

Naval Air: U.S. Carriers Disabled By Friendly Fire

The U.S. Navy has a major ship design disaster on its hands with the new EMALS (Electromagnetic Aircraft Launch System) catapult that was installed in the latest aircraft carrier; the USS Ford (CVN 78). During sea trials the Ford used EMALS heavily, as would be the case in combat and training operations. Under intense use EMALS proved to be less reliable than the older steam catapult, more labor intensive to operate, put more stress on launched aircraft than expected and due to a basic design flaw if one EMALS catapult becomes inoperable, the other three catapults cannot be used in the meantime as was the case with steam catapults.

Some of the problems with EMALS were of the sort that could be fixed while the new ship was in service. That included tweaking EMALS operation to generate less stress on aircraft and modifying design of EMALS and reorganizing how sailors use the system to attain the smaller number of personnel required for catapult operations. But the fatal flaws involved reliability. An EMALS catapult was supposed to have a breakdown every 4,100 launches but in heavy use EMALS failed every 400 launches. The killer here was that when one EMALS catapult went down all four were inoperable. With steam catapults when one went down the other three could continue to operate.

Moreover it would cost over half a billion dollars to remove EMALS and install the older steam catapults. This would also take up to several years and lead to many other internal changes. The navy is now considering bringing a recently retired carrier back to active service as a stopgap because whatever the fix is it will not be quick or cheap.

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