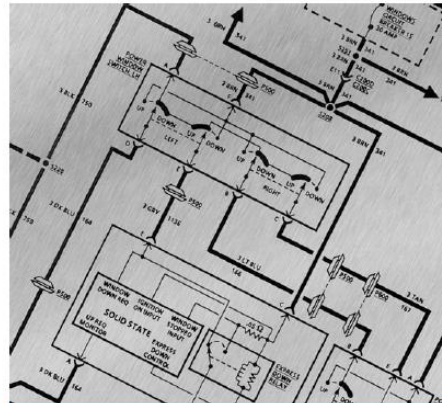


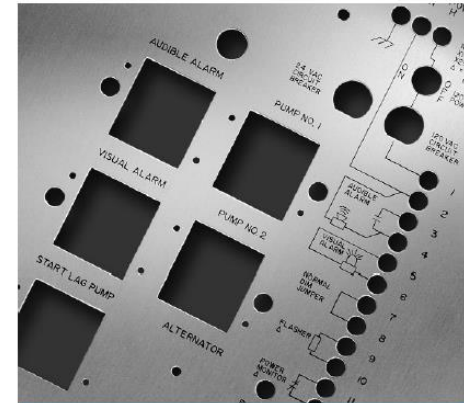
metalphoto[®]



**Nameplates /
Barcode Labels**



**Service Diagrams /
Schematics**



**Machine
Control Panels**

Road Show 2016

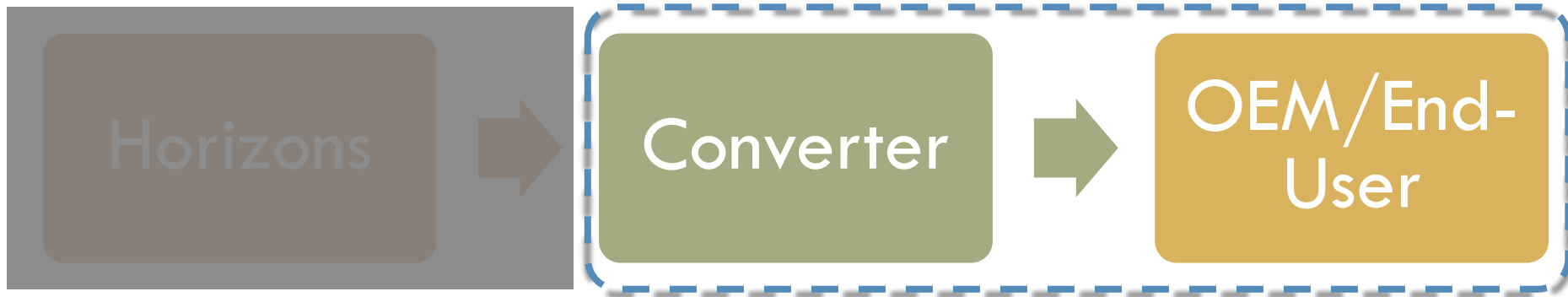
Agenda

- Why We're Here (purpose)
- What is Metalphoto[®]?
- Why use Metalphoto[®]?
- When to use Metalphoto[®]?
- Selling Tools You Can Use!
- Questions / Discussion



