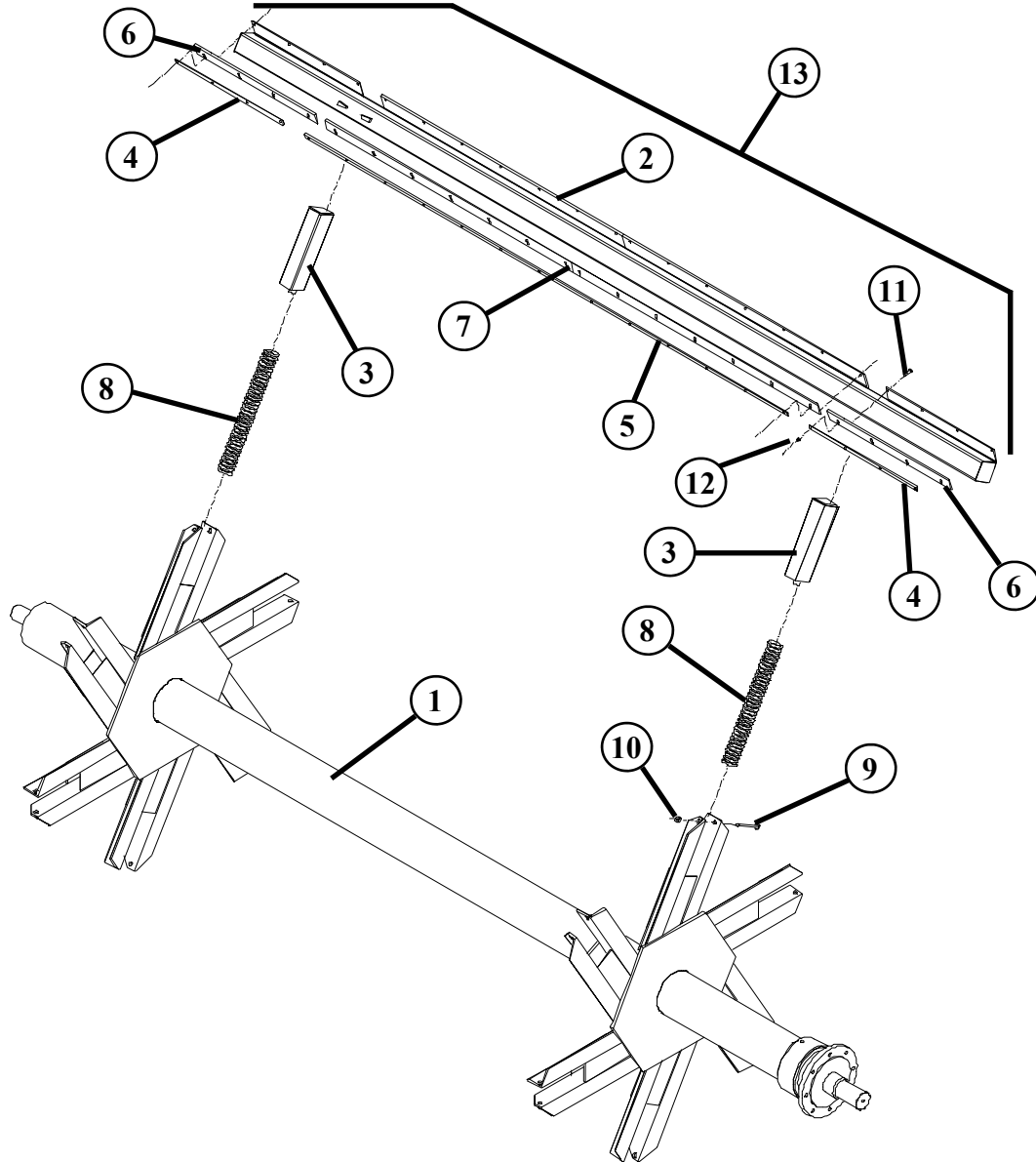
REF. NO	PART NO.	DESCRIPTION	QTY.
1	340439	BEARING 4-BOLT 2 7/16" RCJC.....	2
2	185889	SHAFT SPACER 2 1/8" x 3 1/16" I.D.....	1
3	340447	BEARING 4-BOLT 2 15/16" RCJ.....	1
4	185316	SHAFT SPACER 1/4" x 3 1/16".....	1
5	185258	ROTOR INDICATOR PLATE.....	1

450-12 5-ARM ROTOR ASSEMBLY



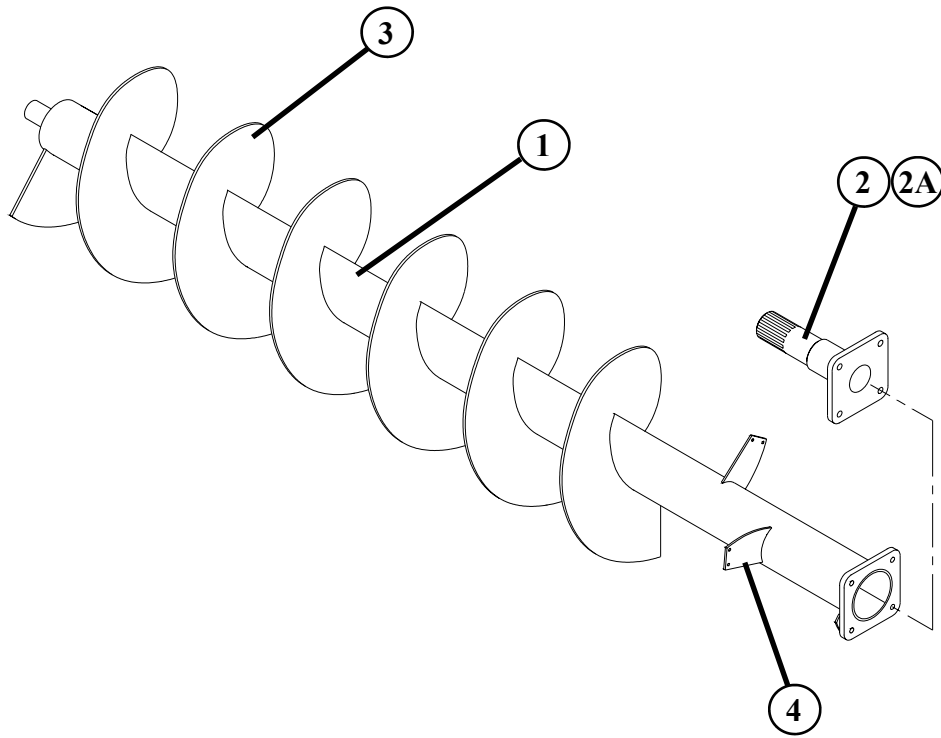
PART	NO.	DESCRIPTION	QTY.
1	872668	450 5-ARM ROTOR WELDMENT.....	1
2	850006	ROTOR SQUARE WIPER WELDMENT.....	5
3	850007	ROTOR SPRING COVER WELDMENT	10
4	150014	END WIPER STRAP 19 1/2"	10
5	150013	CENTER WIPER STRAP 90 1/2"	5
6	150016	END PLASTIC WIPER 22 1/2".....	10
7	150015	CENTER PLASTIC WIPER 94 1/2"	5
8	410005	COMPRESSION SPRING 2 1/2" x 24" x .406"	10
9	406489	HHCS 3/4"-10 x 6", #8 PLTD.....	10
10	400912	HEX CENTER LOCK NUT 3/4".....	10
11	405654	HHCS 3/8-16 x 1 1/4"	80
12	401106	HEX NYLOCK NUT 3/8"-16	80
13	750004	WIPER ASSEMBLY (INCLUDES #'S 2, 4, 5, 6, 7, 11 &12).....	5

450-12 6-ARM ROTOR ASSEMBLY



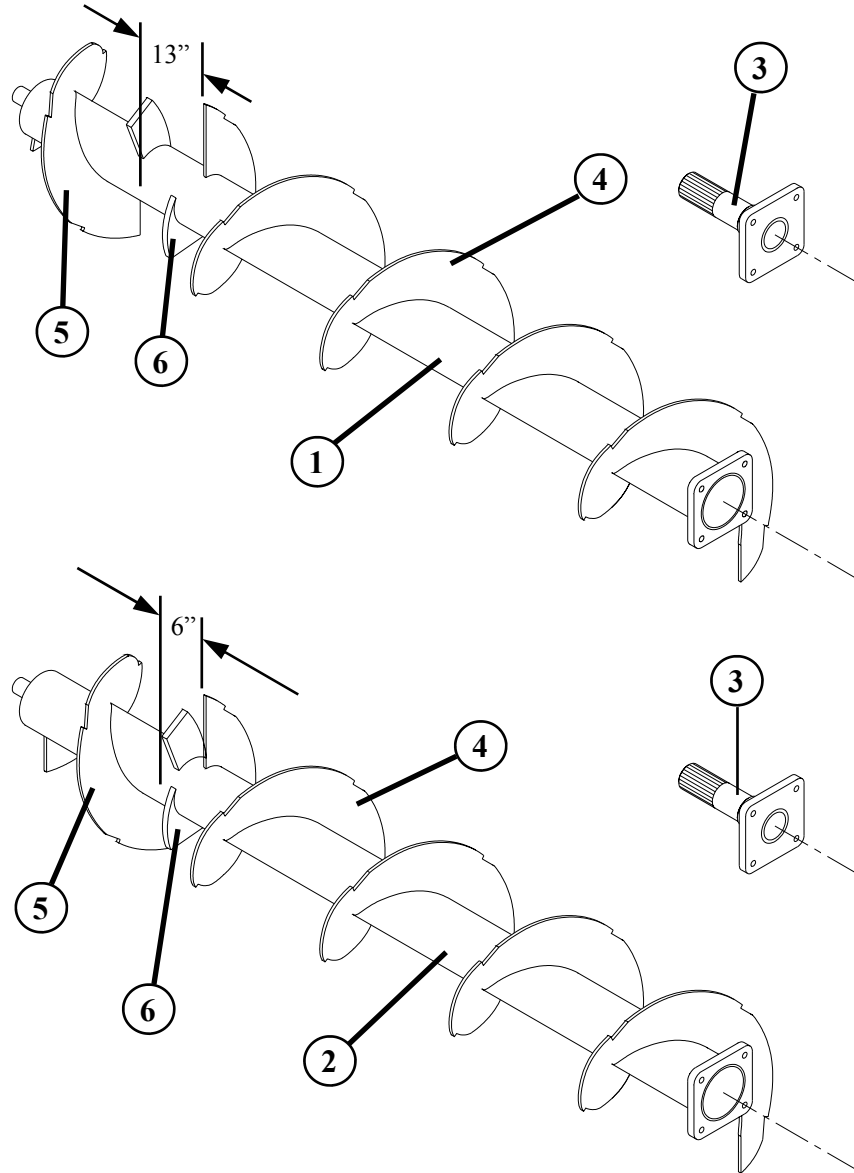
REF. NO	PART NO.	DESCRIPTION	QTY.
1	872669	450 6-ARM ROTOR WELDMENT.....	1
2	850006	ROTOR SQUARE WIPER WELDMENT.....	6
3	850007	ROTOR SPRING COVER WELDMENT	12
4	150014	END WIPER STRAP 19 1/2"	12
5	150013	CENTER WIPER STRAP 90 1/2"	6
6	150016	END PLASTIC WIPER 22 1/2".....	12
7	150015	CENTER PLASTIC WIPER 94 1/2"	6
8	410005	COMPRESSION SPRING 2 1/2" x 24" x .406"	12
9	406489	HHCS 3/4"-10 x 6 1/2", #8 PLTD.....	12
10	400912	HEX CENTER LOCK NUT 3/4".....	12
11	405654	HHCS 3/8-16 x 1 1/4"	96
12	401106	HEX NYLOCK NUT 3/8"-16	96
13	750004	WIPER ASSEMBLY (INCLUDES #'s 2, 4, 5, 6, 7, 11 & 12)	6

