

# RAPTOR Means Readiness



**RAPTOR** v1.1

Welcome to RAPTOR  
Data Repository for Additive Parts for Tactical and Operational Readiness

Please select the REGISTER button to request access.

LOG IN REGISTER

RAPTOR is a digital library for the rapid manufacture of parts using additive and subtractive manufacturing. RAPTOR is managed by the US Army RDECOM Armament Research, Development and Engineering Center.

**RAPTOR** v1.0 This information system is approved for UNCLASSIFIED//FOUO Data

BOAR Usage - GREEN

|                         |  |
|-------------------------|--|
| Distribution            | D : Distribution authorized to Department of Defense and U.S. DoD contractors only. Other requests for this document shall be referred to HQDA-G4. |
| Part Name/ Nomenclature | Arm  |
| NSN                     | <input type="checkbox"/> Unassigned  |
| Part Number             | <input checked="" type="radio"/> OEM Part <input type="radio"/> Soldier Innovation   |
| Description             | Structural component for the Nibbler drone.  |
| Tags                    | Arm, Drone, Nibbler, UAV   |
| Available as AM         | 0 downloads <input type="button" value="DOWNLOAD"/>  |
| Unavailable as SM       |  |

LOCATIONS AMISM FORWATS REVIEWS INSTRUCTIONS

Locations  
Parts Library > Aviation Systems > Unmanned Air Vehicles (UAV) > Nibbler > Arm

Timothy Phillis, Project Officer  
US Army / RDECOM / ARDEC

309-782-4909

timothy.c.phillis.civ@mail.mil

# RAPTOR Means Readiness



## Problem

- Additive Manufacturing or 3D Printing is a disruptive technology which allows the Warfighter to perform expeditionary repair and mitigate down time caused by battle damage and depleted supply.
- Although the Warfighter has rugged additive manufacturing equipment; data is needed to fully execute the mission.
- What is the data? How is that data delivered to the Warfighter?

# RAPTOR Means Readiness



## Solution

- Repository to access digital data files for expeditionary manufacturing processes to produce battle damage assessment repair (BDAR) or emergency/temporary repair parts while supply system delivers replacement parts
- Easy-to-use Graphic User Interface (GUI)
- Provides multiple search options such as system type, printer or material, NSN, etc.
- Scalable from point-of-use to enterprise deployment
- Reach Back connects Soldiers to Engineers

# RAPTOR Means Readiness



## Benefits

- Data is accessible by the warfighter
- Expeditionary repair increases system and Warfighter readiness
  - 16 weeks of Non-Mission Capable time (1 case)
- Support by PMs, PEOs and Engineering Support Activities
  - PdM-SKOT funding Initial Operation Capability: using with Metal Working Machine Shop Set (MWMSS)
  - Other RDECs are adding BDAR files
- Direct connection to product support (Reach Back)
- Operationalizes the Digital Thread in the Army AM Campaign Plan

# RAPTOR Means Readiness



## Challenges & Risks

- Funding: use Unfunded Requirement authority until a budget line can be established
- DoD Community Awareness/Exposure
- Transition to a Program of Record
- DoD Internet Policies

# RAPTOR Means Readiness



## Innovation Status

- TRL /MRL = 8
  - Achieved IOC and being used in the field. New product features in development
- Any DoD agency can use for BDAR/emergency repair
- Reach back baseline
- The end state is highly reliable, quick to use and secure location to access repair data
- USMC MakerSpace, National Institute of Health repositories
  - RAPTOR is most mature

# RAPTOR Means Readiness



## Vision / Final Thoughts

- RAPTOR is available now for any maintainer to use
  - Army Allied Trades users MWMSS is fielded
  - Expeditionary Additive Manufacturing assessments using Rapid Fabrication via Additive Manufacturing on the Battlefield (R-FAB)
  - USMC use during Steel Knight 2018
- RAPTOR allows maintainers to pull on the digital thread to increase readiness

2018 DoD  
Maintenance  
Innovation  
Challenge

# RAPTOR Means Readiness



## Questions