

## Table of Contents

Scope .....	1
Part List.....	2
Mechanical Work Instruction .....	3
Drill Access Hole in Gantry Casting.....	4
Remove the Bimba Hardstop .....	5
Install the New Hardstop.....	7
Functional Test .....	13

### Scope

Upgrade Edison Vision mounted hardstop.



Estimated Completion Time

- ◆ It will take approximately 4 hours to complete this installation ◆



Recommended Tools

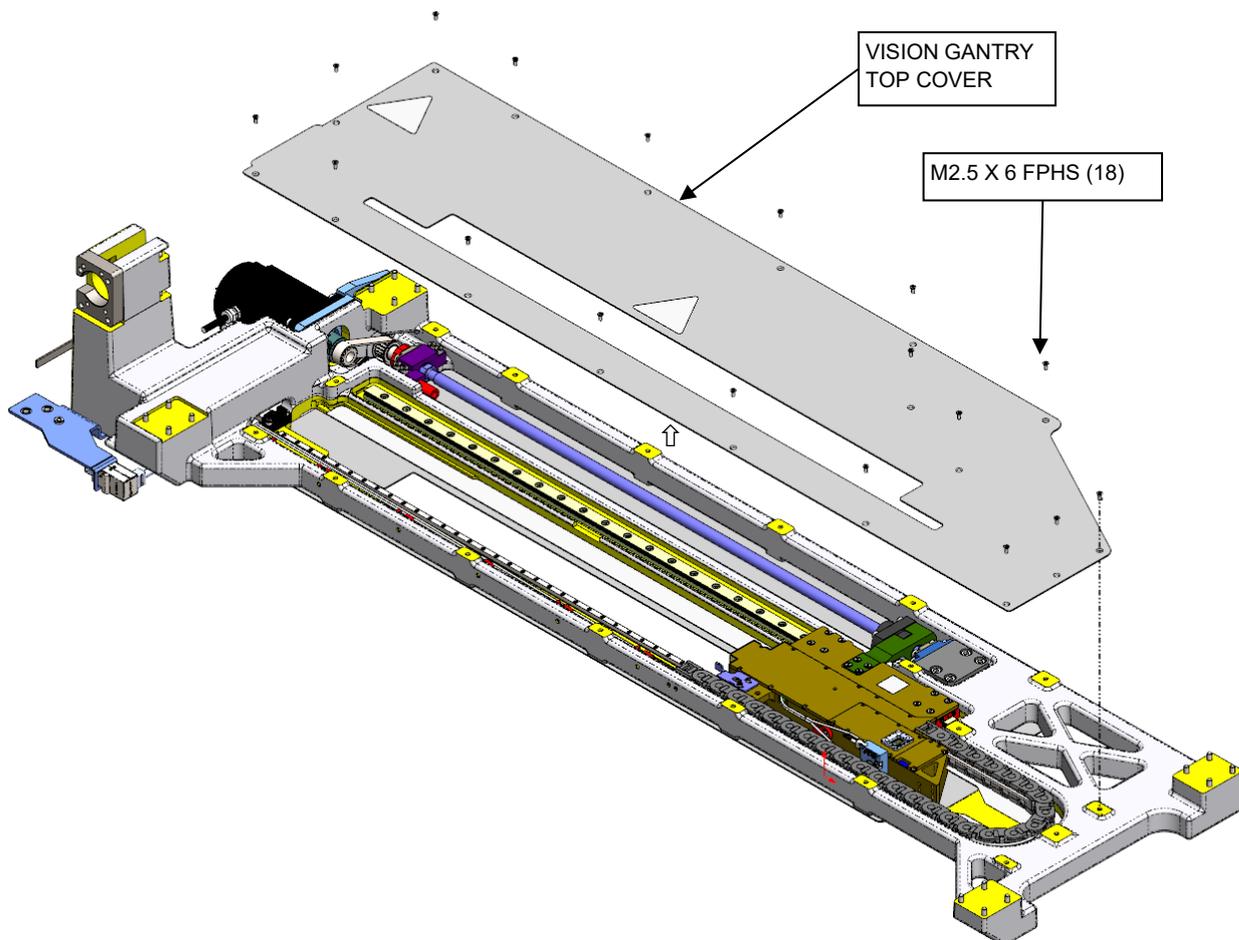
- Metric Allen Key set
- #00 Philips Head Screwdriver
- Loctite 222 (Pink)
- Hand Drill
- 8mm Drill Bit (short)
- Wire Cutting Pliers
- JIG0558

## Part List

Item	Description	Qty	UM
1024326	HARDSTOP, BOARD X, VISION GANTRY MOUNTED, ASSY	1	EA
1024346	DOCUMENT, UPGR-421, EDISON BOARD HARDSTOP UPGRADE	1	EA
1024523	CABLE, EXT, BOARD/HARDSTOP, CAM MNT, LOWER ASSY	1	EA
1024524	CABLE, EXT, BOARD/HARDSTOP, CAM MNT, UPPER ASSY	1	EA
HM1011D010	SCREW, SOC LOW HD CAP, M3 X 10, SS	4	EA
HM1041D005	SCREW, SOC FLAT HD CAP, M3 X 5, SS	4	EA
HM1085C006	SCREW, PHILLIPS FLAT HEAD, M2.5 X 6, SS	10	EA
JIG0558	JIG, DRILL,8MM, VISION GANTRY ACCESS	1	EA
P12731	SCREW, M1.6x6MM, PAN HEAD PHILLIPS, SS	10	EA
P60134	TY-WRAP 5X300 BLK	20	EA
2007192	BRACKET, CONNECT HOLER	1	EA

