

ACTUATOR HOUSING

CRITICAL PART — This part holds ball bearings that transmit trigger force on a PD45 hydraulic post driver.

HIGH USAGE PART — An operator exerts force on the housing each time they engage the driver.

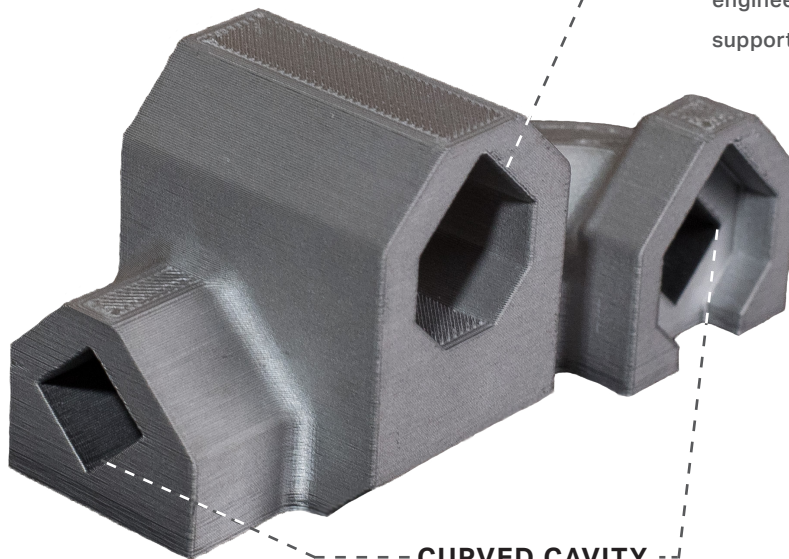
CONSOLIDATED — The Metal X replaced a four part assembly with a single part that works instantly.

MASSIVE SAVINGS — Stanley Infrastructure gained **12x cost savings** and **20x time savings** on this part.

The 3D Printed Part

DESIGNED FOR PRINTING

By making all overhang angles 45 degrees, Stanley Infrastructure engineers printed this part without supports.



CURVED CAVITY

A curved, diamond-shaped cavity houses the series of ball bearings that transmit force.

Reduced Complexity

The original actuator housing consisted of four parts - a cast and machined main housing, lasercut cover plate, and two bolts to fasten the housing assembly together. Stanley Infrastructure engineers worked with Markforged to redesign the part for printing on the Metal X. Instead of a four part assembly, the redesigned part prints in one piece without support material, saving manufacturing and engineering time.

PRODUCTION VOLUME	COST SAVINGS	TIME SAVINGS
Typical Annual Volume	34% - 48%	69%
Single Component Fabrication	92%	95%