

ITEM	PART #	DESCRIPTION	QTY
A	723618	TOOL, ASSY, SPRING BRAKE RELEASE, IS4000	NA

Note: Brake Release Tool (A) may be used to release the Brake and position the Arm throughout this MPI.

1.  Verify Screws holding Carriage Top Plate are tight. Record result in Results Sheet.

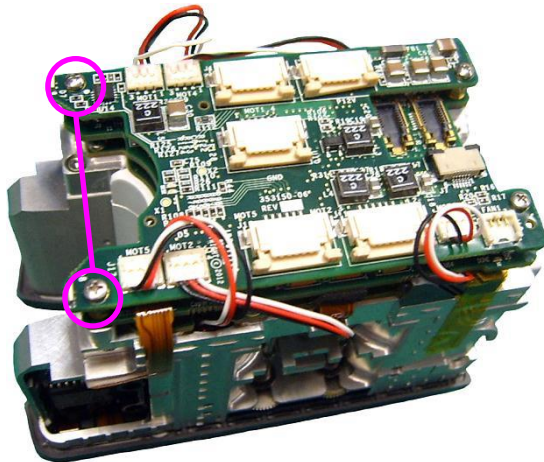


ESD Precautions
Required

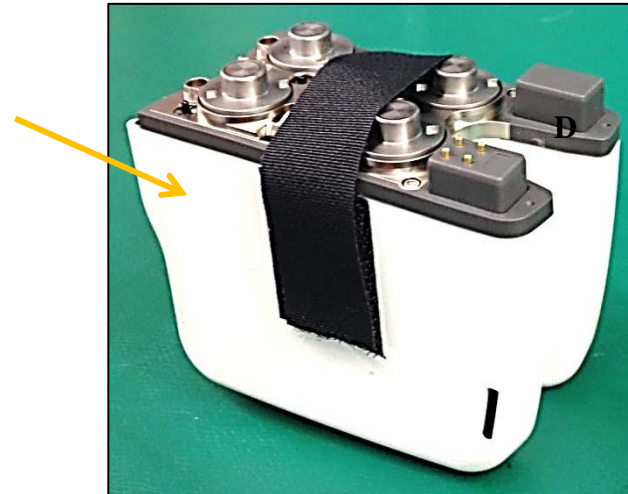
CAUTION: Once Carriage Cover Aide is removed the fragile ACCP LEDs will be exposed. Handle Carriage with care to avoid damage.



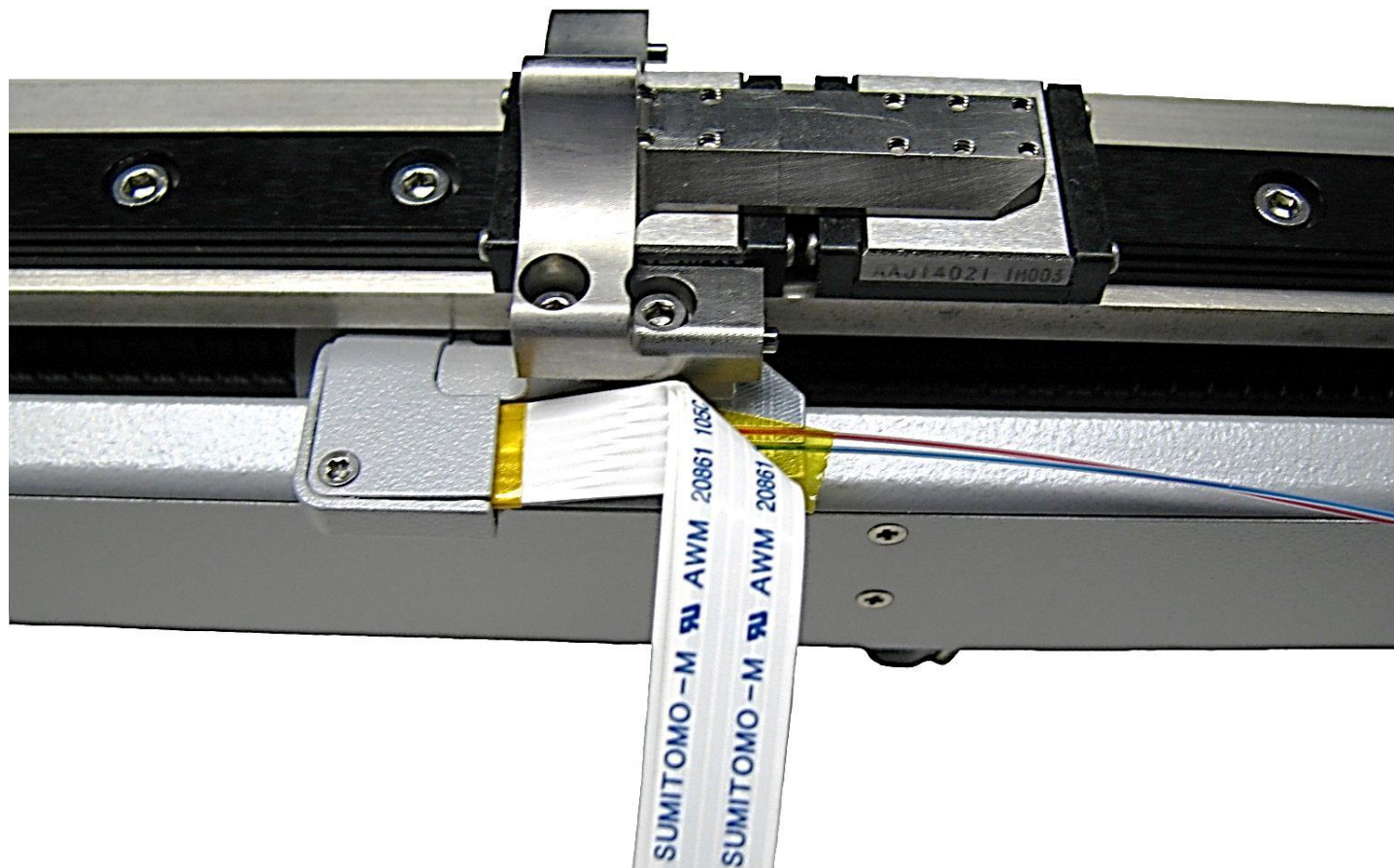
2. Carefully remove Carriage Cover Aide from Carriage.



Carriage
Cover Aide



3. Carefully remove **Kapton tape** and **Protection Clip** securing the fiber cables to the FFCs.
4. Verify **FFC's** are in order 1, 2, 3, 4, and 5.
5. Fold **FFC** 90° flush with bottom edge of **Bracket**.

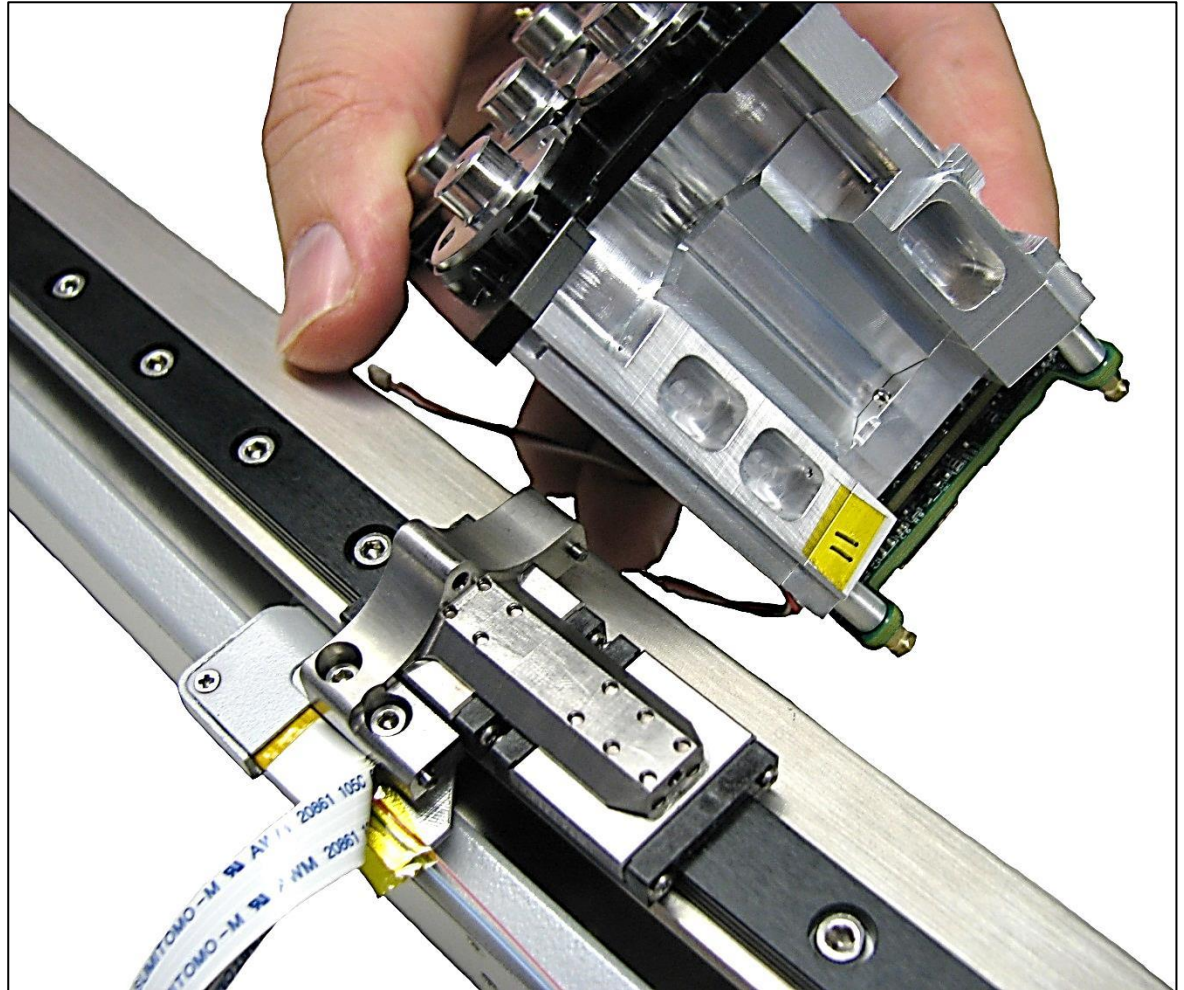


6. Align Carriage to Insertion Assembly as shown.

CAUTION: Be careful working with
Fiber Cables. Avoid
extreme bends or pinching
of cables.

