Basic Overhaul Process of 155mm Towed Artillery

If the overhaul is to be undertaken by any agency other than the OEM, a Pilot overhaul is necessary to identify the scope of overhaul process and to cater for lead time for provisioning of spares package, oils and lubricant s. Test Benches/test setup required for Testing various assemblies/sub assemblies also need to be identified in case not supplied.

1 Inspection and assessment

There are sub assemblies and component which may not be inter changeable but need to be labeled with Gun registered no and recorded. If APU, Hydraulic Pump and Motor unit, various actuating cylinders etc are defective, proper inspection may not be feasible and go by process document of Pilot overhaul.

2. Disassembly and cleaning

Disassembling at this stage may be restricted to major assembly level only and fed to respective overhauling section after labeling. Further stripping/testing/ repair and again testing is undertaken at respective overhauling section as organized.

3. Restoration and refurbishment

Further inspection/ Testing and repair(replacement of component) and Final testing is carried out in respective overhauling section. The reclaim and rebuild techniques have improved over the years. Because of mass production of standard hydraulic/electro hydraulic assemblies in the design of present Gun system, one may go for replacement only. There is a choice for both. The mating parts of Ordnance with critical dimensional requirement during assembling like barrel, Breech ring, Cup spring, Muzzle brake need not be attempted for any reclamation if Wear/damage is beyond limit. There are number of Barrel burst cases of Serviceable Barrel due to faulty ammunition. Reclaiming Ordnance item may not be safe and reliable. Product improvement activities including up gradation should be tried separately as a project and not hinder the main overhaul process.

4 Reassembling and Testing

Assembling process of Gun with duly checked and rectified major item, TESTED assembly and sub assembly contain the maximum time/days in “Critical path / through put time” of Overhaul process. This stage starts with Chassis/frame/ Central Platform and finishes with complete Gun.

Stage wise inspection is very critical to avoid any rework at later stage. If static shooting is not feasible , after overhaul, FIRST FIRING AT RANGES, (during Course shooting/Practice Camp) may be attended by the representative of Overhauling agency to gather necessary feed back for improvements.

Conclusion

5. Policy on overhaul, need based /condition based or periodicity is required to be decided along with the induction of the equipment. It should not be that by the time the facilities are established for overhaul, large number of such equipment become due for overhaul. Life cycle Cost analysis also need to be incorporated in new procurement process.