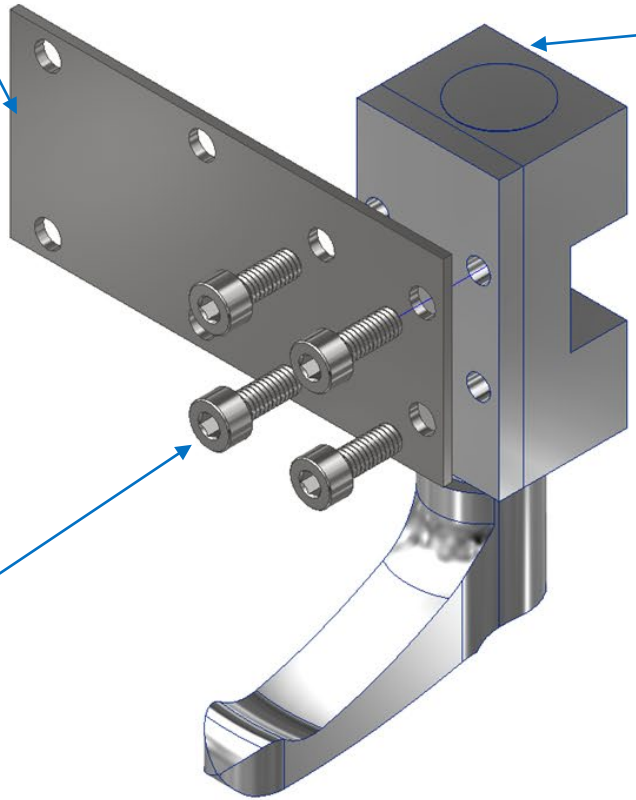
1: Preparing The Handbrakes

The first step is to mate the linear brakes with the brake mount brackets.

BRAKE MOUNT BRACKET
QTY = 2

LINEAR HANDBRAKE ASSEMBLY
BAG #17
QTY = 2



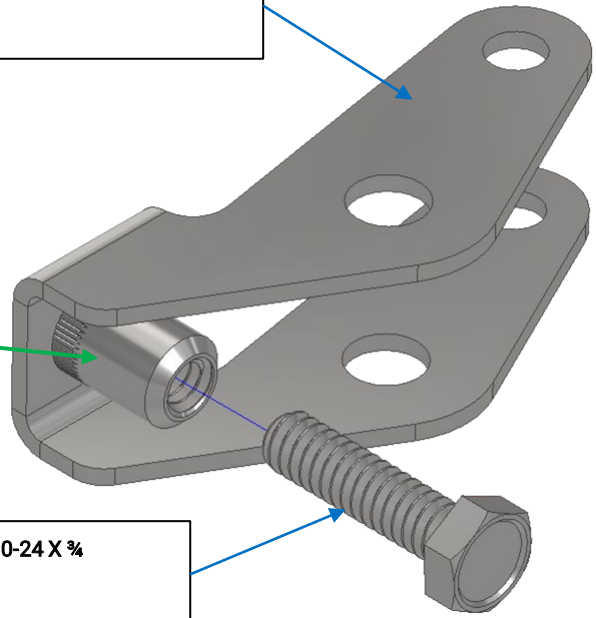
SOCKET HEAD CAP SCREW, M4 x 0.7 x 10mm
BAG #7
QTY = 8

2: Swingarm Assembly

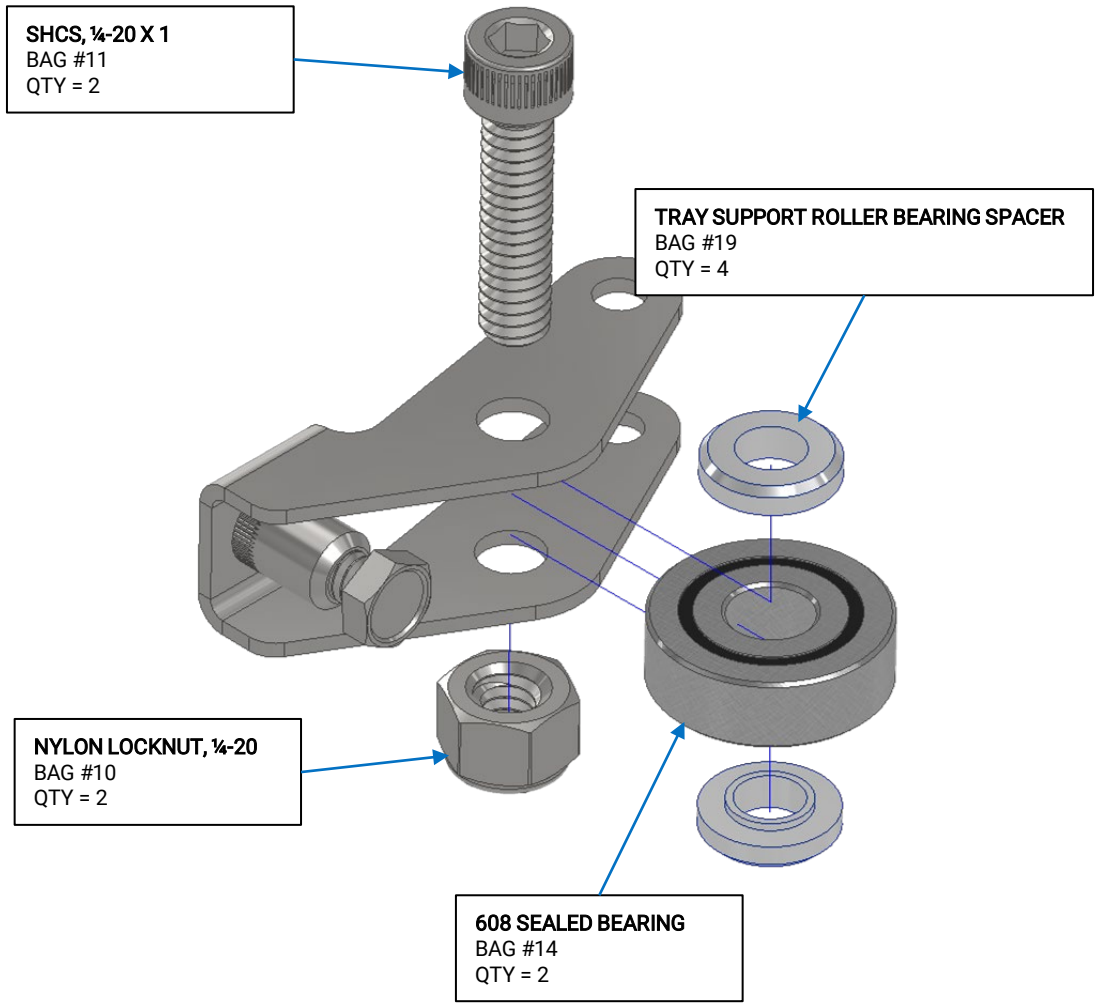
The next step in the assembly process is to assemble the guide block swingarms.

