



# Instruction Manual

**HS14**

## **14" High Speed Non-Ferrous Saw Arm Assembly**

Kalamazoo Industries, Inc.

6856 E K Ave

Kalamazoo, Michigan

**1-800-592-2050**

[www.kalamazooind.com](http://www.kalamazooind.com)

# 1. Introduction

Thank you for choosing the Kalamazoo Industries HS14AS 14-Inch Heavy Duty High Speed Non-Ferrous Saw. This powerful industrial machine is designed to deliver exceptional cutting performance for aluminum, brass, copper, and other non-ferrous materials.

The HS14AS features a robust 5HP motor operating at 3450 RPM, delivering a spindle speed of 4400 RPM for clean, efficient cuts. Built with cast iron construction throughout, this machine is engineered for durability and precision in demanding industrial environments.

Please read this manual thoroughly before operating the equipment. Proper understanding of the machine's features, safety requirements, and maintenance procedures will ensure optimal performance and longevity.

## 1.1 Intended Use

The HS14AS is specifically designed for cutting non-ferrous metals and materials including:

- Aluminum (solid and extruded shapes)
- Brass
- Copper
- PVC and plastic materials

## 2. Safety Information

### ⚠ WARNING

**WARNING:** TO REDUCE THE RISK OF FIRE OR SHOCK HAZARD, DO NOT EXPOSE THIS EQUIPMENT TO RAIN, LIQUID, OR MOISTURE.

Read and all safety instructions before operating this equipment. Failure to follow safety guidelines may result in serious injury or death.

### 2.1 General Safety Precautions

1. Always wear appropriate personal protective equipment (PPE) including safety glasses, hearing protection, and work gloves.
2. Keep the work area clean and well-lit. Cluttered or dark areas invite accidents.
3. Do not operate the saw under the influence of drugs, alcohol, or medication that may impair judgment.
4. Keep bystanders at a safe distance from the operating machine.
5. Never leave the machine running unattended.
6. Ensure the blade guard is properly positioned before each cut.
7. Never attempt to cut ferrous metals (steel, iron) with this machine.
8. Disconnect power before changing blades or performing maintenance.

### 2.2 Electrical Safety

- Ensure proper grounding of the machine before operation.
- Verify voltage requirements match your facility's electrical supply (3PH 230V or 3PH 460V).
- Use only qualified electricians for electrical connections and repairs.
- Do not operate in wet or damp conditions.

### 2.3 Blade Safety

- Use only high-speed blades rated for non-ferrous cutting applications.
- Inspect blades for cracks, damage, or excessive wear before each use.
- Replace damaged or worn blades immediately.
- Allow the blade to reach full speed before beginning a cut.
- Consult a blade specialist for proper blade selection for your specific material.

## 3. Technical Specifications

### 3.1 Motor and Performance

Specification	Value
<b>Motor Power</b>	5 HP
<b>Motor Speed</b>	3450 RPM
<b>Spindle Speed</b>	4400 RPM
<b>Spindle Arbor</b>	1 inch
<b>Phase/Voltage Options</b>	3PH 230V or 3PH 460V

### 3.2 Cutting Capacity

Material Type	Maximum Capacity
<b>Solid Materials</b>	3 inches
<b>Shaped Materials</b>	4 inches

### 3.3 Construction

Component	Material/Type
<b>Trunnion</b>	Cast Iron
<b>Arm</b>	Cast Iron
<b>Bearings</b>	Sealed Ball Bearings
<b>Blade Guard</b>	Retractable Steel Clamshell (OSHA Compliant)
<b>Switch</b>	Magnetic On/Off

### 3.4 Dimensions and Weight

Dimension	Measurement
<b>Shipping Length</b>	38 inches
<b>Shipping Width</b>	39 inches
<b>Shipping Height</b>	38 inches
<b>Shipping Weight</b>	235 lbs

## 4. Features and Components

### 4.1 Key Features

The HS14AS incorporates several features designed for industrial performance and operator safety:

#### **Cast Iron Construction**

The trunnion, and arm are all constructed from heavy-duty cast iron, providing exceptional stability, vibration dampening, and long-term durability.

#### **OSHA-Compliant Blade Guard**

The retractable steel clamshell guard provides comprehensive blade protection while allowing clear visibility of the cutting operation. The guard automatically retracts during cutting and returns to the protective position when the saw arm is raised.

#### **Magnetic Safety Switch**

The magnetic on/off switch prevents automatic restart after power interruption, providing an important safety feature in industrial environments.

#### **Sealed Ball Bearings**

High-quality sealed ball bearings ensure smooth operation and extended service life with minimal maintenance requirements.

### 4.2 Available Options

- KW1 – 1" spindle wrench
- 051-035 14" saw belt tension tool.

## 5. Installation and Setup

### 5.1 Unpacking and Inspection

1. Carefully remove all packing materials and inspect the machine for shipping damage.
2. Verify all components are present according to the packing list.
3. Report any damage or missing items to Kalamazoo Industries immediately.
4. Remove any protective coatings from machined surfaces.

### 5.2 Location Requirements

- Place the machine on a level, stable surface capable of supporting the machine weight.
- Ensure adequate clearance around all sides for operation and maintenance.
- Provide adequate lighting and ventilation.
- Consider chip collection requirements when positioning the machine.

### 5.3 Electrical Connection

**CAUTION:** Electrical connections must be performed by a qualified electrician in accordance with local electrical codes.

1. Verify the voltage requirements match your facility's power supply (3PH 230V or 3PH 460V).
2. Connect to an appropriately rated circuit with proper overcurrent protection.
3. Ensure proper grounding according to electrical code requirements.
4. Check motor rotation direction before operating. The blade should rotate down and toward the part.
5. Refer to the electrical schematic provided with the machine for wiring details.

### 5.4 Blade Installation

1. Disconnect power from the machine.
2. Remove the blade guard to access the spindle.
3. Install the blade on the 1-inch spindle arbor with the teeth pointing down at the front of the cut.
4. Secure with the flange and arbor nut, tightening firmly.
5. Replace the blade guard.
6. Reconnect power and verify proper blade rotation.

