



SA Direct Drive 420361, 420362 Quick Sheet Instructions

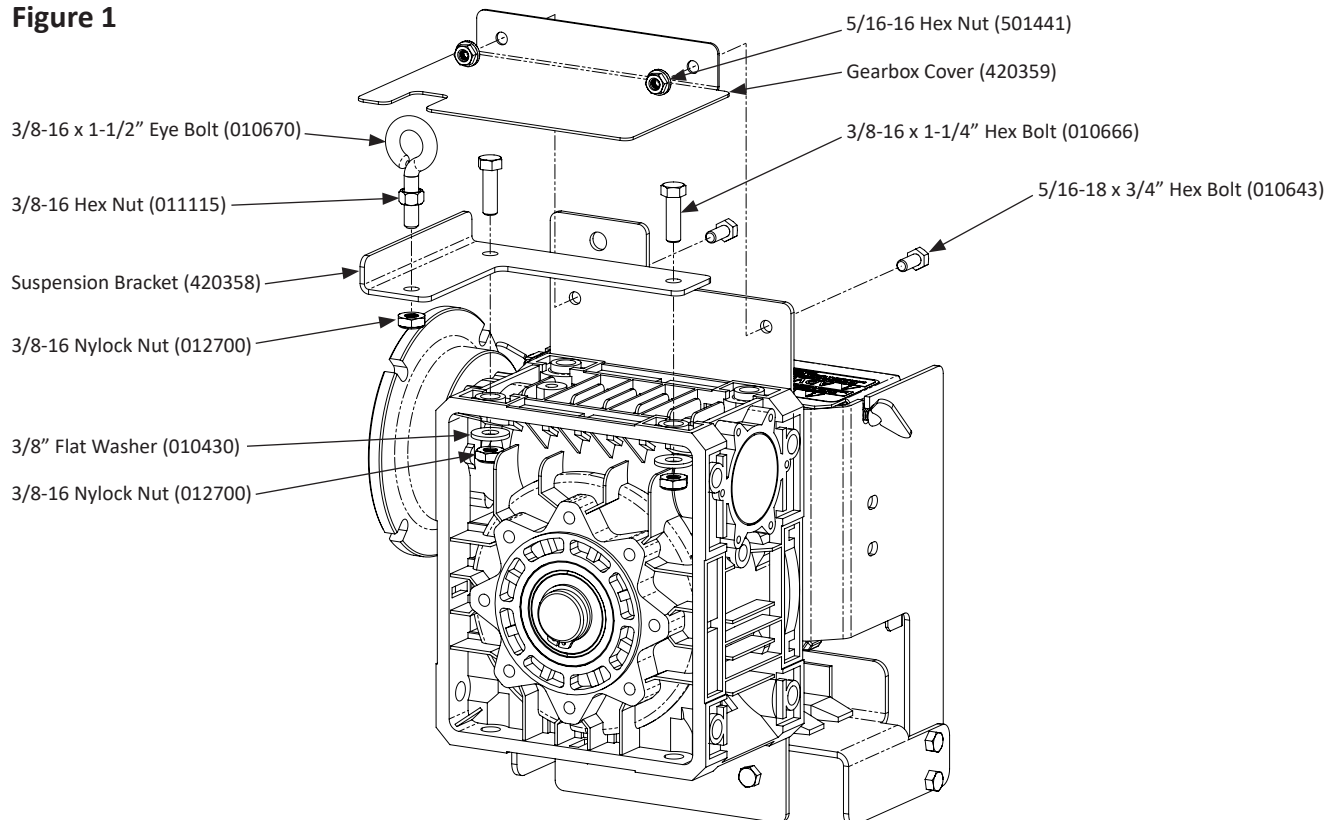
NOTE: SA Direct Drives (420361 and 420362) can be used in the same applications as Independent Direct Drives (420252 and 420253), but they are not direct replacements for each other. In the case where two drives are used on one loop, SA Direct Drives and Independent Direct Drives should **NOT** be mixed. The drives have slight differences in speed, so if an Independent Direct Drive and a SA Direct Drive are used on the same loop, the chain could experience binding and the system may break an excessive number of shear pins.