450-12 TOP AUGER



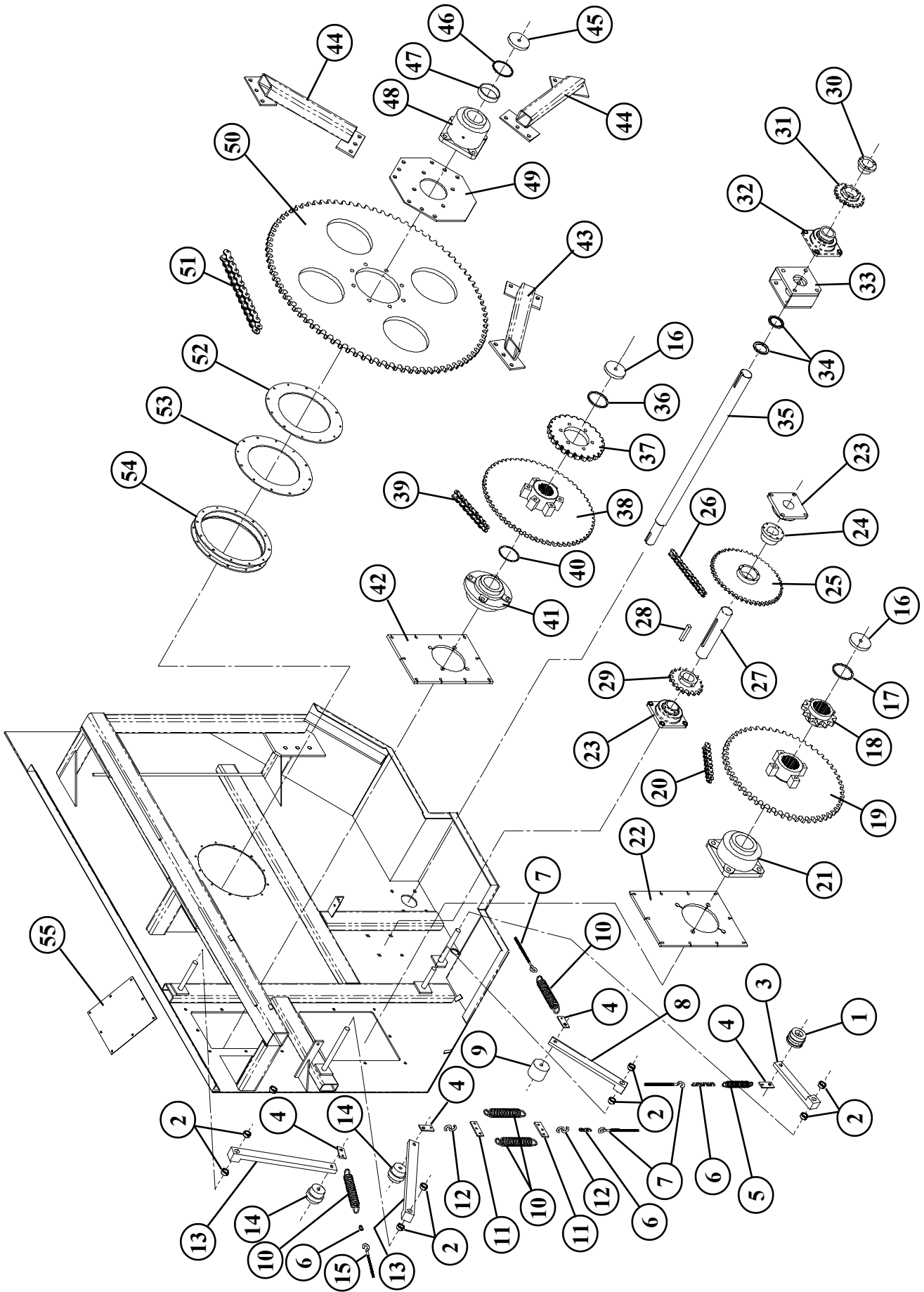
REF. NO	PART NO.	DESCRIPTION	QTY.
1	872665	450 TOP AUGER W.A.....	1
2	872625	450 3 1/2" TOP AUGER SHAFT FLANGE W.A.	1
2A	872650	450 4" HEAVY TOP AUGER SHAFT FLANGE W.A.	1
3	382424	R.H. FLIGHT 24" x 6 5/8" x 3/8" 16" PITCH.....	7
4	185708	TOP AUGER PADDLE	3

450-12 BOTTOM AUGER



REF. NO	PART NO.	DESCRIPTION	QTY.
1	872654	450 BOTTOM AUGER W.A.	1
2	872655	450 BOTTOM IMPACT RATION AUGER W.A.	1
3	872626	450 BOTTOM AUGER SHAFT FLANGE W.A.	1
4	382427	LEFT HAND FLIGHT 24" x 8 5/8" x 1/2" FULL PITCH	4
5	382426	RIGHT HAND FLIGHT 24" x 8 5/8" x 1/2" FULL PITCH	1
6	189269	24" AUGER KICKER	2