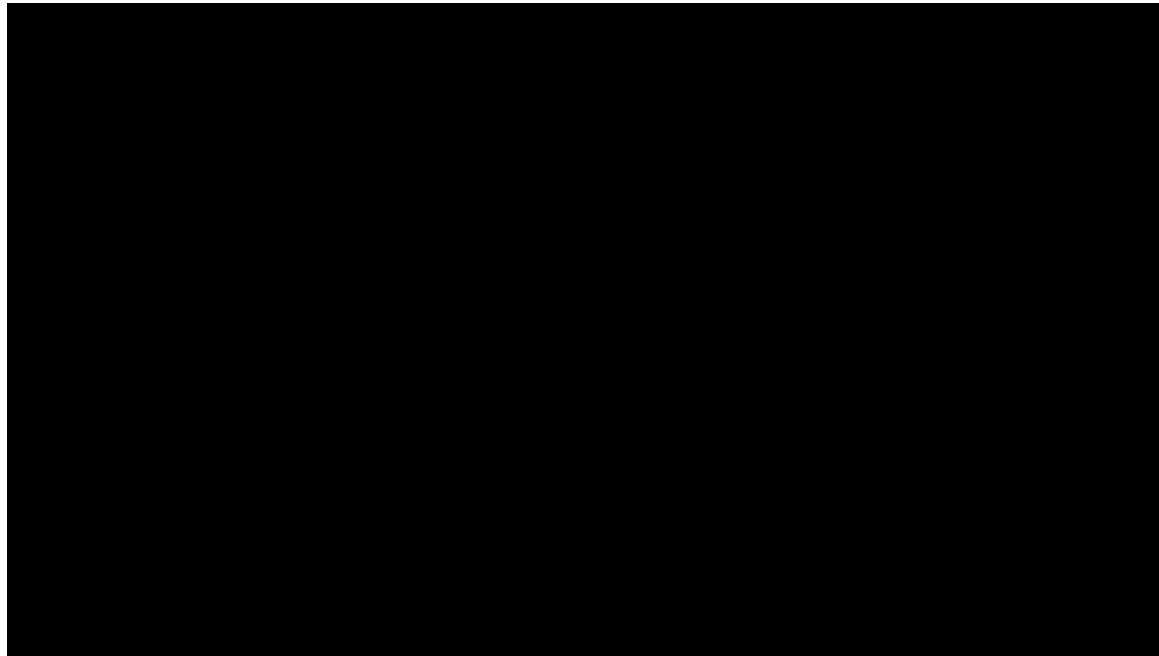
Why We're Here?

- You achieved Certified Converter Status
- Metalphoto is unique/one-of-a-kind material with unique/one-of-a-kind benefits
- Together we can grow Metalphoto sales
- But we need your help...think supply chain...



Metalphoto History/Overview

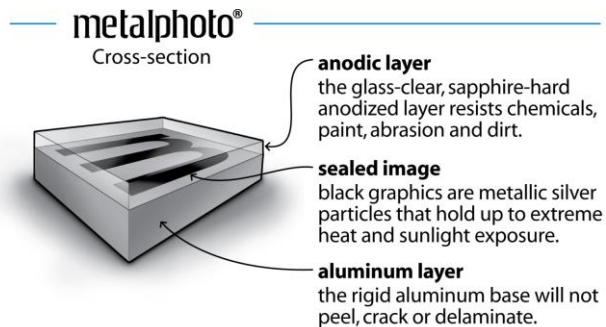
- ❑ Developed in 1950 = 65 year history.
- ❑ Converted by over 500 companies worldwide.
- ❑ Metalphoto® is known generically as photosensitive anodized aluminum.
- ❑ Used to make durable, high-resolution nameplates, labels, and control panels.
- ❑ Cornerstone applications include aerospace, marine, barcode, transportation and heavy equipment product/process identification.
- ❑ Tagline: **Trusted Where Permanent Identification is Critical.**
- ❑ https://en.wikipedia.org/wiki/Photosensitive_Anodized_Aluminum



Why Use Metalphoto?

- Metalphoto is unique among graphic identification materials because it combines the benefits of durability, image resolution and variable data capability.

DURABILITY



VARIABLE INFO



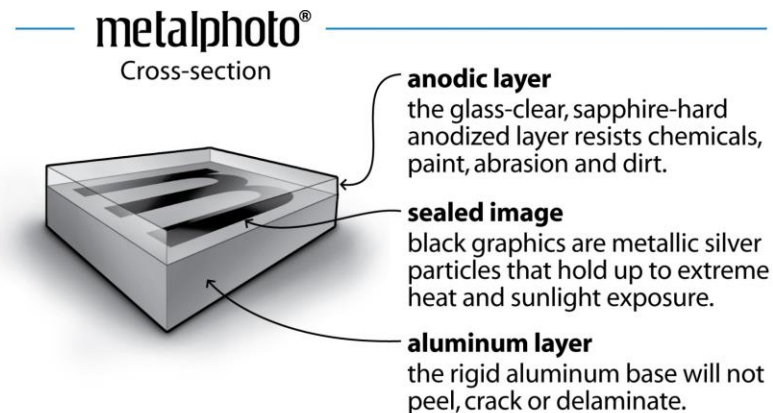
IMAGE RESOLUTION








Durable Construction Means...



