



CVR(T) Wheel Ratchet

Solving the long lead time issues for parts no longer in production.

Background

The Wheel Ratchet is the primary locking mechanism for the parking brake, and over time the teeth can become worn resulting in failure of the parking brake system.

The Challenge

Many platforms continue to be operated with defective or failed parking brake systems, using wheel chocks in the tracks when stationary. This practice should only be considered a short-term solution and not the default procedure because of lack of available parts to effect a repair.

The Solution

SPEE3D's CSAM (Cold Spray Additive Manufacturing) technology can 3D print metal replacement parts from design to deployment in less than 20 hours or 1 day.

The Value

Keeping equipment running is essential in critical environments for any industry. Whether it's a tank on a battlefield, a piece of mining equipment in a remote area, or a valve on an oil rig in the ocean, without the correct spare parts equipment can sit idle and unable to be used. Often the cost of the replacement parts is not the issue, it's the time it takes to receive them. With CSAM technology customers can reduce the wait time for critical spare parts from weeks to less than a day.

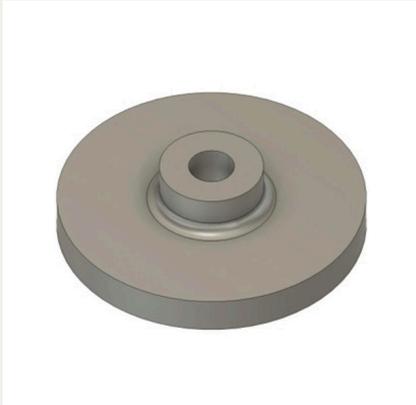
Value Summary

Manufacturing small batches of obsolete parts can be expensive and time-consuming. Military supply chains typically have a 5-day turnaround for part supply when parts are available. Producing the same part on-site in less than 20 hours provides faster access to necessary components.

Production Method	Production Time	Cost
Manufactured Spares	6-8 weeks	\$301.75
SPEE3D CSAM 316L	7 hours	\$70.38

Source for estimated cost for spares: <https://www.thexmod.com>
 Source for estimated CSAM cost: SPEE3D cost estimator

Design to deployment in 7 hours



Print: 22 minutes

Aluminum 6061, 1kgs
of material



Cook: 5 hours

Heat treated in a standard
air furnace



Cut: 1.5 hours

Critical surfaces machined
on CNC



About The Equipment

The Combat Vehicle Reconnaissance (Tracked) (CVR(T)) is a family of armored fighting vehicles (AFVs) developed in the 1960s and were in service with the British Army and are still in service with others forces throughout the world. They are small, highly mobile, air-transportable armored vehicles, originally designed to replace the Alvis Saladin armored car.

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