MIL-T-87130(USAF)
AMENDMENT 2
6 April 1981
SUPERSEDING
AMMENDMENT 1
15 December 1978

MILITARY SPECIFICATION

TAPE AND WEBBING, TEXTILE, PARA-ARAMID, INTERMEDIATE MODULUS

This amendment forms a part of Military Specification MIL-T-87130(USAF), dated 17 May 1978.

PAGES 3 AND 4

TABLE I, delete and substitute:

FSC 8315

"TABLE I. Construction and physical properties.

TYPE	CLASS	WIDTH (INCHES) ± 1/16	MAXIMUM WEIGHT (OZ/YD)	MINIMUM BREAKING STRENGTH (LB)	WARP			FILL			WEAVE
					DENIER	PLY	TOTAL ENDS (MIN)	DENIER	PLY	PICKS (PER IN)	
I	1	1/2	.06	250	200	1	42	200	1	39	Plain
	2	1/2	.09	550	400	1	39	400	1	22	Plain
	3	1/2	.12	800	200	1	122	200	1	35	1/3 Twill-Center Reversal
	6	1/2	.56	3500	1500	1	79	400	1	24	Double Plain $\frac{31}{13}$
II	1	9/16	.08	500	400	1	39	400	1	22	Plain
	2	9/16	.13	700	400	1	58	400	1	32	Plain
IV	1	3/4	.11	500	200	1	90	200	1	38	Plain
	4	3/4	.50	3000	1500	2	31	1500	1	12	Plain
	5	3/4	.60	4500	1500	2	41	1500	1	11	Plain
VI	1	1	.08	370	200	1	50	200	1	45	Plain
	2	1	.12	525	200	1	90	200	1	50	Plain
	3	1	.12	750	200	1	108	200	1	35	Plain
	5	1	.23	1500	400	1	108	400	1	26	Plain
	6	1	.36	2500	1500	2	24	1500	1	14	Plain
	6a	1	.36	2400	1000	2	40	1000	1	15	Plain
	7	1	.52	3000	1000	2	48	1000	1	15	Plain
	8	1	.55	4000	1500	2	39	1000	1	12	Plain
	9	1	1.00	6000	1500	3	49	1500	1	12	2/2 HBT - Center Reversal
	9a	1	1.09	7000	1500	2	76	1500	2	18	$\frac{51}{15}$ Center Reversal (Last end 2/2)

TABLE I. Construction and physical properties (Contd).

TYPE	CLASS	WIDTH (INCHES) ± 1/16	MAXIMUM WEIGHT (OZ/YD)	MINIMUM BREAKING STRENGTH (LB)	WARP			FILL			WEAVE
					DENIER	PLY	TOTAL ENDS (MIN)	DENIER	PLY	PICKS (PER IN)	
VI	10	1	1.50	9500	1500	3	76	1500	1	8	2/2 HBT - Center Reversal
	11	1	1.65	12500	1500	3	89	1500	1	9	Plain
VII	1	1-1/8	.23	1100	400	1	96	400	1	34	Plain
	2	1-1/8	.45	2750	1000	1	45	1000	1	13	Plain
	6	1-1/8	2.00	13500	1500	2	140	1500	2	14	5/1 HBT - Center Reversal
VIII	1	1-1/4	.23	800	400	1	60	1000	1	26	Plain
IX	1	1-1/2	.12	500	200	1	82	200	1	48	Plain
	2	1-1/2	.17	1100	200	1	172	200	1	36	Plain
	5	1-1/2	.47	3000	1000	1	96	1000	1	18	Plain
X	1	1-3/4	.17	1000	200	1	156	200	1	34	Plain
	2	1-3/4	.35	1200	400	1	103	1000	1	23	Plain
	3	1-3/4	.45	2500	1000	1	84	1000	1	16	Plain
	4	1-3/4	.54	3000	1000	1	96	1000	1	17	Plain
	5	1-3/4	.60	4000	1000	2	55	1000	1	15	Plain
	6	1-3/4	.80	4500	1500	2	50	1500	1	17	Plain
	7	1-3/4	1.00	6500	1500	1	140	1500	1	11	Plain
	8	1-3/4	1.20	8000	1500	2	88	1000	1	10	Plain
	9	1-3/4	1.75	10000	1500	2	127	1500	1	12	2/2 HBT - Center Reversal
	11	1-3/4	2.40	15000	1500	3	121	1500	1	13	Double Plain (See Fig. 1)
	13	1-3/4	2.50	20000	1500	3	137	1500	1	9	Double Plain (See Fig. 1)

TABLE I. Construction and physical properties (Contd).

