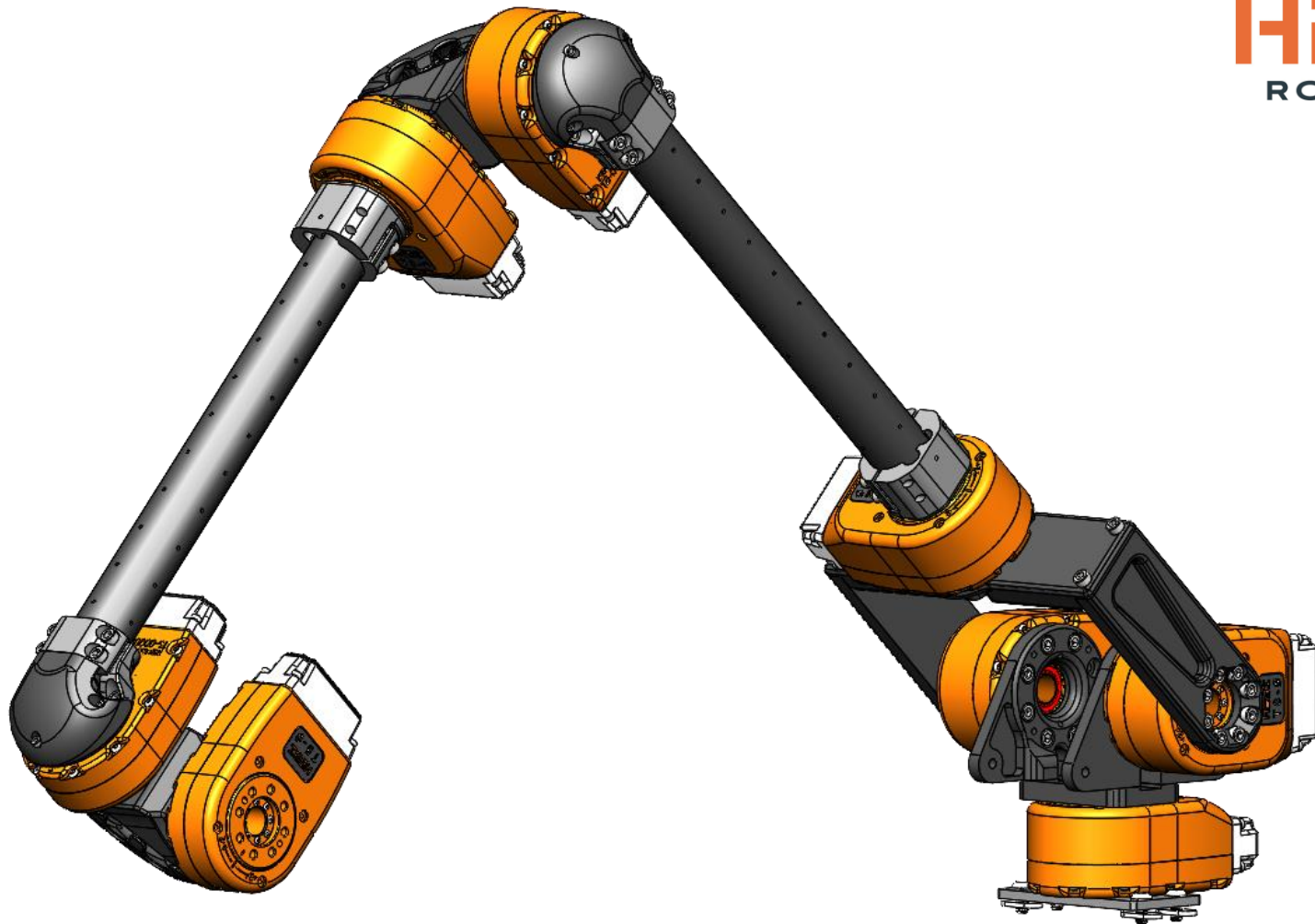




T-Series 7-DoF Double Shoulder Arm Kit

Assembly Instructions

General Warnings and Cautions

Danger (May cause serious injury or death)

- Keep water, flammables, solvents and other liquids clear from actuator.
- Keep fingers away from moving parts during operation.
- Cut power immediately if actuator emits strange odors or smoke.
- Keep actuator out of reach of children.

Warning (May cause injury or damage to actuator)

- Do not expose the actuator to permanent and strong magnetic fields.
- Do not force screws into the bottom of the actuator. T8 = 8mm Tap Depth
- Use provided hardware with accessories and hand tighten as needed.
- Attempts to disassemble actuator will void the warranty and may cause permanent damage.

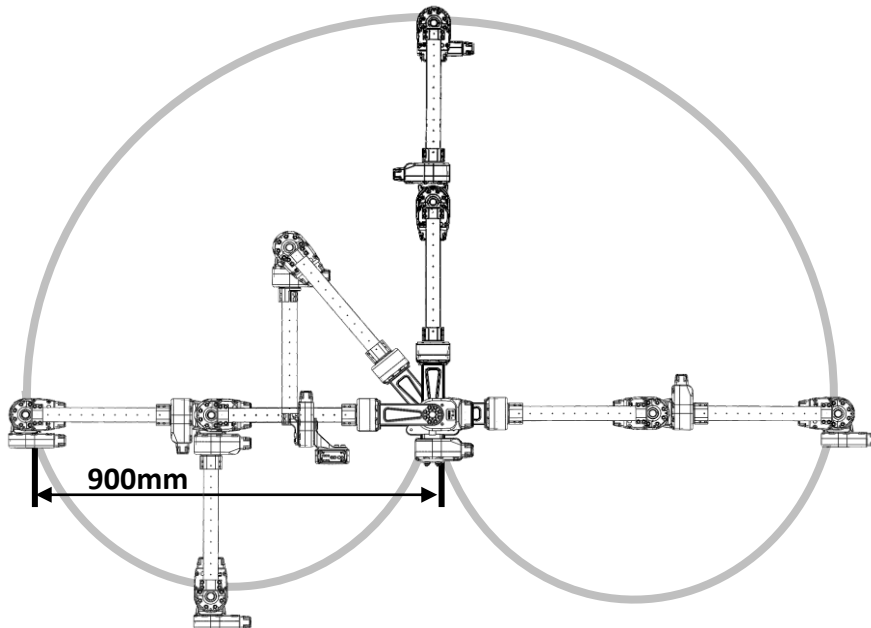
For more information please visit: ***docs.hebi.us***

Technical Specifications

Specifications	Value
Weight	9.00 kg
Reach	900 mm
Payload at Max Reach*	1.00 kg
Payload at Half Reach*	3.00 kg

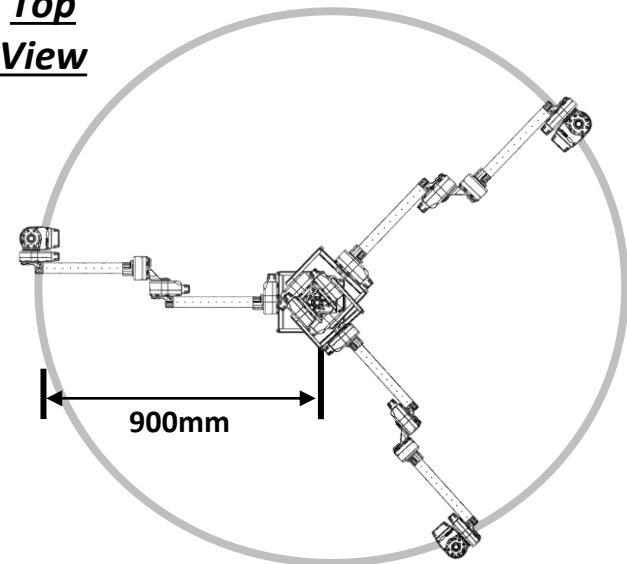
Calculated using Default Configuration.
Using a different configuration of T-Series Actuators will provide different payload capacities.

Side View

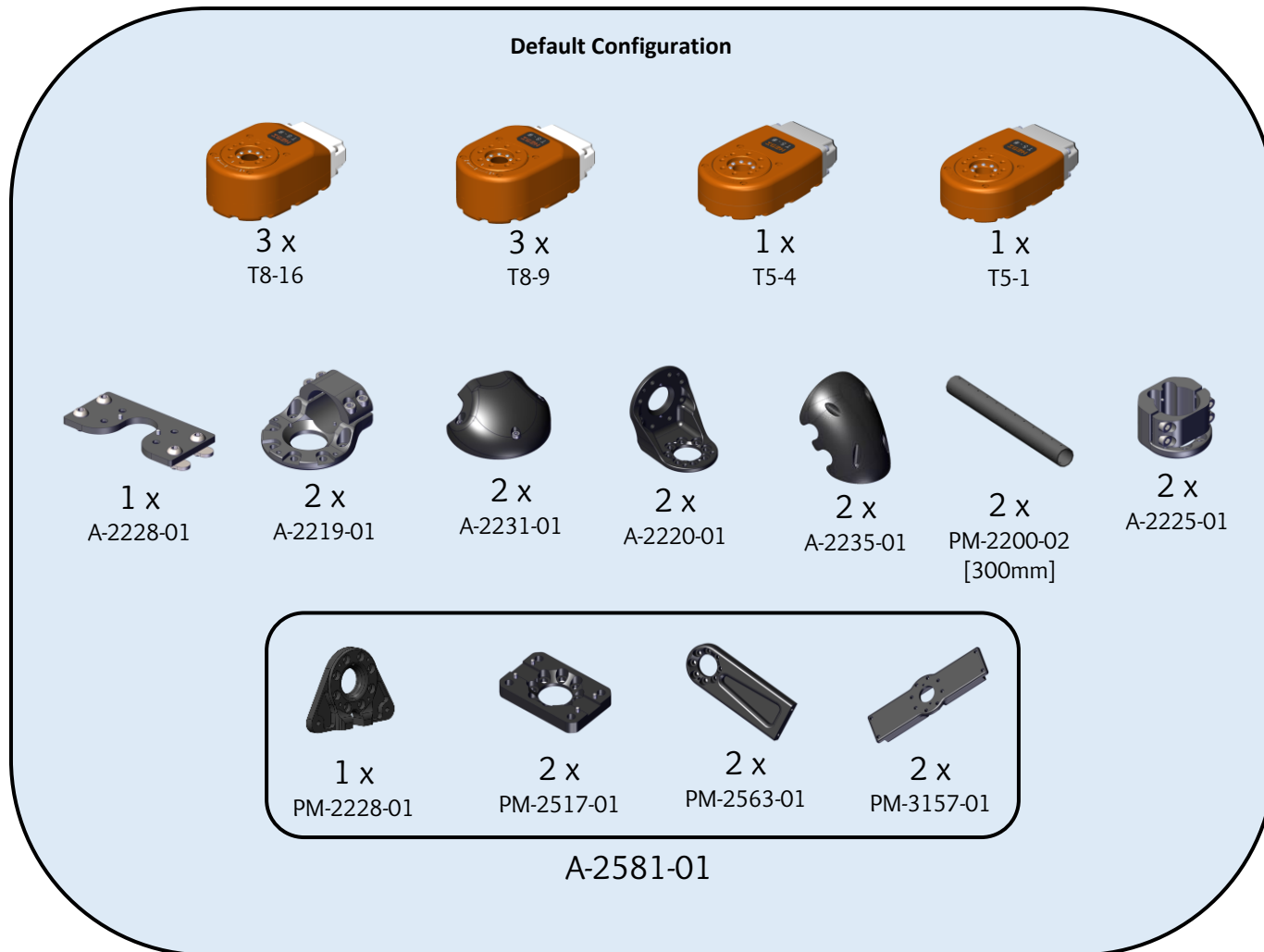


Movement	Working Range	Speed
Axis 1 – Base Yaw [Default: T8-9]	Continuous (limited by wiring)	180°/s
Axis 2 – Shoulder Pitch [Default: 2x T8-16]	-90° to +90° (avoid end effector collisions)	90°/s
Axis 3 – Shoulder Twist [Default: T8-9]	Continuous (limited by wiring)	90°/s
Axis 4 – Elbow Pitch [Default: T8-16]	-155° to +155° (avoid end effector collisions)	90°/s
Axis 5 – Elbow Twist [Default: T8-9]	Continuous (avoid end effector collisions)	540°/s
Axis 6 – Wrist Pitch [Default: T5-4]	Continuous (limited by wiring)	540°/s
Axis 7 – Wrist Twist [Default: T5-1]	Continuous (limited by wiring)	540°/s

Top View



Bill of Materials – Mechanical*



fasteners included, not shown

Bill of Materials - Electrical



PP-2349-RED
18AWG Power Wire, Red



PP-2349-BLK
18AWG Power Wire, Black



PP-2358-YEL
22AWG M-Stop Cable, Yellow



PP-2358-BLU
22AWG M-Stop Cable, Blue



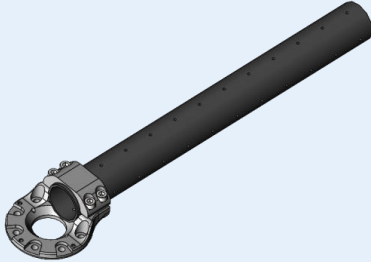
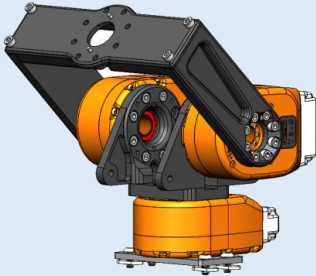
PP-2401-DUP
POF Duplex Cable

