

NOTICE—When Government drawings, specifications, or other data are used for any purpose other than in connection with a definitely related Government procurement operation, the United States Government hereby incurs no responsibility and no obligation whatsoever, and the fact that the Government may have furnished, furnished, or in any way supplied the said drawings, specifications, or other data is not to be regarded by implication or otherwise as in any manner licensing the holder or any other person or corporation, or conveying any rights or permission to manufacture use or sell any patented invention that may in any way be related thereto.

This military standard is approved by the Department of Defense and is mandatory on all activities. Selection for all new engineering and design applications and for repetitive use shall be made from this document.

FED. SUP CLASS
5305

LIMITATIONS FOR USAGE

THREAD CUTTING AND THREAD FORMING SCREWS SHALL NOT BE USED UNDER THE FOLLOWING CONDITIONS:

- (1) AS FASTENERS FOR THE FABRICATION OF PRIMARY STRUCTURE
- (2) WHERE THE JOINT IS SUBJECT TO ROTATION WHICH WOULD TEND TO LOOSEN THE SCREW.
- (3) AS FASTENERS FOR STRUCTURE OR ACCESSORIES WHERE FAILURE MIGHT RESULT IN DANGER OR DAMAGE TO THE EQUIPMENT OR PERSONNEL.
- (4) WHERE LOSS WOULD PERMIT THE OPENING OF A JOINT TO AIR FLOW OR WATER LEAKAGE.
- (5) WHERE REQUIRED TO CUT THEIR OWN THREADS AND ARE SUBSEQUENTLY SUBJECT TO REMOVAL.
- (6) WHERE SUBJECT TO CORROSIVE MEDIUMS, SUCH AS EXHAUST GASES, SALT SPRAY, ETC.

INSTALLATION

THE LENGTH OF SCREW INSTALLED IN SHEET MATERIAL SHALL BE SUCH THAT AT LEAST TWO THREADS OF THE GRIP EXTEND BEYOND THE ASSEMBLY.

DRILL HOLE SIZES FOR SPACED THREAD SCREWS SHALL BE AS SPECIFIED IN DRAWING AND10325 AND FOR MACHINE SCREW THREAD SCREWS AS SPECIFIED IN AND10326.

DRILL EACH PLY OR PLATE OF THE ASSEMBLY TO THE SIZE RECOMMENDED FOR ITS HARDNESS AND THICKNESS. FOR ASSEMBLIES ALREADY RIVETED TOGETHER, THE SIZE OF THE HOLE SHALL DEPEND ON THE HARDEST PLY OR PLATE EMPLOYED AS A PLATE NUT, OR A TAPPED INTERMEDIATE PLATE.

IF SHEET MATERIAL IS TO BE FASTENED TO CASTINGS OR OTHER TYPES OF STRUCTURE BY MEANS OF THREAD CUTTING OR THREAD FORMING SCREWS, CLEARANCE HOLES SHALL BE DRILLED IN THE SHEET TO PERMIT DRAWING THE PARTS TIGHTLY TOGETHER.

THREAD CUTTING AND THREAD FORMING SCREWS USED IN ALUMINUM ALLOYS SHALL BE INSTALLED WITH A PHENOLIC OR ALUMINUM WASHER. THE WASHER AND SCREW SHALL BE COATED WITH ZINC-CHROMATE PASTE BEFORE INSERTION SO AS TO COMPLETELY SEAL THE CONNECTION.

IF IT IS NECESSARY DUE TO DAMAGE, OTHER THAN TO THE SCREW, TO REPLACE A THREAD CUTTING OR THREAD FORMING SCREW, ONE OF THE FOLLOWING PROCEDURES WILL BE EMPLOYED.

- (1) THE HOLE SHALL BE REDRILLED AND A SCREW AT LEAST ONE SIZE LARGER USED.
- (2) WHEN THE INSTALLATION OF A LARGER THREAD CUTTING OR THREAD FORMING SCREW IS IMPOSSIBLE, A MACHINE SCREW EMPLOYING AN ACCEPTABLE METHOD OF SAFETY OR ANOTHER ACCEPTABLE FASTENER SHALL BE INSTALLED.

DEFINITIONS

NUT PLATE. - A NUT PLATE IS ANY PLATE OR PART OF A JOINT WHICH GRIPS THE THREADED PORTION OF THE SCREW SO AS TO EXERT A TENSILE LOAD ON THE SCREW WHEN TIGHTENED.

INTERMEDIATE PLATE. - AN INTERMEDIATE PLATE IS ANY PLATE OR PART IN THE JOINT PENETRATED BY THE THREAD CUTTING OR THREAD FORMING SCREW BETWEEN ITS HEAD AND A NUT PLATE.

TAPPED INTERMEDIATE PLATE. - A TAPPED INTERMEDIATE PLATE IS AN INTERMEDIATE PLATE TAPPED BY THE ACTION OF THE THREAD CUTTING OR THREAD FORMING SCREW.

CLEARANCE DRILLED INTERMEDIATE PLATE. - A CLEARANCE DRILLED INTERMEDIATE PLATE IS AN INTERMEDIATE PLATE DRILLED SO AS TO CLEAR THE MAXIMUM ALLOWABLE MAJOR DIAMETER OF THE SCREW THREAD.

THIS IS A DESIGN STANDARD. NOT TO BE USED AS A PART NUMBER.

P.A. USAF - AFSC	TITLE	MILITARY STANDARD
Other Cust Army - Ord Navy - Wep	SCREW - INSTALLATION AND LIMITATIONS FOR USAGE OF THREAD CUTTING AND THREAD FORMING	MS33749
PROCUREMENT SPECIFICATION NONE	SUPERSEDES AND10087	SHEET 1 OF 1