

Case 461. 47-year-old welder died when an inverted 3,000-pound part fell onto him.

A 47-year-old male welder died when an inverted 3,000-pound part fell onto him. The 56-inch by 78-inch by 1-inch thick 3,000-pound part with a 46-inch protrusion in the center was affixed to the underside of the two arm extensions of a Cullen-Freistedt 140-218 positioner. The part had two holes which aligned with holes in the arms of the positioner. The positioner allowed the part to be rotated and appropriately positioned for welding. The decedent, acting independently and without authorization or approval, cut the two specified bolts which should have affixed the part to the positioner and replaced them with two Grade 8 socket head cap screws. He cut the head off of these screws, effectively making them studs. He ground down the diameter of the screws at the top to create a weld fillet area and then welded the modified studs onto the arms of the positioner. On the day of the incident, while the part was placed in the inverted (upside down) position placing the load on the weld of these studs, the decedent utilized an impact wrench to tighten the fastener on the south side of the unit. It appeared that the tension load imparted by the impact wrench caused the stud on one side to yield and separate and the stud on the other side to shear. There was no secondary means of support and the 3,000-pound part fell on top of him. Employees heard a crash and upon investigation, saw the part had fallen onto the decedent. As emergency response was summoned, an overhead crane was used to hook to the part to remove it from him. Found next to the decedent was his impact wrench set to the forward (tightening) position.

MIOSHA General Industry Safety and Health division issued the following Serious violation to the employer at the conclusion of its investigation.

SERIOUS: GENERAL PROVISIONS, GI PART 1, RULE 408.10034(12): An employee shall not place his/her body beneath equipment such as vehicles, machines, or materials, supported only by a jack, overhead hoist, chain fall, or any other temporary single supporting means, unless safety stands, blocks or other support system capable of supporting the total imposed weight is used to protect the employee in case of failure of the supporting system.

Employee had placed his body under a 3000-pound part that was affixed to the Cullen-Freistedt 140-218 Positioner and supported solely by two ¾-inch bolts that had been butt welded to the arms of the fixture. The employee was crushed when the welded studs supporting the part broke. There was no secondary means of support, and the 3000-pound part fell on top of him.