



FEED MIXER
420-12 490-14

**ASSEMBLY, OPERATION
AND PARTS MANUAL**

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

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

Limited Warranty Statement continued

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

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

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 warrants 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. Digi-Star, LLC, W5527 Hwy 106, Fort Atkinson, WI 53538 USA.

WEIGH-TRONIX SCALE SYSTEMS

WEIGH-TRONIX warrants for a period of one year from date of installation, to correct by repair or replacement, at Weigh-Tronix's option, any defect in material or workmanship in any part of this product. In the event of replacement, Weigh-Tronix's sole obligation shall be to provide replacement products or parts. F.O.B. Avery Weigh-Tronix, 1000 Armstrong Drive, Fairmont, MN 56031-1439 USA.

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/FEEDER 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, if 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.

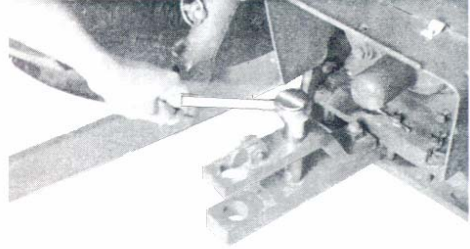




PREPARING TRACTOR FOR TRAILER MIXER

POSITIONING DRAWBAR

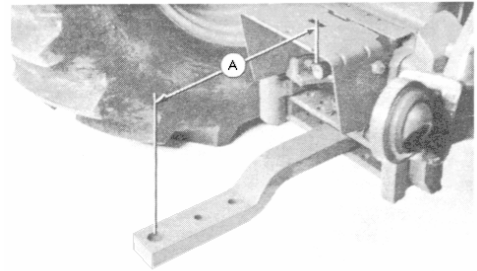
IMPORTANT: Drive components can be damaged from excessive speed. Under no circumstances should a feed mixer equipped with 540 RPM be operated by a tractor with 1000 RPM PTO.



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:

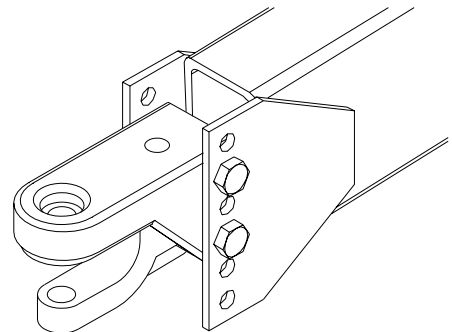
PTO SPEED	DIMENSION (A)
540 RPM	14 inches (356 mm)
1000 RPM	16 inches (406 mm)

ADJUST TRAILER HITCH CLEVIS

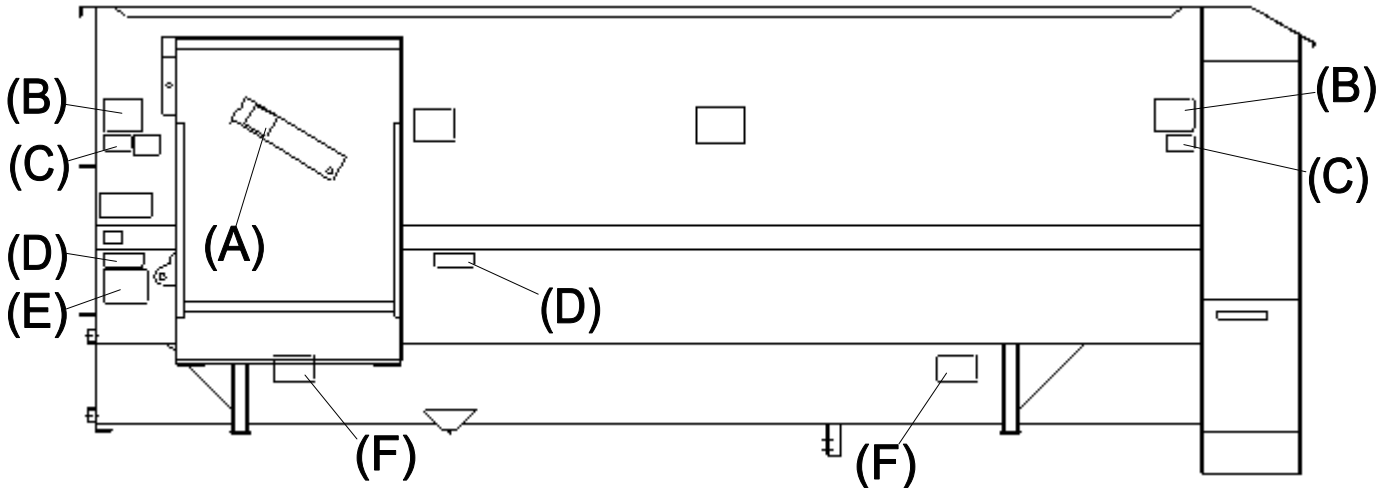
Mixer should be approximately level when attached to tractor.

Adjust clevis by changing hole location on tongue.

Hitch Pin Size --- 1" x 7"



SAFETY SIGNS



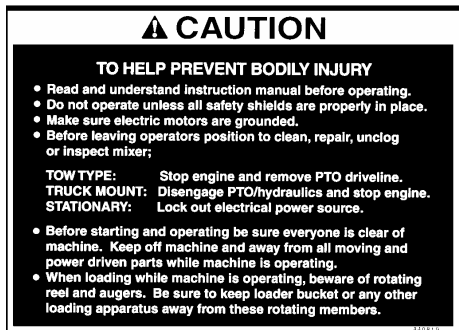
(A) 440833



(C) 440831



(E) 440819



(B) 440827



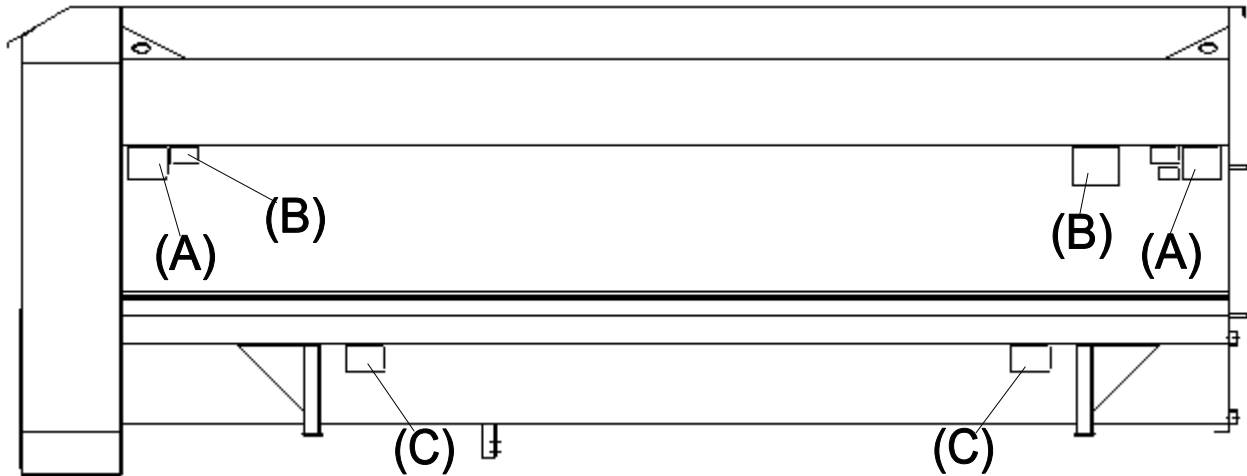
(D) 440818



(F) 440826



SAFETY SIGNS



(B) 440831



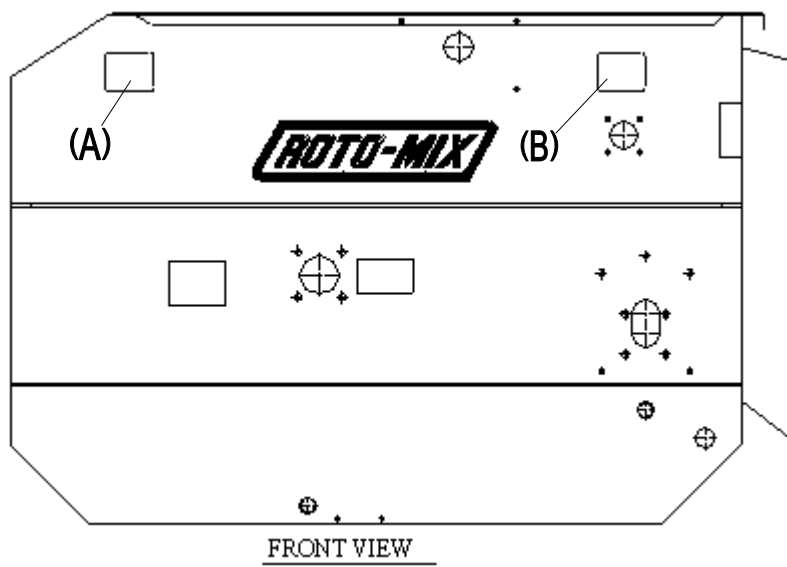
(A) 440828



(C) 440826



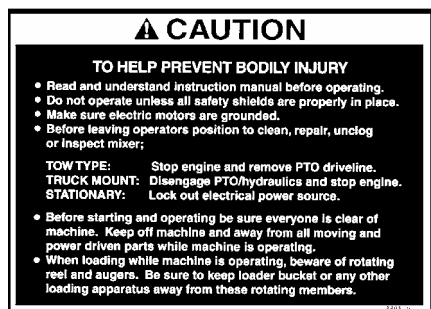
SAFETY SIGNS



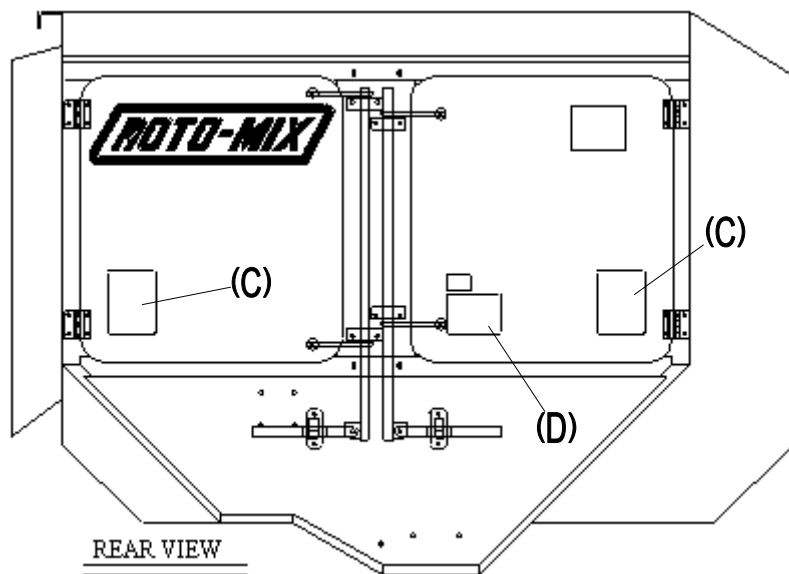
(A) 440828



(D) 440819



(B) 440827



(C) 440822





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. Deep 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 our 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 while the mixer is running.

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.

MIXER INFORMATION

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

LUBRICATION CHART

DISENGAGE PTO & 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.

GREASE BANK: Grease every 100 hours.

FRONT END BEARINGS: Grease every 100 hours.

INPUT BEARINGS: One (1) on input shaft beneath mixer/feeder. Grease every 100 hours.

PTO SHAFTS & U-JOINTS: Grease every 10 to 20 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 non-flammable, non-toxic 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*).



PTO CHART
420-12 & 490-14

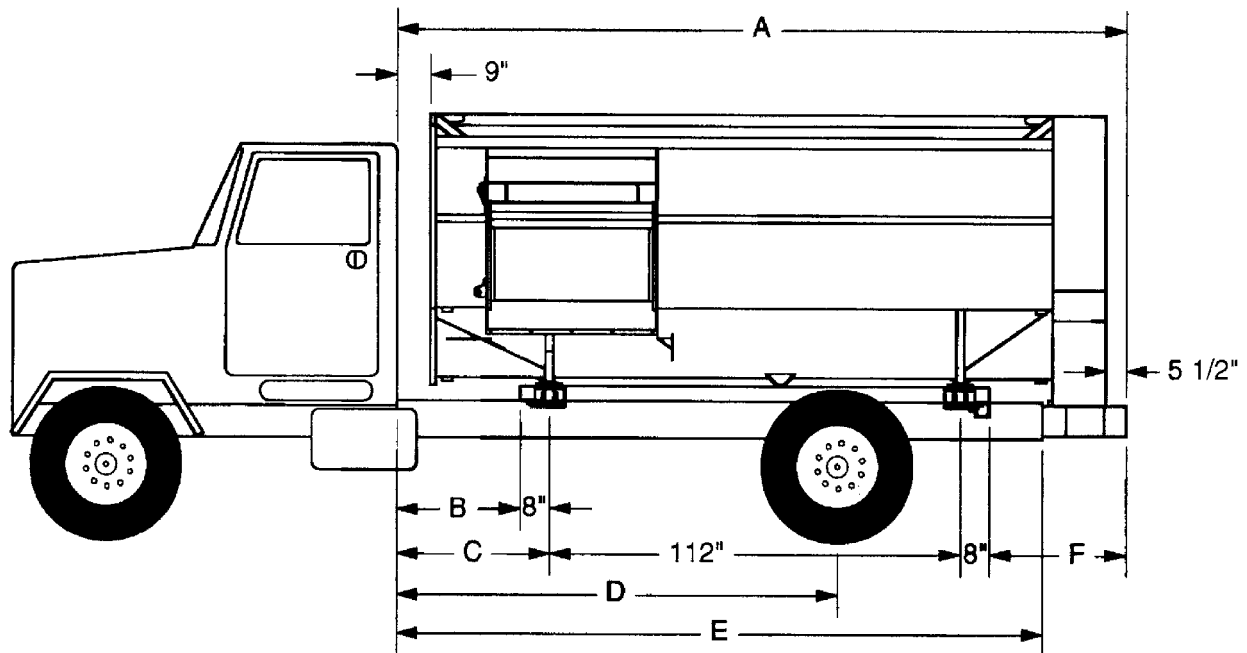
	PTO (% ENGINE SPEED)	GEARBOX (RATIO)	INPUT SPROCKET
DIESEL AUTOMATIC TRANSMISSION	80-85	3 to 1	17 tooth
DIESEL STANDARD TRANSMISSION	81-85 76-80 71-75 66-70 61-65	3 to 1 3 to 1 3 to 1 3 to 1 3 to 1	17 tooth 18 tooth 19 tooth 20 tooth 21 tooth
GASOLINE AUTOMATIC TRANSMISSION	80-85	4 to 1	17 tooth
GASOLINE STANDARD TRANSMISSION	81-85 76-80 71-75 66-70 61-65 56-60	4 to 1 4 to 1 3 to 1 3 to 1 3 to 1 3 to 1	17 tooth 18 tooth 15 tooth 16 tooth 17 tooth 18 tooth
540 TRACTOR DRIVE			15 tooth

MIXER IS SHIPPED WITH 17 TOOTH SPROCKET AND 3 TO 1 GEARBOX.

SPECIFICATIONS

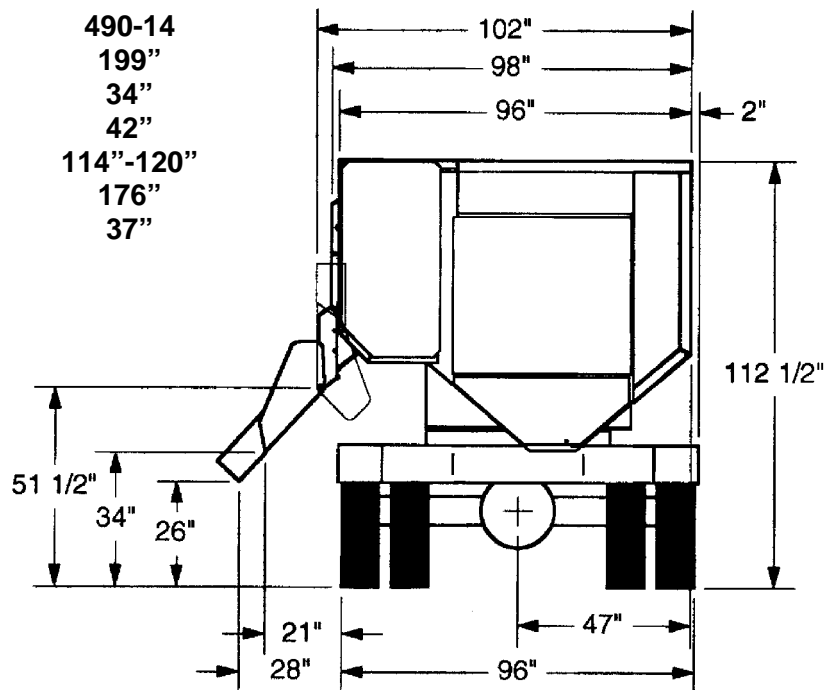
	420-12	490-14
Capacity (Cu. ft.)	420	490
Top Auger Bearing (Front)	1-3/4" 2-Bolt	1-3/4" 2-Bolt
Top Auger Bearing (Rear)	3" 4-Bolt	3" 4-Bolt
Bottom Auger Bearing (Front)	1-3/4" 4-Bolt	1-3/4" 4-Bolt
Bottom Auger Bearing (Rear)	3-1/2" 4-Bolt	3-1/2" 4-Bolt
Rotor Bearing (Front)	2-15/16" 4-Bolt	2-15/16" 4-Bolt
Rotor Bearing (Rear)	4" 4-Bolt	4" 4-Bolt
Top Auger Sprockets	80-A-70 100-A-27	80-A-70 100-A-27
Bottom Auger Sprockets	100-A-54 100-B-13H	100-A-54 100-B-13H
Rotor Sprocket	100-D-96	100-D-96
Drive Sprockets	80-SK-17H	80-SK-17H
Top Auger Flighting	3/8" Steel	3/8" Steel
Bottom Auger Flighting	1/2" Steel	1/2" Steel
Tub Bottom Construction	1/4" Steel	1/4" Steel
Auger Bottom Construction	3/8" Steel	3/8" Steel
Right Side Sheet Construction	3/16" Steel	3/16" Steel
Left Side Sheet Construction	3/16" Steel	3/16" Steel
Front End Sheet Construction	1/4" Steel	1/4" Steel
Rear End Sheet Construction	3/16" Steel	3/16" Steel

TRUCK DIMENSIONS



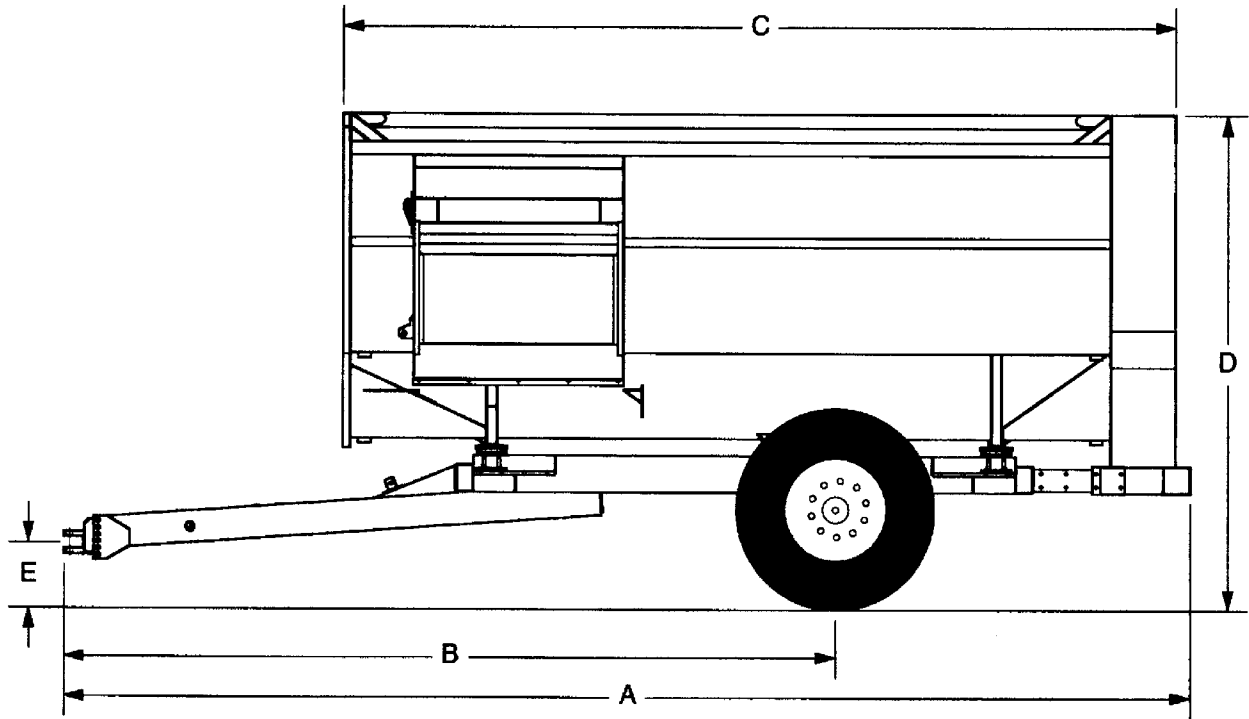
**BASED ON 36" TRUCK FRAME HEIGHT
24" SPOUT STANDARD**

REF	420-12	490-14
A	175"	199"
B	22"	34"
C	30"	42"
D	102-108"	114"-120"
E	152"	176"
F	26"	37"

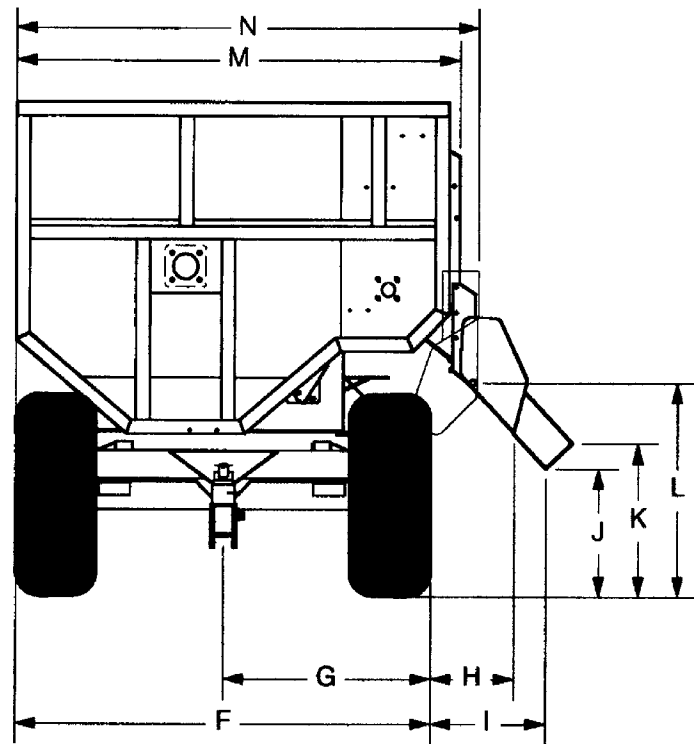


All Dimensions & Specifications are Approximate and Subject to Change Without Notice.

