



# ISM Service Manual



**Infinity Solutions Manufacturing  
192 Gannett Drive South Portland, ME 04106  
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# Table of Contents

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Table of Contents..... ii

Tools Needed..... iii

Machine Overview ..... 1

Chassis ..... 2

    Removing the Side Covers ..... 2

    Removing the Motor Side Frame ..... 2

    Removing the Electrical Side Frame..... 4

    Servicing the Rolls..... 5

Drive Train..... 6

    Removing the Drive Train Components ..... 6

Feed Assembly..... 7

    Servicing the Feed Drive System ..... 7

    Replacing the Feed Belt ..... 8

Feed Gauge..... 9

    Removing the Feed Gauge System..... 9

    Replacing Urethane O-Rings..... 9

Electrical ..... 10

    Replacing the Motor Start Capacitor ..... 10

    Replacing the Motor ..... 11


    Replacing the Breaker ..... 12

    Schematic..... 13

Exploded views..... 14

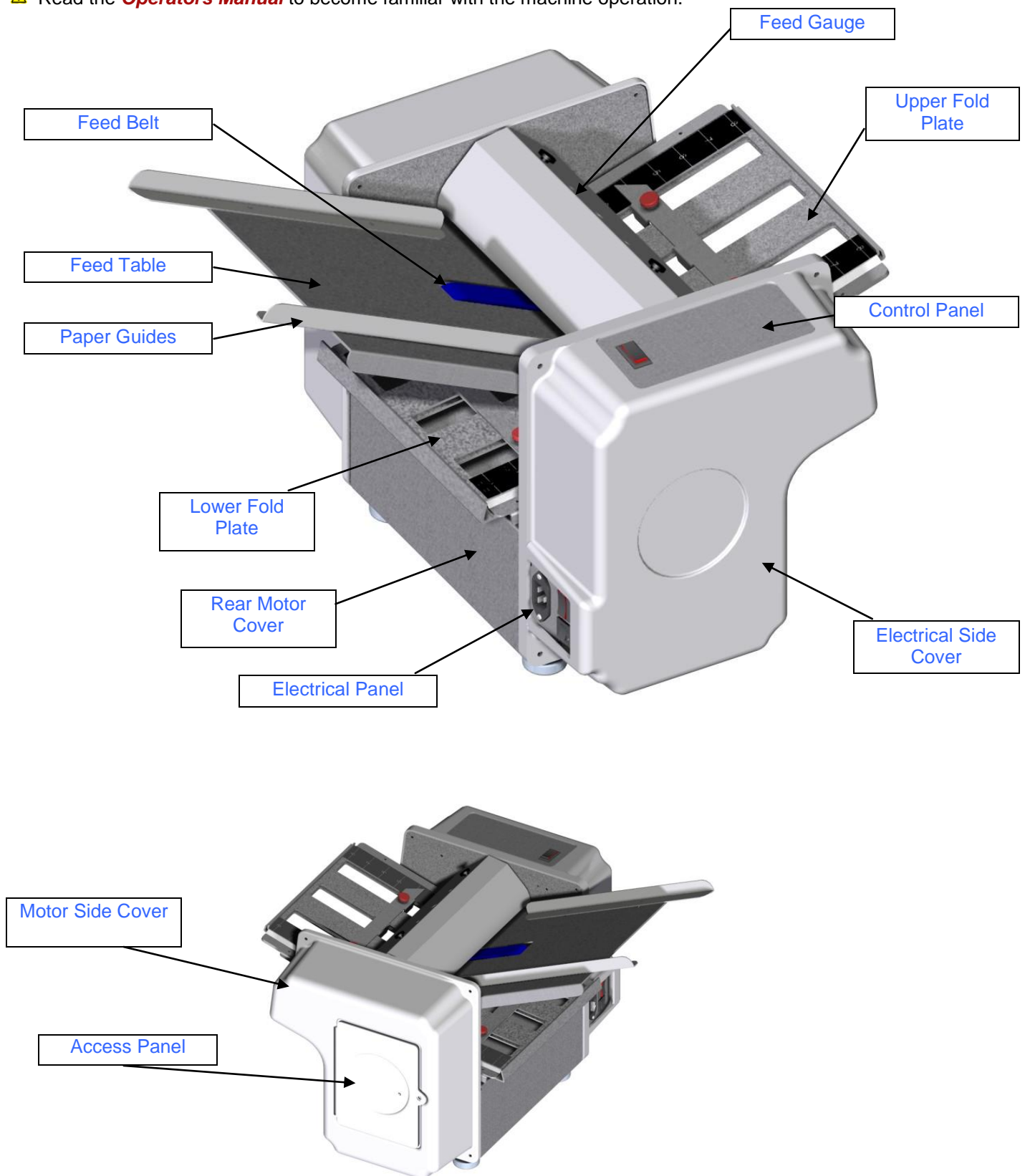
## Tools Needed

- Set of U.S.A. standard Inch Allen Wrenches (3/32", 5/64", 1/8", 3/16", 1/4")
- 7/16" Deep Socket & Driver
- 1/2" Open end wrench
- Needle nose Pliers
- Flat Head Screwdriver
- Continuity Tester

 **Warning:** Before servicing the machine, disconnect the power cord from the machine.

## Machine Overview

⚠ Read the *Operators Manual* to become familiar with the machine operation.



# Chassis

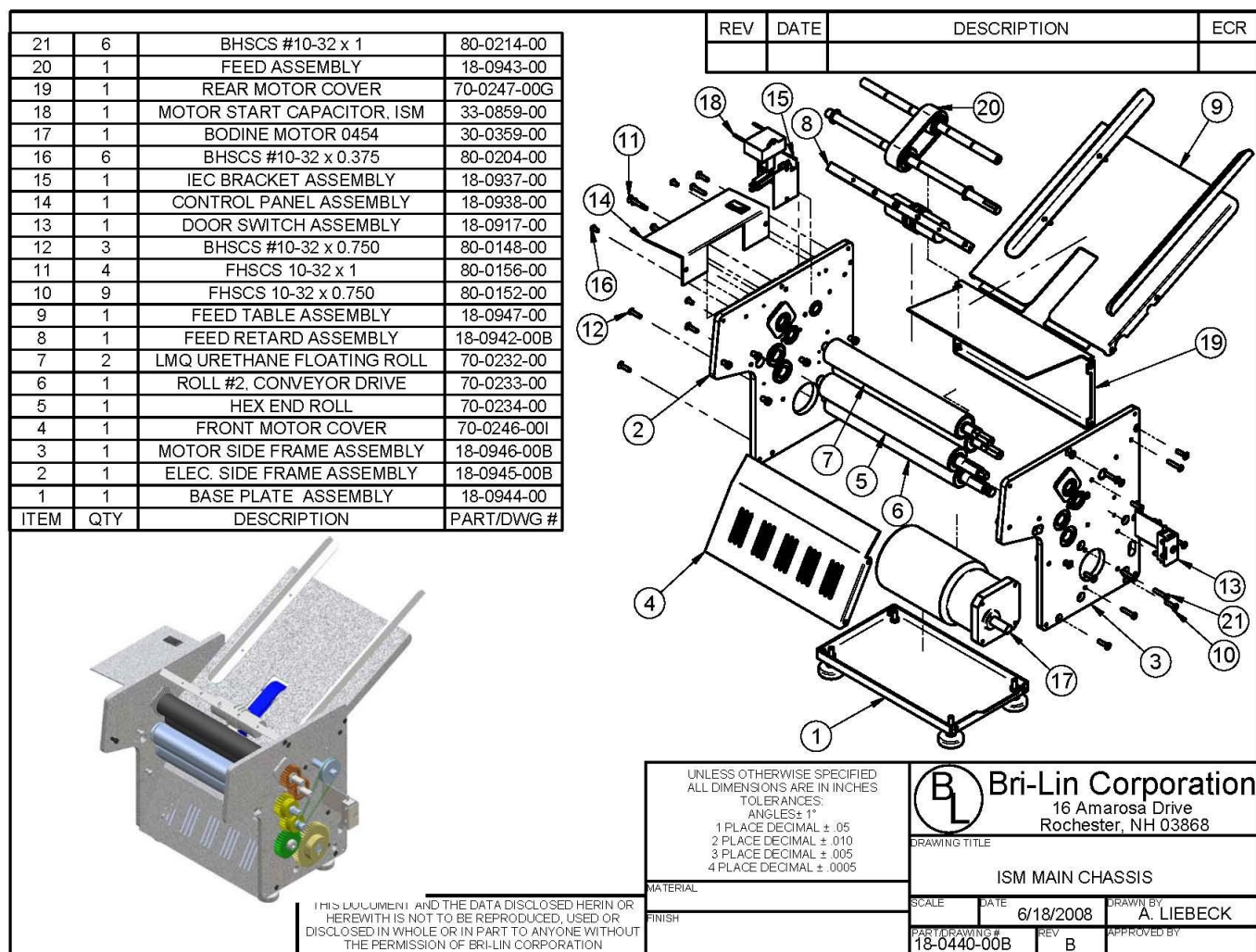


Figure 1: Chassis Assembly View

## Removing the Side Covers

1. Unplug **Power Cord** from the machine.
2. Remove the four **Cover Mount Screws** at the corners of the side cover

## Removing the Motor Side Frame

1. Remove both **Fold Plates**.
2. Remove the **Motor Side Cover**
3. Remove the **Electrical Side Cover**.
4. Remove the **Rear Motor Guard Screw** on the **Electrical Side**
5. Place the **Electrical Side Cover** on a sturdy flat surface.
6. Turn the machine on its side (**Electrical Side** face

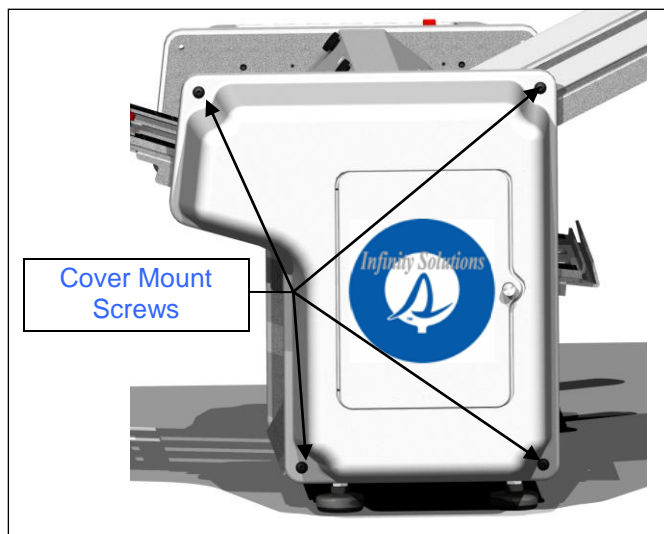


Figure 2: Side Cover Screws

down), resting it on the **Electrical Side Cover** so that the side **Electrical Side Frame** is seated properly in the side cover.

