

# INSTALLATION INSTRUCTIONS



The Safety Symbol shown is used throughout these instructions to alert you to information about unsafe actions or situations and will be followed by the word **DANGER**, **WARNING** or **CAUTION**. **DANGER** - indicates immediate hazards that may result in severe injury or death. **WARNING** - indicates unsafe actions or situations that may cause severe injury, death and/or major equipment or property damage. **CAUTION** - indicates unsafe actions or situations that may cause injury and/or minor equipment or property damage.

## ELECTRIC DRIVE TRACTOR ARC AXLE KIT, PART NO's. A2031A1, A2031A2, A2032A1, A2032A2 A2033A1 and A2033A2

### for use with the SWIVEL ARC AXLE KITS used on the 60' to 90' BELT CONVEYORS

**NOTE:** This kit has been designed to work with the swivel arc axle kits that are used on the 60' to 85' belt conveyors and the 60' to 90' Squeeze Belt® conveyors. The drive frame mounts to the swivel arc axle frame and can be adjusted to push directly perpendicular to the conveyor center line, or at an angle up to 10 degrees for swinging conveyor in an arc.



#### CAUTION

- Some of the items from the drive tractor kit are heavy, to prevent personal injury, use assistance during the installation and assembly process.
- When raising the swivel axle, do not rely solely on mechanical jacks, hydraulic jacks, or overhead hoist's for support. Use appropriate jack stands or equivalent for supporting the unit.
- Electric motors and controls shall be installed by a qualified electrician and must meet the standards set by the National Electrical Code and all local and state codes.

Before beginning assembly it is suggested to read through these instructions and lay out all items from the kit to ensure all parts are accounted for. This not only helps you become familiar with the parts and assembly procedures, but also makes you aware of what tools, equipment or materials you may need to complete the installation process.

- The drive frame, when installed, will attach to the center of the swivel axle and to the conveyor axle. Raise and support the swivel axle before installing the drive frame (place supports at each end of the swivel axle to keep the middle area open for installation of the drive frame).
- The swivel axle only needs to be raised high enough to allow the conveyor tires to clear the ground.
- The drive tractor kit will be installed on the conveyor's right hand side swivel axle.

Whenever reference is made to the left, right, front or rear of a conveyor, it is always determined by standing at the hitch end looking towards the discharge chute.

#### ASSEMBLY INSTRUCTIONS

1. Locate the drive frame, support stand and axle clamp from the kit.

Insert the support stand into the drive frame tube as shown in Fig. 1. Secure using one 1/2 x 3" bolt and nylon locknut (insert the bolt through the bottom hole).

The main intent for the support stand is to support the weight of the swivel axle and conveyor in the event the tires on the conveyor should go flat (when the conveyor is not in use, or is in storage, secure the support stand as close to the ground as the adjustment holes allow).