TRACK BEARING SWINGARM ASSY
BAG #15
QTY = 2

RIVNUT WILL COME PRE-INSTALLED ON THE TRACK BEARING SWINGARM.



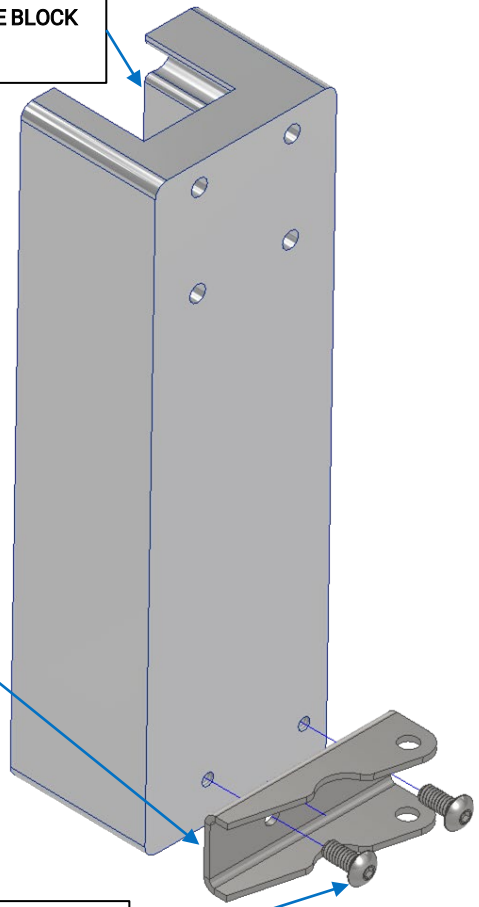
HHCS, 10-24 X ¾
BAG #9
QTY = 2


SHCS, ¼-20 X 1
BAG #11
QTY = 2
TRAY SUPPORT ROLLER BEARING SPACER
BAG #19
QTY = 4
NYLON LOCKNUT, ¼-20
BAG #10
QTY = 2
608 SEALED BEARING
BAG #14
QTY = 2

3: Mounting The Swingarms

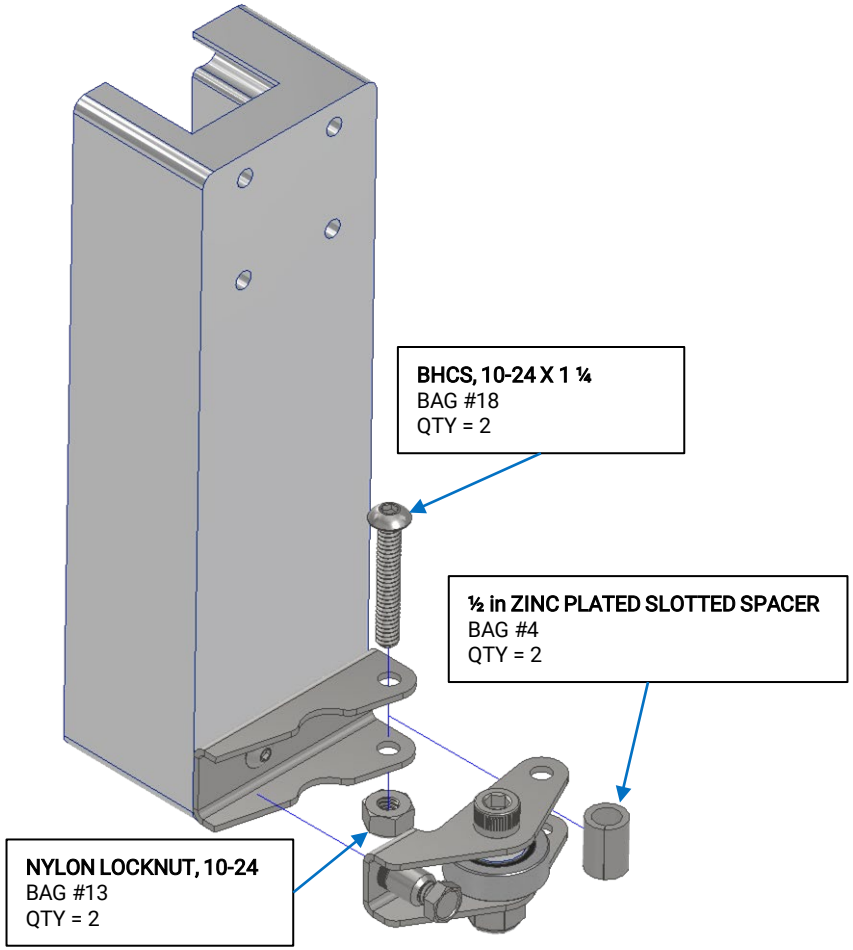
The next step is to mount the swingarms to the guide blocks.

