

**POLARIS®**

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Name: PG&A PACKAGING AND LABELING
REQUIREMENTS MANUAL FOR
SUPPLIERS

Revision: 02

Page: 1 of 40

POLARIS INDUSTRIES INC.
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REV	DATE	OWNER	APPROVER	DESCRIPTION OF CHANGES
01	01-MAR-19	Bob Hanson	Matt Peterson	Initial release
02	01-JUL-19	Bob Hanson	Matt Peterson	Section 7.2: added newspaper as prohibited void fill, added examples of acceptable void fill.

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1. PURPOSE/SCOPE

This document provides expectations for delivered product along with standardized package performance test methods and procedures to ensure that packaged products are designed, tested and evaluated prior to shipping. Expectation is that suppliers become familiar with these requirements, develop appropriate internal controls and work with our supplier management, purchasing and product teams to ensure compliance and commitment.

2. GLOSSARY

TERM-SYMBOL- ACRONYM	DEFINITION
BHT	Butylated Hydroztoluene that prevents garments from yellowing.
ISTA	International Safe Transit Association
LTL	Less than truckload
BOL	Bill of lading
COGS	Cost of Goods Sold
Hi Anti Block	A super floss additive that prevents poly bags from sticking together.

3. INTRODUCTION

The vision of Polaris Parts, Garments and Accessories (PG&A) is to lead the power sports industry in the development and distribution of high-quality, innovative solutions that elevate the rider experience, lifestyle and our brands. Customer expectations are constantly evolving and we must continuously improve as well as innovate across our supply chain to maximize value and quality for our customers.

As a supplier partner, you play a critical role in our vision. Our collaboration, communication and execution must align to create a mutually beneficial and sustainable competitive advantage. Moreover, we must be relentless in driving product innovation, improving end-to-end quality, eliminating waste and ensuring an agile, responsive supply chain.

Our goal is to ensure a world-class experience for our channel partners and consumers.



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This document outlines key elements of Polaris Engineered Packaging Requirements. Expectation is that suppliers become familiar with these requirements, develop appropriate internal controls and work with our supplier management, purchasing and product teams to ensure compliance and commitment.

Thank you in advance for your continued partnership as we strive to improve the end-to-end delivery experience and drive continued profitable growth.

4. **OVERVIEW**

Leveraging more than 60 years of expertise in systems engineering, Polaris designs, manufactures and markets innovative high-performance products worldwide. Our diverse and growing portfolio is both broad and deep: our market-leading powersports products include all-terrain recreational, utility and military off-road vehicles (ORVs); snowmobiles; motorcycles and related parts, garments and accessories. Our Small Vehicles products include on-road light-duty haulers, people movers and quadricycles.

PG&A orders are processed and fulfilled via the Polaris distribution system to the Polaris Dealer Network. Distribution centers continuously identify and assess opportunities to improve the dealer experience by focusing on cycle-time reduction and packaging improvements that ensure the product arrives on time, receive ready, damage free and effectively represents the Polaris brand.

The Polaris warehouse management system uses exact measurements to slot, pick, pack and ship parts. Each new package is accordingly weighed, sized and slotted in the distribution center. Therefore, deviations in box sizes adversely impacts operations.

The purpose of this document is to provide expectations for delivered product along with standardized package performance test methods and procedures to ensure that packaged products are designed, tested and evaluated prior to shipping. These tests are intended to help determine if current and future levels of packaging provide adequate protection to a product. As a reference, example criteria of approved box specifications for the shipment of product for both LTL and Parcel are included in this document.

Understand that freight shipment will likely face forklifts, conveyor belts and multiple transport vehicles along its way to its final destination, so in addition to size, weight and climate recommendations, proper packaging also helps cushion and protect goods to withstand ordinary care in handling. Adhering to the information in this document will ensure that your company's product will arrive to Polaris customers without delay or damage. In summary, this document will answer:

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- What does Polaris expect of delivered product?
- What are the guidelines for testing the product packaging such that it moves through the Polaris supply chain in satisfactory condition?
- Who is the appropriate contact for questions and/or concerns?

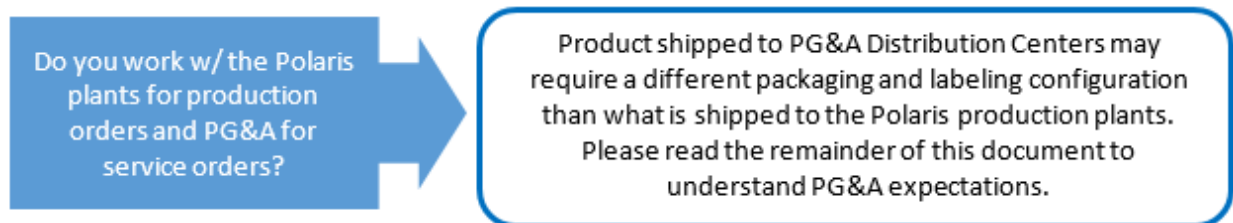
5. **DELIVERY CRITERIA & SUPPLIER RESPONSIBILITY**

The supply base supports efforts of delivered quality by providing timely products based on a uniform packaging design mindset. Listed below are the delivery criteria that suppliers shall commit to in order to maintain a lasting partnership for the future.

Please note Delivery Criteria and Supplier Responsibilities for the PG&A division of Polaris may be different than the standards provided by the OEM/Production division of Polaris for product shipping to a Polaris production plant. Suppliers are expected to meet the requirements – PG&A or Production – of the Polaris ship-to location. These requirements vary depending on whether product is going straight to the production line or is planned to be warehoused in a distribution center and eventually shipped to a Polaris customer.

If shipping to a PG&A distribution center, please continue to review this document to fully understand the expectations. If interested in the requirements for shipping to a Polaris production plant, please refer to the *Supplier Delivery Manual* found on the Polaris Supplier Portal at polarissuppliers.com.

Fig. 1: Product vs. PG&A orders



5.1. **GENERAL STATEMENT ON SUPPLIER RESPONSIBILITY FOR PG&A PACKAGING**

- Package design and material selection are the responsibility of the supplier.
NOTE: While Polaris does not mandate, it strongly recommends the use of a trained packaging engineer to help develop and test proposed packaging solutions for product that will be shipped to Polaris.
- Packaging methods must conform to the requirements contained in this document.



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- Any individual selling unit must be packed in a way that the packaging will withstand the rigors of direct-to-consumer transportation via Truckload, LTL or Parcel.
- A proposed packaging design should be shared with Polaris Sourcing Leader prior to first shipment. This early look will allow Polaris to review and work with the supplier to make recommendations and ensure that the product can be shipped safely.
- Any deviation from the guidelines contained in this manual must be communicated in detail to the PG&A Product Leader, Supplier Management and Packaging@Polaris.com. Written approval must be obtained before implementation.
- Costs incurred by Polaris to resolve supplier packaging issues or excessive damage claims associated with noncompliance to the requirements, lack of package testing and inability to produce evidence of successful package testing validation will be the responsibility of the supplier including COGS, transportation expense and costs tied to repackaging of products to meet Polaris specifications.