7. Remove the **Feed Gauge Cover** by removing both black thumb screws.
8. Remove the **Feed Drive O-ring**.
9. Remove the **Roll Gears**.
  - a. Loosen both set screws 2-3 turns.
  - b. Pull the gear off of the roll.
  - c. Remove the key from the roll.
10. Remove the **Motor Gear**.
  - a. Loosen both set screws 2-3 turns.
  - b. Pull the gear off of the motor shaft.
  - c. Remove the key from the motor shaft.
11. Remove the **Idler Gear** by removing the shoulder-bolt on which it is mounted.
12. Remove the **Feed Pulley**
  - a. Loosen the set screw 2-3 turns.
  - b. Pull the pulley off of the shaft.
13. Disconnect both leads from the **Door Switch**
14. Remove the screws which attach the **Feed Table**, **Feed Idler**, **Feed Gauge**, **Base Cover**, and **Motor Covers**

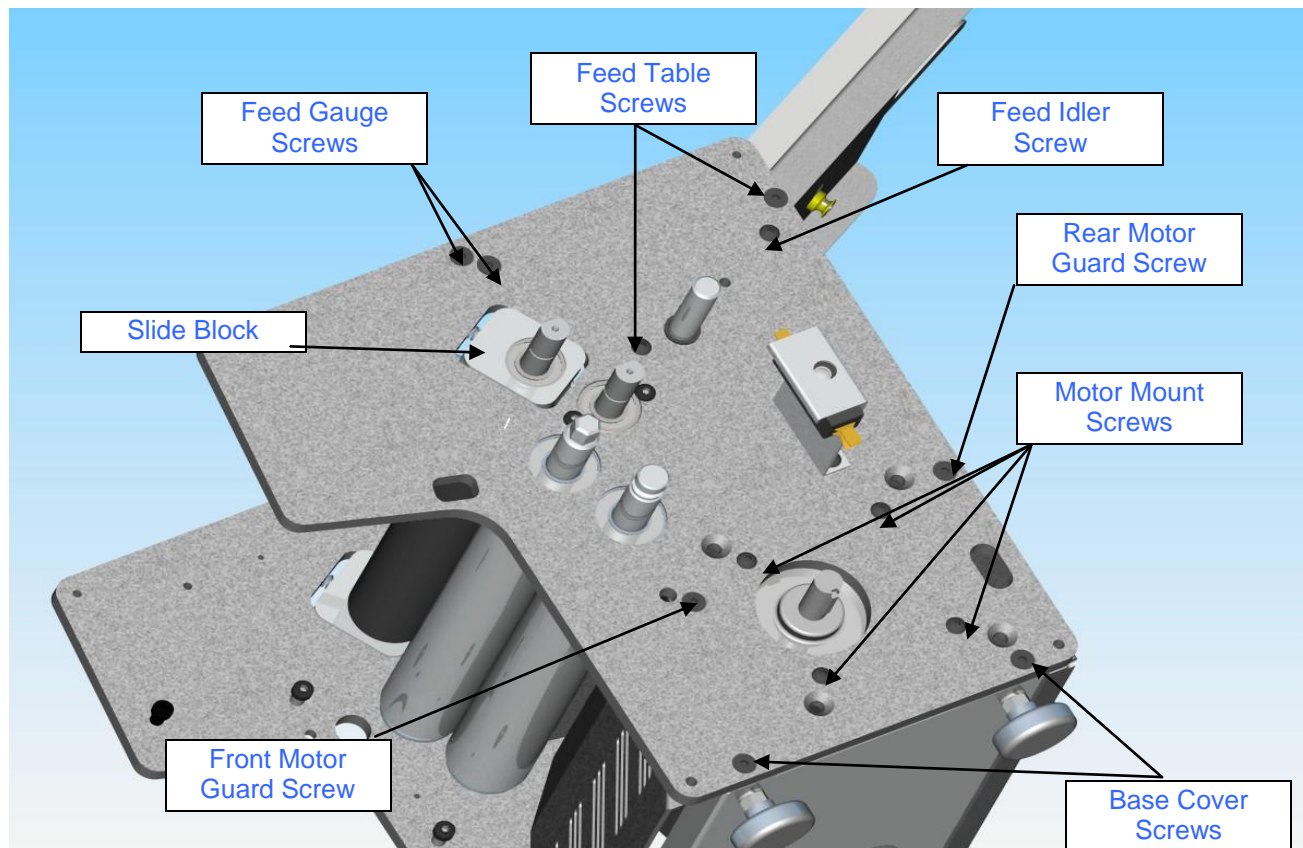


Figure 3: Motor Side Frame Removal

15. Remove the **Rear Motor Guard**.
16. Remove the **Motor Mount Screws**. Be careful to catch the **Motor** before it drops. Gently let it rest on the **Electrical Side Frame**.



17. Slowly pull up on the **Motor Side Frame**. As you pull the frame off of the rolls, reach under and push the **Slide Block** up against the **Motor Side Frame** so that it stays with the frame as you remove it.

## Removing the Electrical Side Frame

1. Remove both **Fold Plates**.
2. Remove the **Electrical Side Cover**
3. Remove the **Feed Gauge Cover** by removing both black thumb screws.
4. Remove the **Access Door** from the **Motor Side Cover**.
5. Turn the machine on its side (**Motor Side Cover** face down), resting it on the **Motor Side Cover**.

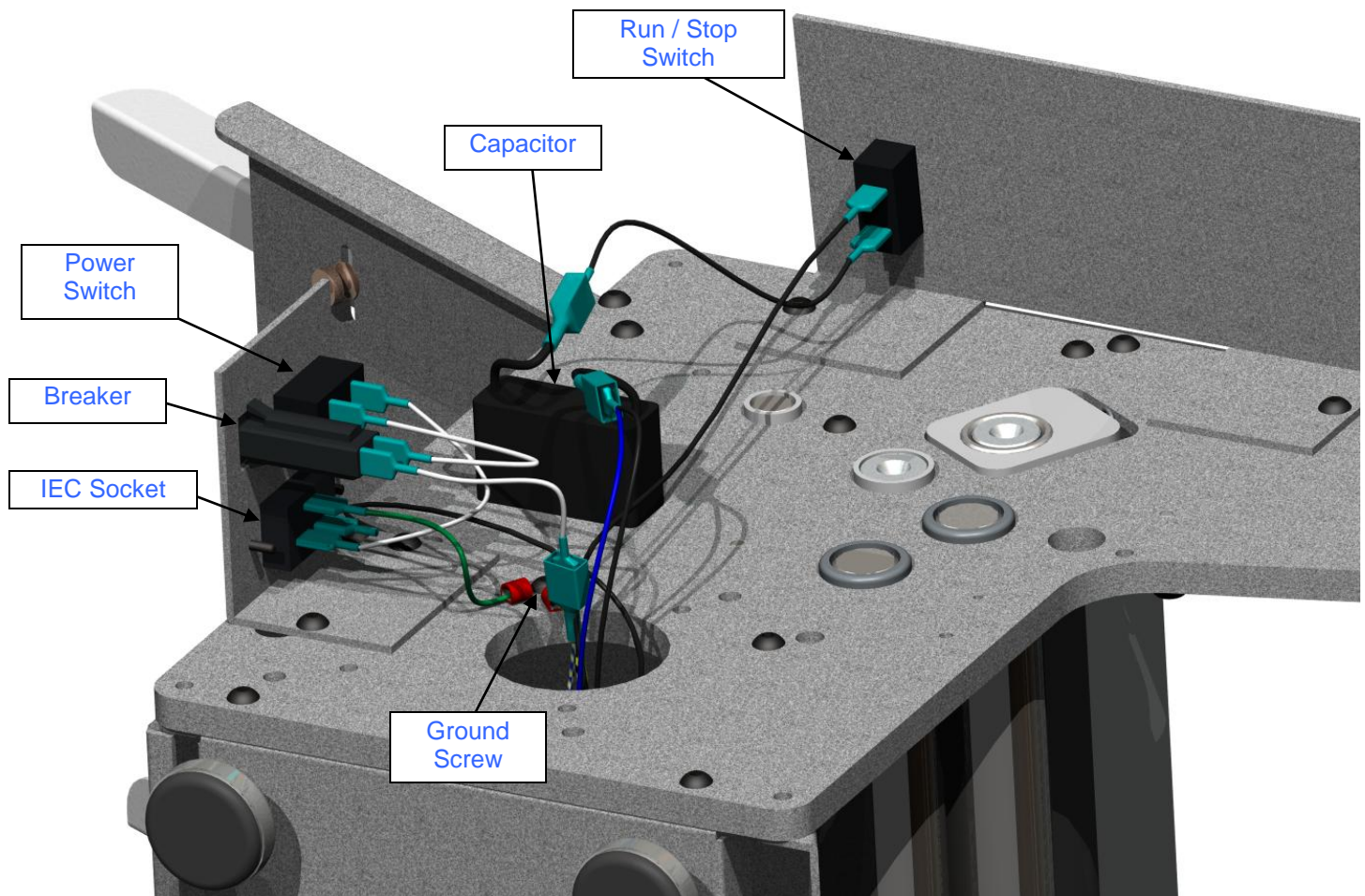


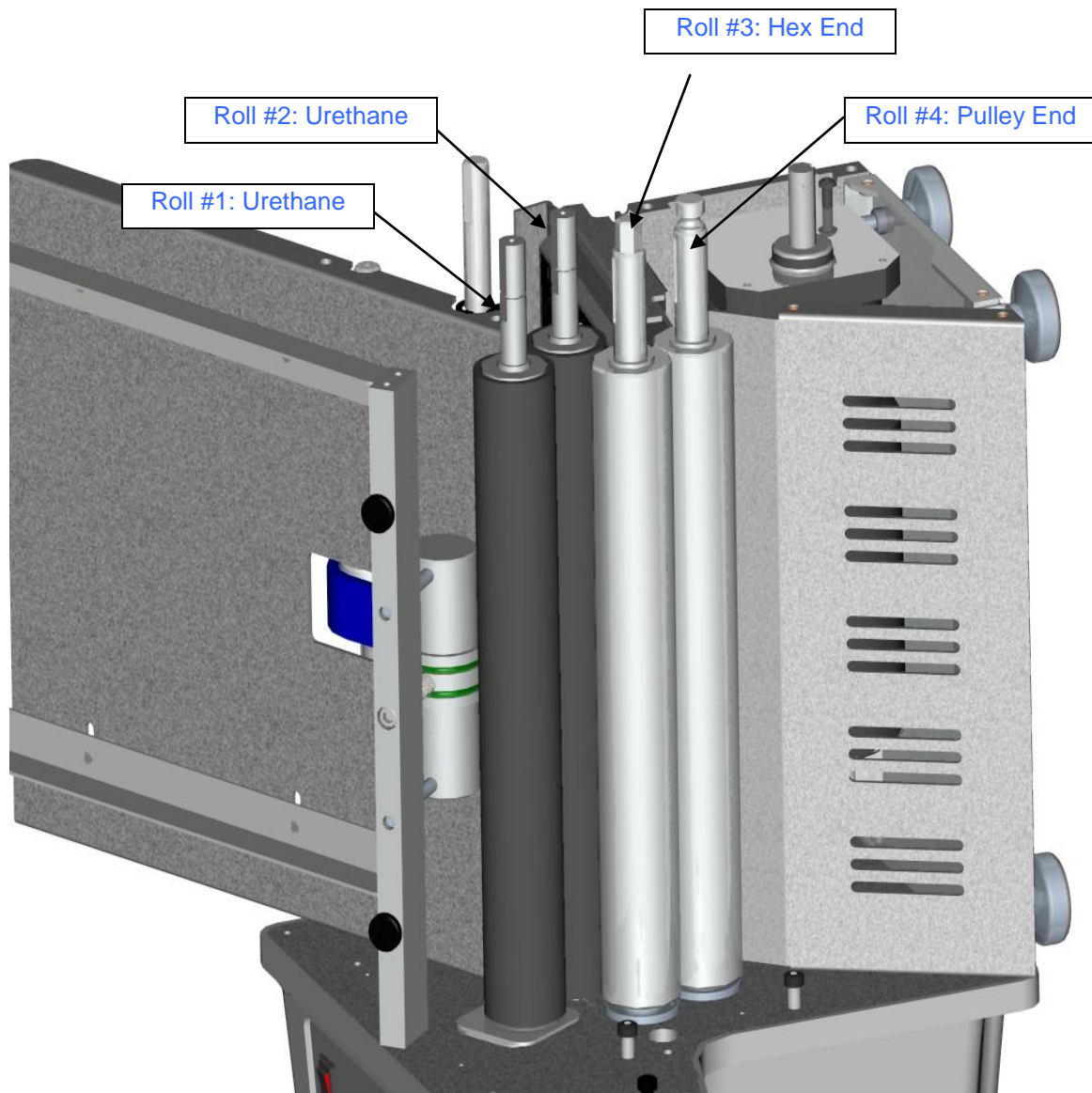
Figure 4: Electrical Side Frame Removal

6. Disconnect both leads from the **Run / Stop Switch**
7. Disconnect both leads from the **Capacitor**.
8. Disconnect the **Breaker** from the **Motor**
9. Disconnect the **Door Switch** wire from the **IEC Bracket**
10. Unscrew the **Ground Screw** from the side frame
11. Remove the screws which attach the **Feed Table**, **Feed Idler**, **Feed Gauge**, **Base Cover**, and **Motor Covers**.
12. Slowly pull up on the **Electrical Side Frame**. As you pull the frame off of the rolls, reach under and push the **Slide Block** up against the **Electrical Side Frame** so that it stays with the frame as you remove it.