TRAILER DIMENSIONS

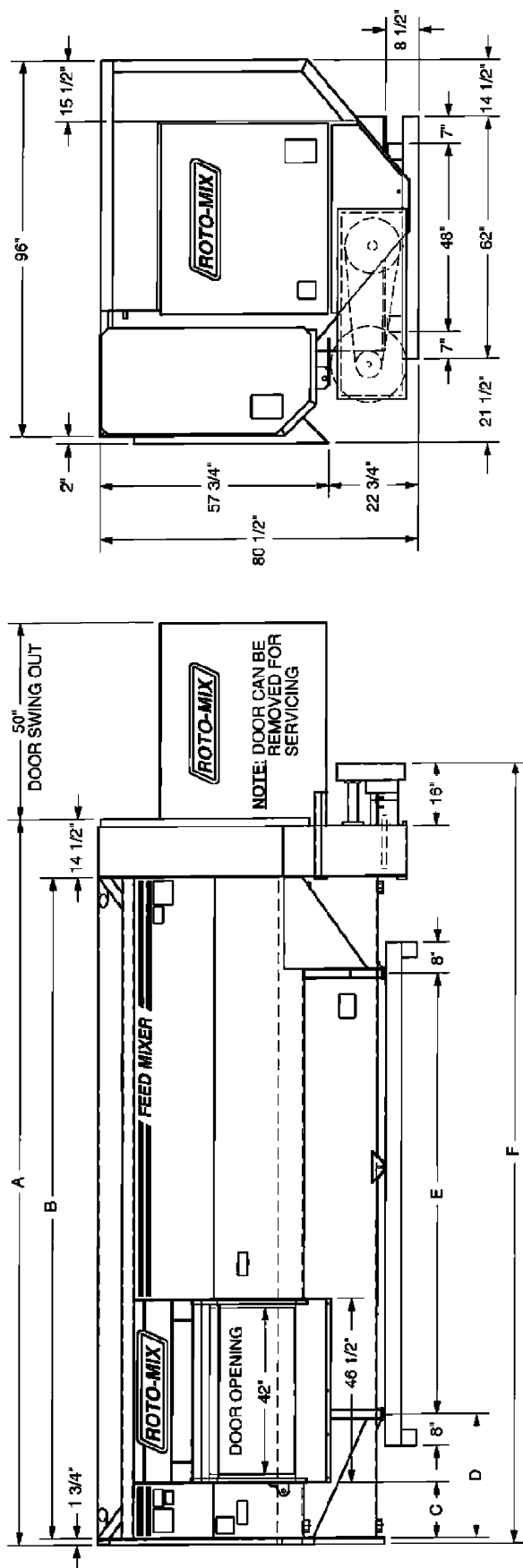


REF	420-12	490-14
A	232-1/2"	244-1/2"
B	157-176"	157-176"
C	166"	190"
D	106"	106"
E	16-19"	16-19"
F	90-98"	92-100"
G	45"-49"	45"-50"
H	16"-20"	16"-20"
I	24"-28"	24"-28"
J	29"	29"
K	36"	36"
L	46"	46"
M	96"-100"	96"-100"
N	103"-107"	103"-107"



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

420/490 STATIONARY DIMENSIONS



MODEL	A	B	C	D	E	F	G
420-12	160-1/4"	144"	14"	19"	112"	174-3/4"	49"
490-14	184-1/4"	168"	14"	31"	112"	198-3/4"	61"

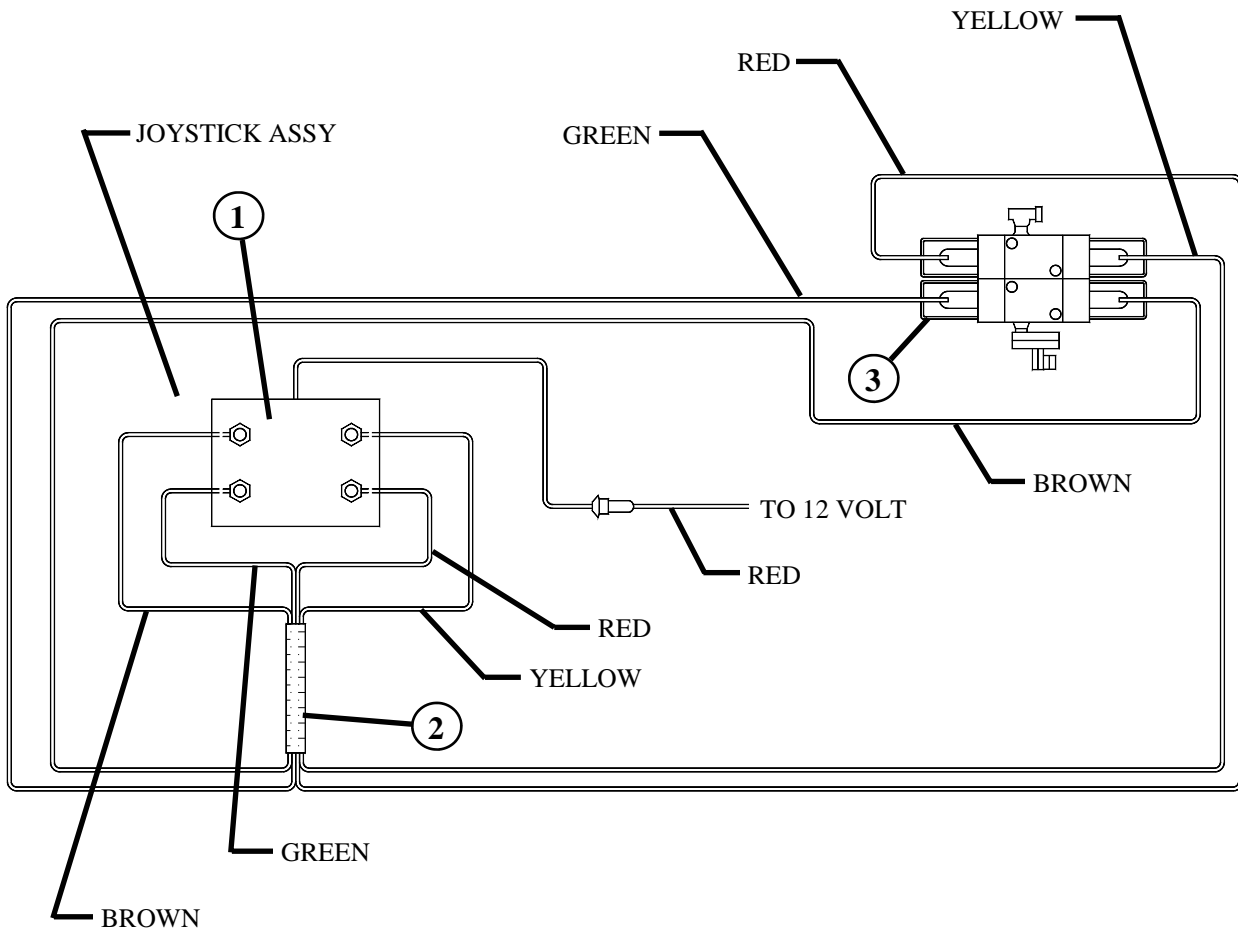
30 HORSE POWER — BOTH UNITS

NOTE:
ADD 4-1/2" TO TOTAL HEIGHT IF CROSS-OVER BAR IS INSTALLED.

STANDARD EQUIPMENT
SELF-CONTAINED HYDRAULICS WITH 110 VOLT SOLENOID VALVE TO OPEN DISCHARGE DOOR.

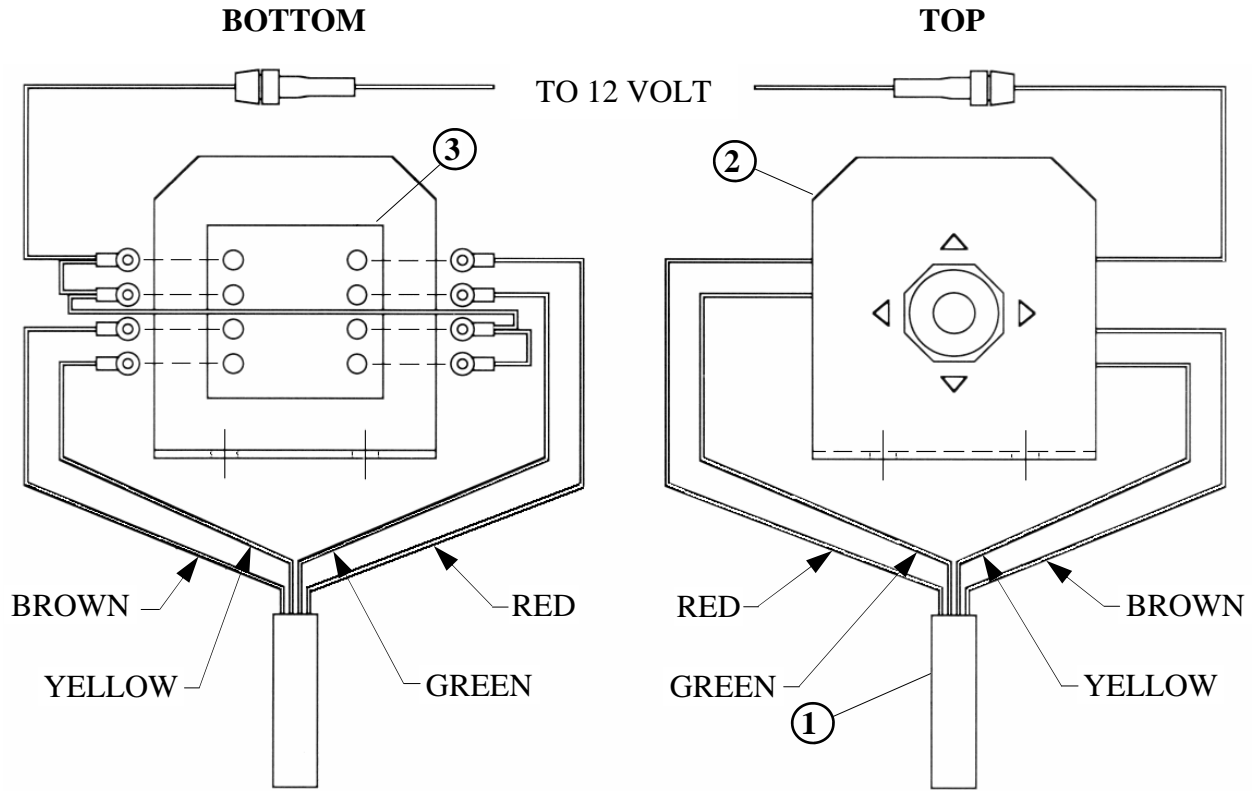
PARTS PAGES

420/490 WIRING SCHEMATIC FOR STRAIGHT DOOR



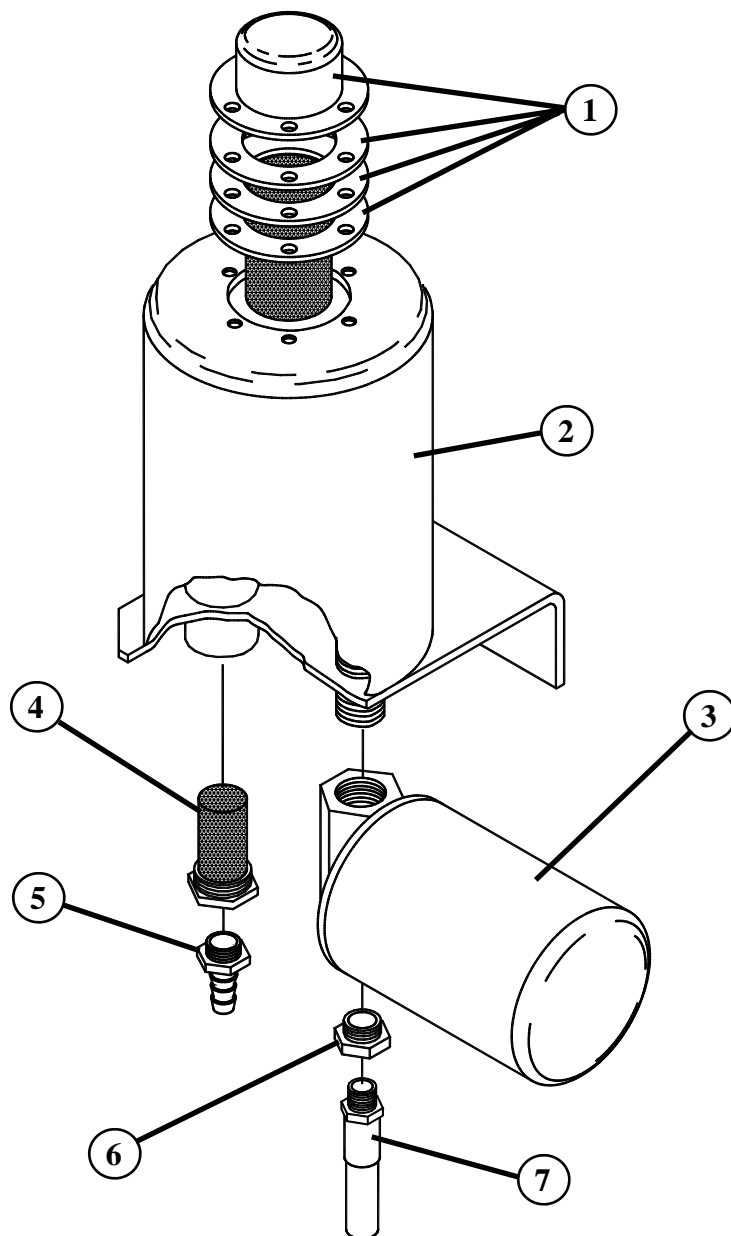
REF. NO	PART NO.	DESCRIPTION	QTY.
1			
A	780080	PUSH BUTTON SWITCH PANEL ASSEMBLY	1
B	780081	JOYSTICK SWITCH PANEL ASSEMBLY	1
2	781055	TRUCK TO MIXER WIRE ASSEMBLY	1
3			
A	780122	HYDRAULIC CONTROL VALVE ASSEMBLY	1
B	780123	MV5 HYDRAULIC CONTROL VALVE ASSEMBLY.....	1

JOYSTICK ASSEMBLY



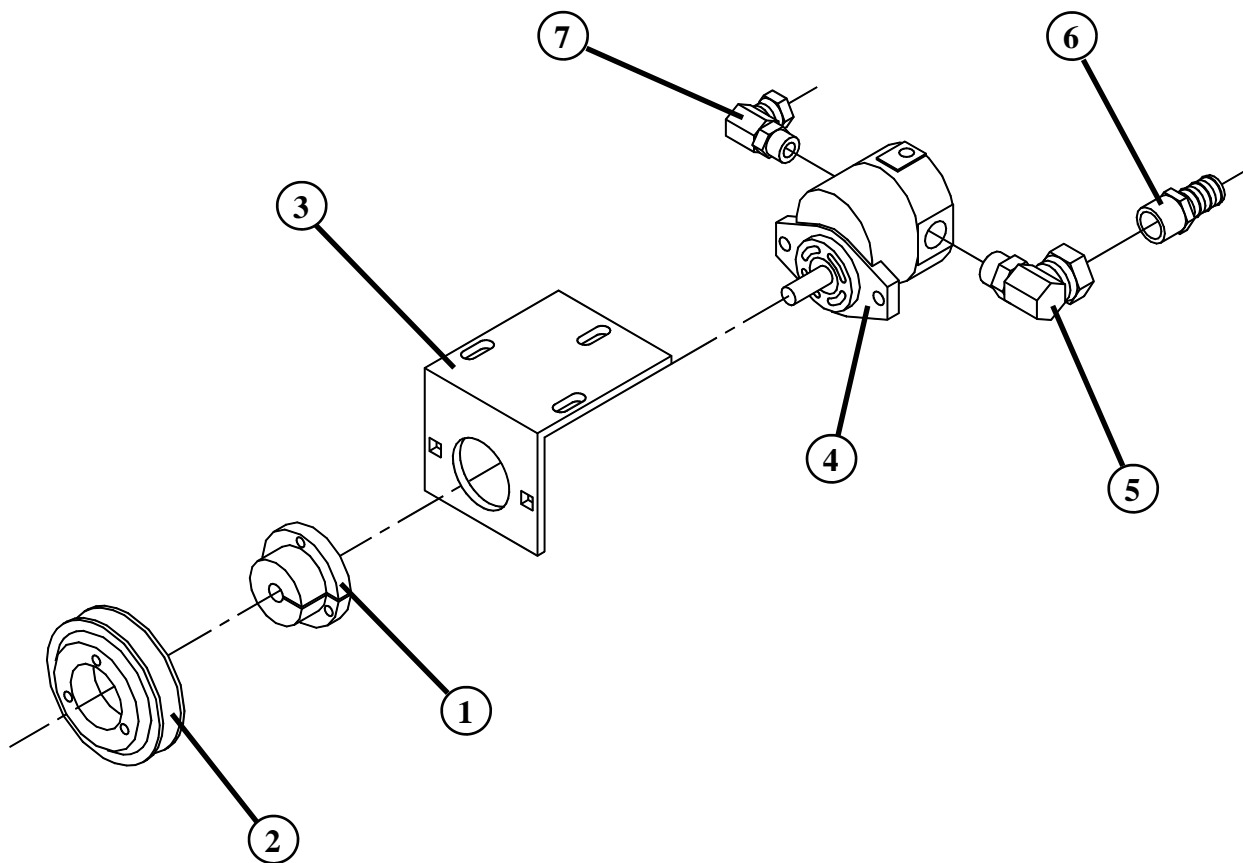
REF. NO	PART NO.	DESCRIPTION	QTY.
1	781056	SWITCH WIRE ASSEMBLY	1
2	185575	JOYSTICK BRACKET	1
3	357705	JOYSTICK SWITCH	1