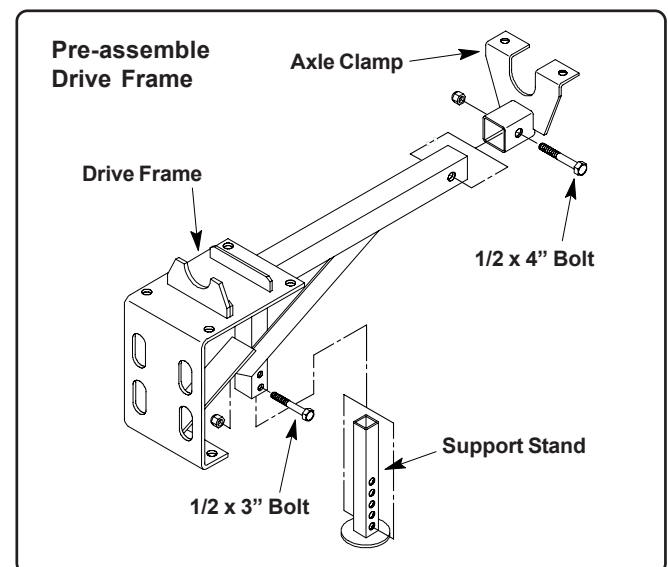


Figure 1

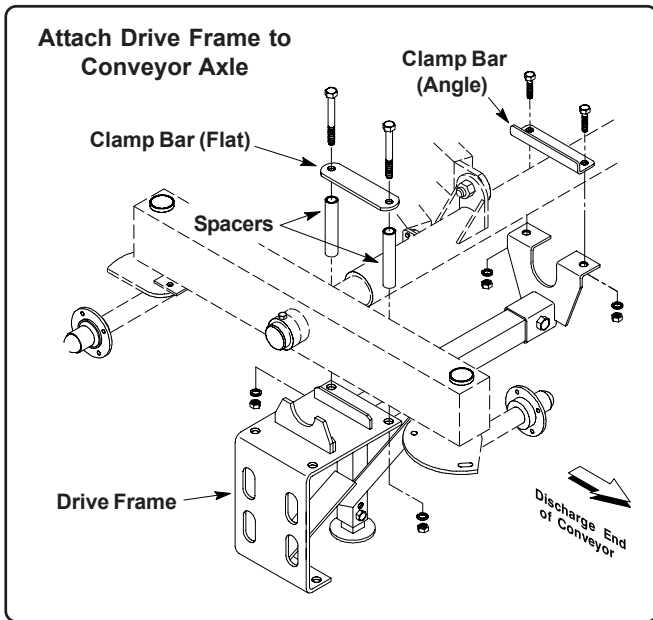
2. Slide the axle clamp onto the end of the drive frame as shown in Fig. 1. Secure using one 1/2 x 4" bolt and nylon locknut.

**Assembly Instructions (con't.)**

3. Position the drive frame beneath the right hand side conveyor axle as shown in Fig. 2 (the locator bars and capture plate will help ensure the drive frame is properly positioned).

Secure the motor mount end of the drive frame using two 1/2 x 6" bolts, lock washers, non-lock nuts, the flat clamp bar and the two 4 1/2" long spacers.

Secure the axle clamp to the conveyor axle using two 1/2 x 1 1/2" bolts, lock washers, non-lock nuts and the angle clamp bar as shown in Fig. 2.



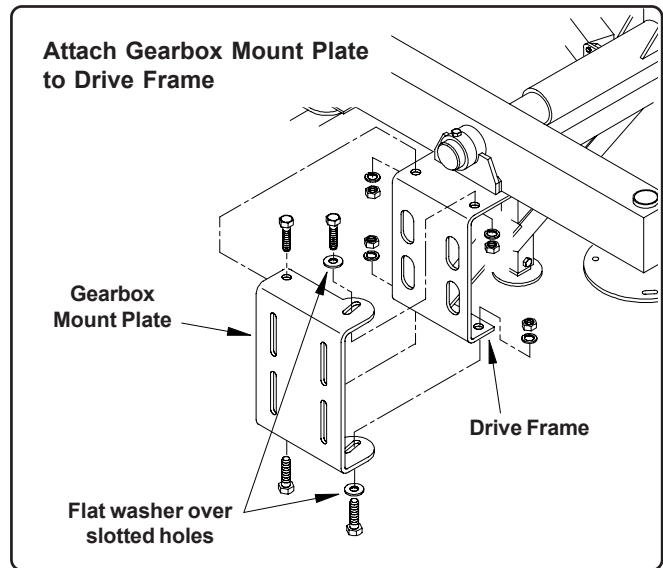
**Figure 2**

4. Attach the gearbox mount plate to the drive frame (See Fig. 3). Secure using four 1/2 x 1 3/4" bolts, lock washers, non-lock nuts and two flat washers (flat washers are used over the slotted hole on top and on the bottom side of the plate).

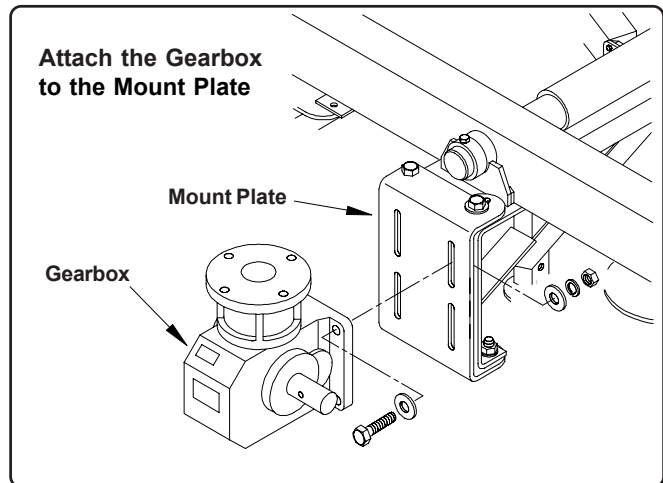
**The plate can be adjusted to allow the conveyor to be pushed perpendicular to the conveyor center line, or at an angle of up to 10 degrees off perpendicular for swinging the conveyor in an arc.**

5. Attach the gearbox to the mount plate (See Fig. 4). Secure using four 1/2 x 2 1/2" bolts, flat washers, lock washers and non-lock nuts (position the gearbox so the mounting bolts are at the top of the slotted holes).
6. Attach the wheel hubs to the shafts on each side of the gearbox (See Fig. 5). Secure each hub using one 3/8 x 2 1/2" bolt and nylon locknut.
7. Mount the tire and rim assembly's onto the wheel hubs and secure using the lug bolts provided.

