



HeliLadder and Fixed-Wing Aircraft

The following report serves as a product guide for HeliLadder's compatibility with various fixed-wing aircraft, complete with general information, photos, and product specifications

May, 2024

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HeliLadder Overview

HeliLadder brand safety-stands are a multi-patented hybrid design, blending the portability of a ladder with the stability of a work stand. The HeliLadder was specifically designed to meet the real-world challenges of aircraft maintenance by Dale Neubauer, a helicopter technician with over 30 years of field experience.

The unique modular design allows technicians to modify the equipment to best serve the aircraft, the specific task at hand, and the individual height of the technician. By doing so, the mechanic can *focus on their work*, instead of *their balance*. The HeliLadder product line is exceptionally stable and is built to the highest quality standards. It meets or exceeds applicable ANSI and OSHA standards.

There are now over 2,500 units serving a wide variety of commercial operators, hospital programs, private owners, law enforcement agencies, and fire departments, as well as the US Army, Navy, Air Force, and Marines. HeliLadder can be found around the world including US/Canada, Europe, Australia/NZ, Africa, and the Middle East.



Compatibility with Fixed-Wing Aircraft

While the HeliLadder product line was originally designed for helicopter maintenance, it has also proven to work well for fixed-wing aircraft. The modular design allows it to provide access to both low and high parts of the aircraft, including the wings, engines, props, cockpit, vertical fin and horizontal stabilizers, and windshield.



OSHA and ANSI Considerations

ANSI (American National Standards Institute) sets structural and stability standards for ladder manufacturing, and provides the certification requirements. OSHA (Occupational Safety & Health) however, sets standards for workplace safety: including the proper utilization of ladders. OSHA requires ladders to be ANSI certified, but more importantly, OSHA requires that ladders are utilized in a safe manner. An ANSI certified ladder is an OSHA violation when used improperly.

Many aircraft maintenance tasks are OSHA violations when conventional ladders are used:



These ANSI certified ladders are OSHA violations when used with aircraft!

The ladders in the pictures are all ANSI certified, but the method of use are OSHA violations. Picture #1 is an obvious violation (standing on the top rung), but using a taller ladder, as in #2 and #3, is not a solution, as it creates a new violation (overreaching) which decreases the stability of the ladder. The violation is not the fault of the mechanic! It is the employer's responsibility to provide proper work stands for the tasks that they *require* their employees to perform. Failure to do so puts technicians at risk of injury, and subjects the employer to OSHA violation fines. In the unfortunate event of a ladder related injury, the employer can be held liable for negligence.

On a corresponding note: *Flight Safety* is dependent upon the workmanship of the aircraft maintenance team. Technicians cannot give full attention to *maintenance tasks*, if excessive attention is being applied to *maintaining their balance*. When doing so, the likelihood of making an error is increased. The FAA is finally acknowledging that OSHA violations can impact flight safety, and is now actively evaluating such during safety audits.

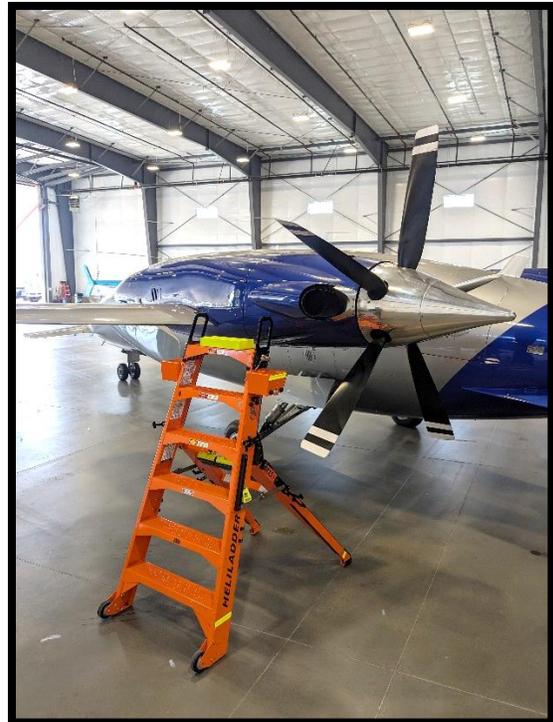
Fortunately, the self-evident problems (**ANSI approved in *design*, but not OSHA compliant in *usage***) of conventional ladders have finally been resolved with the MX5+. Unlike conventional ladders, HeliLadders were *specifically designed for aircraft maintenance* and are OSHA compliant in countless applications where conventional ladders are are not. They also meet and exceed the most recent ANSI 14.2 standards issued in 2017.