420/490 OIL RESERVOIR



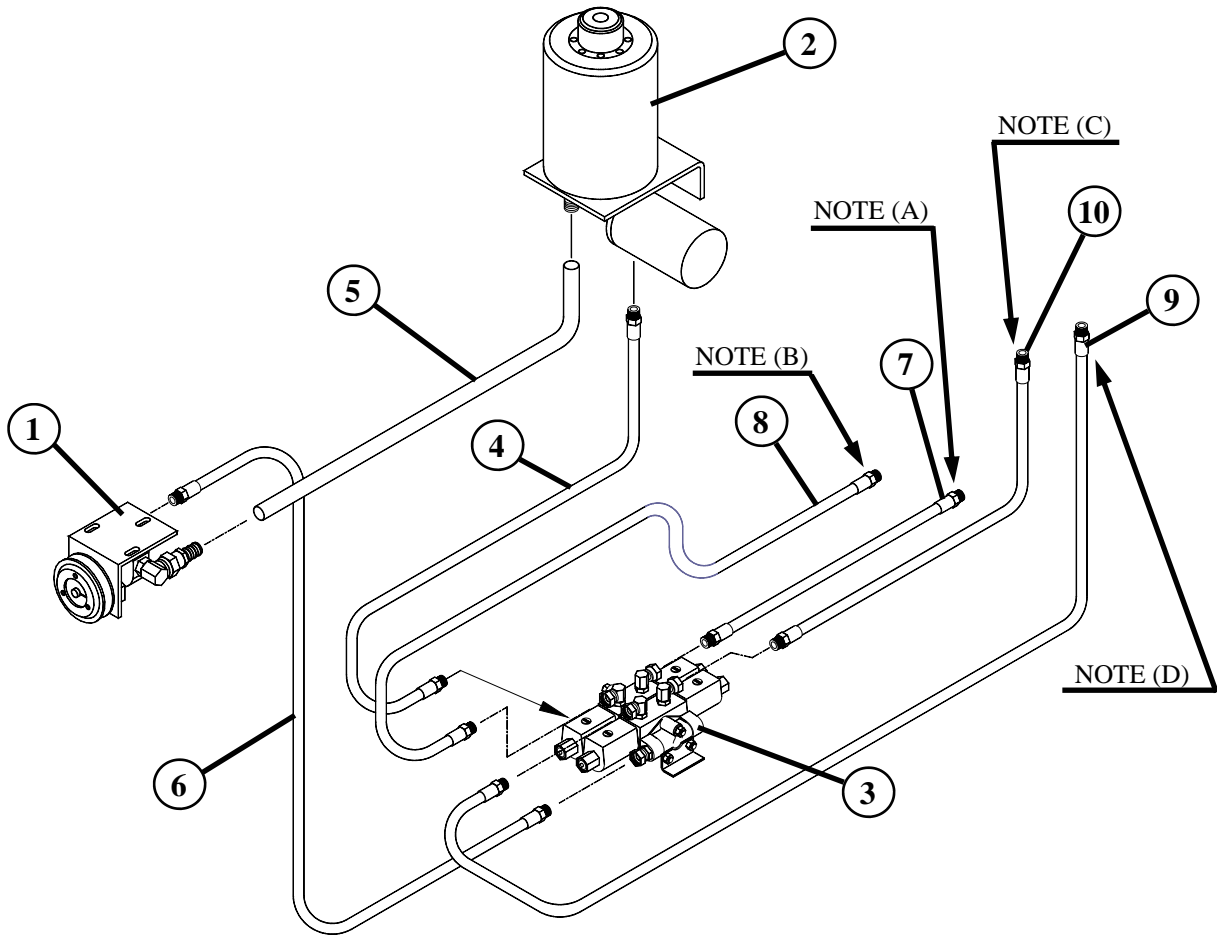
REF. NO	PART NO.	DESCRIPTION	QTY.
1	362550	FILLER CAP	1
2	870477	OIL RESERVOIR WELDMENT.....	1
3	362400	FILTER ASSEMBLY.....	1
4	362504	SUCTION SCREEN.....	1
5	368512	3/4" HOSE BARB	1
6	310815	3/4" TO 3/8" REDUCER BUSHING.....	1
7	781059	3/8" x 20" HYD. HOSE ASSY. (3/8" MP ENDS).....	1

420/490 HYDRAULIC PUMP



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
A	352015	HYDRAULIC PUMP (CLAM DOOR).....	1
5	368050	3/4" FP x 7/8" MOR 90o SWIVEL	1
6	368512	3/4" MP x 3/4" HOSE BARB.....	1
7	368040	3/8" FP x 3/4" MOR 90o SWIVEL	1

420/490 HYDRAULIC SCHEMATIC STRAIGHT DOOR



NOTE A: CONNECT TO SPOUT CYLINDER BASE

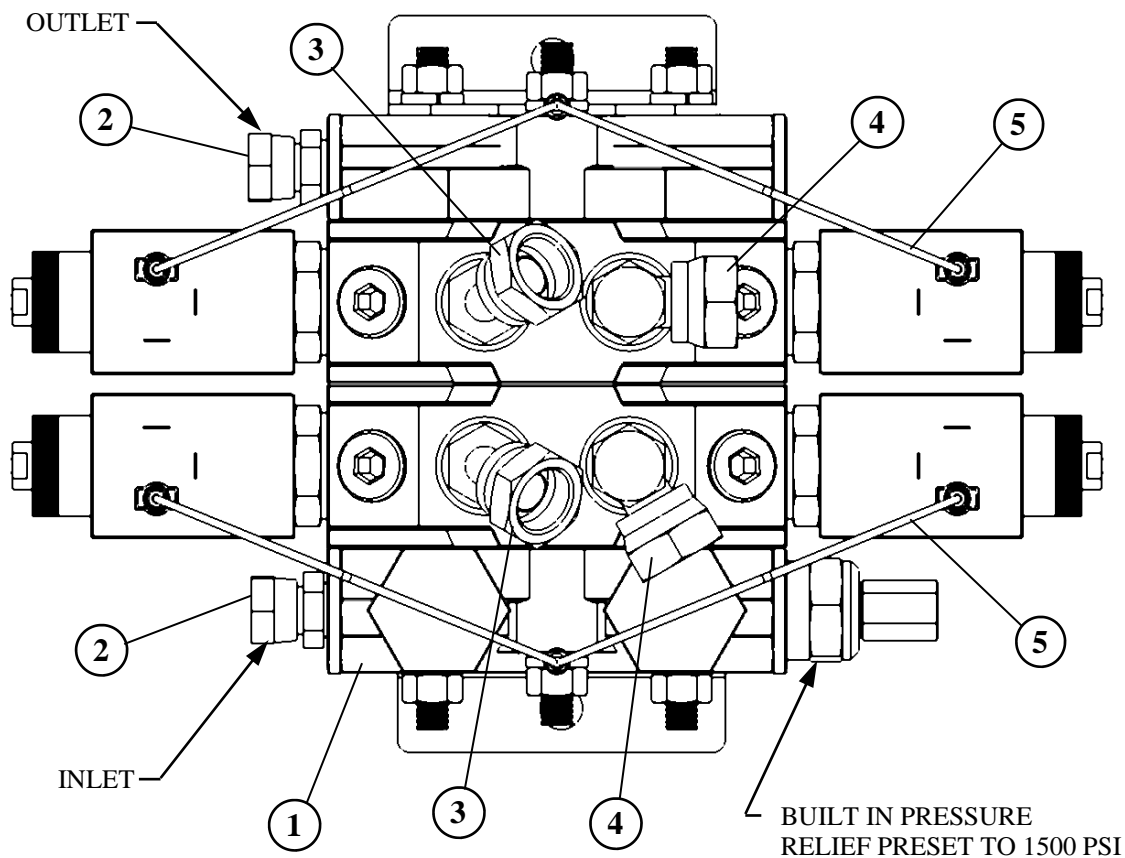
NOTE B: CONNECT TO SPOUT CYLINDER ROD END

NOTE C: CONNECT TO DOOR CYLINDER BASE

NOTE D: CONNECT TO DOOR CYLINDER ROD END

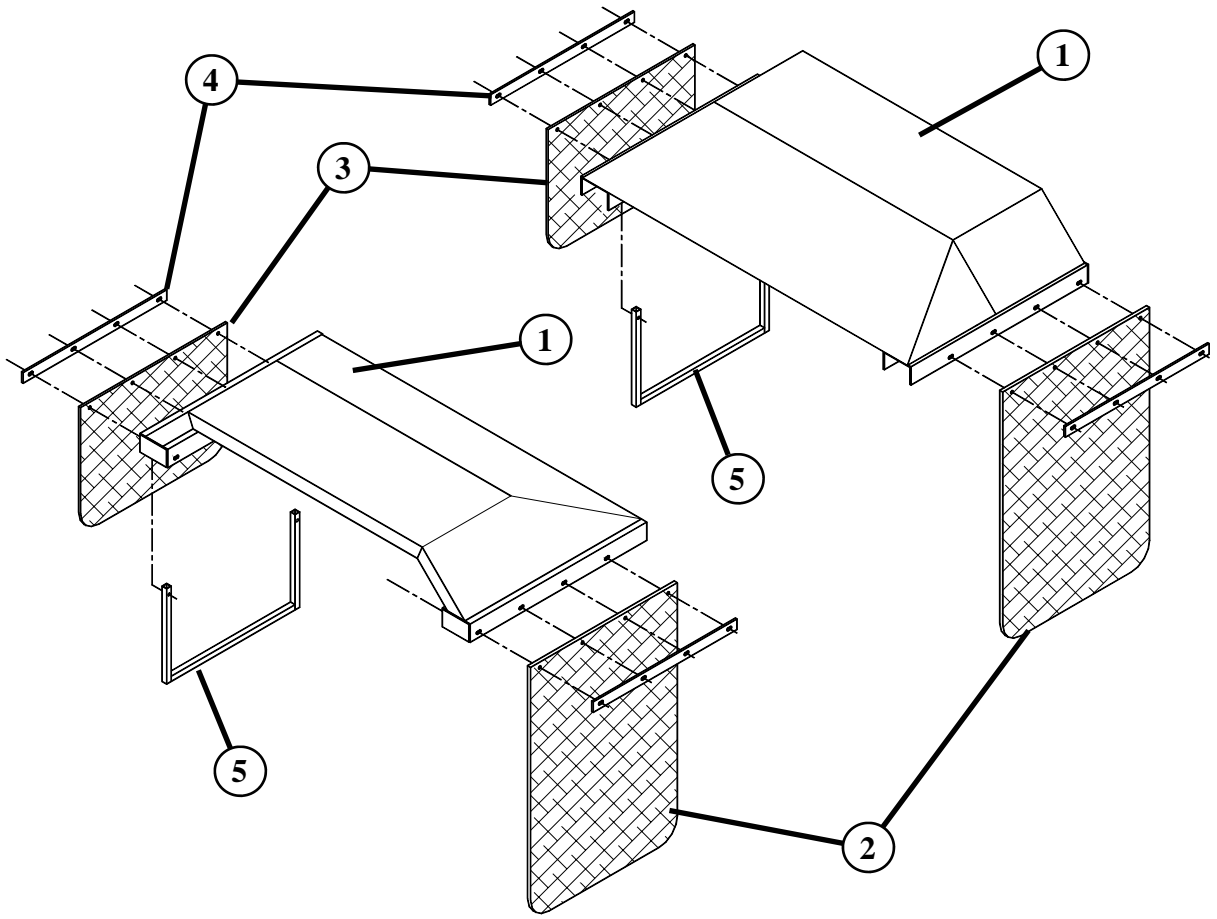
REF. NO	PART NO.	DESCRIPTION	QTY.
1	780064	HYDRAULIC PUMP ASSEMBLY.....	1
2	780205	RESERVOIR ASSEMBLY	1
3A	780122	HYD CONTROL VALVE ASSY, TRUCK.....	1
3B	780123	MV5 HYD CONTROL VALVE ASSY, TRUCK.....	1
4	781059	HYD. HOSE ASSY. 3/8"MP x 3/8"MP x 20"	1
5	184291	HYD. HOSE ASSY. 3/4" x 144" (SUCTION LINE)	1
6	781073	HYD. HOSE ASSY. 3/8"MP x 3/8" MP x 144"	1
7A	781069	HYD. HOSE ASSY. 3/8"MP x 1/4"MP x 76" (420)	1
7B	781071	HYD. HOSE ASSY. 3/8"MP x 1/4"MP x 88" (490)	1
8A	781066	HYD. HOSE ASSY. 3/8"MP x 1/4"MP x 60" (420)	1
8B	781068	HYD. HOSE ASSY. 3/8"MP x 1/4"MP x 71" (490)	1
9	781061	HYD. HOSE ASSY. 3/8"MP x 3/8"MP x 42"	1
10	781098	HYD. HOSE ASSY. 3/8"MP x 1/4"MP x 32"	1

HYDRAULIC VALVE, 12V DOUBLE, BUCHER



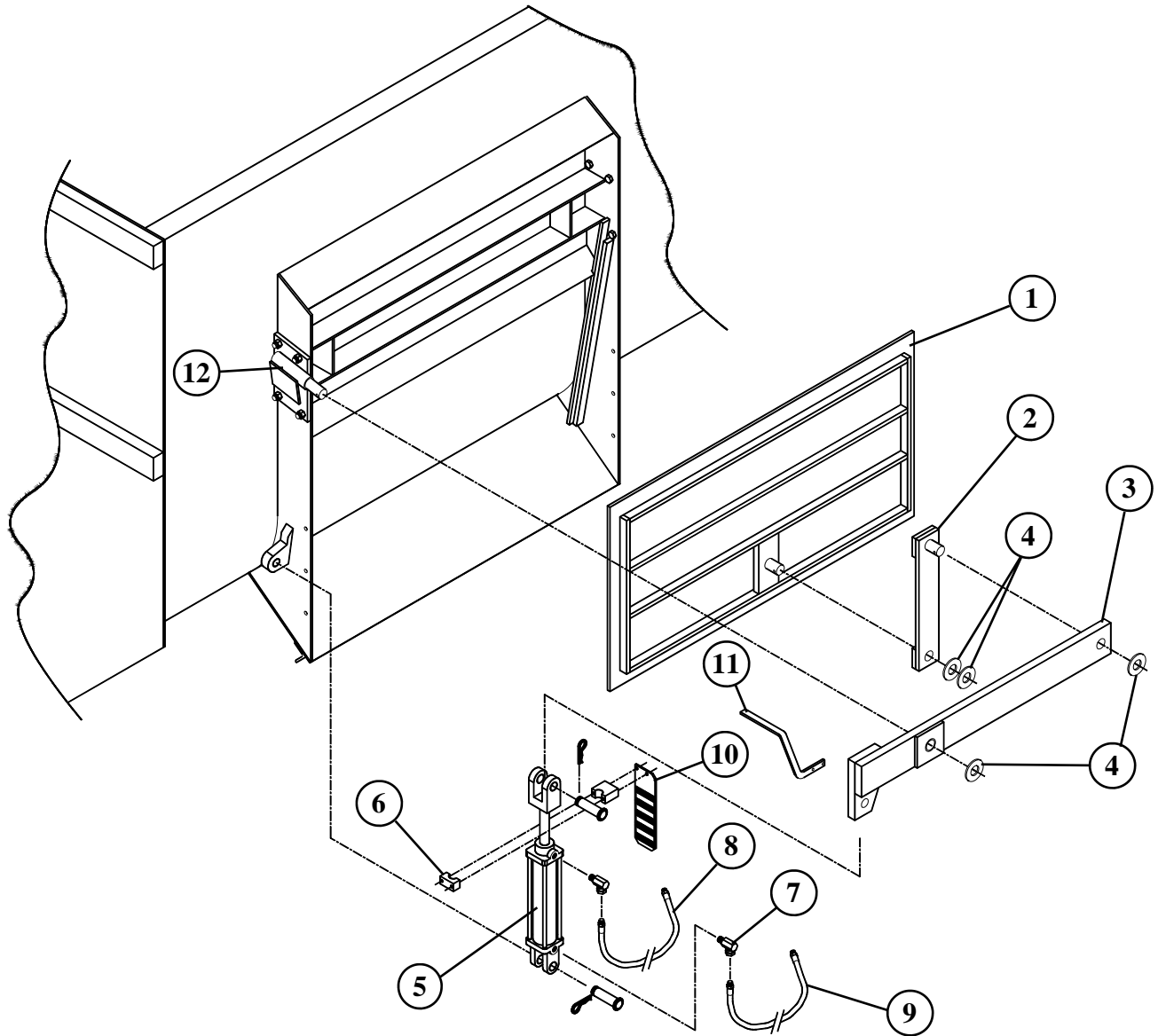
REF. NO	PART NO.	DESCRIPTION	QTY.
1	362209	HYDRAULIC VALVE, 12V DOUBLE, BUCHER	1
2	368115	9/16" MOR x 3/8" FPS	2
3	368024	SWIVEL 45° 9/16" MOR x 3/8" FPS	2
4	368030	SWIVEL 90° 9/16" MOR x 3/8" FPS	2
5	781057	12 VOLT SOLENOID VALVE GROUND WIRE	2

420/490 FENDERS



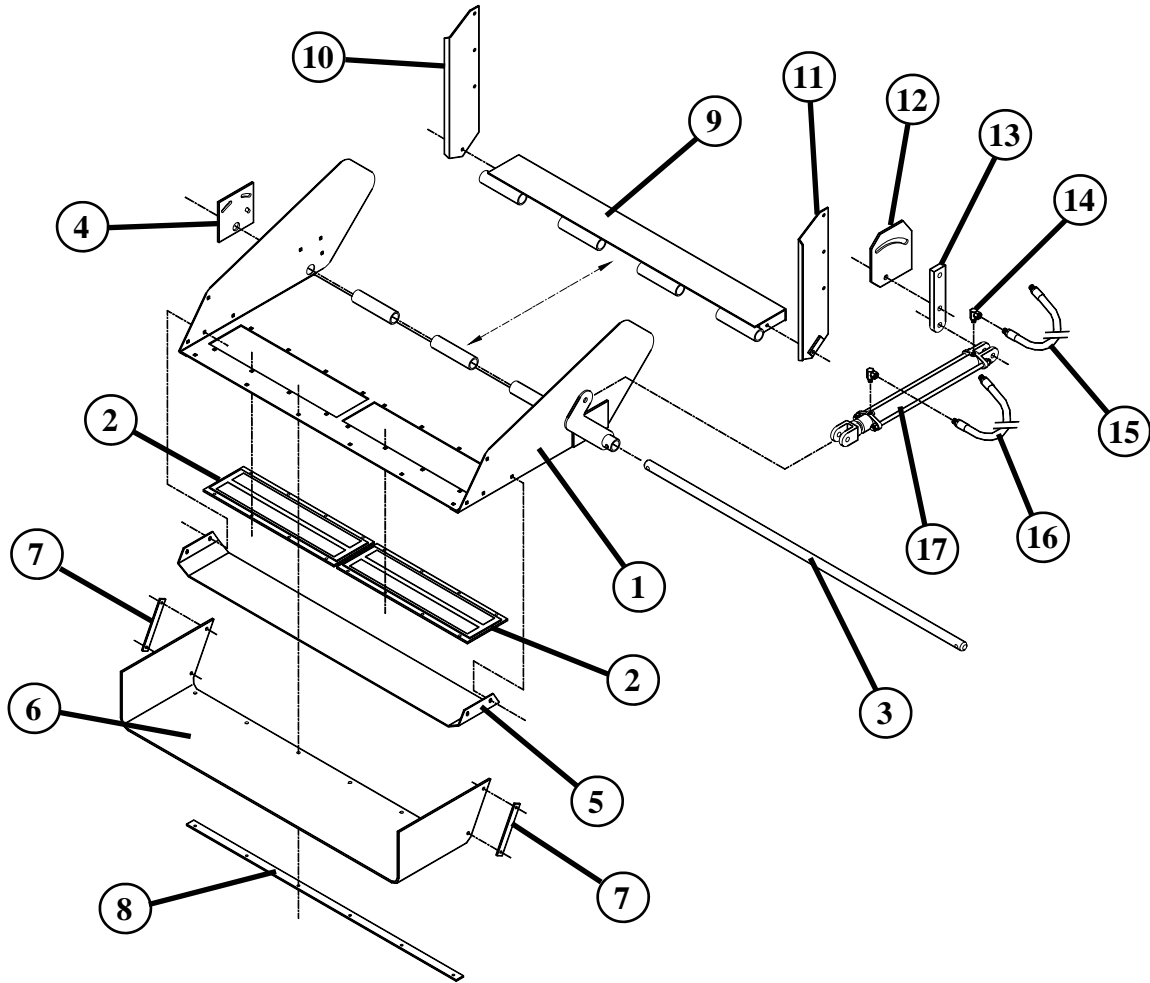
REF. NO	PART NO.	DESCRIPTION	QTY.
1	872108	SINGLE AXLE FENDER WELDMENT	2
2	370200	REAR MUD FLAP.....	2
3	370202	FRONT MUD FLAP	2
4	183087	MUD FLAP STRAP.....	4
5	872120	MUD FLAP BRACKET WELDMENT.....	2

