



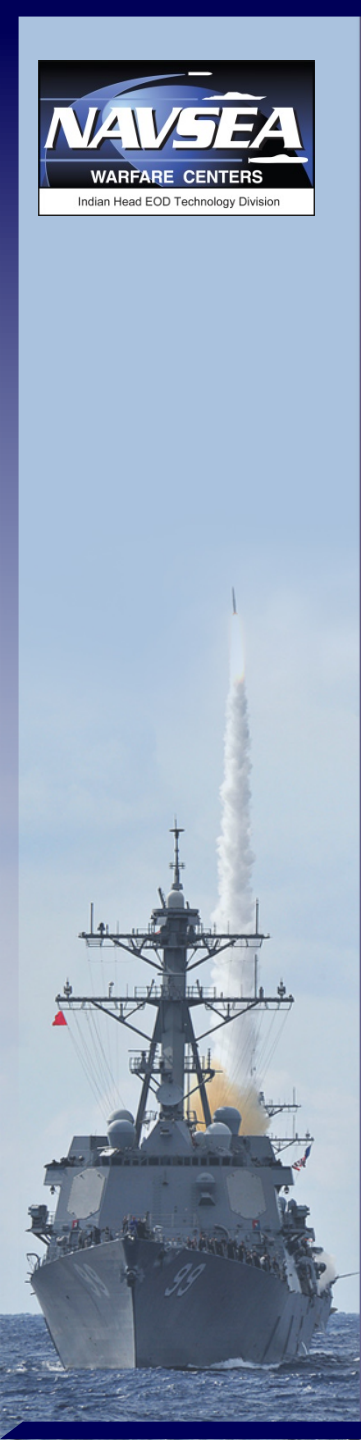
CAD/PAD International Logistics Meeting (ILM)

V-22 Gas Generator Studs & Packaging Improvements

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- 11 June 2019 -





Agenda

- Platform(s): CV-22, MV-22B, CMV-22B
- What is the problem?
- Legacy design DODICs: SS89, SS90, SS91, SS92, SS93
- New design improvements
- Status
- Questions



State of the Platform

- Bottom line up front: The V-22 maintainers have been dealing with broken studs for many years.
- Approved packaging is expensive and difficult for the fleet to obtain.
 - Custom steel ammo cans, one per
- How we got here: The aluminum studs are capacitive discharge welded with little margin between breakaway torque and failure of the weld.
- What we are doing: Machined housing verses an impact extruded tube has allowed for inclusion of a steel stud.



Conventional Ordnance Discrepancy Reports

MV-22 had 22 CODRs submitted in 2018 and 19 in 2019

<u>DODIC</u>	Quantity		<u>Issue</u>
	<u>2018</u>	<u>2019</u>	
SS89	4	6	Studs
SS90	12	8	Studs
SS91	1	0	
SS92	2	2	Studs
SS93	<u>3</u>	<u>3</u>	Studs
Total Assets	22	19	

Hardware Replacement Cost: (2018) \$66K; (2019) \$57K

Acquisition cost not included

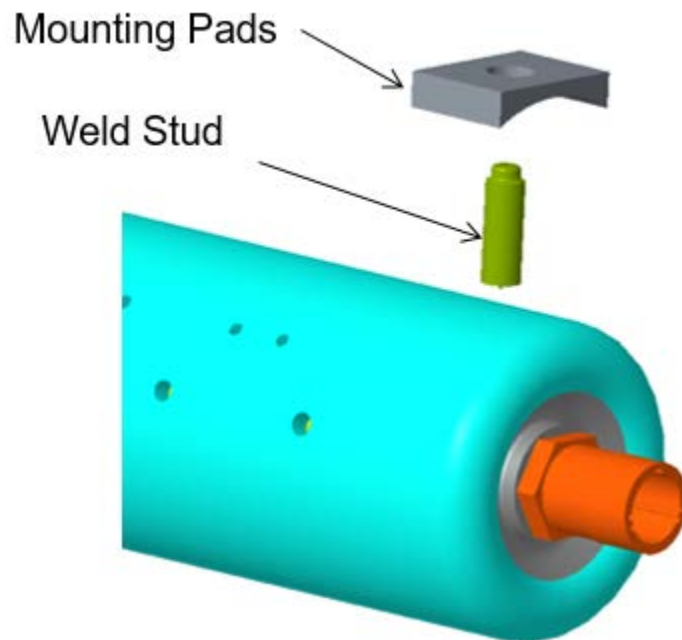


Design Improvements

- CAD/PAD JPO supported redesign of the five V-22 gas generators.
- Contract awarded
 - Machined aluminum housing with a boss for the studs replace impact extruded housing
 - Steel studs replace aluminum studs
 - Threaded stud insert replaces capacitive discharge welded aluminum studs
 - Auto-ignition pellets added to permit use of fiberboard packaging in lieu of steel ammo cans
 - Cook-off at lower temperature maintaining structural integrity