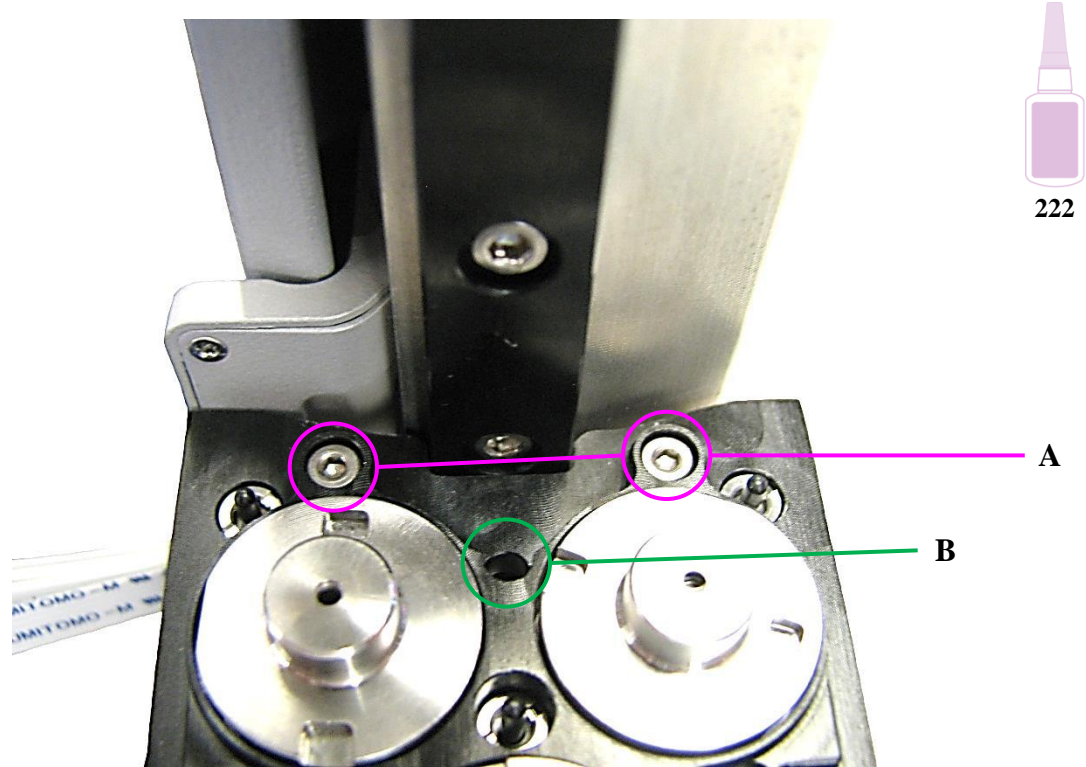


ESD Precautions
Required



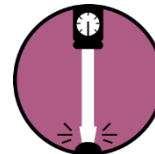
ITEM	PART #	DESCRIPTION	QTY
A	902947	SCREW, SHCS, M2X5, STST	2
B	902460	SCREW, SHCS, M1.6X12, STST	1
C	721916	EFT, TORQUE WRENCH, 1.0 IN-LBF, 1/4" FEM HEX ADAPTER	NA
D	722555	EFT, TORQUE WRENCH, 1.6 IN-LBF, 1/4" FEM HEX ADAPTER	NA

7. Secure Carriage to Bracket with Qty: 2 Screws (A) using Loctite 222.



ESD Precautions
Required

8. Install Screw (B) with Loctite 222. Torque Screws (A) to 1 in-lbs using (C). Torque Screws (B) to 1.6 in-lbs using (D).



ITEM	PART #	DESCRIPTION	QTY
A	318276	CLAMP,FFC,IS4000 CARRIAGE	1
B	902463	SCREW, PHFH, 0-80 X .125, STST	2
C	721916	EFT, TORQUE WRENCH, 1.0 IN-LBF, 1/4" FEM HEX ADAPTER	NA

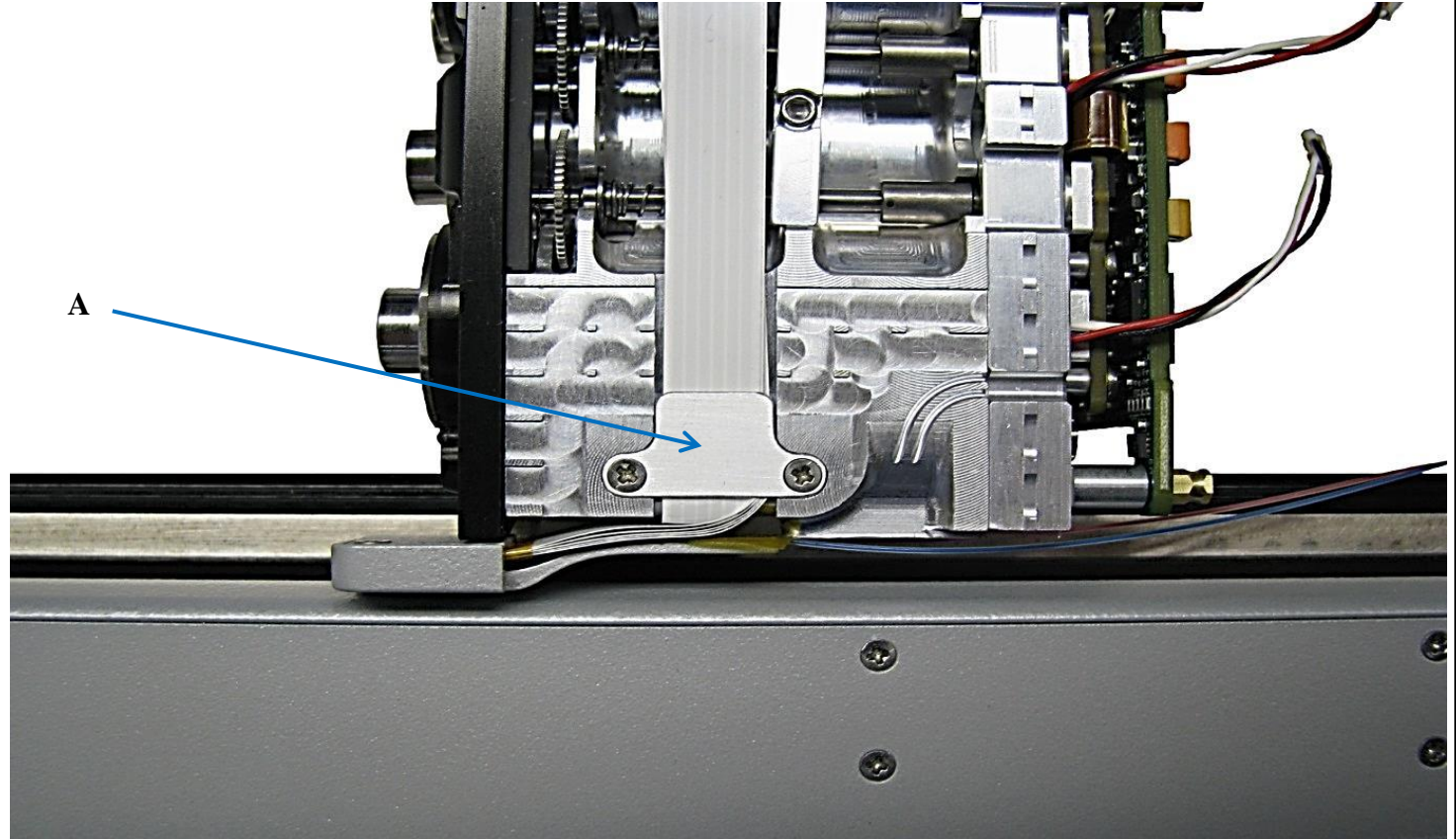
9. Route FFC's against Carriage. Secure by installing Clamp (A) using Qty: 2 Screws (B) Loctite 222. Torque to 1.0 in-lbs using (C).



