OPERATOR'S MANUAL & PARTS LIST

Universal Aera-vator
MODEL UA60 & UA80

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Manual Part #: UA50-018

Model - Serial Number
UA60 - 1001 thru 1140
UA80 - 1001 thru 1039
SB60 - 001 thru 148
SB80 - 001 thru 044

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PB01-07
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Operator's Manual

Parts List

Safety Symbols

This is the safety alert symbol. It means: ATTENTION! BECOME ALERT! YOUR SAFETY IS INVOLVED!

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

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

CAUTION
Indicates potentially hazardous situation, which, if not avoided, could result in minor or moderate injury. It may also be used to alert against unsafe practices.

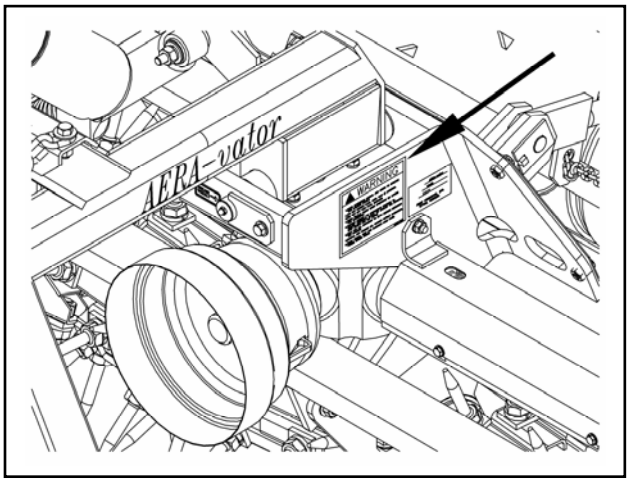
ATTENTION:
Read and understand the instructions and warnings carefully before using this machine.

Safety Decals

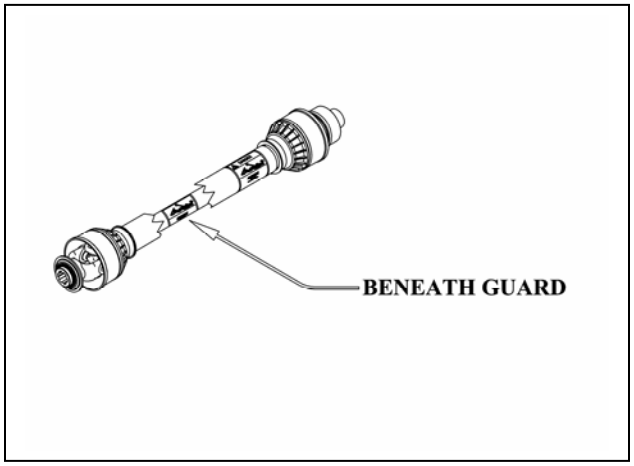
Your implement comes equipped with all safety labels in place. They were designed to help you safely operate your implement.

1. Read and follow decal directions.
2. Keep all safety decals clean and legible.
3. Replace all damaged or missing decals.
4. Refer to this section for proper decal placement.

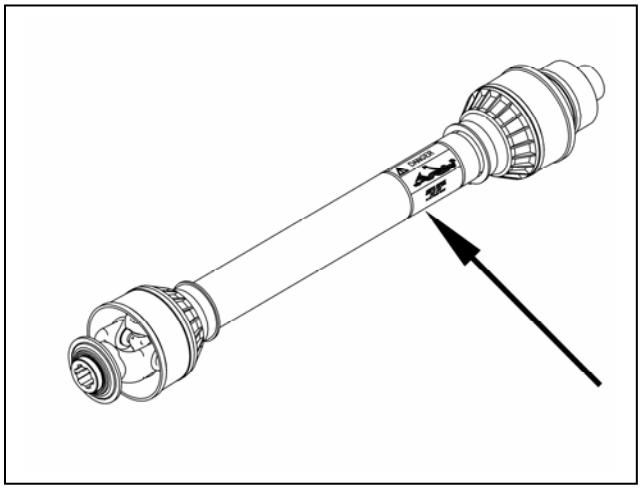
To install new decals:
Clean the area the decal is to be placed. Peel backing from decal. Press firmly on surface being careful not to cause air bubbles under label



AE50-074
General Warning Decal
Both Sides of Frame

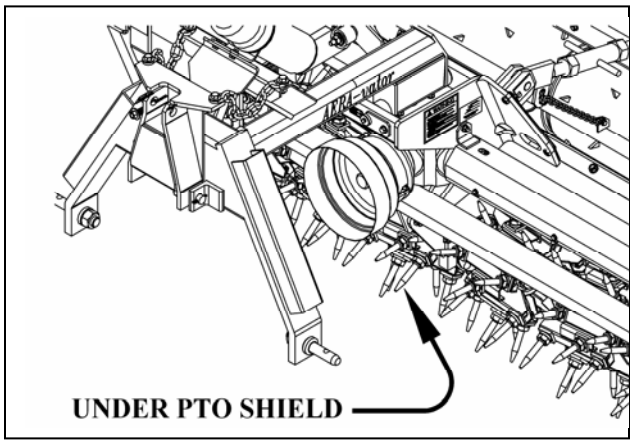


GP55-004
DANGER LABEL
Beneath Guards on Driveline

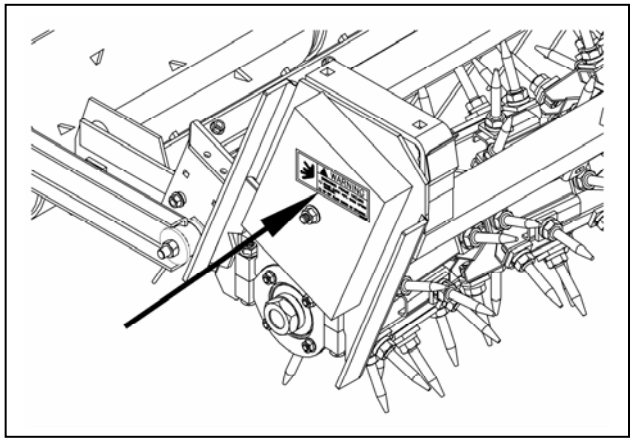


GP55-007
DANGER LABEL
(SHIELD)
Driveline Shield

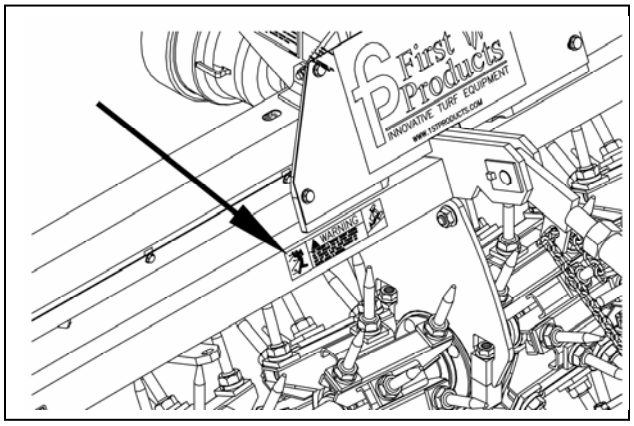
Safety Decals

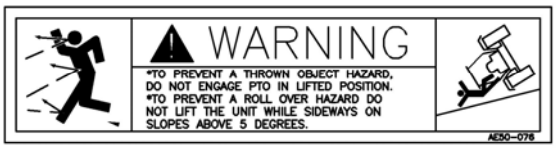


AE50-114
Danger Hazard Decal
Beneath PTO Shield

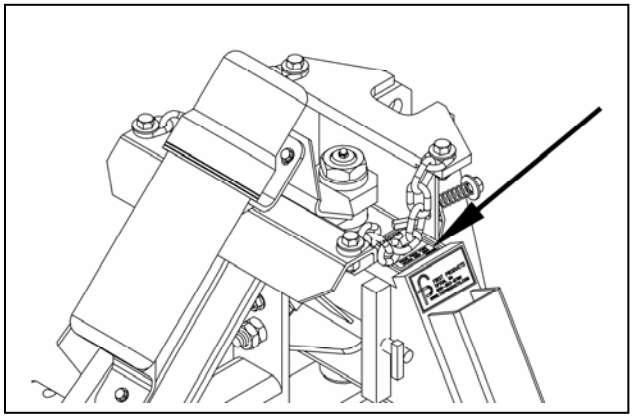


AE50-113
Swing Frame Hazard Decal
includes belt covers





AE50-076
Thrown Object Hazard Decal
Back of Frame



AE50-075
Pinch Point Caution Decal
Both Sides of Swing Hitch

Introduction

Thank you for purchasing the First Products Aera-vator. This machine is designed to withstand years of continuous use and is manufactured by skilled workers using quality materials. Proper assembly, maintenance, and safe operating practices will provide years of satisfactory use from this machine.

Using This Manual

This operator's manual is designed to help familiarize you with safety, assembly, operation, adjustments, troubleshooting, and maintenance. Read this manual and follow the recommendations to help ensure safe and efficient operation.
Read the warranty located on page 23. Fill in the required information on the warranty registration card provided, and return it to the address on the front of this manual. The warranty registration must be returned to validate warranty.
To order a new Operator's and Parts Manual (Part number UA50-018), contact your authorized dealer or write to the address listed below in the *Owner Assistance* paragraph. Include the model and serial numbers of your unit. In addition to this, you may also download a copy of the Operator's Manual from our web site: www.1stproducts.com
The information contained within this manual was current at the time of printing. Some parts may change slightly to assure you of the best performance.

Terminology:

"Right" or "Left" as used in this manual is determined by facing the direction the machine will travel while in use unless otherwise stated.

Definitions:

NOTE: A special point of information related to its preceding topic. The author's intention is that you read and note this information before continuing.
IMPORTANT: A special point of information that the author feels you must be aware of before continuing with the instructions that follow.

Owner Assistance

If customer service or repair parts are required, contact your First Products dealer. A dealer has trained personnel, repair parts, and the equipment needed to service you machine. These parts have been specifically designed for your Aera-vator and should only be replaced by genuine First Products parts.

Serial Number Plate

Refer to Figure 1 for the location of your serial number plate.

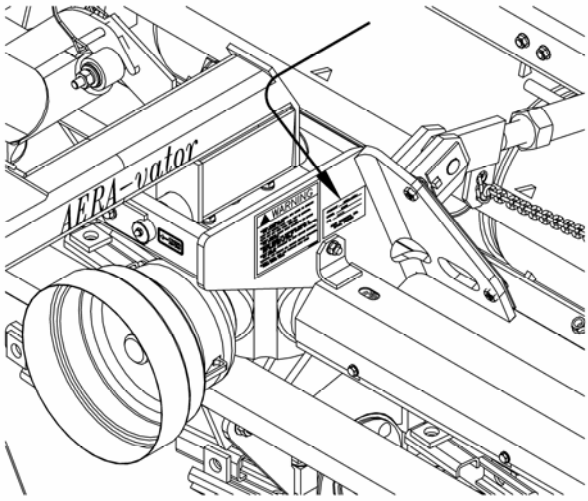


Figure 1: Serial Number Location

For prompt service, always use the serial number and model number when ordering parts from your First Products dealer. If for any reason you do not understand any part of this manual or not satisfied with service you received, discuss the matter with your dealership service manager. For further assistance, write to:

First Products, Inc
Attn: Product Support
164 Oakridge Church Road
Tifton, Ga 31794

Section 1 Setup and Operation Safety

Tractor Requirements

This machine is designed with a patented category 1 3-Point hitch. The hitch allows the Aera-vator to trail while operating in turns and lock in the center position for transport. Check the tractor owner and operator's manual for lift capacity. The weight of the Aera-vator and its attachments are listed in the Specifications on page 44.

Understanding How the Swing Hitch Operates (Prior to Hitching to Tractor)

Push the swing mast rearward to disengage the swing lock. Grasp the hitch pins and rotate the "A" frame to simulate operation in a sharp turn. Release the hitch pins and slowly pull the swing mast forward as it would be pulled by the top link during lifting. Notice how one mast chain tightens causing the "A" frame and unit to realign and the spring on the lock link is compressed to make the swing lock engage upon alignment.

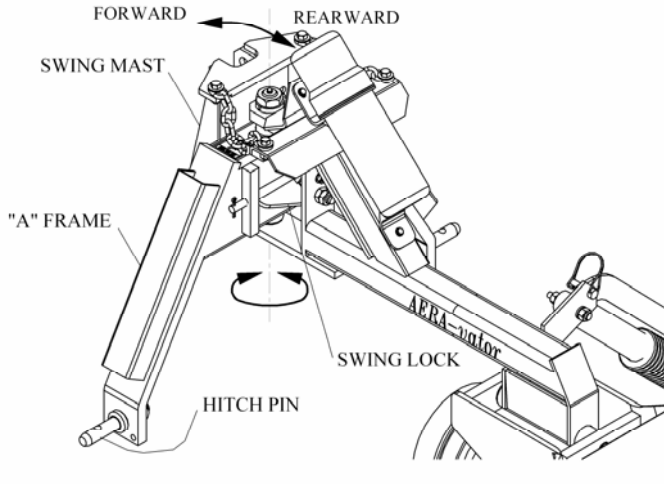


Figure 2: Swing Hitch Operation

Now push the swing mast rearward against the lock to disengage the swing lock and loosen the chains to allow sharp turns again. This demonstrates how the top link of the tractor lift-system switches the Aera-vator between the trail and lift modes.

Tractor Hook-Up

1. Align lower link arms of tractor to hitch pins on swing hitch. Insert these pins into the lower ball swivels and attach lynch pins.
2. Attach tractor top link to swing mast on hitch and secure with proper clevis and lock pins.
3. Adjust the tractor top link in or out to place the swing mast against the "A" frame. When the horizontal bar is level with the ground or slightly aft, the hitch is set properly, and insures the unit will center when lifted. Refer to Figures 2, 3, and 5.

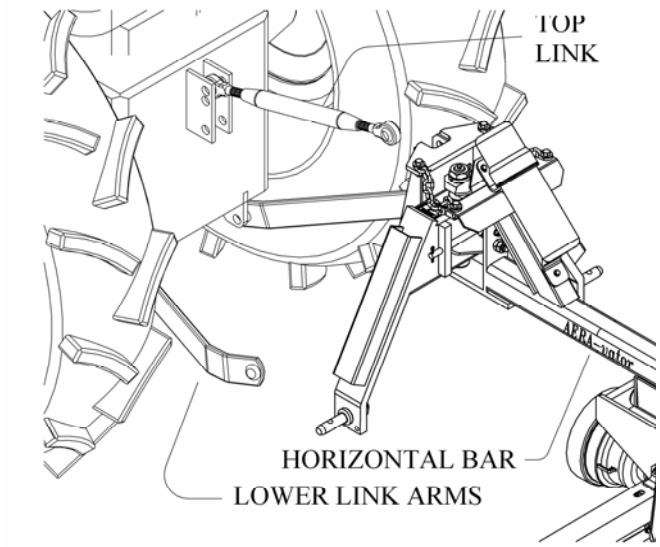


Figure 3: Tractor Hook-Up

4. **When using a Category 2 tractor**, use adaptor sleeves for the hitch pins and pay close attention to the driveline location during operation.

CAUTION

Encountering undulations during operation may cause the driveline and hitch to converge causing significant damage. (Figure 4)

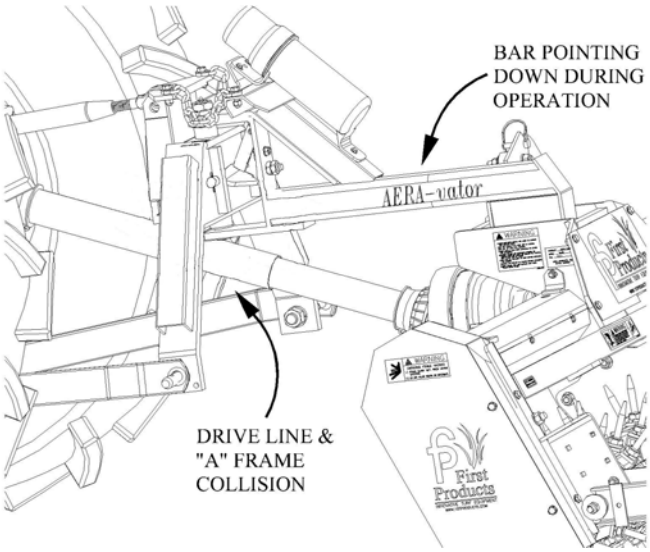


Figure 4: Wrong Setup

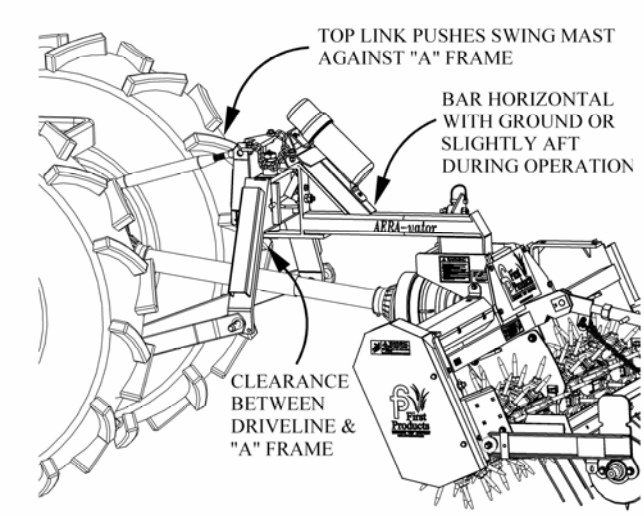


Figure 5. Proper Operation

Driveline Installation

1. **Make sure you have correct driveline.**
2. Slide driveline over splined shaft of gearbox and secure spring loaded ball collar.
3. Slide other end of driveline over the tractor's splined PTO shaft and secure spring loaded ball collar. (NOTE: The tractor symbol on one end of the driveline indicates its proper orientation)
4. Vigorously move the driveline back and forth to ensure it is secure on the PTO shaft of the tractor and gearbox.
5. Attach the chain from the driveline shield to the PTO Shield to ensure that the shield does not rotate. Supply just enough slack to allow the driveline to move slightly as the unit makes sharp turns.

⚠ CAUTION

Tractor PTO shields and all guards must be in place at all times during operation.

Operation Safety

- **Your Safety Is Always First!** Familiarize yourself with the safety symbols and decals on pages 2 thru 4.
- All operators should **read and understand all sections of this manual** prior to adjusting, maintaining, hitching to or operating the Aera-vator.
- Remove and read the driveline safety and maintenance manual taped to the driveline shield. After reading the driveline manual, place it inside this manual for reference.
- Keep this manual stored on the hitch in the operator's manual canister at all times.
- Never attempt to adjust, maintain, or remove debris from any moving part of this machine while it is attached to a tractor or other power source with the engine running.
- After operating, always disengage the PTO and switch the engine off prior to dismounting from the tractor or other power source before approaching the unit.
- Prior to starting, always inspect operating area for any hazards such as large rocks, steep slopes, low tree branches or wires. Flag objects difficult to see such as irrigation heads and water meters.
- Instruct all people in the work area to stay clear of the operating unit at least 10 feet on the sides and 30 feet on the rear.
- Consult your tractor Operator's manual regarding operation on slopes.

DANGER

Do not lift the unit while the tractor is moving (or parked) sideways on slopes above 5 degrees. The swing hitch may allow the unit to swing to the downhill side and cause the tractor to roll over. On slopes from 5 degrees to 15 degrees, always aim the tractor uphill before lifting the unit. We do not recommend the unit being used on slopes above 15 degrees.

- Use extreme care and maintain moderate ground speed when transporting or operating on slopes, over rough surfaces, or close to trees, ditches, and fences.
- Only operate during daylight hours or with good artificial light.
- The Aera-vator is not equipped for highway use. Be careful of traffic when operating near or crossing roads. The Aera-vator is not designed for operation on public roads or highways; therefore, they must be equipped with proper slow moving signs and markings when applicable.
- Before hitching to the Aera-vator, familiarize yourself with all of the tractors control functions. Be prepared to stop the tractor's movement, PTO operation, and the engine quickly in an emergency.

Section 2 Operating Instruction

Transporting

1. Always disengage PTO before raising the machine to transport position.
2. Be sure to reduce tractor ground speed when turning, leaving enough clearance so the Aera-vator does not contact obstacles such as buildings, trees, or fences.
3. Select a safe ground travel speed when transporting from one area to another. When traveling on roadways, transport in such a way that faster moving vehicles may pass safely.
4. When traveling over rough or hilly terrain, utilize the transport lock shown in Figure 6.
5. When driving or backing a tractor and Aera-vator up or down load ramps, always shorten the top link to lift the rear of the machine as high as possible.

Aera-vator Operating Instructions

Proper servicing and adjustments are the keys to a long life of any machine. With careful and systematic inspection of the Aera-vator, costly maintenance, time, and repair can be avoided.

IMPORTANT: OPERATE WITH **540 PTO** ONLY

Before beginning, the following inspection should be performed:

1. Check oil level in gearbox. Refer to "**Section 4 Maintenance and Lubrication**" on page 20.
2. Check that all plugs in gearbox have been replaced and tightened properly.
3. Be certain all guards and shields are in place and secure.
4. Grease driveline shaft and all other grease fittings.
5. Clear the area to be aerated of rocks, branches, and other foreign objects.
6. When lowering for operation, lower slowly until rear roller slightly touches ground. Then swiftly lower the unit completely to **unlock the hitch**. This is especially true when lowering the unit in a sharp turn. Failure to do this may cause the swing hitch not to disengage, resulting in damage to the Aera-vator. **Do not turn the tractor with the swing lock engaged and the machine on the ground!**

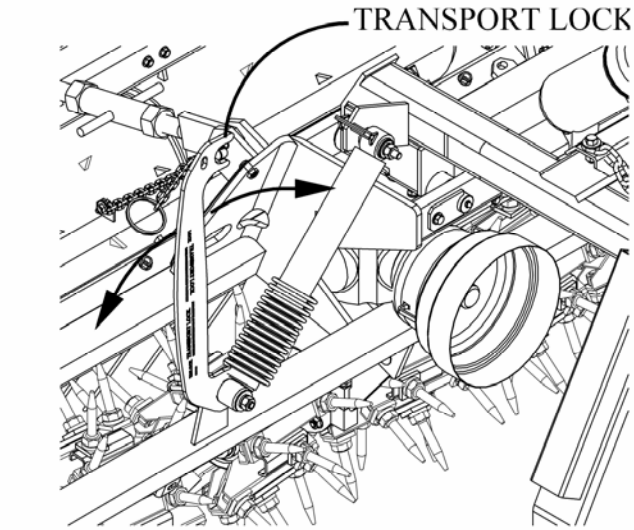


Figure 6. Transport lock

7. After operating the first 50 feet, stop and check to see that the Aera-vator is adjusted properly. Refer to **Adjustments** beginning on page 14.
8. Do not back the unit up with the machine touching the ground. Always raise the unit, back to desired location, and then lower the machine.
9. Do not engage PTO with Aera-vator in the fully raised position.

Seeder Operating Instructions

1. Check to see if hopper and metering tube has been properly cleaned.
2. Check condition of all chains concerning the ground-drive transmission and lubricate accordingly per **"Section 4 Maintenance and Lubrication"** on page 22.
3. After selecting the proper seed rate and calibrating the seeder, run the Aera-vator approximately 50 feet and check the idler for any slack and tighten if necessary, Figure 7a.

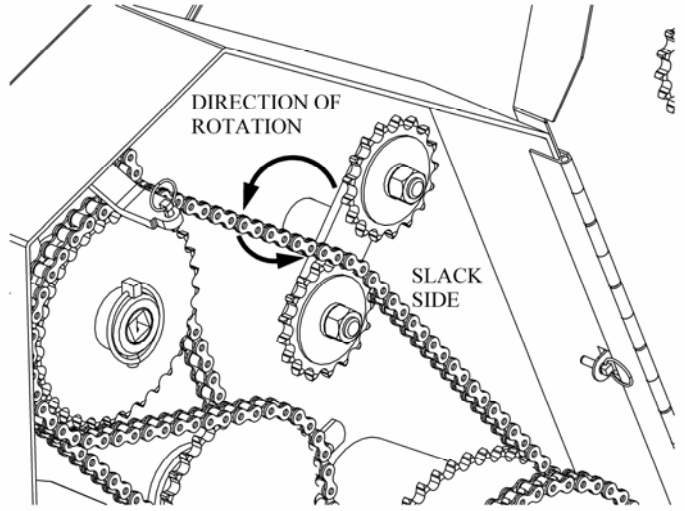


Figure 7a. Chain Idler

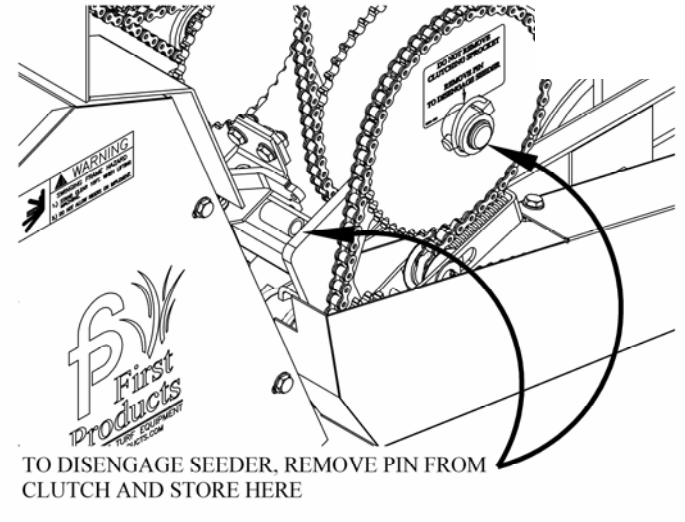


Figure 7b. Clutch

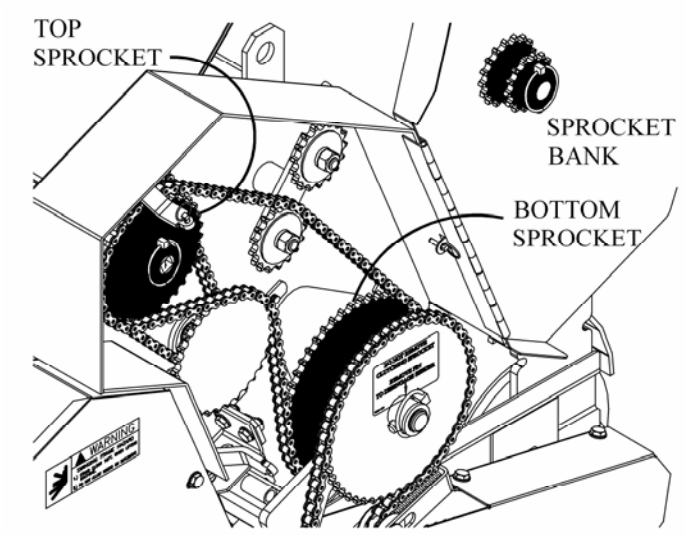


Figure 7c. Black Sprockets

Disengaging Seeder

In the event that seeding is not desired, the seeder can be disengaged by removing the clutch pin indicated in figure 7b.

