



2955 Diab Street, Montreal, Q.C., Canada H4S 1M1  
TEL.: (514) 332-3077 • FAX: (514) 332-6711 Toll Free No: 877-332-3055

CAGE Code 38002









## Field Service Guide

# Seal Replacement Procedure Pitot – Static Test Adaptor

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## Tool Kit – Seal Exchange

Part No: **421-ASTK**

<b>Each Nav-Aids Ltd. Tool Kit contains the following items:</b>	
<b>Photo</b>	<b>Description</b>
	<p><b>Pouch:</b> Used to contain all items included in Kit.</p> <p><b>P/N:</b> ASTK-POUCH</p>
	<p><b>Awl:</b> Used to wedge circlip out of retaining groove.</p> <p><b>P/N:</b> ASTK-AWL</p>
	<p><b>Screwdriver:</b> Used with awl when circlip refuses to pop out.</p> <p><b>P/N:</b> ASTK-SCREWDRIVER</p>
	<p><b>Extractor:</b> Used to pull and remove rubber seals.</p> <p><b>P/N:</b> ASTK-EXTRACTOR</p>
	<p><b>Packer:</b> Used to push down and pack seals and spacers.</p> <p><b>P/N:</b> ASTK-PACKER</p>
	<p><b>Cotton Swabs:</b> Used to clean the inside of adaptors before new seals are put in.   <b>P/N:</b> ASTK-SWABS</p>
	<p><b>Golf Tee:</b> Used for easy insertion of circlip into adaptor groove.</p> <p><b>P/N:</b> ASTK-TEE</p>
	<p><b>Manual:</b> Description of Tools supplied and generic seal exchange procedures.</p> <p><b>P/N:</b> ASTK-MANUAL</p>

Note: Certain items provided in kit may not be exactly as illustrated above.

## Materials Required:

- Replacement Seal Kit for applicable Test Adaptor
- Test Adaptor Outline Drawing (supplied with Seal Kit) showing seal location inside Test Adaptor or refer to Manual contained in Nav-Aids Ltd. Air Data Accessories Kit for applicable aircraft.
- Tool Kit – Seal Exchange, **P/N 421-ASTK**,
- Mild Cleaning Solvent (Chemsearch P/N SS25)
- NCS-30 Nonconductive Thread Compound, available from **Jet-Lube of Canada Ltd.** (Inventory Code: 16902).
- Clean work bench surface.
- Appropriate lighting to facilitate inspection of the interior of the applicable Test Adaptor.
- Compressed air (Optional)
- Pre-Test Tool for applicable Test Adaptor
- Lubricating Fluid P/N LF5050 (Nav-Aids Ltd.), apply using light gauze or cotton swab.

**Note:** For Test Adaptors, glue is sometimes required to attach the new seal into the seat. Use *Scotch-Weld 3M CA8* Adhesive or equivalent.



*SEAL REPLACEMENT INSTRUCTION VIDEO*

**Please See:**

[www.navaidsltd.net/seal-replacement-video.html](http://www.navaidsltd.net/seal-replacement-video.html)

## **Seal Removal & Exchange Procedure:**

1. Prior to disassembly of the Test Adaptor, prepare a clean bench surface for the layout of parts.
2. Refer to the supplied outline drawing of the Test Adaptor to identify and locate the seals.
3. Layout the new seals on the bench in a straight line and in sequence with the drawing (Ensure proper seal identification and sequence).
4. Remove the circlip under the knurled compression nut with the *Awl* (provided in the Tool Kit - Seal Exchange). Turn compression nut clockwise to ensure unobstructed removal of circlip and then insert *Awl* (Pin tool) into small holes to push circlip out of its seat. If circlip does not pop out, use the Screwdriver to hold the exposed end of the circlip.
5. Fully back off and remove the knurled compression nut by turning counter clockwise.
6. Carefully remove the seals and spacers from the interior of the test adaptor with the aid of the *Extractor* (provided in the Tool Kit - Seal Exchange). Place removed seals and spacers in sequence with the drawing and next to the new seals.
7. Inspect Spacers for condition (heat damage, distortion) and replace as necessary.
  - *Replacement Seal & Spacer kits* are available from [Nav-Aids Ltd.](#)
8. Inspect the interior of the Test Adaptor for dirt, seal residue and corrosion.
9. Inspect the snubber at the Test Adaptor interior bottom for condition (Snubber for pitot tube tip protection).  
**Note:** A slit in the Snubber is normal.