## Servicing the Rolls

1. Remove the **Motor Side Frame** [see section above].
2. You will now be able to remove any roll that you need service

Figure 5: Servicing the Rolls





## Drive Train

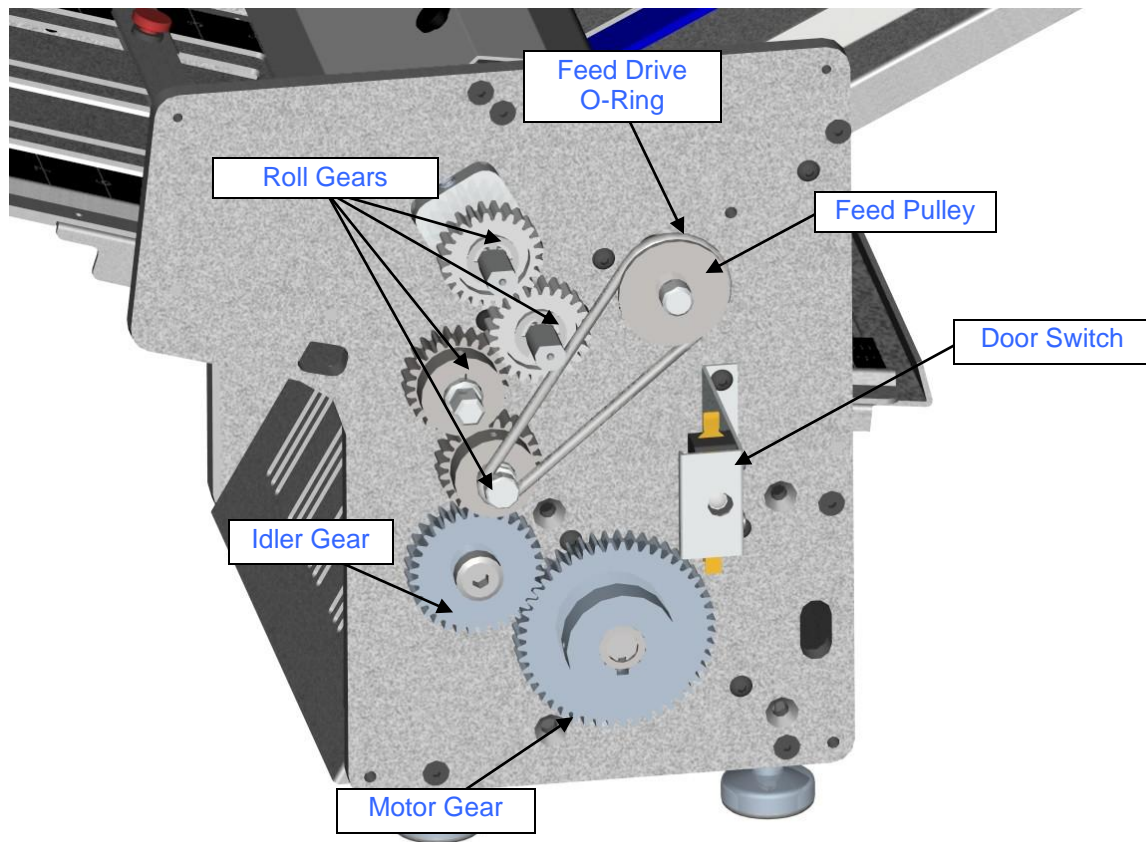


Figure 6: Drive Train

### *Removing the Drive Train Components*

1. Remove the **Feed Drive O-ring**
2. Remove the **Roll Gears**
  - a. Remove the ½" E-clips from the shafts of the two upper rollers.
  - b. Loosen both set screws 2-3 turns.
  - c. Pull the gear off of the roll.
  - d. Remove the key from the roll.
3. Remove the **Motor Gear**
  - a. Loosen both set screws 2-3 turns.
  - b. Pull the gear off of the motor shaft.
  - c. Remove the key from the motor shaft.
4. Remove the **Idler Gear** by removing the shoulder-bolt on which it is mounted
5. Remove the **Feed Pulley**
  - a. Loosen the set screw 2-3 turns.
  - b. Pull the pulley off of the shaft.

# Feed Assembly

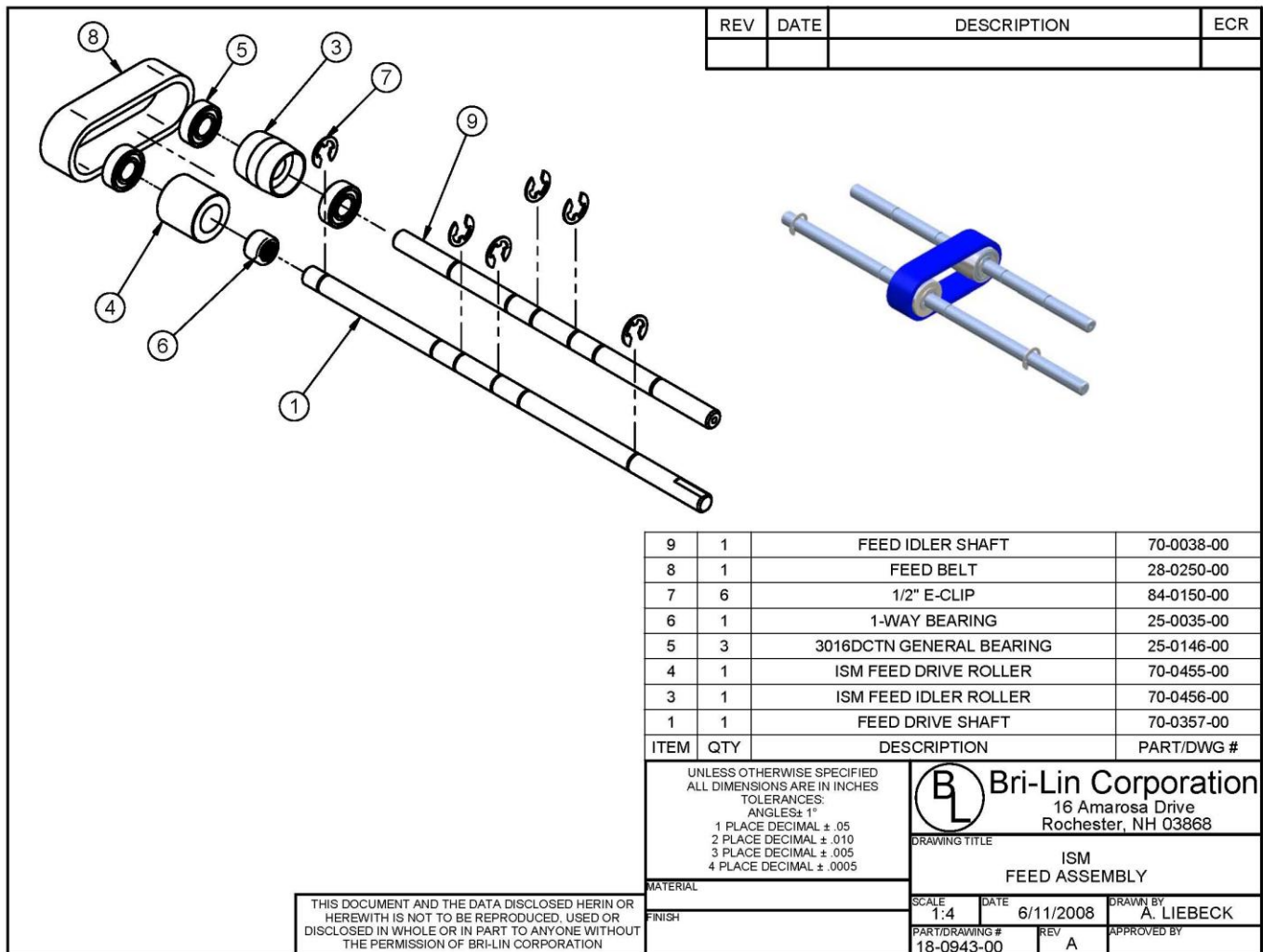


Figure 7: Feed Assembly

## Servicing the Feed Drive System

1. Remove the **Electrical Side Cover**
2. Remove the **Feed Table Screws** and the **Feed Idler Screw** from the **Electrical Side**
3. Remove the **Motor Side Frame** [see section above].
4. The **Feed Idler Shaft** and the **Feed Drive Shaft** can now be removed if needed
5. The **Feed Drive Roller** and **Crowned Feed Idler** can now be removed for service by removing the **E-Clips**. The **Feed Drive Roller** contains a **1-Way Bearing**, which should always face the **Electrical Side Frame** when re-assembled

## Replacing the Feed Belt

1. Remove the **Motor** and **Electrical** side covers.
2. Remove the **Feed Idler Screws** from both side frames.
3. Remove all 4 **E-Clips** from the **Feed Drive Shaft**.
4. Remove the **Feed Drive O-Ring** from the **Drive Train**.
5. You may now remove the **Feed Drive Shaft** from the main chassis by pulling it out from the gear side. The **Feed Drive Roller** will slide off of the shaft as it is removed.
6. Remove the **Feed Idler Shaft** from the machine along with the feed belt.
7. Replace the **Feed Belt**.
8. Re assemble the **Feed System** in the reverse order of removal.