Refer to the instructions below to install the SA Compact Direct Drives.
Reference the **Flat Chain Feeder Manual** (990232) for complete system instructions.

Installation Instructions:

1. Assemble the winch suspension bracket to the gearbox, as shown in Figure 1. All hardware needed to assemble the suspension bracket can be found in the supplied hardware bag (420377).
 - A. To assemble the suspension bracket (420358) to the gearbox, the gearbox cover (420359) must first be removed. Remove the (2) 5/16-18 x 3/4" hex bolts (010643) and (2) 5/16-18 hex nuts (501441) that secure the gearbox cover to the gearbox and set them aside.
 - B. Then use (2) 3/8-16 x 1-1/4" hex bolts (010666), (2) 3/8" flat washers (010430), and (2) 3/8-16 Nylock nuts (012700) to attach the suspension bracket to the gearbox, as shown in Figure 1.
 - C. Once the suspension bracket is secured, assemble (1) 3/8-16 x 1-1/2" eye bolt (010670) to the available hole in the suspension bracket, using (1) 3/8-16 hex nut (011115) and (1) 3/8-16 Nylock nut (012700), as shown in Figure 1.
 - D. Replace the gearbox cover using the original hardware that was removed. Leave this hardware loose.

Figure 1



Installation Instructions (continued)

2. Suspend gearbox from ceiling, using wire cables and cable clamps (*not supplied*). Then attach them to the gearbox mount and eye bolt, as shown in Figure 3 on the next page.

NOTE: Before installing the drive onto the trough, the trough must be at least 72" [1.8m] long and the drive must be centered on the trough.

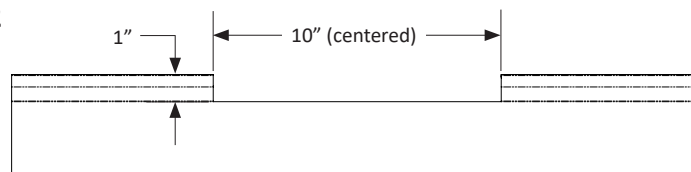
3. Drill (2) 13/32" holes into the bottom of the trough (hen or pullet) to allow for the power-shoe fasteners to be re-installed when temporarily removed. Ensure that when all the parts are re-assembled, the power shoe is straight and parallel to the trough as well as centered in the trough.

Use either the slots in the trough base plate (420354) or the holes in the power shoe (410419) as a template for proper hole spacing to drill (2) 13/32" holes into the center of the trough.

NOTE: Do not drill through the power shoe when drilling holes into the trough. Only use the power shoe to mark the holes to be drilled in the trough.

4. To install hen trough, a section of the lip must be removed from both sides of the trough to avoid interference with the sheet metal of the drive when installed. To trim hen trough, cut a 10" (25.4cm) section of the lip off the trough on each side, in the center, as shown in Figure 2.

