



415 - 515 VERTICAL FEED MIXER FRONT CENTER DISCHARGE



OPERATION AND PARTS MANUAL

**ROTO-MIX LLC
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Dodge City, Kansas 67801
(620) 225-1142
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Revision Date	Changes
8/2025	Change spindle bolts, page 33.

INTRODUCTION

Congratulations on the purchase of your new Vertical Mixer from ROTO-MIX. With proper operation and preventative maintenance it will last for years.



This SAFETY ALERT SYMBOL indicates important safety messages in the manual. When you see this symbol, be alert to the possibility of PERSONAL INJURY and carefully read the message that follows.

NEVER OPERATE WITHOUT ALL COVERS, SHIELDS AND GUARDS IN PLACE. KEEP HANDS, FEET AND CLOTHING AWAY FROM MOVING PARTS.

Some covers and guards have been removed for illustrative/photographic purposes only in this **⚠ WARNING** manual. 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.

The Guarantee or Warranty appears in the front of this book along with the Registration and Inspection Certificate.

For information on ordering repair parts, refer to the Repair Parts section at the back of this book.

The serial number plate is located on the drivers side lower front of the main frame. This number should be recorded on the Registration and Inspection Certificate for your reference and for proper identification of your spreader by ROTO-MIX.

You are urged to study this manual and follow the instructions carefully. Your efforts will be repaid in better operation and service as well as a savings in time and repair expense.

Failure to read this manual and understand the safe operation of the mixer could lead to serious injury.

This manual is also available on-line at www.rotomix.com and can also be accessed with a smart phone by scanning the QR code on the side of the mixer.

If you do not understand the instructions in this manual contact either your dealer or ROTO-MIX at Dodge City, Kansas 67801.

This supersedes all previous published instructions.



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

Warranty continues on the next page.

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 shall be limited to competent and experienced persons. In addition, anyone who will operate or work around a mixer 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 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

This manual is also available on-line at www.rotomix.com and can also be accessed with a smart phone by scanning the QR code on the side of the mixer.

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. Maximum load for the for the 415 it is 11,480 lb., and for the 515 it is 14,280 lb. Maximum load is determined by weight, not volume.
- D. Be sure all shields are in place before operation.
- E. 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 a shield is removed to perform maintenance or make a repair, reinstall the shield after the maintenance or repair is complete.

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 perform maintenance or repairs on this unit until they have read this manual and have developed a thorough understanding of the safety precautions and of how it works.

Do not paint over, remove or deface any safety signs or warning decals on your equipment. Observe all safety signs and follow 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 safe operation 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 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 SAFELY

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

Never enter a mixer while in operation.

Operate the mixer from the operator's tractor seat only.

Do not exceed load capacity of the mixer. (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

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 driveline shields in place at all times. Make sure rotating shields turn freely.

Do not wear loose-fitting clothing which may catch in moving parts. 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 60F (16C).



AVOID HIGH-PRESSURE FLUIDS

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

Avoid this hazard, relieve 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.





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 of the decal.

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.



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

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PRACTICE FIRE PREVENTION

Keep fire extinguishers accessible at all times. Use the extinguisher recommended for the material being processed. It should be rated safe for use on electrical fires.

Never smoke close to combustible material.

Clean the area before welding or other activities which may make sparks.

Keep all components that generate excessive heat clear of oil and other combustible materials.



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 (175-200 ft-lb).

Assure that tires are inflated evenly and to pressure stated on tire sidewall.

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.

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

Because it is possible that this mixer 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.

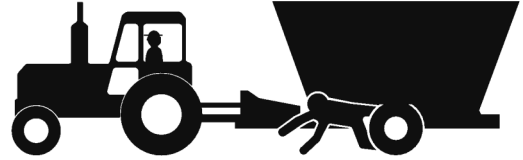
Don't hurry the learning process or take the unit for granted. Become familiar with your new mixer before operating.

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



DURING OPERATION:

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



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

Keep hands and clothing clear of moving parts.

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

Be 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 rollover may result.

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

Pick a smooth and as level as possible route when transporting across fields. Avoid the edges of ditches or gullies and steep hillsides.

Be extra careful when working on inclines.

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

Maneuver the 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 tractor operator's seat only.

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



DURING OPERATION (CONT)

Never leave running mixer unattended.

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



FOLLOWING OPERATION:

Following operation, set the brakes, disengage 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 to equipment 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:

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 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 mixer 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 in a position to provide maximum visibility at all times. Make allowances for increased length and weight of the mixer 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 vehicle in a closed building. The exhaust fumes can cause asphyxiation.

Before working on the mixer, stop the 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 can be infected 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. Some fastener locations also require a grade eight (8) bolt and nut.

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.

READ THE FOLLOWING BEFORE WELDING ON THIS MIXER

When welding on your mixer, do not allow the current to flow through the ball bearings or the roller chains. Ground directly to the item being welded. Clean the area before welding and have a fire extinguisher accessible at all times.

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 towing vehicle's alternator should always be disconnected if the mixer is not disconnected from the vehicle.



PREPARING TRACTOR FOR TRAILER MIXER

POSITIONING DRAWBAR

IMPORTANT: Drive components can be damaged from excessive speed. Do not operate tractor at speeds in excess of recommended PTO RPM.

This feed mixer is equipped with a 540 RPM driveline. Match tractor PTO with the feed mixer driveline.

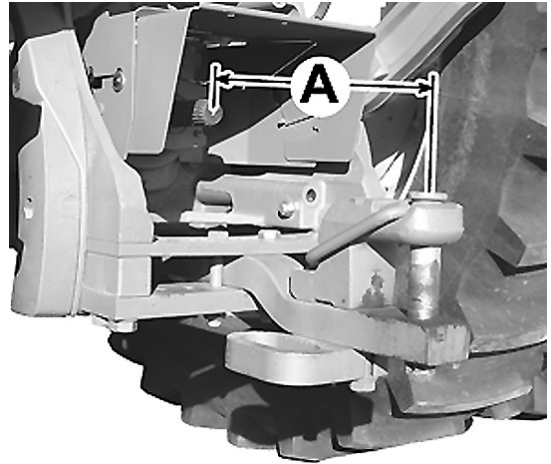
IMPORTANT: To prevent driveline damage, adjust tractor drawbar to recommended setting. Disengage tractor PTO before turning.

Install clevis on tractor drawbar.

Adjust drawbar length:

Refer to the implement operator's manual for the correct drawbar length. The typical drawbar length for a 540 PTO tractor is shown below.

PTO SPEED	DIMENSION (A)
540 RPM (1-3/8" - 6 SPLINE)	14 inches (356 mm)

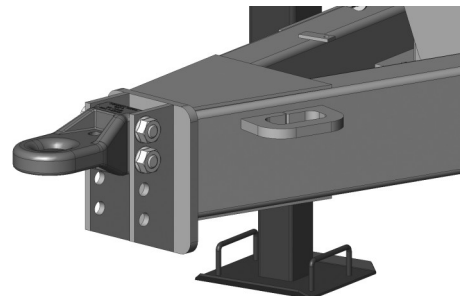


ADJUST TRAILER HITCH

Mixer should be approximately level when attached to tractor.

Adjust hitch by changing hole location on mixer tongue.

Hitch Pin Size - 1-1/4" Dia. Minimum - 1-1/2" Dia. Maximum



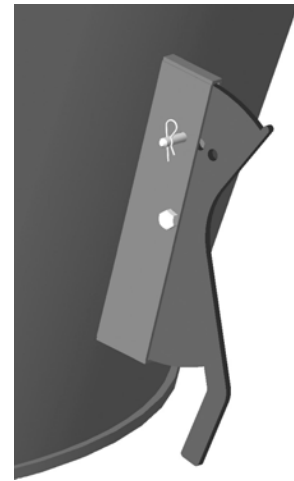
LOADING INSTRUCTIONS & PRECAUTIONS

- A. Visually inspect mixer before each load.

Do not overload the mixer. Mixer capacity is determined by weight not volume. An overloaded mixer will not mix correctly, and will pull harder, which could damage your unit. **Maximum load for the 415 is 11,480 lb., and for the 515 it is 14,280 lb.**

- A. Load hay first with machine running: **TRACTOR RUNNING AT 540 RPM PTO SPEED.** Use a slower auger speed if you are using very tender, very fine stemmed hay that breaks apart very easily. Slower speeds allow for maximum staple length. If the mix is started at a slow speed increase auger speed as the hay texture changes from very tender, to fine stemmed, to normal good quality hay, to very rough course hay.

Adjust restrictor plates (dogs) to fine tune length of cut. Always start with one dog, preferably the rear, engaged one hole and increase until length of cut is correct. **NOTE: engaging dogs and excessive amount will cause mix quality to deteriorate.**



- D. Add balance of grain and/or commodities, keeping more fragile ingredients toward the end of the loading sequence as possible. For best results, add concentrates or other dry ingredients of small quantity as close to the middle of the loading sequence as possible.
- E. Load silage, green chop and/or other high moisture products.
- F. Load molasses, animal fat, and/or other liquid supplements last.
- G. Allow mixer three to four minutes to complete mixing after last ingredient is added. (**NOTE:** this time will vary, and could be longer under certain conditions.)
- H. View mixing operation only from ladder on the mixer. Never allow more than one people on the ladder at one time.
- I. For best results, off load mixed feed at as high a RPM as possible, and with the door as open as possible.

HAY PREPARATION:

SMALL BALES (60 to 150 lbs., 2 or 3 wire), LARGE SQUARE BALES (3' x 4' x 8' or 4' x 4' x 8') and ROUND BALES.

Remove all twine, wire and/or wrapping and load bale in mixer.

TROUBLE SHOOTING

⚠ WARNING ALWAYS DISCONNECT OR DISENGAGE POWER TAKE OFF AND REMOVE KEYS FROM TRACTOR BEFORE CLEANING, ADJUSTING, LUBRICATING OR SERVICING THIS MACHINE. FAILURE TO FOLLOW THIS RECOMMENDATION MAY RESULT IN SERIOUS PERSONAL INJURY OR DEATH.

TROUBLE SHOOTING

NOTE: THIS CHART DOES NOT COVER ALL PROBLEMS. CONTACT YOUR DEALERSHIP FOR FURTHER ASSISTANCE.

PROBLEM	POSSIBLE CAUSE	POSSIBLE REMEDY
Machine Vibration	Universal Joints Are Out Of Alignment.	Check And Realign
	Worn Out Bearing.	Replace Bearing.
Excessive Bearing Failure	Improper Lubrication	Refer To Lubrication Chart.
	Contamination	Check Seal
	Excessive Loads.	Refer To General Information About Machine Loading
Mixing quality poor, not thorough.	Batch has high concentration of light weight ingredients and rotates too fast inside tub for thorough mixing.	Extend restrictor plates (dogs) further into tub as instructed on page 20.
	High concentration of long hay, not being torn apart.	Extend restrictor plates (dogs) further into tub as instructed on page 20.
	Hay Knives not cutting hay well enough	♦ Extend restrictor plates (dogs) further into tub as instructed on page 20. ♦ Add more hay knives ♦ Replace Standard 17" Hay Knife Kit with Aggressive 23" Knife Kit
Hay being added to batch, but not being incorporated into mixture.	Hay not getting shredded by mixing action, batch rotating inside tub too fast.	Extend restrictor plates (dogs) further into tub as instructed on page 20.
Too much power being consumed to mix.	Restrictor plates extend too far into tub and retarding rotation of batch.	Move restrictor plates (dogs) away from tub as instructed on page 20.
Product spilling out over the top of tube	Over loading of the mixer by volume	♦ Reduce volume of mix ♦ Add Rubber Extension Kit ♦ Add Hay Chain Ring Kit
Feed is clumping while discharging	Uneven mix of products	♦ More mixing time ♦ Add a conveyor to smooth out the discharge of material

LUBRICATION

DISENGAGE PTO & SHUT OFF POWER BEFORE LUBRICATING THE MACHINE.