Seeder Calibration

In order to accurately meter seed during operation, the machine must be calibrated properly using the following instructions:

1. Consult seed chart inside hopper lid and select a seed. If the desired seed is not found, use a seed of similar size for calibration.
2. After selecting a seed, select the desired rate, and note its recommended sprocket combination and flute exposure (see page 24 for further explanation).
3. Arrange the **black** sprockets as required, as noted in Figure 7c.
4. Set the flute exposure using the screw adjustment on the right side of the box (Figure 8). Lift the wind deflector to see the flute exposure.

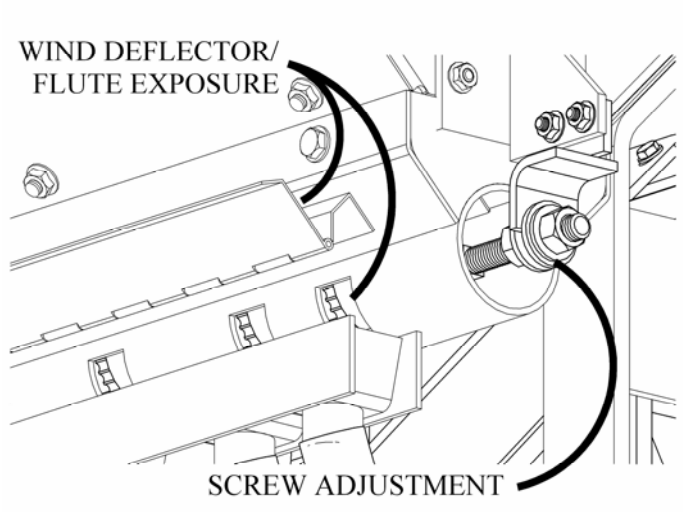


Figure 8. Screw Adjustment

5. Lift the seed level arm and fill the box with seed. Lower the seed level arm on top of the seed, Figure 9.
6. Remove calibration tray from front of hopper and hang it on the seed broadcast bar, Figure 10.

Section 2 Operating Instruction

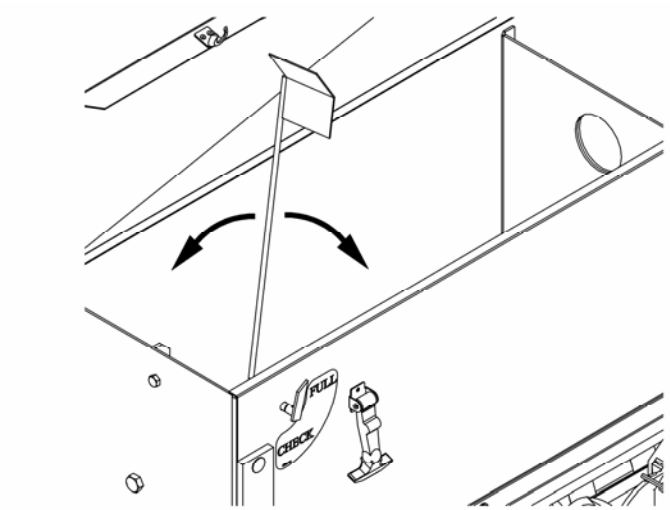


Figure 9. Seed Level Arm

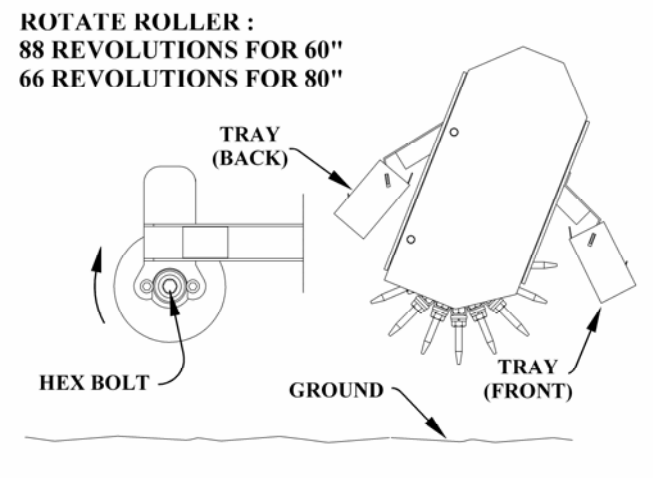


Figure 10. Calibration Tray Position

7. With the seeder lifted in the air, use the hex bolt located on the end of the shaft to rotate the roller 100 revolutions (Figure 10):

IMPORTANT: FOR SMALL SEED ONLY! FOR THE FIRST 100 REVOLUTIONS, THE SMALL SEED SLOWLY FILLS THE FLUTES NOT BEING USED DURING THE METERING PROCESS. AFTER THE FLUTES ARE FULL, OR **PRIMED**, THE CALIBRATION PROCESS CAN CONTINUE.

8. After priming seeder, empty the tray and secure it back on the broadcast bar. Rotate the roller the indicated number of times (Figure 10):
   88 revolutions for 60” seeder
   66 revolutions for 80” seeder
9. Weight the seed collected in the tray. The seed collected is the **pounds/1000ft^2**. Consult the seed chart to verify if the rate needs adjusting.
10. For making slight adjustments, the flute exposure can be adjusted to increase or decrease the rate. Figure 11 illustrates the direction to move the course and fine flutes in order to adjust the rate.

IMPORTANT: FINE AND COURSE FLUTE ADJUSTMENTS ARE DIFFERENT. PAY ATTENTION TO FIGURES 11a & b**.**
NEVER USE THE FINE FLUTES TO METER LARGE SEED.

11. Once the adjustments have been made, repeat steps nine and ten until desired rate is achieved.

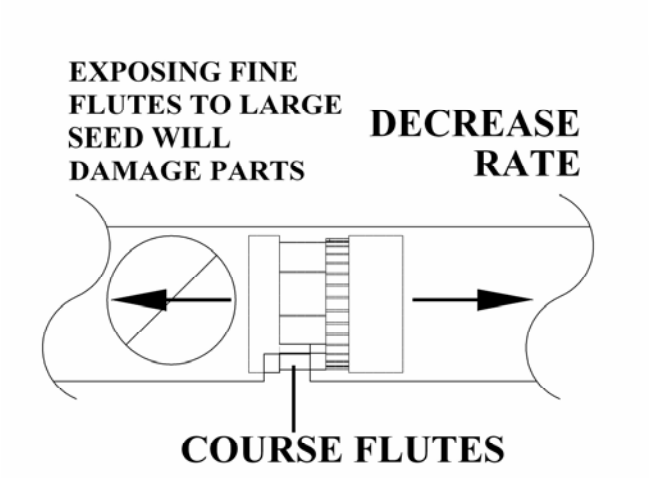


Figure 11a. Rate Adjustment (Course Flutes)

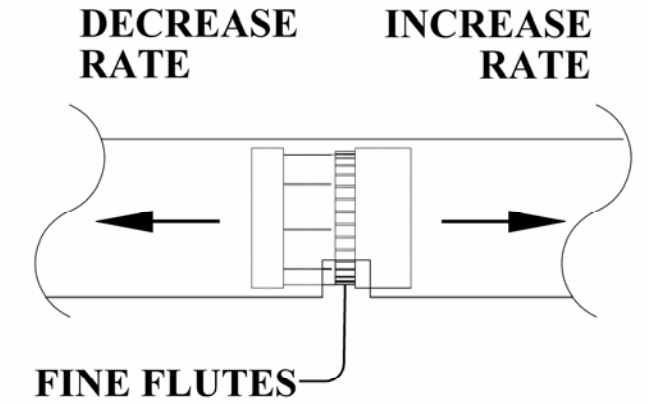


Figure 11b. Rate Adjustment (Fine Flutes)

Cleaning the Seeder

After every job, it is recommended that the operator perform the following services:

1. After seeding, use the calibration tray to catch any excess seed left in the box.
2. Use the adjustment mechanism on the right side of the box to extract the Feed Wheel shaft:
   -rotate hex nut until shaft bottoms out (Figure 12a)
   -rotate bracket in order to extract shaft further (Figure 12b)
   -remove bracket completely and pull shaft out by hand (if shaft still too tight, used wrench on square shaft to rotate shaft while pulling)
3. Use air or water to clean hopper, metering tube, and flutes.
4. After allowing time to dry, reinsert shaft into metering tube. **Pay attention to the orientation of the square hole in the spindle shaft where the Feed Wheel shaft is inserted!**
5. Refasten the adjustment bracket into place. Make sure it is in the operational position, Figure 12a.

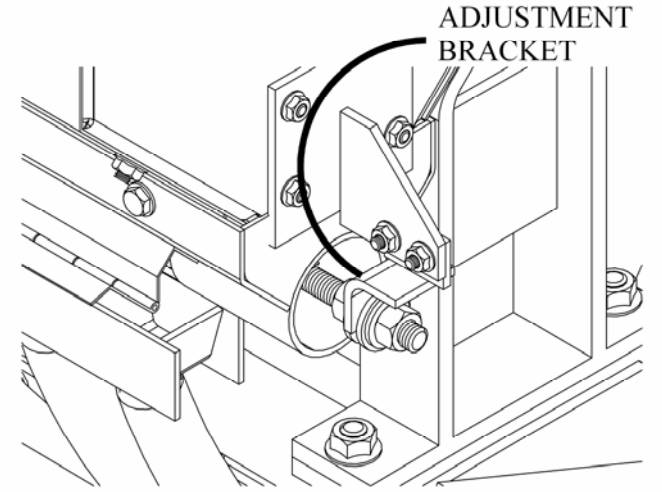


Figure 12a. Operational Position

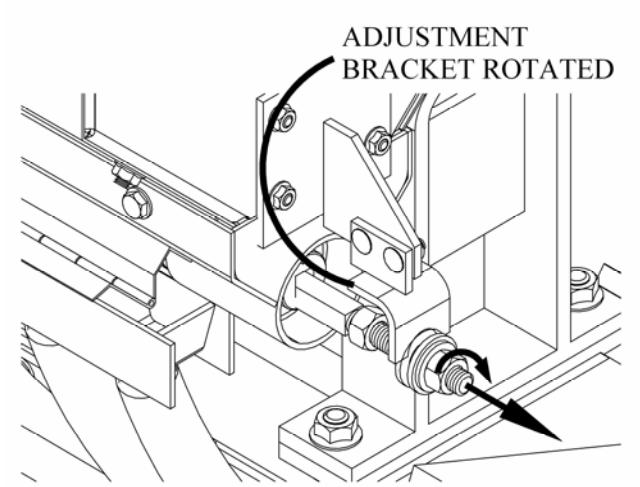


Figure 12b. Extraction Position

Move Seed Output – Front to Rear

Since all seeders ship from factory set for distributing seed in front of the rotors, the following instructions will explain how to move the broadcast bar in order to disperse seed behind the rotors.

1. With the machine on the ground, remove the broadcast bar from the frame, and unbolt the broadcast bar holders (Figure 13).

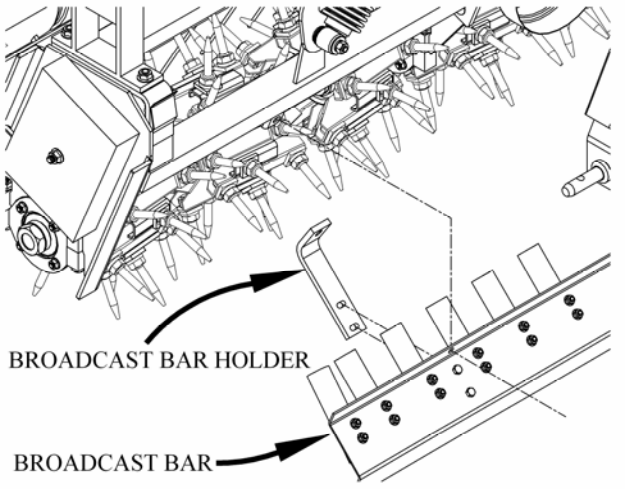


Figure 13. Broadcast Bar Transition

2. Attach (but do not tighten) the broadcast bar holders to the broadcast bar rotated from its previous position. In like manner attach the broadcast bar holders to the frame as shown in Figure 14.

3. Note the slotted hole used to fasten the broadcast bar holder to the frame; pull the broadcast bar as far from the machine as possible and tighten the bolts. This allows room for the calibration tray to be used before seeding.
4. With all hardware tightened, reposition the hoses from front to back. Hoses should telescope inside the seed spouts. If kinks form, loosen hose clamp and rotate hose in a manner that better fits its natural curve, and re-clamp hose to spout tray.

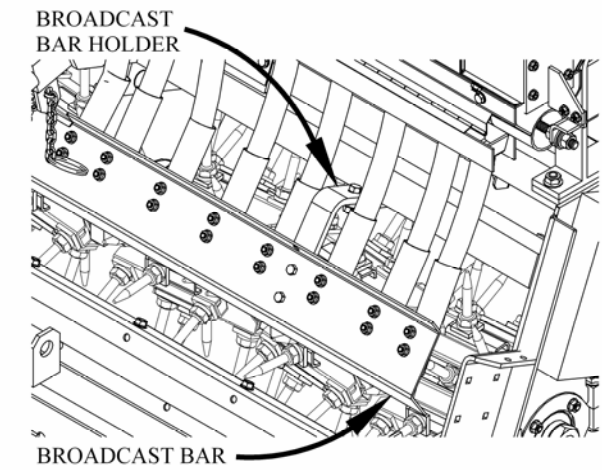


Figure 14. Broadcast Bar Behind Rotors

Section 3 Adjustments

Depth Control

The penetration depth of the tines depends primarily on the position of the rear roller. Refer to Figure 15.

1. Before adjusting the turnbuckle on the rear roller, ensure the roller is in the pinned position (Figure 15).
2. With the machine **slightly** in the air, rotate the turnbuckle out until the rotors are just above the turf.
3. Lower the machine back to the ground, and gradually rotate the turnbuckle until desired height is reached. Refer to the next heading for any adjustments necessary for proper hitch operation. (Figure 5)
4. Slowly operate over a short period to check for adjustments and verify desired depth.
5. If depth is unsatisfactory, make proper adjustments to turnbuckles and repeat step 4.

CAUTION

Engage parking brake, shut off tractor, remove key, and disengage PTO before making any adjustments!

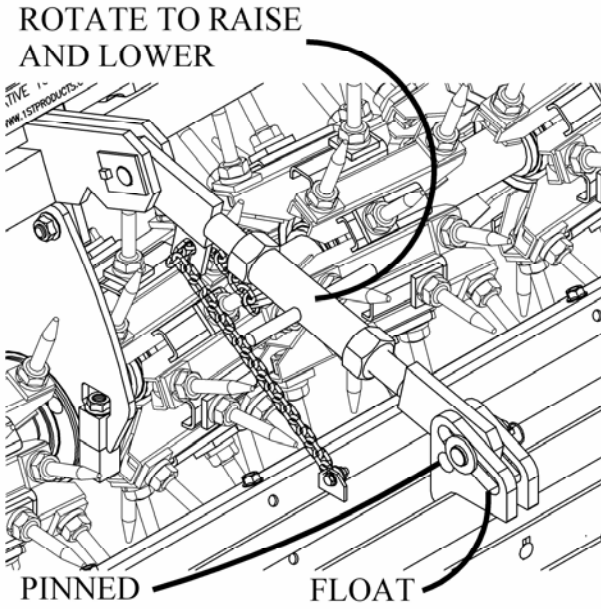


Figure 15: Rear Roller

3-Point Hitch

The patented 3-point hitch is design to enhance the maneuverability of the Aera-vator by giving it the capability of turning on a 4-foot radius. However, proper adjustments must be made in order to avoid potential problems. Since tractors vary, be mindful of readjusting the hitch when changing from one tractor to another.

1. After slowly aerating a short period, check to see if the horizontal bar is level with the ground (see Figure 3). If the hitch is nosed down, adjust the top link of the tractor to correct its position.
2. Check to see if there is proper clearance between the driveline and the bottom of the hitch. Different tractors have varying geometries; therefore, some tractors require special attention concerning driveline clearance (see Figures 4 and 5).

Belt Tension

The belt tension should be checked after the first 4 hours of use and then every 40 hours thereafter. To check tension, apply approximately 25 pounds of pressure half way between the pulleys. There should be about 3/8" of deflection. If there is excessive belt deflection, then the belts need tightening.

Belt Tightening

Refer to Figure 16 during these steps.

1. **Loosen** the two flange nuts (A) located under the jackshaft shield.
2. Rotate the nut (B) on the back of the end plate to tighten the belts to the desired tension.
3. Retighten the two flange nuts (A) and secure all shields and guards back in place before operation.

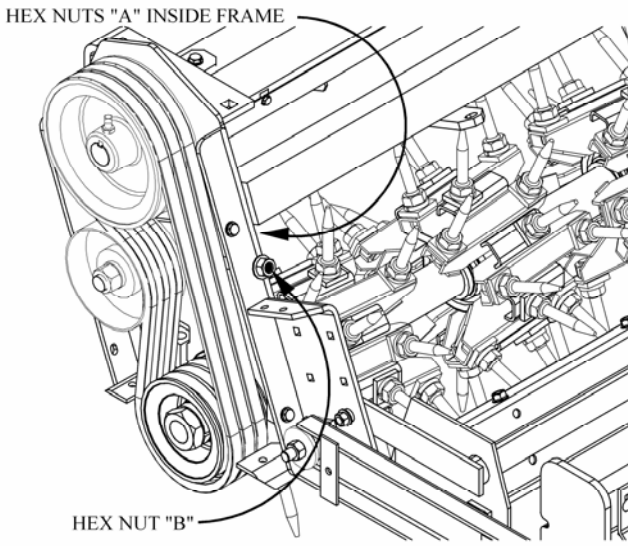


Figure 16: Belt Tightening

WARNING

Excessive tension on the belt may lead to premature failure of belt and drive components. Excessive tension on the belt may also lead to a safety hazard to bystanders.

Shaft Exchange

In order to utilize the various shafts that can be implemented in the Aera-vator, the following procedure must be followed (refer to parts break down on page 27 for visual reference):

NOTE: 80" Aera-vator will require the same procedure on both sides.

1. **With the machine hitched to a tractor** (or hoist), remove belt cover and skid shoe from end plate.
2. Remove belts from pulleys. Refer to V-belt Installation on page 17 for necessary assistance.
3. Remove bolts fastening shaft to frame. If Multi-tine shaft is being removed, the shells on the rotor adjacent the intermediate bearing plate will need to be removed in order to access the bolts holding the shaft to the frame.

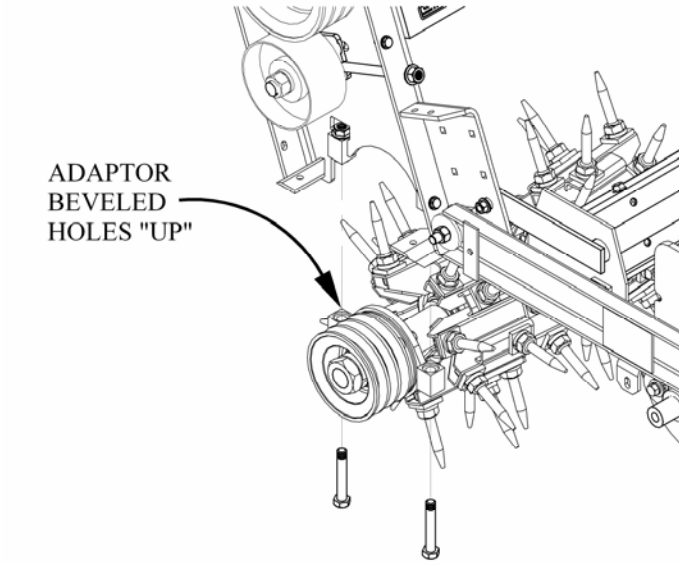


Figure 17. Shaft Removal/Replacement

4. Slightly lift the machine in the air. If the shaft does not drop out, use a block or mallet to strike the end of the shaft to remove.
5. Carefully swap the shaft with its replacement paying close attention to the orientation of the bearing adaptor plates (beveled holes should face up).
6. Slowly lower the machine back on the shaft. If the new shaft is a Multi-tine, shells must be removed from an adjacent rotor to allow room for fastening.
7. After securing the new shaft with the indicated hardware, slide the belts over the pulleys and retighten to proper tension.
8. Fasten the skid shoe and belt cover to the end plate.

Section 4 Maintenance and Lubrication

Maintenance

Proper servicing and adjustment is the key to the long life of any implement. With careful and systematic inspection, costly maintenance, time, and repair can be avoided.

CAUTION

For safety reasons, each maintenance operation must be performed with tractor PTO disengaged, the implement lowered completely to the ground and the tractor engine shut off with ignition key removed.

After using the Aera-vator for several hours, check all bolts to be sure they are tight and check the tension of the drive belt. Refer to Belt Tension on page 15.

Lubricate items as listed under Lubrication starting on page 20.

Replace any worn, damaged or illegible safety labels by obtaining new decals from your local First Products Dealer. Information safety decals are located under Safety Decals starting on page 3.

Service Aera-vator tines

Tines are assembled as shown in Figure 18. The tines are removed and installed using an extra deep impact socket (AE60T003), provided with shaft. **Torque tines to 210 ft-lbs.**

Service Multi-tine shells

Shells are assembled as shown in Figure 19. A Torx Plus bit (FT50-009) is required (provided with shaft) to remove the capscrews fastening the shells and rotors together.

Service Slicer Blade

The slicer blades are installed as shown in Figure 20. Use 9/16” wrenches to unfasten the blades and install new ones.

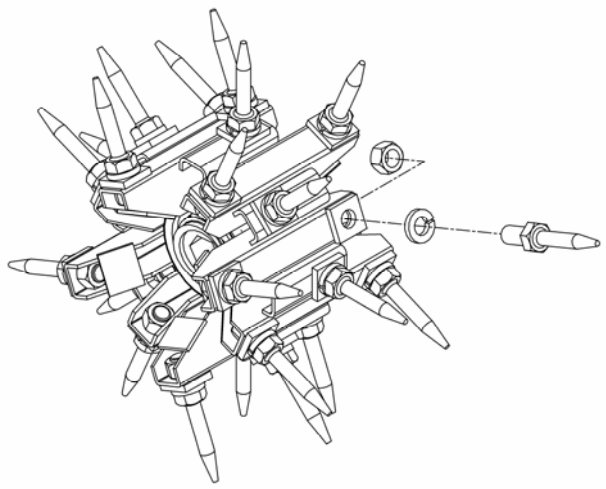


Figure 18: Tine Replacement

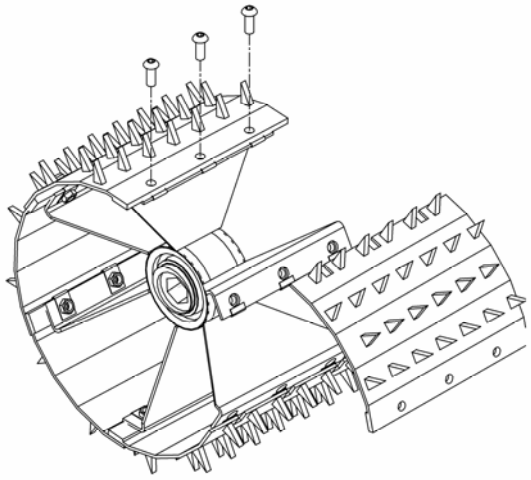


Figure 19: Shell Replacement

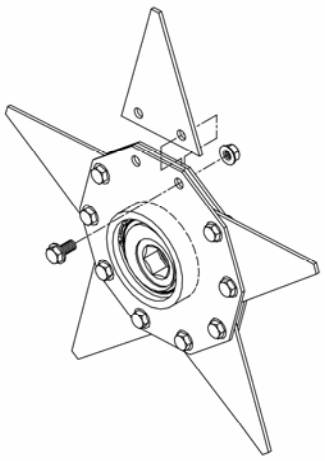


Figure 20: Blade Replacement

V-Belt Installation

Refer to *Belt Tension* under **Section 3 Adjustments** for proper belt tension. Refer to Figure 16 for visual assistance.

