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# OSWALT®

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## Mixers by *ROTO-MIX*

### MODEL 425, 500 & 575 TMR RUFFAGE MASTER TRUCK AND TRAILER MIXERS

#### OPERATOR'S MANUAL INSTALLATION INSTRUCTIONS AND PARTS

ROTO-MIX LLC  
P.O. BOX 1724  
2205 E. Wyatt Earp Blvd.  
Dodge City, Kansas 67801  
(620) 225-1142  
©ROTO-MIX 2006

SERIAL NUMBER \_\_\_\_\_

# INTRODUCTION

Congratulations on the purchase of your new mixer from OSWALT by 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.

## **WARNING**

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 manual.

The Guarantee 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 and model number tag is located on a metal plate which is attached on the inside of the lower left front structure viewed from behind the mixer. These numbers should be recorded on the Registration and Inspection Certificate for your reference and for proper identification of your mixer by your OSWALT dealer.

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 and understand the machine or the system could lead to serious injury. If you do not understand the instructions in this manual contact either your dealer or OSWALT of ROTO-MIX Dodge City, KS 67801.

This supersedes all previous published instructions.

# MODEL 425/500/575 TMR RUFFAGE MASTER™

## INSPECT THE FOLLOWING AND SERVICE AS REQUIRED

- ☐ Check all structural welds for appearance.
- ☐ Check rear drive enclosure for proper sprocket alignment and correct chain tension.
- ☐ Check rear doors for proper latch tension and fit, correct any leaks.
- ☐ Check conveyor chain for proper tension and proper clearance. See Adjustment Section.
- ☐ Check clearance between moving parts.
- ☐ Check scale mounts for alignment and pins for looseness.
- ☐ Check inside of mixing chamber for trash, auger clearance and check augers for correct installation.
- ☐ Check external paint for appearance.
- ☐ Check all bolted connections for tightness.
- ☐ Check wheel lug bolts and torque to 85 ft.-lbs. Maintain tire pressure at 55-60 psi.
- ☐ Check rear drive bearings for alignment, tightness of locking collars and proper placement of bearing stops.
- ☐ Check rear drive enclosure for alignment and proper chain tensions.
- ☐ Check oil level of rear drive enclosure.
- ☐ Check main drive shaft for proper installation and clearance.
- ☐ Check hoses for correct clearance and fittings for leaks.
- ☐ Check U-joint for timing and installation.
- ☐ Check frame/box mounting points for proper installation.
- ☐ Check auger bearings for correct installation and grease bearings.
- ☐ Check for trash or foreign articles in discharge conveyor.

## RUN MIXER AND CHECK THE FOLLOWING:

- ☐ Check for vibration or runout of drive lines.
- ☐ Check for free operation of discharge conveyor.
- ☐ Check augers for straightness.
- ☐ Check mixer, observing all safety decals and safety shields are in place and secured, including top guards on stationary units.
- ☐ Check for chain vibration in rear drive.
- ☐ Check chute and door actuation.
- ☐ Operator has been instructed in operation, maintenance and safety precautions.

### **WARNING**

ALWAYS DISCONNECT AND LOCKOUT ELECTRICAL POWER (STATIONARY MODELS) OR DISENGAGE PTO AND REMOVE KEYS FROM TRACTOR (TRAILER MODELS) BEFORE CLEANING, ADJUSTING, LUBRICATING OR SERVICING THIS MACHINE.

APPLY ADHESIVE TO THIS AREA AND FIRMLY AFFIX THE OSWALT WARRANTY REGISTRATION  
CERTIFICATE ON THIS PAGE

**DEALER:** Please fill out the attached Warranty Registration Certificate completely. Remove the postage paid card at the perforation and deposit in the mail.

## ***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

***Warranty continues on the next page.***

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

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

**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 OSWALT by ROTO-MIX product at any time without incurring any obligation with respect to any product previously ordered, sold or shipped, with or without notice.

### **Parts Warranty**

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

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

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## **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.

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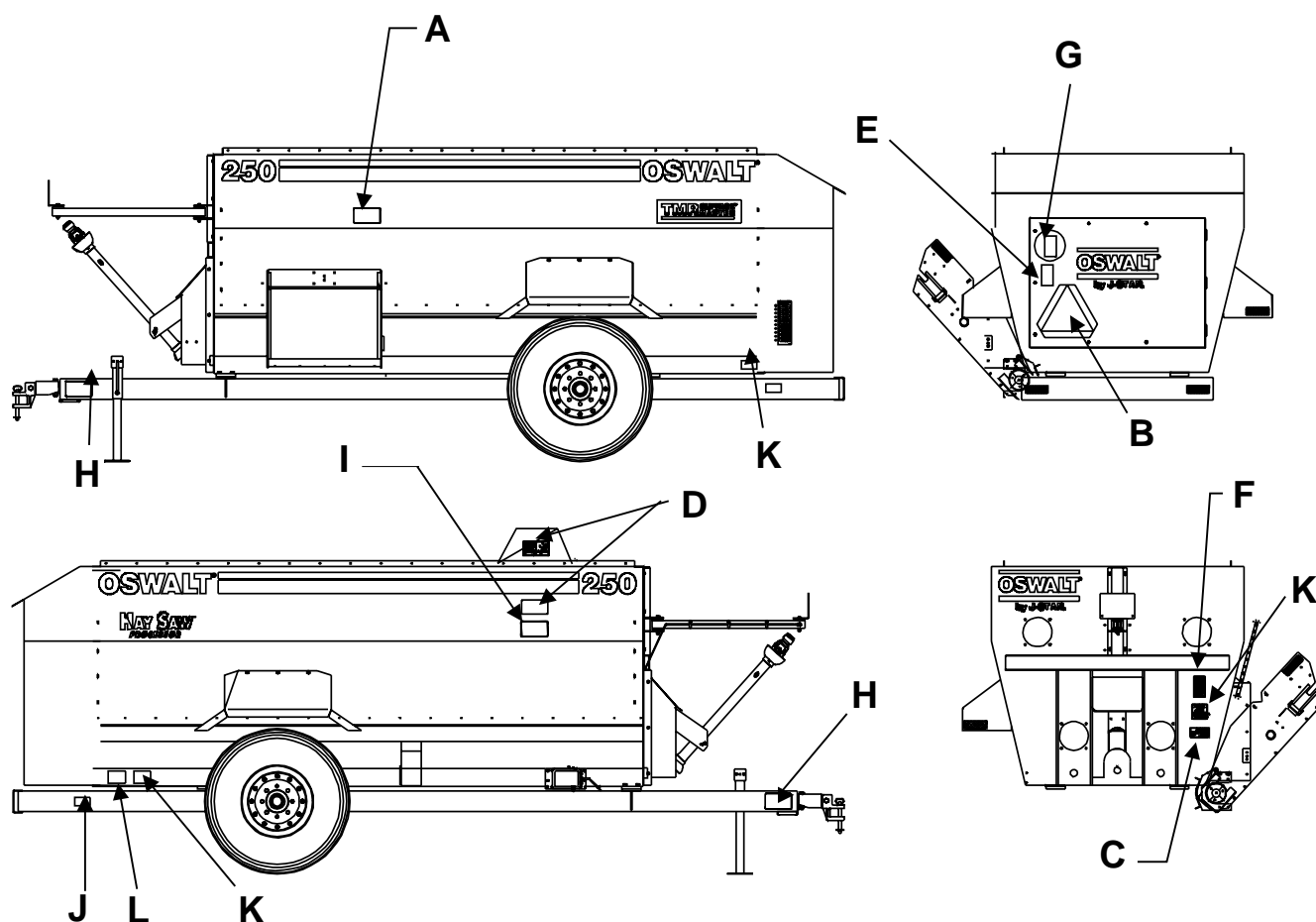
# SAFETY- TRAILER MIXER

A brief definition of signal words that may be used in this manual:

**⚠ DANGER** Indicates an imminently hazardous situation that, if not avoided, will result in death or serious injury.

**⚠ WARNING** Indicates a potentially hazardous situation that, if not avoided could result in death or serious injury, and includes hazards that are exposed when guards are removed.

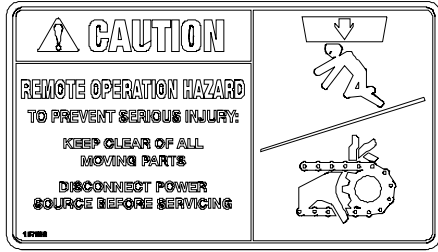
**⚠ CAUTION** Indicates a potentially hazardous situation that, if not avoided may result in minor or moderate injury.



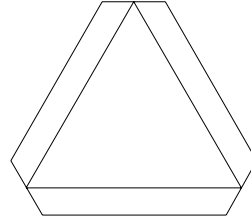
**⚠ CAUTION** READ ALL SIGNS ON THE MACHINE AND IN THIS MANUAL. REPLACE ANY LOST OR DAMAGED SIGN BY ORDERING THE PART NUMBERS SHOWN ON THE SAFETY DECAL PAGE.



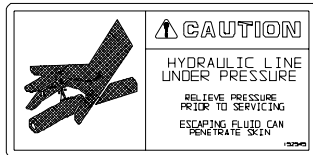
# SAFETY DECALS - TRAILER MIXER



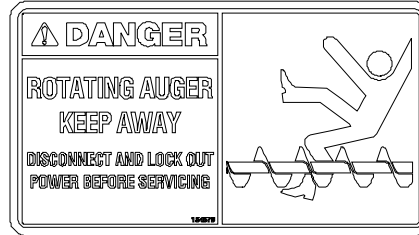
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DECAL B. 157511



DECAL C. 152545



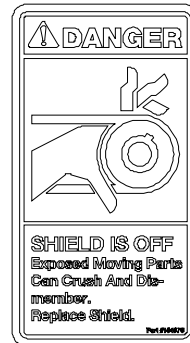
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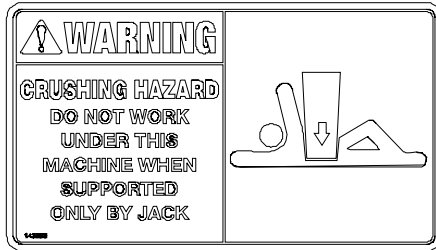
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DECAL F. 154583



DECAL G. 154578



DECAL H. 143553



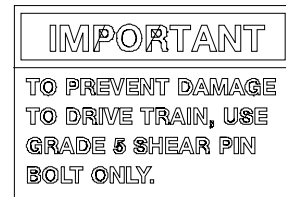
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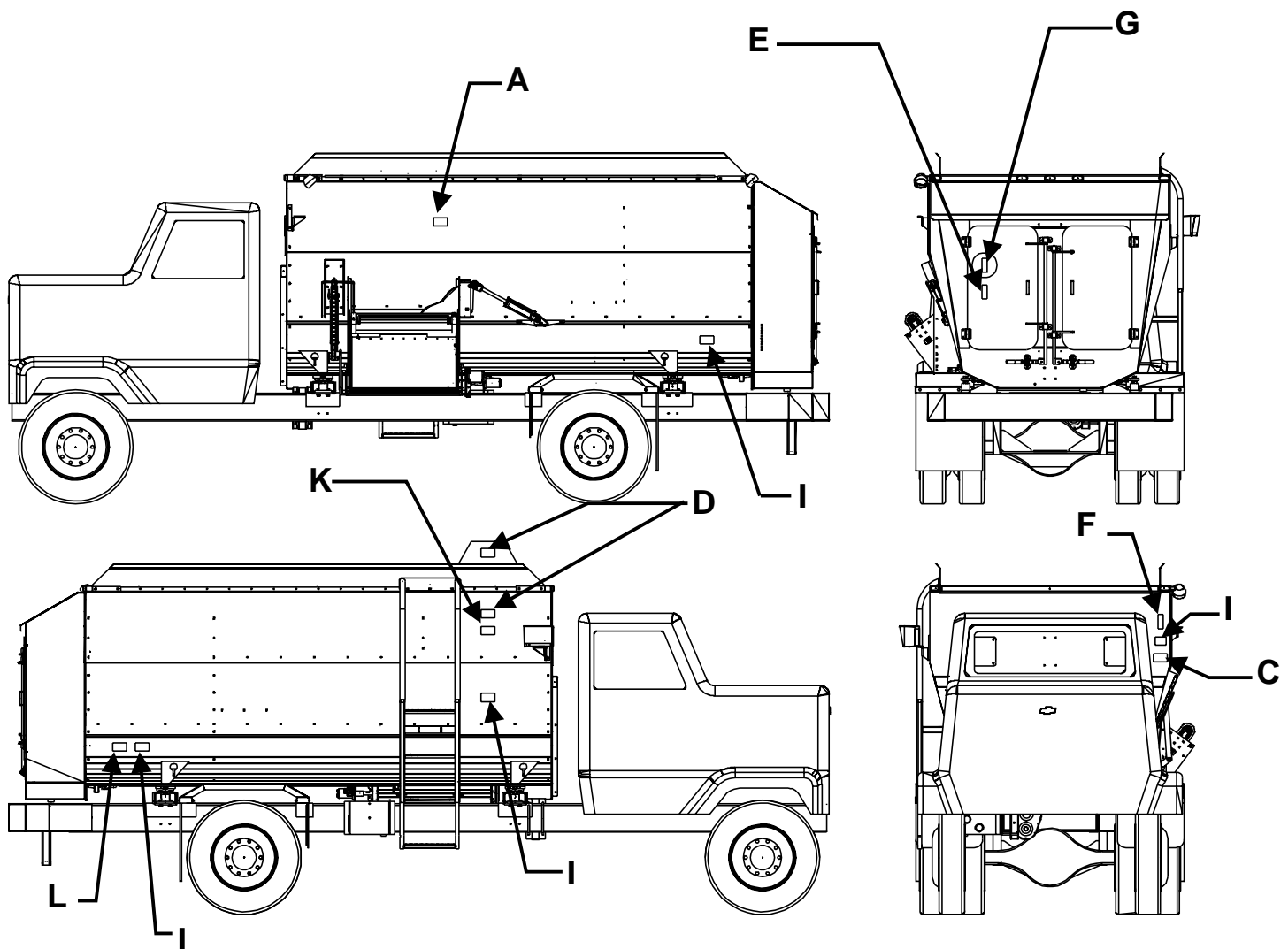
DECAL K. SW104



DECAL L. 157510

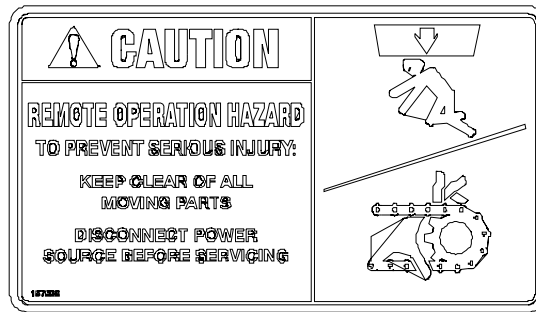
**NOTE:** Complete decal kit (all sizes and models) - 160412

# SAFETY - TRUCK MIXER

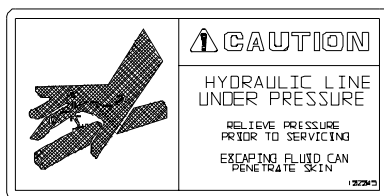


**⚠ CAUTION** READ ALL SIGNS ON THE MACHINE AND IN THIS MANUAL. REPLACE ANY LOST OR DAMAGED SIGN BY ORDERING THE PART NUMBERS SHOWN ON THE SAFETY DECAL PAGE.

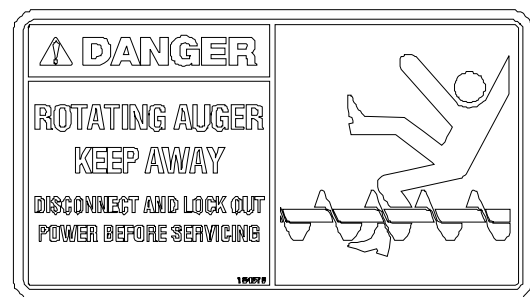
# SAFETY DECALS - TRUCK



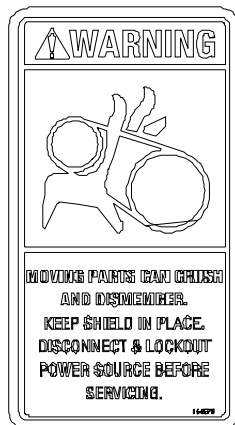
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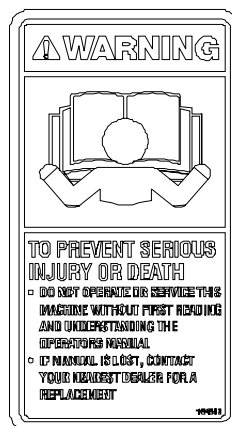
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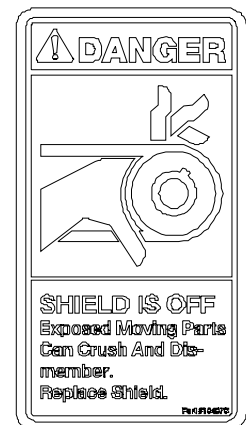
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DECAL E. 154579



DECAL F. 154583



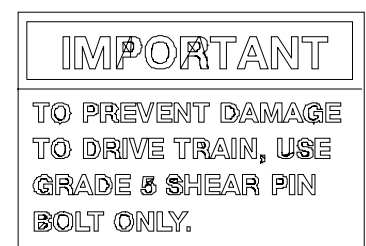
DECAL G. 154578



DECAL K. SW104



DECAL I. 157509s



DECAL L. 157510

# MIXER SAFETY

## CAUTION

Do not operate your feed mixer until you have read this Owner's Manual, the Truck Owner's Manual, and understand the danger associated with its operation.

This feed mixer is comprised of rotating drive shafts and mixing augers. Any exposure to these mixer components can result in serious personal injury or death.

Study the safety decal page associated with your model mixer and understand where the danger points are.

On truck or trailer mounted mixers, never allow operating personnel to be above the level of the feed mixing chamber. Entry into the mixing chamber while the mixer is running will result in serious injury or death.

## CAUTION

THERE ARE INHERENT HAZARDS ASSOCIATED WITH THE OPERATION OF YOUR MIXER.

FOR YOUR SAFETY:

Do Not Operate, Service, Inspect Or Otherwise Handle This Equipment Unless You Have Read The Owner's Manual And Have Been Properly Trained In Its Intended Usage.

Require All Personnel Who Will Operate This Machinery Or Perform Service, To Read And Understand The Safe Operating Practices And Safety Precautions In This Manual.

Do Not Operate Until All Shields, Covers And Guards Are In Place.

Do Not Allow Children Or Inexperienced Person To Operate This Machine.

Keep Hands, Feet And Clothing Away From Power Take-off Shaft.

Do Not Climb On Or Enter Machine While In Operation.

Do Not Make High Speed Maneuvers With A Mounted Mixer.

Do Not Allow Riders On A Mounted Mixer.

**FAILURE TO HEED MAY RESULT IN SERIOUS PERSONAL INJURY OR DEATH.**

**⚠ CAUTION**

THERE ARE ADDITIONAL HAZARDS ASSOCIATED WITH THE SERVICE AND MAINTENANCE OF YOUR MIXER.

FOR YOUR SAFETY:

Disengage Power Take-off And Remove Keys From Tractor Or Truck Before Servicing A Mounted Mixer.

Do Not Attempt To Clean, Oil Or Adjust Mixer While It Is In Motion.

Before Entering Mixing Chamber Or Servicing Stationary Mixer, Disconnect Main Power Source And Lock The Disconnect Device In Off Position To Prevent Accidental Start-up.

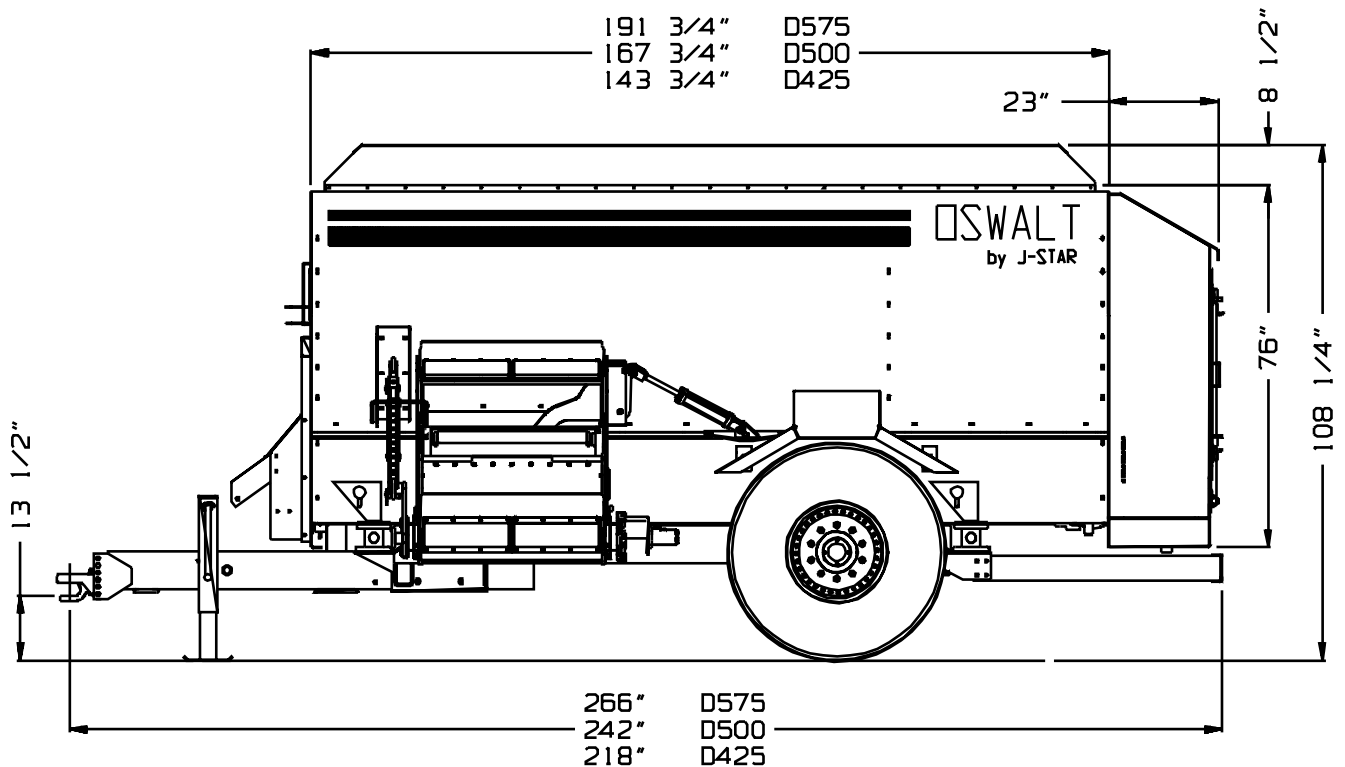
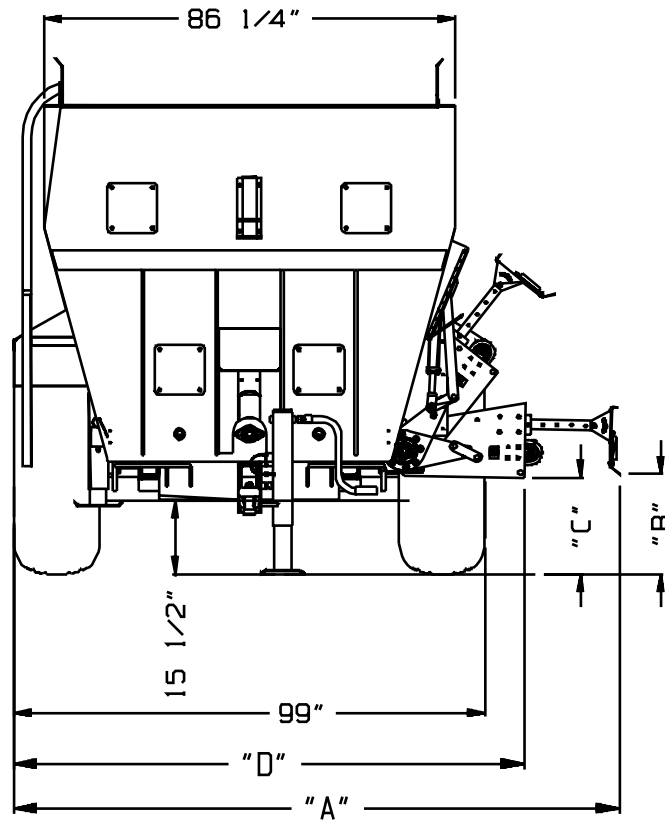
Do Not Work Under A Trailer Mixer Without Supporting With Suitable Support Stands.

Do Not Work Under A Trailer Or Truck Mixer Without Blocking The Wheels To Prevent Rolling.

**FAILURE TO HEED MAY RESULT IN SERIOUS PERSONAL INJURY OR DEATH.**

# DIMENSIONAL DATA - TRAILER MOUNT

FRONT  
VIEW



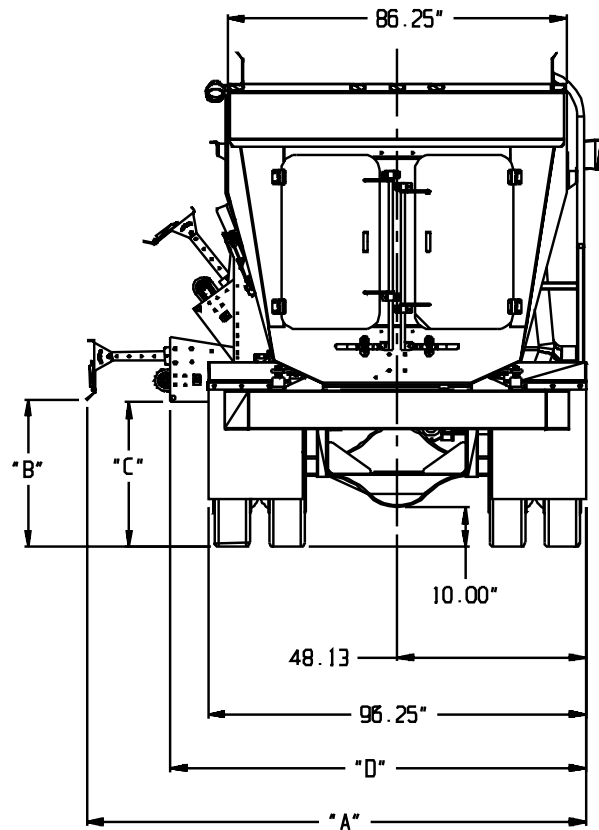
# DIMENSIONAL DATA CHART - TRAILER MOUNT

<u>Gravity Slide</u>	
DIM	DIM
A	B
100.9	15.0
(measured to widest edge of chute)	

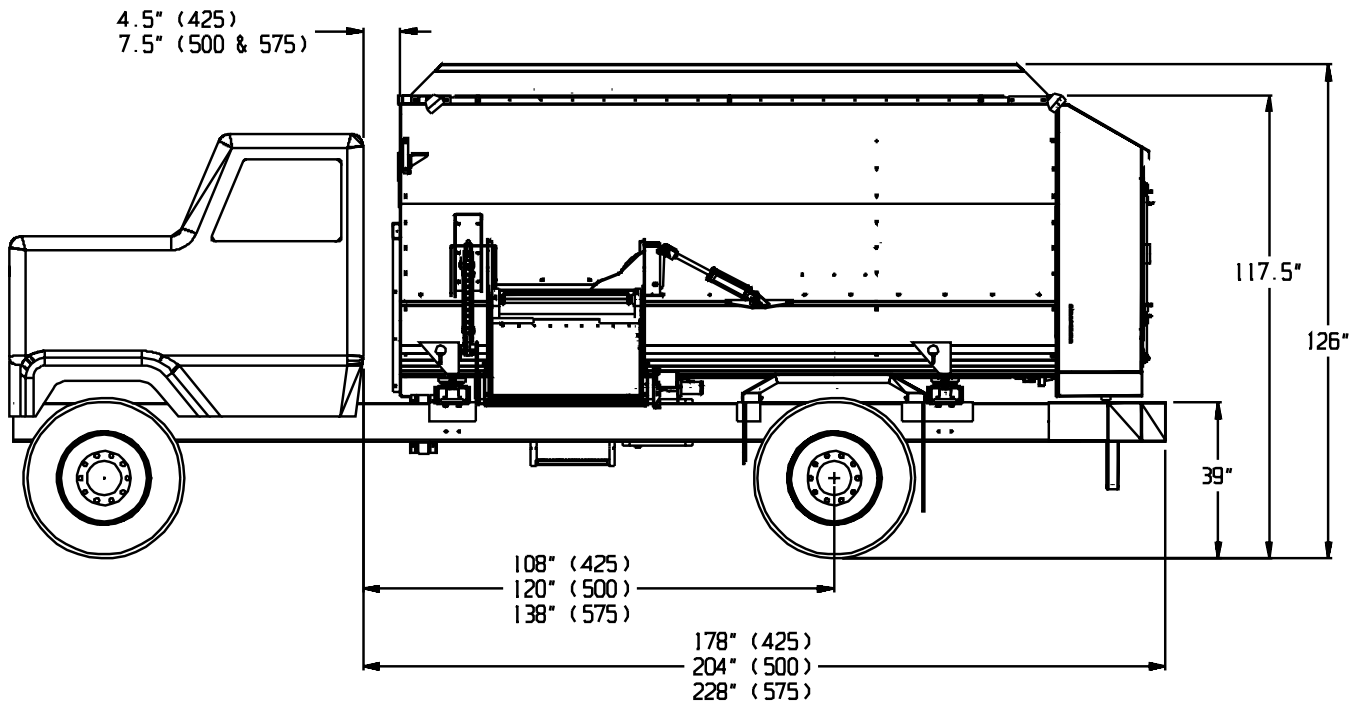
	<u>Baffle Fully Extended</u>		<u>Standard Conveyor</u> <u>Baffle Positioned at Center Hole</u>		<u>Conveyor Only</u>	
	DIM	DIM	DIM	DIM	DIM	DIM
PIN	A	B	A	B	C	D
Storage	113.6	58.7	109.9	48.9	42.0	101.8
Hole 1	119.3	52.0	114.7	48.1	38.3	104.6
Hole 2	121.9	47.9	116.9	44.5	35.8	105.8
Hole 3	123.9	43.7	118.6	40.8	33.3	106.7
Hole 4	125.5	39.5	119.9	37.1	30.9	107.3
Hole 5	126.6	35.2	120.8	33.4	28.4	107.7
Hole 6	127.3	30.8	121.4	29.6	25.9	107.8
Hole 7	127.5	26.3	121.6	25.7	23.3	107.7
Hole 8	127.4	22.0	121.3	21.8	20.8	107.3
Hole 9	126.7	17.2	120.7	17.8	18.3	106.6
Hole 10	125.5	12.6	119.7	13.8	15.7	105.7
Hole 11 (fully extended)	123.8	7.9	118.1	9.8	13.2	104.4

	<u>Baffle Fully Extended</u>		<u>Extended Conveyor</u> <u>Baffle Positioned at Center Hole</u>		<u>Conveyor Only</u>	
	DIM	DIM	DIM	DIM	DIM	DIM
PIN	A	B	A	B	C	D
Storage	125.7	74.0	122.0	69.3	57.7	113.9
Hole 1	134.1	64.7	129.6	60.8	50.9	119.4
Hole 2	138.0	58.9	133.0	55.5	46.8	121.9
Hole 3	141.0	53.0	135.8	50.1	42.6	123.8
Hole 4	143.4	47.0	137.9	44.7	38.4	125.3
Hole 5	145.2	40.9	139.5	39.2	34.1	126.3
Hole 6	146.4	34.7	140.5	33.5	29.8	126.9
Hole 7	146.9	28.4	141.0	27.8	23.4	127.0
Hole 8	146.8	21.9	140.8	21.9	20.9	126.8
Hole 9	146.1	15.4	140.1	16.0	16.4	126.0
Hole 10	144.7	8.7	138.8	9.9	11.8	124.8
Hole 11 (fully extended)	142.4	2.0	136.7	3.8	7.3	123.0

## DIMENSIONAL DATA - TRUCK MOUNT



REAR  
VIEW





## DIMENSIONAL DATA - TRUCK MOUNT

<u>Gravity Slide</u>	
DIM	DIM
A	B
99.5	32.6
(measured to widest edge of chute)	

	PIN Position Storage	<u>Baffle Fully Extended</u>		<u>Standard Conveyor Baffle Positioned at Center Hole</u>		<u>Conveyor Only</u>	
		DIM	DIM	DIM	DIM	DIM	DIM
		A	B	A	B	C	D
Hole 1		112.2	76.3	108.5	66.5	59.6	100.4
Hole 2		117.9	69.6	113.3	65.7	55.9	103.2
Hole 3		120.5	65.5	115.5	62.1	53.4	104.4
Hole 4		122.5	61.3	117.2	58.4	50.9	105.3
Hole 5		124.1	57.1	118.5	54.7	48.5	105.9
Hole 6		125.2	52.8	119.4	51.0	46.0	106.3
Hole 7		125.9	48.4	120.0	47.2	43.5	106.4
Hole 8		126.1	43.9	120.2	43.3	40.9	106.3
Hole 9		126.0	39.6	119.9	39.4	38.4	105.9
Hole 10		125.3	34.8	119.3	35.4	35.9	105.2
Hole 11		124.1	30.2	118.3	31.4	33.3	104.3
Hole 11 (fully extended)		122.4	25.5	116.7	27.4	30.8	103.0

	PIN Position Storage	<u>Baffle Fully Extended</u>		<u>Extended Conveyor Baffle Positioned at Center Hole</u>		<u>Conveyor Only</u>	
		DIM	DIM	DIM	DIM	DIM	DIM
		A	B	A	B	C	D
Hole 1		124.3	91.6	120.6	86.9	75.3	112.5
Hole 2		132.7	82.3	128.2	78.4	68.5	118.0
Hole 3		136.6	76.5	131.6	73.1	64.4	120.5
Hole 4		139.6	70.6	134.4	67.7	60.2	122.4
Hole 5		142.0	64.6	136.5	62.3	56.0	123.9
Hole 6		143.8	58.5	138.1	56.8	51.7	124.9
Hole 7		145.0	52.3	139.1	51.1	47.4	125.5
Hole 8		145.5	46.0	139.6	45.4	41.0	125.6
Hole 9		145.4	39.5	139.4	39.5	38.5	125.4
Hole 10		144.7	33.0	138.7	33.6	34.0	124.6
Hole 11		143.3	26.3	137.4	27.5	29.4	123.4
Hole 11 (fully extended)		141.0	19.6	135.3	21.4	24.9	121.6

# GENERAL INFORMATION

## MIXING CAPACITY

### Maximum Ration Volume

Model 425	425 cu. ft.
Model 500	500 cu. ft.
Model 575	575 cu. ft.