420/490 DISCHARGE DOOR ASSEMBLY



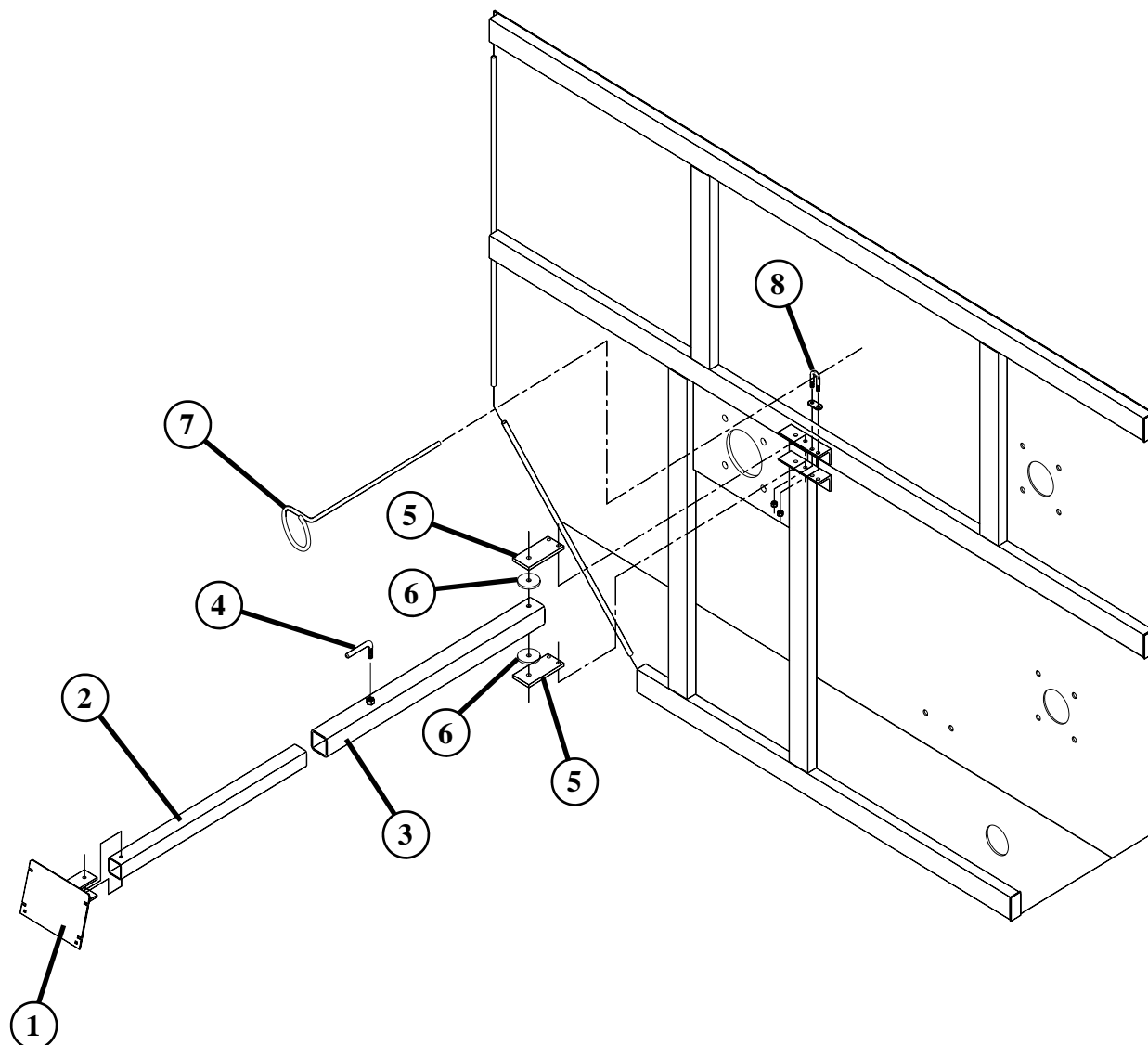
REF. NO	PART NO.	DESCRIPTION	QTY.
1	872259	STRAIGHT DOOR PLATE WELDMENT	1
2	872248	STRAIGHT DOOR ARM WELDMENT	1
3	872247	STRAIGHT DOOR LEVER ARM WELDMENT.....	1
4	402518	FLATWASHER 1 1/8" SAE	4
5	364055	HYDRAULIC CYLINDER 2" x 8"	1
6	184267	DOOR CYLINDER MARKER CLAMP (2 PIECE)	1
7	368007	HYD. ADAPTER 3/8"MP x 3/8"FPSW 90o 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	STRAIGHT DOOR PIVOT MOUNT WELDMENT	1

420/490 SPOUT ASSEMBLY
 (#780502—14" SPOUT ASSY) (#780460—24" SPOUT ASSY)



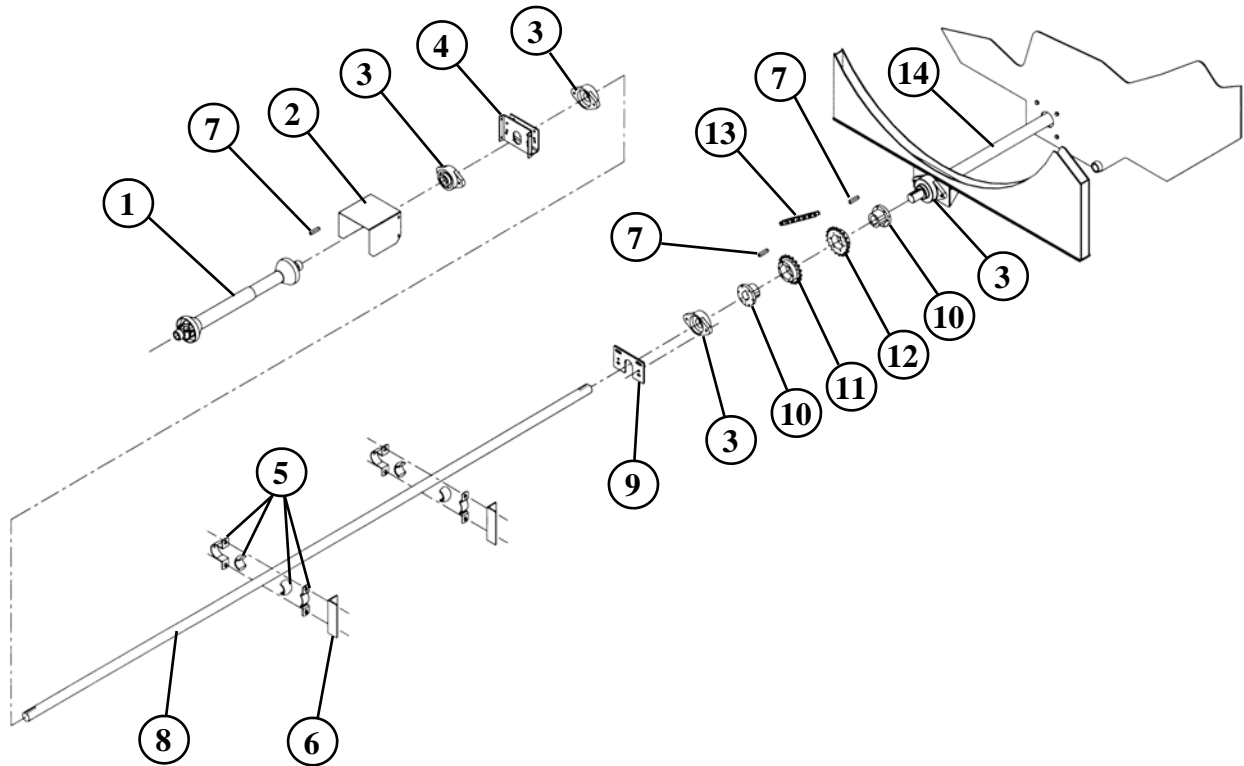
REF. NO	PART NO.	DESCRIPTION	QTY.
1	872284	24" SPOUT WELDMENT (SHOWN).....	1
	872283	14" SPOUT WELDMENT (NOT SHOWN).....	1
2	375005	AM 2200 ARCO MAGNET.....	2
3	182238	SPOUT HINGE SHAFT.....	1
4	872237	SPOUT HINGE ADJUSTMENT WELDMENT	1
5	189079	SPOUT MAGNET GUARD	1
6	183145	SPOUT RUBBER.....	1
7	183160	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"MPx1/4"FPSW 90° 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

420/490 SCALE INDICATOR ARM ASSEMBLY



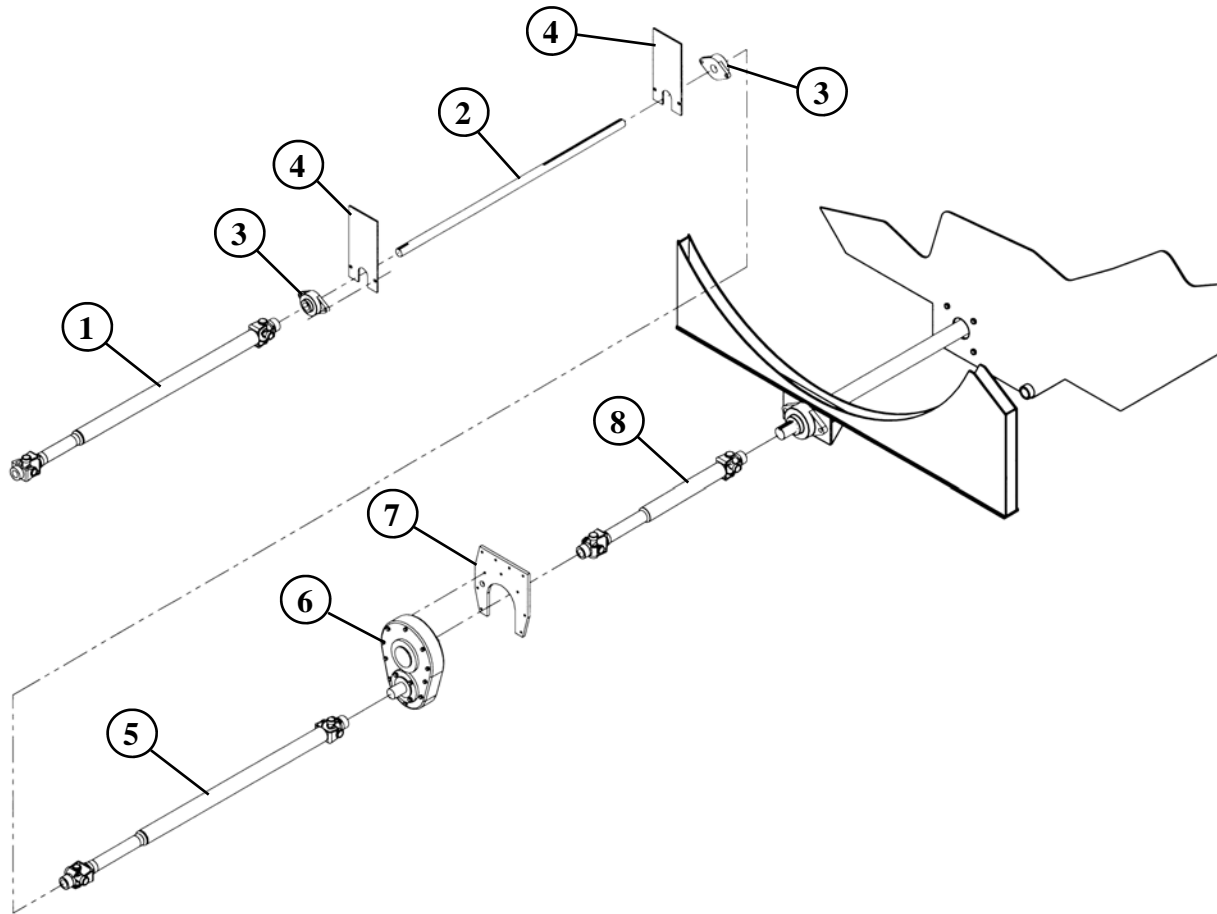
REF. NO	PART NO.	DESCRIPTIONQTY.
1	872126	TRAILER SCALE INDICATOR ARM WELDMENT	1
2	185490	TRAILER SCALE INDICATOR TUBE.....	1
3	872125	TRAILER SCALE ARM WELDMENT	1
4	185492	LOCKING HANDLE 1/2"	1
5	185491	SCALE ARM HINGE PLATE.....	2
6	185493	SCALE HINGE WASHER.....	2
7	184283	HOSE CARRIER.....	1
8	412205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

420/490 TRAILER DRIVELINE ASSEMBLY (540 RPM)



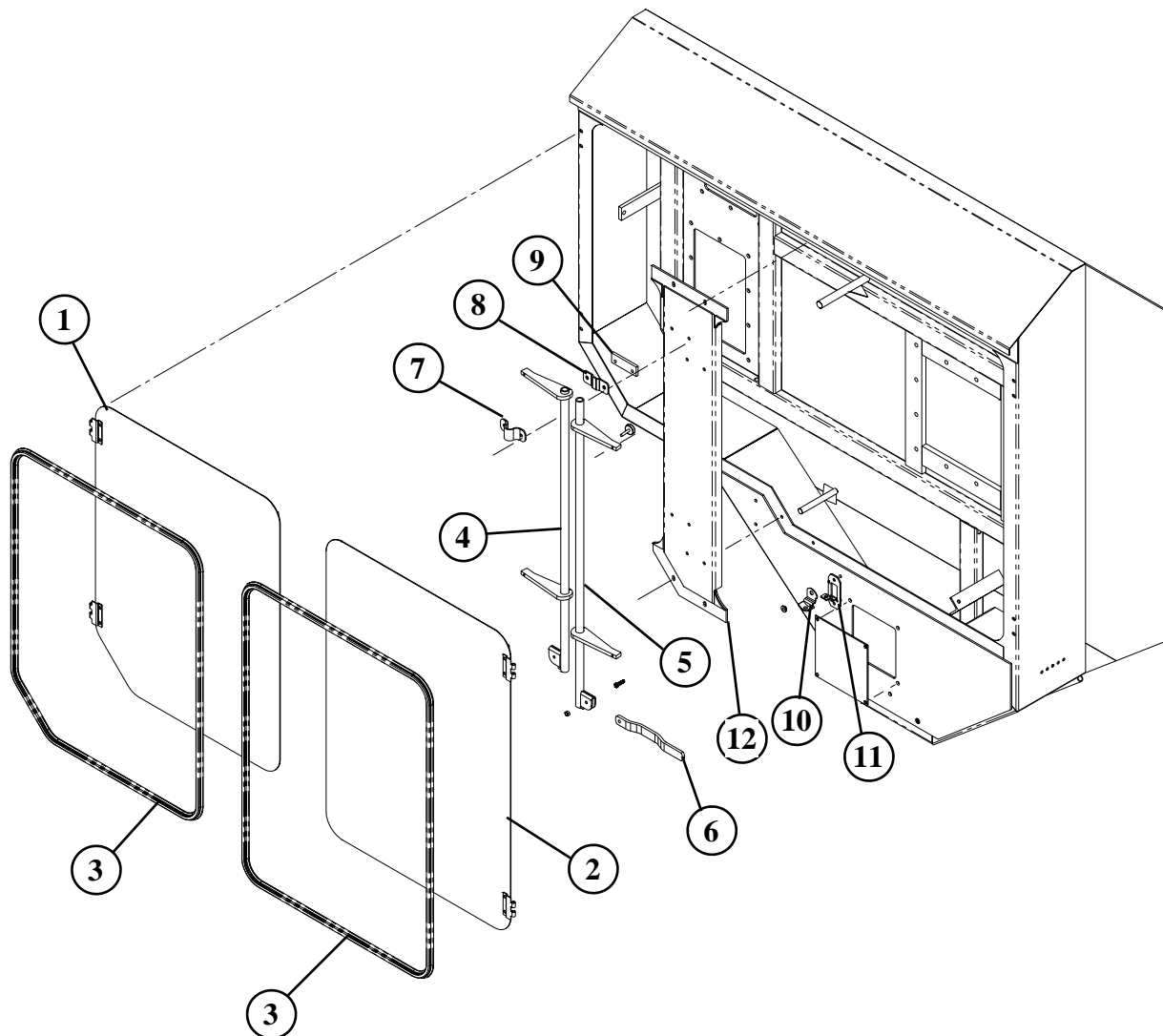
REF. NO	PART NO.	DESCRIPTION	QTY.
1	338030	PTO SHAFT ASSY W2400-540	1
2	780601	PTO SHIELD ASSY.....	1
3	340228	VCJT 1-3/4" 2-BOLT FLANGE BEARING	4
4	872092	FRONT JACKSHAFT BEARING PLATE.....	1
5	341028	1-3/4" POBCO BEARING	2
6	185304	CARRIER BEARING MOUNT ANGLE	2
7	185485	KEY, SQ 1/2" x 2-1/2"	2
8A	183293	420 TRAILER DRIVELINE 1-3/4" x 130"	1
8B	183301	490 TRAILER DRIVELINE 1-3/4" x 144"	1
9	183277	BEARING HANGER	1
10	335028	2012 TL x 1-3/4" BUSHING.....	1
11	332610	CHAIN COUPLING TLF 6020.....	1
12	332611	CHAIN COUPLING TLH 6020.....	1
13	320720	CHAIN 60-2 x 20 PITCHES W/CONNECTOR	1
14A	182717	DRIVE INPUT SHAFT 32" (420)	1
14B	182725	DRIVE INPUT SHAFT 44" (490)	1

420/490 TRUCK DRIVELINE ASSEMBLY



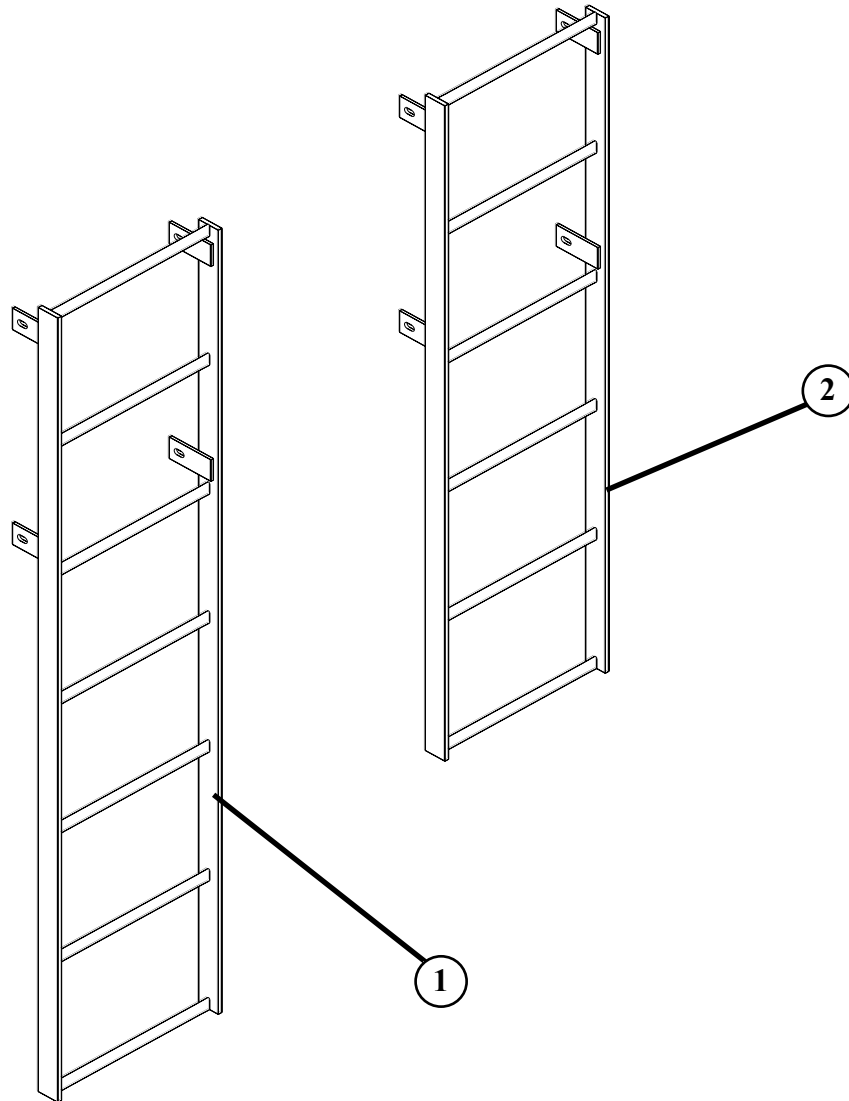
REF. NO	PART NO.	DESCRIPTION	QTY.
1	780486	DRIVESHAFT ASSEMBLY 1 1/4" x 1 3/8".....	1
2	183327	TRUCK JACKSHAFT 1 3/8"	1
3	340222	BEARING, 2-BOLT FLANGE 1 3/8"	2
4	183319	TRUCK JACKSHAFT BRACKET.....	2
5	780494	DRIVESHAFT ASSEMBLY 1 3/8" x 1 3/8".....	1
6	344023	GEARBOX, 3:1 HUB CITY	1
7	183251	GEARBOX PLATE.....	1
8	338042	DRIVESHAFT, W2400 385560.....	1

