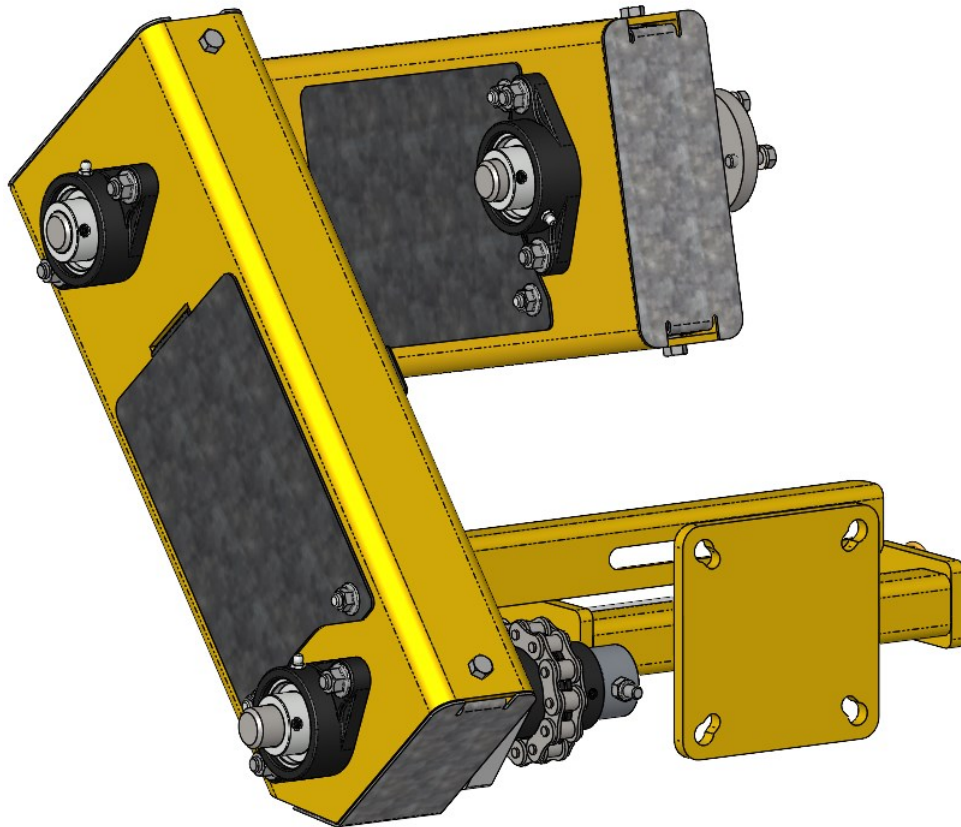


OWNERS MANUAL

MINI-SWEEP **POWER PIVOT KIT**



Introduction

- The purpose of this manual is to explain the operation and maintenance of the paddle sweep pivot kit. It also contains a parts list for reference if replacement parts are needed.
- It is recommended that you read this manual in its entirety for the information available in order to provide the proper care and maintenance of the paddle sweep. The equipment is built to provide many years of dependable service when used properly. Reading this manual will also provide information on how to use the equipment correctly to prevent any accidents while using the system.
- If you have any further questions, comments, improvements, or suggestions regarding the contents of any of the manuals provided, please see the contact information below.
- This machine is covered by one or more United States patents. Refer to www.siuoxsteel.com for current patent information. Or scan this QR Code to go directly to the patent area on the website.



ALL safety decals are no charge from the factory.
Please replace all safety decals if damaged or missing.
Your safety is important

WARNING! Anyone who will be operating or working around the equipment should first read this manual to familiarize themselves with the machinery.



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Safety Information

- A careful operator is the best operator. Most accidents can be avoided by observing necessary precautions. To help prevent accidents, read the following precautions before operating this equipment. Equipment should be operated only by those who are responsible and instructed to do so. Carefully review the procedures given in this manual with all operators. It is important that all operators be familiar with and follows safety precautions. Improper use of the equipment can cause serious injury or death.
- Read the operator's manual before operating equipment.
- Only allow properly trained persons to operate the equipment.
- Keep hands and feet away from all pinch points.
- Keep bystanders away during operation. In an empty bin/silo, keep everyone rearward of the sweep during operation to validate installation or maintenance.
- Since the installation of this sweep takes place within a confined space. Confine space awareness should be followed. Lockout/tag out awareness should be followed.
- **DO NOT** clean, lubricate or adjust the equipment while it is running. Disengage the machine prior to doing so.
- Always disconnect and lock out all power sources before attempting to perform any service function. Follow lockout/tag out procedures as outlined in OSHA section 1910.147 where appropriate.
- Refer to maintenance chart to check all fasteners and hardware to assure tightness.
- **REMEMBER: The manufacturer includes or provides all reasonable means for accident prevention except a safe and careful operator.**

Safety Alert Symbols

The symbols shown below is used to call your attention to instructions concerning your personal safety. Watch for this symbol it points out important safety precautions. It means **ATTENTION! Be Alert! Your Personal Safety Is Involved!**



DANGER: Indicates an imminently hazardous situation that, if not avoided, will result in death or serious injury. The color associated with Danger is RED.



WARNING: Indicates a potentially hazardous situation that, if not avoided, could result in death or serious injury. The color associated with Warning is ORANGE.



CAUTION: Indicates a potentially hazardous situation that, if not avoided, may result in minor or moderate injury. The color associated with Caution is YELLOW.

689771—WARNING – Rotating chain can crush and cut. Do NOT operate without guards in



Specifications

(Specifications are subject to change without notice and without liability)

Features

- Designed to work with a variety of brands and underbin unload systems and be adapted to match the needs and capability of those systems.
- Fully submersible in grain
- Housing is made from 3/16" A500 rectangular tube
- Adjustable mount and shafts for varying gearboxes
- Flexible pivot joints allows sweep to move independently to allow for variations in the bin floor
- Easily removable to maintenance or repair

Setup

Prior to Installation

- The center sump of the grain bin will need to be reviewed to determine which pivot kit is going to be installed and what modifications may need to be made. The sweep pivot options can be viewed later in this manual.
- **Warning!** Since the installation of this kit takes place in a confined space; confined space awareness should be followed in addition to any regulations and safety precautions.

Assembly & Installation

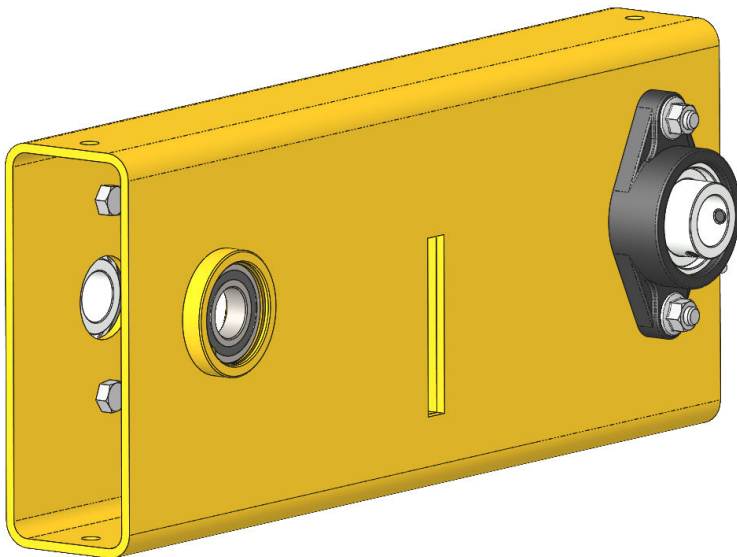
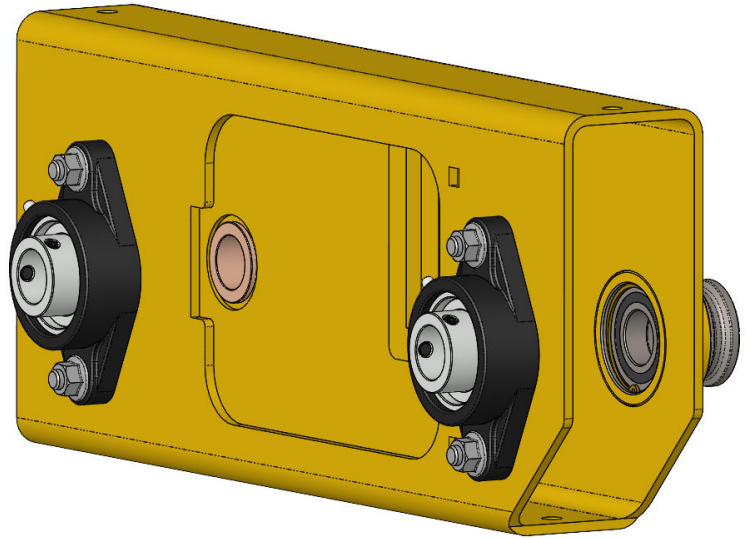
- It is recommended that the bin be empty and free of grain when the sweep is installed. If this can't be achieved, then a large enough area must be cleared that the sweep can be installed on a clean floor and free from entrapment danger.
- Since the power for the DPS Mini Sweep is through the gearbox, lock out tag out procedures should be followed.
- Tools Needed:
 - ◇ Cordless Driver
 - ◇ Ratchet
 - ◇ 1/2" & 9/16" shallow sockets
 - ◇ 1/2" & 9/16" deep sockets
 - ◇ 1/2" wrench
 - ◇ 9/16" wrench
 - ◇ Snap ring pliers
 - ◇ Battery powered/Explosion proof light
 - ◇ Pliers/Needle Nose
 - ◇ Standard Allen wrench set
 - ◇ Gloves
 - ◇ Hammer
 - ◇ Loctite (blue)

Assembly

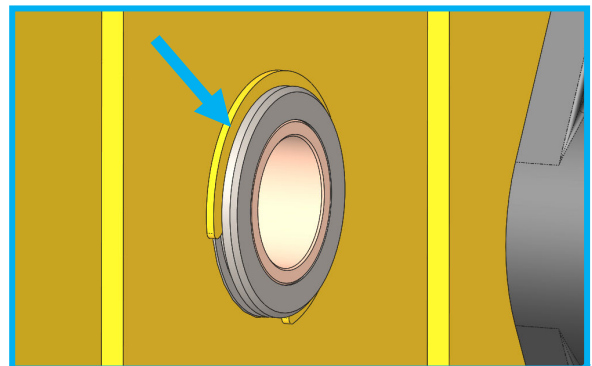
This can be assembled outside the bin.

1. Start with the lower weldment (K715026).
2. Press the flange bushing (K714329) into the 1.25" bore.
3. Press a 1" bearing (K715048) into the 2" bore and retain it with a 2" snap ring (K715049).
4. Mount (2) 1" flange bearings (K712166) to the outside with 3/8" x 1.25" carriage bolts and center lock flange nuts.

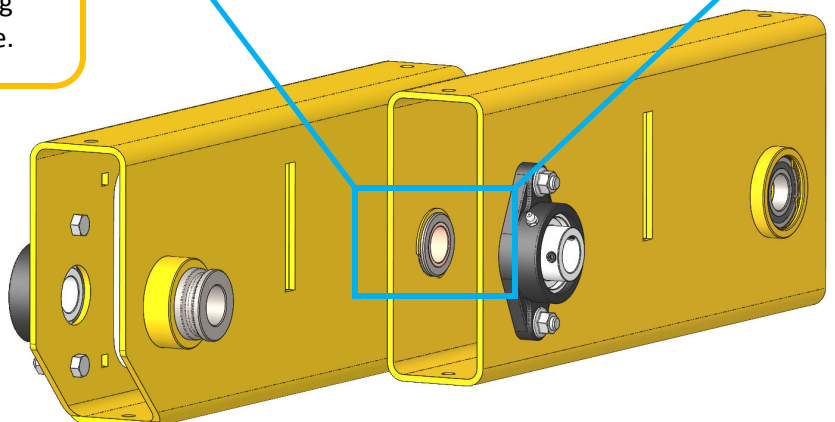
Note: mount the flange bearings so the grease zerks point away from the access hole.