DO NOT WEAR LOOSE FITTING CLOTHING THAT MAY CATCH IN MOVING PARTS.

PTO SHAFTS & U-JOINTS: Grease every 8 hours of operation.

PLANETARY GEARBOXES: After the first 100 hours of operation, drain initial oil, preferably when box is warm. For an effective oil change, the unit should be flushed with a liquid detergent recommended by the lubricant supplier and refilled with synthetic gear lube. Thereafter oil should be changed every 1500 to 2000 hours or 12 months, whichever comes first. The planetary gearbox is initially filled with 90w gear lube because of the expected 100 hour break-in period. Refill gearbox with approximately 3 gallon (11.5L) of, **NOTE:** (Mobil Delvac Synthetic Gear Oil 75W-90). Approximate volume of the planetary gearbox and the reservoir is 5 gallons (19L).

Clean magnetic plugs regularly. Inspect and wash oil reservoir breather cap as needed. Air dry before reinstalling.

If the operating conditions of the gearbox entail prolonged periods of operation such to cause the oil temperature to rise considerably higher than 140°F (60°C) synthetic oil will lessen wear of the components and prolong the intervals between replacing them.

Maximum temperature of the lubricant inside the gearbox must not go above 194°F (90°C).

PROCEDURE FOR FILLING PLANETARY GEARBOX: Remove lower and upper oil line from gearbox and attach the lower oil line to the oil supply pump. Pressure oil in gear box until oil appears in the upper oil line. Reconnect oil lines and fill reservoir to center of sight gauge, run unit and add oil up to center of sight gauge if needed.. Check daily, oil level must always be visible in sight gauge. **NOTE: Refilling the gearbox through the oil reservoir can be done but you will have to let the unit set a considerable amount of time (possibly over night) to equalize the oil level in the gearbox.**

RECOMMENDATION: It is advisable to check the oil level of gearboxes at least once a month. If more than 10% of the total oil capacity has to be added, check for oil leaks.

GEARBOX TEMPERATURES: During normal running conditions, the temperature of the outer casing of the gearbox should not exceed 175°F (80°C).

LUBRICATION CHART

⚠ WARNING ALWAYS DISCONNECT OR DISENGAGE POWER TAKE OFF AND REMOVE KEYS FROM TRACTOR BEFORE CLEANING, ADJUSTING, LUBRICATING OR SERVICING THIS MACHINE. FAILURE TO HEED MAY RESULT IN SERIOUS PERSONAL INJURY OR DEATH.

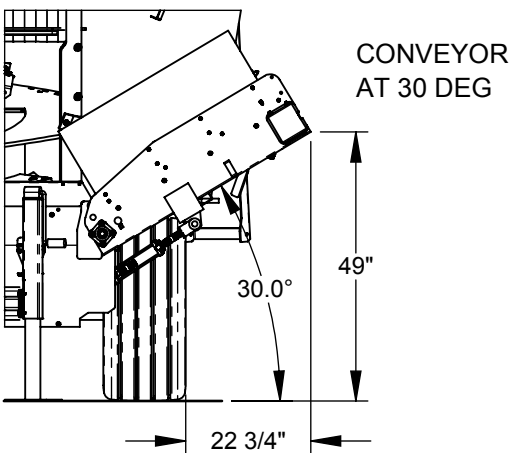
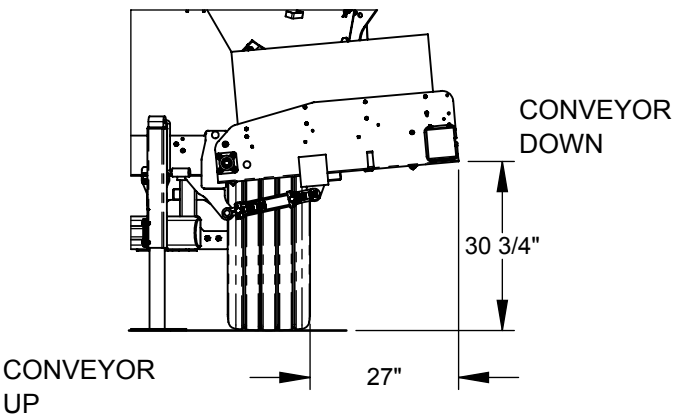
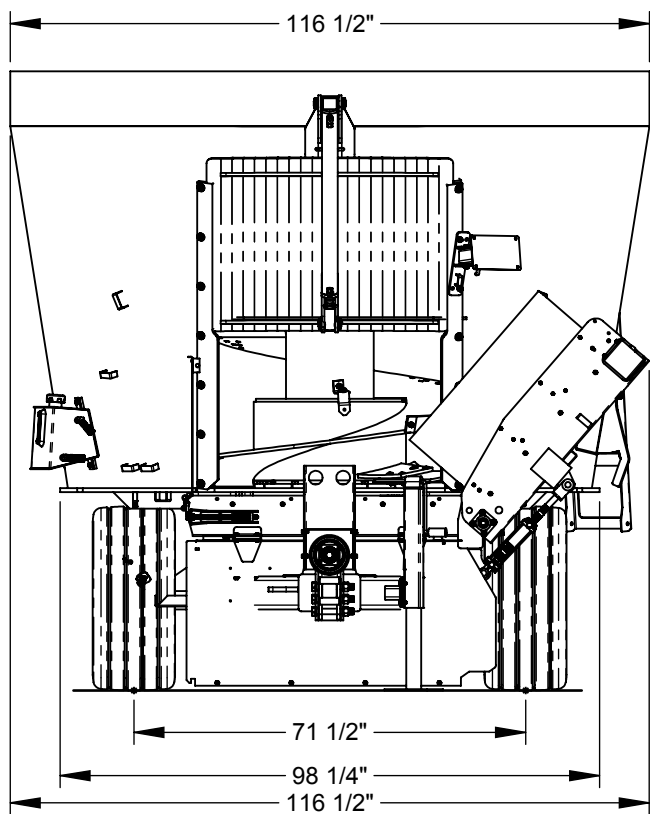
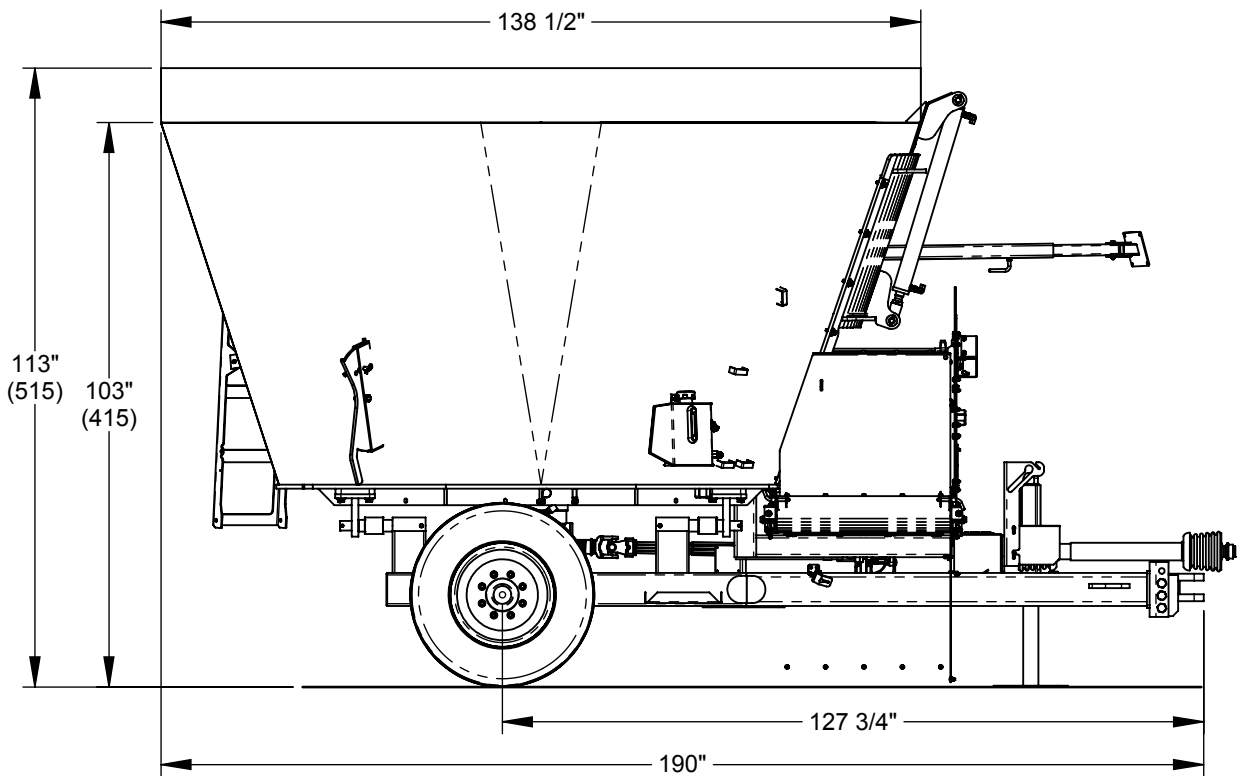
ITEM	LUBRICATION	INTERVAL
Conveyor Chain	Light Weight Oil	Brush or spray on lightly every 40 hours of operation
Conveyor Bearings	Good Quality Grease	One pump every 8 hours of operation
PTO (Slip Shaft)	Good Quality Grease	Every 8 hours IMPORTANT: At each lubrication make sure the slip shaft slides in and out freely, failure of the shaft to slide freely will result in drive train damage.
Wheel Bearings	Good Quality Wheel Bearing Grease	Yearly
U-Joint	Good Quality Grease	Every 8 hours
Planetary Gearbox	Mobil Delvac Synthetic Gear Oil 75W-90	After the first 500 hours of operation, then 2000 hours or every 12 months, whichever comes first

415-515 VERTICAL FEATURES & SPECIFICATIONS

Specifications	415	515
Maximum Load by Weight	11,480 lbs.	14,280 lbs.
Empty Weight, Approximate	8,700 LBS	9,000 lbs.
Overall Length	190"	190"
Shipping Width	117"	117"
Overall Width	117"	117"
Overall Height	103"	113"
Mixing Capacity in Cubic Feet	410	510
Tire Size (Standard)	15.0/55-17	15.0/55-17
Tire, OD (Standard)	33.5"	33.5"
Discharge Magnets	Optional	Optional
Screw Speeds	39 RPM Max @ 540 RPM	39 RPM Max @ 540 RPM
PTO Speed	540	540
Conveyor Width	32"	32"
Conveyor Length	40"	40"

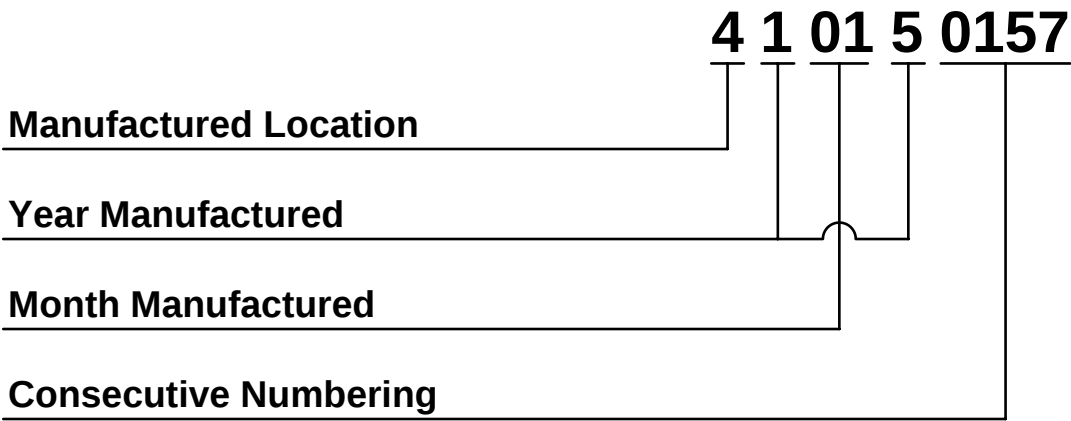
All Dimensions & Specifications are Approximate and Subject to Change Without Notice