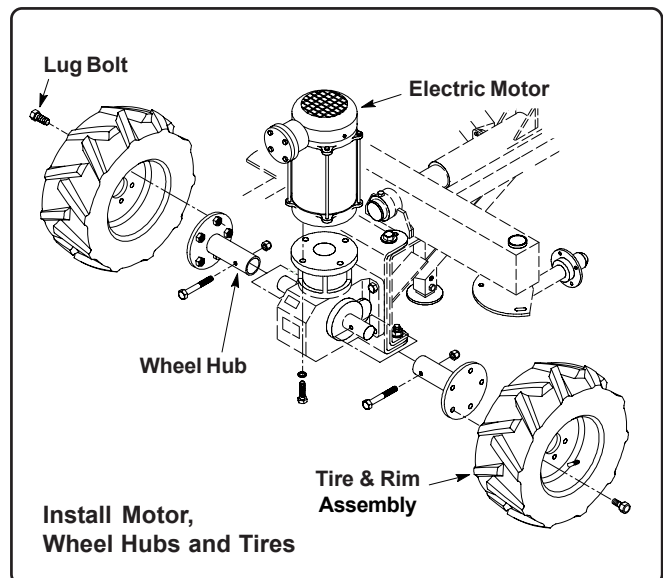
8. Position the electric motor on top of the gearbox as shown in Fig. 5. Attach the motor to the gearbox using four 3/8 x 1" bolts and lock washers (the bolts will pass up through the gearbox flange and tighten into the bottom of the motor).



**Figure 3**



**Figure 4**



**Figure 5**

**Assembly Instructions (con't.)**

**Drive Motor Adjustment**

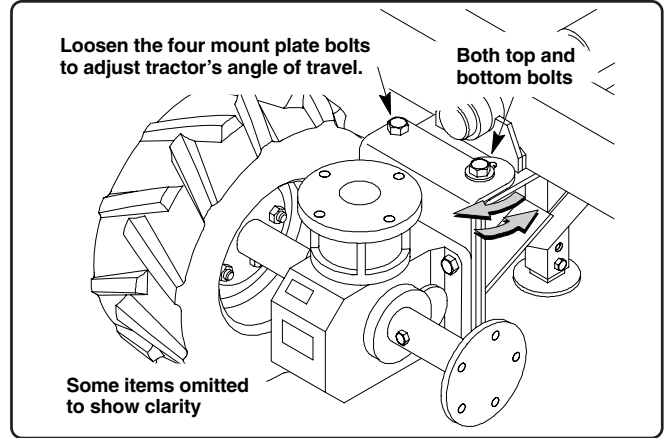
The drive tractor can be positioned to push the conveyor in a straight line (perpendicular to conveyor center line) or angled for swinging the conveyor in an arc. Each time this adjustment is made, the conveyor's swivel axle will need to be raised high enough to allow the tractor to properly pivot into position.

1. To adjust the drive tractor's angle of travel, loosen the four bolts securing the gearbox mount plate to the drive frame (See Fig. 6). Adjust tractor to desired position and re-tighten hardware.
2. Once the tractor has been positioned, lower the swivel axle until the conveyor tires just clear the ground. Loosen the four bolts securing the gearbox and tractor assembly and lower the tractor to the ground. Re-tighten the hardware.

Remove any supports from beneath the swivel axle and lower the swivel axle so the conveyor tires are resting on the ground as well.

**Note: too much weight on the tractor tires may cause damage to the gearbox shafts. The tractor tires should be firmly on the ground, but not to the extent that they appear to be flat [make sure tire pressure is at the proper reading, 23 psi max. (158 kPa)].**

