

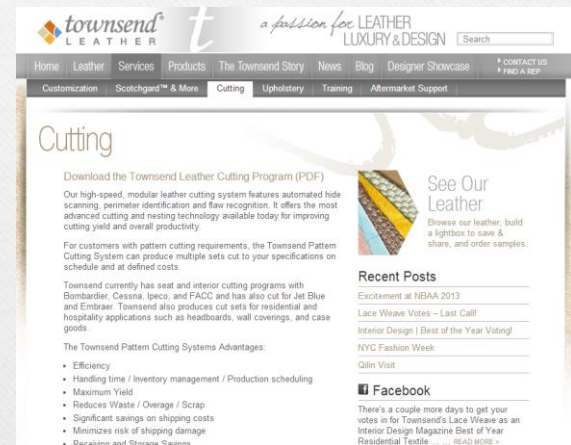
A graphic featuring two blue leather gloves, one on the left and one on the right, framing the text. The text "CUTTING PROGRAM" is written in a large, bold, blue, sans-serif font, with the "C" and "P" being significantly larger than the other letters.

# CUTTING PROGRAM

Townsend Leather Cutting Program 2014

VISIT TOWNSENDLEATHER.COM TO  
READ MORE ABOUT OUR CUTTING  
PROGRAM AND TO SEE IT IN ACTION

[www.townsendleather.com/services/cutting](http://www.townsendleather.com/services/cutting)



# CUTTING PROGRAM BENEFITS

## ► MAXIMIZE YIELD

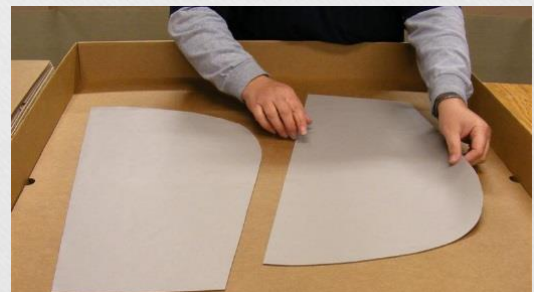
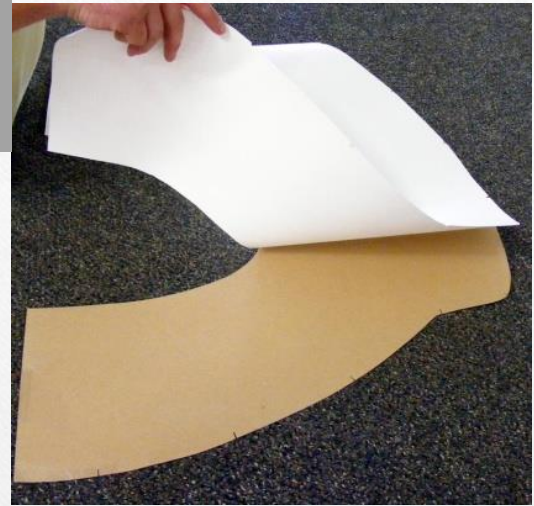
- Hides are inspected and graded according to pattern needs
- Not all patterns need to be cut from “A” areas; inspecting, grading and scanning the hides ensures that the best area of the hide is used for each pattern
- Computer scanned and software utilized to nest each pattern to the absolute mathematically best possible yield
- No need for “rough-cutting” the patterns out as done, when cut by hand





## ► MAXIMIZE QUALITY

- Our experienced experts inspect the leather before and after being cut ensuring each pattern is exactly to your specifications
- Human error is inevitable when cutting by hand, but the computer technology allows cutting to be precise and repeatable
- Cut patterns come shipped flat in boxes - there is no concern of roll lines, wrinkles, fold lines, or a need to “freshen” the hides if they stay on the shelf for years