222



Torque
1.0 in-lbs



ESD Precautions
Required

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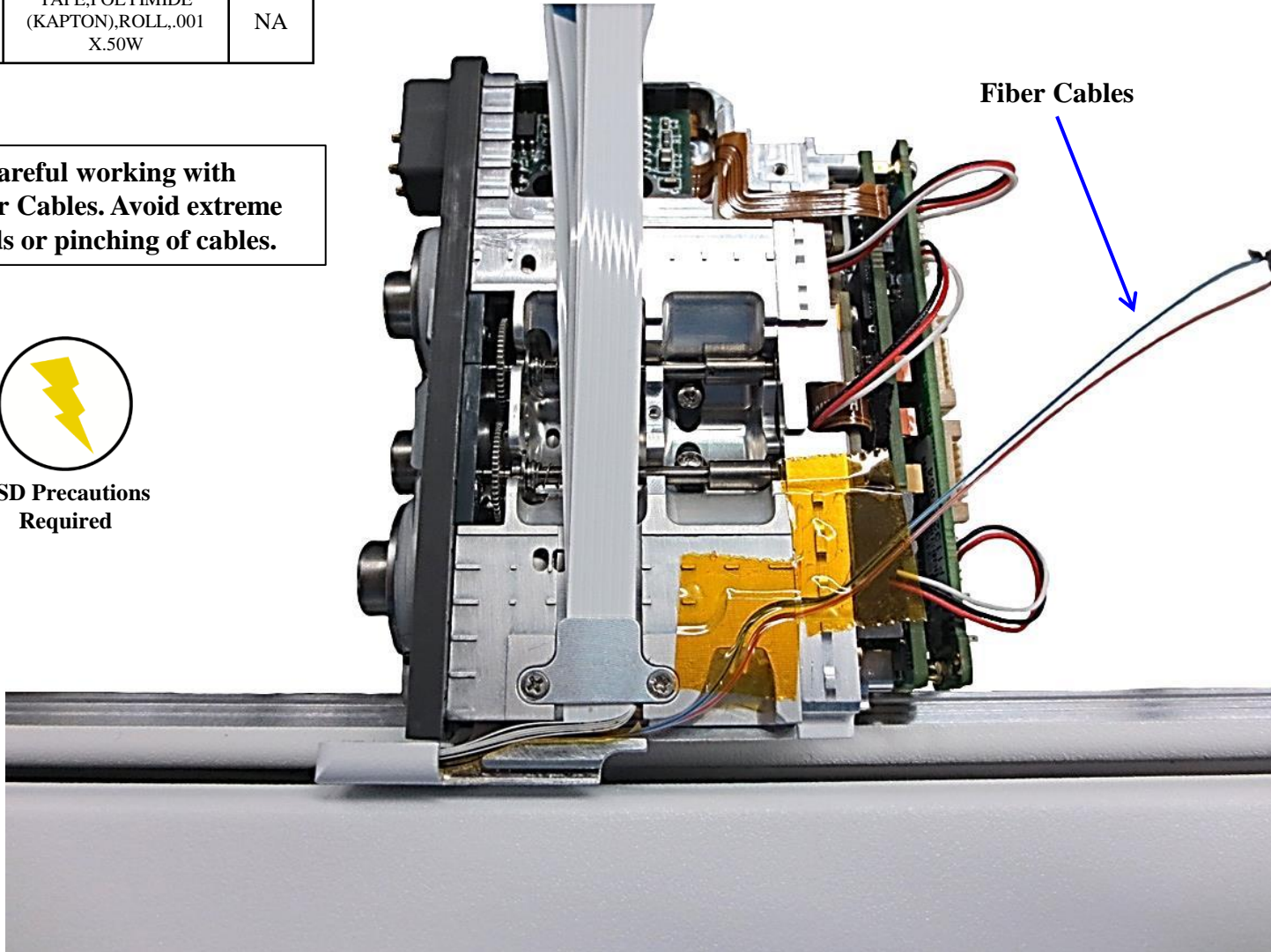
ITEM	PART #	DESCRIPTION	QTY
A	963004	TAPE,POLYIMIDE (KAPTON),ROLL,.001 X.50W	NA

10. Route Fiber Cables on Carriage and secure with Kapton Tape (A).

CAUTION: Be careful working with Fiber Cables. Avoid extreme bends or pinching of cables.



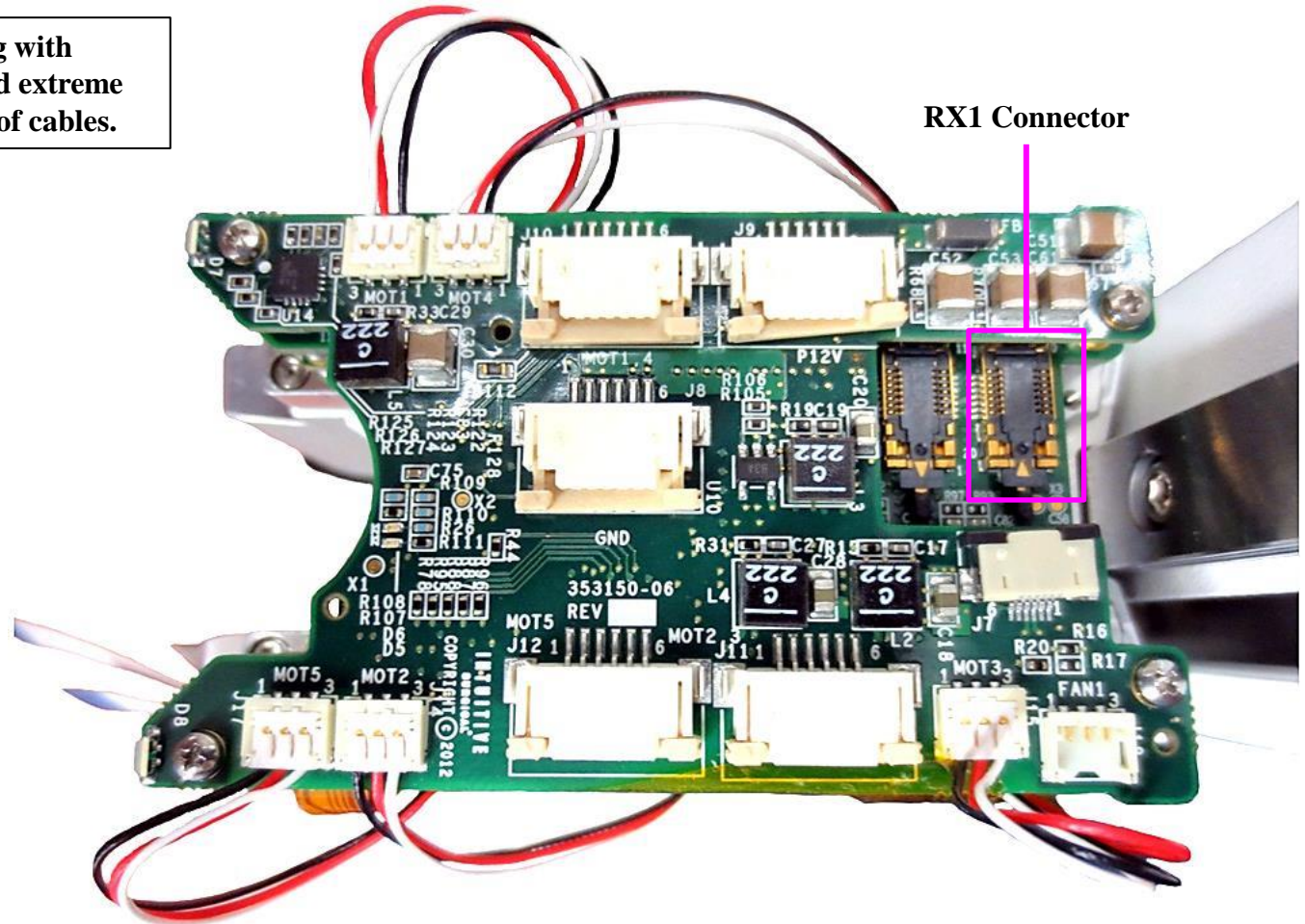
ESD Precautions
Required



11. Apply a service loop to route and connect the **Fiber Cables** to **ACCL, PCA**.

Note: “Arrow up” Cable is ‘Receive’ and connects to the ‘RX1’ connector.

CAUTION: Be careful working with
Fiber Cables. Avoid extreme
bends or pinching of cables.