1. Remove belt cover.
2. **Loosen** the two flange nuts inside the frame.
3. Remove the lock nut and washer located on the backside of the end plate, and slide idler completely toward the front of the machine.
4. Remove old belts and install new.
5. Tension the belts by sliding idler toward back and refasten bracket with washer and locknut.
6. Torque the locknut until the belts reach the proper tension
7. Tighten the remaining two nuts inside the frame.
8. Secure Belt cover.

Storage

At the end of the working season or when the Aera-vator will not be used for a long period, it is good practice to clean off any dirt or grease that may have accumulated on the machine and any of its moving parts.

1. Clean as necessary.
2. Check the tines/shells/blades for wear and replace if necessary.
3. Inspect the machine for loose, damaged or worn parts and adjust or replace as needed.
4. Lubricate as noted in the *Lubrication* portion of this section.
5. Store unit inside if possible for longer life.
6. Repaint parts where paint is worn or scratched to prevent rust.

Service Rotor Shaft

When rotor replacement is needed or repaired on a standard Aera-vator or Multi-tine shaft, the following steps must be taken in order to properly maintenance these items.

Rotor Shaft Disassembly

1. With the rotor shaft removed from the frame and secured on the floor, remove the 1-1/8" hex jam nut from the shaft end nearest to the damaged component (use Figure 21 for visual reference).
2. Only remove the rotors and spacers required to reach the damaged component. Wipe the shaft clean before each rotor is removed. Each rotor bearing has two separate cones with a hex bore adapter pressed in each. Each cone is held in position by an internal grease seal, which allows the cones to be moved apart slightly. When they are moved apart any dirt allowed inside the hex adapters can fall between the cones and contaminate the bearing. If the cones are forced apart the internal seals become ruined and irreplaceable.
3. Clean and inspect parts as they are removed and set aside in their order of removal to simplify re-assembly.

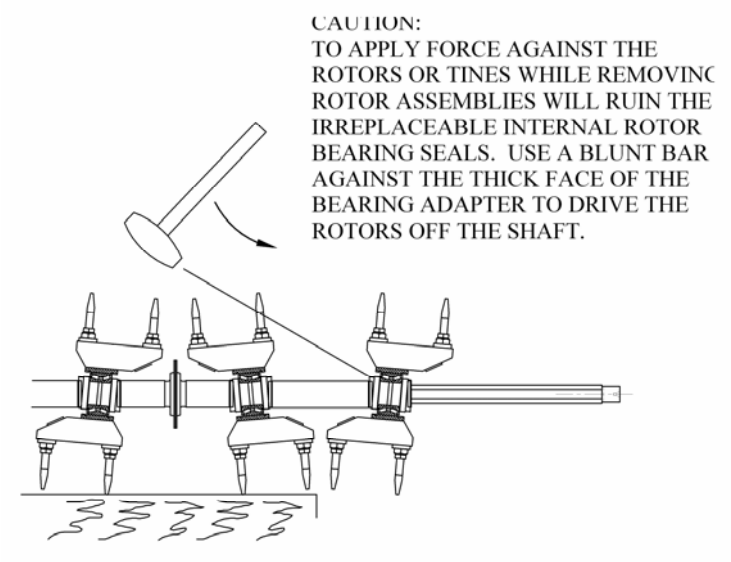


Figure 21. Rotor Shaft Disassembly

Rotor Hub Disassembly

1. With a pry bar remove the external seals (Figure 22) on both sides. Generally, seals are damaged and are not reused.
2. Remove the snap rings on both sides.
3. Press used bearing and adapter assembly out.

Section 4 Maintenance and Lubrication

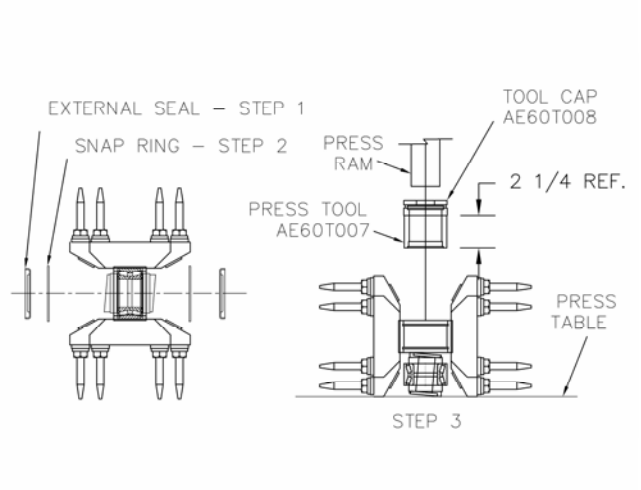


Figure 22. Rotor Hub Disassembly

Rotor Hub Re-Assembly

(Keep all components clean to prevent bearing contamination)

1. Install internal snap ring in one side of rotor hub. **Be sure snap rings expand full depth into grooves.**
2. Press new bearing and adapter assembly down tight against snap ring. If bearing is loose in hub the rotor should be replaced.
3. Install snap ring in other end.
4. Apply a ribbon of general-purpose grease between the snap ring ID and bearing adapter OD on both ends of the rotor hub.
5. With the press tool inverted to fit the external seals, press the seals in both ends of the rotor **with the lips out.** Wipe off excess grease. Be sure seals are not bent or cut and are seated firmly. **If the seals are not tight, use a hammer and punch to stake the hub faces at about 90° intervals**.

Rotor Shaft Re-Assembly

(Read this section thoroughly before beginning)
CAUTION: IF THE BEARING ADAPTERS ARE NOT PRECISELY TIMED 180 DEGREES APART IN EACH ROTOR AND ALIGNED BETWEEN ROTORS, SERIOUS DAMAGE WILL RESULT.

1. Rotate the adapters in each rotor so the timing marks *(See Figures 23 & 24)* are phased 180 degrees apart with hex bores aligned.
2. Use marker pen to assist with aligning timing marks between rotors. Mark two rotor shaft flats 180 degrees apart next to the threaded end *(See Figure 24)*. The marked flats would have to align with the timing marks on any rotors not removed during servicing.
3. Install the required components in the sequence shown in parts break down (page 34), double-checking the timing mark locations and spacer as each rotor is installed.

CAUTION: CLEAN THE ROTOR SHAFT THOROUGHLY REMOVING ANY BURRS THAT WOULD KEEP THE ROTOR ASSEMBLIES FROM SLIDING ON FREELY. IF A BEARING ADAPTER JAMS, THE INTERNAL BEARING SEAL COULD BE FORCED OUT AND IT IS NOT REPLACEABLE.

NOTE: THE SPACERS MUST BE FULLY SEATED IN EACH ADAPTER COUNTERBORE BEFORE TIGHTENING. DO NOT FORGET TO PLACE THE BEARING STAMPINGS ON EACH OF THE SHAFT BEARINGS DURING REASSEMBLY.

4. Replace the 1-1/8" hex jam nut and rotate each rotor occasionally as the nut is torqued to 350 ft-lbs. If any rotor locks up, the bearing adapters in the rotor are probably not phased 180 degrees apart or the spacers are not fully seated.

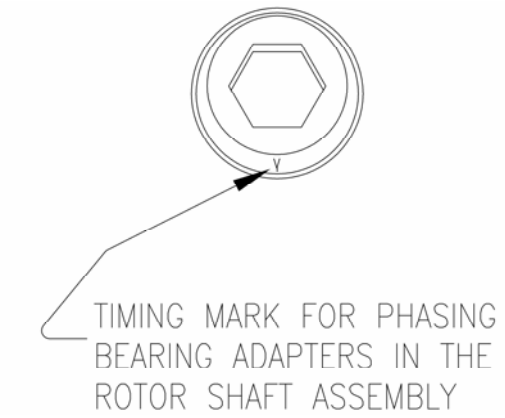


Figure 23. Timing mark

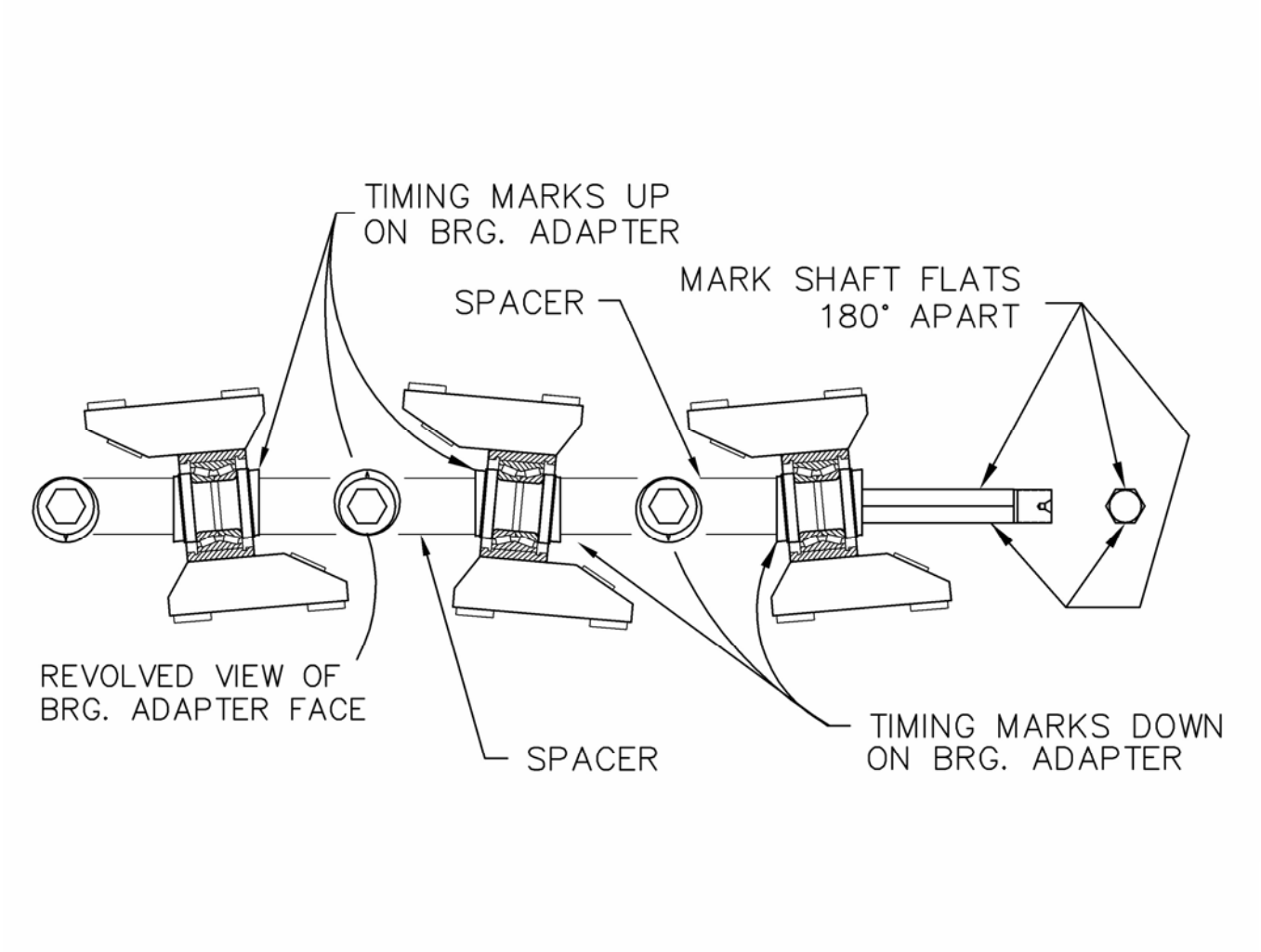


Figure 24. Rotor Timing

Section 4 Maintenance and Lubrication

Lubrication

All rotor hubs, roller, and jackshaft bearings are permanently sealed to ensure long life and do not require any maintenance.

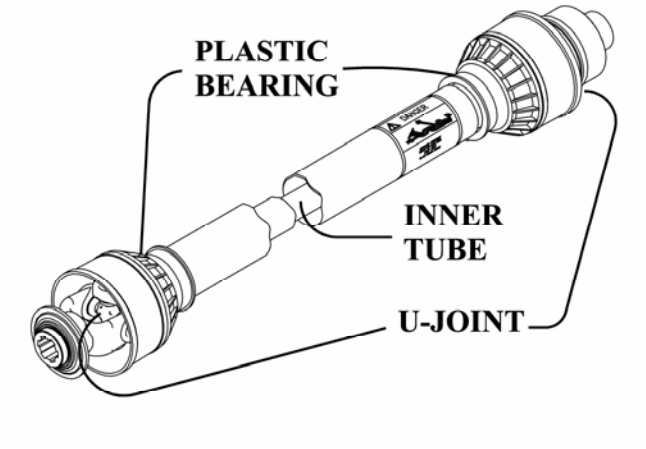
Lubrication Legend

 Multipurpose Spray Lubricant

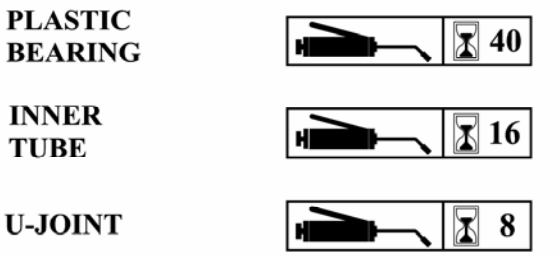
 Multipurpose Grease Lubricant

 Multipurpose Oil Lubricant

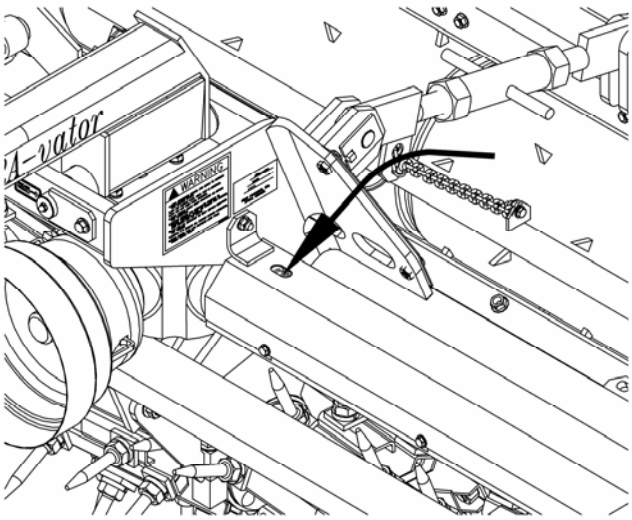
 Intervals At Which Lubricant Is Required



AE55-082: **UA60 COMPLETE DRIVELINE**
AE55-078: **UA80 COMPLETE DRIVELINE**



Type of Lubrication: Multipurpose Grease

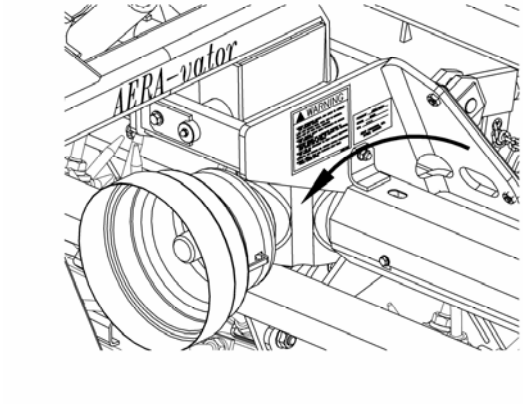


CHAIN COUPLER 

The coupler can be accessed from the top of the jackshaft cover as shown.

Type of Lubrication: Multipurpose Oil

Section 4 Maintenance and Lubrication



AE54-018: **UA60 GEARBOX**
AE54-046: **UA80 GEARBOX**

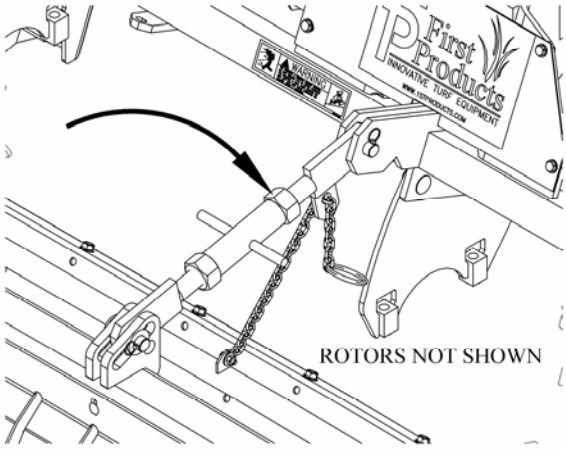
GEARBOX

IMPORTANT: Aera-vator should be level when checking oil in gearbox!

Check the oil level in the gearbox by removing the plug at the side of the box on the right hand side. If oil should flow from the plug hole there is enough oil. Add oil if necassary by removing the top plug.

Do not overfill! Should your gearbox require service, take it to your First Products dealer.

Type of Lubrication: SAE 90W Gear Lube



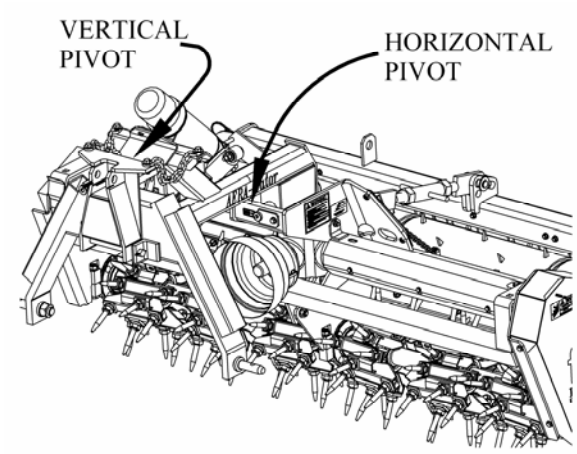
TURNBUCKLE

TURNBUCKLE

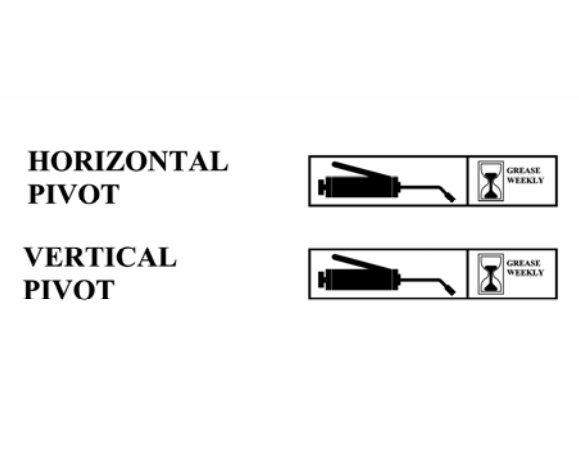
Threads on turnbuckles are prone to rust over an extended period of time. Routine cleaning and application of anti-seizing lubricant will prolong the life of this part.

Type of Lubrication: Anti-Seizing Agent

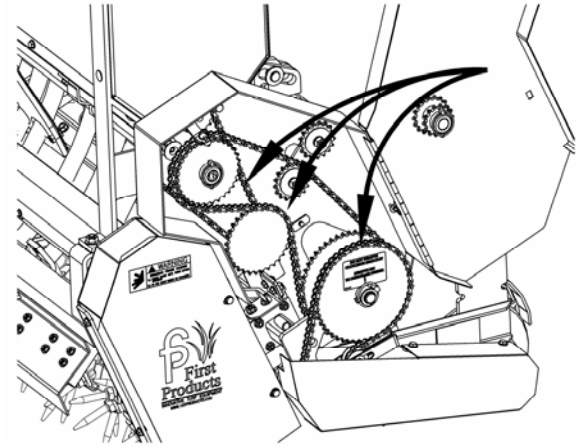
Section 4 Maintenance and Lubrication



3-POINT HITCH



Type of Lubrication: Multipurpose Grease



SEEDBOX CHAIN TRANSMISSION

As Needed
Type of Lubrication: Multipurpose Oil

WARRANTY INFORMATION

ONE YEAR LIMITED WARRANTY

FIRST PRODUCTS INC. WARRANTS THIS PRODUCT TO BE FREE OF DEFECTS IN MATERIALS AND WORKMANSHIP FOR A PERIOD OF TWELVE MONTHS FROM THE ORIGINAL DELIVERY DATE. THIS WARRANTY DOES NOT COVER PARTS CAUSED TO BE DEFICIENT DUE TO NORMAL WEAR, MISUSE, ACCIDENTS, OR LACK OF PROPER MAINTENANCE.

ANY PARTS THOUGHT TO BE DEFECTIVE MUST BE RETURNED TO THE DEALER/DISTRIBUTOR FOR WARRANTY CONSIDERATION JOINTLY WITH FACTORY REPRESENTATIVES. A RETURN AUTHORIZATION NUMBER MUST BE OBTAINED AND CLEARLY MARKED ON ALL PACKAGES OF PARTS REQUIRING RETURN TO THE FACTORY.

THE OBLIGATION OF FIRST PRODUCTS INC. UNDER THIS WARRANTY SHALL BE EXCLUSIVELY LIMITED TO REPLACEMENT OF PARTS DETERMINED TO BE DEFECTIVE BY FIRST PRODUCTS INC. WITH FREIGHT PREPAID. IN NO EVENT SHALL FIRST PRODUCTS INC. BE LIABLE FOR INDIRECT, INCIDENTAL, OR CONSEQUENTIAL DAMAGES IN CONNECTION WITH THE USE OF THIS PRODUCT.

FIRST PRODUCTS INC. RESERVES THE RIGHT TO MAKE CHANGES OR ADD IMPROVEMENTS TO ITS PRODUCTS AT ANY TIME WITHOUT OBLIGATION TO MAKE SUCH CHANGES OR IMPROVEMENTS ON PRODUCTS SOLD PREVIOUSLY.