HeliLadder Product Overview

MX5 Ladder

The MX5 base ladder is a 5' cantilever ladder and is the primary unit for the HeliLadder system. It can be used for lower-level engine access and features removeable tool trays (FOD control and tool/parts access), locking scissor links, extra-wide rungs, protective pads and bumpers, short handrails, and folding legs to provide compact storage. Its design allows for a close fit next to the aircraft and clears cross tubes, wheels, steps, and landing gear.

The ladder has a 1AA rated capacity of 375 lbs.



MX5+ Extensions

Extensions of numerous heights can be installed to the MX5 with the included handwheels, increasing the ladder's working height and enabling access to higher parts of the aircraft. These are complete with extended handrails for additional safety and improved ergonomics. Extensions are available in the following lengths: 2', 3', 4', 5'. Additional 2' and 3' Walk-Thru Extensions are available, which enable the user to walk through the top step and onto the aircraft.



MX5+2 (MX5 ladder with 2' Extension)



MX5+4 (MX5 ladder with 4' Extension)



MX5+4 (MX5 ladder with 4' Extension)



2x MX5+4 (MX5 ladders with 4' Extensions)



MX5+3WT (MX5 ladder with 3' Walk-Thru Extension and RWK), providing the ability to walk through the top step and onto the aircraft. F35 wing access shown above.



MX5+4 (MX5 ladder with 4' Extension)

Retractable Wheel Kit

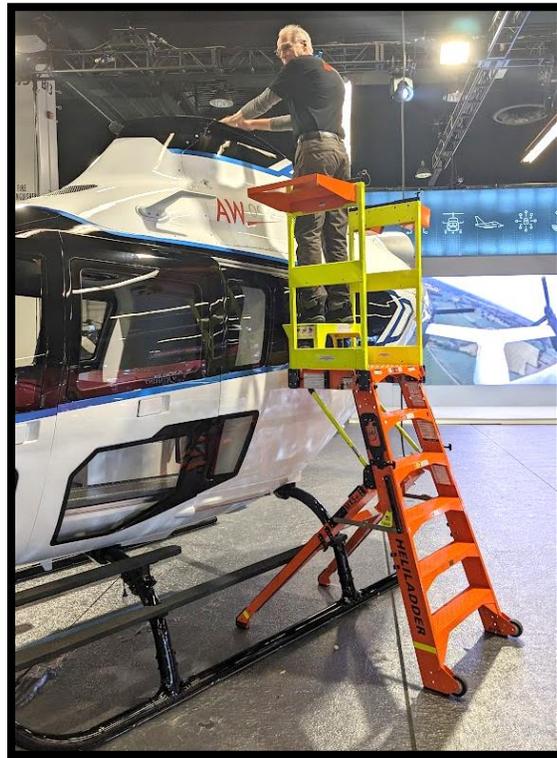
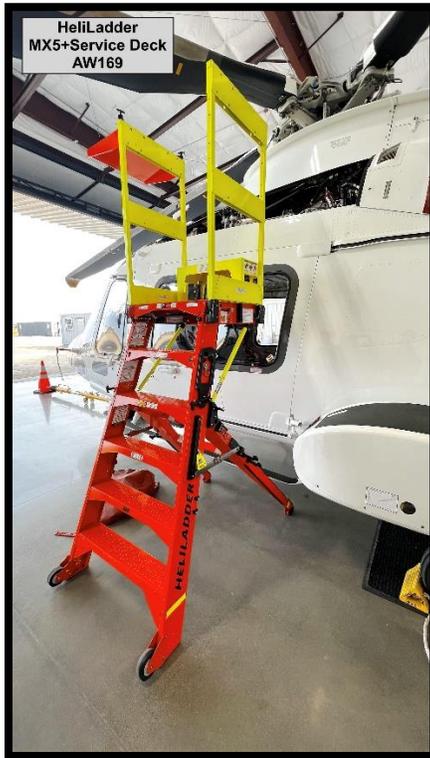
The Retractable Wheel Kit (RWK) is an optional item that attaches to the legs of the MX5 ladder and provides smooth, multi-directional movement.



