



July 10, 2002

Mr. Joe Smith
ABC Company
7990 Auburn Rd.
Concord Township, OH 44077



Subject: PadPak[®] Package Design for Aircraft Fuel Pump

Dear Mr. Smith:

We designed a PadPak[®] package for your aircraft fuel pump. In addition, we also conducted an ISTA drop test on this PadPak[®] package design. Following are detailed descriptions of the PadPak[®] design, test procedure and results.

PadPak[®] Package Design for Aircraft Fuel Pump:

1. As requested we used your current box, which is an RSC – 350 lb. test, single wall corrugated box with inside dimensions of 11-1/4" x 8-1/4" x 8-3/4".
2. Produced a 48 inch pad. Folded it to create a pad with three (3) thicknesses.



3. Placed the triple thick pad across the top of the box as shown.



4. Placed the aircraft fuel pump on top of the pad – centered as shown.



5. Lowered the fuel pump down into the bottom of the box.



6. Produced two (2) – 28 inch pads. Folded each one to create pads with four (4) thicknesses.



7. Placed one four thickness pad between the box and each end of the fuel pump as shown.



8. Produced a 28 inch pad. Formed the pad into a small coil and placed it over the top of the fuel pump. Note: The fuel pumps shaft should be located in the center of the coiled pad.



9. Closed the flaps and sealed the box with pressure sensitive tape.
10. Total PadPak[®] used in this package design was **11 linear feet.**

ISTA Drop Test Procedure:

We conducted the drop test on the packaged fuel pump in accordance with ISTA Integrity Test Procedure #1A. The drop test procedure consisted of subjecting the package to one corner drop, three edge drops and six flat drops (one on each face) for a total of 10 drops. The weight of the packed fuel pump was 6.79 pounds. Therefore, all drops were made from a height of 30 inches.

ISTA Drop Test Results:

After the completion of the tenth and final drop on the package, the fuel pump was unpacked and inspected for damage. I am happy to report that no physical damage of any type was noticed on the fuel pump. Therefore, this PadPak[®] package design successfully passed the ISTA drop test procedure. We would like to note that the shaft on the fuel pump that we received seemed to be a little loose. We are not sure if this is the way it is designed or if this is considered damaged.

Summary & Comments:

The PadPak[®] material used in this package design was 3 ply – 30/50/30. This material has excellent cushioning properties and would make a great packaging material for your aircraft fuel pumps. We would also like to note that all of the pads used in this design were produced using

the “*adjustable pad width roller assembly*”, which was installed on a standard AutoPad converter. This assembly allows one to produce pads from approximately 5-1/2” to 8-3/4” in width. For this package design the assembly was adjusted to produce pads that were approximately 6-1/2” in width. These higher density pads allow us to use less linear feet of material per pack and also work extremely well for small boxes such as the one for this fuel pump.

The aircraft fuel pump was packaged in the PadPak[®] design described above and will be delivered to you by our sales representative.

Thank you for the opportunity to work on this project. If you have any questions regarding this PadPak[®] package design, please do not hesitate to contact me. I can be reached at (800) 726-7257, ext. 8124 or by e-mail at sbaiers@ranpak.com.

Sincerely,

A handwritten signature in black ink that reads "Shawn M. Baiers". The signature is written in a cursive style with a large initial 'S'.

Shawn M. Baiers, CPP
Packaging Engineer