

FED. SUPPLY CLASS

5315

1. SCOPE

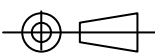
SPRING PINS SHALL CONFORM TO THE LATEST ISSUE OF SPECIFICATION NASM10971, AND SHALL BE SUBJECT TO THE FOLLOWING FUNCTIONAL LIMITATIONS:

2. FUNCTIONAL LIMITATIONS

- 2.1 THE MINIMUM DIAMETER OF SPRING PINS USED IN PRIMARY STRUCTURAL APPLICATIONS SHALL BE 5/32 INCH.
- 2.2 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.
- 2.3 MINIMUM DOUBLE SHEAR STRENGTHS OF HEAVY-DUTY SPRING PINS LISTED IN SPECIFICATION NASM10971 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 METALLIC MATERIALS PROPERTIES DEVELOPMENT AND STANDARDIZATION (MMPDS), STRENGTH OF METAL AIRCRAFT ELEMENTS.
- 2.4 SPRING PINS SHALL NOT BE MIXED WITH OTHER STRUCTURAL FASTENERS IN THE SAME JOINT.
- 2.5 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.
- 2.6 THE SHEAR PLANE OF THE SPRING PIN SHALL BE A MINIMUM OF ONE DIAMETER AWAY FROM THE END OF THE PIN.
- 2.7 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.
- 2.8 SPRING PINS SHALL NOT BE USED WHERE HOLE MISALIGNMENT RESULTS IN PIN GAP CLOSURE OR EXCESSIVE INSERTION FORCE.
- 2.9 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.

② COMPLETELY REVISED

THE INITIAL RELEASE OF THIS DOCUMENT SUPERSEDES MS33547, REVISION C.

THIRD ANGLE PROJECTION 	CUSTODIAN NATIONAL AEROSPACE STANDARDS COMMITTEE	REVISION 2
PROCUREMENT SPECIFICATION NONE	TITLE PINS, SPRING, FUNCTIONAL LIMITATIONS OF	CLASSIFICATION DESIGN STANDARD NASM33547 SHEET 1 OF 2

- 2.10 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.
- 2.11 NON-CORROSION-RESISTANT STEEL SPRING PINS SHALL BE CADMIUM PLATED FOR DISSIMILAR METAL PROTECTION.
- 2.12 SPRING PINS SHALL NOT BE USED IN PLACE OF COTTER PINS.
- 2.13 SPRING PINS SHALL NOT BE USED IN APPLICATIONS SUBJECT TO SHOCK LOADING, UNLESS THE INSTALLATION HAS BEEN TESTED FOR FATIGUE LIFE AND PROVEN SATISFACTORY.
- 2.14 SEE TABLE I FOR HOLE SIZES FOR SPRING PINS, BASED ON MANUFACTURER'S RECOMMENDATIONS.
- 2.15 THIS STANDARD TAKES PRECEDENCE OVER DOCUMENTS REFERENCED HEREIN.
- 2.16 REFERENCED DOCUMENTS SHALL BE OF THE ISSUE IN EFFECT ON DATE OF INVITATIONS FOR BID.
- 2.17 THIS IS A DESIGN STANDARD. NOT TO BE USED AS A PART NUMBER.

TABLE I – HOLE SIZES FOR SPRING PINS

SPRING PIN NOMINAL DIAMETER	MINIMUM HOLE DIAMETER	MAXIMUM HOLE DIAMETER
.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	.445
.500	.500	.510

REVISION

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