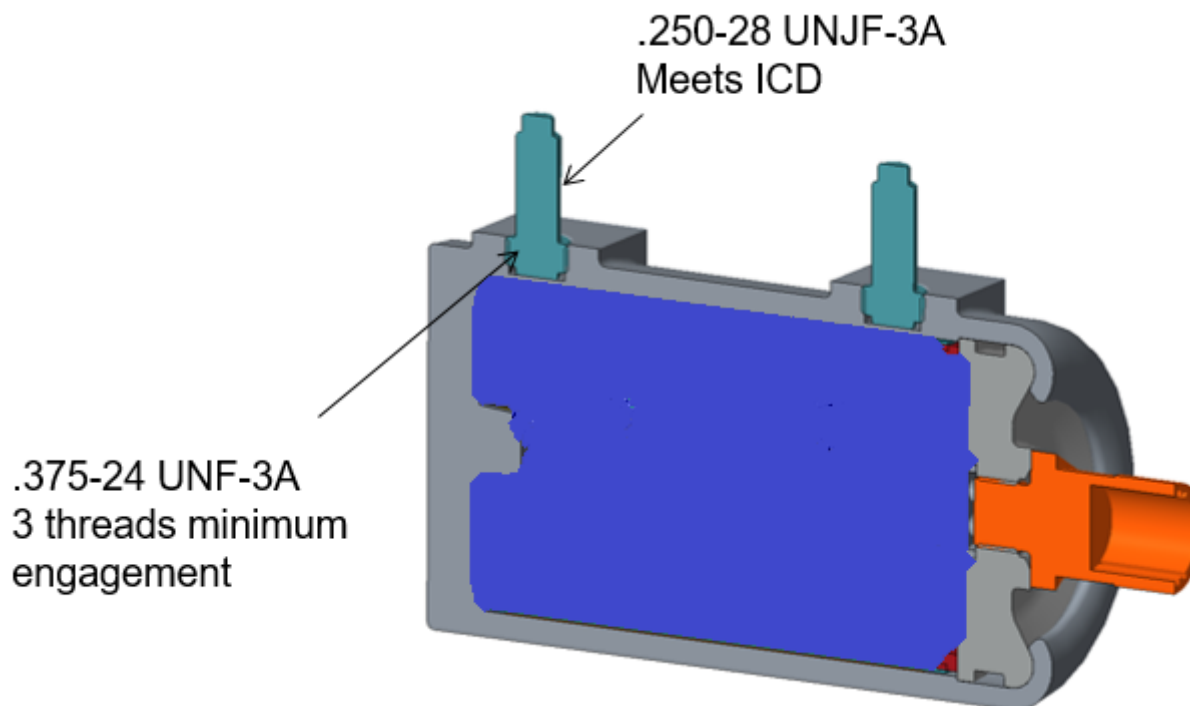


Legacy Design



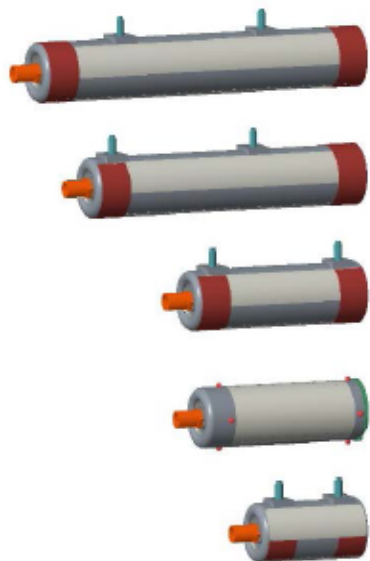


New Design



New Packaging

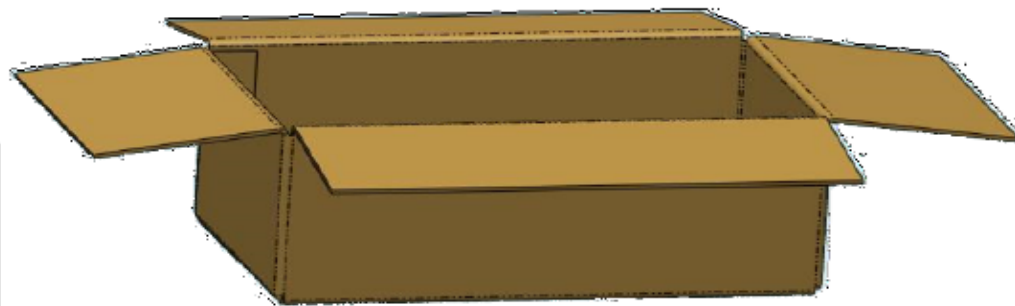
Single packaging configuration for all 5 V-22 Configurations



OR



14" x 4" x 4"
Under evaluation



16" x 8" x 8"

Each unit will be packed inside an ESD bag, then inside a 14"x14"x4" cardboard box. This box is then wrapped in low ESD bubble wrap and packed inside a 16"x8"x8" cardboard box.



Status

- Hazard classification/insensitive munitions testing completed
 - Awaiting reports from vendor
- Qualification testing complete
 - Awaiting report from vendor
- Service release packages and ECP FY20
- Initial procurement FY21
- Initial delivery FY23



Questions?