## 6. Operation Instructions

### 6.1 Pre-Operation Checklist

- Inspect the blade for damage, cracks, or excessive wear
- Verify the blade guard operates correctly
- Check that all guards and safety devices are in place
- Ensure the work area is clean and free of obstructions
- Put on required personal protective equipment

### 6.2 Cutting Procedure

5. Position the material in the vise, ensuring it is square to the blade.
6. Adjust the front and back stops for desired cut length if making repetitive cuts.
7. Tighten the vise screws to securely clamp the material.
8. Turn on the machine using the magnetic switch.
9. Allow the blade to reach full operating speed (4400 RPM).
10. Lower the saw arm smoothly and steadily, applying consistent pressure.
11. Complete the cut and raise the saw arm to the full up position.
12. Turn off the machine and wait for the blade to stop completely.
13. Release the vise and remove the workpiece.

### 6.3 Cutting Tips for Best Results

- Use consistent, moderate feed pressure; let the blade do the work.
- Select the appropriate blade tooth configuration for your material (consult your blade supplier).
- Support long materials adequately to prevent movement during cutting.
- Allow the blade to clear chips naturally; do not force cuts.

## 7. Maintenance

### 7.1 Daily Maintenance

- Clean chips and debris from the machine after each use
- Inspect the blade for damage or wear
- Verify blade guard operation
- Check vise operation and tighten if necessary

### 7.2 Weekly Maintenance

- Inspect V-belts for wear, cracks, or proper tension
- Check all fasteners for tightness

### 7.3 Monthly Maintenance

- Inspect bearings for noise or rough operation
- Clean and inspect electrical connections
- Verify motor mounting hardware is secure
- Inspect trunnion pin for wear

### 7.4 Blade Replacement

Replace blades when they show signs of dullness (increased cutting time, rough cuts, excessive heat), visible damage, or missing teeth. Follow the blade installation procedure in Section 5.4.

## 8. Troubleshooting

Problem	Possible Cause	Solution
<b>Motor will not start</b>	Power disconnected	Check power supply and connections
	Magnetic switch tripped	Reset switch; check for overload
	Faulty switch	Replace magnetic switch
<b>Excessive vibration</b>	Loose blade	Check arbor nut tightness
	Damaged blade	Replace blade
	Worn bearings	Replace spindle bearings
<b>Poor cut quality</b>	Dull blade	Replace blade
	Wrong blade for material	Consult blade specialist
	Feed rate too fast	Reduce feed pressure
<b>Blade overheating</b>	Excessive feed pressure	Reduce feed rate
	Dull blade	Replace blade
	Improper blade selection	Consult blade specialist
<b>Material slipping</b>	Vise not tight	Increase vise pressure
	Worn vise jaws	Replace vise jaws
<b>Belt slippage</b>	Belt worn	Replace V-belts
	Improper tension	Adjust belt tension

## 9. Replacement Parts

Genuine Kalamazoo Industries replacement parts are kept in stock and shipped from Kalamazoo, Michigan. Using genuine parts ensures optimal machine performance and maintains warranty coverage.

### 9.1 Recommended Spare Parts

We recommend keeping the following parts on hand to minimize downtime:

Part Number	Description	Quantity
701-002HS	High-Speed Spindle with Tight Flange	1
044-001	Spindle Bearings	2
051-006	V-Belts	2

### 9.2 Ordering Parts

To order replacement parts, contact Kalamazoo Industries directly or visit the online parts store at [www.kalamazooind.com](http://www.kalamazooind.com). Have your machine model number (HS14) ready when ordering.

## 10. Warranty Information

### 10.1 Warranty Coverage

Parts warranty is guaranteed for one year from the original date of purchase by the original purchaser, covering defects in material or workmanship under normal use. This warranty covers the replacement of defective parts. Some exclusions may apply.

### 10.2 Warranty Exclusions

This warranty does not cover:

- Normal wear items including blades, belts, and bearings
- Damage resulting from misuse, abuse, or improper maintenance
- Damage from cutting inappropriate materials
- Modifications or alterations to the machine
- Damage from improper electrical connection

### 10.3 Return Authorization

Obtain written authorization before returning any merchandise by contacting Customer Service at (269) 382-2050. Unauthorized returns may not be accepted.

## 11. Contact Information

### KALAMAZOO INDUSTRIES, INC.

Kalamazoo, Michigan

**Toll-Free: 1-800-592-2050**

Local: (269) 382-2050

Website: [www.kalamazooind.com](http://www.kalamazooind.com)