TYPE	CLASS	WIDTH (INCHES) ± 1/16	MAXIMUM WEIGHT (OZ/YD)	MINIMUM BREAKING STRENGTH (LB)	WARP			FILL			WEAVE
					DENIER	PLY	TOTAL ENDS (MIN)	DENIER	PLY	PICKS (PER IN)	
XI	3	2	.121	400	200	1	60	200	1	50	Plain 1/
	5	2	.15	600	200	1	92	200	1	46	Plain
	7		.16	800	200	1	124	200	1	42	Plain
	9a		.23	1000	200	1	164	200	1	46	Plain 2/
	9b	2	.18	1000	200	1	150	200	1	40	Plain
	11	2	.26	1500	400	1	108	400	1	31	Plain
	13	2	.32	2000	400	1	142	400	1	30	Plain
	14	2	.37	2500	1000	1	77	400	1	26	Plain
	15	2	.44	3000	1000	1	96	400	1	24	Plain
	16	2	.60	4000	1000	2	58	1000	1	20	Plain
	17	2	.80	5000	1500	1	110	1500	1	13	Plain
	18	2	1.10	6000	1500	1	140	1500	1	13	Plain
	19	2	1.05	8000	1500	1	160	1500	1	12	Plain

1/ Coating is needed for seamability.
2/ 6 turns per inch in warp yarn."

TABLE IV, Column 3, line 7: Add "3/".

After footnote 2/, add: "3/ Testing may be done using double pin jaw design as specified in 4.4.1 through 4.4.1.4. In case of dispute of test values, the higher values obtained with either the double pin jaws or the split drum jaws, separately, are acceptable."

Add the following new paragraphs:

"4.4.1 Double pin jaw design.

4.4.1.1 Alternate jaw design. The alternate jaw design is identified as the double pin jaws of the design specified in Figures 2 through 8.

4.4.1.2 Machine adjustment. Mount the jaws with careful attention to rotational and axial alignment. Set the speed of the moving jaw at 1 ± 1/4 inch per minute and the initial jaw separation such that the distance between the tangent points where the specimen first touches the primary (large diameter) pins is 12 ± 0.1 inch.

4.4.1.3 Specimen size and number. Each specimen shall be the full width of the tape or webbing and 60 inches long. Test five specimens or enough to get five acceptable breaks. An acceptable break is defined as one which occurs in the unsupported length of the specimen between the primary pin tangent contact points or at the contact points, but not within the material which is wrapped around each double pin jaw.

4.4.1.4 Specimen mounting. Wrap the specimen around the primary and secondary pins of each jaw as shown in Figure 9. Be careful to keep all legs of the specimen in alignment with the direction of stress application, and successive wraps exactly in line. For materials having a strength less than 500 lbs/inch of width, or for stronger materials which are not breaking acceptably, insert a double layer of cotton fabric (Cloth, Silesta, Cotton, MIL-C-326) between the two layers of Kevlar with pass around the primary pin in both top and bottom jaws."

Add Figures 2 through 9.