### Maximum Ration Weight (based on a 30 lb./ft. <sup>3</sup> ration)

Model 425	12750 lb.
Model 500	15000 lb.
Model 575	17250 lb.

### Maximum Weight Of Baled Hay

10% of ration by weight.

## ROUGHAGE LENGTH

The mixer is designed to mix complete rations including roughage which fall within the following length limits.

1. At least 75% of the material is 1-1/2 inches or shorter.
2. Less than 20% of the material exceeds 2-1/2 inches.
3. Maximum fiber length does not exceed 4 inches.

## USE OF BALED HAY

Oswalt mixers are designed to blend feed ingredients with “dry hay” to obtain a total mixed ration. Dry hay will have less than 20% moisture. A simple hand test on three stems of hay will tell you if the hay should be put into the mixer.

Reach into the core of the bale and remove 3 stems of hay. Try to bend and break these 3 stems when holding them between the thumb and forefinger of both hands. If they snap and break easily the mixer will process the hay fairly easily. If the hay is **NOT** very brittle and you have to twist, tug, pull, and pinch to break it apart, you have a “tough hay” condition. Weather and plant varieties, etc., can generate these conditions.

### Conditions That Cause Abnormal Tough Hay

- High Moisture Content (20% plus)
- High Density Bales
- High Grass Content
- Outdoor Storage
- Long Stem Length

### Use of Hay Preservatives

FINE STEM GRASS HAY WITH LENGTHS OVER 16 INCHES **Are Not Recommended** because they tend to wrap around the augers unless they are extremely brittle.

## LOADING

The loading sequence depends on the type of feed being used. For this reason, we offer a few suggested loading sequences to maximize mixer performance and avoid equipment failure.

**NOTE:** When in doubt, throw in a half bale of the questionable feed to insure hay breaks apart and does not wind or wad in the mixer.

For a ration utilizing “dry hay” the ingredients can be all added at one time and then mixed. The ingredients should be added with the mixer stopped to avoid over processing. The ingredients should be added in the following order: all dry ingredients (corn, soybeans, cottonseed, etc.) then the hay, and the remaining materials last. When all ingredients have been added, the mixer can be started and mixing completed.

If adding all the materials at once causes mixing problems or if you have a “tough hay” condition, then add the ingredients using the following sequence. With the mixer stopped, add all dry ingredients. The introduction of the dry ingredients first helps the mixer break up the hay. Next turn on the mixer and add the hay. Hay should be broken apart and added at the drive end of the mixer. Allow the dry materials and hay to mix until the flakes of hay are broken up. Then add the remaining materials and complete the mixing. If this process causes over processing of the ingredients, shut off the mixer after mixing the hay and dry ingredients and restart and complete mixing after all remaining ingredients have been added.

If this process causes mixing problems associated with the hay, then it is recommended that the hay be processed to a shorter length prior to adding to the mixer. A J-Star bale cutter is recommended to accomplish this.

**NOTE:** Round bales should not be incorporated directly into the mixer without first being processed.

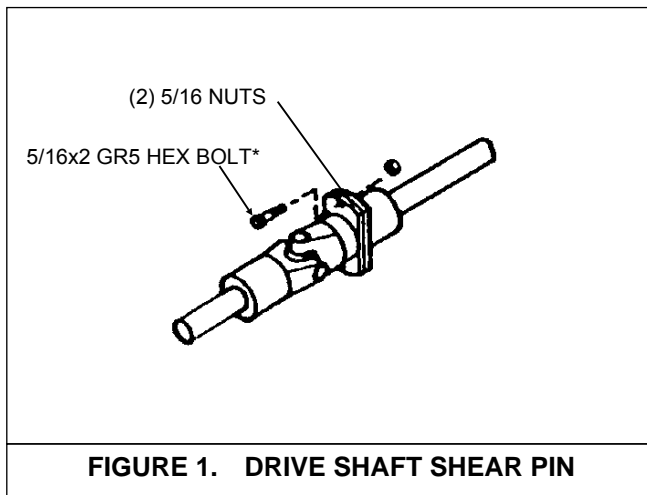
## MIXING TIME

Normal mixing time after the last ingredient has been added.

Trailer      5 min. @540 RPM  
Truck      5 min. @1650 RPM (Engine RPM)

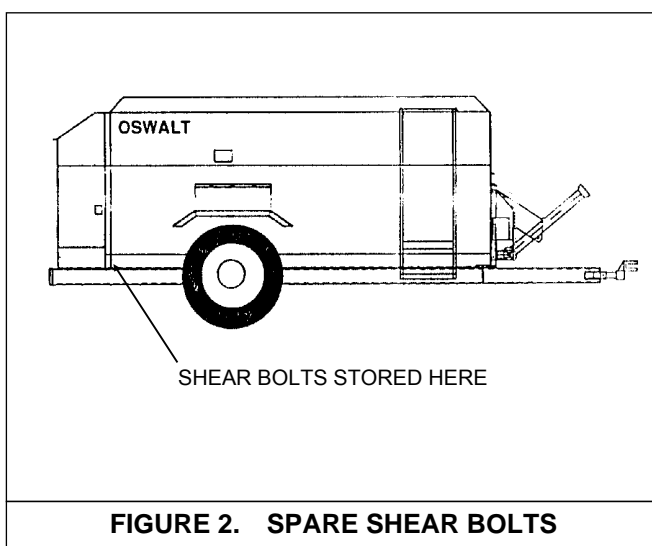
Total run time (filling, mixing, and discharging) should not exceed 15 minutes per batch. Use of baled hay in the mix will increase the mix time by 5 minutes.

## SHEAR PIN



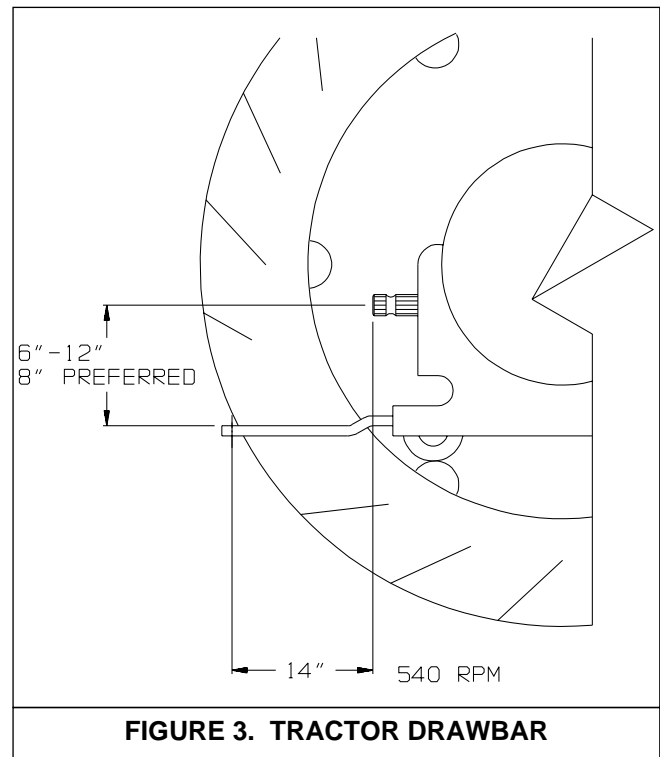
The shear pin assembly is located at the back of the mixer just in front of the oil bath drive housing, see figure 1.

Extra shear bolts are located in a holder on the right side of the rear structure, see figure 2.



## TRACTOR DRAWBAR

Set tractor drawbar as shown in figure 3.



**⚠ CAUTION** FAILURE TO SET DRAWBAR PROPERLY MAY CAUSE SHAFT TO OVER EXTEND AND SEPARATE OR BEND WHEN CORNERING OR TRANSPORTING RESULTING IN DEATH OR PERSONAL INJURY.

## TRACTOR HYDRAULIC SYSTEM RECOMMENDATIONS

10 GPM Minimum                      15 GPM Maximum  
1200 to 1600 PSI Operating Range  
Hydraulic system should be self purging.

## TRUCK RECOMMENDATIONS

- Minimum engine horsepower      -    200 hp net @ 2000 rpm (total hp required) to mix load and move vehicle)
- Engine to Ground Ratio            -    The engine to ground ratio is obtained by multiplying the transmission low gear ratio times the rear axle ratio. For best results, we recommend an engine to ground ratio of 50 to 1.
- Transmission                        -    The first choice transmission would be an Allison MT 653.
- PTO                                    -    The first choice of PTO is a hydraulic shift PTO ("Hotshift") rated at 300 ft-lbs output torque with a pressurized lubrication system. Rotation should be of engine rotation and at a percentage of engine speed of approximately 130%.
- Truck Minimum GVWR              -    32,900 lbs GVWR necessary to carry fully loaded mixer.
- Rear Axle Minimum Capacity        21,900 lbs (single axle)
- Front Axle Minimum Capacity      -    11,000 lbs
- Frame                                -    1,749,000 in-lb resistive bending moment
- Cab to Axle:
  - Model 425                            -    108 in
  - Model 500                            -    120 in
  - Model 575                            -    138 in
- Auxiliary Hydraulic System        -    10 GPM minimum
  - 15 GPM maximum
  - 1200 to 1600 psi operating range
  - Hydraulic System Should Be Self Purging

A high flow, "Feed Lot", radiator is desirable as it is easier to keep clean.

# TRAILER OPERATION

## PTO ENGAGEMENT

This mixer is designed to be used with a 540 rpm PTO.

Avoid high speed sudden engagement of the mixer. Doing so may cause the shear pin to shear.

## CORNERING

Sharp cornering with the PTO engaged is not recommended. If it is necessary to mix when cornering, it should be done at reduced speeds and on wide corners only.

## DISCHARGING FEED

The discharge door and conveyor tilt are hydraulically actuated using the tractor's remote hydraulic system. The discharge door and conveyor tilt are sequenced so when the tractor's remote hydraulic control lever is moved one way the conveyor will tilt out and the door will open. The reverse will happen when the lever is moved in the other direction. Two hydraulic ports on the tractor are required.

A hydraulic motor is used to run the discharge conveyor chain using the tractor's remote hydraulic system. Moving the tractor's remote hydraulic control one way will cause the chain to move in the discharge direction. Moving the lever in the opposite direction will not move the chain due to a check valve in the mixer hydraulic system. Two hydraulic ports on the tractor are required.

To discharge feed, move the hydraulic valve lever on the tractor to tilt the conveyor and open the door. Move the other lever to start the conveyor chain. Start the PTO. The discharge rate can be controlled by the position of the door and the transmission gear selected.

Reverse this process when through discharging.

## SCALE SWING MOUNT

The scale head is mounted to a swing arm. The swing arm is designed to allow scale head viewing from either side of the mixer or from the tractor just by rotating the scale arm before loading or unloading starts. As a convenience a chain is attached to a scale swing mount. The chain is used to swing the mount arm from one side of the mixer to the other.

## OPTIONAL SINGLE VALVE CONVERSION

This conversion is used when the tractor has only two remote hydraulic ports. A control valve is mounted on the mixer and a rope is attached to the valve handle.

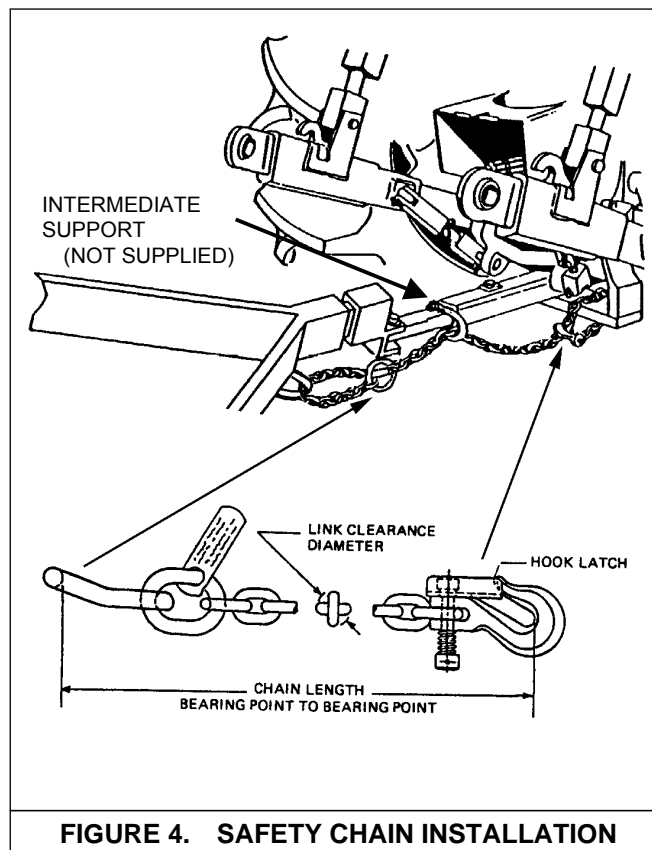
Moving the tractor's remote hydraulic control lever will start the conveyor chain in motion. With the tractor lever still moved the rope is pulled to shift the valve on the mixer. Shifting this valve tilts the conveyor out and opens the door. To close the door and tilt the conveyor back the lever on the tractor must be shifted opposite and the rope pulled.

## SCALE SYSTEM

Refer to the operation book supplied with the scale indicator head.

## TRANSPORTING

**⚠ CAUTION** A SAFETY CHAIN SHOULD BE INSTALLED TO RETAIN THE CONNECTION BETWEEN THE TRACTOR (OR OTHER TOWING VEHICLE) AND MIXER IF THE HITCH CONNECTION WOULD SEPARATE. A SUGGESTED ATTACHMENT IS ILLUSTRATED ON FIGURE 4.



**FIGURE 4. SAFETY CHAIN INSTALLATION**

The chain must be strong enough to hold the weight of a loaded mixer. If using a grab hook at the end to secure the chain to itself, a hook latch must be installed as illustrated.

The length of the safety chain is not to be any longer than necessary to turn without interference. If any chain lengths or attachment hardware are broken or stretched, repair before using. Store chain so it does not corrode or become damaged. Do not use this chain for other implements because the strength and length of chain may not be adequate. Identify this chain for use on this particular mixer.

The ratio of the loaded mixer weight compared to the weight of the towing tractor or other vehicle must not be greater than 1.50.

# TRUCK OPERATION

## TRUCK

For truck operation and limitations, refer to the Truck's owner's manual.

## PTO ENGAGEMENT

Note: The following operation details are based on the use of the recommended Allison 653 transmission and "Hotshift" PTO listed under the Truck Specifications section.

The mixer is driven by the truck's transmission using an auxiliary drivetrain. This drivetrain consists of a transmission mounted PTO, an automotive driveline, an intermediate frame mounted gear reducer, and a second automotive driveline connected to the primary input shaft of the mixer. The input speed to the mixer is 540 rpm and is achieved at an engine speed of 1650 rpm. (When using the recommended PTO.)

The PTO is mounted directly to the side of the transmission and is pressure lubricated.

The PTO is engaged via an ON-OFF switch mounted conveniently inside the cab. Power from the switch actuates a hydraulic solenoid which engages or disengages the PTO.

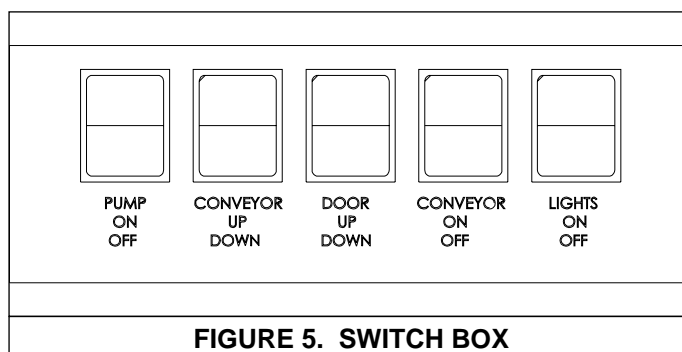
Caution: Avoid sudden high speed engagement of the mixer. Doing so may cause damage to the intermediate drive train or cause the shear pin to shear.

## PUMP ENGAGEMENT

The discharge door, conveyer tilt, and chute are hydraulically actuated using an auxiliary hydraulic system. This system consists of a hydraulic clutch pump driven off the truck engine through dual V-belts or a serpentine belt, a multiple function solenoid valve, a pressure filter, a frame mounted reservoir, and associated hydraulic hoses. All hydraulic functions are controlled via a cab mounted switch box. See Figure 5 for specific switch functions and locations.

To engage the hydraulic clutch pump, move the Pump switch to ON.

Unlike with trailer mounted units where these functions are all sequenced to provide proper operation, the multiple function solenoid valve allows independent control of the discharge door and conveyer tilt. To ac-



tuating the door, press the Door switch in the desired direction (up raises door - down lowers door) until the door is at the desired location. Releasing the switch will cause the switch to spring back to center and the door actuation to stop. The conveyer is actuated in a similar fashion using the Conveyer switch. The optional chute is sequenced to lower when the conveyer is lowered and raise when the conveyer is raised.

To engage the conveyer drive, move the Conveyer switch to ON.

## DISCHARGING FEED

To discharge feed, move the Pump switch to ON, push and hold the Conveyer DOWN switch until the conveyer is in the desired position, then push and hold the Door OPEN switch until the door is open the desired amount. Then move the Conveyer switch to ON to start the conveyer chain. Next engage the PTO as described in a previous section. The discharge rate can be controlled by the position of the door, the truck gear selected, and the engine rpm.

Reverse this process when through discharging.

## SCALE SYSTEM

Refer to the operation Book supplied with the scale indicator head.

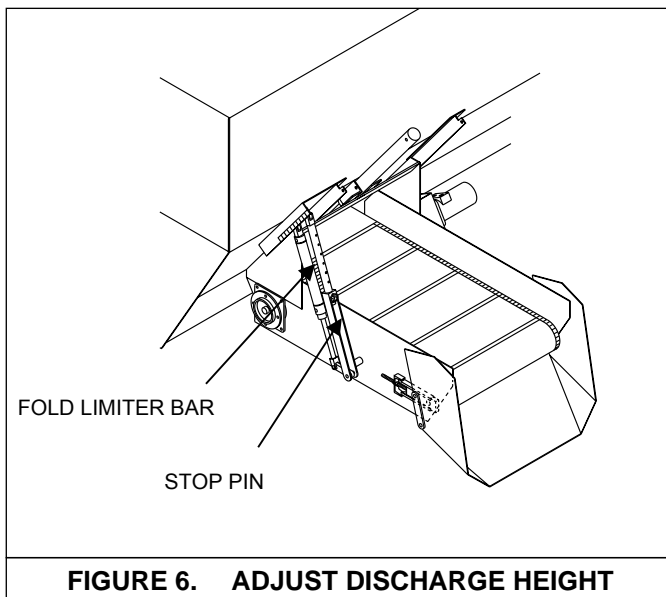
# ADJUSTMENTS - TRAILER & TRUCK MOUNTS

## **⚠ WARNING**

ALWAYS DISCONNECT AND LOCKOUT ELECTRICAL POWER (STATIONARY MODELS) OR DISENGAGE POWER TAKE OFF AND REMOVE KEYS FROM TRACTOR (TRAILER MODELS) BEFORE CLEANING, ADJUSTING, LUBRICATING OR SERVICING THIS MACHINE. FAILURE TO HEED MAY RESULT IN SERIOUS PERSONAL INJURY OR DEATH.

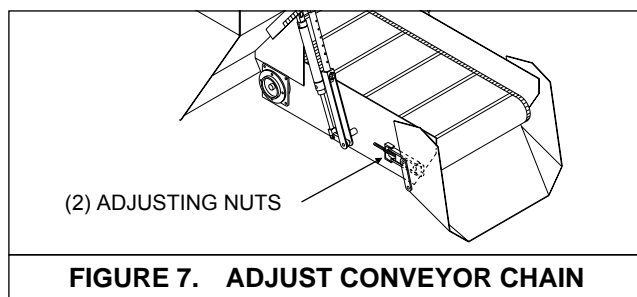
### DISCHARGE CONVEYOR HEIGHT

The discharge chute height can be set by positioning the stop pin in the desired hole of the fold limiter bar, see figure 6.



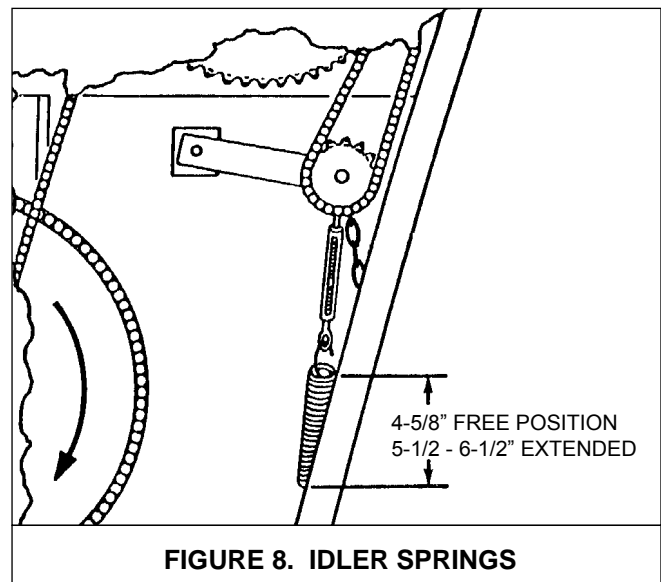
### CONVEYOR DRIVE CHAIN

There are adjusting nuts on each side of the conveyor. Tighten or loosen these nut to allow approximately 1-1/4 inches between the bottom of the chain flight and the conveyor pan when the chain is pulled up at the center of the conveyor, see figure 7.



### CHAIN IDLER SPRINGS

To maintain proper chain tension adjust the turn buckle on each idler spring so the gap between the coils is the thickness of a nickel. This should occur when the spring is extended to 5-1/2 - 6-1/2 inches measured outside of coil to outside of coil, see figure 8. If there is insufficient adjustment to achieve the proper chain tension a full chain link should be removed and replaced with an offset link.



### TRAILER HITCH CLEVIS ADJUSTMENT (TRAILER MOUNT ONLY)

Mixer should be approximately level when attached to the tractor.

Adjust clevis by changing hole location on tongue.

Hitch Pin Size - 1" x 6"

### ADJUSTMENT OF FOLDING CHUTE

The discharge chute is controlled actuated using a hydraulic cylinder located on the drive side of the conveyor. On trailer models, this cylinder plus those controlling the door and conveyor actuation are pow-



ered using the same hydraulic circuit. On truck models, the chute cylinder and conveyor cylinder are powered using the same circuit. In both cases, lowering the conveyor and lowering the chute are tied to the same circuit.

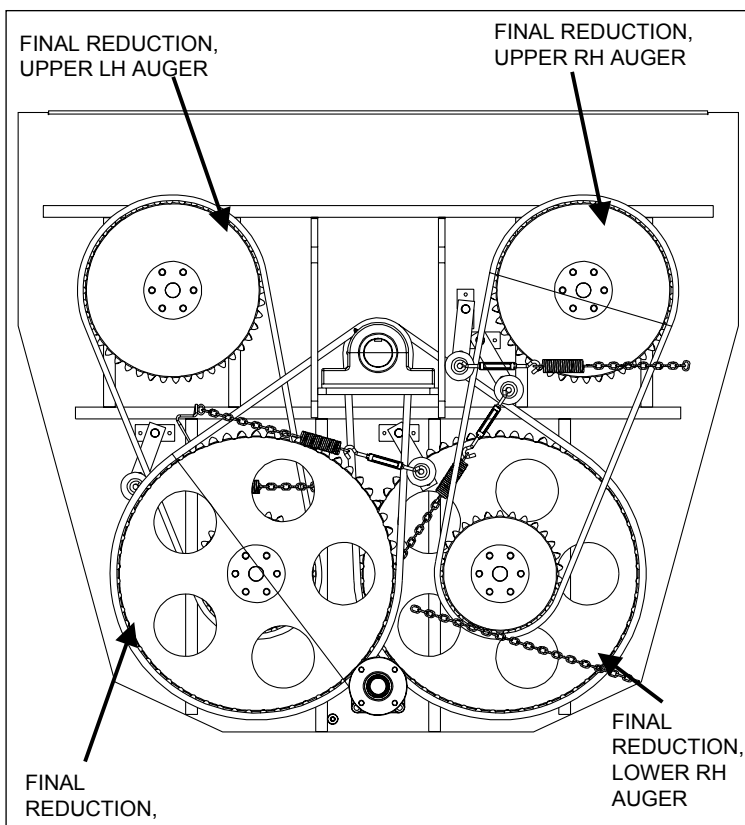
Because the chute cylinder shares hydraulic power with other actuators, it will only move (up or down) when the power to do so is less than what it takes to move the other components. For example, on a trailer mixer, since the weight of the conveyor makes it relatively easy for the conveyor to lower, the conveyor will lower first. When it bottoms out on the stop pin, the chute will lower and then the door will open (when mixer is empty and new the door may open prior to the chute lowering). When raising the conveyor, the weight of the conveyor makes it harder to lift causing the chute to fold first then the conveyor to lift.

The chute's folded position is limited by a stop collar located on the chute cylinder rod. Moving the collar down the rod will leave more of the cylinder rod exposed when fully retracted causing the chute to fold up less when the conveyor is raised to the storage position. Moving the collar further up the rod causes the chute to fold more. Standard conveyors typically need to have the stop collar set down the rod to prevent the chute from contacting the mixer body. Due to their longer length, extended conveyors typically can have the stop collar set at the top of the cylinder. Further adjustment of the chute position can be achieved by threading the Cylinder Extension further onto or off of the cylinder rod.

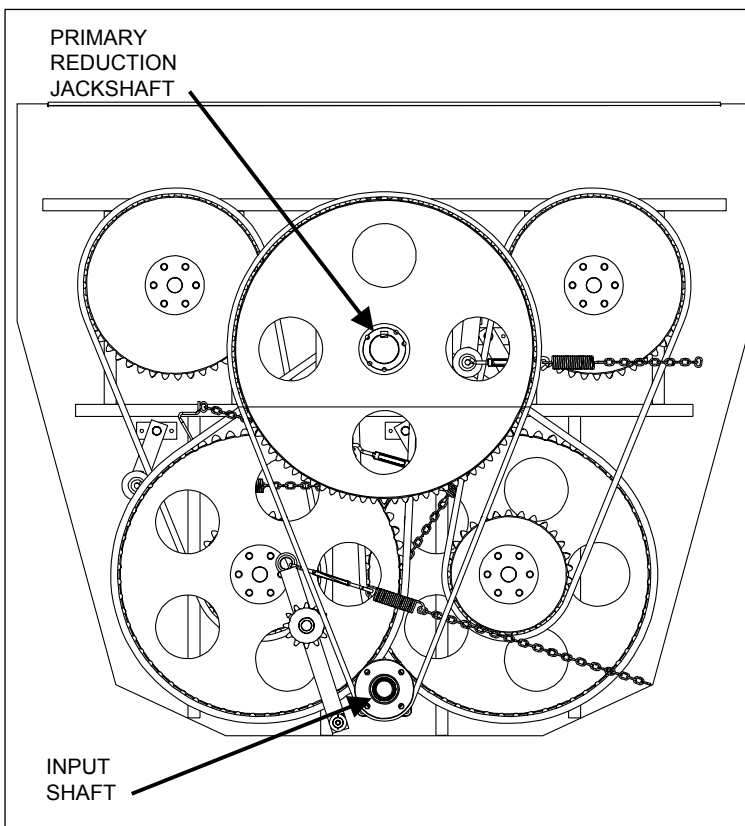
The lowered position of the chute is limited by the mechanical interference of the bottom of the chute and the bottom of the conveyor.