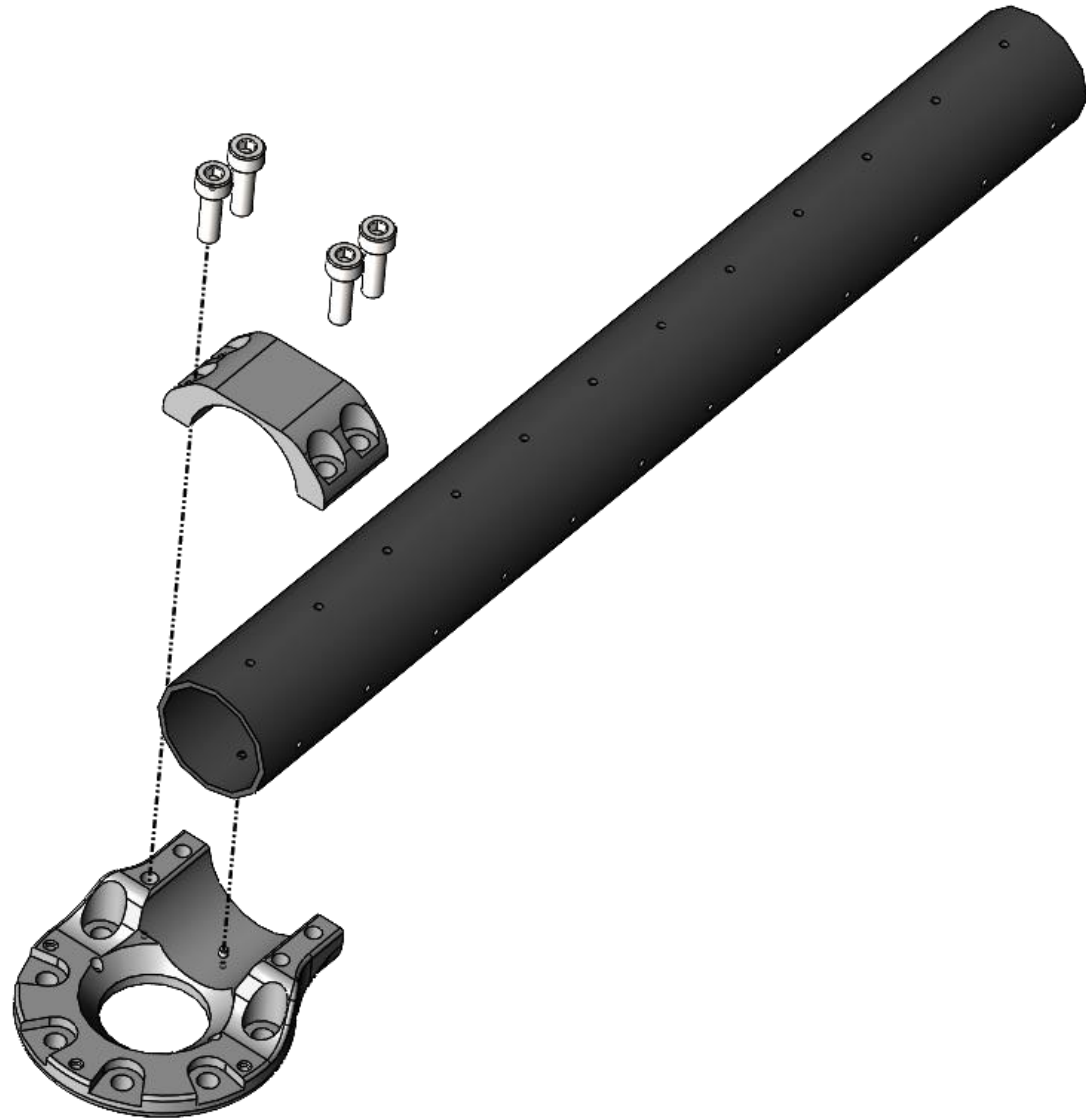
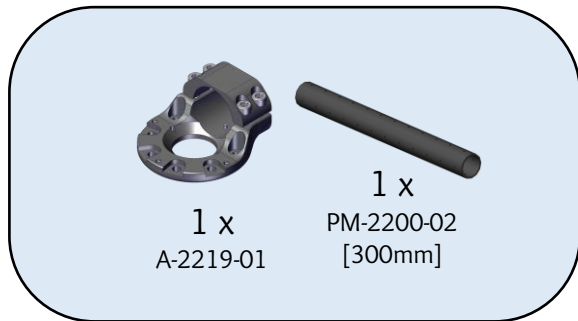
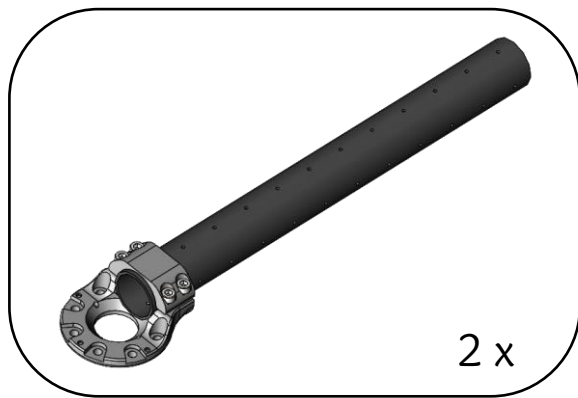


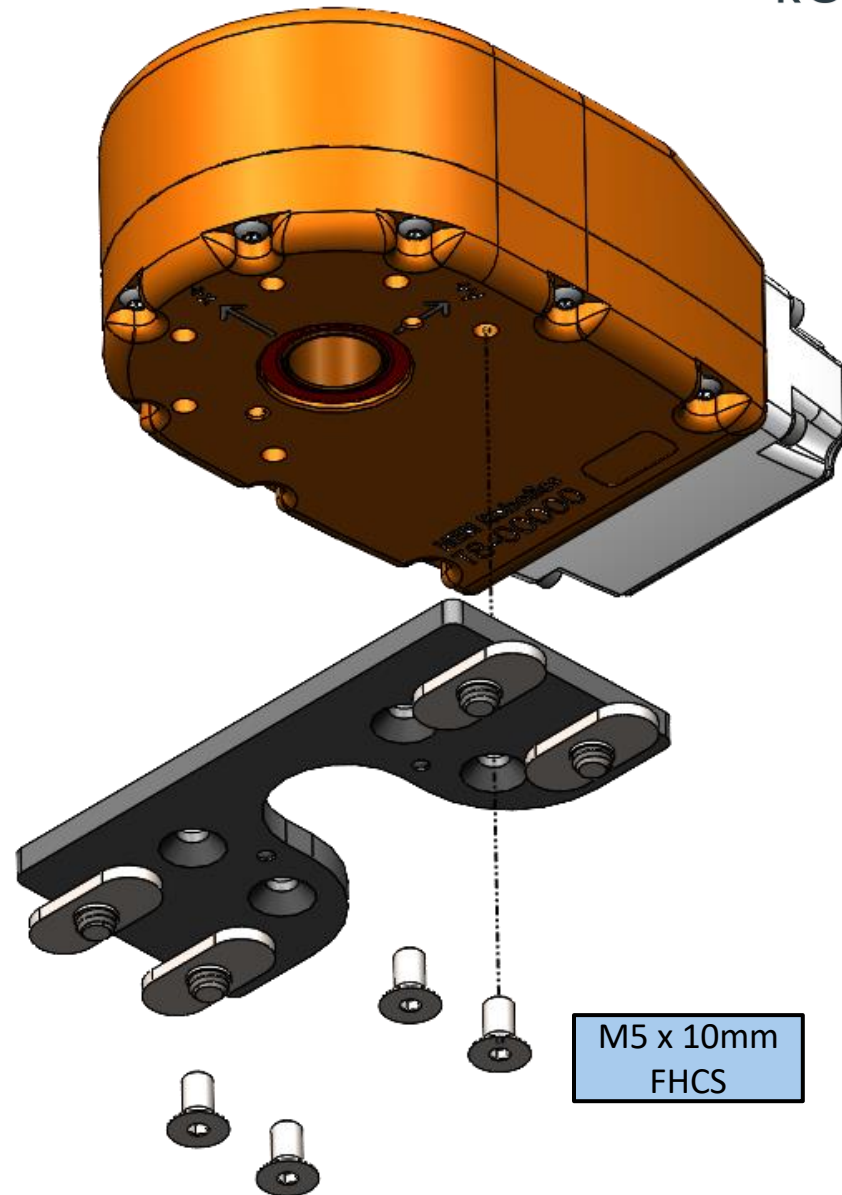
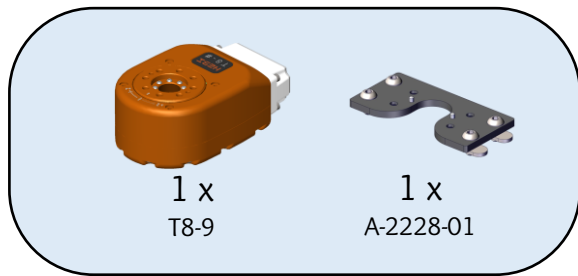
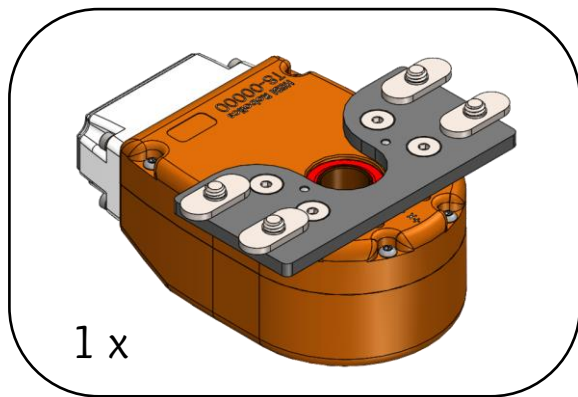
A-2256-01
POF Ethernet Media Converter

all items are included in T-Series Connection Toolbox

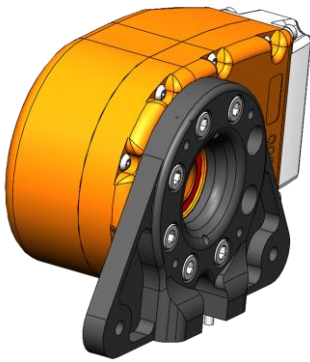
Table of Contents

<u>Assembly</u>	<u>Image</u>	<u>Pages</u>
Tubes		[7]
Base		[8-14]
Final		[14-30]

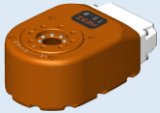




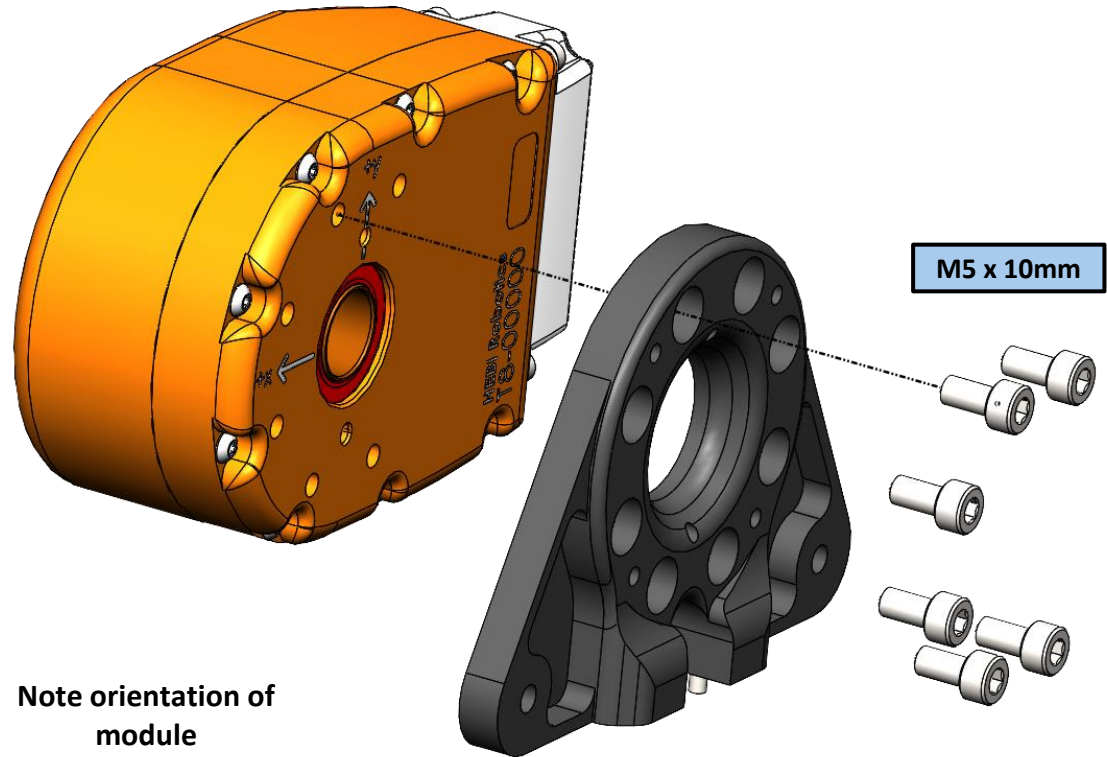
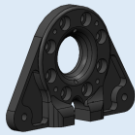
1 x



1 x
T8-16

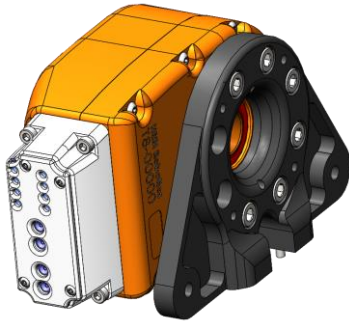


1 x
PM-2228-01

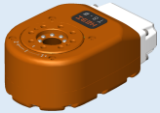


**Note orientation of
module**

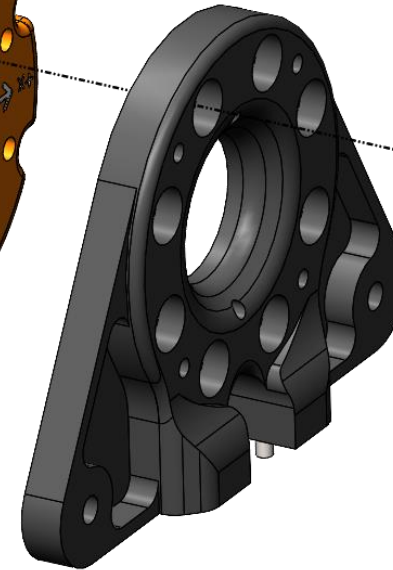
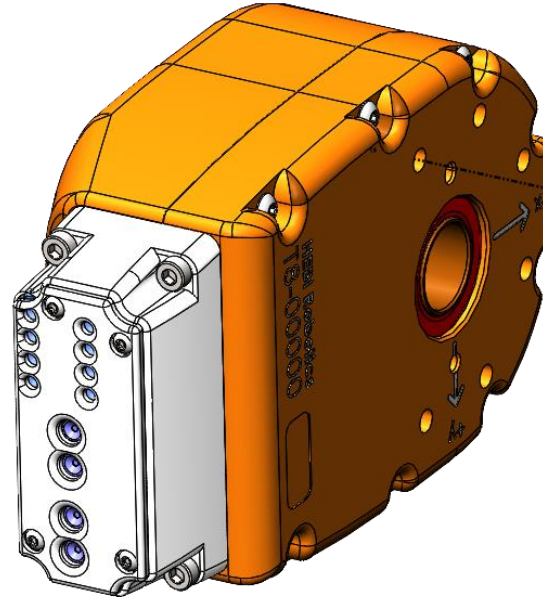
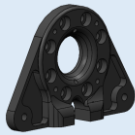
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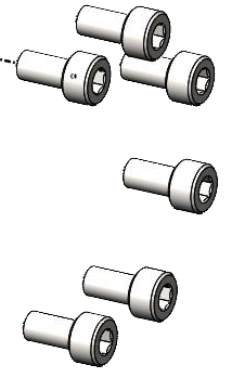
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T8-16



