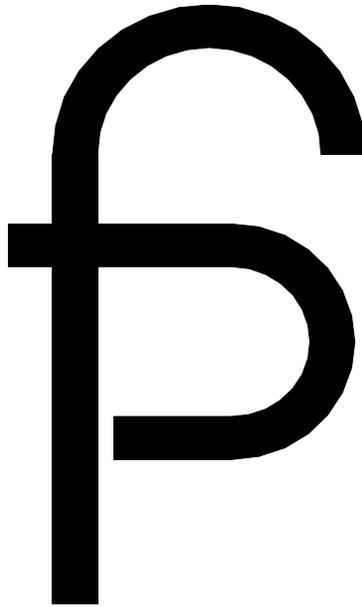


OPERATOR'S MANUAL & PARTS LIST



AERA-vator MODEL AE80

FIRST PRODUCTS INC.
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INTRODUCTION

Thank you for purchasing an AREA-vator. This piece of equipment has been carefully engineered and manufactured to provide years of reliable service.

The AERA-vator is one of the most unique and versatile pieces of equipment on the market today. It is designed for the practices of turf cultivation, seed bed preparation, and bare soil conditioning in your toughest soils.

We recommend that you carefully read the owners and operators manual prior to operation. Also ensure that all future operators read this manual and become fully trained before allowing them to use or maintain this equipment. Time spent becoming acquainted with the safe operation, performance, and maintenance of the AERA-vator will add longer life and greater satisfaction to your new purchase.

This machine is designed with safety in mind. However, if the machine is handled carelessly and not as instructed it can be a dangerous piece of equipment. Observe all safety information in this manual and decals on the equipment. You the operator are responsible when operating this equipment.

The illustrations and data used in the manual were current at time of printing. The manufacturer reserves the right to make changes or add improvements to its products at any time without incurring any obligation to make such changes to products manufactured previously.

REMEMBER SAFETY IS ALWAYS FIRST !

ATTENTION:

- **Read and understand the instructions and warnings carefully before using this machine.**
- **Read the warranty located on page 16. Fill in the required information on the warranty registration provided and return to the address on the front of this manual. The warranty registration must be returned to validate warranty.**

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SAFETY SYMBOLS



This is a standard safety alert symbol meaning **ATTENTION ! BECOME ALERT ! YOUR SAFETY IS INVOLVED !**



CAUTION

Indicates hazardous situation, injury may occur, used to alert against carelessness.



WARNING

Indicates potentially hazardous situation. Death or serious injury may occur if proper procedures are not followed.



DANGER

Indicates most hazardous situation. Death or serious injury will occur if proper procedures are not followed.

SAFETY DECALS

NOTE: REPLACE ANY SAFETY DECALS WHICH ARE NOT LEGIBLE

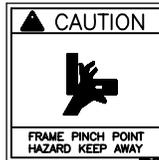


Part No. GP55-007



GP55-004

Part No. AE50-075



Refer to Drive Line Owners Manual for location of Danger Decals (Drive Line Not Shown)



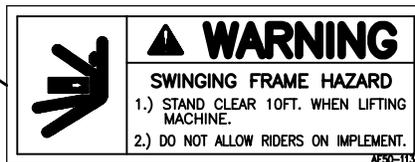
Part No. AE50-074



Part No. AE50-114
Located under shield



Part No. AE50-076



Part No. AE50-113

Located on both ends of machine.

OPERATION SAFETY

- **Your Safety Is Always First!** Familiarize yourself with the safety symbols and decals on pages 3 and 4.
- All operators should **read and understand the following sections of this manual** prior to adjusting, maintaining, hitching to, or operating the AERA-vator: **OPERATION SAFETY, OPERATOR INSTRUCTIONS, PRE-OPERATION CHECKS, MAINTENANCE CHECKS, MAINTENANCE SAFETY, OPERATOR MAINTENANCE.**
- In addition, remove and read the drive line safety and maintenance manual taped to the drive line shield. After reading the drive line manual, place it inside this manual for reference.
- For the safety and instruction of all operators, keep this manual stored on the AERA-vator 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 power take off and switch the engine off prior to dismounting from the tractor or other power source and 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 unit.
- Perform all pre-operation checks (*page 8*) prior to start up.
- Never engage the power take off while the rotors are off the ground. Always disengage the power take off before lifting the unit. High-speed rotors create a flying object hazard when they are lowered to the ground.

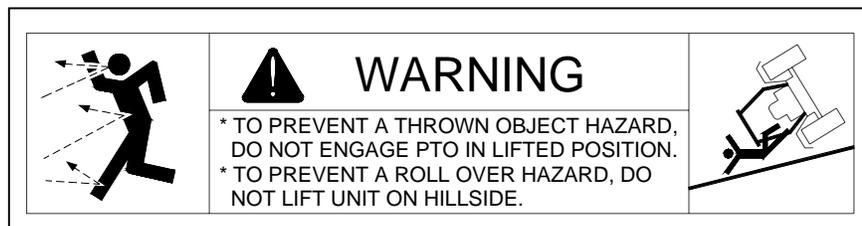


Figure 1. Tractor Roll Over/Thrown Object Warning

- Consult your tractor Operator's Manual regarding operation on slopes. Do not lift the unit while the tractor is moving (or parked) sideways on slopes above 5°. The swing hitch may allow the unit to swing to the downhill side and cause the tractor to roll over. On slopes from 5° to 15° always aim the tractor uphill before lifting the unit. We do not recommend the unit being used on slopes above 15°.
- 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 roadways.

OPERATOR INSTRUCTIONS

- The AE-80 AERA-vator is designed to attach to a tractor with a category one three point hitch, 540 PTO, and a minimum of 35 horsepower. However, additional attachments (roller, seeder, etc.) may require a larger tractor for increased lifting capacity. Check the tractor owner and operator's manual for lift capacity. The weight of the AE-80 and its attachments are listed in Specifications, page 31.
- Before hitching to the AERA-vator familiarize yourself with all of the tractors control functions. Be prepared to stop the tractor movement, PTO operation, and the engine quickly in an emergency.

UNDERSTANDING HOW THE SWING HITCH OPERATES (PRIOR TO HITCHING TO TRACTOR)

With the swing stand lowered and 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. Now push the swing mast rearward against the lock link tab to disengage the swing lock and loosen the chains to allow sharp turns again.

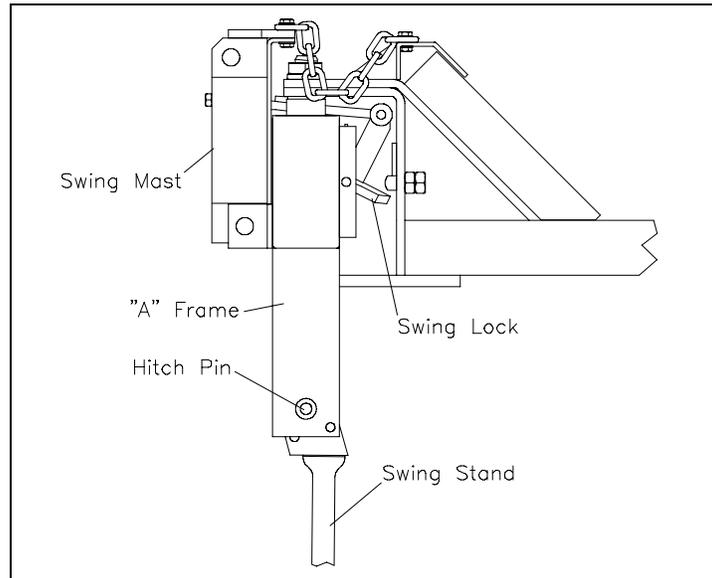


Figure 2. Swing Hitch Operation

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. Now push the swing mast rearward against the lock link tab 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.

CORRECTLY ADJUSTING THE HITCH TO THE TRACTOR

A category 1 hitch tractor is required with the lower links stabilized. With the AERA-vator swing stand lowered connect the lower lift links to the "A" Frame and top link to the swing mast. Push the lift control lever on the tractor to the completely lowered position. Lengthen the adjustable top link until the swing mast closes tight against the "A" Frame and the AERA-vator swing stand is lifted 1/8 to 1/4 inch off the ground. This causes the combined weight of the AERA-vator and the tractor hitch components to be transferred to the tines. This extended top link also causes the

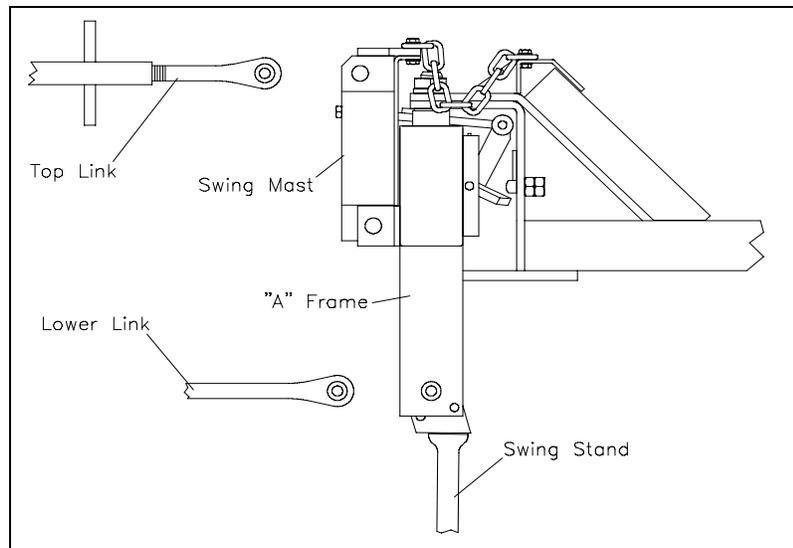


Figure 3. Hitch Adjustment

AERA-vator to tilt backwards when lifting allowing gravity to assist the swing chains in aligning the unit with the tractor. **DO NOT ADD ADDITIONAL WEIGHT TO THE AERA-vator OR APPLY DOWN PRESSURE TO THE TRACTOR LIFT LINKS DURING OPERATION.**

- The geometry of tractor lift linkages varies, and a trial run over uneven ground is recommended. Ideally the swing lock will not engage when aerating over the crown of a hill and the tractor hitch is always free to float upward at all times. The tines should clear curbs etc., when lifted.
- When lowering for operation, lower slowly until the tines touch the ground. Then swiftly push the lift control lever on the tractor to the completely lowered position to instantly 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 machine and/or turf damage. In the event the unit should fail to unlock for trail mode, stop the tractor and repeat the lowering procedure.

DO NOT TURN THE TRACTOR WITH THE AERA-vator IN THE GROUND AND THE SWING LOCK ENGAGED. DAMAGE TO EQUIPMENT MAY OCCUR!

- When operating diagonally downhill or transversely (sideways) on a hillside slope above 5° the mast chains will not swing the unit uphill to center and lock on the tractor when the unit is lifted. Occasionally the unit will swing farther to the downhill side of the tractor creating the hazard of tractor roll over. If the tractor ever seems unstable, immediately lower the hitch and steer the tractor uphill or on a more level surface where it will center and lock when lifted.
- Do not back the unit up with the AERA-vator touching the ground. Always disengage the PTO, raise the unit, back to desired location and then lower the machine and engage the PTO.
- The operating ground speed of the tractor will depend on the amount of soil agitation required. Slower tractor ground speed (lower gears) will be used for renovating in extremely hard dry ground. Faster tractor ground speeds (higher gears) will be used for aeration work in normal conditions. To reduce the amount of soil agitation simply reduce the engine RPM. Three to four miles per hour is the most common speed range.

PRE-OPERATION CHECK LIST

(With the AERA-vator lowered and the tractor engine switched off...)

- Be sure that the implement is hitched to the tractor properly with all pins in place.
- Pin the swing stand in the up position.