**Check conveyor tires for proper inflation as well.**



**Figure 6**

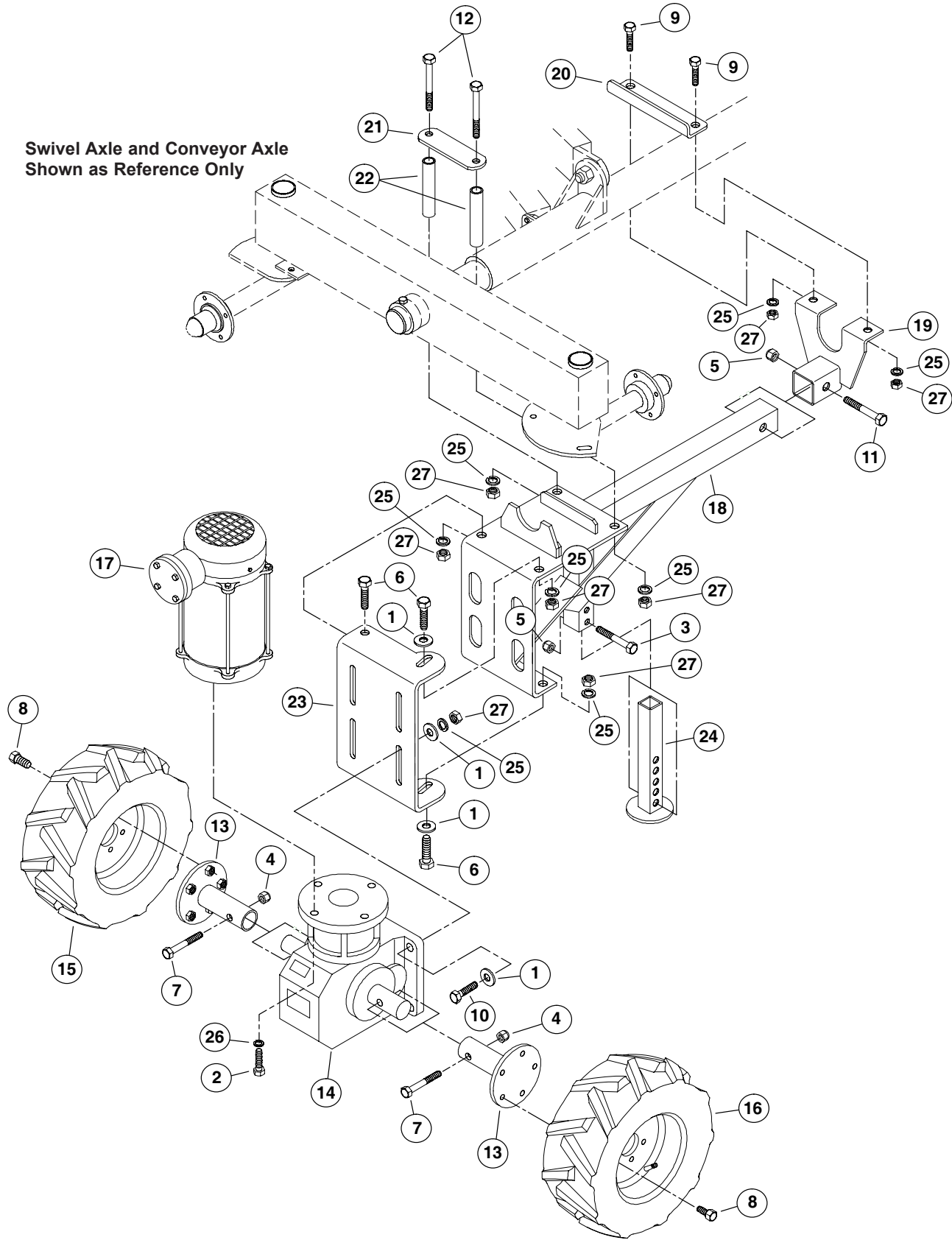
3. Route the electrical wiring. Connect the motor to an appropriate power source and secure the cord in a manner in which it cannot become entangled or damaged during unit operation.  
**All electrical work shall be installed by a qualified electrician and must meet the standards set by the National Electrical Code and all local and state codes.**
4. Start the motor and check to make sure tractor is traveling as intended. Make any necessary adjustments to ensure proper tractor operation.

