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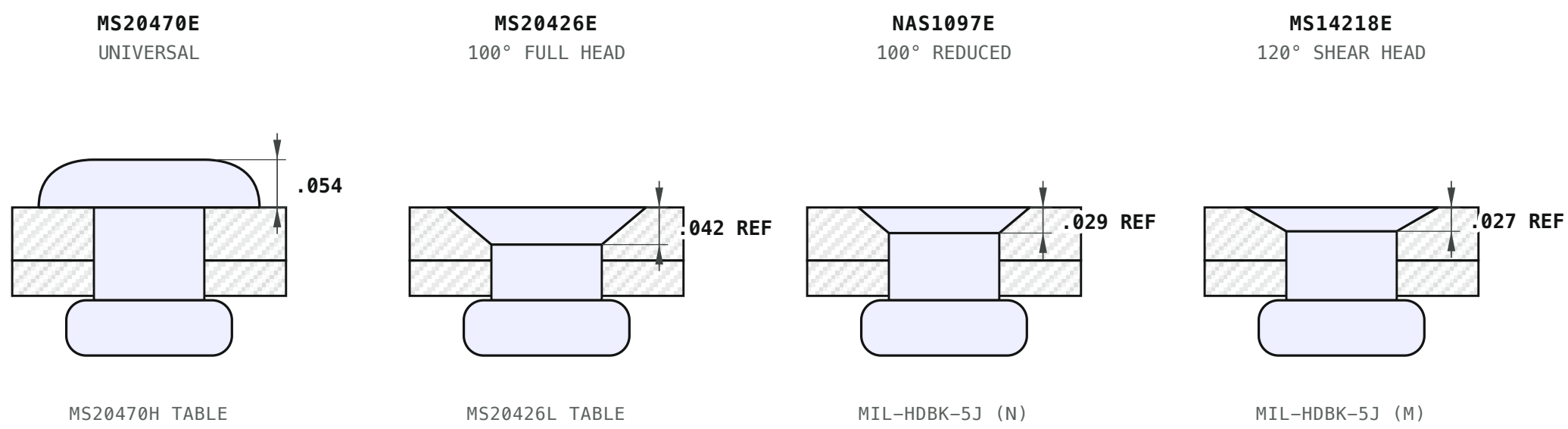
7050-T73 E Rivets: Ring Mark, Part Numbers, Strength and Drills

Ring mark · standards · part number · shear · countersinks · drills

REFERENCE DRAWING — NOT APPROVED DATA · THE SRM ALWAYS GOVERNS

FOUR HEADS AT 1/8 IN

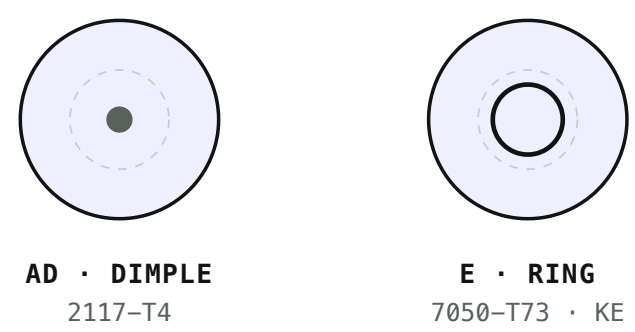
SAME SHANK, ONE SCALE · SECTION



Head height in inches, as the source prints it. The 120° head diameter is not in a public table.

THE MARK

PLAN OF THE HEAD



A ring (circle) on the head marks 7050: E, or KE in NAS and Boeing numbers. Read the part number too.

SHEAR STRENGTH, DRIVEN

MIL-HDBK-5J · B-BASIS

RIVET	FSU, KSI	TABLE
MS20470E, MS20426E	43	8.1.2(b)
MS20426E in joints	41	8.1.2.2(r)
NAS1097-E in joints	41	8.1.2.2(n)
MS14218E in joints	43	8.1.2.2(m)
Undriven 7050-T73	41 to 46	8.1.2(b)

No icebox: driven as received, in the T condition.

It replaces the DD (2024) icebox rivet (FAA fig. 4-77).
The 120° head takes a 120° countersink, not a 100° one.

NOTES

1. Dimensions in inches. Do not scale: the SRM sets the values.
2. For reference. The applicable manual always governs.
3. Based on MS20470H, MS20426L, MIL-HDBK-5J 8.1.2.

REVISIONS

REV	DESCRIPTION	YEAR
A	First issue	2026

The Aviation Point. Structural repair reference

TITLE			
7050 E rivets			
DRAWING NO. TAP-DWG-F01	REV A · 2026	SCALE NTS	SHEET 1 OF 1
APPLIES TO Solid rivets, 7050-T73			

DO NOT SCALE DRAWING

MS20470E, MS20426E, NAS1097E and MS14218E at 1/8 in to one scale, with the head heights the sources print; the AD dimple against the E ring; shear values from MIL-HDBK-5J.

Shear strength of the E rivet

Diameter	Single shear, driven, lb (Fsu 43 ksi)	NAS1097-E in joints, lb (Fsu 41 ksi)
1/16 in	152	—
3/32 in	311	—
1/8 in	558	531
5/32 in	854	814
3/16 in	1,230	1,175
1/4 in	2,230	2,125
5/16 in	3,520	—
3/8 in	5,030	—

Drills, standard and oversize

Rivet	Pilot	Final drill (in)	1st oversize, 1/64 in	2nd oversize: next size
3/32 in (-3)	3/32 (0.0938)	#40 (0.098)	No public part	1/8 in: #30 (0.1285)
1/8 in (-4)	1/8 (0.125)	#30 (0.1285)	No public part	5/32 in: #21 (0.159)
5/32 in (-5)	5/32 (0.1562)	#21 (0.159)	No public part	3/16 in: #11 (0.191)
3/16 in (-6)	3/16 (0.1875)	#11 (0.191)	No public part	7/32 in: #1 (0.228)
7/32 in (-7)	None printed	#1 (0.228)	No public part	1/4 in: F (0.257)
1/4 in (-8)	1/4 (0.25)	F (0.257)	No public part	5/16 in (1/16 in step above 1/4 in); drill not in the public tables

Key points

- **Ring on the head = 7050:** E in MS numbers, E or KE in NAS1097.
- **No icebox:** driven as received, in the T condition; it replaces the DD rivet.

Step by step

1. Check the ring and the E or KE in the number.
2. Pilot, then the final drill of the diameter.
3. Countersink to the head you install: 100° or 120°.

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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- **Shear:** 43 ksi driven (MIL-HDBK-5J 8.1.2(b)); 41 ksi in the MS20426E and NAS1097-E joint tables.
- **Countersinks:** 100° for MS20426E and NAS1097E, 120° for MS14218E.
- **Drills go by diameter:** 1/8 in #30, 5/32 in #21, 3/16 in #11.
- **Oversize:** the next larger rivet.

4. Drive as received; fill the hole.
5. Shop head at least 1.5 × the hole.

SOURCES · FAA-H-8083-31B, Aviation Maintenance Technician Handbook, Airframe, chapter 4 · MIL-HDBK-5J, Tables 8.1.2, 8.1.2, 8.1.2.2,, · MS20470 Rev. H and MS20426 Rev. L · FAA AC 43.13-1B CHG 1, Table 4-8 · T.O. 1-1A-1 · US federal item records · MIL-R-47196A, 6 Sep 1977

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