450-12 DRIVE ASSEMBLY

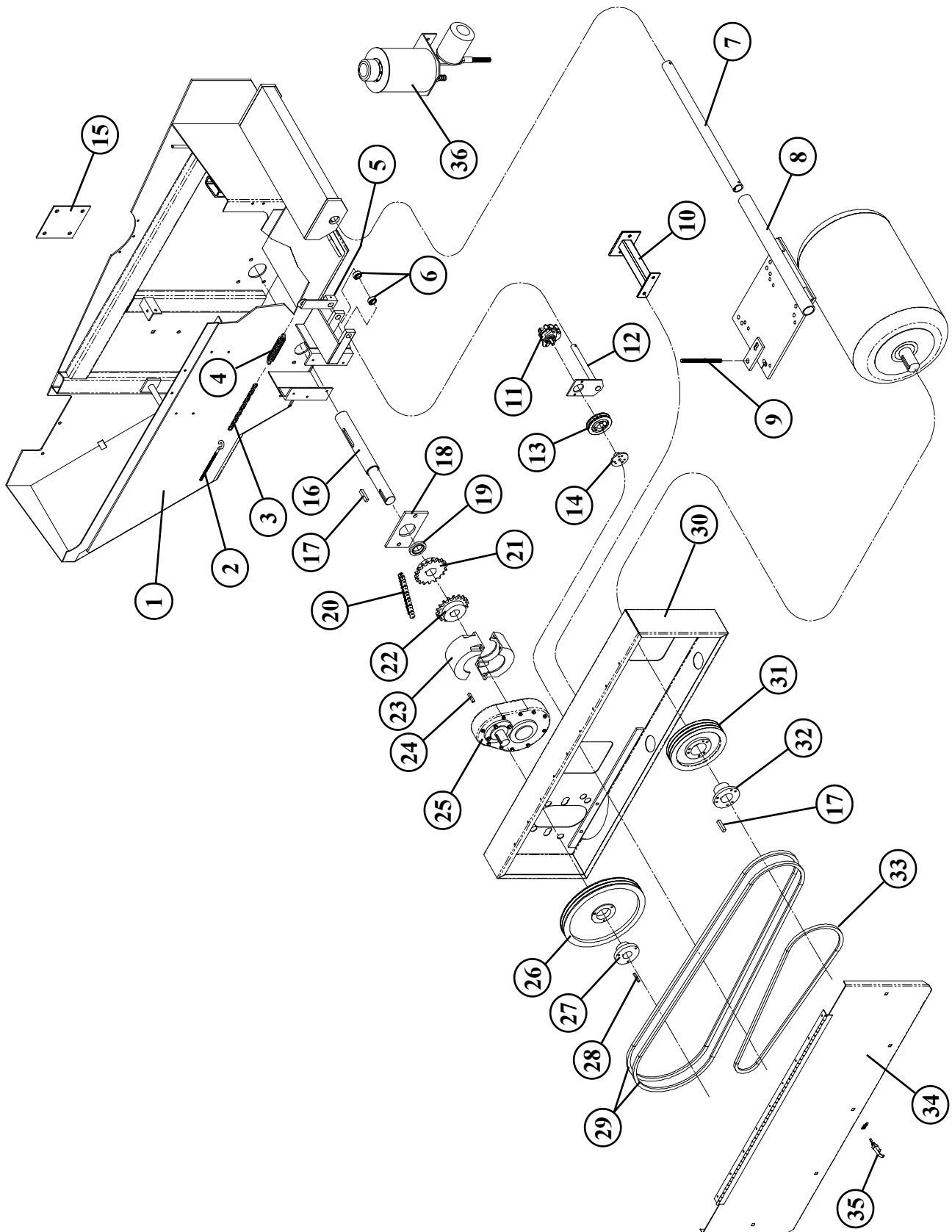


450-12 DRIVE ASSEMBLY

450-12 DRIVE ASSEMBLY

REF #	PART #	DESCRIPTION	QTY	REF #
1	189178	Idle Block 2 3/8" x 5/8" #80	1	331212
2	187159	Idle Block #100 (Hvy Trk, Hvy 1000 Trl, Std & Hvy 540 Trl)	1	336040
3	412416	Set Collar 1"	8	336139
4	872254	Idle Arm W.A. 13"	1	
5	187157	Pull Tab 5/8" x 1 1/2" x 3"	4	330819
6	410008	Spring-Pull 1/4" x 5 1/4" x 3/16"	1	331017
7	412020	Chain 2/0 x Length	3	330815
8	410852	Eye Bolt 3/8" x 8" x 3/4" x 4"	3	331015
9	872068	Idle Arm W.A. 18"	1	340438
10	185582	Idle Block 2 7/8" x 5/8" #100	1	872117
11	410012	Spring-Pull 1 3/4" x 7" x 7/32"	4	355039
12	185290	Double Spring Pull Bar	2	185710
13	411805	S-Hood Plated 5/16"	2	185317
14	872252	Idle Arm W.A. 23 3/4"	2	189665
15	185621	Idle Block 2 7/8" x 5/8" #120	2	189683
16	410851	Eye Bolt 3/8" x 6" x 3/4" x 7 1/2" x 4"	1	872636
17	185329	Shaft Retainer 5/8" x 4 1/2"	2	872649
18	185320	Shaft Spacer 1/4" x 4"	1	321126D
19	189727	Sprocket 140C12H (Std & Heavy Truck & Trailer)	1	321297D
20	872635	Sprocket 120C54 (Std Truck, Std 1000 & 540 Trailer)	1	321124D
21	872648	Sprocket 140C45 (Heavy Truck, Hvy 1000 & 540 Trl)	1	187193
22	321279D	Roller Chain #120 x 79P (Std Trk, Std 1000 & 540 Trl)	1	342156
23	321467D	Roller Chain #140 x 67P (Hvy Trk, Hvy 1000 & 540 Trl)	1	342159
24	342064	Bearing 4-Bolt 4" REX ZB2400	1	
25	189633	Bottom Auger Bearing Plate 620	1	185871
26	340439	Bearing 4-Bolt Flange 2 7/16" RCJC	2	189681
27	336039	Bushing W/Key SK 2 7/16" QD	1	
28	330848	Sprocket 80SF48RC (Std Truck & Std 1000rpm Trl)	1	872242
29	331040	Sprocket 100E40 (Heavy Truck)	1	872241
30	331048	Sprocket 100E48 (Heavy 1000rpm Trailer)	1	189738
31	331025	Sprocket 100E25H (Std & Heavy 540rpm trailer)	1	185034
32	320871	Roller Chain #80 x 71P (Std Truck)	1	185287
33	321058	Roller Chain #100 x 58P (Heavy Truck)	1	342056
34	320869	Roller Chain #80 x 69P (Std 1000rpm Trailer)	1	185862
35	321062	Roller Chain #100 x 62P (Heavy 1000rpm Trailer)	1	189637
36	321049	Roller Chain #100 x 49P (Std & Hvy 540rpm Trailer)	1	321480
37	189643	Jackshaft 12 5/8" 620	1	185773
38	189177	Key 5/8" x 5/8" x 4"	1	185873
39	331002	Sprocket 100B17H x 2 7/16" Bore (Std Truck)	1	872330
40	331214	Sprocket 120B14H (Heavy Truck)	1	185219
41	331006	Sprocket 100B13H (Std 1000rpm & 540rpm Trailer)	1	
		Sprocket 100B12H (Heavy 1000 & 540rpm Trailer)	1	
		Bushing W/Key SK 2 7/16" QD	1	
		Bushing E 2 7/16" QD (Hvy Truck, Hvy 1000 Trailer, Std & Hvy 540 Trailer)	1	
		Sprocket 80SK19H RC (Std Truck)	1	
		Sprocket 100SF17H (Heavy Truck)	1	
		Sprocket 80SK15H (Std 1000rpm Trailer)	1	
		Sprocket 100SF15H (Hvy 1000, Std 540 & Hvy 540 Trl)	1	
		Bearing 4-Bolt Flange 2 7/16" RCJ	1	
		Input Bearing Mount W.A. 2 7/16"	1	
		Seal CR 24287 2 7/16"	2	
		Shaft 2 7/16" x 48 1/4" Input	1	
		Shaft Spacer 3 1/2" x 1/4"	1	
		Sprocket 120A24H (Std Truck, Std 1000 & 540 Trl)	1	
		Sprocket 140A20H (Hvy Truck, Hvy 1000 & 540 Trl)	1	
		Sprocket 100B60 (Std Truck, Std 1000 & 540 Trailer)	1	
		Sprocket 120B54 (Hvy Truck, Hvy 1000 & 540 Trl)	1	
		Roller Chain #100 x 126P (Std Truck)	1	
		Roller Chain #120 x 107P (Hvy Trk Hvy 1000 & 540 Trl)	1	
		Roller Chain #100 x 124P (Std 1000 & 540 Trl)	1	
		Shaft Spacer 3 1/2" x 3/32"	1	
		Bearing 4-Bolt 3 1/2" REX ZBR2308	1	
		Bearing 4-Bolt 4" ZBR2400 (Hvy Truck, Hvy 1000 & Hvy 540 Trailer)	1	
		Top Auger Bearing Plate	1	
		Top Auger Bearing Plate (Hvy Truck, Hvy 1000 & Hvy 540 Trailer)	1	
		Top Left Rotor Support Tube	1	
		Right Side Rotor Support Tube	2	
		Shaft Sprocket Washer 3 1/2" x 3/8" x 4 1/2"	1	
		Shaft Spacer 3 1/2" x 1/8"	1	
		Shaft Spacer 3 1/2" x .962"	1	
		Bearing 4-Bolt ZB2308 REX 3 1/2"	1	
		Rotor Bearing Plate	1	
		Sprocket 140A86 (Std & Hvy Truck & Trailer)	1	
		Roller Chain #140 x 111P (Std & Hvy Truck & trailer)	1	
		Rotor Seal Flange 17" x 1/4"	1	
		Rotor Seal 1/4" x 17" x 9 1/2"	1	
		Rotor Seal Spacer W.A.	1	
		Oil Bath Top Door	2	