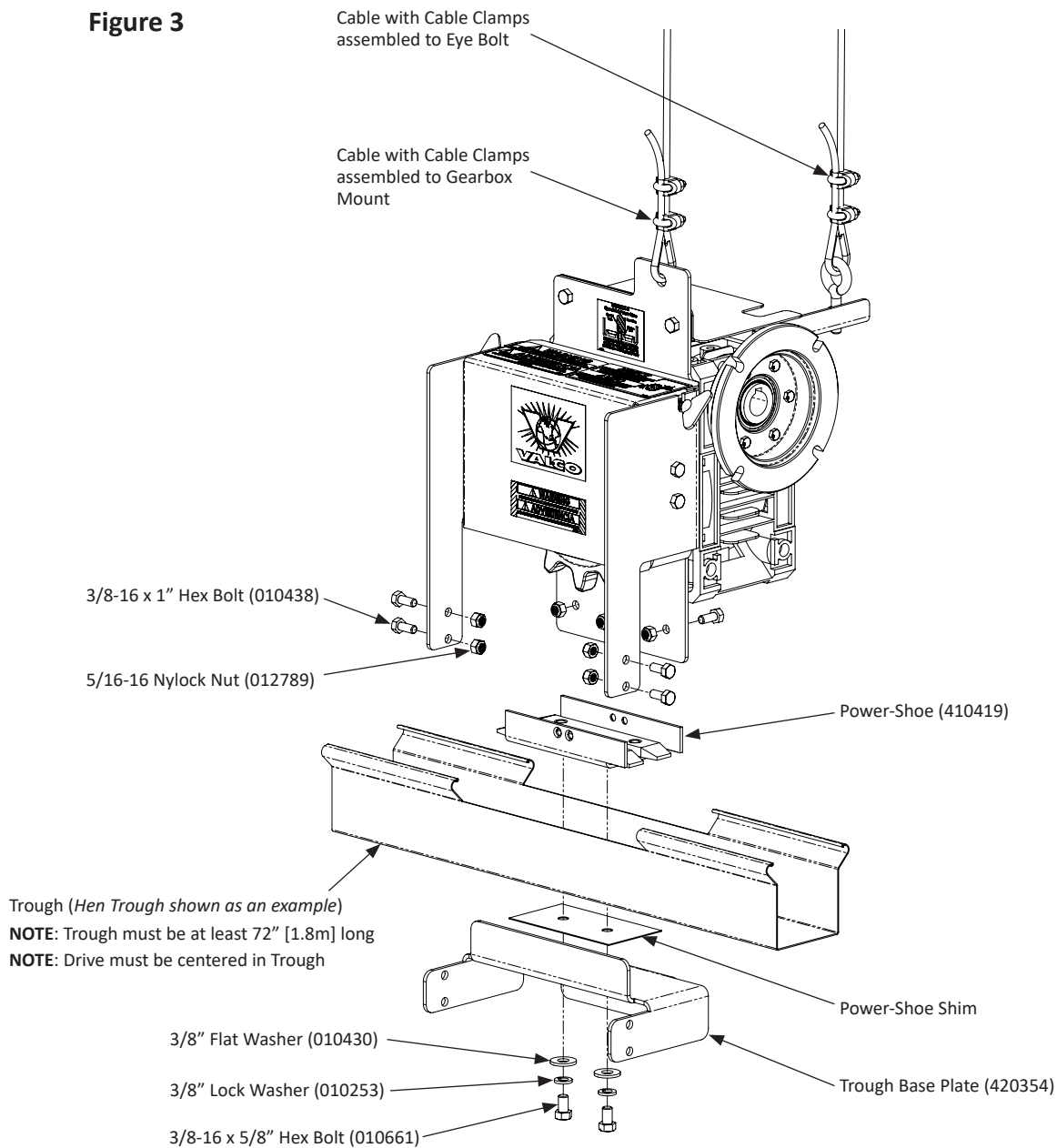
Figure 2



5. To install the drilled/trimmed trough, the trough base plate (420354), power shoe shim (611708), and power shoe (410419) must all be temporarily removed. Refer to Figure 3 on the next page for a detailed exploded view of the steps.
 - A. Remove the (7) 5/16-18 x 3/4" hex bolts (010643) and (7) 5/16-18 Nylock nuts (012789) that secure the trough base plate to the gearbox mount and temporarily set them aside.
 - B. Remove the power shoe (410419) and power shoe shim (611708) from the trough base plate, by uninstalling the hardware that secures them: (2) 3/8-16 x 5/8" hex bolts, (2) 3/8" lock washers (010253), and (2) 3/8" flat washers (010430), and temporarily set the hardware aside.
6. Re-install the assembled trough base plate, power shoe shim, power shoe, and trough to the gearbox. Refer to Figure 3 on the next page for a detailed exploded view of the steps.
 - A. Connect the trough base plate and power shoe shim to the trough from the bottom side, inserting the power shoe into the trough from the top side, reusing all the hardware that was previously removed in step 4B and tighten the fasteners. Ensure that when all the parts are re-assembled, the power shoe is straight and parallel to the trough as well as centered in the trough.
 - B. Reconnect the trough sub-assembly to the gearbox mount, reusing all the hardware that was temporarily removed in step 4A and tighten the fasteners.