MATERIAL SUPPORT GUIDE BLOCK
QTY = 2



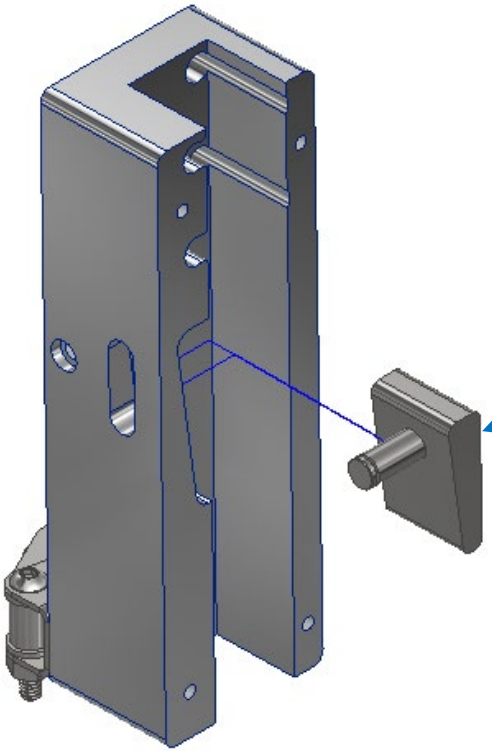
SWINGARM MOUNT
BAG #15
QTY = 2

BHCS, 8-32 X 3/8
BAG #12
QTY = 4


BHCS, 10-24 X 1 ¼
BAG #18
QTY = 2
½ in ZINC PLATED SLOTTED SPACER
BAG #4
QTY = 2
NYLON LOCKNUT, 10-24
BAG #13
QTY = 2

4: Lever Actuator Assembly

The next step is to assemble and install the material support lever.



MATERIAL SUPPORT WEDGE ASSEMBLY
BAG #20
QTY = 2

ENSURE THE DOWEL PIN PROTRUDES THROUGH THE SLOT FEATURE WHEN INSERTED.