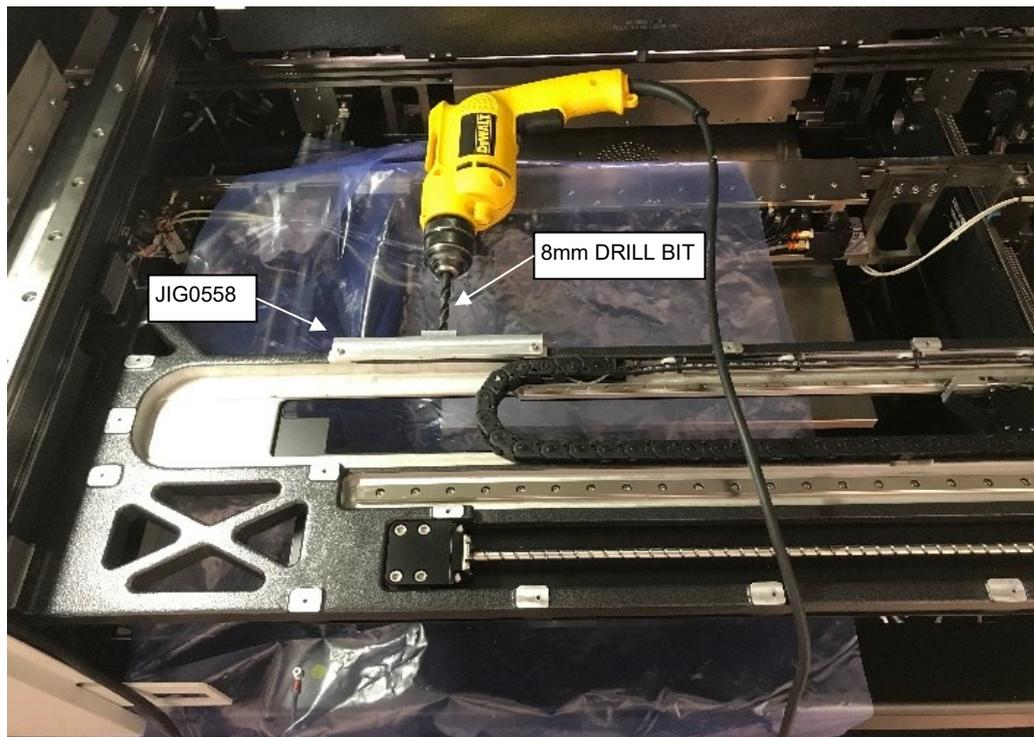
## Mechanical Work Instruction

1. Clear the printer of all existing process materials tooling etc.
2. Initialize the printer.
3. Remove power and Lock Out / Tag Out as per protocol.
4. Cover the Z-Table with paper or plastic. It is worthwhile to place additional material from the worktable to the frame to catch tools or dropped hardware.
5. Remove the machine top rear access panel.
6. Move the vision gantry by hand to the rear of the machine
7. Remove the M2.5 X 6 FPMS (18) and the vision gantry top cover .



## Drill Access Hole in Gantry Casting

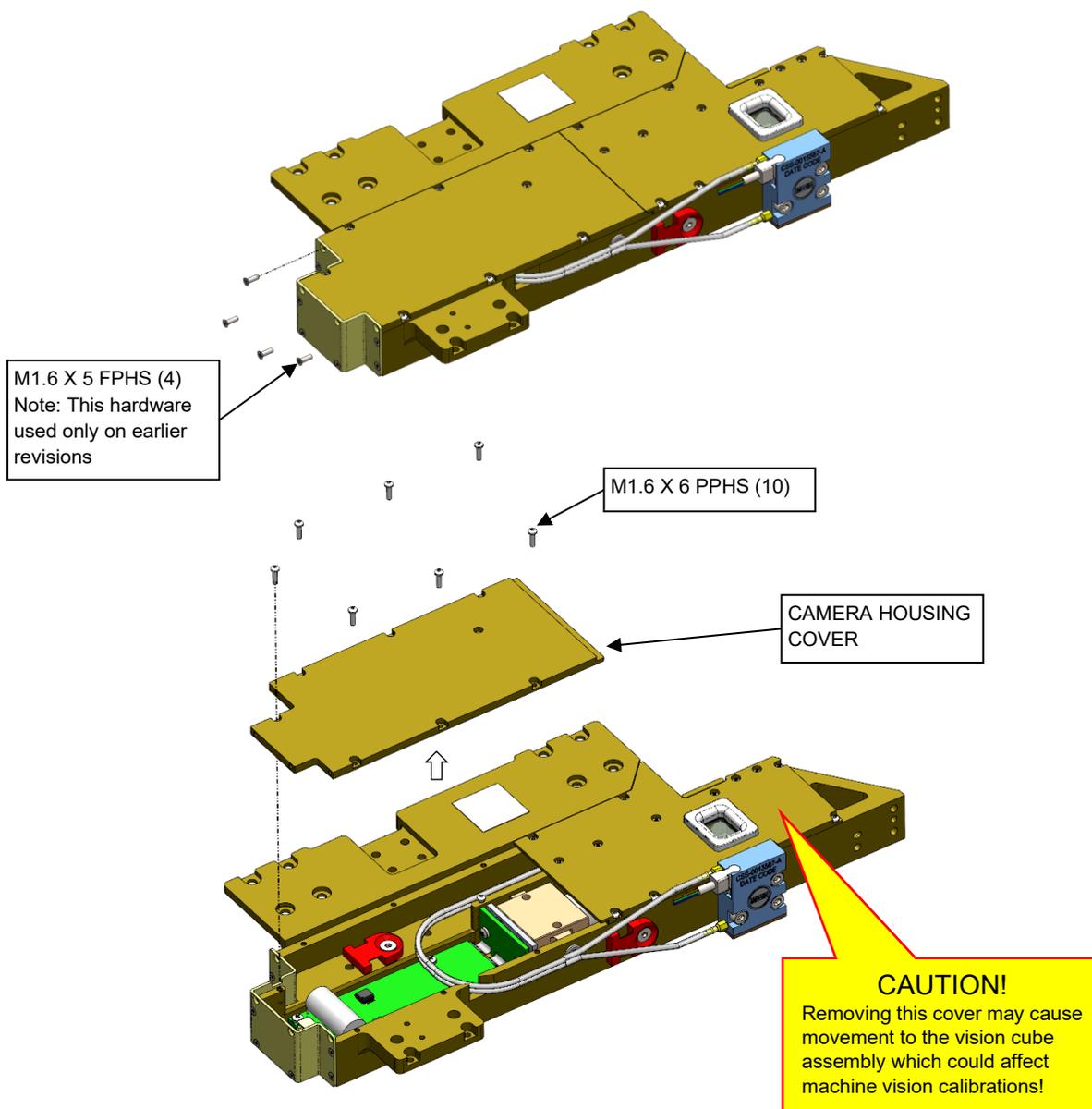
8. Install JIG0558 as shown using the existing cover mounting holes in the casting.
9. DO NOT DRILL HOLE INTO CABLE CARRIER. Move the vision probe all the way to the motor side so that the cable carrier is clear of the location where a hole will be drilled.
10. Use an 8mm drill bit to drill an access hole through the far wall of the vision gantry casting.