5. Locate the upper weldment (K715029).
6. Press a 1" bearing (K715048) into the 2" bore and retain it with a 2" snap ring (K715049).
7. Mount (2) 1" flange bearings (K712166) to the outside (one on each side) with 3/8" x 1.25" carriage bolts and center lock flange nuts.



8. Join the two housings together. Slide the bushing protrusion of K715026 into the available hole of K715029.
9. Link them by pressing retaining ring (K715050) into the exposed groove.

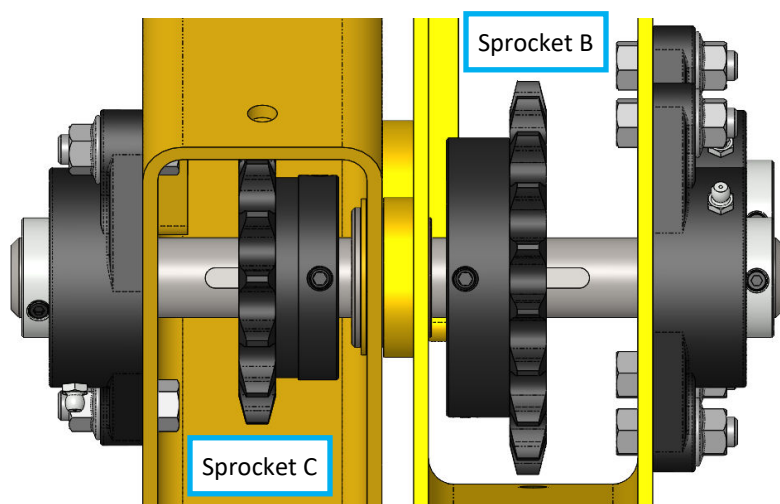
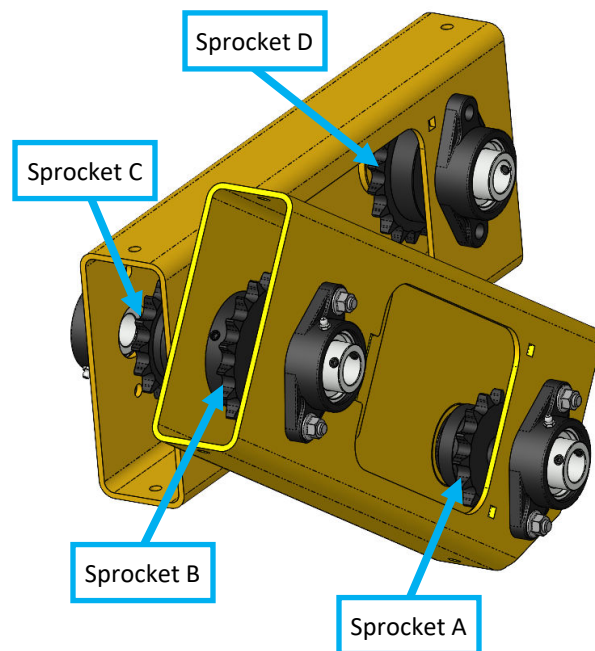


Assembly

Due to different brands and models having different gearbox output speeds and different underbin capacities, this system utilizes different chain sprockets to achieve the appropriate speed and feed rate.

Use the table below to identify and install the sprockets in the correct locations.

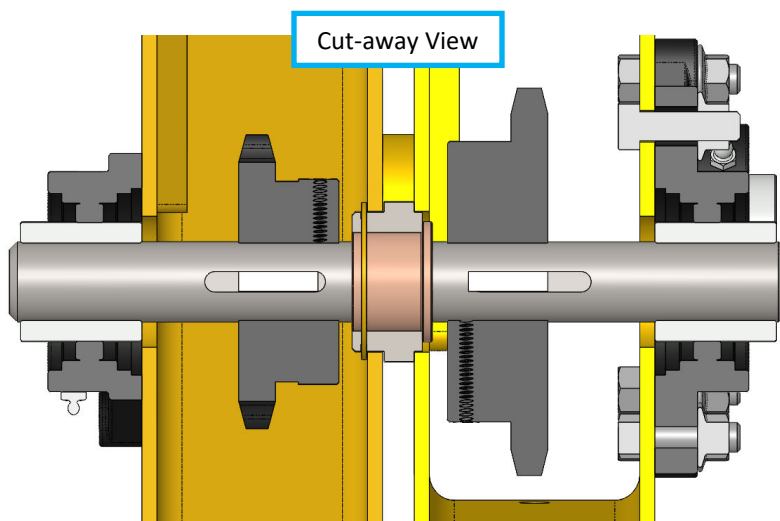
Kit Number	Number of Teeth			
	Sprocket A	Sprocket B	Sprocket C	Sprocket D
K715001	12	16	16	16
K715002	14	16	14	16
K715003	14	16	14	18
K715004	15	16	16	16
K715005	13	16	13	16
K715006	12	19	12	19
K715007	15	20	15	20
K715009	14	18	14	18



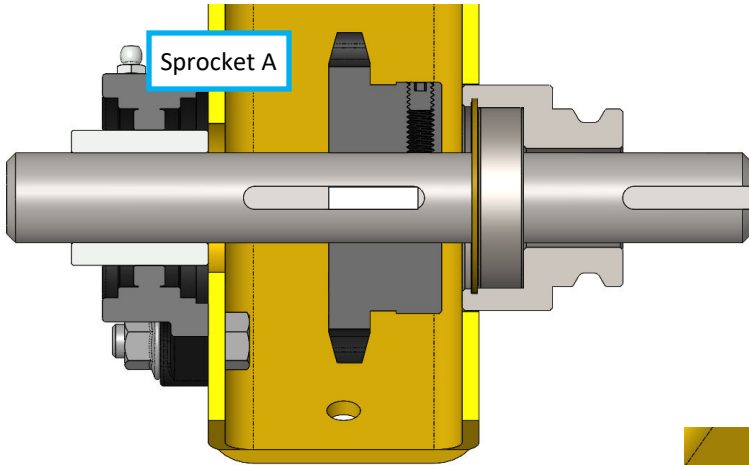
10. Install the intermediate shaft (K715028), sprockets 2 & 3, and (2) 1/4" x 1" keys (S161288) through the joined ends of the housings.

11. Center the shaft and tighten the set screws in the flange bearings.

12. Center the sprockets inside the housings and gently snug the set screws. They will likely need to be adjusted later.



Assembly

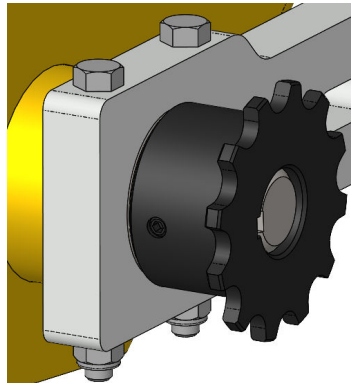
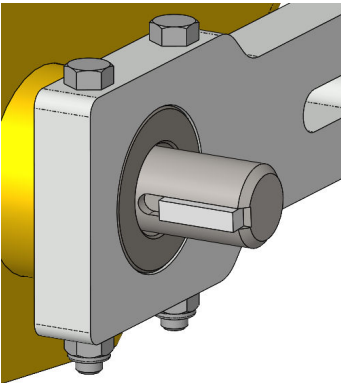
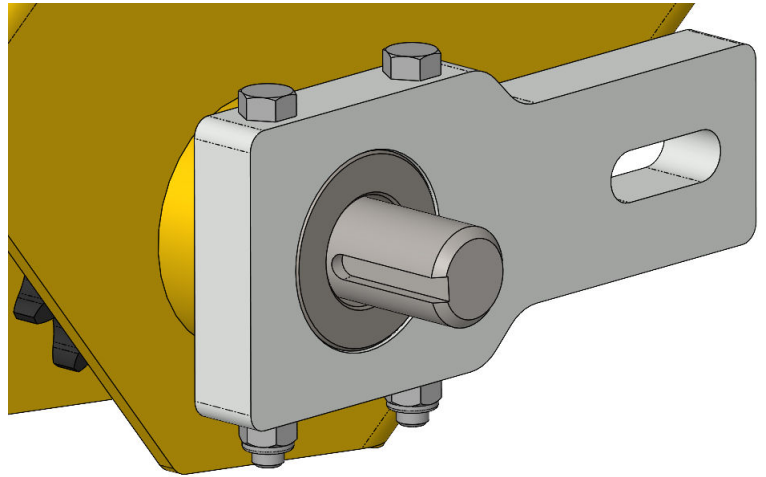


13. Install the input shaft (K715025 or K715042), sprocket A, and a 1/4" x 1" key (S161288) into the open end of the lower housing.

14. Each setup requires a unique amount of shaft sticking out of the housing. Center the sprocket inside the housings and gently snug the set screws on the sprocket and bearing. The shaft and sprocket will be adjusted later.

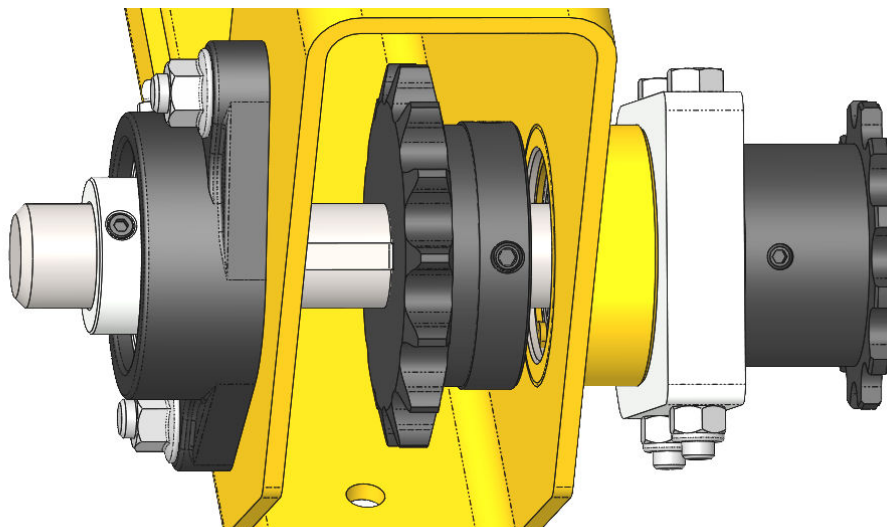
15. Slide the stabilizer rotation arm (K715030) over the input shaft and lower housing. Fasten with (2) 5/16" x 3.5" hex bolts and nyloc nuts.