*Office Hours: Monday – Friday, 8:00 AM – 4:30 PM EST*

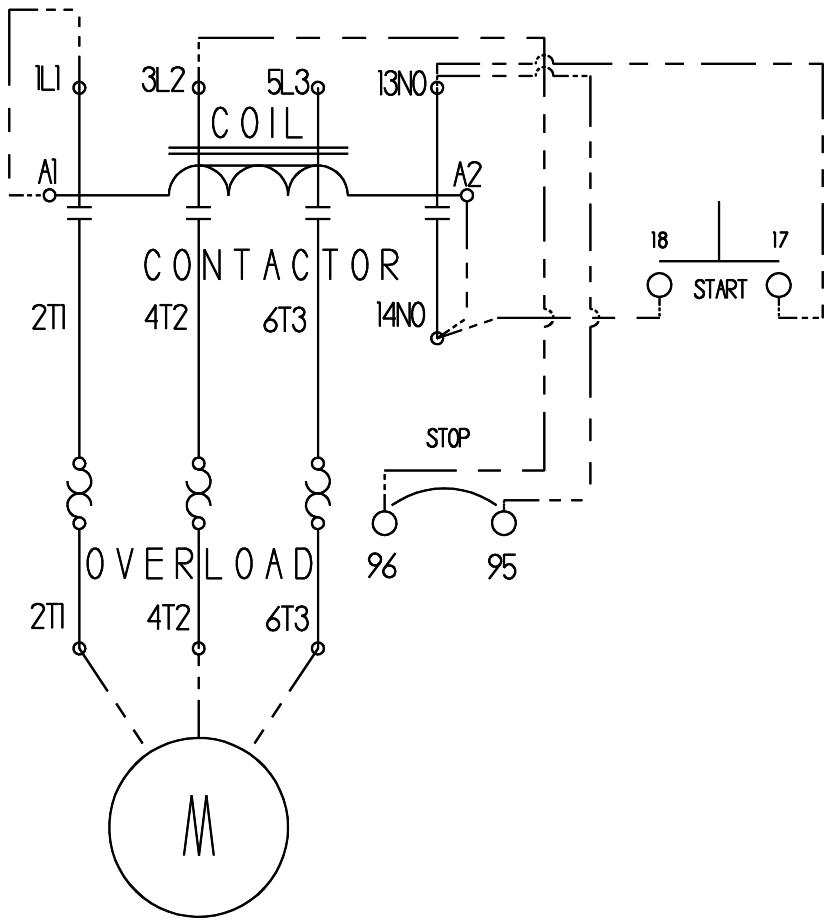
### Online Resources

- Product Registration: [www.kalamazooind.com/product-registration](http://www.kalamazooind.com/product-registration)
- Parts Orders: [www.kalamazooind.com/parts-by-category](http://www.kalamazooind.com/parts-by-category)
- Technical Videos: [www.kalamazooind.com/videos](http://www.kalamazooind.com/videos)
- Contact Form: [www.kalamazooind.com/contact-us](http://www.kalamazooind.com/contact-us)

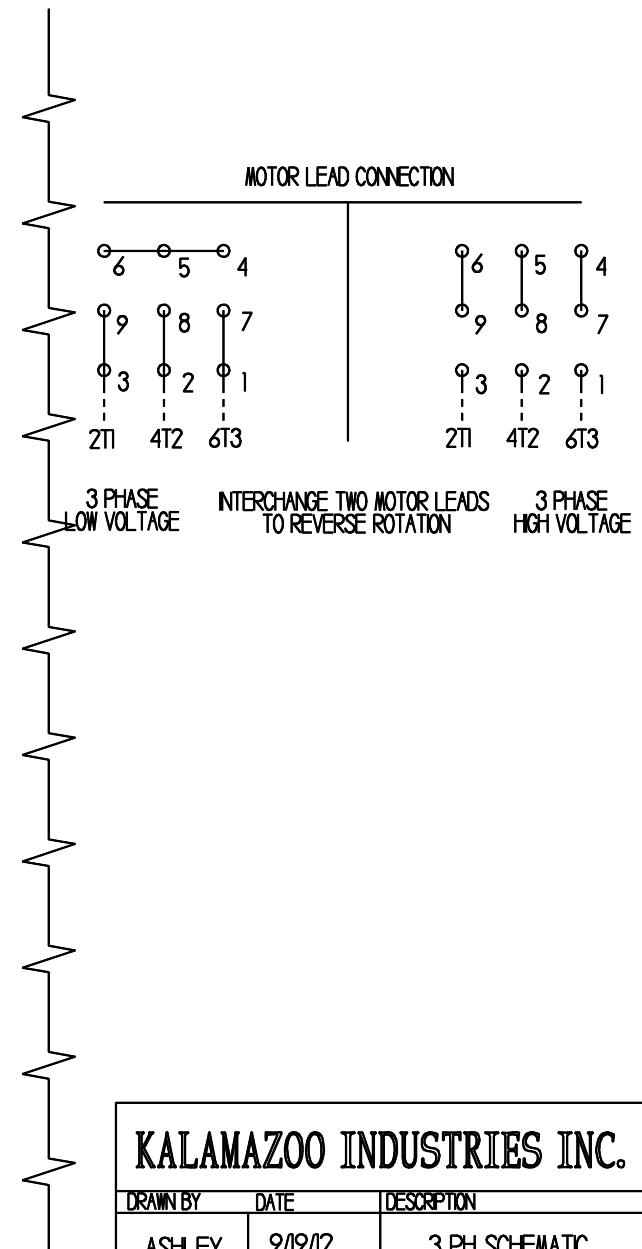
*Thank you for choosing Kalamazoo Industries!*