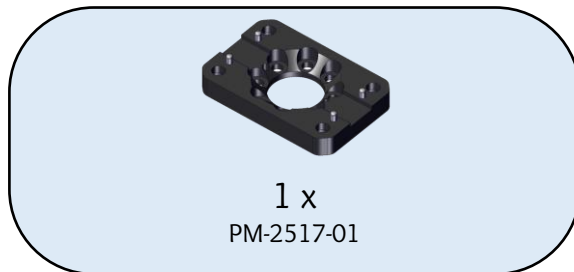
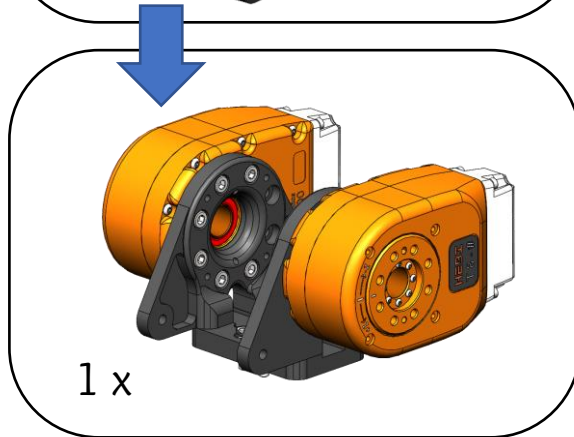
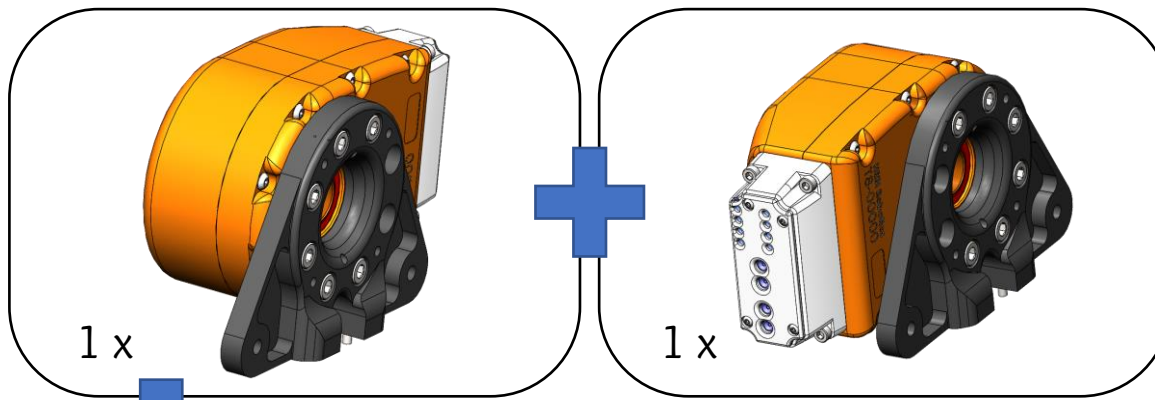
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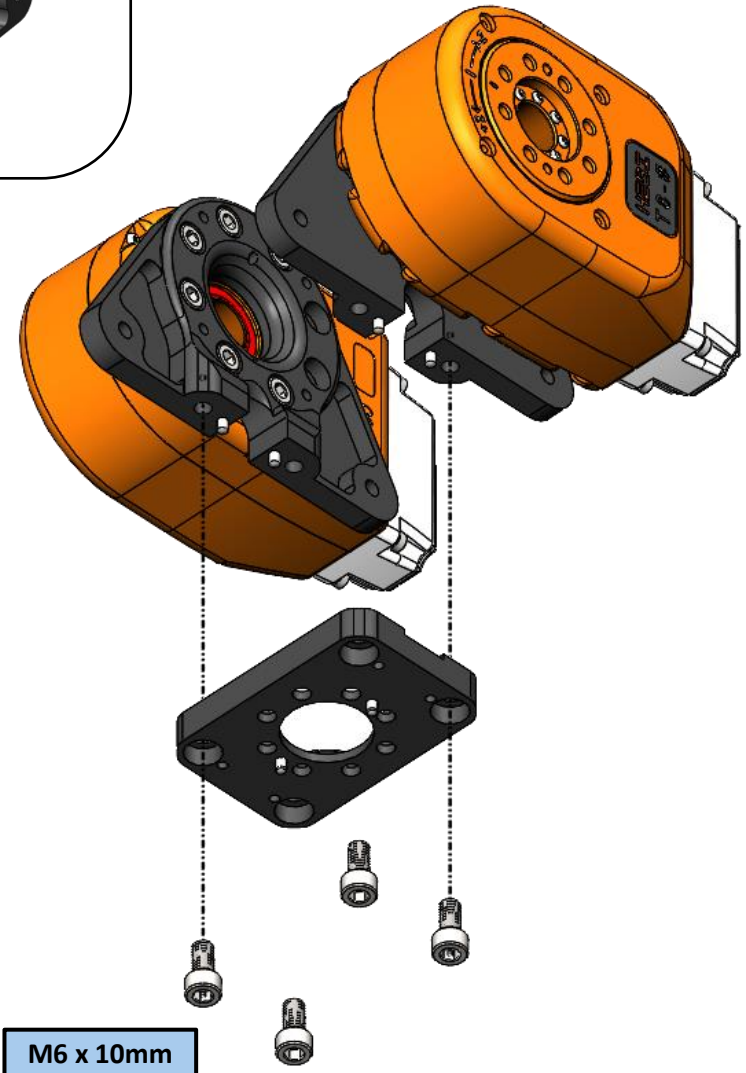
M5 x 10mm

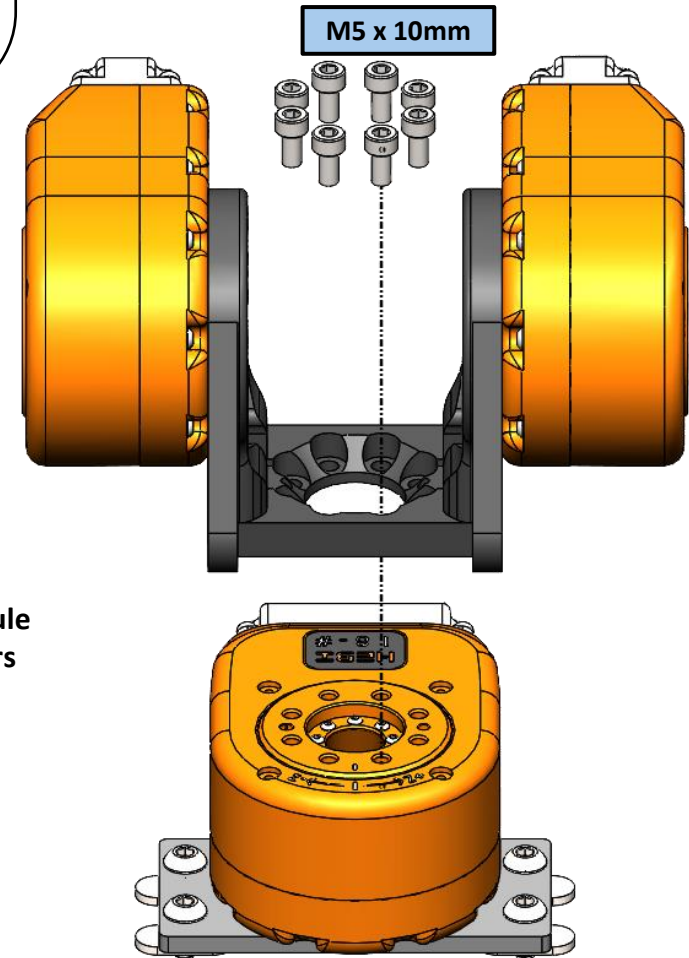
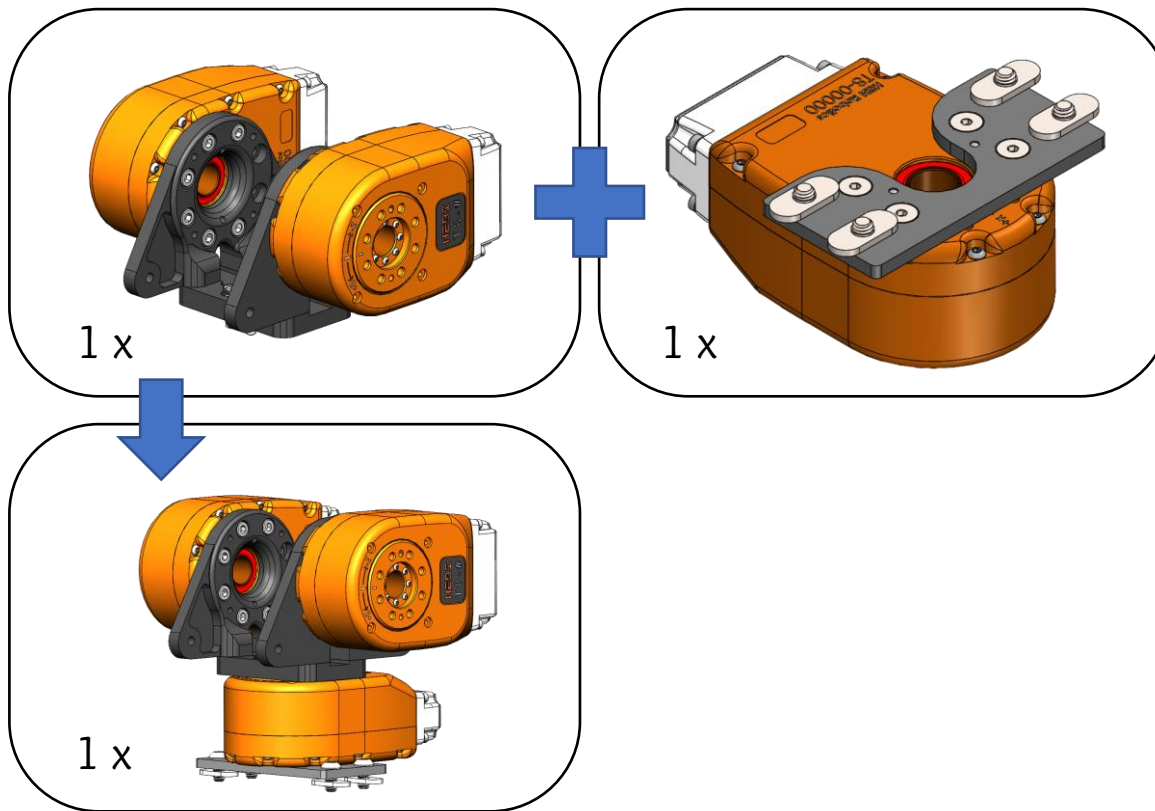