6. INBOUND PALLET REQUIREMENTS (SUPPLIER SHIPMENTS TO PG&A DC)

6.1. GENERAL REQUIREMENTS

The required shipping method to a PG&A distribution center is palletized, except for small parcel shipments or products where Polaris has specifically granted approval to floor load product. Proper pallets, loading of pallets, labeling (item, carton and pallet) and paperwork (packing slip and BOL) must be in place for all shipments. Approval to floor load inbound freight must be obtained from the PG&A Logistics Team at LogisticSupport.PGA@polaris.com.

6.2. PALLET STANDARDS

Each pallet shall be a 48 x 40 inches, four-way entry pallet in excellent condition and shall comply with GMA Hardwoods Standards referenced below. 'Grade B' or better GMA style pallets are required. Heat Treated (HT) not currently required, except for drop ship suppliers shipping directly to a Polaris customer outside of the United States.

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6.2.1. Minimum requirements

Width	40 inches
Length	48 inches
Material	GMA, Group III or IV, hard wood, clean saw
Deck coverage	Top deck: 63 percent; bottom deck: 47 percent
Grade	Grade B or better, 4-way, flush and non-reversible

- No missing or broken boards on top or bottom.
- Minimum 7 top boards; minimum 3 bottom boards; minimum 3 stringers.
- No double stringers, patched boards or metal repair plates.
- All stringers are solid, not broken and/or have cracks visible from three sides and longer in run than 1 inch. Weathering cracks, which are not continuous and not visible from three sides, are allowable.
- Pallets are not required to be bleached white, but they should be clean and odor free. Clean pallets are free of debris and stains, but discoloration due to aging is acceptable.
- No cracks on the top or bottom boards greater than 1/8-inch-wide and 15 inches long.
- No exposed splinters greater than 3 inches long.
- No tapered breaks with a depth greater than 1 inch along a 10-inch or more run. If at the 10-inch distance, the depth is less than 1 inch, the pallet is good. The pallet is unacceptable if the 1-inch depth runs the entire length of board.
- Nail heads or nail points are not to exceed 1/8-inch exposure from the surface of the wood. Pallets will not be rejected because of exposed nails unless the top or bottom board surface between nail head and stringer has been destroyed.
- No partial footings. Partial footings occur when one-quarter of a stringer board width or length that connects it to a bottom board has been removed or when securing nail shanks are exposed in the stringer.

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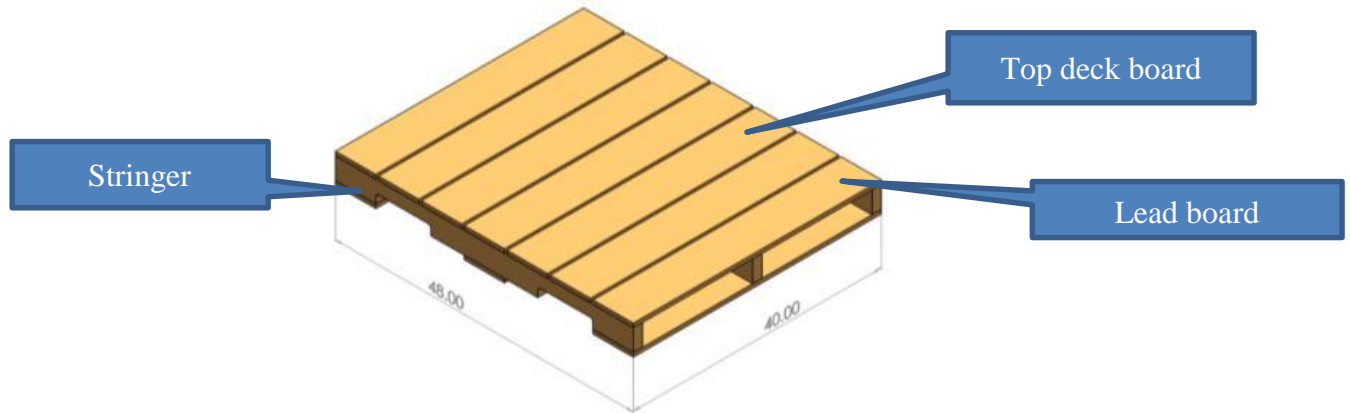


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Fig. 2: GMA pallet specifications, 48 x 40 inches



MINIMUM STANDARD	EXAMPLE
Minimum Stringer = 1.375- x 3.5- x 48-inch	<p>The 'EXAMPLE' column contains two diagrams. The top diagram is a cross-section of a stringer, showing its U-shaped profile with a width of 40.00 inches. The bottom diagram is a top view of a deck board, showing its rectangular shape with a width of 48.00 inches and a thickness of 5.50 inches.</p>
Minimum Deck Board = 5/8-inch thick	
Maximum Deck Board Spaces = 3.5 inches	
Bottom deck board/lead board minimum width = 5.5 inches	

6.2.2. Alternative pallet materials

In some cases, Polaris will allow the use of alternative pallet materials, but alternative materials must be approved by PG&A Supplier Management by emailing Packaging@polaris.com. Approval may require proof of structural capability.

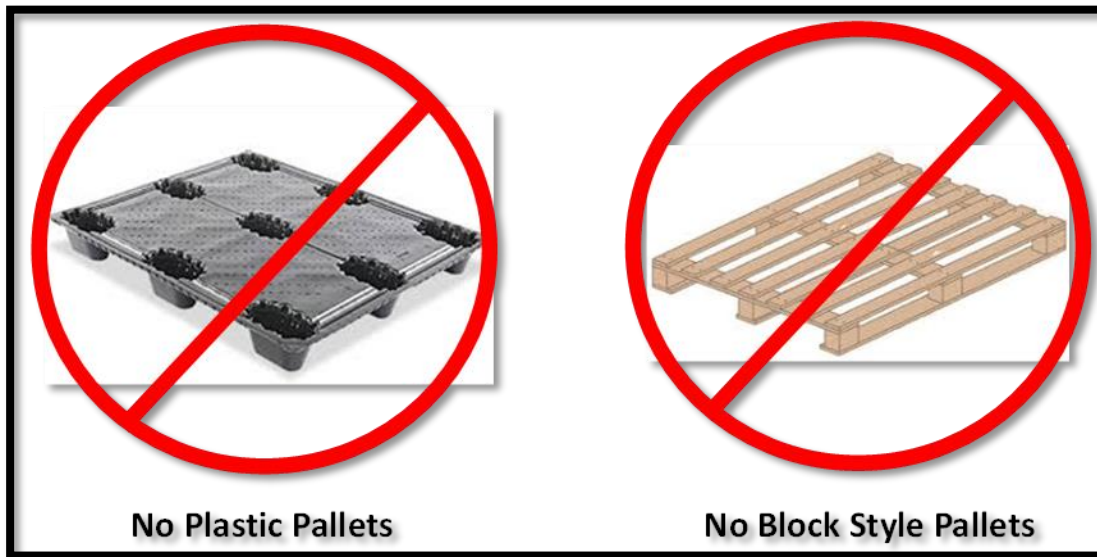
Please note: Block style, cardboard or plastic pallets are not allowed to be shipped to PG&A distribution centers. Criteria for acceptable pallets is outlined in section 6.3.