**Made in the USA**

INCOMING LINE VOLTAGE  
CONNECTS TO 1L1, 3L2, AND 5L3



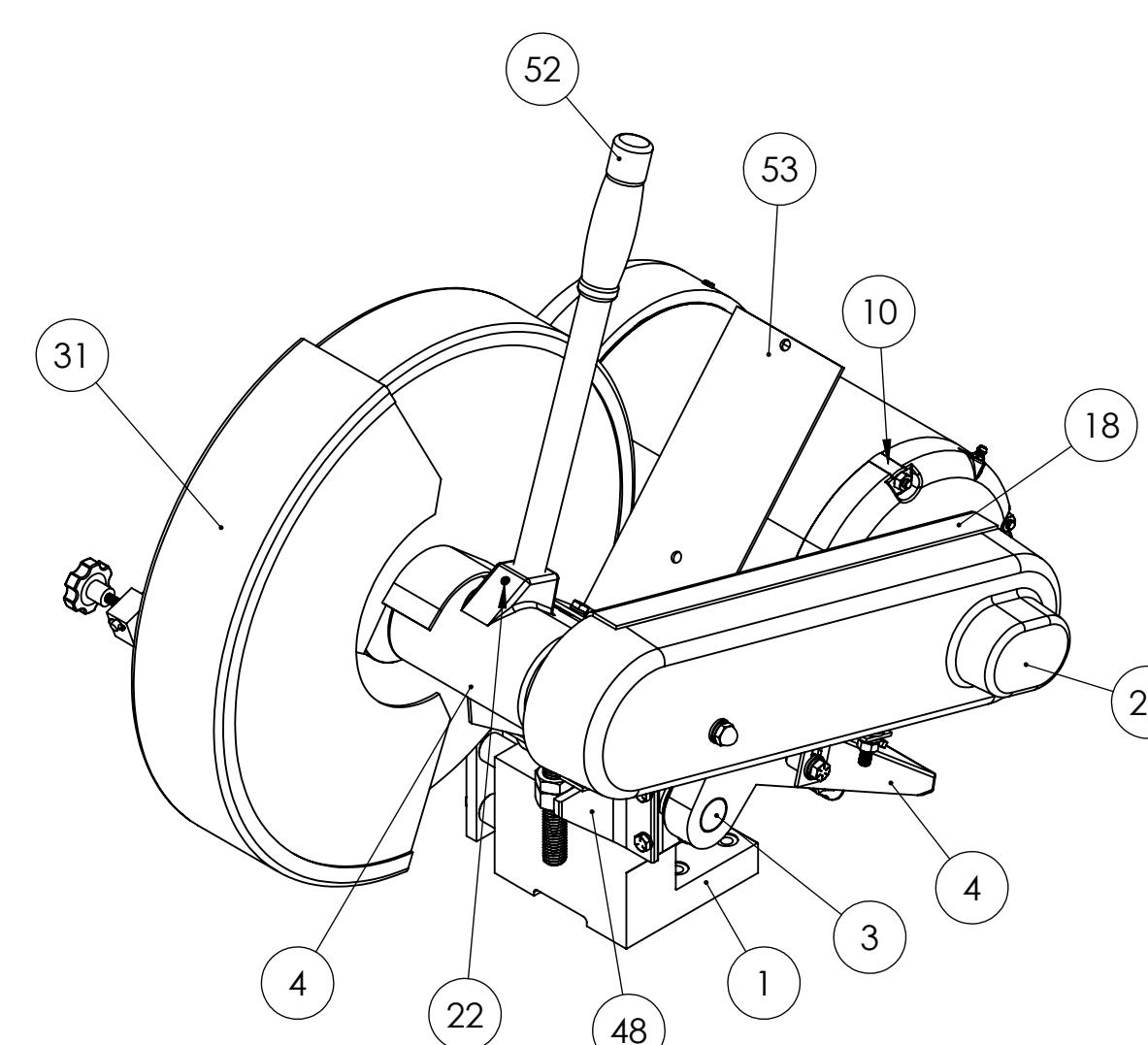
