Alternator Protection Shield

Customizing repair parts to better suit the needs of the user.

Value Summary

Modifying the alternator mounting bracket in the field to incorporate a protection shield protects the expensive alternator component from the rigors of military use.

Production Method	Production Time
Manufacturing (Casting or Machining)	6-8 weeks
SPEE3D CSAM Aluminum 6061	17.5 hours

Background

The military variant of the Mercedes G-Class is widely used throughout global militaries and defense forces. It is a highly modified version of the standard production variant of the vehicle.

The Challenge

Users of the equipment have observed that the alternator often sustains irreparable damage due to debris impacts during off-road use, resulting in cracks in the alternator housing. The replacement part is specifically designed for military variants and costs over $800 for a reconditioned unit. Reducing impact-related failures will lower repair costs and enhance vehicle availability.

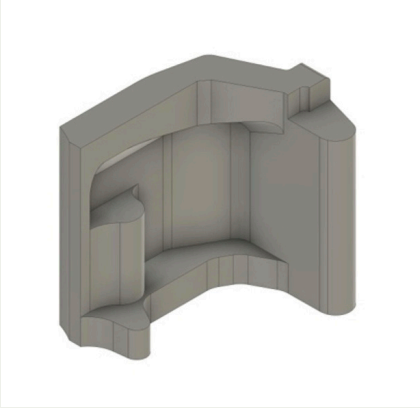
The Solution

SPEE3D's CSAM technology can 3D metal print a modified design in less than 24 hours.

The Value

Keeping equipment running is essential in critical environments. With CSAM technology, customers can reduce wait time, while having the design freedom to modify and improve upon existing parts to further mitigate against down time.

Design to deployment in 17.5 hours

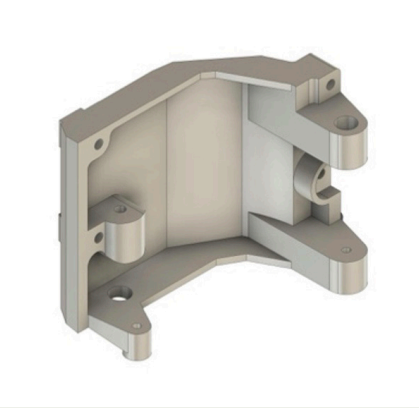


Print: 2.5 hours

Aluminum 6061, 3kgs of material

Cook: 12 hours

Heat treated in a standard air furnace



Cut: 3 hours

Critical surfaces machined on CNC

About The Equipment

The G-class was developed as a military vehicle starting in the1970s. In this military role the vehicle was sometimes referred to as the "Wolf." The military variant is widely used throughout global militaries and defense forces. It is a highly modified version of the standard production variant of the vehicle with such modifications as a 24-volt charging system and upgraded chassis and suspension, to withstand the rigors of military use.

SPEE3D

SPEE3D.COM

World headquarters,
Melbourne, Victoria, Australia

Research & development,
Darwin, NT, Australia
Phone: +61 (03) 8759 1464

North America,
Wilmington, Delaware, USA
Phone: +1 877-908-9369

UK/Europe,
Berlin, Germany
Phone (UK): 0808 196-2931
Phone (EU): +44 (808) 196-2931

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