RX1 Connector



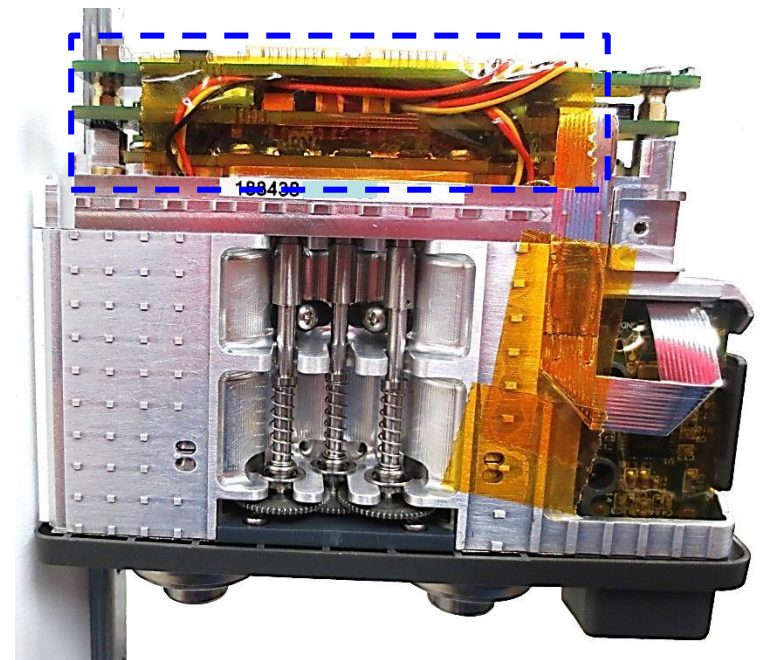
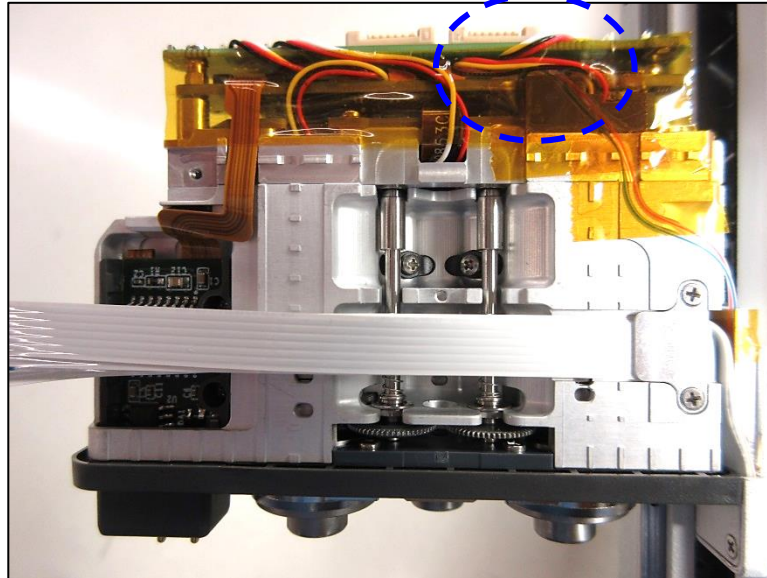
ESD Precautions
Required

ITEM	PART #	DESCRIPTION	QTY
A	963004	TAPE,POLYIMIDE (KAPTON),ROLL,.001 X.50W	NA

12. On both sides of the **Carriage Assembly**, tuck the **Motor Wires** in between the **ACCP and ACCL, PCAs** and secure with a strip of **Kapton Tape (A)** to avoid being damaged. See photos below:

Note: The service loop of the **Fiber Cables** are placed under the **ACCP, PCA** before the **Motor Wires**.

Tuck wires to the left as shown.



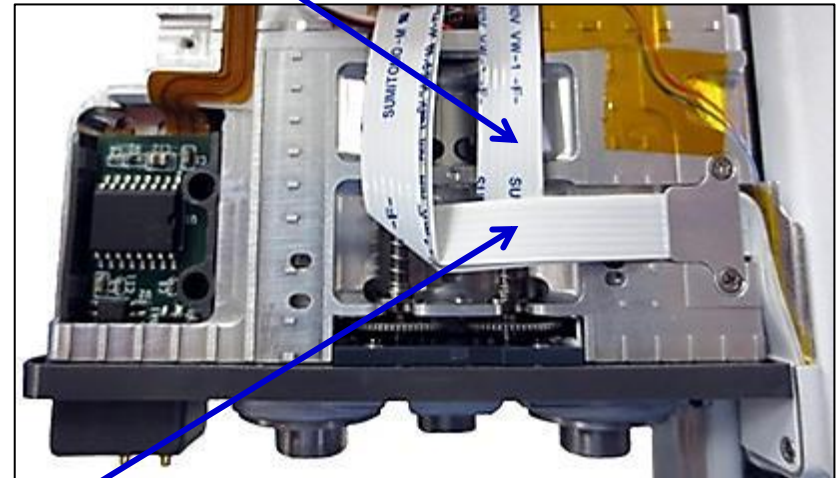
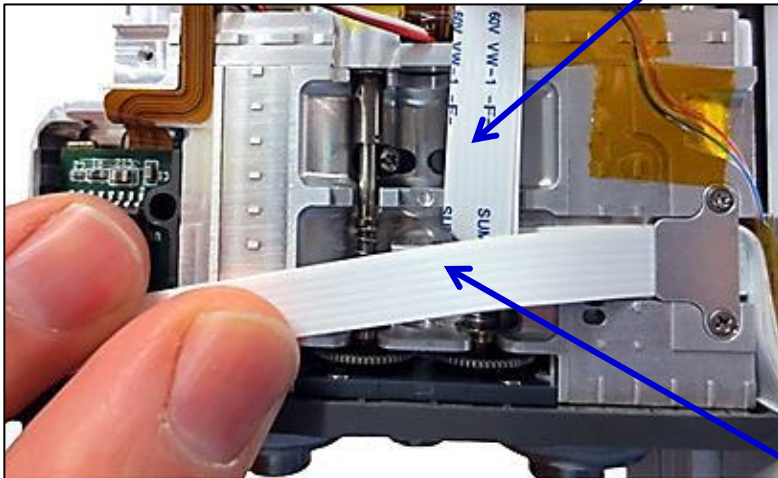
CAUTION: Be careful working with
Fiber Cables. Avoid extreme
bends or pinching of cables.



ESD Precautions
Required

13. Bend #1 and #2 FCCs 90° and align to groove closer to the spar. Repeat for #3, #4 and #5 FCCs, but align to groove further from spar.

FFC #s
1 and 2



FFC #s
3, 4, 5



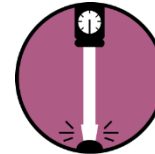
ESD Precautions
Required

ITEM	PART #	DESCRIPTION	QTY
A	318283	CLAMP,FFC,CENTER, IS4000 CARRIAGE	1
B	902974	SCREW,SHCS, M1.6 X3,SST	1
C	722555	EFT, TORQUE WRENCH, 1.6 IN-LBF, 1/4" FEM HEX ADAPTER	NA

14. Install **Clamp (A)** to Carriage with **Screw (B)** to secure **FFCs** using **Loctite 222**.
Torque to 1.6 in-lbs using (C).



222

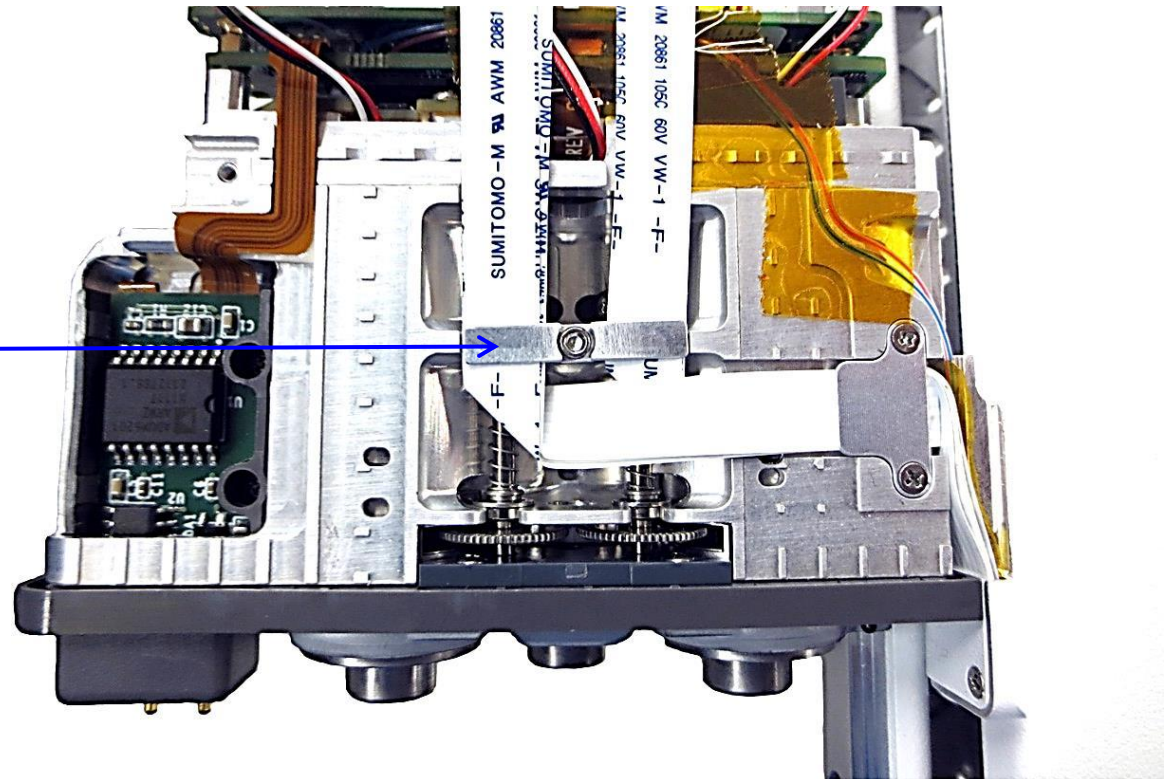


Torque
1.6 in-lbs



ESD Precautions
Required

A, B



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ITEM	PART #	DESCRIPTION	QTY
A	963004	TAPE,POLYIMIDE (KAPTON),ROLL,.001 X.50W	NA