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Preparing Activity:
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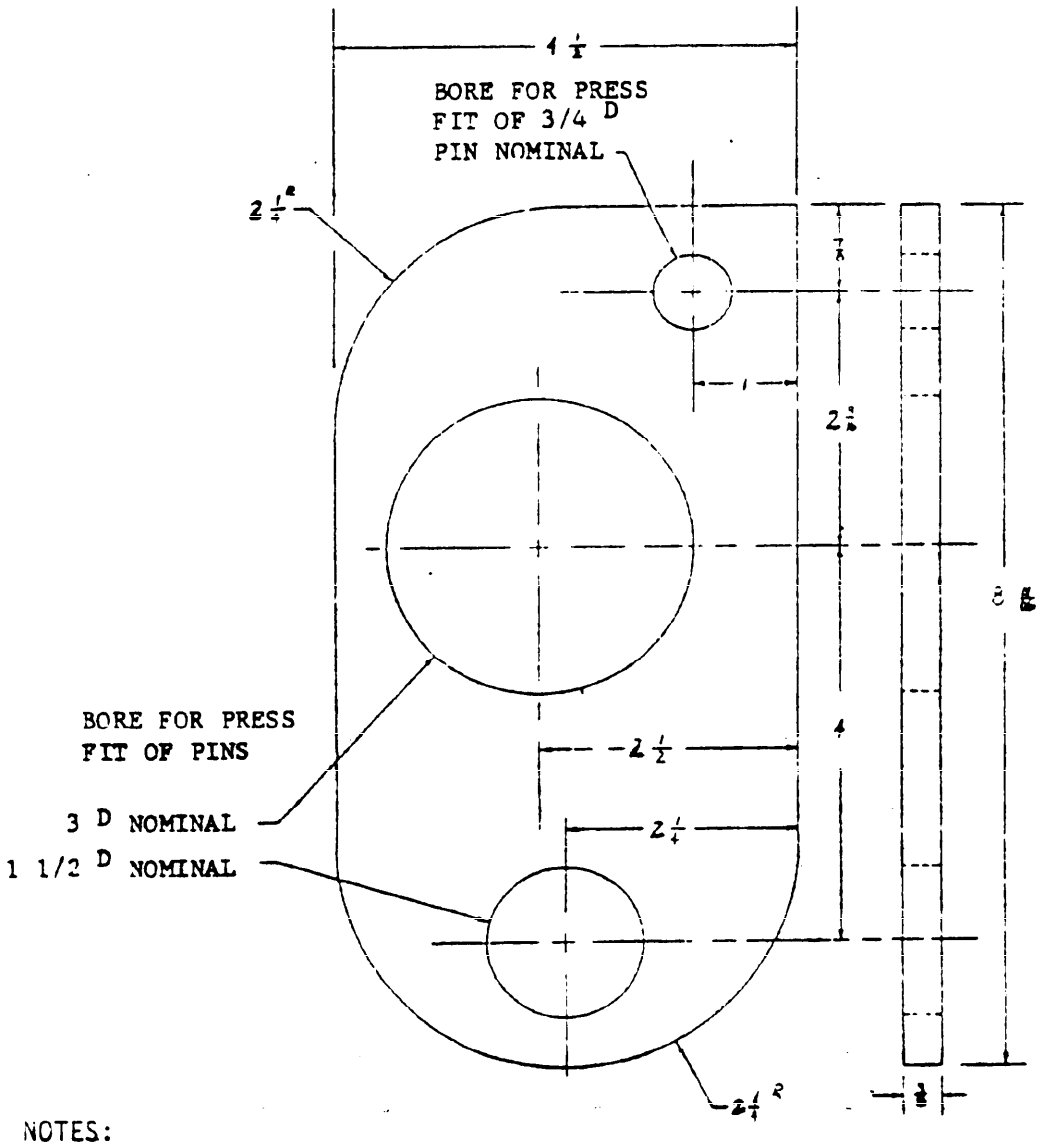
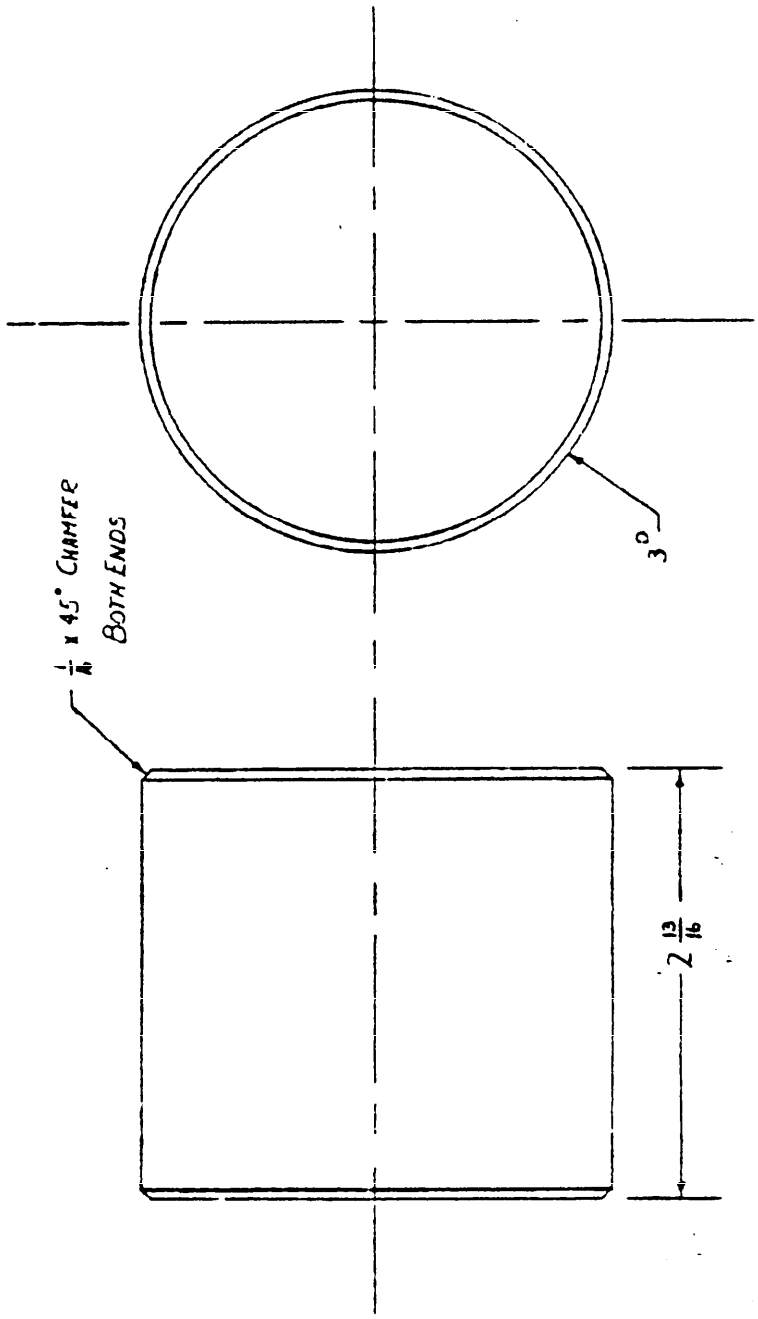
(Project 8315-F293)