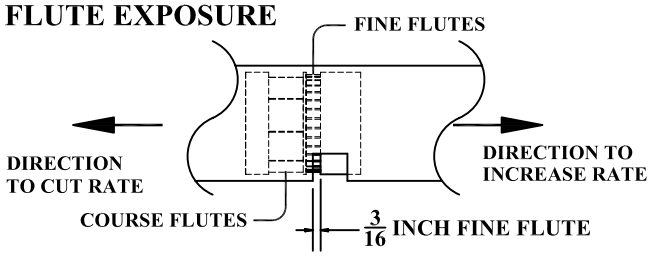
Seed Chart

IF DESIRED SEED NOT LISTED, CHOOSE SIMLAR SEED SIZE.
DO NOT USE SAND IN SEEDBOX

CENTIPEDE

SPROCKETS	TOP	14T	17T	14T	17T	32T	17T	48T
	BOTTOM	48T	48T	32T	32T	48T	14T	14T
SEED RATE	LB / ACRE	53	44	35	29	23	13	4
	LB / 1000 FT	1.2	1.0	0.8	0.7	0.5	0.3	0.1

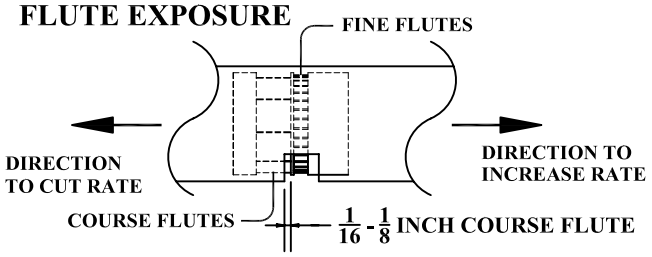
FLUTE EXPOSURE



BENTGRASS

SPROCKETS	TOP	14T	17T	14T	17T	32T	17T	48T
	BOTTOM	48T	48T	32T	32T	48T	14T	14T
SEED RATE	LB / ACRE	105	87	68	57	45	24	8
	LB / 1000 FT	2.4	2.0	1.6	1.3	1.0	0.6	0.2

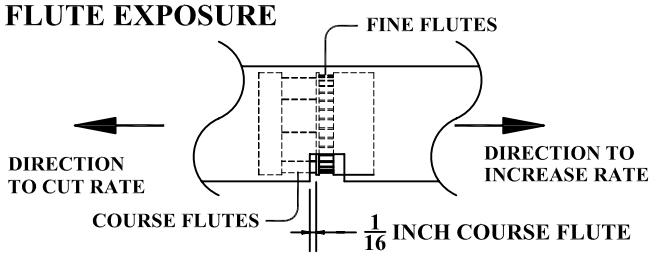
FLUTE EXPOSURE



BERMUDAGRASS

SPROCKETS	TOP	14T	17T	14T	17T	32T	17T	48T
	BOTTOM	48T	48T	32T	32T	48T	14T	14T
SEED RATE	LB / ACRE	170	153	137	124	94	81	47
	LB / 1000 FT	3.9	3.5	3.1	2.9	2.2	1.9	1.1

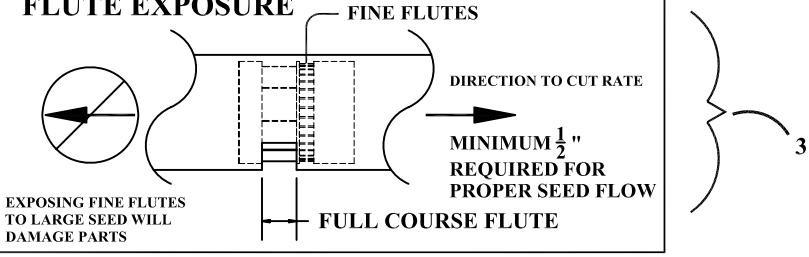
FLUTE EXPOSURE



RYEGRASS/BLUEGRASS/FESCUE

SPROCKETS	TOP	14T	17T	14T	17T	32T	17T	48T
	BOTTOM	48T	48T	32T	32T	48T	14T	14T
SEED RATE	LB / ACRE	500	370	335	275	250	125	40
	LB / 1000 FT	11.6	8.5	7.7	6.3	5.8	2.9	0.9

FLUTE EXPOSURE



2

1

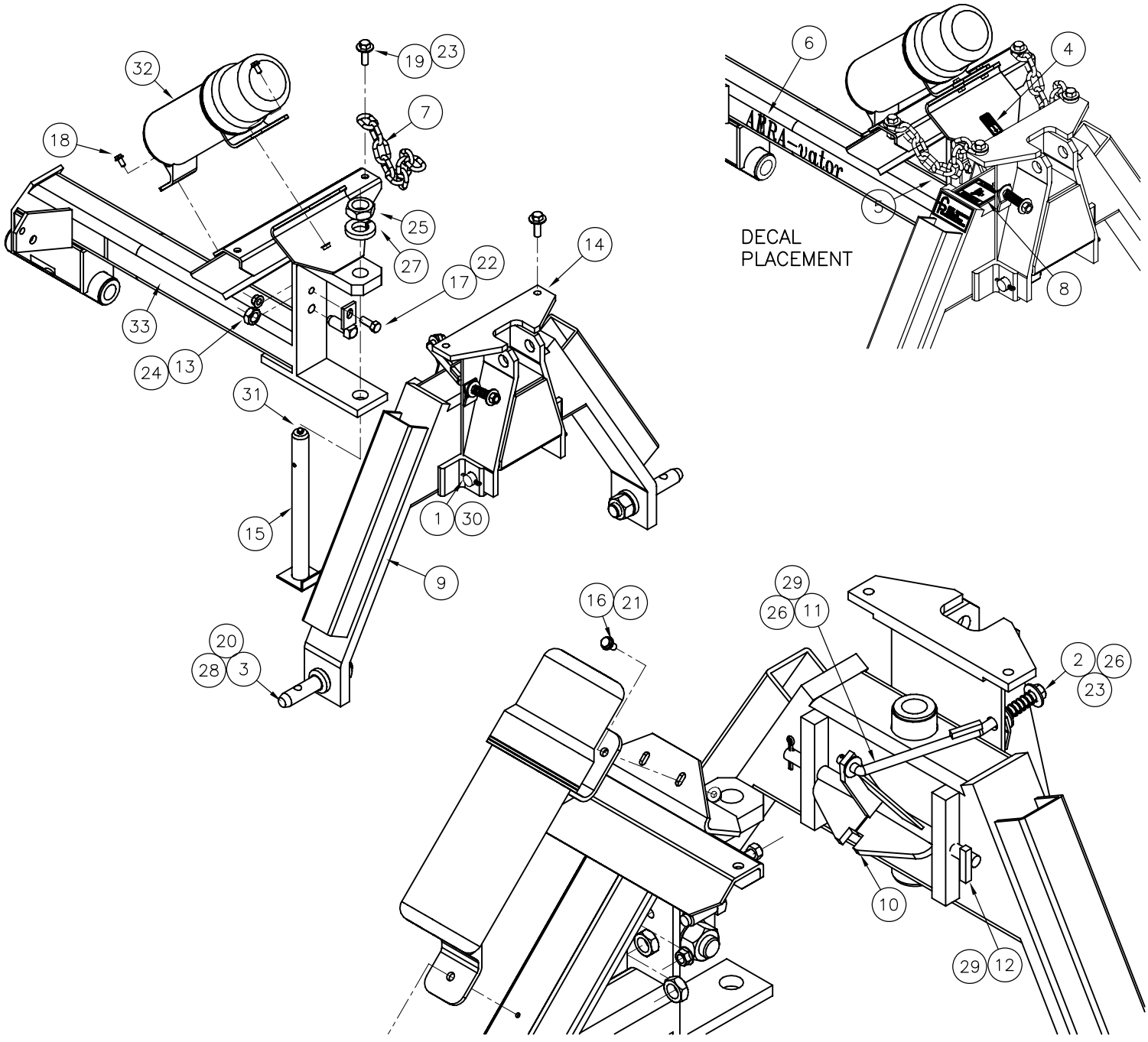
3

Reading the seed chart:

1) Each seed has seven metering rates listed to serve as a starting point for accurate calibration. There are two rows to guide the operator: Pounds per Acre & Pounds per 1000 square feet (illustrated above using Ryegrass/Bluegrass/Fescue as example).
2) These rates were measured using the corresponding sprocket combinations. The numbers provide the operator with the number of teeth for the black Top and Bottom sprockets.
3) The flute exposure illustrates the position of the feed wheels necessary for achieving the desired rate. Large and small seed are adjusted differently, so the operator must pay close attention to the diagrams to determine which direction to shift the flutes in order to increase or decrease the seed rate.

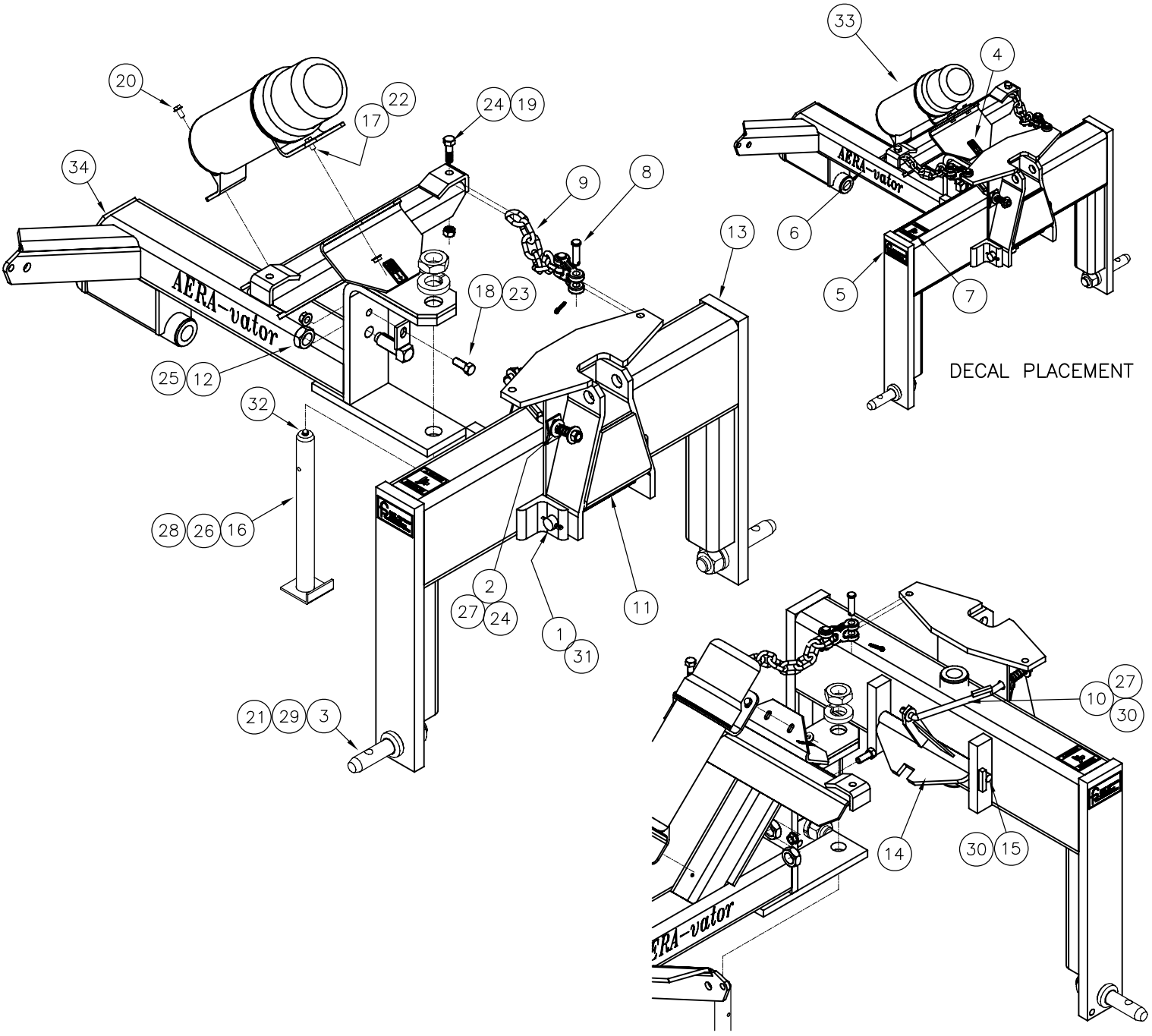
Hitch UA60

Item	Part Number	Description	Qty	Item	Part Number	Description	Qty
1	AE26-009	MAST HING ROD	1	18	HW04008024ZPLC	1/4 X 3/4 HEX SELF-TAP SCREW	1
2	AE50-022	LOCK SPRING	1	19	HW05012032G5ZPC	3/8 X 1 HEX FLG. SCREW G5	4
3	AE50-023	CAT. 1 HITCH PIN	2	20	HW20028G5ZPF	7/8 NF HEX NUT	2
4	AE50-035	GREASE WEEKLY DECAL	1	21	HW22008G5ZPC	1/4 FLG. LOCKNUTS	2
5	AE50-059	SMALL FP DECAL	2	22	HW22012G5ZPC	3/8 FLANGE LOCKNUT	1
6	AE50-063	AERA-vator DECAL	2	23	HW24012GBZPC	3/8 STOVER LOCKNUT	5
7	AE50-069	1/4" PRF. COIL CHAIN X 9 LINKS	2	24	HW25020G5PLC	5/8 JAM NUT	1
8	AE50-075	CAUTION (PINCH POINT) DECAL	2	25	HW25032G5ZPC	1" NC JAM NUT	1
9	AE80-001	A FRAME	1	26	HW30012TAZP	3/8 FLAT WASHER	3
10	AE80-006	SWING LOCK	1	27	HW32032G5ZP	1" LOCKWASHER	1
11	AE80-010	SWING LOCK LINK	1	28	HW33028G8ZP	7/8" HVY. L'WASHER	2
12	AE80-011	LOCK HINGE PIN	1	29	HW40004032ZP	1/8 X 1 COTTER PIN	2
13	AE80-017	LOCK SET SCREW - 60	1	30	HW40006040ZP	3/16 X 1 1/4 COTTER PIN	2
14	AE80-030	SWING MAST	1	31	HW50008THD.F	1/4 - 28 STR. FITTING	1
15	AE80-056	VERT. SWING PIN	1	32	UA50-009	O.M. CANISTER	1
16	HW01008024G2ZPC	1/4 X 3/4 HHCS	2	33	UA80-015	CLEVIS - UA60	1
17	HW01012032G5ZPC	3/8 X 1 HEX CAPSCREW	1				



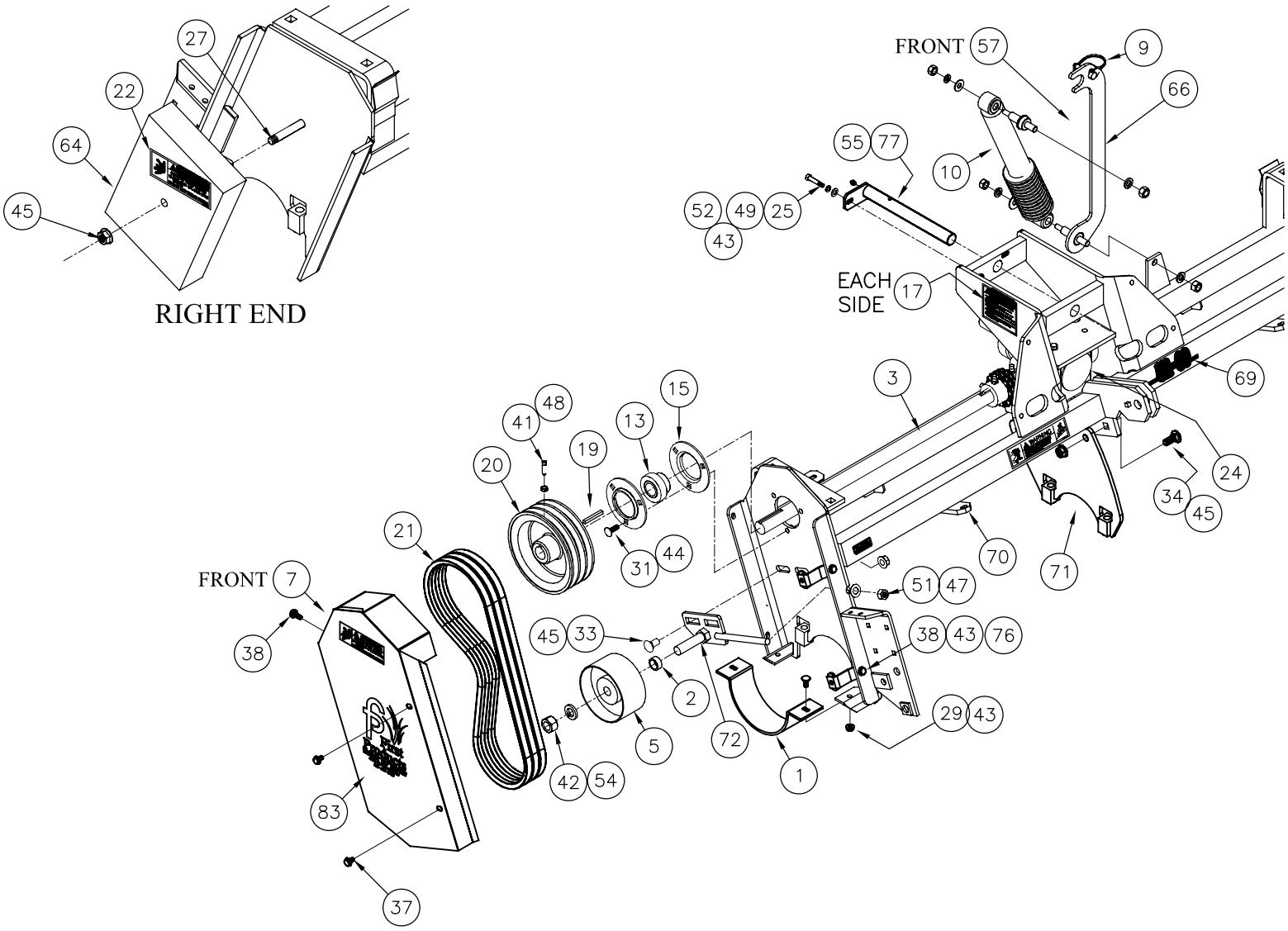
Hitch UA80

Item	Part Number	Description	Qty	Item	Part Number	Description	Qty
1	AE26-009	MAST HING ROD	1	18	HW01012032G5ZPC	3/8 X 1 HEX HEAD CAPSCREW	1
2	AE50-022	LOCK SPRING	1	19	HW01012040G5ZPC	3/8 X 1 1/4 HEX CAPSCREW G5	2
3	AE50-023	CAT. 1 HITCH PIN	2	20	HW04008024ZPC	1/4 X 3/4 HEX SELF-TAP SCREW	1
4	AE50-035	GREASE WEEKLY DECAL	1	21	HW20028G5ZPF	7/8 NF HEX NUT	2
5	AE50-059	SMALL FP DECAL	2	22	HW22008G5ZPC	1/4 FLG. LOCKNUTS	2
6	AE50-063	AERA-vator DECAL	2	23	HW22012G5ZPC	3/8 FLANGE LOCKNUT	1
7	AE50-075	CAUTION (PINCH POINT) DECAL	2	24	HW24012GBZPC	3/8 STOVER LOCKNUT	5
8	AE50-099	1/4 X 5/16 DBL. CLEVIS	2	25	HW25024G5ZPC	3/4 JAM NUT	1
9	AE50-100	5/16 PROOF COIL CHIAN X 7 LINKS	2	26	HW25032G5ZPC	1" NC JAM NUT	1
10	AE80-010	SWING LOCK LINK	1	27	HW30012TAZP	3/8 FLAT WASHER	3
11	AE80-048	SWING MAST	1	28	HW32032G5ZP	1" LOCKWASHER	1
12	AE80-051	LOCK SET SCREW - 80	1	29	HW33028G8ZP	7/8" HVY. L'WASHER	2
13	AE80-052	A FRAME - 80	1	30	HW40004032ZP	1/8 X 1 COTTER PIN	2
14	AE80-054	SWING LOCK	1	31	HW40006040ZP	3/16 X 1 1/4 COTTER PIN	2
15	AE80-055	LOCK HINGE PIN	1	32	HW50008THD.F	1/4 - 28 STR. FITTING	1
16	AE80-056	VERT. SWING PIN	1	33	UA50-009	O.M. CANISTER	1
17	HW01008024G2ZPC	1/4 X 3/4 HHCS	2	34	UA80-016	CLEVIS - UA80	1



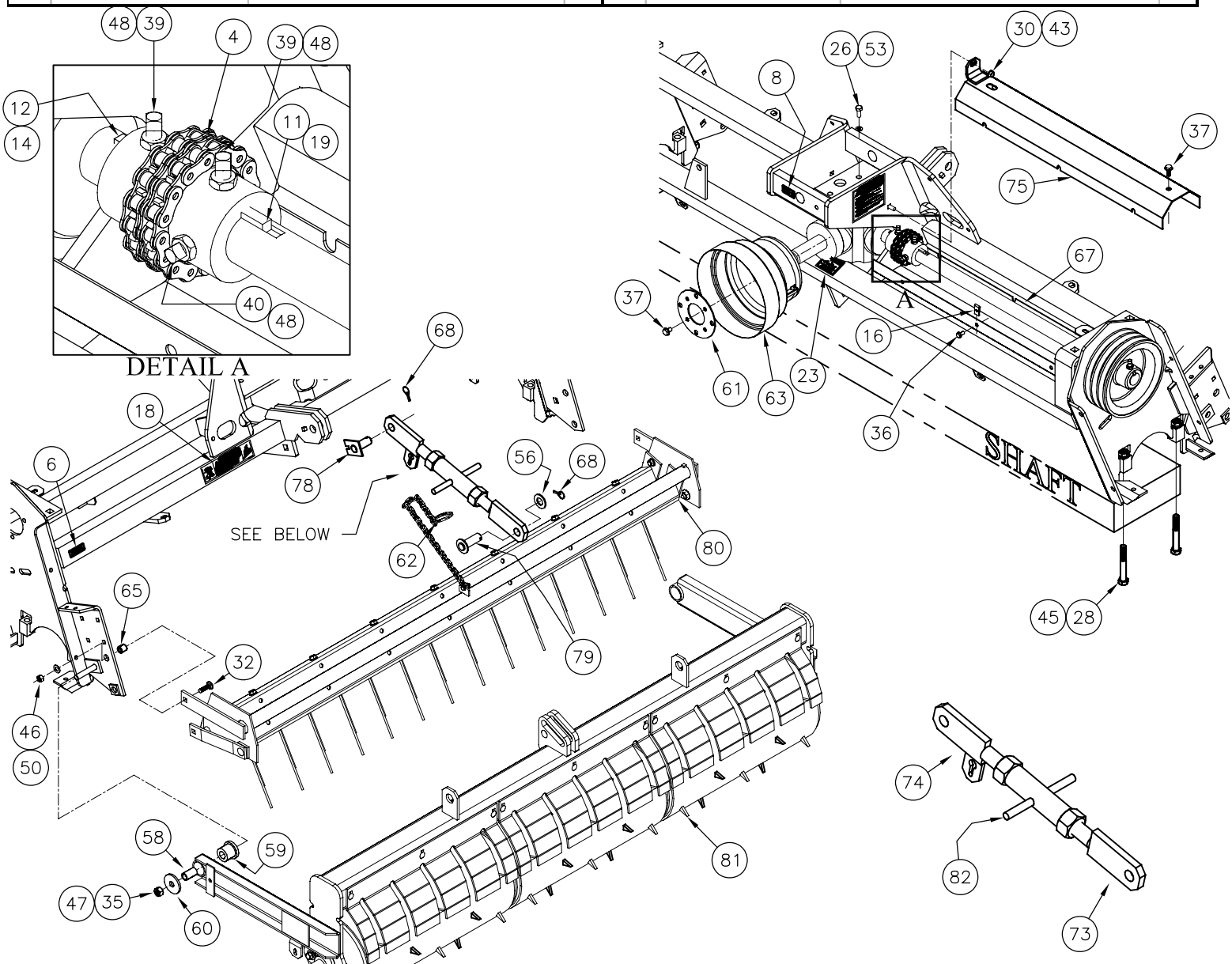
Frame UA60

Item	Part Number	Description	Qty	Item	Part Number	Description	Qty
1	AE23-010	SKID SHOE	1	23	AE50-114	DANGER HAZARD DECAL	1
2	AE24-001	BELT IDLER SPACER	1	24	AE54-018	60 GEARBOX	1
3	AE26-003	JACK SHAFT	1	25	HW01010048G5ZPC	5/16 X 1 1/2 HHCS	1
4	AE50-006	COUPLER CHAIN COMPLETE	1	26	HW01012032G5ZPC	3/8 X 1 HHCS	4
5	AE50-009	BELT IDLER	1	27	HW01016096G5ZPC	1/2 X 3 HHCS	1
6	AE50-032	U.S. PATENT DECAL	1	28	HW01016112G5ZPC	1/2 X 3 1/2 HHCS	6
7	AE50-034	TIGHTEN BELT DECAL	1	29	HW03010024G5ZPC	5/16 X 3/4 CARRIAGE BOLT	2
8	AE50-035	GREASE WEEKLY DECAL	1	30	HW03010032G5ZPC	5/16 X 1 CARRIAGE BOLT	1
9	AE50-040	3/8 X 1 1/2 PIN	1	31	HW03012032G5ZPC	3/8 X 1 CARRIAGE BOLT	3
10	AE50-041	STABLIZER	1	32	HW03012040G5ZPC	3/8 X 1 1/4 CARRIAGE BOLT	4
11	AE50-046	#40B16 X 1 1/8	1	33	HW03016032G5ZPC	1/2 X 1 CARRIAGE BOLT	2
12	AE50-047	#40B16 X 30mm	1	34	HW03016040G5ZPC	1/2 X 1 1/4 CARRIAGE BOLT	3
13	AE50-048	1 1/8 BEARING	1	35	HW03016088G5ZPC	1/2 X 2 3/4 CARRIAGE BOLT	2
14	AE50-052	8mm X 40mm KEY	1	36	HW06008016G5ZPC	1/4 X 1/2 HEX FLG. LOCKSCREW	6
15	AE50-053	62mm X 3 HOLE HVY. FLANGE	2	37	HW06010016G5ZPC	5/16 X 1/2 HEX FLG. LCK SCRW	7
16	AE50-057	1/4 - 28 U NUT	6	38	HW06010024G5ZPC	5/16 X 3/4 HEX FLG. LCK SCRW	4
17	AE50-074	GENERAL WARNING DECAL	2	39	HW07010020PLC	5/16 X 5/8 SQ. HD. SETSCREW	2
18	AE50-076	THROWN OBJECT HAZZARD DECAL	1	40	HW07010024PLC	5/16 X 3/4 SQ. HD. SETSCREW	2
19	AE50-085	1/4 X 2 (1045) KEY	2	41	HW07010032PLC	5/16 X 1 SQ HD SETSCREW	2
20	AE50-089	3B 6.9 X 1 1/8 BORE SHEAVE	1	42	HW20024G5ZPC	3/4 HEX NUT	1
21	AE50-093	BX46 BELT	3	43	HW22010G5ZPC	5/16 FLANGE LOCKNUT	6
22	AE50-113	SWINGING FRAME HAZARD DECAL	1				