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Fig. 3: Unacceptable pallets

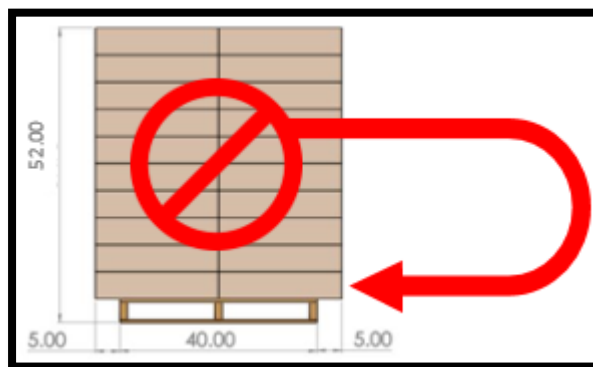
6.3. **BUILDING PALLETS FOR SHIPMENT TO A POLARIS DC**

6.3.1. **Pallet/carton labels**

Product Labels/and or Shipment/Carton Labels must be facing outward.

6.3.2. **Pallet overhang**

When building/loading pallets, the product must not overhang the pallet. Pallet overhang is never acceptable. If the product cannot fit on a standard pallet, suppliers will provide an oversized pallet or other solution to ensure that product is protected during shipment. Contact Packaging@Polaris.com with questions.

Fig. 4: Pallet overhang

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6.3.3. Pallet height

The preferred overall height (including pallet) shall not exceed 52 inches, though a limited exception to this rule is referenced in section 6.3.6 of this document. The 52-inch pallet height supports both the double stacking of pallets for efficient transportation and DC rack elevations.

6.3.4. Securing pallet load

All packaged product must be secured to prevent the load from shifting during transit. Stretch wrapping or shrink wrapping the complete load to the pallet are preferred methods. If required, plastic banding is permitted. Metal banding or strapping is prohibited.

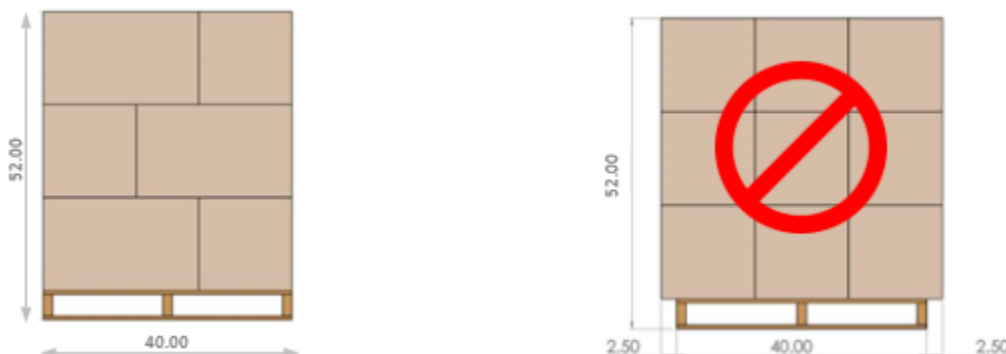
6.3.5. Product palletization

To maximize stability of pallets during shipment, as well as movement and storage in the warehouse, the following standards should be leveraged as appropriate for the packaged product dimensions. Product labels/and or shipment/carton labels must face outward.

- Interlocking – most preferred

Where the product dimensions allow, packaged product shall be interlocked without exceeding length x width x height dimensions.

Fig. 5: Interlock (left) is preferred



- Column stacked

If the packaged product dimensions do not allow for product to be interlocked on a pallet, column stacking should be leveraged. If this method is used, Polaris recommends additional shrinkwrap to stabilize the pallet load. Do not use metal banding to secure the product to the pallet.



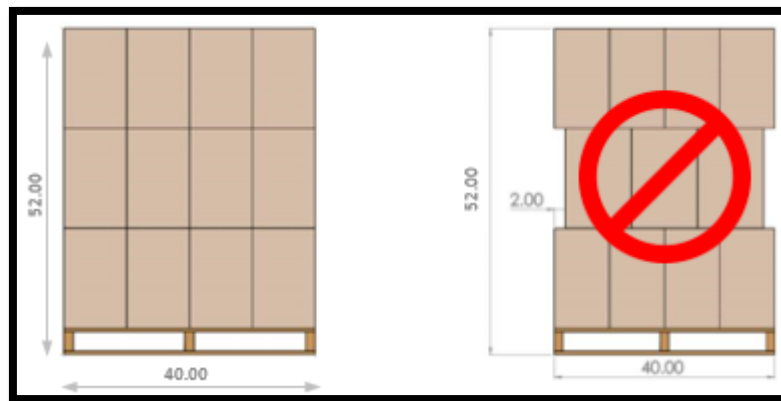
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To maximize compression strength and pallet density, packaged product shall be column stacked without exceeding the length x width x height dimensions.

Fig. 6: Column stacked



6.3.6. Oversized product requiring non-standard loading and/or non-standard pallet

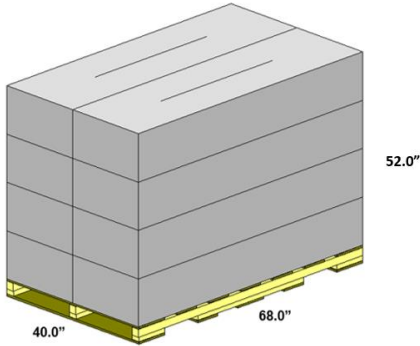
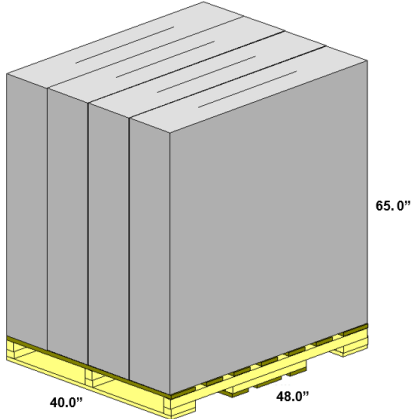
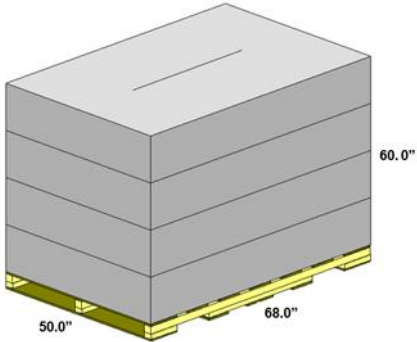
Some items are large or awkwardly shaped. It's possible that some product cannot be efficiently or safely stacked on a standard 48- x 40-inch pallet. Large product requiring the use of oversized pallets shall be reviewed on an individual basis. In these cases, exceptions are listed below in prioritized order.

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EXCEPTION PRIORITY	DESCRIPTION	PALLET FOOTPRINT
1	Exceeds length only to 52 inches	
2	Exceeds height – stacked vertically within 48 x 40, but exceeding unit load height	
3	Exceeds length and width	

6.4. SHIPMENT LABELS – PALLET CARTON/LABELS**6.4.1. Shipment label requirements**

Suppliers must meet the specific format requirements found in the *Supplier Delivery Manual*. The shipment label specifications in the manual are common for both

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Production and PG&A. The *Supplier Delivery Manual* is on the Polaris Supplier Portal under the Supplier Manuals tab.

When reviewing Shipment Label requirements, pay close attention to barcode requirements.

