



# FSS Stowage and Retrieval System Overview

(Contract #)

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*The FSS/delivery system that creates efficiencies on the route, simplifies/organizes the vehicle loading process, and decreases ergonomic risk to the carrier.*

## **GENERAL INFORMATION:**

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The Stowage and Retrieval System has undergone over three years of development, revision, and testing, with the anticipation of becoming the most comprehensive and essential tool for the next phase of USPS mail delivery.

The challenge was to find a real, quantitative time savings in the carrier loading and delivery process, then design a system based on those efficiencies. A true tool that would help facilitate the next phase of the USPS delivery plan.

By providing the carrier with sequenced letter mail (DPS) and sequenced flats (FSS), casing time in the station could eventually be eliminated. Product would move from the plant to the station and directly, then loaded into the delivery vehicle in a systematic fashion; skipping the traditional casing step that is commonplace. Systematic in sense that each route type loading process would vary, however, all similar route type loading would be consistent. Conceivably, any carrier could deliver on any route due to the systematic loading process. The additional delivery time gained from eliminating casing at the station, would allow for individual route sizes to become larger, and in turn; reduce the number of routes needed to deliver the same number of zip codes at each station. Reduction in the number of routes and the means to keep carriers on the street longer is where the ROI would come from.

The Stowage System accommodates various route types, including: mounted, park & loop, mixed and business. It was designed to flow mail in the direction of the carrier, for the purpose of efficiency; ex: towards the front for mounted, towards the rear for park & loop. It was also designed to and provide organization and consistency during the loading process. Flexibility was incorporated into the system, allowing for a variety of route sizes, parcel volumes and mail tray types, but easily adjusted to accommodate the nuances of each individual route. Ergonomically, the system adapts to all carriers that fall between the 5<sup>th</sup> percentile female to the 95<sup>th</sup> percentile male. It offers loading aids for the front mail tray and rear feed frame. It also prevents carriers from stepping into the cargo area. Sliding system

components bring cargo contents toward the carrier at the rear bumper, and extend past. Adjustable panels raise and lower to increase surface area, for open air space or larger parcels respectively. The system was designed with many special 'carrier suggested' features, to increase the potential for carrier acceptance and to provide the carrier with a real tool to become more efficient in their loading and delivery tasks. Features were also designed into the system to minimize the impact on mechanics during preventive maintenance and repairs; easy access components, retained hardware, quick disconnect components, rotating legs, etc. These and many other considerations were made during the design and development process of the Stowage System.

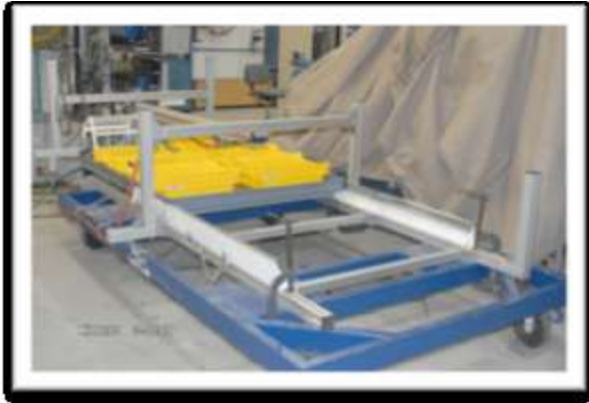
## **TESTING:**

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Rigorous testing was performed on all aspects of the Stowage System. Testing areas included ergonomics, engineering scope, safety, durability, carrier acceptance and delivery needs.

- System passed USPS HQ Ergonomic and Independent reviews
- System passed USPS HQ Safety
- Quality inspection, ISO Certified
- Ford Test Labs Passed
  - Cycle Durability
  - Vibration Durability
  - Simulated Road
  - Crash test were performed and passed by Ford test labs
- Carrier testing and acceptance
- Overseen by USPS Vehicle Engineering
  - Inspection test
  - Weight test
  - First Article

Images of testing at Ford Test Labs and Crash Testing:



## **PRODUCTION:**

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Final production and assembly takes place at our manufacturing facility, located in Milwaukee WI. We utilize the pod concept for manufacturing, in which teams focus on one module of production, then move to another module after completing a quota.

Production capacities are a function of labor, however, at the current level, Postal Products has the capability to produce 250 Stowage Systems per week, including the quality check and packaging functions.

Each of the (6) modules required for a complete Stowage System are fully assembled at the plant. The burden of assembly is not transferred to the USPS Maintenance. The most extensive assembly is installation of the legs onto the front mail tray. All other components are installed at our factory to insure quality and expedite the installation process. The System is very much a plug and play concept.