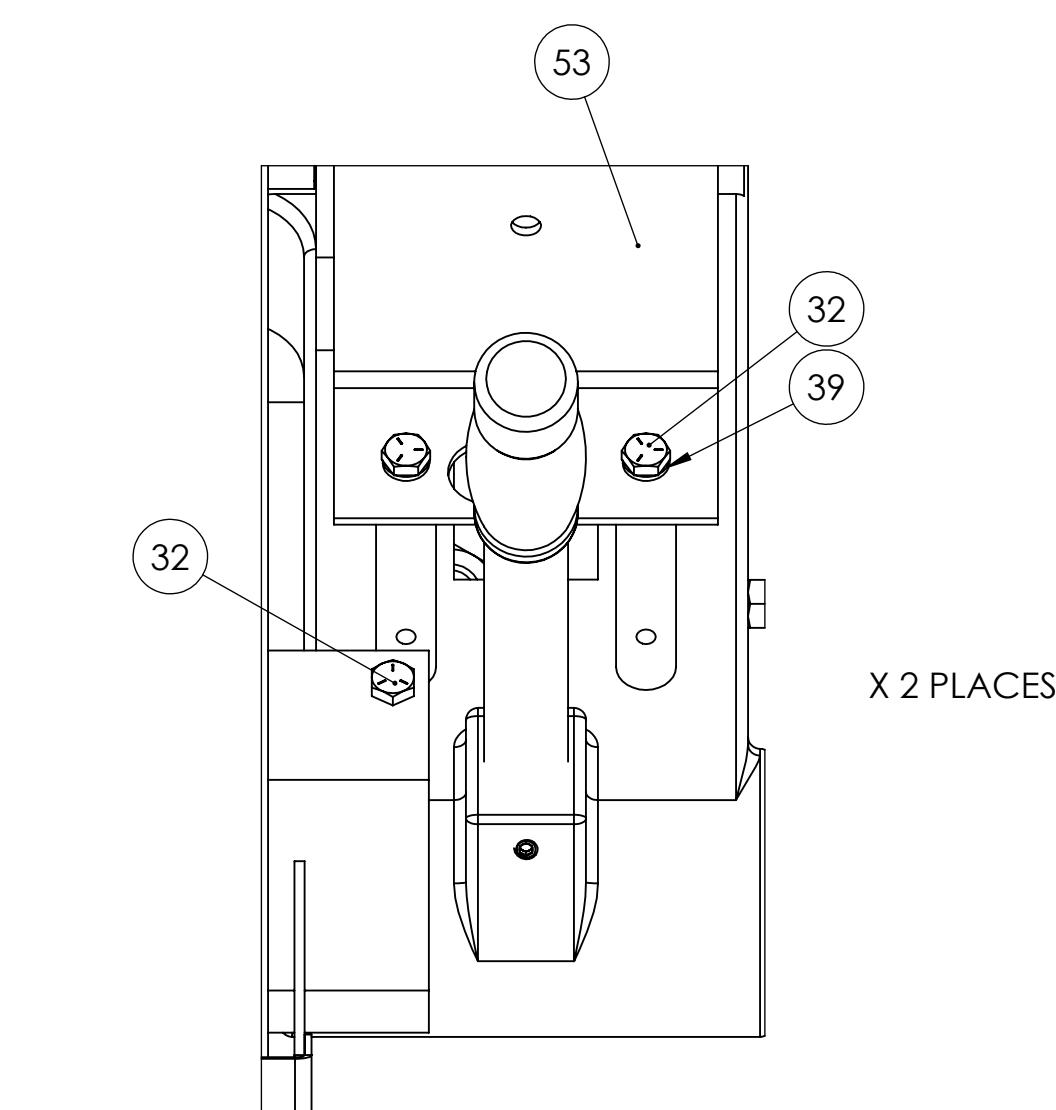
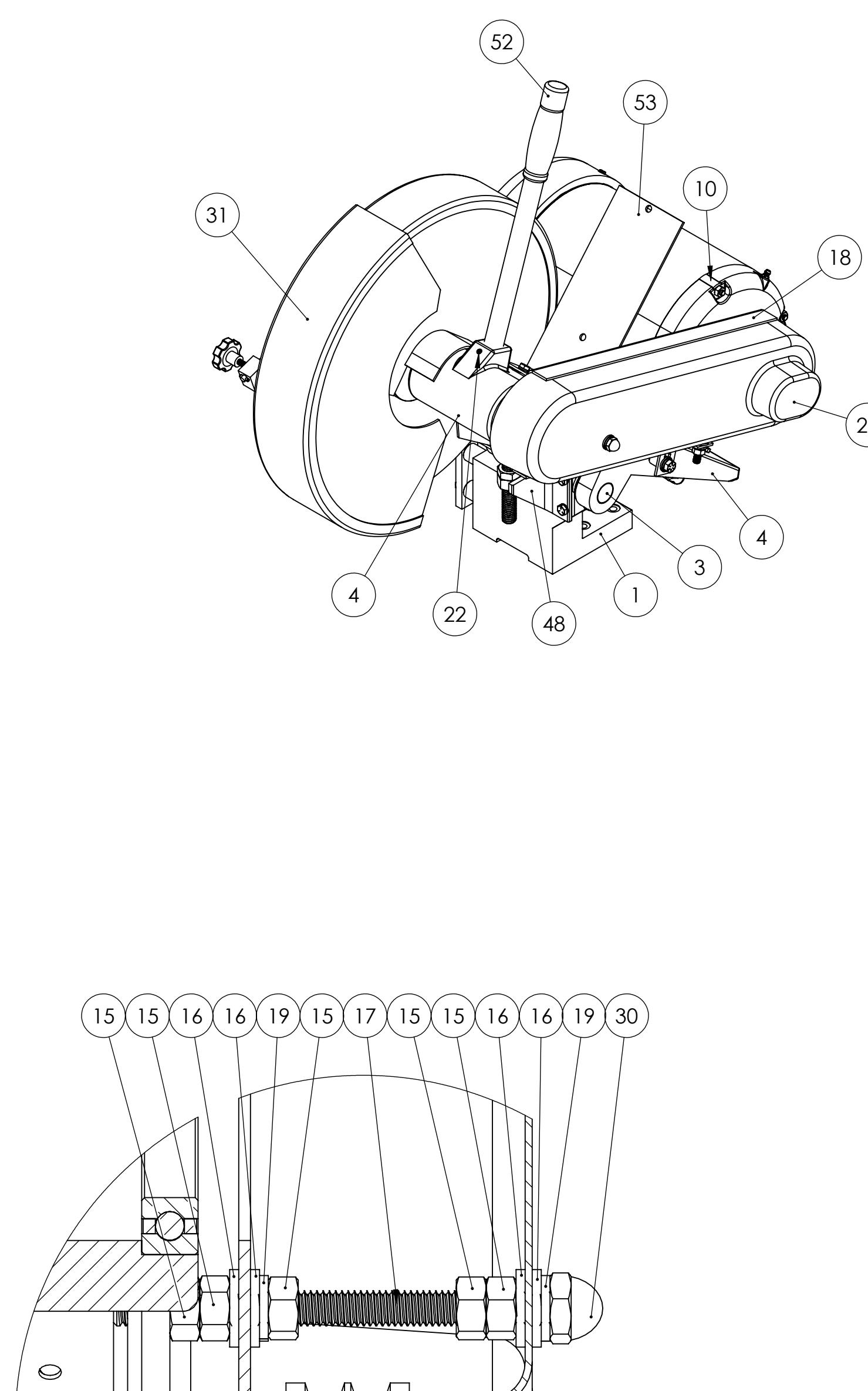
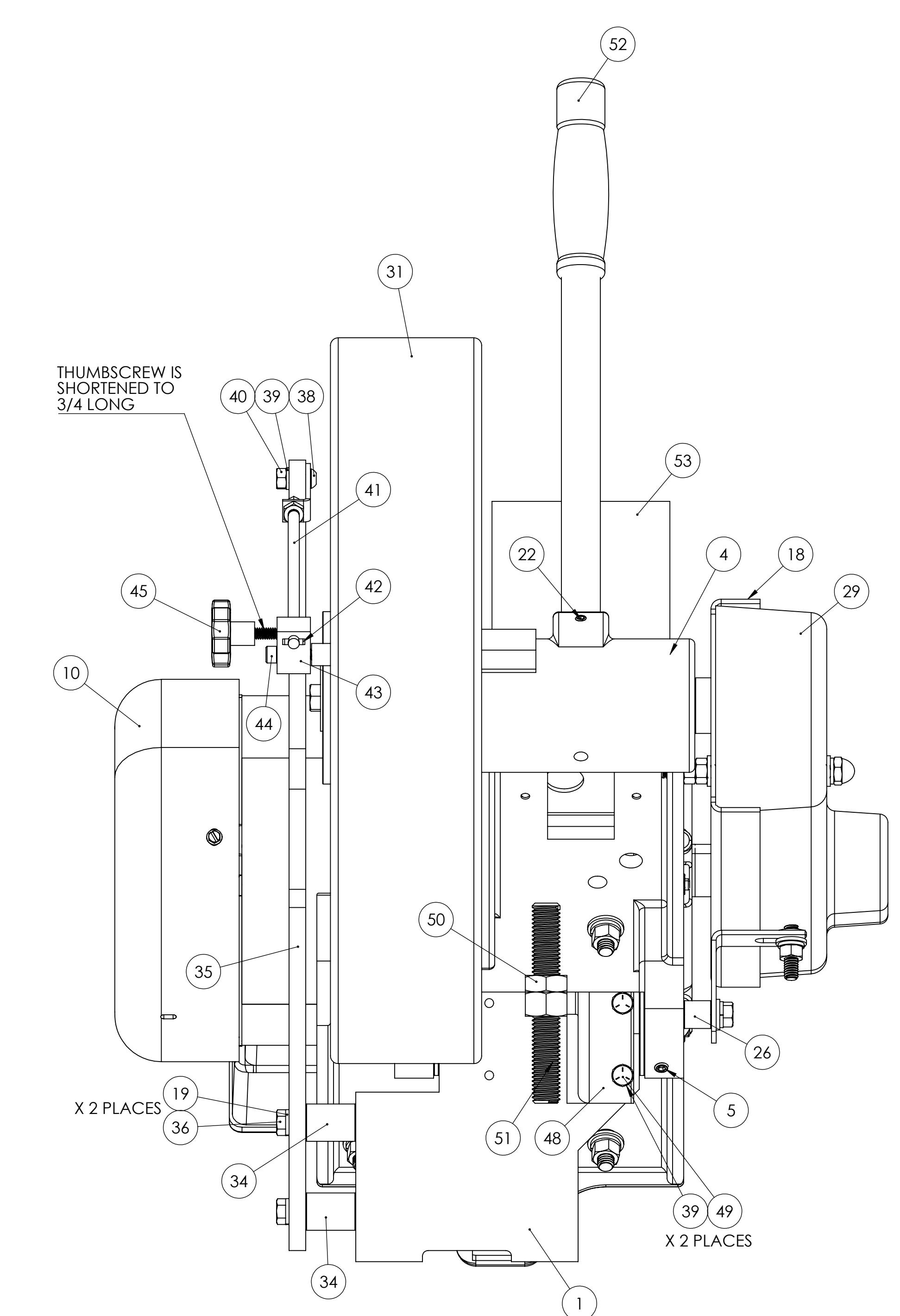
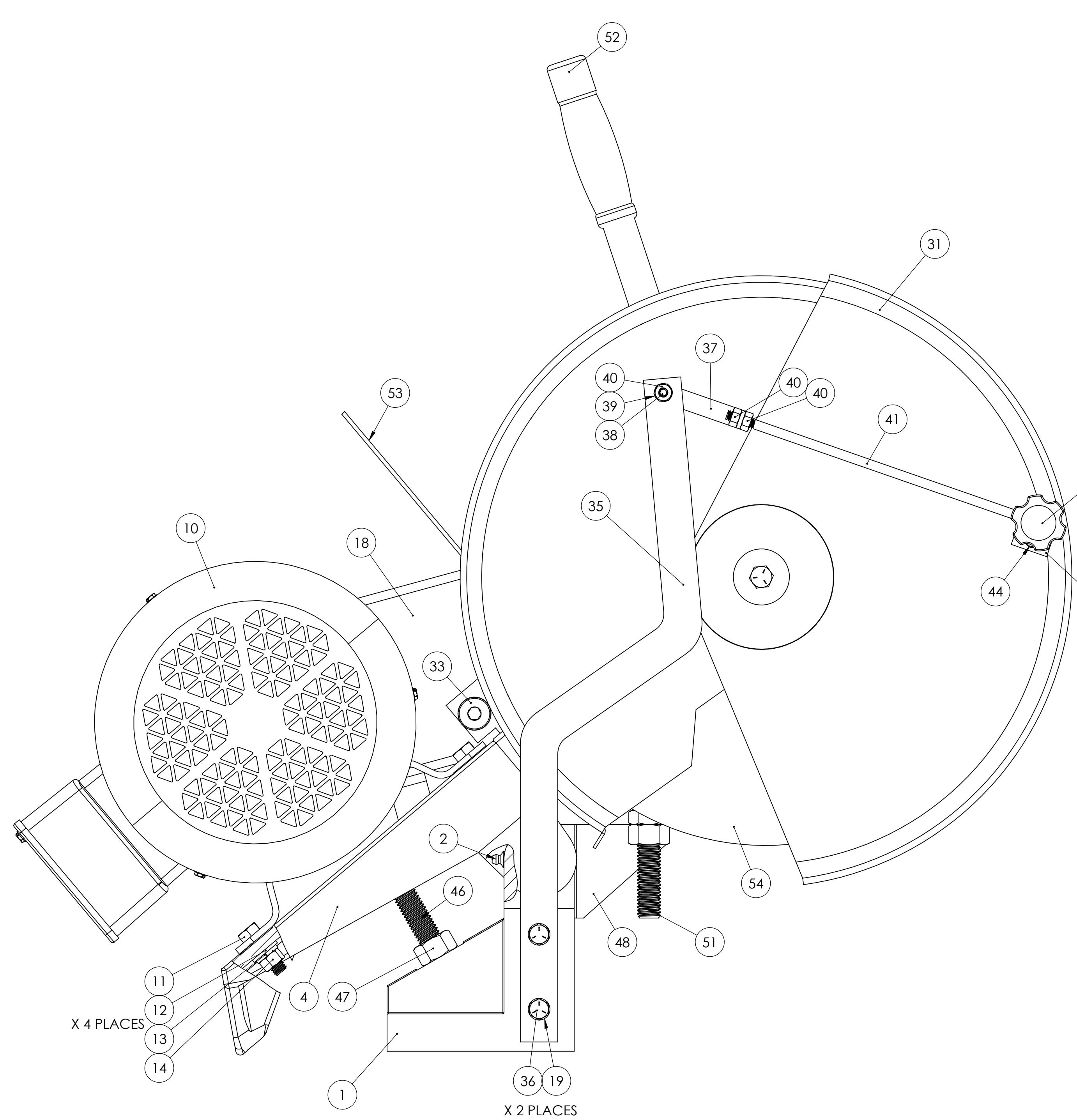