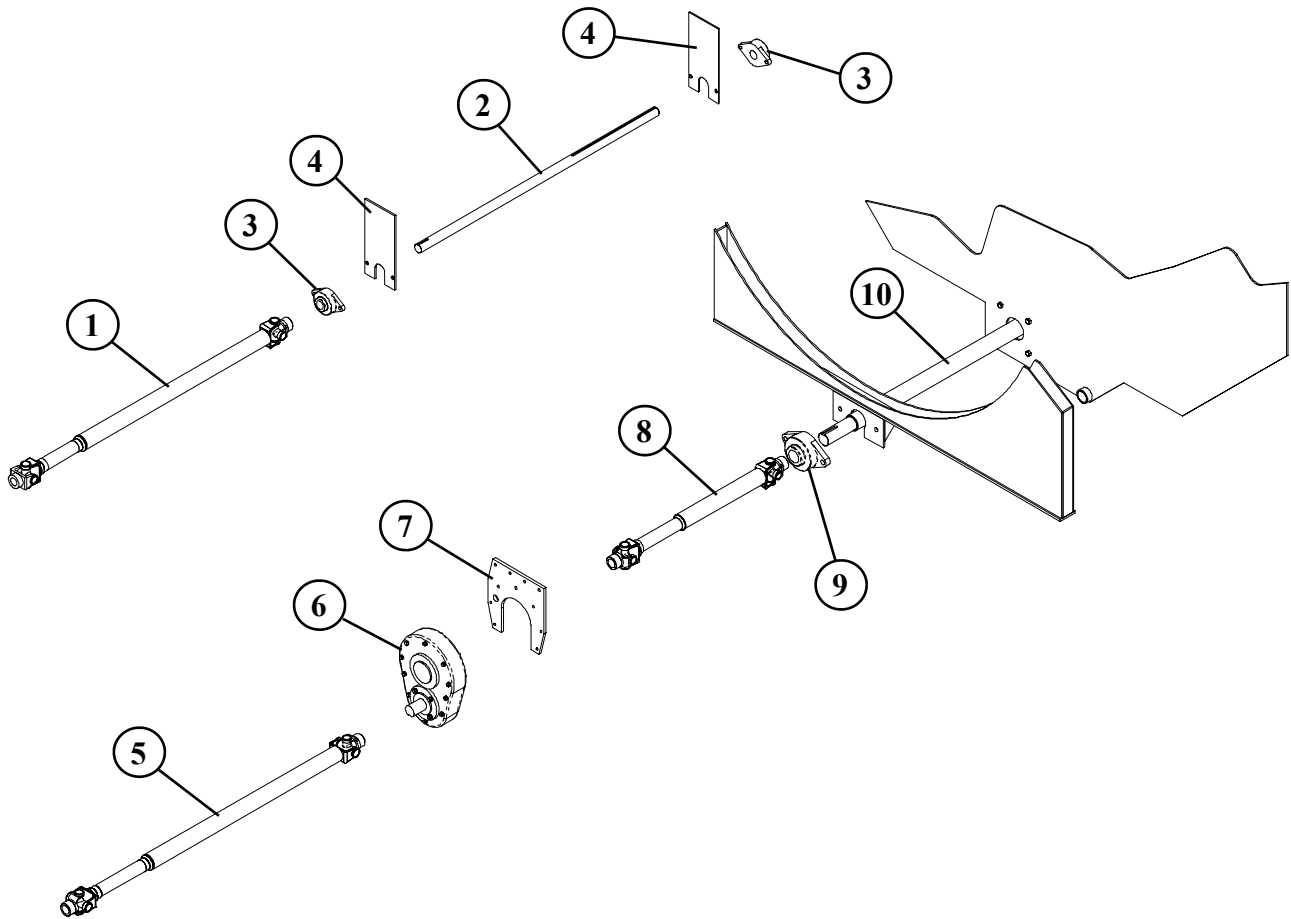
450-12 STATIONARY ELECTRIC DRIVE



450-12 STATIONARY ELECTRIC DRIVE

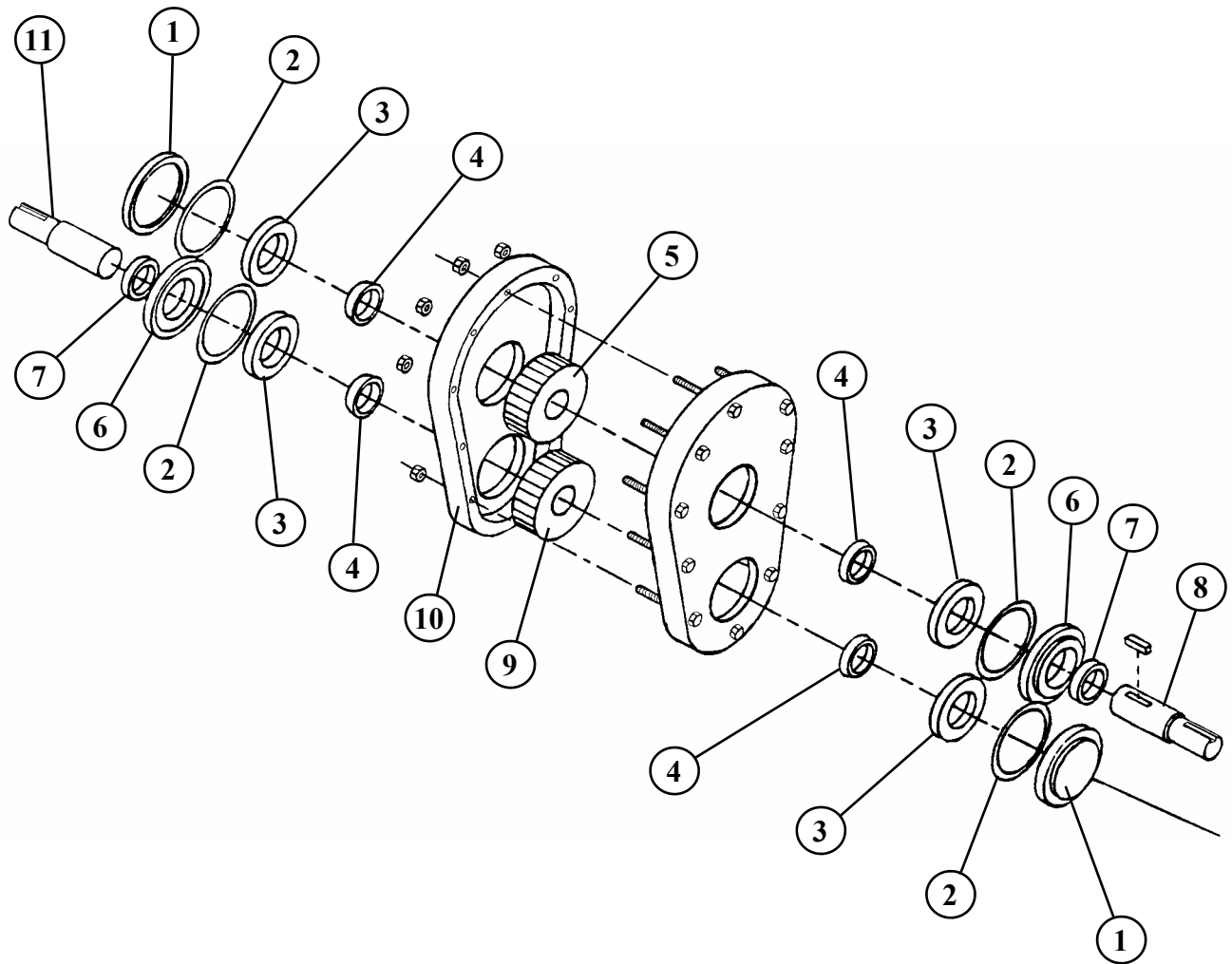
REF. NO	PART NO.	DESCRIPTION	QTY.
1	872661	620 STATIONARY DRIVE W.A.	1
2	410852	EYE BOLT 3/8" x 8" x 3/4" x 4"	1
3	185488	CHAIN 2/0 x 18"	1
4	410008	SPRING-PULL 1 1/4" x 5 1/4" x 3/16"	1
5	872136	PUMP LEVER ARM W.A.	1
6	412416	SET COLLAR PLATED 1"	2
7	185948	MOTOR PIVOT TUBE (600) 32 1/2"	1
8	872671	ELECTRIC MOTOR BASE W.A.	1
9	185106	ADJUSTMENT BOLT 5/8"-11 x 8 3/4"	1
10	872003	BELT SHIELD SUPPORT W.A.	1
11	362010	HYDRAULIC PUMP D05AA1A C W PARKER	1
12	872138	PUMP SWING ARM W.A.	1
13	324046	BELT SHEAVE 1B x 4.6 SDS	1
14	336009	BUSHING 1/2" SDS QD	1
15	185641	COVER PLATE	1
16	185950	SHAFT, STATIONARY INPUT	1
17	185485	KEY 1/2" x 2 1/2"	2
18	185642	SEAL PLATE 2" x 8 3/4"	1
19	355032	OIL SEAL 2" CR 20098	1
20	320818	ROLLER CHAIN #80-2 x 18P Comp	1
21	332618	SPROCKET 80 B18 x 2" CH CPL	1
22	332617	SPROCKET 80B18 x 1 3/4" CH CPL	1
23	332619	COUPLING COVER 80 18 CH	1
24	185480	KEY 3/8" x 2"	1
25	344022	GEARBOX 2-1 HUB CITY 200	1
26	324023	BELT SHEAVE 5V-2 16.0 SF	1
27	336134	BUSHING 2" SF QD	1
28	185484	KEY 5/16" x 2"	1
29	325115	V-BELT 5VX 1320	1
30	872674	ELECTRIC BELT SHIELD W.A. (620/450)	1
31	324013	BELT SHEAVE 5V-3 10.9 SF	1
32	336137	BUSHING 2 1/8" SF QD	1
33	325090	V-BELT B-82	1
34	781442	ELECTRIC BELT SHIELD DOOR ASSEMBLY	1
35	410300	LATCH-SOUTHCO 62-10-32	5
36	781005	OIL RESERVOIR ASSEMBLY - ELECTRIC DRIVE	1

450-12 TRUCK DRIVELINE ASSEMBLY



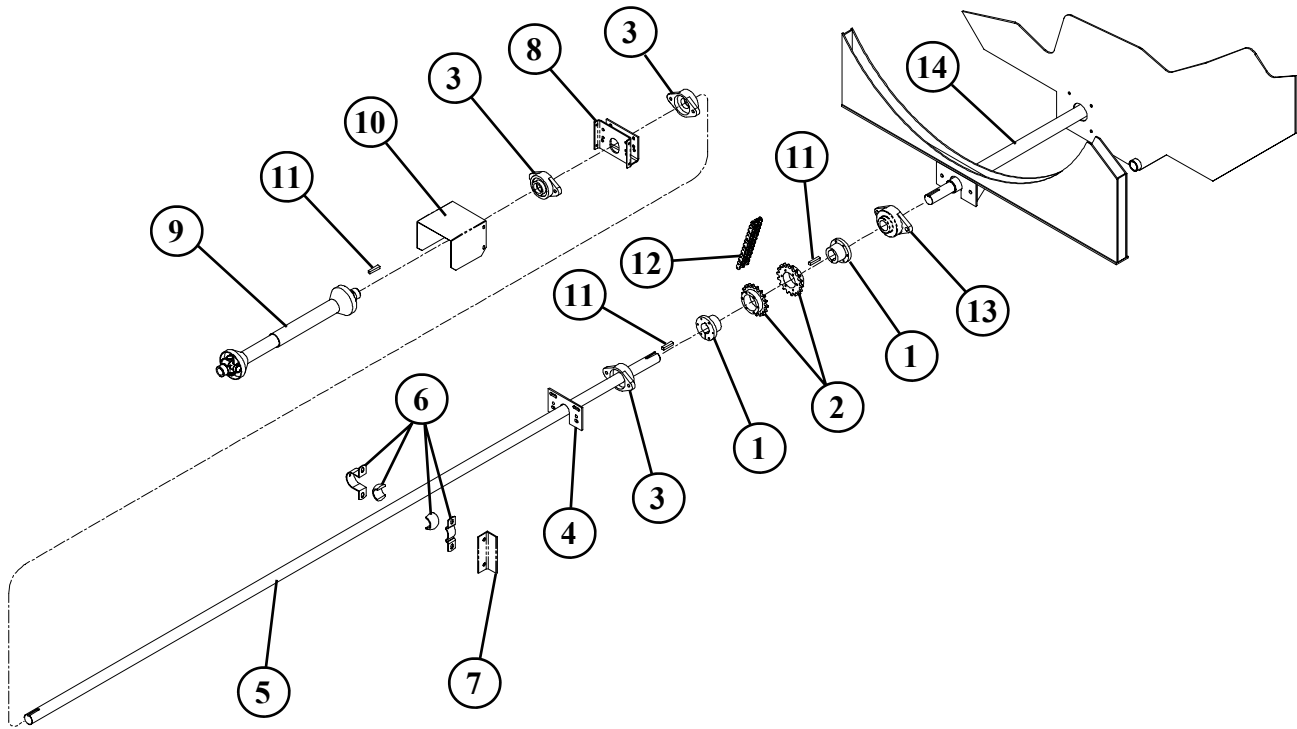
REF. NO	PART NO.	DESCRIPTION	QTY.
1	780486	1350 DRIVESHAFT ASSEMBLY 1 1/4" x 1 3/8".....	1
2	183327	TRUCK JACKSHAFT 1 3/8"	1
3	340222	BEARING, 2-BOLT FLANGE 1 3/8"	2
4	183319	TRUCK JACKSHAFT BRACKET.....	2
5	780494	1350 DRIVESHAFT ASSEMBLY 1 3/8" x 1 3/8".....	1
6	344022	GEARBOX, 2:1 HUB CITY 200	1
7	183251	GEARBOX PLATE.....	1
8	338048	DRIVESHAFT, W2500 385747	1
9	340232	2-BOLT VCJT 2" BEARING.....	1
10	185710	INPUT SHAFT 2 7/16" x 48 1/4"	1