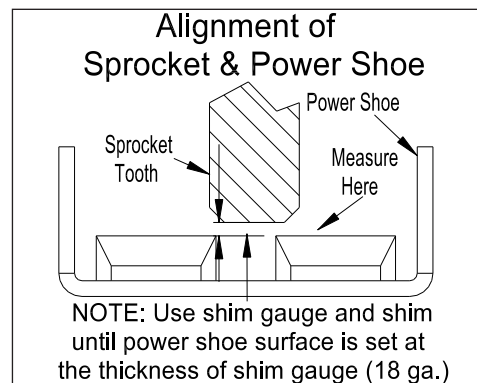
Installation Instructions (continued)

Figure 3



6. Check the sprocket tooth to power-gap. Adjust the gap with shims from the hardware bag (420377) to achieve a gap of 0.032"-0.047" [.81mm-1.2mm] Use an 18ga shim for reference, as shown in Figure 4.
7. Center the drive sprocket inside the width of the power shoe.

Figure 4

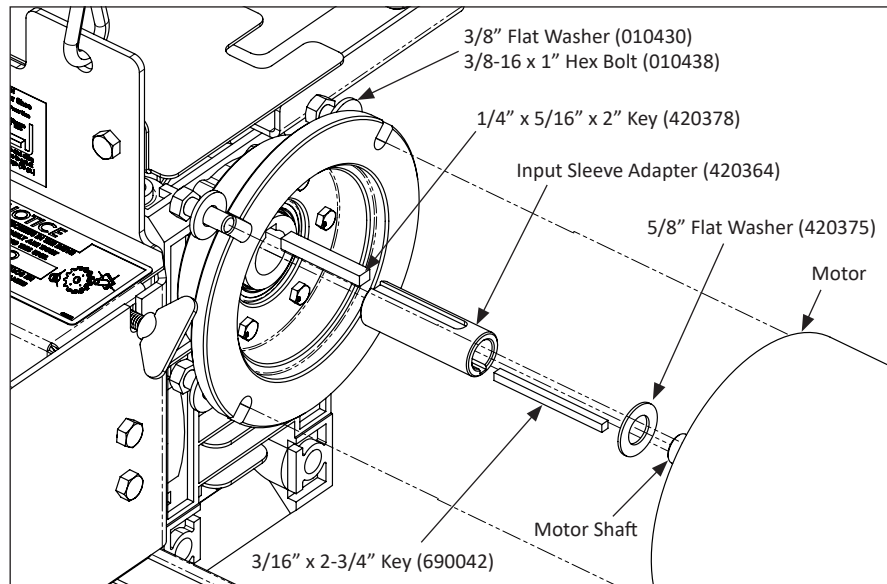


Installation Instructions (continued)

8. Connect the motor to the gearbox, as shown in Figure 5. All hardware needed to connect the motor to the gearbox can be found in the supplied hardware bag (420377).
 - A. Install (1) 1/4" x 5/16" x 2" key (420378) and (1) input sleeve adapter (420364) first, ensuring that the keyway is oriented and installed as shown in Figure 5.
 - B. Slide (1) 5/8" flat washer (420375) onto the motor shaft, install (1) 3/16" x 2-3/4" key (690042) into the keyway of the input sleeve adapter (420364), then slide the motor in.
 - C. When the motor is flush with the edge of the reducer, turn the motor to line up the 3/8" holes in the motor face with the clearance holes in the reducer gear flange. Use (4) 3/8-16 x 1" hex bolts (010438) and (4) 3/8" flat washers (010430) to fasten the motor to the reducer, as shown in Figure 5.