MX5+5 (MX5 ladder with 5' Extension and RWK), providing horizontal stabilizer access

Service Deck

A single person Service Deck can be installed onto the MX5 ladder, providing the user with a comfortable and safe platform ideal for longer maintenance projects or tasks that require enhanced fall protection. It is complete with guardrails, safety-bars, a laptop tray, and an 11" booster step. It has a rated capacity of 375 lbs.



Maintenance Platform System (MXPS)

The MXPS is the complete platform package that consists of two MX5 ladders, two Service Decks, and a removable 70" or 90" platform that interfaces between the decks. Ideal for heavy maintenance and prolonged projects, it is outfitted with guardrails, self-closing gates, and an Extension Receiver. It has a rated load capacity of 750 lbs.



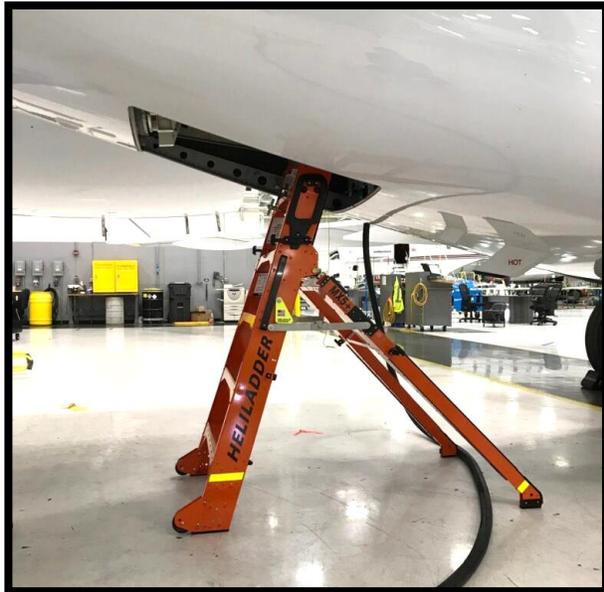
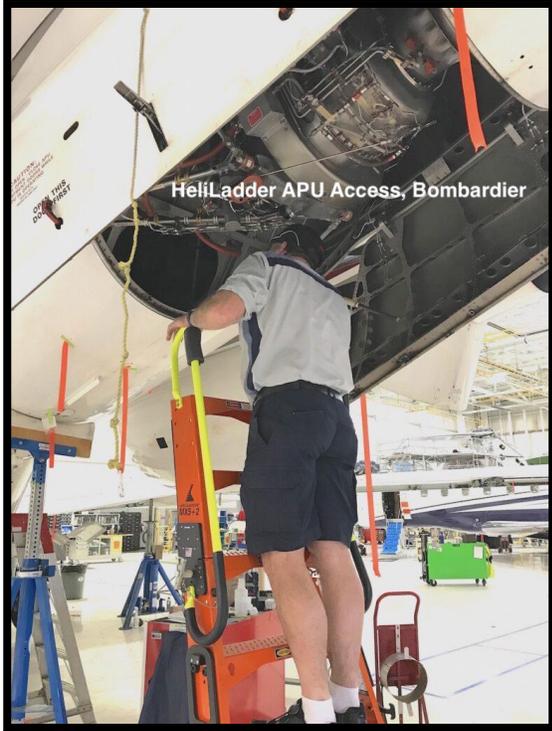
MXPS with F35: MX5 ladders (2), Service Decks (2), 70" Platform (1)