## DRIVE CHAIN ROUTING

The drive chain routing for the mixer auger drive is shown on figures 9 and 10.



**FIGURE 9. AUGER FINAL REDUCTIONS, PRIMARY REDUCTION REMOVED FOR ILLUSTRATIVE PURPOSES**

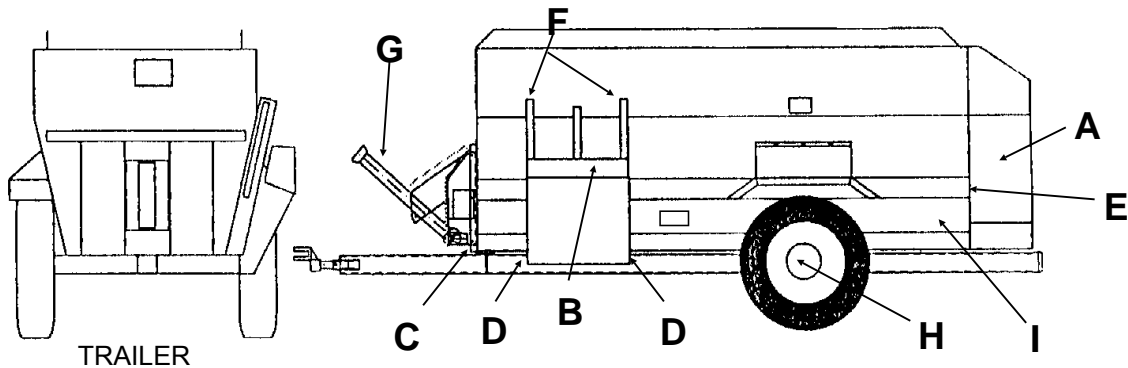


**FIGURE 10. INPUT - PRIMARY REDUCTION**

# LUBRICATION - TRAILER MOUNTS

## **⚠ WARNING**

ALWAYS DISCONNECT AND LOCKOUT ELECTRICAL POWER (STATIONARY MODELS) OR DISENGAGE POWER TAKE OFF AND REMOVE KEYS FROM TRACTOR OR TRUCK BEFORE CLEANING, ADJUSTING, LUBRICATING OR SERVICING THIS MACHINE. FAILURE TO HEED MAY RESULT IN SERIOUS PERSONAL INJURY OR DEATH.



LOCATION	ITEM	LUBRICATION	INTERVAL
A	Rear Drive Oil *	SAE 30	Check Every 60 Days Change If Contaminated
B	Conveyor Chain	Light Weight Oil	Brush On Lightly Every 40 Hours Of Operation
C	All Drive Shaft Bearings	Standard All Purpose Grease	One Pump Every 8 Hours Of Operation
D	Conveyor Bearings	Standard All Purpose Grease	One Pump Every 8 Hours Of Operation
E	Bearings In Rear Drive	Standard All Purpose Grease	Three pumps every 8 hrs. For each zerk in grease bank.
F	Guides For Discharge Door	Standard All Purpose Grease	Lubricate Every 40 Hours Of Operation
G	Tumbler Shaft **	Standard All Purpose Grease	Lubricate Every 8 Hours Of Operation For U-Joints. Every 16 Hours For Sliding Members
H	Wheel Bearings	Pack With Lithium Base Grease	Pack Every 12 Months
I	U-Joint	Standard All Purpose Grease	Every 6 Months

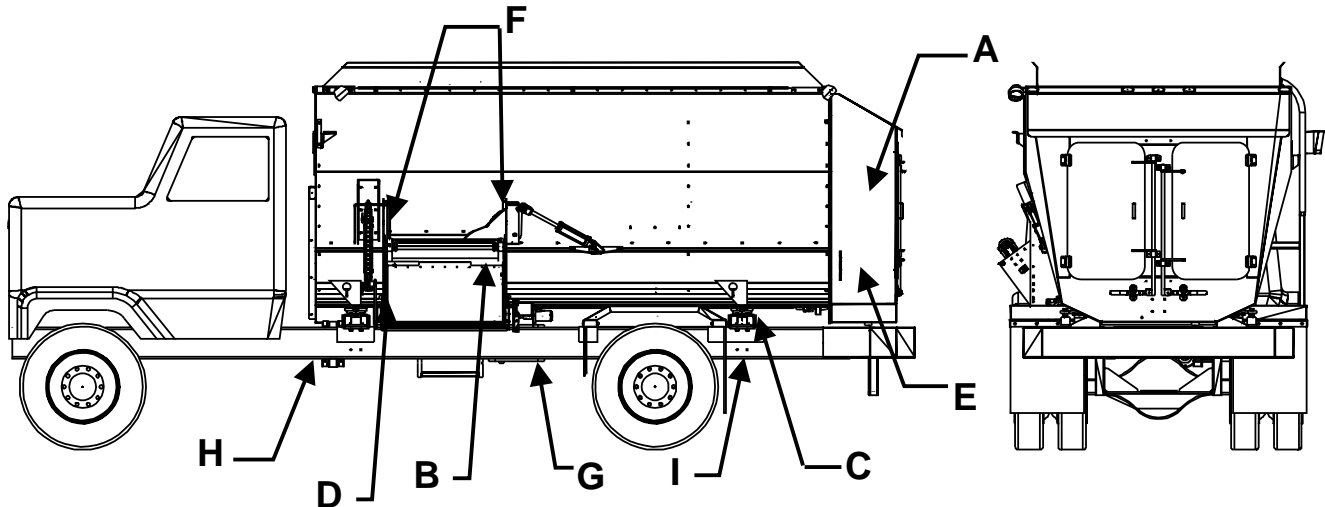
\* Refill the rear drive to a point 1" up on the lowest sprocket, approximately 10 gallons (total capacity).

**\*\* IMPORTANT:** AT EACH LUBRICATION MAKE SURE THE TUMBLER SHAFT SLIDES IN AND OUT FREELY. FAILURE OF THE SHAFT TO SLIDE FREELY WILL RESULT IN DRIVE TRAIN DAMAGE.

# LUBRICATION - TRUCK MOUNT

## **⚠ WARNING**

ALWAYS DISCONNECT AND LOCKOUT ELECTRICAL POWER (STATIONARY MODELS) OR DISENGAGE POWER TAKE OFF AND REMOVE KEYS FROM TRACTOR OR TRUCK BEFORE CLEANING, ADJUSTING, LUBRICATING OR SERVICING THIS MACHINE. FAILURE TO HEED MAY RESULT IN SERIOUS PERSONAL INJURY OR DEATH.



LOCATION	ITEM	LUBRICATION	INTERVAL
A	Rear Drive Oil *	SAE 30	Check Every 60 Days Change If Contaminated
B	Conveyor Chain	Light Weight Oil	Brush On Lightly Every 40 Hours Of Operation
C	All Drive Shaft Bearings	Standard All Purpose Grease	One Pump Every 8 Hours Of Operation
D	Conveyor Bearings	Standard All Purpose Grease	One Pump Every 8 Hours Of Operation
E	Bearings In Rear Drive	Standard All Purpose Grease	Three pumps every 8 hrs. For each zerk in grease bank.
F	Guides For Discharge Door	Standard All Purpose Grease	Lubricate Every 40 Hours Of Operation
G	Gearbox	SAE90 All Purpose Gear Lube	Change After First 100 And Every 2500 Hours After. Check Every 40 Hours Of Operation
H	U-Joint	Standard All Purpose Grease	Every 6 Months
I	Truck Chassis	See Manufacturers Recommendations	

\* Refill the rear drive to a point 1" up on the lowest sprocket, approximately 10 gallons (total capacity).

# TROUBLESHOOTING

## **⚠ WARNING**

ALWAYS DISCONNECT AND LOCKOUT ELECTRICAL POWER (STATIONARY MODELS) OR DISENGAGE POWER TAKE OFF AND REMOVE KEYS FROM TRACTOR OR TRUCK BEFORE CLEANING, ADJUSTING, LUBRICATING OR SERVICING THIS MACHINE. FAILURE TO HEED MAY RESULT IN SERIOUS PERSONAL INJURY OR DEATH.

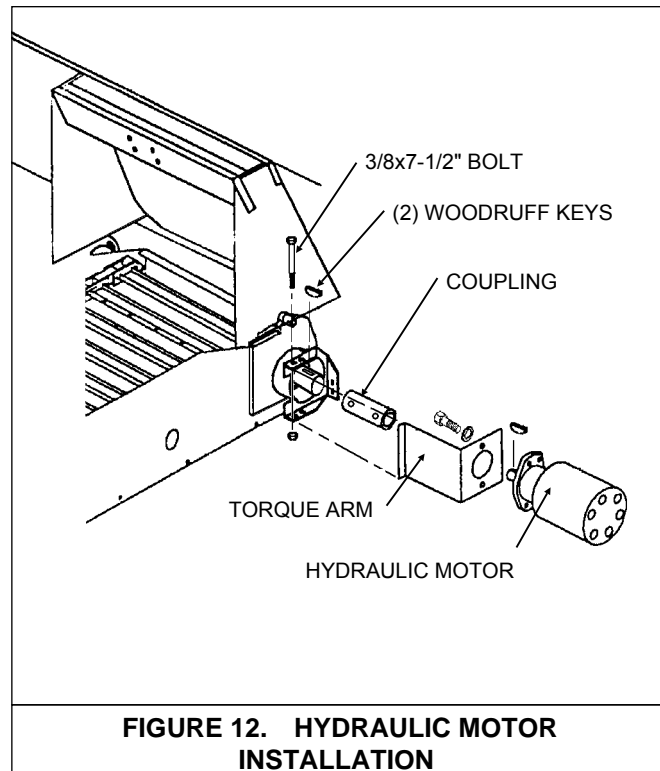
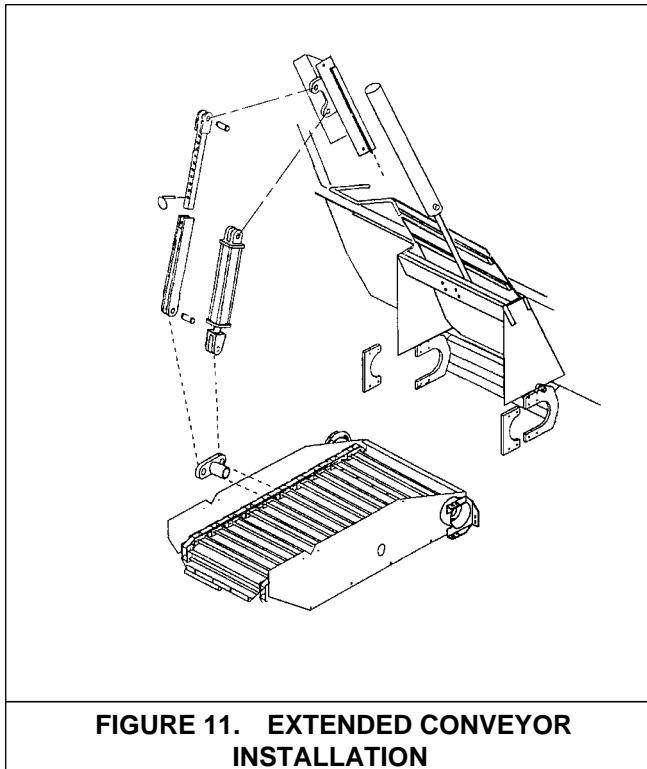
**NOTE:** CHART NOT ALL INCLUSIVE OF PROBLEMS. CONTACT DEALERSHIP FOR ASSISTANCE.

PROBLEM	POSSIBLE CAUSE	POSSIBLE REMEDY
Excessive Shearing Of Powershaft Shear Pin	High Speed Engagement Of PTO Or Conveyor.	Decrease RPM Of The Engine Before Engaging PTO Or Lowering Discharge Chute On Trailer Mixers.
	Wrong Shear Pin.	See Page 19.
	High Moisture, Thin Stemmed Materials And/or Not Fine Enough Chopped Length.	Decrease The Size Of Load Being Mixed And/or Use Materials Chopped To 1-1/2" Or Less Length.
	Conveyor Plugging Before The Door Is Opened.	The Conveyor Must Be Running.
Vibration Or Growling In Rear Structure	Drive Sprockets Out Of Line	Check And Realign
	Universal Joints Out Of Alignment.	Check And Realign
	Worn Out Bearing.	Replace Bearing.
Chains Jumping Sprocket Teeth	Idler Spings Loose.	Adjust Idlers As Instructed On Page 24.
	Drive Sprockets Out Of Line	Check And Realign
	Worn Sprocket Teeth.	Replace Sprocket.
Drive Chains Breaking	Sprocket Misalignment	Align Sprockets
	Usually Causes Side Bar Breakage Due To Chain Riding Up On Sprocket Teeth.	See Possible Remedies To "chains Jumping Sprocket Teeth" Above
Excessive Bearing Failure	Improper Lubrication	Refer To Lubrication Chart.
	Contamination	Check Seal
	Excessive Loads.	Refer To General Information About Machine Loading

# TRUCK AND TRAILER OPTIONAL COMPONENT INSTALLATION

## INSTALLING EXTENDED CONVEYOR (OPTIONAL)

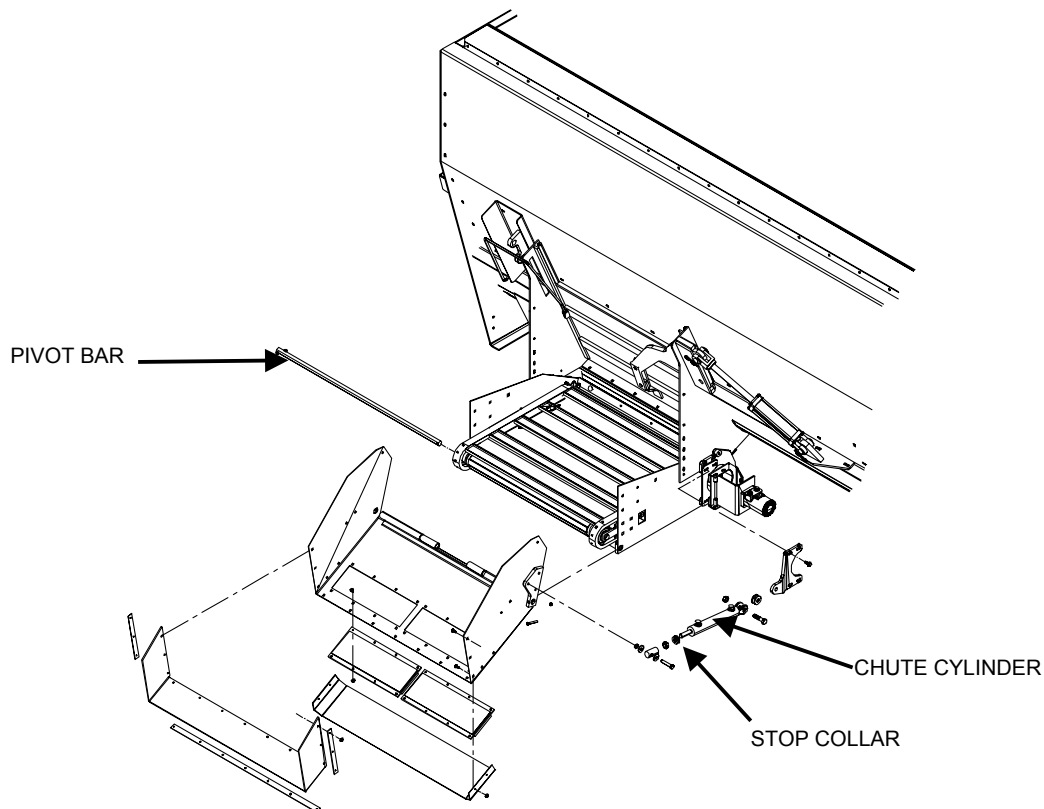
1. Remove "C" plates from mixer frame. Refer to figure 11.
2. Slide conveyor into supports on mixer and reinstall "C" plates.
3. Lift end of conveyor up so pin can be installed in end of telescoping fold limiter bar to hold up conveyor.
4. Install pin to attach hydraulic cylinder to conveyor.
5. Install hydraulic motor on conveyor as shown in figure 12 and connect hydraulic piping.



## INSTALLING CHUTE AND PIVOT BAR (OPTIONAL)

1. Assemble the chute and cylinder linkage as shown in figure 13.
2. Connect the hydraulic piping as shown in the Repair Parts - Hydraulic Components - Conveyor with Chute section located in this book.
3. To adjust the folded position of the chute, raise the conveyor fully and lock in this position using the stop pin on the fold limiter arm. Next actuate the chute cylinder causing the chute to fold fully. To reduce the amount the chute folds, extend the cylinder to the desired location and move the stop collar located on the chute cylinder rod down the rod. To increase the amount the chute folds, move the collar further up the rod. Standard conveyors typically need to have the stop collar set down the rod to prevent the chute from contacting the mixer body. Due to their longer length, extended conveyors typically can have the stop collar set at the top of the cylinder. Further adjustment of the chute position can be achieved by threading the Cylinder Extension further onto or off of the cylinder rod.

4. Typically the lowered position of the chute is limited by the mechanical interference of the bottom of the chute and the bottom of the conveyor. If however it does not lower to this position, the cylinder extension can be threaded off of the cylinder rod to tilt the chute further down.

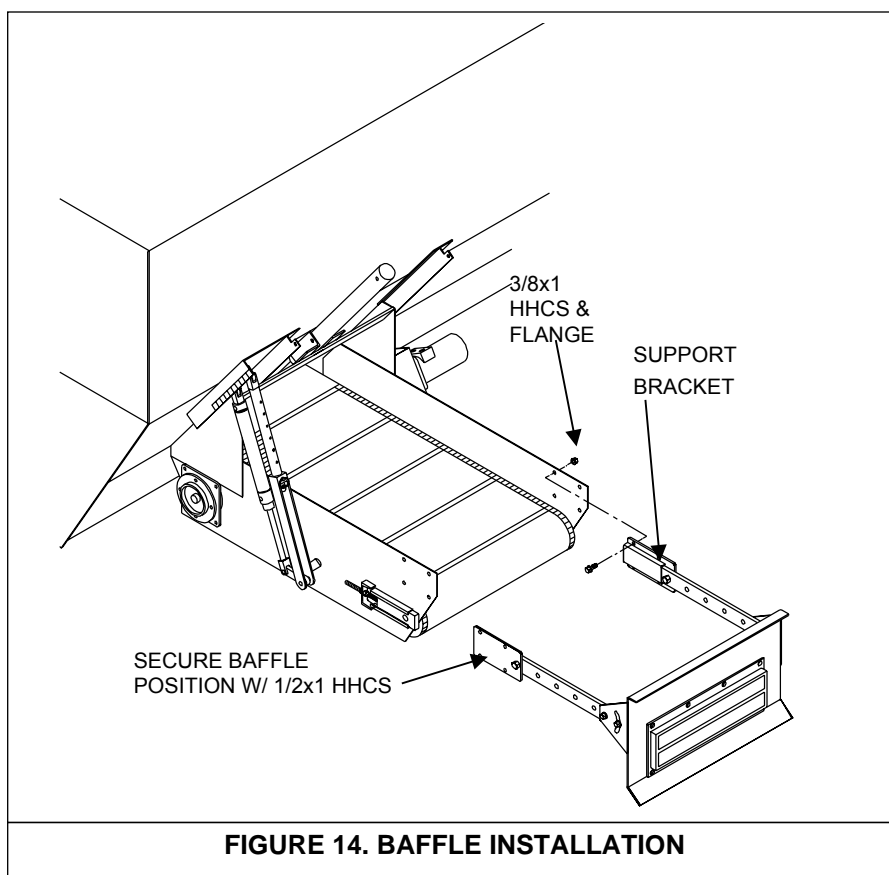


**FIGURE 13. CHUTE INSTALLATION**

## INSTALLING BAFFLE (OPTIONAL)

1. Slide the baffle assembly inside the discharge conveyor sides and bolt to the conveyor as illustrated on figure 14.

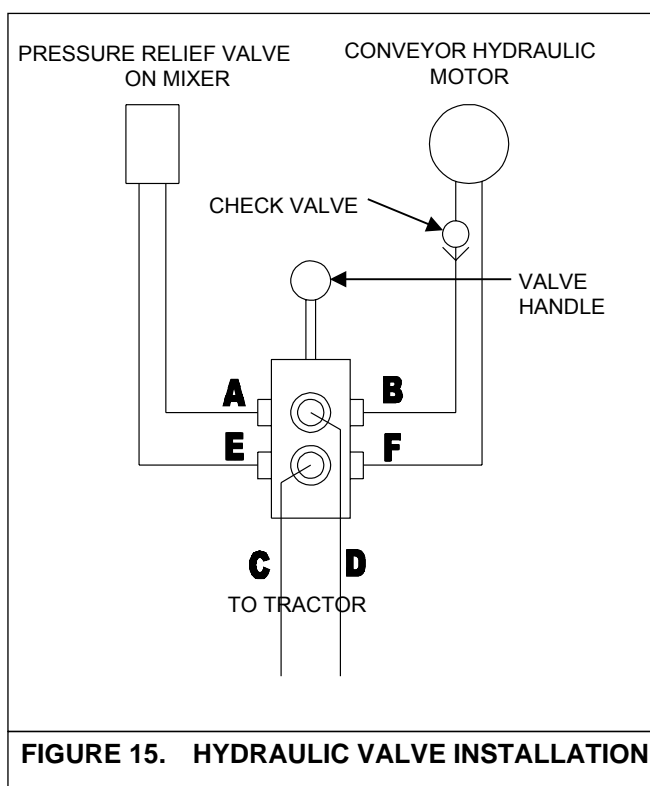
2. Remove the 1/2x1 HHCS to slide the baffle closer or further from the discharge. Secure the position by reinstalling this bolt.



**FIGURE 14. BAFFLE INSTALLATION**

## INSTALLING SINGLE PAIR HYDRAULIC VALVE (OPTIONAL - TRAILER MOUNT ONLY))

1. Disconnect hoses from bracket on top of belt shield.
2. Remove bracket from PTO shield.
3. Install hydraulic valve from kit.
4. Attach two hoses to top of valve. These hoses go to tractor.
5. Attach hoses to pressure relief block and hydraulic conveyor motor as shown in figure 15.
6. Attach rope to valve handle and fasten to tractor in a convenient spot.



**FIGURE 15. HYDRAULIC VALVE INSTALLATION**

## SCALE MOUNTING (TRUCK MOUNT ONLY)

The primary scale indicator is mounted to the right hand side of the driver seat on an adjustable pedestal. The pedestal is custom fit to the truck and is bolted to the floor of the cab and supported with braces to avoid vibration. The pedestal can be adjusted as shown in Figure 16 to provide easy viewing and access from the drivers seat.

Auxiliary indicator mounts are also supplied on the right and left hand side of the mixer to provide for mounting of an optional Remote Indicator on either or both sides of the mixer. These mounts allow the indicator to be rotated for easy viewing.

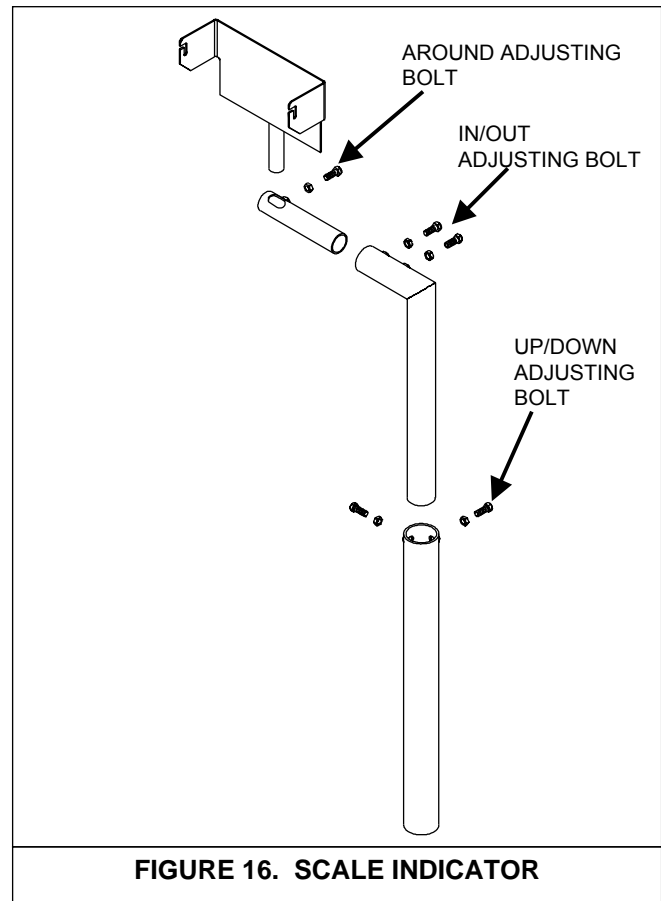
The Truck mixer is initially provided with mounting brackets matching the scale indicator purchased. If in the future a different scale indicator is purchased, new mounting brackets will be needed.

## CLEARANCE LIGHTS (TRUCK MOUNT ONLY)

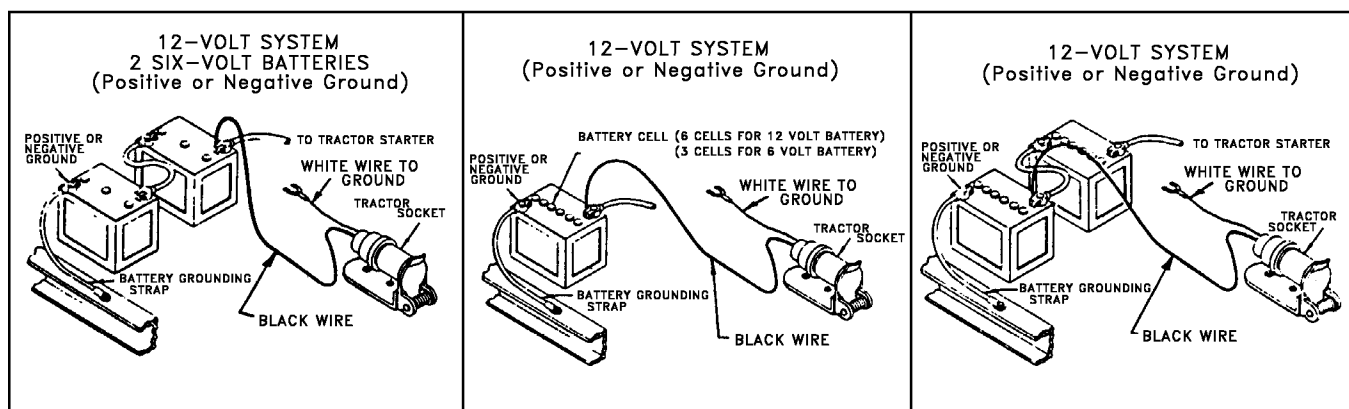
Rear mixer mounted clearance lights and bunk spot lights are optional equipment on truck mounted mixers.

The rear clearance light and rear bunk light are mounted to a full width light bar which mounts to the mixer using existing Tuff Glide Extension mounting holes. The front bunk light mounted above the conveyer area and the front clearance lights mounted on the front corners of the mixer are attached using supplied brackets and the existing Tuff Glide Extension mounting holes. All wiring runs through supplied conduits running along the top left edge of the mixer and down along the back edge of the mixer to the truck frame.

The front and rear clearance lights are wired directly into the truck light wiring and are turned on and off with the truck's lights. The bunk lights are wired to the switch box supplied with the mixer and are turned on and off using the switch marked "Lights".







## INSTALLING SCALE TRACTOR SOCKET (SHIPPED WITH TRAILER MOUNTED MIXER)

### Tractor Wiring Systems

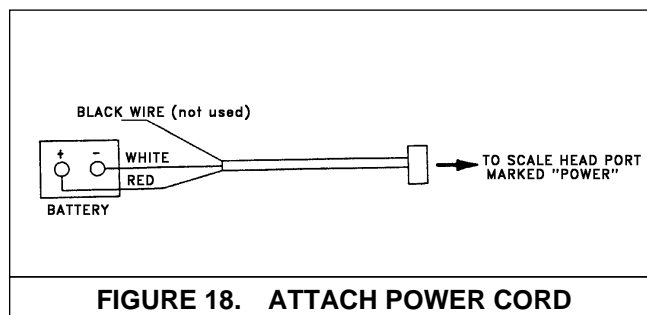
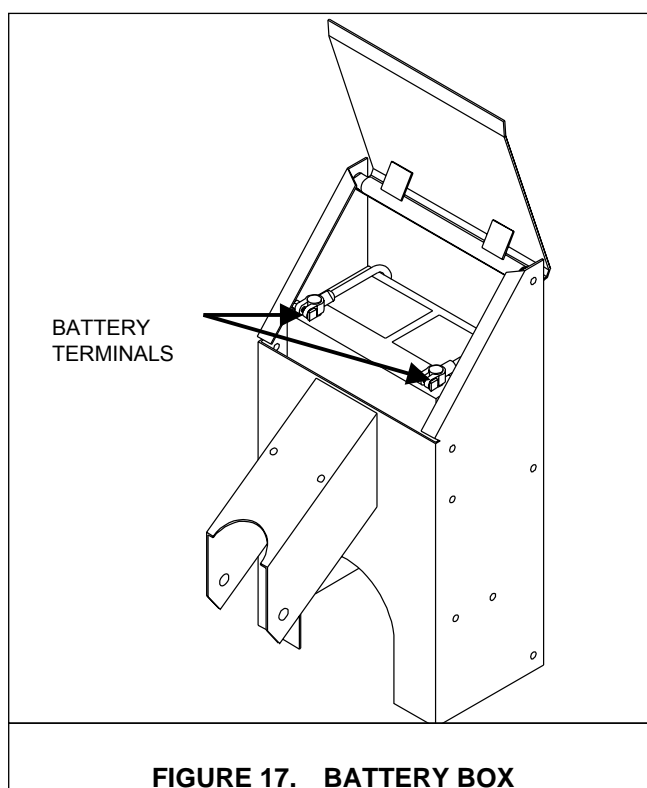
The scale system operates on 12 Volt DC current only. Your tractor is wired using one of the systems shown below. Find the system that matches your tractor and wire accordingly.