15. Connect FFCs as follows:

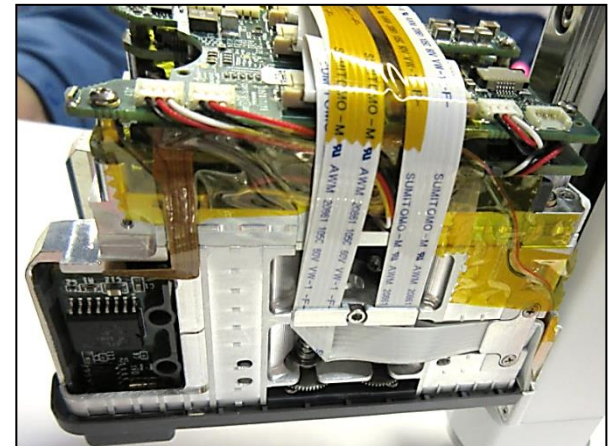
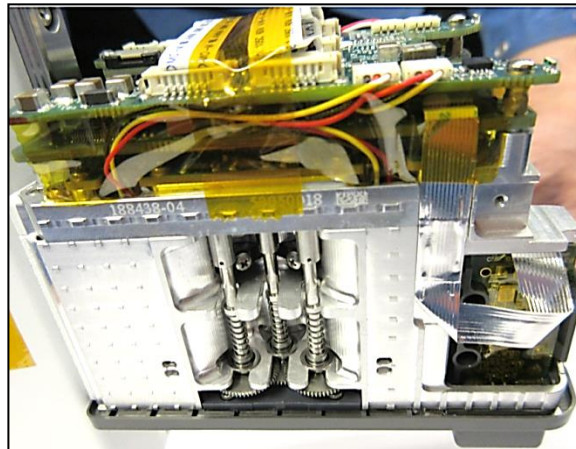
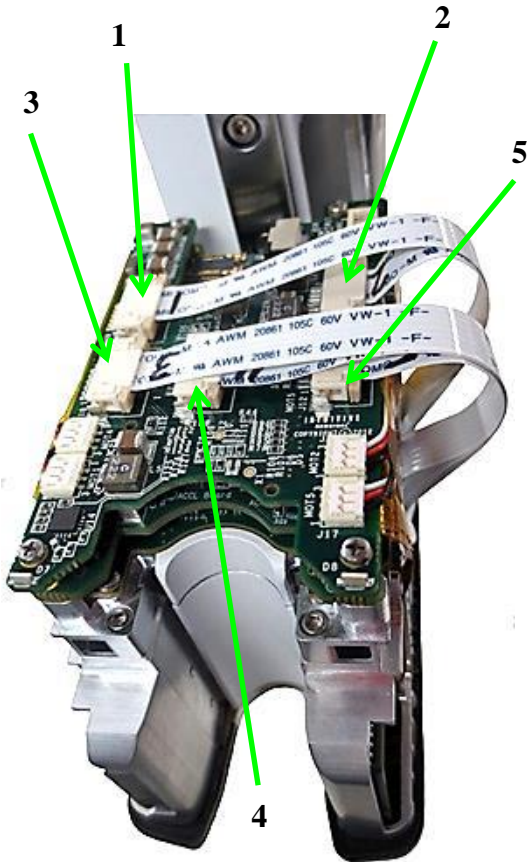
FFC Connections	
FFC	Connector
1	J9
2	J11
3	J10
4	J8
5	J12



16. Bend and tape FFCs as shown.
Secure with **Kapton Tape (A)**.




ESD Precautions
Required

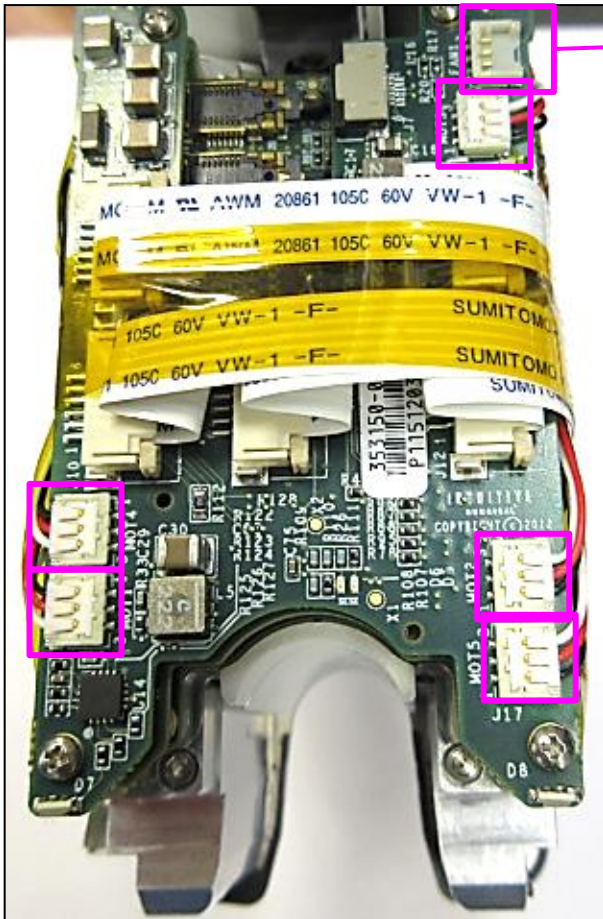




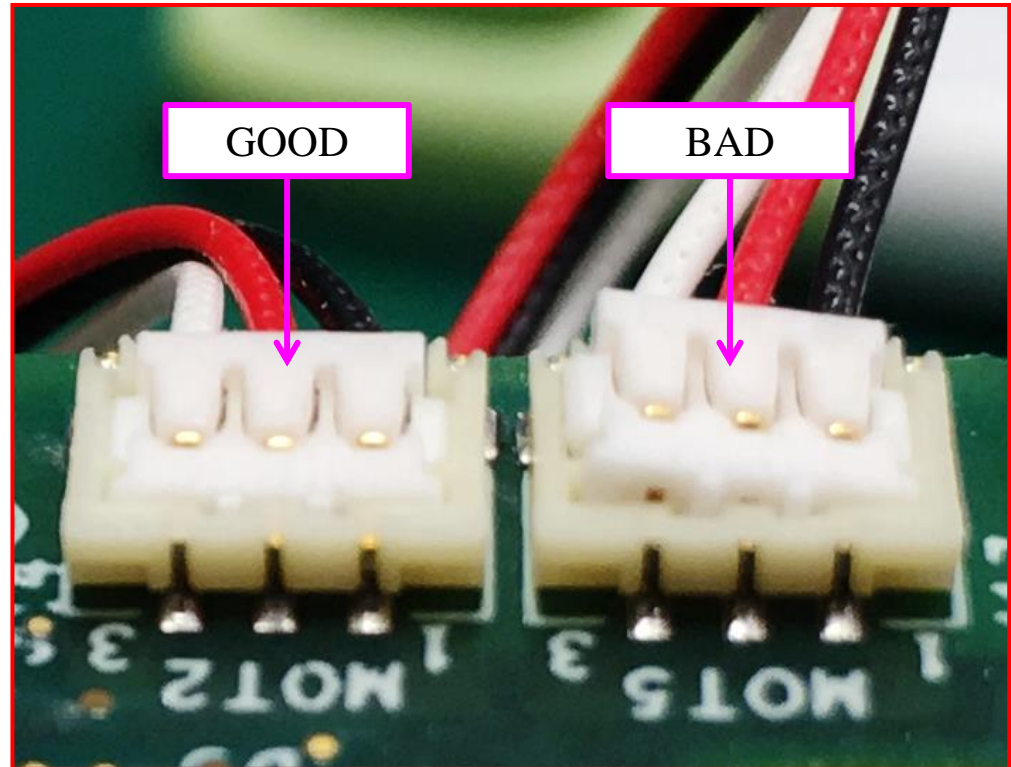
ESD Precautions
Required

17. Connect **Fan Assembly** to **J18**: Fan1 connection of **ACCS Assembly**.
18.  Verify that the **Fan** and **Motor Stator** wires are fully seated in the connectors on top of the **PCA**. Record result in Result Sheet.