Frame UA60

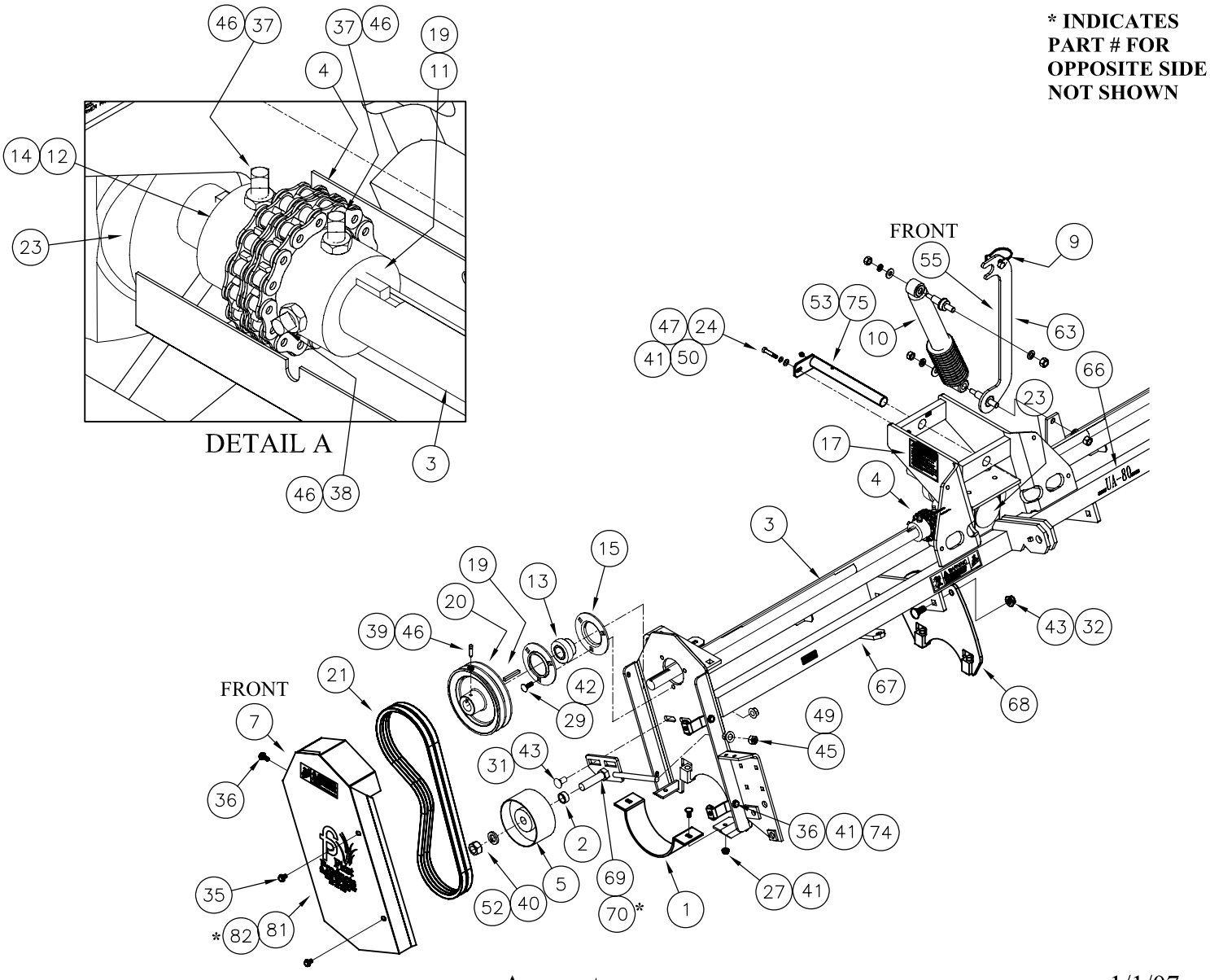
Item	Part Number	Description	Qty	Item	Part Number	Description	Qty
44	HW22012G5ZPC	3/8 FLANGE LOCKNUT	3	66	UA27-024	HITCH LOCK BAR	1
45	HW22016G5ZPC	1/2 FLANGE LOCKNUT	12	67	UA27-034	BOTTOM SHAFT SHROUD - 60	1
46	HW24012GBZPC	3/8 STOVER LOCKNUT	4	68	UA50-007	3/16 X 1 1/4 LYNCH PIN	2
47	HW24016GBZPC	1/2 STOVER LOCKNUT	3	69	UA50-013	UA60 DECAL	1
48	HW25010G5ZPC	5/16 HEX JAMNUT	6	70	UA80-003	60" UNIVERSAL FRAME	1
49	HW30010TAZP	5/16 FLATWASHER	1	71	UA80-005	INTERMEDIATE PLATE	1
50	HW31012TAZP	3/8 SAE FLATWASHER	4	72	UA80-007	BELT IDLER LEFT	1
51	HW31016TAZP	1/2 SAE FLAT WASHER	1	73	UA80-018	TURNBUCKLE - LH EYE	1
52	HW32010G5ZP	5/16 LOCKWASHER	1	74	UA80-019	TURNBUCKLE - RH EYE	1
53	HW32012G5ZP	3/8 LOCKWASHER	4	75	UA80-021	JACK SHAFT SHROUD TOP - 60	1
54	HW32024G5ZP	3/4 LOCKWASHER`	1	76	UA80-022	BELT COVER CLIP	2
55	HW50008THD.F	1/4 - 28 GREASE FITTING	1	77	UA80-027	HORIZONTAL SWIVEL PIN - 10"	1
56	HW6002404010GZP	3/4 X 1 1/4 X 10 GA MA. BUSH	1	78	UA80-028	UPPER TURNBUCKLE PIN	1
57	SB50-043	DECAL; TRANSPORT LOCK	1	79	UA80-029	LOWER TURNBUCKLE PIN	1
58	SE24-010	ROLLER BUSHING	2	80	UA81-005	SEE PAGE 32	1
59	SE50-004	ROLLER PIVOT BUSHING	2	81	UA81-006	SEE PAGE 31	1
60	SE50-025	9/16 ID X 2 OD X 3/16 WASHER	2	82	UA81-021	TURNBUCKLE HANDLE	1
61	SE50-034	PTO WASHER	1	83	UA81-022	BELT COVER - UA LEFT	1
62	SE50-036	KEY RING	1				
63	SE81-013	PTO SHIELD 5 7/8 X 5 7/8	1				
64	UA23-031	UA60 BALANCE WEIGHT	1				
65	UA24-018	3/8 X 5/8 X 1/2 BUSHING	4				



Frame UA80

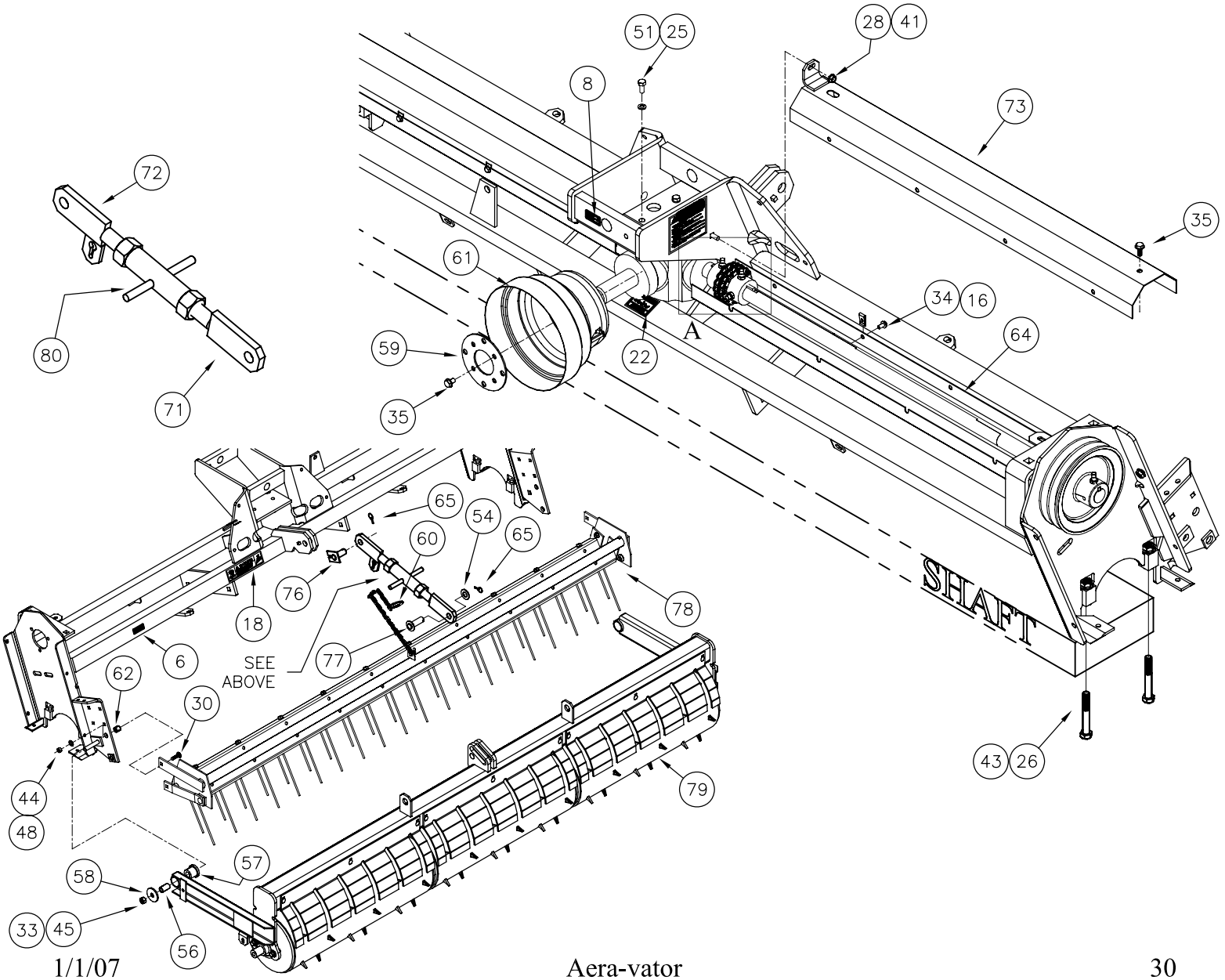
Item	Part Number	Description	Qty	Item	Part Number	Description	Qty
1	AE23-010	SKID SHOE	2	23	AE54-046	80 GEARBOX	1
2	AE24-001	BELT IDLER SPACER	2	24	HW01010048G5ZPC	5/16 X 1 1/2 HHCS	1
3	AE26-020	JACK SHAFT X 1 1/8	2	25	HW01012032G5ZPC	3/8 X 1 HHCS	4
4	AE50-006	COUPLER CHAIN COMPLETE	2	26	HW01016112G5ZPC	1/2 X 3 1/2 HHCS	8
5	AE50-009	BELT IDLER	2	27	HW03010024G5ZPC	5/16 X 3/4 CARRIAGE BOLT	4
6	AE50-032	U.S. PATENT DECAL	1	28	HW03010032G5ZPC	5/16 X 1 CARRIAGE BOLT	2
7	AE50-034	TIGHTEN BELT DECAL	2	29	HW03012032G5ZPC	3/8 X 1 CARRIAGE BOLT	6
8	AE50-035	GREASE WEEKLY DECAL	1	30	HW03012040G5ZPC	3/8 X 1 1/4 CARRIAGE BOLT	4
9	AE50-040	3/8 X 1 1/2 PIN	1	31	HW03016032G5ZPC	1/2 X 1 CARRIAGE BOLT	4
10	AE50-041	STABLIZER	1	32	HW03016040G5ZPC	1/2 X 1 1/4 CARRIAGE BOLT	6
11	AE50-046	#40B16 X 1 1/8	2	33	HW03016088G5ZPC	1/2 X 2 3/4 CARRIAGE BOLT	2
12	AE50-047	#40B16 X 30mm	2	34	HW06008016G5ZPC	1/4 X 1/2 HEX FLG. LOCKSCREW	16
13	AE50-048	1 1/8 BEARING	2	35	HW06010016G5ZPC	5/16 X 1/2 FLANGE LOCKSCREW	10
14	AE50-052	8mm X 40mm KEY	2	36	HW06010024G5ZPC	5/16 X 3/4 HEX FLG. LCK SCRW	8
15	AE50-053	62mm X 3 HOLE HVY. FLANGE	4	37	HW07010020PLC	5/16 X 5/8 SQ HD SETSCREW	4
16	AE50-057	1/4 - 28 U NUT	16	38	HW07010024PLC	5/16 X 3/4 SQ HD SETSCREW	4
17	AE50-074	GENERAL WARNING DECAL	2	39	HW07010032PLC	5/16 X 1 SQ HD SETSCREW	4
18	AE50-076	THROWN OBJECT DECAL	1	40	HW20024G5ZPC	3/4 HEX NUT	2
19	AE50-085	1/4 X 2 (1045)	4	41	HW22010G5ZPC	5/16 FLANGE LOCKNUT	11
20	AE50-087	2B 6.9 X 1 1/8 BORE SHEAVE	2	42	HW22012G5ZPC	3/8 FLANGE LOCKNUT	6
21	AE50-093	BX46 BELT	4	43	HW22016G5ZPC	1/2 FLANGE LOCKNUT	18
22	AE50-114	DANGER HAZARD DECAL	1				

*** INDICATES PART # FOR OPPOSITE SIDE NOT SHOWN**



Frame UA80

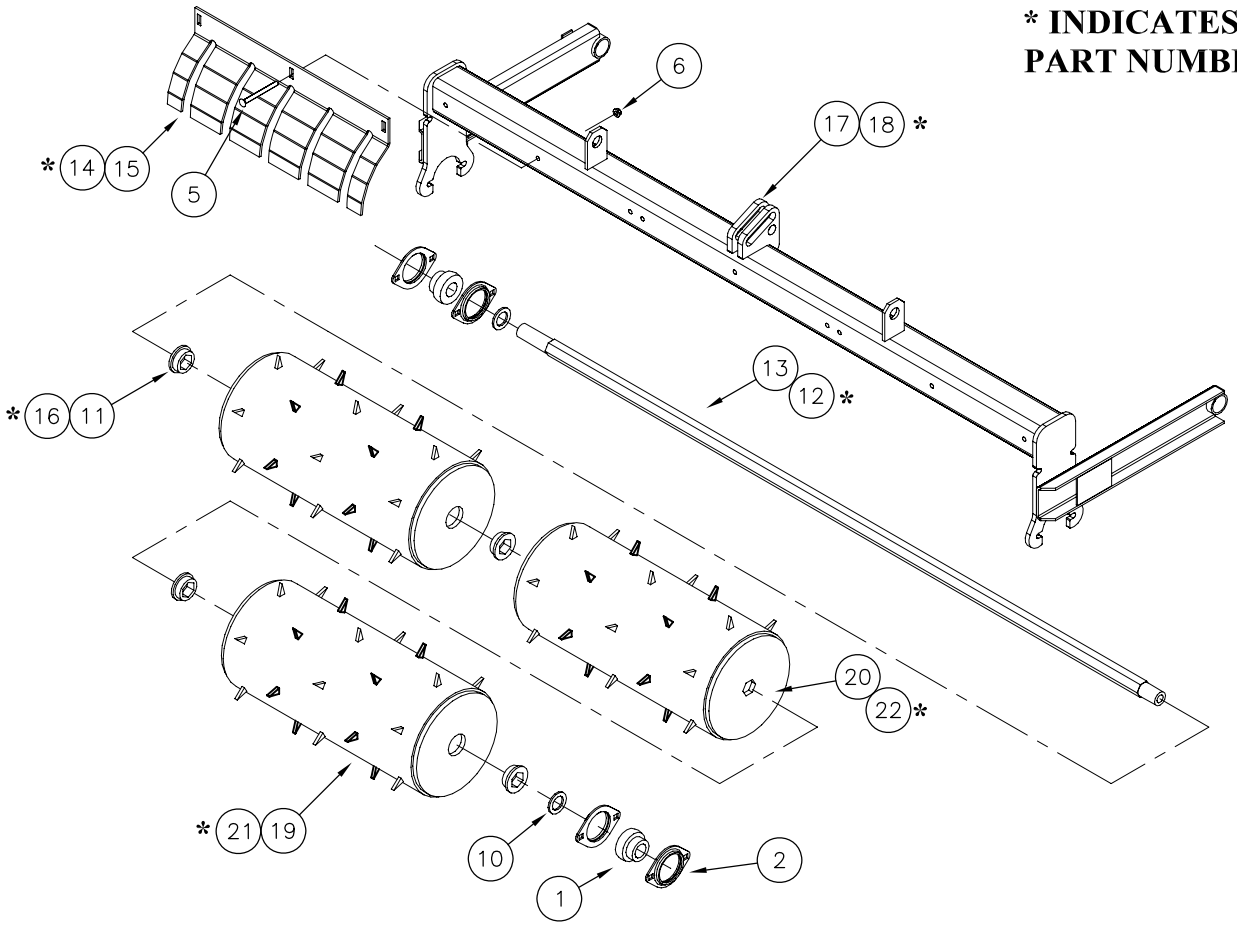
Item	Part Number	Description	Qty	Item	Part Number	Description	Qty
44	HW24012GBZPC	3/8 STOVER LOCKNUT	4	66	UA50-014	UA80 DECAL	1
45	HW24016GBZPC	1/2 STOVER LOCKNUT	4	67	UA80-004	80" UNIVERSAL FRAME	1
46	HW25010G5ZPC	5/16 HEX JAMNUT	12	68	UA80-005	INTERMEDIATE PLATE	2
47	HW30010TAZP	5/16 FLATWASHER	1	69	UA80-007	BELT IDLER LEFT	1
48	HW31012TAZP	3/8 SAE FLATWASHER	4	70	UA80-008	BELT IDLER RIGHT	1
49	HW31016TAZP	1/2 SAE FLAT WASHER	2	71	UA80-018	TURNBUCKLE - LH EYE	1
50	HW32010G5ZP	5/16 LOCKWASHER	1	72	UA80-019	TURNBUCKLE - RH EYE	1
51	HW32012G5ZP	3/8 LOCKWASHER	4	73	UA80-020	JACK SHAFT SHROUD TOP - 80	2
52	HW32024G5ZP	3/4 LOCKWASHER`	2	74	UA80-022	BELT COVER CLIP	4
53	HW50008THD.F	1/4 - 28 GREASE FITTING	1	75	UA80-027	HORIZONTAL SWIVEL PIN - 10"	1
54	HW6002404010GZP	3/4 X 1 1/4 X 10 GA MA. BUSH	1	76	UA80-028	UPPER TURNBUCKLE PIN	1
55	SB50-043	DECAL; TRANSPORT LOCK	1	77	UA80-029	LOWER TURNBUCKLE PIN	1
56	SE24-010	ROLLER BUSHING	2	78	UA81-015	SEE PAGE 30	1
57	SE50-004	ROLLER PIVOT BUSHING	2	79	UA81-016	SEE PAGE 29	1
58	SE50-025	9/16 ID X 2 OD X 3/16 WASHER	2	80	UA81-021	TURNBUCKLE HANDLE	1
59	SE50-034	PTO WASHER	1	81	UA81-022	BELT COVER - UA LEFT	1
60	SE50-036	KEY RING	1	82	UA81-023	BELT COVER - UA RIGHT	1
61	SE81-013	PTO SHIELD 5 7/8 X 5 7/8	1				
62	UA24-018	3/8 X 5/8 X 1/2 BUSHING	4				
63	UA27-024	HITCH LOCK BAR	1				
64	UA27-033	BOTTOM SHAFT SHROUD - 80	2				
65	UA50-007	3/16 X 1 1/4 LYNCH PIN	2				

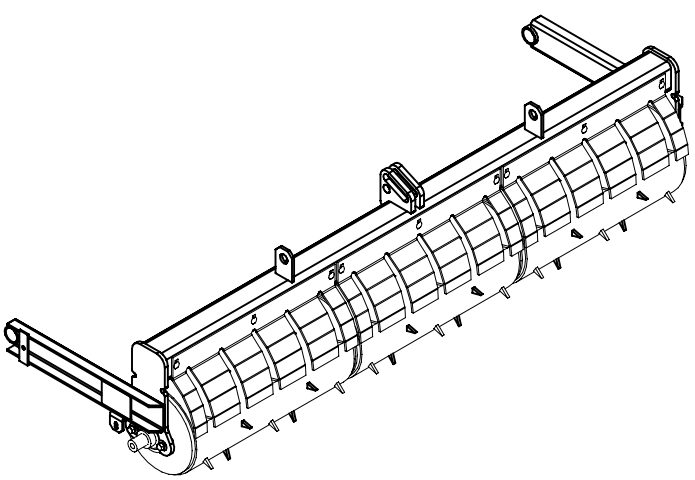


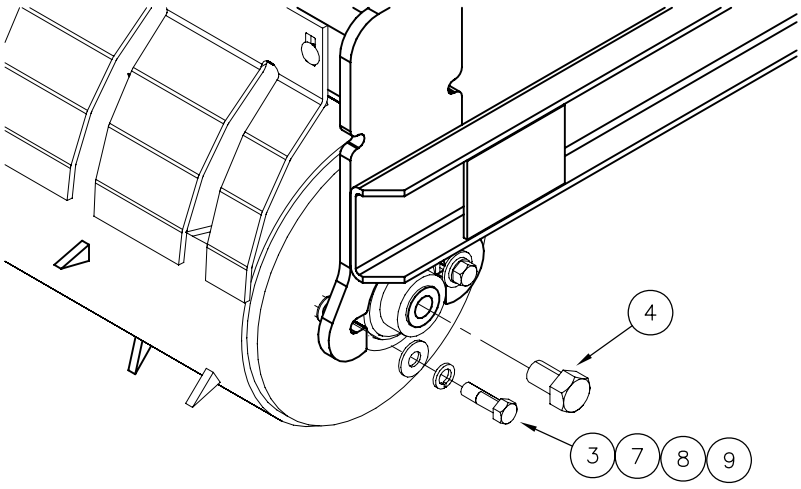
Rear Roller

Item	Part Number	Description	Qty	Item	Part Number	Description	Qty
1	AE50-048	1 1/8 BEARING	2	12	UA26-012 *	SPLIT ROLLER SHAFT - 80	1
2	FL50-007	EX. HVY. 62mm STAMPING	4	13	UA26-013	SPLIT ROLLER SHAFT - 60	1
3	HW01012040G5ZPC	3/8 X 1 1/4 HHCS	4	14	UA27-020 *	CLEATED SCRAPER - 26	3
4	HW01020032G5ZPC	5/8 X 1 HHCS	1	15	UA27-030	CLEATED SCRAPER - 19 3/4	3
5	HW03010112G5ZPC	5/16 X 3 1/2 CARRIAGE BOLT	9	16	UA50-003 *	1 5/8 HEX X 2 1/4 BUSHING	4
6	HW22010G5ZPC	5/16 FLG. LOCKNUT	9	17	UA80-013	REAR ROLLER FRAME - 60	1
7	HW22012G5ZPC	3/8 FLG. LOCKNUT	4	18	UA80-014 *	REAR ROLLER FRAME - 80	1
8	HW31012TAZP	3/8 TYPE A SAE FLAT WASHER	4	19	UA80-032	END CLEATED ROLLER - 60	2
9	HW32012G5ZP	3/8 LOCKWASHER	4	20	UA80-033	CENTER CLEATED ROLLER - 60	1
10	HW6003605610GPL	1 1/8 X 1 3/4 X 10 GA MA.BUSH	2	21	UA80-034 *	END CLEATED ROLLER - 80	2
11	SE50-001	ROLLER BUSHING	4	22	UA80-035 *	CENTER CLEATED ROLLER - 80	1

*** INDICATES 80" PART NUMBER**

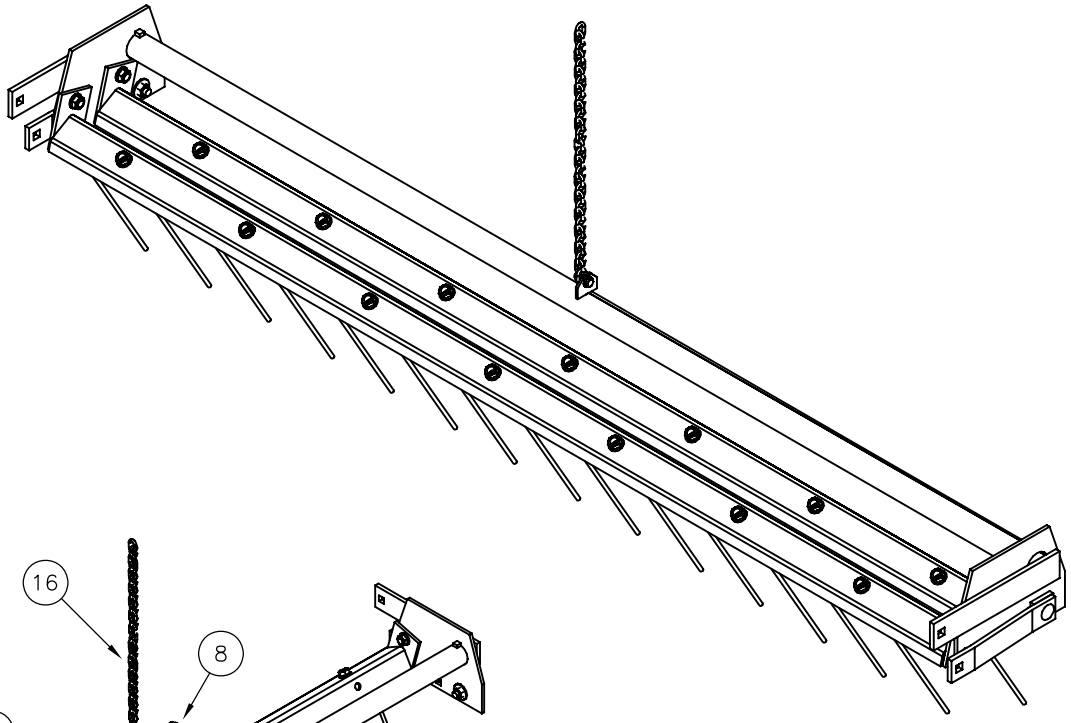




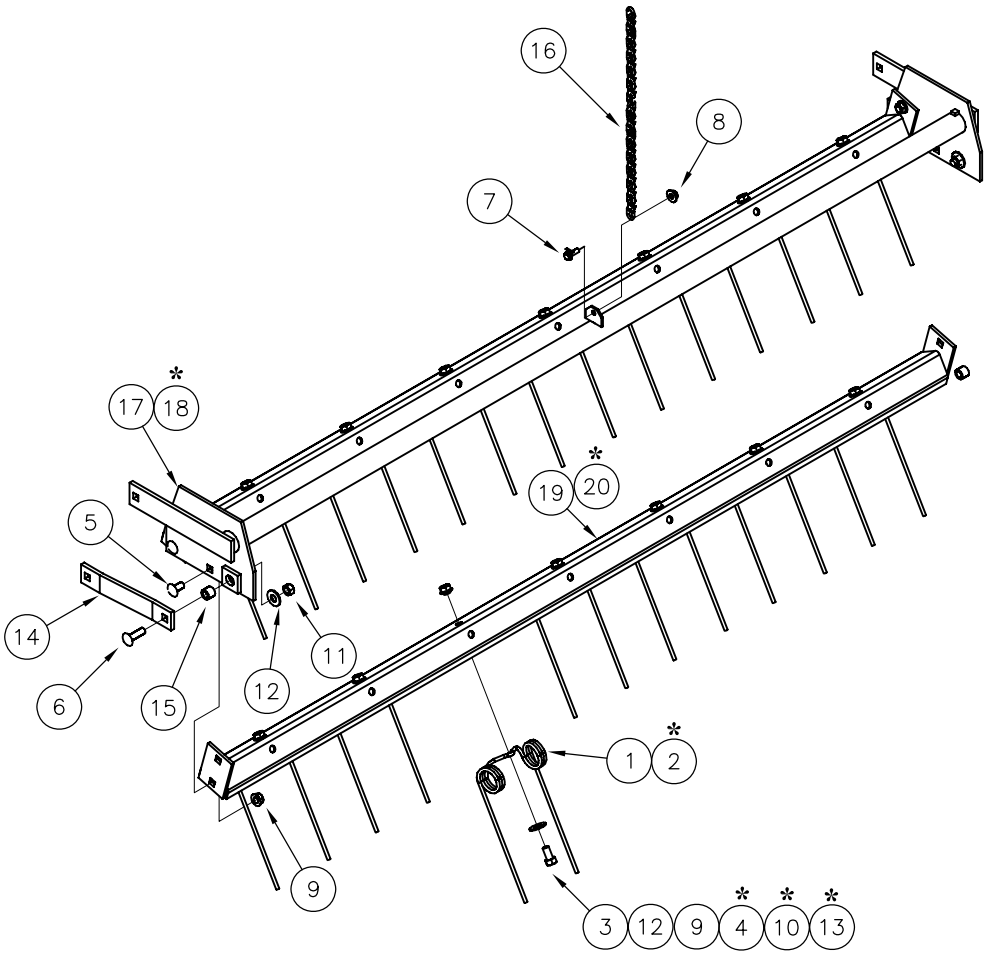


Rake

Item	Part Number	Description	Qty	Item	Part Number	Description	Qty
1	AE50-065	RAKE TOOTH	14	11	HW24012GBZPC	3/8 STOVER LOCKNUT	2
2	AE50-065 *	RAKE TOOTH	20	12	HW30012TAZP	3/8 TYPE A FLATWASHER	16
3	HW01012024G5ZPC	3/8 X 3/4 HHCS	14	13	HW30012TAZP *	3/8 TYPE A FLATWASHER	22
4	HW01012024G5ZPC *	3/8 X 3/4 HHCS	20	14	UA23-012	BOTTOM LINKAGE	2
5	HW03012024G5ZPC	3/8 X 3/4 CARRIAGE BOLT	8	15	UA24-018	3/8 X 5/8 X 1/2 BUSHING	2
6	HW03012040G5ZPC	3/8 X 1 1/4 CARRIAGE BOLT	2	16	UA50-002	REAR RAKE CHAIN	1
7	HW05008024G5ZPC	1/4 X 3/4 HEX FLANGE BOLT	1	17	UA80-009	REAR RAKE FRAME - 60	1
8	HW22008G5ZPC	1/4 FLANGE LOCKNUT	1	18	UA80-010 *	REAR RAKE FRAME - 80	1
9	HW22012G5ZPC	3/8 FLANGE LOCKNUT	22	19	UA80-030	RAKE BAR - UA60	2
10	HW22012G5ZPC *	3/8 FLANGE LOCKNUT	28	20	UA80-041 *	RAKE BAR - UA80	2



