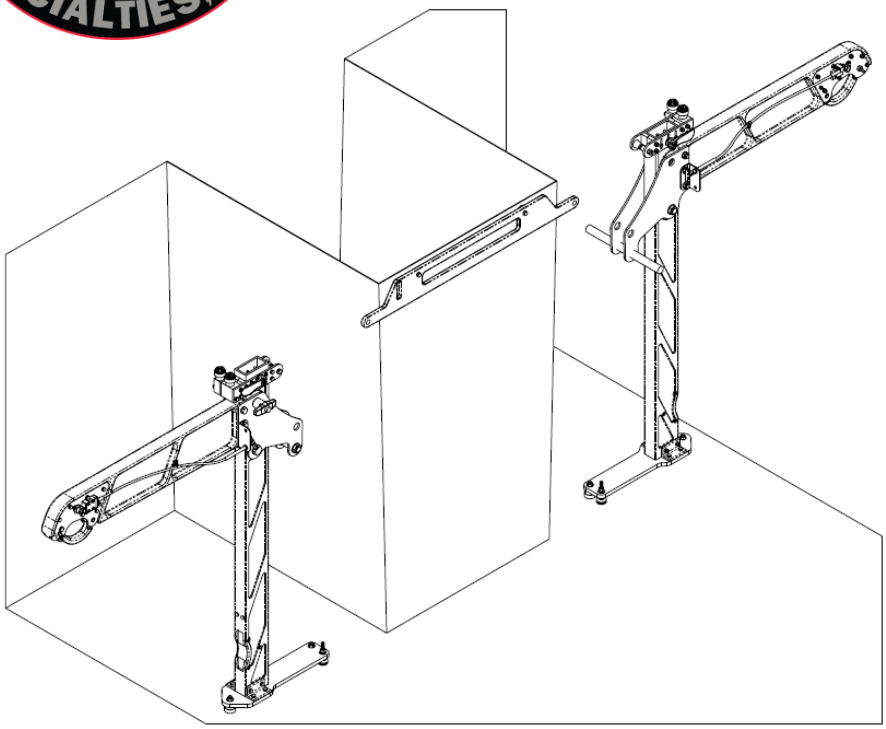
1/20/2021
Revision 2
5/26/2026

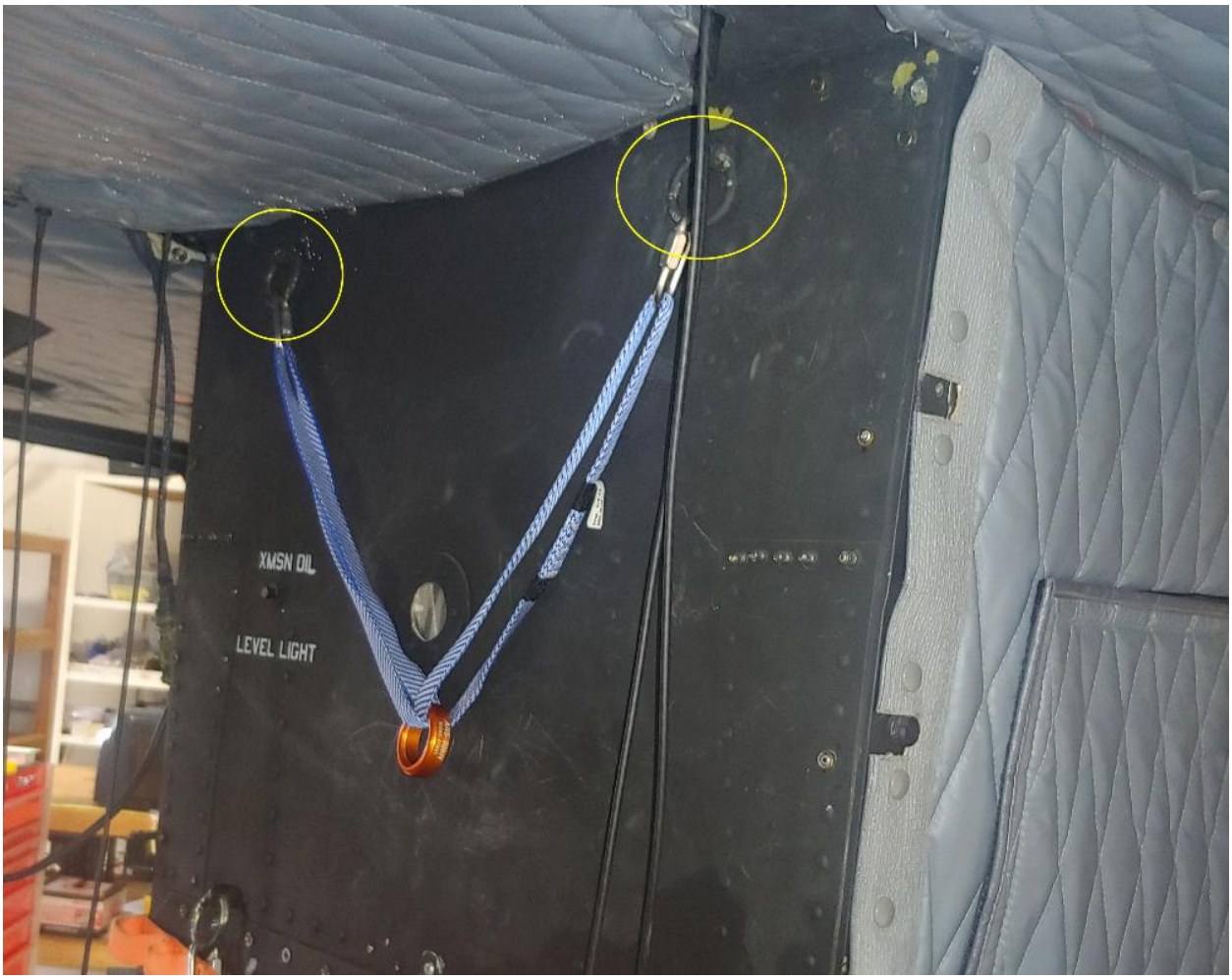


GANTRY INSTALLATION & OPERATION MANUAL

MECHANICAL SPECIALTIES, LLC.
975 85TH Ave. SE
Olympia, WA 98501
360-754-7200

AIRCRAFT PREPARATION

1. Remove the forward pylon blanket (if installed)
2. Remove fasteners (if installed) at the locations shown in the following photo.

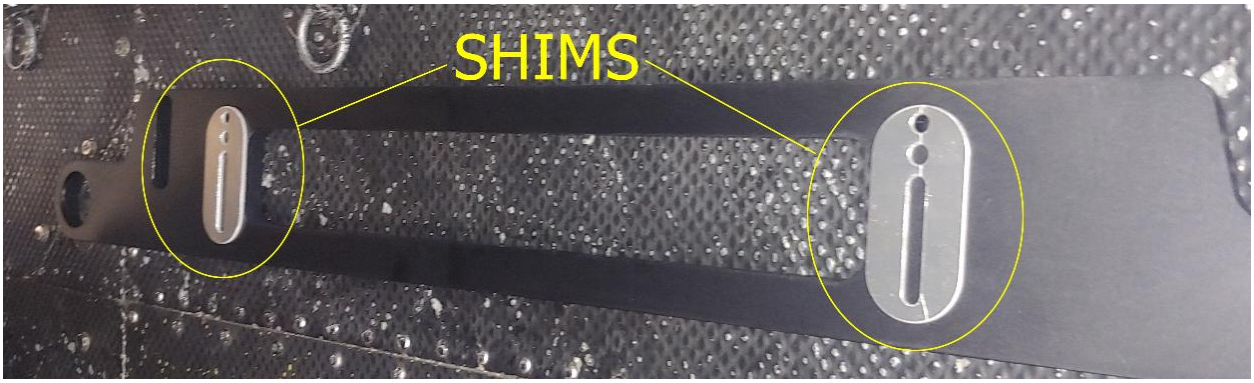


INSTALLATION OF SAFETY STRAP RIGGING

*CAUTION- This system was designed to be installed on a standard airframe without repairs in the interface areas. ALL FASTENERS AND SHIMS MUST BE VERIFIED FOR PROPER LENGTH AND THICKNESS DURING THE INSTALLATION PROCESS. FAILURE TO DO SO MAY RESULT IN DAMAGE TO THE AIRFRAME AND/OR SERIOUS INJURY OR DEATH.

SAFETY BAR (PYLON BEAM) – UH1-430-111-100 – SINGLE-ENGINE AIRCRAFT ONLY

1. Verify Bolt length required to install the Safety Bar by measuring the thickness of the Safety Bar and supplied shims and record.



