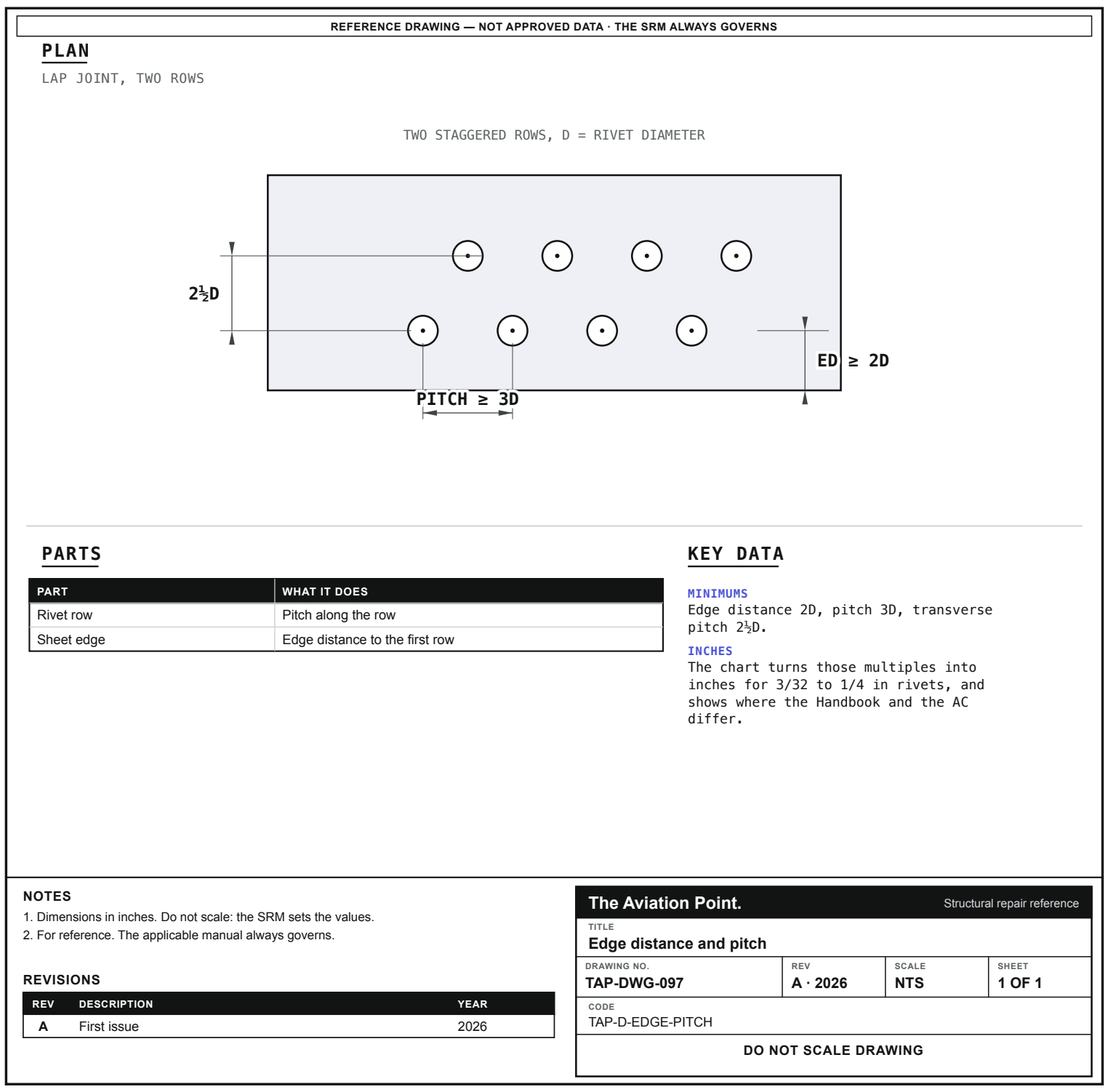
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Rivet Edge Distance, Pitch & Transverse Pitch Chart

Edge distance starts at 2D, pitch at 3D and transverse pitch at 2½D.

1 Identification



Edge distance by rivet size

Rivet D	Min, protruding	Preferred, protruding	Min, countersunk	Preferred, countersunk	Max
3/32" (0.094)	0.188"	0.250"	0.234"	0.297"	0.375"
1/8" (0.125)	0.250"	0.313"	0.313"	0.375"	0.500"
5/32" (0.156)	0.313"	0.375"	0.391"	0.453"	0.625"
3/16" (0.188)	0.375"	0.438"	0.469"	0.531"	0.750"
1/4" (0.250)	0.500"	0.563"	0.625"	0.688"	1.000"

Minimum pitch — protruding head rivets

Rivet D	Min, 1 and 3 rows (3D)	Preferred (+1/16)	Min, 2 rows (4D)	Preferred (+1/16)
3/32" (0.094)	0.281"	0.344"	0.375"	0.438"
1/8" (0.125)	0.375"	0.438"	0.500"	0.563"
5/32" (0.156)	0.469"	0.531"	0.625"	0.688"
3/16" (0.188)	0.563"	0.625"	0.750"	0.813"
1/4" (0.250)	0.750"	0.813"	1.000"	1.063"