420/490 OIL BATH DOOR GROUP



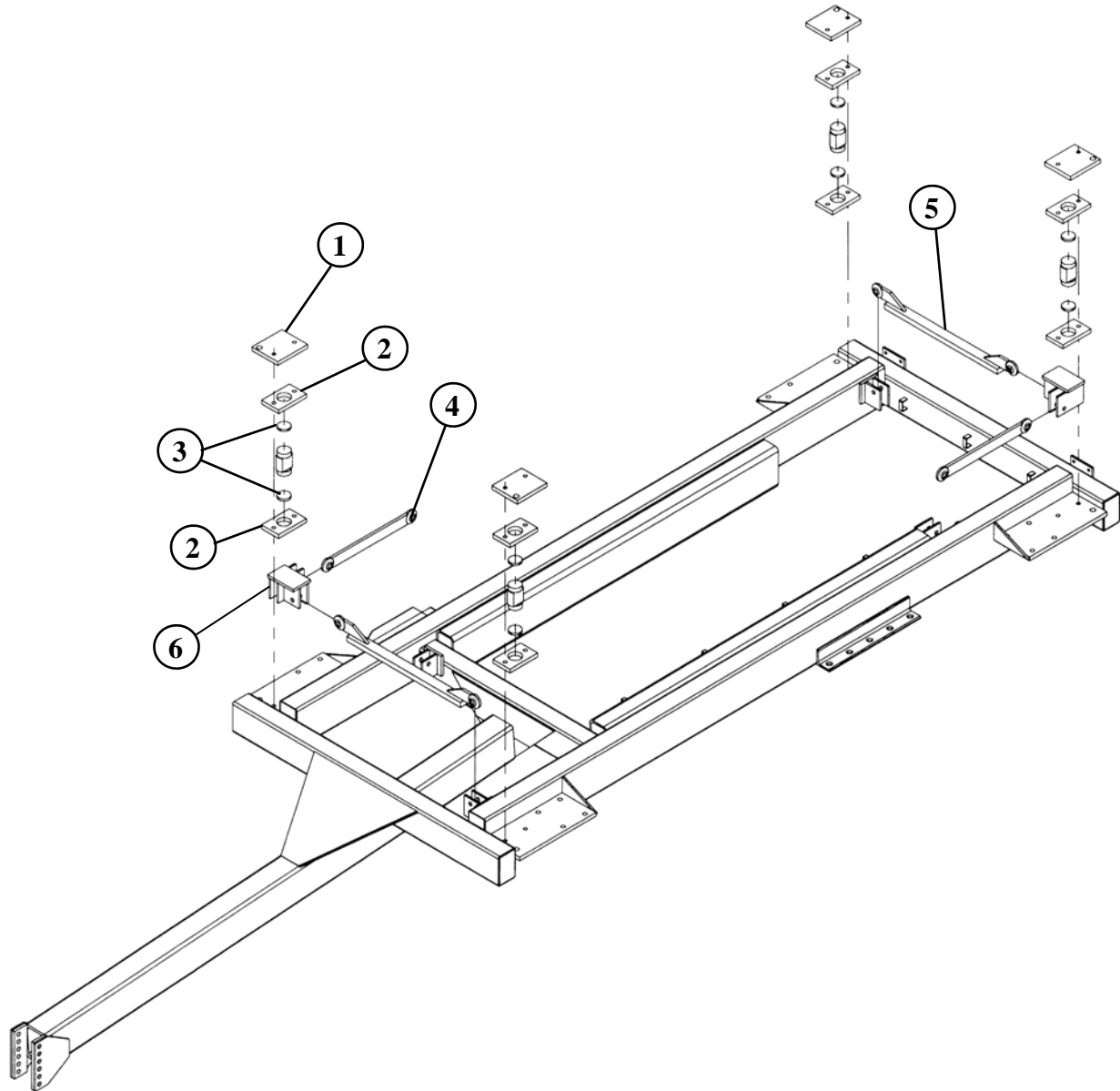
REF. NO	PART NO.	DESCRIPTION	QTY.
1	872696	LEFT O.B. DOOR WA	1
2	872695	RIGHT O.B. DOOR WA.....	1
3	351056	5/32" RUBER BULB SEAL.....	25"-4"
4	850575	LEFT HAND CAM LOCK WA.....	1
5	872707	RIGHT HAND CAM LOCK WA	1
6	370319	CAM LOCK HANDLE	1
7	370316	CAM LOCK TOP PLATE.....	4
8	370317	CAM LOCK BOTTOM PLATE	4
9	189503	CAM ROD SPACER.....	4
10	370320	HANDLE CAM LOCK	2
11	370322	HANDLE STOP	2
12	872694	O.B. CENTER CHANNEL WA.....	1

420/490 LADDERS



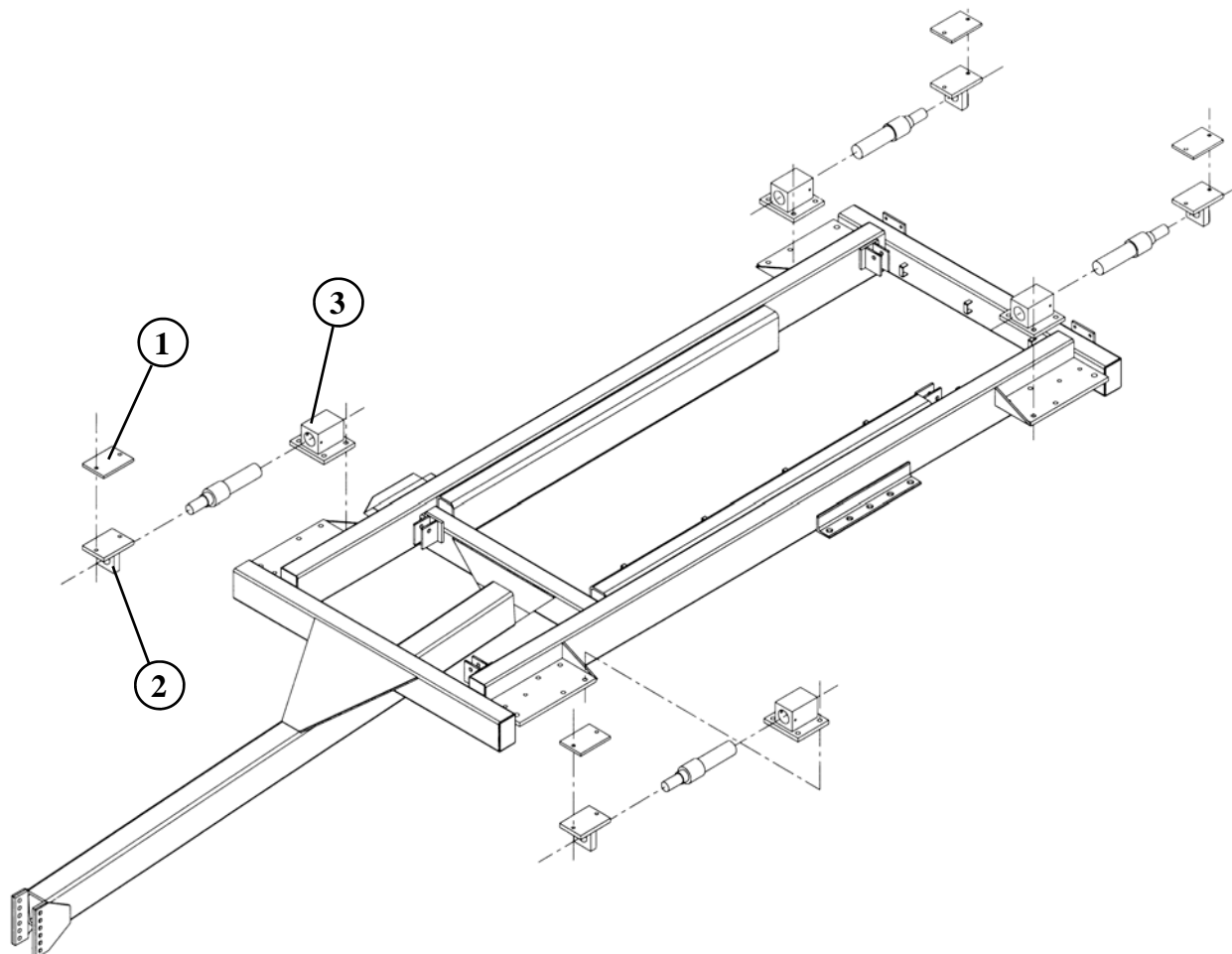
REF. NO	PART NO.	DESCRIPTION	QTY.
1	780906	TRUCK LADDER WELDMENT	1
2	780288	TRAILER LADDER WELDMENT	1

420/490 TRAILER LOAD CELL SCALE FRAME ASSEMBLY



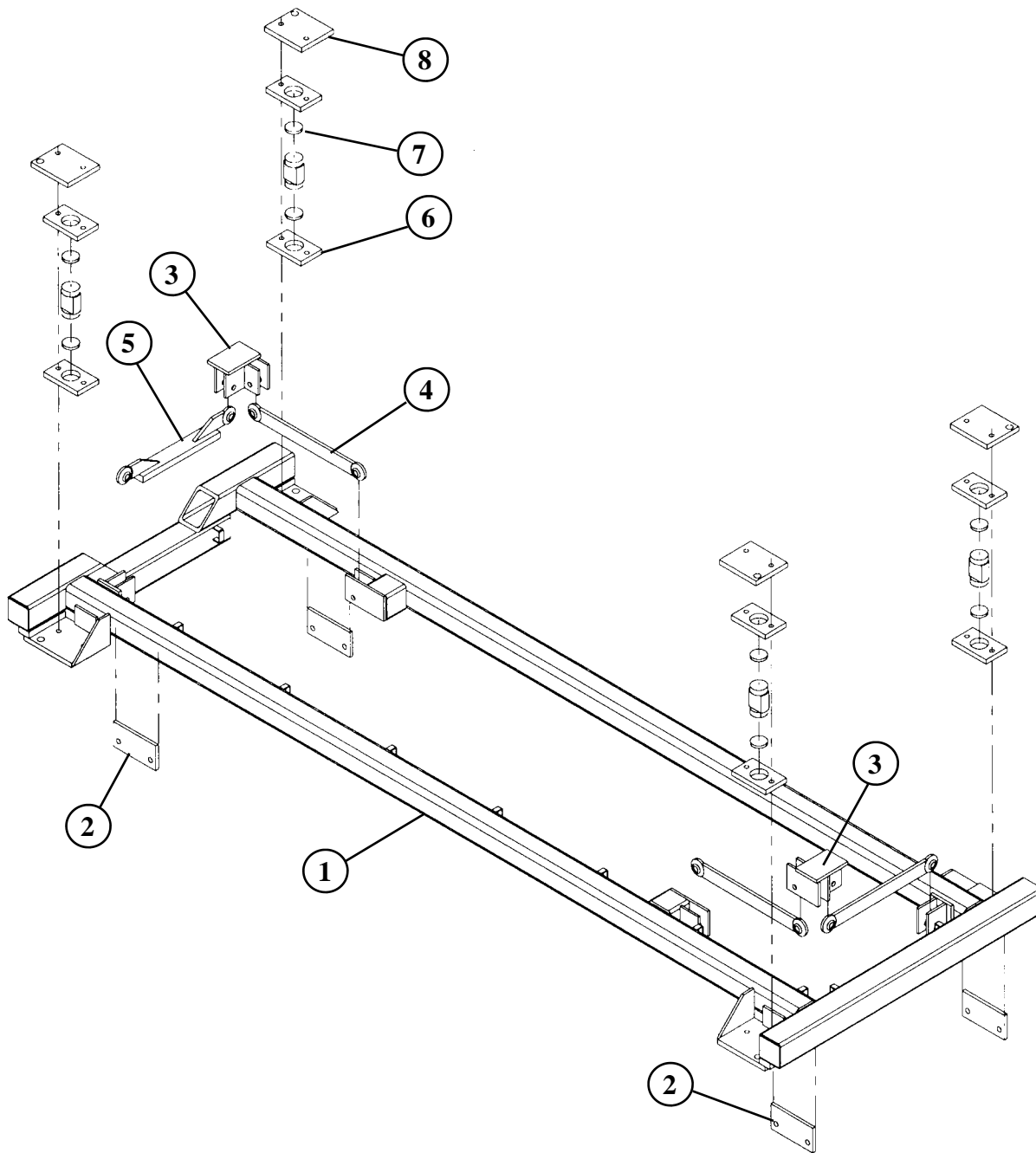
REF. NO	PART NO.	DESCRIPTION	QTY.
1	182881	SCALE MOUNT MIXER PAD	4
2	182915	LOADCELL CAGE PLATE	8
3	185997	SCALE PAD.....	8
4	870501	CHECK ROD W.A.....	2
5	871053	TRAILER CHECK ROD W.A.....	2
6	870519	MIXER SCALE CHECK W.A.....	2

420/490 TRAILER WEIGH BAR SCALE FRAME ASSEMBLY



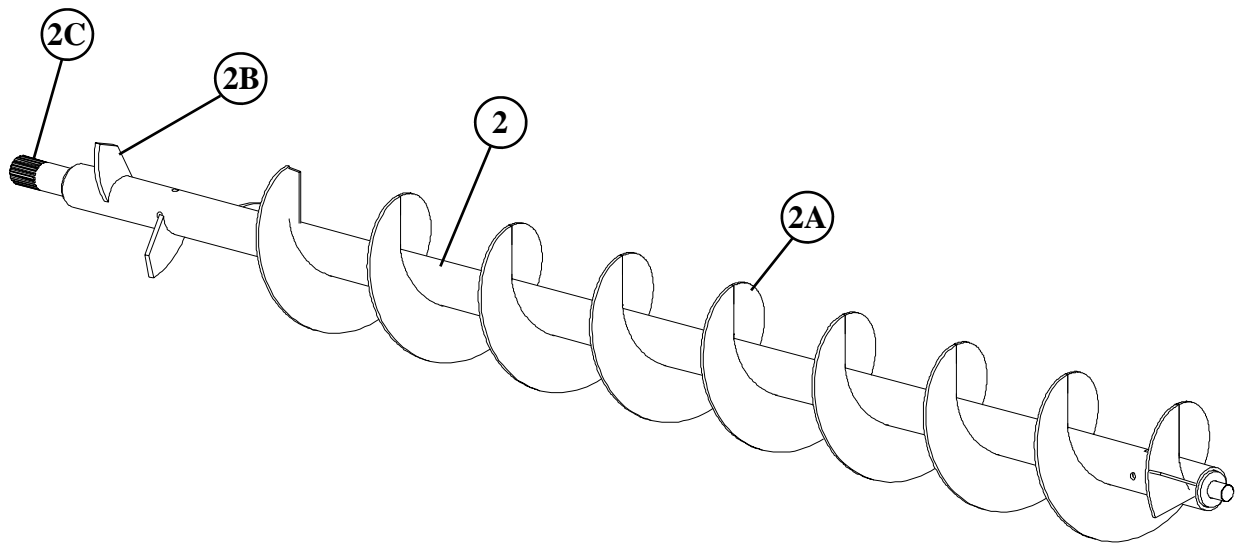
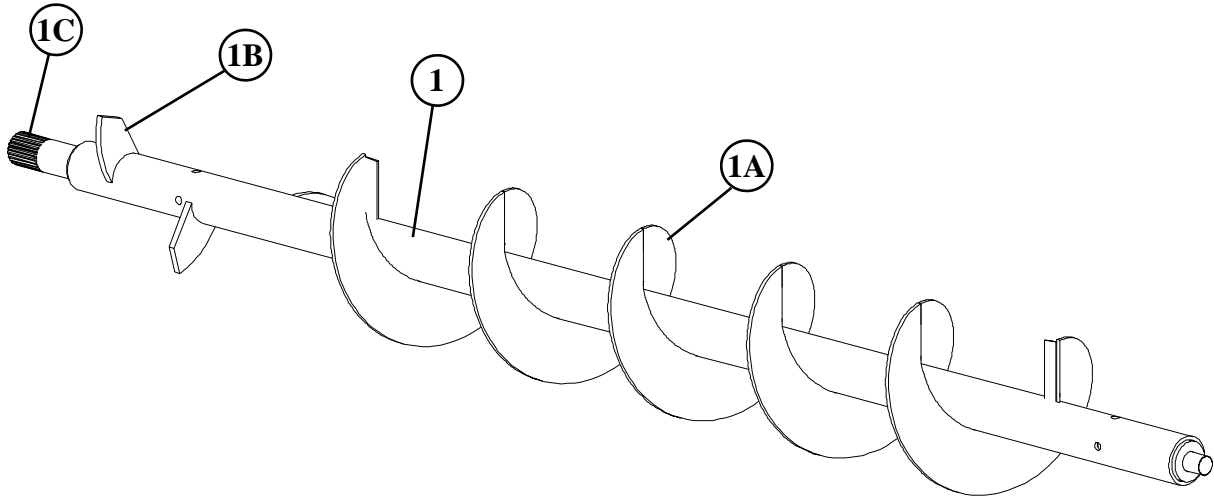
REF. NO	PART NO.	DESCRIPTION	QTY.
1	189294	WEIGH BAR MIXER PAD 7"	4
2	872360	T-BAR W.A. 2 1/2"	4
3	860055	BAR BLOCK W.A. 2 1/2"	4

420/490 TRUCK LOAD CELL SCALE FRAME ASSEMBLY



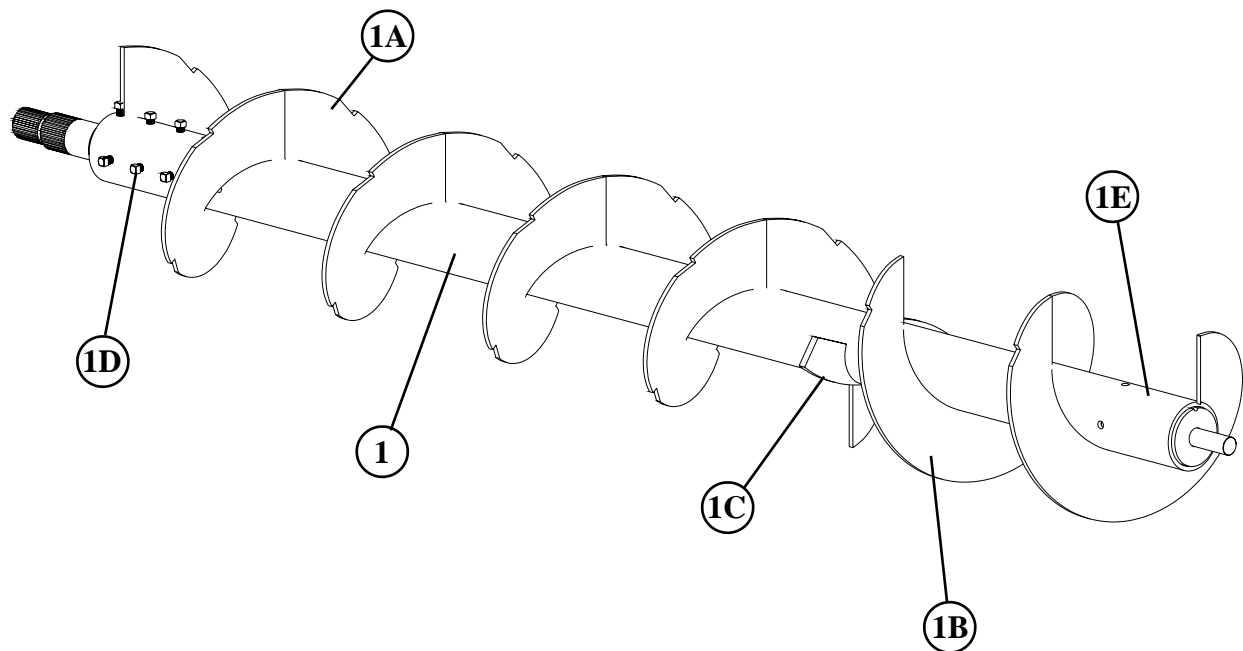
REF. NO	PART NO.	DESCRIPTION	QTY.
1	870527	420/490 SINGLE AXLE SCALE FRAME W.A.	1
2	182998	TRUCK FRAME BRACKET.....	4
3	870519	MIXER SCALE CHECK	2
4	870501	SCALE CHECK ROD.....	3
5	872053	OFFSET CHECK ROD	1
6	182915	LOAD CELL CAGE PLATE	8
7	185997	SCALE CUSHION PAD	8
8	182881	SCALE MIXER MOUNT PAD	4