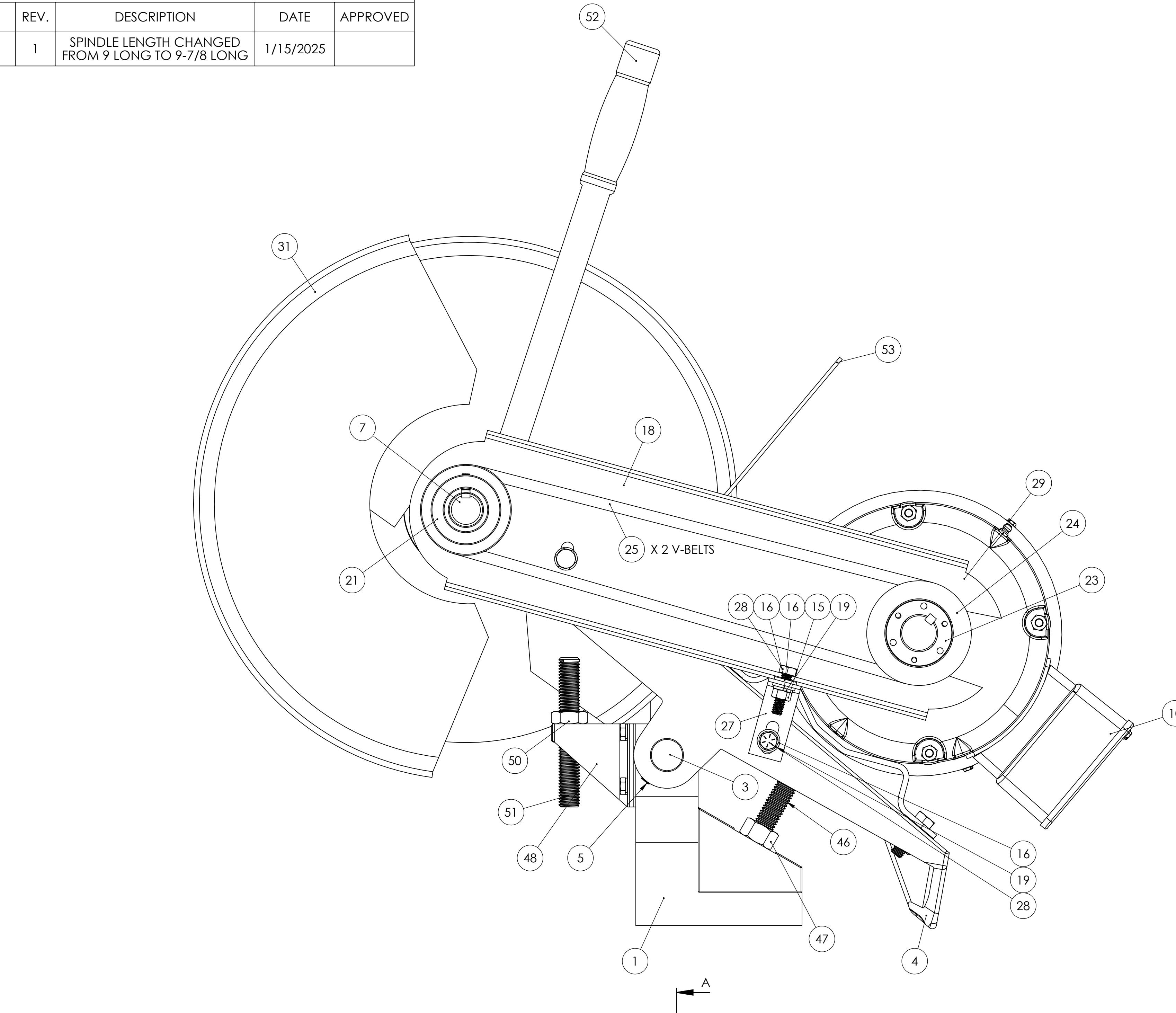
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KALAMAZOO INDUSTRIES INC.