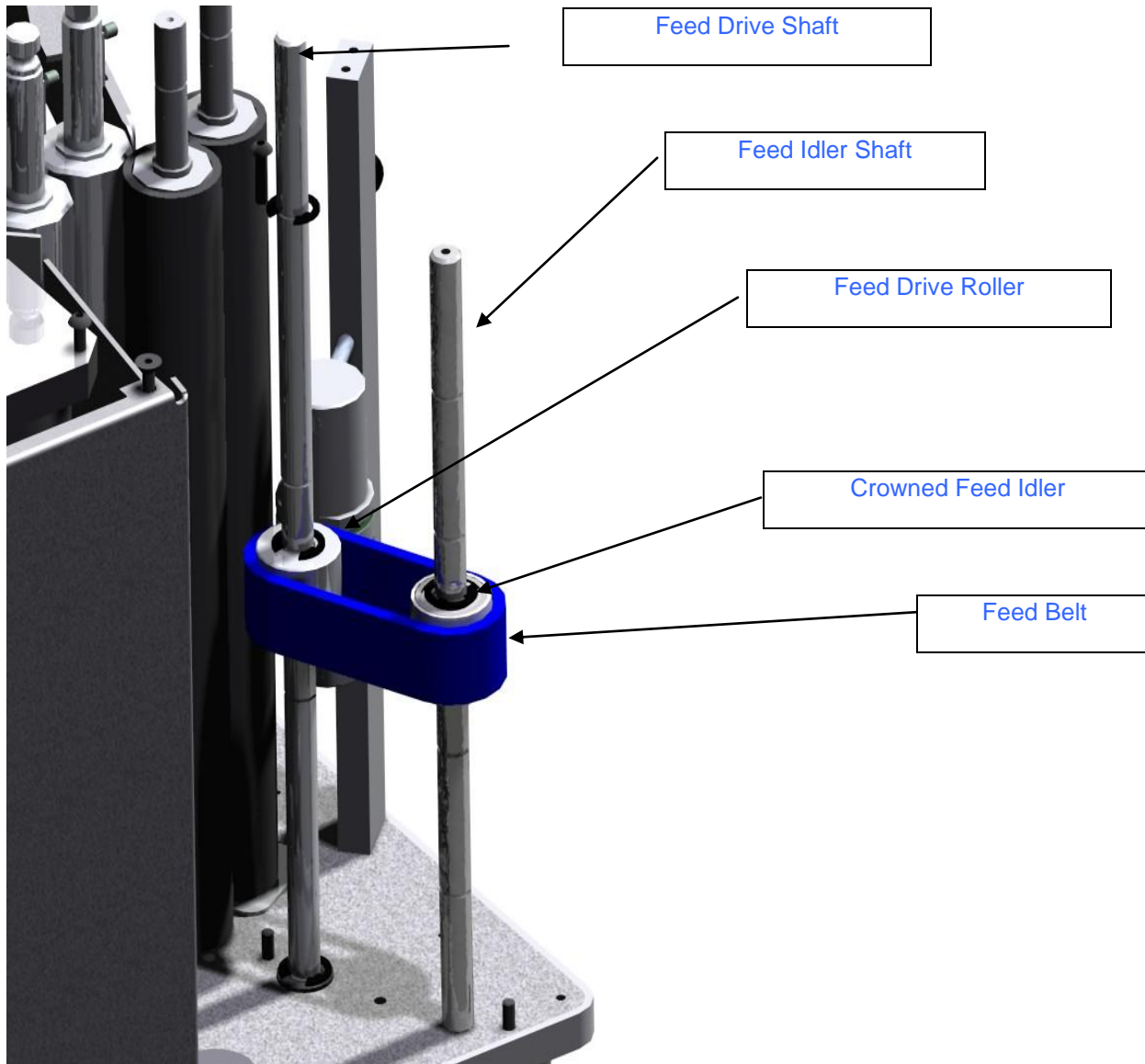
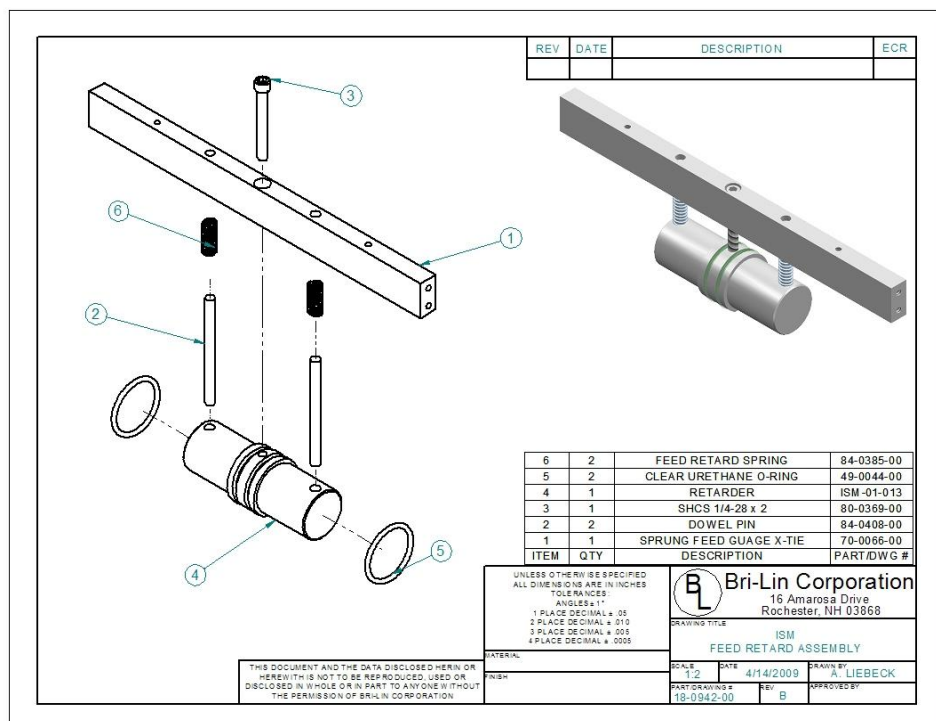


Figure 8: Feed Table Removed

# Feed Gauge



**Figure 9: Feed Gauge Assembly**

Some Assemblies may have 1 spring in the middle and may be upgraded

## Removing the Feed Gauge System

⚠ It is not necessary to remove either **Side Frame** to remove the **Feed Gauge System**.

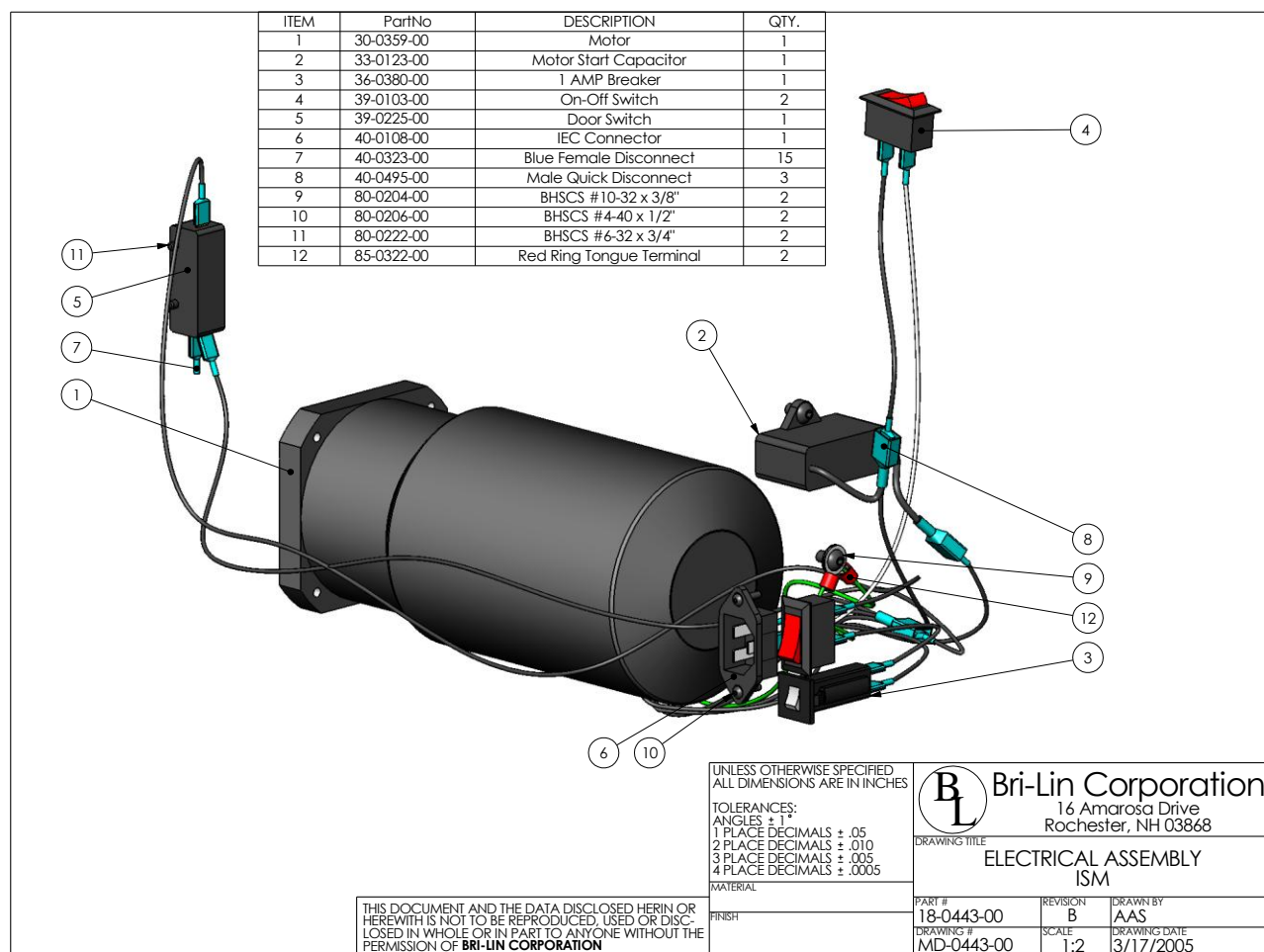
1. Remove both **Side Covers**
2. Loosen by 2 turns the **Feed Table, Feed Idler Screws** on the **Motor Side Frame**
3. Remove the **Idler Gear**
4. Loosen by 2 turns the **Feed Table, Feed Idler**, and **Front & Rear Motor Guard Screws** on the **Motor Side Frame**
5. Remove the **Feed Gauge Screws** from both sides

## Replacing the Urethane O-Rings

1. Remove both **Side Covers**
2. Remove the **lower Feed Gauge Screw** from both sides of the machine.
3. Rotate the **Feed Gauge Assembly** towards the **Feed Table**.
4. Remove the Feed Adjusting Screw from the assembly.
5. Remove the **Retarder** with the pins in place from the **X-tie**.
6. Remove the **O-Rings** from the **Retarder** and replace with new ones.
7. Re-assemble in reverse order.
8. Reset the feed tension after re-assembly.

Ensure that the weld seams on the o-rings do not make contact with paper after re-assembly.

# Electrical



**Figure 10: Electrical Assembly**

**⚠ Warning:** Disconnect **Power Cord** from machine before servicing machine.

## Replacing the Motor Start Capacitor

**⚠ Warning:** Never allow the leads of the **Capacitor** to touch or become bridged! It may contain residual charge which could be hazardous to your safety.

1. Disconnect the **Capacitor** from the **Run / Stop Switch**
2. Disconnect the **Capacitor** from the **Motor**
3. Unscrew the **Capacitor Mount Screw**
4. Fasten the new **Capacitor** to the **Side Frame**.
5. Connect the new **Capacitor** to the **Run / Stop Switch**
6. Connect the new **Capacitor** to the **Motor**



## Replacing the Motor

1. Remove both **Side Covers**
2. Disconnect the **Capacitor** from the **Motor**
3. Disconnect the **Breaker** from the **Motor**
4. Remove the **Ground Screw**
5. Remove the **Rear Motor Cover**, and **Motor Mounting Screws**.
6. Remove the **Motor**.
7. Slide the new **Motor** in place and mount with **Motor Mounting Screws**.
8. Slip the **Motor Ground Wire** over the **Ground Screw** and re-attach it
9. Connect the **Motor** to the **Breaker**
10. Connect the **Motor** to the **Capacitor**
11. Re-attach the **Side Covers**