16. Ensure the arm still spins freely.

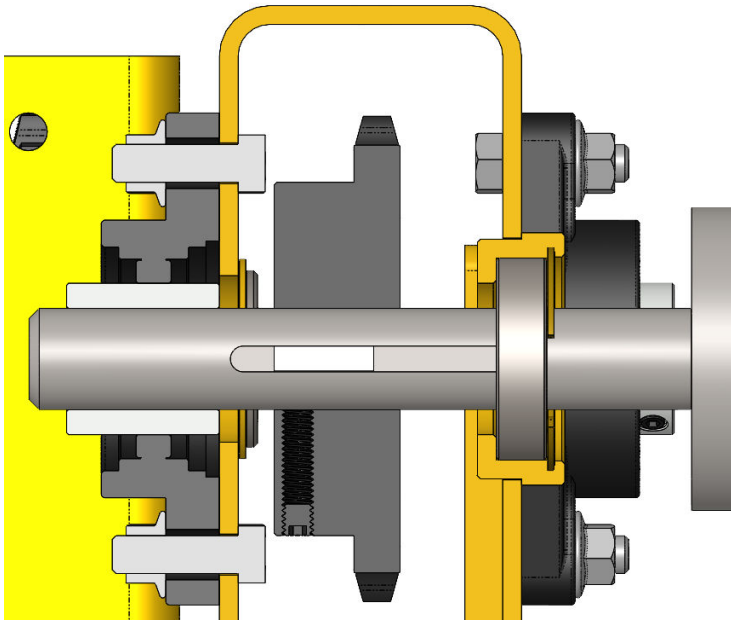


17. Insert a 1/4" x 1" key (S161288) into the input shaft and slide on the sprocket coupler (K689841).

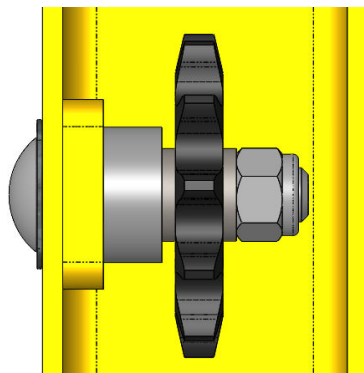
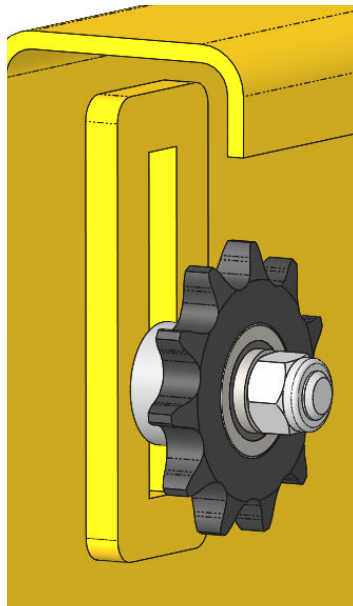
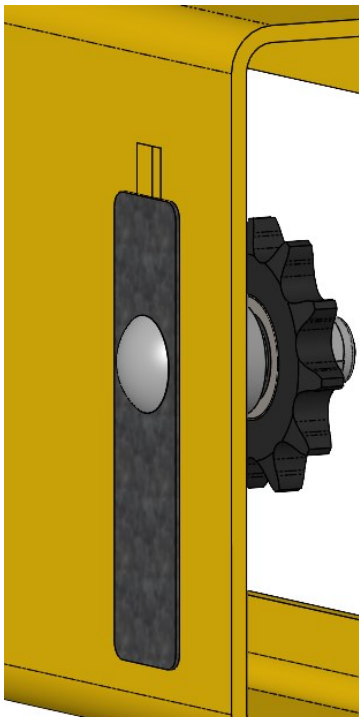
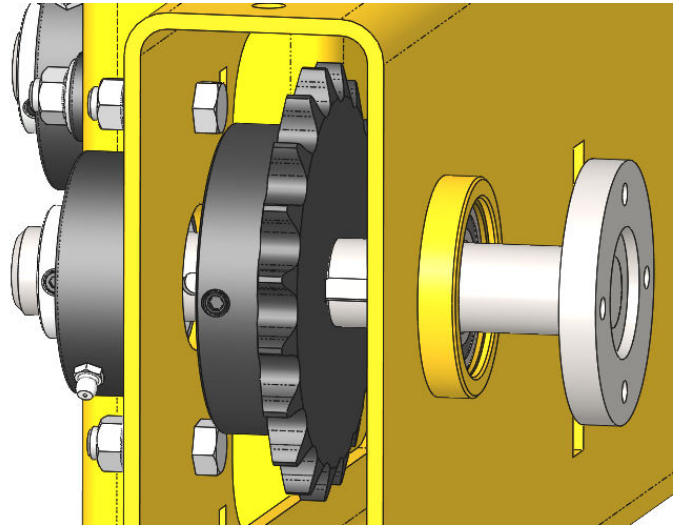
18. Ensure the shaft is recessed slightly inside the sprocket, then tighten the set screw.



Assembly



19. Install the output shaft (K715044), sprocket D, and a 1/4" x 1" key (S161288) into the open end of the upper housing.
20. Center the sprocket inside the housings and gently snug the set screws on the sprocket and bearing. The shaft and sprocket will be adjusted later.



21. For each housing, slide a slot cover (K715035) over a 1/2" x 2.5" carriage bolt and through the rectangular slot. Place a spacer (K715041) and idler (K715022) on the bolt and fasten with a nyloc nut.
22. Slide the idler as far from centerline as possible and tighten temporarily.

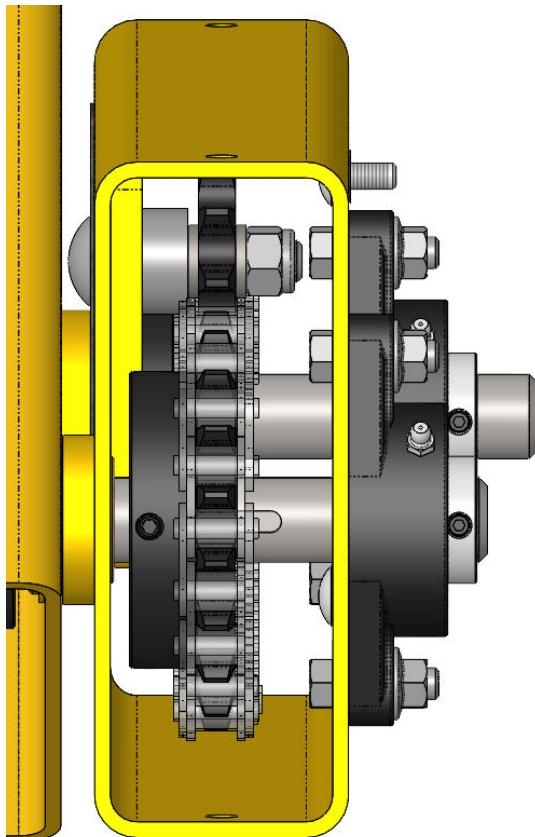
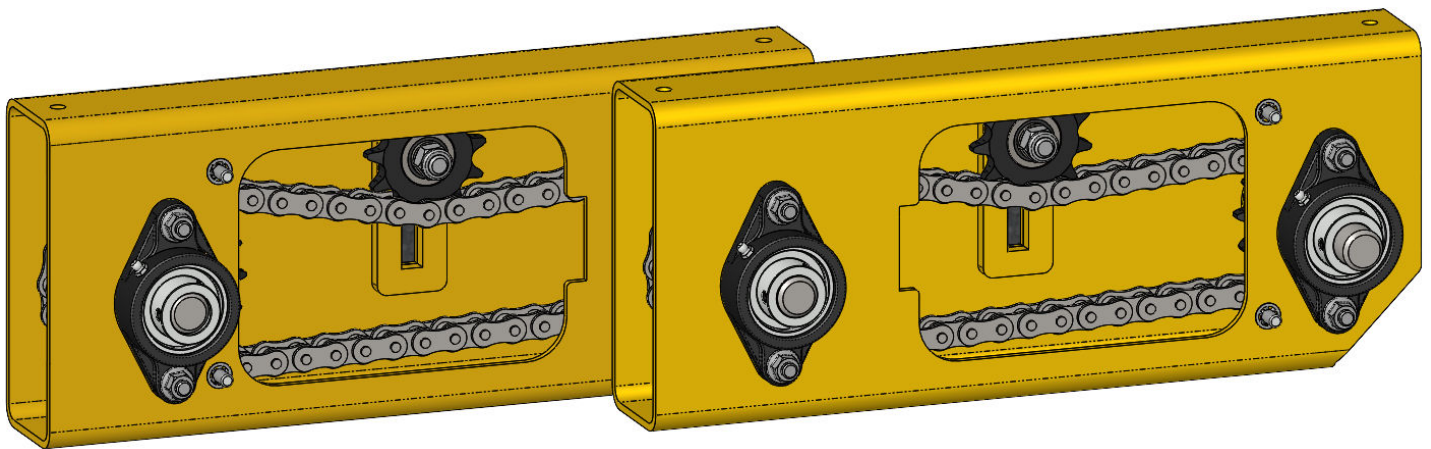
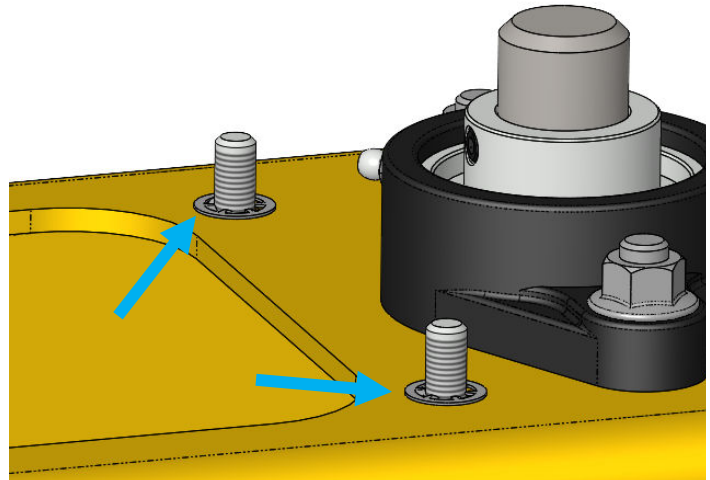
Note: After tensioning the chain, if the slots are not completely covered, rotate the covers (K715035).

Assembly

23. Install (4) 5/16" x 3/4" carriage bolts into the square holes by the flange bearings. Retain them with push nuts.

24. Run the chain over the sprockets and under the idlers.

Note: It may be necessary to shorten the chain depending on the sprocket configuration.
(The stock chain length is 55 links)



KIT	Chain Length		Offset Link?	
	Upper	Lower	Upper	Lower
K715001	51 links	51 links	NO	NO
K715002	51 links	51 links	YES	YES
K715003	51 links	53 links	NO	NO
K715004	51 links	53 links	YES	NO
K715005	51 links	51 links	NO	NO
K715006	53 links	53 links	NO	NO
K715007	55 links	55 links	NO	NO
K715009	53 links	53 links	NO	NO

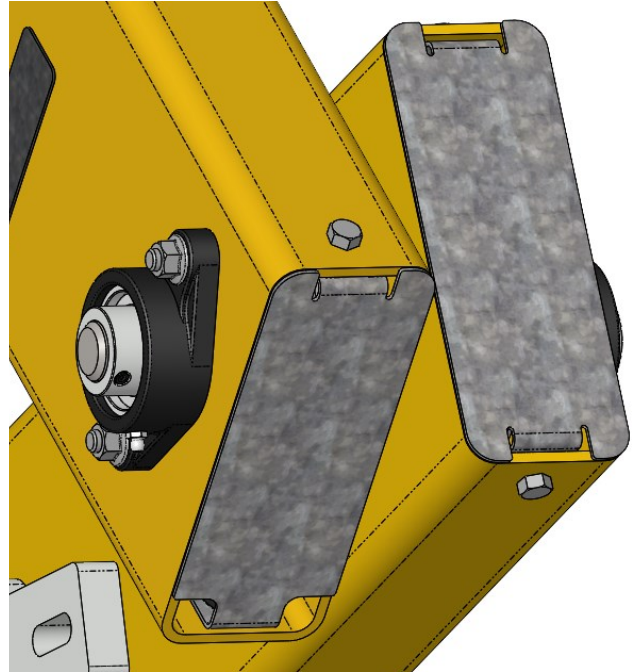
25. After attaching the pivot kit to the sweep and gearbox, and adjusting the input and output shafts. It will be necessary to align those sprockets with the idlers so the chain runs straight.

26. Sprockets 2 & 3 can be aligned now.

Assembly

25. Take one K715036 and the K715037 end covers and slide a 5/16" clip-on, barrel nut on each end (4 total).
26. Attach the end covers onto the ends of the housings by the intermediate shaft and fasten with 5/16" x 1" hex bolts.

Note: the K715037 goes on the upper housing with the "openings" on the lower end. This allows any debris that enters to fall out.



