



PITOTSHIELDS™
SAFETY PITOT COVERS



PitotShield V2™ SmartCover™ **Thermal Actuator Extraction Tool (Kit P/N 77-TBET1)**

OPERATING INSTRUCTIONS

CAUTION: The PitotShield V2™ SmartCover™ (PSV2), as any pitot cover, is intended to be REMOVED BEFORE FLIGHT OR APPLICATION OF PITOT HEAT.

CAUTION: Never touch a pitot tube without confirming that the pitot heat has been deactivated for a minimum of 30 minutes and is cool.

CAUTION: Wear safety eye protection when Extracting the Thermal Actuator.

CAUTION: DO NOT RE-USE AN EXTRACTED THERMAL ACTUATOR.

Introduction of the PitotShield V2™ **Thermal Actuator Extraction Tool**

The PitotShield V2™ SmartCover™ utilizes a thermal actuator to hold the two halves of the pitot cover together. As a fail-safe should pitot heat be applied while the PSV2 is still installed, the actuator disintegrates upon reaching a specific temperature. This action releases the pitot cover from the pitot tube, thus preventing damage to the pitot cover, damage to the pitot tube, a possible rejected takeoff or air-return and further consequences thereof.

In the course of utilizing PSV2 pitot covers, users have found occasional need to open a PitotShield V2™ SmartCover™. To meet this need, DeGROFF Aviation has made available a tool and procedure to open the pitot cover.

This Manual and a video demonstration will introduce the user to the technique to extract the thermal actuator and open the PitotShield V2™ safely and without damage.

Scan QR for a Video Demonstration
of PSV2 Thermal Actuator Extraction Tool



The following illustrates the Thermal Actuator Extraction Tool (Fig 1) and its use. The reader will be able to extract the Thermal Actuator Bulb (Fig 2) allowing separation of the halves and accessing the interior components of the PSV2. NOTE: This tool is applicable to ALL PitotShield V2™ Fit Sizes.

Figure 1 shows Front and Side views of the Tool.

Figure 2 is a cut-away view of the Thermal Actuator Bulb engaging the three interlocking hooks, thus holding the PitotShield V2™ halves together.

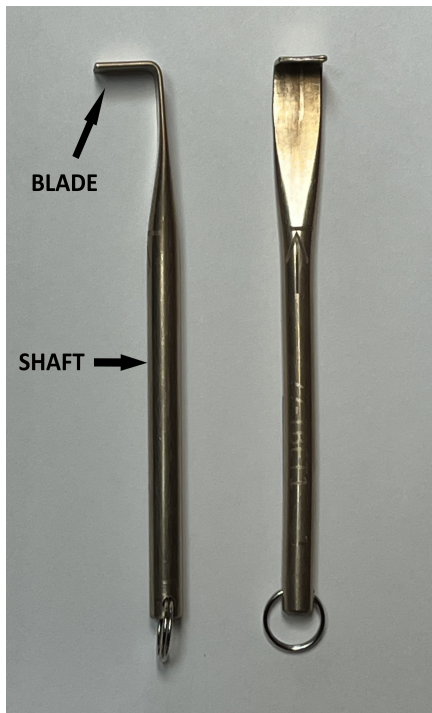


Fig 1

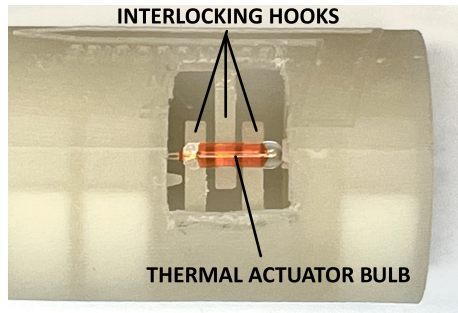


Fig 2



Fig 3

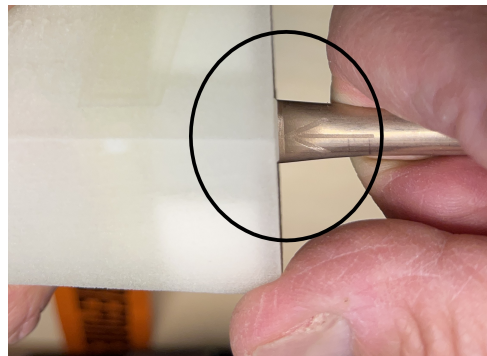


Fig 4

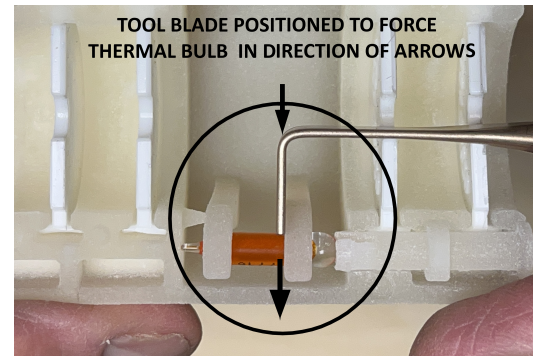


Fig 5

CAUTION: Prior to proceeding, assure that you are wearing safety eye protection.