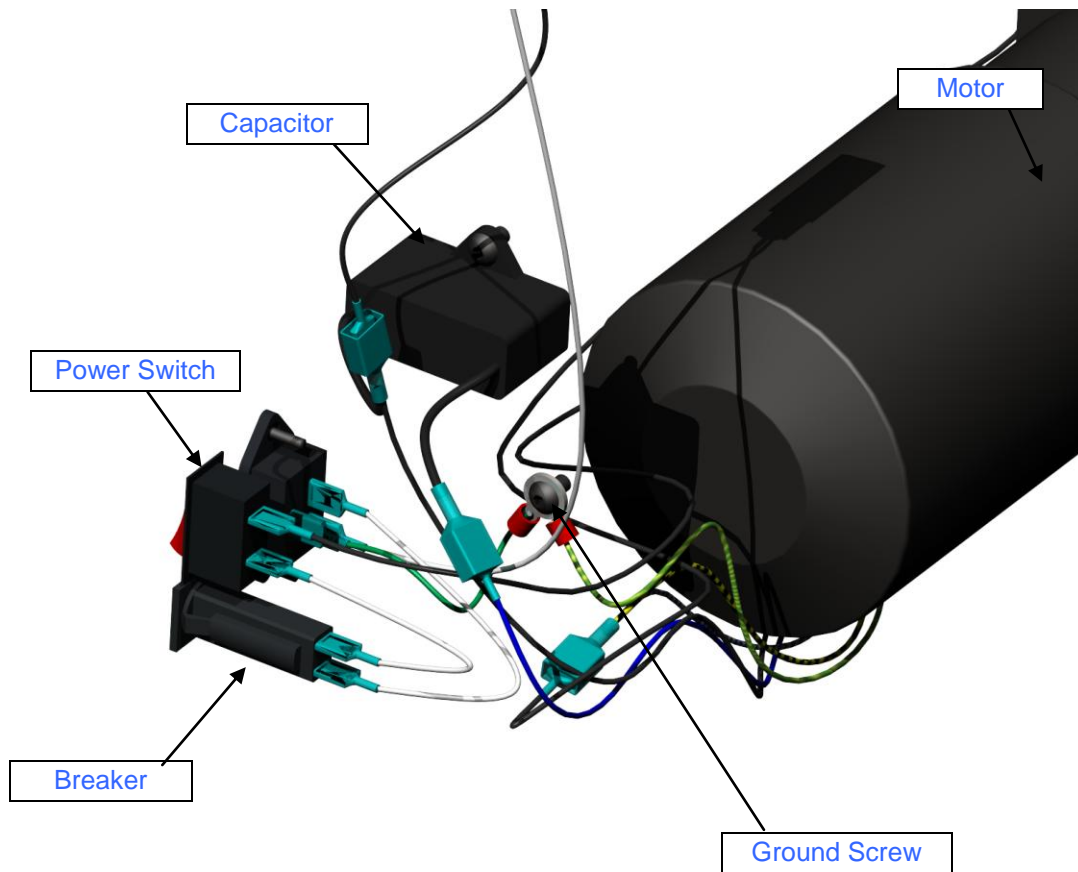
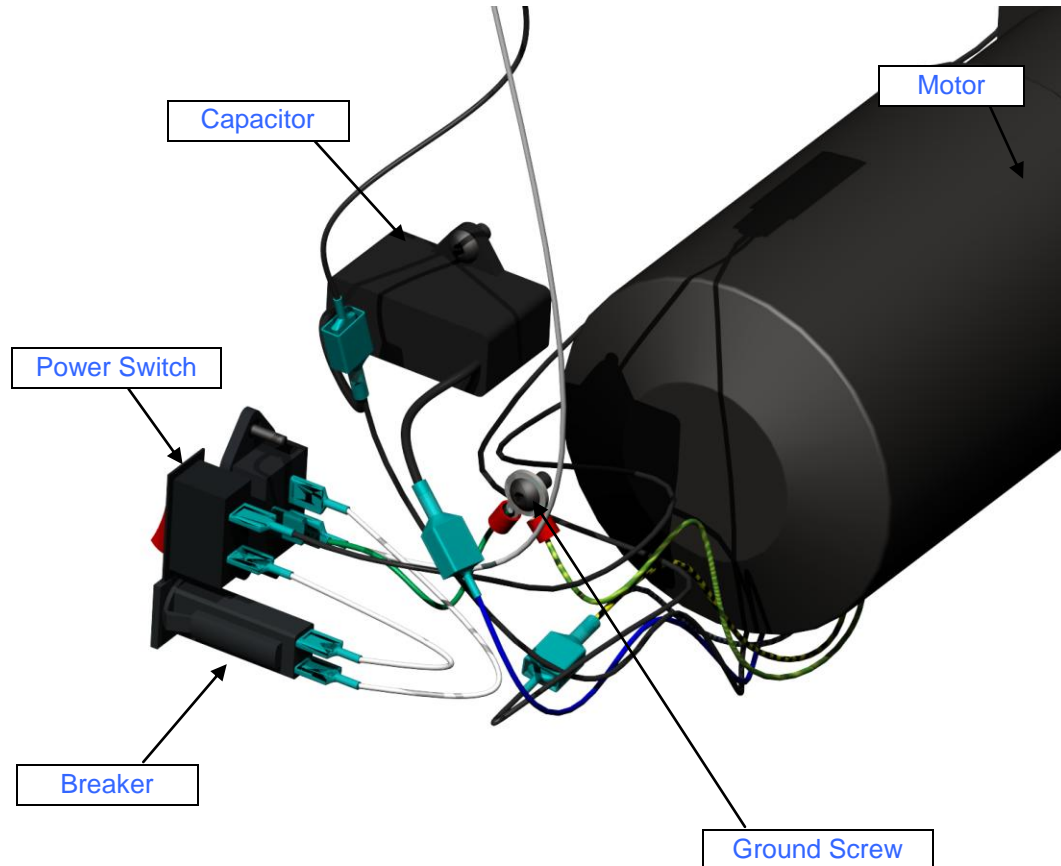


Figure 11: Wiring

## Replacing the Breaker

⚠ If the breaker will not reset, then it may need to be replaced.

1. Remove the **Electrical Side Cover**.
2. Disconnect the two leads from the rear of the **Breaker**.
3. Depress the two spring arms which hold the **Breaker** in the **IEC Bracket** to remove the **Breaker**.
4. Insert the new **Breaker**.
5. Attach the two leads to the rear of the new **Breaker**.
6. Re-attach the **Electrical Side Cover**.



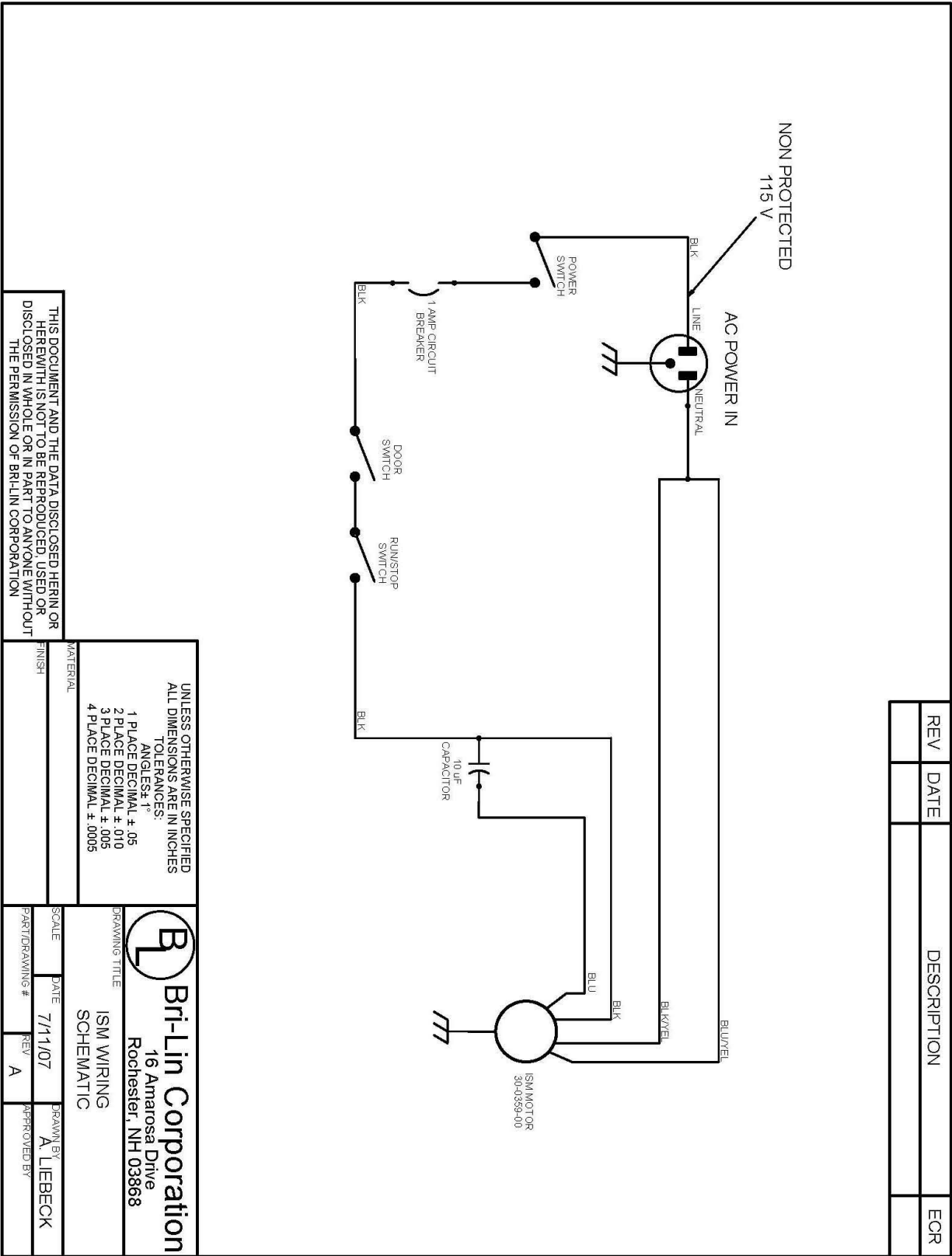

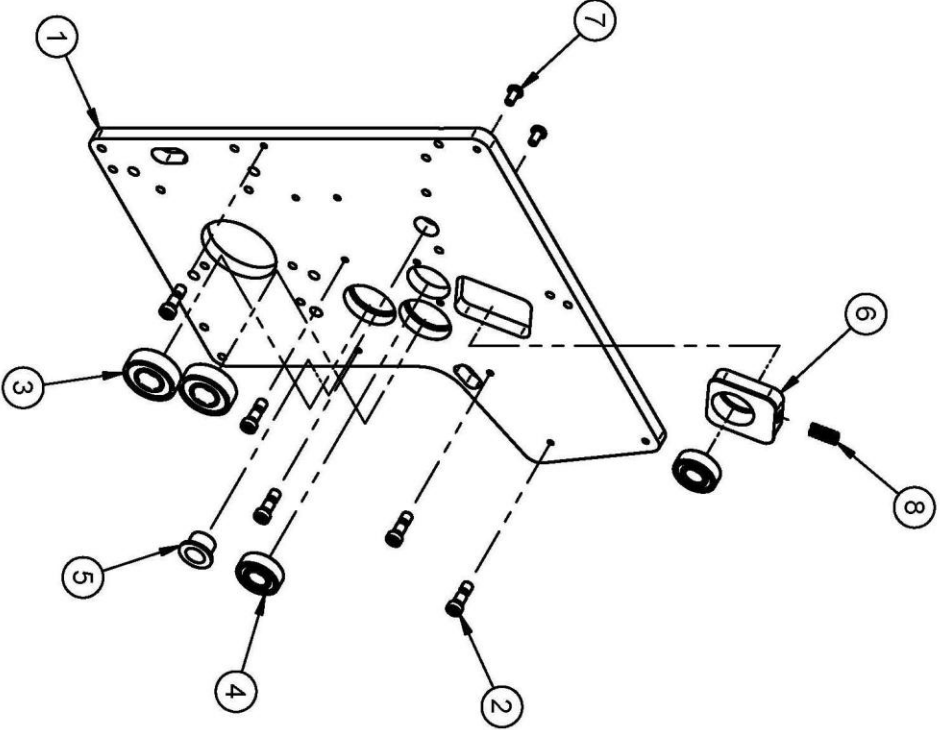


Fig. 13: Schematic

## Exploded Views

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REV	DATE	DESCRIPTION	ECR



ITEM	QTY	DESCRIPTION	PART/DWG #
8	1	ALUM BLOCK/EXT CONV SPRING	84-0608-00
7	2	BHSCS 10-32 x 3/8	80-0204-00
6	1	FLOATING ROLL BLOCK, BB	70-0777-00
5	1	BUSHING 0.500 ID	25-0052-00
4	2	3016DCTN GENERAL BEARING	25-0146-00
3	2	1623DCTN NICE BEARING	25-1103-00
2	5	SHOULDER SCREW 1/4 x 3/8	80-0155-00
1	1	MOTOR SIDE FRAME	70-0978-00D