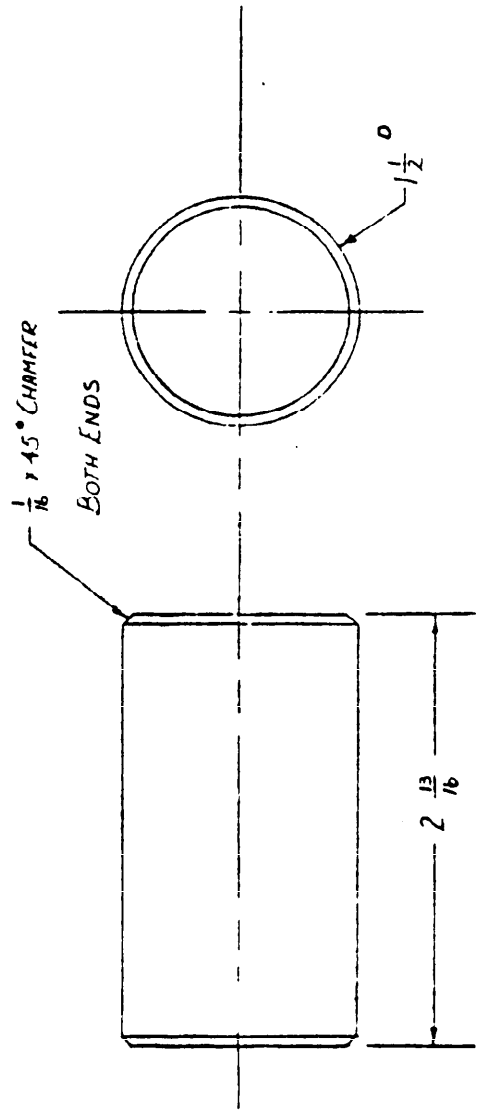
NOTES:
1. Bore holes in sets to ensure hole alignment.
2. Heat treat 3/4 D pin before boring.
3. Minimum interference fit between pin and hole - .001 per inch dia.
4. Type 303 stainless steel - material.
5. Quantity required - 4.
6. Dimensions are in inches. Tolerances: fractions ± 1/64, decimals ± .005, and angles ± 1/4°. Deburr and break all edges to .005 maximum. Concentricity or common diameter: within .003 tir. All surfaces to be machined to rms of 125. Threads are class 2. Normality, squareness, and parallelism of all surfaces to be within .005 per inch to a maximum of .010 per surface.