415 - 515 DIMENSIONS



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

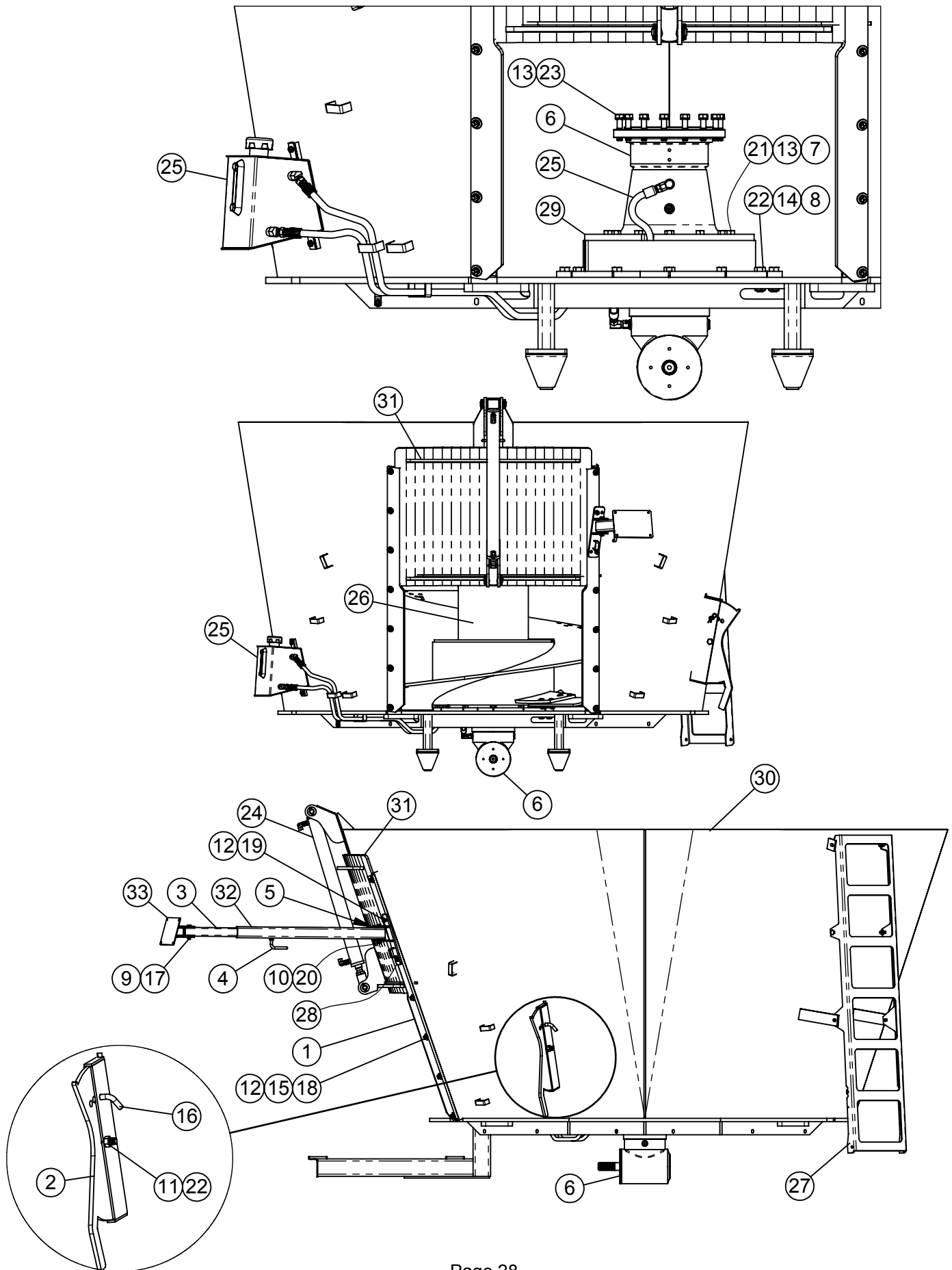
How to read a Roto-Mix Serial Number



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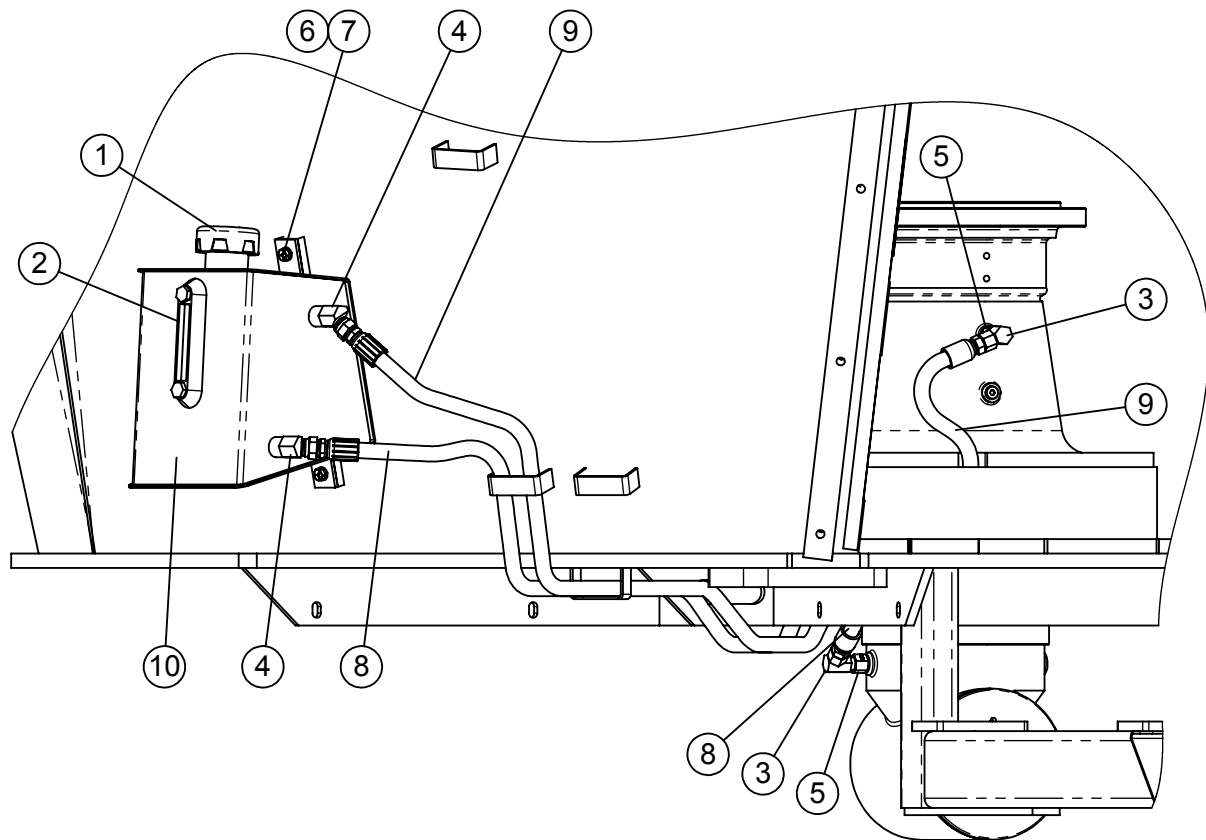
415 - 515 SHELL ASSEMBLY



415 - 515 SHELL ASSEMBLY

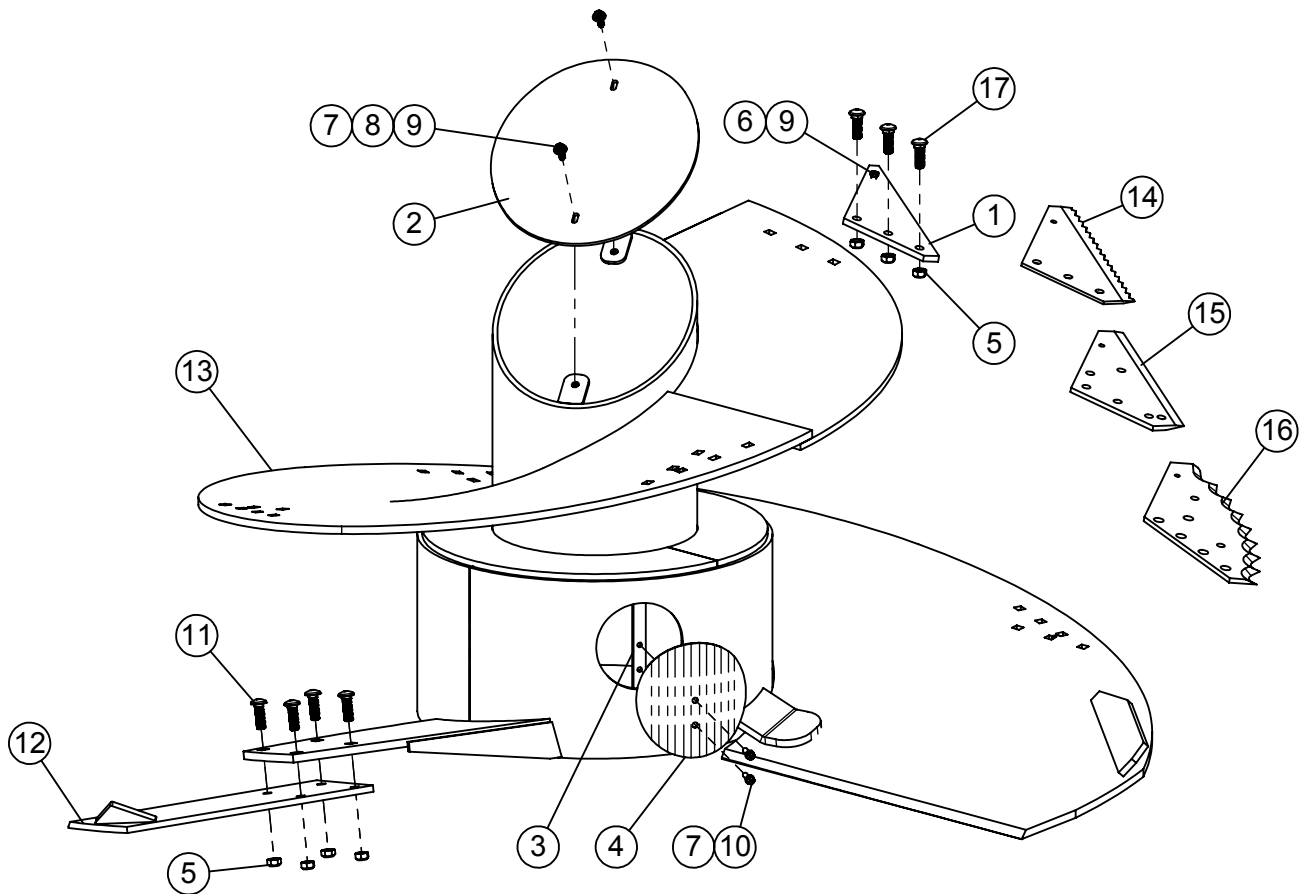
ITEM #	PART #	DESCRIPTION	QTY.
1	160115	DOOR GUIDE BAR	2
2	161086	325/425 TUB KNIFE	2
3	185490	TRAILER SCALE IND TUBE	1
4	185492	HANDLE, 1/2" LOCKING	1
5	185493	SCALE HINGE WASHER 2-1/2" O.D.	2
6	344157	ANGLE GEARBOX RT RR1800	1
7	400210	HEX NUT 5/8"-11 #5 PLTD	12
8	400212	HEX NUT 3/4"-10 #5 PLTD	12
9	400906	HEX NUT, 3/8"-16 CROWN LOC #5 PLTD	1
10	400908	HEX CROWN LOCNUT 1/2"-13 #9	1
11	400912	HEX CROWN LOCK NUT 3/4"-10 #5 PLTD	2
12	402008	SPRING LOCK WASHER 1/2" PLTD	14
13	402010	SPRING LOCK WASHER 5/8" PLTD	27
14	402012	SPRING LOCK WASHER 3/4" PLTD	12
15	402408	WASHER, FLAT 1/2" MED PLTD	12
16	404209	PIN, 5/8" x 4", RECEIVER HITCH	2
17	405661	HHCS, 3/8"-16 x 3" #5, PLTD	1
18	405703	HHCS 1/2"-13 x 1-1/2" #5 PLTD	12
19	405704	HHCS 1/2"-13 x 1-3/4" #5 PLTD	2
20	405713	HHCS 1/2"-13 x 4" #5 PLTD	1
21	405758	HHCS 5/8"-11 x 3" #5 PLTD	12
22	405781	HHCS 3/4"-10 x 2-1/2" #5 PLTD	14
23	407817	HHCS M16 x 70MM GRADE 10.9	15
24	660059	SINGLE CYL DISCH DOOR HYD KIT	1
25	660291	GEARBOX RESERVOIR KIT	1
26	760614	415 AUGER ASSEMBLY	1
27	780906	LADDER BUNDLE, (7 RUNG)	1
28	860490	BOLT-ON SCALE IND MOUNT BRKT	1
29	860591	GEAR BOX FLANGE WA, 745/865-(42W CONV)	1
30	860897	415 TUB WA FRONT CENTER	1
	860905	515 TUB WA FRONT CENTER	1
31	860898	415 FRONT CENTER DOOR WA	1
32	872125	TRAILER SCALE ARM WA 2-1/2" SQ x 34"	1
33	872126	SCALE IND ARM WA	1