**NOTE:** Factory installed tractor sockets are not wired correctly for use with the scale system installed on the mixer.

## INSTALLING BATTERY ON MIXER (TRAILER MOUNT ONLY)

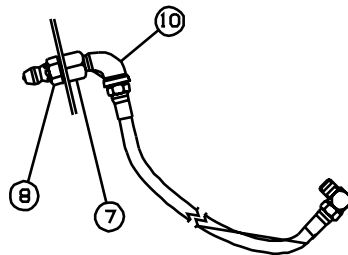
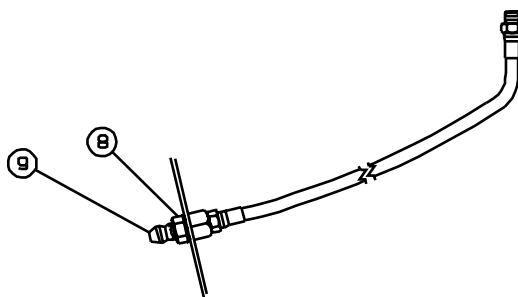
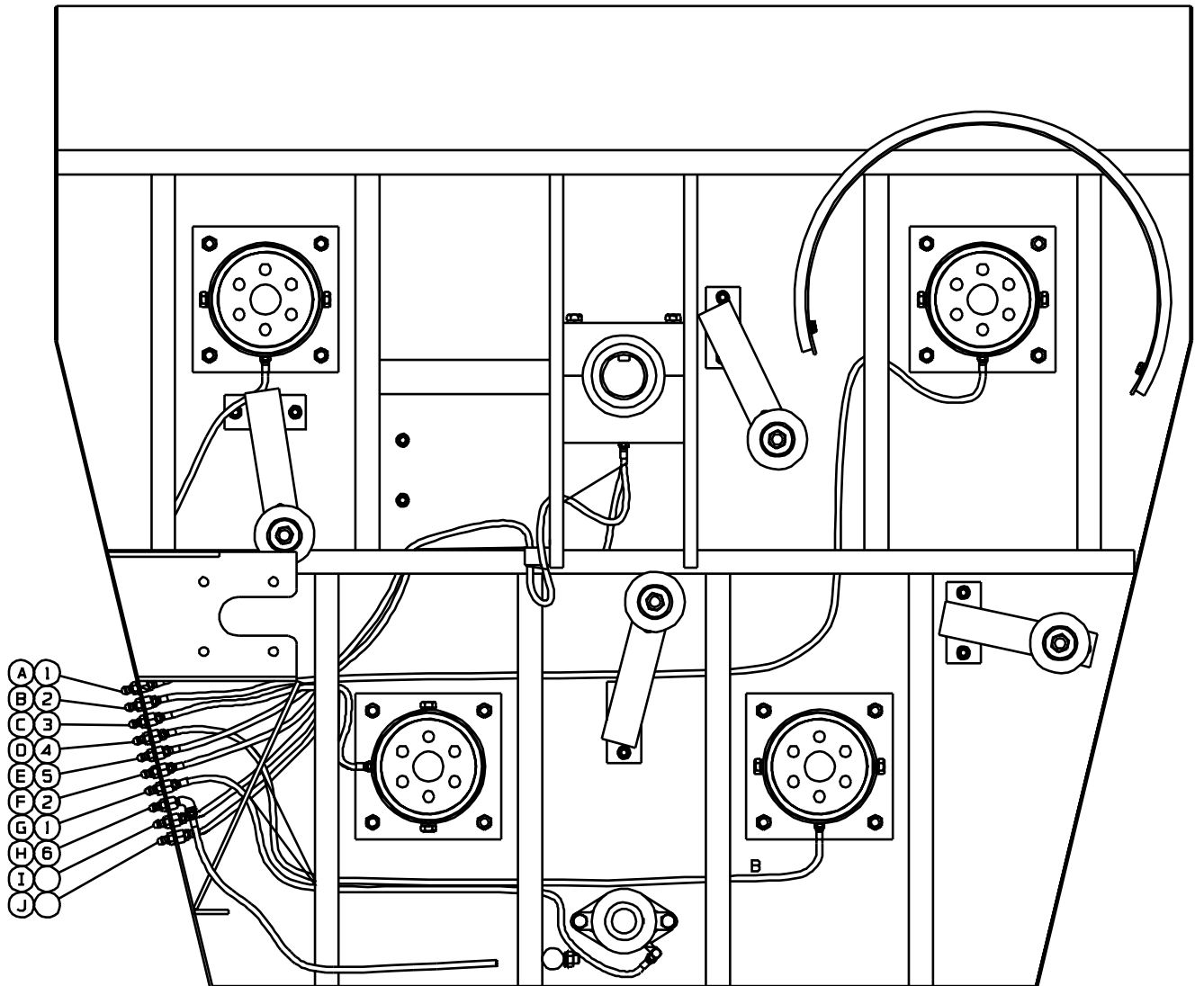
**NOTE:** Tractor socket shipped with mixer is not used when a battery is installed on the mixer.

1. Open cover on battery box . See figure 17.
2. Position 12 VDC automotive battery on battery shelf.
3. Connect charging wires to battery positive and negative terminals, see figure 17.
4. Connect scale head power cord, see figure 18. Cord to run through side of battery box.
5. Use a rubber tie strap to anchor battery to battery shelf (not supplied).
6. Close cover and fasten latches.



# REPAIR PARTS

## GREASE BANK ASSEMBLY

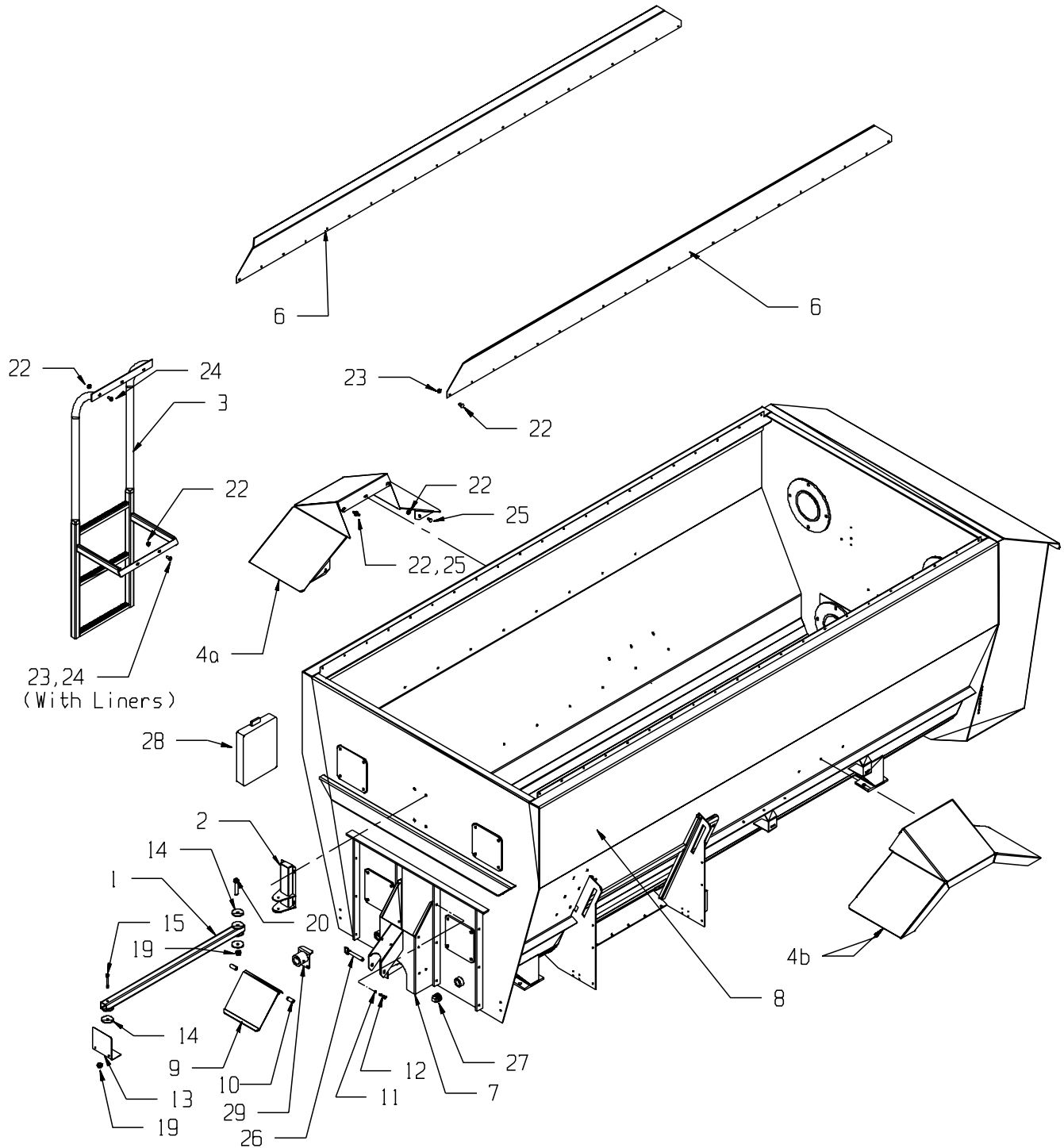


- A Top LH Auger
- B Top RH Auger
- C Bottom LH Auger
- D Bottom RH Auger
- E Jackshaft, Front
- F Jackshaft, Rear
- G Input Shaft, Front
- H Input Shaft, Rear
- I Aux Jackshaft, Front
- J Aux Jackshaft, Rear

## GREASE BANK ASSEMBLY

KEY	PART NO.	DESCRIPTION
1	156988	Grease Line - 42.5
2	159472	Grease Line - 80.5
3	156987	Grease Line - 33.25
4	159473	Grease Line - 60.5
5	156990	Grease Line - 70.5
6	156989	Grease Line - 46.5
7	PF305	Connector, Banklube
8	PF316	Nut, Lock 1/8 NPSM
9	P3337	Zerk, Grease
10	152358	Street Elbow 90 1/4" NPT

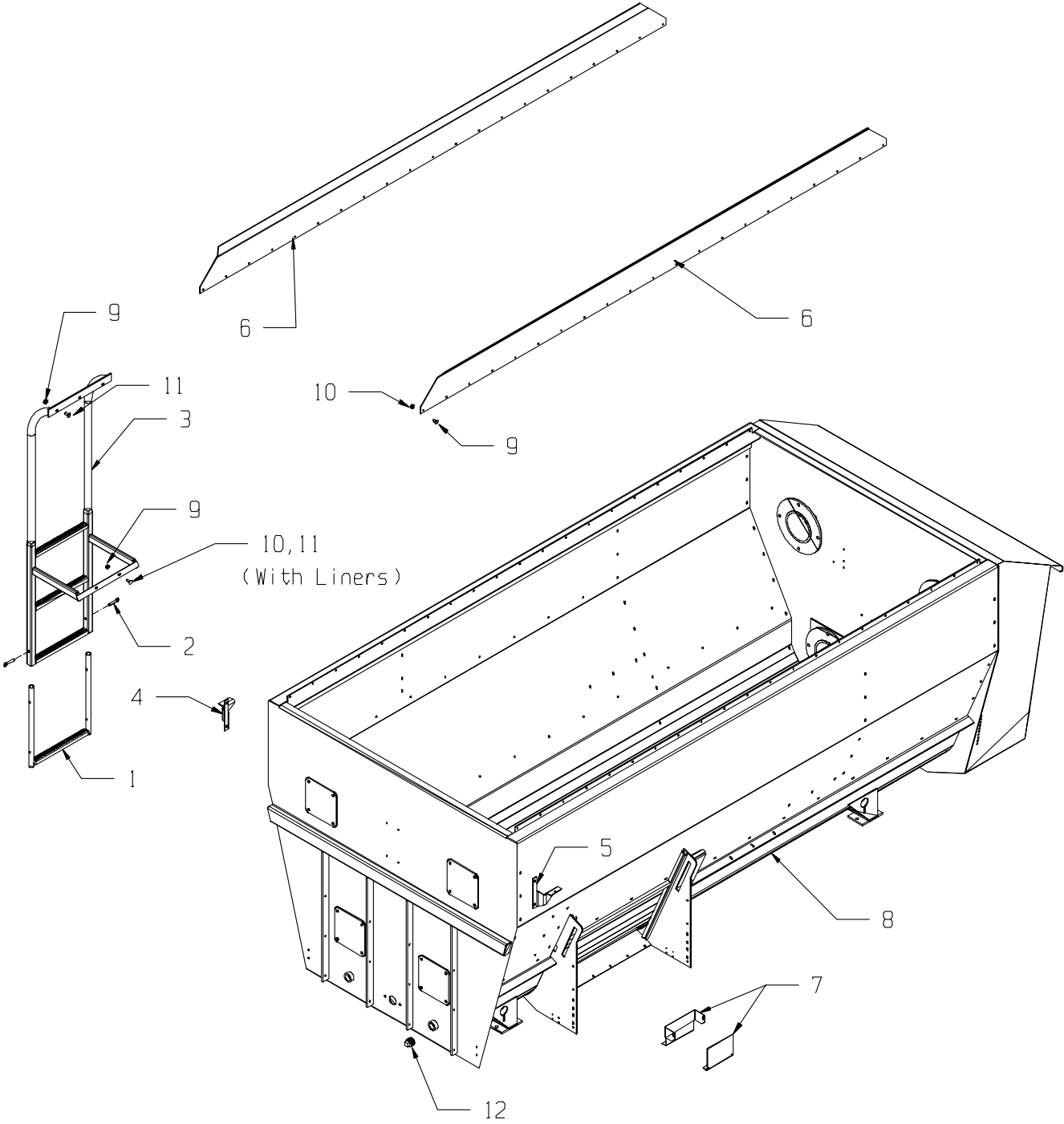
# BASIC BODY GROUP 425/500/575 - TRAILER MOUNT



## BASIC BODY GROUP 425/500/575 - TRAILER MOUNT

KEY	PART NO. 425 Model	PART NO. 500 Model	PART NO. 575 Model	DESCRIPTION
1	159683	159683	159683	Swing Arm
2	159325	159325	159325	Swivel Mount
3	158777	158777	158777	Ladder
4a	159657	159657	159657	Fender, RH
4b	158977	158977	158977	Fender, LH
6	157102	157073		T-Guide - Extension
			159610	Rear T-Guide Extension Section
			159611	Front T-Guide Extension Section
			159612	Extension Splice
7	157396	157396	157396	Battery/PTO Shield
8	159407	159286	159408	Shell
9	157399	157399	157399	Battery Cover
10	157162	157162	157162	Hinge Pin
11	P465	P465	P465	Lock Washer 3/8 ZP
12	P5512	P5512	P5512	HHCS 3/8-16 x 1-1/4 ZP GR5
13	157539	157539	157539	Scale Head Bracket
14	157096	157096	157096	Friction Pad
15	V180192	V180192	V180192	Screw, HHCS 1/2-13 x 3-1/2 GR5
19	P1400	P1400	P1400	Lock Nut, 1/2-13 ZP
20	P5645	P5645	P5645	HHCS, 1/2-13 x 4-1/2 ZP, GR5
22	P5614	P5614	P5614	Flange Nut, 3/8-16 ZP
23	102204	102204	102204	Carriage Bolt, 3/8-16 x 3/4 ZP, GR5
24	P5129	P5129	P5129	Carriage Bolt, 3/8-16 x 1-1/4 ZP, GR5
25	P5168	P5168	P5168	Carriage Bolt, 3/8-16 x 3/4 ZP (Short Neck)
26	157042	157042	157042	Draw Bar Pin, 5/8 x 6
27	157089	157089	157089	Plastic Pipe Plug, 1-1/4"
28	158222	158222	158222	Manual Storage Case
29	159474	159474	159474	Jack Storage Bracket

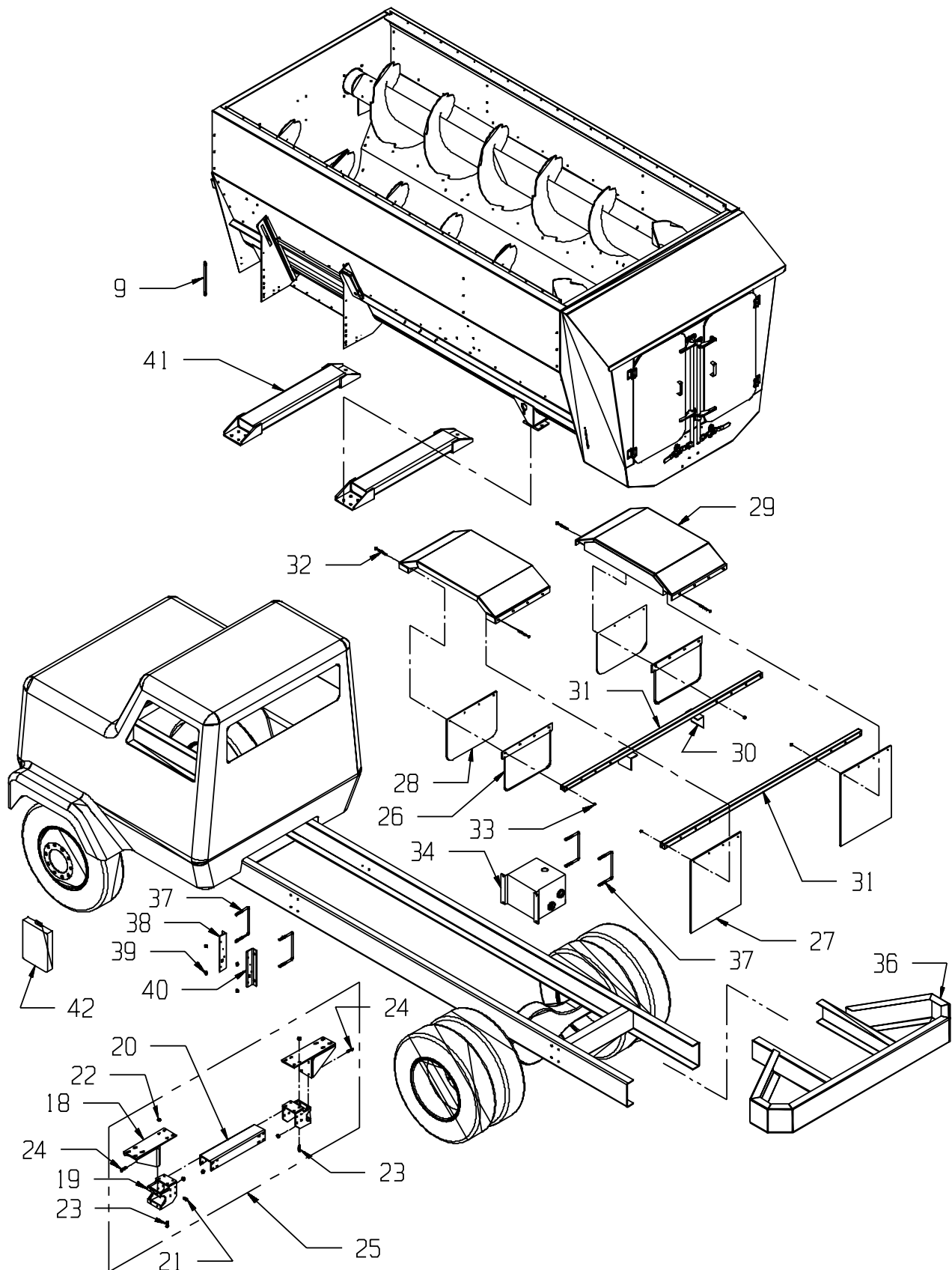
**BASIC BODY GROUP - TRUCK MOUNT**



## BASIC BODY GROUP 425/500/575 - TRUCK MOUNT

KEY	PART NO. 425 Model	PART NO. 500 Model	PART NO. 575 Model	DESCRIPTION
1	160060	160060	160060	Ladder Extension
2	157043	157043	157043	Pin
3	158777	158777	158777	Ladder
4	160036	160036	160036	Scale Indicator Bracket RH
5	160037	160037	160037	Scale Indicator Bracket LH
6	157102	157073		T-Guide - Extension
			159610	Rear T-Guide Extension Section
			159611	Front T-Guide Extension Section
			159612	Extension Splice
7	160082	160082	160082	Tyrel Remote Indicator Mount
	157321	157321	157321	EZ Remote Indicator Mount
8	159407	159286	159408	Shell
9	P5614	P5614	P5614	Flange Nut, 3/8-16 ZP
10	102204	102204	102204	Carriage Bolt, 3/8-16 x 3/4 ZP, GR5
11	P5129	P5129	P5129	Carriage Bolt, 3/8-16 x 1-1/4 ZP, GR5
12	157089	157089	157089	Plastic Pipe Plug, 1-1/4"

# TRUCK MOUNT GROUP

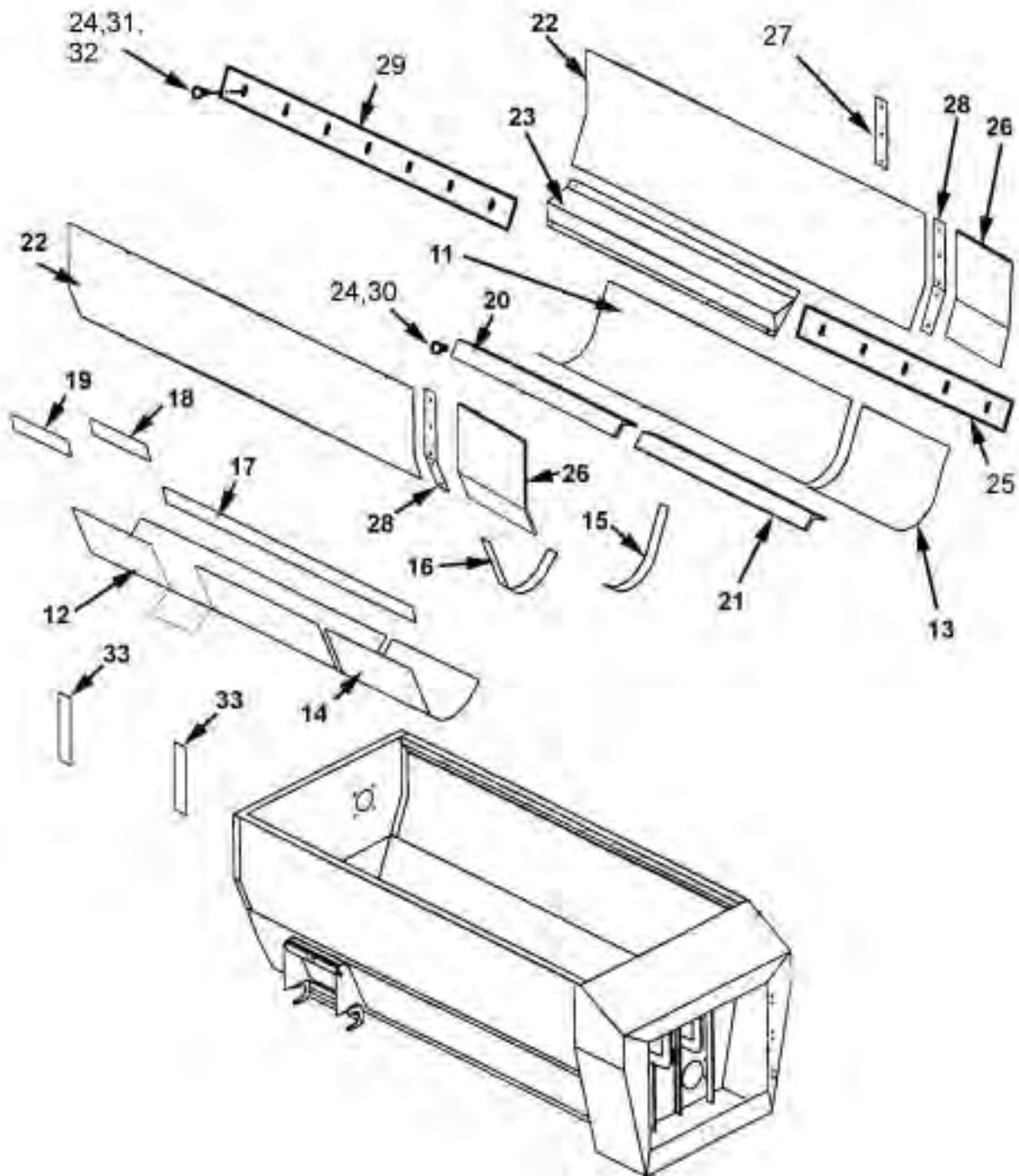




## TRUCK MOUNT GROUP

KEY	PART NO.	DESCRIPTION
1	160028	Weld Light Bar
2	160046	Bracket Light Mount
3	160092	Light, Red Clearance 12V
4	160093	Light, Bunk, Rubber, HSG 12V
5	160137	Conduit-575
	160139	Conduit-500
	160428	Conduit-425
6	160137	Wire Run Conduit
7	160039	Bracket, Bunk Light
8	160091	Light, Amber Clearance 12V
9	160090	Cable, Braided Ground
12	144623	Screw, PHMS #10-32 x 1/2 PH ZP
NS	151295	Wire, Electric 14 GA Red
NS	151297	Wire, Electric 14 GA Green
NS	V92838	Conn-Butt 16-14 GA
NS	V754	Tube, Heatshrink 1/4 Dia. Black
NS	S830413	Clip, Cable Frame
18	159909	CT Outer Saddle Mount
19	159913	CT Inner Saddle Truck Mount
20	159917	Cross Supt-CT Saddle Mount
21	P5630	Screw, HHCS 1/2-13 x 1.25 ZP, GR5
22	P5631	Nut, Hex 1/2-13 Serrated Flange
23	114809	HHCS 1/2-13 x 1.75 ZP, GR5
24	19225	HHCS 1/2-13 x 2.0 ZP, GR5
25	160245	Auxiliary Truck Mount Assembly
26	160057	Weld Anti Sail
27	160230	Mud Flap, Rear
28	160231	Mud Flap, Front
29	159951	Fender
30	222406	Angle, 5.0 x 3.0 x .25 M1020 (Specify Length)
31	160027	Fender Mount Beam
32	103303	Bolt, CRG 3/6-16 x 5
33	P5614	Nut, Hex 3/8-16 Serrated Flange
34	160078	Reservoir - 10 Gallon
36	159988	Bumper - Weld On
37	847360	U-Bolt, 5/8-11 x 10.5 Sq.
38	159982	Gearbox Mount, Front
39	P3039	Hex Nut, 8/5-11 Lock
40	159983	Gearbox Mount, Back
41	159992	Mixer Mount
42	158222	Manual Storage Case

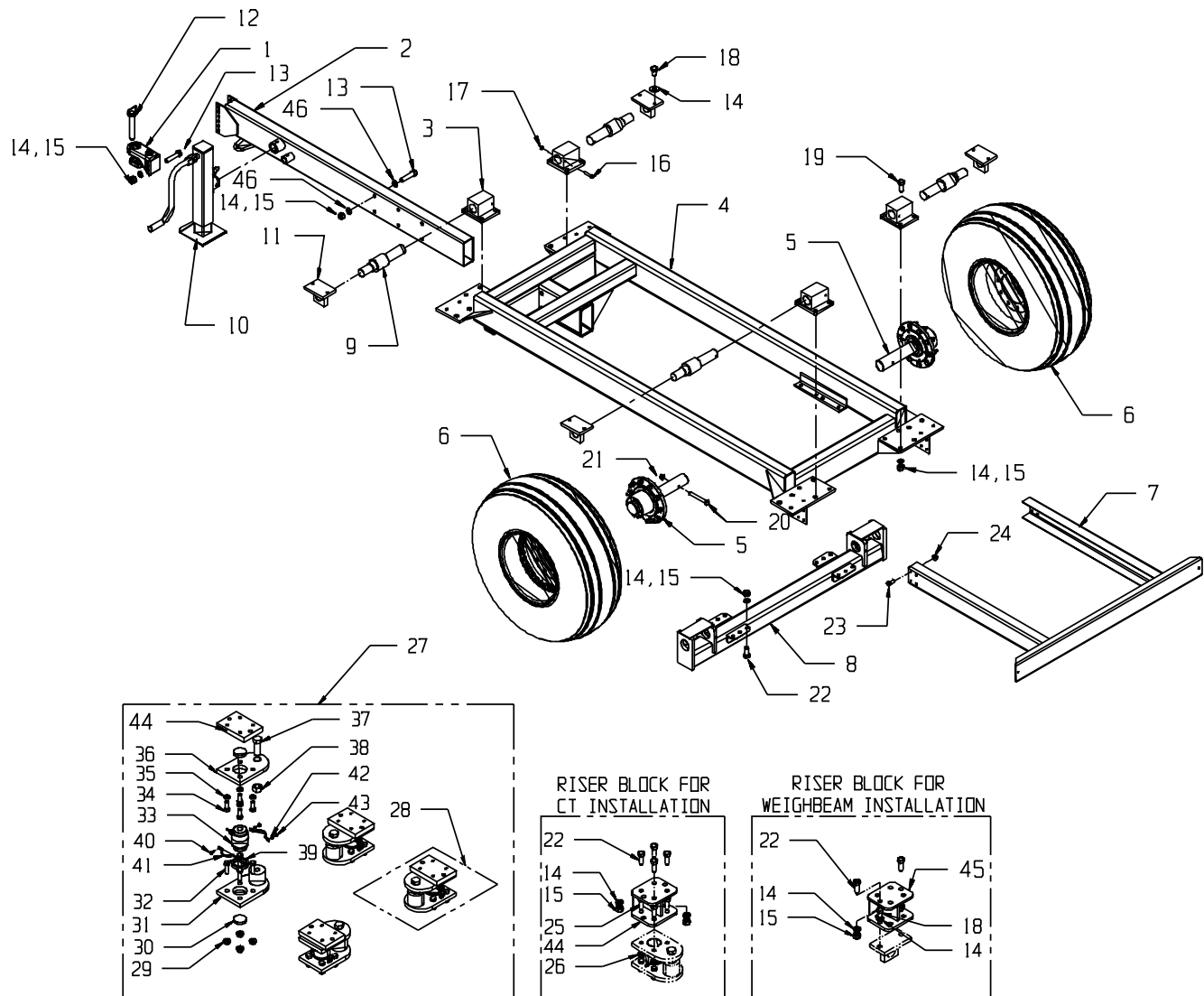
## BASIC BODY GROUP425/500/575



## BASIC BODY GROUP 425/500/575

KEY	PART NO. Model 425	PART NO. Model 500	PART NO. Model 575	DESCRIPTION
5	159407	159286	159408	Shell
	159953	159954	159955	Shell, SS Bottom
11	159845	159845	159845	Liner Bottom - RH
12	159849	159849	159849	Liner Bottom - LH
13	159846	159847	159848	Liner Bottom - RH
14	159850	159851	159852	Liner Bottom - LH
15	159854	159854	159854	Hold Down RH Bottom
16	159855	159855	159855	Hold Down LH Bottom
17	159859	159860	159861	Hold Down Side
18	159858	159858	159858	Hold Down - 38
19	159857	159857	159857	Hold Down - 21.5
20	157024	157348	157348	Center Hold Down Front
21	157024	157024	157348	Center Hold Down Rear
22	159841	159841	159841	Liner Side
23	159650	159651	159652	Hay Shelf
24	847121	847121	847121	Carriage Bolt- 3/8 x16 x 1-1/4 Stainless Steel
25	159856	159856	159856	Hold Down - 44.5
26	159842	159843	159844	Liner Side
27		159918	159918	Hold Down Side, 15.5 w/Hay
28	159853	159853	159853	Hold Down Top Liner
29	159862	159863	159864	Hold Down w/o Hay
30	P5614	P5614	P5614	Flange Nut, 3/8-16 ZP (Bottom Liners)
31	P465	P465	P465	Lock Washer, 3/8 (Side Liners)
32	P443	P443	P443	Hex Nut, 3/8-16 ZP (Side Liners)
33	160317	160317	160317	Side Hold Down - 11.75