Preventative Maintenance

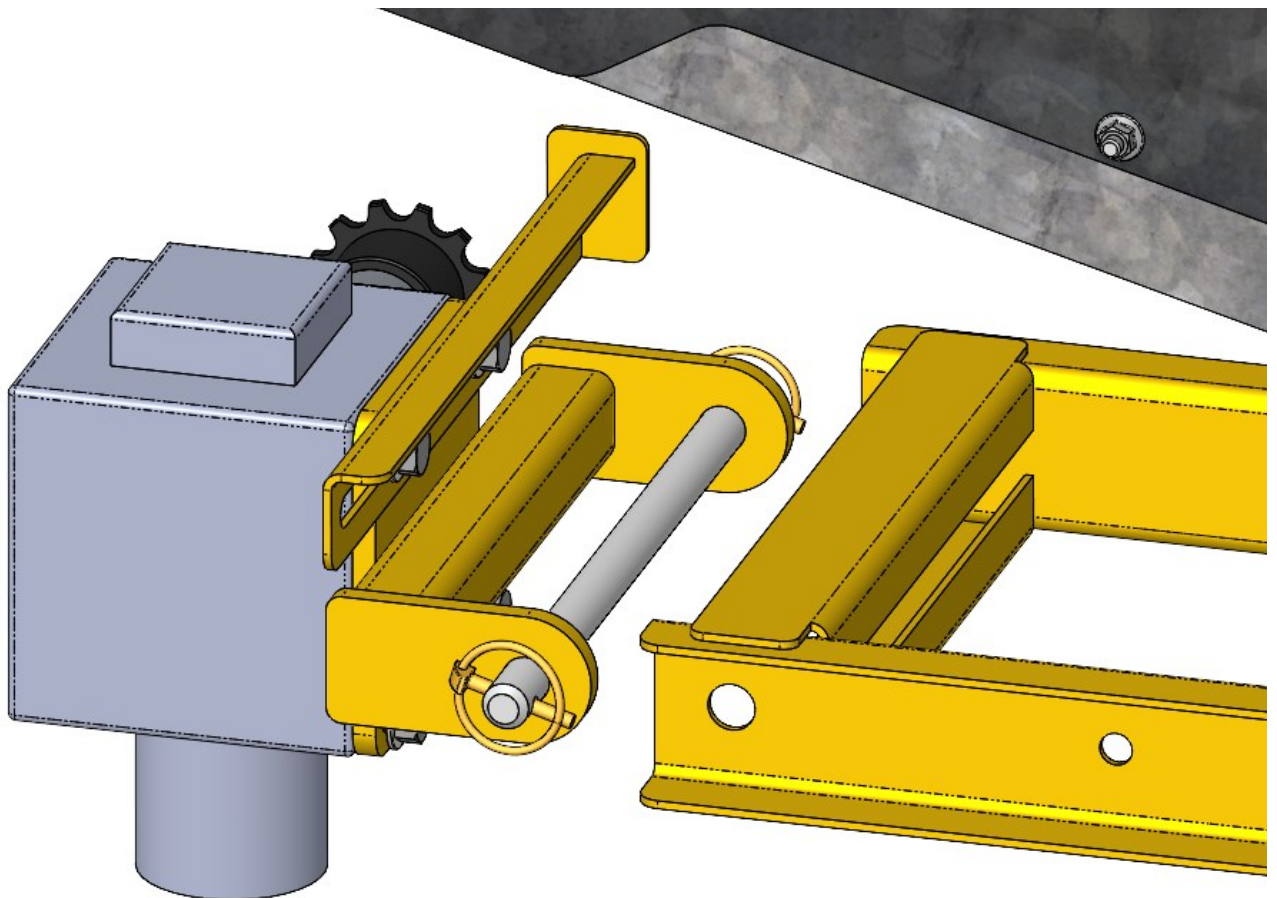
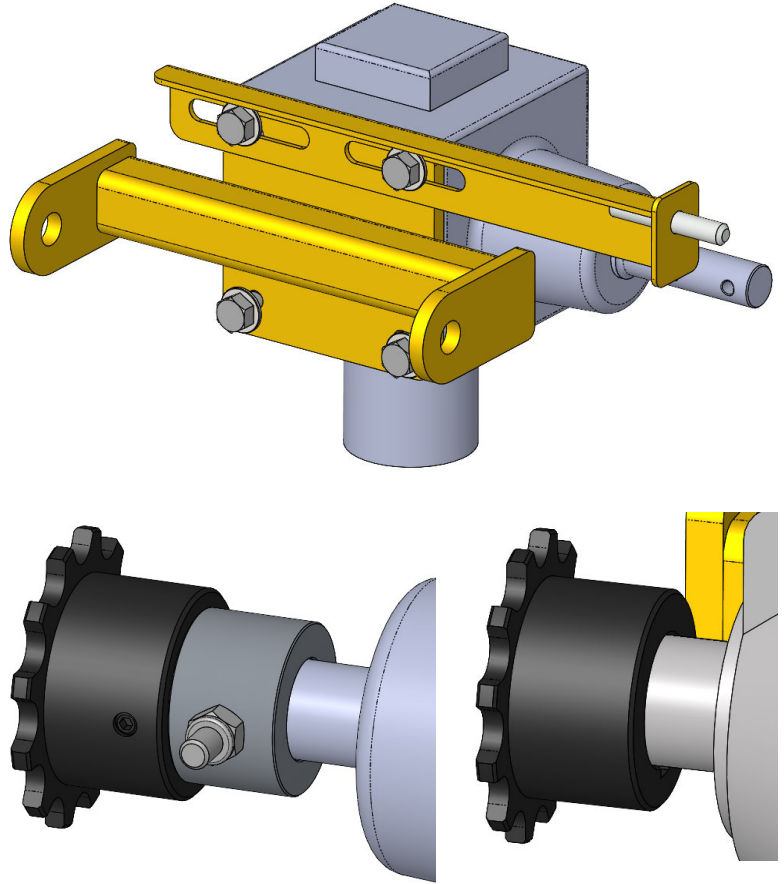
- Service Schedule

Service Description	After Initial Use	After 4 Operations or Every Year	After 12 Operations or Every 3 Years
Check Hardware/Set Screws	X	X	X
Check Drive Chain Tension		X	X
Grease Bearings		X	X
Clean off excess debris		X	

- Periodically check all bolts for looseness and re-torque if necessary.
 - ◇ Cover fasteners
 - ◇ Sprocket set screws
- Drive Chain
- Clean out housing if grain/debris build-up occurs

Installation

1. Remove the stock auger sweep from the bin. Unbolt it from the center gearbox. The paddle sweep will mount onto this gearbox.
2. Attach the gearbox/pivot mount (K715032) to the gearbox with the provided 3/8" or 1/2" x 1.5" bolts and washers. Make sure the shaft is oriented correctly (as shown).
3. Mount the rotation arm bracket (K715045) to the gearbox with the top two bolts. Leave them loose so it can slide.
4. Install the gearbox sprocket coupler onto the gearbox. Depending on the kit, the coupler could be a K689834, K689876 or K689841.
5. Connect the sweep to the gearbox mount with the stabilizer pin (K715040) and lynch pins.

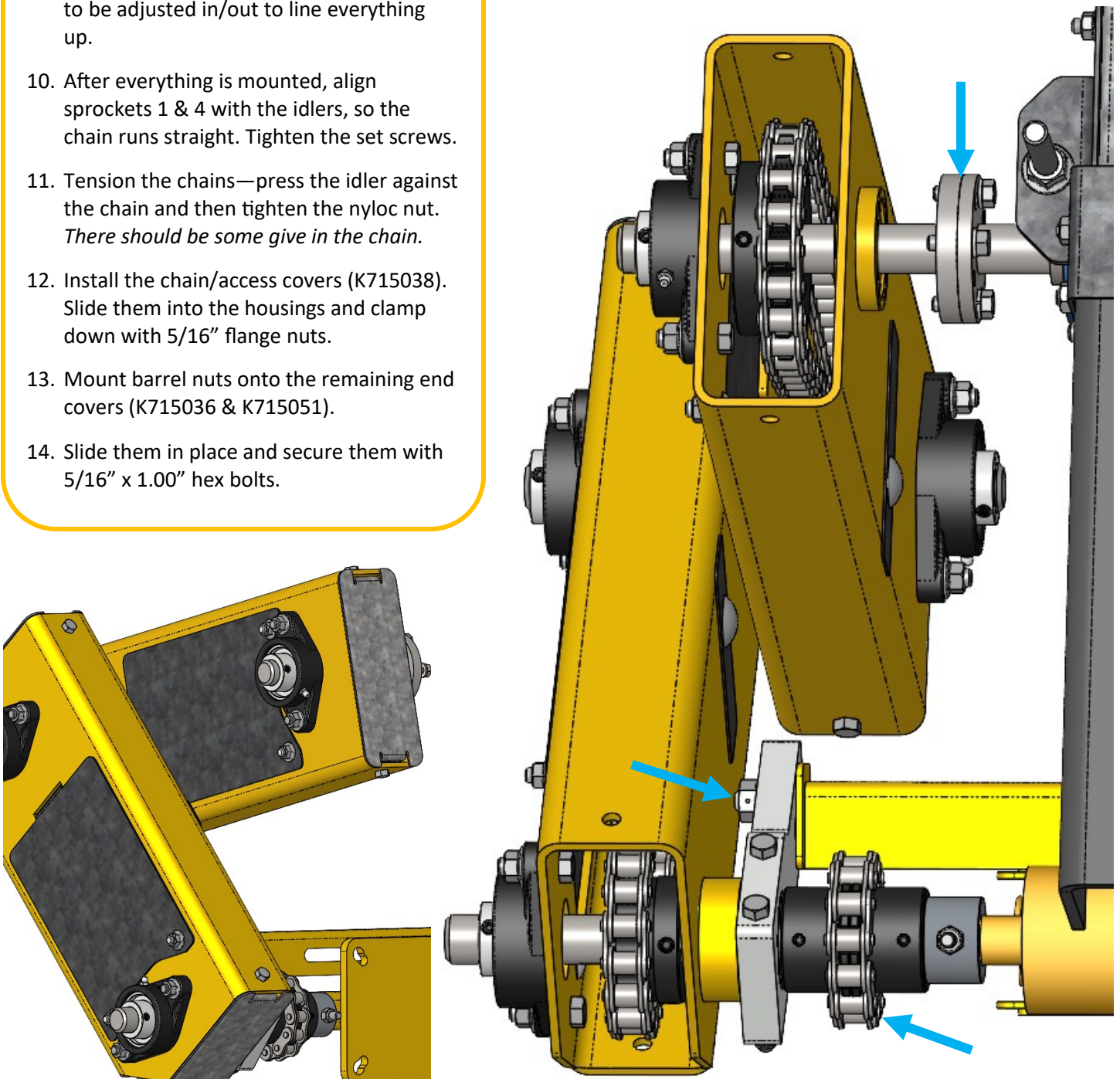


Installation

9. The top and bottom shafts will likely need to be adjusted in/out to line everything up.
10. After everything is mounted, align sprockets 1 & 4 with the idlers, so the chain runs straight. Tighten the set screws.
11. Tension the chains—press the idler against the chain and then tighten the nyloc nut. *There should be some give in the chain.*
12. Install the chain/access covers (K715038). Slide them into the housings and clamp down with 5/16" flange nuts.
13. Mount barrel nuts onto the remaining end covers (K715036 & K715051).
14. Slide them in place and secure them with 5/16" x 1.00" hex bolts.

Mount the pivot assembly onto the sweep and gearbox.

6. The top shaft is fastened with (4) 5/16" x 1.00" hex bolts and lock washers.
7. The bottom shaft/coupler connects to the gearbox/coupler with the 12 Link Coupler Chain (K689835).
8. The rotation arm fastens to the bracket with a 1/2" flange nut. Tighten this nut and the bolts holding the bracket on the gearbox.