UNLESS OTHERWISE SPECIFIED  
ALL DIMENSIONS ARE IN INCHES  
TOLERANCES:  
ANGLES ± 1°  
1 PLACE DECIMAL ± .05  
2 PLACE DECIMAL ± .010  
3 PLACE DECIMAL ± .005  
4 PLACE DECIMAL ± .0005

**B** Bri-Lin Corporation  
16 Amarosa Drive  
Rochester, NH 03868

DRAWING TITLE  
ISM  
MOTOR SIDE FRAME ASSEMBLY

MATERIAL  
FINISH

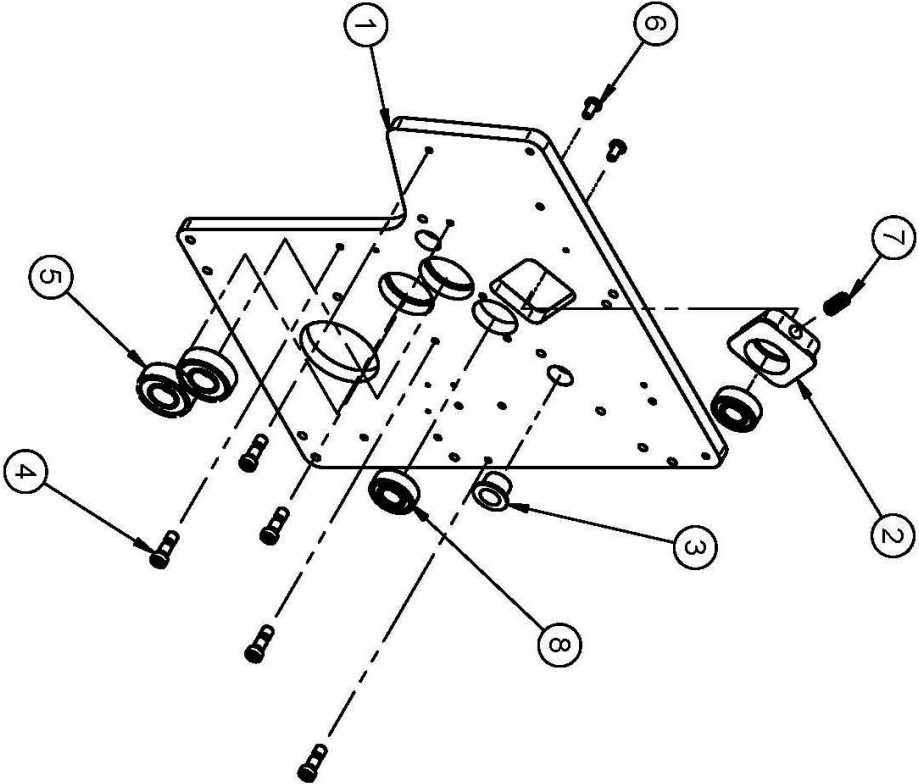

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DATE  
6/13/2008  
PART/DRAWING #  
18-0946-00B  
REV  
B  
DRAWN BY  
A. LIEBECK  
APPROVED BY

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ITEM	QTY	DESCRIPTION	PART/DWG #
8	2	3016DCTN GENERAL BEARING	25-0146-00
7	1	ALUM BLOCK/EXT CONV SPRING	84-0608-00
6	2	BHSCS 10-32 x 3/8	80-0204-00
5	2	1623DCTN NICE BEARING	25-1103-00
4	5	SHOULDER SCREW 1/4 X3/8	80-0155-00
3	1	BUSHING 0.500 ID	25-0052-00
2	1	FLOATING ROLL BLOCK, BB	70-0777-00
1	1	ELECTRICAL SIDE FRAME	70-0977-00

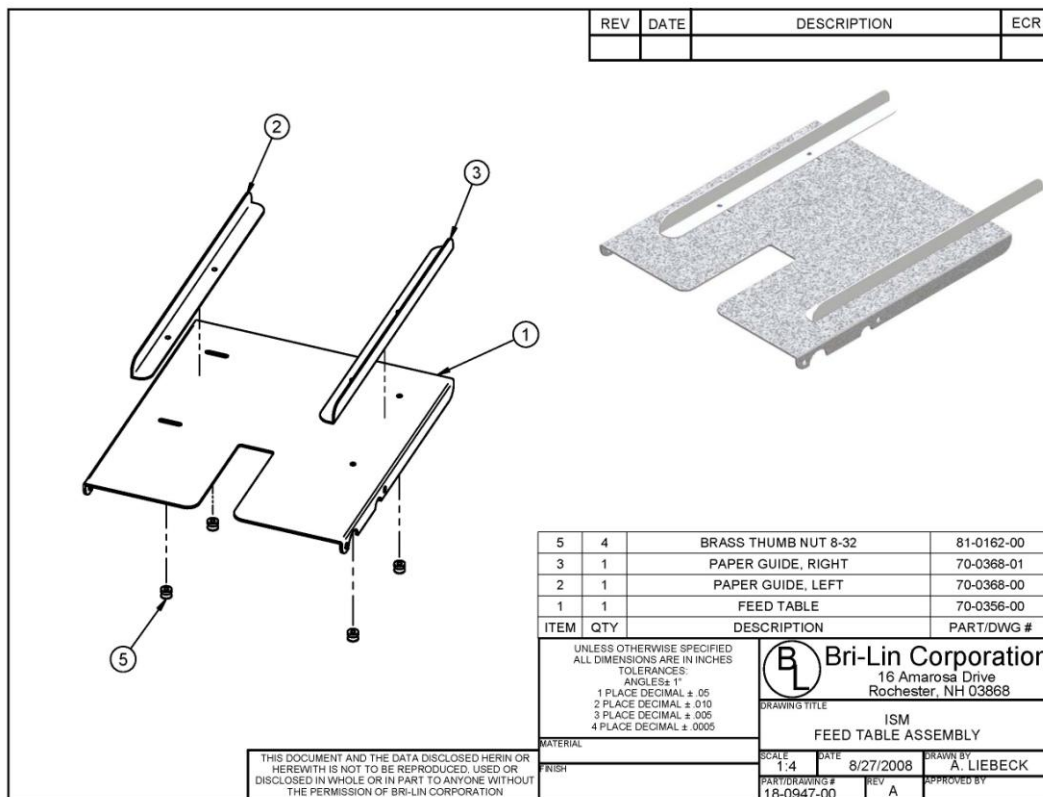
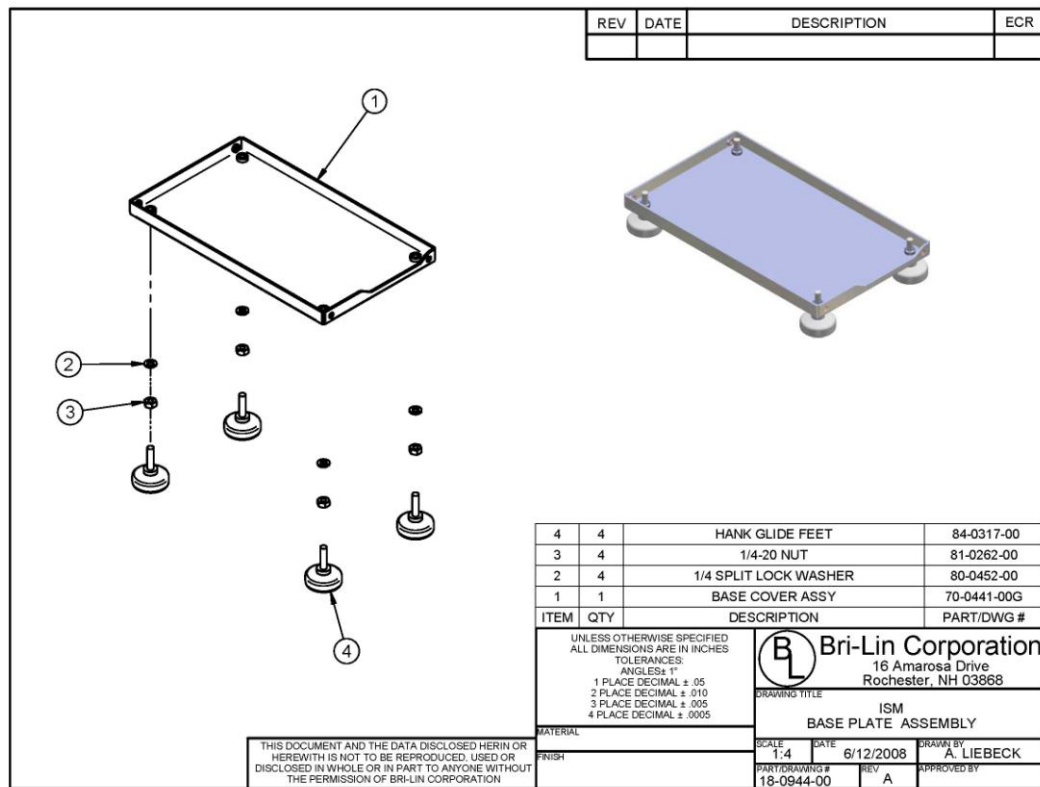
  

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MATERIAL FINISH			

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DRAWING TITLE ELECTRICAL SIDE FRAME ASSEMBLY		ISM DATE 2/3/2009 SCALE 1:4 PART/DRAWING # 18-0945-00B	
APPROVED BY A. LIEBECK		REV B	

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REV	DATE	DESCRIPTION	ECR

3	2	BHSCS 6-32 x 3/4	80-0222-00
2*	1	DOOR SAFETY SWITCH	39-0225-00
1	1	DOOR SAFETY BRACKET	70-0539-00A
ITEM	QTY	DESCRIPTION	PART/DWG #

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ALL DIMENSIONS ARE IN INCHES  
TOLERANCES:  
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2 PLACE DECIMAL ± .010  
3 PLACE DECIMAL ± .005  
4 PLACE DECIMAL ± .0005

MATERIAL

FINISH

**Bri-Lin Corporation**  
16 Amarosa Drive  
Rochester, NH 03868

DRAWING TITLE  
**ISM  
DOOR SWITCH ASSEMBLY**

SCALE: 1:1    DATE: 8/27/2008    DRAWN BY: A. LIEBECK

PART/DRAWING # 18-0917-00    REV: A    APPROVED BY:

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REV	DATE	DESCRIPTION	ECR

2	1	CONTROL PANEL	70-0417-00
1	1	ON/OFF SWITCH SPST	39-0103-00
ITEM	QTY	DESCRIPTION	PART/DWG #

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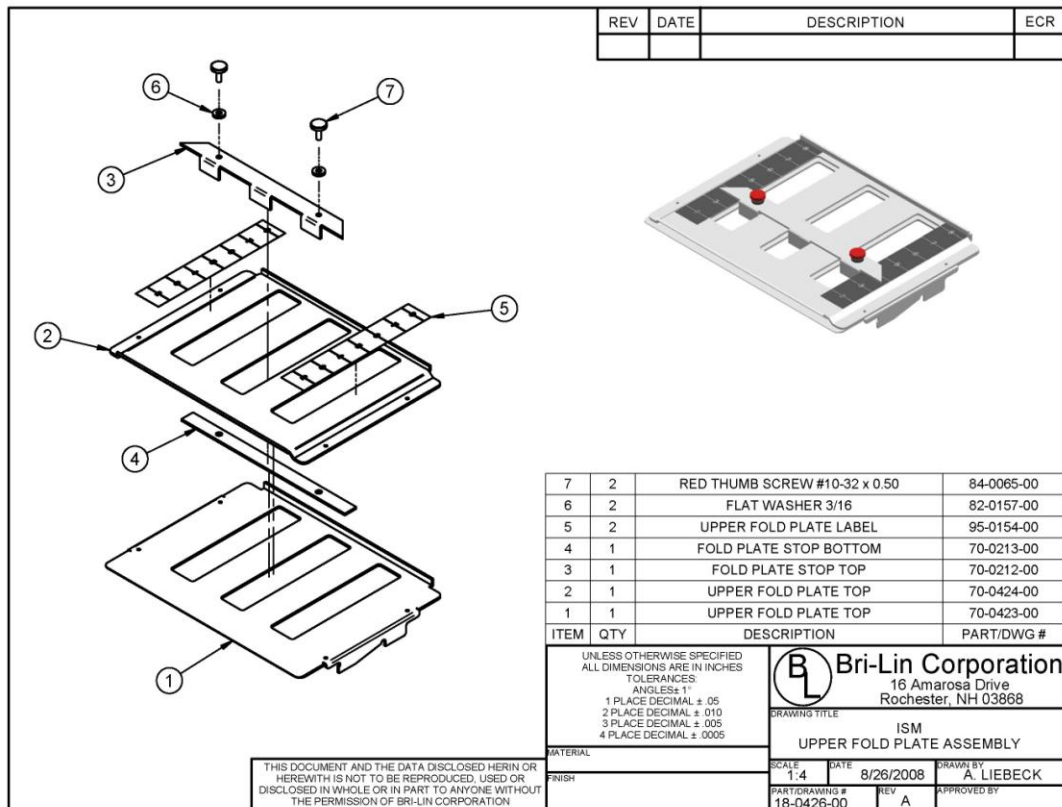
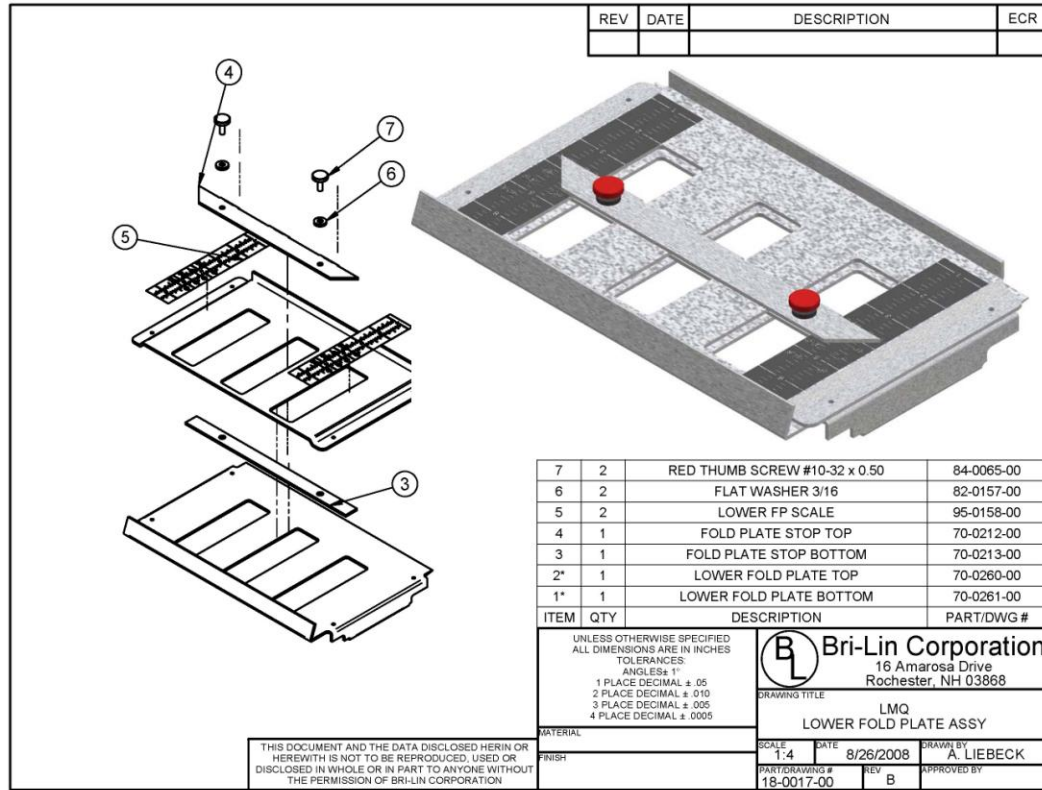
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16 Amarosa Drive  
Rochester, NH 03868

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**ISM  
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PART/DRAWING # 18-0938-00    REV: A    APPROVED BY:

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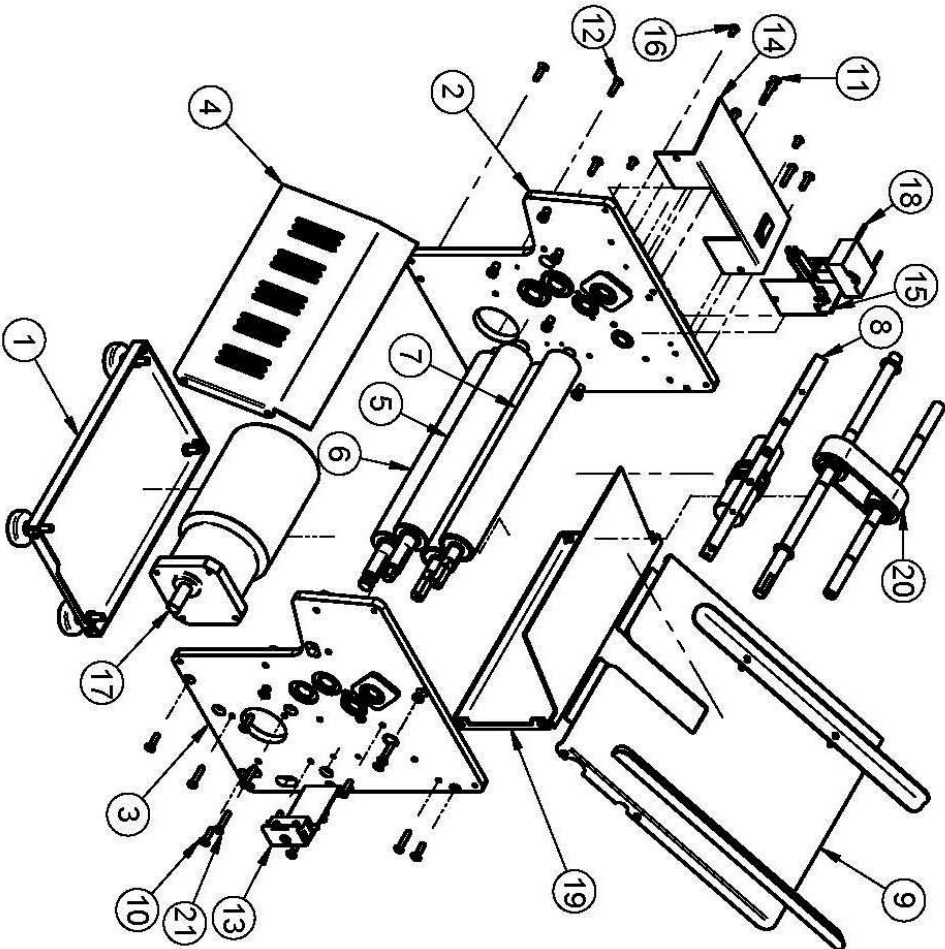