## 425/500/575 TRAILER GROUP



## 425/500/575 TRAILER GROUP

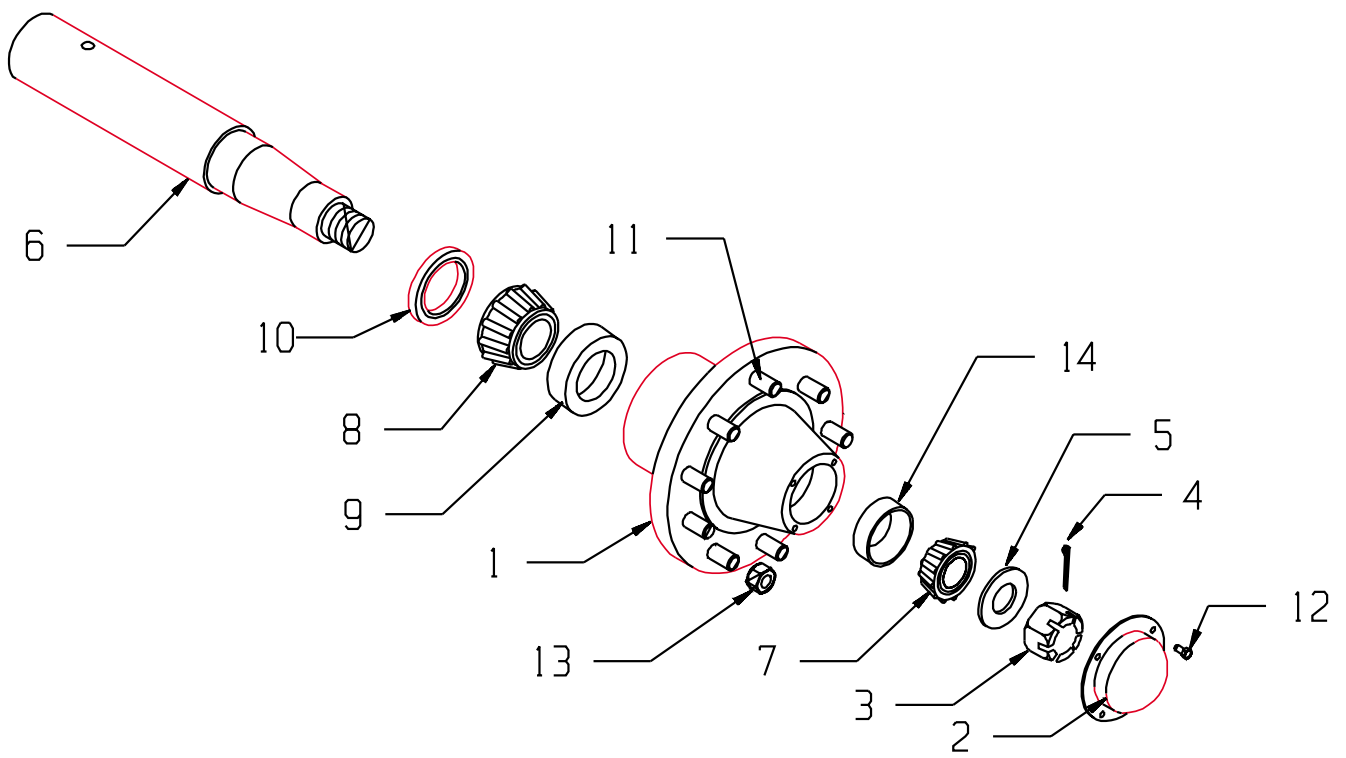
KEY	PART NO. Model 425	PART NO. Model 500	PART NO. Model 575	DESCRIPTION
1	159442	159442	159442	Hitch Assembly
2	159177	159177	159177	Tongue
3	159011	159011	159011	Weigh Bar Mount
4	159598	159598	159599	Trailer Frame
5	159455*			Hub/Spindle Assembly - 12000#, 10B
	160071	160071	160071	Hub/Spindle Assembly - 15000#, 10B
6	158688	158688	158688	Tire/Wheel - H46 x 18.0-20, 10B
	160870	160870	160870	Inner Tube H46 x 18 x 20
	160867	160867	160867	Flap H46 x 18 x 20
7	159629	159093	159093	Bumper
8	159600*			Mixer Axle - 12000#
	160063	160063	160063	Mixer Axle - 15000#
9	S146110	S146110	S146110	Weighbeam - 2.5 DBND
10	159456	159456	159456	10,000 lb. Tube Mount Jack
11	159014	159014	159014	Weigh Bar Base
12	N/A	N/A	N/A	Drawbar Pin - 1" x 6"
13	P3232	P3232	P3232	HHCS, 3/4-10 x 6 ZP, GR5
14	P2689	P2689	P2689	Lock Washer, 3/4" ZP
15	P3233	P3233	P3233	Hex Nut, 3/4" -10 ZP
16	P5610	P5610	P5610	HHCS, 3/8-16 x 4-1/2 ZP, GR5
17	P5614	P5614	P5614	Flange Nut, 3/8-16 ZP
18	V428465	V428465	V428465	HHCS, 3/4-10 x 1-1/4 ZN, GR5
19	19511	19511	19511	HHCS, 3/4-10 x 2-1/2 ZP, GR5
20	160072	160072	160072	HHCS, 1/2-13 x 7 ZP, GR8
21	P1400	P1400	P1400	Lock Nut, 1/2-13 ZP
22	19510	19510	19510	HHCS, 3/4-10 x 2 ZP, GR5
23	P5630	P5630	P5630	HHCS, 1/2-13 x 1-1/4 ZP, GR5
24	P5631	P5631	P5631	Flange Nut, 1/2-13 ZP
25	19226	19226	19226	HHCS, 5/8-11 x 2 ZP GR5
26	141763	141763	141763	Hex Nut, 5/8-11 Ser. Flange
46	P2649	P2649	P2649	Washer, 3/4" Narrow

\* Used on 425 mixers made up to July, 2000

## CT SCALE OPTION

KEY	PART NO.	DESCRIPTION	KEY	PART NO.	DESCRIPTION
27	160221	CT Scale Option on 425/500/575	35	P468	Wash Lock 5/8 ZP
28	S826947	Assembly, Load Cell Mount	36	159613	Load Cell Mount Base Plate
29	141763	Nut, Hex 5/8-11 NC Serrated Flange	37	159614	HHCS 1-8 x 3.0 GR8, ZP
30	S400118	Shim, CT Mount 7/16	38	95036	Nut, Hex 1-8 ZP
31	826897	Weld Load Cell Mount Base	39	S830409	Sealing Ring
32	19226	Screw HHCS 5/8-11 x 2 ZP GR5	40	P5609	JJCS 1/4-20 x 1.0 ZP GR5
33	S153101	Cell CT30KTC-30' 0.25%	41	160128	CT Clamp
34	95205	Screw HHCS 5/8-11x 1-1/2 ZP GR5	42	P463	Lock Washer, 1/4 ZP
			43	P557	Nut, Hex 1/4-20 ZP
			44	159908	CT Adapter Plate
			45	160142	Riser Block

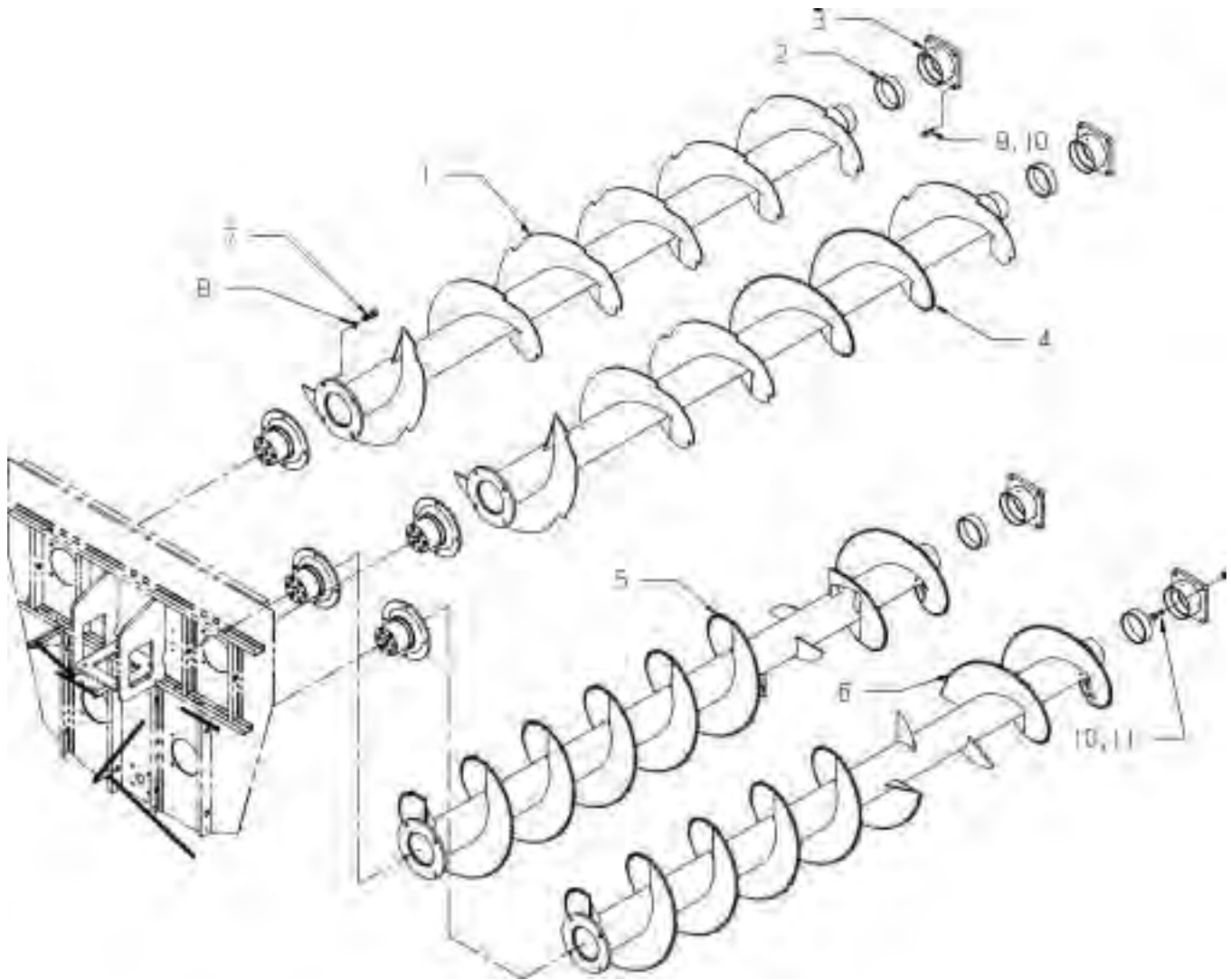
## HUB & SPINDLE



## HUB & SPINDLE

KEY	PART NO. 12000*	PART NO. 15000*	DESCRIPTION
1	158683	N/A	Hub-10 Bolt
2	159446	159446	Cap-Dust
3	148280	148280	Nut-Castle
4	V94488	V94488	Pin-Cotter 5/32 x 1.75 PLTD
5	P2998	P2998	Wash-1 1/4 Type A Narrow Flat
6	159447	N/A	Spindle Ø2.984 (12000#), 3.375 (15000#)
7	159452	159452	Brg-Cone Timken 460
8	835163	160067	Brg-Cone Timken 39585 (12000#), 33275 (15000#)
9	835165	160068	Brg-Cup Timken 39520 (12000#), 33462 (15000#)
10	159454	160069	Seal-Oil, 3.0 Dia Shaft (12000#), 3.375 Dia Shaft (15000#)
11	159453	159453	Bolt-Wheel (Incl. w/Hub)
12	V120834	V120834	SCR-HHCS 5/16-.5 ZP, Gr5
13	156515	156515	Nut-Bud 3/4-16
14	159451	159451	Brg-Cup Timken 453A
15		160075	Hub Assembly (Includes Item: 1,2, 7, 8, 9, 10, 11, 12)
16		160074	Spindle Assembly (Includes Items: 3, 4, 5, 6)

## 425/500/575 AUGERS AND COMPONENT PARTS

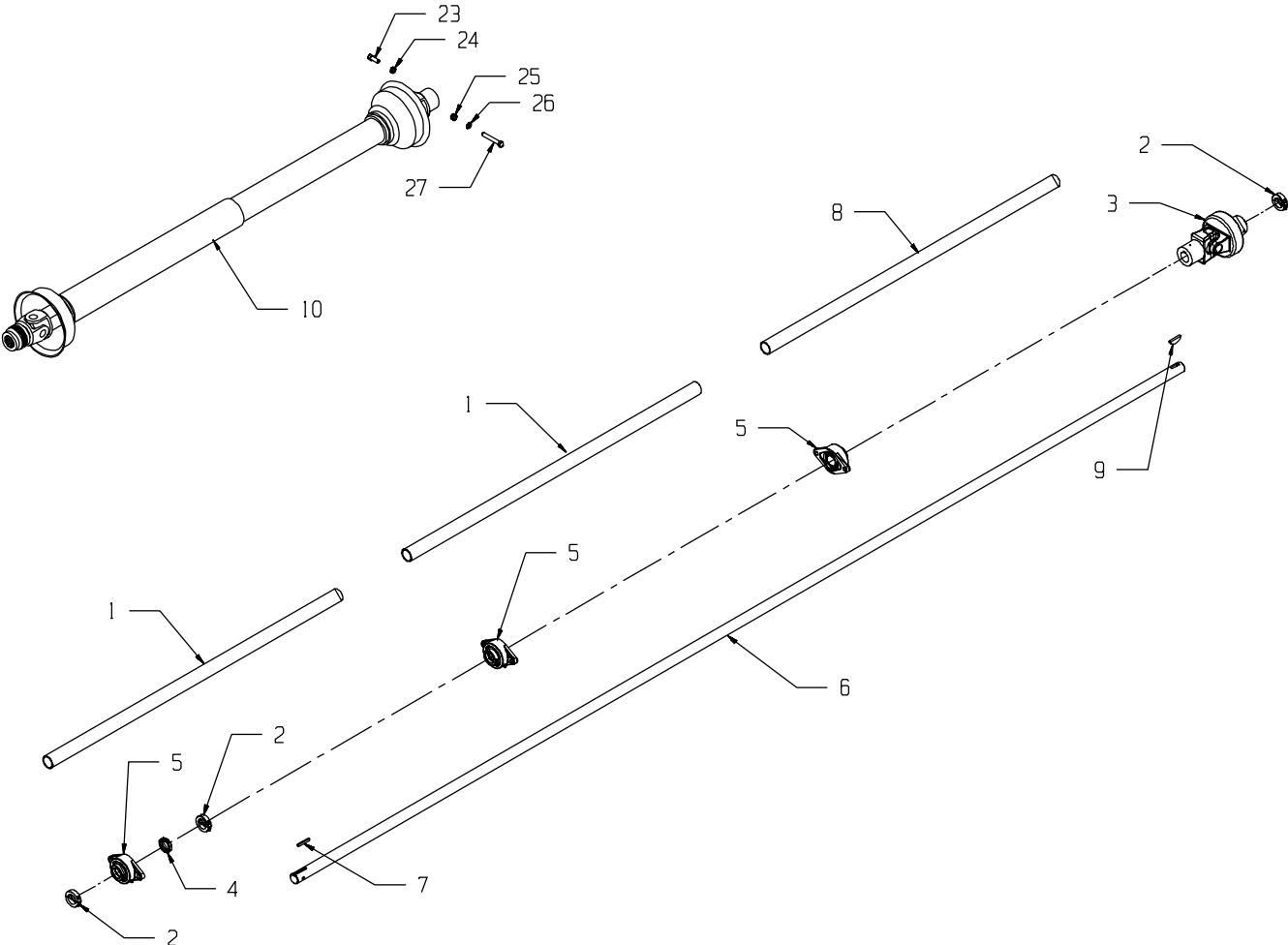




## 425/500/575 AUGERS AND COMPONENT PARTS

KEY	PART NO. Model 425	PART NO. Model 500	PART NO. Model 575	DESCRIPTION
1	158766	158774	158782	Auger, LH Top
2	158817	158817	158817	Nyloil Bearing Insert
3	159317	159317	159317	Front Bearing Housing
4	158765	158778	158781	Haysaw Auger RH Top - Optional
	158766	158774	158782	Auger, RH Top
5	158763	158775	158779	Haysaw Auger LH Bottom - Optional
	158767	158771	158783	Auger LH Bottom
6	158764	158776	158780	Haysaw Auger RH Bottom - Optional
	158768	158772	158784	Auger RH Bottom
7	157222	157222	157222	HHCS 7/8-9 x 1.75 ZP, GR5
8	157221	157221	157221	Lock Washer 7/8 ZP
9	95205	95205	95205	HHCS 5/8-11 x 1.5 ZP, GR5
10	141763	141763	141763	Flange Nut 5/8-11 ZP
11	115911	115911	115911	HHCS, 5/8-11 x 1-3/4 ZP

INPUT DRIVE - TRAILER MOUNT

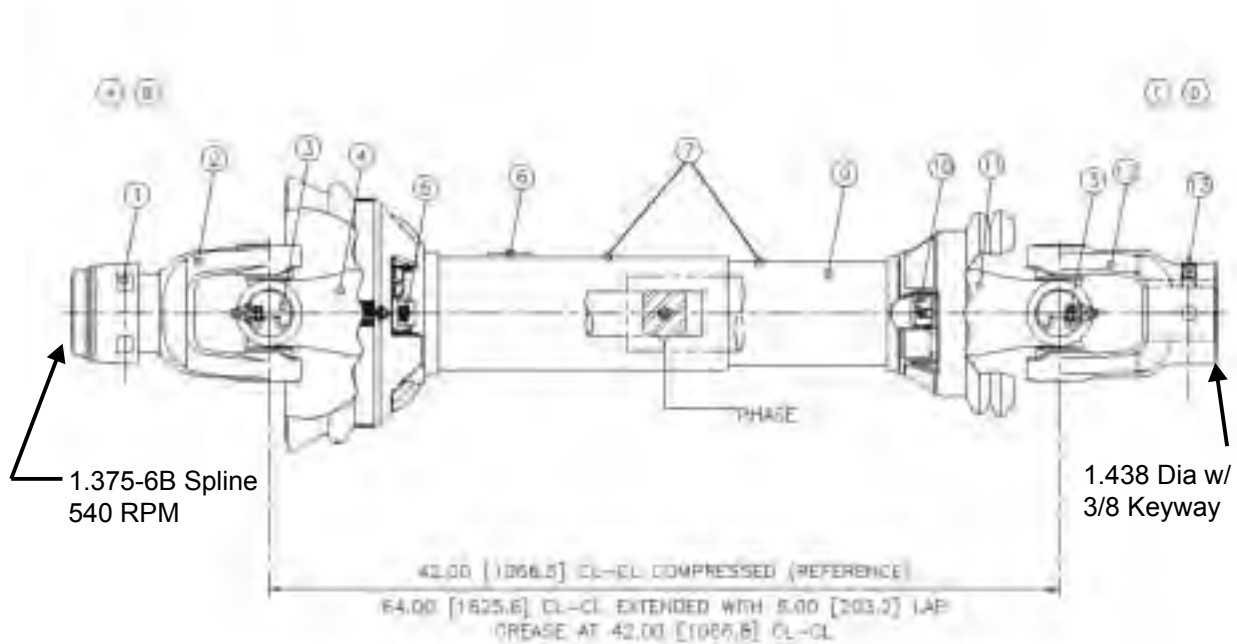


## INPUT DRIVE - TRAILER MOUNT

KEY	PART NO. Model 425	PART NO. Model 500	PART NO. Model 575	DESCRIPTION
1	157361	157327	157363	Power Shaft Guard 47" Power Shaft Guard 53" Power Shaft Guard 68"
2	156974	156974	156974	Shaft Clamp Collar 1.438"
3	159299	159299	159299	Shear Joint Universal, 35RW/Ball
4	157680	157680	157680	Spacer Collar
5	156925	156925	156925	Flanged Bearing 1.438"
6	157367	157368	159213	Input Shaft
7	11832	11832	11832	Key - 3/8" x 3/8" x 2"
8	157361	157361	157361	Power Shaft Guard 47"
9	V90723	V90723	V90723	Woodruff Key - 1212
10	156921	156921	156921	PTO Shaft - 35R w/Guard
23	P2977	P2977	P2977	Jam Nut- 3/8" NC
24	140747	140747	140747	SQ Head Set Screw- 3/8"NCx1
25	P443	P443	P443	Hex Nut- 3/8" NC
26	P465	P465	P465	Lock Washer- 3/8"
27	P5612	P5612	P5612	Hex Bolt- 3/8"NC x 2 1/2"
33	P5659	P5659	P5659	HHCS, 5/16-18 x 2" ZP, GR5 (Shear Bolt)
34	P442	P442	P442	Hex Nut, 5/16-18 ZP
35	P5612	P5612	P5612	HHCS, 3/8-16 x 3-1/4, GR5
36	P2977	P2977	P2977	Hex Nut, 3/8-16, ZP
37	140747	140747	140747	Set Screw, 3/8-16 x 1
38	19225	19225	19225	HHCS, 1/2-13 x 2 ZP, GR5
39	P5631	P5631	P5631	Flange Nut, 1/2-13 ZP

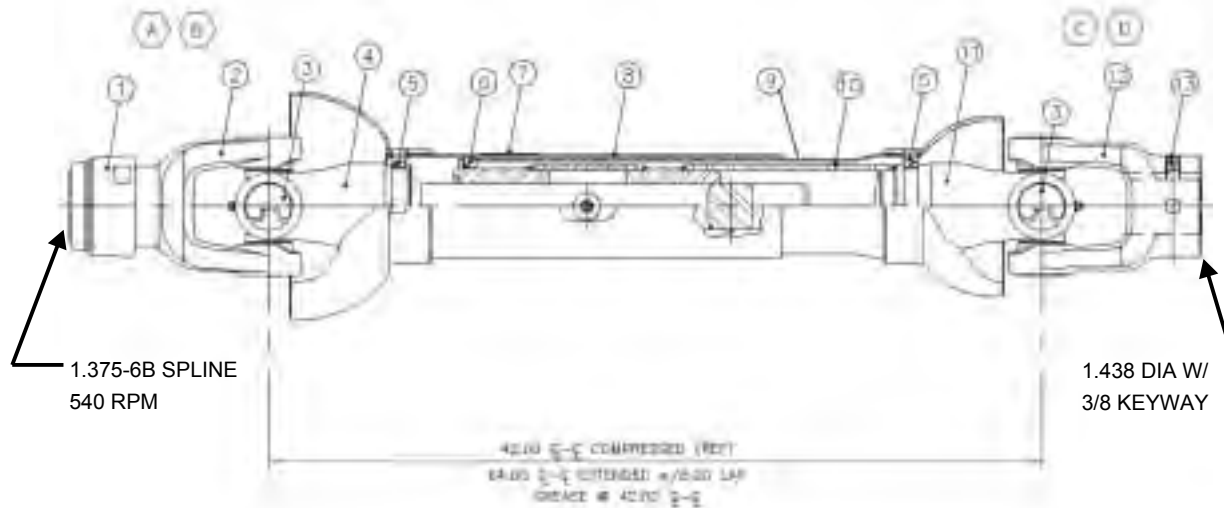
Items not numbered are not available - order complete PTO Shaft

## PTO SHAFT W/ PLASTIC SHIELD - TRAILER MOUNT



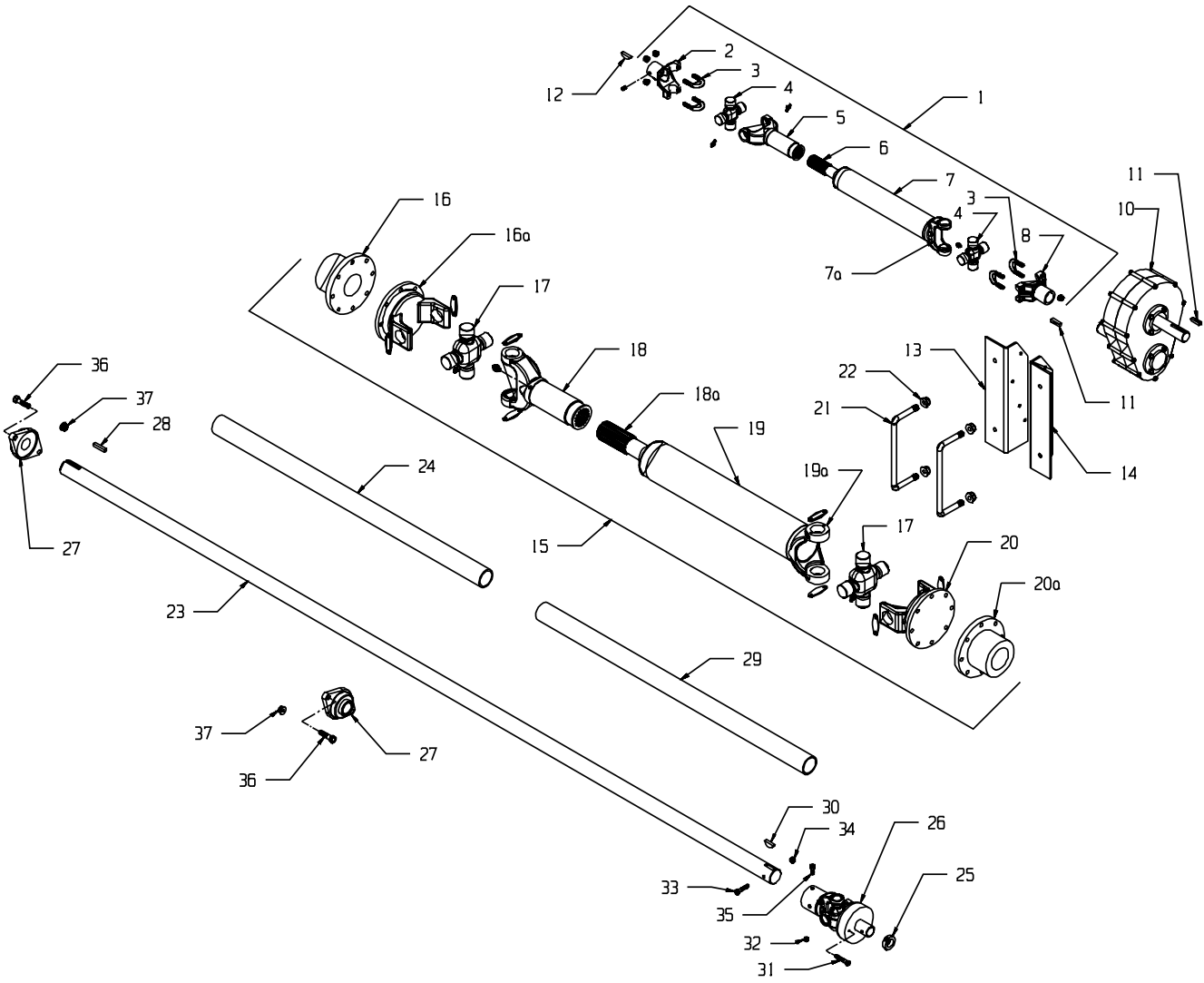
KEY	PART NO.	DESCRIPTION
1	19284	Safety Slide Lock Repair Kit
2	160464	Safety Slide Lock Yoke Asssy.
3	19430	35R Cross & Bearing Kit
4	N/A	Yoke And Shaft
5	161559	Guard Repair Kit, Outer
6	152556	Safety Sign
7	161556	Guard Set
9	152559	Safety Sign
10	161560	Guard Repair Kit, Inner
11	N/A	Yoke, Tube & Slip Sleeve
12	161294	Yoke
13	P1369	Set Screw, .375-16 x .38 Lg, Knurled Cup Point
A	161558	Joint & Shaft Half Assy. W/ Gaurd
B	161554	Joint & Shaft Half Assy.
C	161557	Joint & Shaft Half Assy. W/ Gaurd
D	161555	Joint & Shaft Half Assy.

## PTO SHAFT W/ METAL SHIELD - TRAILER MOUNT



KEY	PART NO.	DESCRIPTION
1	19284	Safety Slide Lock Repair Kit
2	160464	Safety Slide Lock Yoke Asssy.
3	19430	35R Cross & Bearing Kit
4	N/A	Yoke And Shaft
5	152555	Nylon Repair Kit
6	V94163	Centralizer
7	152556	Safety Sign
8	160463	Outer Gaurd
9	160465	Inner Gaurd
10	152559	Safety Sign
11	N/A	Yoke, Tube & Slip Sleeve
12	161294	Yoke
13	P1369	Set Screw, .375-16 x .38 Lg, Knurled Cup Point
A	161295	Joint & Shaft Half Assy. W/ Gaurd
B	N/A	Joint & Shaft Half Assy.
C	161296	Joint & Shaft Half Assy. W/ Gaurd
D	N/A	Joint & Shaft Half Assy.