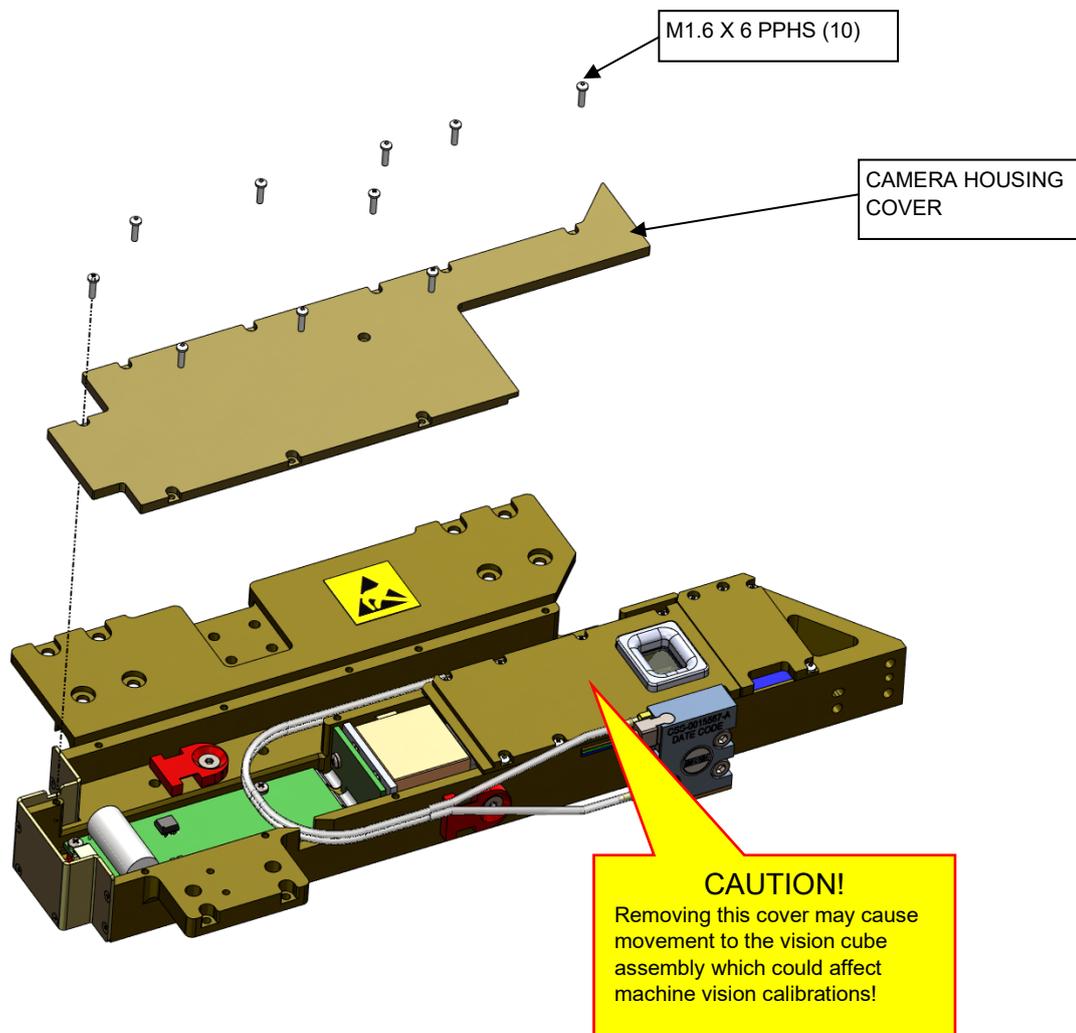
11. Remove the jig and deburr the hole.
12. Carefully remove the plastic and thoroughly clean the area of metal chips and any debris.