GEARBOX RESERVOIR KIT #660291



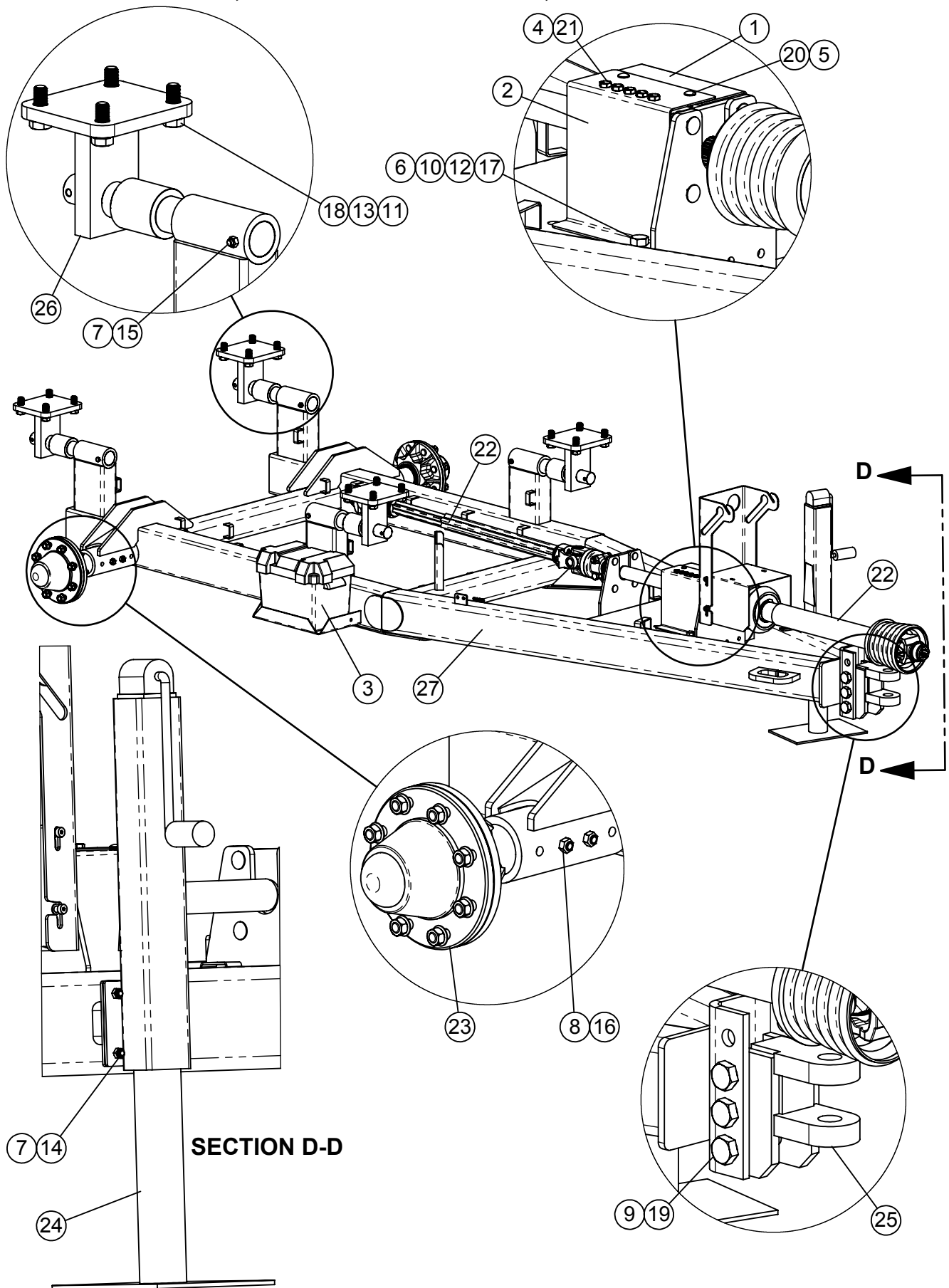
ITEM #	PART #	DESCRIPTION	QTY.
1	362549	TANK BREATHER 8" DIP STICK	1
2	362555	SIGHT GAUGE 5"	1
3	368020	SWIVEL 90° 3/8MP x 3/8FP	2
4	368029	HYD SWIVEL 1/2"MP x 1/2"FP 45°	2
5	368108	STR ADPTR, 3/8"MBPP x 3/8"FP, 3455-06-06	2
6	402006	WASHER SPRING LOCK 3/8" MED PLTD	2
7	405652	HHCS 3/8"-16 x 3/4" #5 PLTD	2
8	781793	HYD HOSE ,1/2" x 60" 1/2MP x 3/8MP	1
9	781845	HYD HOSE ,1/2" X 80" 1/2MP x 3/8MP	1
10	860064	GEARBOX RESERVOIR WA	1

415 - 515 AUGER ASSEMBLY



ITEM #	PART #	DESCRIPTION	QTY.
1	160076	KNIFE BACKUP PLATE RH, 5 13/16" x 16 3/8"	1
2	161100	AUGER TUBE CAP 16-1/4" x 19-5/16"	1
3	161290	AUGER COVER BOLT BAR 3/8 x 1 x 8	1
4	161298	AUGER ACCESS COVER - 7" OD	1
5	400910	HEX CROWN LOCNUT 5/8"-11 #9 PLTD	8
6	401106	HEX NUT, 3/8"-16 NYLOC #5 PLTD	1
7	402006	WASHER SPRING LOCK 3/8" MED PLTD	4
8	402406	FLAT WASHER 3/8" PLTD	2
9	405654	HHCS 3/8"-16 x 1-1/4" #5 PLTD	3
10	405655	HHCS 3/8"-16 x 1 1/2" #5 PLTD	2
11	407130	CHCS 5/8"-11 x 2" #8 PLTD	8
12	860686	AUGER WING KICKER W.A.	1
13	860705	415 AUGER WA	1
14	385018	KNIFE, DOUBLE SPRAYED BUSATIS	1
15	385008	CARBIDE KNIFE BLADE 7 1/2" x 17 1/4"	1
16	385017	AGGRESSIVE KNIFE BLADE 7 1/2" x 21"	1
17	407121	CHCS 5/8"-11 x 2" #5 PLTD	1

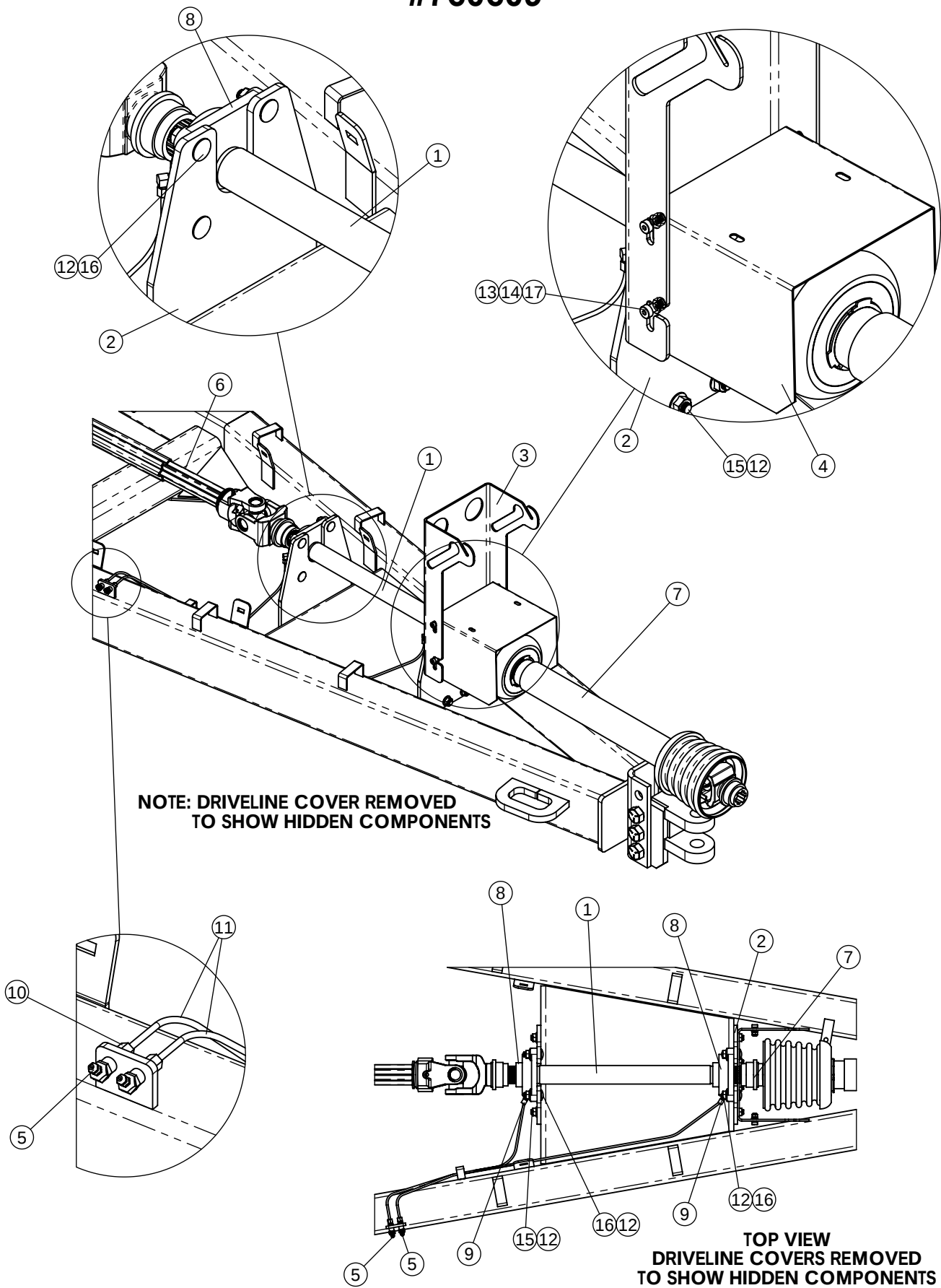
415 - 515 FRONT CENTER TRAILER ASSEMBLY **8,000# HUBS and 12,000# HUBS**