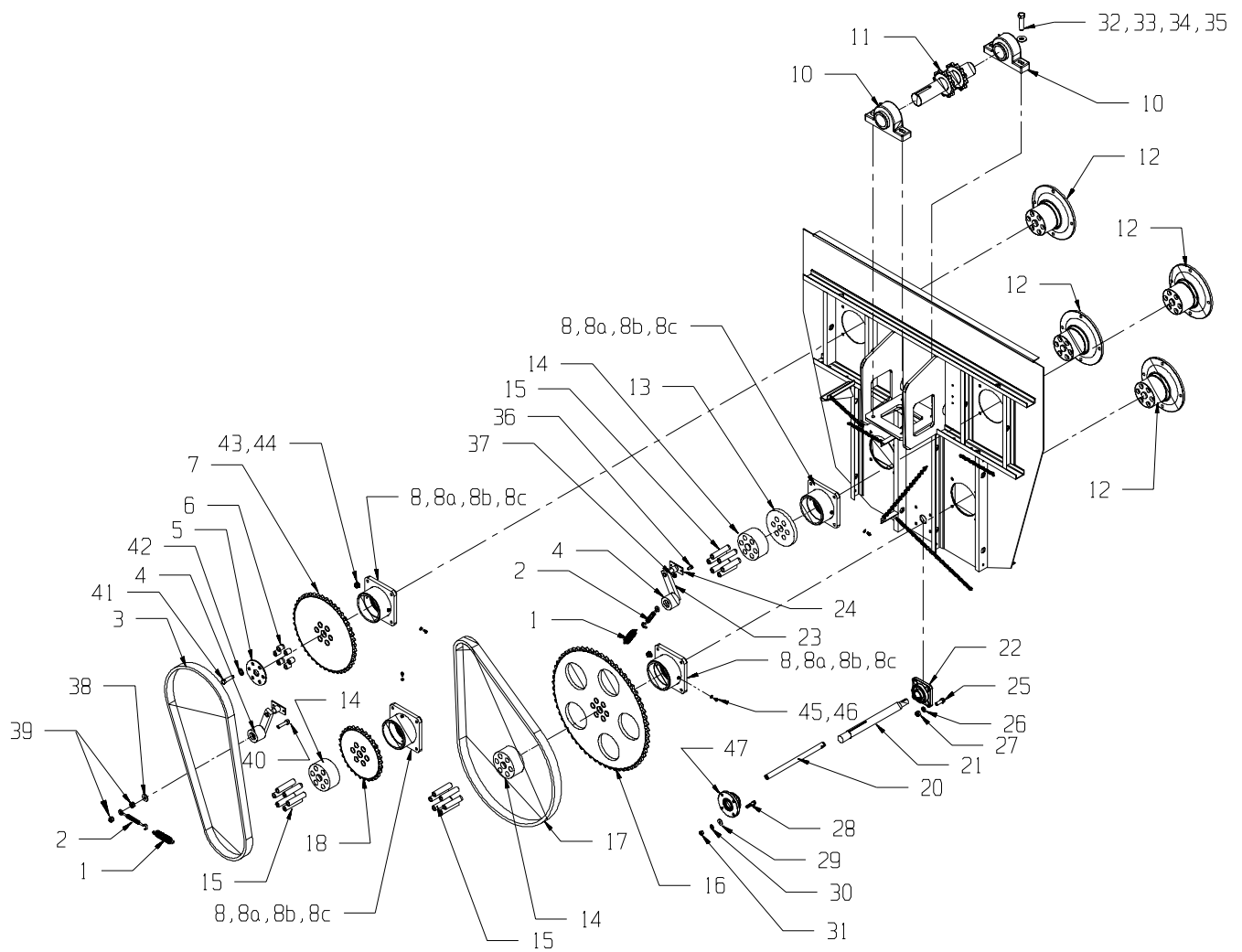
## INPUT DRIVE - TRUCK MOUNT



## INPUT DRIVE - TRUCK MOUNT

KEY	PART NO. Model 425	PART NO. Model 500	PART NO. Model 575	DESCRIPTION
1	160384	160384	160384	H.D. Automotive Drive Line - 1410
2	160388	160388	160388	Yoke - 1.25, 1410
3	160386	160386	160386	U-Bolt Kit - 1410
4	160387	160387	160387	Cross & Bearing Kit - 1410
5	160447	160447	160447	Slip Yoke Assembly - 1410
6	160448	160448	160448	Tube Shaft - 1410
7	160385	160385	160385	Tube - 1410
7a	160449	160449	160449	Tube Yoke - 1410
8	160390	160390	160390	Yoke - 1.5", 1410
10	159957	159957	159957	Gearbox 4-1 with 1-1/2" Output/Input Shafts
11	V6509	V6509	V6509	Key - 3/8" x 1-1/2"
12	840162	840162	840162	Woodruff Key - 3/8" x 1-1/2"
13	159982	159982	159982	Front Gear Box Mount
14	159983	159983	159983	Rear Gear Box Mount
15	160458	160458	160458	HD Automotive Drive Line - 1550
16	160398	160398	160398	Yoke - 1.5, 1550
16a	160391	160391	160391	Flange Yoke - 1550
17	160392	160392	160392	Cross & Bearing Kit - 1550
18	160393	160393	160393	Slip Yoke Assembly - 1550
18a	160394	160394	160394	Tube Shaft - 1550
19	160396	160396	160396	Tube - 1550
19a	160395	160395	160395	Tube Yoke - 1550
20	160391	160391	160391	Flange Yoke - 1550
20a	160457	160457	160457	Yoke - 1.44, 1550
21	847360	847360	847360	U-Bolt, 5/8-11 x 10.5 Sq.
22	P3039	P3039	P3039	Hex Nut, 5/8-11 Lock
23	160246	160008	160132	Input Shaft
24	157361			Power Shaft Guard 47"
		157327		Power Shaft Guard 53"
			157363	Power Shaft Guard 68"
25	156974	156974	156974	Shaft Clamp Collar 1.438"
26	159299	159299	159299	Shear Joint Universal, 35RW/Ball
27	156925	156925	156925	Flanged Bearing 1.438"
28	11832	11832	11832	Key - 3/8" x 3/8" x 2"
29	157361	157361	157361	Power Shaft Guard 47"
30	V90723	V90723	V90723	Woodruff Key - 1212
31	P5659	P5659	P5659	HHCS, 5/16-18 x 2" ZP, GR5 (Shear Bolt)
32	P442	P442	P442	Hex Nut, 5/16-18 ZP
33	P5612	P5612	P5612	HHCS, 3/8-16 x 3-1/4, GR5
34	P2977	P2977	P2977	Hex Nut, 3/8-16, ZP
35	140747	140747	140747	Set Screw, 3/8-16 x 1
36	19225	19225	19225	HHCS< 1/2-13 x 2 ZP, GR5
37	P5631	P5631	P5631	Flange Nut, 1/2-13 ZP

## TOP LEFT AND BOTTOM RIGHT AUGER DRIVE



**Not Illustrated:**

**Roller Chain Connector Links**

**830875 - 120 Connector**

**830876 - 120 Offset**

**836245 - 140 Connector**

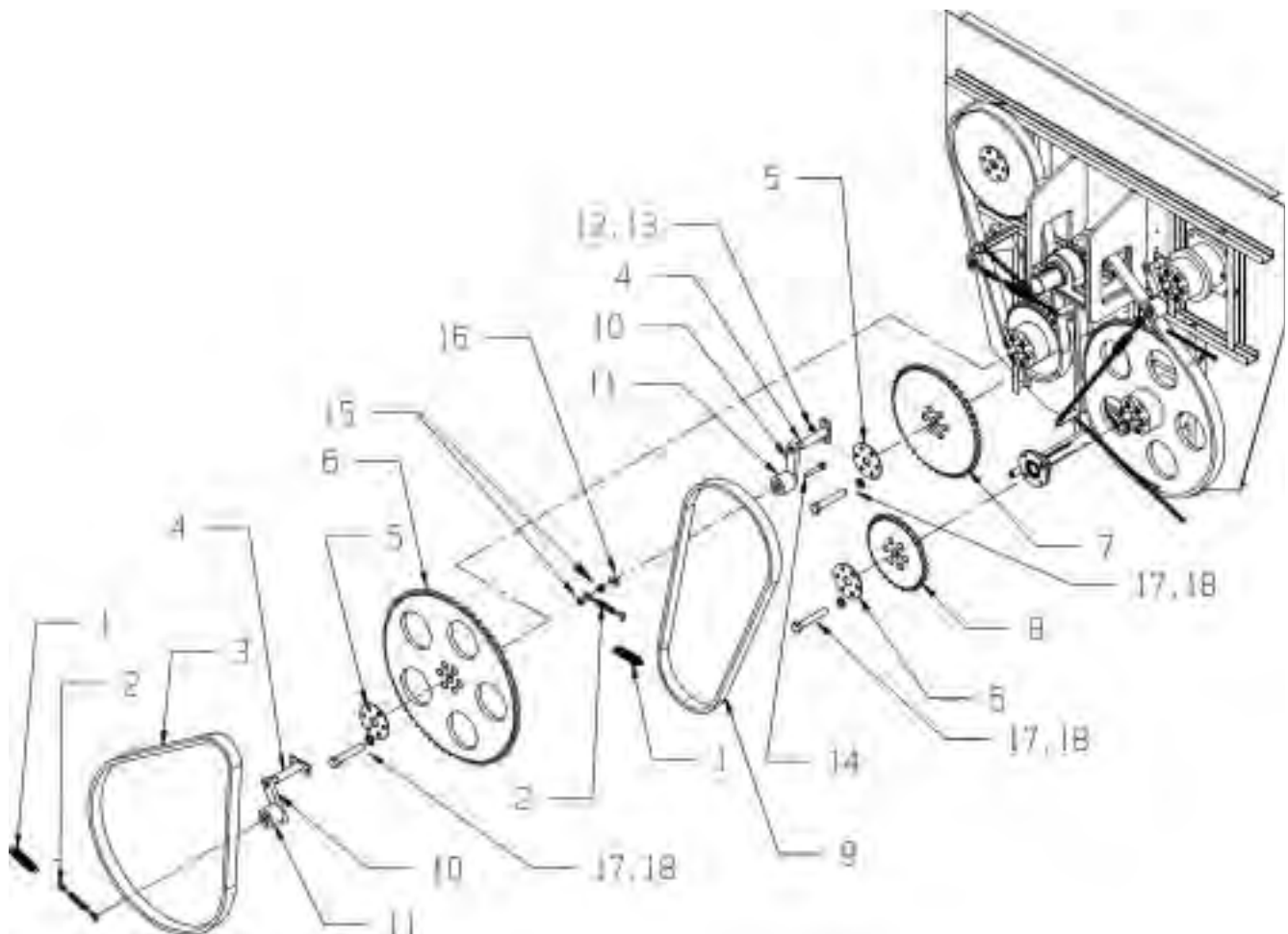
**836246 - 140 Offset**



## TOP LEFT AND BOTTOM RIGHT AUGER DRIVE

KEY	PART NO.	DESCRIPTION
1	157165	Spring - Ext
2	157048	Turnbuckle 3/8 x 5
3	158885	Chain - #120 x 85P
4	160219	UHMW Idler, 3.5 OD x 3.375"
5	159275	Drive End Plate
6	158867	Tube Key - Short
7	158881	Sprocket - 120A45 x 1.75 Bore, 6 Bolt
8	158808	Rear Auger Bearing Assembly
8a	158812	Nyloil Bearing Insert - Rear
8b	158813	Oil Seal, 7.5" Dia.
8c	158809	Bearing Housing
10	158878	Bearing 3.5 EC Series PB
11	158875	Jack Shaft
12	158866	Stub Shaft
13	158987	Sprocket Spacer
14	158986	Rear Drive Spacer
15	158868	Tube Key - Long
16	158879	Sprocket - 140A60 x 1.75 Bore, 6 Bolt
17	158884	Chain - #140 x 74P
18	158880	Sprocket - 120A30 x 1.75 Bore, 6 Bolt
19	156298	Flange Bearing, 1.938"
20	159195	Idler Shaft
21	158869	Input Stub Shaft
22	V94128	Bearing Flanged Housed 2 ID
23	158761	Idler Arm
24	158756	Idler Stand - 1.75
25	19226	HHCS, 5/8-11 x 2 ZP, GR5
26	P468	Lock Washer, 5/8" ZP
27	P946	Hex Nut, 5/8-11 ZP
28	P5623	HHCS, 1/2-13 x 1-1/2 ZP, GR5
29	157283	Rubber Washer, 1/2
30	P467	Lock Washer, 1/2 ZP
31	P445	Hex Nut, 1/2-13 ZP
32	P5664	HHCS, 3/4-10 x 4 ZP, GR5
33	P461	Flat Washer, 3/4" ZP
34	P2689	Lock Washer, 3/4" ZP
35	P3233	Hex Nut, 3/4-10 ZP
36	P5603	HHCS, 3/8-16 x 1 ZP, GR5
37	P5614	Flange Nut, 3/8-16
38	P1144	Flat Washer, 5/8" ZP
39	P3039	Lock Nut, 5/8"-11, ZP
40	157792	HHCS, 5/8-11 x 5.5 ZP
41	159370	HHCS, 3/4-10 x 3-1/4 ZN, GR5
42	P2689	Lock Washer, 3/4" ZP
43	P5637	HHCS, 5/8-11 x 2-1/2 ZP, GR5
44	141763	Flange Nut, 5/8-11
45	157072	HHCS 3/8-16 x 5/8 Brass
46	P465	Flat Washer 3/8 ZP
47	156928	Bearing - Spherical 1.938"

## BOTTOM LEFT AND TOP RIGHT AUGER DRIVE



**Not Illustrated:**

**Roller Chain Connector Links**

**830875 - 120 Connector**

**830876 - 120 Offset**

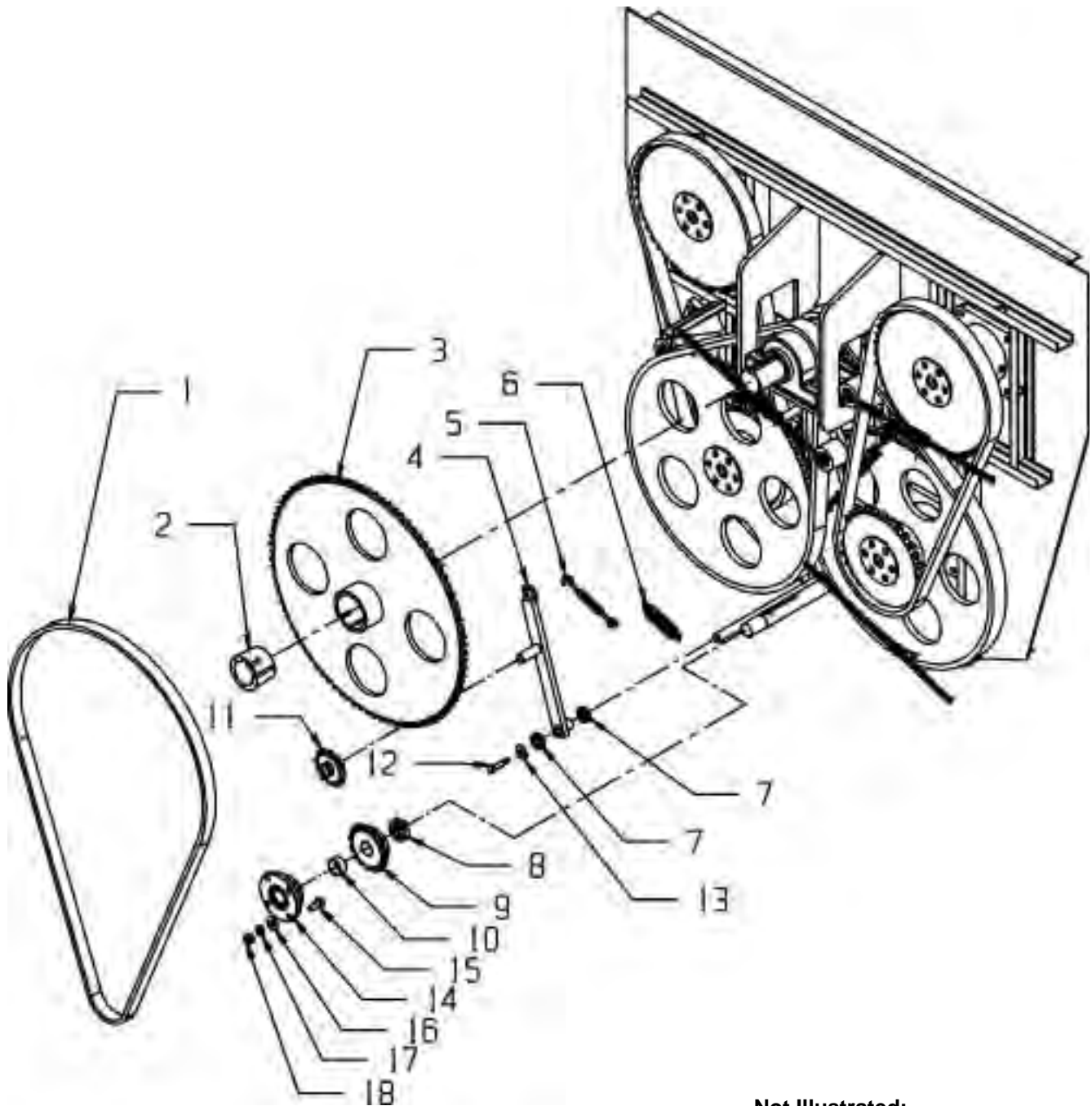
**836245 - 140 Connector**

**836246 - 140 Offset**

## BOTTOM LEFT AND TOP RIGHT AUGER DRIVE

KEY	PART NO.	DESCRIPTION
1	157165	Spring - Ext
2	157048	Turnbuckle 3/8 x 5
3	158884	Chain - #140 x 74P
4	158770	Weld - Idler Stand 6.375
5	159275	Drive End Plate
6	158879	Sprocket - 140A60 x 1.75 Bore, 6 Bolt
7	158881	Sprocket - 120A45 x 1.75 Bore, 6 Bolt
8	158880	Sprocket - 120A30 x 1.75 Bore, 6 Bolt
9	158885	Chain - #120 x 85P
10	158761	Idler Arm
11	160219	UHMW Idler, 3.5 OD x 3.375"
12	P5603	HHCS, 3/8-16 x 1 ZP, GR5
13	P5614	Flange Nut, 3/8-16 ZP
14	157792	HHCS, 5/8-11 x 5.5 ZP
15	P3039	Hex Nut, 5/8-11 ZP
16	P1144	Flat Washer, 5/8 ZP
17	159369	HHCS, 3/4-10 x 7-1/2 ZN, GR5
18	P2689	Lock Washer, 3/4 ZP

## PRIMARY DRIVE REDUCTION



**Not Illustrated:**

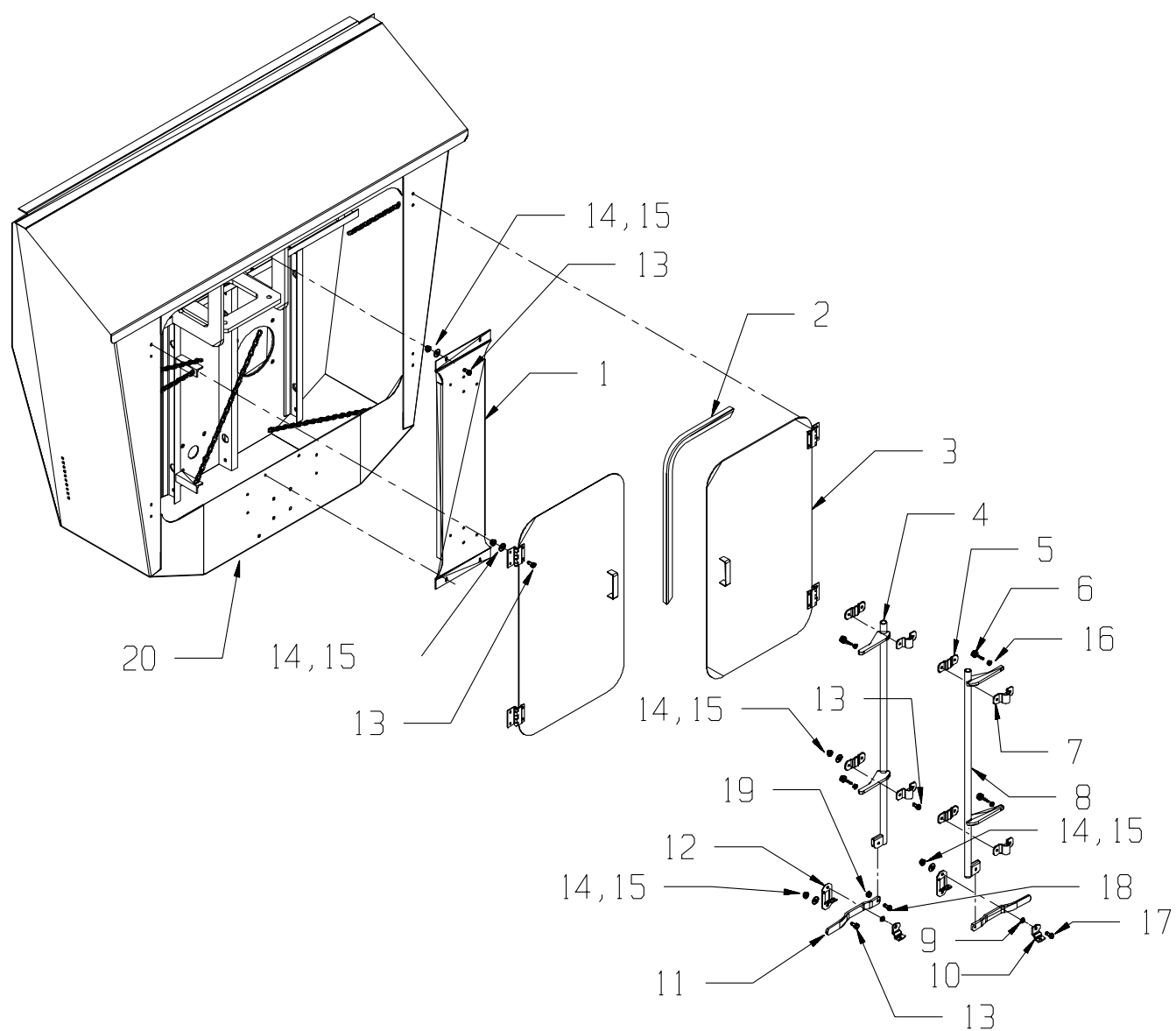
**Roller Chain Connector Links**

**830872 - 100 Connector**

## PRIMARY DRIVE REDUCTION

KEY	PART NO.	DESCRIPTION
1	158886	Chain - #100 x 122P
2	158985	Bush - #3535 x 3.5 Bore Taper
3	158874	Sprocket - 100BTL90 x 3535 Bush
4	159193	Idler Arm
5	157048	Turn Buckle 3/8 x 5
6	157165	Spring, Extension
7	141691	Shaft Clamp Collar, 1.25"
8	159036	Shaft Clamp Collar, 2.0"
9	158873	Sprocket 100B-16
10	159037	Spacer - 2.375 OD x .154W x 1
11	159194	Sprocket - Idler 100 x 12
12	19225	HHCS, 1/2-13 x 2 ZP, GR5
13	157283	Rubber Washer, 1/2"

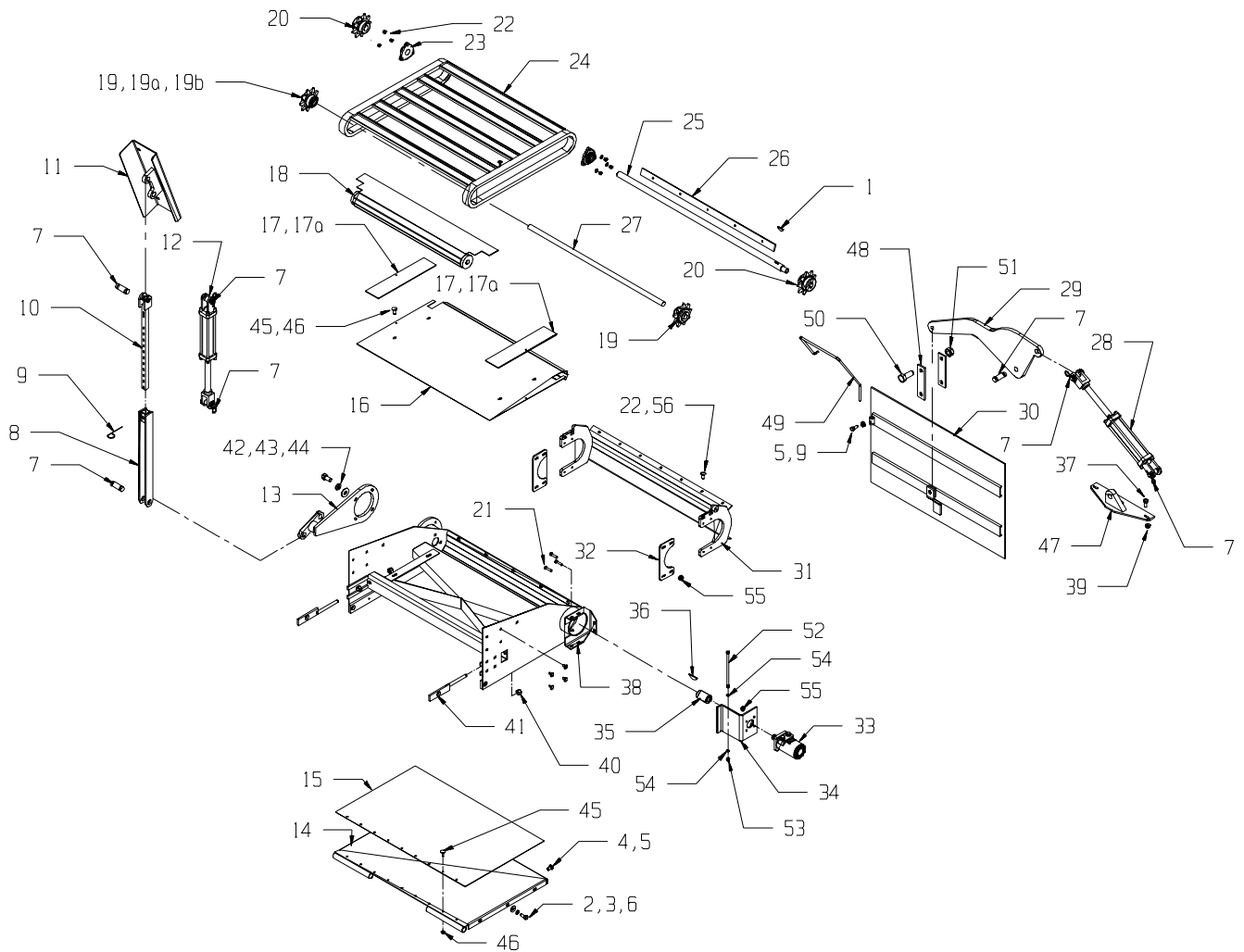
## REAR DOOR



## REAR DOOR

KEY	PART NO.	DESCRIPTION
1	159188	OB Door Center Support
2	159468	Door Trim 12 Ft.
3	159184	Oil Bath Door
4	159200	Oil Bath Door Rod LH
5	159462	Door Rod Back Plate
6	159469	Adjustable Leveling Leg
7	159461	Door Rod Top Plate
8	159199	Oil Bath Door Rod RH
9	159463	Seal Pin Bushing
10	159464	Seal Pin Top Plate
11	159466	Door Handle
12	159465	Seal Pin Bottom Plate
13	P5511	HHCS, 3/8-16 x 3/4" ZP
14	157857	Rubber Washer, 3/8"
15	P5614	Flange Nut, 3/8-16 ZP
16	141785	Flange Nut, 5/16-18 ZP
17	P5603	HHCS, 3/8-16 x 1 ZP, GR5
18	P5512	HHCS, 3/8-16 x 1-1/4 ZP, GR5
19	P3060	Lock Nut, 3/8-16 ZP
20	157089	Plastic Pipe Plug, 1-1/4"

## 40" CONVEYOR AND DOOR



**40" Extended 16 Slat Conveyor Assembly  
#160107**

**40" Standard 10 Slat Conveyor Assembly  
#159363**

**Not Illustrated:**

**40" Conveyor**

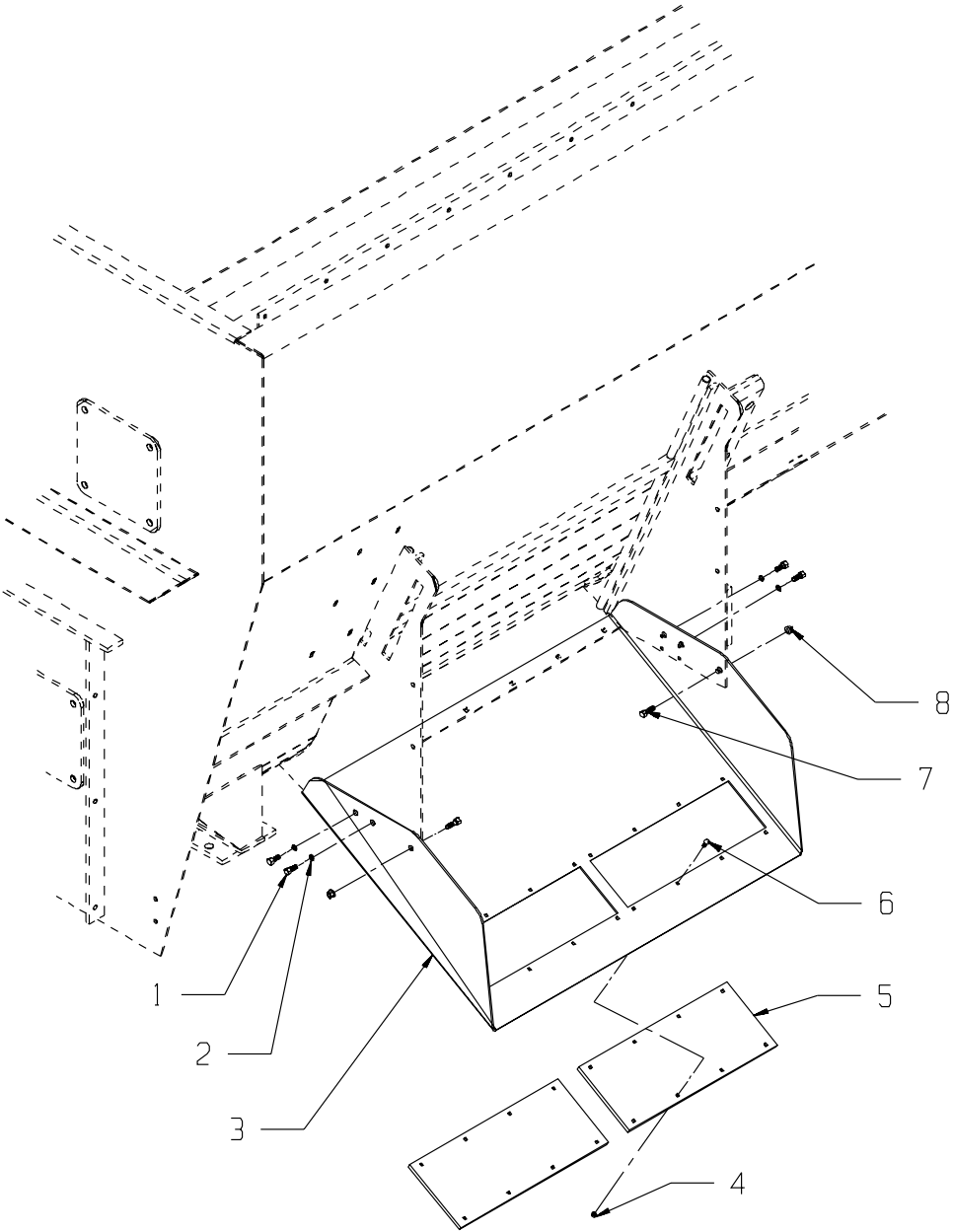
**823731 - Repair Slat  
820547 - Repair Link**