## CUTTING PROGRAM BENEFITS

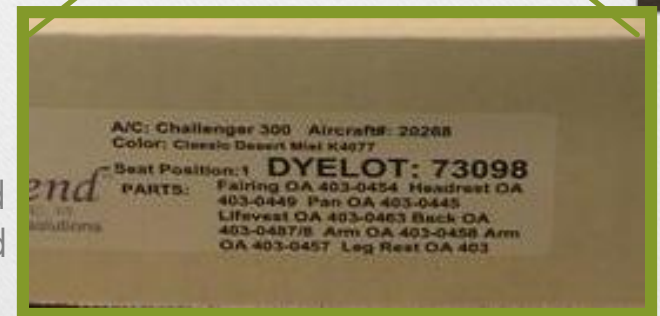
### ▶ **MAXIMIZE FINANCIAL SAVINGS**

- ▶ Our Cutting program is a Fixed Cost – you pay for the parts you need and nothing more
- ▶ When you buy a full hide, you purchase all the inherent scrap and pay for each pattern individually
- ▶ Because there is less weight, it costs less to ship cut parts vs full hides
- ▶ Over time, significant shipping cost savings can be expected
- ▶ No need to waste money to ship full hides (in which case, you are ultimately paying to ship a certain amount of scrap for each hide when not cut)
- ▶ You spend less money for warehouse space to accommodate storage of leather as dramatically less space is needed with cut parts



## ► MAXIMIZE TIME SAVINGS

- A full hide of patterns can be cut precisely in minutes on our tables
- Parts can be put to immediate use as soon as received
- Parts come in pre-labeled boxes for quick and easy storage that can be inventoried, located and used instantly when needed with far less hassle than dealing with whole hides





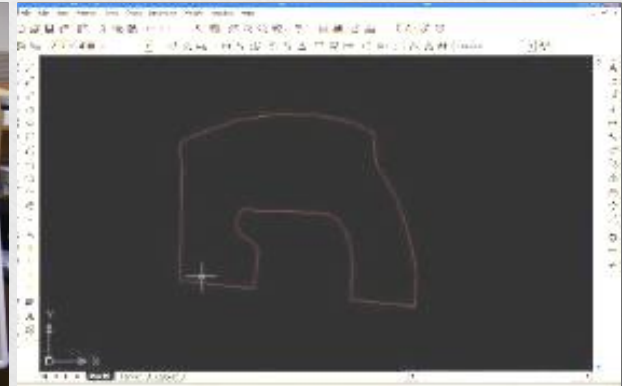


## ► MINIMIZE WASTE & ENVIRONMENTAL IMPACT

- Because scrap and overage is inevitable in any production process, Townsend consolidates its scrap and is able to find resources to use this scrap
- Most upholstery shops are unable to do anything with their scrap other than put it in the dumpster, but Townsend Leather is able to provide scrap to repurposing companies that can transform the scrap into new products
- Townsend is able to keep leather out of the waste stream, this includes any scrap produced during the cutting process
- You can reduce your environmental impact by eliminating your production of scrap leather with the Cutting Program
- Wasted time is reduced by getting just what you need upon receipt of shipment and being able to put it to use immediately
- Wasted money and hidden costs are reduced by paying for only what you need and getting the right quality for each cut part
- Wasted time and money on rejected parts is eliminated, since parts are cut to your exact specifications and double inspected before shipping; there is essentially no risk of receiving parts that will be rejected and cannot be used
- Your carbon footprint is reduced by shipping less weight and producing less scrap when using the Cutting Program

## DETAILED DIGITIZED PATTERNS

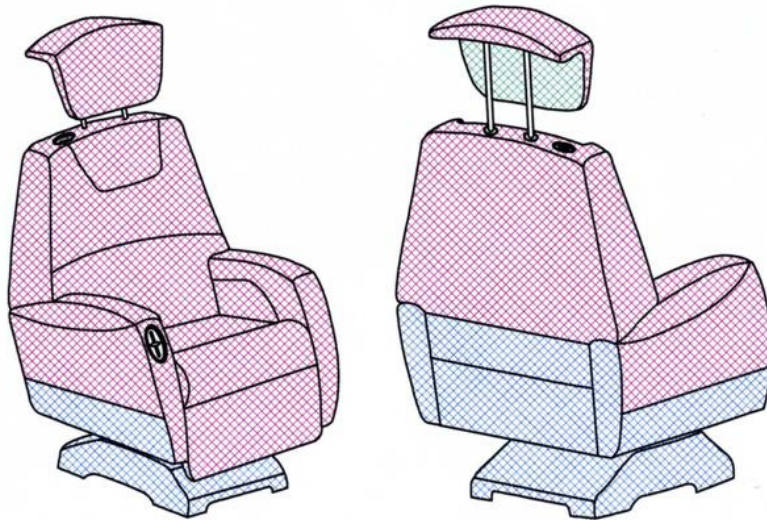
We can duplicate any pattern to your specifications. Townsend customizes each pattern to include notch depths, punch size, Punch / Notch locations and seam allowances all within each pattern.