- Be sure the driveline is correctly assembled. (The end stenciled as the tractor end is connected to the tractor and not to the AERA-vator). Check to see that the end yokes are locked to the tractor PTO and gearbox shafts. Drive shields must turn freely on the driveline.
- See that all shields are correctly installed.
- Remove any debris caught in the rotors.
- Check gearbox oil level before first operation and every 200 hours of operation thereafter. (Refer to operator maintenance section.)



MAINTENANCE SAFETY

- Never attempt to clean, adjust, lubricate or perform any maintenance on the AERA-vator while it is attached to the tractor or any other power source with the engine running.
- Read and understand all safety decals prior to performing any maintenance. Replace any safety decals which are not legible.
- Never attempt to clean, adjust, lubricate or perform any maintenance on the AERA-vator while it is attached to the tractor in the raised position unless safety blocks are inserted under the frame.

- When not attached to the tractor, always use the lifting hook to hoist the machine for maintenance. (See Figure 4). Use extreme caution when using lifting hook because center of gravity is affected by additional attachments and the unit may shift rearward. Do **NOT** hoist the machine with the seeder attached.

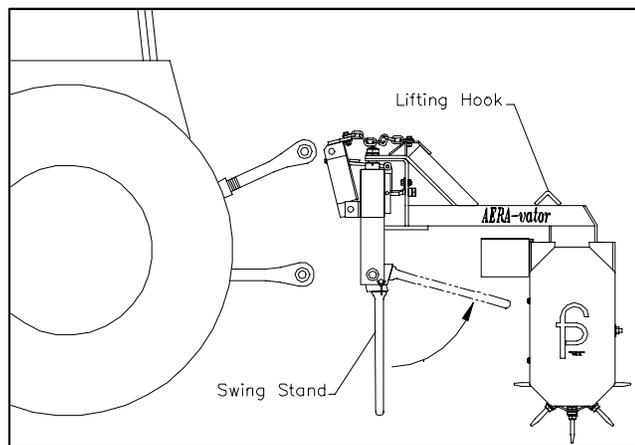


Figure 4. *Swing Stand/Lifting Hook*

- When installing tines, performing any rotor shaft service, or removing debris from the rotors, ensure that the rotor shaft does not rotate because a serious pinch injury could occur.

OPERATOR MAINTENANCE

- Check gearbox oil level before first operation and every 200 hours of operation thereafter. With frame level, remove oil level plug on front left side of gear box using 5/16" x 6" allen wrench through slots in the frame post. If required, add 90w-gear oil through plug in top of box until it appears at oil level plug. Replace both plugs securely.
- Grease driveline parts after the number hours use as shown in the following chart.

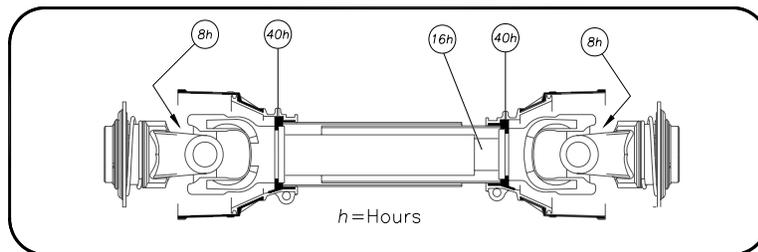


Figure 5 Drive Line Lube Chart

- The hitch flex joints at the top of the “A” frame and above the gearbox (see page 18) should be lubricated before first operation and weekly thereafter.
- After the first two hours of operation tighten all tines to 210-ft. lbs. Check for loose tines daily.
- When replacing lost or worn tines use a 15/16" extra deep socket (Socket is available through our repair parts. Order # AE60T003) and torque to 210 ft. lbs.
- **CHECK BELT TENSION** every 4 hrs. of operation for the first 12 hrs. and every 100 hrs. thereafter. Also, tighten belts if shaft hesitation is noticed during operation. Over tightening belts may cause damage to the machine. Be sure to re-install belt shield after servicing.
- Use the applicable parts break down illustration pp.17-30 for maintenance removal, and assembly instructions.
- The AERA-vator shaft and rotor bearings are sealed and permanently lubricated requiring no routine maintenance.



CAUTION

BE SURE ALL SAFETY SHIELDS ARE INSTALLED PRIOR TO RETURNING THIS MACHINE TO SERVICE.

AE-80 ROTOR SHAFT SERVICE INSTRUCTIONS

(Clean the machine thoroughly with a pressure washer)

Rotor Shaft Removal

(This will require a tractor with 3-point lift or overhead hoist. **For safety reasons, only lift the Aera-vator approximately two inches above the work surface, never place hands or feet between the machine and the work surface.**)

The AE80 consists of two complete shaft assemblies and each shaft assembly can be removed separately. The following instructions are directed toward the removal of a single shaft. However, both shafts can be removed at the same time by completing each step of the procedure on each shaft before proceeding to the next. Alternatively, one shaft can be removed and then the other.

1. Remove belt cover, skid shoe and drive belts.
2. Remove 1/2" carriage bolts holding center-bearing support to main frame.
3. Remove 3/8" carriage bolts holding end rotor shaft bearing, drive end. (See Figure 6)
4. Move frame slightly to right and lift off of rotor shaft assembly.

Rotor Shaft Disassembly

1. Remove the 1-1/8" hex jam nut from the shaft end nearest to the damaged component.
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.

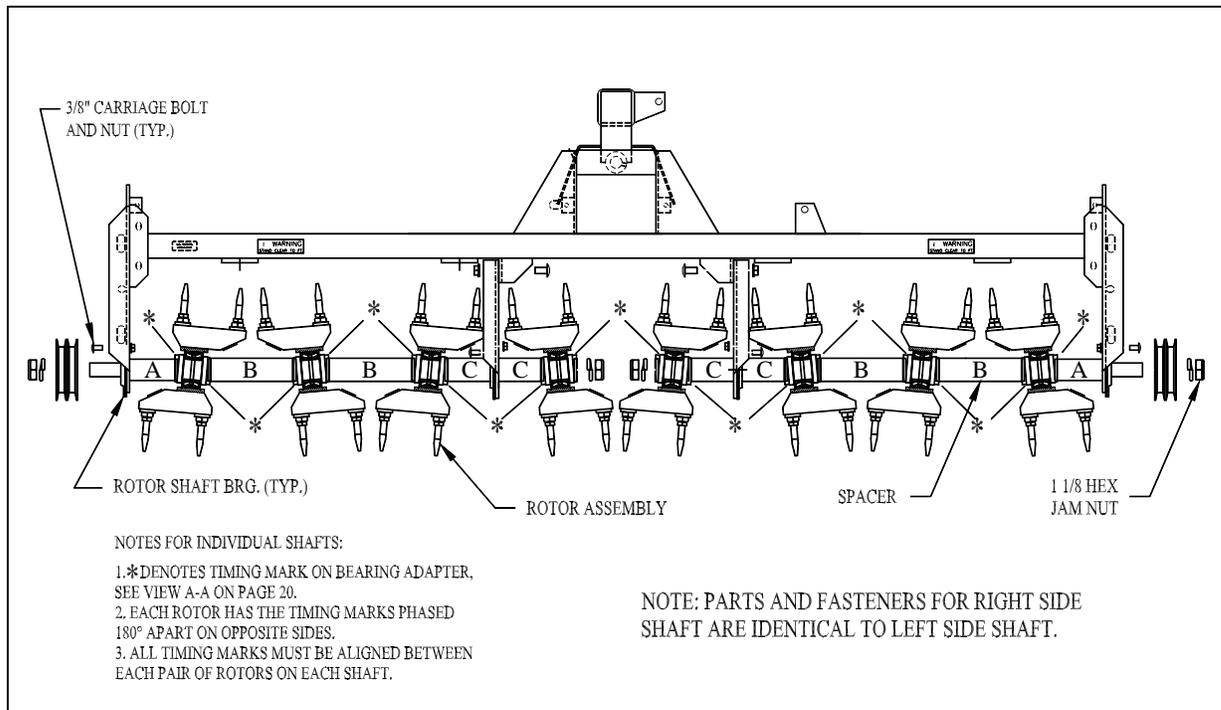


Figure 6. Rotor Shaft Assembly

2. Clean and inspect parts as they are removed and set aside in their order of removal to simplify re-assembly.

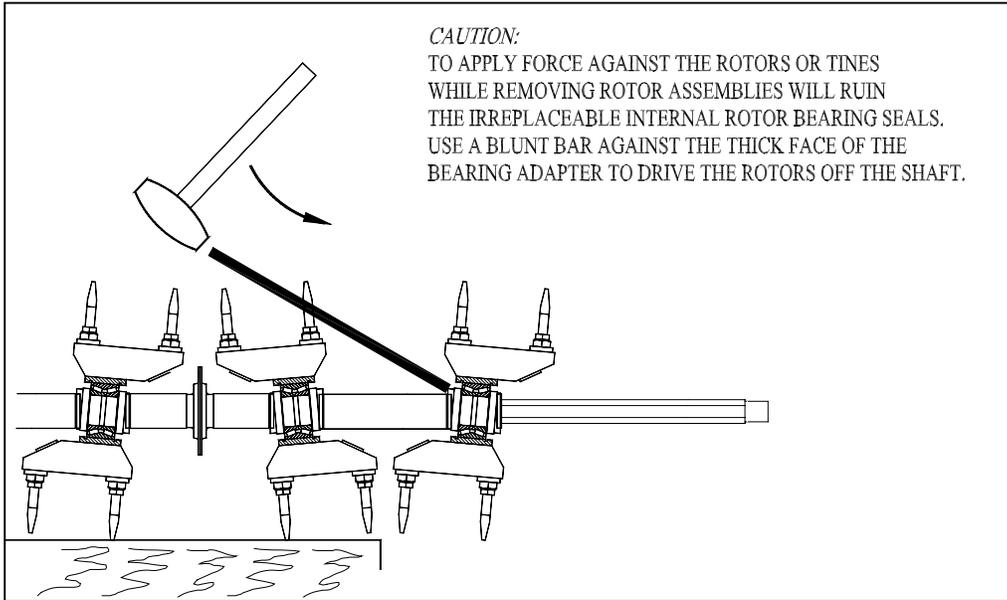


Figure 7. Rotor Shaft Disassembly

Rotor Hub Disassembly

1. With a pry bar remove the external seals (Figure 8) on both sides. Generally, seals are damaged and are not reused.

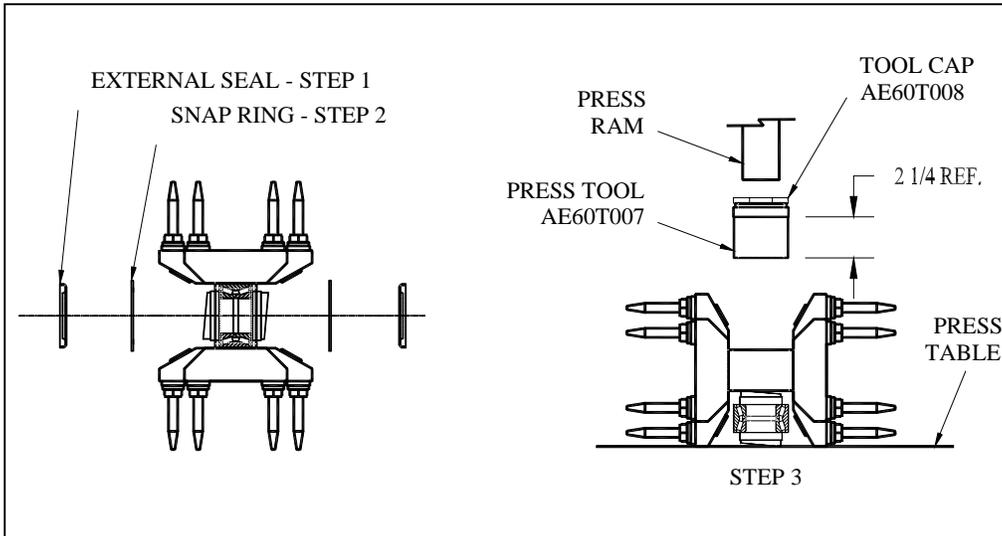


Figure 8. Rotor Hub Disassembly

2. Remove the snap rings on both sides.
3. Press used bearing and adapter assembly out.

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 as shown in Fig. 9. 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.**