6.5. **PRODUCT LABELS**

Each sellable unit of a product must be marked with the Polaris part number (human readable and barcoded) along with the human readable Polaris item description, quantity and country of origin. Additionally, the Polaris Engineered or appropriate brand logo is required on the barcode labels. Labels are to be applied in a consistent or common location on each part. Label should not be placed on the primary cosmetic surfaces of the part.

6.5.1. **Product label specifics**

- Label stock must be white.
- Preferred label dimension is 1 by 3 inches – cannot be smaller.
- Appropriate Polaris logo must be included at the far left of the label. If necessary, contact product lead or buyer if uncertain about appropriate logo.
- Part number must be printed as human readable; part number not to include the “P.”
- Part number must also be printed as a barcode – barcode specifications below:
 - Barcode must be printed in black
 - Letter “P” must be used as a leading data identifier in front of the part number – e.g. P2878854
 - Barcode format must be “3 of 9” type (Code 39) – height must be minimum of 0.25 inches (6 mm).

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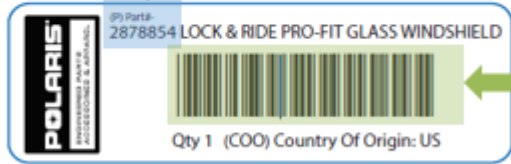
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Fig. 7: Barcode information

IMPORTANT! Polaris Barcodes are unique. Please review the information in this box carefully!

The data identifier (P) must be used when generating the barcode. Failure to include the data identifier will result in a barcode label that will not scan. Product with labels that do not scan will be rejected by Polaris or Polaris will pass on the cost to relabel product to the supplier.

Human Readable Part # 2878854
should not include the 'P' data identifier

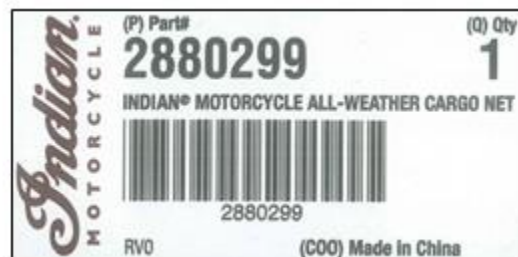


- The Part # Barcode **must** include the addition of the data identifier (P) – the barcode should read as “P2878854”
- Barcode Format is “3 of 9” (Code 39)

Polaris systems drop the first character read in the barcode. Failure to include the data identifier (P) will result in the scanner dropping the first digit of the part number and the label will be rejected.

- The part description must be printed as human readable.
- “Quantity” or “QTY” must be printed as human readable.
- There must be adequate quiet space around the entire barcode to facilitate ease of scanning.
- “Country of Origin” or “COO” must be printed as human readable at the bottom of the label. Contact Polaris Trade Compliance with questions about the correct country of origin: tradecompliance@polaris.com.

Fig. 8: Label samples (borders illustrated for clarity)





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6.5.2. Polaris brand logos

Polaris Engineered and other Polaris brand logos can be downloaded from the following website: <http://brand.polaris.com/brands/polaris-pg-and-a/#!logos>.

Contact PG&A buyer or Product Line Developer to obtain additional trademark use requirements and applicable specifications.

6.6. PACKING SLIPS

Each shipment must include a packing slip. The packing slip must be legible and match the BOL information. The packing slip must be typed – not hand written – in English using a common font.

6.6.1. Packing list content: Required information

All following fields must be included on the packing slip included with the product shipped to Polaris. Ensure a copy of the packing slip is physically attached to the product in addition to a copy of the packing slip given to the driver at the point of pick-up.

1. Ship-To Address: To prevent loss of shipments and minimize rework, it is imperative that the proper address, including the specific facility name and street address, appear on all packing lists and BOL.
2. Ship Date: Date when PG&A goods ship from supplier.
3. PO Number: Polaris generated Purchase Order number.
4. Part Number(s): Polaris part numbers.
5. Part Description(s): Polaris part description(s).
6. Quantity(ies): Number of sellable units per Part Number for a specific shipment – actual number of units shipped.
7. Supplier #: Supplier number assigned by Polaris.
8. Supplier Name: Name of supplier as set-up in Polaris system.
9. Shipped-from Address: Full address of the supplier's facility that shipped the product to Polaris.
10. Country of Origin (COO): List the proper Country of Origin for the product shipping to Polaris. Contact Polaris Trade Compliance with questions about the correct country of origin: TradeCompliance@polaris.com.
11. Supplier Contact Name: List a contact name at the supplier who a carrier or Polaris may contact regarding questions about the shipment.
12. Supplier Contact Phone Number: Phone number for the Supplier Contact Name (per above).



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13. Supplier Contact E-mail Address: E-mail address for the Supplier Contact Name (per above).
14. Multiple Boxed Items: If there are multiple boxed items, boxes must be labeled (1/3, 2/3, etc.). Packing slip location should be identified on box 1 of 3.
15. Invoice Number: Supplier-generated number.

7. SELLABLE UNIT PACKAGING REQUIREMENTS

7.1. GENERAL GUIDELINES

In many cases, the Polaris PG&A distribution center will ship supplier-packaged product directly to the Polaris customer (Ship Alone) vs. placing the supplier-packaged item into another box (Over Pack). Depending on the size of an order, a product could be either Ship Alone or Over Pack. Ship Alone product is exactly as it sounds – the product will be shipped by itself in the packaging that the supplier provides based on defined parameters – reference table in Section 7.3.9 of this document.

Over Pack product are items that will be shipped with other items in a larger box based on defined parameters – reference table in Section 7.3.5 of this document. Therefore, suppliers must ensure all individual units are packaged in a manner capable of withstanding the outbound shipment journey via the parcel or LTL network and the units arrive undamaged and in sellable condition for the Polaris customer.

It is the supplier's responsibility to ensure each product is appropriately packaged to ensure safe delivery, free of damage.

Packaging Requirements are not packaging specifications for any component packaging material or packaging design. It is not the intent for this document to provide packaging specifications. Rather, Packaging Requirements are designed to provide functional and performance requirements and to ensure reliable and common packaging platforms for Polaris handling and use.

Please note packaged product design varies by product size, weight and fragility. If the Packaging Requirements do not provide for adequate delivered product quality, Polaris will work with the supplier or direct the supplier to an ISTA-certified package engineering resource to determine what changes are necessary to ensure delivered product quality. Having approved packaging is part of supplier qualification: Failure to do so may result in delay or inability to qualify as an approved Polaris Supplier.



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7.2. **GENERAL PACKAGING REQUIREMENTS FOR ALL PRODUCT TYPES**

1. Shipping containers should be the correct size for the contents and should have minimal void space. The void should be filled on all sides of the product to protect it.
2. Manually handled containers should not exceed a gross weight of 40 pounds.
3. Tape or glue is the required method of box closure. Staples are not allowed for box closure.
4. Foam “peanuts” and newspaper are not allowed for use as void fill.
5. Examples of acceptable void fill:
 - Crinkle paper
 - Air pillows
 - Bubble wrap
 - Expandable foam
6. Mixed parts in a single box/crate are not permitted unless they are in separate boxes and clearly labeled.
7. A Polaris Product Label should be applied or printed on the outside packaging of each individual selling unit. Specifics for the Polaris Product Label are outlined in Section 6.6 of this document.
8. If included, hardware kits must be secured in a manner that they cannot move inside the packaging – tape is often insufficient when attempting to secure a hardware kit inside a box as the handling and vibration during the shipment process causes the hardware kit to break loose and move within the box, potentially causing damage to the major component part. Kits should be packaged in either a separate box within the overall package or a plastic bag that is properly secured within the overall package.