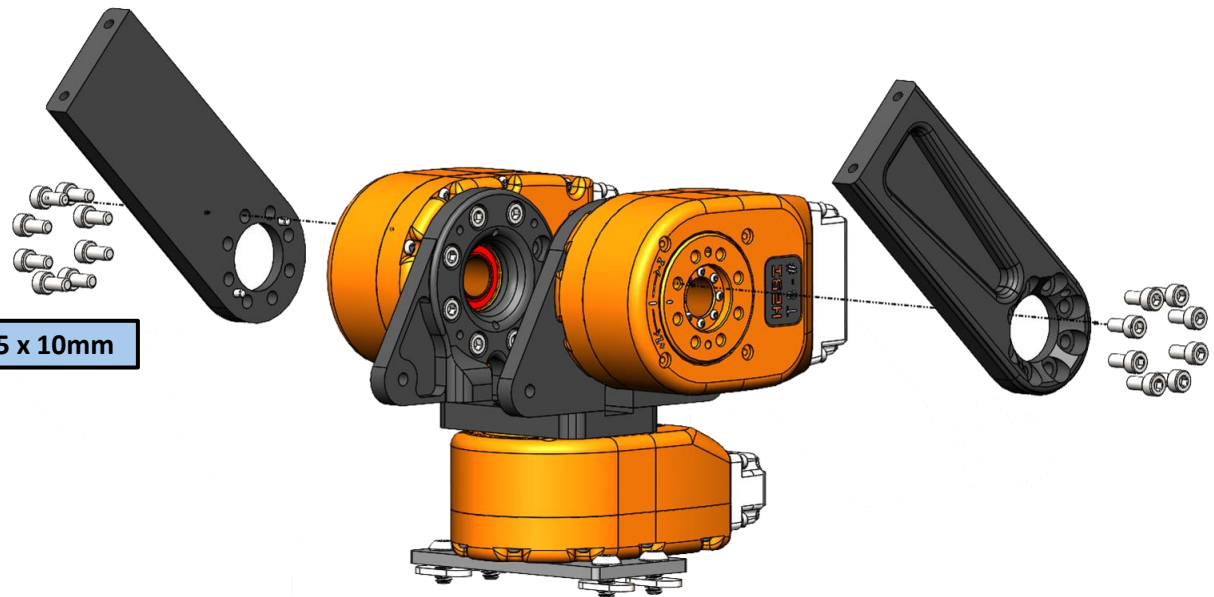
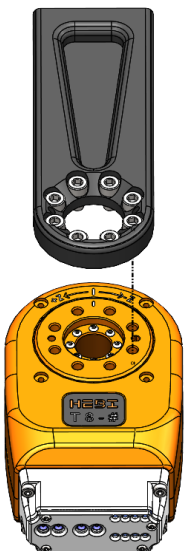
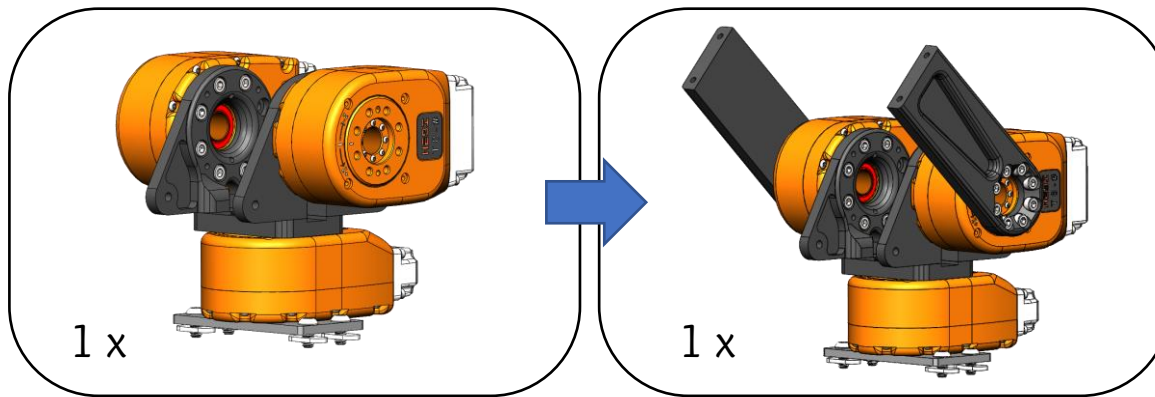
**Note orientation of
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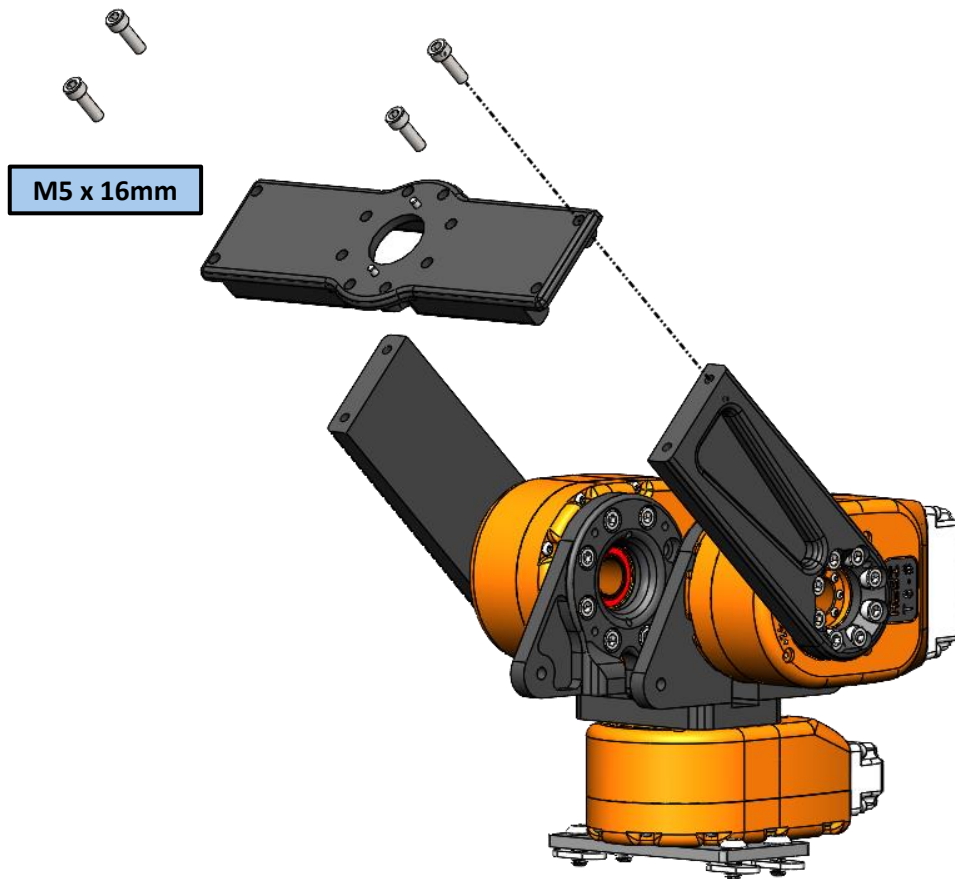
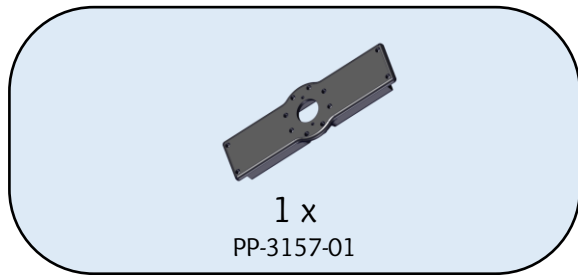
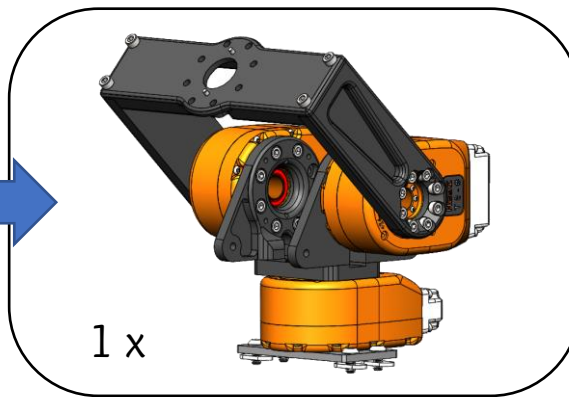
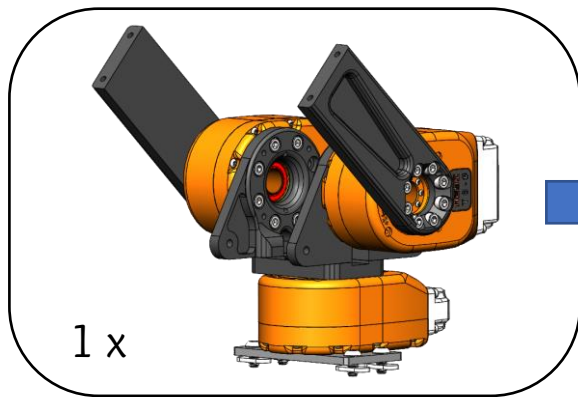
**Align module
connectors**

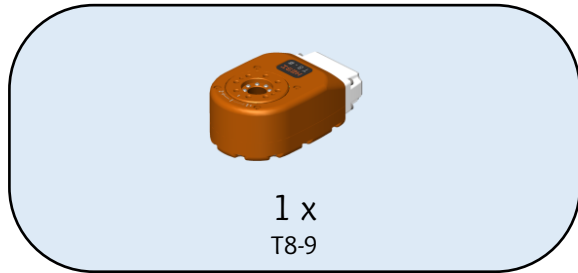
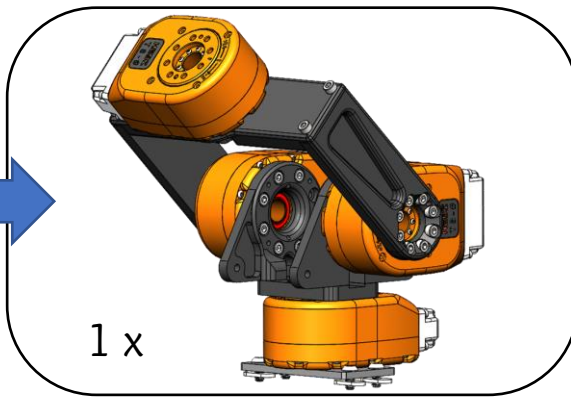
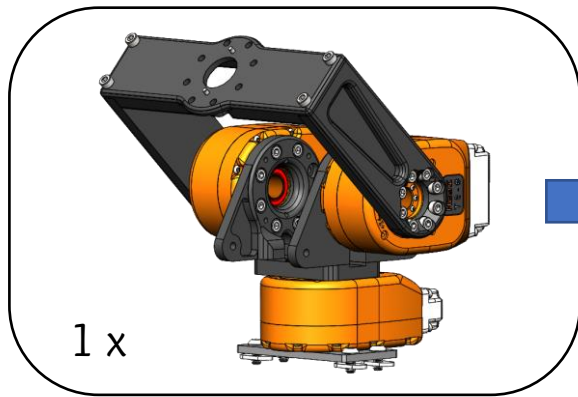




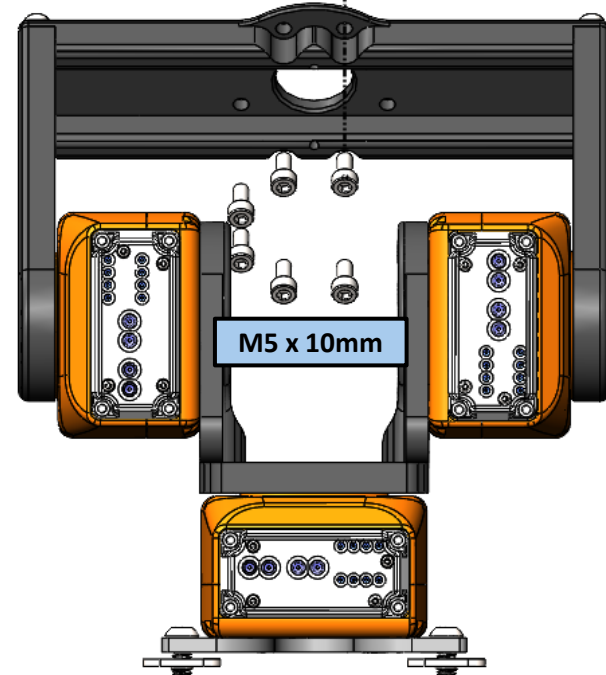
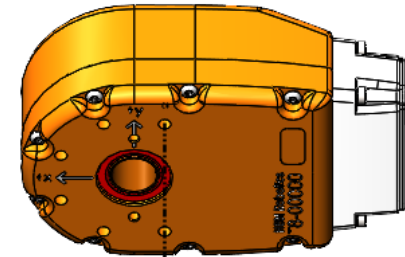


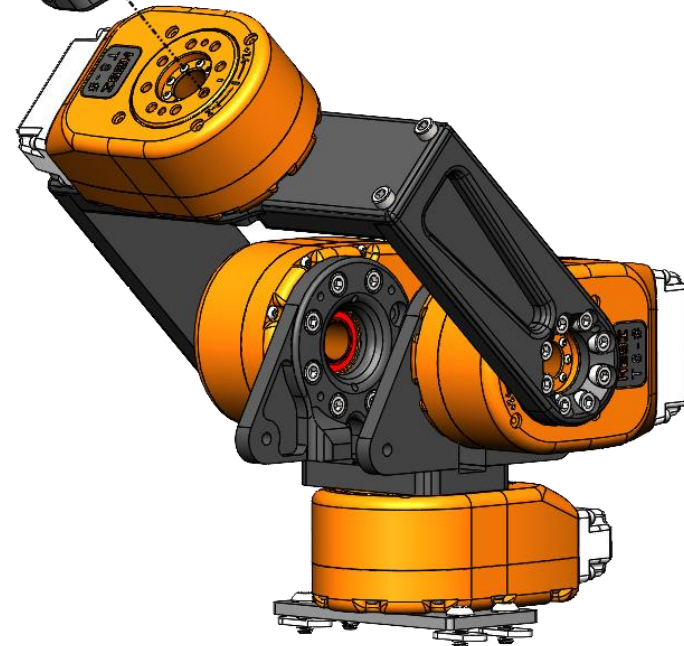
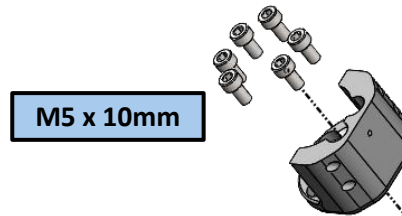
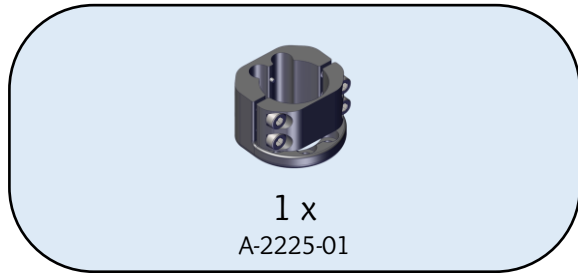
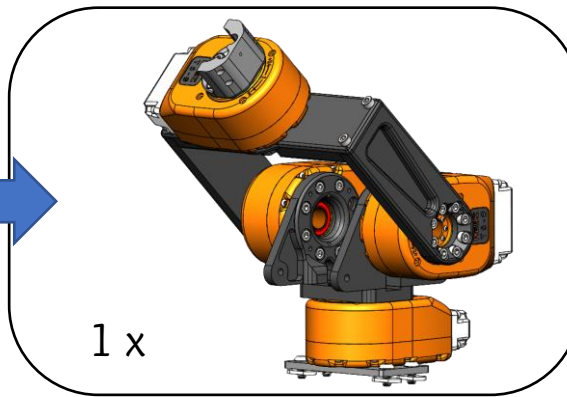
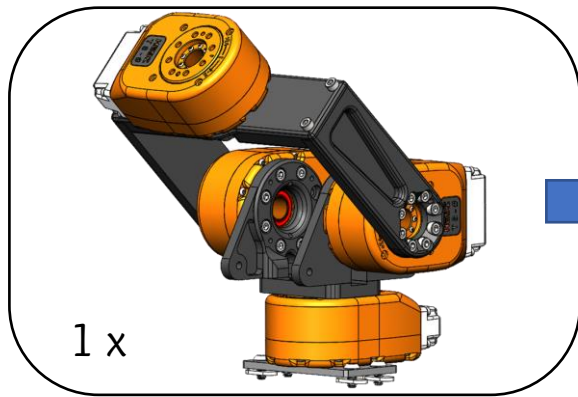
 **Align with actuator
output hub tick mark
(Flat face parallel with tick mark)**



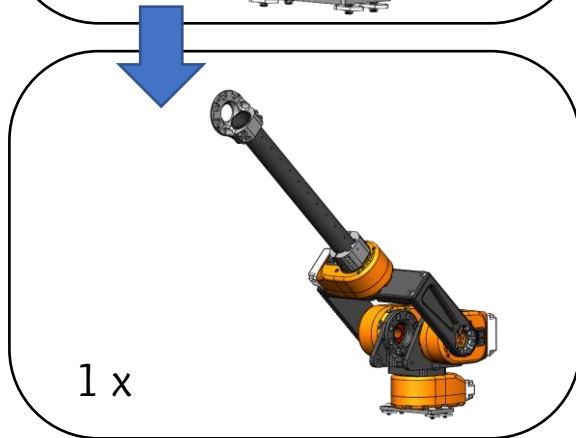
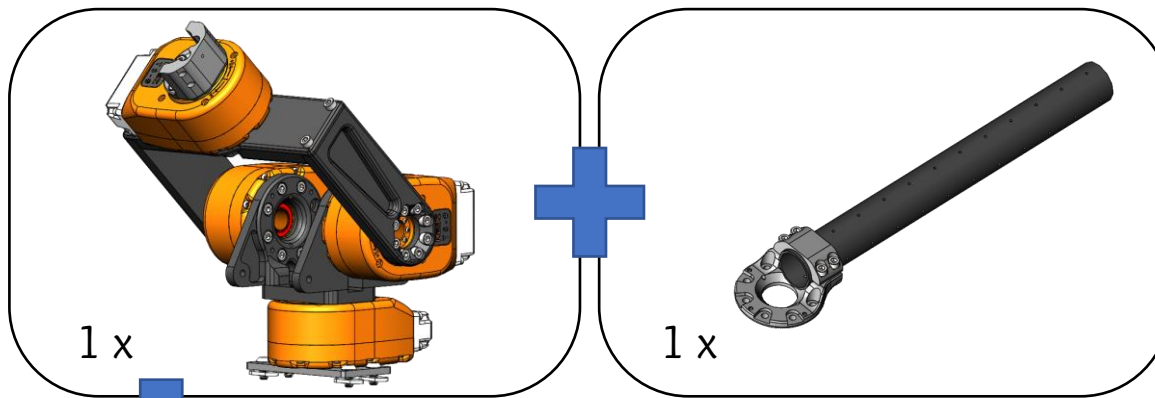