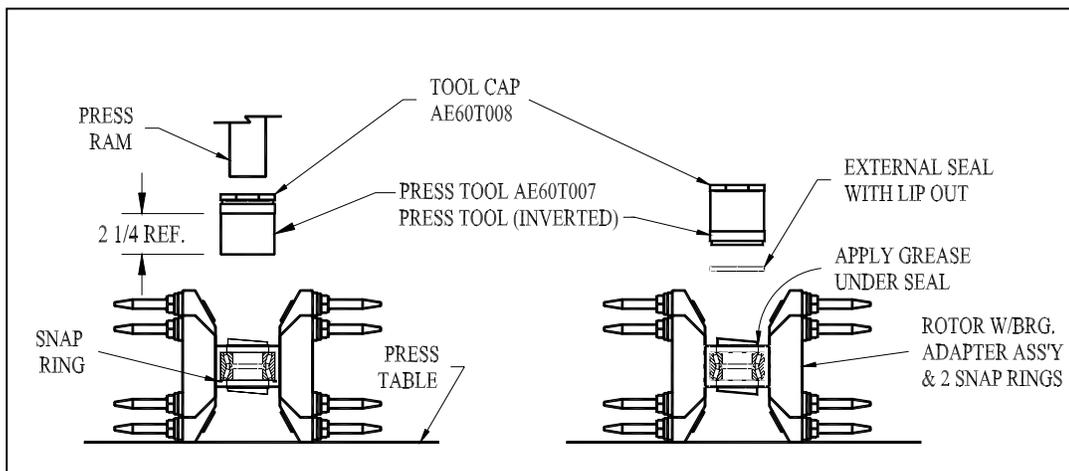


Figure 9. Rotor Hub Re-Assembly

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 6, 10 & 11) 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 11). The marked flats would have to align with the timing marks on any rotors not removed during servicing.

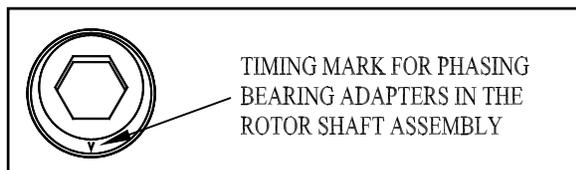


Figure 10. Timing Mark

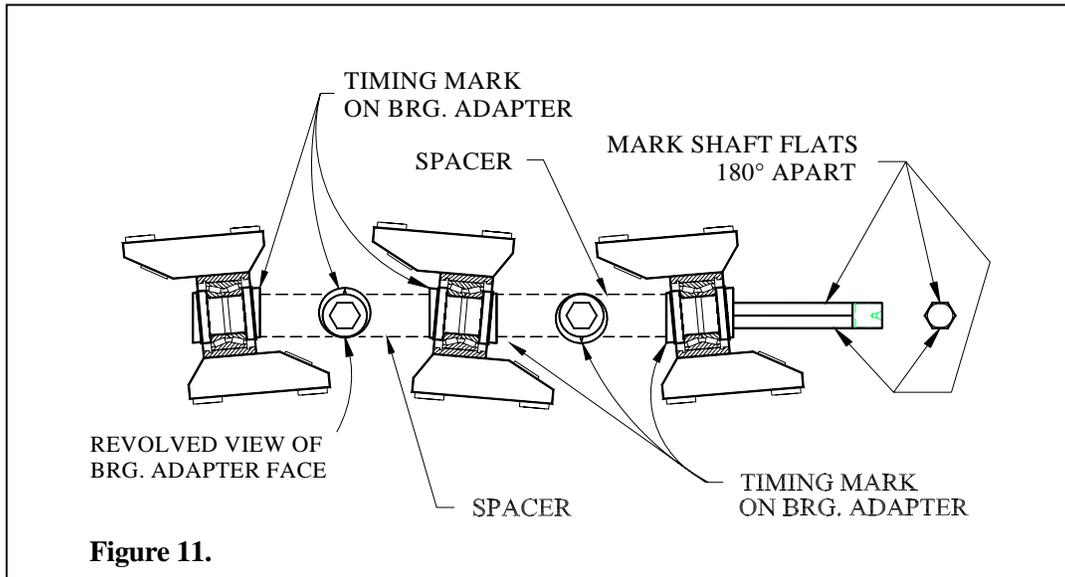


Figure 11.

3. Install the required components in the sequence shown in Figure 11, double checking the timing mark locations and spacer lengths (see following table) as each rotor is installed.

SPACER	LENGTH	PART NO.
A	3 51/64"	AE24-027
B	7 1/4"	AE24-011
C	3 9/16"	AE24-028

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. ALSO, THE 3/8" CARRIAGE BOLTS SHOULD BE PLACED IN THE BEARING STAMPINGS ON THE DRIVE END OF THE SHAFT BEFORE THE PULLEY IS REPLACED.

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.

Rotor Shaft Installation

1. Roll Rotor Shaft Assembly into position under frame bearing holes with pulley on drive end.
2. Carefully lower unit in small increments while keeping both bearing flanges on the side of the frame end plate and center bearing support.
3. Note that as the frame ends and center bearing support are carefully lowered down beside each pair of bearing flanges it is necessary to push the unit away from the pulley end. This allows the frame end to pass the carriage bolts sticking through both bearing flanges next to the pulley.
4. When the frame ends align with the carriage bolt holes and the bearing flanges, pull the unit toward the pulley end to assemble nuts on carriage bolts.
5. Install bolts and nuts in center bearing support and other end plate being careful to align carriage bolt shoulders with the square holes in bearing flanges (hand tighten).
6. Tighten all bearing flange bolts 30-35 Ft-Lbs.
7. Tighten 3 bolts connecting center bearing support to frame 50-55 Ft. Lbs.
8. Install and tighten drive belts. Tighten both bolts in belt idler bracket 30-35 Ft. Lbs.
9. Install Skid Shoe and tighten bolts 15-20 Ft. Lbs.
10. Install Belt Cover and tighten bolts 8-12 Ft. Lbs.
11. Run the machine and check for loose or improperly installed components.

Tine Replacement

Assemble tines to rotor as shown below (Fig 12). Torque tines to 210 ft-lbs.

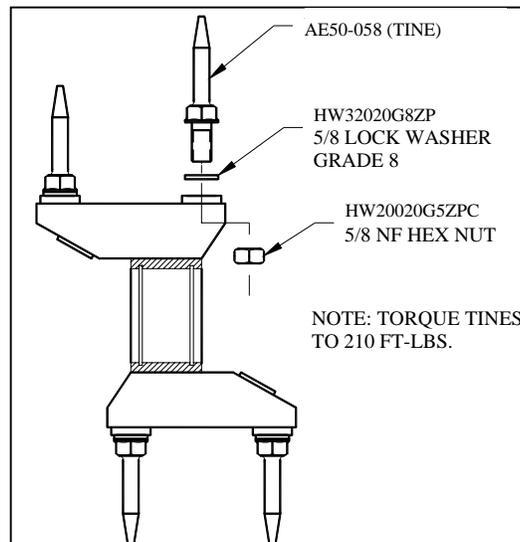


Figure 12. *Tine Replacement*

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.

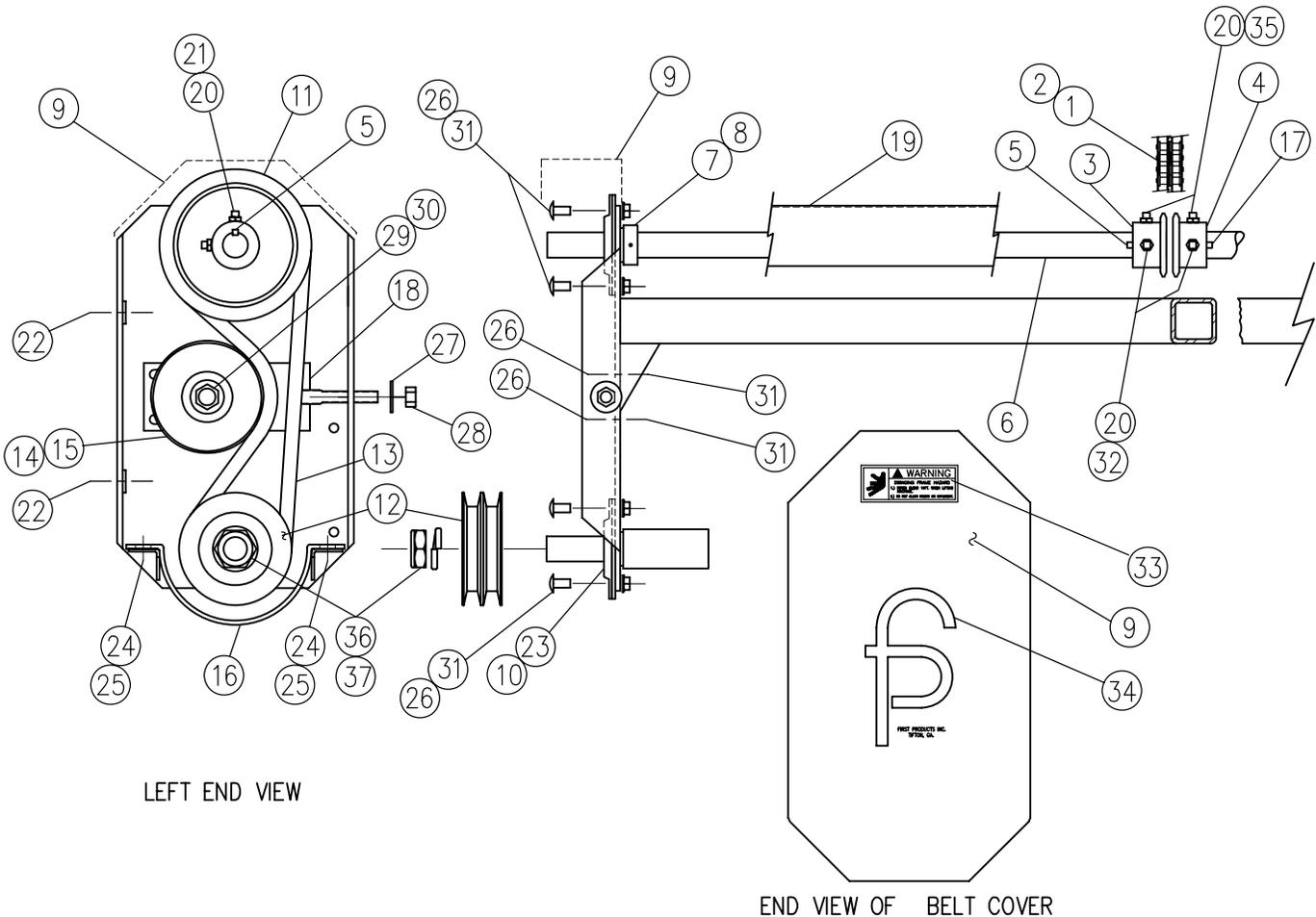
FIRST PRODUCTS INC. RESERVES THE RIGHT TO MAKE CHANGES OR ADD IMPROVEMENTS TO ITS PRODUCTS AT ANY TIME WITHOUT OBLIGATION TO MAKE SUCH CHANGES OR IMPROVEMENTS ON PRODUCTS SOLD PREVIOUSLY.