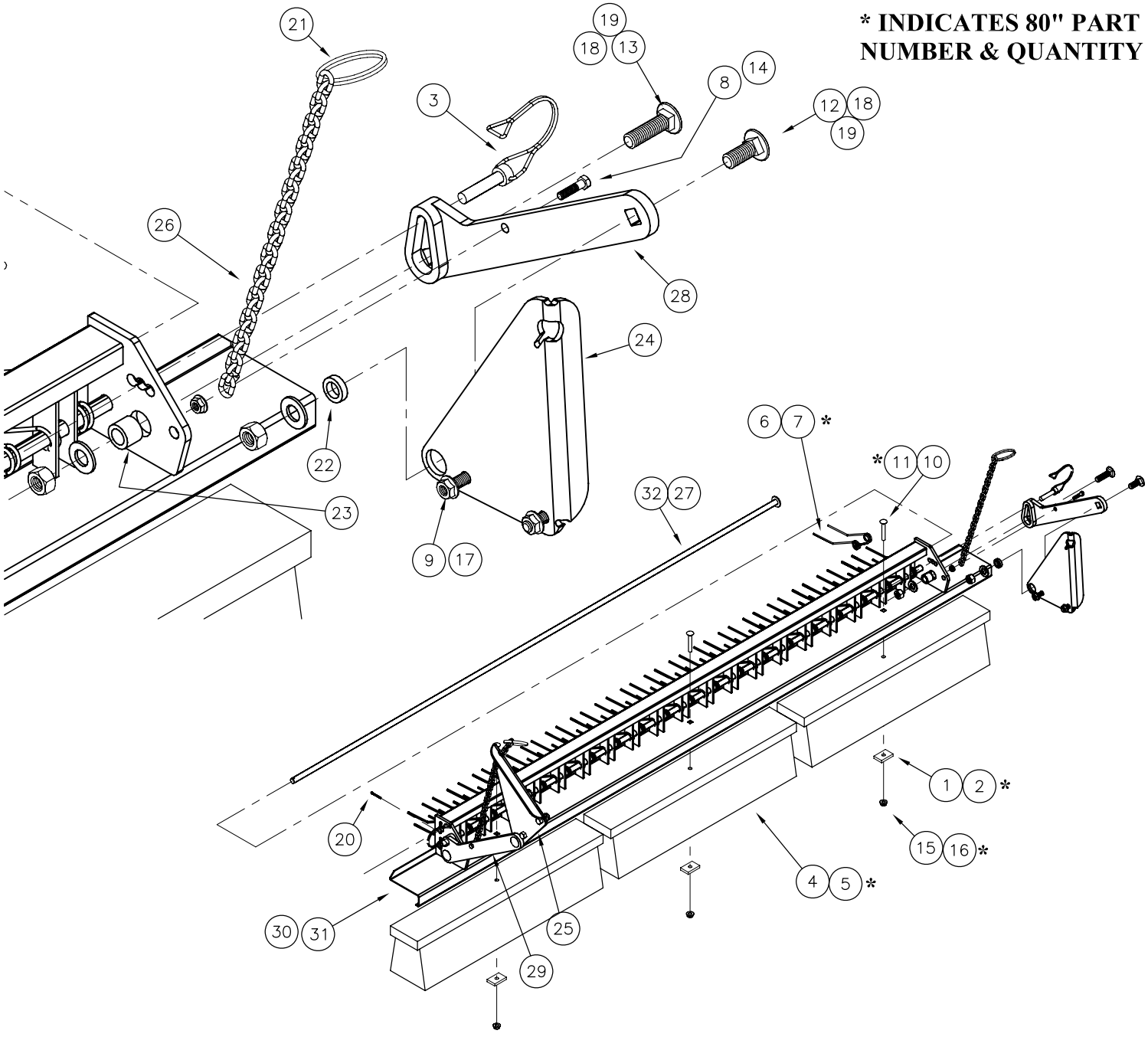
*** INDICATES 80" PART NUMBER & QUANTITY**



Grooming Rake & Brush

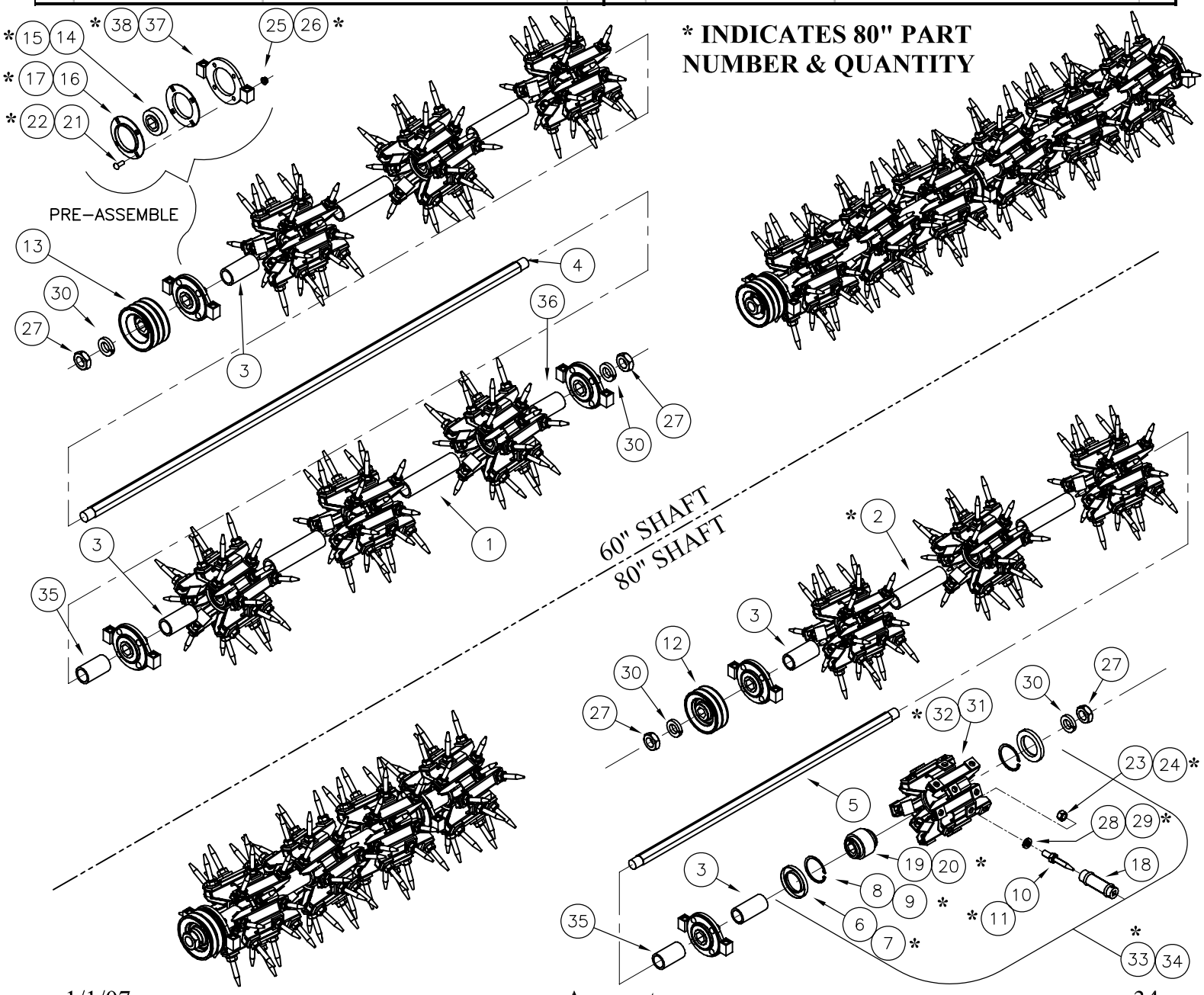
Item	Part Number	Description	Qty	Item	Part Number	Description	Qty
1	AE23-205	WASHER	3	18	HW24016GBZPC	1/2 STOVER LOCKNUT	4
2	AE23-205 *	WASHER	4	19	HW31016TAZP	1/2 SAE TYPE A FLATWASHER	4
3	AE50-040	3/8 X 1 1/2 SNAPPER PIN	2	20	HW40004032ZP	1/8 X 1 COTTER PIN	2
4	AE50-159	BRUSH	3	21	SE50-036	KEY RING	2
5	AE50-159 *	BRUSH	4	22	UA24-016	1/2 X 7/32 BUSHING	2
6	AE50-178	RAKE TINE	38	23	UA24-017	1/2 X 21/32 BUSHING	2
7	AE50-178 *	RAKE TINE	50	24	UA27-037	RAKE/BRUSH EXTENSION LEFT	1
8	HW01008032G5ZPC	1/4 X 1 HHCS	2	25	UA27-038	RAKE/BRUSH EXTENSION RIGHT	1
9	HW01012032G5ZPC	3/8 X 1 HHCS	4	26	UA50-008	BROOM/RAKE CHAIN	2
10	HW03010064G5ZPC	5/16 X 2 CARRIAGE BOLT	3	27	UA80-037	RAKE RETAINER - 60	2
11	HW03010064G5ZPC *	5/16 X 2 CARRIAGE BOLT	4	28	UA80-038	BRUSH/RAKE ARM LEFT	1
12	HW03016040G5ZPC	1/2 X 1 1/4 CARRIAGE BOLT	2	29	UA80-039	BRUSH/RAKE ARM RIGHT	1
13	HW03016056G5ZPC	1/2 X 1 3/4 CARRIAGE BOLT	2	30	UA80-040	RAKE/BRUSH - 60	1
14	HW22008G5ZPC	1/4 FLANGE LOCKNUT	2	31	UA80-043	RAKE/BRUSH - 80	1
15	HW22010G5ZPC	5/16 FLANGE LOCKNUT	3	32	UA80-044	RAKE RETAINER - 80	2
16	HW22010G5ZPC *	5/16 FLANGE LOCKNUT	4				
17	HW22012G5ZPC	3/8 FLANGE LOCKNUT	4				

*** INDICATES 80" PART NUMBER & QUANTITY**



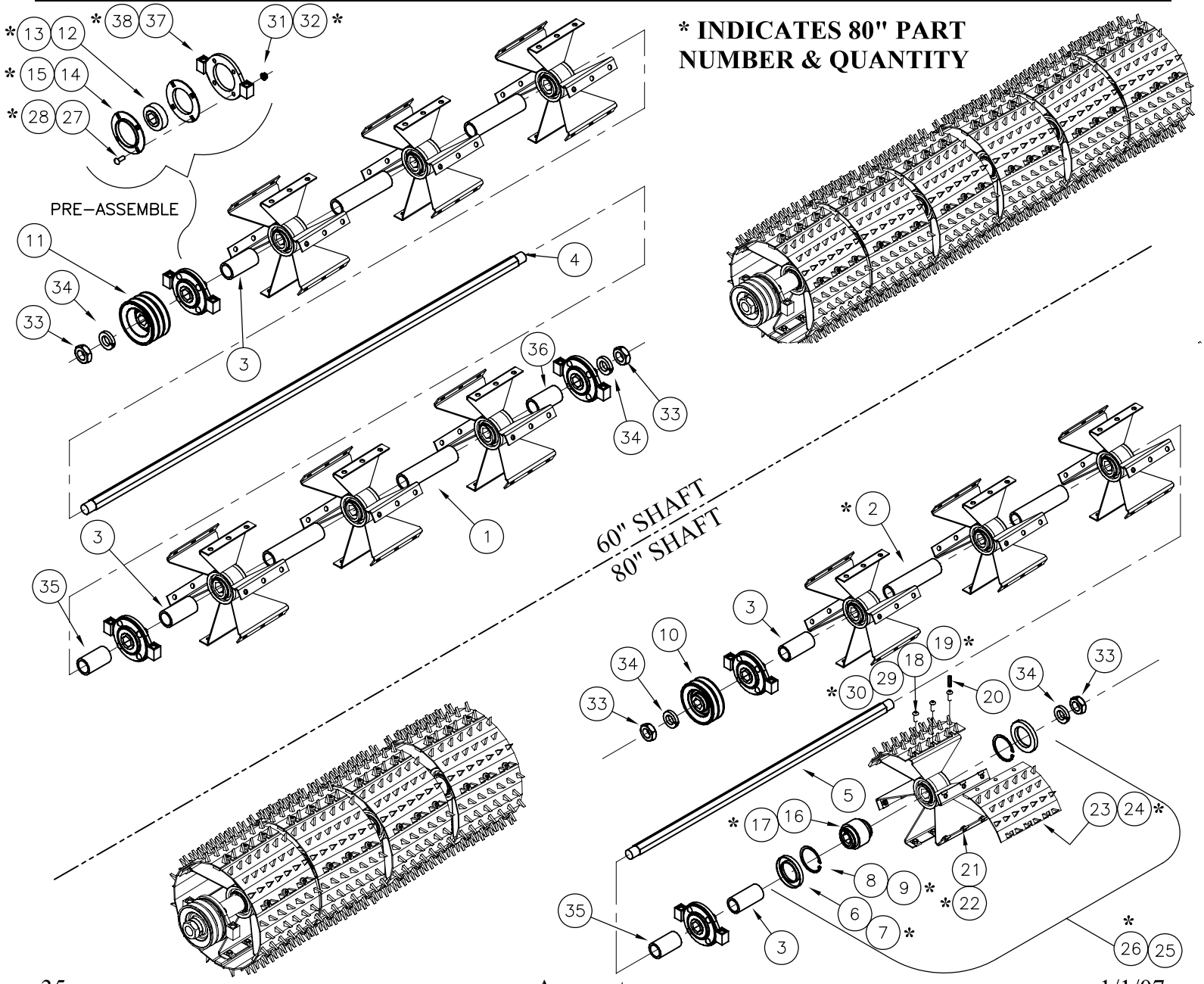
Aera-vator Shafts

Item	Part Number	Description	Qty	Item	Part Number	Description	Qty
1	AE24-011	LONG SPACER 7 1/4	4	21	HW03012032G5ZPC	3/8 X 1 CARRIAGE BOLT	12
2	AE24-011 *	LONG SPACER 7 1/4	2	22	HW03012032G5ZPC *	3/8 X 1 CARRIAGE BOLT	8
3	AE24-027	DRIVE END SPACER 3 13/16	2	23	HW20020G5PLF	5/8" NF HEX NUT G5 PLAIN	144
4	AE26-021	ROTOR SHAFT - 60	1	24	HW20020G5PLF *	5/8" NF HEX NUT G5 PLAIN	96
5	AE26-022	ROTOR SHAFT - 80	1	25	HW22012G5ZPC	3/8 FLANGE LOCKNUT	12
6	AE50-005	EXTERNAL ROTOR SEAL	12	26	HW22012G5ZPC *	3/8 FLANGE LOCKNUT	8
7	AE50-005 *	EXTERNAL ROTOR SEAL	8	27	HW25036G5ZPF	1 1/8 - 12 JAM NUT FINE	2
8	AE50-029	3" INTERNAL SNAP RING	12	28	HW32020G8ZP	5/8" LOCKWASHER G8	144
9	AE50-029 *	3" INTERNAL SNAP RING	8	29	HW32020G8ZP *	5/8" LOCKWASHER G8	96
10	AE50-058	TINE - 5/8" NF	144	30	HW32036G5ZP	1 1/8 LOCKWASHER	2
11	AE50-058 *	TINE - 5/8" NF	96	31	SE80-015	ROTOR ONLY	6
12	AE50-086	2B HEX BORE SLEAVE	1	32	SE80-015 *	ROTOR ONLY	4
13	AE50-088	3B HEX BORE SLEAVE	1	33	SE81-002 *	ROTOR ASS'Y W/O TINES	4
14	AE50-090	1 1/8 HEX BORE BEARING	3	34	SE81-002	ROTOR ASS'Y W/O TINES	6
15	AE50-090 *	1 1/8 HEX BORE BEARING	2	35	UA24-004	OUTER ROTOR SPACER - 3 7/32	1
16	AE50-094	72mm X 4 HOLE FLANGE	6	36	UA24-013	END SPACER - UN60	1
17	AE50-094 *	72mm X 4 HOLE FLANGE	4	37	UA80-006	ROTOR SHAFT ADAPTOR PLATE	3
18	AE60T003	15/16" EXTRA DEEP SOCKET	1	38	UA80-006 *	ROTOR SHAFT ADAPTOR PLATE	2
19	AE81-010	AE BRG/5DEGREE ADAPTER	6				
20	AE81-010 *	AE BRG/5DEGREE ADAPTER	4				



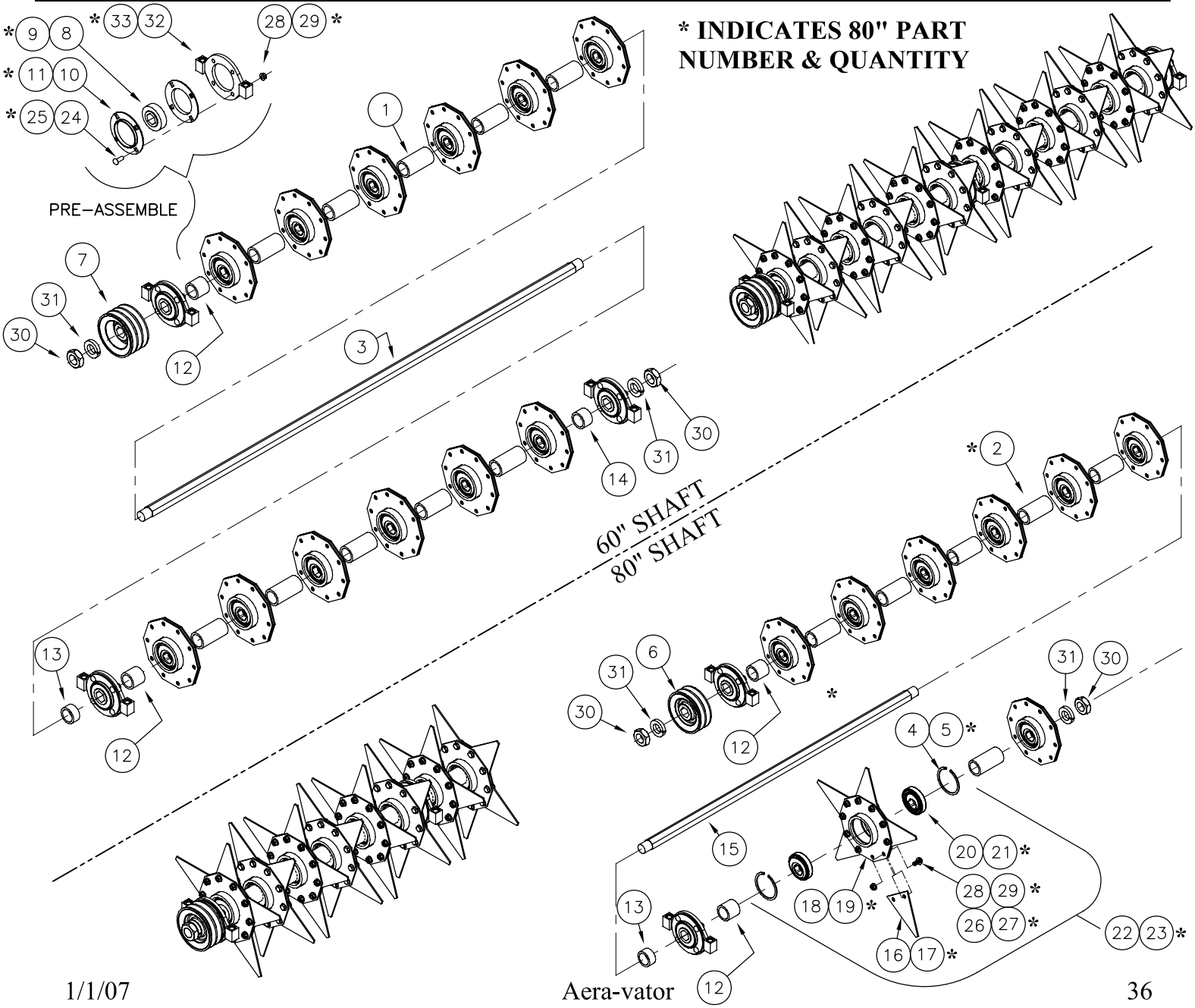
Multi-tine Shafts

Item	Part Number	Description	Qty	Item	Part Number	Description	Qty
1	AE24-011	LONG SPACER 7 1/4	4	21	FT80-002	ROTOR ONLY	6
2	AE24-011 *	LONG SPACER 7 1/4	2	22	FT80-002 *	ROTOR ONLY	4
3	AE24-027	DRIVE END SPACER 3 13/16	2	23	FT80-015	FLAT TINE SHELL	36
4	AE26-021	ROTOR SHAFT - 60	1	24	FT80-015 *	FLAT TINE SHELL	24
5	AE26-022 *	ROTOR SHAFT - 80	1	25	FT81-001	ROTOR ASS'Y W/O SHELLS	6
6	AE50-005	EXTERNAL ROTOR SEAL	12	26	FT81-001 *	ROTOR ASS'Y W/O SHELLS	4
7	AE50-005 *	EXTERNAL ROTOR SEAL	8	27	HW03012032G5ZPC	3/8 X 1 CARRIAGE BOLT	12
8	AE50-029	3" INTERNAL SNAP RING	12	28	HW03012032G5ZPC *	3/8 X 1 CARRIAGE BOLT	8
9	AE50-029 *	3" INTERNAL SNAP RING	8	29	HW12012032G5PC	3/8 X 1 TORX PLUS BUT. HD. CAPSW.	108
10	AE50-086	2B HEX BORE SLEAVE	1	30	HW12012032G5PC *	3/8 X 1 TORX PLUS BUT. HD. CAPSW.	72
11	AE50-088	3B HEX BORE SLEAVE	1	31	HW22012G5ZPC	3/8 FLANGE LOCKNUT	12
12	AE50-090	1 1/8 HEX BORE BEARING	3	32	HW22012G5ZPC *	3/8 FLANGE LOCKNUT	8
13	AE50-090 *	1 1/8 HEX BORE BEARING	2	33	HW25036G5ZPF	1 1/8 - 12 JAM NUT FINE	2
14	AE50-094	72mm X 4 HOLE FLANGE	6	34	HW32036G5ZP	1 1/8 LOCKWASHER	2
15	AE50-094 *	72mm X 4 HOLE FLANGE	4	35	UA24-004	OUTER ROTOR SPACER - 3 7/32	1
16	AE81-070	AE BRG/2DEGREE ADAPTER	6	36	UA24-013	END SPACER - UN60	1
17	AE81-070 *	AE BRG/2DEGREE ADAPTER	4	37	UA80-006	ROTOR SHAFT ADAPTOR PLATE	3
18	FT50-006	J-TYPE RETAINER NUT	108	38	UA80-006 *	ROTOR SHAFT ADAPTOR PLATE	2
19	FT50-006 *	J-TYPE RETAINER NUT	72				
20	FT50-009	TORX PLUS BIT	1				