7.3. **PRODUCT TYPE SPECIFIC PACKAGING REQUIREMENTS**

The following content provides specific packaging and labeling guidance for specific types of product beyond the General Packaging Requirements listed above – suppliers shall refer to the section that most closely matches the product it supplies to Polaris. It is possible that more than one section below will apply to a supplier’s product, such as a painted gas tank packaged to Ship Alone.



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7.3.1. Apparel – T-shirts, jackets, gloves, etc.

1. Each sellable unit must be in a sealed polybag so product cannot fall out during shipping or handling.
2. Polybags with an opening of 5 inches or larger when measured flat are required to have a suffocation warning. For example:

Warning: To avoid danger of suffocation, keep this plastic bag away from babies and children. Do not use this bag in cribs, beds, carriages or playpens. This bag is not a toy.
3. Outer poly bags for apparel should be Clear Polyethylene at least 1.25 mil thick with the following specifications:
 - a. Low density, virgin Polyethylene
 - b. Medium slip, Hi Anti Block
 - c. No BHT
 - d. Puncture resistant
 - e. Import – PE 04 Polyethylene bags are acceptable
 - f. Small holes in the bag are acceptable, but the product cannot fall out
4. Unacceptable poly bags include Dry Cleaner bags and Import poly bags made from Polypropylene, commonly referred to as PP.
5. Each sealed bag containing a single selling unit must have a product label or the hangtag visible without a need to open the bag.
6. Hangtags
 - a. Must be affixed to the item
 - b. Must be visible after item is bagged
 - c. Must contain a part label

Fig. 9: Hang tag (borders illustrated for clarity)



- d. For specifics on the appropriate brand standard for hang tags, please refer to the Packaging Guidelines communicated by the Polaris

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Marketing Team:

https://www.polarissuppliers.com/Files/Policy_Procedure/Delivery/chapters/PolarisEngPackManual.pdf

7. Hangers – contact Product Lead or Buyer for specific apparel hanger requirements.

7.3.2. **Electronics – speakers, radios, LCD screens, etc.**

1. Product packaging should be designed to protect internal and external components from damage.
2. Supplier is responsible for conformance with all – local, state and federal – regulations pertaining to Electronic devices and all required certifications and markings. For example, markings for heavy metals or lithium-ion batteries.
3. Supplier is responsible for packaging items to protect against damage from moisture or static electricity if applicable.
4. If included, hardware kits must be secured in a manner that they cannot move inside the packaging – tape is often insufficient when attempting to secure a hardware kit inside a box as the handling and vibration during the shipment process causes the hardware kit to break loose and move within the box, potentially causing damage to the major component part. Kits should be packaged in either a separate box within the overall package or a plastic bag that is properly secured within the overall package.

7.3.3. **Glass**

1. Product should never be shipped in packaging that has glass-on-glass contact. Partitions and layer barriers are required for this type application.
2. Partitions and layer barriers should be manufactured of a substrate capable of protecting product from impact damage from normal handling and transportation.
3. A shipping container should also be engineered to properly protect this type of product from impact and handling damage in Full Truckload, LTL and Parcel shipping environment.
4. All cartons containing fragile products should be clearly marked with a graphic icon depicting the fragility of the product.

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1. Glass products should be packaged so they will not break and possibly create a safety hazard during storage, shipment preparation or shipment to the customer. A fragile product must be packaged in a six solid-sided box.
2. Packaging must be designed to ship in any orientation (on any side of the package). Products that are relatively large but flat – such as side-by-side doors, windshields, roofs and hoods – should have packaging designed to ship on any of the four narrow sides of the carton so the package can be shipped upright, not flat. Experience and testing has proven this to be the optimal manner for Polaris to ship single quantities of these products to customers.
3. If included, hardware kits must be secured in a manner that they cannot move inside the packaging – tape is often insufficient when attempting to secure a hardware kit inside a box as the handling and vibration during the shipment process causes the hardware kit to break loose and move within the box, potentially causing damage to the major component part. Kits should be packaged in either a separate box within the overall package or a plastic bag that is properly secured within the overall package.

7.3.4. Hazardous materials – batteries, solvents paint, etc.

1. Shipping cartons that contain hazardous material must be marked within DOT regulations.
2. Hazmat markings cannot be obstructed by other labeling.
3. Hazmat labels cannot be folded over the edge of the shipping carton.
4. Supplier is responsible for conformance with all regulations – local, state and federal – pertaining to dangerous, hazardous and/or toxic material packaging.
5. If included, hardware kits must be secured in a manner that they cannot move inside the packaging – tape is often insufficient when attempting to secure a



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hardware kit inside a box as the handling and vibration during the shipment process causes the hardware kit to break loose and move within the box, potentially causing damage to the major component part. Kits should be packaged in either a separate box within the overall package or a plastic bag that is properly secured within the overall package.

7.3.5. **Over Pack items**

Over Pack items are items labeled or polybagged and labeled by the supplier, but not expected to ship “as is.” Over Pack items are placed into a shipping container by Polaris order packers at the time of shipment to the customer. Examples are wire harnesses, apparel, poly bagged and labeled parts.

1. Designation of Ship Alone or Over Pack should be determined prior to final costing and prior to first shipment to Polaris. Reference the guideline tables within this document and pictures of actual Over Pack items in the appendix to determine whether a product is Ship Alone or Over Pack. Questions beyond this guidance based on the specific attributes of a product should be directed to the Product Lead, Sourcing Lead or Buyer.
2. If a label is applied directly to the product (no bag or box), labels should be placed in a consistent location for all units of that part number and not on an outward facing or cosmetic surface of the part upon installation.
3. If product is polybagged and labeled, the label must be visible without opening the bag – either placed on the outside of the bag or in a location on the part where the label is visible without opening the polybag.

Fig. 11: General guidelines for Over Pack items

Parameter	Description
Weight	Part < 50 lbs.
Cube	Part Dimensions < 2000 Cu. In.
Complexity	Part Contains Single Component
Hardware Kits	Part Hardware Can Be Attached to Create Single Unit
Value	Part Value < \$500
Packaging	Part NOT Packaged for Retail



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7.3.6. Painted items – motorcycle gas tanks, panels, frames, bumpers, etc.**7.3.6.1. Liquid painted**

1. Painted parts and accessories shall have a protective layer of material approved for direct contact with surface of cosmetic products.
2. Approved materials: Clean Guard, Spunbond polyester, HDPE bags.
3. Unapproved materials: bubble wrap, pastic bags, paper-based materials, plastic films.
4. Finished part must be tightly wrapped in an approved material to minimize movement of the material against the finished surface.
5. Finished surface must be completely wrapped in an approved material and must never be in direct contact with void fill or protective outer packaging container materials.
6. Part movement within the packaging should be minimized by usage of void fill.
7. If included, hardware kits must be secured in a manner that they cannot move inside the packaging – tape is often insufficient when attempting to secure a hardware kit inside a box as the handling and vibration during the shipment process causes the hardware kit to break loose and move within the box, potentially causing damage to the major component part. Kits should be packaged in either a separate box within the overall package or a plastic bag that is properly secured within the overall package.
8. Liquid painted parts are highly susceptible to damage due to poor packaging and/or the packaging of parts prior to full paint cure time. Prior to sending product to Polaris, packaged, painted parts and accessories must be tested by the supplier or a qualified third party to verify it will withstand the rigors of shipment. See testing requirements in the Appendix of this document. These results must be furnished to Polaris for review and approval. If compliant, shipment of product will commence.

