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MILITARY STANDARD

AIRCREW PROTECTION REQUIREMENTS

NONNUCLEAR WEAPONS THREAT

TO ALL HOLDERS OF MIL-STD-1288.

1. THE FOLLOWING PAGES OF MIL-STD-1288 HAVE BEEN REVISED AND SUPERSEDE THE PAGES LISTED:

NEW PAGE	DATE	SUPERSEDED PAGE	DATE
1	29 September 1972	Reprinted without change	
2	29 December 1972	2	29 September 1972
23	29 September 1972	Reprinted without change	
24	29 December 1972	24	29 September 1972

2. CHANGE FSC FILE DESIGNATION FROM "1500" to "15GP".
(Pen and Ink change to Cover Sheet)

3. RETAIN THIS NOTICE PAGE AND INSERT BEFORE THE TABLE OF CONTENTS.

4. Holders of MIL-STD-1288 will verify that page changes indicated above have been entered. The notice page will be retained as a check sheet. This issuance, together with appended pages, is a separate publication. Each notice is to be retained by stocking points until the Military Standard is completely revised or cancelled.

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Review Activities
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1. SCOPE

1.1 Scope. The purpose of this document is to establish the design of protection systems, as defined herein, to protect aircrews from the threats posed by enemy nonnuclear weapons.

1.2 Application. The requirements contained herein apply to aircraft procured by military departments for combat operations wherein the aircraft will be subjected to hostile air-to-air and ground-to-air nonnuclear weapons. This encompasses all types of aircraft with the exception of those designated for research and training.

2. REFERENCED DOCUMENTS

2.1 Specifications and standards. The issues of the following documents in effect on date of invitation for bids form a part of this standard to the extent specified herein.

SPECIFICATIONS

Military

MIL-C-7905	Cylinders, Compressed Air, Nonshatterable
MIL-D-19326	Design and Installation of Liquid Oxygen Systems in Aircraft, General Specification for
MIL-I-5585	Installation of Low Pressure Oxygen Equipment in Aircraft, General Specification for
MIL-I-8675	Installation, Aircraft Armor
MIL-S-18471(AS	System, Aircrew Automated Escape, Ejection Seat Type; General Specification for
MIL-S-58095(AV)	Seat System; Crashworthy, Nonejection, Aircrew, General Specification for

STANDARDS

Military

MIL-STD-846	Escape System Testing, Ground, Track, and Flight Test

2.2 Other publications.

AFSC-DH-2-7	Design Handbook Series 2-0, Aeronautical Systems -- System Survivability (U), August 1969, Secret

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AFML TR 68-384	Armor Materials Selection and Design Information (U), January 1969, AD 395777L, Confidential
AMMRC TR 71-21	Ballistic Technology of Lightweight Armor (U) July 1971, Confidential
AVLABS 66-54	Study of Dynamic Effects of Caliber 0.30 and 0.50 Projectile Impacts on Ceramic Plastic Armor and Supporting Bracketry (U), August 1966, AD 376883L, Confidential.
AVLABS 67-68	Dynamic Effects of Caliber 0.50 Projectile Impact on Armor and Support Structures (U), March 1968, AD 391301L, Confidential.
HEL TM 18-69	Armor Systems Development/Evaluation Guidelines, September 1969, AD 697785
AFFDL TR 68-5	Design Techniques for Installing Parasitic Armor (U), February 1968, Confidential.
NAVAIR 00-25-524A	Guide to Reduction of Aircraft Vulnerability, (U), 1 August 1970, Confidential.

(Copies of specifications, standards and other publications required by suppliers in connection with specific procurement functions should be obtained from the procuring activity or as directed by the contracting officer).

3. DEFINITIONS - The definitions listed herein are solely for the purpose of this document.

3.1 Aircrew. Complement of personnel required by the aircraft design to perform specific tasks in support of designated missions; i.e., pilot, copilot, navigator, crew chief, systems operator, gunner, etc., but excluding passengers.

3.2 Areal density. Weight of a particular material per unit of surface area, expressed as pound per square foot.

3.3 Casualty. Individual injured to the extent that he is partially or fully incapacitated and thus prevented from normal performance of assigned duties.