420/490 TOP AUGERS



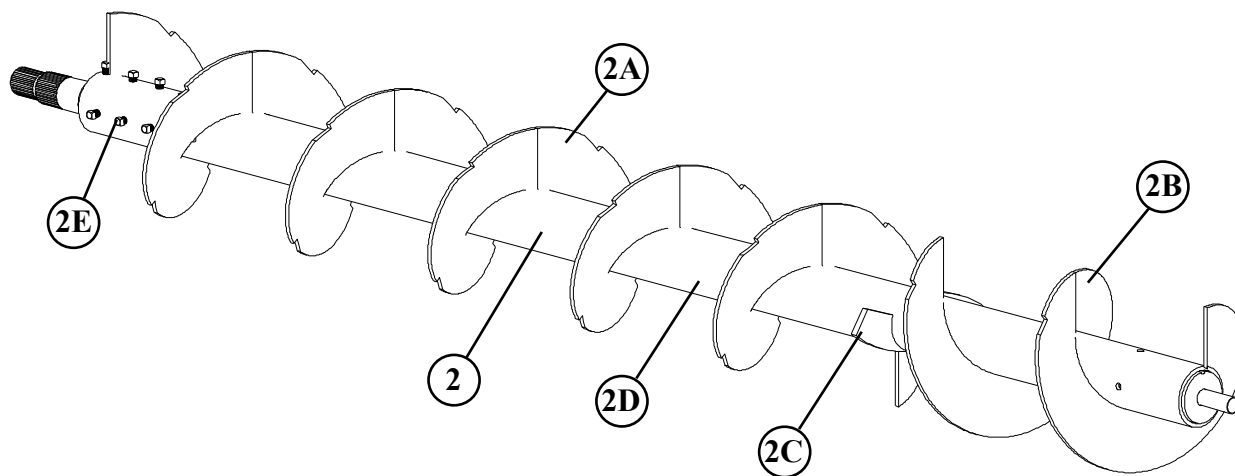
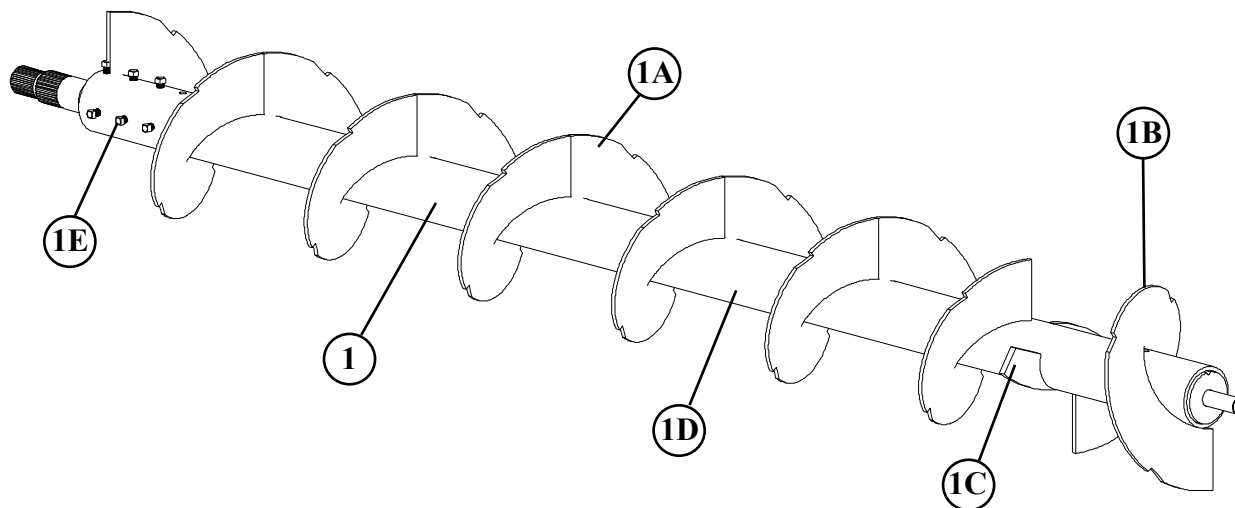
REF. NO	PART NO.	DESCRIPTION	QTY.
1	871335	420 TOP AUGER WELDMENT	1
A	381606	16"O.D. x 4-1/2"I.D. x 3/8" RH FLIGHT, FULL PITCH	5
B	185616	AUGER PADDLE	3
C	871301	3" TOP AUGER DRIVE SHAFT WA.....	1
2	872559	490 TOP AUGER WELDMENT	1
A	381606	16"O.D. x 4-1/2"I.D. x 3/8" RH FLIGHT, FULL PITCH .. 7-1/2	7
B	185616	AUGER PADDLE	3
C	871301	3" TOP AUGER DRIVE SHAFT WA.....	1

420 BOTTOM AUGERS



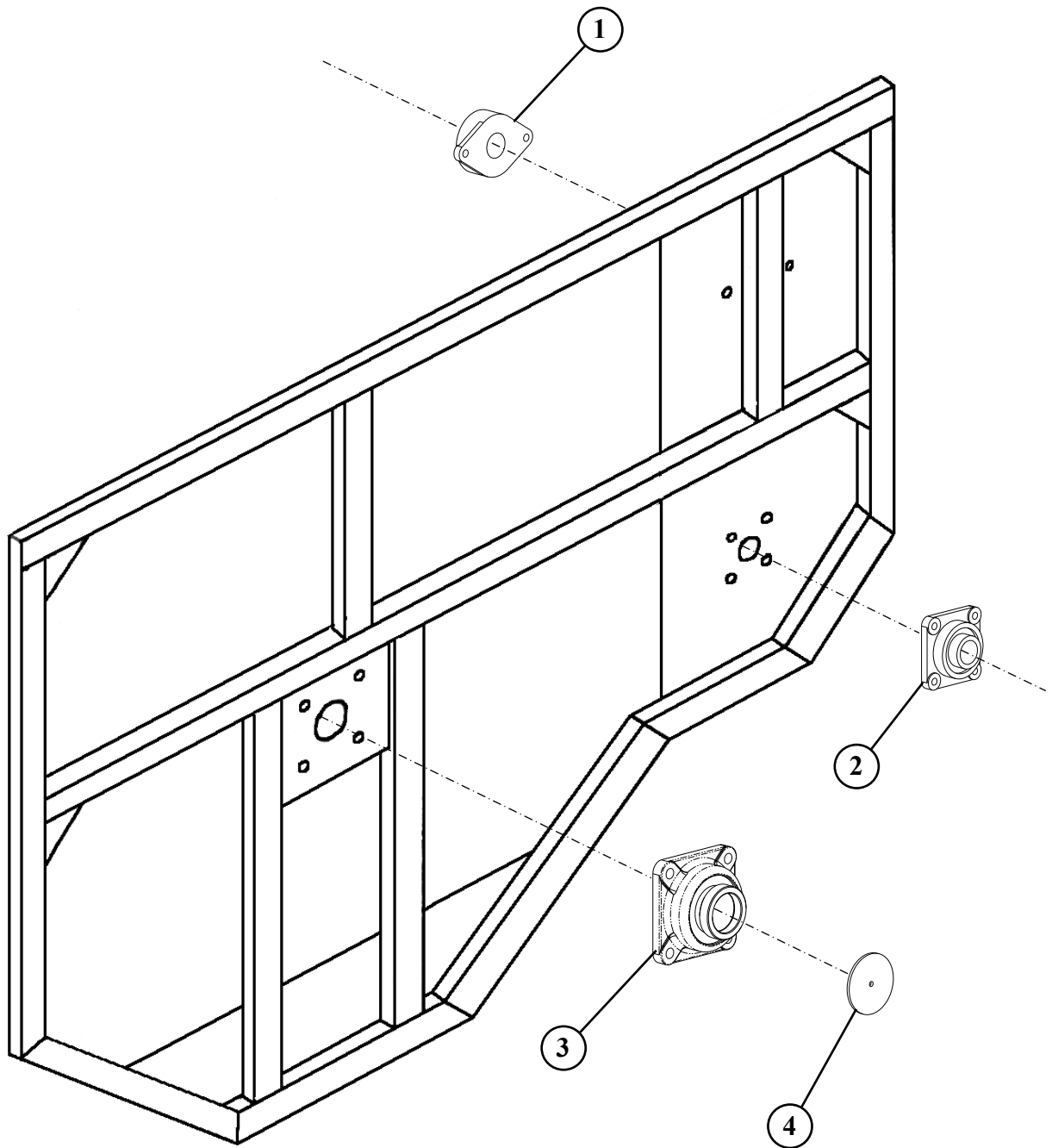
REF. NO	PART NO.	DESCRIPTION	QTY.
1	871384	420 BOTTOM AUGER WELDMENT	1
A	382009	20"O.D. x 4-1/2" I.D. x 3/8" LH FLIGHT, FULL PITCH... 4-1/2	
B	382008	20"O.D. x 4-1/2" I.D. x 3/8" RH FLIGHT, FULL PITCH	2
C	187009	20" AUGER KICKER	2
D	409622	3/4" x 1-1/2" SQ. HEAD SET SCREW	6
E	871368	420 BOTTOM AUGER TUBE & SHAFT WA	1

490 BOTTOM AUGERS



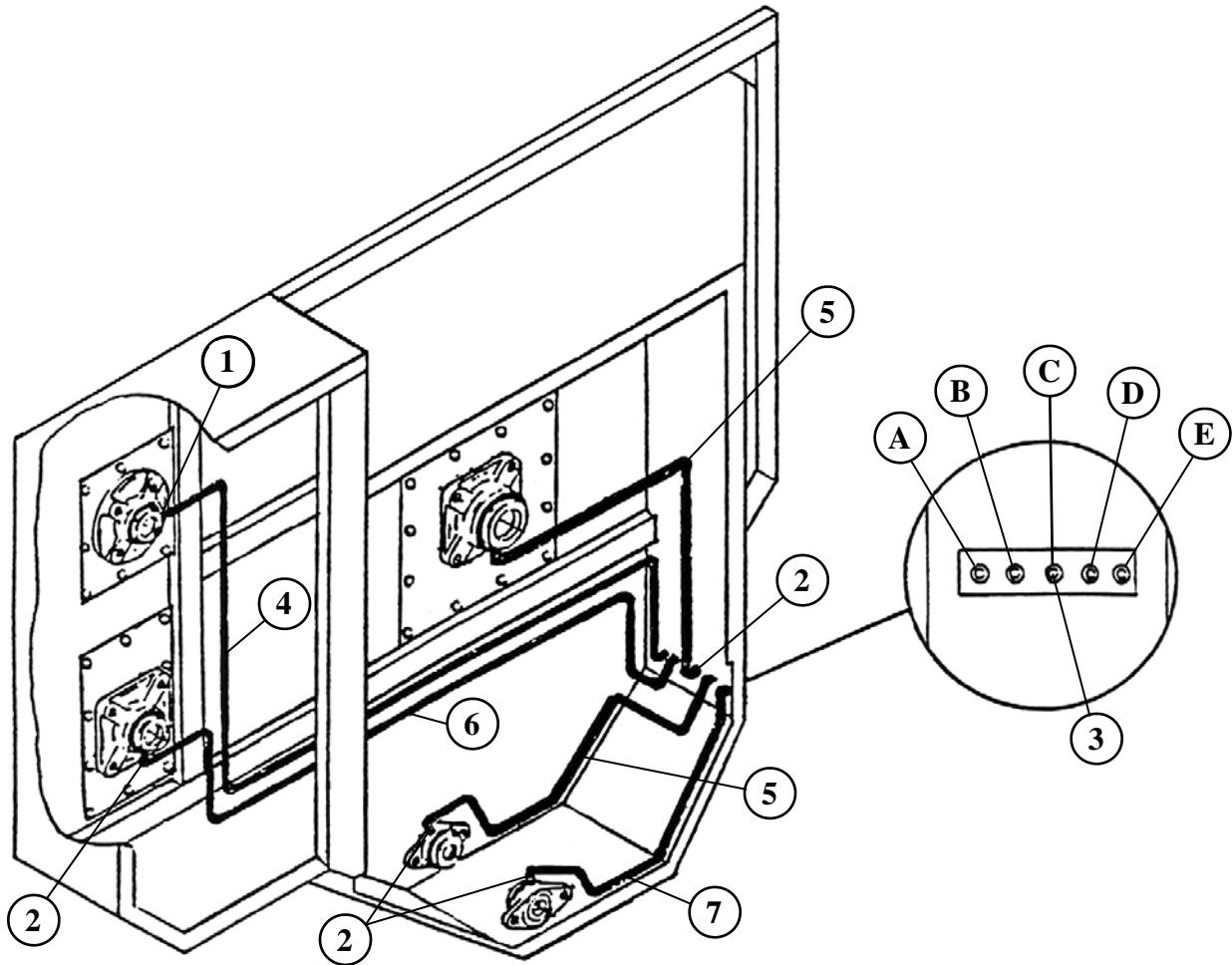
REF. NO	PART NO.	DESCRIPTION	QTY.
1	872560	490 BOTTOM AUGER WELDMENT (2FT CONV)	1
A	382021	20"O.D. x 6-5/8" I.D. x 1/2" LH FULL PITCH FLIGHT....	6-1/2
B	382020	20"O.D. x 6-5/8" I.D. x 1/2" RH FULL PITCH FLIGHT	1
C	150411	20" AUGER KICKER	2
D	872223	490 BOTTOM AUGER TUBE & SHAFT WA	1
E	409630	3/4" x 2-1/4" SQ. HEAD SET SCREW	6
2	872224	490 BOTTOM AUGER WELDMENT (4FT CONV)	1
A	382021	20"O.D. x 6-5/8" I.D. x 1/2" LH FULL PITCH FLIGHT....	5-1/2
B	382020	20"O.D. x 6-5/8" I.D. x 1/2" RH FULL PITCH FLIGHT	2
C	150411	20" AUGER KICKER	2
D	872223	490 BOTTOM AUGER TUBE & SHAFT WA	1
E	409630	3/4" x 2-1/4" SQ. HEAD SET SCREW	6

420/490 FRONT END ASSEMBLY



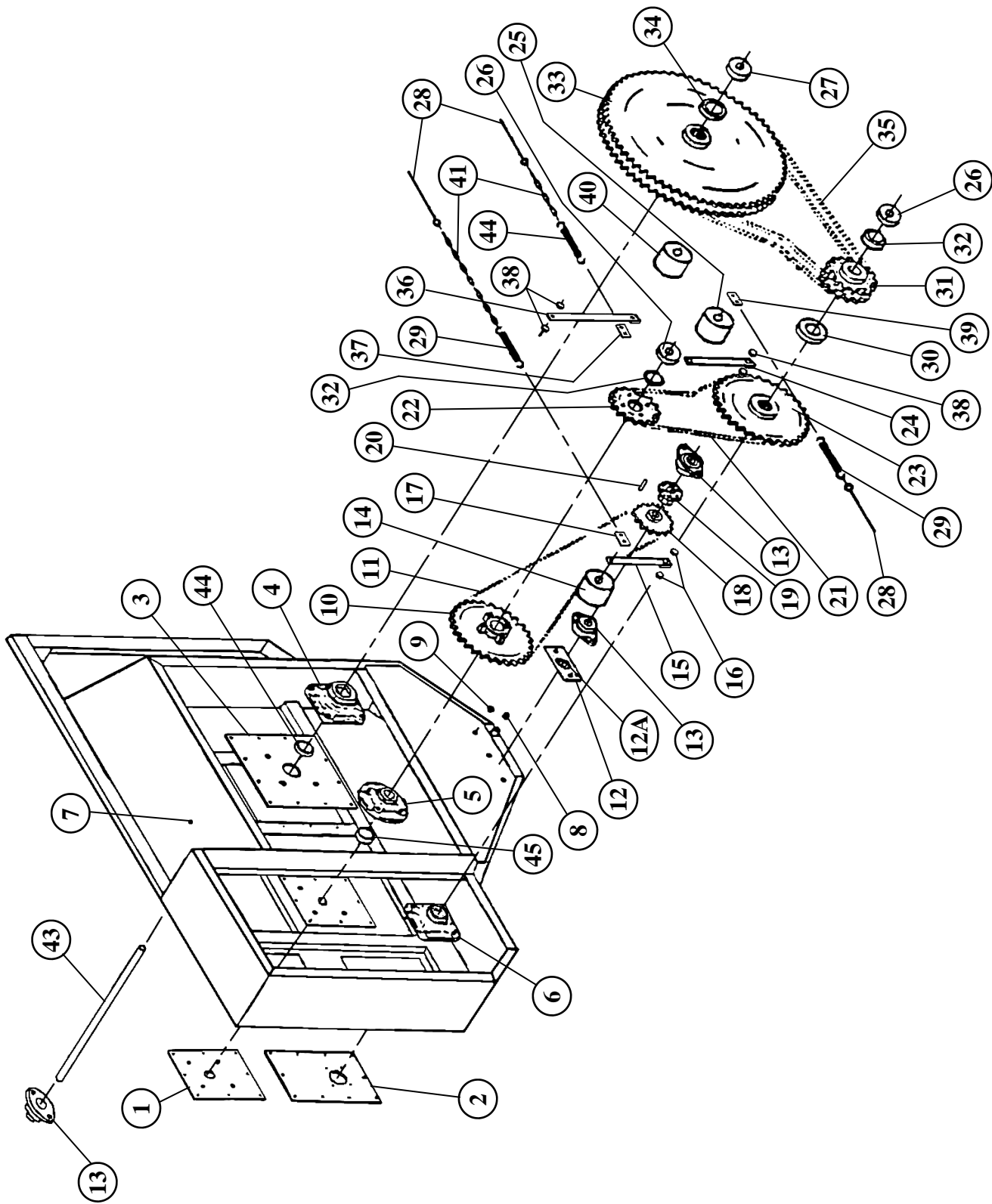
REF. NO	PART NO.	DESCRIPTION	QTY.
1	340228	1-3/4" 2-BOLT FLANGE BEARING	1
2	340428	1-3/4" 4-BOLT FLANGE BEARING	1
3	340447	2-15/16" 4-BOLT FLANGE BEARING	1
4	185258	ROTOR INDICATOR PLATE.....	1

420/490 LUBRICATION ASSEMBLY



REF. NO	PART NO.	DESCRIPTION	QTY.
1	356004	BRASS ADPT, 1/4" M NPTF x 3/16" COMP. STRT	1
2	356001	BRASS ADPT. 1/8" M NPTF x 5/16" COMP. 90°	9
3	310750	GREASE ZERK 1/8" FPT	5
4	185072	GREASE LINE 100"	1
A		REAR INPUT BEARING	
5	185045	GREASE LINE 36"	2
B		FRONT INPUT BEARING	
C		ROTOR BEARING	
6	185043	GREASE LINE 74"	1
D		BOTTOM AUGER BEARING	
7	185044	GREASE LINE 39"	1
E		TOP AUGER BEARING	