FIGURE 2. Side plate.



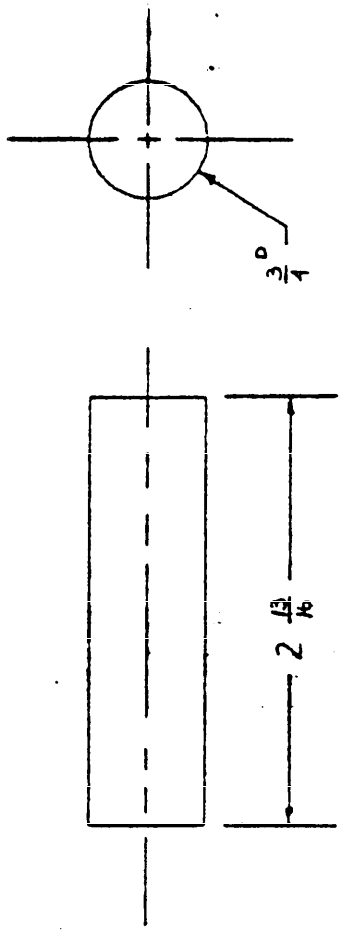
NOTES:
1. Type 303 stainless steel - material.
2. Quantity required - 2.
3. See Figure 2, Note 6.

FIGURE 3. Primary pin



NOTES:
1. Type 303 stainless steel - material.
2. Quantity required - 2.
3. See Figure 2, Note 6.

FIGURE 4. Secondary pin.



NOTES:
1. Type 416 stainless steel - material.
2. Quantity required - 4.
3. Heat treat to full hardness.
4. Draw for stress relief.
5. See Figure 2, Note 6.

FIGURE 5. Attachment pin.