MAIN FRAME ASSEMBLY

ITEM NO.	ORDER NO.	DESCRIPTION	ITEM NO.	ORDER NO.	DESCRIPTION
1	AE26-022	ROTOR SHAFT	21	HW20014G5ZPC	7/16" HEX NUT
2	HW30014TAZP	7/16 FLATWASHER	22	AE50-041	STABILIZER (INCL. BOOT & HDWR.)
3	AE50-152	SERIAL NO. DECAL	23	HW32016G5ZP	1/2 LOCKWASHER
4	AE50-034	TIGHTEN BELT DECAL	24	HW20016G5ZPF	1/2 HEX NUT N.F.
5	AE24-011	LONG SPACER (7 1/4")	25	HW32036G5ZP	1-1/8" LOCKWASHER
6	AE24-028	CENTER SPACER (3 9/16")	26	HW32014G5ZP	7/16 LOCKWASHER
7	AE24-027	DRIVE END SPACER (3 51/64")	27	AE50-057	1/4"-28 U-NUT
8	AE50-090	1-1/8" HEX BEARING	28	AE23-109	INPUT SHIELD
9	AE50-094	72 mm x4 HOLE FLANGE	29	HW06008016G5ZPC	1/4 X 1/2 HEX FLG LK SCREW
10	AE27-043	CENTER BRG. SUPPORT	30	HW03016096G2ZPC	1/2" X 3 CARRIAGE BOLT
11	AE54-046	GEAR BOX	31	HW22010G5ZPC	5/16 FLANGE LOCKNUT
12	AE80-129	MAIN FRAME -80	32	AE50-095	FRAME WT. -80"
13	HW03012032G5ZPC	3/8" x 1 CARRIAGE	33	AE50-032	PATENT DECAL
14	AE50-086	2B 4.65 X 1-1/8 HEX BORE	34	AE50-076	THROWN OBJECT HAZARD DECAL
15	HW03016032G2ZPC	1/2" X 1 CARRIAGE	35	AE50-074	GENERAL CAUTIONS DECAL
16	HW22016G5ZPC	1/2" FLANGE LOCKNUT	36	AE50-077	540 PTO ONLY
17	HW01012024G5ZPC	3/8" x 3/4 HEX CAP GRD. 5	37	-	STABILIZER MNTG. PIN
18	HW22012G5ZPC	3/8" FLANGE LOCKNUT	38	HW03012024G5ZPC	3/8 X 3/4 CARRIAGE BOLT
19	HW25036G5ZPF	1-1/8"-12 JAM NUT N.F.	39	AE80-127	STABILIZER REACH ARM
20	HW01010024G5ZPC	5/16" X 3/4 HHCS	40	AE50-174	STABILIZER BOOT ONLY

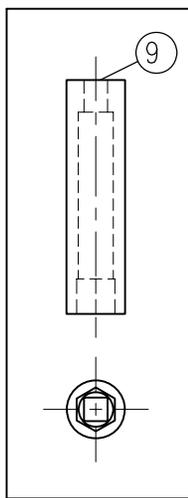
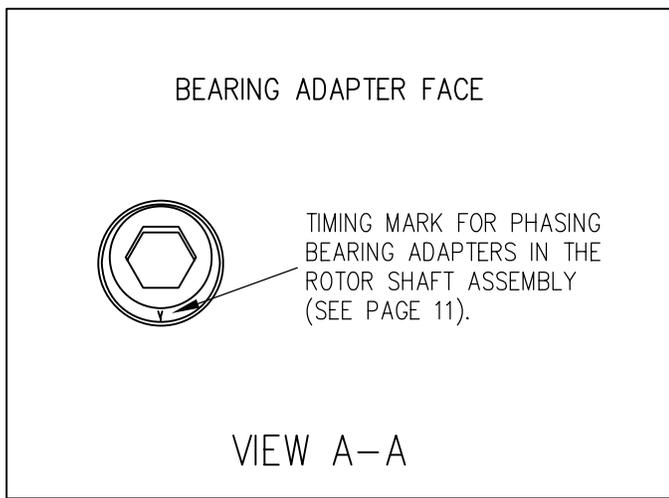
DRIVE TRAIN COMPONENTS

ITEM NO.	ORDER NO.	DESCRIPTION	ITEM NO.	ORDER NO.	DESCRIPTION
1	AE50-006	COUPLER CHAIN W/CONNECTOR	20	HW25010G5ZPC	5/16" HEX JAM NUT
2	AE50-007	#40-2 CHAIN CONN.	21	HW07010032PLC	5/16" X 1" SQ. HEAD SETSCREW
3	AE50-046	#40B16 X 1-1/8"	22	HW05010024G2ZPC	5/16" X 3/4" HEX HD. FLANGE CS
4	AE50-047	#40B16 X 30MM	23	AE50-090	1-1/8" HEX BRG.
5	AE50-085	1/4" X 2" (1045) KEY	24	HW03010024G5ZPC	5/16 X 3/4 CARRIAGE BOLT
6	AE26-020	JACK SHAFT (1-1/8")	25	HW22010G5ZPC	5/16" FLANGE LOCK NUT
7	AE50-048	1-1/8" BEARING	26	HW03012032G5ZPC	3/8 X 1" CARRIAGE BOLT
8	AE50-053	62MM X 3 HOLE HVY. FLANGE	27	HW31016TAZP	1/2" SAE FLAT WASHER
9	AE80-018	BELT COVER	28	HW24016GBZPC	1/2" STOVER LOCK NUT
10	AE50-094	72MM 4 HOLE FLANGE	29	HW20024G5ZPC	3/4" HEX NUT
11	AE50-087	2B 6.9 X 1-1/8 DIA. BORE SHEAVE	30	HW32024G5ZP	3/4" LOCK WASHER
12	AE50-086	2B 4.65 X 1-1/8 HEX SHEAVE	31	HW22012G5ZPC	3/8 FLANGE LOCKNUT
13	AE50-093	BX 46 BELT	32	HW07010020PLC	5/16 X 5/8 SQ. HD. SETSCREW
14	AE50-009	BELT IDLER	33	AE50-113	SWINGING FRAME HAZARD DECAL
15	AE24-001	BELT IDLER SPACER	34	FB50-068	F.P. LOGO DECAL
16	AE23-010	SKID SHOE	35	HW07010024PLC	5/16 X 3/4 SQ. HD. SETSCREW
17	AE50-052	8MM X 40MM KEY	36	HW25036G5ZPF	1-1/8 N.F. HEX JAM NUT
18	AE80-009	BELT IDLER BRACKET	37	HW32036G5ZP	1-1/8 LOCK WASHER
19	AE27-033	SHAFT SHIELD -80			

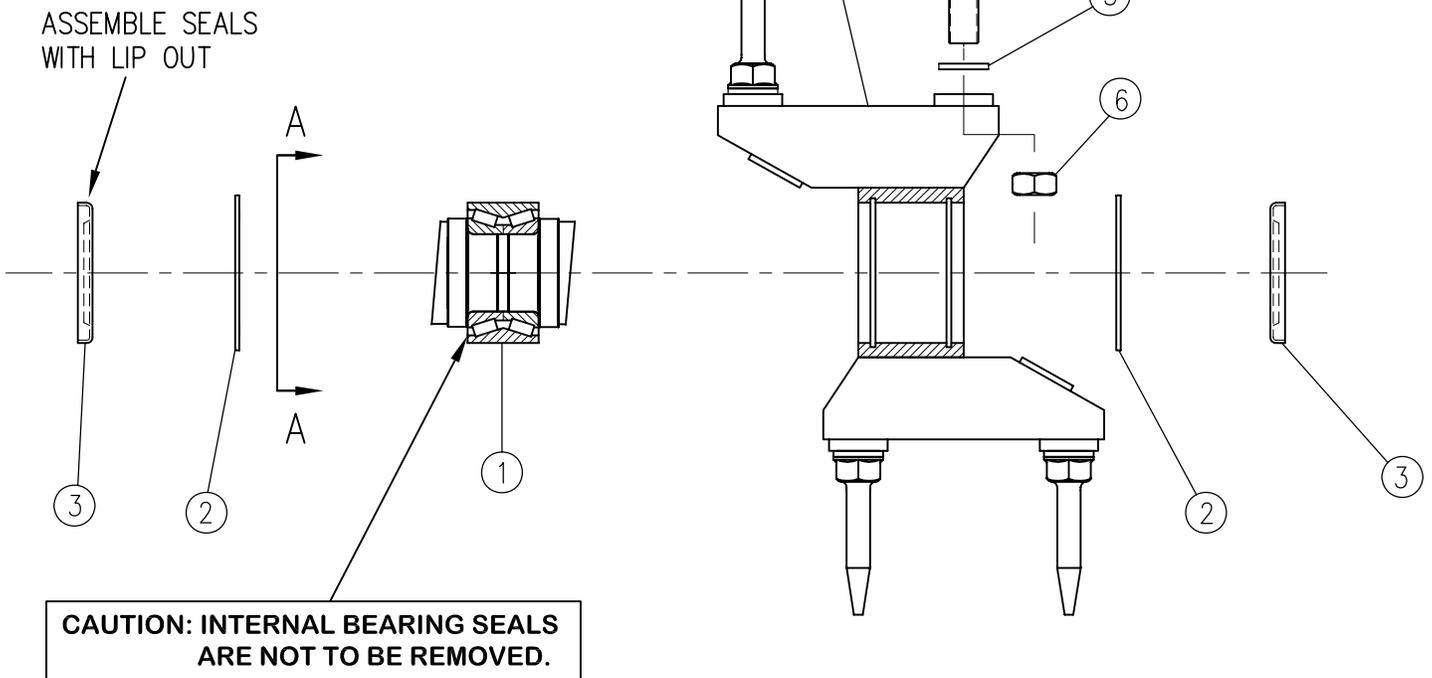


ROTOR ASSEMBLY

ITEM NO.	ORDER NO.	DESCRIPTION
1	AE81-010	Ae 5° Brg. & Adapter
2	AE50-029	3" Internal Snap Ring
3	AE50-005	External Rotor Seal
4	AE50-058	Tine - 5/8" NF
5	HW32020G8ZP	5/8" Lock Washer G8
6	HW20020G5ZPF	5/8" NF Hex Nut
7	AE80-027	Rotor Only
8	AE81-011	Rotor Assembly W/O Tines (Std. 5°)
9	AE60T-003	Extra Deep Impact Socket



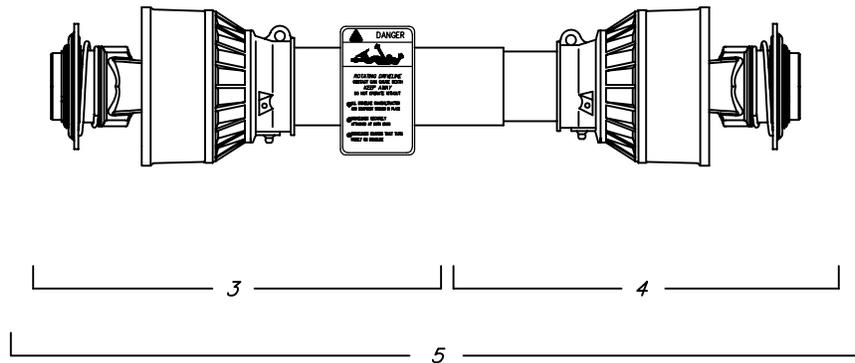
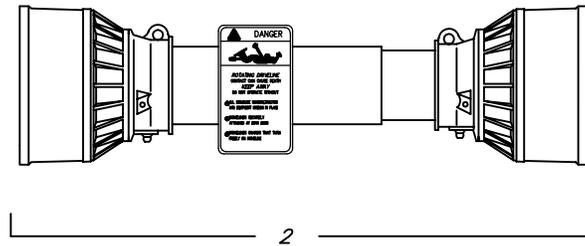
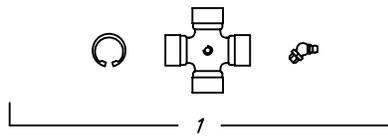
NOTE: TORQUE TINES TO 210 FT. LBS.