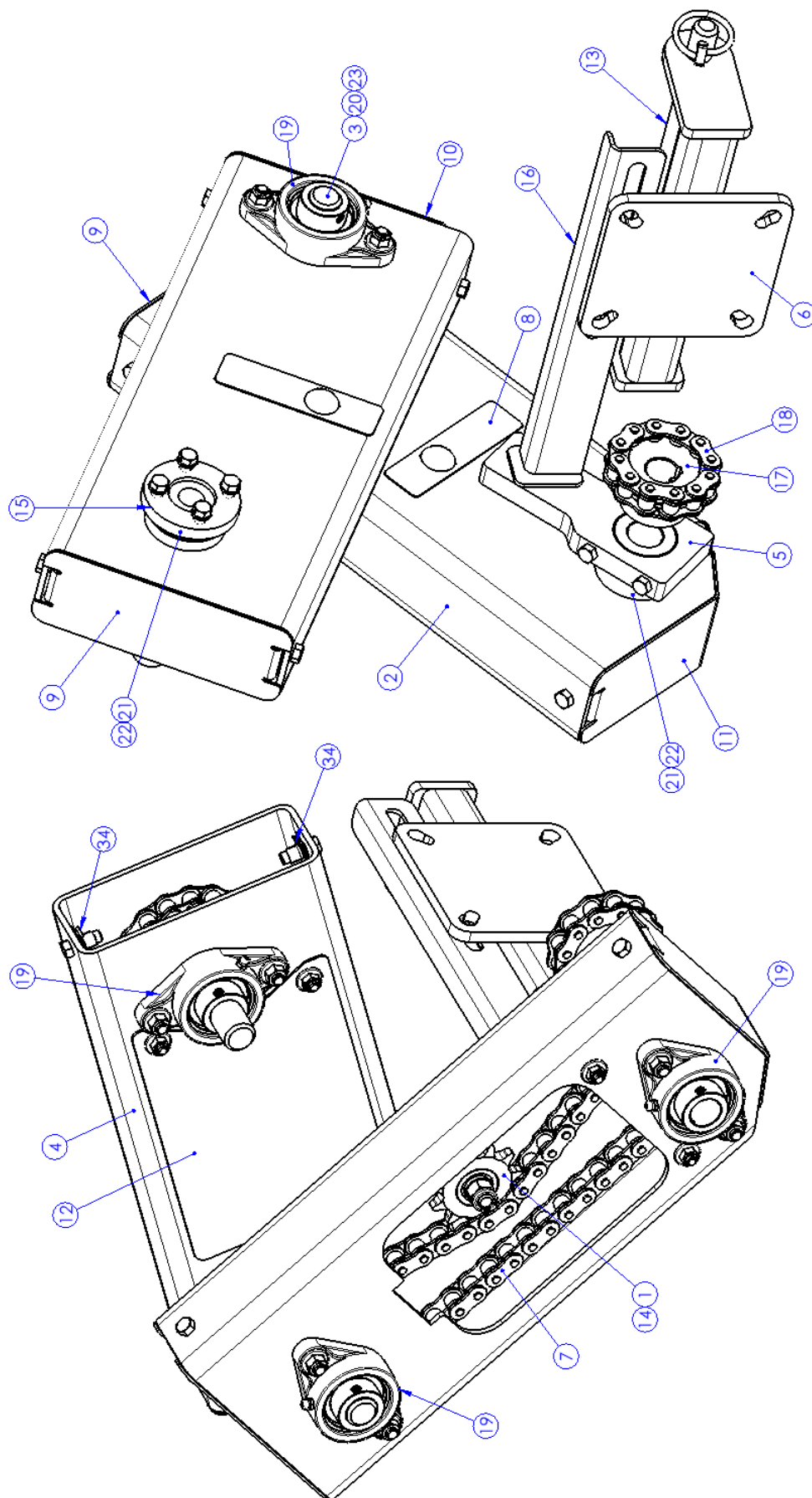
Initial Operation

- Overview – During initial operation in an empty bin, personal will have to be inside of the bin. It is critical that persons stay on the back side of the sweep and do not sit on, walk, stand, or touch the sweep as it is operating.
- The sweep will need to be operated for two complete rotations before being set for burial.
- It is highly recommended that these first two passes be completed in an empty bin.
- Check all (3) chains (paddle chain, tractor drive chain, pivot kit chain) after first two passes for excessive slack or tightness.
- Before Startup
 - ◇ The paddle sweeps are not intended to be run if the grain bin has not been filled and drained down. The grain pile must be across the entire front of the sweep.
 - ◇ Failure to have a constant grain pile across the front of the sweep will result in the sweep bending or breaking at the sections as it tries to wrap around the pile of grain.
 - ◇ Prior to starting the sweep, the bin must be gravity drained as much as possible.
 - ◇ All sumps must be opened, and grain flow must stop prior to starting the sweep.

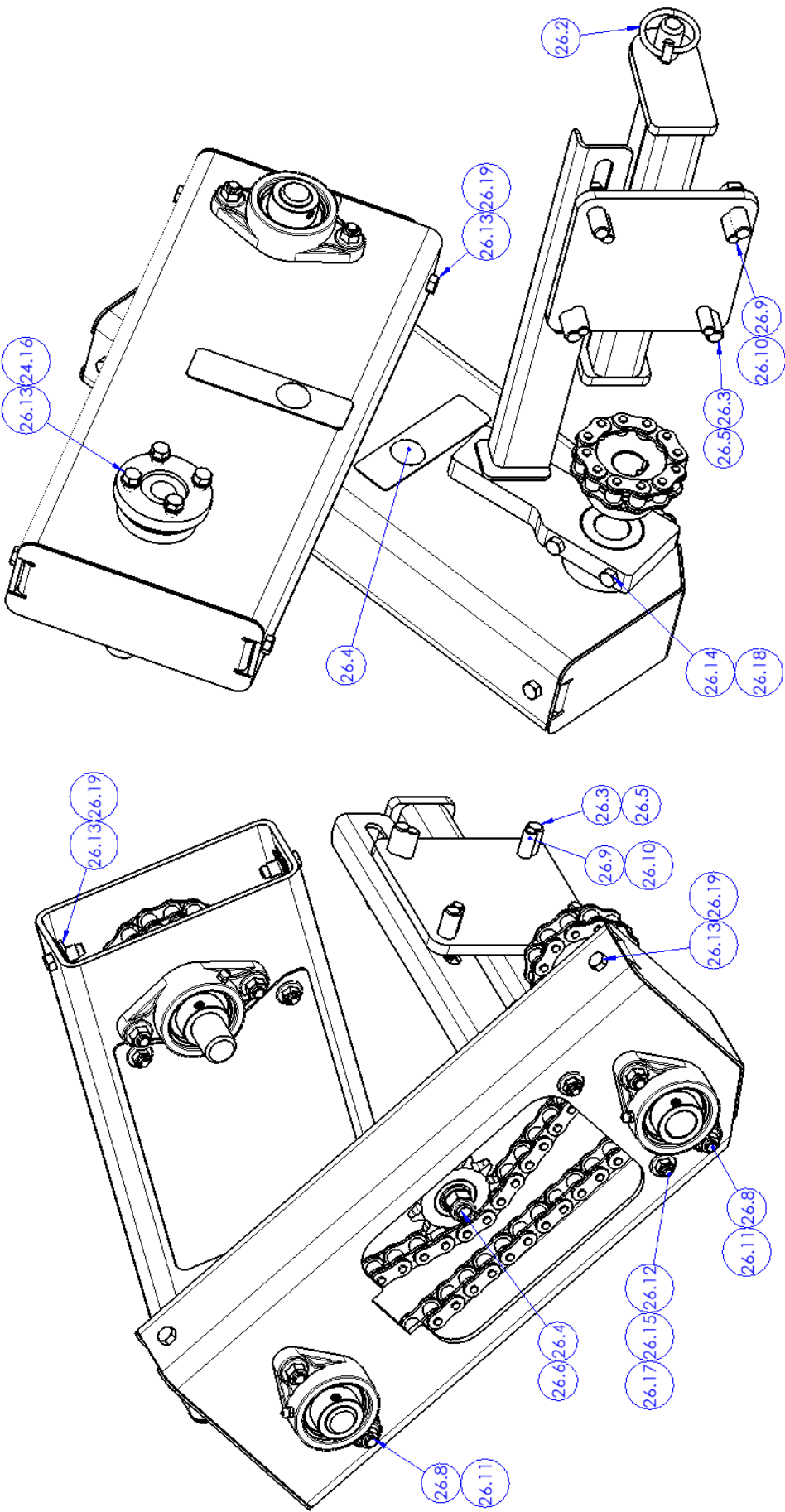
Trouble Shooting

1. Pivot chain(s) will not turn	Missing sprocket, missing keyway, motor/gearbox is not engaged on head shaft. Chain(s) too loose.
2. Farm sweep is over running the sump	A different sprocket combination is needed to slow the sweep down.
3. Breaking shafts	Chain tension is too tight. See chain tensioning section.
4. Paddle chain will not turn	Missing sprocket, missing keyway, pivot kit is not engaged on head shaft, chains not tight (skipping)

COMPONENTS



PIVOT KIT, BASE/STARTER (K715000)
HARDWARE



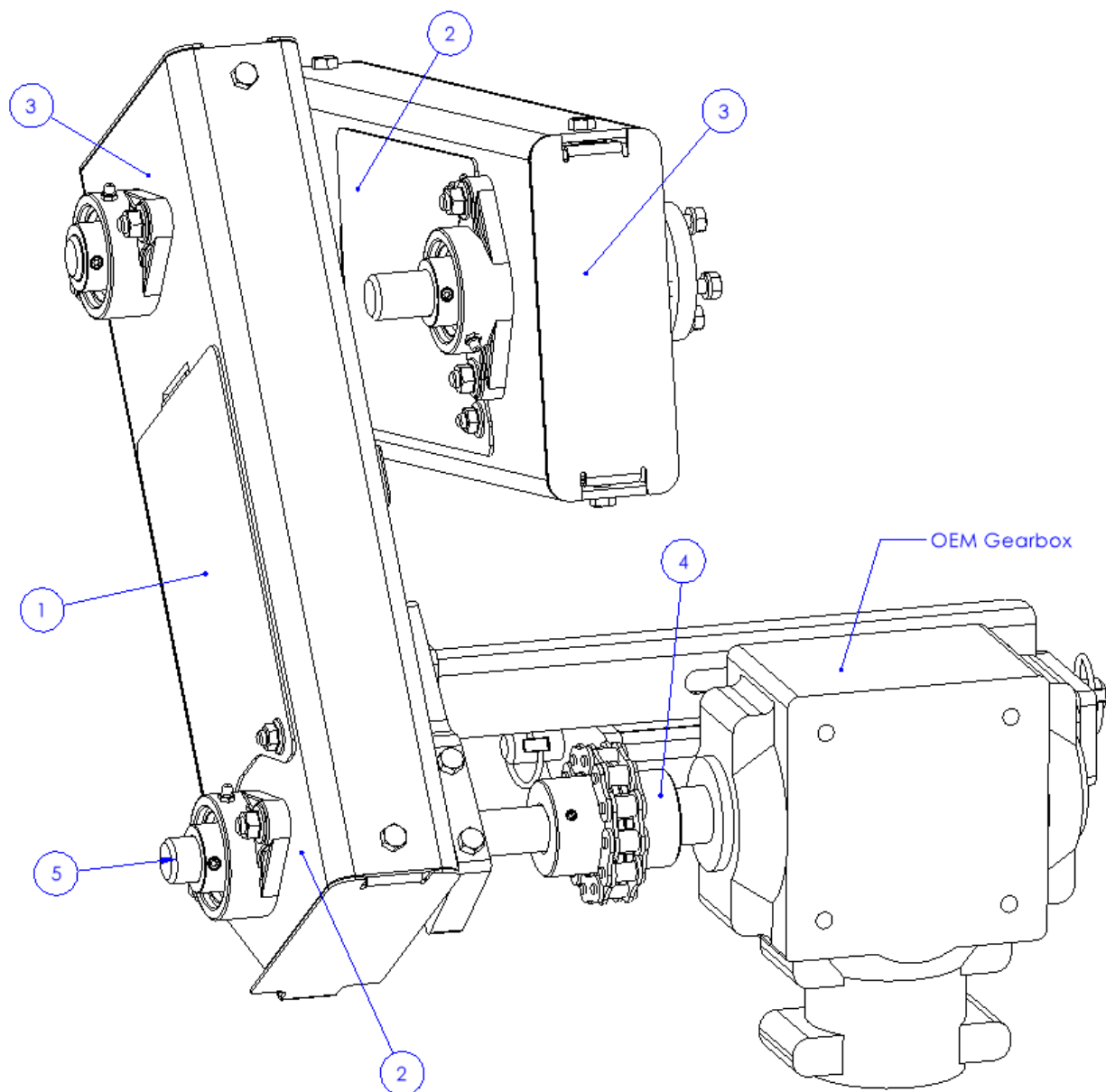
Parts Lists & Diagrams

PARTS LIST

PIVOT KIT, BASE/STARTER (K715000)

