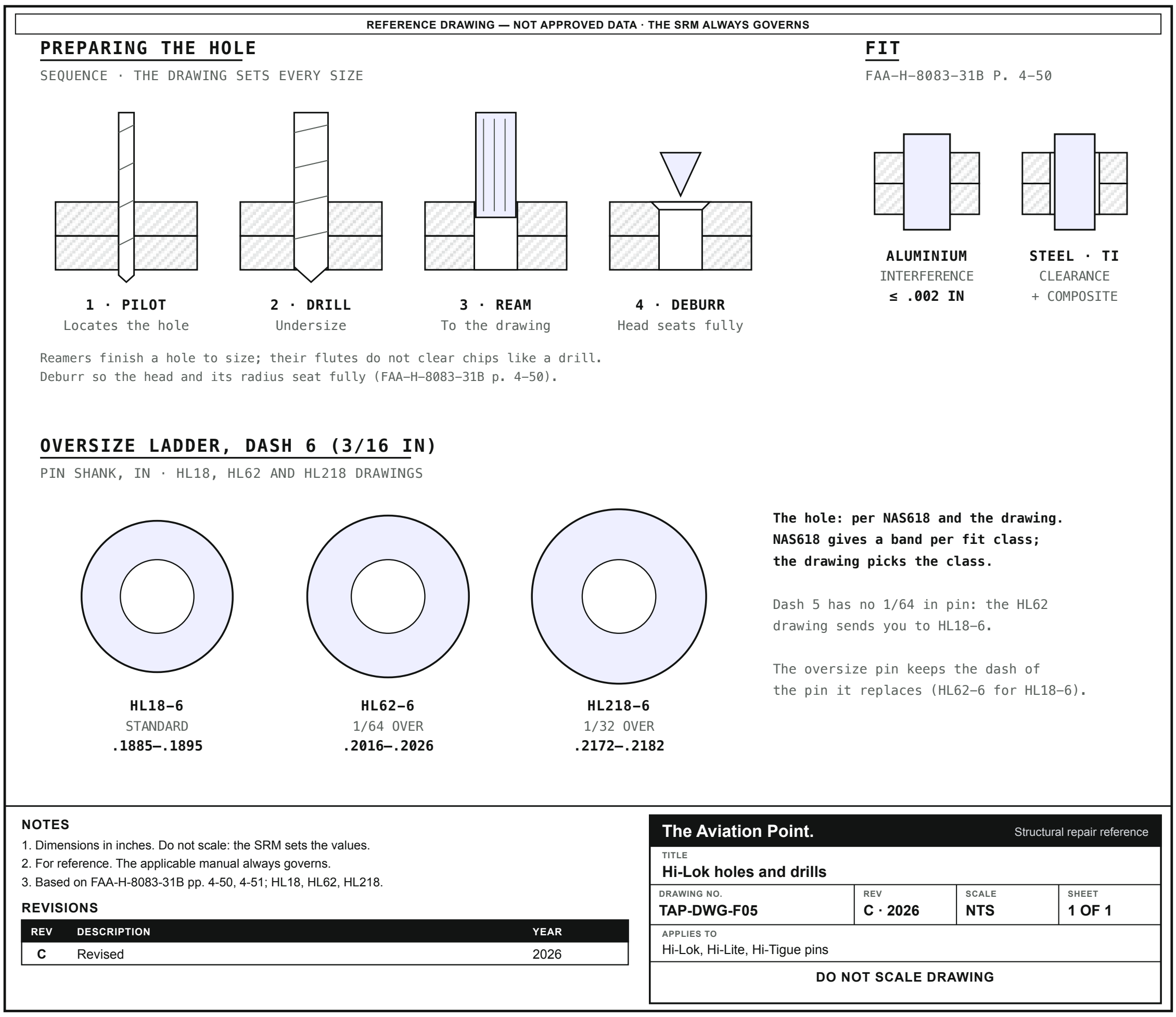
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# Hi-Lok Holes and Drills: Fit, Reaming and Oversize Pins

Fit · pins and oversizes · the hole · reaming · Hi-Lite and Hi-Tigue




Hole sequence and fit after FAA-H-8083-31B pp. 4-50 and 4-51; pin shank diameters from the Hi-Shear HL18, HL62 and HL218 drawings.

## Fit by material

| Structure or pin | Fit | Source |
|---|---|---|
| `Aluminium structure` | Interference; the hole is prepared so that it does not exceed 0.002 in | FAA-H-8083-31B p. 4-50 |
| `Steel, titanium` | Clearance | FAA-H-8083-31B p. 4-50 |
| `Composite` | Clearance | FAA-H-8083-31B p. 4-50 |
| `Hi-Tigue pin` | Controlled interference: the bead cold-works the hole | FAA-H-8083-31B p. 4-50; T.O. 1-1A-1 par. 5.3.1.1.8 |

## Pin diameters, standard and oversize

| Dash | Nominal | HL18, standard | HL62, 1/64 in over | HL218, 1/32 in over |
|---|---|---|---|---|
| `-5` | 5/32 in | .1625–.1635 | None: use HL18-6 | None: use HL62-6 |
| `-6` | 3/16 in | .1885–.1895 | .2016–.2026 (13/64) | .2172–.2182 (7/32) |
| `-8` | 1/4 in | .2485–.2495 | .2641–.2651 (17/64) | .2797–.2807 (9/32) |
| `-10 and up` | 5/16 to 1 in | On the HL18 drawing | On the HL62 drawing | On the HL218 drawing |

## Key points

- **Aluminium: interference,** not over 0.002 in. **Steel, titanium, composite: clearance** (FAA-H-8083-31B p. 4-50).
- **Hole per NAS618 and the drawing:** column A (clearance) for steel, titanium and composite; the interference hole in aluminium is set by the drawing.
- **Drill undersize, then ream:** reamers finish a hole, they do not clear chips like a drill.
- **Oversize pins:** HL62/HL63 (1/64 in), HL218/HL219 (1/32 in); HL110/HL111 for titanium.

## Step by step

1. Pilot.
2. Drill undersize.
3. Ream to the drawing or NAS618.
4. Deburr the edge; check the hole.
5. Install the pin and collar; the collar shears off at its torque.



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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- **Dash 5 has no 1/64 in pin:** the HL62 drawing sends you to HL18-6.
- **Deburr** so the head and its radius seat fully.

**SOURCES** · FAA-H-8083-31B, Aviation Maintenance Technician Handbook, Airframe, chapter 4 · Hi-Shear drawings HL18, HL62 rev. 18 and HL218 · TM 1-1500-204-23-6 · T.O. 1-1A-1 · NAS618, Fastener: recommended shank, hole and head-to-shank fillet radius limits

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