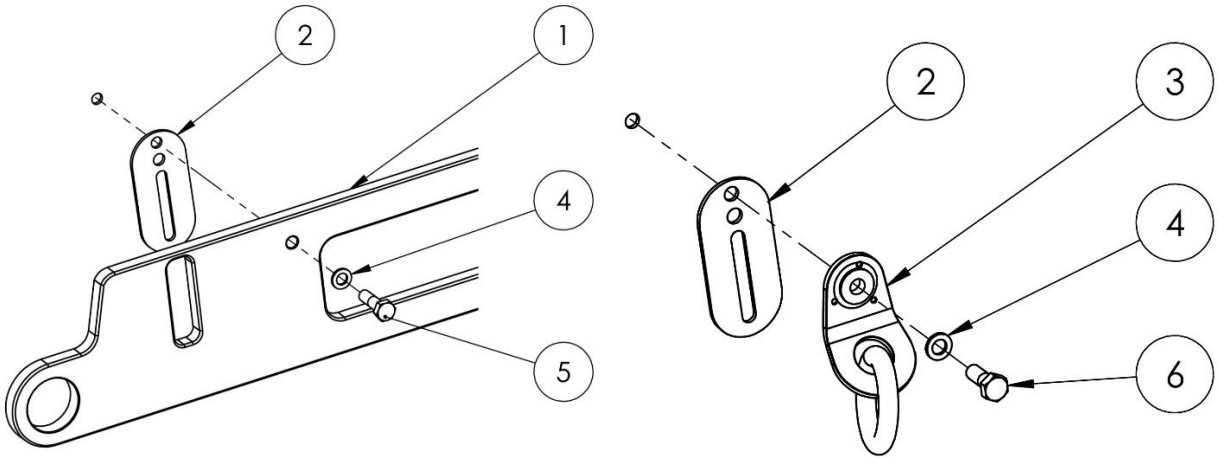
2. Measure the depth of the encapsulated nutplates from step 2 of the Aircraft Preparation section. One method of accomplishing this is to thread the supplied example mounting bolt into the nutplate until it just bottoms out. Mark the bolt at the forward face of the pylon. Remove bolt and measure from the mark to the end of the bolt.
3. Add the measurements from step 1 and step 2 of this section. This measurement is the MAXIMUM length of bolts (before installing a washer) that may be used before damage occurs to the encapsulated nutplates.
4. Verify sufficient thread engagement is present with the supplied mounting bolt per industry standard practices. If insufficient thread engagement, install locally procured bolts.
5. Using the mounting bolts as an installation aid, install shims on aft side of Safety Bar and insert the bolts into the previously measure nutplates HAND TIGHT ONLY.
6. Press the Safety Bar against the forward pylon and verify the there is no interference with fasteners, previous repairs or alterations.
7. If no interference exists torque the bolts to standard torque.
8. Apply torque stripe witness marks to bolt heads.
9. Installation is complete.

NOTE: Safety Straps used for this configuration are two 18-inch.

TIE-DOWN RINGS – UH1-430-222-100 – TWIN-ENGINE AIRCRAFT ONLY

1. Verify Bolt length required to install the Tie-Down Rings by measuring the thickness of the Tie-Down Ring assembly and supplied shims and record.
2. Measure the depth of the encapsulated nutplates from step 2 of the Aircraft Preparation section. One method of accomplishing this is to thread the supplied example mounting bolt into the nutplate until it just bottoms out. Mark the bolt at the forward face of the pylon. Remove bolt and measure from the mark to the end of the bolt.
3. Add the measurements from step 1 and step 2 of this section. This measurement is the MAXIMUM length of bolts (before installing a washer) that may be used before damage occurs to the encapsulated nutplates.
4. Verify sufficient thread engagement is present with the supplied mounting bolt per industry standard practices. If insufficient thread engagement, install locally procured bolts.
5. Using the mounting bolts as an installation aid, install shims on aft side of Tie-Down Rings and insert the bolts into the previously measure nutplates HAND TIGHT ONLY.
6. Press the Tie-Down Rings against the forward pylon and verify the there is no interference with fasteners, previous repairs or alterations.
7. If no interference exists torque the bolts to standard torque.
8. Apply torque stripe witness marks to bolt heads.
9. Installation is complete.

