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Lockbolts: Pull Type, Stump Type and Blind, with the Hole and the Inspection

Types · pin and collar · hole fit · inspection · removal · Huck to Hi-Lok and NAS

Huck lockbolt, Hi-Lok and NAS numbers, with the hole

Huck	Hi-Lok	NAS	Hole, in	Drill inside
R 3001-5	HL18-5	NAS1465	0.161–0.164	#20 (0.1610)
R 3001-6	HL18-6	NAS1466	0.185–0.188	12/64 (0.1875)
R 3001-8	HL18-8	NAS1468	0.242–0.246	C (0.2420)
R 3001-10	HL18-10	NAS1470	0.307–0.310	no standard drill inside: ream
R 3002-5	HL21-5	none printed	0.161–0.164	#20 (0.1610)
R 3002-6	HL21-6	NAS1956 (as printed)	0.185–0.188	12/64 (0.1875)
R 3002-8	HL21-8	NAS1458	0.242–0.246	C (0.2420)
R 3002-10	HL21-10	NAS1460	0.307–0.310	no standard drill inside: ream

Key points

- **Pull, stump, blind:** pull needs one operator, stump needs a hammer and a bucking bar.
- **Tension pins** normally have four locking grooves, **shear pins** two.
- **Hole:** interference for aluminium, clearance for steel, titanium and composite.
- **Own grip gauge** and installation tool for each make.
- **Inspect:** head seated, collar tight and well formed, pin protrusion within limits.

Step by step

1. Prepare the hole as for a Hi-Lok.
2. Measure the grip with the lockbolt grip gauge.
3. Insert the pin and put the collar on.
4. Pull gun or hammer swages the collar into the grooves; the pintail breaks.
5. Inspect the head, the collar and the protrusion.

SOURCES · FAA-H-8083-31B, Aviation Maintenance Technician Handbook, Airframe, chapter 4 · TM 1-1500-204-23-6 · Howmet lockbolts · MIL-HDBK-5J, section 8

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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.