Note orientation of module

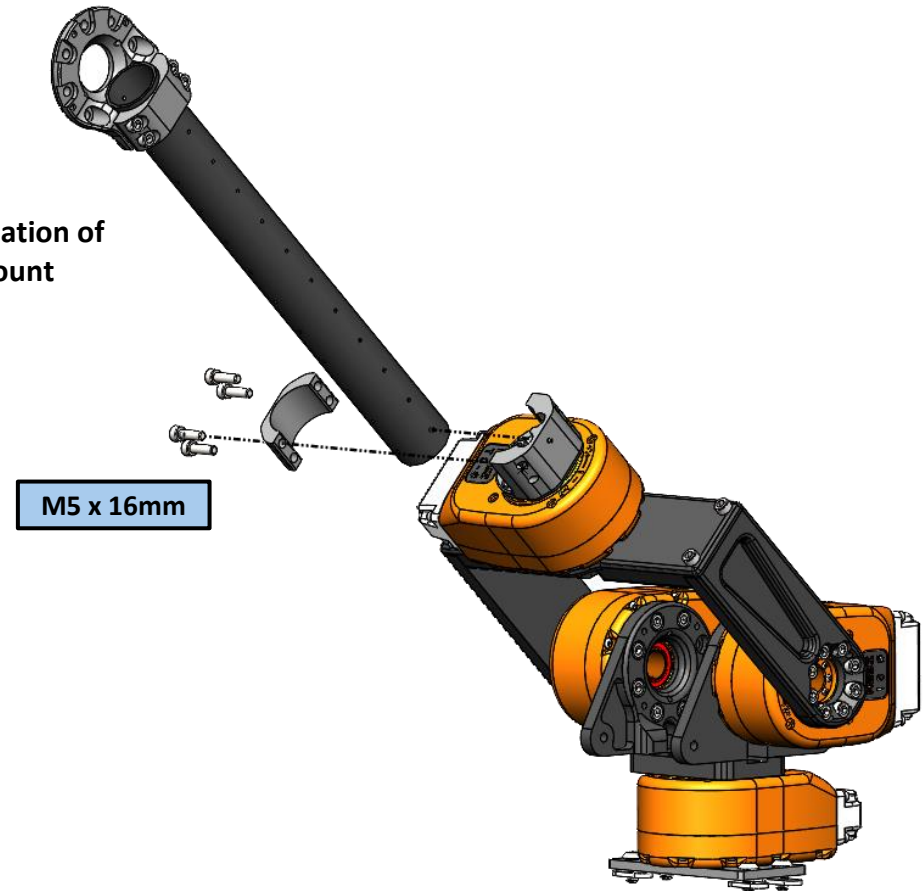


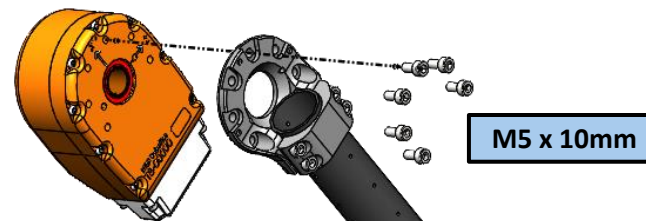
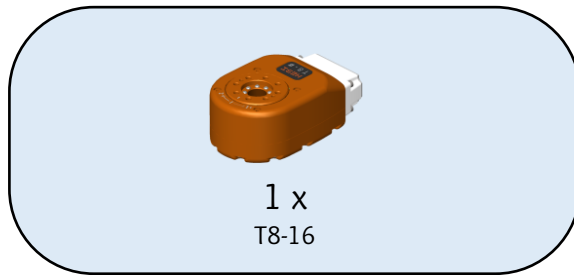
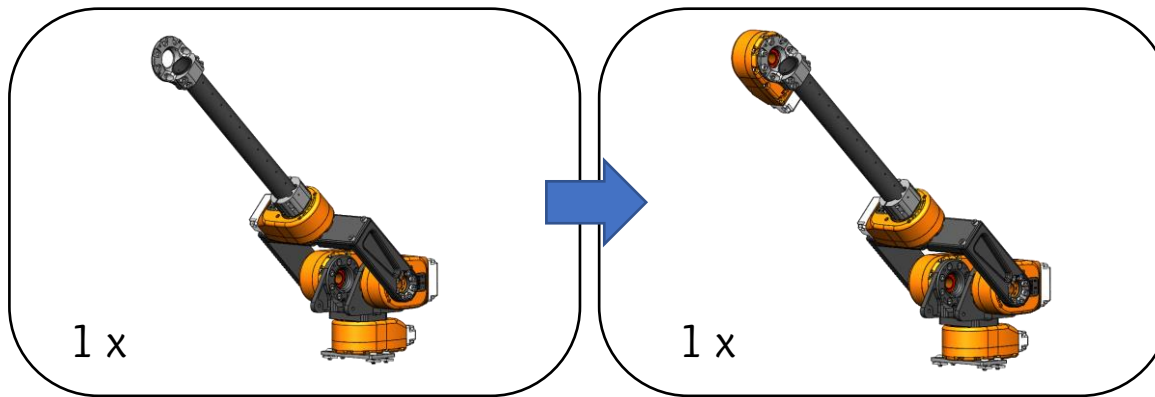


**Tick mark aligns with
internal dowel pin**

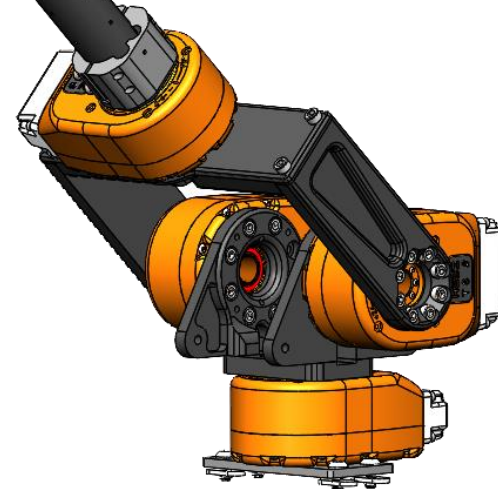


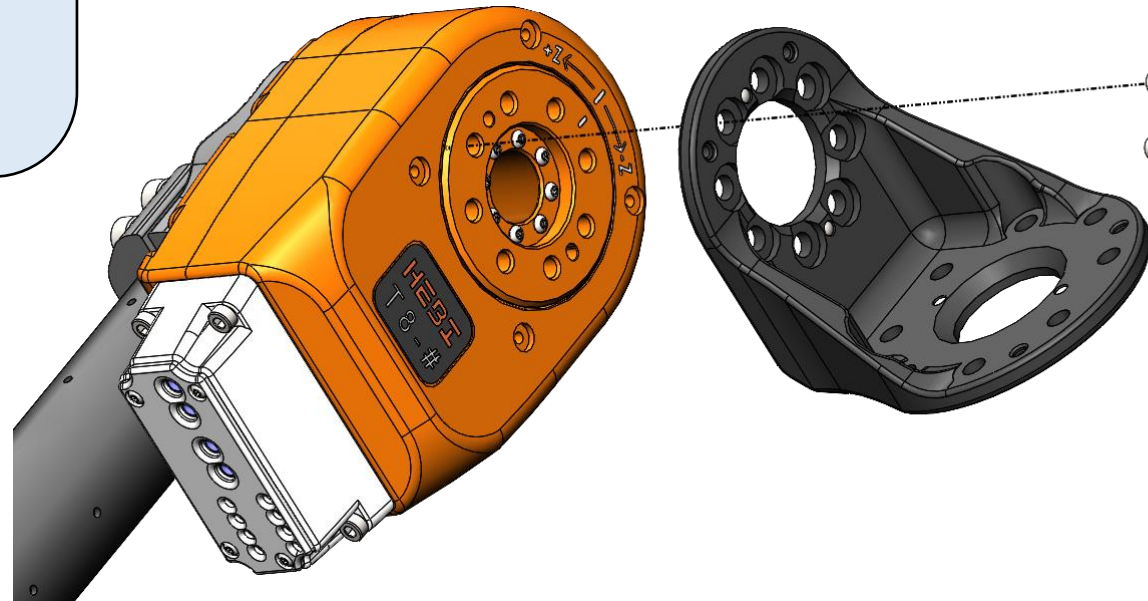
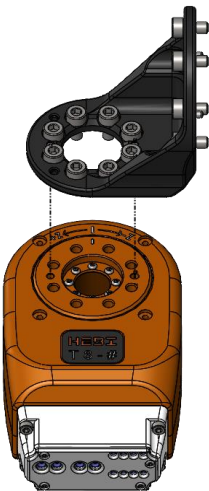
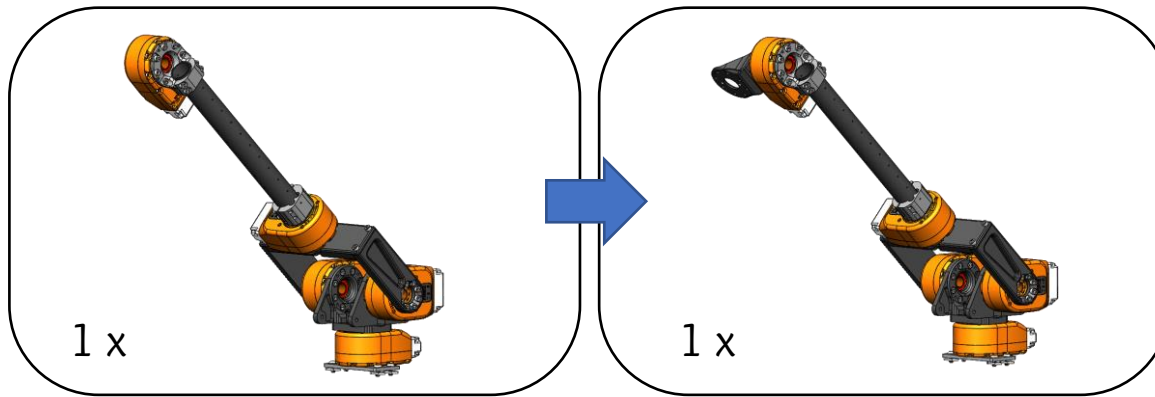
 Note orientation of tube mount



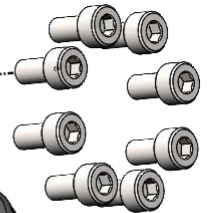


**Align module
connectors with tube**

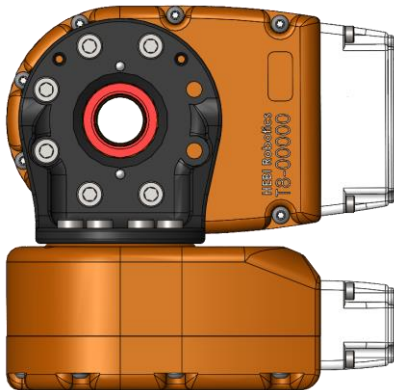
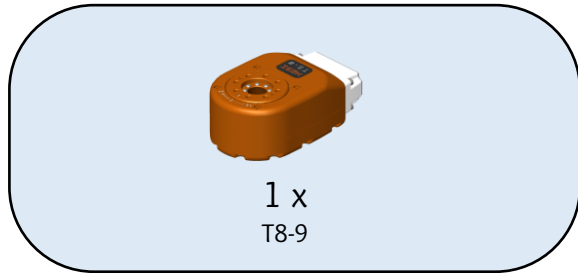
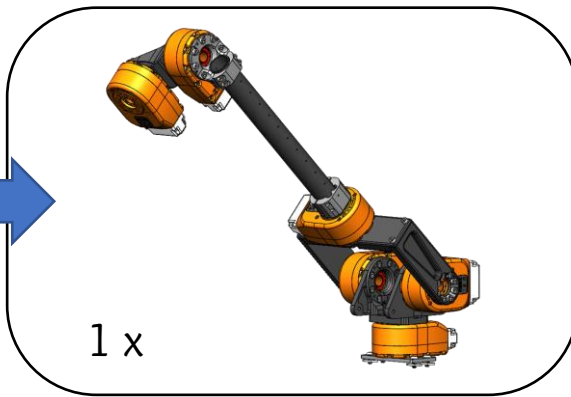