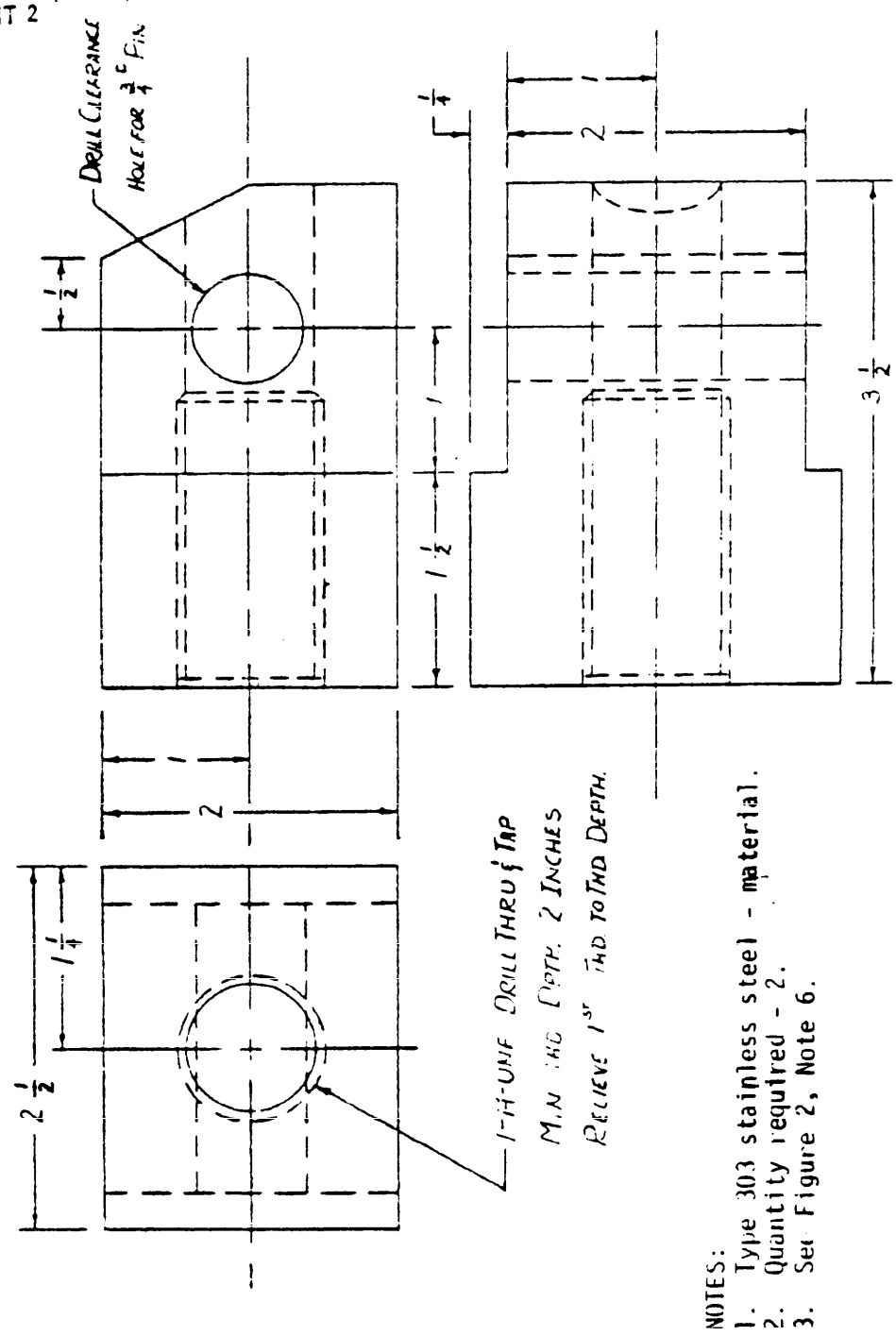
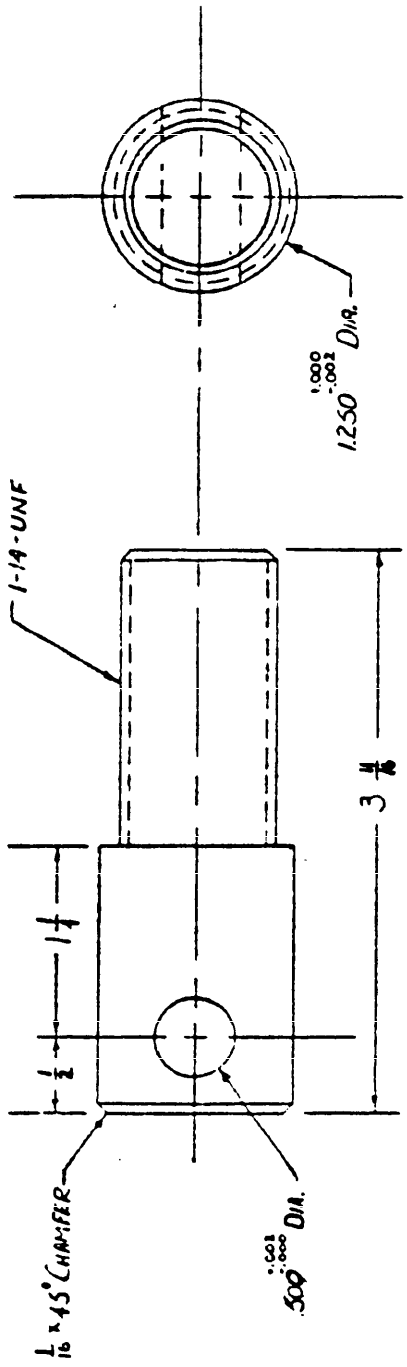