## DETAILED DIGITIZED PATTERNS ZONES

High	Visable	Zone A	
Medium	Visable	Zone B	
Low	Visable	Zone C	



## DETAILED DIGITIZED PATTERNS

# ALL ZONES

Developing zones within the patterns determines the importance of each part and the quality expected.



# INSPECTION

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Each hide goes through a complete inspection. The inspectors grade the hides including different zones to identify each characteristic of every hide. This procedure is a 3 step process.

Step 1 is visually inspecting the hide for anything that is clearly visible.





## INSPECTION

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Step 2 includes pulling the leather over foam to give an upholstered look. This step allows the inspector to view the leather in depth. The foam allows you to see imperfections that you didn't see in step one.



## INSPECTION

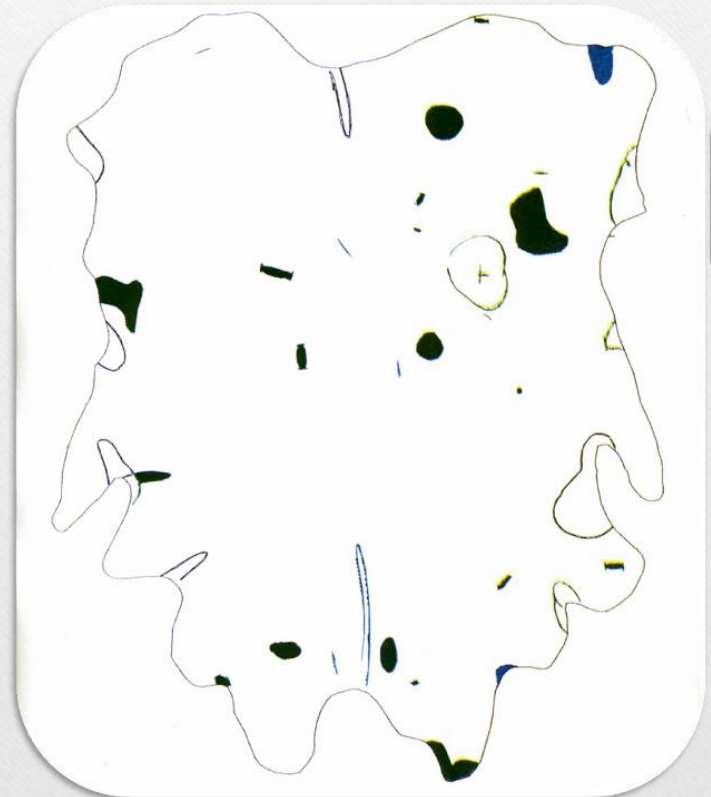
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Step 3 is the last step that allows the inspector to identify different characteristics that are usable in specific zones (examples: Neck wrinkles, loose grain, and minor flaws). This detailed process ensures quality and the logic of each hide to be fully utilized throughout the cutting process.



## HIDE SCANNING

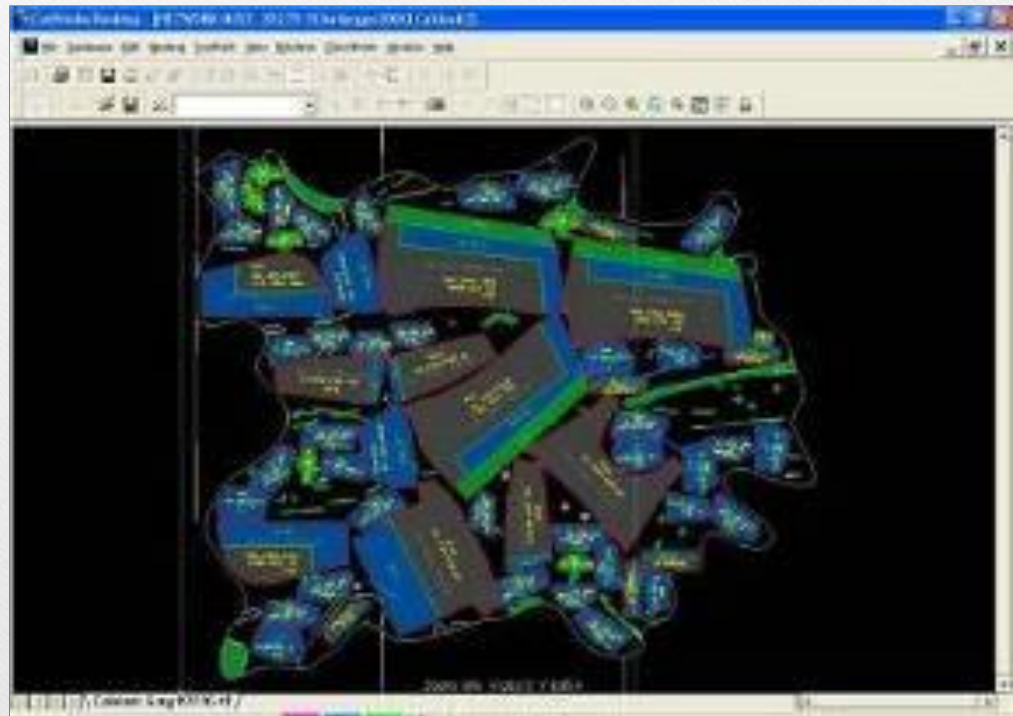
After being inspected each hide is digitally scanned