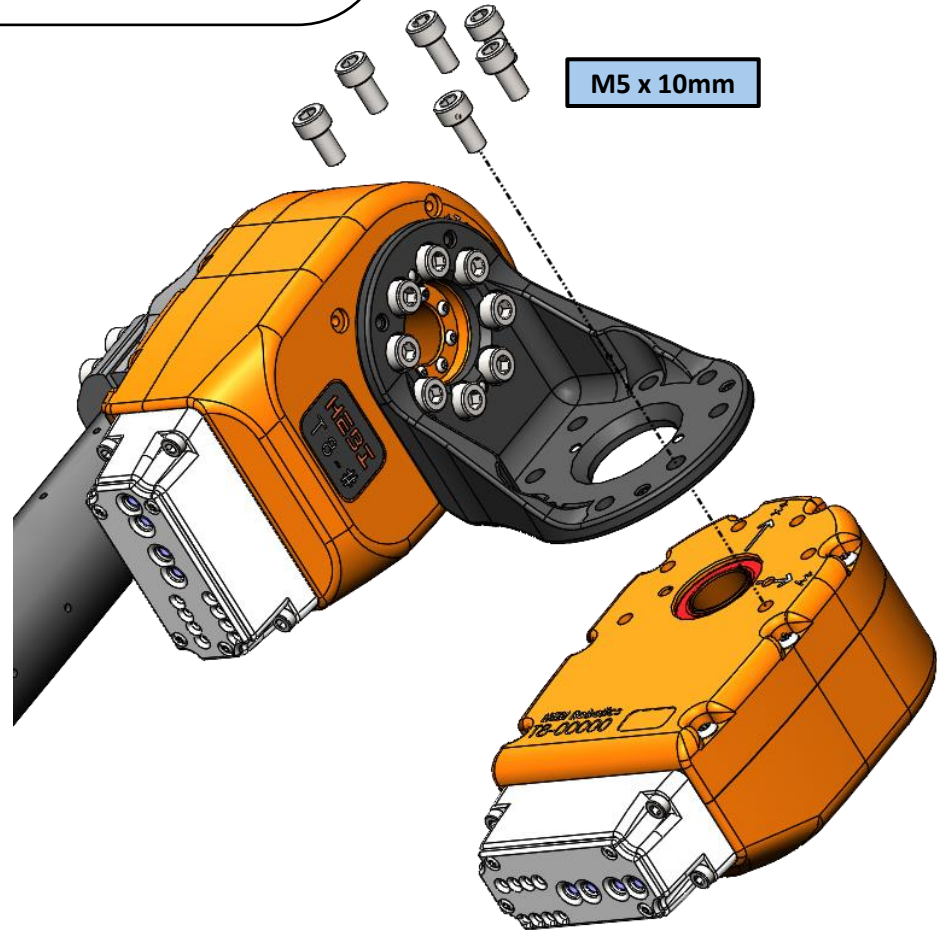
M5 x 10mm

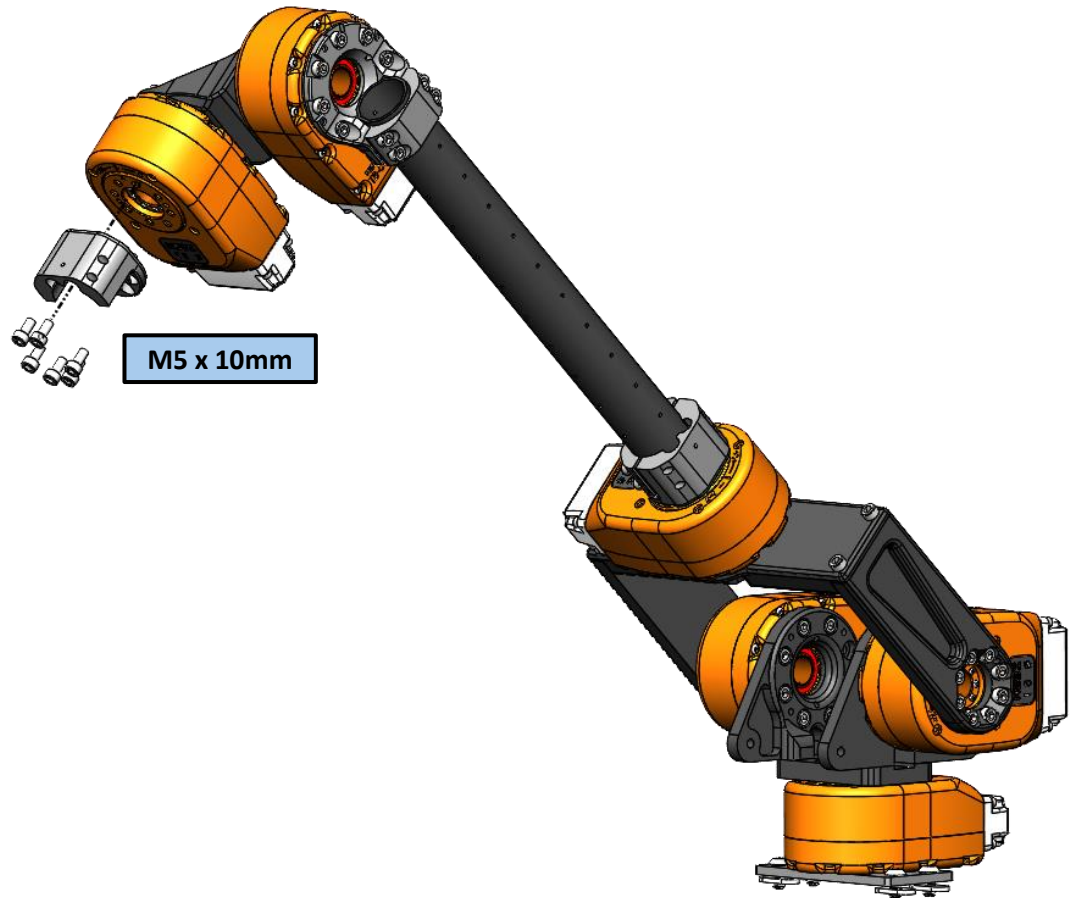
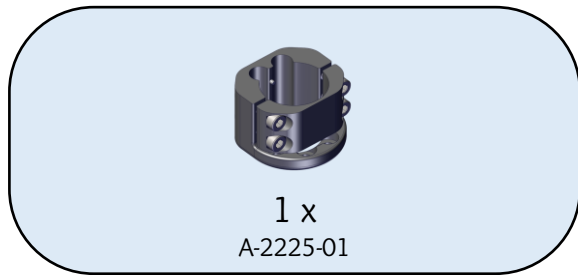
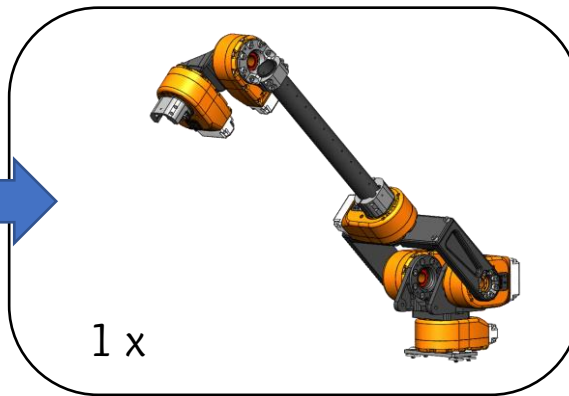
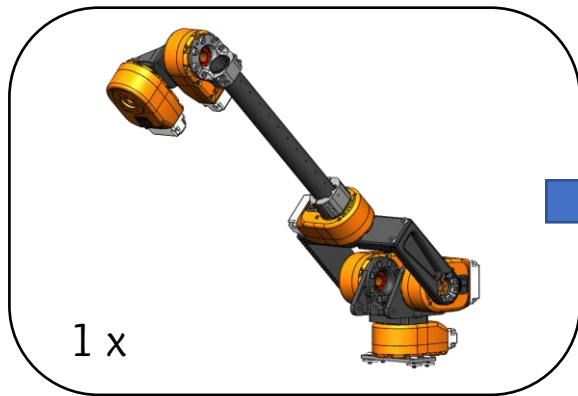


**Align actuator and
bracket as shown**

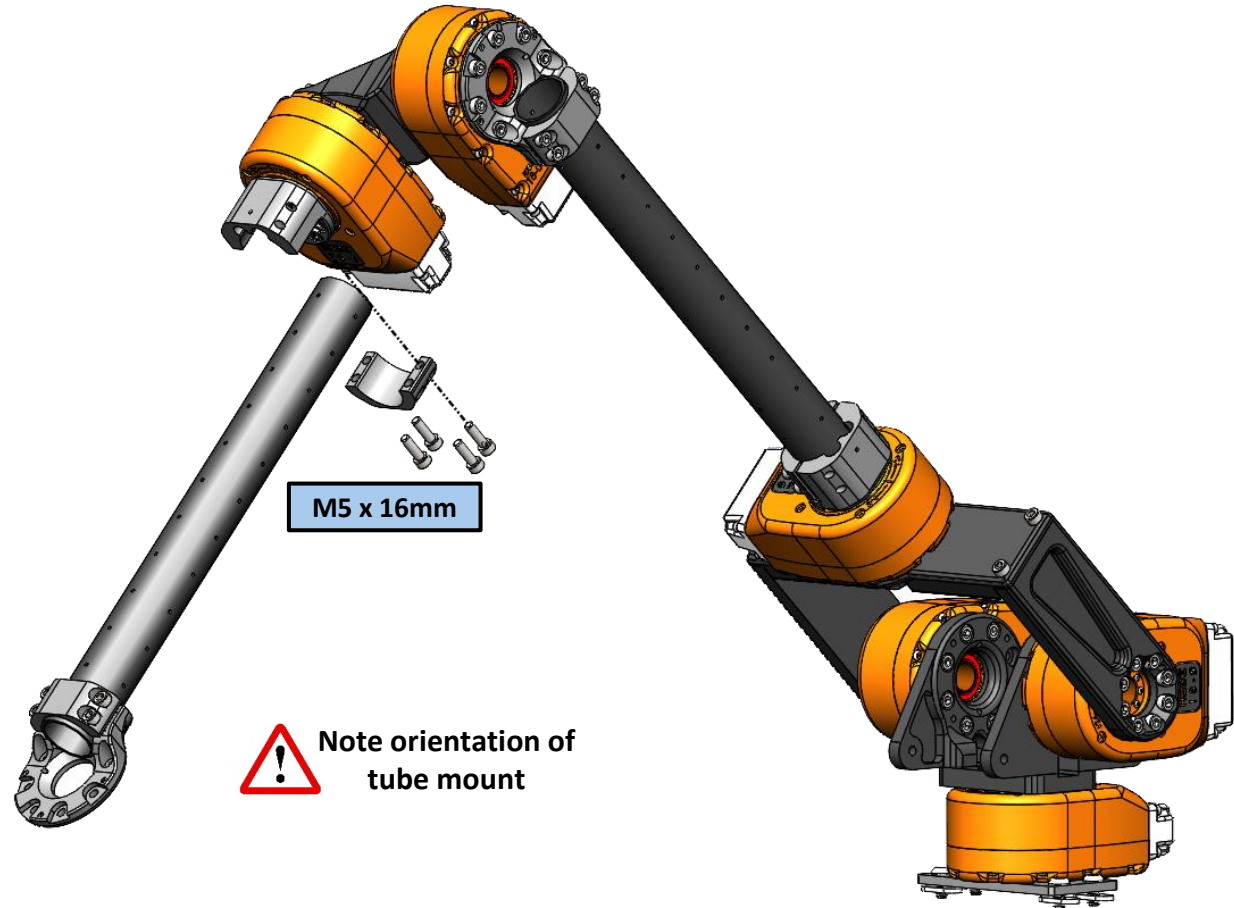
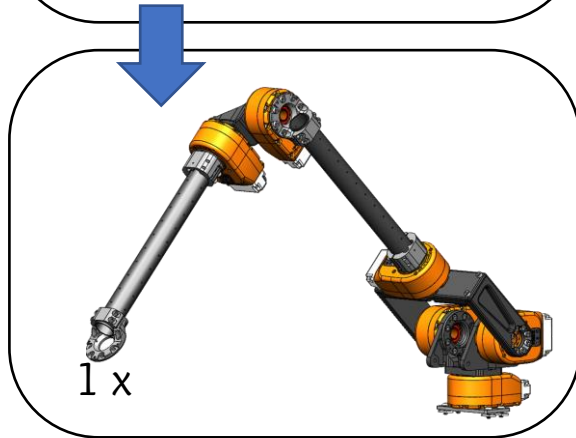
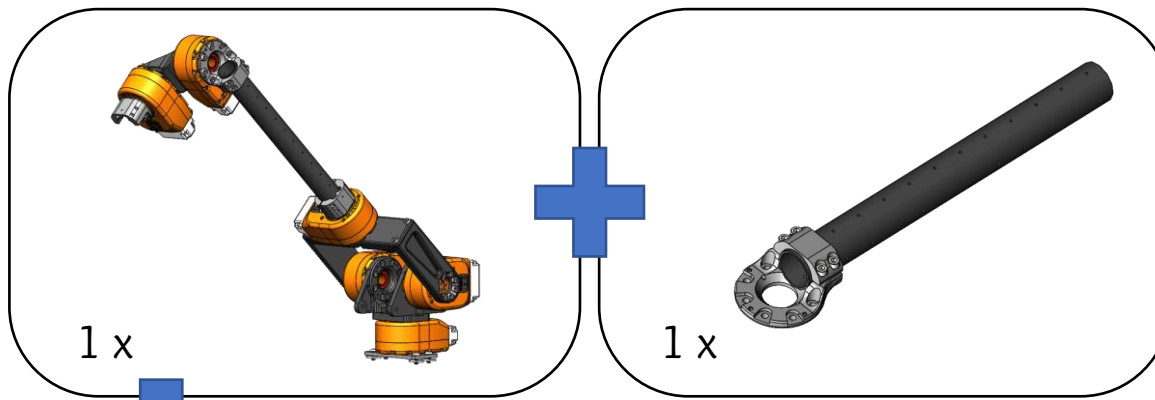


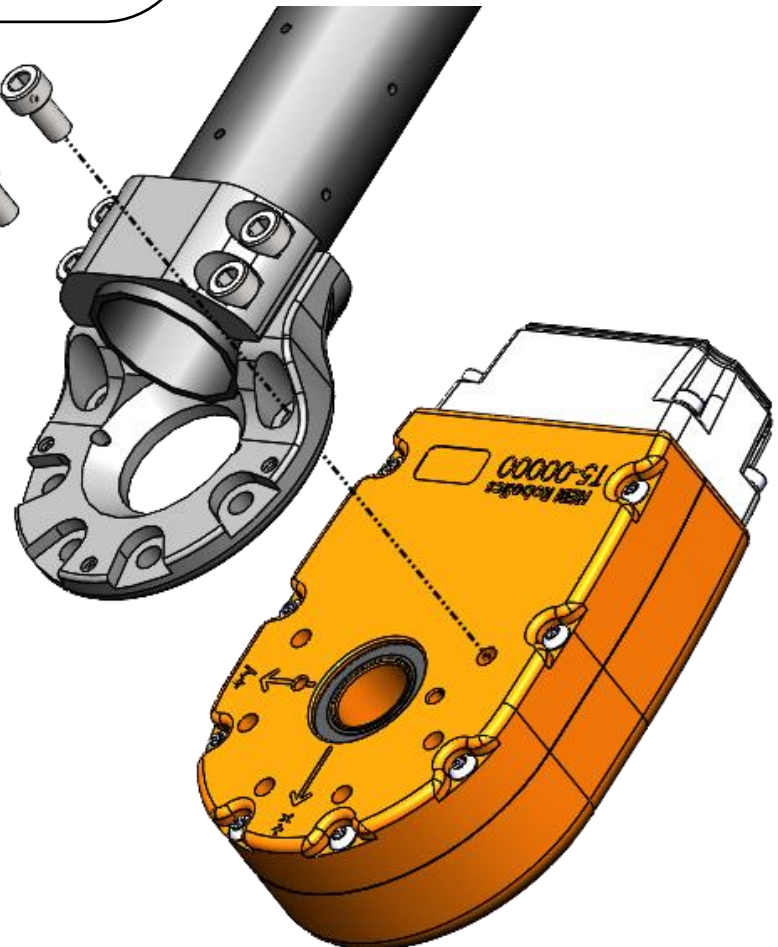
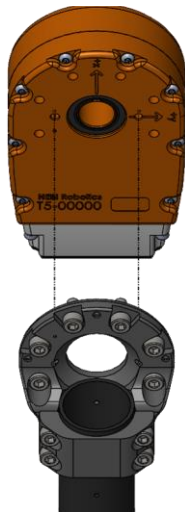
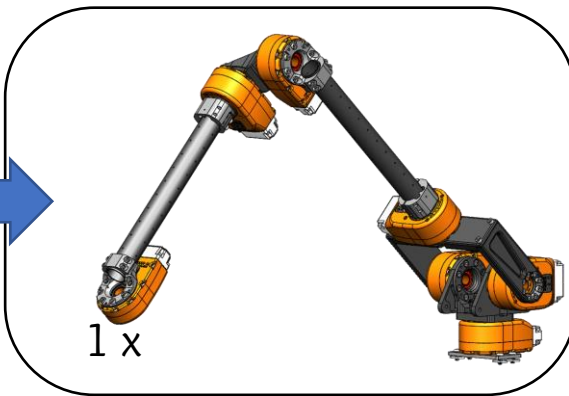
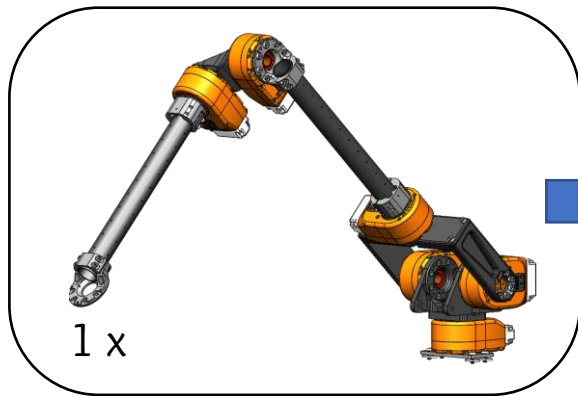
**Align connectors of
each actuator**