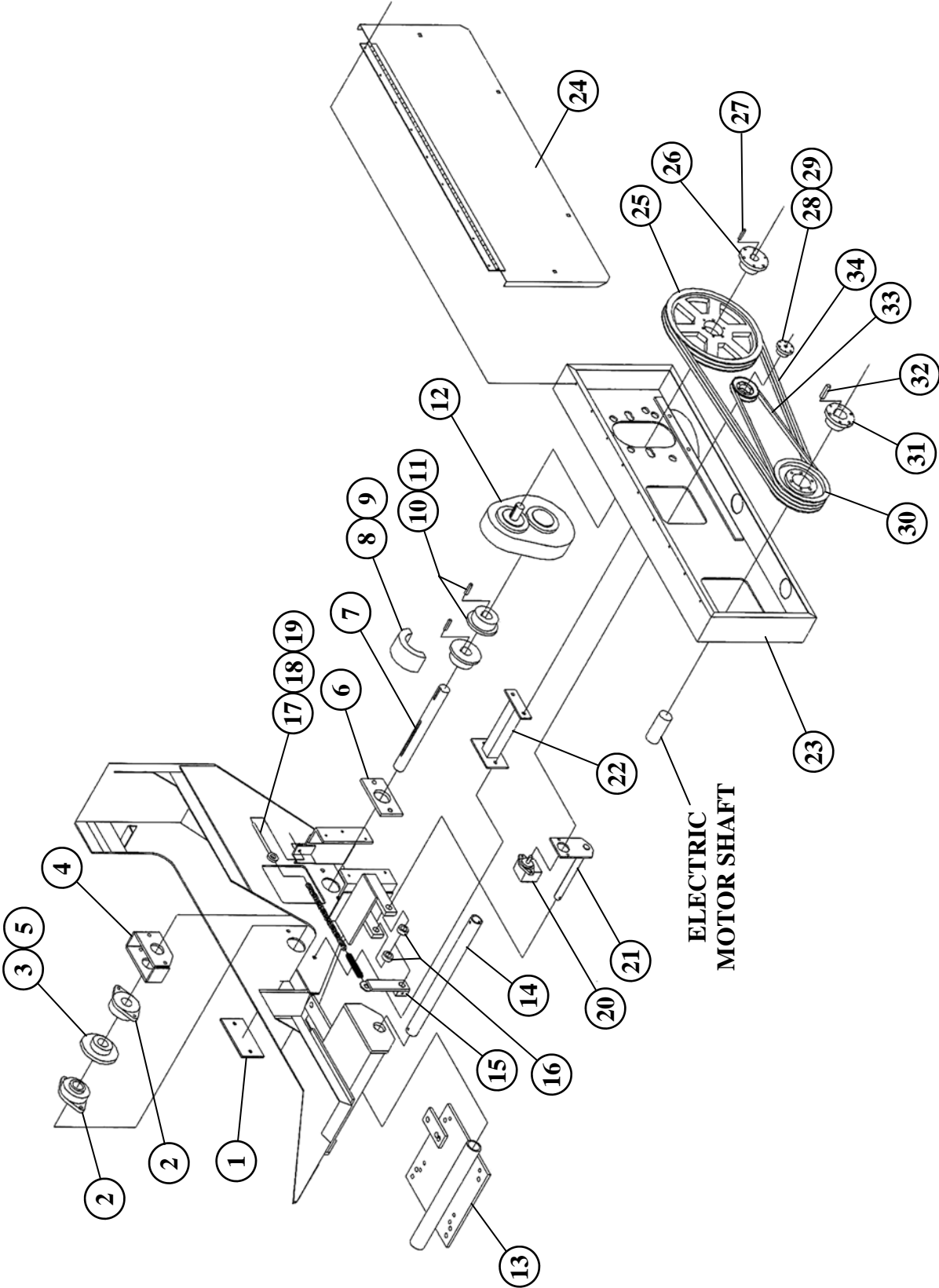
420/490 DRIVE ASSEMBLY



420/490 DRIVE ASSEMBLY

REF. NO	PART NO.	DESCRIPTION	QTY.
1	185002	TOP AUGER BEARING PLATE (420)	1
		TOP AUGER BEARING PLATE (490)	2
2	184762	BOTTOM AUGER PLATE	1
3	184788	ROTOR BEARING PLATE.....	1
4	342064	4" 4-BOLT SPHERICAL BEARING	1
5	340648	3" 4-BOLT FLANGE BEARING	1
6	342056	3-1/2" 4-BOLT FLANGE ROLLER BEARING.....	1
7	310721	BREATHER PLUG.....	1
8	310702	2-1/2" PIPE PLUG	1
9	310720	SIGHT PLUG	1
10	871251	#80 B 70 SPROCKET WELDMENT.....	1
11	320880	#80 H CHAIN x 180 PITCHES COMPLETE.....	1
12	780015	SEAL PLATE ASSEMBLY.....	1
12A	355028	GREASE SEAL 1-3/4".....	2
13	340228	1-3/4" 2-BOLT FLANGE BEARING W/LOCK COLLAR.....	3
14	187158	#80 IDLER BLOCK—UHMW	1
15	870303	IDLER ARM WELDMENT.....	1
16	412412	3/4" SET COLLAR	2
17	187153	1/2" PULL TAB	2
18	330817	#80 SK 17H SPROCKET	1
19	336028	SK 1-3/4" BUSHING	1
20	185480	SQUARE KEY, 3/8" x 2"	1
21	321078	#100 CHAIN x 78 PITCH.....	1
22	181248	#100 A 27H SPROCKET	1
23	871277	#100 C 54H SPROCKET WELDMENT.....	1
24	872151	IDLER ARM WELDMENT.....	1
25	185582	#100 IDLER BLOCK, UHMW	1
26	185259	SHAFT SPROCKET WASHER, 3-1/2"O.D.....	2
27	185261	SHAFT SPROCKET WASHER, 5-1/2"O.D.....	1
28	410852	3/8" x 8" EYE BOLT	3
29	410008	1-1/4" x 5-1/4" EXTENSION SPRING	2
30	185319	SPROCKET SPACER 4" x 1/2"	1
31	331113	#100 13H SPROCKET	1
32	185316	SPACER 3" x 1/4"	2
33	871244	#100 D 96 SPROCKET WELDMENT	1
34	185262	SPROCKET SPACER 4" x 3/8"	2
35	321134	#100-2 CHAIN x 134 PITCH.....	1
36	870881	IDLER ARM WELDMENT.....	1
37	181198	3/4" PULL TAB	1
38	412416	1" SET COLLAR	4
39	187157	5/8" PULL TAB	1
40	185619	#80-2 IDLER BLOCK.....	1
41	182576	IDLER CHAIN #2/0 x 28 PITCH	2
42	410012	SPRING 1-3/4" x 7"	1
43	182725	INPUT SHAFT (490)	1
	182717	INPUT SHAFT (420)	1
44	872235	4" ROTOR SHAFT SPACER WELDMENT.....	1
45	185502	TOP AUGER SPACER 3" x 1-3/8"	1

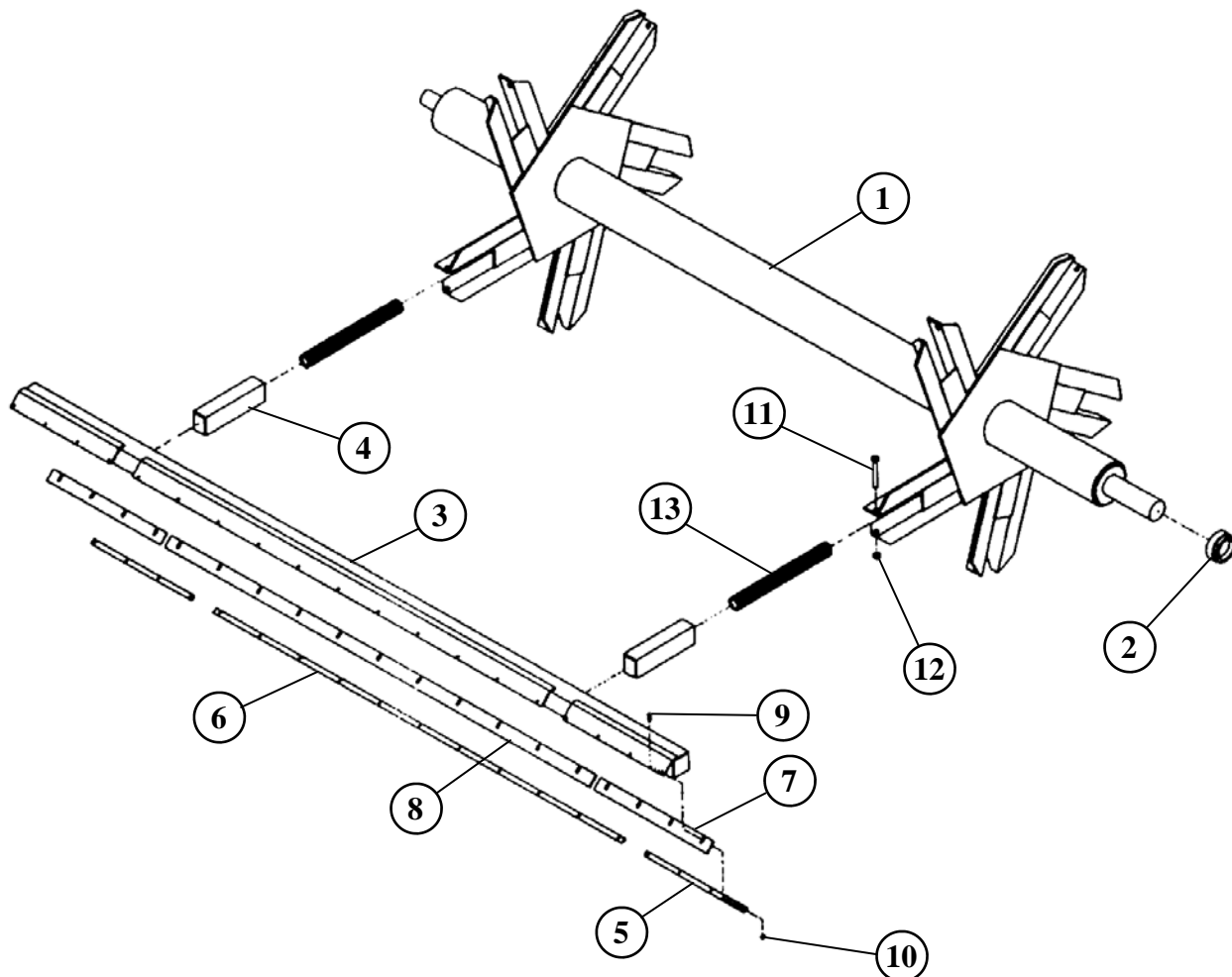
420/490 ELECTRIC DRIVE ASSEMBLY



420/490 ELECTRIC DRIVE ASSEMBLY

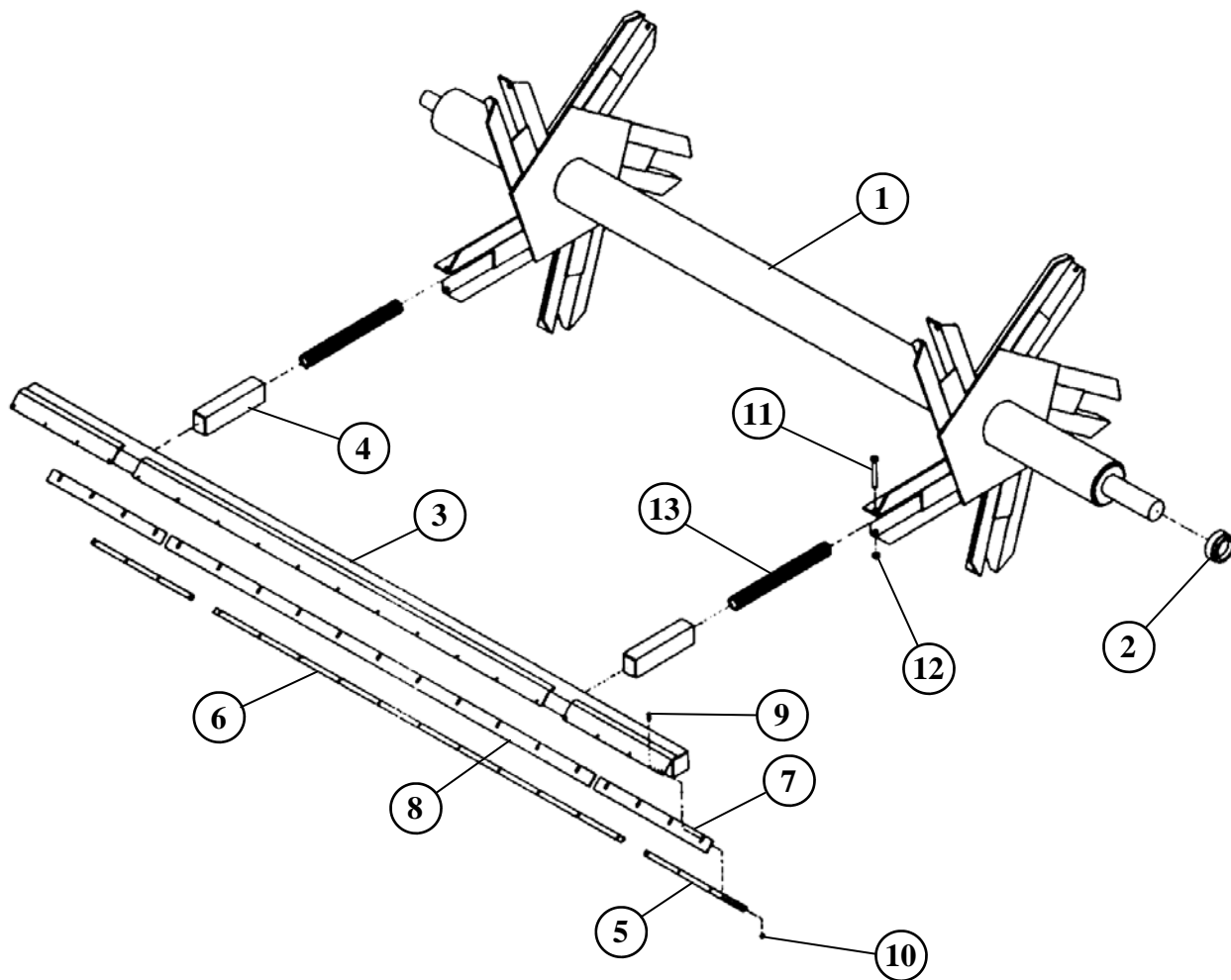
REF. NO	PART NO.	DESCRIPTION	QTY.
1	183616	COVER PLATE.....	1
2	340228	VCJT 1-3/4" 2-BOLT FLANGE BEARING	2
3	330817	80 SK 17H SPROCKET	1
4	872562	INPUT BEARING PLATE SPACER WELDMENT.....	1
5	336028	SK 1-3/4" QD BUSHING.....	1
6	780015	1-3/4" SEAL PLATE ASSEMBLY.....	1
7	185535	STATIONARY INPUT SHAFT 16-7/8"	1
8	320720	#60-2 ROLLER CHAIN x 20 PITCH COMPLETE	1
9	332614	6020 CHAIN COUPLING COVER	1
10	332612	60 B 20 x 1-3/4" CHAIN COUPLING SPROCKET	2
11	185480	SQUARE KEY, 3/8" x 2".....	2
12	344023	GEARBOX, 3:1 HUB CITY	1
13	872000	ELECTRIC MOTOR BASE WELDMENT.....	1
14	185087	ELECTRIC MOTOR PIVOT PIPE.....	1
15	872136	PUMP LEVER ARM WELDMENT.....	1
16	412416	1" SET COLLAR.....	2
17	410008	1-1/4" x 5-1/2" x 3/16" PULL SPRING	1
18	185488	2/0 PULL CHAIN x 18"	1
19	410852	3/8" x 8" EYEBOLT.....	1
20	362010	PARKER PUMP DO5AA1A CCW	1
21	872138	PUMP SWING ARM WELDMENT.....	1
22	872003	ELECTRIC BELT SHIELD SUPPORT WELDMENT.....	1
23	872006	ELECTRIC BELT SHIELD WA.....	1
24	781001	ELECTRIC BELT SHIELD DOOR ASSEMBLY.....	1
25	324016	5V-2 GROOVE 16.0" SF BELT SHEAVE.....	1
26	336022	SF 1-3/8" QD BUSHING	1
27	185484	SQUARE KEY, 5/16" x 2".....	1
28	336008	SH 1/2" QD BUSHING	1
29	324040	1B x 4.0" SH BELT SHEAVE	1
30	324009	5V-3 GROOVE 9.25" SF BELT SHEAVE.....	1
31	336034	SF 2-1/8" QD BUSHING	1
32	185485	SQUARE KEY, 1/2" x 2-1/2"	1
33	325060	B-60 V-BELT	1
34	325112	5V-1120 V-BELT	2

420 5 BAR ROTOR ASSEMBLY



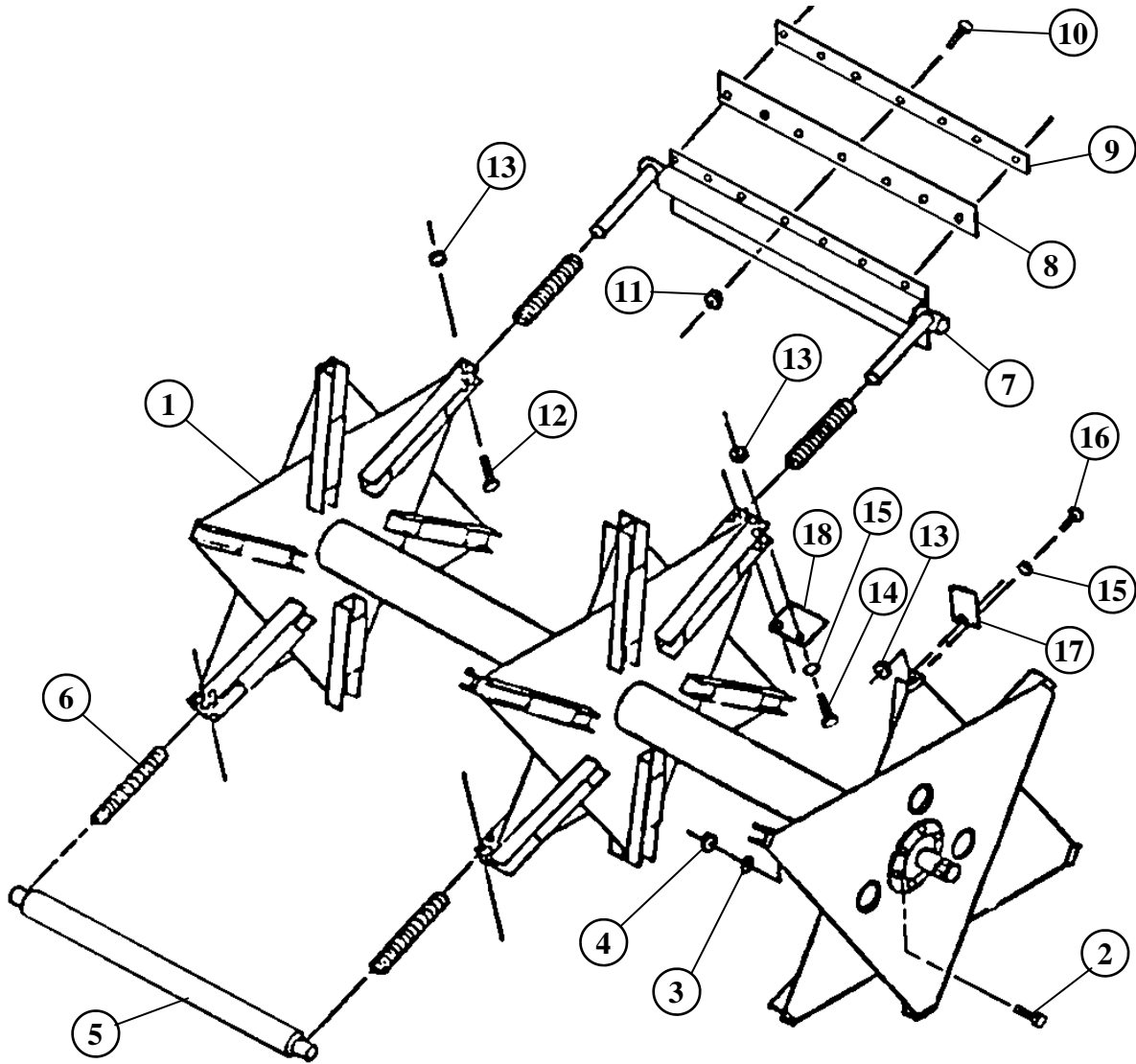
REF. NO	PART NO.	DESCRIPTION	QTY.
1	872421	420 5-ARM ROTOR WELDMENT.....	1
2	872235	420 4" SHAFT SPACER WELDMENT	1
3	850006	420 FULL WIPER WELDMENT	5
4	850007	ROTOR SPRING BOX WELDMENT	10
5	150014	END WIPER STRAP 19-1/4"	10
6	150013	CENTER WIPER PLASTIC 94-1/2"	5
7	150016	END WIPER PLASTIC 22-1/2"	10
8	150015	CENTER WIPER PLASTIC 94-1/2"	5
9	405654	HHCS 3/8"-16 x 1-1/4"	80
10	401106	NYLOCK HEX NUT 3/8"-16	80
11	406489	HHCS 3/4"-10 x 6" #8 PLTD.....	10
12	400912	HEX NUT, CTR LOCK, 3/4"-10	10
13	410005	COMPRESSION SPRING, 2-1/2" x 24" x .410".....	10