## PATTERN LOGIC

Patterns logic helps utilize each hide to the fullest. It also ensures the quality of each part in the way it is nested and cut.



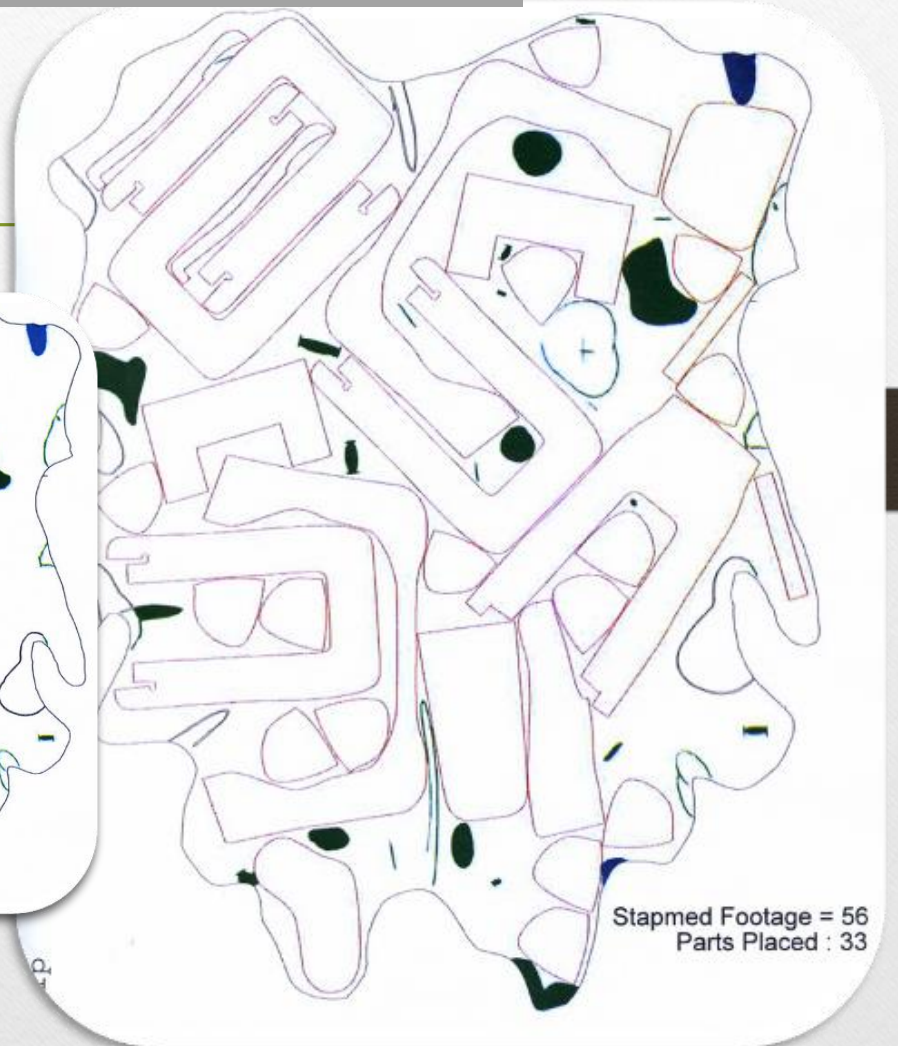
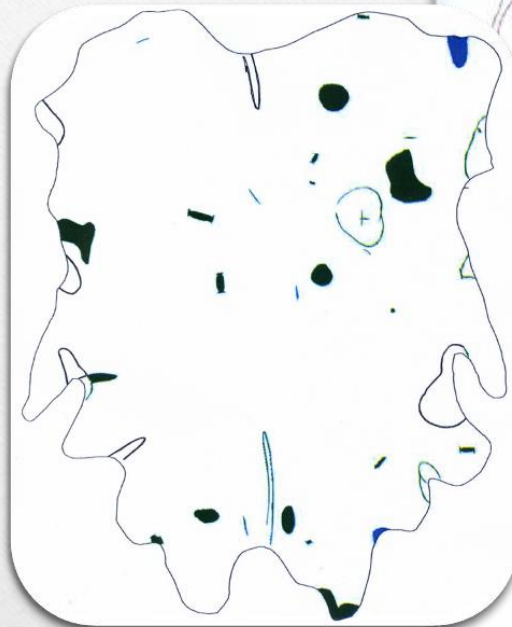
## PATTERN NESTING