415 - 515 FRONT CENTER TRAILER ASSEMBLY 8,000# HUBS and 12,000# HUBS

ITEM #	PART #	DESCRIPTION	QTY.
1	163114	SHAFT COVER -LH	1
2	163115	SHAFT COVER -RH	1
3	357400	BATTERY BOX W/STRAP	1
4	400010	HEX NYLOC NUT M10-1.5, 8.8 PLTD	5
5	400106	HEX NUT, 5/16"-18 SER. FLANGE #5 PLTD	2
6	400210	HEX NUT 5/8"-11 #5 PLTD	2
7	400906	HEX NUT, 3/8"-16 CROWN LOC #5 PLTD	8
8	400908	HEX CROWN LOCNUT 1/2"-13 #9	4
9	400916	HEX CROWN LOCKNUT, 1"-8 #5 PLTD	3
10	402010	SPRING LOCK WASHER 5/8" PLTD	2
11	402112	LOCK WASHER, EXTERNAL STAR 3/4"	16
12	402410	FLAT WASHER 5/8" MED PLTD	2
13	402512	FLAT WASHER 3/4" SAE	16
14	405653	HHCS 3/8"-16 x 1" #5 PLTD	4
15	405663	3/8"-16 x 3 1/2" HHCS, #5, PLTD	4
16	406715	HHCS 1/2" x 5" #8 PLTD	4
17	405752	HHCS, 5/8"-11 x 1-1/2" #5 PLTD	2
18	405779	HHCS 3/4"-10 x 2" #5 PLTD	16
19	405839	HHCS 1"-8 x 7 #5 PLTD	3
20	407020	CHCS 5/16"-18 x 3/4" #5 PLTD	2
21	407800	HHCS M10-1.5 x 60MM, GRADE 8.8 PLTD	5
22	760609	VERTICAL DRIVELINE BUNDLE	1
23	781106	HUB & SPINDLE ASSY, 8 BOLT, 8,000 LB.	2
	750006	HUB & SPINDLE ASSY, 10 BOLT, 12,000 LB	2
24	860478	JACK W.A. BOLT-ON	1
25	860648	CLEVIS WA (4-1/2" BOLT SPACING)	1
26	860728	2-1/8" BAR END BLOCK WA (2" RISER)	4
27	860904	415 FC TRAILER WA	1

**DRIVELINE BUNDLE
#760609**

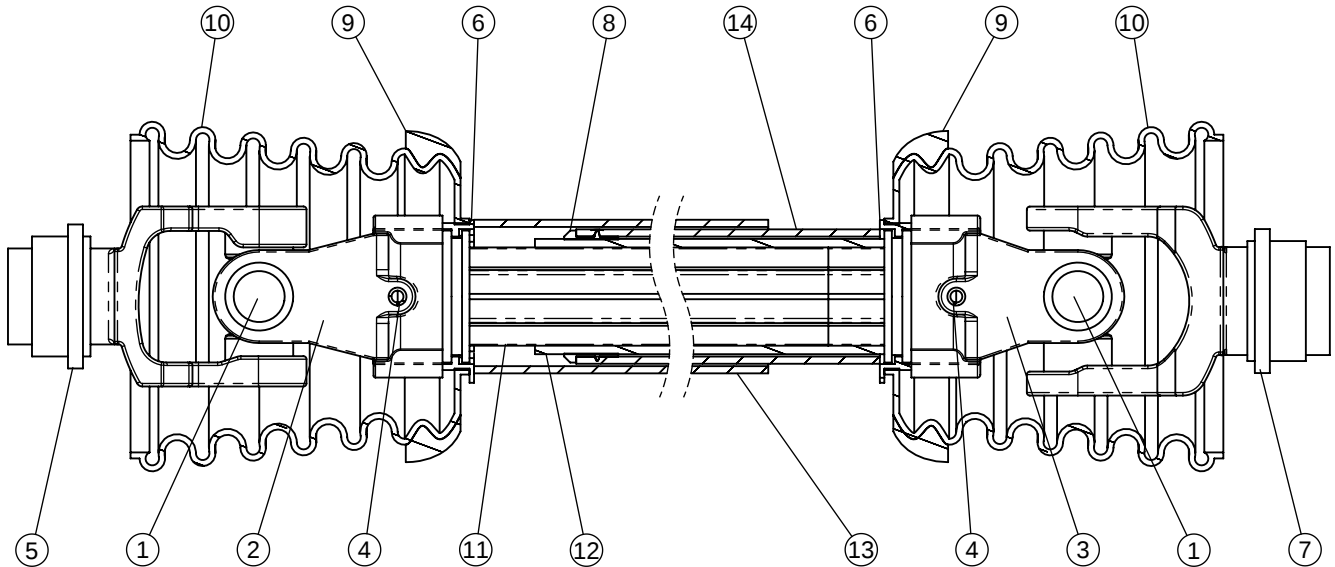


DRIVELINE BUNDLE

#760609

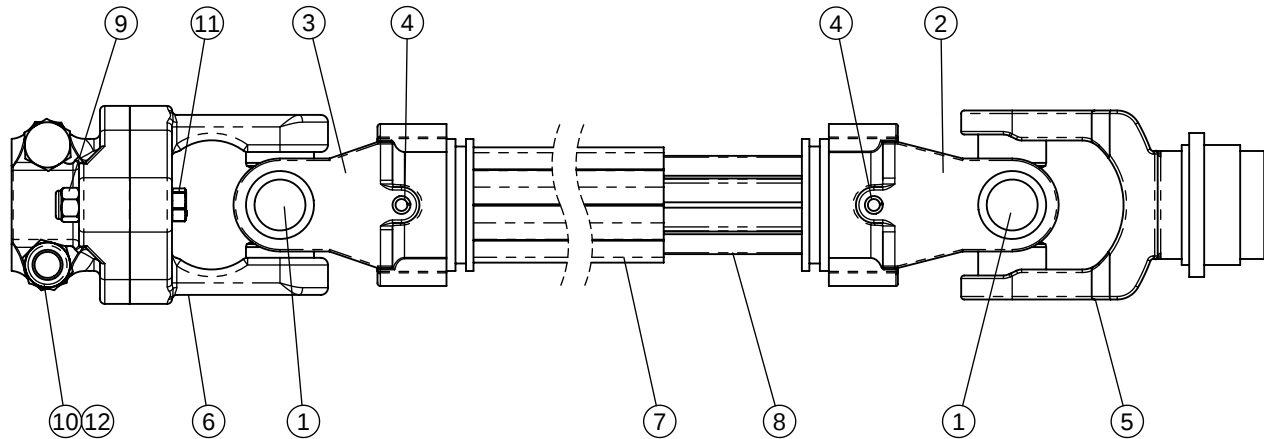
ITEM #	PART #	DESCRIPTION	1
1	162360	TRAILER JACKSHAFT	1
2	162364	JACKSHAFT BEARING MOUNT PLATE	2
3	162388	PTO SHIELD MOUNT BRACKET	1
4	185302	P.T.O. SHIELD	1
5	310753	GREASE ZERK 1/8" 45° FEMALE PLTD	2
6	338056	DRIVE SHAFT w/Clutch, 1-3/4"-20, W2500, W19457	1
7	338057	DRIVE SHAFT, 1-3/8"-6 x 1-3/4"-20, W2500, W19456	1
8	340428	BEARING, VCJ, 4-BOLT FLANGE, 1-3/4"	2
9	356001	COMPRESSION FITTING 1/8"MP x 3/16", 90°	2
10	356002	COMPRESSION FITTING 1/8" MP x 3/16" STRAIGHT	2
11	356203	3/16" OD COPPER TUBING	5.5'
12	400114	HEX NUT, 1/2"-13 SERRATED FLANGE #5 PLTD	16
13	401105	HEX NUT, 5/16"-18 NYLOC #5 PLTD	4
14	402404	FLAT WASHER 1/4" PLTD	4
15	407101	CHCS 1/2"-13 x 1-1/4" #5 PLTD	8
16	407103	CHCS 1/2"-13 x 1-3/4" #5 PLTD	8
17	407410	SHOULDER BOLT, 3/8" x 3/8" LG x 5/16" THD	4

TRACTOR DRIVELINE #338057



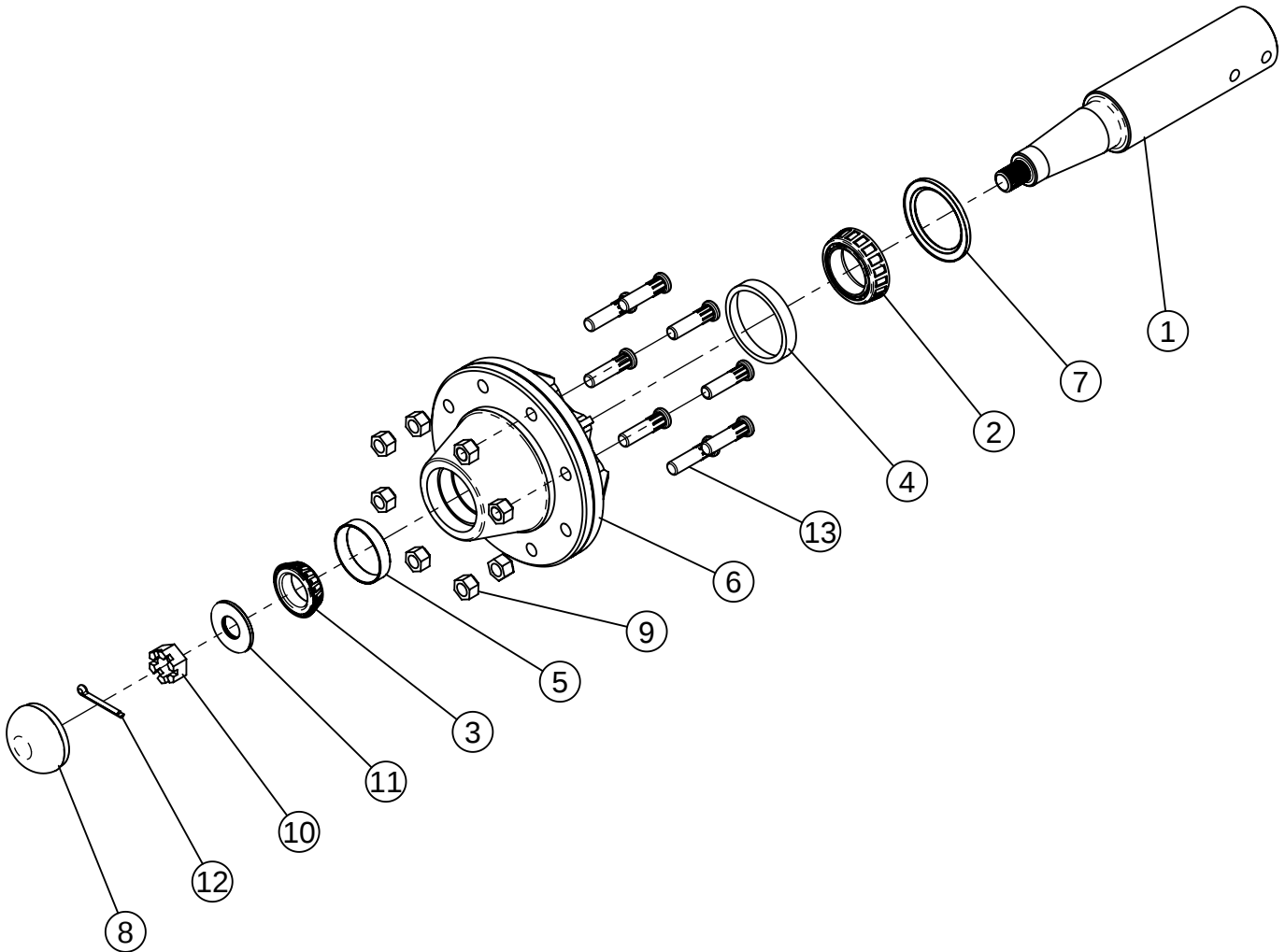
ITEM #	PART #	DESCRIPTION	QTY
1	338446	CROSS KIT W2500	2
2	338453	INBOARD YOKE W2500	1
3	338454	INBOARD YOKE W2500	1
4	338473	ROLL PIN 10mm x 90mm	2
5	338482	W-2500 1 3/8"- 6 SPLINE 362428	1
6	338489	BEARING RING SC25, 087276	2
7	338558	YOKE 1-3/4"-20 SPL. QD W2500, 362434	1
8	338622	SUPPORT BEARING - 396295	1
9	338623	REINFORCING COLLAR 359474	2
10	338647	GUARD CONE 7 RIB, 377437	2
11	338648	INNER PROFILE W2500 S4 699704	1
12	338649	OUTER PROFILE S5L W2500 388750	1
13	338650	OUTER SHIELD TUBE, 515mm	1
14	338651	INNER SHIELD TUBE, 520mm	1