**Bolt Kit for Electric Drive Arc Axle**

<u>Part</u>	<u>Description</u>	<u>Qty.</u>	<u>Where Used</u>
1026107	Bolt, 1/2-13 x 6" G5 PLT	2	.. Clamp Bar (flat) to Drive Frame
D1143	Washer, lock, 1/2" PLT	2	
D1169	Nut, non-lock, 1/2" PLT	2	
1002229	Bolt, 1/2-13 x 2 1/2" G5 PLT	4	.. Gearbox to Gearbox Mount Frame
D1143	Washer, lock, 1/2" PLT	4	
D1169	Nut, non-lock, 1/2" PLT	4	
33025	Washer, flat, 1/2" PLT	8	
1002227	Bolt, 1/2-13 x 1 1/2" G5 PLT	2	.. Clamp Bar (angle) to Axle Clamp
D1143	Washer, lock, 1/2" PLT	2	
D1169	Nut, non-lock, 1/2" PLT	2	
106241	Lug Bolt, 1/2-20 x 1"	10	. Wheels to Hubs
33375	Bolt, 3/8-16 x 2 1/2" G5 PLT	2	.. Wheel Hubs to Gearbox Shaft
33136	Nut, nylon lock, 3/8-16" PLT	2	
33060	Bolt, 3/8-16 x 1" G5 PLT	4	.. Electric Motor to Gearbox
D1150	Washer, lock, 3/8" PLT	4	
1002230	Bolt, 1/2-13 x 4" G5 PLT	1	.. Axle Clamp to Drive Frame Tube
33138	Nut, nylon lock, 1/2" PLT	1	
33247	Bolt, 1/2-13 x 1 3/4" G5 PLT	4	.. Gearbox Mount Plate to Drive Frame
D1143	Washer, lock, 1/2" PLT	4	
D1169	Nut, non-lock, 1/2" PLT	4	
33025	Washer, flat, 1/2" PLT	2	
33091	Bolt, 1/2-13 x 3" G5 PLT	1	.. Support Stand to Drive Frame Tube
33138	Nut, nylon lock, 1/2" PLT	1	

**ELECTRIC DRIVE ARC AXLE KIT**  
**PART NO'S. A2031A1, A2031A2,**  
**A2032A1, A2032A2, A2033A1 & A2033A2**

Swivel Axle and Conveyor Axle  
 Shown as Reference Only



**ELECTRIC DRIVE ARC AXLE KIT**  
**PART NO'S. A2031A1, A2031A2,**  
**A2032A1, A2032A2, A2033A1 & A2033A2**

All parts listed are included with each individual Axle Kit except where noted.

Ref No.	Part No.	Description	No. Req'd.	Ref No.	Part No.	Description	No. Req'd.
1	33025	Washer, flat 1/2" PLT . . . . .	10	16	1026676	Wheel & tire (RH) . . . . .	1
2	33060	Bolt, 3/8-16 x 1" G5 PLT . . . . .	4	17 *	1027064	Motor, electric, three phase . . .	1
3	33091	Bolt, 1/2-13 x 3" G5 PLT . . . . .	1	(17) f	1027929	Motor, electric, single phase . . .	1
4	33136	Nut, nylon lock, 3/8-16 . . . . .	2	18	1031250	Frame, drive . . . . .	1
5	33138	Nut, nylon lock, 1/2-13 . . . . .	2	19 ◇	1031251	Clamp, axle . . . . .	1
6	33247	Bolt, 1/2-13 x 1 3/4" G5 PLT . . . .	4	(19) ▽	1031252	Clamp, axle . . . . .	1
7	33375	Bolt, 3/8-16 x 2 1/2" G5 PLT . . . .	2	(19) ◆	1031253	Clamp, axle . . . . .	1
8	106241	Bolt, wheel lug, 1/2-20 x 1" . . .	10	20	1031260	Clamp, bar (angle) . . . . .	1
9	1002227	Bolt, 1/2-13 x 1 1/2" G5 PLT . . . .	2	21	1031262	Clamp, bar (flat) . . . . .	1
10	1002229	Bolt, 1/2-13 x 2 1/2" G5 PLT . . . .	4	22	1031263	Tube, spacer . . . . .	2
11	1002230	Bolt, 1/2-13 x 4" G5 PLT . . . . .	1	23	1031296	Plate, gearbox mount . . . . .	1
12	1026107	Bolt, 1/2-13 x 6" G5 PLT . . . . .	2	24	1031313	Stand, support . . . . .	1
13	1026633	Hub, wheel . . . . .	2	25	D1143	Washer, lock, 1/2" . . . . .	12
14	1026652	Gearbox, 240:1 reduction . . . . .	1	26	D1150	Washer, lock, 3/8 . . . . .	4
15	1026653	Wheel & tire (LH) . . . . .	1	27	D1169	Nut, non-lock, 1/2" . . . . .	12

- \* With Electric Drive Arc Axle Kits A2031A2, A2032A2 and A2033A2.
- f With Electric Drive Arc Axle Kits A2031A1, A2032A1 and A2033A1.
- ◇ With Electric Drive Arc Axle Kits A2031A1 and A2031A2.
- ▽ With Electric Drive Arc Axle Kits A2032A1 and A2032A2
- ◆ With Electric Drive Arc Axle Kits A2033A1 and A2033A2.



***Hutchinson/Mayrath/TerraTrack***

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