7.3.6.2. Powder coated

1. Coated parts and accessories shall have a protective layer of material approved for direct contact with surface of cosmetic surface.
2. Coated parts must be tightly wrapped in an approved material to minimize movement of the material against the finished surface.
3. If included, hardware kits must be secured in a manner that they cannot move inside the packaging – tape is often insufficient when attempting to secure a hardware kit inside a box as the handling and vibration during the shipment



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process causes the hardware kit to break loose and move within the box, potentially causing damage to the major component part. Kits should be packaged in either a separate box within the overall package or a plastic bag that is properly secured within the overall package.

4. Coated parts movement within the packaging should be minimized by usage of void fill.

7.3.7. **Retail packaging**

Retail Packaging is packaging designed to be merchandised on a dealer's sales floor – winches, Indian accessories, etc.

1. Each piece/package must have a product label applied to the package or printed directly on the package.
2. If included, hardware kits must be secured in a manner that they cannot move inside the packaging – tape is often insufficient when attempting to secure a hardware kit inside a box as the handling and vibration during the shipment process causes the hardware kit to break loose and move within the box, potentially causing damage to the major component part. Kits should be packaged in either a separate box within the overall package or a plastic bag that is properly secured within the overall package.
3. Printed boxes or other packaging intended for retail display on dealer shelves should be protected (placed inside another box, heavy-duty heat shrink plastic, etc.) to eliminate scuffing, rips, tears, holes, dents or other cosmetic damage to the retail box.

7.3.8. **Rugs or mats**

1. Rugs and mats need to be rolled and bagged as individual selling units.
2. The polybag should be at least 3 mm thick, completely sealed and include a Polaris Product Label on the outside of the polybag.
3. White or clear polybags are acceptable.

7.3.9. **Ship Alone/Ship “As Is”/large items**

1. Designation of Ship Alone or Over Pack should be determined prior to final costing and prior to first shipment to Polaris. Reference the guideline tables and pictures of actual Over Pack items in the Appendix of this document to determine whether a product is Ship Alone or Over Pack. Questions beyond this guidance based on the specific attributes of your product should be directed to the Product Lead, Sourcing Lead or Buyer.
2. Each piece/package must have a product label on the outside of the package – always toward the top left corner of the package.



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3. Part movement within the packaging should be minimal.
4. No excess airspace. Ensure any void is filled. All parts shall be secured, no loose parts in boxes/cartons such as nuts and bolts (e.g. attach with zip ties, tape to the main component, etc.).
5. Parts and accessories with jagged edges shall have an extra layer or protective cover must be applied to the applicable edges to avoid damage.
6. If included, hardware kits must be secured in a manner that they cannot move inside the packaging – tape is often insufficient when attempting to secure a hardware kit inside a box as the handling and vibration during the shipment process causes the hardware kit to break loose and move within the box, potentially causing damage to the major component part. Kits should be packaged in either a separate box within the overall package or a plastic bag that is properly secured within the overall package.
7. Packaged part should be tested by the supplier or a qualified third party to verify it will withstand the rigors of shipment to the Polaris customer. See section 8 of this document.

Fig. 12: General guidelines for Ship Alone

Parameter	Description
Weight	Part > 50 lbs.
Cube	Part Dimensions > 2000 Cu. In.
Complexity	Part Contains Multiple Components
Hardware Kits	Part Hardware Cannot Be Attached to Create Single Unit
Value	Part Value > \$500
Packaging	Part Packaged for Retail

8. **SELLABLE UNIT PACKAGE TESTING**

8.1. **GENERAL STATEMENT**

Polaris may require that products pass an ISTA transit test in its own packaging to ensure products will withstand the rigors of small parcel or LTL transportation and arrive to the Polaris customer in perfect condition. Polaris therefore recommends that all suppliers have their product proactively transit tested.

To minimize package testing costs, Polaris allows suppliers flexibility in qualifying packaged product. Package drops typically lead to damaged product. Two testing options are available depending on product damage risk. To evaluate product damage risk, consider both the product's replacement cost and the likelihood of



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damage. Valuable or delicate products would be high risk. Low cost or durable products are typically considered low risk.

8.1.1. **Package testing options**

- Low-risk items can be tested by performing only the drop test section of ISTA test plan in your own warehouse.
- High-risk items should be tested at an approved ISTA Certified Lab.

The primary pass criteria shall be the product condition meeting Polaris quality metrics for acceptance. Acceptance criteria is outlined in section 8.2 of this document.

If supplier packaging does not pass the distribution testing protocol, the supplier must improve the packaging and or product quality to achieve the performance and quality necessary for acceptance. Requests for an exemption to this requirement must be approved in writing by Polaris by contacting Packaging@polaris.com.

8.2. **ACCEPTANCE CRITERIA**

Product damage can be any condition that causes the product to not meet its performance specifications. Product damage can include both structural and cosmetic damage that makes the product unacceptable to the customer and would result in:

- A. replacement cost, or
- B. discounted product.

Product(s) must not be missing, torn, dented, scratched, cracked, broken, crushed, bent, wrinkled, wet, or have smeared artwork as a result of testing.

Examples of general acceptance are as follows:

- The product functions per its original intention.
- Product is damage free; no structural damage including no detached, loose, fractured or deformed materials.
- Product cosmetic areas are not degraded beyond manufacturing or final acceptance criteria. Cosmetic damage is defined as non-structural defect that does not affect the function or safety of the product that would also be deemed unacceptable by the customer.

Examples of general product failure criteria are as follows:

- Failure of the product to perform as originally intended.
- Damage that negatively impacts the sale of the item such as chipped and/or scuffed paint, dents, scratches, tears, blemishes, color variations, etc.



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Secondary and protective packaging:

- The purpose of the package is to absorb, distribute or modify the energy transmitted by the distribution environment and to protect and preserve the product in its original, undamaged condition.

Packaging must support the product and not show damage to the product during or after completion of each test identified in the test procedure.

- Some package damage and degradation to the secondary and/or protective packaging is expected and acceptable.
- Unacceptable package degradation may be defined, but not limited to:
 - Any structural or cosmetic damage that would cause the customer to believe the product inside is damaged, even if the product itself is not damaged.
 - Any change in package condition, including fractured or deformed materials that may result in product damage or permanent displacement of the product and accessories from their intended position.
 - Edge ruptures to the shipper (carton, box, pallet, etc.) to the extent that it can no longer contain the product, support the product's weight or facilitate the movement of the packaging in the distribution network.

8.3. DAMAGES

Polaris does not allow any damages – broken parts, scratched, scuffed, or dented surfaces, etc. – on the product itself. The level of package degradation should be kept to a minimum. Though it's understood that package degradation is unavoidable, the objective is to present the customer with an intact package that does not show any major rips or tears in the corrugate.