GEARBOX DRIVELINE #338056



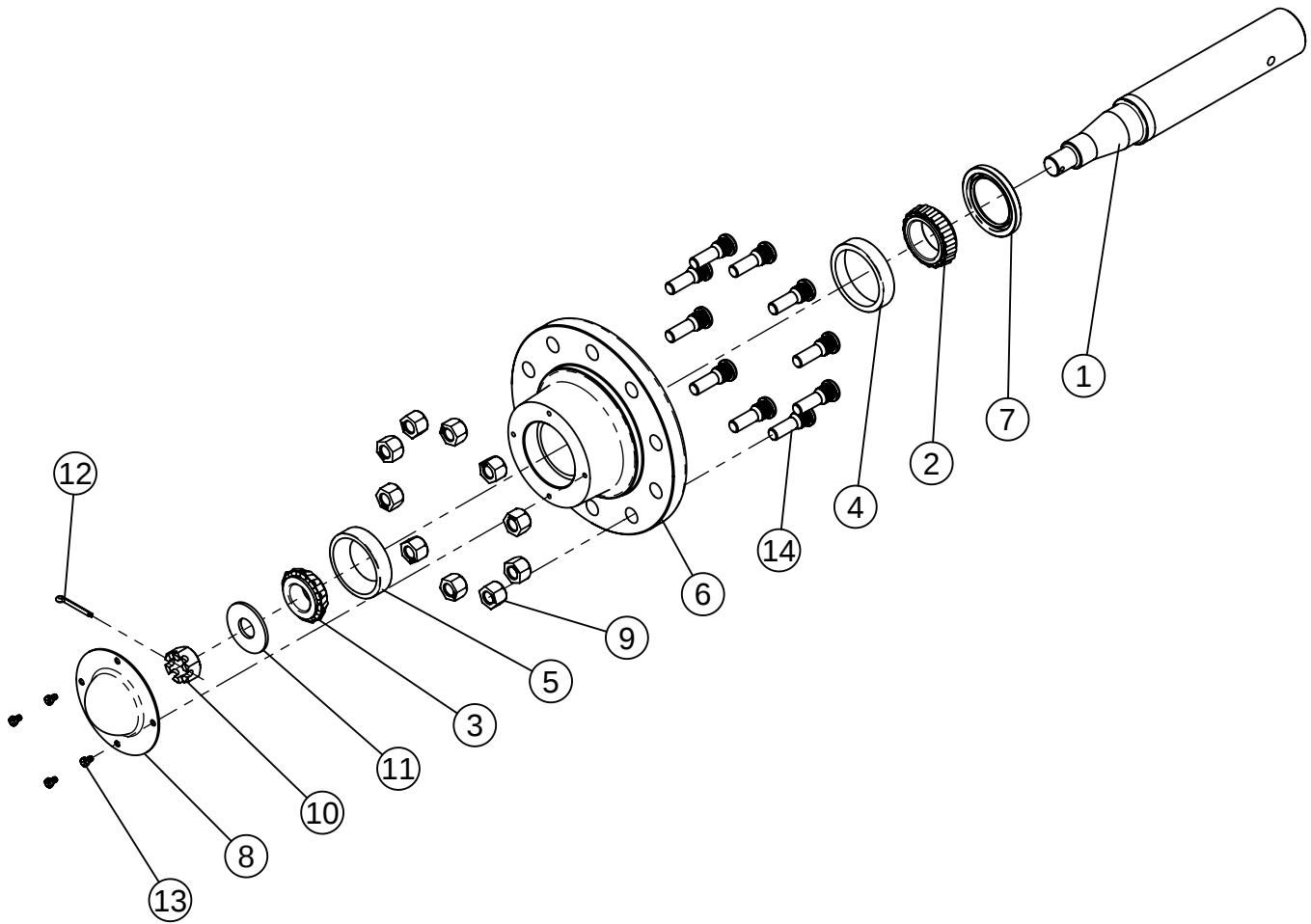
ITEM #	PART #	DESCRIPTION	QTY.
1	338446	CROSS KIT W2500	2
2	338453	INBOARD YOKE W2500	1
3	338454	INBOARD YOKE W2500	1
4	338473	ROLL PIN 10mm x 90mm	2
5	338558	YOKE 1-3/4"-20 SPL. QD W2500, 362434	1
6	338599	YOKE 1-3/4"-20 W/CLUTCH W2500 396994, X370372	1
7	338643	OUTER PROFILE S5 W2500 330298	1
8	338644	INNER PROFILE W2500 S4 331296	1
9	400010	HEX NYLOC NUT M10-1.5, 8.8 PLTD	1
10	400014	HEX NYLOC NUT M16-2.0 #5 PLTD	2
11	407800	HHCS M10-1.5 x 60MM, GRADE 8.8 PLTD	1
12	407841	HHCS M16-2.0 x 80, 8.8 #5 PTLD	2

SINGLE AUGER VERTICAL HUB & SPINDLE 8,000lb 8 BOLT, #781106



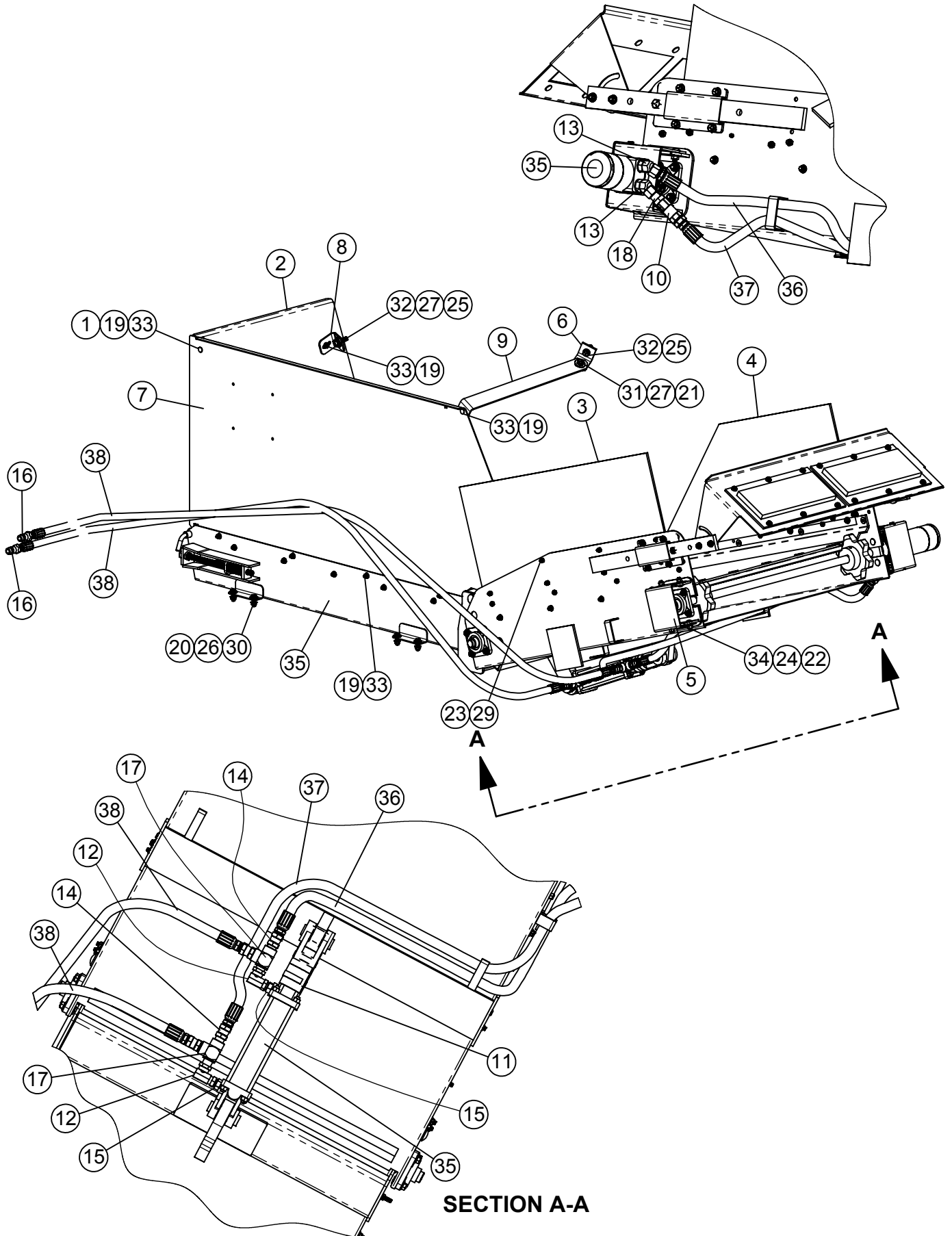
ITEM #	PART #	DESCRIPTION	QTY
1	187102	SPINDLE, 3" DIA	1
2	342205	BEARING CUP, 2.25" BORE	1
3	342206	BEARING CUP, 1.625" BORE	1
4	342207	BEARING RACE, 3.813"OD	1
5	342208	BEARING RACE, 2.891" OD	1
6	372207	HUB, 8 BOLT, 8000 LB.	1
7	372305	SEAL, 3.0" BORE	1
8	372307	DUST CAP WILTON	1
9	400101	LUG NUT, 5/8", WILTON	8
10	401816	HEX CASTLE NUT, 1-1/4"	1
11	402416	FLAT WASHER, 1" ID x 2-1/2" OD	1
12	404006	COTTER PIN, 5/32" x 1-1/4"	1
13	407723	STUD BOLT, 5/8", WILTON	8

SINGLE AUGER VERTICAL HUB & SPINDLE 12,000lb 10-BOLT, #750006



ITEM #	PART #	DESCRIPTION	QTY.
1	150117	SPINDLE, 3" DIA, 12,000 LB x 20"	1
2	342209	INNER BEARING 2-1/2" BORE	1
3	342210	BEARING, 1.75 BORE Tim #460	1
4	342211	INNER BEARING RACE 4-7/16"OD	1
5	342212	OUTER BEARING RACE 4-1/4" OD	1
6	372209	HUB ASSY , 10 BOLT-12000LB (HUB ONLY)	1
	372209A	HUB ASSY, (INCLUDES 4,5,6,10 & 15)	1
7	372306	SEAL-OIL 3.0 DIA SHAFT, CR#30087	1
8	372308	DUST CAP, 12000 LB AXLE	1
9	400102	LUG NUT, BUDD RH 3/4"-16	10
10	401820	CASTLE NUT, 1-1/4"-12 HEX SAE PLT	1
11	402911	WASHER 3-1/4"OD x 1-7/32"ID x 3/16"THK	1
12	404006	COTTER PIN, 1/4" x 2-1/4"	1
13	405625	HHCS 5/16"-18 x 1/2" #5 PLTD	4
14	407729	STUD BOLT 3/4" X 2 3/4, W/1" SHOULDER	10

