# OSD Maintenance Challenge

| Abstract Form | |
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| Paper Title: | A4 Innovation Challenge Multi-Junction Probe Abstract |
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**Abstract:** (300-500 words)

The 62d Maintenance Group has experienced an increased trend of failing Multi-Junction probes (MJP) on C-17s over the past year. Prior to 2015 the average MJP maintenance was twelve jobs per year. McChord experienced 106 MJP related jobs in 2015 and 67 in the first 6 months of 2016. Based upon the recommendations from the 62 Aircraft Maintenance Squadron, Integrated Flight Control System (IFCS) technicians, the support section consolidated the total amount of tools required for MJP maintenance into one highly portable and light weight kit. While being much smaller in size, this kit provides additional storage for items such as fasteners, sealant, and lubricant used in the MJP installation or re-termination process. Prior to the implementation of the MJP kit, time and resources were wasted accounting for and transporting non-value added tools for MJP maintenance. Historically, personnel spent up to 30 minutes in support checking out six separate items in order to have all the necessary tools to complete the task. This included a 50lb avionics tool box consisting of 138 individual tools which had to be accounted for and inspected at check out. Additionally, due to the tool box's size and weight, technicians were not able to utilize the tool box on top of the aircraft, where the maintenance is performed. This resulted in technicians hand carrying the tools required from the avionics tool box, making multiple trips up and down stands. This inefficient process thereby created unnecessary risk while performing the task and potential injury to personnel and/or damage to equipment. Moreover, due to the number of unnecessary tools being checked out with the need to hand carry; the risk for a lost/dropped tool was unreasonably high. The MJP consolidated tool kit was made available for check out in February 2016. Based on interviews with IFCS technicians, it has cut approximately one hour off the total time to accomplish the task through the streamlined checkout process and transportation. Analysts project the MJP will save 98 man-hours annually which equates to approximately $4700 per year. The overall reaction towards the MJP kit is unquestionably positive. IFCS troops were excited to see the kit and believe it not only saved time, resulted in zero lost tools, but also relieved stress involved with the task. The MJP kit conclusively provides a far more efficient approach to fuel maintenance while also improving safety and resource management practices. Finally, the MJP kit has decreased aircraft down time and improved work flow utilizing Air Force Lean principles.