## Remove the Bimba Hardstop

13. Remove the camera housing cover by removing the M1.6 X 5 FPHS (4) and the M1.6 X 6 PPHS (10).

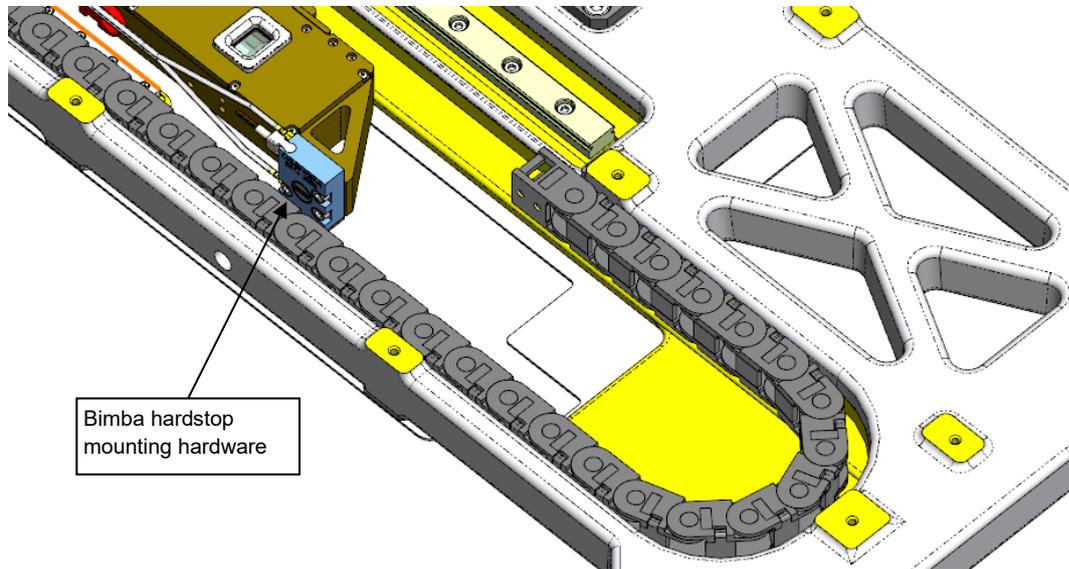


14. It should also be noted that there was a design change to the covers for the probe. You may encounter a machine that has covers as shown in the configuration below. This new cover set provides more access to the cabling and the cable carrier, limiting your need to remove the cube cover. It also eliminates the need to remove the end cover. However, if you do need to remove the cube cover the same care needs to be taken with regard to the cube set.



15. Remove the Bimba hardstop mounting hardware, use the access hole to remove the lower mounting hardware. Temporarily label the hardstop air lines to identify the extend and retract lines and then disconnect them from the barb fittings.

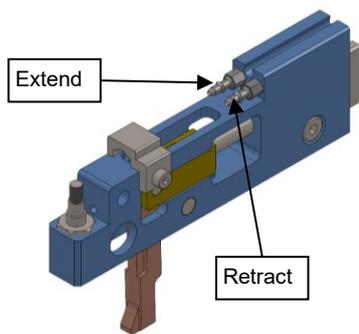
16. Remove the wire ties, unplug the sensor connector and remove the hardstop, with the cable attached to it.