490 5 BAR ROTOR ASSEMBLY



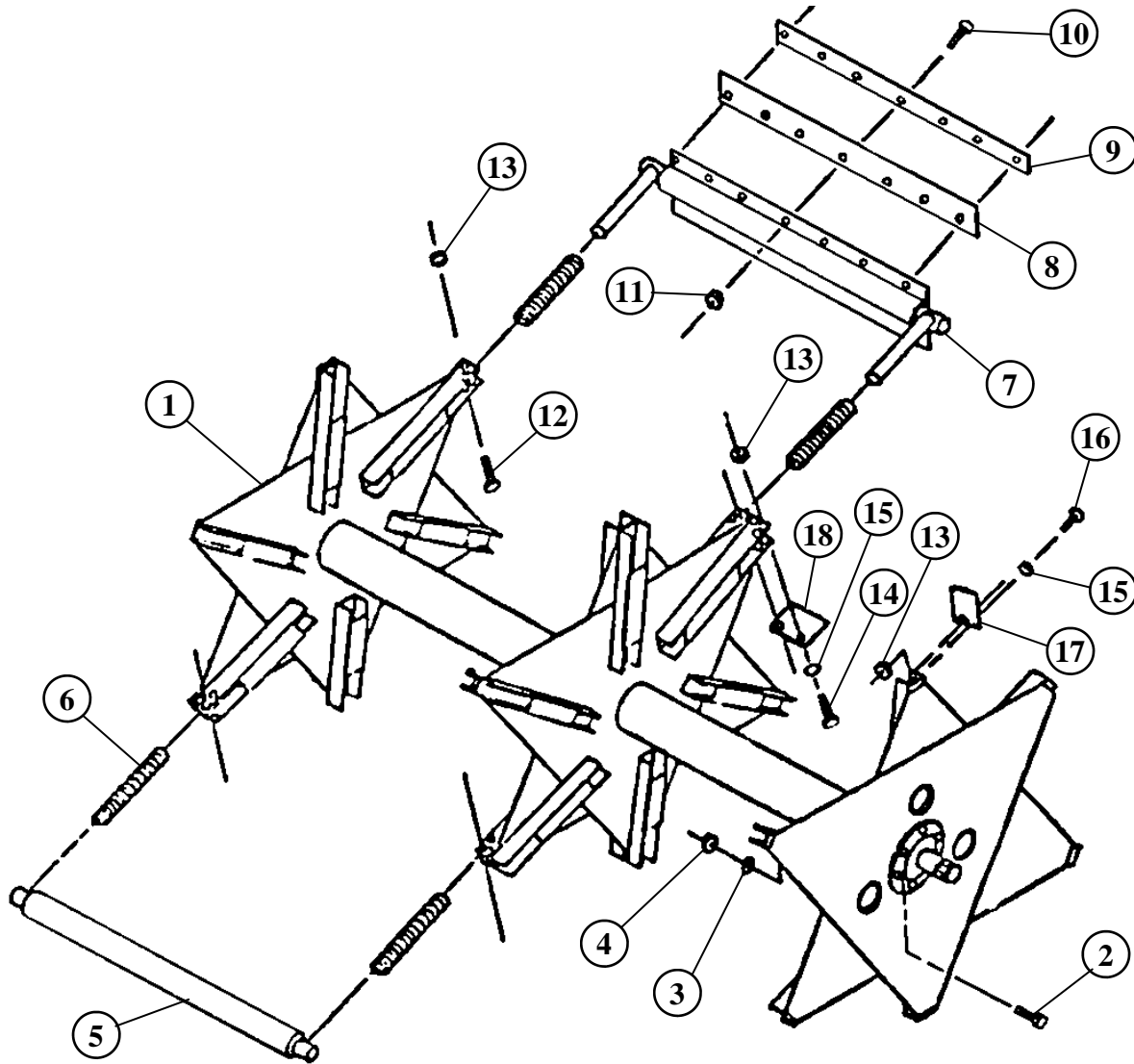
REF. NO	PART NO.	DESCRIPTION	QTY.
1	872557	490 5-ARM ROTOR WELDMENT.....	1
2	872235	490 4" SHAFT SPACER WELDMENT	1
3	872563	490 FULL WIPER WELDMENT	5
4	850007	ROTOR SPRING BOX WELDMENT	10
5	150344	END WIPER STRAP 25-1/4"	10
6	189373	CENTER WIPER PLASTIC 102-1/2"	5
7	150346	END WIPER PLASTIC 28-1/2"	10
8	189374	CENTER WIPER PLASTIC 106-1/2"	5
9	405654	HHCS 3/8"-16 x 1-1/4"	95
10	401106	NYLOCK HEX NUT 3/8"-16	95
11	406489	HHCS 3/4"-10 x 6" #8 PLTD.....	10
12	400912	HEX NUT, CTR LOCK, 3/4"-10	10
13	410005	COMPRESSION SPRING, 2-1/2" x 24" x .410".....	10

420 STAR ROTOR ASSEMBLY



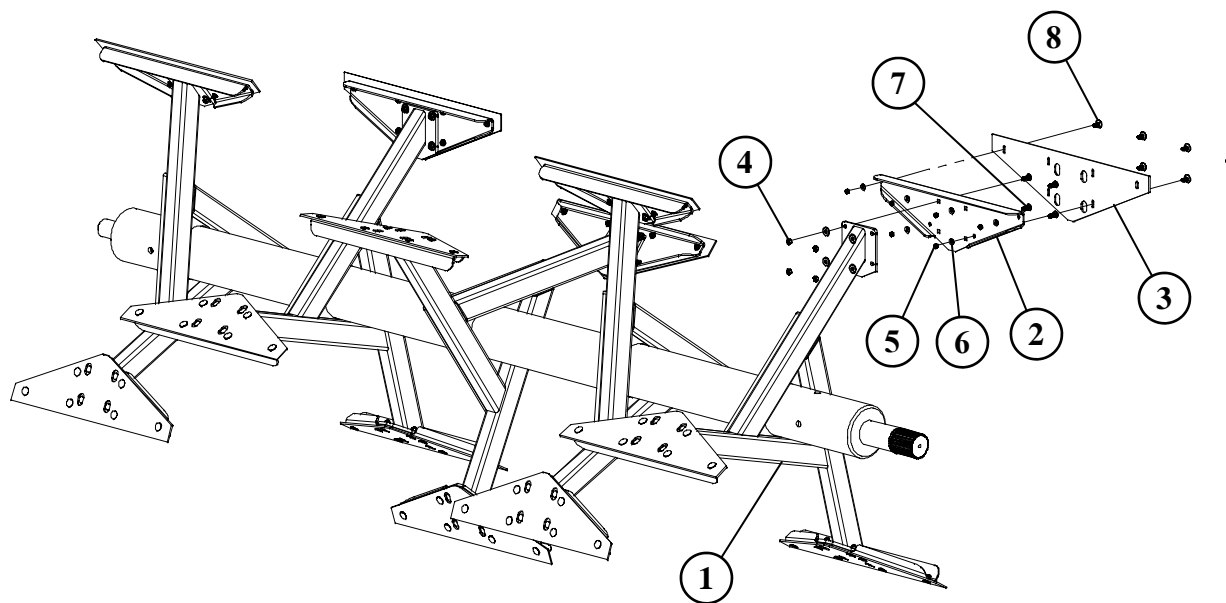
REF. NO	PART NO.	DESCRIPTION	QTY.
1	872279	420 STAR ROTOR WELDMENT	1
2	405754	HHCS, 5/8"-11 x 2"	8
3	402110	STAR LOCKWASHER, 5/8"	8
4	400210	HEX NUT, 5/8"-11	8
5	872280	ROTOR PIPE WELDMENT	6
6	410004	COMPRESSION SPRING, 2-3/8" x 18" x 5/16"	24
7	872281	WIPER WELDMENT	6
8	185761	PLASTIC WIPER, 64"	6
9	185762	WIPER PLASTIC, 63-3/8"	6
10	405629	HHCS, 5/16"-18 x 1-1/4"	60
11	401105	HEX NUT, NYLOCK, 5/16"-11	60
12	405663	HHCS, 3/8"16 x 3-1/2"	21
13	400906	HEX CTR LOCKNUT 3/8"-16	39
14	405665	HHCS, 3/8"-16 x 4"	3
15	402406	FLATWASHER, 3/8"	18
16	405653	HHCS, 3/8"-16 x 1"	15
17	185673	SPRING BOX END WIPER, 4-1/2"	6
18	185674	SPRING BOX CENTER WIPER, 7-1/2"	3

490 STAR ROTOR ASSEMBLY



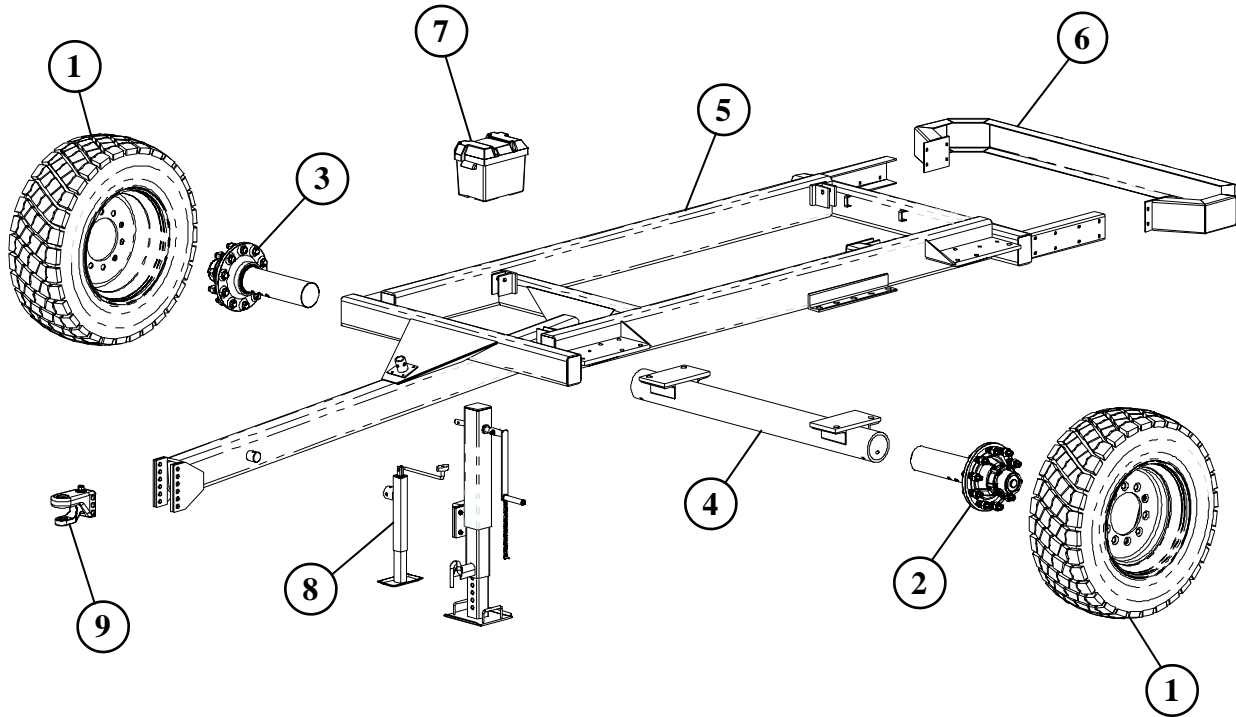
REF. NO	PART NO.	DESCRIPTION	QTY.
1	872197	490 STAR ROTOR WELDMENT	1
2	405754	HHCS, 5/8"-11 x 2"	8
3	402110	STAR LOCKWASHER, 5/8"	8
4	400210	HEX NUT, 5/8"-11	8
5	872199	ROTOR PIPE WELDMENT	6
6	410004	COMPRESSION SPRING, 2-3/8" x 18" x 5/16"	24
7	872198	WIPER WELDMENT	6
8	185680	PLASTIC WIPER, 76"	6
9	185679	WIPER PLASTIC, 75-3/8"	6
10	405629	HHCS, 5/16"-18 x 1-1/4"	60
11	401105	HEX NUT, NYLOCK, 5/16"-11	60
12	405663	HHCS, 3/8"16 x 3-1/2"	21
13	400906	HEX CTR LOCKNUT 3/8"-16	39
14	405665	HHCS, 3/8"-16 x 4"	3
15	402406	FLATWASHER, 3/8"	18
16	405653	HHCS, 3/8"-16 x 1"	15
17	185673	SPRING BOX END WIPER, 4-1/2"	6
18	185674	SPRING BOX CENTER WIPER, 7-1/2"	3

420/490 STAGGERED ROTOR



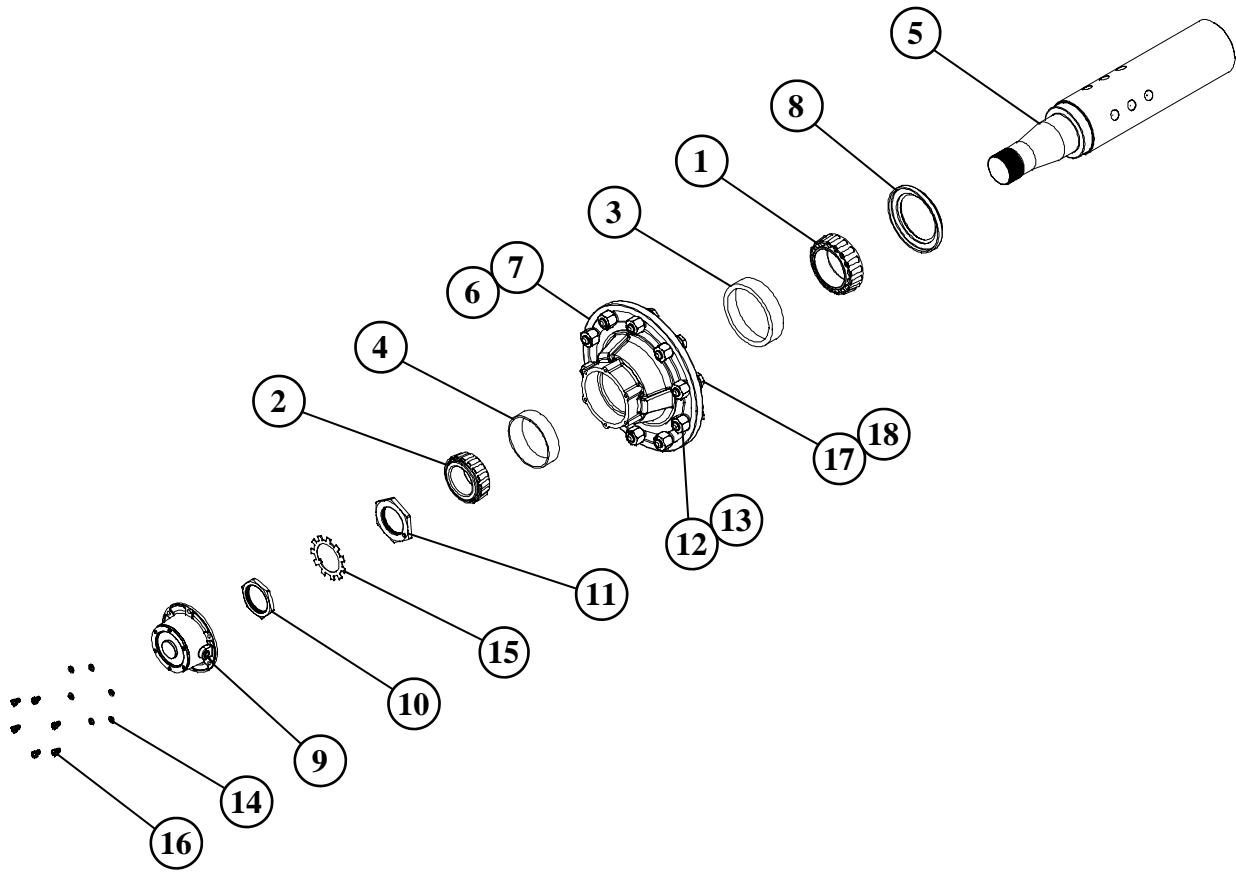
REF. NO	PART NO.	DESCRIPTION	QTY.
1	872948	STAGGERED ROTOR (420).....	1
	872943	STAGGERED ROTOR (490).....	1
2	190770	WIPER CHANNEL	15
3	190339P	WIPER PLASTIC	15
4	400910	HEX CENTER LOCKNUT 5/8"-11 #9.....	60
5	401106	HEX NYLOC NUT 3/8"-16	90
6	402806	FLAT WASHER 3/8"	90
7	407130	CARRIAGE BOLT 5/8" x 1-1/2"	60
8	406906	HHCS 3/8"-16 x 1-1/4" #9 BOWMALLOY.....	90

420/490 TRAILER ASSEMBLY



REF. NO	PART NO.	DESCRIPTION	QTY.
1	781209	TIRE, 15 x 22.5 & 13 x 22.5 10-BOLT WHEEL (420 STANDARD).....	2
	781241	TIRE, 16.5 x 22.5 & 10 BOLT 13 x 22.5 10-BOLT WHEEL (490 STANDARD, 420 OPTIONAL)	2
2	750111	HUB & SPINDLE ASSY LEFT HAND COMPLETE	1
	750110	HUB & SPINDLE ASSY RIGHT HAND COMPLETE	1
3	870972	AXLE WELDMENT	1
4	872147	AXLE WELDMENT (420)	1
	870972	AXLE WELDMENT (490)	1
5	870931	420-490 TRAILER FRAME WELDMENT	1
6	870733	BUMPER WELDMENT	1
7	357400	BATTERY BOX WITH STRAP.....	1
8	374002	JACK, 5,000 lb.	1
	780904	JACK 9,000 lb DROP LEG (OPTIONAL)	1
9	651024	HITCH COMPLETE	1
	374100	CAT-3 BASE HITCH BODY	1
	374101	CAT-3 CLEVIS INSERT	1

10-BOLT HUB & SPINDLE ASSEMBLY (20,000 LB)
(RIGHT HAND HUB & SPINDLE ASSEMBLY COMPLETE #750110)
(LEFT HAND HUB & SPINDLE ASSEMBLY COMPLETE #750111)



REF. NO	PART NO.	DESCRIPTION	QTY.
1	342213	BEARINGCONE, 3.543", TIMKEN #HM 218248	1
2	342214	BEARING CONE, 2.625", TIMKEN #HM 212049	1
3	342215	BEARING CUP, 5.787", TIMKEN #HM 218210	1
4	342216	BEARING CUP, 4.813", TIMKEN #HM 212011	1
5	184614	SPINDLE, 4-9/16"OD x 25-1/2", 20,000 LB.....	1
6	372211	HUB, 10-BOLT, 20,000 LB, LH (INCLUDES 3,4,13 & 18).....	1
7	372212	HUB, 10-BOLT, 20,000 LB, RH (INCLUDES 3,4,12 & 17).....	1
8	372304	GREASE SEAL, 4.561" BORE x 6.001" OD #CR43771.....	1
9	372309	DUST CAP 20,000 LB HUB.....	1
10	400033	OUTER NUT	1
11	400034	INNER NUT	1
12	400102	LUG NUT (RIGHT HAND)	10
13	400103	LUG NUT (LEFT HAND)	10
14	402005	LOCK WASHER 5/16"	1
15	402904	WASHER 1/4" x 2-41/64" ID	1
16	405625	HHCS 5/16" x 1/2"	6
17	407728	STUD BOLT, 3/4" x 2-9/16" (RIGHT HAND).....	10
18	407725	STUD BLOT, 3/4" x 2-9/16" (LEFT HAND).....	10

