A Preliminary Airworthiness Evaluation was conducted for the AH-64A equipped with the Air-to-Air Stinger (ATAS) missile system. The first phase was an evaluation of the effects of the ATAS installation on the handling qualities on the AH-64A. The second phase was a human factors evaluation of the installation of a fully operational preproduction ATAS system using captive flight training Stinger missiles. Tests were flown in the eight Hellfire missile configuration. Two Stinger missiles with launcher and mounting hardware were mounted at each wing tip. Test results were compared with data obtained during previous testing and evaluated against the AH-64 System Specification. Handling qualities of the AH-64A with the ATAS system installed were quantitatively and qualitatively evaluated and found to be essentially the same as the basic AH-64A. Specific shortcomings associated with the ATAS system were: poor integration of the Air-to-Air Stinger missile system, which is not directly compatible with the MIL STD 1553 data bus of the AH-64; insufficient ATAS sighting symbology, which does not provide the copilot/gunner with accurate missile seeker line of sight relative to the selected sight line of sight except in FLIR wide field of view; reduction in storage space imposed by the ATAS installation in the aft storage bay; location of the repositioned chaff fire switch on the cyclic hand grip; and the manual reset feature of the ATAS missile sequencing logic. The absence of an altitude encoding feature in the installation of the AN/APX-100(V) transponder was a shortcoming not associated with the ATAS modification. Seven recommendations specific to the ATAS installation are made. (jhd)

Limitations: APPROVED FOR PUBLIC RELEASE

Description: Final rept. 18 Jul-28 Jul 88

Pages: 118

Report Date: DEC 88

Report Number: A030312

Keywords relating to this report:
- AIR TO AIR MISSILES
- AIRWORTHINESS
- ATTACK HELICOPTERS
- ROCKET SIGHTS
- ACCURACY
- CHAFF DISPENSERS
- EXTERNAL STORES
- FORWARD LOOKING INFRARED SYSTEMS
- GUIDED MISSILE COMPONENTS
- GUNNERS
- HANDLING
- HOMING DEVICES
- HUMAN FACTORS ENGINEERING
- LINE OF SIGHT
- MOUNTS
- QUALITY
- SECONDARY
- TEST AND EVALUATION
- WING TIPS