Materials

Parts
- (2) Material Support Wedge Assembly

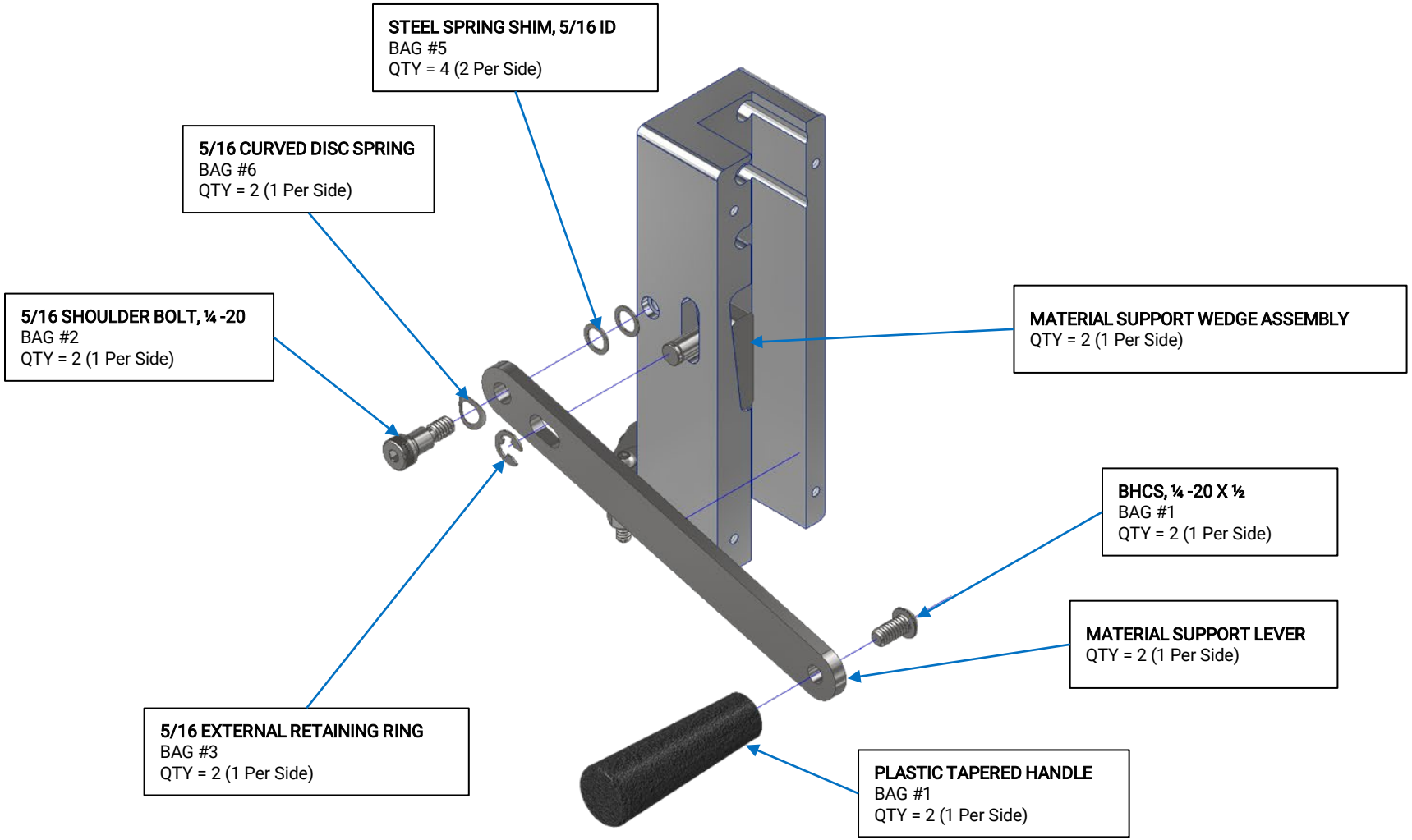
Hardware
- None

Tools
- None

Instructions

A1. Insert the **Material Support Wedge Assembly** Into the angled slot located on the material tray guide block so that the dowel pin protrudes from the slot feature.

A2. Repeat A1 for remaining Material Support Wedge.


STEEL SPRING SHIM, 5/16 ID
BAG #5
QTY = 4 (2 Per Side)
5/16 CURVED DISC SPRING
BAG #6
QTY = 2 (1 Per Side)
5/16 SHOULDER BOLT, ¼ -20
BAG #2
QTY = 2 (1 Per Side)
MATERIAL SUPPORT WEDGE ASSEMBLY
QTY = 2 (1 Per Side)
BHCS, ¼ -20 X ½
BAG #1
QTY = 2 (1 Per Side)
MATERIAL SUPPORT LEVER
QTY = 2 (1 Per Side)
5/16 EXTERNAL RETAINING RING
BAG #3
QTY = 2 (1 Per Side)
PLASTIC TAPERED HANDLE
BAG #1
QTY = 2 (1 Per Side)

Materials

Parts

- (2) Material Support Lever
- (2) Plastic Tapered Handle
- (2) Material Support Wedge Assembly (Previously Assembled)

Hardware

- (4) Spring Steel Shim, 5/16 ID
- (2) 5/16 Curved Disc Spring
- (2) 5/16 Shoulder Bolt, ¼-20
- (2) 5/16 External Retaining Ring
- (2) Button Head Cap Screw, ¼-20 x ½

Tools

- 5/32 Hex Key
- Needle nose pliers (Optional)

Instructions

B1. Locate the **Material Support Lever.**

B2. Install the Material Support Lever with the ¼-20 shoulder screw and 5/16th Curved Disc Spring shown. Ensure the 2 Steel Spring Shims ,5/16 ID are placed between the **Material Support Lever** and the **Material Support Guide Block.** Do not overtighten the screw as the handle should still move with slight resistance.

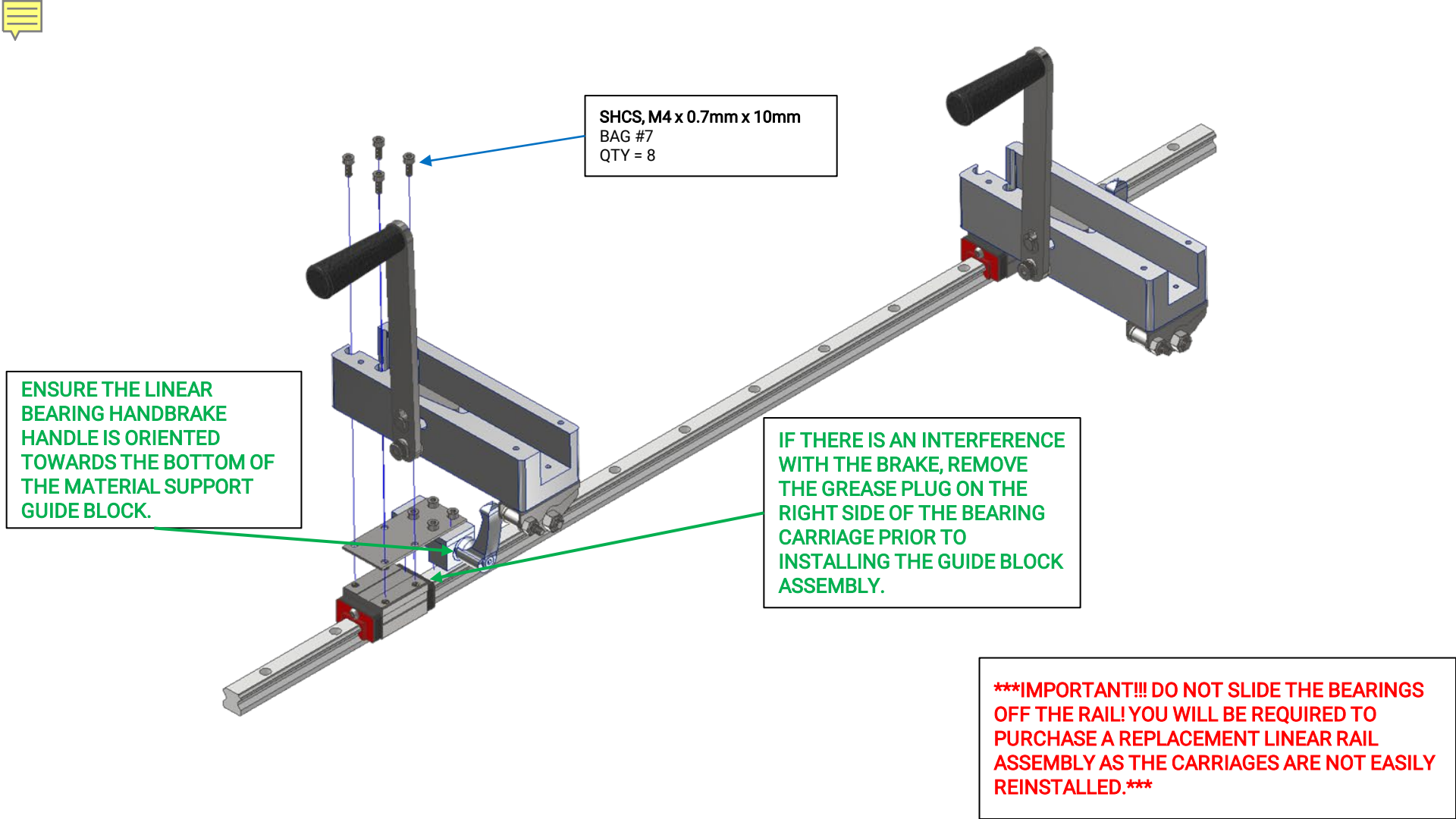
B3. Align the Material Support Lever slot feature with the 5/16th dowel pin on the **Material Support Wedge Assembly**. Insert the 5/16 Dowel pin through the slot and secure in place with the External Retaining Ring.