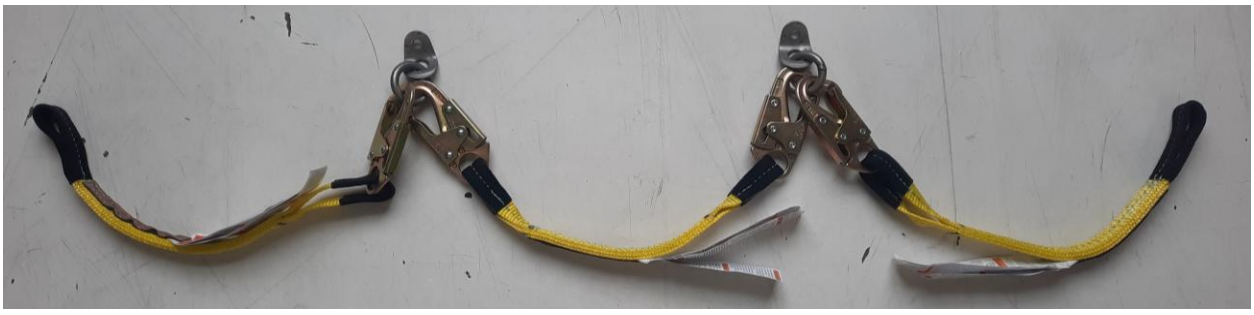
NOTE: Safety Straps used for this configuration are two 25-inch, and one 27-inch.



ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	UH1-430-282-001	PYLON BEAM, UH-1 GANTRY	1
2	UH1-430-287-001	SHIM, UH-1 GANTRY	4
3	UH1-430-280-100	TIE-DOWN RING, UH-1 GANTRY	2
4	NAS1149F0563P	WASHER	4
5	AN5-10A	BOLT	2
6	AN5-6A	BOLT	2
7	SLB-EE2901P-N3610	SAFETY STRAP, 18 IN	2
8	SLB-EE2901P-N3610-25	SAFETY STRAP, 25 IN	2
9	SLB-EE2901P-N3610-SP	SAFETY STRAP, 27 IN	1



Safety Bar Installed – Single-Engine Aircraft


Tie-Down Rings and Straps Assembled – Twin-Engine Aircraft

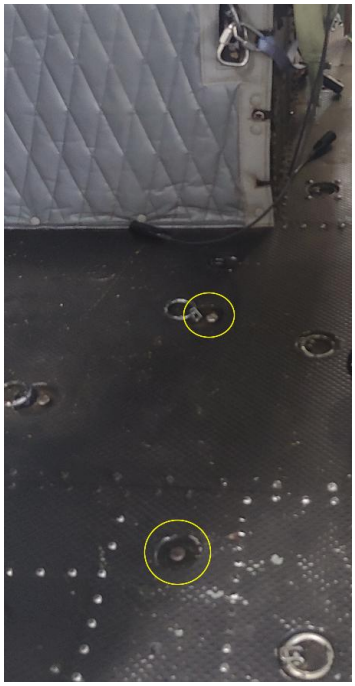
NOTE: At customer's option the forward pylon blanket may now be reinstalled. It is recommended that hook and loop fastener is applied to the blanket and Safety bar in lieu of the original snaps in that area. However, any method of attachment that does not compromise the structural integrity of the Safety Bar may be used at the customer's discretion.

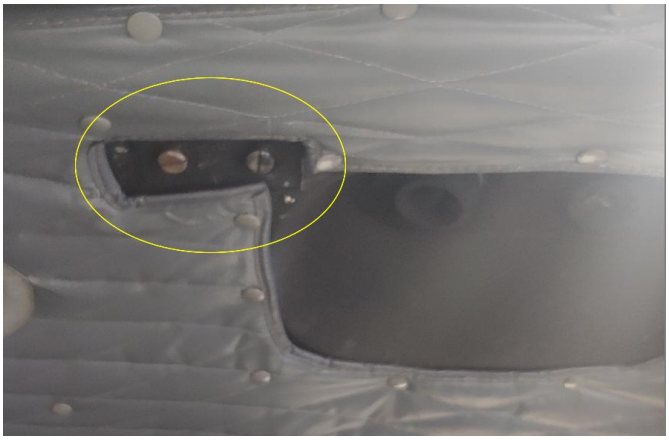
INSTALLATION OF GANTRY

*CAUTION- This system was designed to be installed on a standard airframe without repairs in the interface areas. ALL FASTENERS AND SHIMS MUST BE VERIFIED FOR PROPER ENGAGEMENT AND LOCKING DURING THE INSTALLATION PROCESS. FAILURE TO DO SO MAY RESULT IN DAMAGE TO THE AIRFRAME AND/OR SERIOUS INJURY OR DEATH.

