FED. SUP CLASS.

SPRING PINS FOR USE IN THE CONSTRUCTION OF MILITARY AIRCRAFT SHALL CONFORM TO THE LATEST ISSUE OF SPECIFICATION MIL-P-1097I. AND SHALL BE SUBJECT TO THE FOLLOWING FUNCTIONAL LIMITATIONS:

1. THE MINIMUM DIAMETER OF SPRING PINS USED IN PRIMARY STRUCTURAL APPLICATIONS SHALL BE 5/32 INCH.

2. (C) SINCE PROPER PERFORMANCE OF THE SPRING PINS DEPENDS ON FIT, AND SINCE THE PERMANENCE OF THE FIT UNDER VIBRATION OR REPEATED LOAD CONDITIONS (ESPECIALLY IN SOFT MATERIALS, SUCH AS ALUMINUM ALLOYS AND MAGNESIUM) HAS NOT BEEN ESTABLISHED, CAUTION SHOULD BE EXERCISED IN THE USE OF SPRING PINS. SPRING PINS SHALL NOT BE USED IN SINGLE SHEAR PRIMARY STRUCTURAL APPLICATIONS. SPRING PINS SHALL NOT BE USED IN ANY AIRCRAFT COMPONENT, OR SYSTEM, WHERE LOSS OR FAILURE WILL ENDANGER SAFETY OF FLIGHT.

3. MINIMUM DOUBLE SHEAR STRENGTHS OF HEAVY-DUTY SPRING PINS LISTED IN SPECIFICATION MIL-P-1097I ARE BASED ON TESTS IN HIGH STRENGTH STEEL CAPABLE OF DEVELOPING FULL SHEAR STRENGTH OF THE PINS. FOR DOUBLE SHEAR APPLICATIONS, PROPER BEARING FACTORS SHALL BE ESTABLISHED FOR THE MATERIAL IN WHICH THE SPRING PIN IS BEING USED, I.E., HEAT-TREATED STEEL, CORROSION-RESISTANT STEEL, ALUMINUM ALLOY, MAGNESIUM, ETC. JOINTS WHERE SPRING PINS ARE USED AS A FASTENING MEDIUM SHALL BE DESIGNED IN THE SAME MANNER AS RIVET AND BOLTED JOINTS ARE DESIGNED, I.E., IN ACCORDANCE WITH THE APPLICABLE REQUIREMENTS OF ANC-5, STRENGTH OF METAL AIRCRAFT ELEMENTS.

4. SPRING PINS SHALL NOT BE MIXED WITH OTHER STRUCTURAL FASTENERS IN THE SAME JOINT.

5. SPRING PINS FOR PRIMARY STRUCTURAL APPLICATIONS SHALL ONLY BE USED IN LOCATIONS WHERE THERE WILL BE NO ROTATION OR RELATIVE MOVEMENT UNDER LOAD OF THE PARTS TO BE JOINED.

6. THE SHEAR PLANE OF THE SPRING PIN SHALL BE A MINIMUM OF ONE DIAMETER AWAY FROM THE END OF THE PIN.

7. SPRING PINS MAY BE REUSED IF, UPON INSPECTION, NO DEFORMATION OF THE PIN OR OF THE HOLE IS DISCLOSED. CARE SHOULD BE EXERCISED TO ASCERTAIN THAT THE HOLE HAS NOT ENLARGED OR OTHERWISE DEFORMED WHICH MIGHT PREVENT PROPER FUNCTIONING OF THE SPRING PIN.

8. SPRING PINS SHALL NOT BE USED WHERE HOLE MISALIGNMENT RESULTS IN PIN GAP CLOSURE OR EXCESSIVE INSERTION FORCE.

9. IN APPLICATIONS WHERE THE ENGAGED PIN LENGTH IS MINIMUM, THE PIN ENDS MAY BE ALLOWED TO PROTRUDE THE LENGTH OF THE CHAMFER ON EACH END TO ACHIEVE MAXIMUM LOCKING EFFECT OVER THE ENGAGED LENGTH.

10. NON-CORROSION-RESISTANT STEEL SPRING PINS SHALL NOT BE USED AT TEMPERATURES IN EXCESS OF 500°F. CORROSION-RESISTANT STEEL SPRING PINS SHALL NOT BE USED AT TEMPERATURES IN EXCESS OF 700°F.

11. NON-CORROSION-RESISTANT STEEL SPRING PINS SHALL BE CADMIUM PLATED FOR DISSIMILAR METAL PROTECTION.

12. SPRING PINS SHALL NOT BE USED IN PLACE OF COTTER PINS.

13. SPRING PINS SHALL NOT BE USED IN APPLICATIONS SUBJECT TO SHOCK LOADING, UNLESS THE INSTALLATION HAS BEEN TESTED FOR FATIGUE LIFE AND PROVEN SATISFACTORY.

14. HOLE SIZES FOR SPRING PINS, BASED ON MANUFACTURER'S RECOMMENDATIONS, ARE AS FOLLOWS:

SPRING PIN NOMINAL DIAMETER	MINIMUM HOLE	MAXIMUM HOLE
.062	.062	.065
.078	.078	.081
.094	.094	.097
.109	.109	.112
.125	.125	.129
.140	.140	.144
.156	.156	.160
.187	.187	.192
.219	.219	.224
.250	.250	.256
.312	.312	.318
.375	.375	.382
.437	.437	.446
.500	.500	.510

THIS STANDARD TAKES PRECEDENCE OVER DOCUMENTS REFERENCED HEREIN.

REFERENCED DOCUMENTS SHALL BE OF THE ISSUE IN EFFECT ON DATE OF INVITATIONS FOR BID.

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

THIS DOCUMENT HAS BEEN PROMULGATED BY THE DEPARTMENT OF DEFENSE AS THE MILITARY STANDARD TO LIMIT THE SELECTION OF THE ITEM, PRODUCT, OR DESIGN COVERED HEREIN IN ENGINEERING, DESIGN, AND PROCUREMENT. THIS STANDARD SHALL BECOME EFFECTIVE NOT LATER THAN 90 DAYS AFTER THE LATEST DATE OF APPROVAL SHOWN.

APPROVED 21 Jan 58 REVISED (A) 16 May 55 (B) 28 May 56 (C) 15 Feb 57

CUSTODIANS	OTHER INT.	MILITARY STANDARD	MS33547 (ASG)
Navy - BuAer Air Force	A - N - AF -	PINS, SPRING, FUNCTIONAL LIMITATIONS OF	
PROCUREMENT SPECIFICATION NONE		SUPERSEDES:	SHEET 1 OF 1

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