B4. Install the plastic tapered handle using the fasteners shown such that the handle is located on the left hand side of the Material Support Lever.

B5. Repeat steps B1 through B4 for the remaining Guide block assembly.

5: Installing The Guide Blocks

The next step in the assembly process is to install the guide blocks onto the linear bearings.


SHCS, M4 x 0.7mm x 10mm
BAG #7
QTY = 8
ENSURE THE LINEAR BEARING HANDBRAKE HANDLE IS ORIENTED TOWARDS THE BOTTOM OF THE MATERIAL SUPPORT GUIDE BLOCK.
IF THERE IS AN INTERFERENCE WITH THE BRAKE, REMOVE THE GREASE PLUG ON THE RIGHT SIDE OF THE BEARING CARRIAGE PRIOR TO INSTALLING THE GUIDE BLOCK ASSEMBLY.
IMPORTANT!!! DO NOT SLIDE THE BEARINGS OFF THE RAIL! YOU WILL BE REQUIRED TO PURCHASE A REPLACEMENT LINEAR RAIL ASSEMBLY AS THE CARRIAGES ARE NOT EASILY REINSTALLED.

Materials

Parts

- (2) Material Support Guide Block Assembly (Previously Assembled)
- (2) Linear Handbrakes with Brake Mount Brackets (Previously Assembled)

Hardware

- (8) Socket Head Cap Screw, M4 x 0.7mm x 10mm

Tools

- 3mm Hex Key
- 2.5mm Hex Key

Instructions

A1. Locate the **Material Support Bracket Linear Bearing Assembly** and remove zip ties running through railing holes.

[Warning Symbol] LINEAR RAIL BEARINGS

IMPORTANT: Do not either deliberately or accidentally remove the linear bearings from the linear rail. It is nearly impossible without specialized tools to reinstall a linear bearing once removed. The replacement cost of the linear rail assembly will not be covered by warranty.

A2. Locate both **Linear Handbrake Assemblies** with **Brake Mount Brackets** attached**.**

NOTE: IF THE LINEAR HANDBRAKE'S PROXIMITY TO THE BEARING CARRIAGE HAS INTERFERENCE, IT MAY BE NECESSARY TO REMOVE THE GREASE PLUG LOCATED ON THE RIGHT SIDE OF THE BEARING CARRIAGES FOR PROPER FIT AND FUNCTION OF THE HANDBRAKES. THIS PLUG CAN BE LEFT OPEN OR THE FASTENER MAY BE REPLACED WITH A M4 X 0.7 mm X 6 mm SET SCREW.