ADJUSTABLE CHAIN CONVEYOR #660354

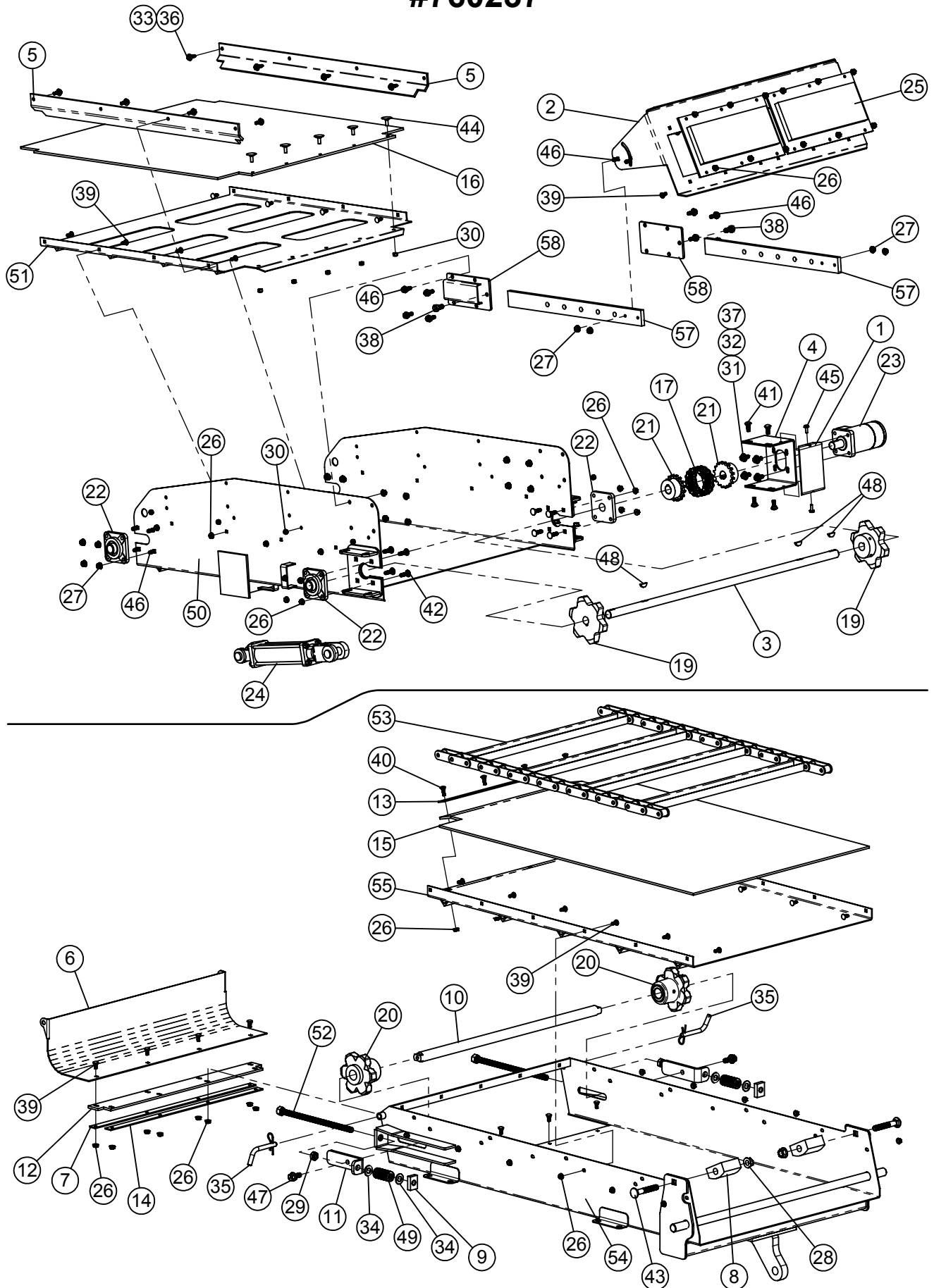


SECTION A-A

ADJUSTABLE CHAIN CONVEYOR #660354

ITEM #	PART #	DESCRIPTION	QTY.
1	161383	MOUNT ANGLE	1
2	161511	CONVEYOR SIDE SHIELD	1
3	161532	CONVEYOR EXTENSION	1
4	161533	CONVEYOR EXTENSION	1
5	161600	SHAFT END COVER	1
6	161650	CONVEYOR STIFFENER BRACKET	1
7	162801	425/525 CONVEYOR FRONT SHIELD	1
8	163112	STIFFNER BRACKET	1
9	163113	CONV STIFFNER BRKT	1
10	362240	CHECK VALVE, 5 PSI (1/2" FP x 1/2" FP)	1
11	365001	HYDRAULIC CYLINDER ROD DONUT 2"L	3
12	368018	SWIVEL 90° 1/2MP x 1/2FPS, .062 ORFICE	2
13	368052	HYD FITTING 7/8"MOR x 1/2"FPX 45°	2
14	368111	STRAIGHT ADAPTER 1/2" x 1/2"FP SWIVEL	4
15	368142	STRAIGHT ADAPTER 9/16" MOR x 1/2" FP	2
16	368238	QD, MALE PIONEER, 1/2" FEMALE PIPE	2
17	368608	STREET TEE 1/2"MP x 1/2"FP x 1/2"FP	2
18	368642	HEX NIPPLE 1/2" x 1/2" MP	1
19	400106	HEX NUT, 5/16"-18 SER. FLANGE #5 PLTD	13
20	400107	HEX NUT, 3/8"-16 SERRATED FLANGE #5	8
21	400114	HEX NUT, 1/2"-13 SERRATED FLANGE #5	1
22	400206	HEX NUT 3/8"-16 #5 PLTD	4
23	401105	HEX NUT, 5/16"-18 NYLOC #5 PLTD	14
24	402006	WASHER SPRING LOCK 3/8" MED PLTD	4
25	402008	SPRING LOCK WASHER 1/2" PLTD	3
26	402406	FLAT WASHER 3/8" PLTD	8
27	402408	WASHER, FLAT 1/2" MED PLTD	2
28	402505	FLAT WASHER 5/16" SAE	14
29	405628	HHCS 5/16"-18 x 1" #5 PLTD	14
30	405654	HHCS 3/8"-16 x 1-1/4" #5 PLTD	8
31	405702	HHCS 1/2"-13 x 1-1/4" #5 PLTD	1
32	405703	HHCS 1/2"-13 x 1-1/2" #5 PLTD	3
33	407020	CHCS 5/16"-18 x 3/4" #5 PLTD	13
34	407040	CHCS 3/8"-16 x 1" #5 PLTD	4
35	760237	425/525 ADJ CONV ASM 40"L	1
36	781343	HOSE ASSY, 1/2" x 48", 1/2" x 1/2" MP	1
37	781597	HOSE ASSY, 1/2" x 54", 1/2" x 1/2" MP	1
38	781611	HOSE ASSY, 1/2" x 160", 1/2" x 1/2" MP	2

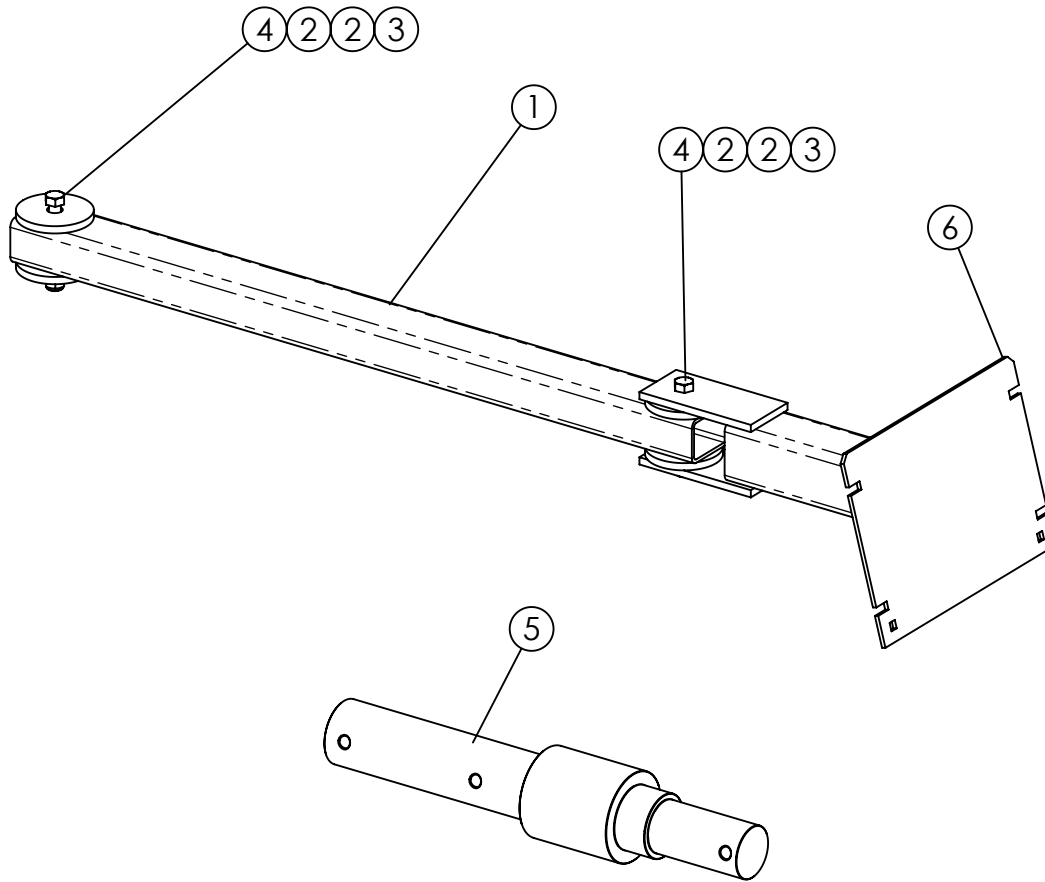
415/515 ADJUSTABLE CONVEYOR ASSEMBLY #760237