## 40" CONVEYOR AND DOOR

KEY	PART NO.	DESCRIPTION	KEY	PART NO.	DESCRIPTION
1	157109	Woodruff Key	26	842181	Conveyor Real Seal
2	V120834	HHCS, 5/16-18 x 1/2 PLT	27	842130	Idler Shaft
3	P564	Lock Washer, 5/16 ZP	28	158882	Cylinder, 2" x 8"
4	153336	Carriage Bolt, 5/16-18 x 1/2 ZP (Short Neck)	29	158842	Door Arm
5	141785	Flange Nut, 5/16-18 ZP	30	158803	Door
6	P457	Flat Washer, 5/16 ZP	31	159145	Conveyor Mounting Bracket
7	157040	Clevis Pin w/Clip, 1.0 x 2-3/8	32	156960	Conveyor Mounting Cap
8	157077	Fold Limiter Arm	33	156997	Hydraulic Motor
9	P589	HHCS, 5/16-18 x 3/4 ZP	34	157097	Hydraulic Motor Mounting Bracket
10	156775	Fold Limit Bar	35	157045	Hydraulic Motor Coupling
11	159261	Cylinder Mount	36	V90721	Woodruff Key - 1/4 x 1
12	157003	Cylinder, 2 x 12"	37	P5512	HHCS, 3/8-16 x 1-1/4
13	159335	Fold Limiter Lift Arm	38	826295	Conveyor Shell - 40" (Std)
14	826293	Conveyor Pan Bottom (Std)		160108	Conveyor Shell - 40" (Ext)
	160114	Conveyor Pan Bottom (Ext)	39	P5614	Flange Nut, 3/8-16
15	842193	Conveyor Pan Bottom Liner (Plastic) (Std)	40	157104	Hex Nut, 5/8-11 SS
	160116	Conveyor Pan Bottom Liner (Plastic) (Ext)	41	144136	Chain Take Up Adjuster
16	842186	Conveyor Pan Top (Std)	42	P5630	HHCS, 1/2-13 x 1-1/4 ZP, GR5
	160113	Conveyor Pan Top (Ext)	43	P467	Lock Washer, 1/2 ZP
17	842933	Conveyor Pan Glide Strips (Std)	44	P861	Flat Washer, 1/2 ZP
	160119	Conveyor Pan Glide Strips (Ext)	45	157108	Elev. Bolt, 1/4-20 x 3/4 ZP
17a	144142	Double Coated Foam Tape (18 Inches)	46	141766	Flange Nut, 1/4-20 ZP
18	826220	Floor Extension	47	158751	Door Cylinder Lug
19	156949	Idler Sprocket Assembly	48	158843	Door Connecting Link
19a	152485	Idler Sprocket	49	157160	Door Position Indicator
19b	152486	Idler Sprocket Sleeve	50	19510	HHCS, 3/4-10 x 2 ZP, GR5
20	156950	Conveyor Drive Sprocket	51	P1150	Lock Nut, 3/4-10 ZP
21	P5129	Carriage Bolt, 3/8-16 x 1-1/4 ZP	52	112701	HHCS, 3/8-16 x 8" ZP
22	141785	Flange Nut, 5/16-18 ZP	53	P3060	Lock Nut, 3/8-16 ZP
23	156889	Flange Bearing, 1.25" 3 Hole	54	P458	Flat Washer, 3/8
24	826247	Chain & Slat, 40" (Std)	55	840667	HH Serrated Flange, 3/8-16 x 3/4" ZP
	160117	Chain & Slat, 40" (Ext)	56	P5657	Carriage Bolt, 5/16-18 x 1-1/4 ZP, GR5
25	840100	Conveyor Drive Shaft			

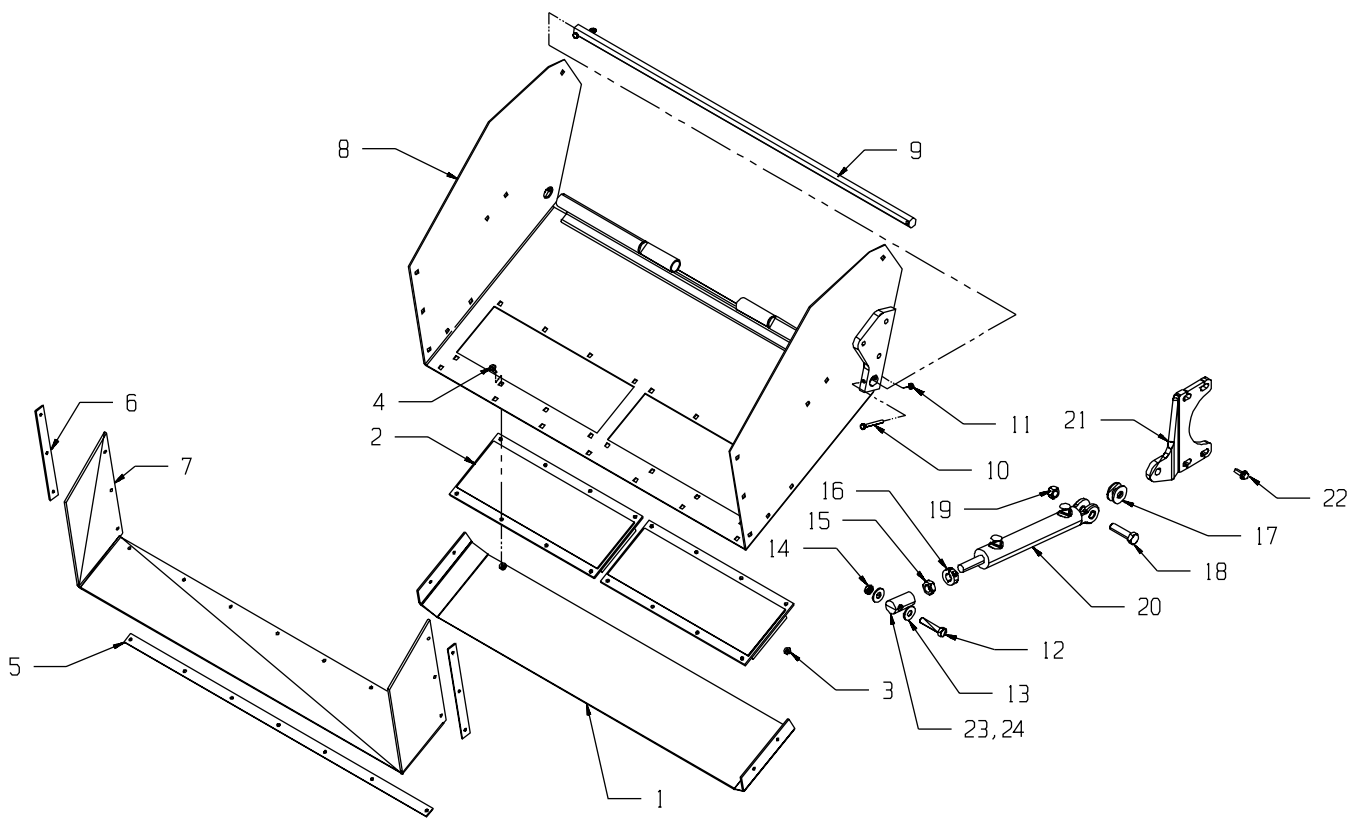
GRAVITY SLIDE CONVEYOR



## GRAVITY SLIDE CONVEYOR

KEY	PART NO.	DESCRIPTION
1	V121852	HHCS, 3/8-16 x 1/2 ZP
2	P465	Lock Washer, 3/8 ZP
3	160144	Gravity Chute, 40"
4	141766	Flange Nut 1/4-20 ZP
5	157293	Magnet
6	P5101	Carriage Bolt 1/4-20 x 3/4 ZP
7	P592	HHCS, 3/8-16 x 1 ZP
8	P5614	Hex Nut, 3/8-16 ZP Ser. Flange

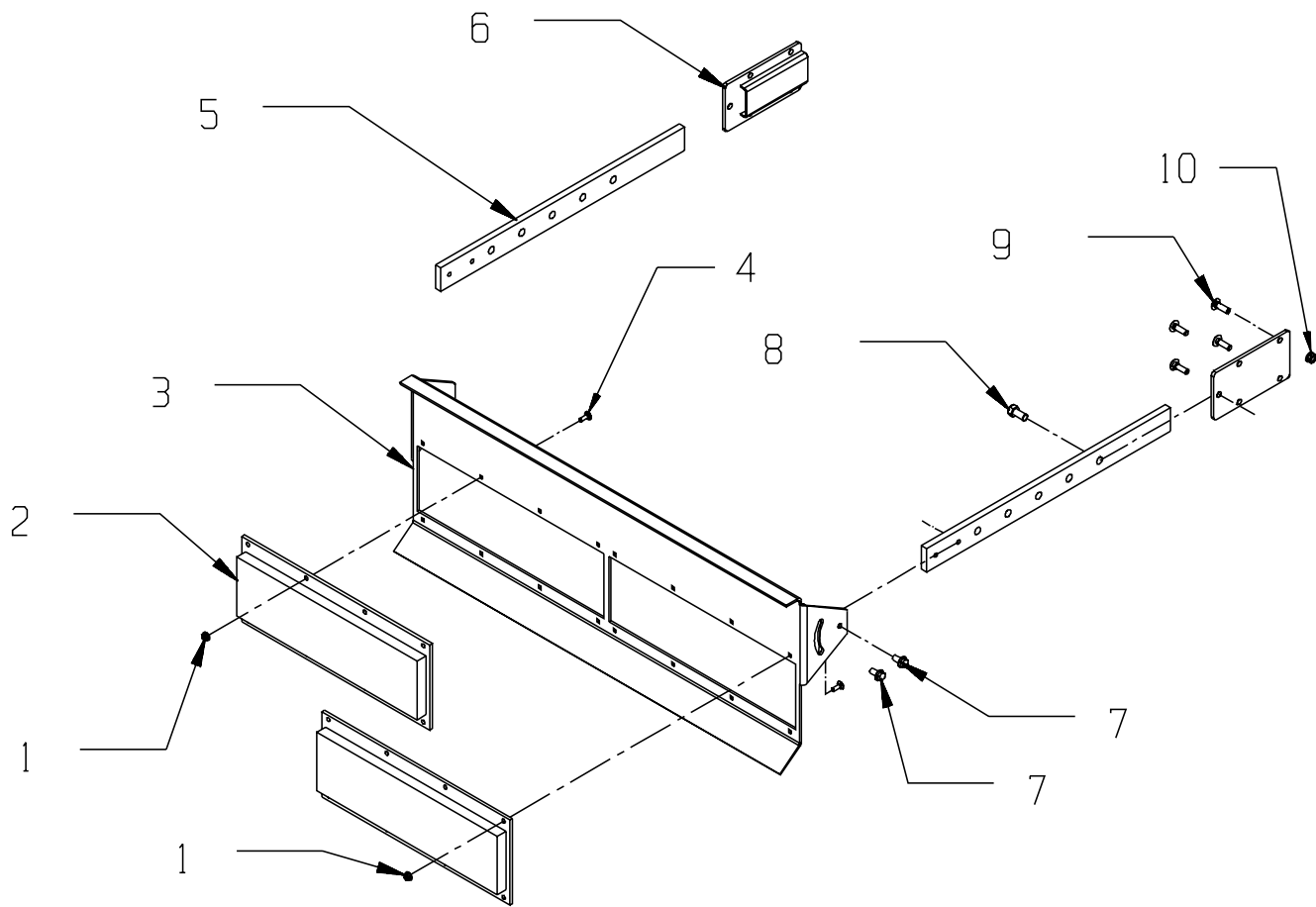
## CHUTE EXTENSION



## CHUTE EXTENSION

KEY	PART NO.	DESCRIPTION
1	840918	Guard, Magnet
2	157293	Magnet, Folding Chute
3	141766	Nut, Hex 1/4-20 Serrated Flange
4	P5101	Bolt, Carriage 1/4-20 x .75
5	836626	Strap Chute, Long
6	836649	Strap Chute, Short
7	836627	Strip, Chute, Rubber
8	826037	Weld Conveyor Chute
9	143616	Rod, Chute Hinge
10	V121966	HHCS, 1/4-20 x 2-1/2, GR5
11	P2950	Nut, Hex 1/4-20 Lock, Yellow
12	115007	Screw, HHCS 1/2-13 x 2.5 ZP, GR5
13	P861	Wash - 1/2 Type A Wide Flat
14	P3430	Nut, Hex 1/2-13 Jam ZP
15	157276	Nut, Hex 3/4-16 Jam ZP
16	160439	Collar Shaft Clamp
17	P1144	Wash - 5/8 Type A Wide Flat
18	P5637	Screw, HHCS 5/8-11 x 2.5 ZP, GR5
19	P3039	Nut, Hex 5/8-11 Lock Yellow
20	822767	Cylinder Hydraulic 1-1/2 x 8
21	160437	Mount Chute Cylinder
22	840671	Screw HH Serrated Flange 3/8-16 x 1.0, GR5
23	160435	Extension - Standard Conveyor
24	160436	Extension - Extended Conveyor

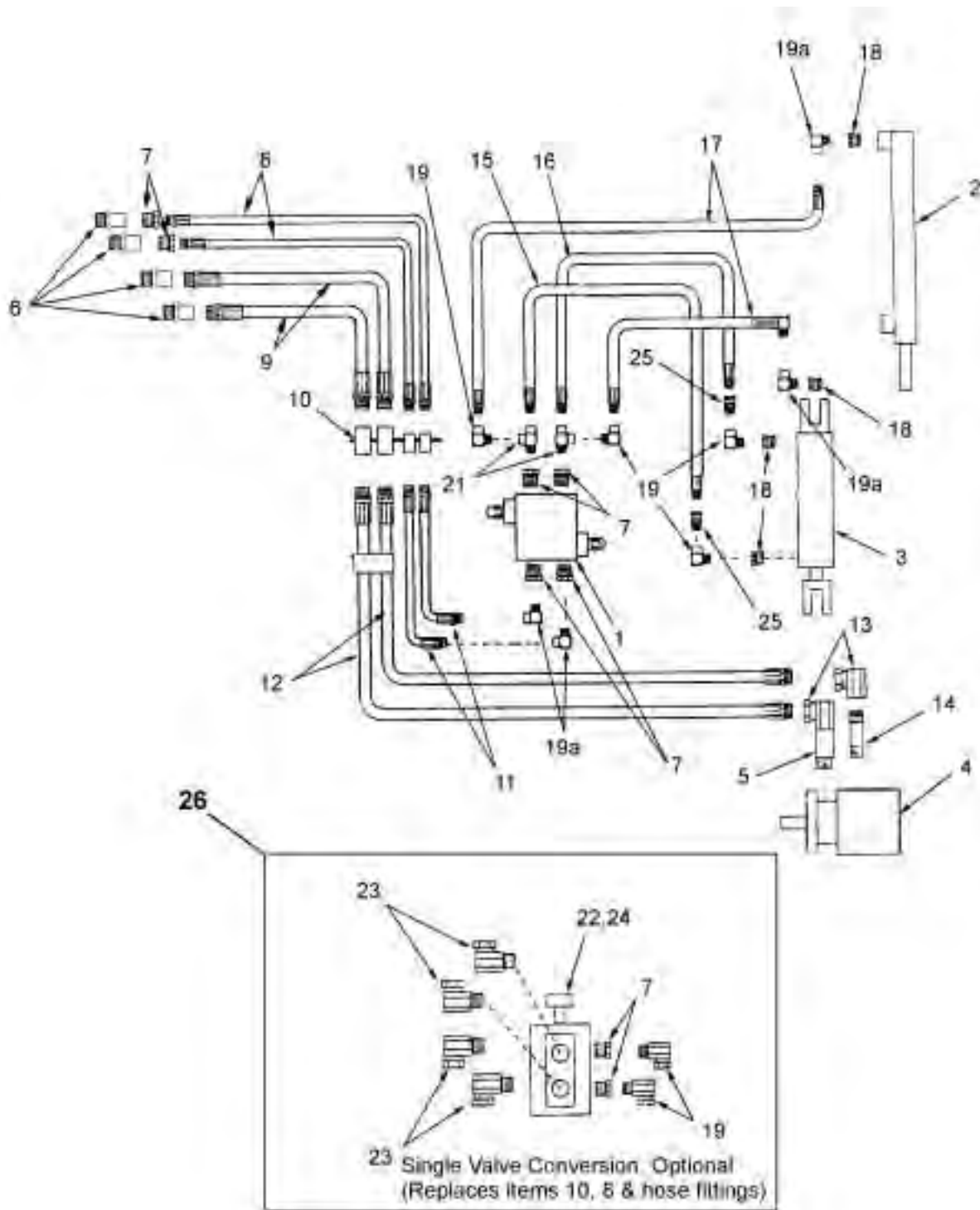
BAFFLE



## BAFFLE

KEY	PART NO.	DESCRIPTION
1	141766	Flange Nut, 1/4-20 ZP
2	157293	Magnet
3	159172	Discharge Baffle
4	P5101	Carriage Bolt, 1/4-20 x .75 ZP
5	157656	Support Arm
6	157657	Support Bracket
7	840667	HH Serrated Flange, 3/8-16 x 1-1/2
8	P2670	HHCS, 1/2-13 x 1 ZP, GR2
9	P5129	Carriage Bolt, 3/8-16 x 1-1/4 ZP
10	P5614	Flange Nut, 3/8-16 ZP

# TRAILER HYDRAULIC COMPONENTS - STANDARD AND EXTENDED CONVEYOR





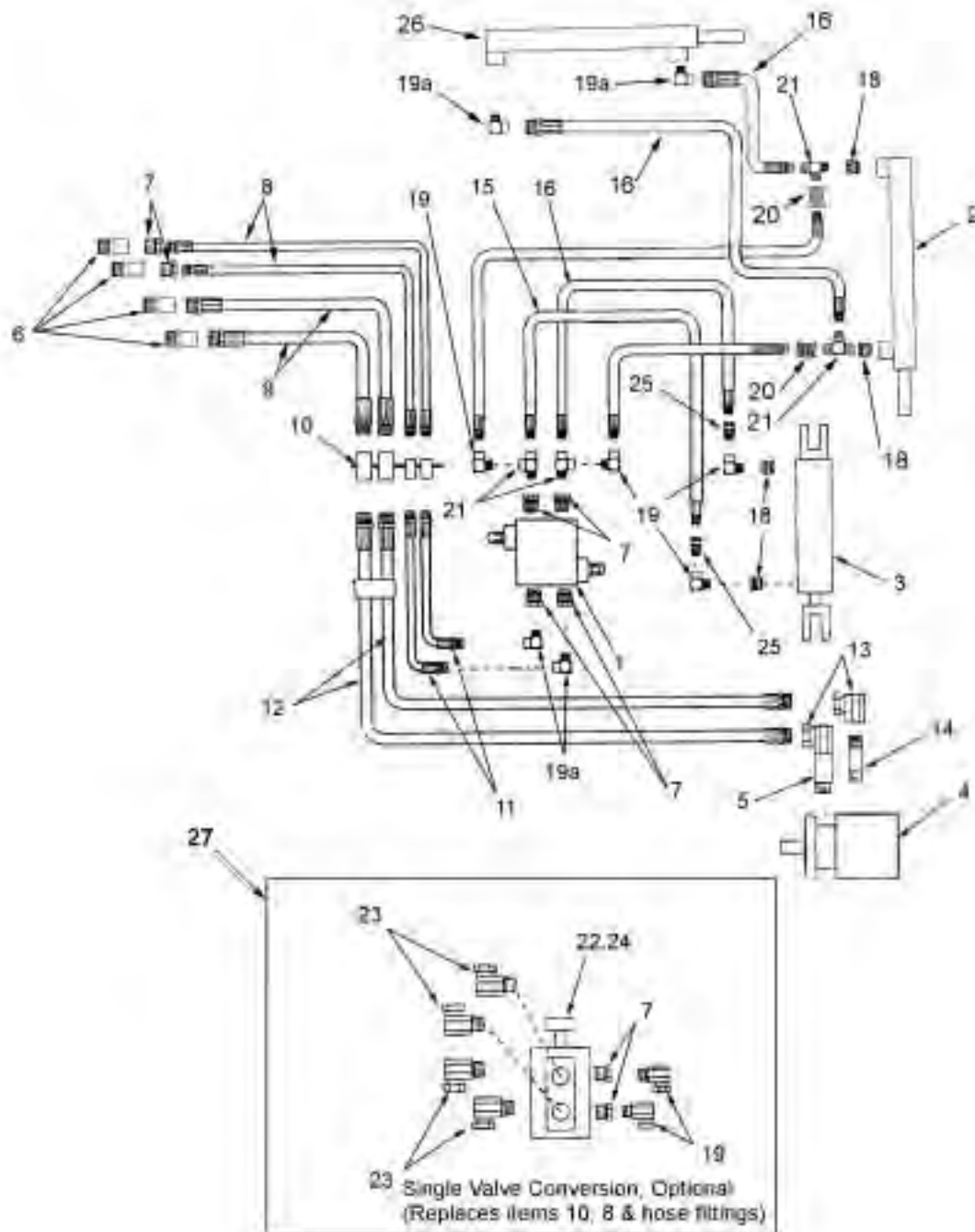
## TRAILER HYDRAULIC COMPONENTS - STANDARD AND EXTENDED CONVEYOR

KEY	PART NO.	DESCRIPTION
1	157002	Hydraulic Crossover Relief Valve
2	158882	Hydraulic Cylinder (2" x 8") (Door)
3	157003	Hydraulic Cylinder (2" x 12") (Conveyor)
4	156997	Hydraulic Motor
5	157001	In Line Check Valve
6	157403	Hydraulic Male Connector
7	95433	Bushing, 1/2 to 1/4
8	157877	Hydraulic Hose, 3/8 x 76"
9	157876	Hydraulic Hose, 1/2 x 76"
10	157372	Connector Blank
11	156992	Hydraulic Hose, 3/8 x 45"
12	157051	Hydraulic Hose, 1/2 x 106"
13	156998	90° Swivel Female Elbow (1/2 NPT)
14	157044	Pipe Nipple, 1/2 NPT x 4.0"
15	156991	Hydraulic Hose, 3/8 x 36
16	156992	Hydraulic Hose, 3/8 x 45
17	159946	Hydraulic Hose, 3/8 x 114
18	146537	Bushing, 3/8 to 1/4
19	156984	Steel Street Elbow, 1/4" NPT
19a	159714	90° Swivel, 1/4-18 (Replaces Items 19 and 20)
20	156999	Hose Swivel, 1/4 to 1/4"
21	157000	Hydraulic Service Tee
22	157410	Selector Valve, Hand Operated
23	VH040304	Steel Street Elbow, 1/2" NPT
24	157887	Single Source Hydraulic Valve Mounting Bracket
25	156924	Restrictor Adapter
26	157370	Single Valve Conversion Kit

**NOTE:** A combination of (1) item 19 and (1) item 20 can be used to replace item 19a.

**NOTE:** Check valve (item 5) installed with      towards motor.

## TRAILER HYDRAULIC COMPONENTS - CONVEYOR WITH CHUTE

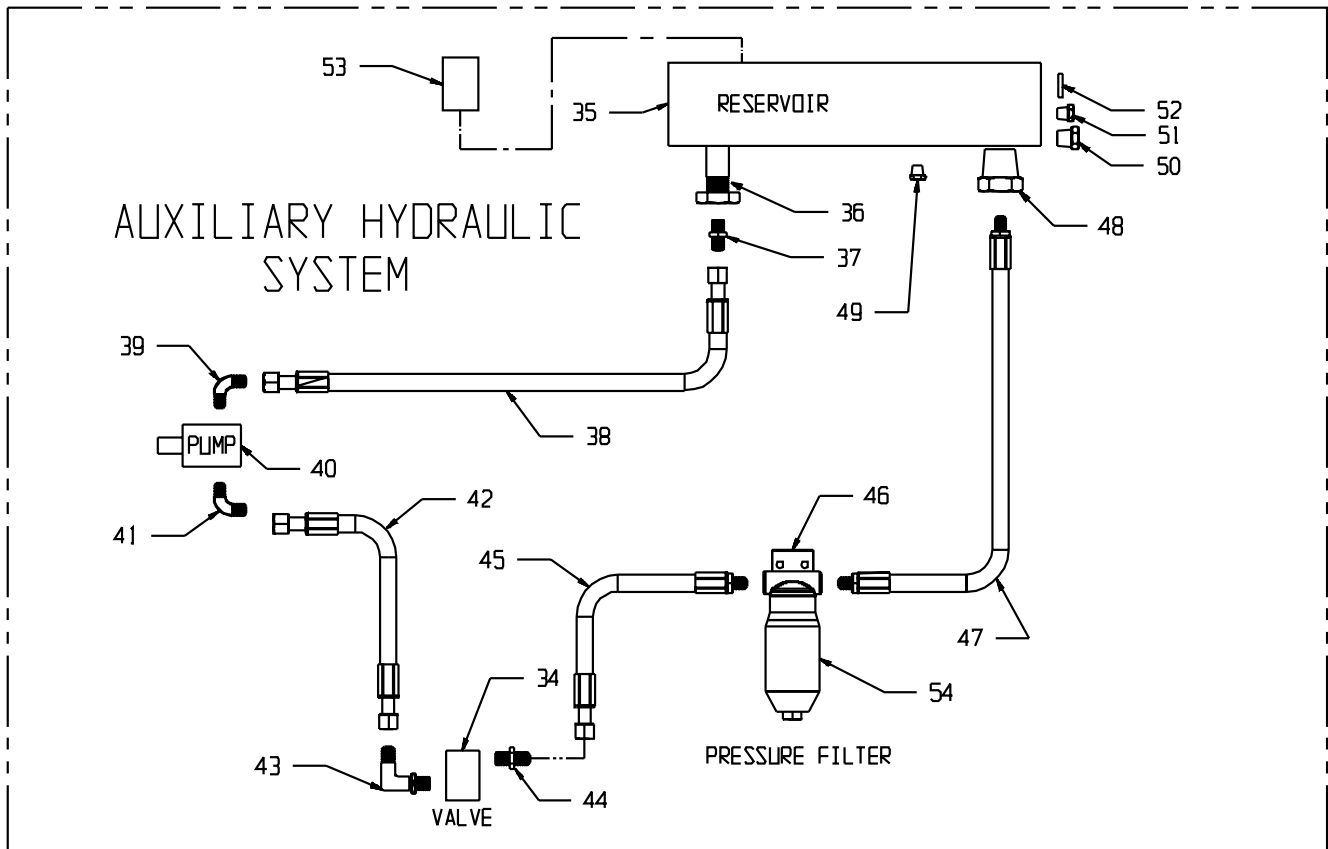
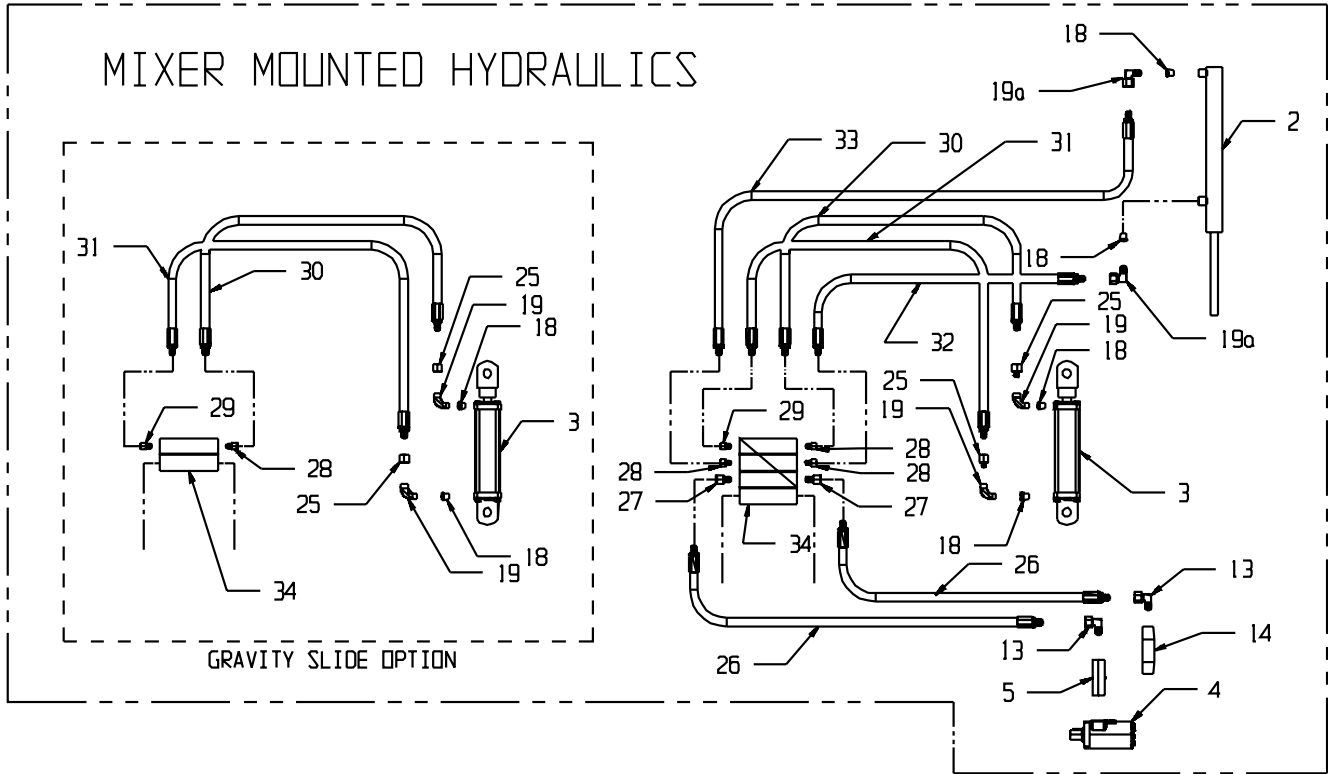