The scanned hide is fully utilized  
for as many patterns as possible



# NESTING

Before  
and  
after  
the  
Nesting  
Process



Stapmed Footage = 56  
Parts Placed : 33



## Before and after the Nesting Process



# INSPECTION

After the cutting process is complete the parts get sorted accordingly. Each part is inspected for size, pattern conformance, and quality.

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# CUTTING





# PACKAGING AND SHIPPING

Townsend customizes packing  
according to the customers needs

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# ESTABLISHING A CUTTING PROGRAM

## THE STEPS TO SET UP A CUTTING PROGRAM:

- **Preliminary information**
  - Aircraft Information
  - Make and Model of Aircraft
  - Model build rate and projections
  - Number of seats and configurations possible.
- **Patterns:**
  - Provide Townsend copies of the seat patterns used to upholster the seats.  
We can duplicate the patterns by digitizing hard copies or Receive them digitally if available.
- **Pattern info needed:**
  - Pattern Descriptions – examples: Headrest, Armrest, Seat Cushion
  - Pattern Numbers – Townsend would adopt the pattern identifications used by manufacturer to ensure clear communication.
  - Patterns Zones – Zone A, Zone B, Zone C
  - Seam allowances
  - Notches, Punches, and any other identifications needed to communicate with the sewers.

# ESTABLISHING A CUTTING PROGRAM

## THE STEPS TO SET UP A CUTTING PROGRAM:

- Once we have the patterns developed and all information pertaining to the patterns communicated and settled on we will then send copies of all patterns for approval.
- Each organization will have approved copies to reference for production. If changes are necessary we then will identify patterns in need of updating and will start the approval process over on the patterns in need of updating.
- It will be necessary to document changes known as rev's on each pattern change. This practice will ensure both parties are using the proper patterns to complete the job.
- Once we have established patterns we will then need to establish quality criteria.
- The quality criteria will provide clear communication of accept – reject criteria for all inspection teams.
- Both parties will work on developing the inspection criteria.



# TOWNSEND LEATHER CUTTING PROGRAM BENEFITS REVIEW

- **Efficiency**
  - Handling time / Inventory Management / Production scheduling
- **Maximum Yield**
  - Reduces Waste / Overage / Scrap
- **Significant Savings on Shipping Costs**
- **Minimizes Risk of Shipping Damage**
- **Receiving and Storage Savings**
- **Maximizes Quality Control**
  - Inspection & Pattern Conformity Ensured

# TOWNSEND LEATHER CUTTING PROGRAM

**Steps To Cutting Program**

Step	Information	Start Date	Duration (Days)	End Date
Preliminary information	Make and Model of Aircraft	1/1/2014	2 days	1/3/2014
	Model Build Rate and Projections			
	Number of Seats and Configurations Possible			
Patterns	Pattern Description	1/4/2014	Customer directed. If they have data 2 days	1/6/2014
	Pattern Number			
	Pattern Zones			
	Seam Allowances			
	Notches, Punches and any other identifications needed			
Pattern Digitization	Information from above inputted into computer	1/7/2014	2-4 days	1/11/2014
Pattern Approval	Samples cut from Paper and Sent for approval	1/12/2014	2 days	1/14/2014
	Revision Level of Patterns Maintained			
Customization	Patterns cut larger than necessary, Hides provided, etc?	1/15/2014	2 days	1/17/2014
Quality Criteria	Defined Accept/Reject Criteria for zones	1/18/2014	Customer Directed. approximately 2 weeks	2/1/2014
Sample Set Cut		2/2/2014	2 weeks	2/16/2014
Costing Structure Developed		2/17/2014	1 week	2/24/2014