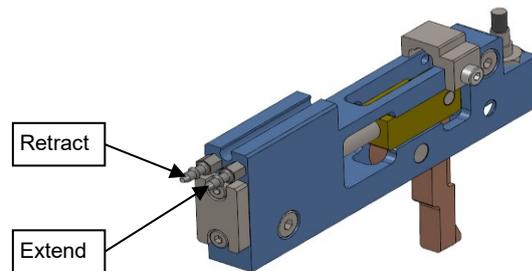
### Install the New Hardstop

17. Connect the air lines to the new hardstop barb fittings.

Right to Left Configuration



Left to Right Configuration



18. Routing of the hardstop air lines and sensor cable should be similar to what is shown in the pictures below.

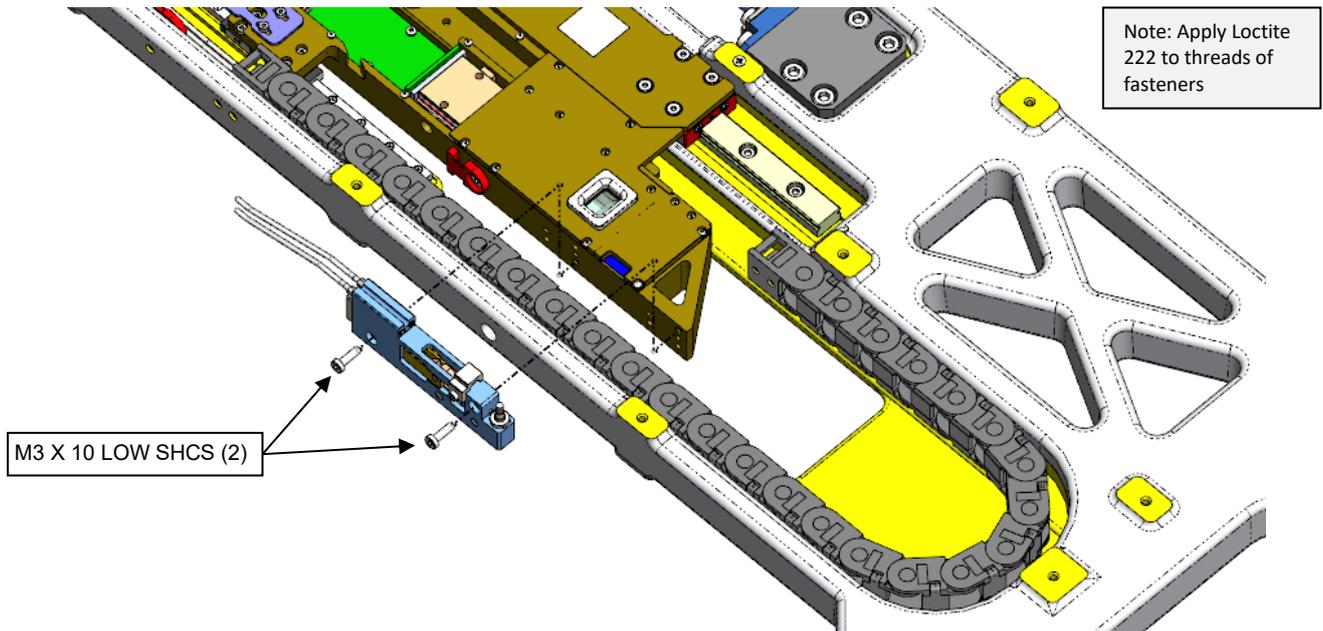


Right to Left Configuration

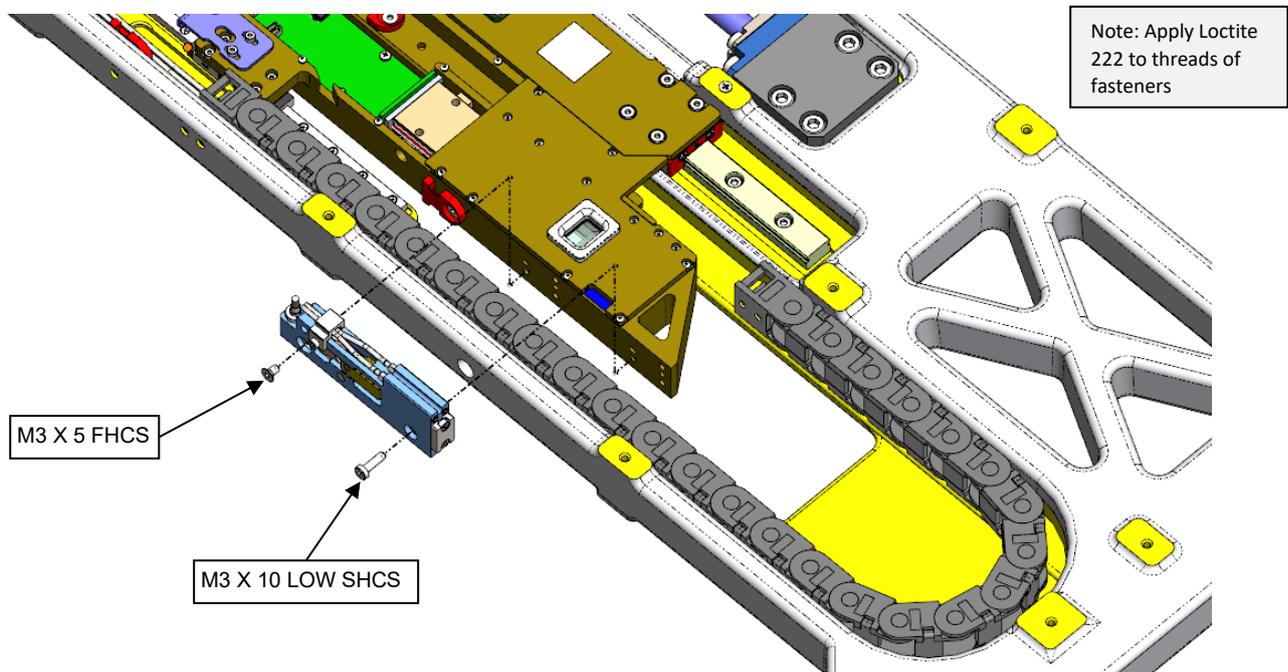


Left to Right Configuration

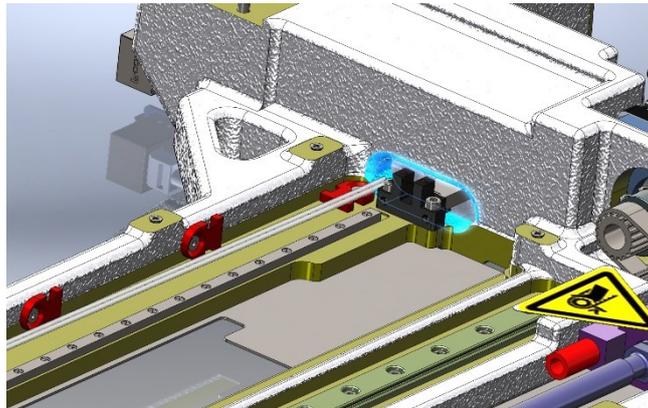
19. (a) For Left to right configuration mount the hardstop using two M3 X 10 Low SHCSs.