450-12 2:1 GEARBOX ASSEMBLY



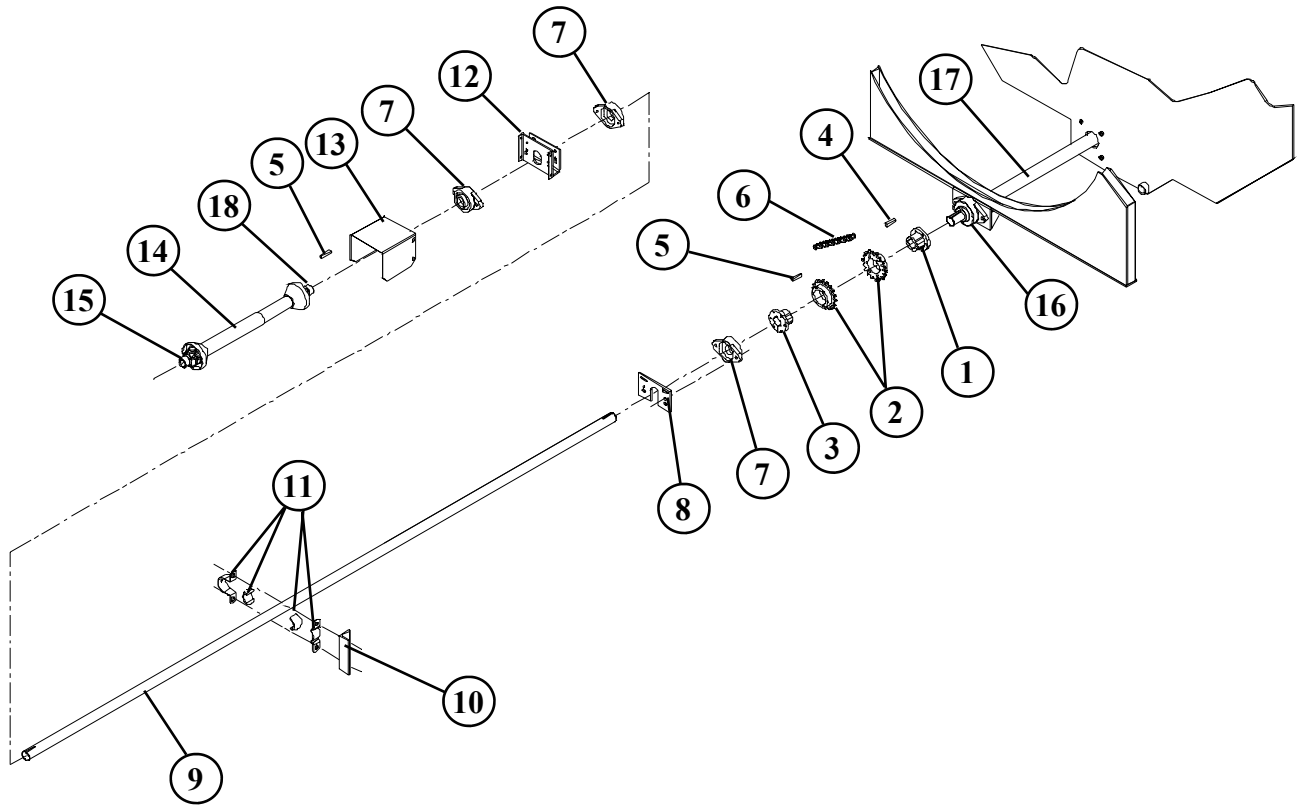
REF. NO	PART NO.	DESCRIPTION	QTY.
1	344214	CLOSED END CAP.....	2
2	344215	END CAP GASKET.....	4
3	344211	BOX BEARING CUP 18620.....	4
4	344210	GEARBOX BEARING 1 3/4" T-18690.....	4
5	344217	LOW SPEED GEAR.....	1
6	344213	OPEN END CAP 02-23-00166-400.....	2
7	344209	GEARBOX SEAL 1 3/4" CR 18039.....	2
8	344223	LOW SPEED SHAFT 1 3/4".....	1
9	344216	HIGH SPEED GEAR 2:1.....	1
10	344212	CENTER CASE GASKET 02-232-00919-200.....	1
11	344218	HIGH SPEED SHAFT 1 3/8".....	1

450-12 TRAILER DRIVELINE ASSEMBLY (540 RPM)



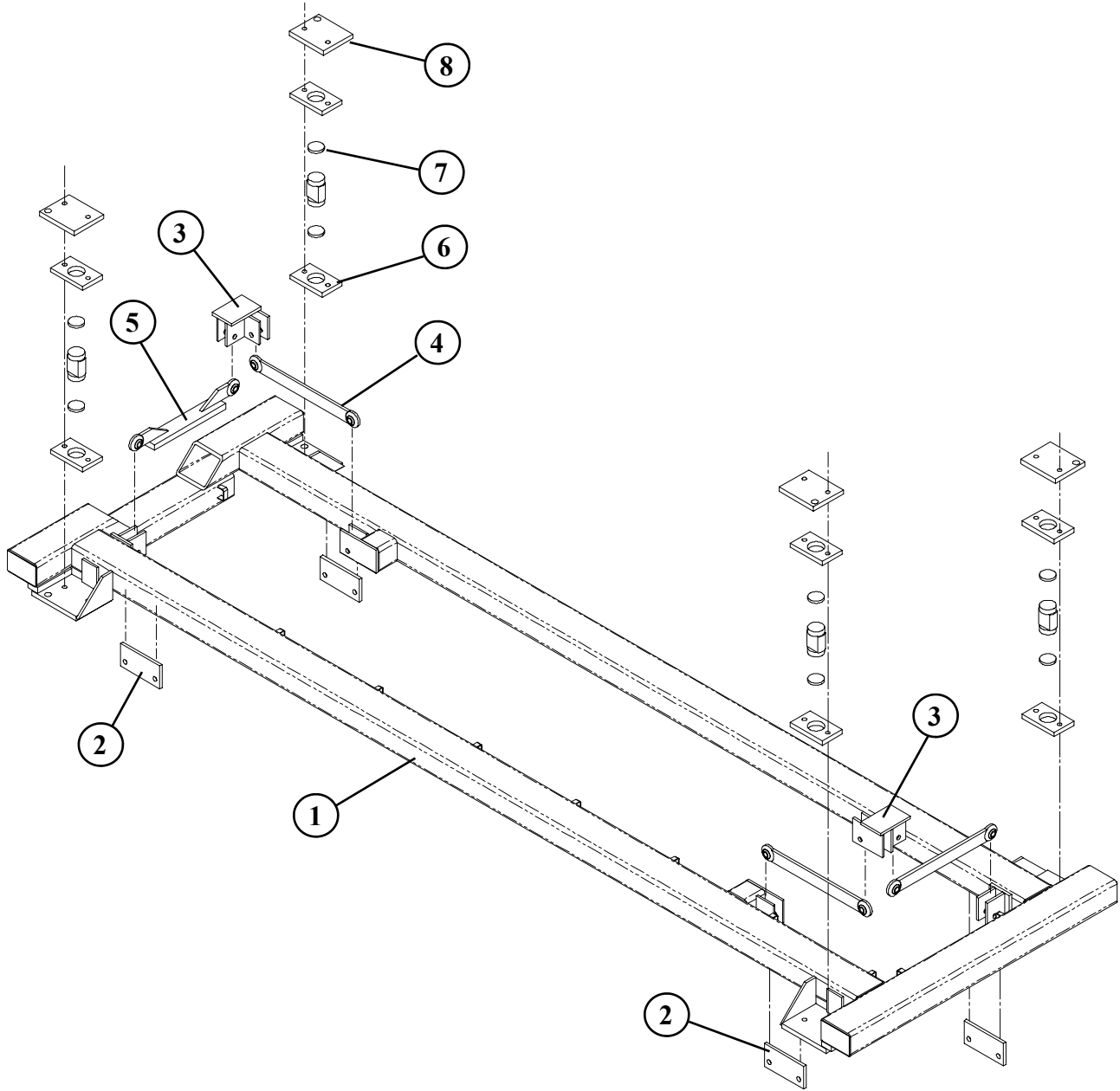
REF. NO	PART NO.	DESCRIPTION	QTY.
1	336032	BUSHING, 2" SF QD.....	2
2	332620	CHAIN COUPLING SPROCKET, #80-18 SF	2
3	340231	BEARING, 2" 2-BOLT FLANGE VCJT	3
4	183277	BEARING HANGER, TRAILER UNIT.....	1
5	189732	DRIVELINE, 540RPM 450 TRAILER 112"	1
6	341032	BEARING ASSEMBLY, 2" PABCO BLB-32-TP-W	1
7	185772	BEARING MOUNT ANGLE 2" PABCO	1
8	872092	FRONT JACKSHAFT BEARING MOUNT W.A.....	1
9	338050	DRIVELINE, 540RPM W2500 387566	1
10	780601	PTO SHIELD - TRAILER.....	1
11	185485	KEY 1/2" x 2 1/2"	3
12	320818	ROLLER CHAIN #80-2 x 18 PITCHES COMP.	1
13	340232	2-BOLT VCJT 2" BEARING.....	1
14	185710	INPUT SHAFT 2 7/16" x 48 1/4"	1

450-12 TRAILER DRIVELINE ASSEMBLY (1000 RPM)



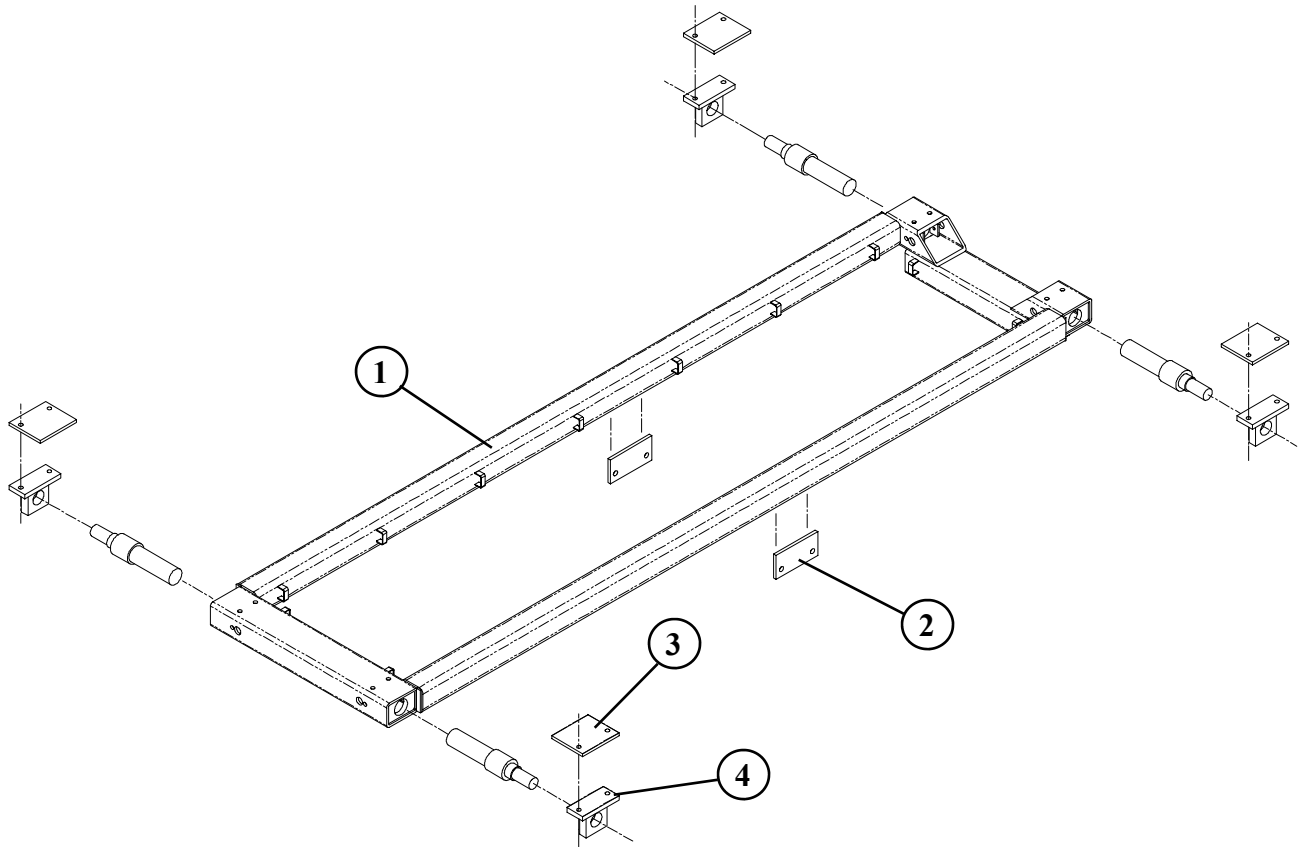
REF. NO	PART NO.	DESCRIPTION	QTY.
1	336032	BUSHING, 2" SF QD.....	1
2	332620	CHAIN COUPLING SPROCKET #80-18 SF	2
3	336027	BUSHING, 1 3/4" SF QD.....	1
4	185485	KEY, 1/2" x 2 1/2".....	1
5	185480	KEY, 3/8" x 2".....	2
6	320818	ROLLER CHAIN, #80-2 x 18 COMP.....	1
7	340228	BEARING, 1 3/4" 2-BOLT FLANGE VCJT	3
8	183277	BEARING HANGER, TRAILER UNIT	1
9	189731	DRIVELINE, 1000RPM 1 3/4" x 112".....	1
10	185304	CARRIER BEARING MOUNT ANGLE	1
11	341028	BEARING, 1 3/4" PABCO BKP28T-TP W.....	1
12	872092	FRONT DRIVELINE BEARING MOUNT W.A.	1
13	780601	PTO SHIELD, TRAILER.....	1
14	338030	DRIVE SHAFT, 540RPM W2400-383399	1
15	338442	YOKE 1000RPM 2400-380908.....	1
16	340232	2-BOLT VCJT 2" BEARING.....	1
17	185710	INPUT SHAFT 2 7/16" x 48 1/4"	1
18	338444	END YOKE W240-540 3809`	1