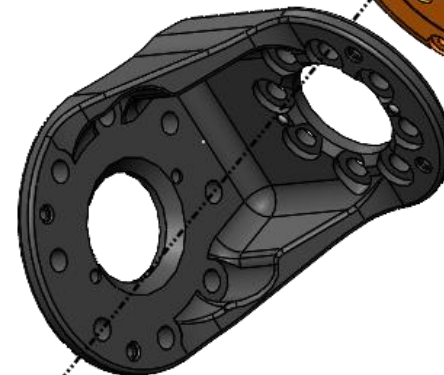
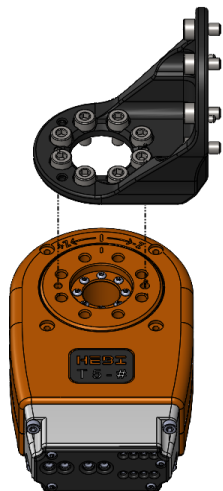
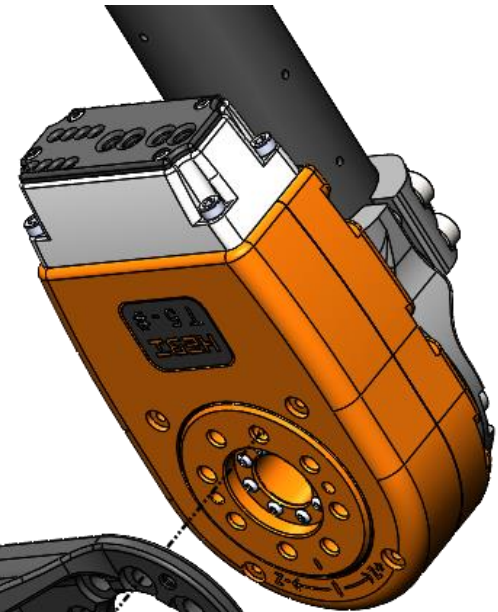
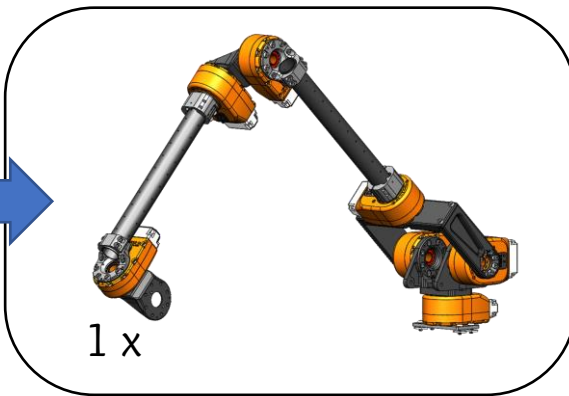
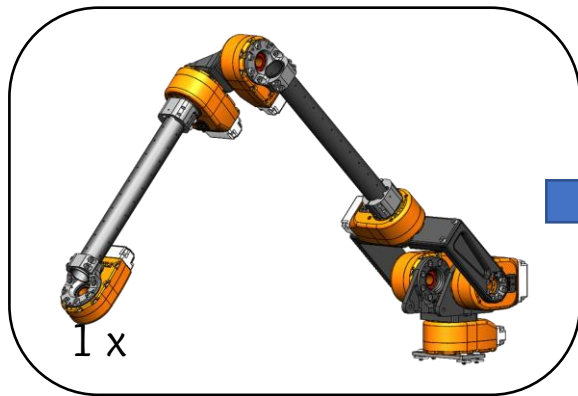




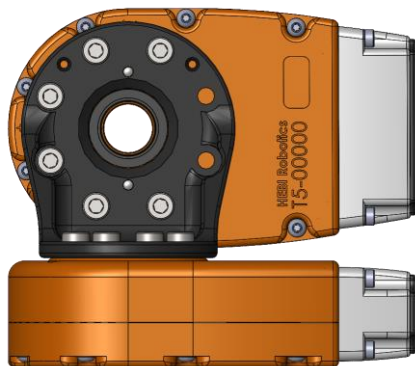
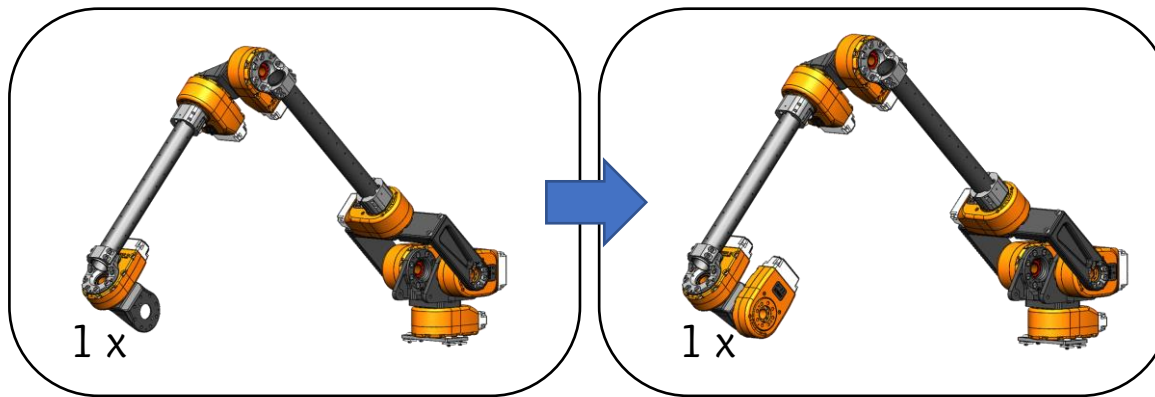
**Tick mark aligns with
internal dowel pin**



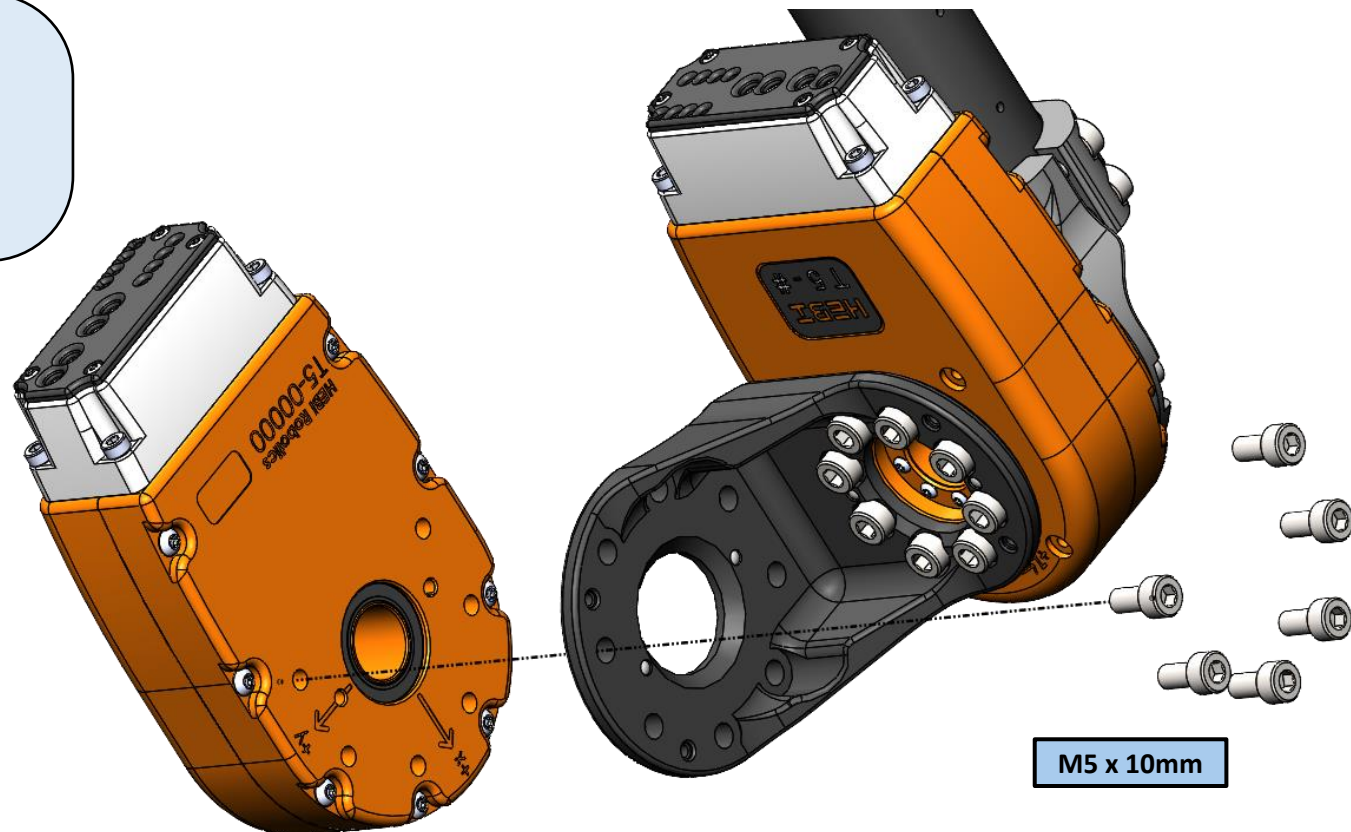




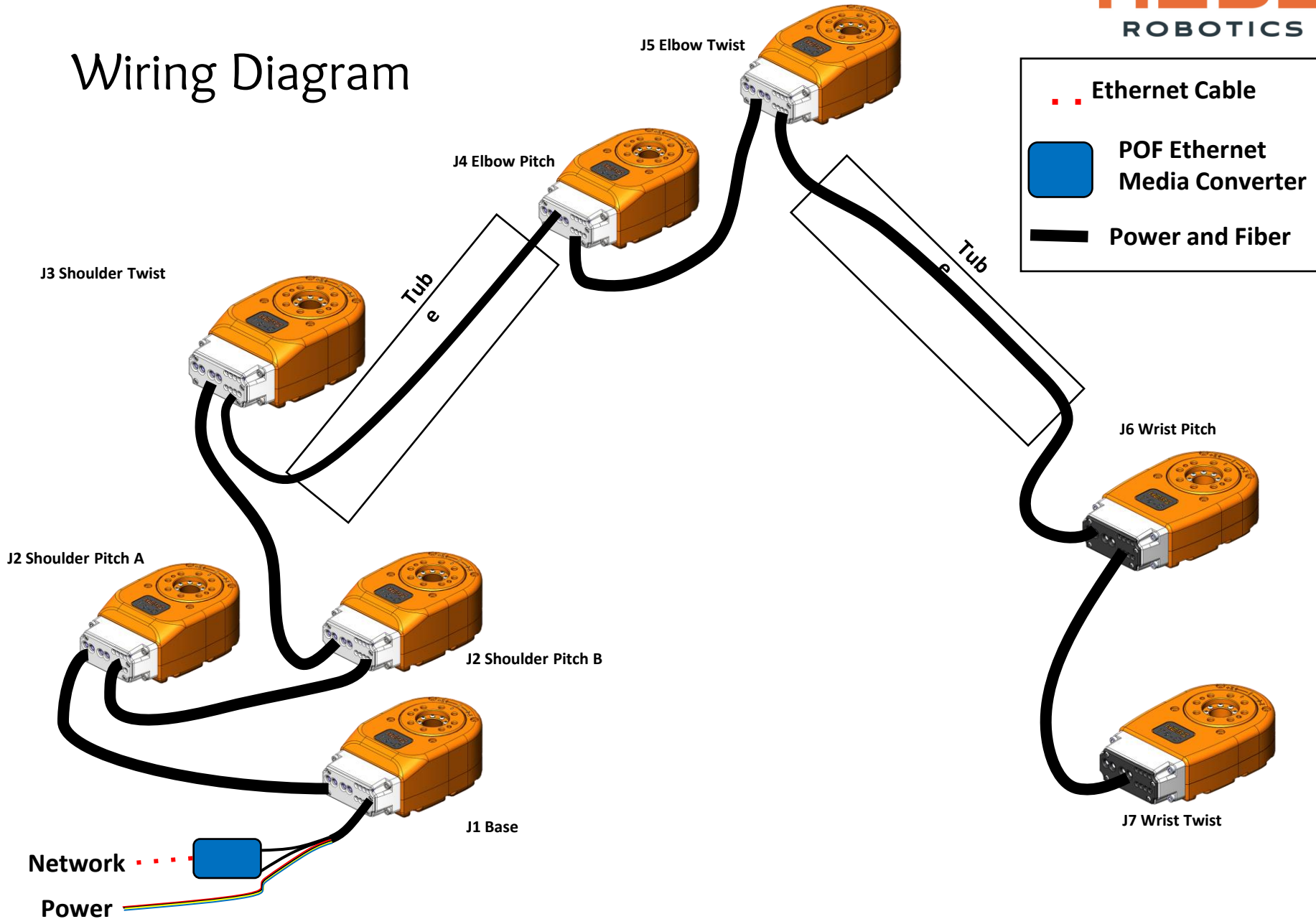
**Align actuator and
bracket as shown**



Align connectors of
each actuator



Wiring Diagram



Wiring Notes

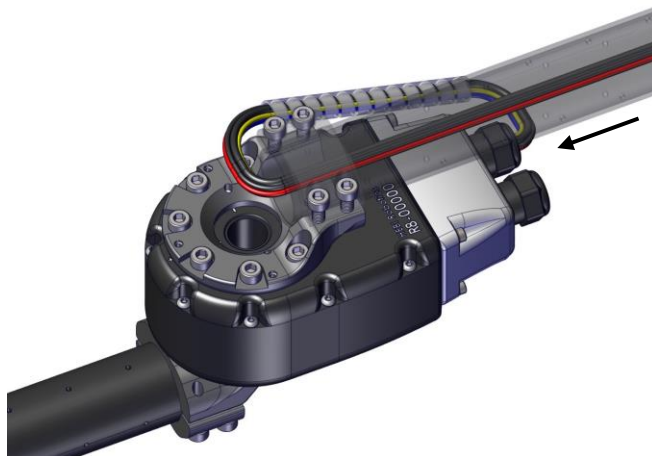
- Keeping wires organized will help prevent tangling and add a nice aesthetic.
 - Spiral sleeving is a good accessory for organizing loose wires
- Visit the following link to see detailed instruction on connecting wires to T-Series Modules.

