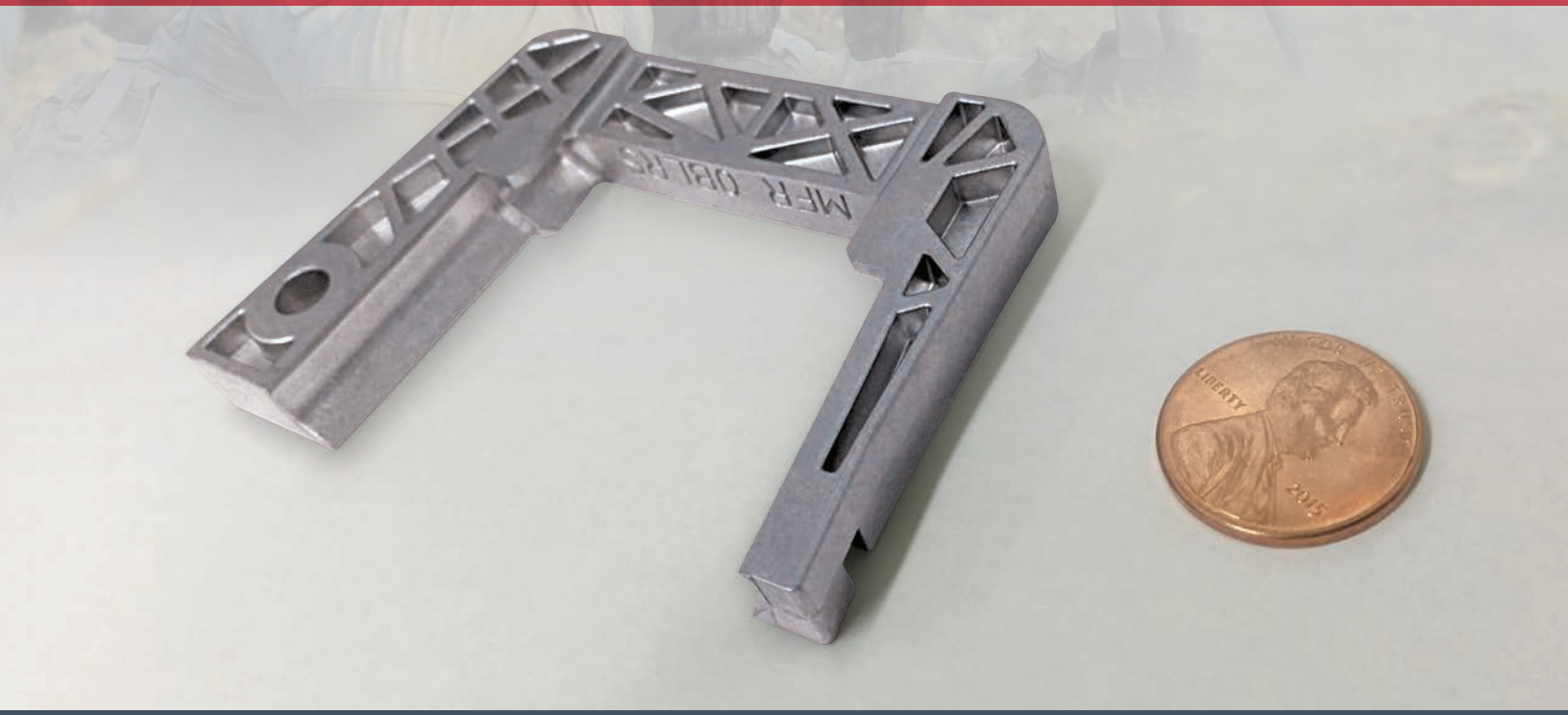
FSIK (FEED BOX SUPPORT IMPROVEMENT KIT)



PROBLEM

The FSIK (Feed Box Support Improvement Kit) was designed and developed to repair the feed box on an M249 SAW. The required FSIK design consisted of two components that had a total weight limit of 100 grams fully assembled. The device needed to withstand a large amount of force while attached to the firearm to endure strong impacts in combat theater. While being lightweight, the FSIK also incorporated a complex design with reinforced webbing, ribs, and true position requirements, which together required a great deal of engineering innovation to achieve.

SOLUTION

PTI developed and produced the FSIK using MIM, the best manufacturing technology to address the complexity of the component. Other processes, such as casting or machining, would not have been practical due to the complex geometry required to reinforce the small component. To meet weight and hardness requirements, PTI proposed an innovative I-beam design concept. The webbed design provided equal strength to a previous solid version of the U-bracket, while reducing weight by 30%.

PTI's design and manufacturing innovation impressed military inspectors, who cited that they had never witnessed weapons of this kind survive five-foot drop tests while fully retaining functional 100-200 round magazines.

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