450-12 TRUCK LOAD CELL SCALE FRAME ASSEMBLY



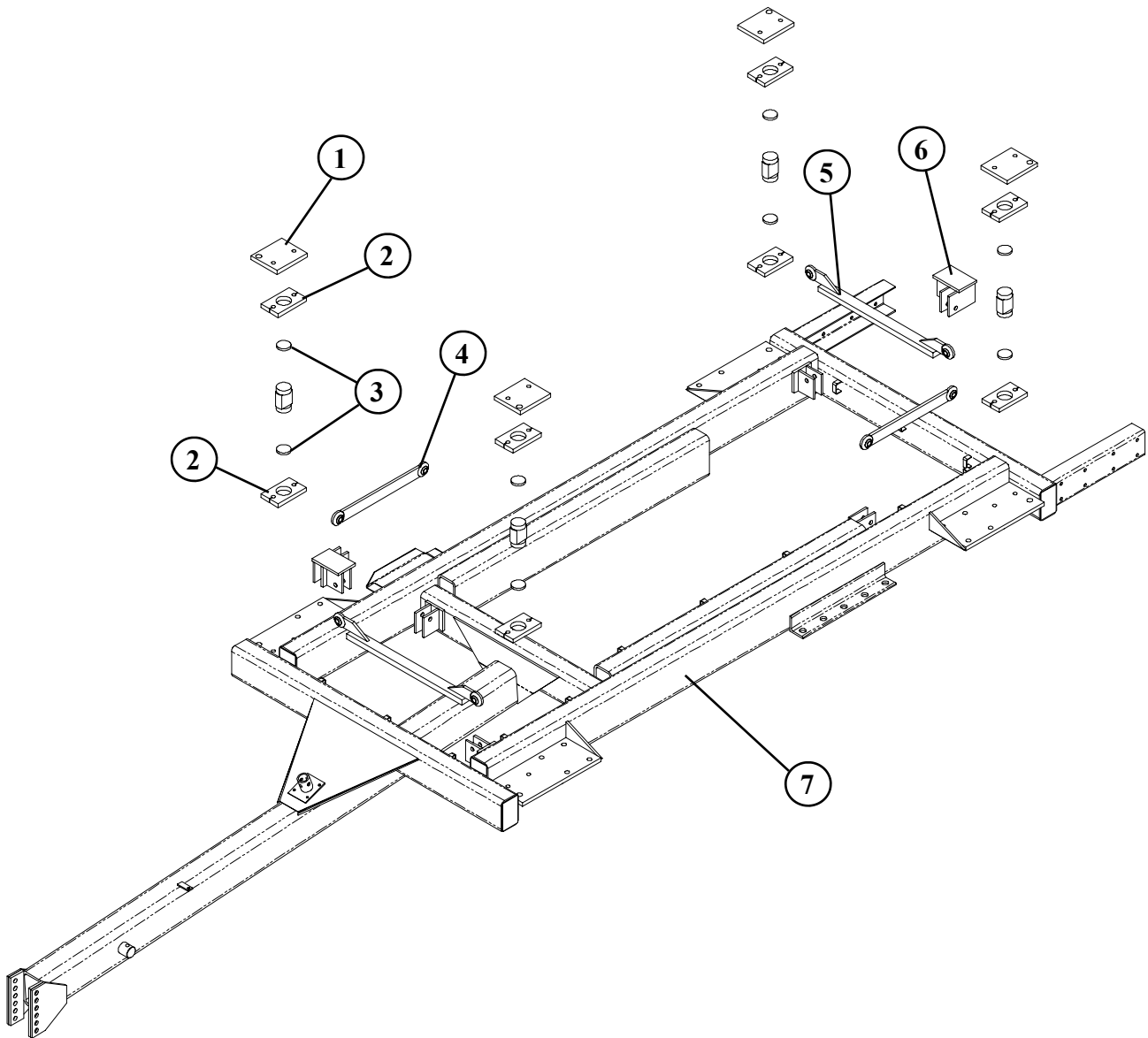
REF. NO	PART NO.	DESCRIPTION	QTY.
1	870527	450 SINGLE AXLE SCALE FRAME W.A.....	1
2	182998	TRUCK FRAME BRACKET.....	4
		TRUCK FRAME BRACKET (TANDEM ONLY)	6
3	870519	MIXER SCALE CHECK	2
4	870501	SCALE CHECK ROD.....	3
5	872053	OFFSET CHECK ROD	1
6	182915	LOAD CELL CAGE PLATE	8
7	185997	SCALE CUSHION PAD	8
8	182881	SCALE MIXER MOUNT PAD	4

450-12 TRUCK WEIGH BAR SCALE FRAME ASSEMBLY



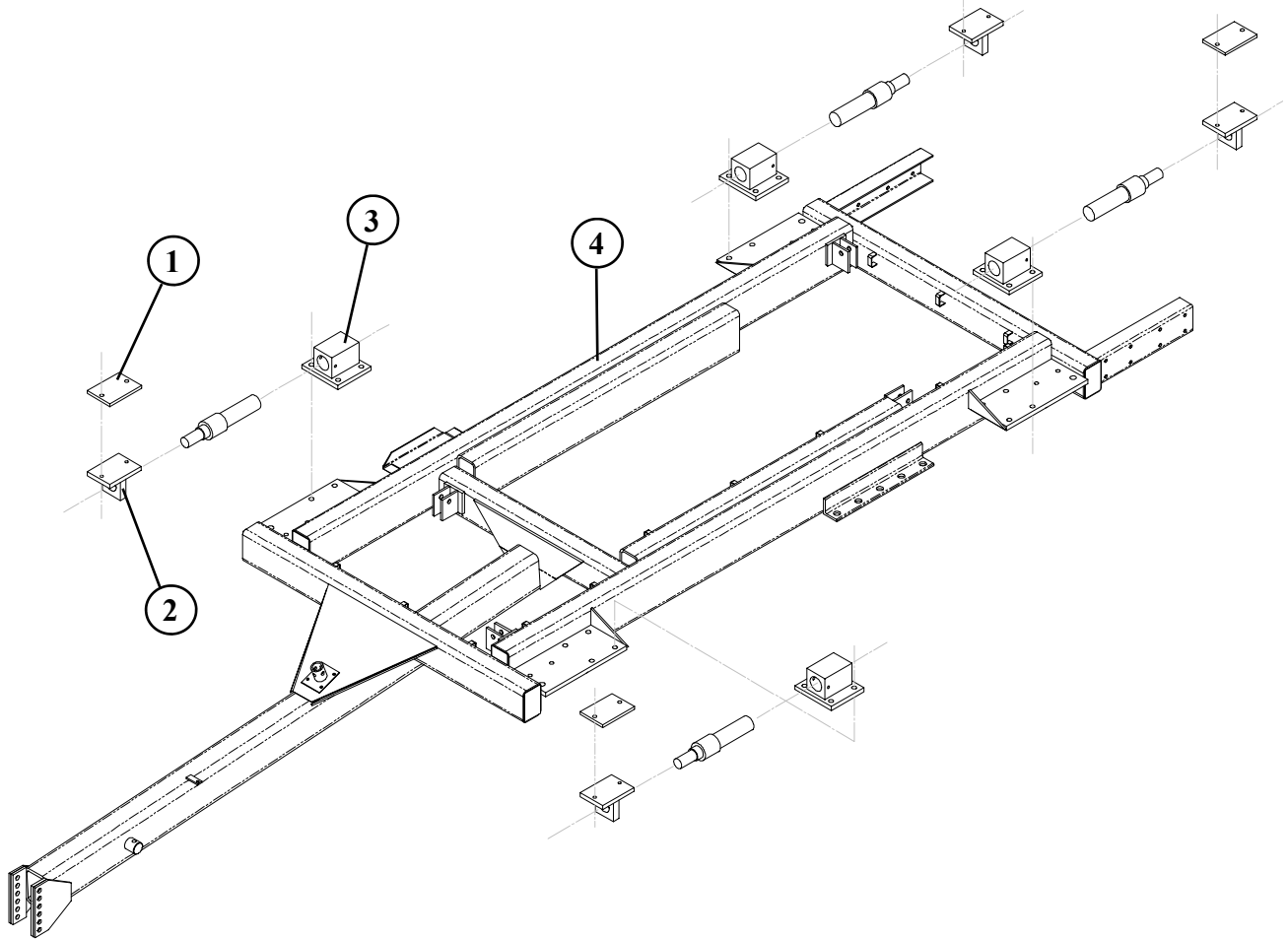
REF. NO	PART NO.	DESCRIPTION	QTY.
1	872163	450 TRUCK WEIGH BAR FRAME SCALE W.A.	1
2	182998	TRUCK FRAME BRACKET.....	6
3	185609	MIXER BAR MOUNT PAD.....	4
4	872159	WEIGH BAR MOUNT 2 1/2"	4