## **TOOLING/TOOLING EXPENDITURES:**

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Postal Products believes in the design and function of the Stowage System. Efficiencies on the route must occur for the USPS to remain competitive. To prove our commitment to the project, we have undertaken a significant financial obligation right along with the USPS. A substantial investment has been made into this project. Excitingly, no additional tooling funds are necessary at this point. Product can begin at the direction of the USPS.

Postal Products / Canam funded First Article tooling molds. Cost basis to produce first article molds \$105,000. First article molds were required for the SMC front mail tray pan and the SMC lower drawer pan.

Postal Products / Canam developed Production tooling molds, funded by the USPS; costs of those molds \$548,000. Cost of these molds included additional USPS / Postal Products tooling / jigs / forms / fixtures.

USPS purchased 600 systems to be deployed, with a cost basis of \$591,000.

Postal Products / Canam funded \$91,000 of additional tooling and fixtures for the production and manufacturing lines and \$9,000 for mold texturing.

Postal Products / Canam funded \$1,400,000 in R&D during the 2.5 years of development.

## **PACKAGING:**

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Again, to help facilitate the installation process, a considerable amount of time was put into the packaging design. The more organized the packaging, the less cumbersome the installation will be. Each module is self contained and packaged alike. There are (5) modules to a complete Stowage System. A VMF receiving their order will only have (6) different skid types to contend with. (5) skid types for the (5) modules in the system. The last (6) skid consists of the hardware box. Each skid is blatantly labeled, and easily identifiable. Product on the skid is individually bagged, shrink wrapped and then pallet bagged for short term outside storage. Skids and reusable packaging materials should be sent back to Postal Products to be consistent with the USPS green initiative.

## **SHIPPING:**

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It is anticipated that only full truckloads quantities would be shipped to each FSS deployment site. Full truckloads contains 100 complete Stowage Systems. Product is loaded at the Milwaukee facility and sent directly to the receiving FSS site. Partial truckload shipments are available, however are not the most cost effective shipping quantity. Postal Products has the ability to utilize PSBL's if instructed, and generate them using the USPS Freight Management program. Receiving site must have the ability to offload product, either with a fork lift and skid puller, or a dock. Requests for lift gates must be negotiated before product leaves the Milwaukee plant. Duration depends upon site location, but full truckload quantities usually guarantees arrival anywhere in the United States within 5 business days.



## **TRAINING:**

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Postal Products / Canam has offered and provided on site training for Stowage at no cost to the USPS. Consolidation of FSS site training is always appreciated. Training covers:

- Receiving product, staging
- Component layout and installation
- Function and PM of LLV's
- Carrier training / loading procedures

The Stowage website contains training videos for carriers, installation and maintenance. Videos can be watched online or discs requested for conference room training sessions.

To set up training, simply call 1800-229-4500 and ask for Stowage System support. Inform the representative of the location and training needs. Unless there is an unusual or special request, Postal Products can usually provide the training at not charge.



## **INSTALLATION LOCATIONS:**

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600 Systems have been manufactured and deployed.

- 118 Sterling VA
- 150 Indianapolis IN
- 213 Pasadena, Van Nuys, Santa Clarita CA
- 12 San Diego CA

57 Newark NJ

50 Vehicle Engineering, Merrifield VA

The sites that have received Systems are responsible for their own coordination and installation. Postal Products has either trained and / or assisted with installation in San Diego, Sterling VA, Pasadena / Van Nuys / Santa Clarita. At those facilities, installation has either begun or is well underway. Some locations have not yet begun the installation process.

Postal Products / Canam has the means to offer installation to any VMF. Charges are based upon proximity, quantity and extent of LLV preparation / condition / availability. Vehicle must be staged and ready. Installation location must have air, power and proper lighting. Lift is preferable. Other criteria can be discussed.

### **CARRIER FEEDBACK:**

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A positive feedback from the carriers was a goal we kept in mind while designing the Stowage System. To achieve this, we decided to let the carriers provide input as to what they thought the System should look like, how it should function, and what features it should have. Because we incorporated so many features that carriers suggested, our feedback was overwhelmingly positive.

To quantify the results, a feedback form was provided to all carriers that received a Stowage System. We also meet with carriers at their stations to listen to their viewpoint on the effectiveness and need of the Stowage System. The majority of the reports were very positive. The feedback form contained the following:

Years experience

Route type

Rating of all (5) modules: rating 1-3, comments accepted

Likes / dislikes about the System

What should be changed about the System

Will the System make you more efficient on the street / loading

Will the System help you save time on the street.