ITEM	PART #	DESCRIPTION	QTY
1	K715022	IDLER, #60 x 11 TOOTH, 1/2" BEARING	2
2	K715026	WLDT, CHAIN HOUSING, LOWER	1
3	K715028	SHAFT, INTERMEDIATE	1
4	K715029	WLDT, CHAIN HOUSING, UPPER	1
5	K715030	STABILIZER ROTATION ARM	1
6	K715032	GEARBOX/PIVOT MOUNT	1
7	K715033	CHAIN, #60 x 56 LINKS	2
8	K715035	SLOT COVER	2
9	K715036	END COVER, FULL	2
10	K715037	END COVER, DRAINING	1
11	K715051	END COVER, BENT	1
12	K715038	ACCESS COVER	2
13	K715040	STABILIZER PIN	1
14	K715041	SPACER, IDLER	2
15	K715044	SHAFT, TOP	1
16	K715045	BRACKET, ROTATION ARM	1
17	K689841	COUPLER SPROCKET, 12 TOOTH, 1.00"	1
18	K689835	COUPLER CHAIN, 12 LINK	1
19	K712166	BEARING—1.0"ID, MOUNTED w/ 2 BOLTS	4
20	K714329	BUSHING—1.0"ID, FLANGED SLEEVE	1
21	K715045	BEARING—1.0" LUBRICATED & SEALED	2
22	K715049	SNAP RING, 2.0" INTERNAL	2
23	K715050	RETAINING RING, 1.75" EXTERNAL	1
24	S162858	CONNECTOR LINK, #60	2
25	S162859	OFFSET LINK, #60	2
26	K715052	HARDWARE BAG—2K PIVOT	1
26.1	K161288	SQ KEY—1/4" x 1.00"	5
26.2	K750100	LYNCH PIN—1/4"	2
26.3	K640059	1/2" x 1.50" GR 5 HEX BOLT	4
26.4	K715047	1/2" x 2.50" CARRIAGE BOLT	2
26.5	S184939	1/2" FLAT WASHER, SAE	4
26.6	K660638	1/2" NUT, NYLOC	2
26.7	K699010	1/2" NUT, CENTER LOCK FLANGE	1
26.8	K640032	3/8" x 1.25" GR 5 HEX BOLT	8
26.9	K640034	3/8" x 1.50" GR 5 HEX BOLT	4
26.10	S154066	3/8" FLAT WASHER	4
26.11	K701182	3/8" NUT, CENTER LOCK FLANGE	8
26.12	K683943	5/16" x 3/4" CARRIAGE BOLT	4
26.13	K640016	5/16" x 1.00" GR 5 HEX BOLT	12
26.14	K669618	5/16" x 3.50" GR 5 HEX BOLT	2
26.15	K711378	5/16" PUSH NUT	4
26.16	K640151	5/16" SPRING WASHER	4
26.17	K701467	5/16" NUT, CENTER LOCK FLANGE	4
26.18	K654141	5/16" NUT, NYLOC	2
26.19	K715046	5/16" BARREL NUT, CLIP-ON	8

Parts Lists & Diagrams

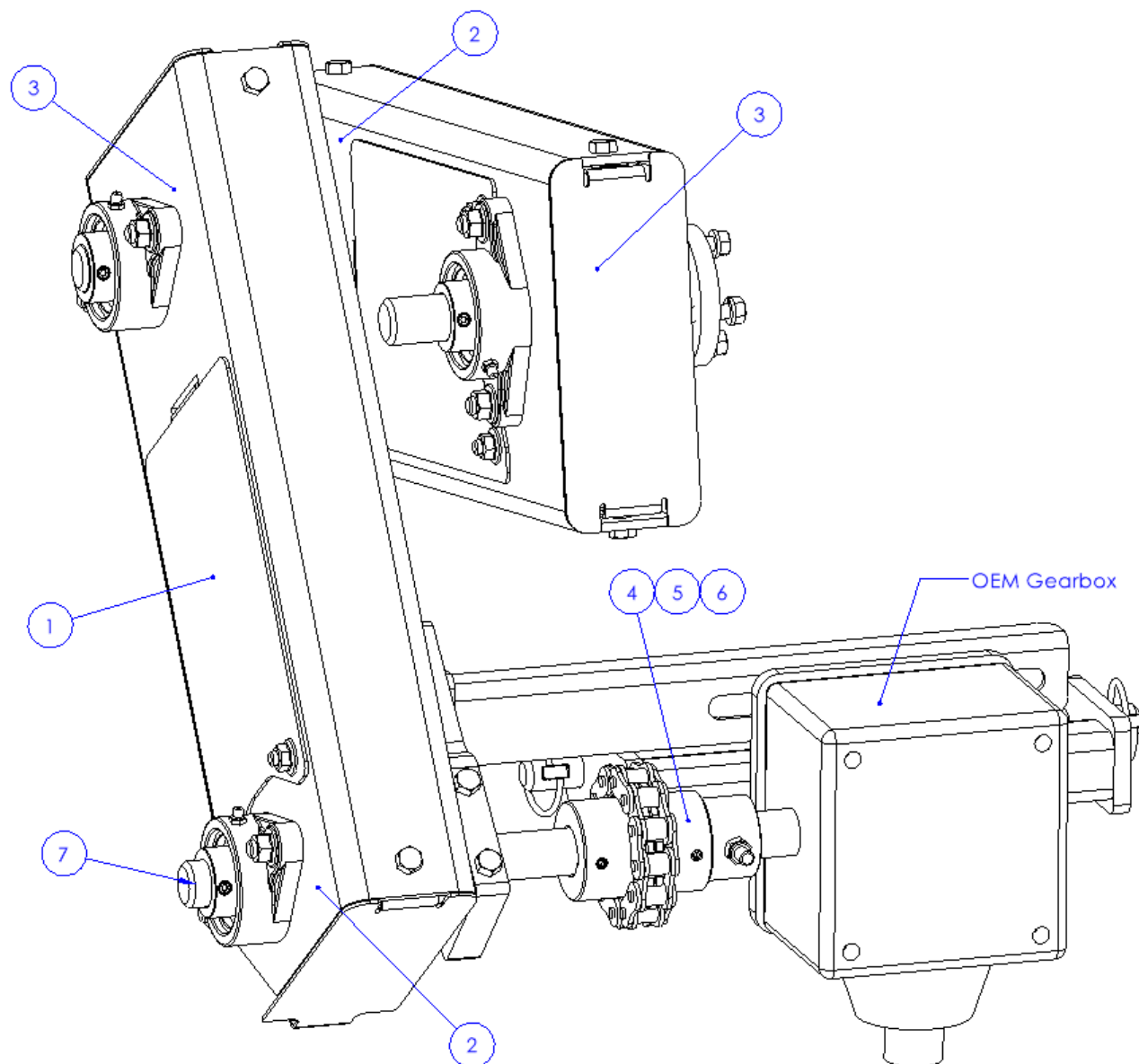


PARTS LIST

PIVOT KIT, BROCK 8" ROUND (K715001)

ITEM	PART #	DESCRIPTION	QTY
1	K715100	PIVOT KIT, BASE/STARTER	1
2	K715012	SPROCKET—#60, 12 TOOTH, 1" BORE	1
3	K715016	SPROCKET—#60, 16 TOOTH, 1" BORE	2
4	K689834	SPROCKET—COUPLER, 1.25" BORE	1
5	K715025	SHAFT, BASE (LONG)	1

Parts Lists & Diagrams

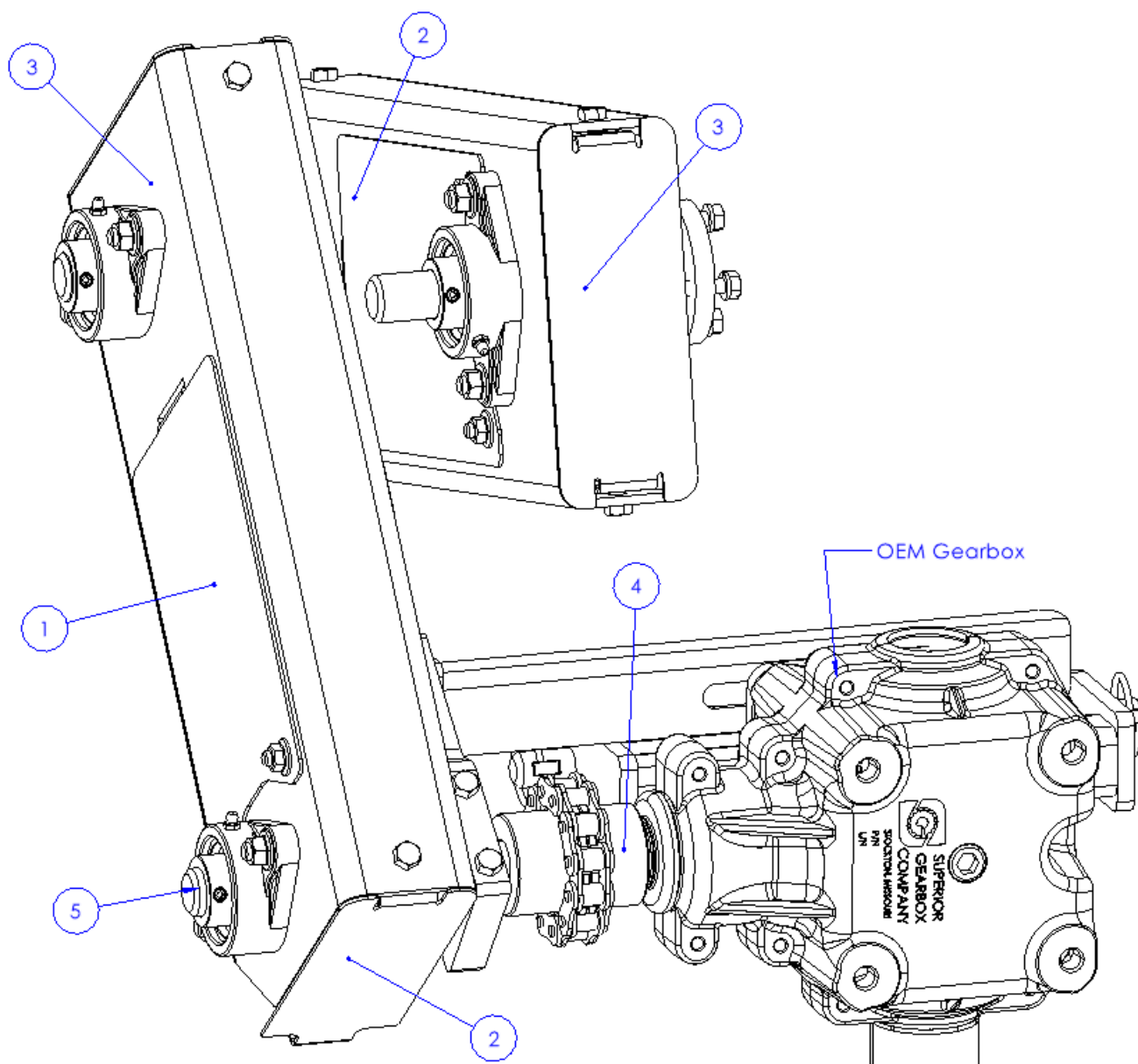


PARTS LIST

PIVOT KIT, GSI 8" LOW END (K715002)