21	6	BHSCS #10-32 x 1	80-0214-00
20	1	FEED ASSEMBLY	18-0943-00
19	1	REAR MOTOR COVER	70-0247-00G
18	1	MOTOR START CAPACITOR, ISM	33-0859-00
17	1	BODINE MOTOR 0454	30-0359-00
16	6	BHSCS #10-32 x 0.375	80-0204-00
15	1	IEC BRACKET ASSEMBLY	18-0937-00
14	1	CONTROL PANEL ASSEMBLY	18-0938-00
13	1	DOOR SWITCH ASSEMBLY	18-0917-00
12	3	BHSCS #10-32 x 0.750	80-0148-00
11	4	FHSCS 10-32 x 1	80-0156-00
10	9	FHSCS 10-32 x 0.750	80-0152-00
9	1	FEED TABLE ASSEMBLY	18-0947-00
8	1	FEED RETARD ASSEMBLY	18-0942-00B
7	2	LMQ URETHANE FLOATING ROLL	70-0232-00
6	1	ROLL #2, CONVEYOR DRIVE	70-0233-00
5	1	HEX END ROLL	70-0234-00
4	1	FRONT MOTOR COVER	70-0246-001
3	1	MOTOR SIDE FRAME ASSEMBLY	18-0946-00B
2	1	ELEC. SIDE FRAME ASSEMBLY	18-0945-00B
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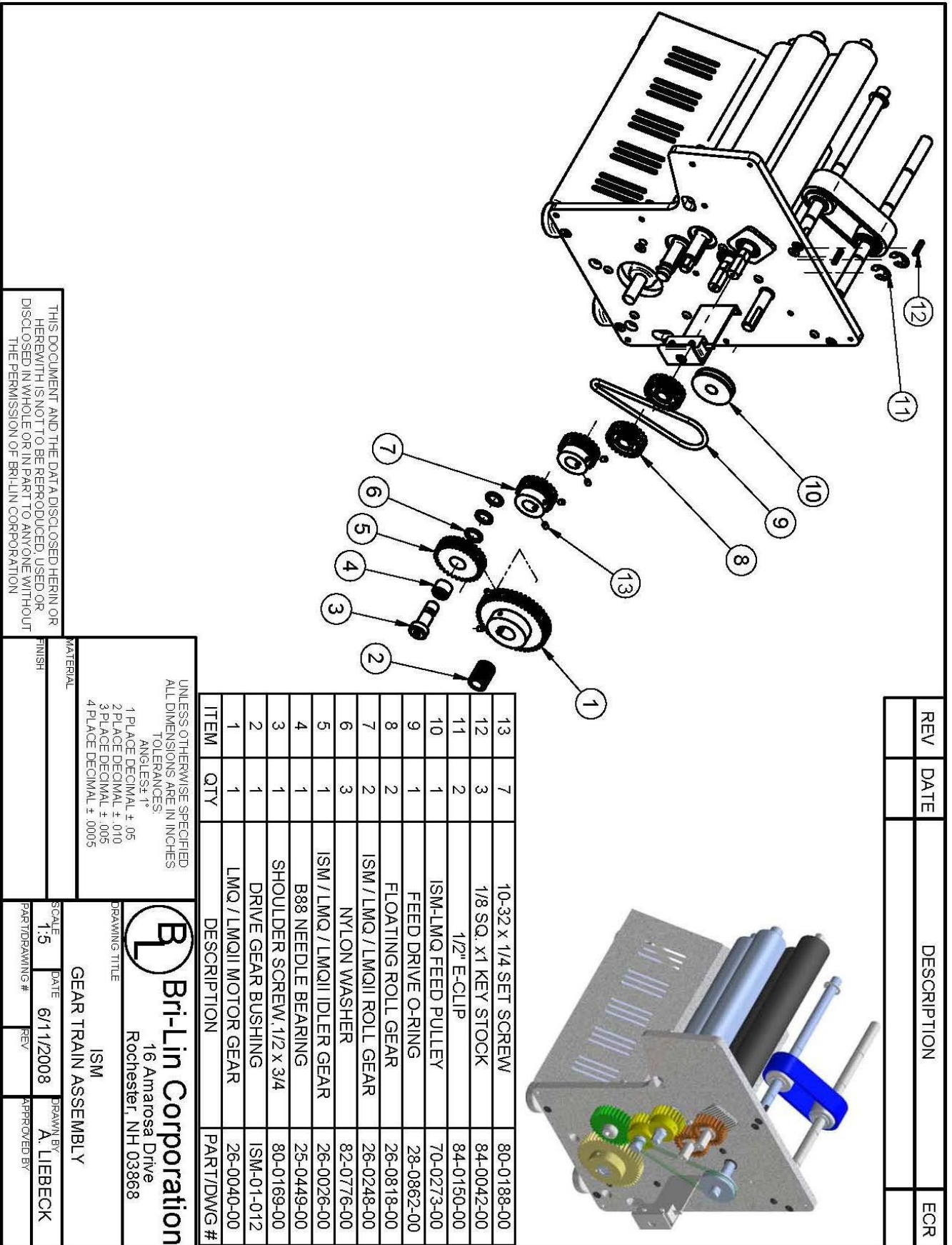
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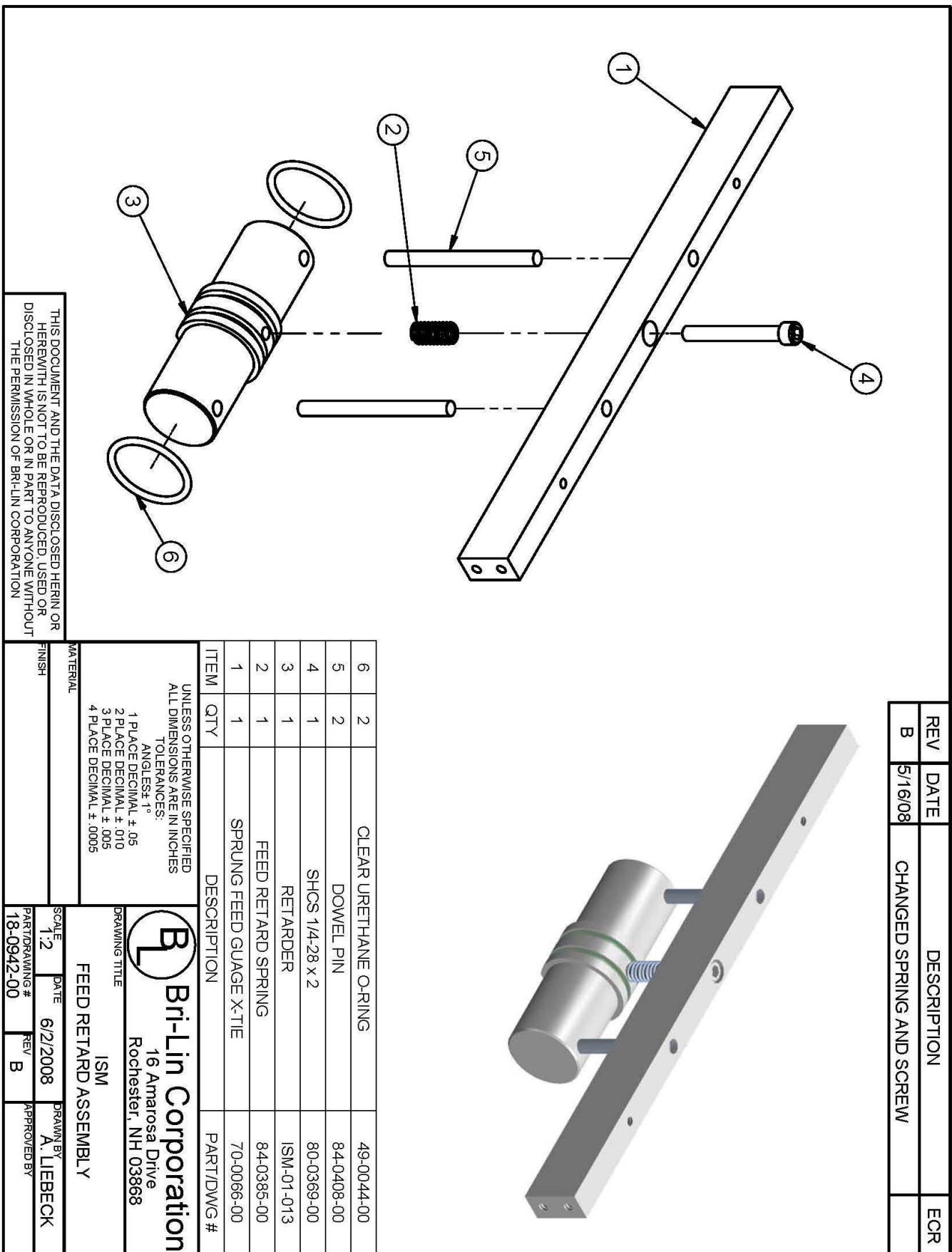


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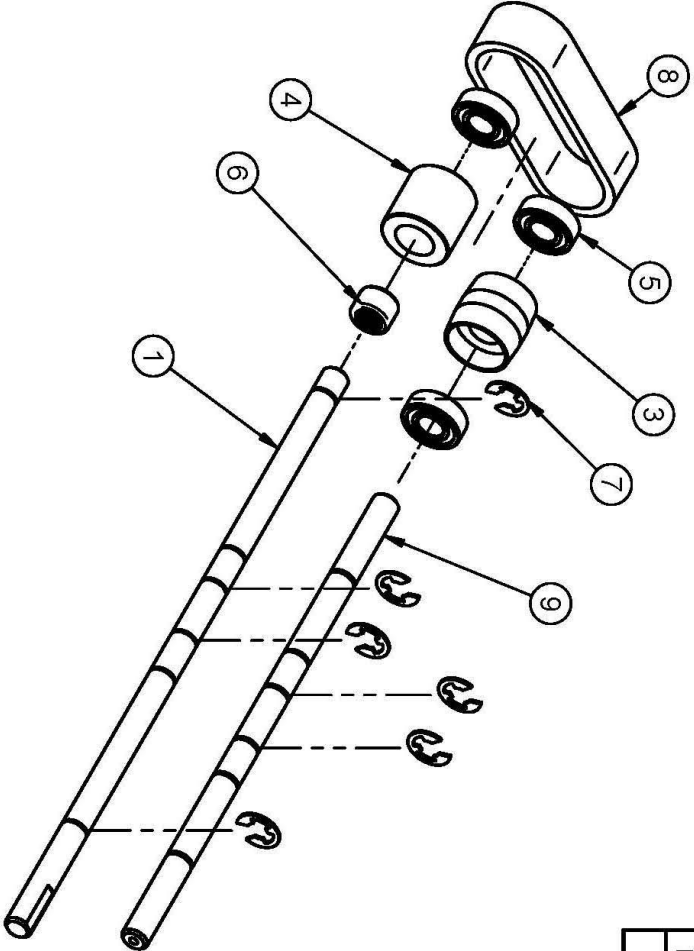
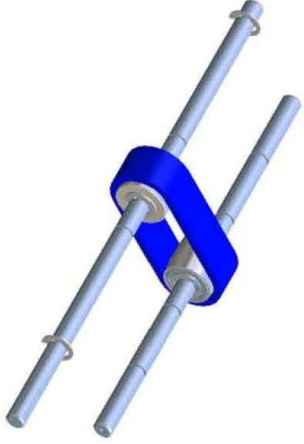






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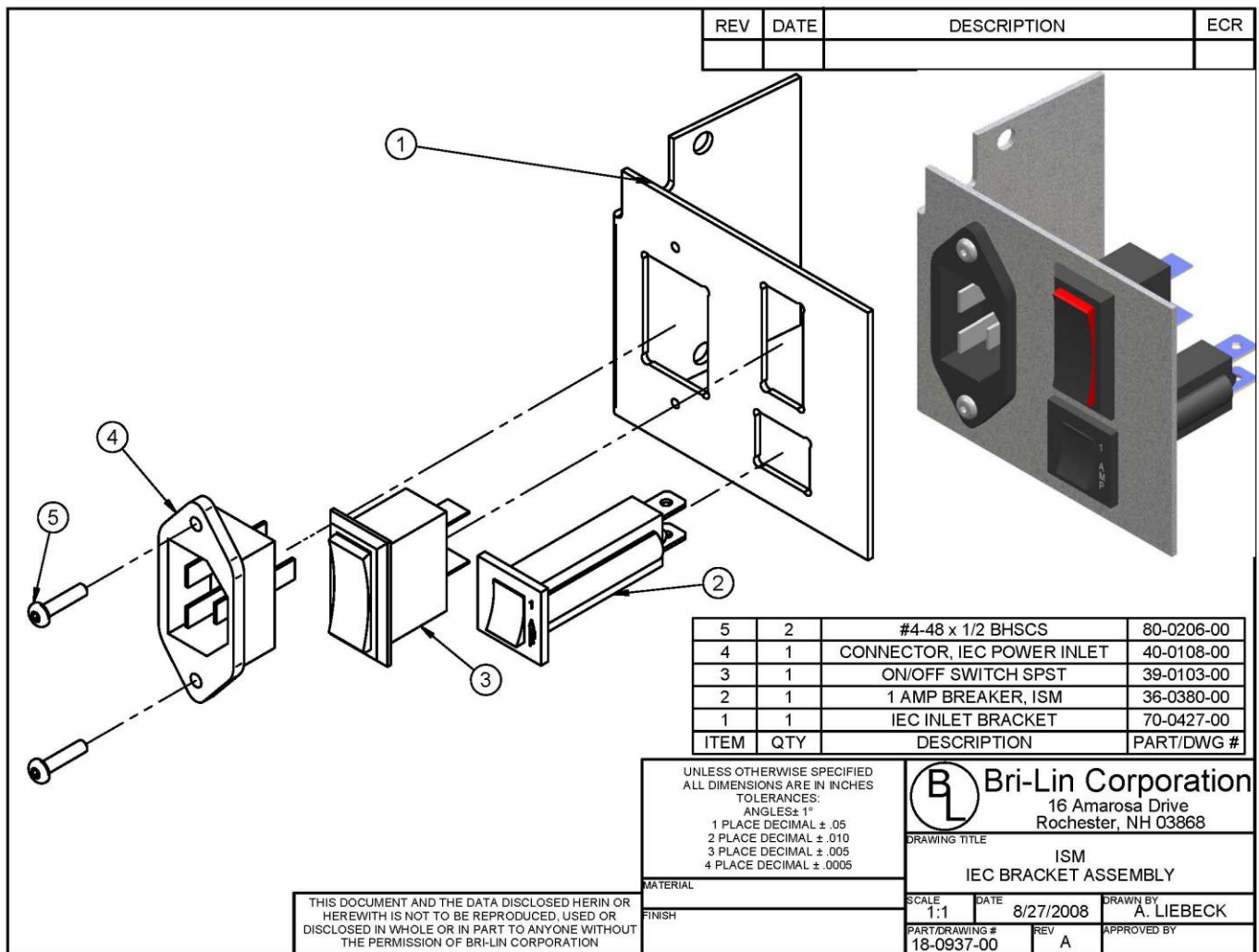
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8	1	FEED BELT	28-0250-00
7	6	1/2" E-CLIP	84-0150-00
6	1	1-WAY BEARING	25-0035-00
5	3	3016DCTN GENERAL BEARING	25-0146-00
4	1	ISM FEED DRIVE ROLLER	70-0455-00
3	1	ISM FEED IDLER ROLLER	70-0456-00
1	1	FEED DRIVE SHAFT	70-0357-00

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**NOTES:**

- 1) Feed Gauge Assembly 18-0942-00 has been upgraded to use 2 springs. (See page 9)
- 2) Bushing 70-0084-00 have been replaced by 70-0777-00, Slide Block, Aluminum, and 25-0146-00, Bearing



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