INCH-POUND

MIL-P-21143B
AMENDMENT 2
30 MARCH 1990
SUPERSEDING
AMENDMENT 1
11 JUNE 1986

MILITARY SPECIFICATION

PIN, STRAIGHT, HEADLESS (DOWEL)
GENERAL SPECIFICATION FOR

This amendment forms a part of MIL-P-21143B, dated 20 June 1984, and is approved for use by all Departments and Agencies of the Department of Defense.

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2.2, American Society for Testing and Materials (ASTM)

Add: "ASTM E92 - Standard test method for Vickers hardness of metallic materials.

ASTM E384 - Standard test method for microhardness of materials."

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3.5, Table I, Change CRES column to read as follows:

TABLE I. Double Shear Force.

PIN DIA (INCHES)		DOUBLE SHEAR FORCE (LBS) MIN		
		CARBON OR ALLOY STEEL	CRES 410 & 416	CRES 303
1/16	0.0625	790	610	220
5/64	0.0781	850	700	350
3/32	0.0938	1,400	1,000	500
1/8	0.1250	2,600	1,800	900
5/32	0.1562	4,100	2,800	1,400
3/16	0.1875	5,900	4,000	2,000
1/4	0.2500	10,000	7,200	3,550
5/16	0.3125	16,000	11,000	5,500
3/8	0.3750	23,000	16,000	8,000
7/16	0.4375	32,000	22,000	11,000
1/2	0.5000	42,000	29,000	14,000
5/8	0.6250	65,000	45,000	22,000
3/4	0.7500	94,000	65,000	32,000
7/8	0.8750	120,000	88,000	43,000
1	1.0000	160,000	110,000	56,000

3.7.1, Delete and substitute:

3.7.1 Carbon or Alloy Steel Pins. Carbon or alloy steel pins greater than .0625 diameter shall have a core hardness of 40-58 HRC, and a case hardness of 90 HR 15N or 660 HV or 690 NK minimum. Depth of case hardening shall not be less than 0.020 inch. Pins .0625 diameter or less in diameter shall have a hardness of 90-92 HR 15N or 660-800 HV throughout. These requirements shall be met when tested in accordance with 4.3.4.

3.7.2 Delete and substitute:

3.7.2 Corrosion Resistant Steel Pins. Corrosion resistant steel pins shall have a hardness of 36-42 HRC for type 410 or 416 steel when tested in accordance with 4.3.4. Type 303 corrosion resistant steel pins shall meet the hardness as specified in accordance with ASTM A582.

4.3.4 Delete and substitute:

4.3.4 Hardness Test. The test procedure shall be in accordance with ASTM E18 or ASTM E92 or ASTM E384 as applicable, except the core hardness of each specimen shall be measured off axis, on a transverse section, at a point approximately one-eighth of the diameter from the axis of the pin. The case hardness shall be determined with a Rockwell superficial hardness tester in accordance with ASTM E18 using a 15 kilogram load, or with a Vickers hardness tester in accordance with ASTM E92, or with a Vickers or Knoop hardness tester in accordance with ASTM E384.

Custodians:
Army - AR
Navy - OS
Air Force - 99

Review activities:
Army - MI
Navy - MC, YD
DLA - IS

User activities:
Army - GL

Preparing activity:
Army - AR

(Project 5315-0442)