3.4 Defeated. Armor material damaged to the point of spallation or penetration.

3.5 Integral armor. Applications or armor material that are a part of the airframe and are not intended to be removed unless damaged. The armor application may or may not be a load bearing part of the aircraft.

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14. AMMRC MS 69-02, Proceedings of Symposium on Lightweight Armor Materials (U), AD 504302L, April 1969, CONFIDENTIAL.

15. AVLABS 66-92, Ballistic Resistant Aircraft Components (U), February 1967, AD 380550L, CONFIDENTIAL.

16. AVLABS 66-54, Study of Dynamic Effects of Caliber 0.30 and 0.50 Projectile Impacts on Ceramic Plastic Armor and Supporting Bracketry (U), August 1966, AD 376883L, CONFIDENTIAL.

17. AVLABS 66-91, Aircrew Survival Capsules for Future Army Aircraft (U), April 1967, AD 381318L, CONFIDENTIAL.

18. AVLABS 67-2, Study and Design of Armored Aircrew Crash Survival Seat (FOUO), March 1967, AD 812994L.

19. AVLABS 67-49, Reduction of Hazard from Secondary Fragments Created by Ballistic Pentration of Aircraft, October 1967, AD 665656.

20. AVLABS 67-78, Dynamic Effects of Caliber 0.50 Projectile Impact on Armor and Support Structures, March 1968, AD 391301L.

21. AVLABS 68-51, An Evaluation of Armored Aircrew Crash Survival Seats, July 1968, AD 841794L.

22. AVLABS 69-15, Manufacturing Technology - Dual Property Steel Armor for Aircraft Components, April 1968, AD 854769.

23. AVLABS 69-52, Ballistic Test and Evaluation of Formed Sections of Heat Treatable Dual-Property Steel Armor (U), June 1969, AD 503387L, CONFIDENTIAL.

24. AVSCOM 66-4, Aircraft Armor Design Data (U), December 1966, Chapter 2, Armor Material Evaluation, (U) AD384769, SECRET Chapter 3, Critical Component Analysis, (U) AD384770, CONFIDENTIAL Chapter 4, Encounter Vulnerability, (U) AD384771, CONFIDENTIAL. Chapter 5, Armor Kit Evaluation, (U) AD384772, CONFIDENTIAL. Chapter 6, Lightweight Armor Objectives, AD 384773.

25. BAL TR-65 (Ballistic Analysis Laboratory), The Characteristics of Particle Formed During the Perforation of Aluminum Alloy by Steel Fragments (U), August 1967, AD384694, CONFIDENTIAL.

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26. BAL TR-66, The Resistance of Steel Targets to Perforation by Small Caliber Armor-Piercing Projectiles, (U) April 1968, AD 389744, CONFIDENTIAL.

27. BAL TR-70, The Resistance of Aluminum Alloy Targets to Perforation by Small-Caliber, Armor-Piercing Projectiles, (U) January 1969, AD 395838, CONFIDENTIAL.

28. BRL TR 733, Passive Defense of Aircraft (U), August 1960, AD 376935, CONFIDENTIAL.

29. BRL TR 1151, Passive Protection of Aircraft (U), October 1961, AD 327015, CONFIDENTIAL.

30. BRL TM 1496, Reduction of Army Aircraft Vulnerability (U), August 1963, AD 345047, CONFIDENTIAL.

31. Frankford Arsenal 67-7-1, High Strength Aluminum Armor Composites, August 1966.

32. HEL TM 18-69, Armor Systems Development/Evaluation Guidelines, September 1969.

33. NATICK 67-44-CM, Development of Transparent Armor System for Aircraft (U), December 1966, AD____, CONFIDENTIAL.

C. NAVY

1. DELETED

2. NWL Confidential Rpt AR-116, Military Specification Program Plan for Ceramic Armor to Defeat 14.5mm API Projectiles (U) October 1971.

3. NWL Confidential Rpt TR-2394, Armor Ballistic Data Handbook (U) March 1970.

4. NWL Confidential Rpt TR-2533, Program Plan for Development of an Aircraft Armor System to Defeat 14.5mm API Projectiles (U) February 1971.

5. NWL Confidential Rpt TR-2534, Aircraft Armor for Protection Against 14.5mm Anti-Aircraft Projectiles: First Interim Report (U) January 1971.

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