450-12 TRAILER LOAD CELL SCALE FRAME ASSEMBLY



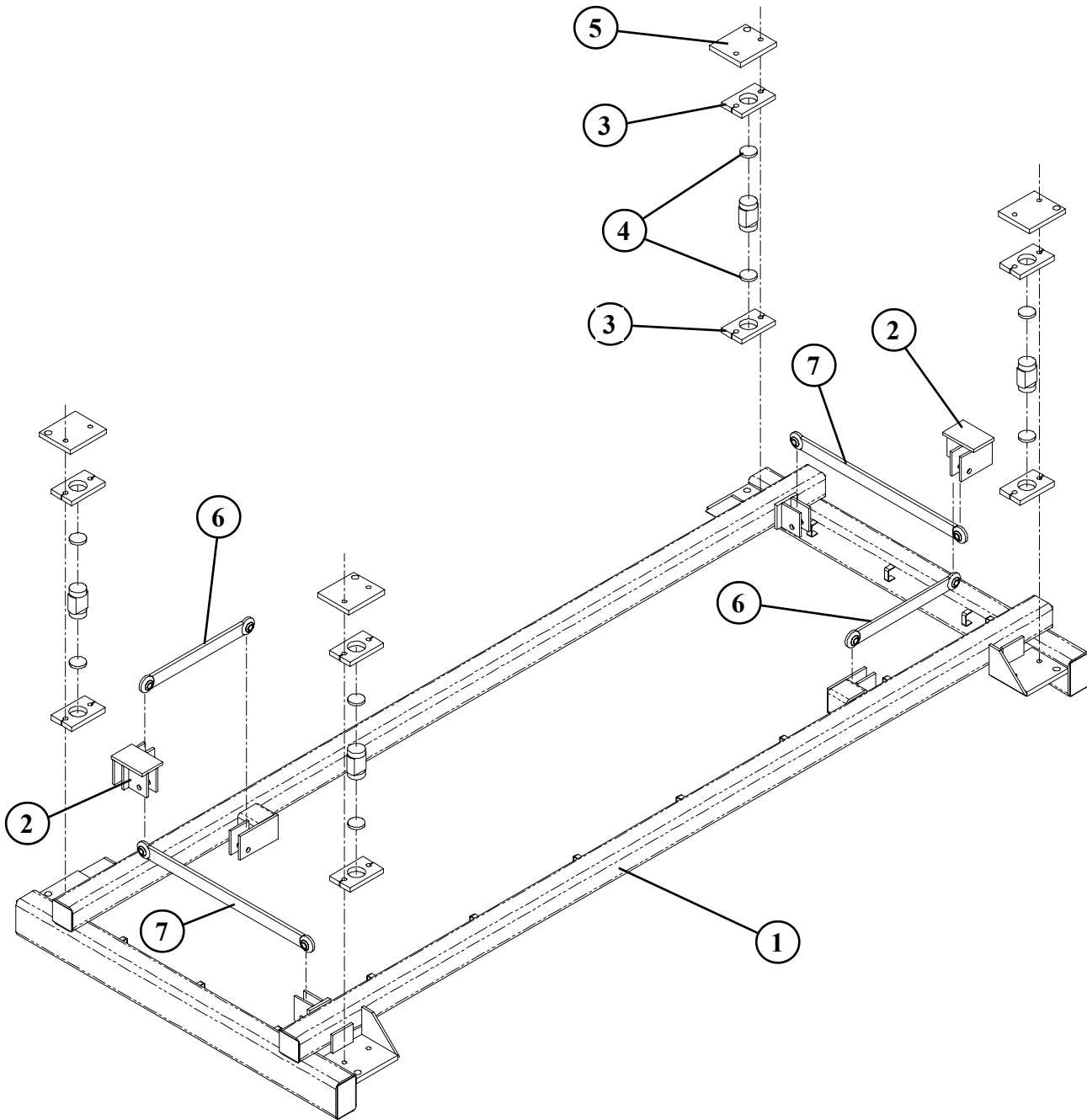
REF. NO	PART NO.	DESCRIPTION	QTY.
1	182881	SCALE MOUNT MIXER PAD	4
2	182915	LOADCELL CAGE PLATE	8
3	185997	SCALE PAD	8
4	870501	CHECK ROD W.A.	2
5	872245	OFFSET CHECK ROD W.A.	2
6	870519	MIXER SCALE CHECK W.A.	2
7	872680	450 TRAILER FRAME	1

450-12 TRAILER WEIGH BAR SCALE FRAME ASSEMBLY



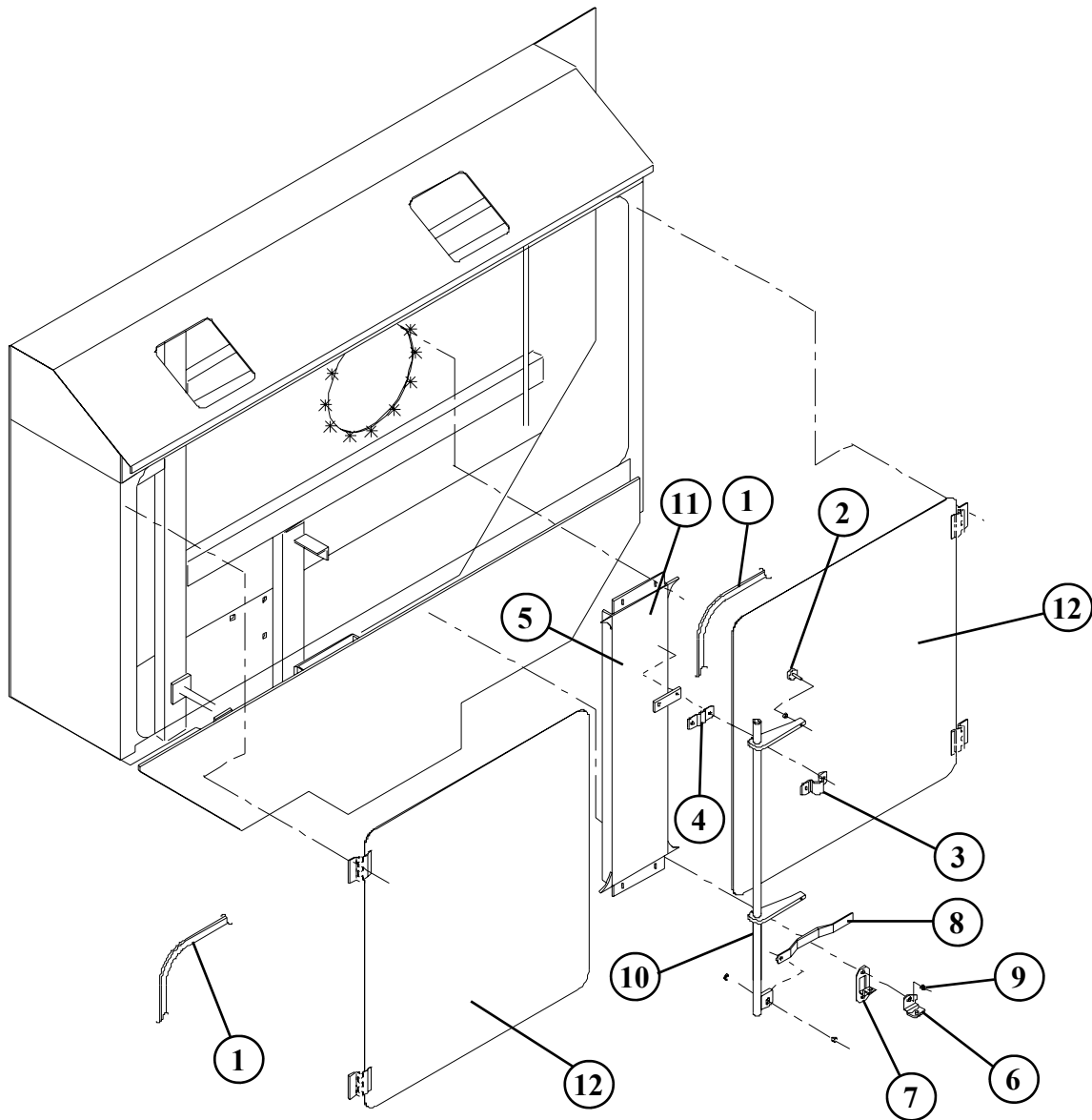
REF. NO	PART NO.	DESCRIPTION	QTY.
1	189294	WEIGH BAR MIXER PAD 7"	4
2	872360	T-BAR W.A. 2 1/2"	4
3	860055	BAR BLOCK W.A. 2 1/2"	4
4	872680	450 TRAILER FRAME	1