DRIVE LINE COMPONENTS

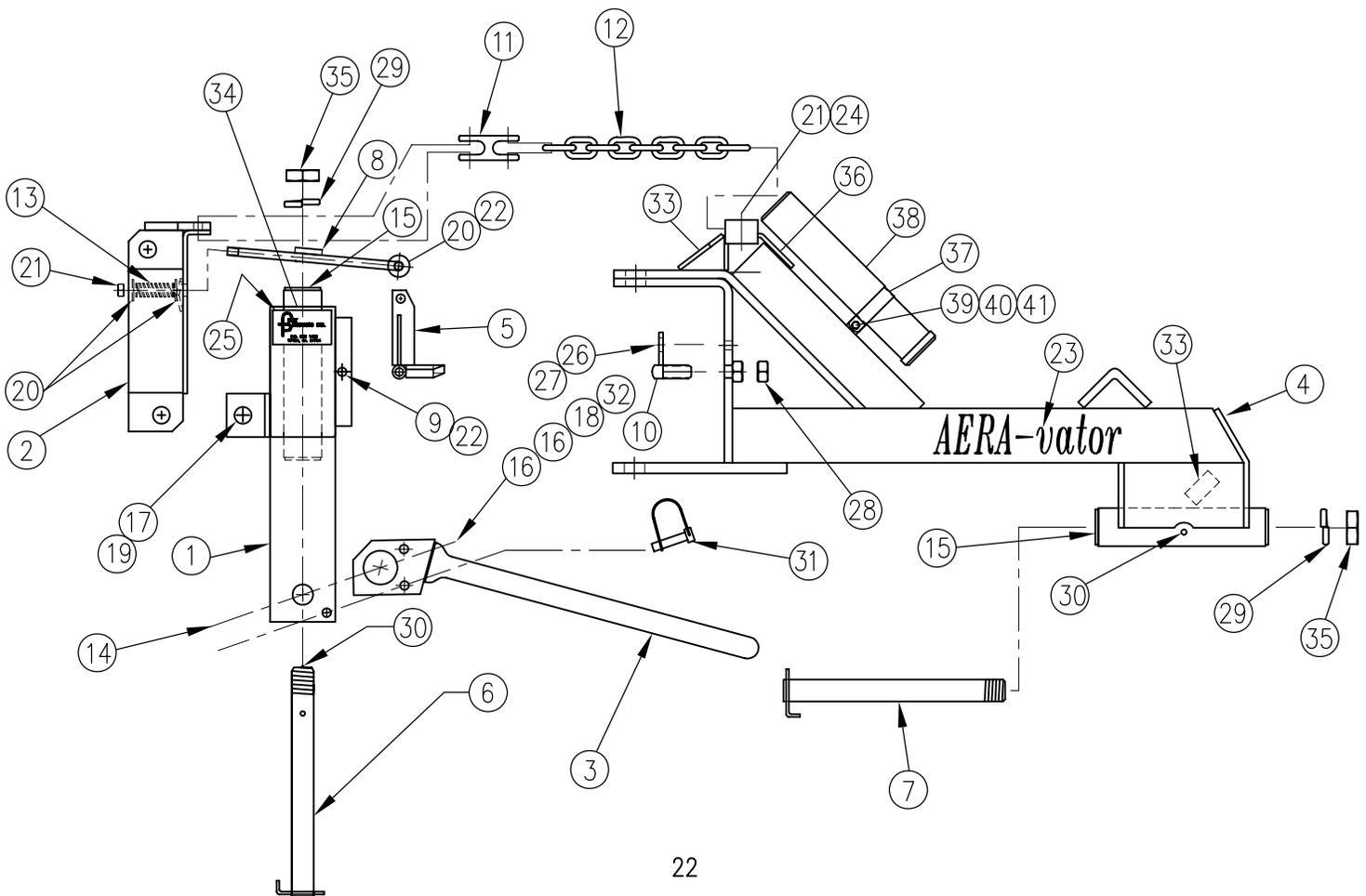
AE55-078 (COMPLETE DRIVE LINE)

ITEM NO.	ORDER NO.	DESCRIPTION
1	AE55-039	CROSS KIT
2	AE55-079	CPL. SHIELD ASSEMBLY
3	AE55-080	OUTER SHAFT W/ SHIELD
4	AE55-081	INNER SHAFT W/ SHIELD
5	AE55-078	COMPLETE DRIVE LINE



LIFT AND TRAIL HITCH GROUP

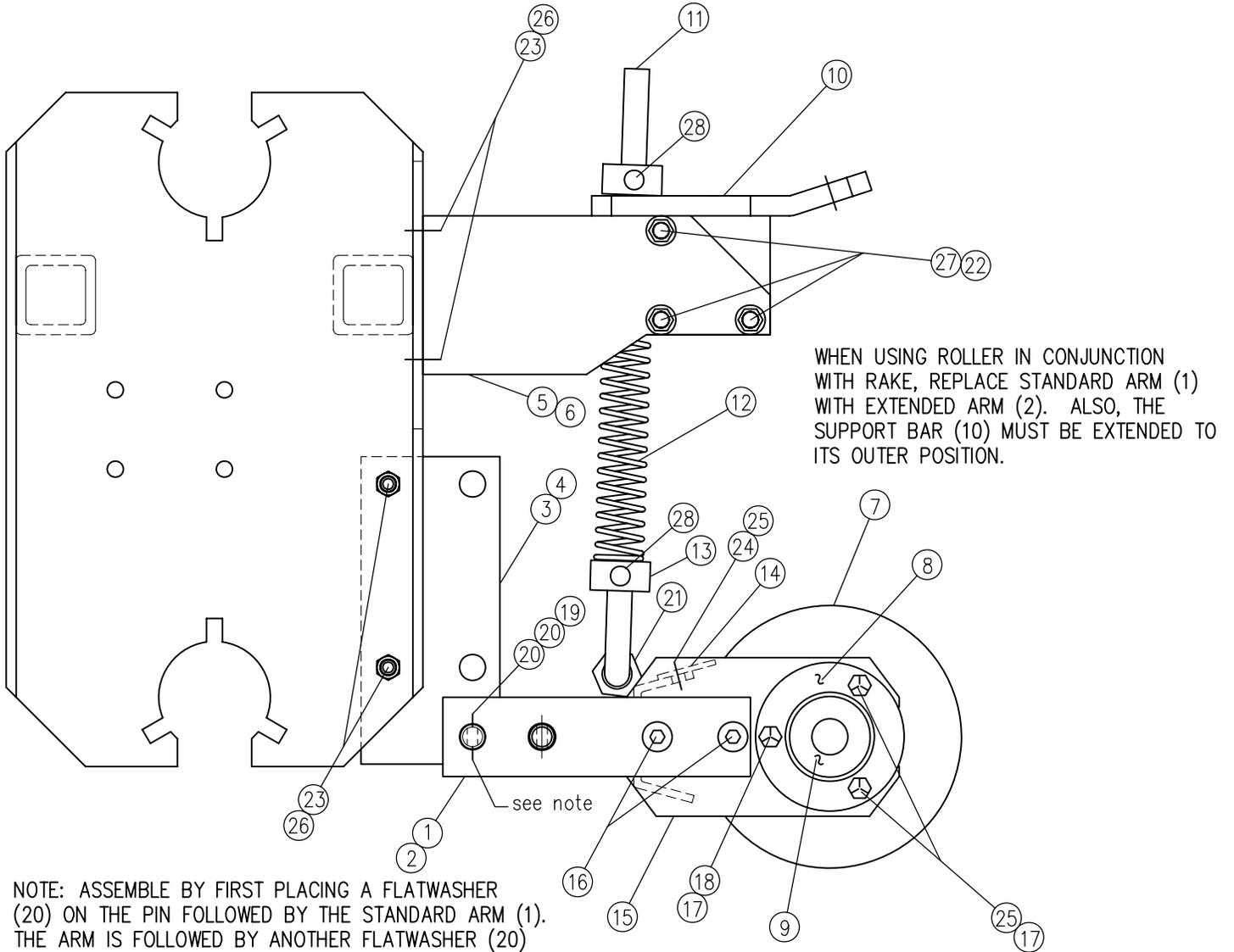
ITEM NO.	ORDER NO.	DESCRIPTION	ITEM NO.	ORDER NO.	DESCRIPTION
1	AE80-052	"A" FRAME	21	HW24012GBZPC	3/8" Stover Lock Nut
2	AE80-048	SWING MAST -80	22	HW4000403ZP	1/8" x 1" Cotter Pin
3	AE80-024	SWING STAND	23	AE50-063	AERA-vator Decal
4	AE80-128	Clevis-80	24	HW01012040G5ZPC	3/8" x 1-1/4" Hex Capscrew G5
5	AE80-054	Swing Lock	25	AE50-059	Small F.P. Decal
6	AE80-056	Vertical Swivel Pin	26	HW01012032G5ZPC	3/8" x 1" Hex Capscrew G5
7	AE80-057	Horizontal Swivel Pin	27	HW22012G5ZPC	3/8" Flange Lock Nut
8	AE80-010	Swing Lock Linkage	28	HW25024G5ZPC	3/4" Jam Nut
9	AE80-055	Lock Hinge Pin	29	HW32032G5ZP	1" Lock Washer
10	AE80-051	Lock Set Screw	30	HW50008THD.F	1/4"-28 Straight Fitting
11	AE50-099	1/4" x 5/16 Dbl Clevis	31	AE50-040	3/8" x 1 1/2" Pin
12	AE50-100	5/16" High Test x 7 links	32	HW20028G5ZPF	7/8" NF Hex Nut
13	AE50-022	Lock Spring	33	AE50-035	Grease Weekly Decal
14	AE50-023	Lift Arm Pin	34	AE50-075	Pinch Point Decal
15	AE50-025	1" x 1 1/4" Flange Bearing	35	HW25032G5ZPC	1" N.C. Jam Nut
16	HW33028G8ZP	7/8" Heavy Lock Washer	36	AE50-091	AE-80 DECAL
17	AE26-009	Mast Hinge Rod	37	AE50-163	P.B. CYLINDER CLAMP
18	HW31028TAZP	7/8" S.A.E. Flat Washer	38	AE50-164	P.B. CYLINDER
19	HW40006040ZP	3/16" x 1 1/4" Cotter Pin	39	HW01008024G2ZPC	1/4" x 3/4" HEX CAPSCREW
20	HW30012TAZP	3/8" Flat Washer	40	HW22008G5ZPC	1/4" FLANGE LOCKNUT
			41	HW20008G5ZPC	1/4" HEX NUT



SINGLE ROLLER

MODEL AE80 1R - (AE82-007)

ITEM NO.	ORDER NO.	DESCRIPTION	ITEM NO.	ORDER NO.	DESCRIPTION
1	AE80-125	STANDARD ARM 7-3/4 OAL	15	AE80-074	ROLLER FRAME - 1R
2	AE80-124	EXTENDED ARM 13-3/4 OAL	16	HW09016040G5ZPC	1/2 X 1-1/4" GRD. 5 SOCKET HD. CS PLTD.
3	AE80-067	END MOUNTING PLATE (LEFT)	17	HW01010024G5ZPC	5/16 X 3/4" HEX CAP GRD. 5
4	AE80-068	END MOUNTING PLATE (RIGHT)	18	HW32010G5ZP	5/16 LOCKWASHER
5	AE23-126	SUPPORT BAR BRACKET (LEFT)	19	HW40008040SS	1/4 X 1-1/4 STAINLESS COTTER
6	AE23-127	SUPPORT BAR BRACKET (RIGHT)	20	HW6002003218GZP	5/8 ID x 1"OD 18GA BUSHING
7	AE80-073	1R ROLLER - 80	21	HW40006040ZP	3/16 X 1-1/4 COTTER
8	AE50-013	52 MS FLANGES	22	HW22012G5ZPC	3/8 FLANGE LOCKNUT
9	AE50-103	1" SPHER. BRG. W/SETSCREWS	23	HW03012032G5ZPC	3/8 X 1 CARRIAGE BOLT GD5
10	AE80-064	SUPPORT BAR	24	HW03010024G5ZPC	5/16 X 3/4 CARRIAGE BOLT GRD. 5
11	AE26-015	ROLLER SPRING ROD	25	HW22010G5ZPC	5/16 FLANGE LOCKNUT
12	AE50-071	ROLLER SPRING	26	HW24012GBZPC	3/8 STOVER LOCKNUT
13	FB50-022	11/16 ADJ. COLLAR	27	HW01012032G5ZPC	3/8 x 1 HEX CAPSCREW GRD 5
14	AE23-136	SCRAPPER	28	HW07016020PLC	1/2 X 5/8 SQ HEAD SETSCREW