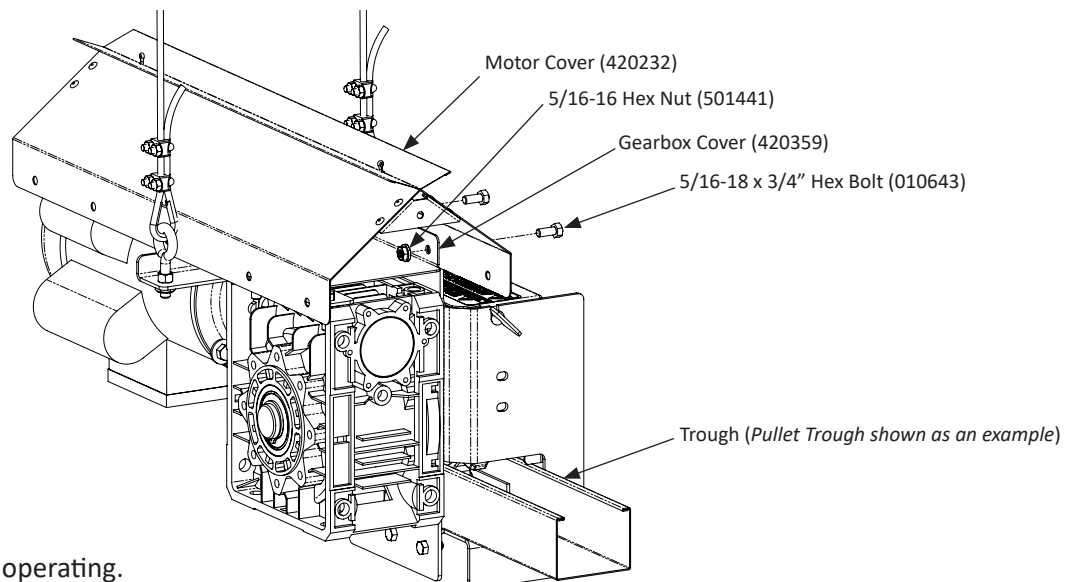
NOTE: Use a flat file to lightly clean the edges of keyways to aid in assembly, if necessary.