415/515 ADJUSTABLE CONVEYOR ASSEMBLY #760237

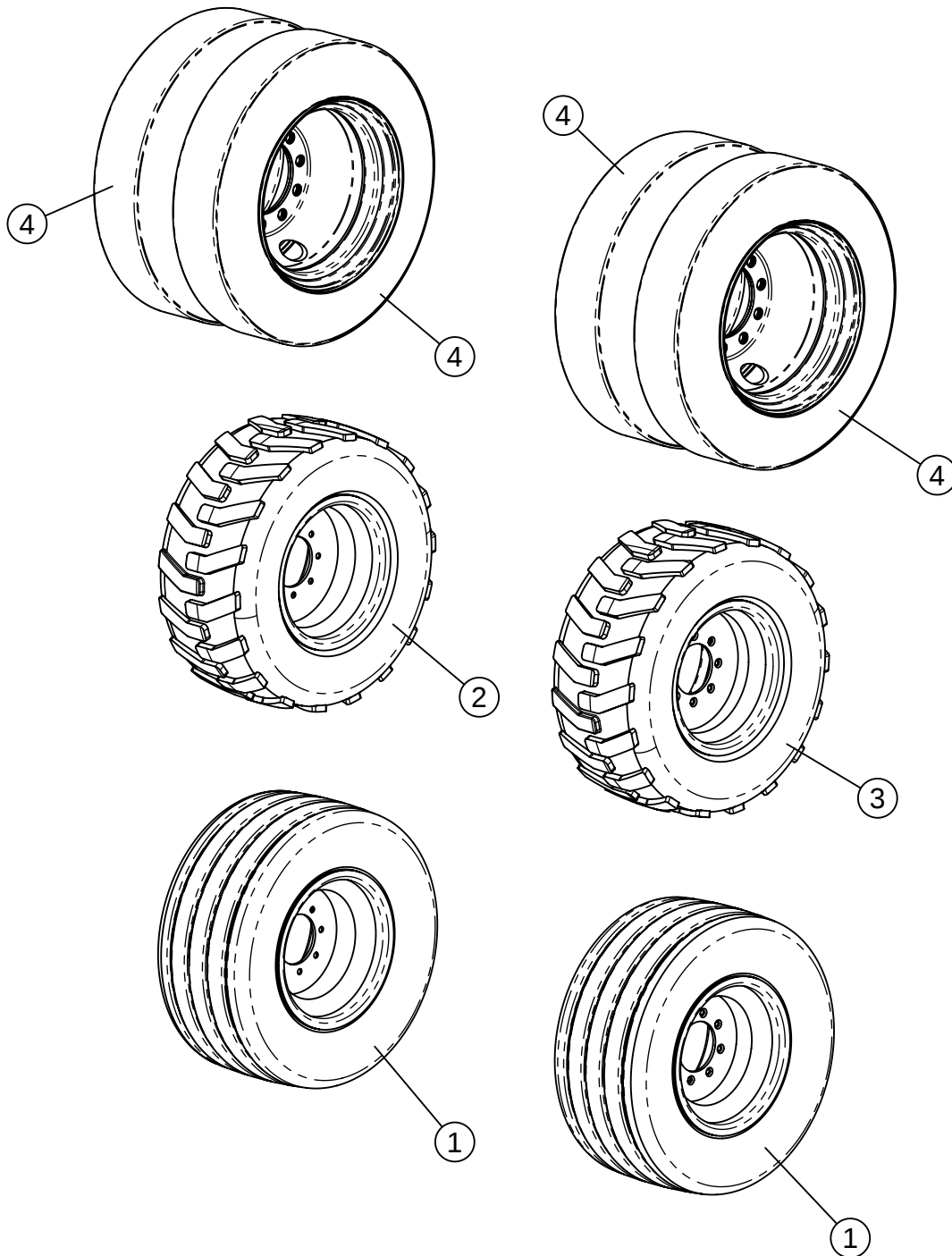
ITEM #	PART #	DESCRIPTION	QTY.
1	160083	MOTOR MOUNT COVER	1
2	161495	MAGNET BAFFLE	1
3	161498	CONVEYOR DRIVE SHAFT	1
4	161503	MOTOR MOUNT PLATE	1
5	161505	PLASTIC SLIDE	2
6	161506	CLEANOUT DOOR	1
7	161509	STRAP	1
8	161830	CONVEYOR CHAIN HOLD DOWN	2
9	162087	TAPPED TENSIONER BAR	2
10	162658	CONVEYOR IDLER SHAFT	1
11	162664	TENSION BRACKET - IDLER SPROCKET	2
12	162790	RUBBER HINGE	1
13	162799	PLASTIC SUPPORT STRAP x 23-1/4	1
14	162802	RUBBER STRAP x 27	1
15	162936	LOWER PLASTIC LINER ADJ CONV	1
16	162937	PLASTIC LINER ADJ CONVEYOR	1
17	320516	COUPLER CHAIN #50-2 RC x 16	1
18	322574	CONNECTOR LINK 81X	2
19	330013	SPROCKET 81X 6-TOOTH 1" BORE	2
20	330016	SPROCKET 81X 6-TOOTH NYLOIL INSERT	2
21	332606	COUPLER SPROCKET, 50B16 x 1"	2
22	340316	FLANGE BEARING 1" 4 BOLT RCJC	4
23	360015	HYDRAULIC MOTOR 17.9 CU IN.	1
24	364054	HYDRAULIC CYLINDER 2" x 6", 16-1/4" CC	1
25	375004	ACRO PLATE MAGNET AM 1500	2
26	400106	HEX NUT, 5/16"-18 SER. FLANGE #5 PLTD	52
27	400107	HEX NUT, 3/8"-16 SERRATED FLANGE #5	24
28	400115	FLANGE NUT, 5/8-11 SERRATED	2
29	400610	HEX JAM NUT 5/8"-11 #5 Pltd	2
30	401105	HEX NUT, 5/16"-18 NYLOC #5 PLTD	13
31	402006	WASHER SPRING LOCK 3/8" MED PLTD	4
32	402406	FLAT WASHER 3/8" PLTD	4
33	402505	FLAT WASHER 5/16" SAE	8
34	402510	FLAT WASHER 5/8" SAE PLTD	4
35	404214	PIN, 1/2" x 3",RECEIVER HITCH	2
36	405628	HHCS 5/16"-18 x 1" #5 PLTD	8
37	405653	HHCS 3/8"-16 x 1" #5 PLTD	4
38	405701	HHCS 1/2"-13 x 1" #5 PLTD	2
39	407020	CHCS 5/16"-18 x 3/4" #5 PLTD	40
40	407021	CHCS 5/16"-18 x 1" #5 PLTD	4
41	407040	CHCS 3/8"-16 x 1" #5 PLTD	4
42	407041	CHCS 3/8"-16 x 1-1/4" #5 PLTD	8
43	407128	CHCS 5/8" x 4" #5 PLTD	2
44	407311	ELEV BOLT, 5/16 x 1	5
45	407875	HHCS 1/4" -20 x 1" WHIZ	2
46	407901	HHCS 3/8"-16 X 1" SERRATED #5 PLTD	20
47	407912	HHCS 1/2"-13 x 1-1/4" SERRATED #5 PLTD	2
48	409916	WOODRUFF KEY 1/4" x 1"	3
49	410017	DIE SPRING, 1-1/4" x 4"	2
50	860449	PIVOTING CONVEYOR WA	1
51	860450	PIVOTING CONVEYOR PAN WA	1
52	860489	ALL THREAD WA	2
53	860774	81X CONV CHAIN WA - 30" x 72 PITCH	1
54	860810	425/525 CONVEYOR BODY WA	1
55	860811	VERTICAL CONVEYOR PAN WA	1
56	W144142	TAPE, BLACK DOUBLE COATED PE FOAM	17
57	W157656	SUPPORT ARM 23-3/4"	2
58	W157657	BAFFLE SUPPORT BRACKET WA	2

SCALE INDICATOR MOUNT BUNDLE #660075 (Items 1,2,3,4 &6)



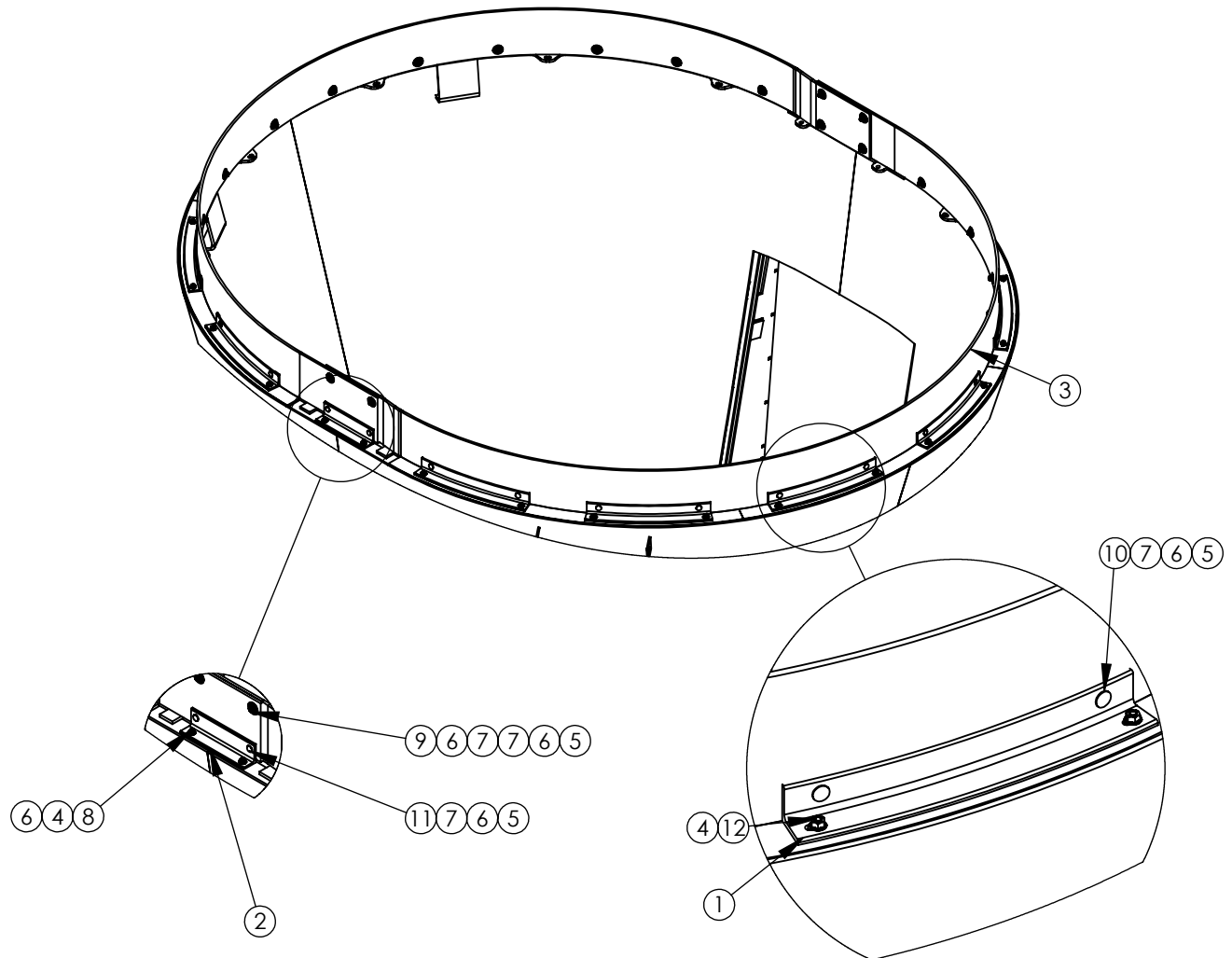
ITEM #	PART #	DESCRIPTION	QTY
1	160783	SCALE INDICATOR PIVOT ARM x 26"	1
2	185493	SCALE HINGE WASHER 2-1/2" O.D.	4
3	401106	HEX NUT, 3/8"-16 NYLOC #5 PLTD	2
4	405661	HHCS, 3/8"-16 x 3" #5, PLTD	2
5	450822	WEIGH BAR 2-1/8"	1
6	850048	SCALE INDICATOR ARM WA	1

**TIRE OPTIONS #760606 (LUG TIRES)
#660325 (IMPLMENT TIRES), #780780(DUAL TIRES)**



ITEM #	PART #	DESCRIPTION	QTY.
1	760631	IMPLEMENT TIRE & WHEEL 15.0/55-17 18 PLY	2
2	780754-L	TIRE & WHEEL, LEFT ASSY W/LUG TREAD, 33 x 16.5	1
3	780754-R	TIRE & WHEEL, RIGHT ASSY W/LUG TREAD, 33 x 16.5	1
4	781235	RECAP TIRE & DUAL WHEEL 255R70 x 22.5	4

RUBBER EXTENSION KIT - 8" **#660316 (415 MIXER & 515 MIXER)**



ITEM #	PART #	DESCRIPTION	QTY
1	162443	RUBBER EXTENSION BOLT ANGLE	12
2	162444	RUBBER EXTENSION BOLT ANGLE - SIDES	2
3	350443	415 RUBBER EXTENSION - 8"	2
4	400107	HEX NUT, 3/8"-16 SERRATED FLANGE #5	28
5	401106	HEX NUT, 3/8"-16 NYLOC #5 PLTD	32
6	402406	FLAT WASHER 3/8" PLTD	38
7	402606	FENDER WASHER 3/8" x 1 1/2" PLTD	36
8	405654	HHCS 3/8"-16 x 1-1/4" #5 PLTD	4
9	405655	HHCS 3/8"-16 x 1 1/2" #5 PLTD	4
10	407041	CHCS 3/8"-16 x 1-1/4" #5 PLTD	24
11	407043	CHCS 3/8"-16 x 1 3/4" #5 PLTD	4
12	407901	HHCS 3/8"-16 X 1" SERRATED #5 PLTD	24