9. PG&A CONTACTS

Supplier management and packaging	Packaging@polaris.com
Label testing	vermreceiving@polaris.com
Purchasing	Contact appropriate PG&A buyer
Product development	Contact appropriate Product Lead or Purchasing Lead
Logistics	LogisticSupport.PGA@polaris.com



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10. **FREQUENTLY ASKED QUESTIONS**

Q: Do I have to test all packaged-products?

A: Yes, you are responsible for delivered quality of all products you ship to Polaris. Polaris wants to ensure current packaging is effective in sustaining the rigors of the supply chain ensuring a positive Polaris brand experience for the customer.

Q: Do I need to use a test lab to conduct drop tests?

A: No, you do not need to use a test lab to complete the drop sequence outlined in packaging guideline. However, Polaris recommends an ISTA certified test lab complete the testing of all packaging. Be sure test reports are clear in stating where and who performed the testing. If packaging concerns cannot be readily addressed by internal testing, it will be the responsibility of the supplier to work with an ISTA certified lab to fully certify their packaging.

Q: Why am I being required to package test?

A: Polaris has realized shipping damage caused by inadequate packaging design. Poor packaging leads to a degraded customer experience as well as damage and warranty claims. And in the eyes of our customers, damaged product is the same as a service failure.

Q: Do I need to redesign my packaging prior to initial drop tests?

A: No, suppliers are expected to drop test current packaged product.

Q: What is the minimum level of testing required to ship through Polaris?

A: A drop test sequence is outlined in section 12.2.1 of this document.

Q: What information should be in the test report?

A: Supplier is required to define acceptance criteria, photograph before/after testing and provide general observations and conclusion of the defined, packaged-product in scope. The test reports should be clear in proving the product made it through testing in pristine condition – no damage. An ISTA test lab will provide all necessary pictures and paperwork needed.



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NOTE: This information should be sent to Polaris for review prior to the start of product shipping. By doing this as a supplier, suppliers greatly reduce the chance of Polaris filing a claim for damaged goods or refusing shipment of damaged product.

Q: What if I pass the preliminary test outlined in the packaging guideline but still have recurring damage?

A: Please contact a Polaris Point of Contact listed in this document for further discussion. If the issue cannot be resolved internally, Polaris will require the supplier to work with an ISTA test lab to improve the packaging design. Until the issue is resolved, Polaris retains the right to refuse shipment of product or charge the supplier to rework/resolve packaging deficiencies.

Q: After completing drop tests, what do we do with our test report highlighting results?

A: Please file test reports and Polaris will reach out for reporting. Send test reports to Packaging@polaris.com.

Q: If I am having trouble passing the drop test sequence, who can I contact for packaging design support?

A: Please contact Packaging@polaris.com for support. If the issue cannot be resolved internally, Polaris will require the supplier to work with an ISTA test lab to improve the packaging design. Until the issue is resolved, Polaris retains the right to refuse shipment of product or charge the supplier to rework/resolve packaging deficiencies.

Q: Can I ship product in the same returnable packaging I use to ship orders to the plants?

A: No. Product shipped to PG&A Distribution Centers needs to be packaged per the requirements found in this document. Please work with a PG&A contact or email Packaging@polaris.com with questions.

Q. How will I know if my packaging is performing to Polaris Guidelines?

A: Polaris has several checks and balances throughout its supply chain, including gathering feedback on packaging performance in terms of damage claims by item, damage as a percentage of an item shipped and the ability to report specific damage



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attributes by item that are tied to packaging. If an item is identified as sustaining significantly more product damage than similar items in any of these categories, Polaris will work with the supplier to find an agreed upon solution for packaging problems.

11. IMPORTANCE OF PACKAGING

Packaging product properly is as critical as producing a high-quality product. If a product is not preserved while shipped, Polaris ends up sending damaged product. Receiving damaged product is a service failure to our customers. The absolute worst thing Polaris can do to customers is to send damaged product. Polaris is ever vigilant on working with suppliers to ensure packaging meets or exceeds customer expectations.

Beyond information outlined in this document, the most important thing a supplier can do with packaging is to ask: "Does this packaging adequately protect my product so it will arrive to my customer undamaged?"

To make sure that Polaris suppliers are set-up for success, follow the guidelines. If unsure, partner with Polaris Supplier Management.

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12. APPENDIX

12.1. **PROTOCOL DETERMINATION**

Vendors shall define the shipping unit in terms of size, weight and form of construction. Based on packaged product attributes, goods will either ship small parcel or LTL to the dealer or end customer. The following table will provide guidance to determine whether the shipping container will be manually or mechanically handled from DC to dealer.

<p>Mode: small parcel</p> <p>Packaged products 150 pounds (68 kg) or less</p> <p>Test procedure: ISTA 3A</p> <p>Volume mix: 80 percent</p>	<p>Mode: LTL</p> <p>Packaged products 150 pounds (68 kg) or more</p> <p>Test procedure: ISTA 3B</p> <p>Volume mix: 80 percent</p>
<p>Manual handling at consolidation centers; conveyors; brick loaded in all orientations.</p> 	<p>Mechanical handling at cross-dock; double stacked; top load is uncertain.</p> 

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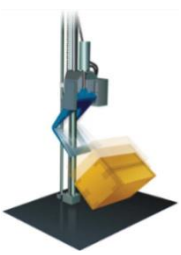
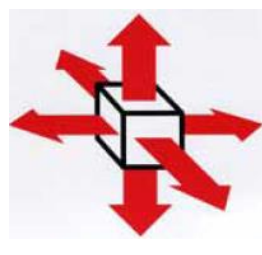

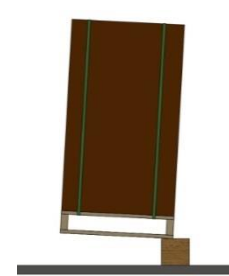
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12.2. PACKAGE TESTING

To minimize packaging testing costs, Polaris allows vendors flexibility in qualifying packaging design. Two options available include:

1. Perform drop testing in your own warehouse – Low risk items (see section 8.1.1 of this document).
2. Perform testing at approved ISTA Certified Lab – High risk items and liquid painted parts (see section 8.1.1 of this document).