New highlights, picture and text
clarifying verification step



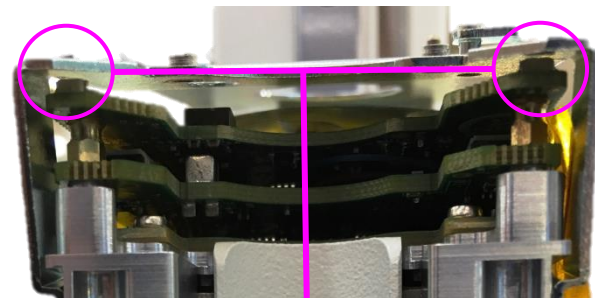
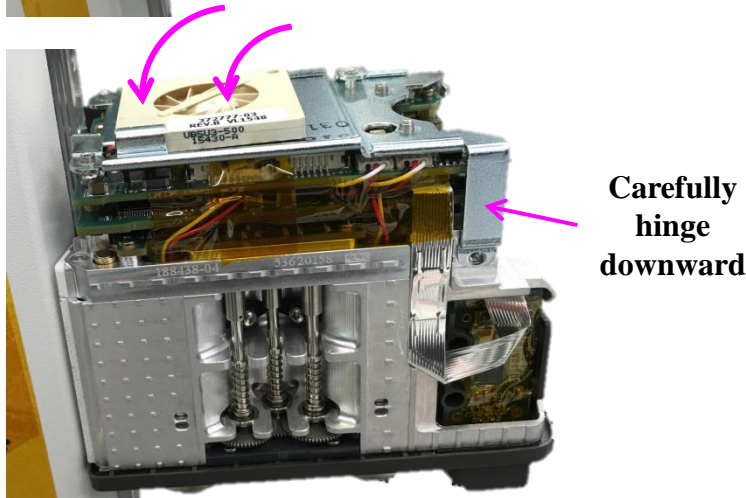
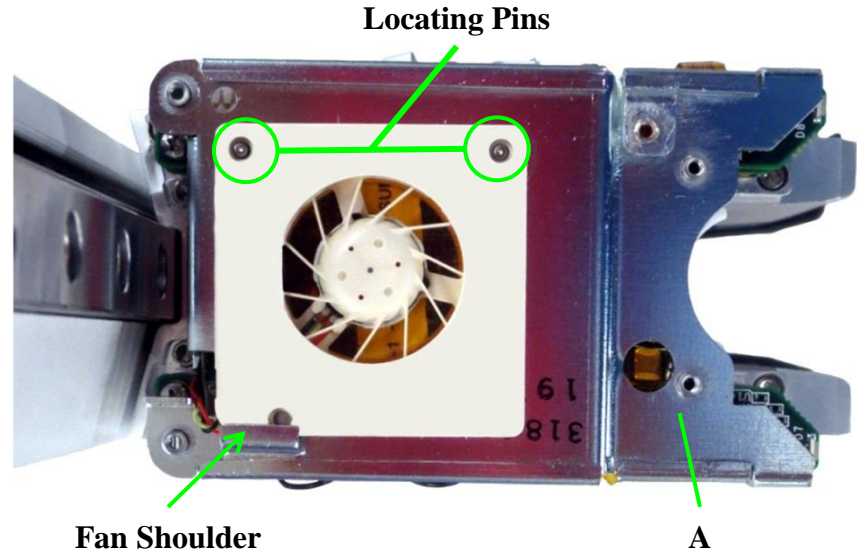
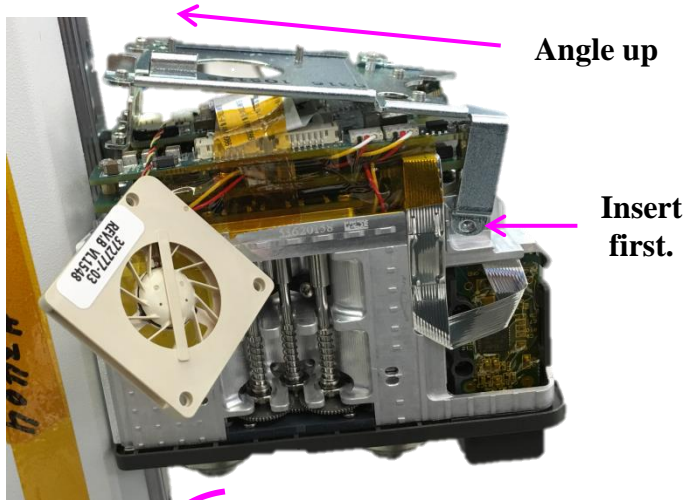
Fan1



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ITEM	PART #	DESCRIPTION	QTY
A	318286	LOWER SUPPORT, CARRIAGE, IS4000	1

19. Install **Fan Assembly** onto **Lower Support (A)**, as shown below. **Fan** slips into shoulder and secured with **PEM Locating Pins** on the **Lower Support**. Install **Lower Support** into Carriage as shown.



ESD Precautions
Required

CAUTION: Be careful when installing Lower Support. Make sure you do not bump and damage LEDs on ACCP PCA.



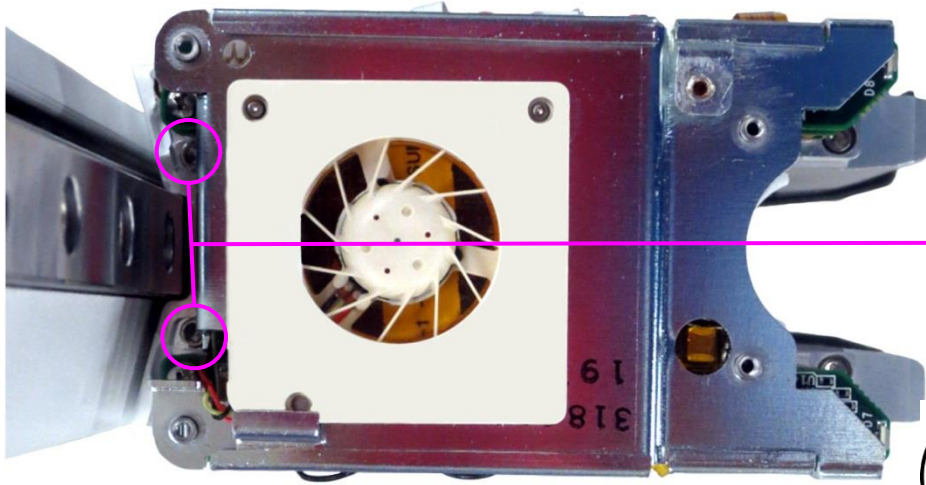
INTUITIVE SURGICAL CONFIDENTIAL AND PROPRIETARY. Users of any printed hard copy of this document must verify that it represents the most current revision prior to use.

ITEM	PART #	DESCRIPTION	QTY
A	902974	SCREW,SHCS, M1.6 X3,SST	4
B	722555	EFT, TORQUE WRENCH, 1.6 IN-LBF, 1/4" FEM HEX ADAPTER	NA