Some excerpts from the carriers comments:

## REPLACEMENT PARTS:

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Replacement parts for the Stowage and Retrieval System are available for purchase on eBay. A full listing of replacement parts can be found in the back of the Stowage and Retrieval System Installation Manual and on our website: [www.postalproducts.com/stowage](http://www.postalproducts.com/stowage). We have a technical support staff that is available if there is any questions or difficulty in finding the correct replacement part and they can be reached at 1-800-553-9931 and ask for “Stowage Technical Support”.

## ACCESSORIES:

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All accessories are available to compliment the Stowage and Retrieval System. The system is completely functional without the accessories, however with carrier input, we have developed and made available several products that work in conjunction with the system.

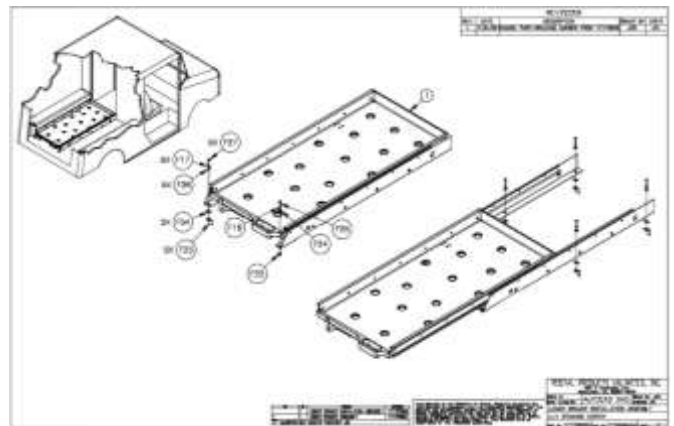
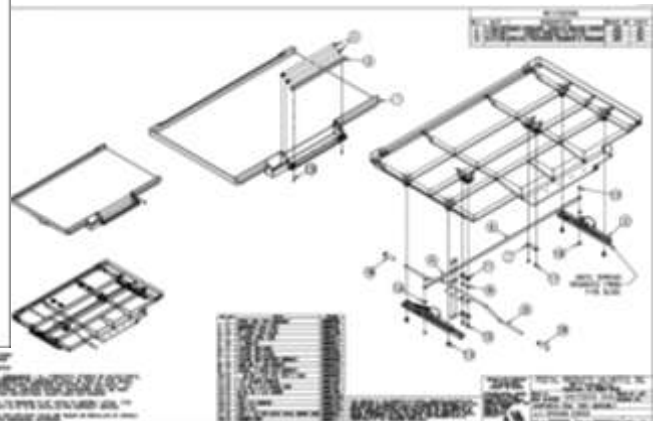
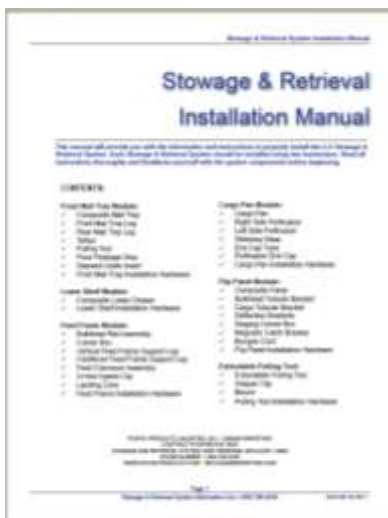
- Installation Templates – These templates aid in the installation of the Stowage System. The system can be installed without these templates, however, it has been found to speed up and provide more accuracy during installation.
- Sending Unit Access Hangers -
- Lower Drawer Net – This net was suggested to be placed at the cargo door end of the lower drawer to prevent parcels that are resting on the lower shelf from shifting into the way of the cargo door.
- Extendable Pulling Tool – Tool allows carriers to shift and retrieve mail that is out of reach and stores nicely in the vehicle to be used when needed.
- Heavy-Duty Hand Truck – This tuck fits perfectly at the cargo end of the vehicle while still leaving the cargo door functional. It secures with a bungee cord to keep in place while vehicle is in motion.
- Fold Flat Cart – Carriers find the fold flat cart to be useful when the heavy-duty hand truck is too bulky for their route.
- Carrier Accessory Drawer – The accessory drawer installs under the mail tray and allows carriers to store personal items and other materials that are used while in route.
- SPURS Bag – Another carrier suggestion to store SPURS while on route.



## ADDITIONAL RESOURCES:

For additional information regarding the Stowage and Retrieval System, you can access our website at [www.postalproducts.com/stowage](http://www.postalproducts.com/stowage). This site provides:

- Carrier Training Video
- Carrier Feedback Video
- Installation Drawings
- Assembly Drawings
- Installation Manual
- Maintenance Manual
- Part/Image Cross-Reference



**CONTACT INFORMATION:**

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