SUMMARY OF TESTING			
Mode	Test Procedure	Test Description	Equipment Summary
Small Parcel	ISTA 3A	Packaged-Products 150 pounds (68kg) or less	Atmospheric conditioning, compression, fixed displacement or random vibration, shock testing
Less-Than-Truckload (LTL)	ISTA 3B	Packaged-Products 150 pounds (68kg) or more	Atmospheric conditioning, compression, random vibration, shock testing

Small Parcel Equipment	Small Parcel Drop Face	LTL Handling Equipment	LTL Drop Edge
			



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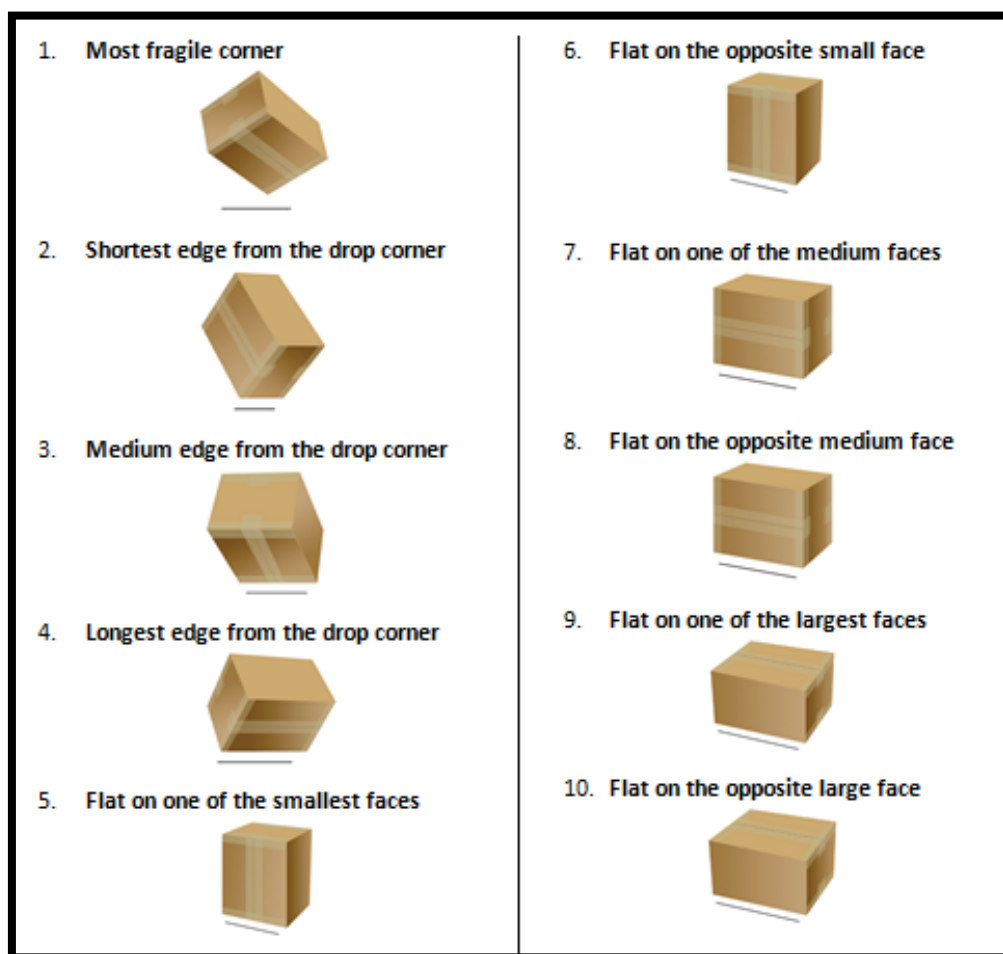
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12.2.1. Preliminary drop sequence – test performed in supplier’s warehouse

Small Parcel – Free Fall Drops			LTL – Rotational Edge Drops		
<70 lbs.	>70 <150 lbs.	Drop Face	<500 lbs.	>500 lbs.	Drop Face
30 in	24 in	6 Face, 3 Edge, 1 Corner	9 in	6 in	1 Edge, 1 Corner

Each package must be tested per given drop test sequence. Below is the sequence that must be tested with the same package. The most fragile corner is the start point of the drop test.

Fig. 13: Test sequence



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12.2.2. ISTA certified lab testing

SUMMARY OF TESTING			
Mode	Test Procedure	Test Description	Equipment Summary
Small Parcel	ISTA 3A	Packaged-Products 150 pounds (68kg) or less	Atmospheric conditioning, compression, fixed displacement or random vibration, shock testing
Less-Than-Truckload (LTL)	ISTA 3B	Packaged-Products 150 pounds (68kg) or more	Atmospheric conditioning, compression, random vibration, shock testing

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12.2.3. Package testing check sheet

Responsible	Date	Activity
		Define packaged-product size and weight.
		Outbound shipping method from DC is determined.
		Production sample for package testing created.
		Packaged product prototype is identical to finished goods packaging (i.e. Painted parts need to be painted with protective film applied).
		Production sample inspected (pre-pictures required).
		Appropriate test protocol is referenced for initial drop sequence.
		Packaged-product prototype subjected to drop test using appropriate test protocol (Post-Pictures required).
		Formal or Informal test report of the packaging performance prepared for submittal. Includes: product details, test date, fragilities, pics, testing observations.
		Passed test report submitted to packaging@polaris.com.
If packaging fails, reach out to Polaris contact for further discussion.		

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Fig. 14: Example corrugate specifications for LTL shipments

NMFC Item 222 – Section 3: Minimum Bursting Test Requirements			
Maximum Weight of Box and Contents (pounds)	Maximum Outside Dimensions, Length, Width and Depth Added (inches)	Minimum Bursting Test (inch ounce per inch of tear)	Minimum Combined Weight of Facings (pounds per 1,000 square feet)
SINGLEWALL CORRUGATED FIBERBOARD BOXES			
20	40	125	52
35	50	150	66
50	60	175	75
65	75	200	84
80	85	250	111
95	95	275	138
120	105	350	180
DOUBLEWALL CORRUGATED FIBERBOARD BOXES			
80	85	200	92
100	95	275	110
120	105	350	126
140	110	400	180
160	115	500	222
180	120	600	270
TRIPLEWALL CORRUGATED FIBERBOARD BOXES			
240	110	700	168
260	115	900	222
280	120	1100	264
300	125	1300	360
SOLID FIBERBOARD BOXES			
20	40	125	114
40	60	175	149
65	75	200	190
90	90	275	237
120	100	350	283

NMFC Item 222 – Section 3: Minimum Edge Crush Test Requirements		
Maximum Weight of Box and Contents (pounds)	Maximum Outside Dimensions, Length, Width and Depth Added (inches)	Minimum Edge Crush Test (ECT) (pounds per inch width)
SINGLEWALL CORRUGATED FIBERBOARD BOXES		
20	40	23
35	50	26
50	60	29
65	75	32
80	85	40
95	95	44
120	105	55
DOUBLEWALL CORRUGATED FIBERBOARD BOXES		
80	85	42
100	95	48
120	105	51
140	110	61
160	115	71
180	120	82
TRIPLEWALL CORRUGATED FIBERBOARD BOXES		
240	110	67
260	115	80
280	120	90
300	125	112

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Fig. 15: Example corrugate specifications for Parcel shipments

Box Strength Guidelines			
A Maximum Weight of Box and Contents (lbs.)	B Size Limit of Box (inches)* L + W + H	C Bursting Test (lbs. per sq. in.)	D Edge Crush Test (ECT) (lbs. per in. width)
SINGLE-WALL CORRUGATED CONTAINERS			
30	75	200	32
40	75	200	40
50	85	250	44
65	95	275	55
80	105	350	N/A
DOUBLE-WALL CORRUGATED CONTAINERS			
60	85	200	48
80	95	275	51
100	105	350	61
120	110	400	71
140	115	500	82
150	120	600	N/A

"The size limit on the above chart refer to the maximum size of a box that can be manufactured based on the strength of the corrugated material. The size limits specified in this chart and on the Box Maker's Certificate are unrelated to the length and girth measurements used by Parcel Carriers for dimensional measurements.

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Fig. 16: Over Pack item examples



Fig. 17: Ship Alone examples





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