DRAWN BY	DATE	DESCRIPTION
ASHLEY	9/19/12	3 PH SCHEMATIC
REVISED BY	DATE	PART #

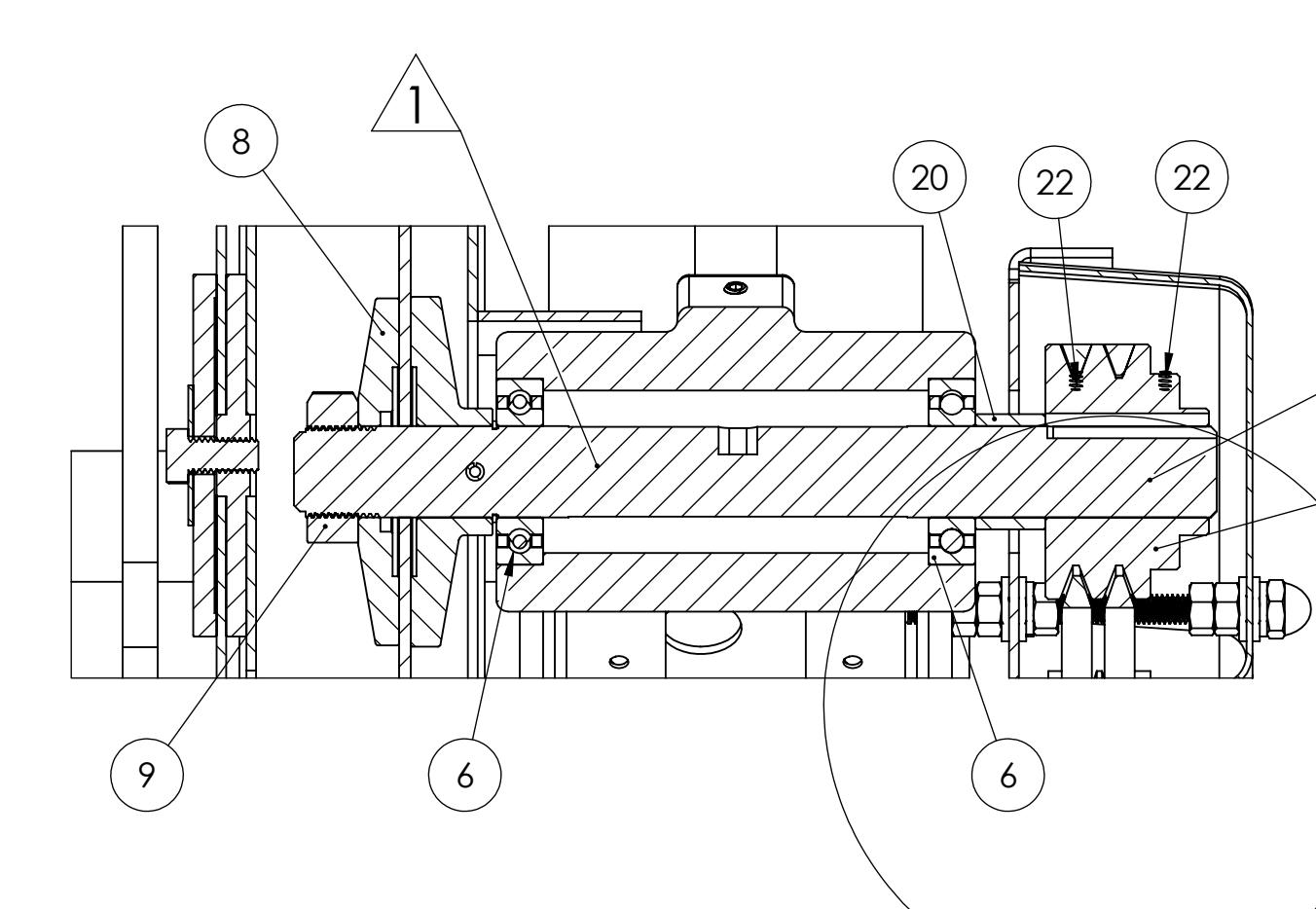
REVISIONS				
ZONE	REV.	DESCRIPTION	DATE	APPROVED
C2	1	SPINDLE LENGTH CHANGED FROM 9 LONG TO 9-7/8 LONG	1/15/2025	



