

DoD Ergonomics Working Group NEWS



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Ft. Lewis, Washington, Best Practice: A Step Above the Rest

The Problem

The CH-47D Chinook mechanics of AASF 1 (Army Aviation Support Facility) on Ft. Lewis, Washington, perform most of their maintenance in awkward and cramped positions due to the design of the aircraft. It is full of nooks and crannies and riddled with tripping and falling hazards. Some mechanics are too short to reach certain spots while others are too tall to get into cramped spaces. One of the areas that is the most difficult to work in is the support platform of the rear rotor system.

When performing aft rotor maintenance, one of the tasks is to remove, service, and replace the aft rotor head. To accomplish this task, the mechanic has to stand on the aft work platform, guide the crane above, and remove all components before the head can be removed. All operations are performed in an overhead reach position that is uncomfortable for even the tallest operator.



SSG Steven Stretch guiding in the aft rotor head. Notice his height in relation to the aft rotor head.

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The Solution

A soldier from D Co 1-168 AVN came up with a very inventive yet simple idea to improve the height and reach for this operation. Spending about 6 man hours and just \$200, 1SG William E. Tapscott designed and produced the Aft Rotor Pylon Step (ARPS) in the welding shop. The design not only improves the ergonomic position of the mechanic while performing maintenance on the aft rotor, but it also increases safety because the mechanic performs his task in a more natural standing position and not in an overhead reach position. The step is made from high-tensile steel that can hold up to 400 pounds. It is held in place by two support hooks that clasp onto the aft pylon support beam. This ensures that, if the platform fails and collapses, the ARPS will remain attached to the aircraft and support the soldier.



The Aft Rotor Pylon Step or “ARPS.”



The difference in height seriously reduces fatigue and the possibility of overhead injuries.



For More Information

If you have questions or would like more information, contact SSG Ryan Meeks, AASF Occupational/Industrial Hygiene Technician, at Ryan.meeks1@us.army.mil.