Figure 5



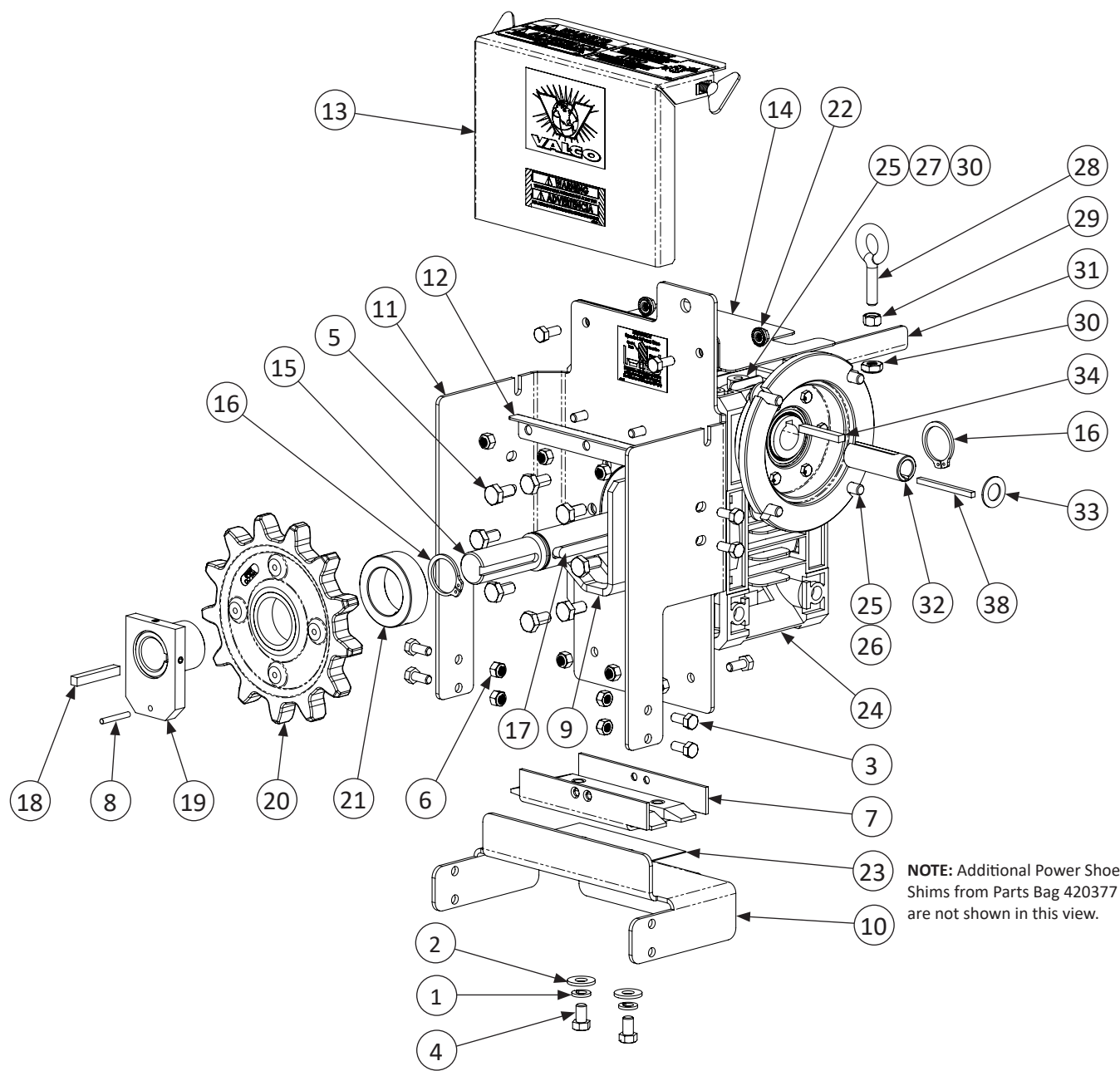
9. Install a shear pin in the drive sprocket and tighten set screws.
10. Install the cover (420232), as shown in Figure 6. To assemble the cover (420232) to the gearbox, remove the (2) 5/16-18 x 3/4" hex bolts (010643) and (2) 5/16-16 hex nuts (501441) that secure the gearbox cover (420359) to the gearbox and reuse them to attach the cover, as shown in Figure 6. Tighten all hardware.

Figure 6

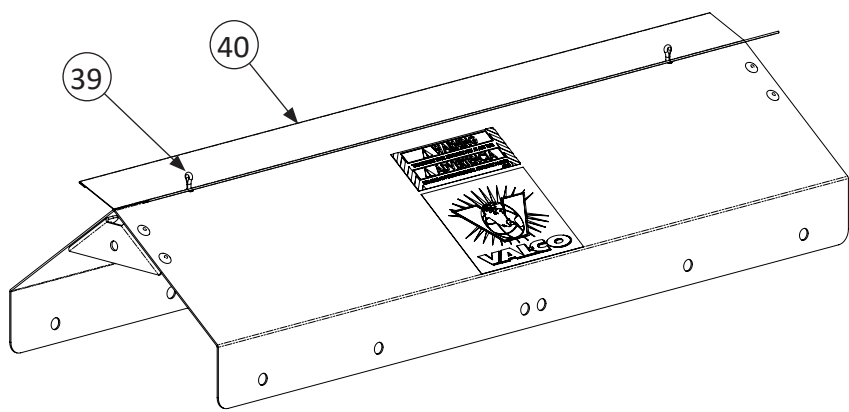


11. Install all guards before operating.

SA Direct Drive - Exploded Drawing



FC MOTOR COVER FOR IND. DRIVE (420232)