ITEM	PART #	DESCRIPTION	QTY
1	K715100	PIVOT KIT, BASE/STARTER	1
2	K715014	SPROCKET—#60, 14 TOOTH, 1" BORE	2
3	K715016	SPROCKET—#60, 16 TOOTH, 1" BORE	2
4	K689876	SPROCKET—COUPLER WELDMENT, 1" BORE	1
5	K680112	5/16" x 2.5" GR 8 HEX BOLT	1
6	K654141	5/16" NUT, NYLOC	1
7	K715025	SHAFT, BASE (LONG)	1

Parts Lists & Diagrams

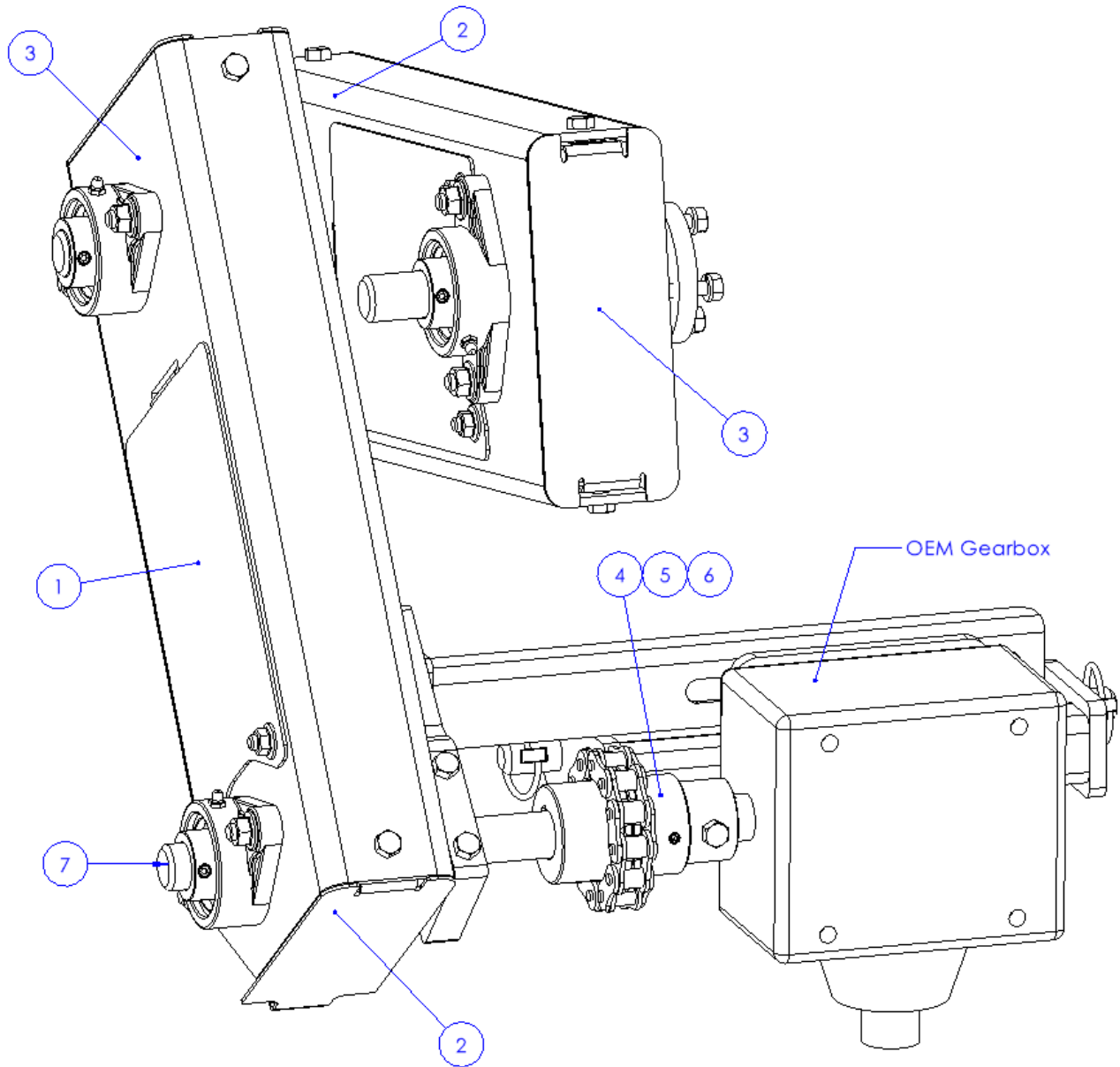


PARTS LIST

PIVOT KIT, GSI 8" HIGH END (K715003)

ITEM	PART #	DESCRIPTION	QTY
1	K715100	PIVOT KIT, BASE/STARTER	1
2	K715014	SPROCKET—#60, 14 TOOTH, 1" BORE	2
3	K715016	SPROCKET—#60, 16 TOOTH, 1" BORE	1
4	K715018	SPROCKET—#60, 18 TOOTH, 1" BORE	1
5	K689834	SPROCKET—COUPLER, 1.25" BORE	1
6	K715042	SHAFT, BASE (SHORT)	1

Parts Lists & Diagrams

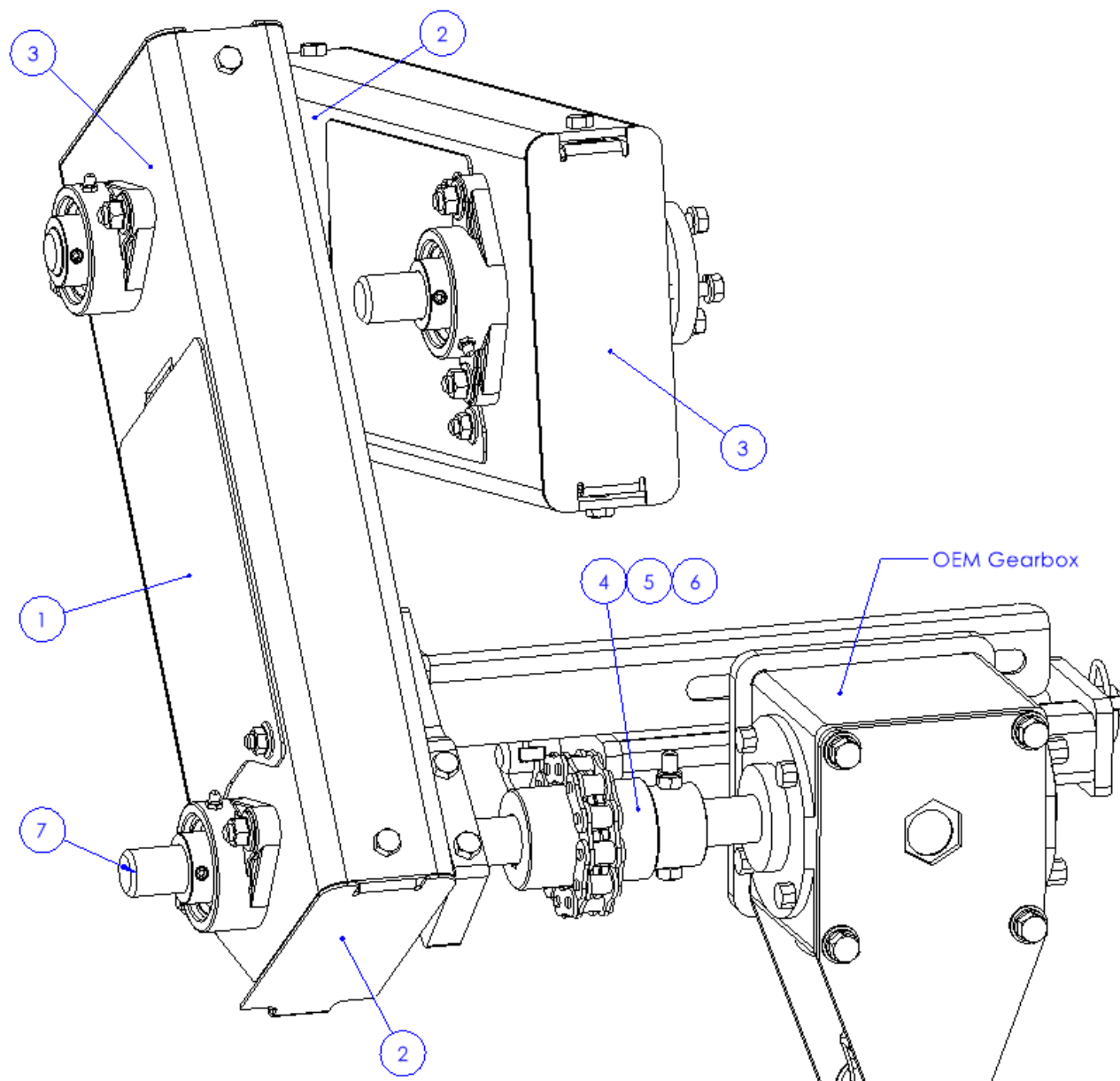


PARTS LIST

PIVOT KIT, HUTCHINSON 8" ROUND STD (K715004)

ITEM	PART #	DESCRIPTION	QTY
1	K715100	PIVOT KIT, BASE/STARTER	1
2	K715015	SPROCKET—#60, 15 TOOTH, 1" BORE	1
3	K715016	SPROCKET—#60, 16 TOOTH, 1" BORE	3
4	K689876	SPROCKET—COUPLER WELDMENT, 1" BORE	1
5	K680112	5/16" x 2.5" GR 8 HEX BOLT	1
6	K654141	5/16" NUT, NYLOC	1
7	K715025	SHAFT, BASE (LONG)	1

Parts Lists & Diagrams

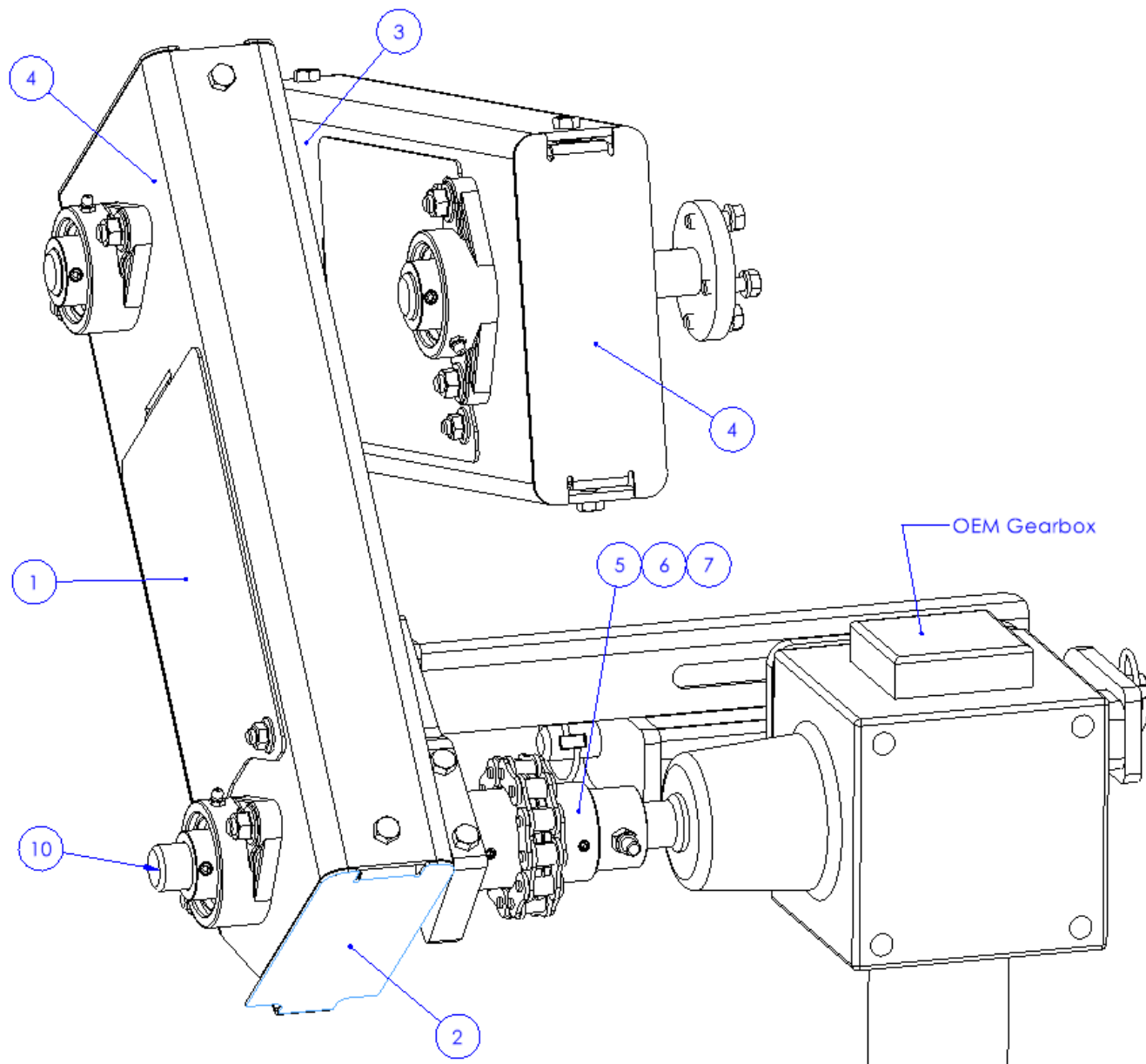


PARTS LIST

PIVOT KIT, NORSTAR 8" ROUND (K715005)