Metalphoto's durability comes from its image – which is sealed inside of the anodized aluminum, providing corrosion, sunlight, abrasion, temperature and chemical resistance.



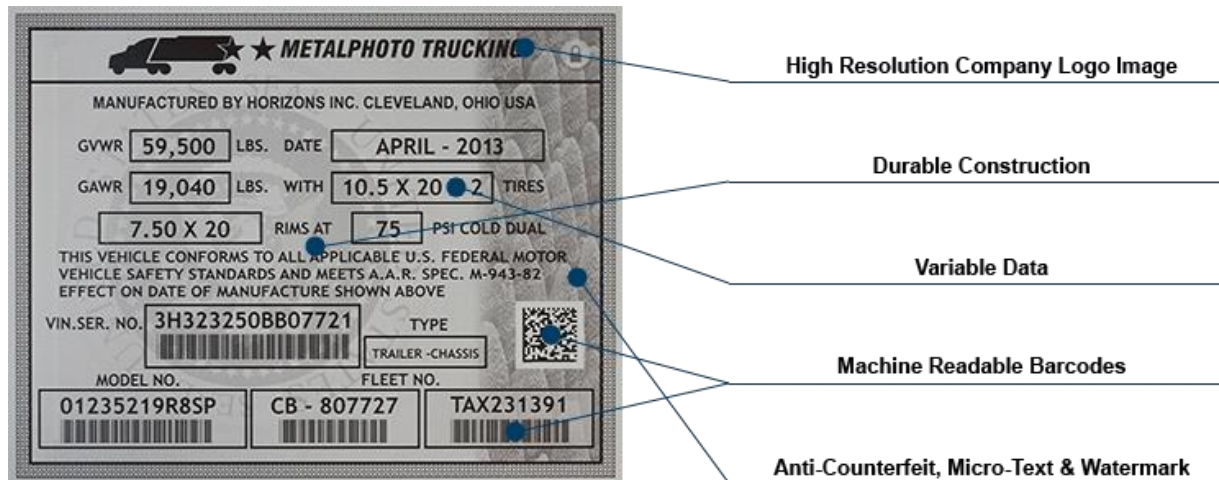
Weather/UV Resistance	TESTING A 400 hour Weatherometer Test GG-P-455P, which is the estimated equivalent to 20 years of outdoor exposure, had no effect on Metalphoto. 
Abrasion Resistance	TESTING 7000 cycles on a Taber Abraser with a CS17 wheel, a total of 1000 gm. load, only resulted in a slight dulling of Metalphoto's surface; the image was not affected. 
Temperature Resistance	TESTING Exposure to 1000°F resulted in only slightly dulling the surface of intensified Metalphoto. Standard Metalphoto was exposed to 750°F with similar results. 
Corrosion Resistance	TESTING Exposure to 5% salt spray as 95°F for 700 hours had no effect on Metalphoto. 
Chemical Resistance	TESTING Metalphoto was immersed in a full battery of chemicals at different temperatures for different lengths of time, all with little to no effect. View the Full List of Chemicals and Results 

***More top scores than any other label material tested by the U.S. Navy
([NSWC, Corona Division, IUID Center; August 2011](#)).***

Variable Data Capability Means...



- Automated asset tracking, guaranteed traceability, fewer data entry errors and faster processing.
- Metalphoto's ability to create hundreds, thousands, even millions of unique labels or nameplates is a function of its unique imaging process.
- The benefit of this process is that Metalphoto labels and nameplates can contain "item-unique" serialized data, one of a kind instructions and/or barcodes of any symbology.



Photographic Resolution Means...



