Demonstration of Electrically Conductive Corrosion Prevention Gasket Kits on NAVAIR PMA-299 Multi Mission Helicopter (Task N.0835)

Statement of Need

The NDCEE will provide technical and analytical expertise to Naval Air Systems Command (NAVAIR) in support of the MH-60R, MH-60S, and HH-60H Multi Mission Helicopters (MMH). Areas of focus include improved maintainability and decreased downtime for the war fighter through the implementation of conductive polyurethane gaskets. Production improvements will result in corrosion prevention, waste minimization, and elimination of rework all leading to a reduction in total ownership cost of the fleet.

Technical Approach

MH-60S and HH-60-H Nose Bay ECCP Gasket Kit

Past experience and familiarity with the MH-60R nose bay avionics components will be leveraged to produce two new gasket kits, one for each variant's nose bay (MH-60S and HH-60-H). Removal, measurement, and inspection of each component in the nose bay will be necessary to determine which gaskets were developed under the previous effort and can be reused, and which components are different thus requiring prototype gaskets and drawings to be produced for test fitting and markup. After the prototype gaskets are developed and validated by fit check, their finalized drawings will be utilized to produce part numbers for each variant's kit. These efforts will be done at naval air stations (NAS) in conjunction with Cherry Point for NAVAIR.

MH-60R Transition Section ECCP Gasket Kit

The overall approach of the nose bay gasket kit development will be applied to the MH-60R transition section; no previous gaskets exist and all components must be evaluated to determine the need for additional corrosion protection. NAVAIR, Cherry Point and the NAS will assist the NDCEE in development of this kit and verification of components needing the additional corrosion protection.

Additional Corrosion Prevention Recommendations

While developing the nose bay and transition section kits, the NDCEE will identify other areas of the MH-60R, MH-60S, HH-60H aircraft susceptible to corrosion, provide background on possible sources of corrosion, provide mitigation recommendations, ROI estimates for future efforts, and other relevant information to include diagrams, photos, or other documentation as necessary.

Anticipated Results and Benefits

Government POC
Tyrone Gorrick,
NAVAIR

Status
Ongoing

The NDCEE will develop and submit Technical Data Packages for implementation of each kit developed, to enable retrofit installation by Fleet Repair Centers (FRCs) on fielded H-60 aircraft. Each Data Package will include a retrofit kit description, the Final Technical Directive (IAW MIL-D-81992B[AS]), draft Engineering Change Proposal (ECP) (IAW DI-CMAN-80639C), gasket drawings, gasket parts lists, and draft IETM updates (IAW DI-ADMIN-80925).

The results of this effort will support cost savings through the elimination of rework on structural components in the aircraft due to corrosion repair. In some cases this rework extends beyond simply sanding corrosion down to bare metal and repainting. Through the use of conductive gaskets, inspection intervals will be greatly reduced which decreases aircraft downtime. Also, maintainer's labor hours and material consumption for rework will be greatly reduced, and as a result maintenance costs will also be decreased. In summary, a conductive gasket kit insures fleet readiness and a reduction in total ownership cost.

Technology Transfer and Outreach

These improvements are expected to provide significant immediate benefits by addressing current NAVAIR concerns. It is also expected that other services may experience similar challenges that could be addressed using these same or slightly modified improvements.