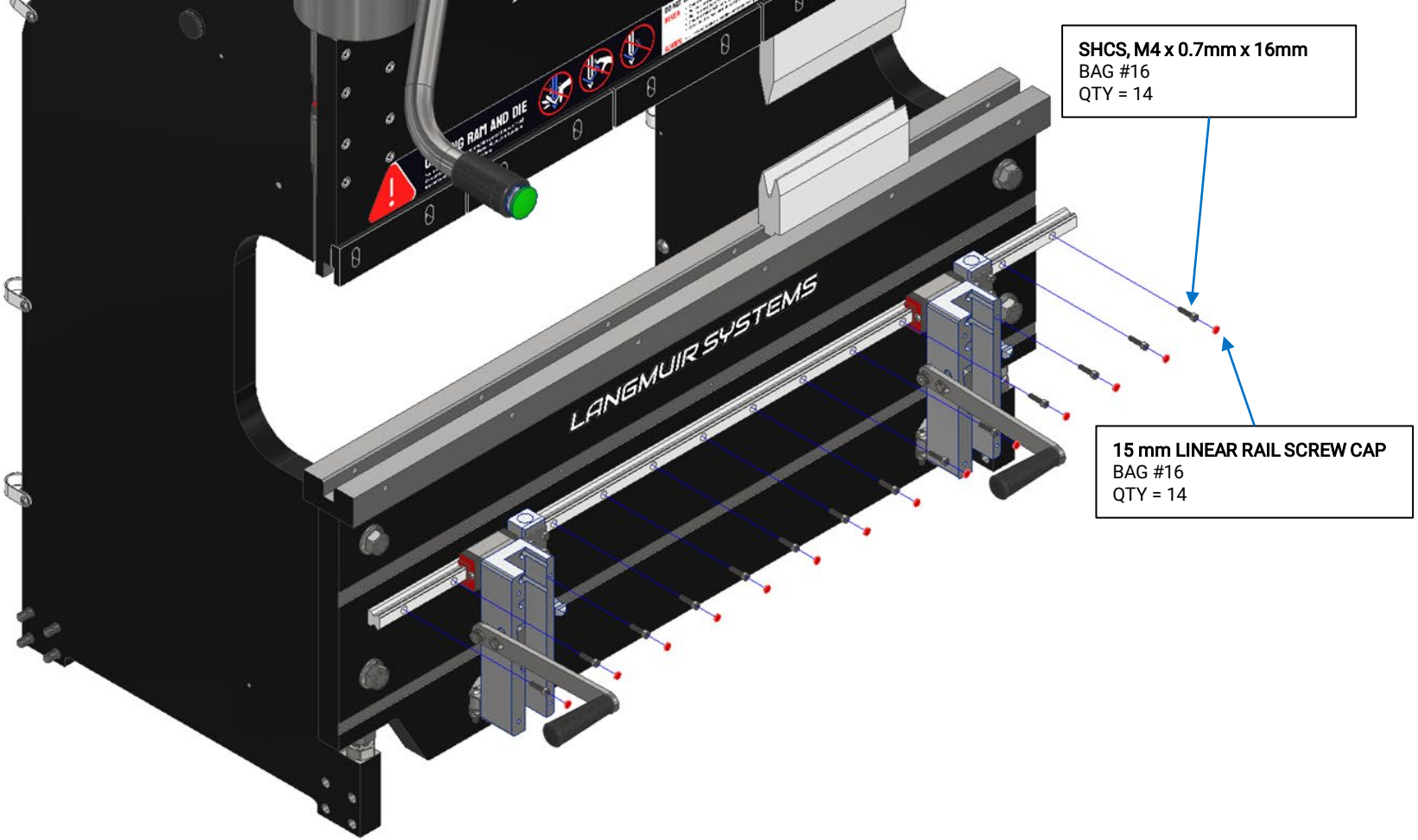
A3. Ensure that the **Brake Mount Bracket** is located between the linear bearings and guide block assemblies.

A4. Install both Guide Block Assemblies to the linear bearings using the fasteners shown.

A5. Once fastened to the linear bearing, tighten the M4 x 0.7 x 10mm screws that secure the linear handbrakes to the brake mount bracket.

6: Mounting The Linear Bearing Assembly

The next step is to install the Linear bearing on to the Titan.


SHCS, M4 x 0.7mm x 16mm
BAG #16
QTY = 14
15 mm LINEAR RAIL SCREW CAP
BAG #16
QTY = 14
LANGMUIR SYSTEMS

Materials

Parts
- (1) MATERIAL SUPPORT BRACKET LINEAR BEARING ASSY (Previously Assembled)

Hardware
- (14) SOCKET HEAD CAP SCREW, M4 x 0.7mm x 16mm
- (14) 15 mm LINEAR RAIL SCREW CAP

Tools
- 3mm Hex Key
- Small Hammer/Mallet

Instructions

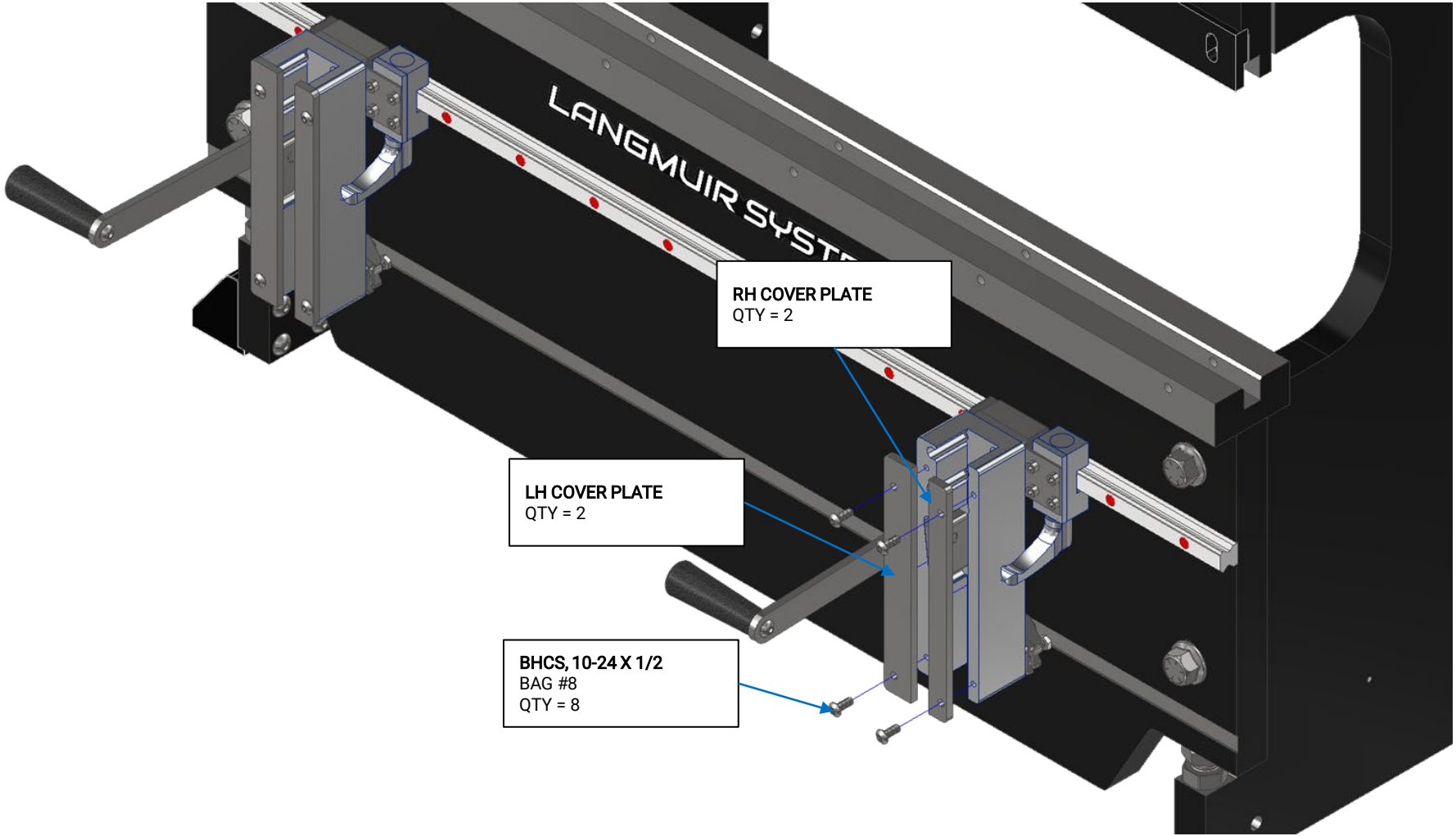
A1. Thoroughly clean the mounting surfaces on the front surfaces of the table as well as the bottom surface of the linear rails.