Minimum pitch — countersunk head rivets

Rivet D	Min, 1 and 3 rows (3½D)	Preferred (+1/16)	Min, 2 rows (4½D)	Preferred (+1/16)
3/32" (0.094)	0.328"	0.391"	0.422"	0.484"
1/8" (0.125)	0.438"	0.500"	0.563"	0.625"
5/32" (0.156)	0.547"	0.609"	0.703"	0.766"
3/16" (0.188)	0.656"	0.719"	0.844"	0.906"
1/4" (0.250)	0.875"	0.938"	1.125"	1.188"

Usual pitch, transverse pitch and the largest pitch mentioned

Rivet D	Usual pitch (4D–6D)	Transverse, smallest (2½D)	Transverse at 75% of 4D	Transverse at 75% of 6D	Largest pitch mentioned (10D)
3/32" (0.094)	0.375–0.563"	0.234"	0.281"	0.422"	0.938"
1/8" (0.125)	0.500–0.750"	0.313"	0.375"	0.563"	1.250"
5/32" (0.156)	0.625–0.938"	0.391"	0.469"	0.703"	1.563"
3/16" (0.188)	0.750–1.125"	0.469"	0.563"	0.844"	1.875"
1/4" (0.250)	1.000–1.500"	0.625"	0.750"	1.125"	2.500"

Educational reference only, not approved data. Always consult the applicable SRM, AMM, or AC 43.13-1B and your certifying authority.

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What the sources say, and where they differ

Rule	FAA-H-8083-31	AC 43.13-1B	Note
Edge distance, minimum	2D protruding, 2½D countersunk (Fig. 4-79, p. 4-34)	2D, single row (par. 4-57c(1)); 2D in Fig. 4-5	Agree.
Edge distance, preferred	Fig. 4-79: minimum + 1/16 in. Text: about 2½D. Fig. 4-81: 2 to 2½D	Not stated	**The Handbook gives three different "preferred" figures.** For a 1/8 in countersunk rivet Fig. 4-79 gives 0.375 in while the text gives about 0.313 in.
Edge distance, maximum	4D	Not stated	Handbook only.
Pitch, minimum	Fig. 4-80: 3D (1 and 3 rows), 4D (2 rows), 3½D and 4½D countersunk. Text, p. 4-34: 3½D protruding, 4D flush. Text, p. 4-34 bullet: 3D	3D, single row (par. 4-57c(1)). Fig. 4-5: 4D on the double-row splice, 3D on the triple-row	**The Handbook disagrees with itself** between p. 4-34 text and Fig. 4-80. Chart uses Fig. 4-80.
Pitch, usual	4D to 6D, up to 10D (p. 4-35). Fig. 4-81: 6 to 8D	Fig. 4-5: 4D (double row) and 6D (triple row)	Different ranges; none is a limit.
Transverse pitch	75% of pitch, never below 2½D. Bullet on p. 4-34: rows not closer than 2½D	Fig. 4-5: 4D between rows (double); 3D (triple)	AC figure is a splice drawing; the 4D and 3D are as read from it.

Where the sources agree, and where they do not

Point	First source	Second source	Where they differ, and what governs
Edge distance	AC 43.13-1B par. 4-57c: single row, not less than 2 diameters	Handbook pp. 4-34 and 4-35: 2 diameters universal, 2-1/2 countersunk	For countersunk rivets the stricter 2-1/2 diameters governs (1/8 in rivet: 0.3125 in against 0.250 in).
Pitch	AC 43.13-1B par. 4-57c: single row, spacing not less than 3 diameters	Handbook pp. 4-34 and 4-35: smallest pitch 3 diameters; two-row layouts at least 4	Agree at 3. For several rows use the larger of the AC's Fig. 4-5 and the Handbook's 4.
Existing pattern	AC 43.13-1B par. 4-57c: duplicate the original spacing and edge distance unless structural deficiencies are suspected	Handbook pp. 4-34 and 4-35: copy the original spacing where possible	Agree.
Joint efficiency	AC 43.13-1B Fig. 4-5: 75 percent of the sheet without holes for a double row, 83 percent for triple or multiple rows	Handbook: no figure on these pages	The AC figure is for single-lap sheet splices.

2 Allowable damage

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3 Repair

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Key points

- **The aircraft's manual governs.** An SRM, repair drawing or approved data overrides every number here.
- **Match the existing pattern.** On a patch that ties into structure, rivet where the original rivets are.
- **Blind and special fasteners** (Cherry, Hi-Lok, lockbolts) have their own edge distance and spacing in the manufacturer's data.
- **Composites** use different rules. The Handbook's composite repair section (Chapter 7) gives four diameters from existing fasteners and three diameters edge distance for its pilot holes, not the 2D here.
- **The pitch figures are minimums, not targets.** Pressure skins and fuel tank boundaries are driven by sealing and fatigue.

MAIN SOURCES · FAA-H-8083-31, AMT Handbook — Airframe, Volume 1, Chapter 4, pp. 4-34 and 4-35, Figures 4-79, 4-80 and 4-81 · FAA AC 43.13-1B CHG 1, Chapter 4, par. 4-57c and Figure 4-5 · FAA AC 43.13-1B CHG 1, Acceptable Methods, Techniques, and Practices: Aircraft Inspection and Repair

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Educational reference only, not approved data. Always consult the applicable SRM, AMM, or AC 43.13-1B and your certifying authority.