10. Clean the Test Adaptor interior cavity with mild cleaning solvent and blow dry or use cotton swabs (provided in the Tool Kit - Seal Exchange).
11. Inspect the exterior of the Test Adaptor, fittings, labels, lanyards and flag for integrity.
12. Check compression nut, fittings and blanking caps for function.
13. Lubricate compression nut with Thread Compound, NCS-30 or equal lubricant.

**14. Install the new Seals as follows:**

- 14.1. Pick-up first new seal (Seal located closest to the pitot tip snubber).
- 14.2. Insert the first seal into the Test Adaptor cavity and push the seal down to the full depth with the help of the Packer (provided in the Tool Kit - Seal Exchange).
- 14.3. Continue to identify and insert seals and spacers in the proper sequence as per drawing.
- 14.4. Ensure that seals and spacers are stacked tightly.
15. Install knurled compression nut with previously applied thread lube into Adaptor body.
16. Install circlip with the aid of the Golf Tee into its seat.
17. Verify that all components are assembled (discard old) and the adaptor is working smoothly.

## **18. Verify Test Adaptor Operation as follows:**

- 18.1. Take the Pre-Test Tool and apply a thin film of *Lubricating Fluid* P/N LF5050 (2-3 drops) onto its test surface all around. (light gauze)
  - 18.2. Insert the Pre-Test Tool fully into the Test Adaptor with a rotating motion and gently rotate it back and forth to lubricate the seals.
  - 18.3. Tighten compression nut and connect the pitot and static test hoses on the Test Adaptor fittings.
  - 18.4. Apply approximately 300 knots pitot pressure to the pitot line, and
  - 18.5. 2000 feet static pressure to static connections of the Test Adaptor (if applicable).
  - 18.6. Release pitot and static pressure to ambient level.
19. *If a leak exists* in the pitot or static side, verify proper insertion of pre-test tool into the adaptor and proper tightening of compression nut. If leak persists, verify proper seal and spacer sequence.

### **Note:**

For ease of installation of Test Adaptor on to aircraft pitot tube, use *Lubricating Fluid* (P/N. LF5050) with Pre-Test Tool prior to installation. (Ref: 18.1 to 18.2)



**SEAL REPLACEMENT INSTRUCTION VIDEO:**

[www.navaidsltd.net/seal-replacement-video.html](http://www.navaidsltd.net/seal-replacement-video.html)

### **Replacement Parts:**

For our List of available Test Adaptors, Pre-Test Tools and Air Data Accessories Kits, you can consult our website: [www.navaidsltd.net](http://www.navaidsltd.net)

For **Seal Kits** or **Seal & Spacer Kits**, or for information and ordering of parts of test adaptors or replacement parts for other types of aircraft, please contact us:

### **Customer Support**

**Nav-Aids Ltd.**  
2955 Diab Street  
Montreal, QC.  
Canada  
H4S 1M1

**Toll Free: 1-877-332-3055 (CAN./US)**

**Tel: Local: 514 332-3077**  
**332 3077**

**International: +1 514**

**Fax: Local: 514 332-6711**  
**332 6711**

**International: +1 514**

**E-mail: [info@navaidsltd.net](mailto:info@navaidsltd.net)**

**Website: [www.navaidsltd.net](http://www.navaidsltd.net)**