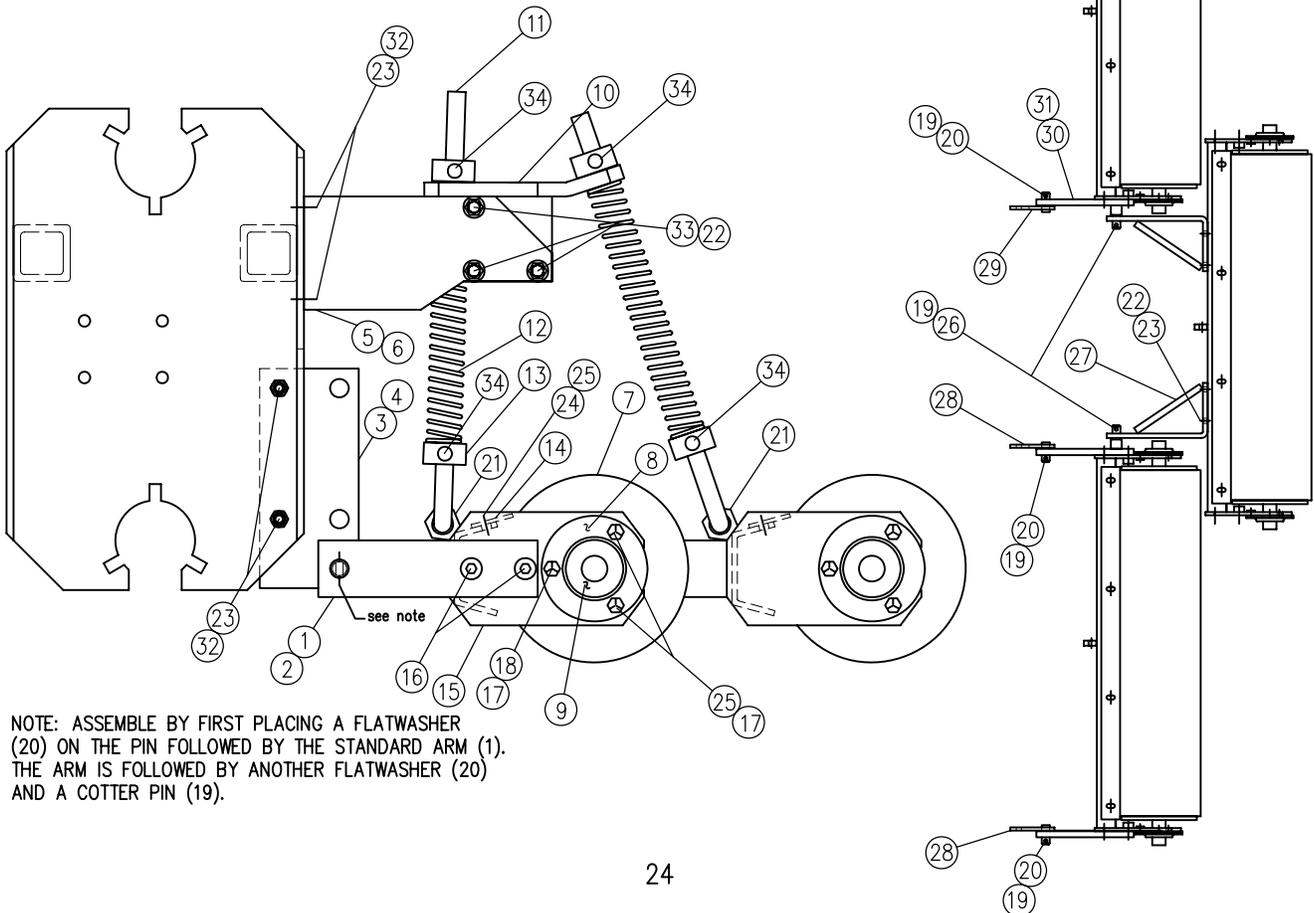


TRIPLE ROLLER

MODEL AE80 3R
(AE82-006)

ITEM NO.	ORDER NO.	DESCRIPTION	ITEM NO.	ORDER NO.	DESCRIPTION
1	AE23-130	STANDARD ARM 7-3/4 OAL	18	HW32010G5ZP	5/16" LOCKWASHER
2	AE23-129	EXTENDED ARM 13-3/4 OAL	19	HW40008040SS	¼ X 1-1/4 STAINLESS. COTTER PIN
3	AE80-067	END MOUNTING PLATE (LEFT)	20	HW6002003218GZP	5/8 ID x 1"OD 18GA BUSHING
4	AE80-068	END MOUNTING PLATE (RIGHT)	21	HW40006040ZP	3/16 X 1-1/4 COTTER
5	AE23-126	SUPPORT BAR BRACKET (LEFT)	22	HW22012G5ZPC	3/8 FLANGE LOCKNUT
6	AE23-127	SUPPORT BAR BRACKET (RIGHT)	23	HW03012032G5ZPC	3/8 X 1 CARRIAGE BOLT GD5
7	AE80-060	3R ROLLER - 80	24	HW03010024G5ZPC	5/16 X 3/4 CARRIAGE BOLT GD 5
8	AE50-013	52 MS FLANGES	25	HW22010G5ZPC	5/16 FLANGE LOCKNUT
9	AE50-103	1" SPHER. BRG. W/SETSCREWS	26	HW31020TAZP	5/8 SAE FLATWASHER
10	AE80-064	SUPPORT BAR	27	AE80-061	CENTER ROLLER SUPPORT
11	AE26-015	ROLLER SPRING ROD	28	AE80-069	INSIDE MOUNTING PLATE (LEFT)
12	AE50-071	ROLLER SPRING	29	AE80-070	INSIDE MOUNTING PLATE (RIGHT)
13	FB50-022	11/16 ADJ. COLLAR	30	AE80-066	STANDARD INSIDE ARM
14	AE23-115	SCRAPER - 3R	31	AE80-065	EXTENDED INSIDE ARM
15	AE80-063	ROLLER FRAME - 3R	32	HW24012GBZPC	3/8 STOVER LOCKNUT
16	HW09016040G5ZPC	½ X 1-1/4" SOCKET HD CS PLTD.	33	HW01012032G5ZPC	3/8 x 1 HEX CAPSCREW GRD 5
17	HW01010024G5ZPC	5/16 X ¾ HEX CAP GRD. 5	34	HW07016020PLC	1/2 X 5/8 SQ HEAD SETSCREW

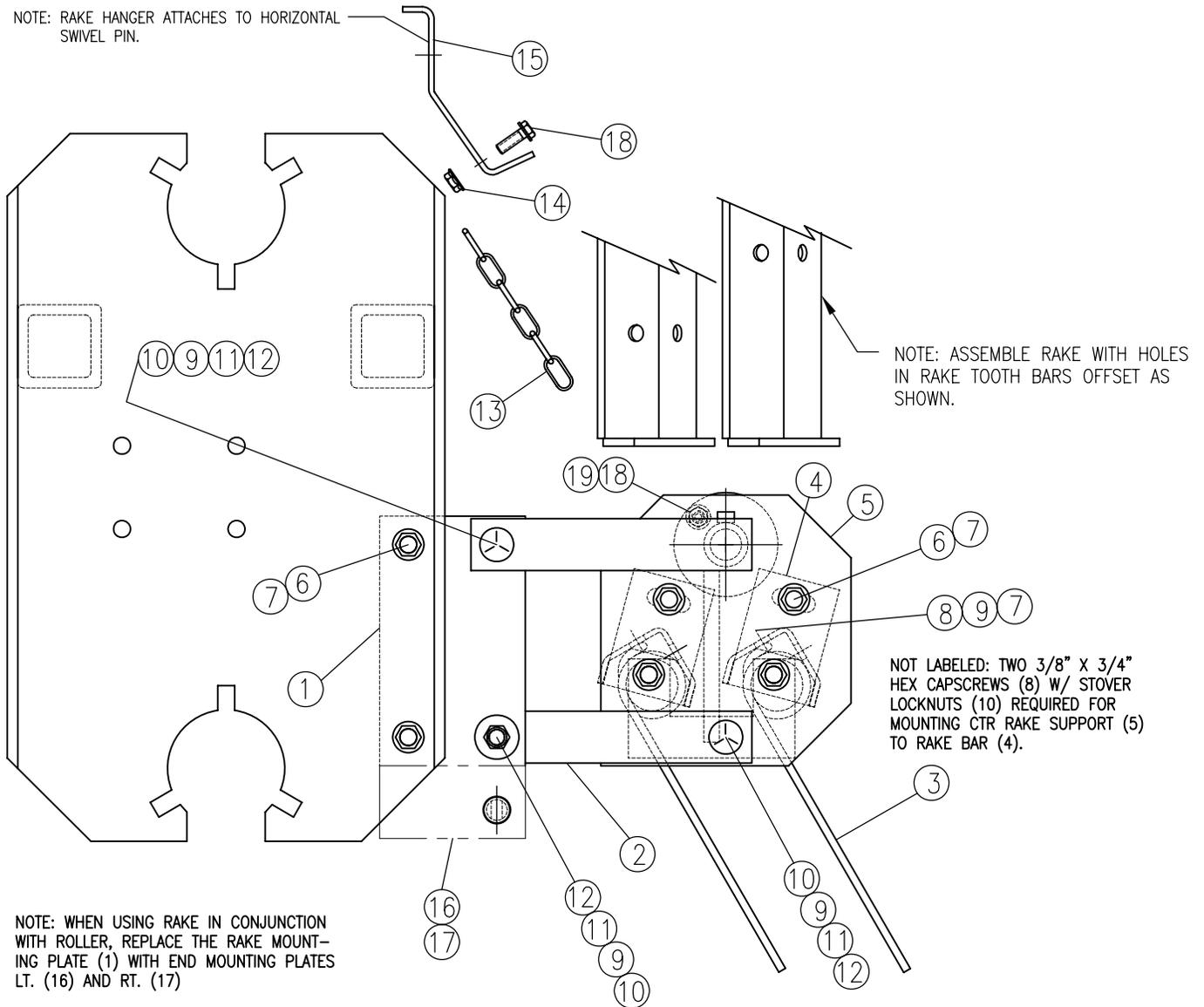
WHEN USING ROLLER IN CONJUNCTION WITH RAKE, REPLACE STANDARD ARM (1) WITH EXTENDED ARM (2) AND STANDARD INSIDE ARM (30) WITH EXTENDED INSIDE ARM (31). ALSO, THE SUPPORT BAR (10) MUST BE EXTENDED TO ITS OUTER POSITION.