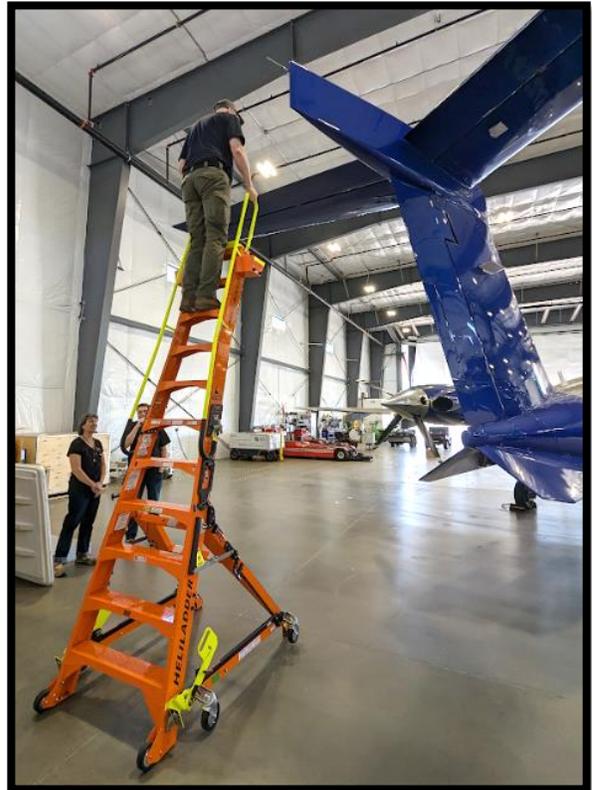


MXPS with 4' Extension installed, providing additional height and access to higher parts of the aircraft

Additional Images









**HeliLadder MX5+2WAEXT
(2' Wing-Access Extension) with the MQ25**



**HeliLadder MX5+3BL
F-35 Lightning**

Portable and Field Deployable

All HeliLadder equipment is designed to be disassembled and set aside for easy storage and transport, providing usage for both hanger and field operations. The entire MXPS can be disassembled and reassembled in 10-15 minutes with two people.



Additional Information

We are proud to provide this list of **Features & Specifications** to help you compare HeliLadder brand safety work stands with our competitors. **No other product can match it.** *If safety, stability, efficiency, functionality, portability, and cost-effectiveness are paramount, invest in the highest quality ladder-stand that is available!*

- OSHA/ANSI Special Duty *StepLadder* compliance. 1AA Special Duty load rated for **375 lbs.**
- Self-supporting cantilevered design: providing unmatched access to the upper aircraft.
- Brace-free support legs that straddle passenger steps *and* crosstubes.
- Modular design, with variable extension lengths (2', 3', 4', 5'). *PATENTED*
- High-Rise Safety Handrails extend 8" above the top rung, allowing for continuous hand access.
- Closed-Loop Safety Handrails terminate at the ladder side rails. *NO* exposed end-caps to snag clothing and gear.
- *All* steps (top to bottom) are 5" wide for comfort, stability, and security.
- 10.5" vertical step spacing provides easier climbing and descending. *Conventional ladders are 12"*
- Two side-rail tool & equipment trays with protective side bumpers. *Optional*
- Neon Yellow tool trays can be positioned on either of the top two rungs with quick release snaps.
- Shrouded safety wheels prevent slippage if inadvertently stepped upon while descending.
- High Surface Area Feet (tundra-pads) are available for field deployments & offsite usage. *Optional*
- Full length protective foam pads on ladder & support legs, with polyurethane wrap-around toe bumpers.
- Corrosion protected: Powder-coated *and* primer for harsh environments.
- Safety Orange with contrasting high-visibility neon yellow handrails.
- High Intensity 3M reflective tape on side rails, tool trays, and supports, for maximum night visibility.
- Heavy-duty stainless steel spreader braces with MS/AN attachment hardware.
- Spreader brace *Safety-Lock*, preventing inadvertent closure of support legs. *PATENTED*
- Twin latches to secure the support to the ladder frame during transport & deployments.
- Heavy-duty .100"/2.5mm aluminum riveted construction, with stainless hardware throughout.
- Extended life-limit. HeliLadder is field repairable & a refurbishment service is available.
- Exceptional price-to-performance ratio and Return On Investment (ROI) value.

No compromise was made regarding safety, performance, or durability!

The claim *Made In the USA* is often loosely applied to imported components that are engineered or assembled in the US. For us, *Made in the USA* is not just a promotional gimmick. It is a core value that supports our community, strengthens our economy, and integrates the talents and services of other local entrepreneurs. *ALL* of our product design work, engineering, manufacturing, and assembly take place here in Bend, Oregon.

Contact Dale Neubauer (dale@heliladder.com) or Ian Neubauer (ian@heliladder.com) for more information as well as technical specs and pricing. Additional information and resources can be found at **HeliLadder.com**