NOTE: Each Gantry may be used on either side of the aircraft depending on configuration of the mounting foot. Part number UH1-430-250-007 is configured for left hand installation and number UH1-430-250-008 is configured for right hand installation.

*CAUTION-The following locations will be utilized by the 12 jaw mounting clamps. Prior to installation inspect each mounting lug button on the airframe for condition and security. If discrepancies are noted STOP and correct the condition prior to installation and use of the Gantry.

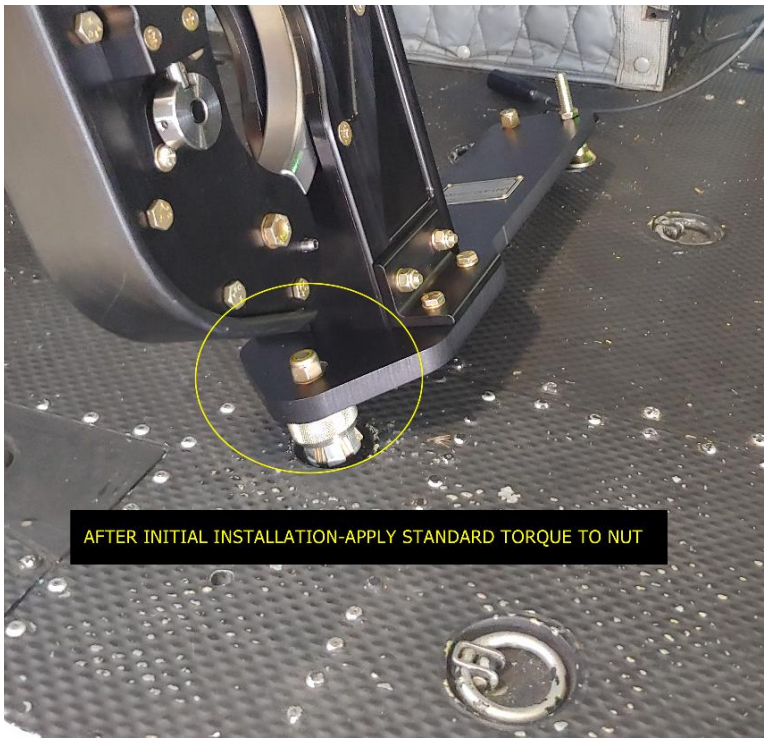




1. Ensure that all four 12-jaw clamps are in the open/unlocked position and the friction lock handle at the top of the Gantry is extended (relaxed position).
2. Angle the gantry slightly aft at the top and position in airframe with the 12-jaw clamps above the mounting lugs as shown below. Rotate the top of the gantry forward to engage the lower lugs. Push the 12-jaw locking collar down until the locking pin extends. Verify that the locking collar cannot be pulled up.

WARNING: The outboard lower 12-jaw clamp is shipped slightly loose to allow for a custom fit with a specific airframe. Upon initial installation apply standard torque to the nut. The stabilization foot that is installed next to the inboard 12-jaw should only be extended enough to aid in stabilization of the Gantry. Excessive extension could cause damage to the aircraft floor.




AFTER INITIAL INSTALLATION-APPLY STANDARD TORQUE TO NUT


EXTEND ONLY AS NECESSARY TO STABILIZE GANTRY.
ON MOST AIRFRAMES THIS CAN BE ACCOMPLISHED IN THE FULL "UP" POSITION

3. Align the Gantry with the upper mounting lugs. Grasping the safety strap with one hand pull down, pivoting the 12-jaw clamps upward while simultaneously guiding the 12-jaw clamps into position with your free hand.



4. Slide the locking collars of both 12-jaw clamps upward until the locking pin extends. Verify that the locking ring cannot be pulled down.
5. Raise the Gantry Arm to the deployed (extended) position.

6. Fold the Friction Lock handle aft to secure.



7. Secure hook on safety strap to lug on Safety Bar.



Installation Complete.

