

DoD Ergonomics Working Group NEWS



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Sierra Army Depot Palletized Loading System Ergonomic Safety Improvement Part 1: The Handle

Identifying the Problem

The Sierra Army Depot Safety Office teamed up with members of the 423rd Transportation Company to mitigate hazardous operations on the palletized loading system (PLS). Basic PLS operating functions were dissected and the only real hazard identified was getting up onto the PLS to conduct basic maintenance checks. There were marginal handholds for climbing up to check engine oil, transmission fluid, and coolant level.



Brainstorming a Solution

The 423rd Transportation Company Team and the Sierra Safety Team brainstormed the risk and performed a job hazard analysis. The teams concluded that the best ergonomic solution was to install an additional climbing handle on the cooling fan housing. The handle was designed, fabricated, and installed on the PLS at Sierra Army Depot.



Maintenance personnel can now safely use three-point contact when climbing up to conduct service on the PLS.

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The newly designed safety handle mitigates ergonomic risk factors. It balances body load forces by establishing solid three-point contact when climbing on a PLS to conduct maintenance checks.

The mechanic no longer has to grab the inadequate angled bracket just above the fan blade, which could lead to losing grip and falling.



Grabbing the safety handle instead of the angle bracket puts less stress on the wrist tendons when climbing onto the cooling fan housing.

Existing bolt holes were used to avoid extra time prepping and welding on chemical agent resistant coating paint.



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