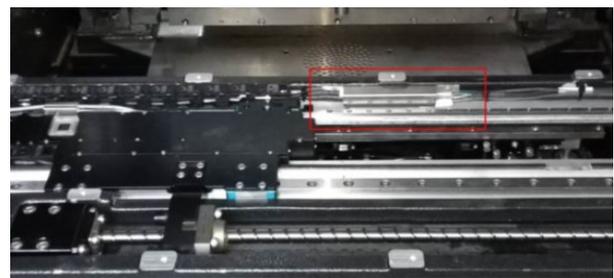
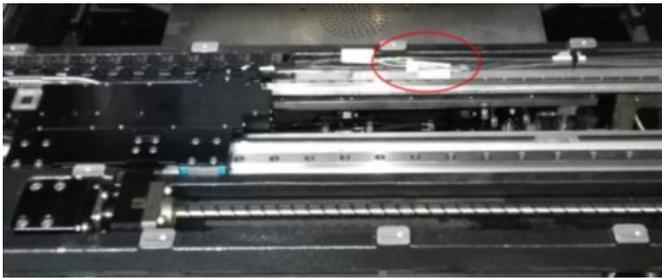
(b) For Right to Left configuration mount the hardstop using one M3 X 10 Low SHCS and one M3 X 5 FHCS.



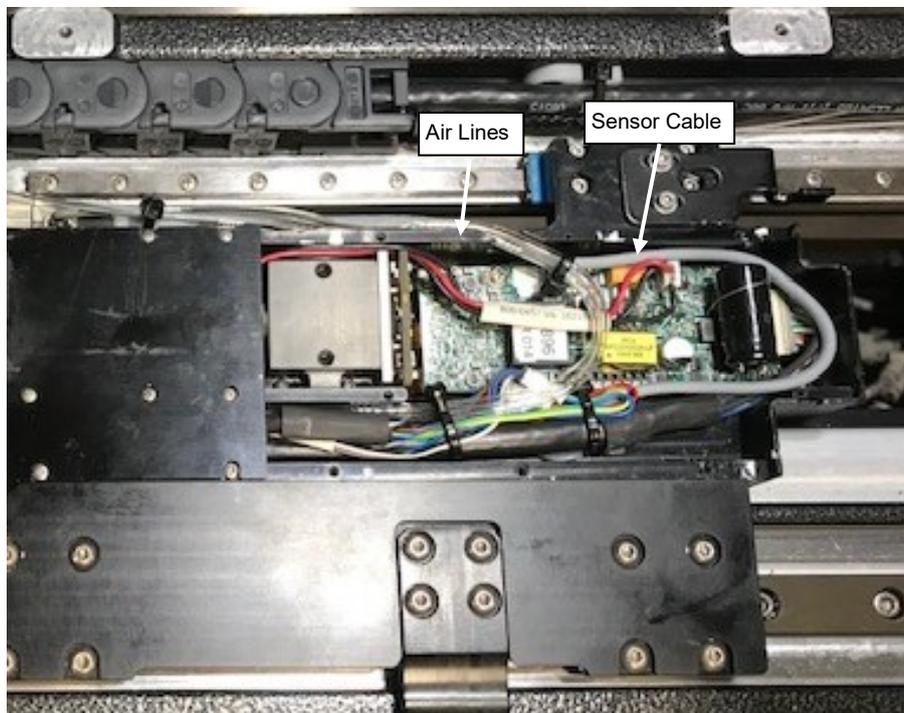
20. Next you will need to cut the zip ties retaining the cable bundle coming out of the vision X cable carrier along the wall of the casting all the way to where they exit the vision gantry assembly.
21. Locate cable assembly 1021530, which is connected to the board stop sensor cable, 1022151, and the previously disconnected and removed hard stop retracted sensor, 1022153, and then routed all the way through the vision x cable carrier through the vision Y cable carrier and down to the main control module (MCM).
22. Unplug 1021530 from the 1022151 cable and remove it from the vision x cable carrier. It will most likely be required to unsnap the cable carrier retainers to gain enough access and room to pull the cable and then install the new cable.
23. Continue by removing any required zip ties and remove the cable from the vision y cable carrier. Again, it will most likely be required to unsnap the cable carrier retainers to gain enough access and room to pull the cable and then install the new cable.
24. Continue to follow the cables routing, cutting any zip ties required, to free the cable all the way back to the MCM. Unplug the cable from J82 and J83 on the MCM board. Remove the cable and discard.
25. Feed the new lower Bard/Hard Stop cable, 1024523, through the back of the MCM and plug in connectors P82 to J82 and P83 into J83. Route cable following the same path as the old cable into the opening in the vision casting highlighted in blue below, along the existing cable/tubing bundle on the inside wall of the vision casting and through



26. Dress the cable through the vision Y cable carrier and then follow the existing cable/tubing bundle into the vision gantry. Close the retainers of the cable carrier and loosely Zip tie the new cable to the existing cable bundle.
27. Next, plug the 6-position connector of the lower cable into the 6-position connector of the new upper cable, 1024524. Route the new upper cable, 1024524, along the existing cable/tubing bundle on the inside wall of the vision casting and through the vision X cable carrier. Close the retainers of the cable carrier and loosely zip tie the cable bundle in place. and assembly bracket 2007192 to cover connector To keep away from shuttle of linear bearing

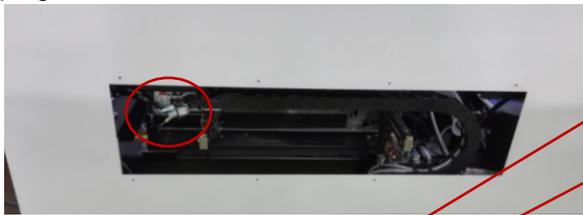


- 28. Connect the three-position sensor of the upper cable into the hard stop sensor and the five-position connector into the board stop ultrasonic sensor.
- 29. Carefully zip tie the sensor cable and air lines to the gantry casting and route them through the camera shuttle as shown below. Move the camera shuttle by hand from side to side and check that there is no rubbing or snagging of the cable or air lines.