RAKE

MODEL AE80 - (AE82-008)

ITEM NO.	ORDER NO.	DESCRIPTION	ITEM NO.	ORDER NO.	DESCRIPTION
1	AE23-134	RAKE MOUNTING PLATE	10	HW24012GBZPC	3/8 STOVER LOCKNUT
2	AE23-122	RAKE LINK, LOWER	11	AE24-014	LINKAGE BUSHING
3	AE50-065	RAKE TOOTH	12	HW03012040G5ZPC	3/8 X 1-1/4 CARRIAGE BOLT GRD. 5
4	AE80-072	RAKE TOOTH BAR	13	AE50-158	#2 MACH CHAIN X19 LINKS
5	AE80-075	RAKE FRAME - 80	14	HW22008G5ZPC	1/4 FLANGE LOCKNUT
6	HW03012024G5ZPC	3/8 X 3/4 CARRIAGE BOLT GRD. 5	15	AE23-201	RAKE HANGER
7	HW22012G5ZPC	3/8 FLANGE LOCKNUT	16	AE80-067	END MOUNTING PLATE (LEFT)
8	HW01012024G5ZPC	3/8 X 3/4 HEX CAPSCREW GD 5	17	AE80-068	END MOUNTING PLATE (RIGHT)
9	HW30012TAZP	3/8 FLATWASHER	18	HW06008024G5ZPC	1/4 X 3/4 HEX FLANGE CS

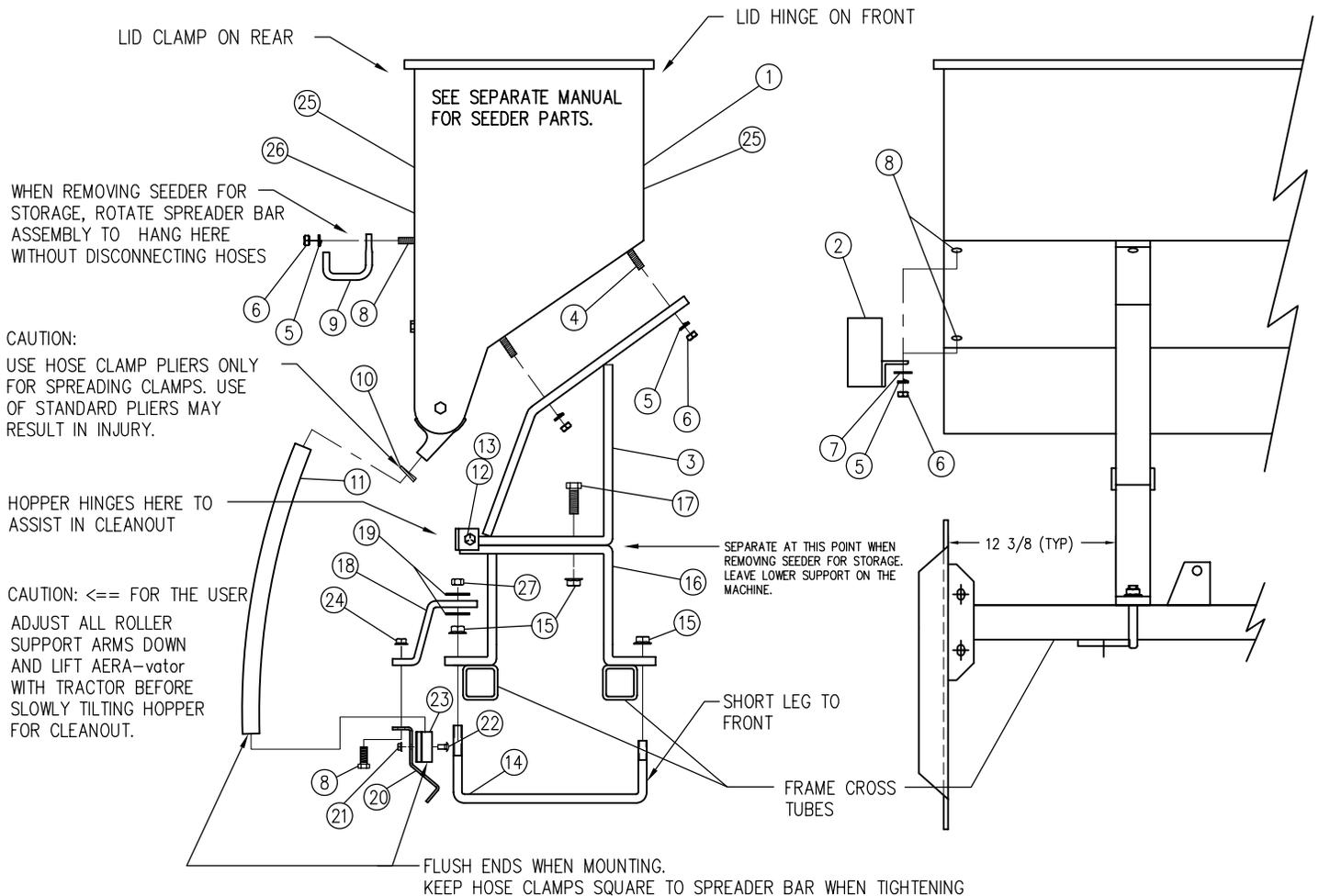


MODEL 400-7FP SEEDER

MOUNTING INSTRUCTION AND PARTS LIST FOR:
HOPPER SUPPORTS AND SPREADER BAR ASSEMBLY

AE82-005

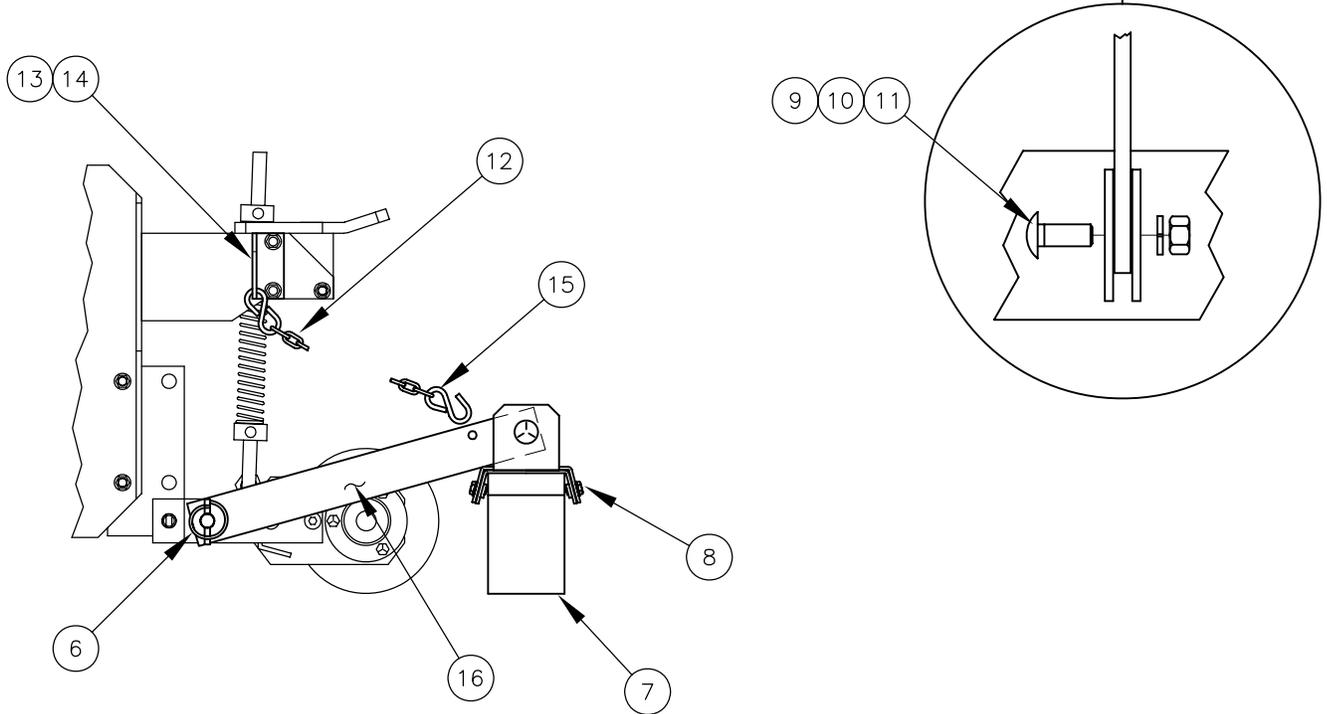
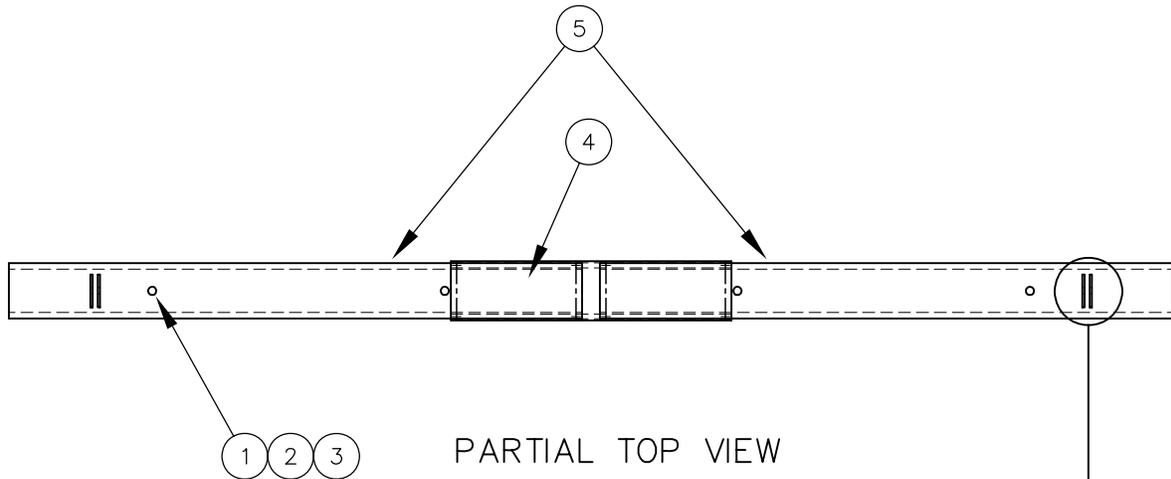
ITEM NO.	ORDER NO.	DESCRIPTION	ITEM NO.	ORDER NO.	DESCRIPTION
1	AE50-092	80" GANDY APPLICATOR	14	AE50-078	SEEDER U-BOLT
2	AE80-045	SEEDER BOX WEIGHT	15	HW22016G5ZPC	½ FLANGE LOCKNUT
3	AE80-047	UPPER HOPPER SUPPORT	16	AE80-046	LOWER HOPPER SUPPORT
4	HW01012040G5ZPC	3/8 X 1-1/4" HEX CAP GD 5	17	HW01016048G5ZPC	½ X 1-1/2" HEX CAP GD 5
5	HW32012G5ZP	3/8 LOCKWASHER	18	AE23-132	SPREADER MOUNTING BRKT.
6	HW20012G5ZPC	3/8 HEX NUT	19	HW30016TAZP	½ FLATWASHER
7	HW30012TAZP	3/8 FLATWASHER	20	AE23-133	SEED SPREADER - 80
8	HW01012032G5ZPC	3/8 X 1 HEX CAP GD 5	21	HW22008G5ZPC	¼ FLANGE LOCKNUT
9	AE50-080	SEED SPREADER HANGER	22	HW03008020G5ZPC	1/4 X 5/8" CARRIAGE BOLT GD 5
10	AE50-081	UPPER HOSE CLAMP	23	AE27-028	SEEDER HOSE CLAMP
11	AE50-106	15" SEEDER HOSE	24	HW22012G5ZPC	3/8 FLANGE LOCKNUT
12	HW01012104G5ZPC	3/8 X 3-1/4" HEX CAP GD 5	25	FB50-068	LARGE F.P. DECAL
13	HW24012GBZPC	3/8 STOVER LOCKNUT	26	AE50-076	STAND CLEAR WARNING DECAL
			27	HW24016GBZPC	1/2 STOVER LOCK NUT