450-12 STATIONARY LOAD CELL SCALE FRAME ASSEMBLY



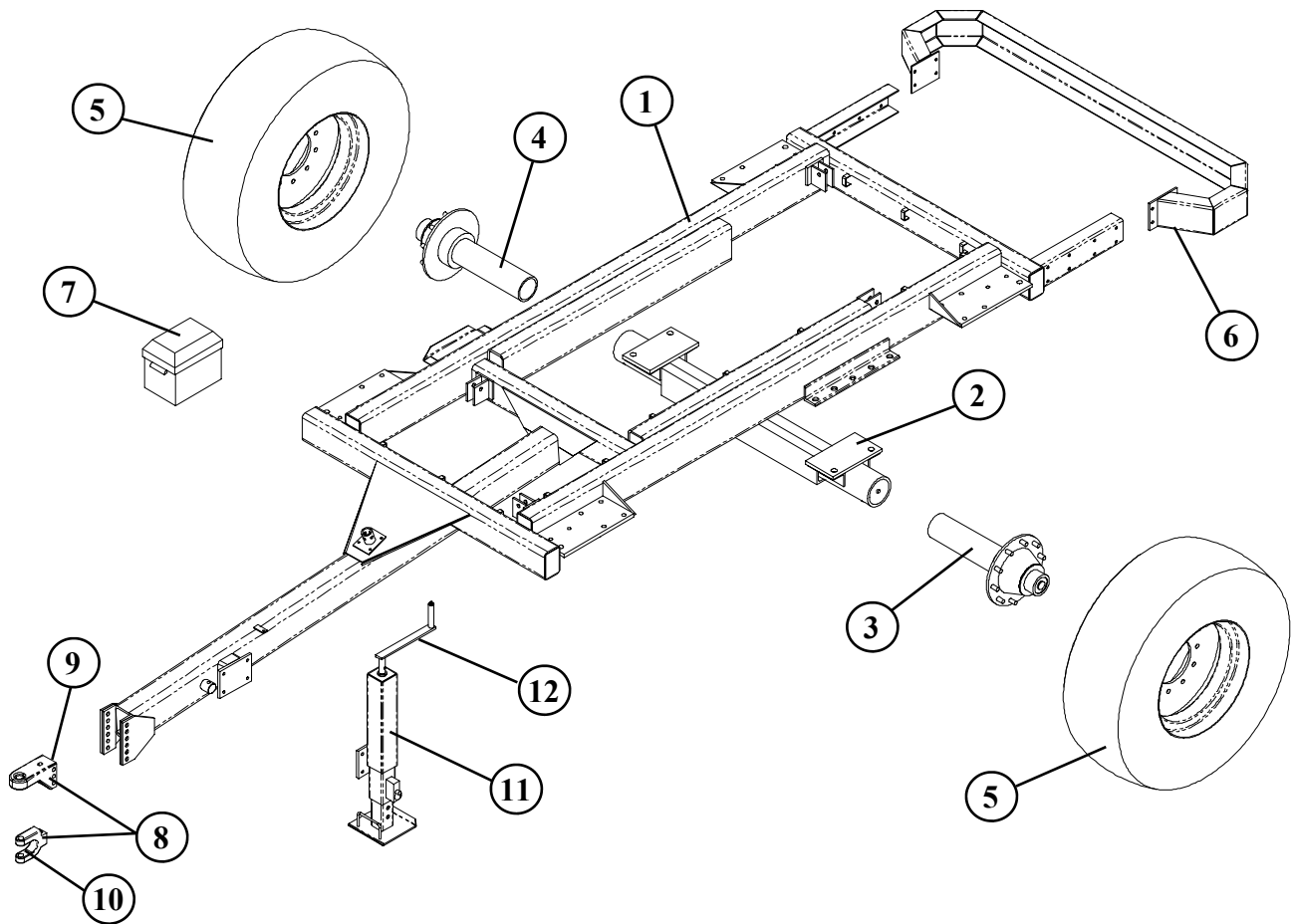
REF. NO	PART NO.	DESCRIPTION	QTY.
1	872019	450 STATIONARY SCALE FRAME W.A.	1
2	870519	MIXER SCALE CHECK	2
3	182915	LOAD CELL CAGE PLATE	8
4	185997	SCALE CUSHION PAD 3/8"	8
5	182881	SCALE MOUNT MIXER PLATE	4
6	870501	SCALE CHECK ROD W.A. 19 1/2"	2
7	871053	SCALE CHECK ROD W.A. 31 1/2"	2

450-12 OIL BATH DOOR ASSEMBLY



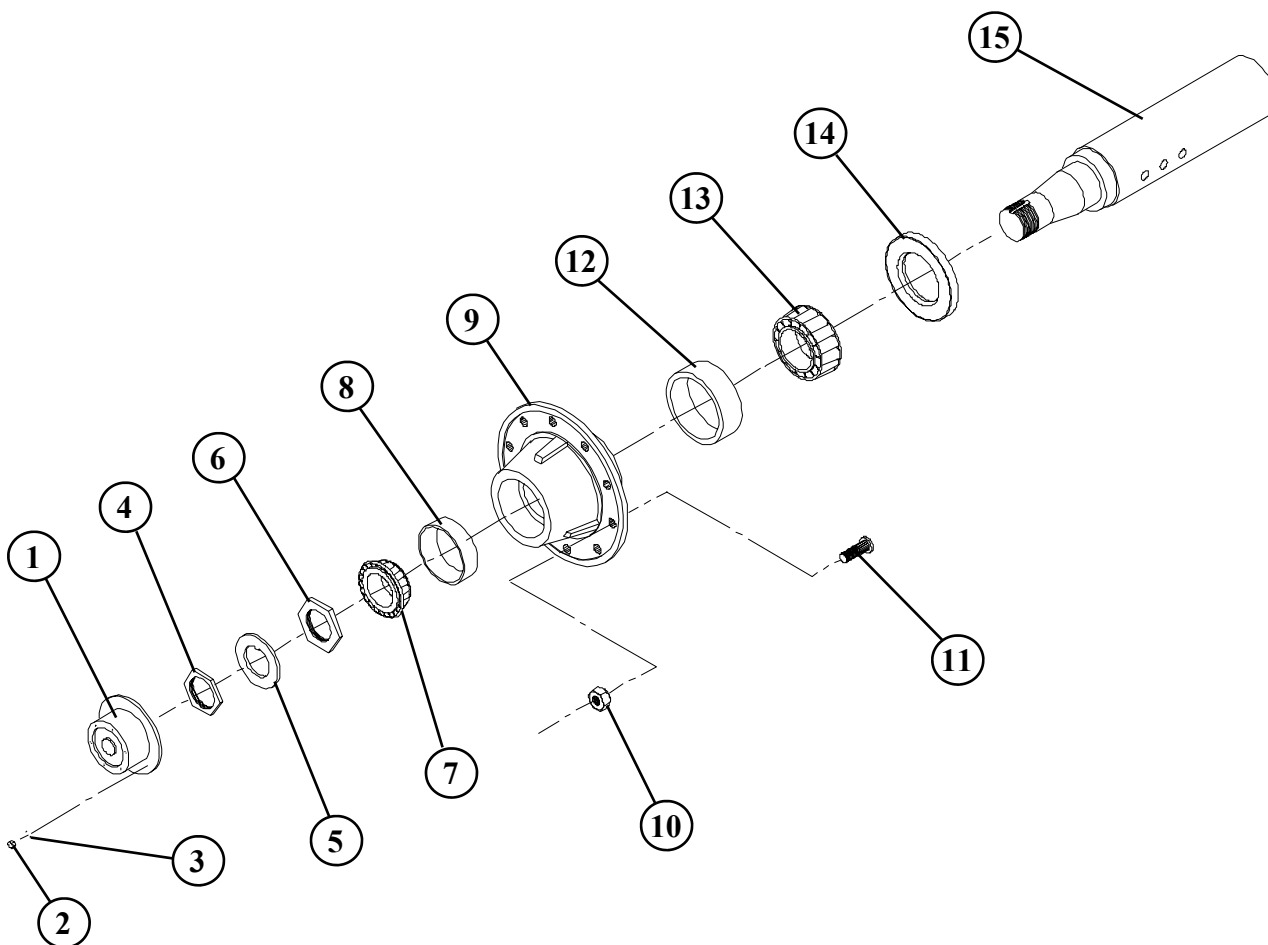
REF. NO	PART NO.	DESCRIPTION	QTY.
1	351056	RUBBER BULB SEAL 5/32"	27
2	370323	LEVELING PAD.....	4
3	370316	CAM LOCK TOP PLATE.....	4
4	370317	CAM LOCK BOTTOM PLATE	4
5	189503	CAM LOCK SPACER	4
6	370320	HANDLE CAM LOCK	2
7	370322	HANDLE STOP	2
8	370319	CAM LOCK HANDLE	2
9	370321	CAM LOCK BUSHING.....	2
10	850575	CAM ROD W.A. (LEFT HAND SIDE).....	1
	850574	CAM ROD W.A. (RIGHT HAND SIDE).....	1
11	872639	OIL BATH CENTER CHANNEL W.A.....	1
12	872618	620 OIL BATH DOOR W.A.....	2

450-12 TRAILER ASSEMBLY



REF. NO	PART NO.	DESCRIPTION	QTY.
1	872680	TRAILER FRAME W.A.	1
2	872240	TRAILER AXLE W.A.	1
3	750111	TRAILER HUB & SPINDLE 10-BOLT LEFT HAND.....	1
4	750110	TRAILER HUB & SPINDLE 10-BOLT RIGHT HAND.....	1
5	781145	TIRE & WHEEL ASSEMBLY 18 x 22.5	2
	372622	TIRE - TUBELESS M&S 18 x 22.5.....	2
	372422	WHEEL 10-BOLT BUD 11.75 x 22.5	2
	372618	TIRE & WHEEL ASSEMBLY 16.5 x 22.5	2
	372621	TIRE - LUG TREAD 16.5 x 22.5.....	2
	372422	WHEEL 10-BOLT BUD 11.75 x 22.5	2
	372624	TIRE - RECAP ONLY - 255/70R x 22.5 (OPTIONAL ON DUAL SETUP ONLY).....	4
6	870733	TRAILER BUMPER W.A.....	1
7	357400	BATTERY BOX WITH STRAP.....	1
8	651024	PERFECT HITCH KIT (INCLUDES 9 & 10).....	1
9	374100	CAT. 3 BASE HITCH BODY.....	1
10	374101	CAT. 3 CLEVIS INSERT.....	1
11	780904	DROP LEG JACK 9000LB (INCLUDES JACK HANDLE).....	1
	374002	5,000# JACK	
12	781051	JACK HANDLE ASSEMBLY ONLY.....	1

450-12 TRAILER HUB & SPINDLE ASSEMBLY (20,000 LB.)



REF. NO	PART NO.	DESCRIPTION	QTY.
1	372309	DUST CAP 20,000 LB.	1
2	405625	HHCS 5/16" x 1/2"	6
3	402005	SPRING LOCK WASHER 5/16".....	6
4	400033	OUTER NUT 3/8" THICK x 2 5/8" I.D.....	1
5	402904	WASHER 1/4" x 2 41/64" I.D.....	1
6	400034	INNER NUT 3/8" THICK x 2 5/8" I.D.....	1
7	342214	BEARING 2 5/6" BORE TIMKEN #HM212049	1
8	342216	BEARING RACE 4 13/16" O.D. TEMKEN #HM212011	1
9	372211	HUB ASSEMBLY (LEFT HAND) 20,000 LB.....	1
	372212	HUB ASSEMBLY (RIGHT HAND) 20,000 LB.	1
10	400103	LUG NUT 3/4" (LEFT HAND)	10
	400102	LUG NUT 3/4" (RIGHT HAND).....	10
11	407725	STUD BOLT 3/4" x 2 9/16" (LEFT HAND)	10
	407724	STUD BOLT 3/4" x 2 9/16" (RIGHT HAND)	10
12	342215	BEARING RACE 5.787" O.D. TEMKEN #HM218210	1
13	342213	BEARING 3.543" BORE TEMKEN #HM218248	1
14	372304	SEAL 4 3/8" BORE	1
15	184614	SPINDLE 20,000 LB.....	1