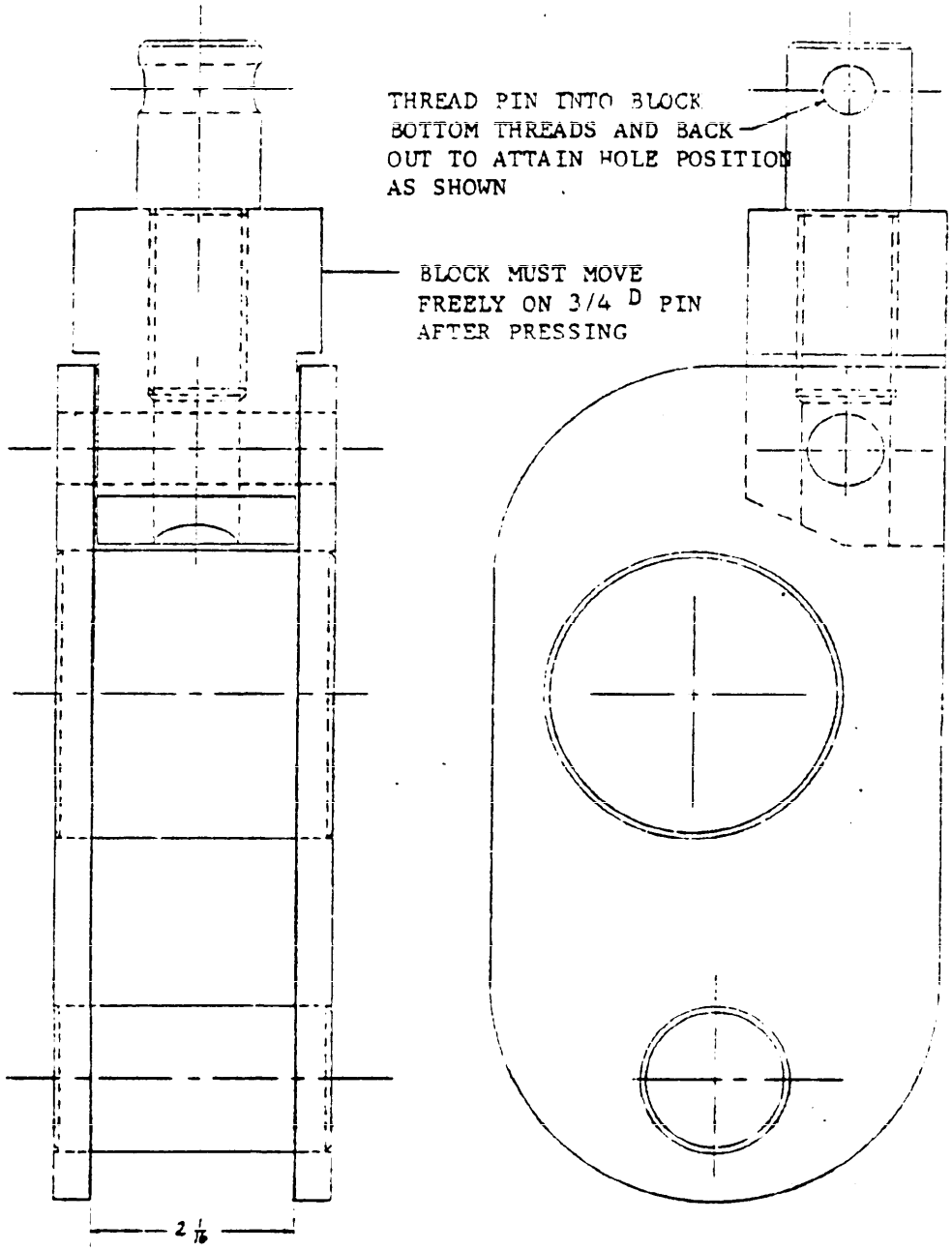