20. Secure Lower Support using Qty: 4 Screws (A) with Loctite 222. Torque to 1.6 in-lbs using (B).



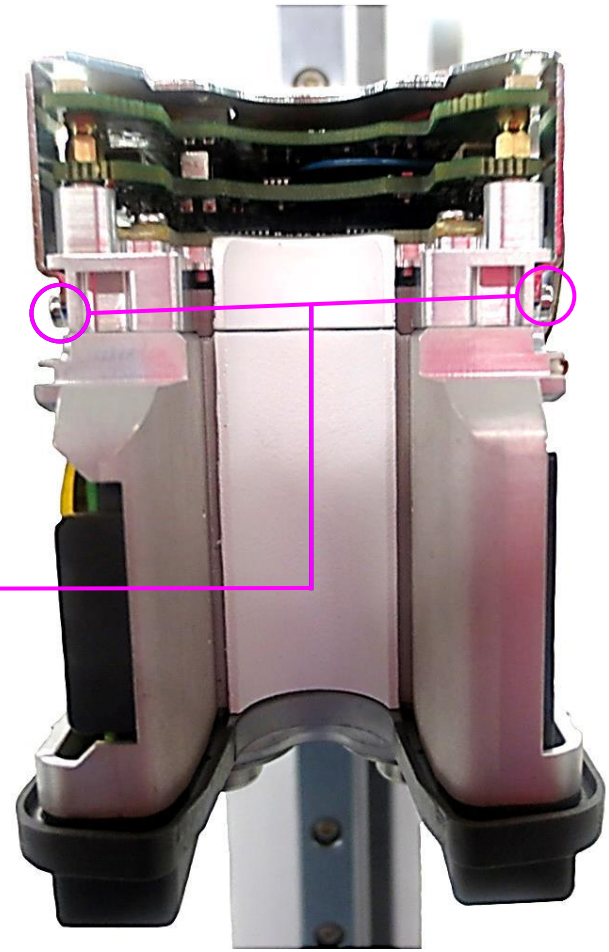
Torque
1.6 in-lbs



Top View



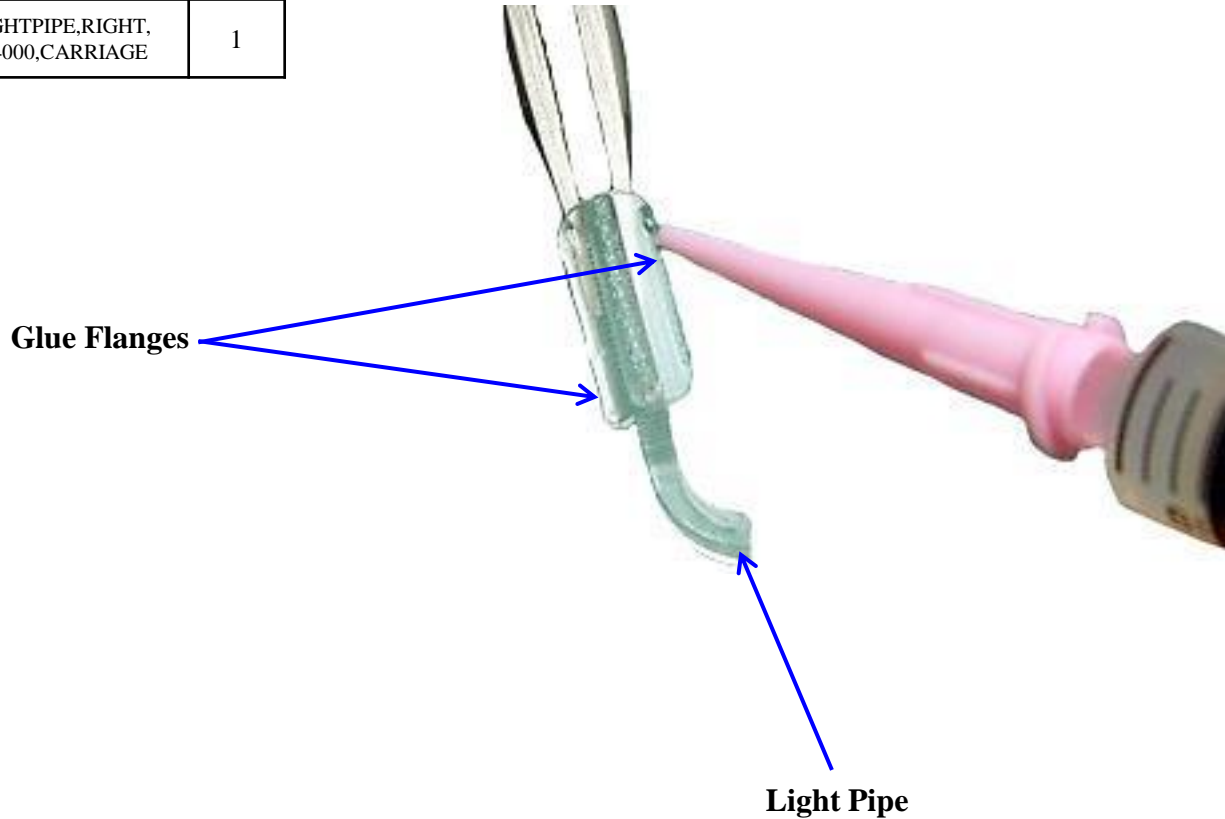
ESD Precautions
Required



Front View

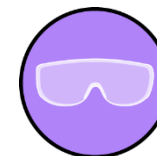
ITEM	PART #	DESCRIPTION	QTY
A	971125	ADHESIVE,UV CURE GEL,LOCTITE 3979	AR
B	319736	LIGHTPIPE,RIGHT, IS4000,CARRIAGE	1

21. Apply a thin bead of **Loctite 3979 (A)** to flanged surface on the **Right Light Pipe (B)**.

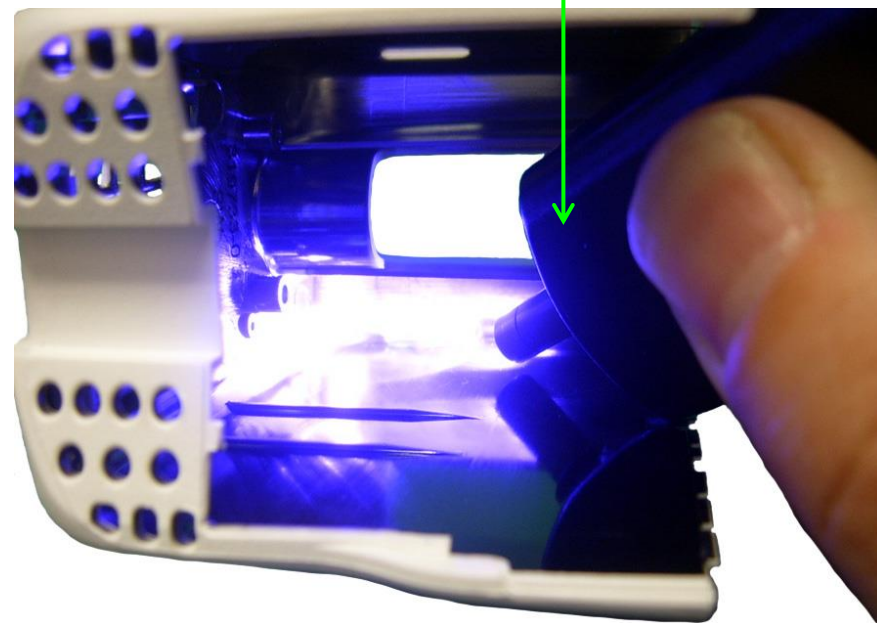
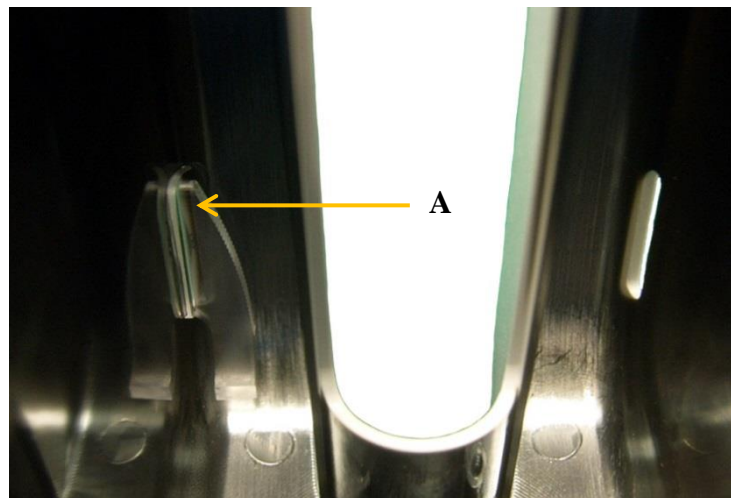


ITEM	PART #	DESCRIPTION	QTY
A	319736	LIGHTPIPE,RIGHT, IS4000,CARRIAGE	1
B	319733	COVER, IS4000 CARRIAGE	1
C	723349	AIDE,UVCURE, LOCTITE 7700-HD	NA
D	710349	EFT, TIMER, 1 SEC-99 MIN 59SEC, 30 SEC ALARM	NA
E	319735	LIGHTPIPE,LEFT, IS4000,CARRIAGE	1

22. Place **Right Light Pipe (A)** into the **Cover (B) Housing** from the inside and press into the mating feature on the **Cover** (as shown).
23. Using **UV Cure Aide (C)** and cure adhesive for ~30 seconds. (*adhesive turns pink when cured*). **Note: Make sure to wear safety glasses during this step.** Use **Timer (D)** during curing process.
24. Repeat **Steps 21 – 23** for second **Light Pipe (E)**.

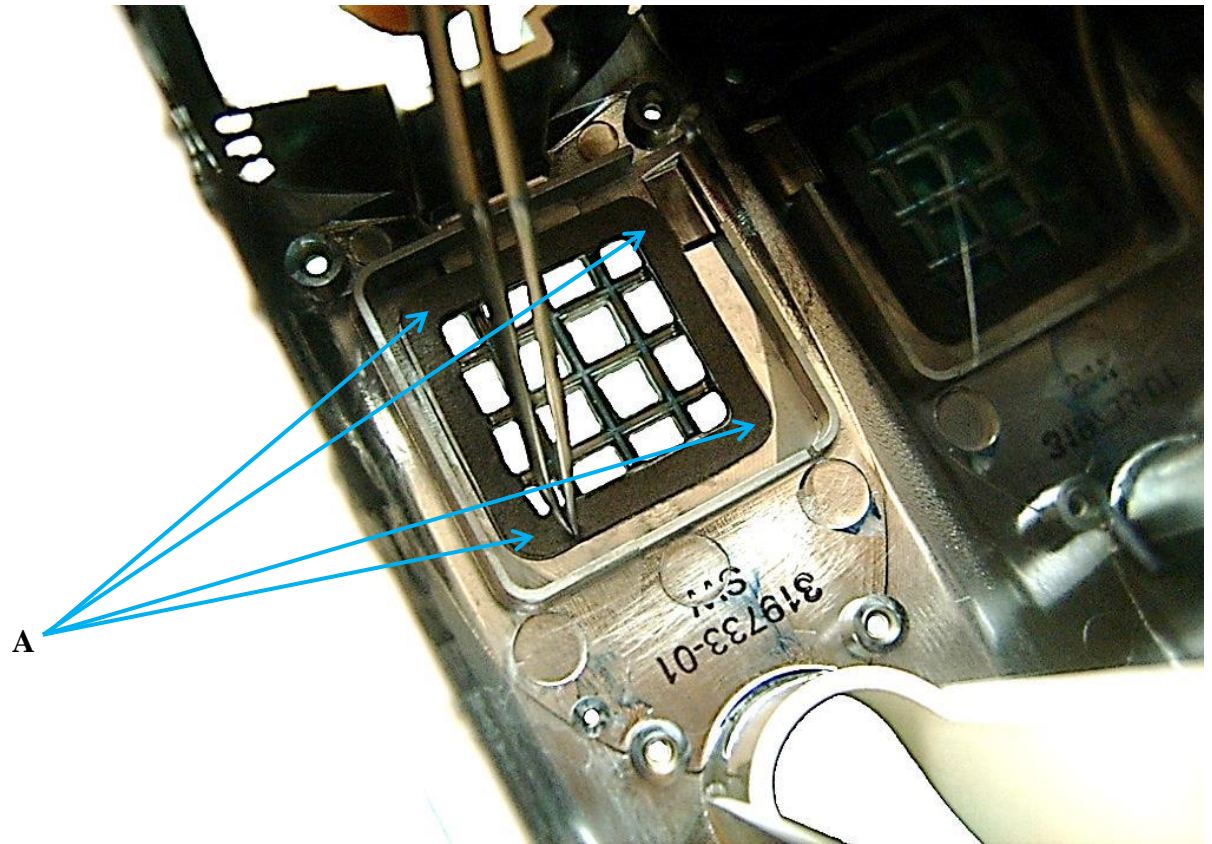


Safety Glasses
Required



ITEM	PART #	DESCRIPTION	QTY
A	319739	FOAM PAD,FAN SUPPORT,IS4000 CARRIAGE	1

25. Remove paper to expose adhesive backing on **Foam Pad (A)**.
26. Apply the **Foam Pad** while carefully aligning the edges (see arrows) on the **Cover**.
27. After placing **Foam Pad** into the well, press around the perimeter to ensure adhesion.



