COLD SPRAY PORTABLE LOW PRESSURE



FLEET READINESS CENTER

LOW PRESSURE COLDSPRAY

CENTERLINE PX

- Low cost, highly versatile, portable, and hand-held operation.
- Multiple approved aircraft repairs.
- Placement and training at various Navy Intermediate (I-Level) sites funded by POM-23, deployments starting in spring 2-24
- Use for on-aircraft corrosion restoration (i.e., blend and fill) instead of using sealants or epoxy
- Operated using Nitrogen or Compressed Air

FLEET READINESS CENTER V-22 LEADING EDGE PANEL



Problem: Severe pitting corrosion on lower fastener line around fastener holes
Scope: Corrosion causes full replacement of six panels per aircraft during PMI, which costs roughly \$180k
Solution: Restore dimensional loss from corrosion and improve protection by adding epoxy primer
Benefit: Increased parts available

Decreased cost and lead-time

Repair cost is 30% of a new panel. Enable I-level capability for fleet repair

FLEET READINESS CENTER F/A-18 E/F Gearbox





HYDRAULIC PUMP

Problem: Fretting damage on the Hydraulic Pump pad. F/A-18 Gearbox is a complex aluminum casting that has large cost and lead time **Scope:** Two gearboxes per aircraft each costing over \$200k **Solution:** Restore dimension to the sealing surface **Benefit:** Repaired and returned to service since 2011 Over 35 Gearbox have been repaired, totaling over 19,000 flight hours saving over \$7 Million First NAVAIR approved Cold Spray repair

FLOWN 1,758 HOURS

FLEET READINESS CENTER F/A-18E/F AMAD Hydraulic Gearshaft



Problem: Wear damage on the shaft of the Hydraulic Gear results in the gearbox leaking hydraulic fluid **Scope:** Gear replacement is D-Level overhaul

Solution: Conventional repair is Hard Chrome Plating, but wear testing proved Cold Spray is a superior wear resistant coating

Benefit: Over 90 Hydraulic Gearshafts have been repaired. Cost avoided are over \$150k

FLEET READINESS CENTER F/A-18E/F Main Landing Gear Wheel Bore



Problem: Corrosion and wear damage on the bores that hold the bearing race
 Loss of dimension results in bushing repair or scrapped asset
 Scope: New wheels have long lead-time and cost over \$90k
 Solution: Conventional repair is a one-time bushing repair. Cold Spray bushing conserves wheel strength
 Benefit: Cold Spray can be reapplied an unlimited amount of times
 Repair cost is reduced
 Increased life of asset
 Turnaround time is improved by 80%