FIGURE 6. Attachment block.



NOTES:
1. Type 303 stainless steel - material.
2. Quantity required - 2.
3. See Figure 2, Note 6.

FIGURE 7. Instron connector pin.



NOTES:
1. Press side plates on to pins to attain specified separation.
2. Ends of pins should be flush with outside surface of side plates after pressing.
3. Pins must be parallel, side plates must be parallel, and pins must be perpendicular to side plates after pressing.
4. See Figure 2, Note 6.

FIGURE 8. Double pin jaw - assembly.

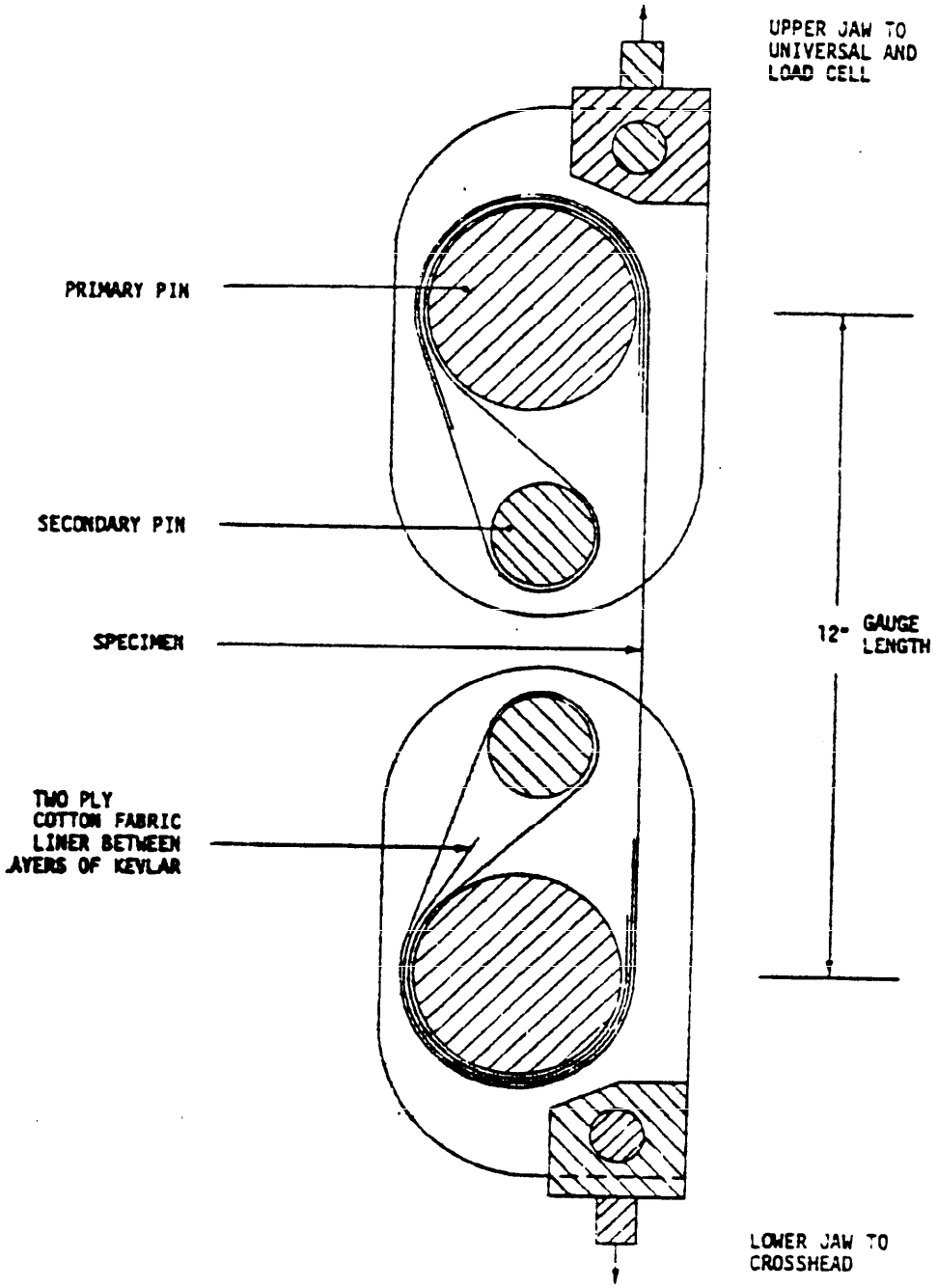


FIGURE 9. Test configuration for double pin jaws.