- 30. At this time dress the cables at the entrance and exit of the vision X cable carrier neatly and secure both ends with Zip ties where shown.
- 31. Go back and dress the rest of the bundle back to the vision Y cable carrier and secure with Zip ties to the break point of the new cables.
- 32. At this time dress the cables at the entrance and exit of the vision Y cable carrier neatly and secure both ends with Zip ties making sure that any service loop is accessible and neatly dressed nearby in the machine's frame.

33. On left side of machine, remove ty-wrap, re-connect tube for hard stop, then fix tubes/wires by new ty-wrap again.

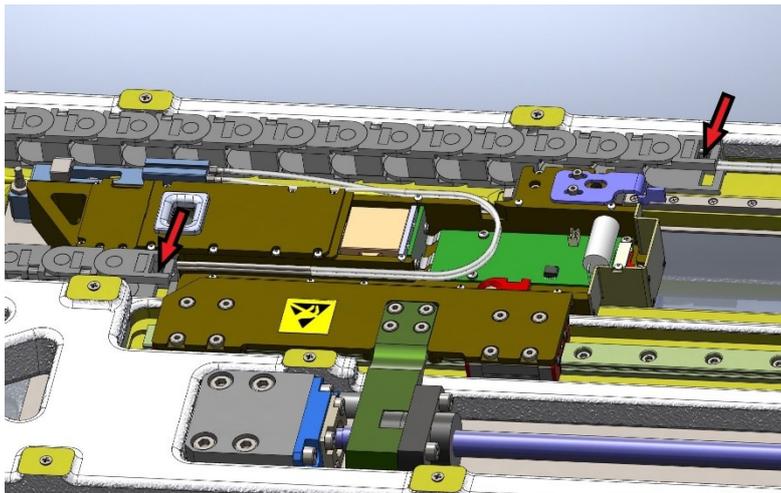


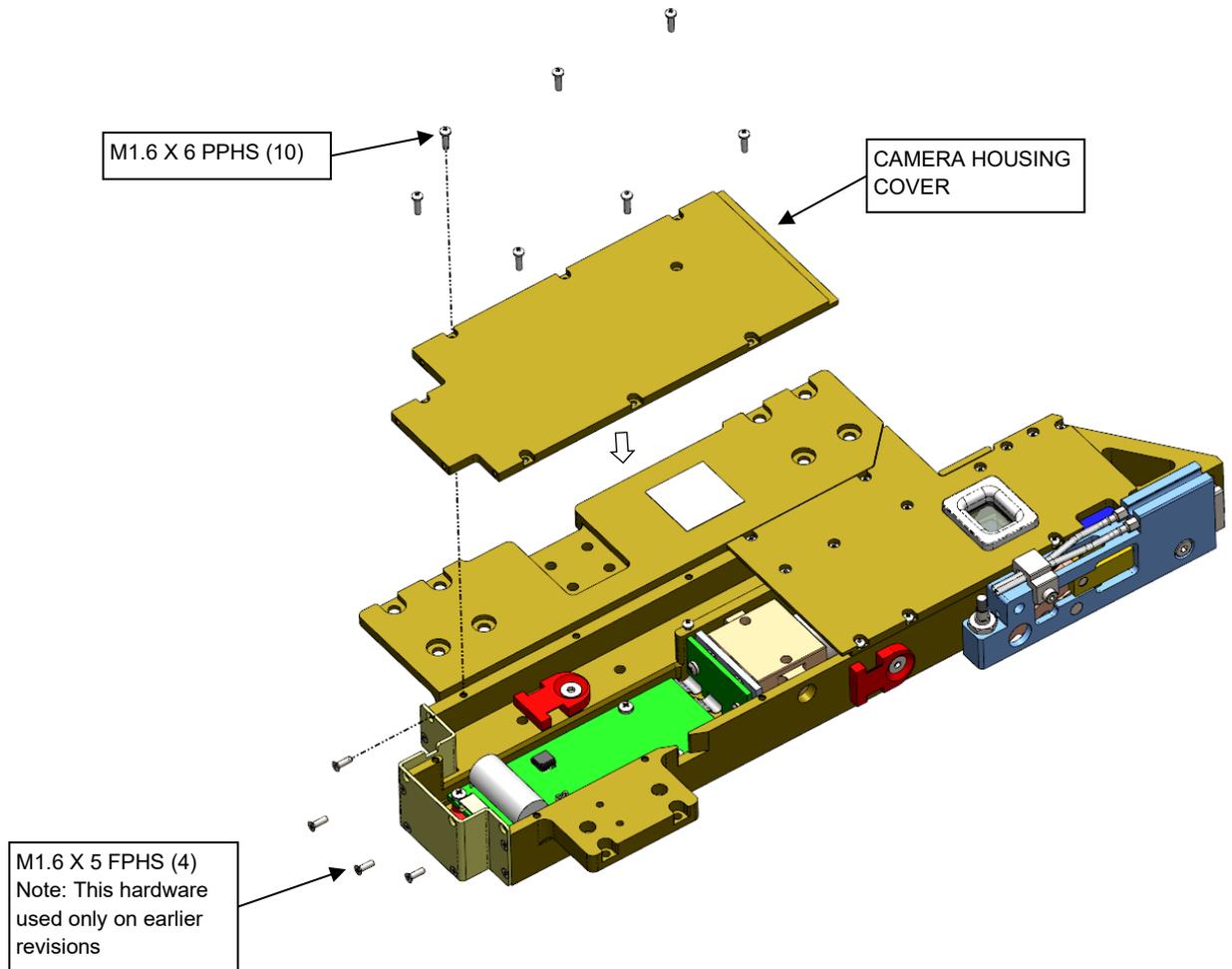
Re-connect "R" to "VISON HARD STOP UP"