SA Direct Drive - Parts List

PART #	QTY	DESCRIPTION
SA DIRECT DRIVE, 1L, 60/120 FPM KIT, 1.5 HP OR GREATER (420361)		
420232	1	FC MOTOR COVER FOR IND. DRIVE
420369	1	SA DIRECT DRIVE, 1L, 60/120 FPM, 1.5 HP OR GREATER
SA DIRECT DRIVE, 1L, 90 FPM KIT, 1.5 HP OR GREATER (420362)		
420232	1	FC MOTOR COVER FOR IND. DRIVE
420370	1	SA DIRECT DRIVE, 1L, 90 FPM, 1.5 HP OR GREATER

KEY	PART #	QTY	DESCRIPTION
SA DIRECT DRIVE - COMMON PARTS (420369, 420370)			
1	010253	2	3/8" LOCK WASHER
2	010430	2	3/8" FLAT WASHER
3	010643	14	5/16-18 X 3/4" HEX BOLT
4	010661	2	3/8-16 X 5/8" HEX BOLT
5	012540	8	M10-1.5 X 20MM HEX BOLT
6	012789	12	5/16-18 NYLOCK NUT
7	410419	1	POWER SHOE ASSEMBLY
8	410999	1	3/16" STEEL SHEAR PIN
9	420234	1	CHAIN STRIPPER, BLACK OXIDE
10	420354	1	TROUGH BASE PLATE
11	420355	1	GEARBOX MOUNT
12	420356	1	REINFORCEMENT ANGLE
13	420357	1	SPROCKET GUARD ASSEMBLY
14	420359	1	GEARBOX COVER
15	420363	1	OUTPUT SHAFT
16	420366	2	EXTERNAL RETAINING RING
17	420368	1	KEY, 8MM X 10MM X 125MM
-	420377	1	HARDWARE BAG, SA DIRECT DRIVE
18	420379	1	KEY, 8MM X 55MM
19	420930	1	SHEAR PIN HUB ASSEMBLY
20	421952	1	CAGE SPROCKET ASSEMBLY
21	480053	1	LOCKING COLLAR, FOR 747-757 REDUCER
22	501441	2	5/16-18 SERRATED FLANGE HEX NUT
23	611708	1	POWER SHOE SHIM, 20 GA. GALV
SA DIRECT DRIVE, 1L, 60/120 FPM, 1.5 HP OR GREATER (420369)			
24	420352	1	REDUCER, WORM, 50:1, 2HP
SA DIRECT DRIVE, 1L, 90 FPM, 1.5 HP OR GREATER (420370)			
24	420353	1	REDUCER, WORM, 70:1, 2HP

NOTE: Reducers (420352, 420353) include an Output Shaft (420363).

KEY	PART #	QTY	DESCRIPTION
HARDWARE BAG, SA DIRECT DRIVE (420377)			
25	010430	6	3/8" FLAT WASHER
26	010438	4	3/8-16 X 1" HEX BOLT
27	010666	2	3/8-16 X 1-1/4" HEX BOLT
28	010670	1	3/8-16 X 1-1/2" EYE BOLT
29	011115	1	3/8-16 HEX NUT
30	012700	3	3/8-16 NYLOCK NUT
31	420358	1	SUSPENSION BRACKET
32	420364	1	INPUT SLEEVE, ADAPTER
33	420375	1	5/8" FLAT WASHER
34	420378	1	KEY, 1/4" X 5/16" X 2"
35	611709	1	SHIM, POWER SHOE, 18 GA. GALV
36	611710	1	SHIM, POWER SHOE, 16 GA. GALV
37	611711	1	SHIM, POWER SHOE, 14 GA. GALV
38	690042	1	KEY, 3/16" X 2-3/4"

KEY	PART #	QTY	DESCRIPTION
FC MOTOR COVER FOR IND. DRIVE (420232)			
39	012660	2	7/64" X 3/4" COTTER PIN
40	420185	1	ANTI-ROOST PLATE

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