<http://docs.hebi.us/#r-series-quickstart>

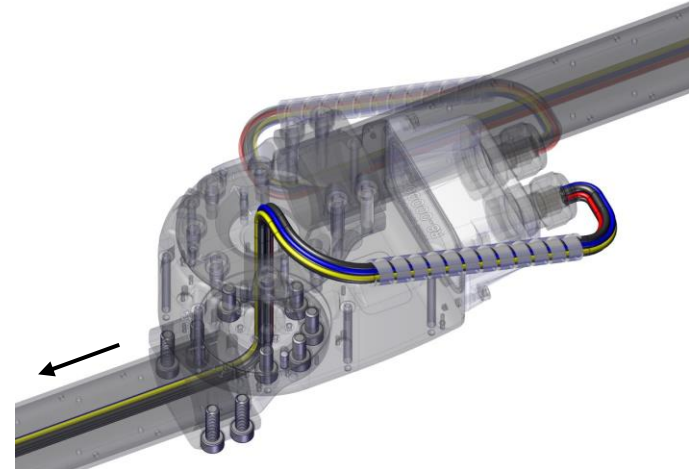
For more information visit: ***docs.hebi.us***



[Spiral sleeving]

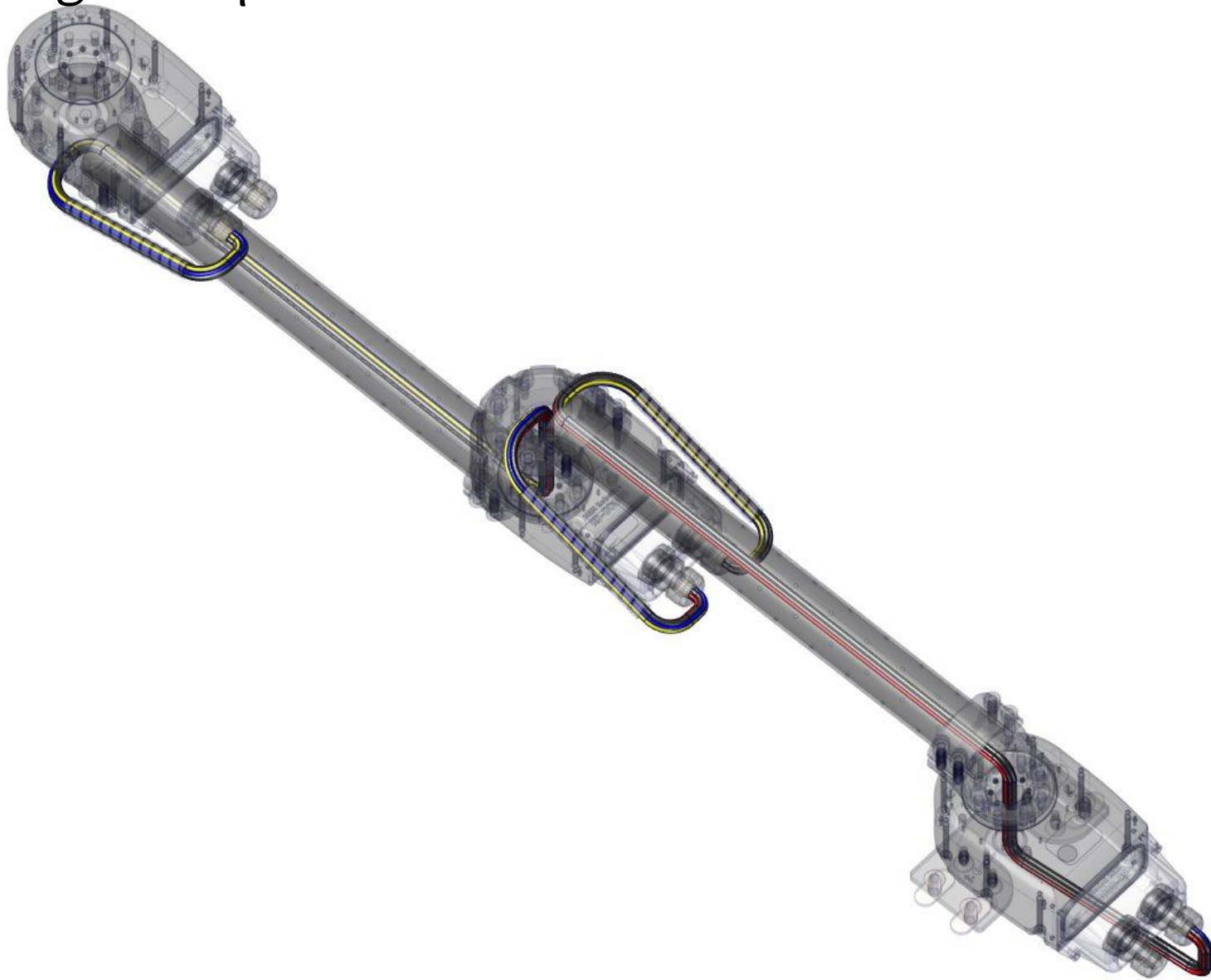


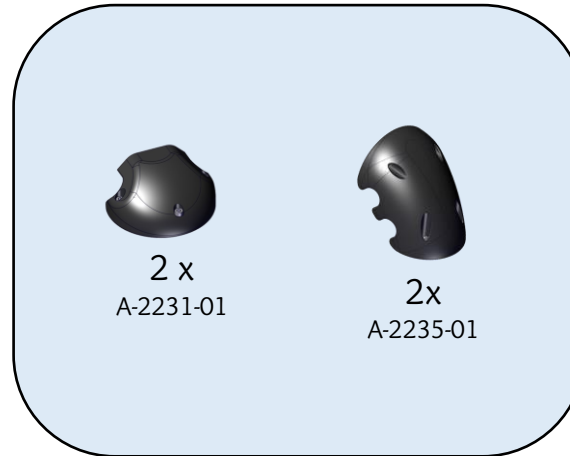
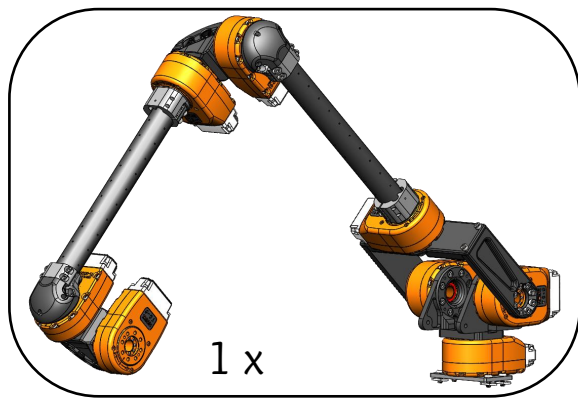
Wires that come from the previous joint should be inserted directly to actuator ports.



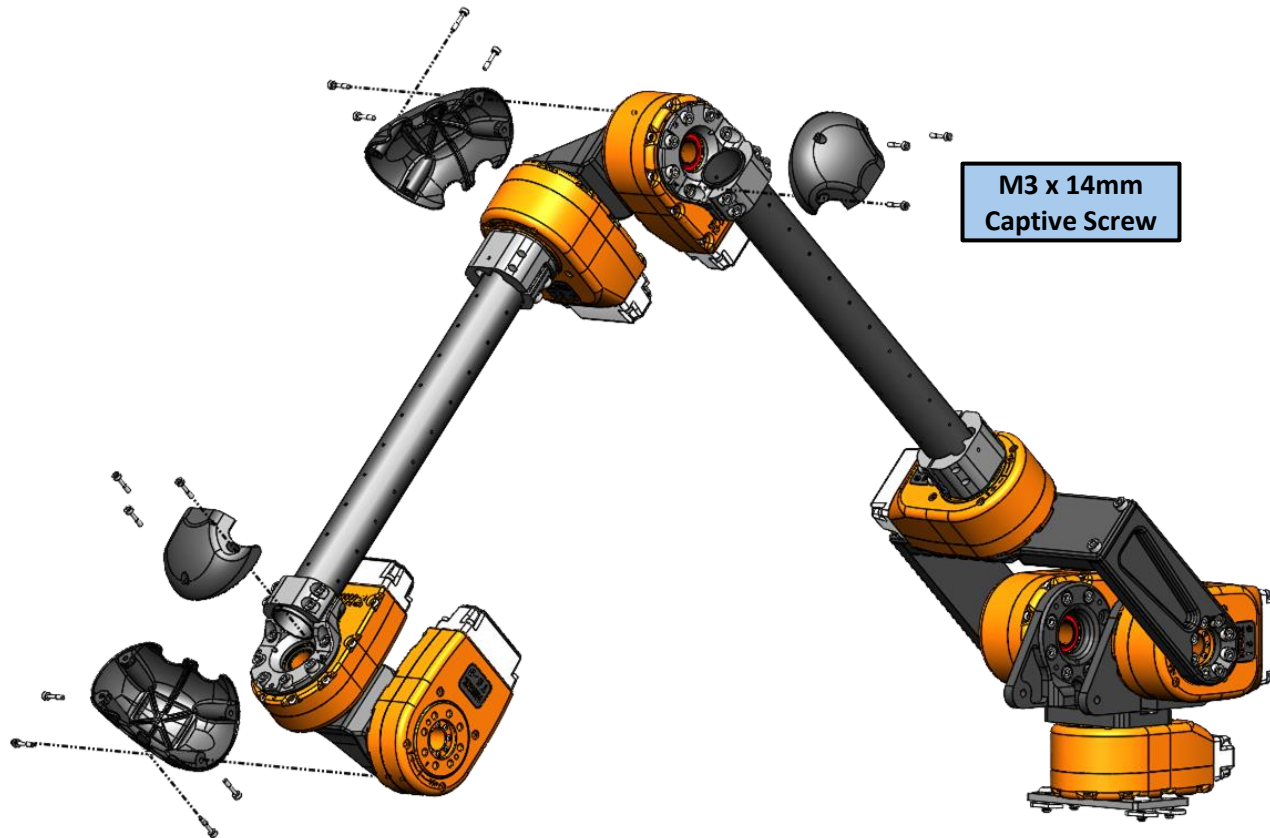
Wires that connect to the next joint should be threaded through the actuator's bore hole.

Wiring Example

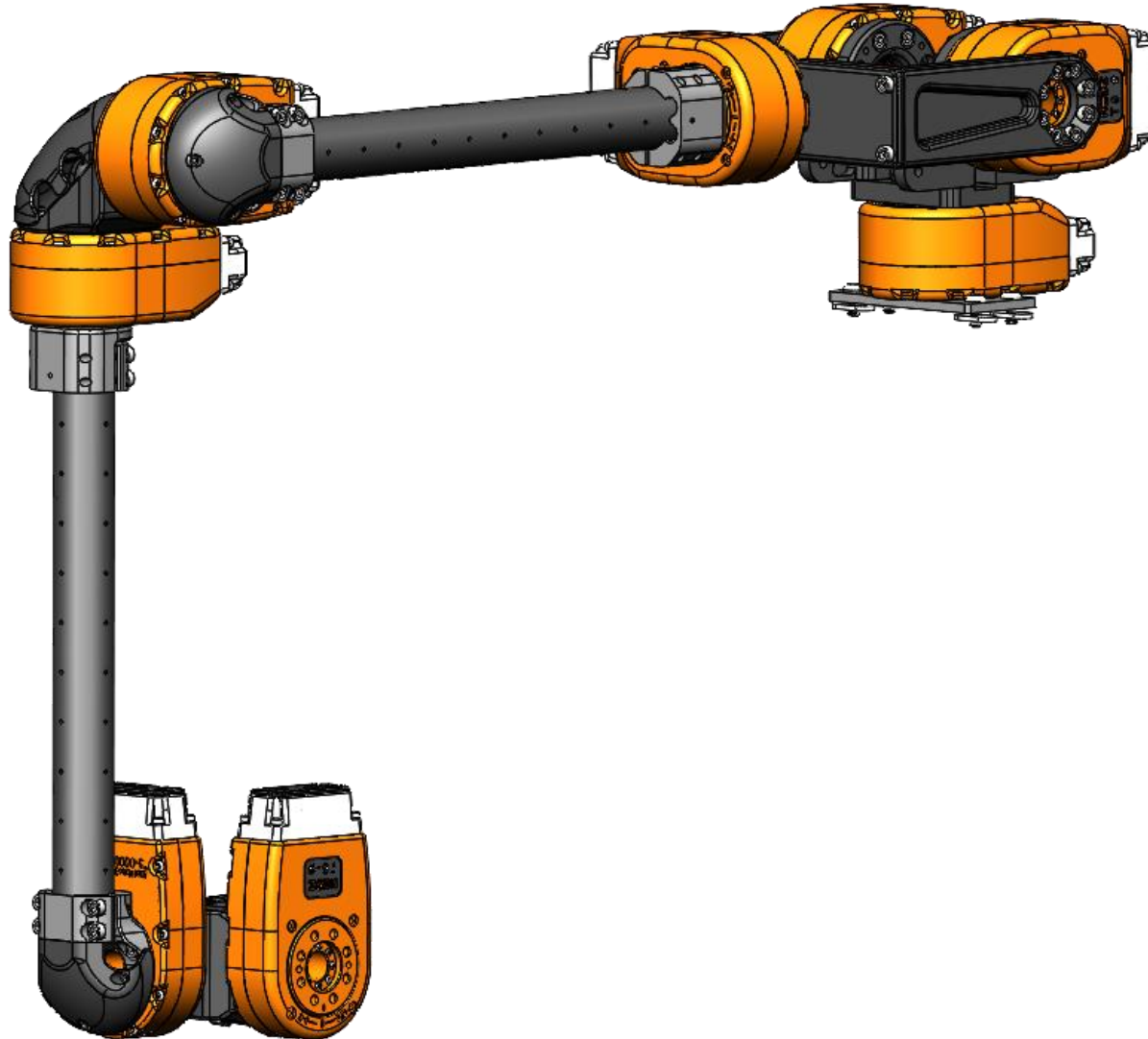




**Install cables before
adding caps**



All axes at zero degrees



Additional Accessories

- Power Supply, 36V 220W (A-2098-36)
 - Comes with correct Molex Minifit Jr 2 connector
- HEBI I/O Board (A-2116-01)
 - Integrate with 3rd party end effectors or tools using HEBI APIs