A2. Install and tighten the **Material Support Bracket Linear Rail** using the fasteners shown.

A3. Using a small mallet/hammer, lightly tap one mounting hole cap into each mounting hole. The goal is to only insert the cap until it is flush to the surface of the linear rail. Verify that each linear bearing can glide across the mounting holes without resistance.

7: Installing The Cover Plates

The next step is to install the guide block covers and connect to the handbrakes.


LANGMUIR SYST
RH COVER PLATE
QTY = 2
LH COVER PLATE
QTY = 2
BHCS, 10-24 X 1/2
BAG #8
QTY = 8

Materials

Parts
- (2) RH Cover Plate
- (2) LH Cover Plate

Hardware
- (8) Button Head Cap Screw, 10-24 x ½

Tools
- ⅛ Hex Key

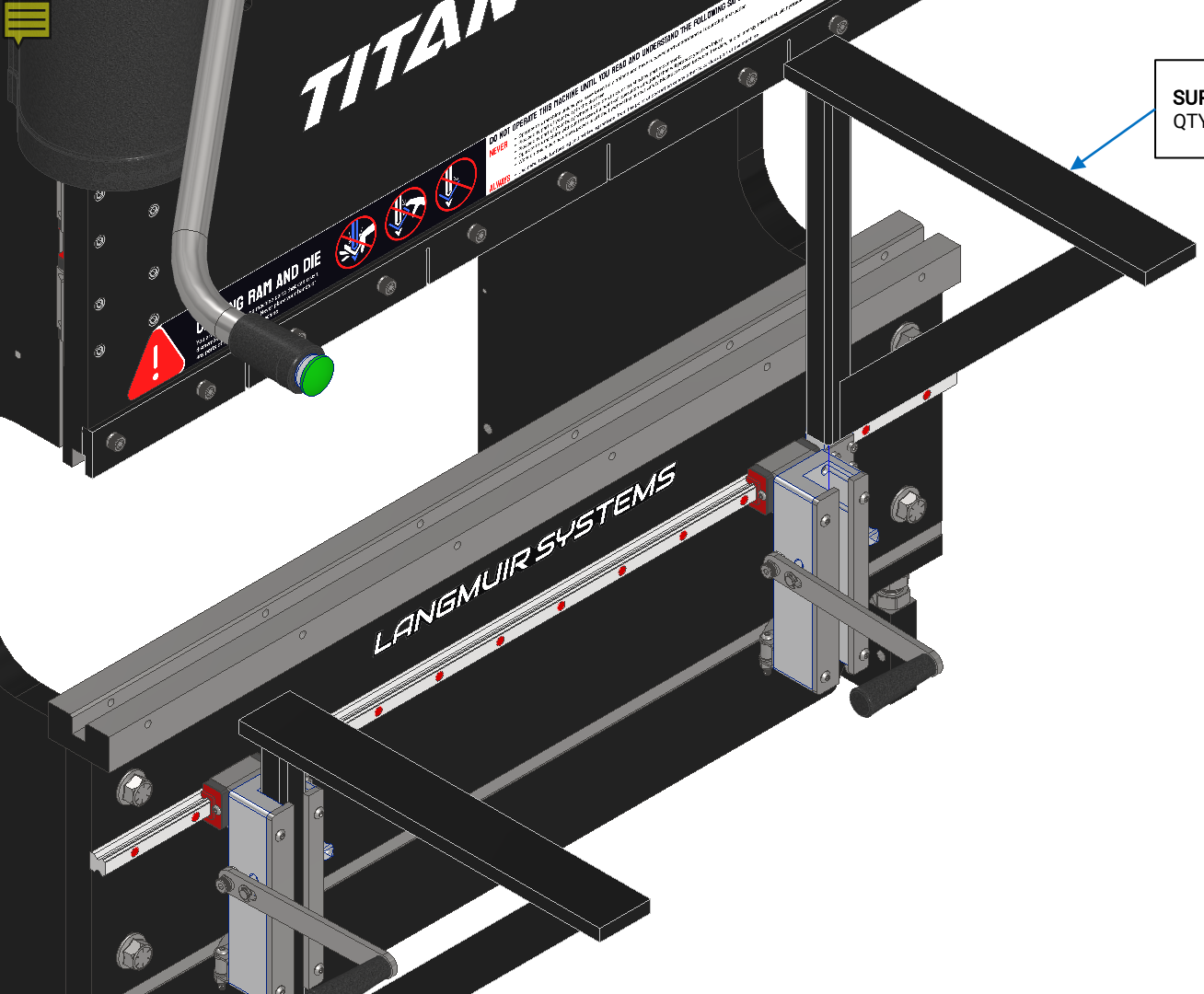
Instructions

A1. Locate the **LH Cover Plate** and the **RH Cover Plate**.

