



Mk 45 Mod 2

Common Control System Upgrade

The Mk 45 Naval Gun is the lightest, most compact 5-inch (127mm) fully automatic naval gun in the world. Designed, produced, and supported by BAE Systems, the Mk 45 is also the most widely deployed 5-inch naval gun in the U.S. Navy and 10 international fleets.

The BAE Systems facility in Louisville, KY, is the U.S. Navy depot-level overhaul point for Mk 45 guns and has been identified as the Center of Excellence for component and spares fabrication, as well as final system assembly and testing of new and modernized systems. BAE Systems offers a range of flexible approaches

to Mk 45 modernization with the ability to refurbish guns to an "as new" condition, or to fully upgrade existing guns to the Mod 4 configuration. A cost-effective upgrade option is integration of the Common Control System (CCS). This allows use of the Mod 4 control system for a refurbished Mod 2 gun. The upgrade can also be

done independent of a complete overhaul and can be accomplished pier side.

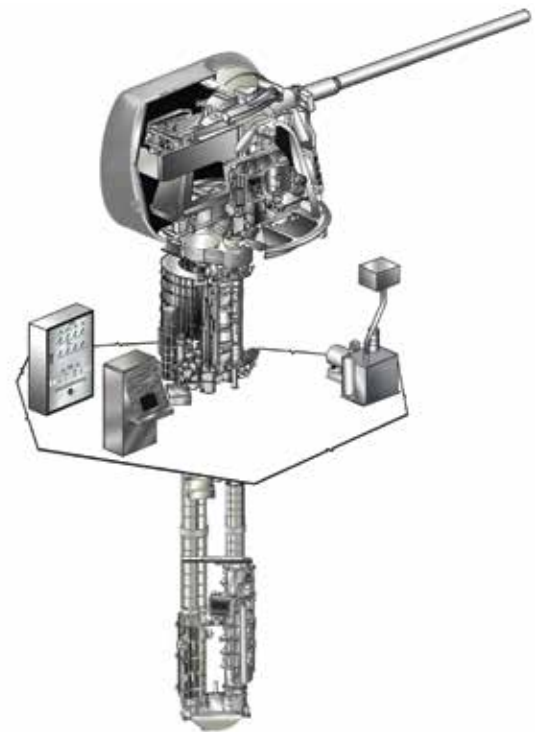
The Mk 45 Mod 2 CCS upgrade helps eliminate the obsolescence issues inherent with the electronic servo control unit and fuze setter amplifier, which has not changed from the original Mk 45 Mod 0 design introduced in the early 1970s. Because of the nature of the design (which used military components), the Mk 45 has proven to be extremely supportable for many years. However, supportability issues are currently being experienced and more can be expected as time goes on. A low-cost solution to this issue is to upgrade early Mk 45 guns to the CCS configuration, which has several additional benefits.

The Mk 45 Mod 2 with the CCS upgrade is a major step towards a Mod 4 conversion. The CCS upgrade components are directly compatible with Mod 4 with only software changes. These CCS upgrades include complete digital control, extensive Built-In Test (BIT) and maintenance aiding, interactive operator interface, open computer architecture, adaptability to modify or add capabilities, and a modernized gun to fire control interface.



The Mk 45 Mod 2 CCS Upgrade consists of:

- Mk 45 Mod 4 control system with modified software to control the Mod 2
- The Mk 45 Mod 4 digitally controlled train and elevation drives modified to control the 54-caliber barrel
- Mk 45 Mod 4 digitally controlled mechanical fuze setter
- Ammunition recognition capability that offers automatic screening of ammunition to ensure projectile/propellant compatibility and ammunition/gun compatibility for the 5-inch 54-caliber gun
- Capability to initialize and fire extended range projectiles at Mk 45 Mod 2 energy levels with the addition of an ordnance alteration



BAE Systems, Inc.
Platforms & Services
www.baesystems.com

For more information contact
platforms.services@baesystems.com

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