ITEM	PART #	DESCRIPTION	QTY
1	K715100	PIVOT KIT, BASE/STARTER	1
2	K715013	SPROCKET—#60, 13 TOOTH, 1" BORE	2
3	K715016	SPROCKET—#60, 16 TOOTH, 1" BORE	2
4	K689876	SPROCKET—COUPLER WELDMENT, 1" BORE	1
5	K680112	5/16" x 2.5" GR 8 HEX BOLT	1
6	K654141	5/16" NUT, NYLOC	1
7	K715025	SHAFT, BASE (LONG)	1

Parts Lists & Diagrams

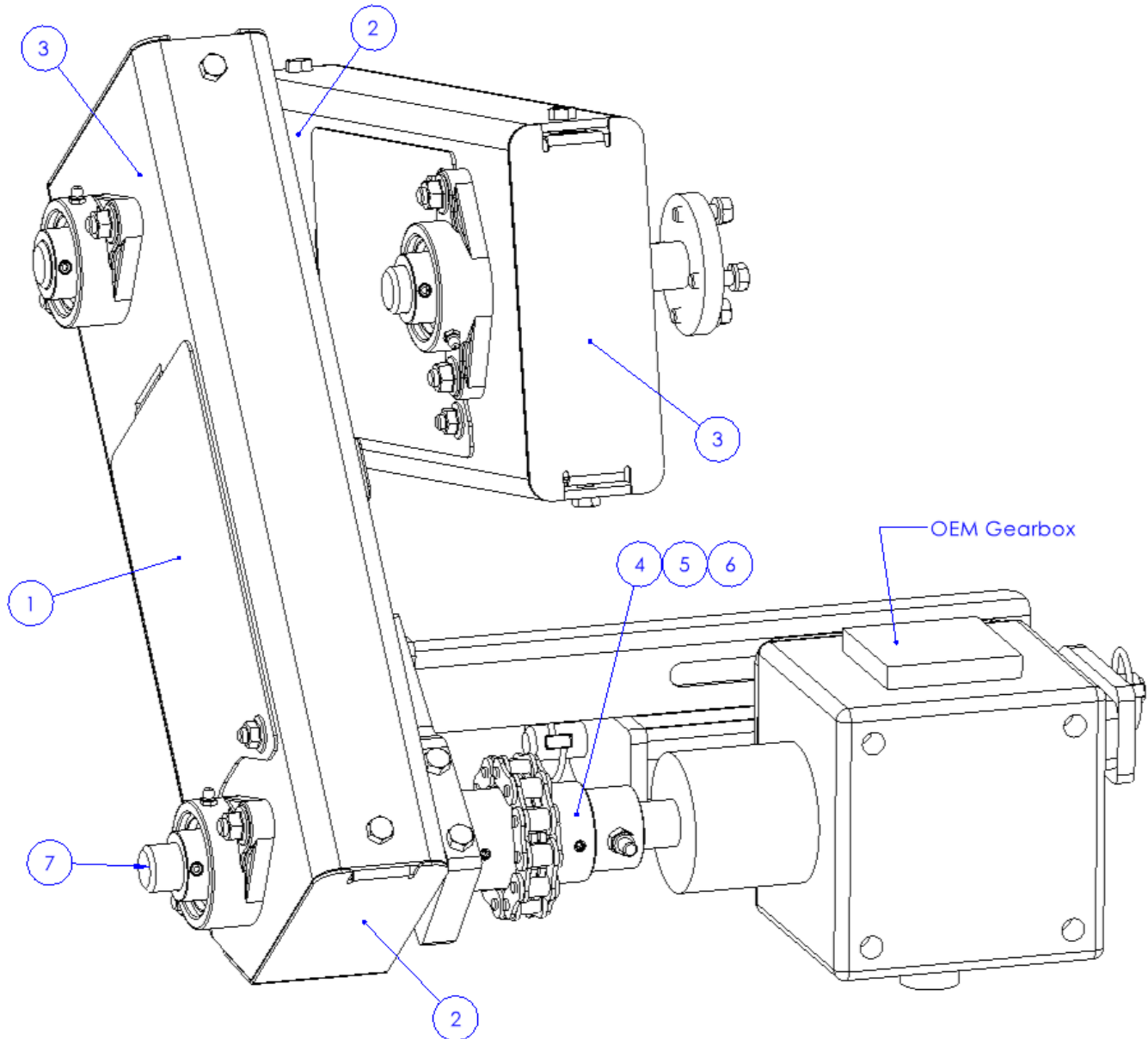


PARTS LIST

PIVOT KIT, SIOUXLAND 8" ROUND STD (K715006)

ITEM	PART #	DESCRIPTION	QTY
1	K715100	PIVOT KIT, BASE/STARTER	1
2	K715012	SPROCKET—#60, 12 TOOTH, 1" BORE	2
3	K715019	SPROCKET—#60, 19 TOOTH, 1" BORE	2
4	K689876	SPROCKET—COUPLER WELDMENT, 1" BORE	1
5	K680112	5/16" x 2.5" GR 8 HEX BOLT	1
6	K654141	5/16" NUT, NYLOC	1
7	K715042	SHAFT, BASE (SHORT)	1

Parts Lists & Diagrams

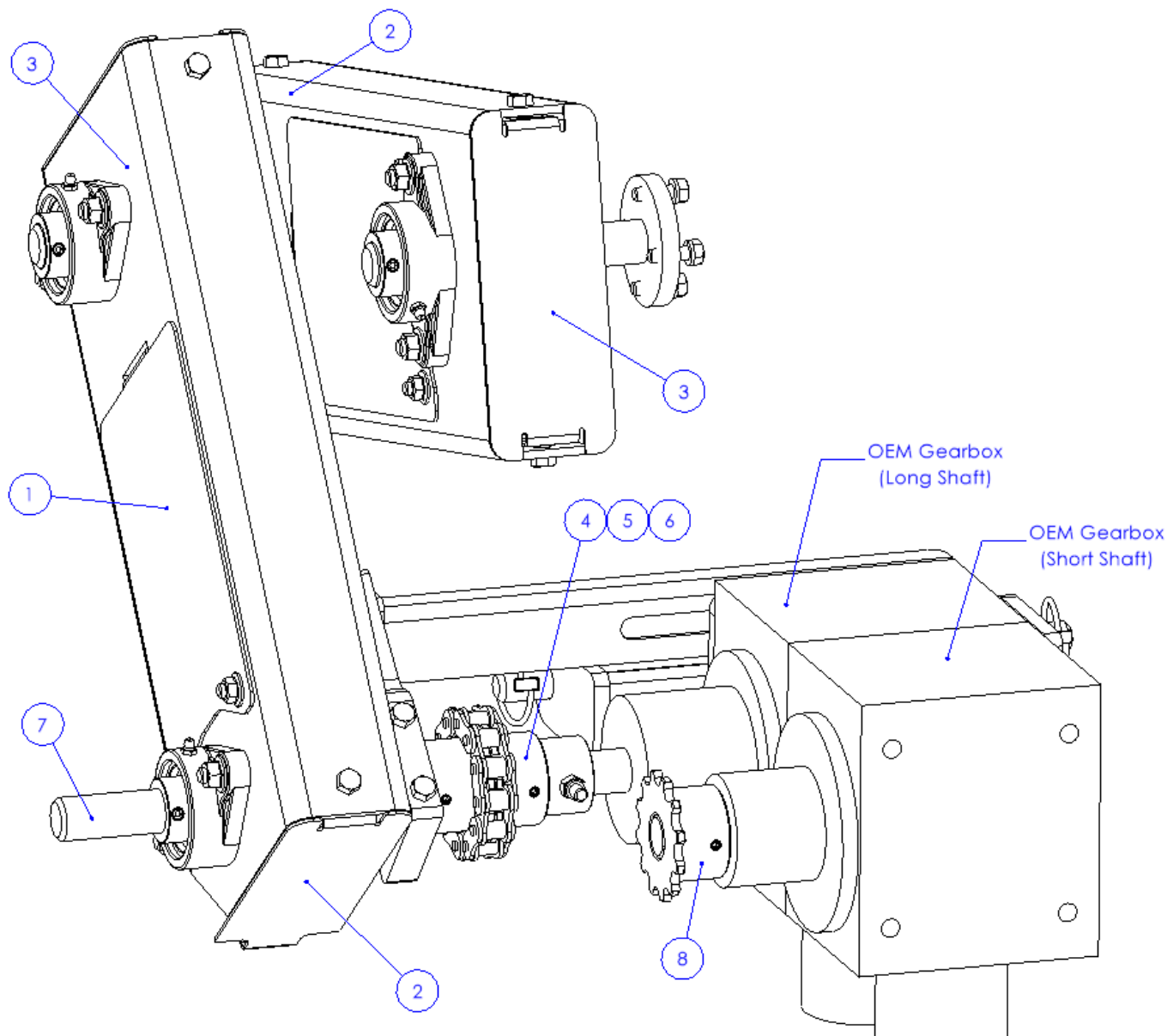


PARTS LIST

PIVOT KIT, SUDENGA 8" RND & U-TROUGH (K715007)

ITEM	PART #	DESCRIPTION	QTY
1	K715100	PIVOT KIT, BASE/STARTER	1
2	K715015	SPROCKET—#60, 15 TOOTH, 1" BORE	2
3	K715020	SPROCKET—#60, 20 TOOTH, 1" BORE	2
4	K689876	SPROCKET—COUPLER WELDMENT, 1" BORE	1
5	K680112	5/16" x 2.5" GR 8 HEX BOLT	1
6	K654141	5/16" NUT, NYLOC	1
7	K715042	SHAFT, BASE (SHORT)	1

Parts Lists & Diagrams



PARTS LIST

PIVOT KIT, SUKUP 8" ROUND (K715009)

ITEM	PART #	DESCRIPTION	QTY
1	K715100	PIVOT KIT, BASE/STARTER	1
2	K715014	SPROCKET—#60, 14 TOOTH, 1" BORE	2
3	K715018	SPROCKET—#60, 18 TOOTH, 1" BORE	2
4	K689876	SPROCKET—COUPLER WELDMENT, 1" BORE	1
5	K680112	5/16" x 2.5" GR 8 HEX BOLT	1
6	K654141	5/16" NUT, NYLOC	1
7	K715025	SHAFT, BASE (LONG)	1
8	K689841	SPROCKET—COUPLER, 1" BORE	1