- Beyond the aesthetic benefits of photographic resolution, Metalphoto's photographic resolution capability can be used produce small, high-resolution labels to identify small items or surfaces where a large label is not feasible.
- Metalphoto's resolution supports security printing features such as micro-print and watermarks that verify the authenticity of a part, protecting against fraud and counterfeiting.
- The Metalphoto image can achieve extremely small sizes – 0.5 point font and images at a resolution of 2540 DPI, dots per inch.



Proven Performance Means...



Because of its ability to perform within and across a range of challenging environments, Metalphoto meets an array of government, industrial and military specifications where permanent product identification is critical.

Unique Item Identification Specifications

- Department of Defense: MIL-STD-130N Identification Marking of U.S. Military Property
- Lockheed Martin: LMA-PN010 Fabrication of UID Nameplates for Aircraft Items

Industry Specifications & Studies

- BF Goodrich Aerospace
- Boeing Commercial Aircraft Company
- Honeywell, Inc.
- SAE

U.S. Government Specifications

- Federal Specification GGP-455B
- MIL-A-8625F
- MIL-DTL-15024F
- MIL-STD-130N
- MIL-P-19834B
- CARDIVNSWC-TR-62-00-05 June 2000
- Space Station Inventory Label Specification - SSP 50007
- A-A-50271 Class 2- Composition C

metalphoto®

LOCKHEED MARTIN



Honeywell
BOEING®

When To Recommend Metalphoto?

- **By condition/environment:** 20yrs+ life expectancy; high heat, abrasion, chemical, marine/saltwater exposure...
- **By specification/certification:** GGP-455B, MIL-DTL-15024F, MIL-STD-130, MIL-P-19834B, A-A-50271, MIL-DTL-19834C, MIL-P-6906B, MIL-A-8625F, SAE-AMS-QQ-A-250/1 or simply call outs for “photosensitive anodized aluminum”.
- **By graphic requirement:** durability and variable data in the form of barcodes, QR codes and/or item unique instructions/data or security printing/anti-counterfeit.
- **By application:** military, aerospace, marine, transportation, heavy equipment, etc.
- **By combination of any of the above...**

Technical Specifications

MATERIAL: Anodized Aluminum Sheets

SIZES: 10" x 12", 12" x 20", 20" x 24", 20" x 40", 24" x 40"

THICKNESSES: .003", .005", .008", .012", .020", .032", .039", .063", .090", .125"

FINISHES:



MATTE

non-reflective
with dull finish



SATIN

semi-gloss medium
reflective material



4

brushed to resemble
a stainless steel finish



GLOSS

highly reflective,
mirror-like

□ **More @ <http://metalphoto.com/#resources>**

selling tools @ www.metalphoto.com

Sell Sheets

metaphoto®

Photo Automatic Research





Exceptionally Durable. Widely Specified. Always Reliable.

For over 10 years, Metaphoto and its many generations have specified digital cameras for the most demanding applications. And they've always been there when it counts. Metaphoto cameras are rugged, reliable, and easy to use. They're the only cameras that can be used in the field, in the lab, or in the office. They're the only cameras that can be used in the most demanding environments. They're the only cameras that can be used in the most demanding environments. They're the only cameras that can be used in the most demanding environments.

Product Benefits

Exceptionally Reliable:

- Proven design and construction
- Proven materials and components
- Proven testing and quality control
- Proven service and support

Widely Specified:

- Proven design and construction
- Proven materials and components
- Proven testing and quality control
- Proven service and support

Always Available:

- Proven design and construction
- Proven materials and components
- Proven testing and quality control
- Proven service and support





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Photo Automatic Research





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Case Studies

[illegible]

Specifications/Certifications












Durability Tests

[illegible]

Industry Specific Applications








































Presentations





**Nameplates /
Barcode Labels**



**Service Diagrams /
Schematics**



**Machine
Control Panels**



Samples

Questions?

Don Sennott at 216-533-1351, donsen@horinc.com.
Dan Tuleta at 216-406-4794, dantul@horinc.com.