SCALE 1 : 2

DETAIL B  
SCALE 1 : 1

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	831-022	TRUNNION ASSEMBLY FOR HSM14, HS14, K12-14MS	1
2	ZERK012000	1/8-27 X 11/16 STRT LUBE FITTING	1
3	562-034	PIN, TRUNNION FOR HS14 AND K12-14MS W/PH (SHORT)	1
4	002-002	K12- 14 SAW ARM	1
5	SSKA031006	5/16-18 X 3/8 SOC SET KNURL PT.	1
6	044-001	K12 BEARING	2
7	701-002HS	SPINDLE W TIGHT FLANGE (STEEL) FOR KM14HS, KM14SC, HSM14, HS14	1
8	292-020	LOOSE FLANGE (STEEL) FOR HSM14	1
9	537-026	L.H. SPINDLE NUT 1"-14 FOR K14, KM14	1
10	486-001	5 HP MOTOR FOR K12B, K14B, KM14, KM14HS & S6MS-5HP	1
11	HHC5037020	3/8-16 X 1-1/4 HHCS GR5 Z	4
12	UFWZ037	3/8 USS F/W Z	4
13	SLWZ037	3/8 SPLIT L/W Z	4
14	FHN5037	3/8-16 FHN GR5 Z	4
15	FHN5031	5/16-18 FHN GR5 ZINC	6
16	UFWZ031	5/16 USS F/W Z	7
17	RND-0.31-18THRDX4	4 INCHES OF 5/16-18 THREADED ROD	1
18	342-086	K12-14 INNER BELT GUARD FOR PLASTIC GUARD	1
19	SLWZ031	5/16 SPLIT L/W Z	6
20	049-120	SPACER BUSHING FOR K20 SERIES/20HP SPINDLE	1
21	560-001	K12- 14 SPINDLE PULLEY	1
22	SSKA025004	1/4-20 X 1/4 SOC SET KNURL PT.	3
23	049-022	MOTOR PULLEY BUSHING FOR K12B, K14B AND KM14	1
24	560-002	MOTOR PULLEY SHEAVE FOR K12-14B, K12-14W, K12-14MS AND KM14	1
25	051-006	3V X 375 V-BELT FOR K12, K14, KM14 SAWS (REQUIRES 2 BELTS)	2
26	342-086SPACER	SPACER FOR K12-14B INNER V-BELT GUARD BRACKET	1
27	342-086BRKT	K12-14 INNER BELT GUARD BRACKET	1
28	HHC5031020	5/16-18 X 1-1/4 HHCS GR 5 Z	2
29	342-004	K12-14 OUTER BELT GUARD/PLASTIC	1
30	CPNZ031	5/16-18 CAP NUT NICKEL	1
31	342-072	WHEEL GUARD ASSEMBLY FOR HSM14 AND HS 14	1
32	HHC5025008	1/4-20 X 1/2 HHCS GR5 Z	3
33	SSBA062044	5/8 X 2-3/4 SOC SHOULDER BOLT	1
34	699-032	SPACER, LEVER FOR HSM14	2
35	455-007	LEVER ASSEMBLY, WHEEL GUARD FOR HSM14	1
36	HHC5031032	5/16-18 X 2 HHCS GR5 Z	2
37	455-007BRACKET	TENSION BRACKET FOR HSM14 WHEEL GUARD LEVER ASSEMBLY	1
38	BSCA025012	1/4-20 X 3/4 BSHCS	1
39	SLWZ025	1/4 SPLIT L/W Z	5
40	FHN5025	1/4-20 FHN GR5 Z	3
41	455-007ROD	GUIDE ROD FOR K10 AND K14 SERIES CLAMSHELL WHEEL GUARD LEVER ASSEMBLY	1
42	ROLA012008	1/8 X 1/2 ROLL PIN	1
43	053-047	BLOCK, WHEEL GUARD FOR K10 AND K14 SERIES CLAMSHELL GUARD	1
44	SHCA025016	1/4-20 X 1 SHCS	1
45	441-015	907B-2500-1.00S 1/4 THUMBSCREW 1-1/2 DIA	1
46	RND-0.625-11THRDRODX3.562	3-9/16 INCHES OF 5/8-11 THREADED ROD	1
47	FHN5062	5/8-11 FHN GR5 Z	1
48	041-118	DOWN STOP BRACKET ASSEMBLY, FOR HS14	1
49	HHC5025012	1/4-20 X 3/4 HHCS GR5 Z	2
50	FJNZ062	5/8-11 F H JAM NUT Z	1
51	RND-0.625-11THRDRODX4.5	4-1/2 INCHES OF 5/8-11 THREADED ROD	1
52	381-002	HANDLE W GRIP FOR K12-14 SAWS	1
53	041-057	SWITCH BRACKET FOR K12-K14	1
54	14WHEEL		1



SECTION A-A  
SCALE 1:2

		UNLESS OTHERWISE SPECIFIED:		NAME	DATE	 <b>KALAMAZOO</b> <small>MANUFACTURING, INC.</small>
		DIMENSIONS ARE IN INCHES	DRAWN			
		TOLERANCES:	CHECKED			
		FRACTIONAL $\pm$	ENG APPR.			
		ANGULAR: MACH $\pm$ BEND $\pm$	MFG APPR.			
		TWO PLACE DECIMAL $\pm$	Q.A.			
		THREE PLACE DECIMAL $\pm$	COMMENTS:			
		INTERPRET GEOMETRIC TOLERANCING PER:				
		MATERIAL				
		FINISH				
NEXT ASSY	USED ON	APPLICATION	DO NOT SCALE DRAWING	SCALE: 1:5	WEIGHT:	SHEET 1 OF 1
				SIZE <b>E</b>	DWG. NO. <b>HS14AS</b>	REV <b>1</b>