Re-connect "E" to "VISON HARD STOP DOWN"

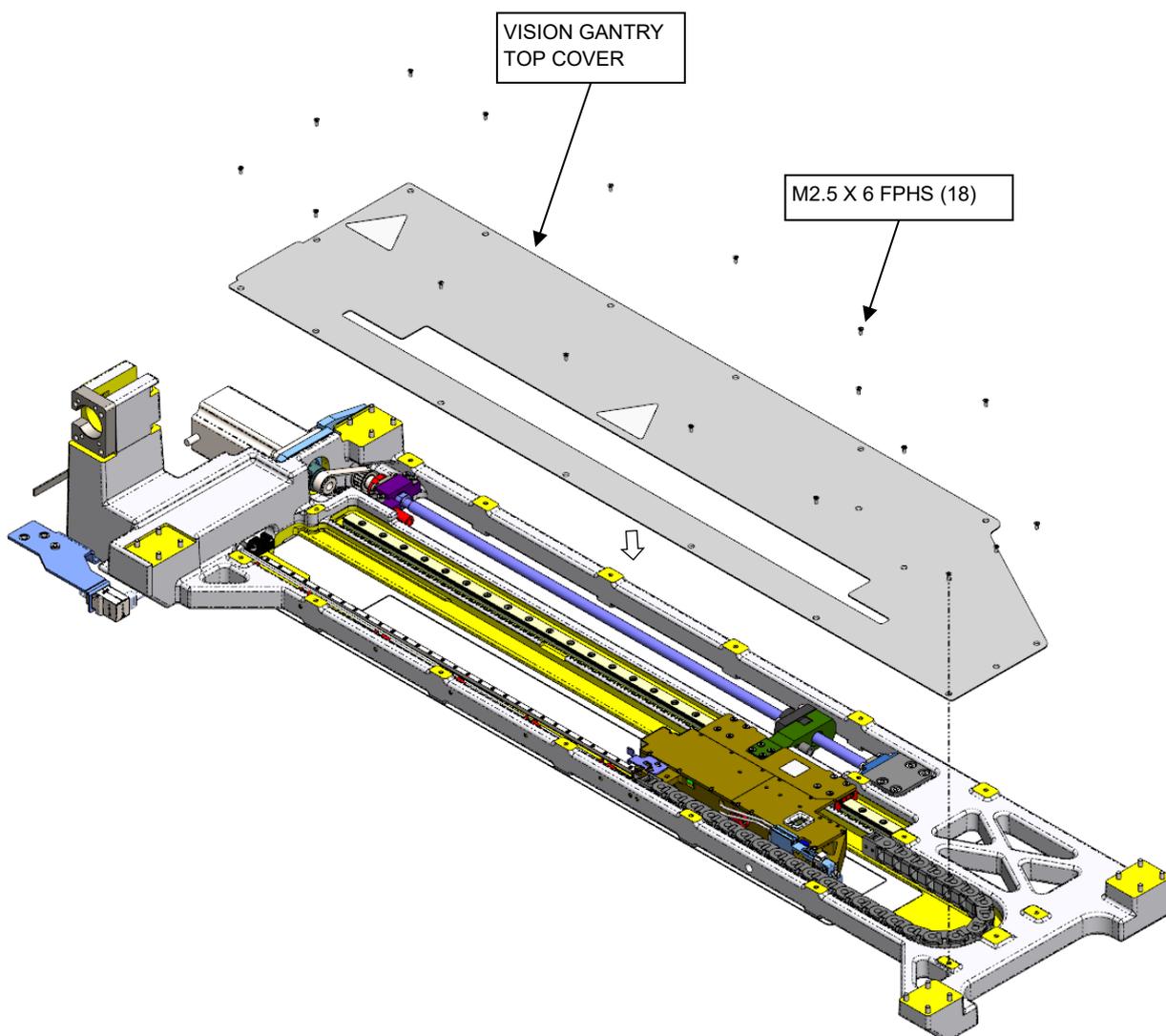


34. Replace the camera housing cover and the M1.6 X 5 FPHS (4) and the M1.6 X 6 PPHS (10) hardware. BE CAREFUL NOT TO PINCH THE SENSOR CABLE OR AIR LINES WHEN SECURING THE HOUSING COVER.





35. Replace the vision gantry top cover and the M2.5 X 6 FPHS (18).



36. Remove any protective cloth or plastic and clean the area.

37. Replace the machine top rear access panel.

### Functional Test

38. Apply power to the machine and initialize controllers only. Check that the area beneath the vision gantry hardstop clear and then use the diagnostics outputs to verify the extend - retract motions of the hardstop.

39. Initialize the machine and run demo cycle for several cycles to ensure the hardstop is functioning properly.