STEP 1. Align the Thermal Actuator Ejection Tool

Fig. 3 shows the PSV2 body rested on the benchtop oriented with junction of the body halves vertical and showing the pitot tube access aperture with the Extraction Tool approaching the access aperture with the blade of the tool oriented toward the junction.

Insert the tool straight into the center of the opening slowly pushing aside the silicone discs. The discs will not be damaged. Adjust the tool so the shaft is straight into the pitot cover and the arrow on the shaft is flush with the back surface of the PSV2 (Fig. 4).

In this position, move the tool blade slightly to access a thin space between the aft and center interlocking Hooks (Figs 2, 5 and 6). When in this space, the blade will contact the Thermal Actuator Bulb (Figs 5, 6). Now, small movements back and forth will allow one to feel when the actuator bulb is approximately centered on the blade edge (Fig 6). At this point, the tool blade is positioned properly between the Hooks and prepared for ejection of the Thermal Actuator Bulb.

STEP 2. Eject the Thermal Activator Bulb from the Interlocking Hooks

Assure that the shaft is straight into the pitot tube and confirm by feel that the blade is contacting and centered on the Thermal Actuator Bulb. Place your thumb on top of the pitot cover over the junction of the two halves (Fig 7) and apply significant force upward toward your thumb and such that the blade end of the tool is forced upward toward you and toward the upper pitot cover junction halves. Apply increasing force until a click is heard and the tool blade end snaps upward. At this point, the Thermal Actuator Bulb has been released from the inner hook curves and lodged between the hook tips and the inner surface of the PSV2 shells. If no movement and click are experienced, remove and reposition the tool as above and repeat the procedure.



Fig 6



Fig 7



Fig 8

STEP 3. Complete the Extraction of the Thermal Actuator Bulb

Prior to proceeding, assure that you are wearing safety eye protection.

Once the Thermal Actuator Bulb is ejected from the hooks the extraction tool can be placed aside. Next, grasp the right and left halves of the PSV2 (Fig 8) and pull them apart. Note that the Pitot Cover halves are held by the lodged Thermal Actuator Bulb at the top and three hinge flanges on the bottom. Pull apart ONLY the top of the pitot cover halves. This process will require a strong grip on the top halves of the pitot cover and can be aided if necessary by carefully inserting a thin blade between the mating halves at a position on the top, 2.25in/57mm from the back of the pitot tube. Do not insert the blade deeper than 0.25in/6mm. As the upper pitot cover halves are separated, a gap will form exposing the orange-colored Thermal Actuator (Fig 8). Continued separation force will release the Thermal Actuator from the shell halves. The Actuator can release with enough force to be ejected several feet, thus the need for wearing safety eye protection.

CAUTION: DO NOT RE-USE AN EXTRACTED THERMAL ACTUATOR BULB.

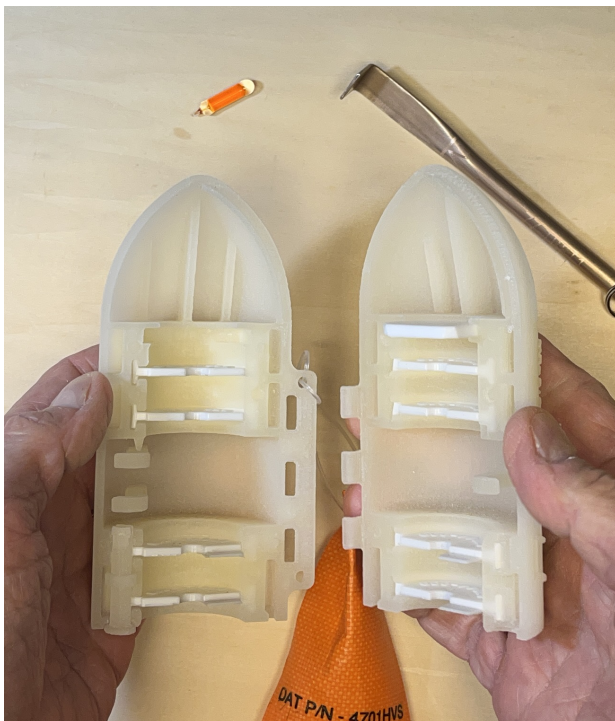


Fig 9

Now access has been gained to the interior structures of the PitotShield V2™ SmartCover™ (Fig 9). It can be returned to service following inspection per the PitotShield V2™ Thermal Actuator Service Instructions and the PitotShield V2™ Users Instruction Manual.

Scan for PitotShield V2™ Thermal
Actuator Service Instructions



Scan for PitotShield V2™
User's Instruction Manual