TECHNICAL SUPPORT

If you have any questions regarding installation, or the product in general, please do not hesitate to contact us for support.

EMAIL: techsupport@mechspecialties.com

Phone: 360-754-7200

Regular business hours: Monday – Friday 9:00 AM -5:00 PM

24 HOUR PHONE SUPPORT AVAILABLE: 360-754-7200

If after regular business hours, please leave a message with answering service and request a callback. Please give as much detail as possible, and we will get back to you as quickly as possible.

Mechanical Specialties

Fast Rope Gantry

Operation Instructions

CAUTION
THIS GANTRY SYSTEM SHOULD ONLY BE USED BY PERSONNEL WHO HAVE HAD FORMAL TRAINING IN FAST ROPE INSERTION. IMPROPER USE AND/OR TECHNIQUE MAY RESULT IN SERIOUS INJURY OR DEATH.

CAUTION
IMPROPER USE OF THE GANTRY SYSTEM MAY CAUSE AN UNINTENDED RELEASE OF THE FAST ROPE CAUSING SERIOUS INJURY OR DEATH

CAUTION
IMPROPER INSTALLATION OF THE GANTRY SYSTEM MAY CAUSE INJURY OR DEATH

CAUTION
IMPROPER MAINTENANCE OF THE GANTRY SYSTEM MAY CAUSE AN INADVERTANT RELEASE OF THE FAST ROPE RESULTING IN SERIOUS INJURY OR DEATH. ONLY QUALIFIED PERSONNEL SHOULD PERFORM MAINTENANCE ON THE GANTRY SYSTEM.

CAUTION
THE GANTRY SYSTEM HAS NOT BEEN TESTED FOR DYANMIC EXTRACTION OF PERSONNEL AND SHOULD NOT BE USED FOR DYNAMIC EXTRACTION OF PERSONNEL.

Preflight Inspection

1. Inspect the Safety Bar or Tie-Down Rings for condition and security of attachment.
2. Inspect Safety Strap and hardware for condition and security. Ensure the dual action safety hook is functioning as designed. Verify Safety Strap is attached to Safety Bar or Tie-Down Rings.
3. Inspect all four 12-Jaw clamps for proper engagement and locking.
4. Verify friction clamp is in the locked position
5. Inspect all hardware for condition and security.
6. Inspect Gantry for condition and security.

Deployment Instructions

1. Grasp the deployment handle, rotate Release Lever counter-clockwise and firmly raise the Gantry arm to the deployed position.
2. Ensure locking pins are in the locked position by verifying the red locking pin indicator are visible and near flush with the witness hole.



Continued

Deployment Instructions Cont.