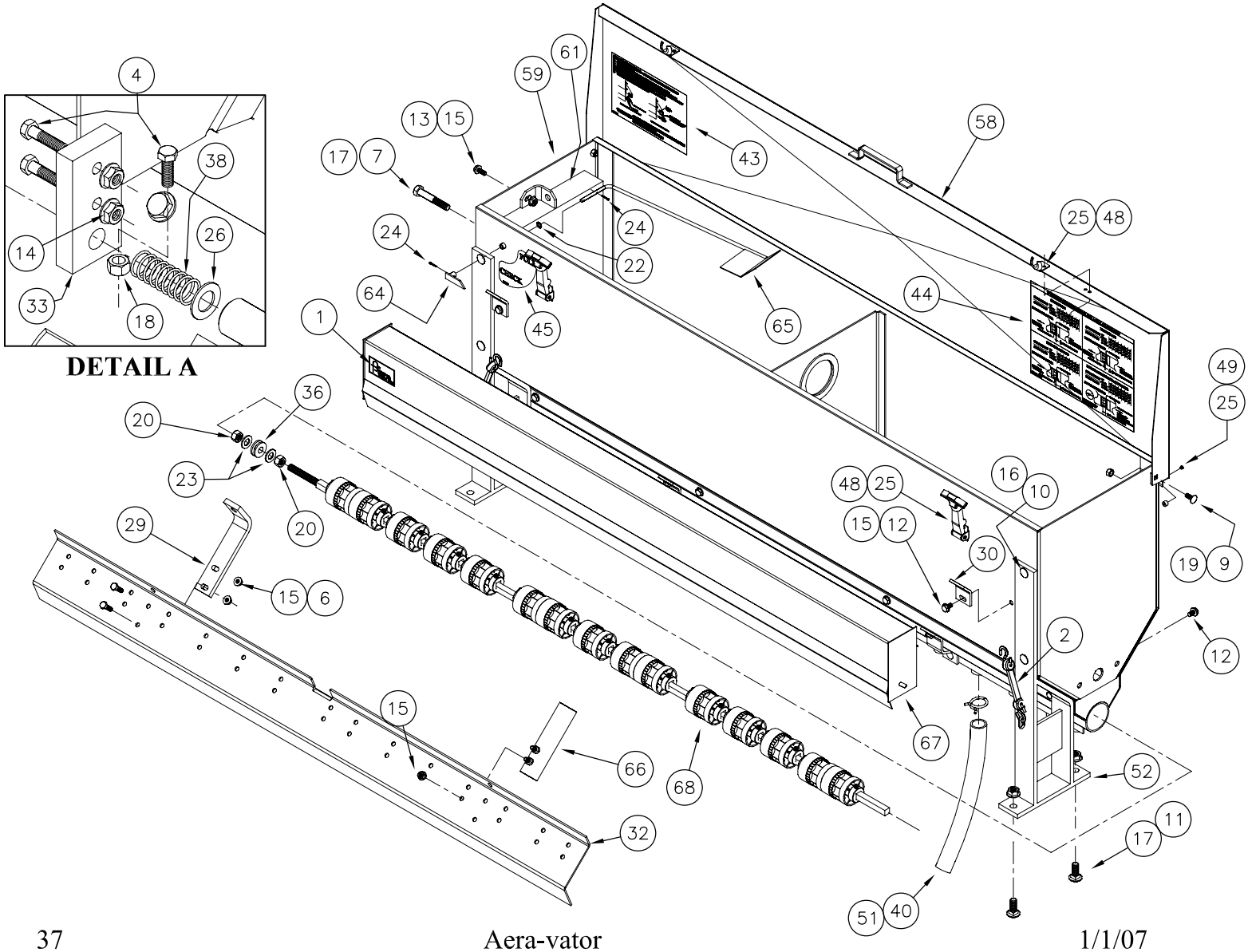
Slicer Shafts

Item	Part Number	Description	Qty	Item	Part Number	Description	Qty
1	AE24-028	3 9/16 CENTER SPACER	10	21	AS81-001 *	SLICER BRG/ADAPTER ASS'Y	16
2	AE24-028 *	3 9/16 CENTER SPACER	6	22	AS81-002	SLICER HUB COMPLETE W/O BLADES	12
3	AE26-021	ROTOR SHAFT - 60	1	23	AS81-002 *	SLICER HUB COMPLETE W/O BLADES	8
4	AE50-015	INT. SNAP RING - 80mm	24	24	HW03012032G5ZPC	3/8 X 1 CARRIAGE BOLT	12
5	AE50-015 *	INT. SNAP RING - 80mm	16	25	HW03012032G5ZPC *	3/8 X 1 CARRIAGE BOLT	8
6	AE50-086	2B HEX BORE SLEAVE	1	26	HW06012024G5ZPC	3/8 X 3/4 HEX FLG. LOCK SCREW	120
7	AE50-088	3B HEX BORE SLEAVE	1	27	HW06012024G5ZPC *	3/8 X 3/4 HEX FLG. LOCK SCREW	80
8	AE50-090	1 1/8 HEX BORE BEARING	3	28	HW22012G5ZPC	3/8 FLANGE LOCKNUT	132
9	AE50-090 *	1 1/8 HEX BORE BEARING	2	29	HW22012G5ZPC *	3/8 FLANGE LOCKNUT	88
10	AE50-094	72mm X 4 HOLE FLANGE	6	30	HW25036G5ZPF	1 1/8 - 12 JAM NUT FINE	2
11	AE50-094 *	72mm X 4 HOLE FLANGE	4	31	HW32036G5ZP	1 1/8 LOCKWASHER	2
12	AS24-002	1 11/16 PULLEY SPACER - AS	2	32	UA80-006	ROTOR SHAFT ADAPTOR PLATE	3
13	AS24-003	15/16" CENTER BRG. SPACER - AS	1	33	UA80-006 *	ROTOR SHAFT ADAPTOR PLATE	2
14	AS24-004	1 3/16 FREE END SPACER - AS	1				
15	AS26-001	AS80 ROTOR SHAFT	1				
16	AS50-001	5" BLADE - AS	60				
17	AS50-001 *	5" BLADE - AS	40				
18	AS80-001	SLICER HUB	12				
19	AS80-001 *	SLICER HUB	8				
20	AS81-001	SLICER BRG/ADAPTER ASS'Y	24				



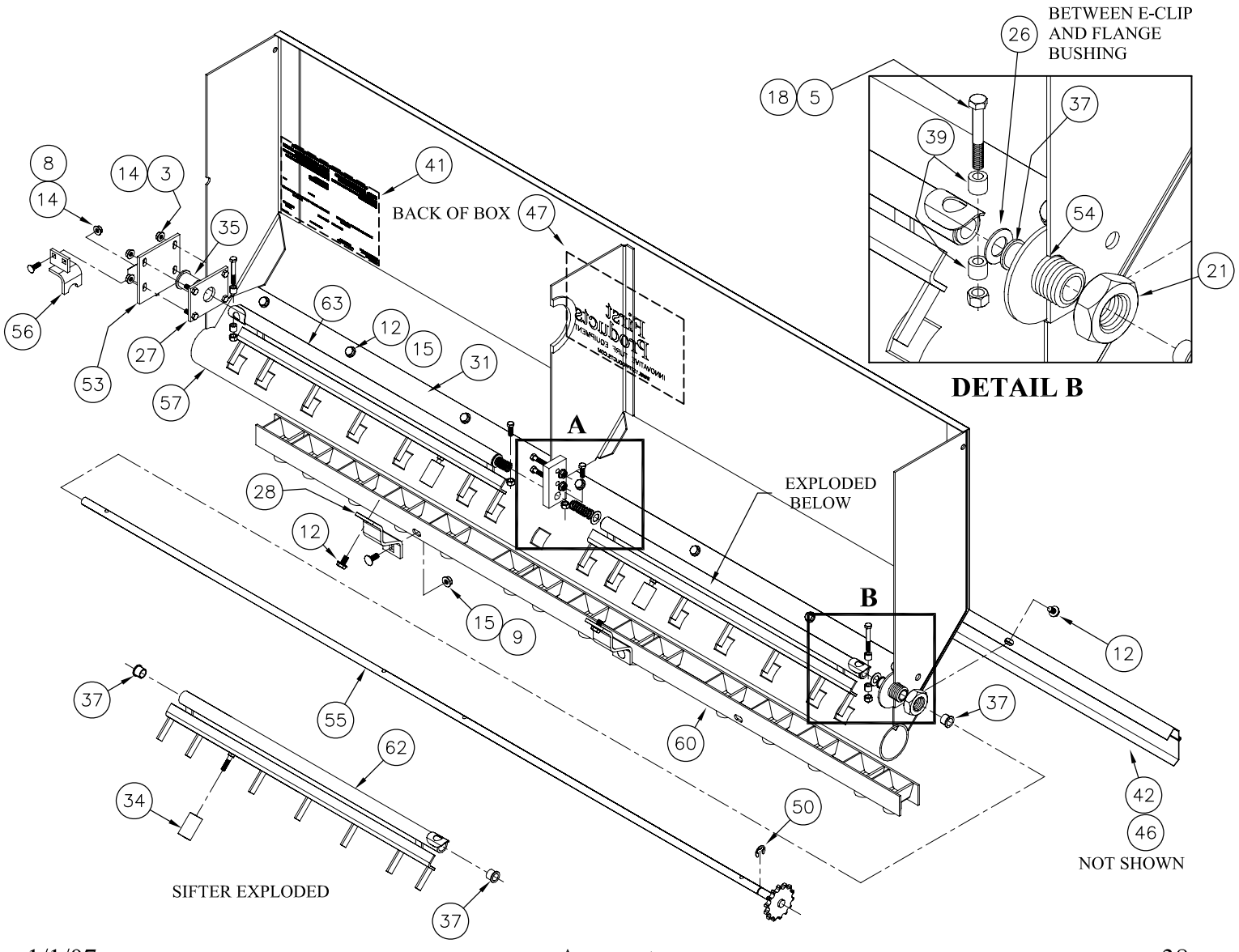
60" Seed Hopper

Item	Part Number	Description	Qty	Item	Part Number	Description	Qty
1	AE50-059	SMALL F.P. DECAL	1	21	HW25032G5ZPC	1" JAM NUT	1
2	FB50-026	TARP STRAP	2	22	HW30008TAZP	1/4 FLAT WASHER	1
3	HW01008024G5ZPC	1/4 X 3/4 HHCS	4	23	HW31016TAZP	1/2 SAE FLATWASHER	2
4	HW01008032G5ZPC	1/4 X 1 HHCS	4	24	HW40002016ZP	1/16 X 1/2 COTTER PIN	2
5	HW01008064G5ZPC	1/4 X 2 HHCS	2	25	HW41005008SS	3/16 X 1/16 - 1/8 RIVET	10
6	HW01010032G5ZPC	5/16 X 1 HHCS	4	26	HW6001602814GPL	1/2 ID X 7/8 OD X 14 GA MA. BU.	3
7	HW01016096G5ZPC	1/2 X 3 HHCS	1	27	SB23-008	AGITATOR IDLER BRACKET	1
8	HW03008024G5ZPC	1/4 X 3/4 CARRIAGE BOLT	2	28	SB23-014	SPOUT TRAY HOLDER	2
9	HW03010024G5ZPC	5/16 X 3/4 CARRIAGE BOLT	4	29	SB23-023	BROADCAST BAR HOLDER	2
10	HW03012032G5ZPC	3/8 X 1 CARRIAGE BOLT	6	30	SB23-041	TRAY RECEIVER	2
11	HW03016040G5ZPC	1/2 X 1 1/4 CARRIAGE BOLT	4	31	SB27-021	SEED BOX DIVIDER - 60	1
12	HW06010016G5ZPC	5/16 X 1/2 FLANGE LOCKSCREW	21	32	SB27-023	SEED DEFLECTOR - 60	1
13	HW06010024G5ZPC	5/16 X 3/4 FLANGE LOCKSCREW	1	33	SB50-001	AGITATOR BEARING	1
14	HW22008G5ZPC	1/4 FLANGE LOCKNUT	8	34	SB50-002	SHUTTLE BUMPER	2
15	HW22010G5ZPC	5/16 FLANGE LOCKNUT	46	35	SB50-003	END AGITATOR BEARING	1
16	HW22012G5ZPC	3/8 FLANGE LOCKNUT	6	36	SB50-004	ADJUSTMENT BEARING	1
17	HW22016G5ZPC	1/2 FLANGE LOCKNUT	5	37	SB50-019	1/2 X 1/2 FLG BRG.	6
18	HW24008GBZPC	1/4 STOVER LOCKNUT	4	38	SB50-022	SIFTER SPRING	2
19	HW24010GBZPC	5/16 STOVER LOCKNUT	2	39	SB50-025	1/4 X 1/2 X 1/2 BRZ. BRG.	4
20	HW25016G5ZPC	1/2 JAM NUT	2	40	SB50-032	1" ID X 1 1/4 OD CVT	15



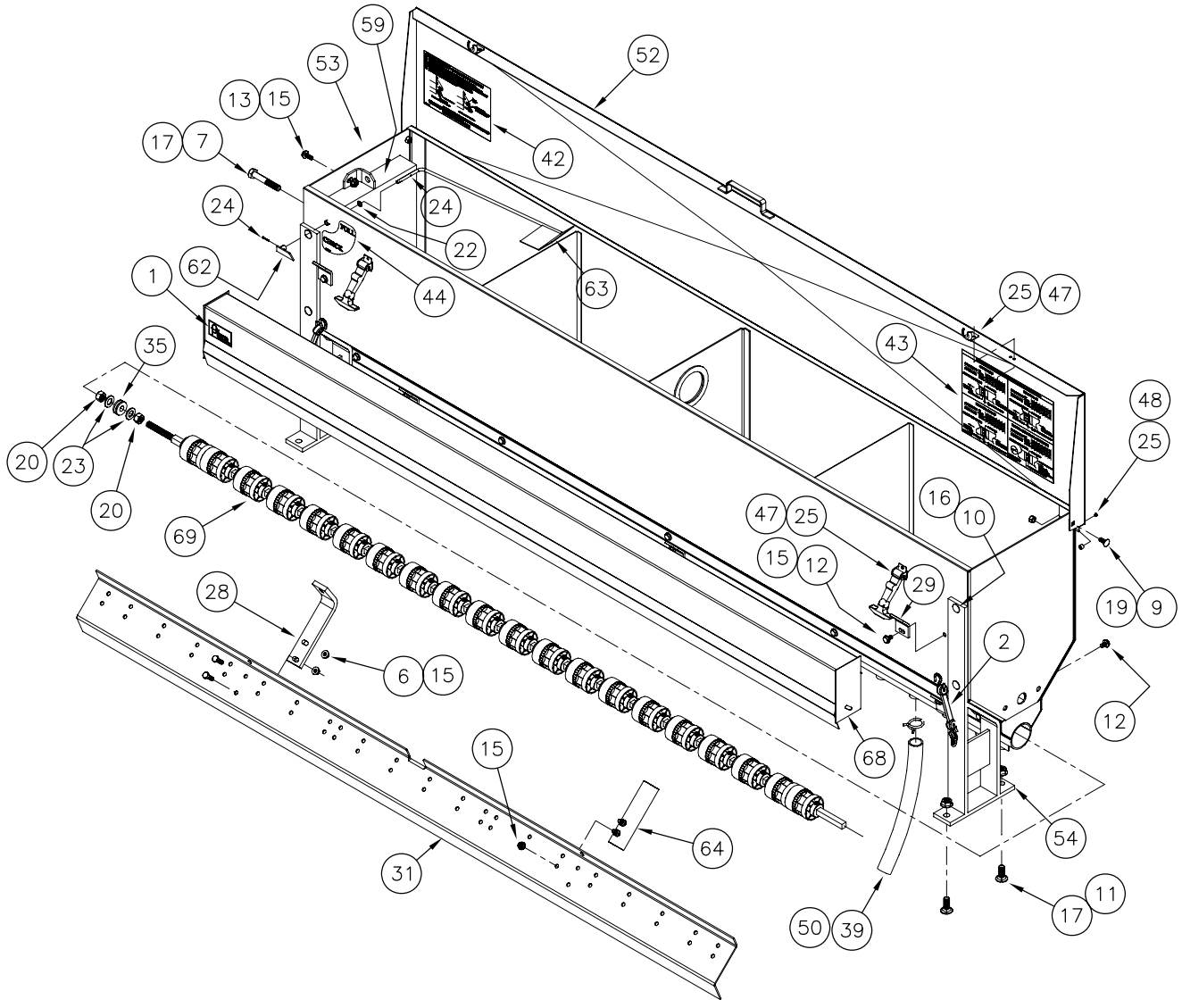
60" Seed Hopper

Item	Part Number	Description	Qty	Item	Part Number	Description	Qty
41	SB50-033	CALIBRATION DECAL; B	1	61	SB80-027	CHAIN DRIVE BALANCE WEIGHT	1
42	SB50-036	60 - WIND SHIELD	1	62	SB80-033	LT. SEED AGITATOR - 60	1
43	SB50-040	DECAL; CLEAN BOX	1	63	SB80-034	RT. SEED AGITATOR - 60	1
44	SB50-041	DECAL; SEED RATES	1	64	SB80-037	ARROW	1
45	SB50-042	DECAL; SEED LEVEL	1	65	SB80-038	SEED GAUGE BAR	1
46	SB50-045	SB WINDOW DECAL	1	66	SB80-039	SEED DISTRIBUTOR SPOUT	15
47	SB50-046	LOGO, FP TURF	1	67	SB80-045	CALIBRATION TRAY - 60	1
48	SB50-053	T-HANDLE DRAW LATCH	2	68	SB81-003	SEE PAGE 43	1
49	SB50-054	3/8" RUBBER BUMPER	2				
50	SB50-055	1/2 E-CLIP	1				
51	SB50-062	1 3/8 HOSE CLAMP	15				
52	SB80-006	SEED BOX MOUNT BRACKET	2				
53	SB80-012	METERING ADJ. PLATE	1				
54	SB80-013	AGITATOR HUB	1				
55	SB80-014	AGITATOR SPINDLE - 60	1				
56	SB80-015	METERING ADJ. BRACE	1				
57	SB80-023	60" METERING TUBE	1				
58	SB80-024	SEED BOX LID	1				
59	SB80-025	60" SEED BOX FRAME	1				
60	SB80-026	60" SEED DISTRIBUTOR	1				



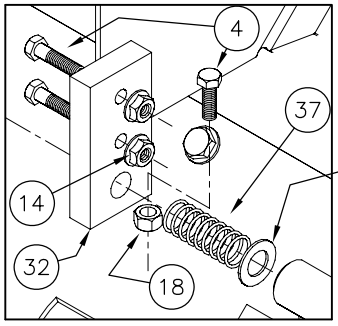
80" Seed Hopper

Item	Part Number	Description	Qty	Item	Part Number	Description	Qty
1	AE50-059	SMALL F.P. DECAL	1	21	HW25032G5ZPC	1" JAM NUT	1
2	FB50-026	TARP STRAP	2	22	HW30008TAZP	1/4 FLAT WASHER	1
3	HW01008024G5ZPC	1/4 X 3/4 HHCS	4	23	HW31016TAZP	1/2 SAE FLATWASHER	2
4	HW01008032G5ZPC	1/4 X 1 HHCS	6	24	HW40002016ZP	1/16 X 1/2 COTTER PIN	2
5	HW01008064G5ZPC	1/4 X 2 HHCS	4	25	HW41005008SS	3/16 X 1/16 - 1/8 RIVET	11
6	HW01010032G5ZPC	5/16 X 1 HHCS	4	26	HW6001602814GPL	1/2 ID X 7/8 OD X 14 GA MA. BU.	5
7	HW01016096G5ZPC	1/2 X 3 HHCS	1	27	SB23-014	SPOUT TRAY HOLDER	3
8	HW03008024G5ZPC	1/4 X 3/4 CARRIAGE BOLT	2	28	SB23-023	BROADCAST BAR HOLDER	2
9	HW03010024G5ZPC	5/16 X 3/4 CARRIAGE BOLT	5	29	SB23-041	TRAY RECEIVER	2
10	HW03012032G5ZPC	3/8 X 1 CARRIAGE BOLT	6	30	SB27-012	SEED BOX DIVIDER - 80	1
11	HW03016040G5ZPC	1/2 X 1 1/4 CARRIAGE BOLT	4	31	SB27-014	SEED DEFLECTOR - 80	1
12	HW06010016G5ZPC	5/16 X 1/2 FLANGE LOCKSCREW	25	32	SB50-001	AGITATOR BEARING	1
13	HW06010024G5ZPC	5/16 X 3/4 FLANGE LOCKSCREW	1	33	SB50-002	SHUTTLE BUMPER	4
14	HW22008G5ZPC	1/4 FLANGE LOCKNUT	8	34	SB50-003	END AGITATOR BEARING	1
15	HW22010G5ZPC	5/16 FLANGE LOCKNUT	59	35	SB50-004	ADJUSTMENT BEARING	1
16	HW22012G5ZPC	3/8 FLANGE LOCKNUT	6	36	SB50-019	1/2 X 1/2 FLG BRG.	10
17	HW22016G5ZPC	1/2 FLANGE LOCKNUT	5	37	SB50-022	SIFTER SPRING	4
18	HW24008GBZPC	1/4 STOVER LOCKNUT	8	38	SB50-025	1/4 X 1/2 X 1/2 BRZ. BRG.	8
19	HW24010GBZPC	5/16 STOVER LOCKNUT	2	39	SB50-032	1" ID X 1 1/4 OD CVT	20
20	HW25016G5ZPC	1/2 JAMNUT	2	40	SB50-033	CALIBRATION DECAL; B	1

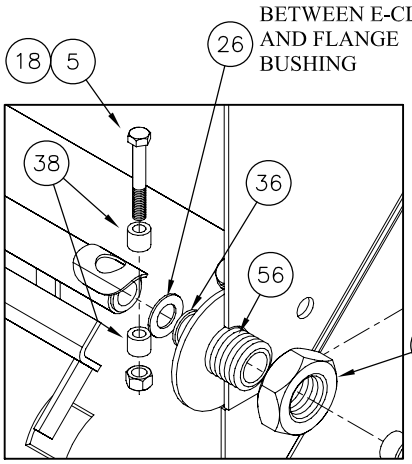


80" Seed Hopper

Item	Part Number	Description	Qty	Item	Part Number	Description	Qty
41	SB50-038	80 - WIND SHIELD	1	61	SB80-036	AGITATOR SPINDLE - 80	1
42	SB50-040	DECAL; CLEAN BOX	1	62	SB80-037	ARROW	1
43	SB50-041	DECAL; SEED RATES	1	63	SB80-038	SEED GAUGE BAR	1
44	SB50-042	DECAL; SEED LEVEL	1	64	SB80-039	SEED DISTRIBUTOR SPOUT	20
45	SB50-045	SB WINDOW DECAL	1	65	SB80-040	MID-LT. SEED AGITATOR - 80	1
46	SB50-046	LOGO, FP TURF	1	66	SB80-041	MID-RT. SEED AGITATOR - 80	1
47	SB50-053	T-HANDLE DRAW LATCH	2	67	SB80-042	RT. SEED AGITATOR - 80	1
48	SB50-054	3/8" RUBBER BUMPER	3	68	SB80-046	CALIBRATION TRAY - 80	1
49	SB50-055	1/2 E-CLIP	1	69	SB81-004	SEE PAGE 43	1
50	SB50-062	1 3/8 HOSE CLAMP	20				
51	SB80-003	80" METERING TUBE	1				
52	SB80-004	SEED BOX LID - 80	1				
53	SB80-005	80" SEED BOX FRAME	1				
54	SB80-006	SEED BOX MOUNT BRACKET	2				
55	SB80-012	METERING ADJ. PLATE	1				
56	SB80-013	AGITATOR HUB	1				
57	SB80-015	METERING ADJ. BRACE	1				
58	SB80-016	80" SEED DISTRIBUTOR	1				
59	SB80-027	CHAIN DRIVE BALANCE WEIGHT	1				
60	SB80-035	LT. SEED AGITATOR - 80	1				