## TRAILER HYDRAULIC COMPONENTS - CONVEYOR WITH CHUTE

KEY	PART NO.	DESCRIPTION
1	157002	Hydraulic Crossover Relief Valve
2	158882	Hydraulic Cylinder (2" x 8") (Door)
3	157003	Hydraulic Cylinder (2" x 12") (Conveyor)
4	156997	Hydraulic Motor
5	157001	In Line Check Valve
6	157403	Hydraulic Male Connector
7	95433	Bushing, 1/2 to 1/4
8	157877	Hydraulic Hose, 3/8 x 76"
9	157876	Hydraulic Hose, 1/2 x 76"
10	157372	Connector Blank
11	156992	Hydraulic Hose, 3/8 x 45"
12	157051	Hydraulic Hose, 1/2 x 106"
13	156998	90 Swivel Female Elbow (1/2 NPT)
14	157044	Pipe Nipple, 1/2 NPT x 4.0"
15	156991	Hydraulic Hose, 3/8 x 36
16	156992	Hydraulic Hose, 3/8 x 45
17	159946	Hydraulic Hose, 3/4 x 114
18	146537	Bushing, 3/8 to 1/4
19	156984	Steel Street Elbow, 1/4" NPT
19a	159714	90 Swivel, 1/4-18 (Replaces Items 19 and 20)
20	156999	Hose Swivel, 1/4 to 1/4"
21	157000	Hydraulic Service Tee
22	157410	Selector Valve, Hand Operated
23	VH040304	Steel Street Elbow, 1/2" NPT
24	157887	Single Source Hydraulic Valve Mounting Bracket
25	156924	Restrictor Adapter
26	822767	Hydraulic Cylinder (1.5" x 8") Chute
27	157370	Single Valve Conversion Kit

**NOTE:** A combination of (1) item 19 and (1) item 20 can be used to replace item 19a.

# TRUCK HYDRAULIC COMPONENTS



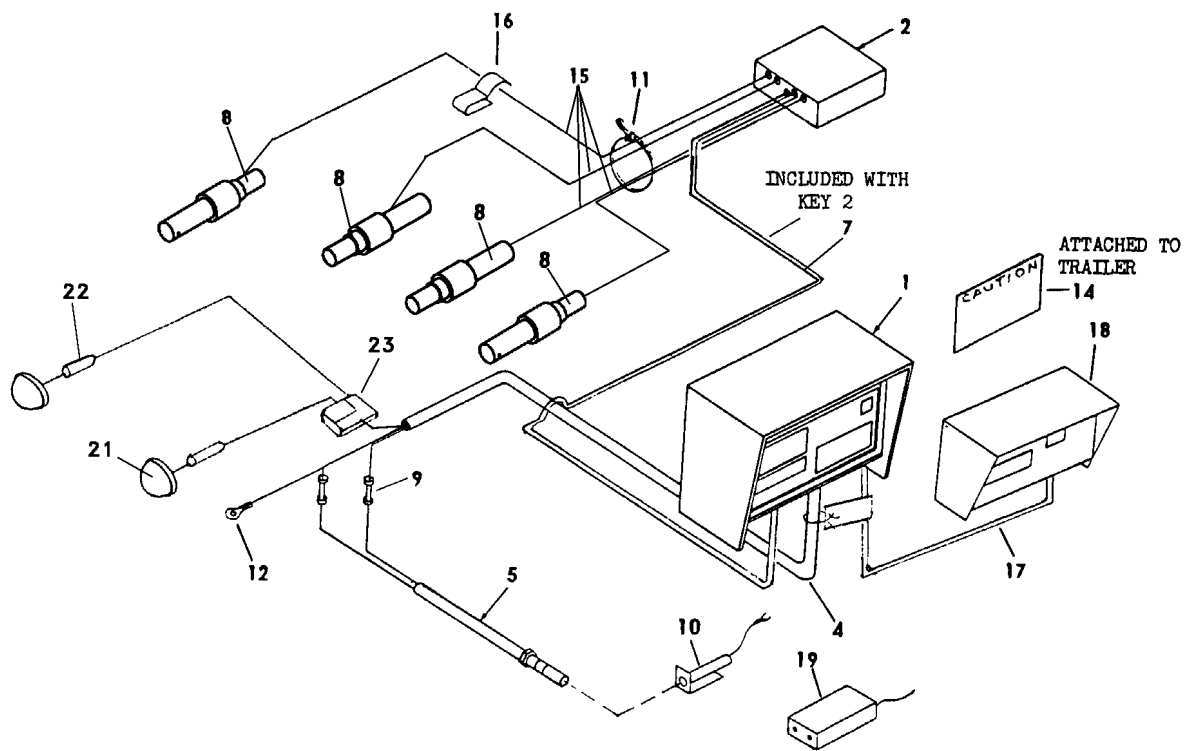
## TRUCK HYDRAULIC COMPONENTS

KEY	PART NO.	DESCRIPTION
2	157003	Hydraulic Cylinder (2" x 12") (Conveyor)
3	158882	Hydraulic Cylinder (2" x 8") (Door)
4	156997	Hydraulic Motor
5	157001	In Line Check Valve
13	156998	90 Swivel Female Elbow (1/2 NPT)
14	157044	Pipe Nipple, 1/2 NPT x 4.0"
18	146537	Bushing, 3/8 to 1/4
19	156984	Steel Street Elbow, 1/4" NPT
19a	159714	90 Swivel, 1/4-18 (Replaces Items 19 and 20)
20	156999	Hose Swivel, 1/4 to 1/4"
25	156924	Restrictor Adapter
26	157876	Hydraulic Hose, 1/2 x 76
27	160281	Pipe Union - O-Ring
28	160282	Pipe Union - O-Ring
29	160256	Pipe Elbow - O-Ring
30	159946	Hydraulic Hose, 3/8 x 114
31	160258	Hydraulic Hose, 3/8 x 94
32	835268	Hydraulic Hose, 3/8 x 28
33	156991	Hydraulic Hose, 3/8 x 36
34	160079	Valve, 3 Section 12V, 12GPM
35	160078	Reservoir, 10 gal. Hydraulic
36	160353	Suction Strainer
37	160364	Hydraulic Fitting - Adapter 20MPL-20MJ90
38		1-1/4 Hydraulic Hose - Length and Fittings Varies with Truck
39	160374	Hydraulic Fit - Adapter 20MJ-20MB 90
40		Clutch Pump (Contact Manufacturer)
41	160376	Hydraulic Fitting Hose - 12-12MB 90
42		3/4 Hydraulic Hose - Length and Fittings Varies with Truck
43	160366	Hydraulic Fitting - Adapter 12MJ-10MB 90
44	160378	Hydraulic Fitting - Adapter 12MJ-10MB
45		3/4 Hydraulic Hose - Length and Fittings Varies with Truck
46	VH040279	Pressure Filter Assembly
47	160383	Hydraulic Hose w/Fittings - 3/4" x 18"
48	160382	Pipe Bushing - Hex 3/4 x 2
49	160356	3/4" Magnetic Drain Plug
50	40014	2" NPT Pipe Plug, Galv.
51	96192	1-1/4" NPT Pipe Plug, Galv.
52	160355	Sight, Level, Temperature Gauge
53	160354	Screened Filter/Breather
54	VH040168	Filter Element

**NOTE:** A combination of (1) item 19 and (1) item 20 can be used to replace item 19a.

**NOTE:** Auxiliary Hydraulic System fittings may differ depending on the truck make and model.

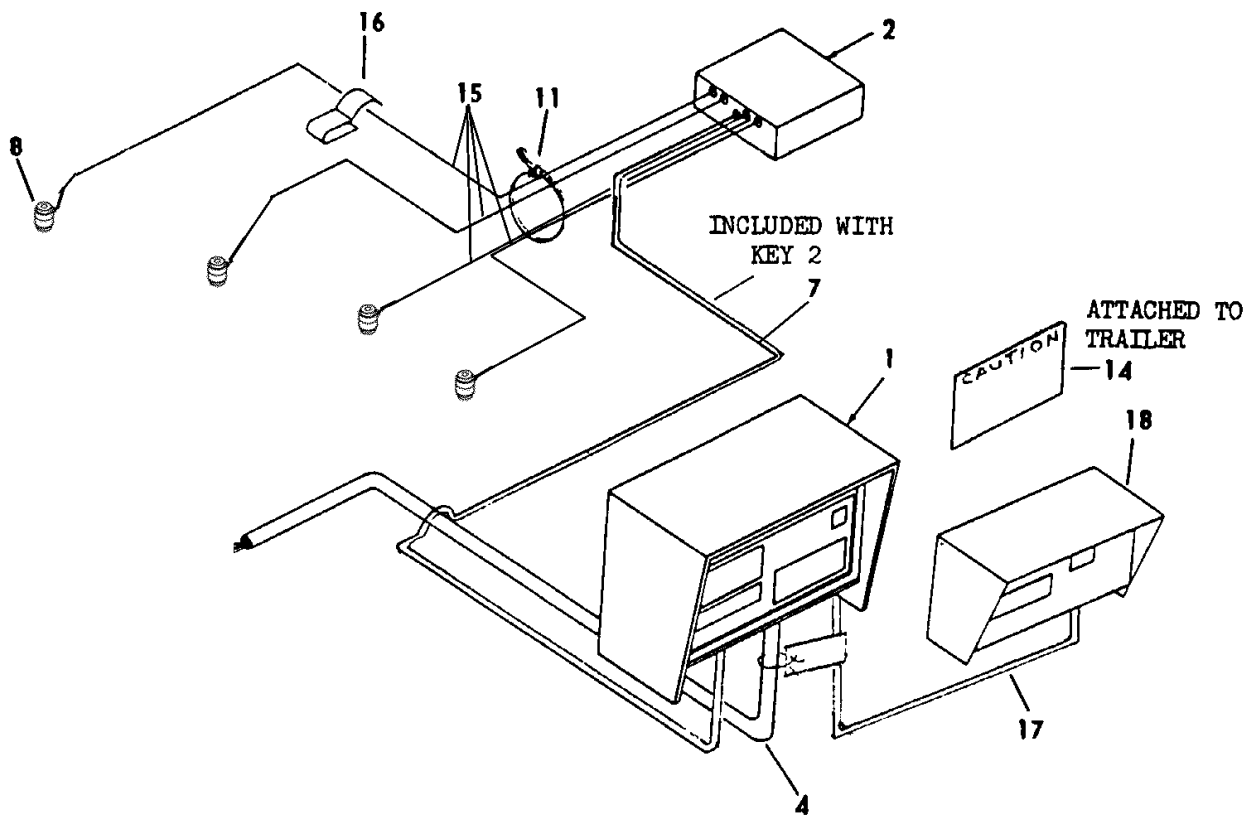
## SCALE COMPONENTS TRAILER & STATIONARY



## SCALE COMPONENTS TRAILER & STATIONARY

KEY	PART NO.	DESCRIPTION
1		Indicator - See Whole Goods Price List
2	141879	Assy 15' Junction Box
4	S146698	Power Cord
5	S824352	Trailer Power Cord
7	824316	Junction Box Cable
8	S146110	Axle Load Cell (includes cable 21' long)
	S153101	CT Scale (CT30KTC) (includes cable 30' long)
9	833535	Butt Connector
10	S141826	Tractor Socket
11	840729	Nylon Tie
12	838753	Terminal, Ring
14	833764	Caution Decal
15	824193	Transducer Cable
16	S830413	Cable Clip
18		Remote Indicator - See Whole Goods Price List
19	S823872	AC-DC Converter
21	S820142	Warning Light
22	833535	Connector
23	837525	Connector 3 Wire

## SCALE COMPONENTS TRUCK

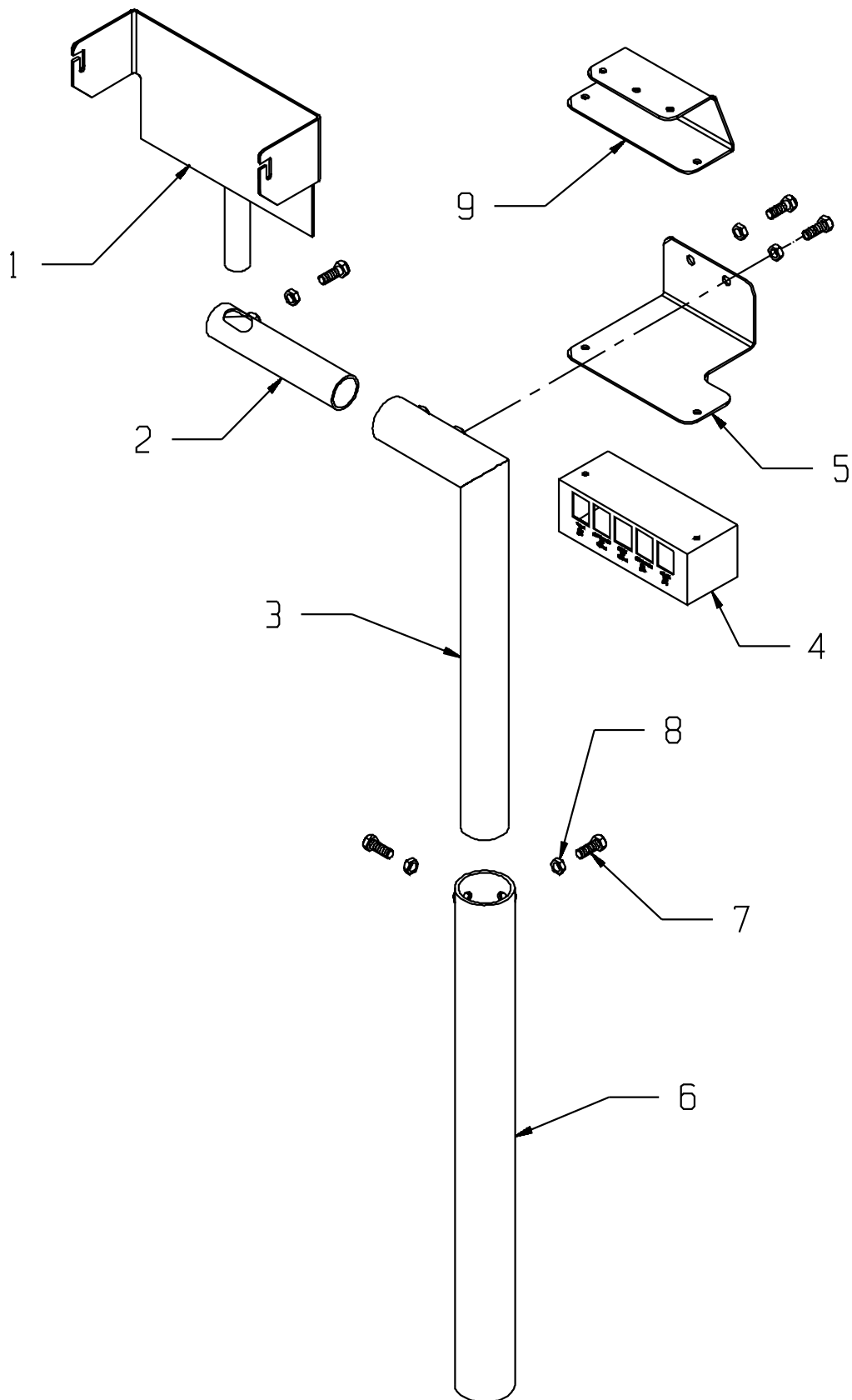




## **SCALE COMPONENTS TRUCK**

<b>KEY</b>	<b>PART NO.</b>	<b>DESCRIPTION</b>
1		Indicator - See Whole Goods Price List
2	141879	Assy 15' Junction Box
4	S146698	Power Cord
7	824316	Junction Box Cable
8	S153101	CT Scale (CT30KTC) (includes cable 30' long)
11	840729	Nylon Tie
14	833764	Caution Decal
15	824193	Transducer Cable
16	S830413	Cable Clip
18	S148158	Remote Indicator - See Whole Goods Price List

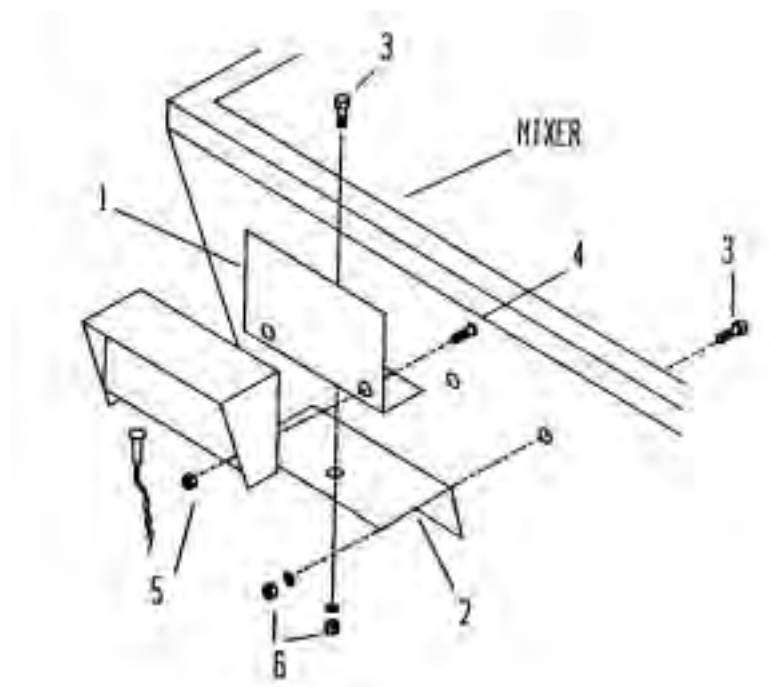
## SCALE INDICATOR MOUNTING - TRUCK MODEL IN CAB



## SCALE INDICATOR MOUNTING - TRUCK MODEL IN CAB

KEY	PART NO.	DESCRIPTION
1	160156	Tyrel Indicator Mount
	160153	EZ Indicator Mount
2	160151	Indicator Extension
3	160152	Indicator Mount
4	160080	5 Function Switch Pack
5	160483	Function Switch Mount
6	N/A	Indicator Mount Base
7	143273	HHCS - 3/8-16 x 1.0 ZP GR5
8	141626	Nut - Hex, 3/8-16 Jam ZP
9	160484	PTO Switch Mount

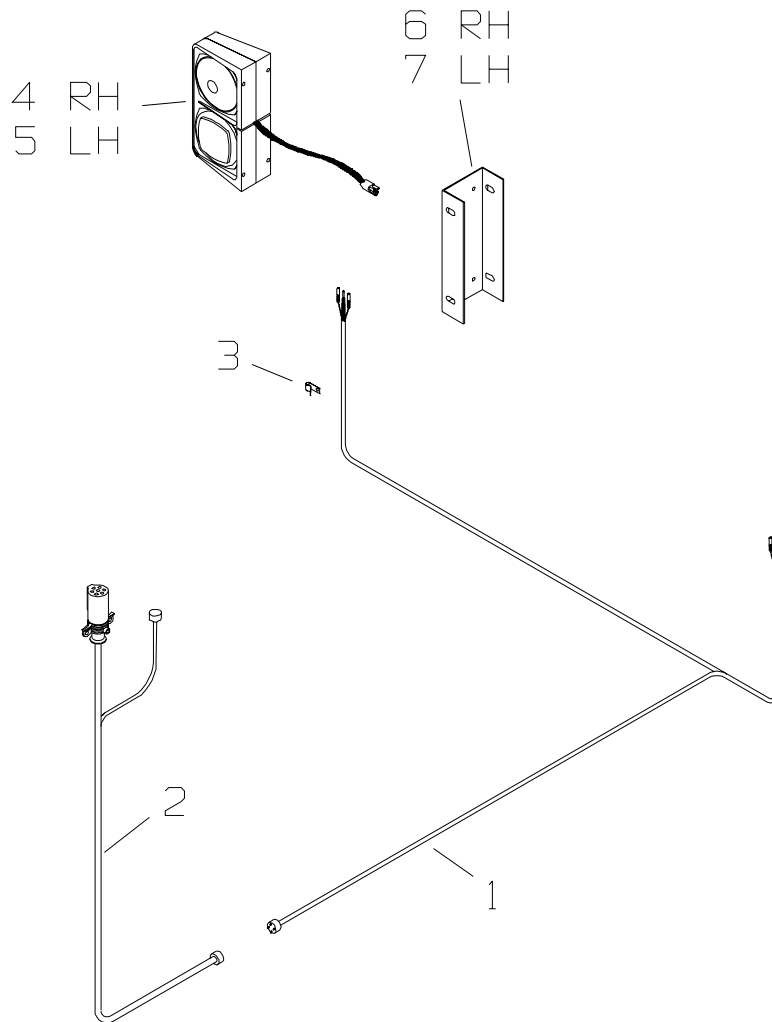
## REMOTE INDICATOR MOUNTING (OPTIONAL)



## REMOTE INDICATOR MOUNTING (OPTIONAL)

KEY	PART NO.	DESCRIPTION
1	157321	Indicator Stand
2	157322	Remote Mount Bracket
3	P592	3/8 x 1 HHCS
4	P317	#10 x 5/8 RHMS
5	P554	#10-24 Hex Nut
6	P5614	3/8 Hex Nut

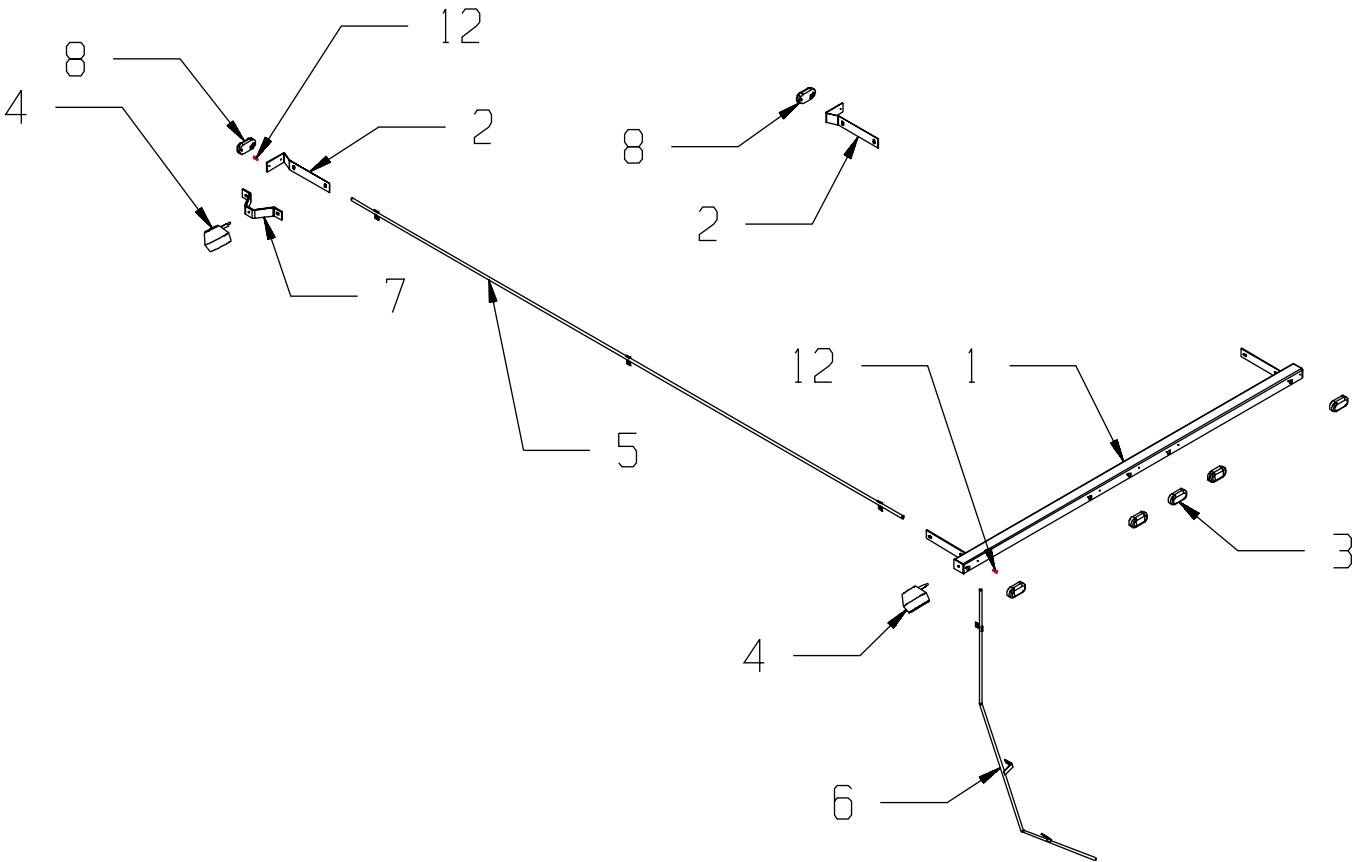
## TRAILER STOP & TAIL LIGHTS



## TRAILER STOP & TAIL LIGHTS

KEY	PART NO.	DESCRIPTION
1	157885	Wiring Harness
2	157884	Trailer To Tractor Wiring Connector
3	PU789	Cord Clip
4	157882	RH Dual Light
5	157883	LH Dual Light
6	157880	RH Light Bracket
7	157881	LH Light Bracket

TRUCK LIGHTS

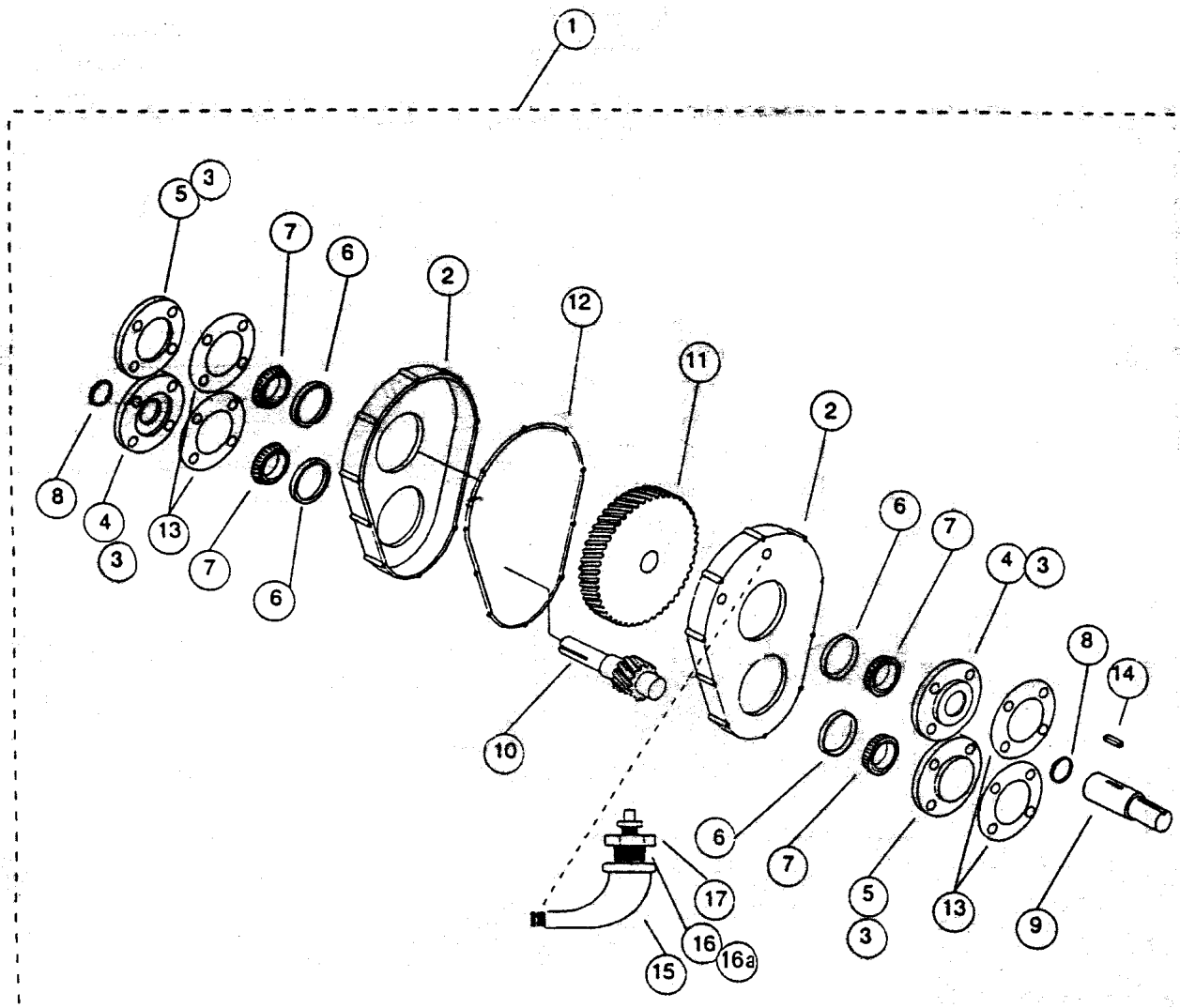




## TRUCK LIGHTS

KEY	PART NO.	DESCRIPTION
1	160028	Weld Light Bar
2	160046	Bracket Light Mount
3	160092	Light, Red Clearance 12V
4	160093	Light, Bunk, Rubber, HSG 12V
5	160137	Conduit-575
	160139	Conduit-500
	160428	Conduit-425
6	160137	Wire Run Conduit
7	160039	Bracket, Bunk Light
8	160091	Light, Amber Clearance 12V
9	160090	Cable, Braided Ground
12	144623	Screw, PHMS #10-32 x 1/2 PH ZP

## 4:1 GEARBOX



## 4:1 GEARBOX

KEY	PART NO.	DESCRIPTION
1	824291	4:1 Gearbox
2	N/A	Case
3	160217	O-Ring
4	831720	Open End Cap
5	831721	Closed End Cap
6	831722	Bearing Cup
7	831723	Bearing Cone
8	831724	Seal
9	831727	Output Shaft
10	840730	Integral Gear & Shaft
11	831726	Output Shaft Gear
12	831728	Case Gasket
13	831729	Shim Pack
14	R188043	Key - 3/8" Sq x 1-7/16"
15	VH040304	Street Elbow - 90° x 1/2"
16	95433	Pipe Bushing - 1/2" x 1/4"
16a	146439	Pipe Bushing - 1/4" x 1/8"
17	PU818	Pressure Relief Vent



## FINAL FACTORY INSPECTION

### General Inspection

### Ready to Ship

- |                              |       |
|------------------------------|-------|
| 1. Finish and Decals         | _____ |
| 2. Wheel Lug Nuts are Tight  | _____ |
| 3. Hardware Tight            | _____ |
| 4. Grease Bank Fully Charged | _____ |
| 5. Guards Properly Installed | _____ |
| 6. Test Run Drive            | _____ |
| 7. Chute and Door Actuation  | _____ |
| 8. Hydraulic System Check    | _____ |

Approved By: \_\_\_\_\_