3. Ensure Release Lever is in the vertical position and Safety Catch is engaged as shown below:

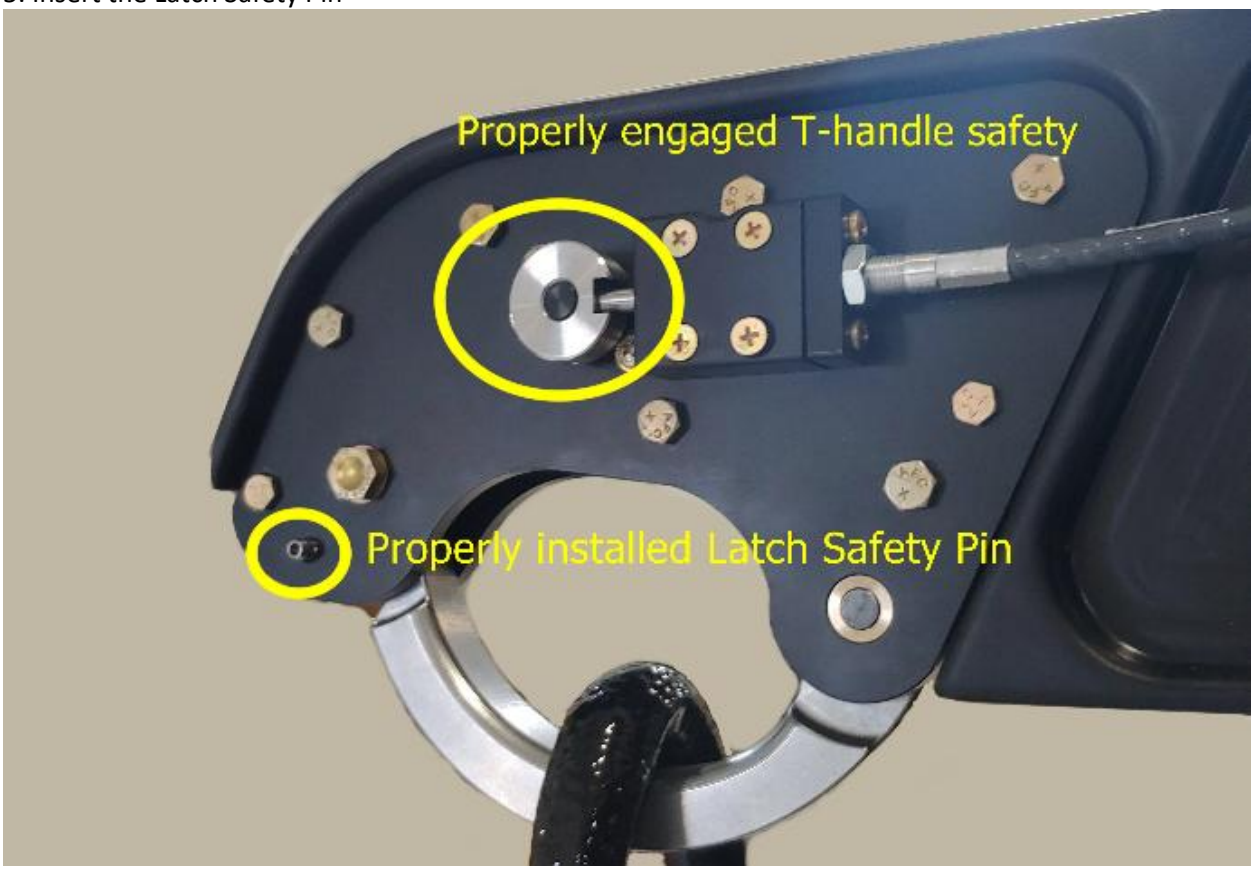


Stowing Instructions

1. Grasp Deployment handle with SLIGHT downward pressure, rotate Release Lever counter-clockwise and lower arm until it rests in safety catch.
2. Slightly raise the arm using the deployment handle and release the safety catch.
3. Lower arm to the stowed position.
4. Ensure locking pins are in the locked position by verifying the red locking pin indicator are visible and near flush with the witness hole.
5. Ensure Release Lever is in the vertical position.

Fast Rope Installation

1. Remove the Latch Safety Pin from the deployed Gantry
2. Position yourself inboard of the Gantry
3. Open the Load Beam by first pulling the T-Handle and holding inboard then pull the circular red Release Handle. Release both handles when the Load Beam opens.
4. Load the Fast Rope “Eye” into the load beam and firmly close
5. Verify the T-handle safety is engaged in the Release Safety Wheel
5. Insert the Latch Safety Pin



Fast Rope Release

1. Land Aircraft
2. Remove Latch Safety Pin
3. Pull T-handle and hold then pull the circular red Release Handle.

Dynamic Fast Rope Release.

CAUTION

Dynamically releasing the Fast Rope requires that the Latch Safety Pin be removed prior to using Fast Rope. Typically this would be done on the ground or prior to Gantry deployment. The Latch Safety Pin is an important safety device that prevents accidental release of the Fast Rope. As such it is recommended that all Fast Rope operations be conducted with the Latch Safety Pin installed.

Operators should only conduct Fast Rope operations without the Latch Safety Pin properly installed and dynamic rope releases after carefully assessing the risks.

1. Perform safety briefing with flight crew and Fast Rope insertion personnel. Each operator should develop their own release protocols for commanded release of the Fast Rope.
2. Ensure that the Latch Safety Pin is not installed through the Gantry release
3. Visually verify no personnel are on the Fast Rope or under the aircraft where they Fast Rope may fall.

CAUTION

A falling fast rope can injure or kill personnel on the ground. Do not release the Fast Rope when people are in the vicinity of the falling rope

4. With the left hand grasp and pull the black “T-Handle” safety inboard.
5. With the right hand grasp the circular red handle and pull inboard.
6. Verify that the rope has departed the aircraft.

NOTE: The order of operations can be remembered by “T-BALL”. Imagining that the circular handle resembles a ball (the original version release handle was a sphere or “ball”), the correct order of operations is T-Handle then Ball Handle or “T-Ball”