ITEM	PART #	DESCRIPTION	QTY
A	963004	TAPE,POLYIMIDE (KAPTON),ROLL,.001 X.50W	NA
B	902974	SCREW,SHCS, M1.6 X3,SST	4
C	722555	EFT, TORQUE WRENCH, 1.6 IN-LBF, 1/4" FEM HEX ADAPTER	NA

28. Secure FFC with Kapton Tape (A).
29. Attach Cover to Carriage using Qty: 4 Screws (B) and Loctite 425. Torque to 1.6 in-lbs using (C).

CAUTION: Avoid damaging the cables while installing the Cover.

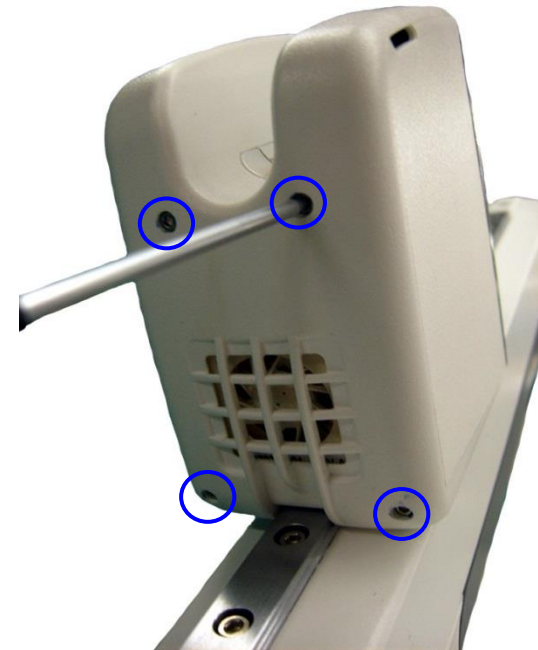
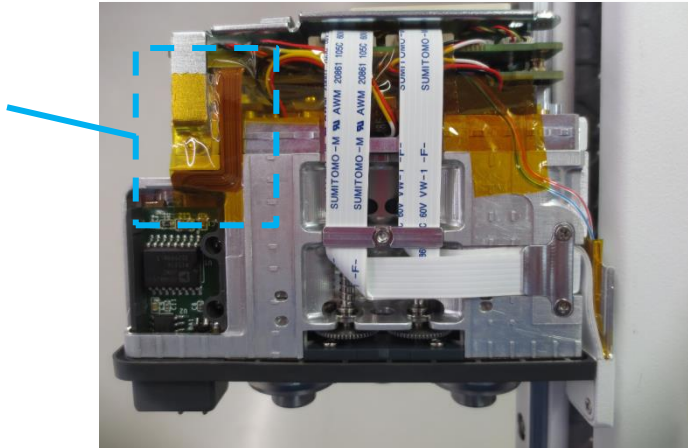


425



Torque
1.6 in-lbs

Apply Kapton Tape over this FFC and pay close attention to avoid damaging when installing the Cover.



ESD Precautions
Required

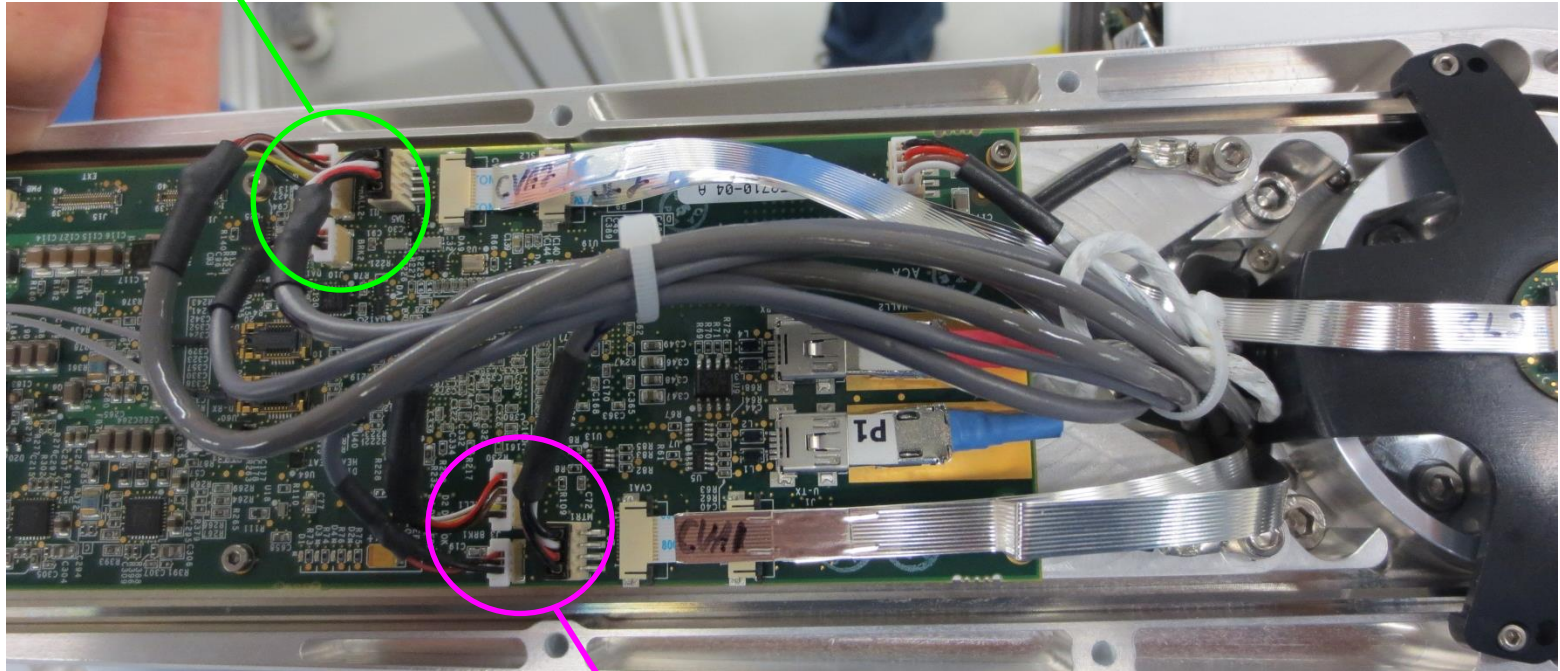
30. Connect **Motor Module Cables** according to table.



ESD Precautions
Required

Yaw Motor	MTR1
Yaw Hall Sensor	HALL1
Yaw Brake	BRK1
Pitch Motor	MTR2
Pitch Hall Sensor	HALL2
Pitch Brake	BRK2

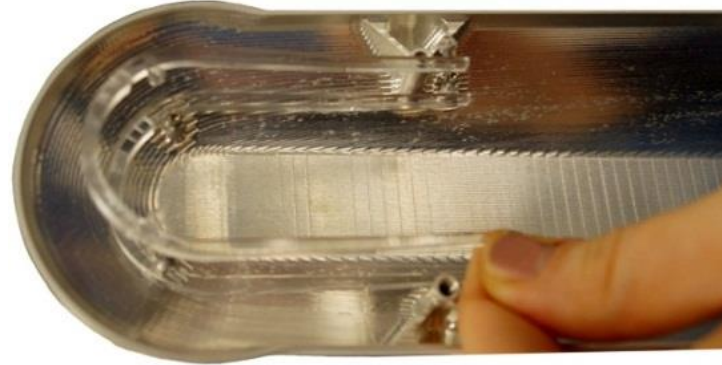
PITCH



YAW

ITEM	PART #	DESCRIPTION	QTY
A	319140	LIGHT PIPE, LINK 1, USM,IS4000	1
B	318349	STRUCTURAL COVER, LINK 1, USM,IS4000	1
C	901195	SCREW,SHCS, M1.6X4,STST	4
D	901212	SCREW,SHCS, M4-.7 X 20,STST	2
E	902036	SCREW,SHCS, M4 X 12 MM,STST	2

31. Install **Light Pipe (A)** into **Link 1 Cover (B)** with **Screws (C)** and **Loctite 425**.



425

32. Install **Link 1 Cover** onto **Link 1** with **Screws (D)** and **(E)**.