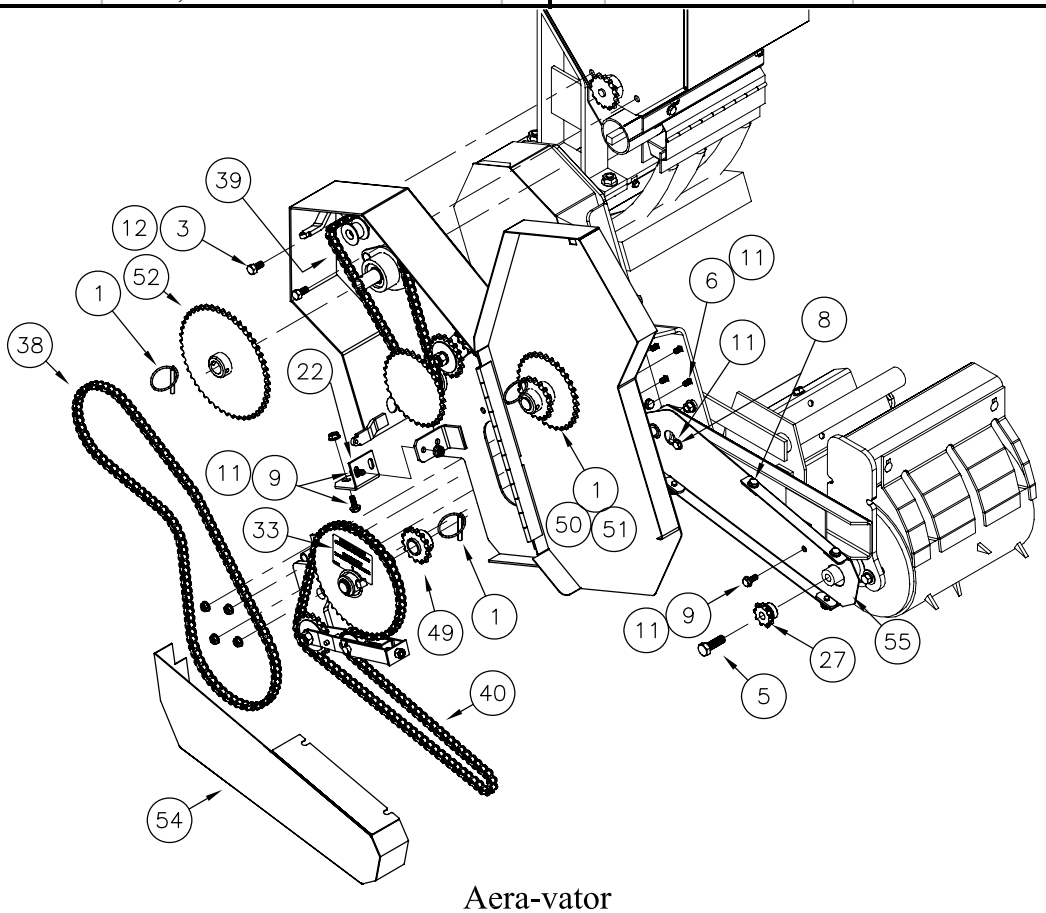
DETAIL A



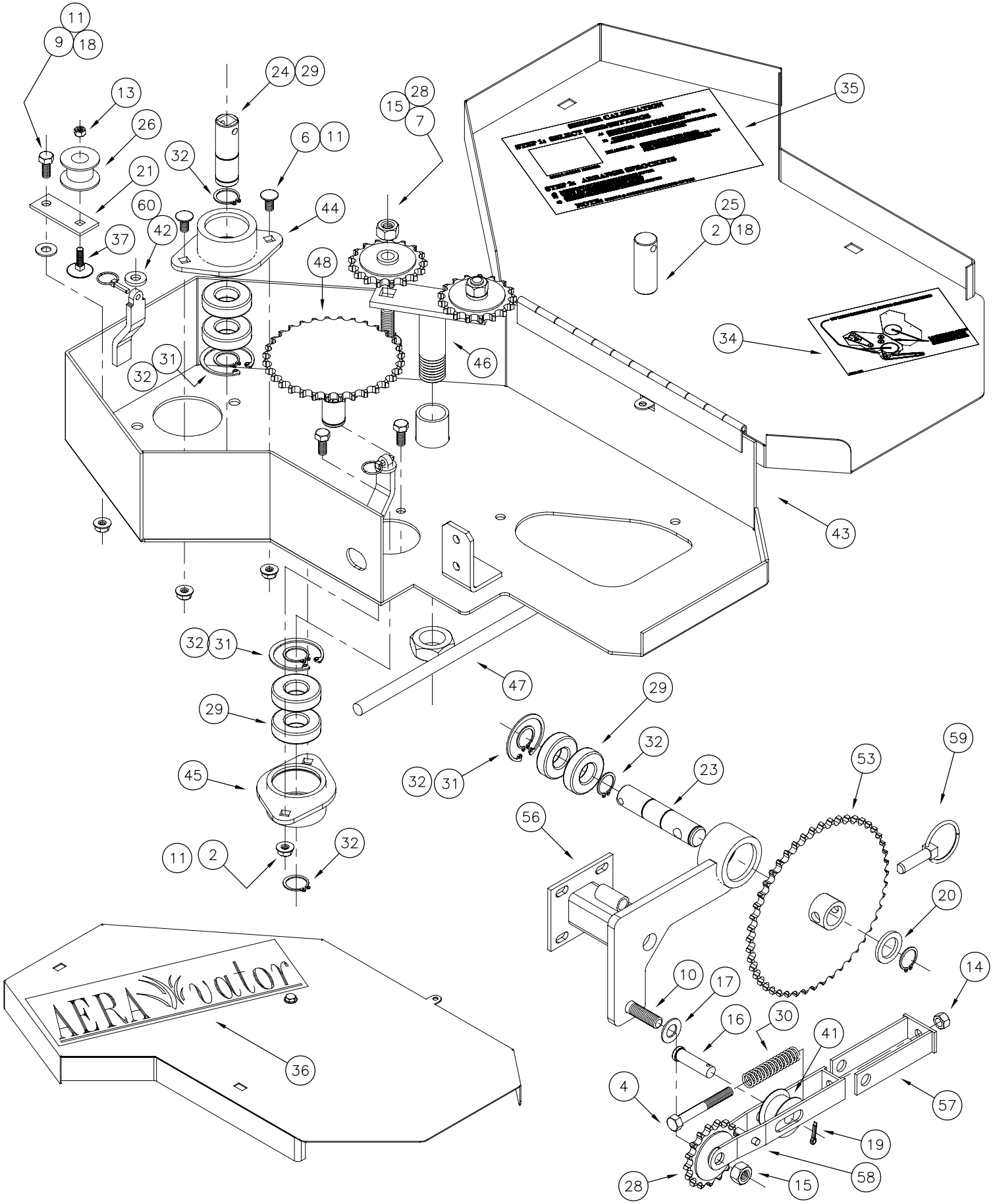
DETAIL B

Seeder Transmission

Item	Part Number	Description	Qty	Item	Part Number	Description	Qty
1	AE50-149	1/4 LYNCH PIN	3	35	SB50-044	CALIBRATION DECAL; A	1
2	HW01010024G5ZPC	5/16 X 3/4 HHCS	3	36	SB50-047	LOGO, AE TURF	1
3	HW01012024G5ZPC	3/8 X 3/4 HHCS	2	37	SB50-051	1/4 X 1 ELEVATOR BOLT	1
4	HW01012096G5ZPC	3/8 X 3 HHCS	1	38	SB50-056	#40 CHAIN X 111 LINKS	1
5	HW01016048G5ZPC	1/2 X 1 1/2 HHCS	1	39	SB50-057	#40 CHAIN X 64 LINKS	1
6	HW03010024G5ZPC	5/16 X 3/4 CARRIAGE BOLT	6	40	SB50-058	#40 CHAIN X 119 LINKS W/ CON.	1
7	HW03016048G5ZPC	1/2 X 1 1/2 CARRIAGE BOLT	2	41	SB50-059	SHUTTLE IDLER	1
8	HW06010016G5ZPC	5/16 X 1/2 FLANGE LOCK SCREW	5	42	SB50-063	3/8 RUBBER FLAT WASHER	2
9	HW06010024G5ZPC	5/16 X 3/4 FLANGE LOCK SCREW	6	43	SB80-001	TRAIN BOX	1
10	HW10016064G5PLC	1/2 X 2 FLAT SOCKET HD CAPSCW	1	44	SB80-002	SEED BOX ADJUSTMENT HUB	1
11	HW22010G5ZPC	5/16 FLANGE LOCKNUT	15	45	SB80-007	SEED BOX IDLER HUB	1
12	HW22012G5ZPC	3/8 FLANGE LOCKNUT	2	46	SB80-009	TRAIN BOX IDLER SPINDLE	1
13	HW24008GBZPC	1/4 STOVER LOCKNUT	1	47	SB80-010	IDLER LOCK HANDLE	1
14	HW24012GBZPC	3/8 STOVER LOCKNUT	1	48	SB80-011	DOUBLE SPROCKET SPINDLE	1
15	HW24016GBZPC	1/2 STOVER LOCKNUT	3	49	SB80-018	14 TOOTH TRAIN SPROCKET	1
16	HW27016056ZP	1/2 X 1 3/4 CLEVIS PIN	1	50	SB80-019	17 TOOTH TRAIN SPROCKET	1
17	HW30016TAZP	1/2 TYPE A FLATWASHER	1	51	SB80-020	32 TOOTH TRAIN SPROCKET	1
18	HW32010G5ZP	5/16 LOCKWASHER	2	52	SB80-021	48 TOOTH TRAIN SPROCKET	1
19	HW40004032ZP	1/8 X 1 COTTER PIN	1	53	SB80-022	48 TOOTH CLUTCH SPROCKET	1
20	HW602804410GPL	7/8 X 1 3/8 X 10 GA MACH. BUSH.	1	54	SB80-028	ROLLER CHAIN COVER	1
21	SB23-010	AGITATOR CHAIN IDLER ARM	1	55	SB80-029	ROLLER CHAIN BASE	1
22	SB23-026	TRAIN FRAME CONNECTOR	1	56	SB80-030	FRAME CHAIN IDLER	1
23	SB26-003	CLUTCH SPINDLE	1	57	SB80-043	IDLER SHUTTLE	1
24	SB26-005	DRIIVE SPINDLE	1	58	SB80-044	SHUTTLE HOLDER	1
25	SB26-011	SPROCKET BANK	1	59	SE50-035	HITCH PIN	1
26	SB50-005	AGITATOR CHAIN IDLER	1	60	UA50-007	3/16 X 1 1/4 LYNCH PIN	2
27	SB50-020	#40 TYPE B 9 TOOTH SPROCKET	1				
28	SB50-023	#40 CHAIN IDLER	3				
29	SB50-024	1 7/8 X 7/8 BORE BALL BRG.	6				
30	SB50-026	5/8 X 0.08 WIRE X 3 EX. SPRG	1				
31	SB50-028	1 7/8 INT. SNAP RING	3				
32	SB50-030	7/8 EXTERNAL SNAP RING	7				
33	SB50-035	DECAL; CLUTCH SPROCKET	1				
34	SB50-039	DECAL, PIN STORAGE	1				



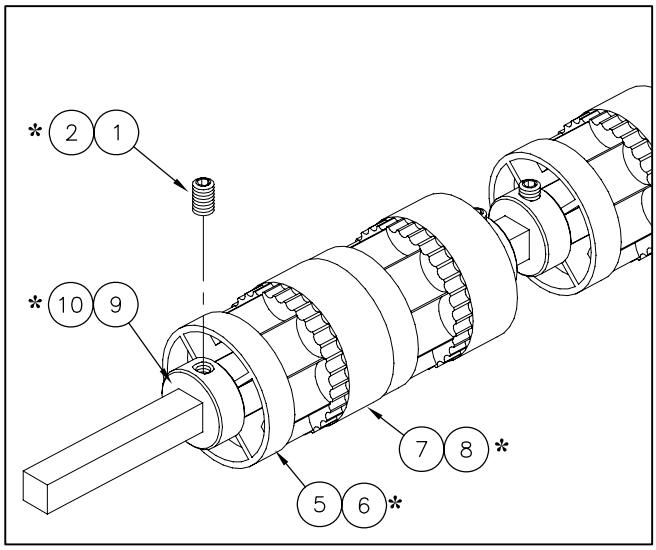
Seeder Transmission

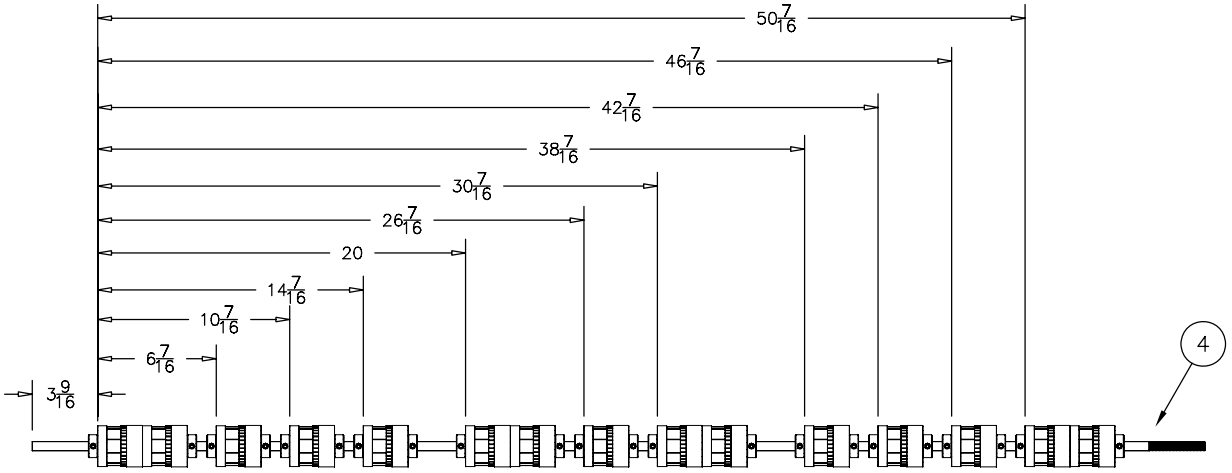


Feed Wheel Shafts

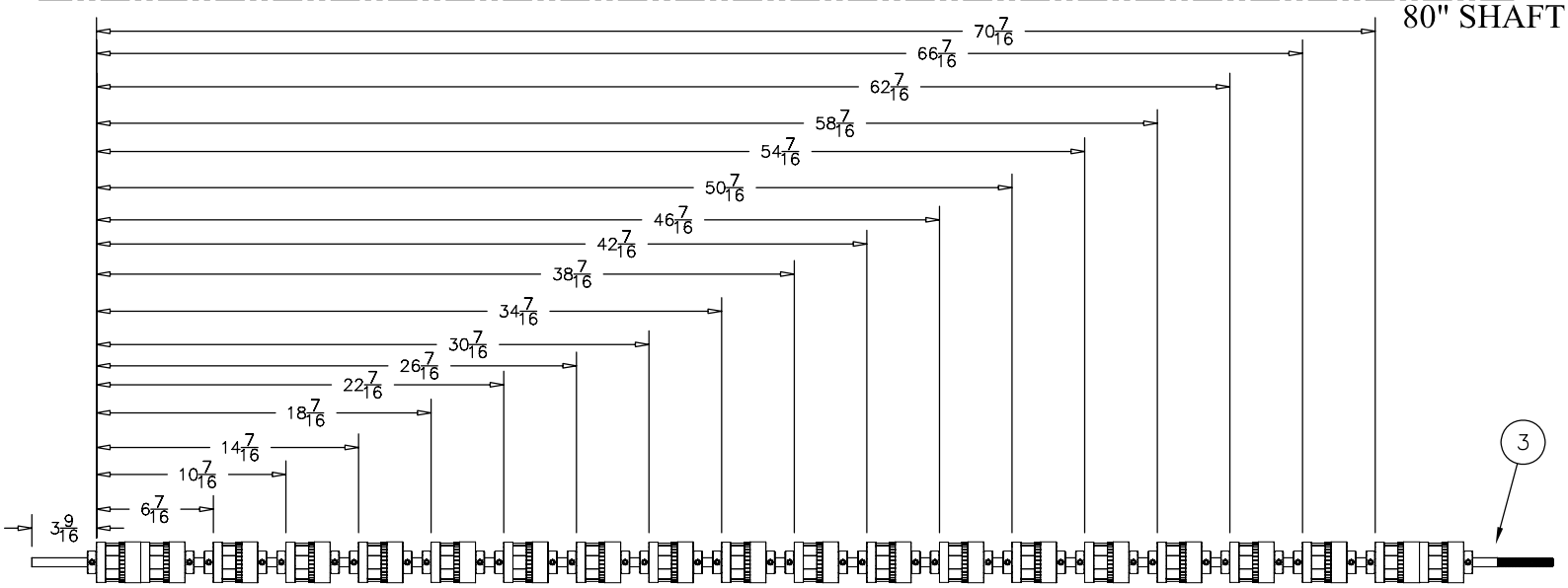
Item	Part Number	Description	Qty	Item	Part Number	Description	Qty
1	HW08010016PLC	5/16 X 1/2 SET SCREW	22	6	SB50-016 *	COURSE FEED WHEEL	20
2	HW08010016PLC *	5/16 X 1/2 SET SCREW	36	7	SB50-017	FINE FEED WHEEL	15
3	SB26-006	METERING SHAFT - 80	1	8	SB50-017 *	FINE FEED WHEEL	20
4	SB26-012	METERING SHAFT - 60	1	9	SB50-050	1/2 SQUARE LOCK COLLAR	22
5	SB50-016	COURSE FEED WHEEL	15	10	SB50-050 *	1/2" SQUARE LOCK COLLAR	36

*** INDICATES 80" PART NUMBER & QUANTITY**





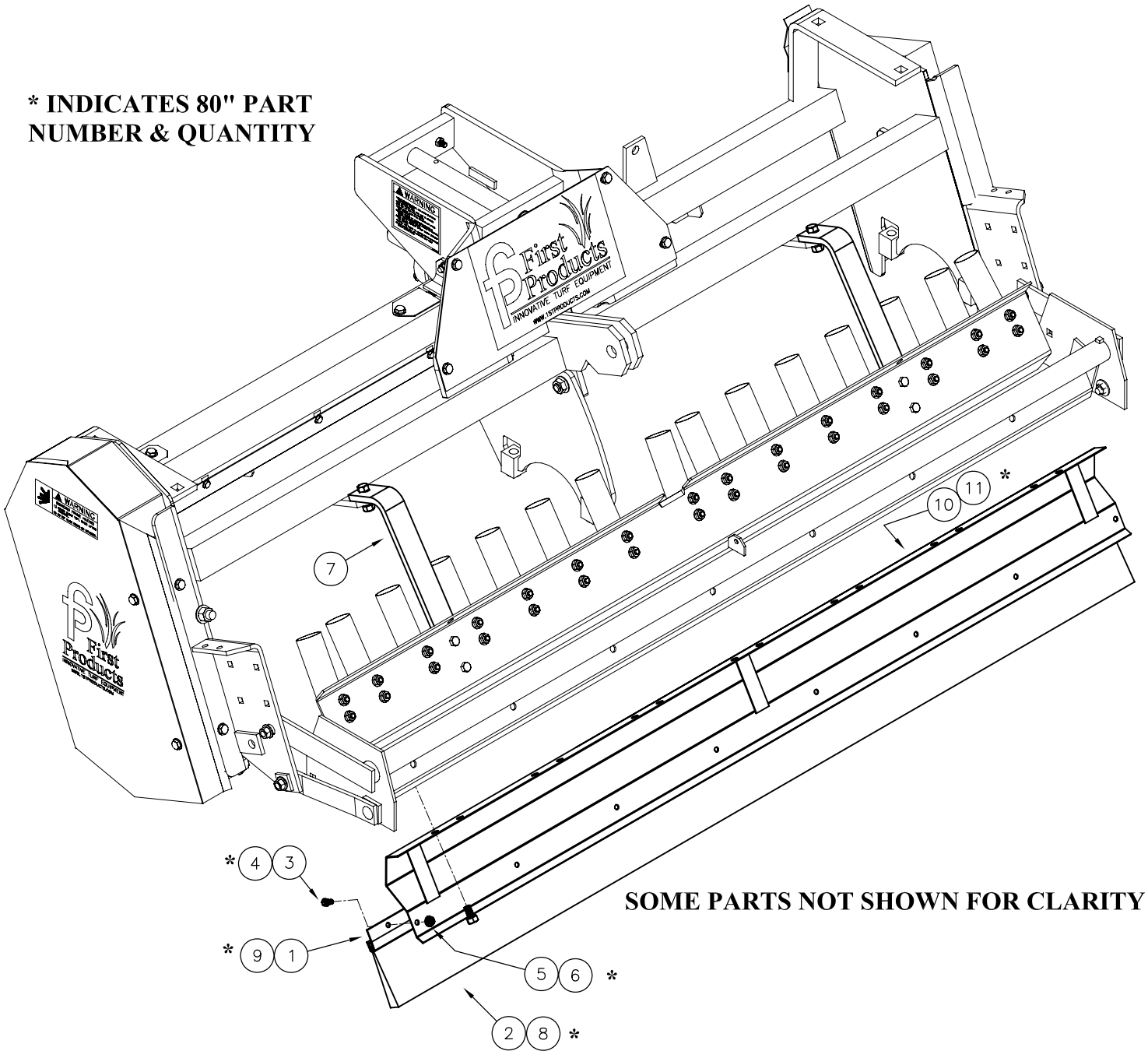
60" SHAFT
80" SHAFT



Seed Bar and Brush Extension Kit

Item	Part Number	Description	Qty
1	FT50-002	BRUSH BACK	1
2	FT50-005	BRUSH	1
3	HW01008016G5ZPC	1/4 X 1/2 HHCS	8
4	HW01008016G5ZPC *	1/4 X 1/2 HHCS	10
5	HW22008G5ZPC	1/4 FLG LOCKNUT	8
6	HW22008G5ZPC *	1/4 FLG LOCKNUT	10
7	SB23-030	BROADCAST BAR HOLDER EXT.	2
8	UA50-010 *	BRUSH - 80	1
9	UA50-011 *	BRUSH BACK - 80	1
10	UA80-045	ADAPTOR, FINE BRUSH - 60	1
11	UA80-046 *	ADAPTOR, FINE BRUSH - 80	1

*** INDICATES 80" PART NUMBER & QUANTITY**



SOME PARTS NOT SHOWN FOR CLARITY

AERA-VATOR&ATTACHMENTSSPECIFICATIONS

AERA-VATOR	60'' WIDTH	80'' WIDTH
WEIGHT	1036 LBS	1310 LBS
WORKING WIDTH	60"	80"
CENTER DRIVE GEARBOX	1:1 RT. ANGLE	1:1 TEE
END DRIVE	3 "BX" 46 BELTS (left end)	2 "BX" 46 BELTS (ea end)
TINE VIBRATION FREQUENCY	@ 540 PTO RPM = 800 Cycles/Min	@540 PTO RPM = 800 Cycles/Min
SIDE-TO-SIDE TINE TRAVEL	1 3/8 inches	1 3/8 inches
VIBRATING DEPTH	3 ¾ inches	3 ¾ inches
HEAVY DUTY LIFT/TRAIL HITCH	3 Ft Turn Radius (approx)	3 Ft Turf Radius (approx)
SHAFT WEIGHT	236 LBS	320 LBS
AERATION DENSITY	9 Holes per Sq. Ft	9 Holes per Sq. Ft
TINES	9/16 x 3 ¾ Forged & Hardened (144)	9/16 x # ¾ Forged & Hardened (192)
ROTOR BEARINGS	Double Sealed Tapered Roller	Double Sealed Tapered Roller
DRIVE LINE	1 3/8" Spline w/ Safety Shield	1 3/8" Spline w/ Safety Shield
FINISH	Black Acrylic w Grey Trim	Black Acrylic w/ Grey Trim

ROLLER	60'' WIDTH	80'' WIDTH
WEIGHT	(Approx) 225 LBS	(Approx) 275 LBS
DIAMENTER	8 5/8"	10 5/8"

RAKE	60'' WIDTH	80'' WIDTH
WEIGHT	37 LBS	53 LBS
TEETH SPACING	3 3/4" Approx	3 3/4" Approx

GROOMING / RAKE BRUSH	60'' WIDTH	80'' WIDTH
WEIGHT	65 LBS	90 LBS
SWATH	75 inches	98 ½ inches
RAKE TEETH SPACING	1 7/8 Approx	1 7/8 Approx
BRUSH BRISTLES	4 ½'' Polly Bristle	4 ½" Polly Bristle

MULTI-TINE SHAFT	60'' WIDTH	80'' WIDTH
WEIGHT	245 LBS	340 LBS
SIDE-TO-SIDE TINE TRAVEL	½"	½ "
VIBRATING DEPTH	1 3/8 '' deep	1 3/8 deep
AERATION DENSITY	55 Holes per sq. ft	55 Holes per sq. ft
SHELLS (6 PER ROTOR)	36	48
ROTOR BEARINGS	Double Sealed Tapered Roller	Double Sealed Tapered Roller

SLICER SHAFT	60" WIDTH	80" WIDTH
WEIGHT	155 LBS	220 LBS
VIBRATING DEPTH	4 ¼ inches Full Depth	4 ¼ inches Full Depth
AERATION DENSITY	6-7 Slits per Sq. Ft	6-7 Slits per Sq. Ft
BLADE SPACING	5 inches	5 inches
BLADES	5'' long, 10 Ga Hardened Spring Steel (60 ea)	5'' long, 10 Ga Hardened Spring Steel (80 ea)
ROTOR BEARINGS	50 mm Ball Bearing	50 mm Ball Bearing

SEEDER	60'' WIDTH	80'' WIDTH
WEIGHT	330 LBS	380 LBS
HOPPER CAPACITY	6.7 Cubic Ft.	9.4 Cubic Ft
RATE CONTROL	Micro flute adjustment / seed cup	Micro flute adjustment / seed cup
GAUGE MECHANISM	Interchangeable sprockets	Interchangeable sprockets
OUTLETS	15	20