BRUSH ASSEMBLY

AE82-023

ITEM NO.	ORDER NO.	DESCRIPTION	ITEM NO.	ORDER NO.	DESCRIPTION
1	AE23-205	WASHER	9	HW03016040G5ZPC	1/2" x 1 1/4" CARR. BOLT
2	HW03010064G2ZPC	5/16 x 2 CARRIAGE BOLT	10	HW20016G5ZPC	1/2" HEX NUT
3	HW22010G5ZPC	5/16 FLG. LOCK NUT	11	HW32016G5ZP	1/2" LOCK WASHER
4	AE27-067	CHANNEL SPLICE	12	AE50-158	HANGER CHAIN
5	AE80-126	BRUSH CHANNEL END - 80	13	AE23-213	CHAIN CLIP RT
6	AE50-149	1/4" LYNCH PIN	14	AE23-212	CHAIN CLIP LT (SHOWN)
7	AE50-159	BRUSH	15	AE50-160	2 1/4 "S" HOOK
8	HW06010016G5ZPC	5/16 x 1/2 FLG. LOCK SCREW	16	AE23-211	BRUSH ARM - 80



SEED HOPPER PARTS LIST

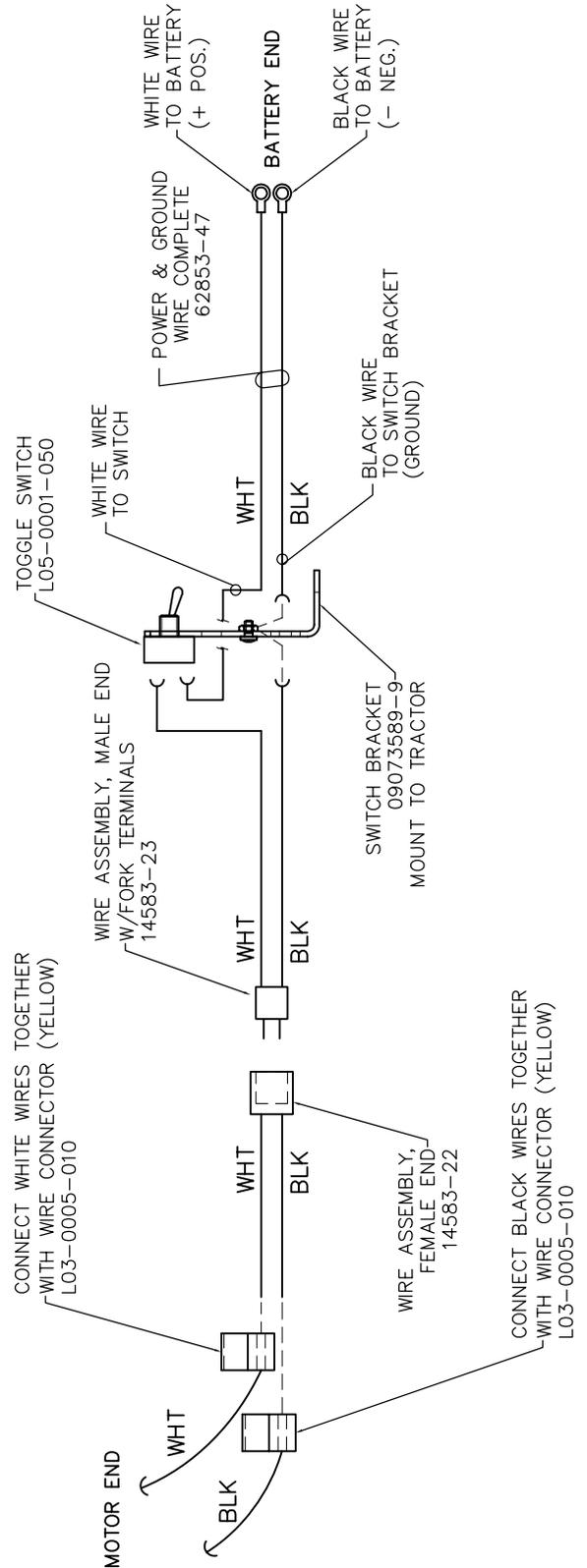
FP# AE50-092
GANDY# 400A-7FP

SE WIRING HARNESS

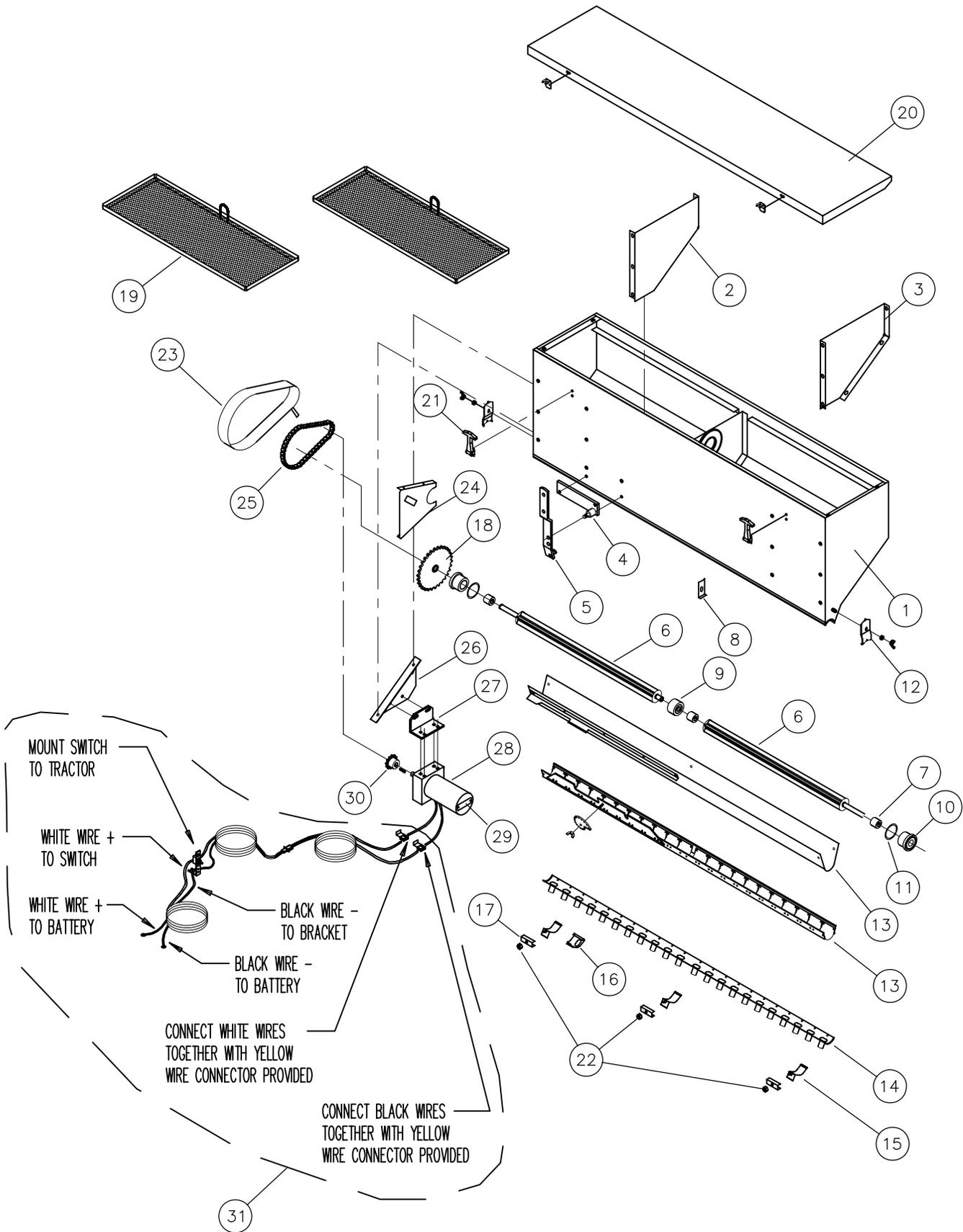
SE50-031 (GANDY 14583-A)

ITEM	PART NO.	DESCRIPTION	QTY
1	14783-7	HOPPER	1
2	14583-10	MOUNTING FRAME SUPPORT, LEFT	1
3	14583-11	MOUNTING FRAME SUPPORT, RIGHT	1
4	14583-12	MOUNTING BRACKET, SHUT-OFF LEVER	1
5	1408030-5	SHUT-OFF LEVER	1
6	141469-4	ROTOR BAR, RUBBER, 7'	2
7	14071	JOURNAL, 5/8 HEX	3
8	140677	BEARING RETAINER, CENTER	1
9	140694	BEARING, CENTER	1
10	140692	BEARING, END	2
11	M05-0773-000	GASKET	2
12	09063146	RETAINER, BEARING	2
13	14783-3	BOTTOM AND SLIDE, 7', 30 OPENINGS	1
14	14783-5	SPOUT PLATE, 7', 30 SPOUTS	1
15	14583-14	RETAINING CLIP	3
16	14583-13	POSITIONING CLIP	1
17	4708013-4	CLAMP	3
18	14583-19	SPROCKET, 48T, 63" HEX	1
19	14783-6	SCREEN	2
20	14783-8	COVER	1
21	M05-0000-010	LATCH & KEEPER	2
22		#10 HEX FLG. LOCKNUT	3
23	14583-15	CHAIN GUARD, COVER	1
24	14583-20	CHAIN GUARD, BACK PLATE	1
25	F02-0041-000	ROLLER CHAIN, #41 x 65 LINKS COMPLETE	1
26	14583-16	MOTOR MOUNT	1
27	14583-18	MOTOR MOUNTING BRACKET	1
28	L01-0012-006	ELECTRIC MOTOR, 12V, 1/8 H.P.	1
29	14583-7	REAR SHAFT PLATE	1
30	G01-0012-020	SPROCKET, 12T, 41B12, 5/8 RD. w/KEY	1
31	14583-A	WIRING HARNESS COMPLETE	1

SEE DIAGRAM TO THE RIGHT FOR COMPONENT LISTING



SEEDER HOPPER



AE80 AERA-vator Specifications:

WEIGHT (Basic Unit)	932 LBS. w/DRIVE SHAFT
Standard Mount 1R Roller - 6-5/8" dia. w/SCRAPER	259 LBS.
Extended Mount 1R Roller - 6-5/8" dia. w/SCRAPER	263 LBS.
Standard Mount 3R Roller - 6-5/8" dia. w/SCRAPER	315 LBS.
Extended Mount 3R Roller - 6-5/8" dia. w/SCRAPER	326 LBS.
Rake - 1 7/8" TINE SPACING APPROX	53 LBS.
Brush – 76" Wide, Polypropylene Bristle	56 LBS. (1R ROLLER only)
Seeder (84" Wide) Empty	298 LBS.
OVERALL WIDTH	88"
WORKING WIDTH	80"
GEARBOX	1:1 RT. ANGLE
END DRIVE	2 BX BELTS
TINE VIBRATION FREQUENCY	@540 PTO RPM = 800 CYCLES/MIN.
SIDE TO SIDE TINE TRAVEL	1 3/8 INCHES
VIBRATING DEPTH	3 1/2 INCHES
AERATION DENSITY	6 HOLES/SQ. FT
HEAVY DUTY LIFT/TRAIL HITCH	3 FT TURN RADIUS (APPROX.)
TINES	9/16 x 3 1/2" FORGED AND HARDENED
ROTOR BEARINGS	DOUBLE SEALED TAPERED ROLLER
DRIVE LINE	1 3/8 SPLINE w/SAFETY SHIELD
FINISH - BASIC UNIT	BLACK AND GREY ACRYLIC
SEEDER HOPPER	RED POLYESTER
HOPPER CAPACITY	9.4 Cubic Ft.
HOPPER BOTTOM & SLIDE	STAINLESS STEEL (MICRO-PRECISION MATED)
SEED FEED ROTOR	PRECISION NEOPRENE
SEED DISTRIBUTION	30 OUTLETS WITH SPLASH PLATE
RATE CONTROL	PRECISION CAM GAUGE
SEEDER DRIVE	ELECTRIC DRIVE – (CONNECTS TO TRACTOR BATTERY)
TRACTOR REQUIRED: HP AND PTO SPEED 3 PT. LIFT HITCH	35 HP – 540 RPM CAT 1

SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE