


# zeroG<sup>®</sup> Case Studies: Grinding

Mercury Marine Case Study: Recognized with a 2009 Progressive Manufacturing Award for both Equipois and Our Customer



Customer	Grinding Problem	Our Solution	ROI
 <p>Mercury Marine (World's leading manufacturer of recreational marine propulsion engines)</p>	<p>Holding a 35 lbs. propeller to a belt grinder caused <b>undue ergonomic risk</b>. Mercury needed to fix this while enabling the operator total freedom of motion (because a good polish is "more art than science").</p>	<p>Each propeller now placed in a zeroG<sup>4</sup> mechanical arm (<b>we can do part-to-tool just as easily as tool-to-part</b>). The operator holds the propeller to the belt grinder like he normally would – except the propeller weighs nothing. <b>(Detaching a propeller from the arm takes only a few seconds)</b>.</p>	<p>"Reduced cost and lead time; increased product weight without impact on safety; reduced/eliminated injury potential; decreased process steps; improved product quality due to control; increased utilization of workforce and equipment; <b>estimated ROI of 100%</b>"</p>

## zeroG<sup>®</sup> at work in the Aerospace Industry

Customer	Grinding Problem	Our Solution	ROI
<p>Aerospace Components Manufacturer</p>	<p>Manual grinding of a nacelle (the leading edge of a jet engine) was <b>too time-consuming</b>, requiring three separate precision grinding tasks.</p>	<p>Taking advantage of the fact that tools weigh nothing in "zeroG<sup>®</sup>", the customer used a zeroG<sup>4</sup> arm to <b>upgrade to a heavier – and more powerful – electric grinder</b>.</p>	<p><b>Significant reduction in labor hours and throughput</b>, enabled by a more powerful tool. Far fewer sanding pads used. Bottom line: <b>400% ROI</b></p>

## zeroG<sup>®</sup> at work in the Transportation Industry

Customer	Grinding Problem	Our Solution	ROI
<p>Transportation Equipment Provider</p>	<p>Our customer had been grinding the horizontal and bottom surface of barges – and experiencing <b>repeat shoulder injuries</b> in a difficult outdoor environment.</p>	<p>A zeroG<sup>4</sup> was mounted to a man-lift on an 80/20 rail with quick release handles.</p>	<p><b>Total labor hours reduced by 50% for this operation.</b> Reduction in shoulder injuries (at roughly \$80k per incident).</p>