A2. Install both cover plates on both guide block assemblies using the fasteners shown.

8: Insert the Material Tray Weldments

The next step in the assembly process is to insert the tray weldments.



SUPPORT BRACKET WELDMENT
QTY = 2

Materials

Parts
- (2) Support Bracket Weldment

Hardware
- None

Tools
- None

Instructions

A1. Using the installed **Material Support Lever**, pull up to disengage the **Material Support Wedge Assembly**.

A2. With the **Material Support Wedge** disengaged, feed the Square tubing end of the **Support Bracket Weldment** into the guide block from the top face. Repeat for both sides.

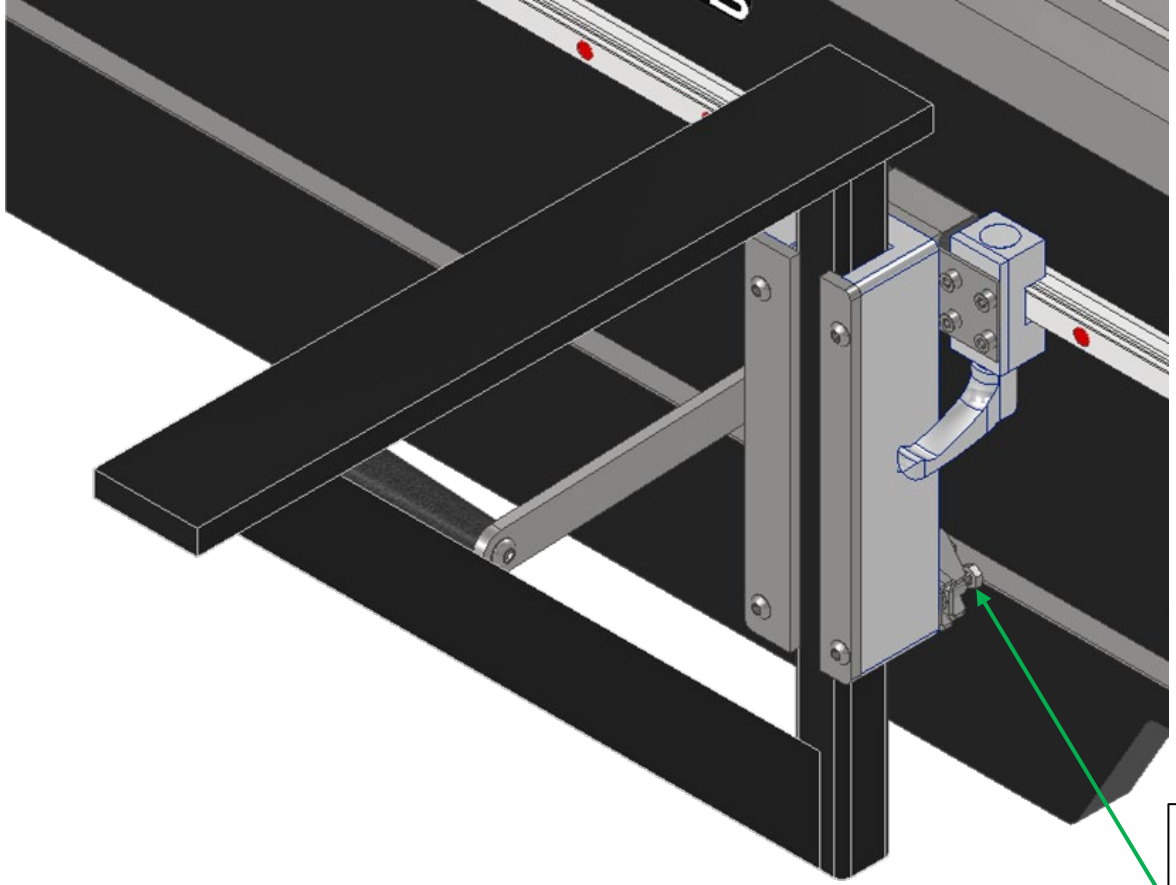
A3. Ensure the assembled support tray is functional by adjusting the height of the **Support Bracket Weldments** and locking it into place actuating the **Material Support Lever**.

NOTE: SQUARE TUBING OF THE SUPPORT BRACKET WELDMENTS CAN BE LIGHTLY GREASED IF NEEDED FOR FREE ACTION.

NOTE: IF YOUR PROJECT REQUIRES ADDITIONAL CLEARANCE, THE SUPPORT BRACKET WELDMENTS CAN BE REMOVED AND STORED AS NEEDED.

9: Adjusting The Swingarm

The final step in the assembly process is to adjust the Track Bearing Swingarm.



ADJUST 10-24 X ¾ HEX HEAD CAP SCREW AS NEEDED.

Materials

Parts
- None

Hardware
- None

Tools
- 5/16” Box End Wrench

Instructions

A1. Using a 5/16” Box End Wrench, adjust the bolt on the track bearing swingarm until the roller bearing makes contact against the machined channel, then rotate the 10-24 screw an additional whole rotation to apply ample preloading to the assembly.

A2. Repeat step A1 for both 10-24 cap screws.