

Technical Solution Presentation

Issue 3 – June 2011

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- A1 Interior Reading Lamp
- A2 Centre Console
- A3 Door Panel
- A4 Interior Rear Console
- A5 Hand Brake Gator
- A6 Rear Lights
- A7 Staking of Chromed Parts

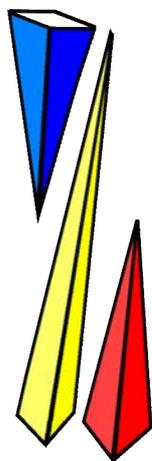
2. Desktop Series

- DI Automatic Desktop Unit

3. Hand Unit Series

- HI Hand Unit

4. Tip Holding Options

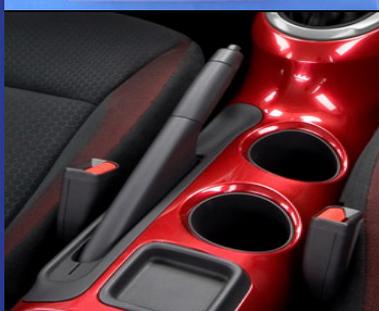


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Automotive Series

A1 - Interior Reading Lamp

- 10 – 20 PULSESTAKE Points.
- End Of Line Testing integrated into machine.
- Product Label Print and application onto product.
- Colour detection for automatic setting adjustment.

A2 - Centre Console

- 10 – 32 PULSESTAKE Points.
- Colour detection for automatic setting adjustment.
- Interchangeable Nesting Solutions.

A3 - Door Panel

- 30 – 80 PULSESTAKE Points.
- Colour detection for automatic setting adjustment.
- Body Clip detection.
- Integration to Pick by Light Systems.
- Part Presence Detection

A4 - Interior Rear Console

- 10 – 30 PULSESTAKE Points.
- Hybrid machine integrating Ultrasonic Welding

A5 - Hand Brake Gator

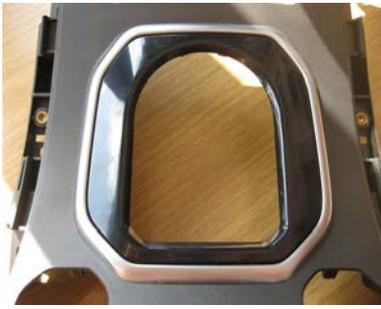
- 10 – 20 PULSESTAKE Points.

A6 - Rear Lights

- 10 – 96 PULSESTAKE Points.
- Simultaneous processing of Left and Right lamps.



TOYOTA



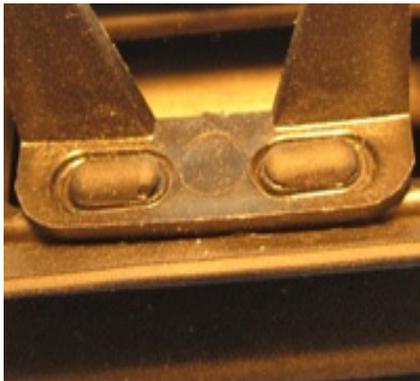
A7 – Chromed Product Staking

- Ability to stake most **Chromed Parts**.
- Melts plastic below Chrome and collapses stake.

PULSESTAKER Process

PULSESTAKING is a process for plastic reforming and is used for joining components to plastic parts. This is commonly known as heat staking swaging or hot air/ cold upset forming. **PULSESTAKER** employs a unique control system (allowing individual tip heating control) coupled with the use of specialised alloy heating tips enables the staking process to generate a fast cycle time and produce a very neat form.

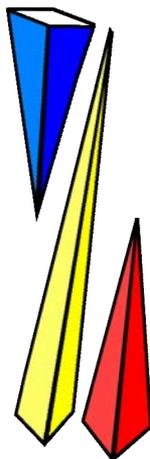
PULSESTAKER can join a number of materials to plastic components. These include metal shims to computer housings, plastic buttons to plastic front panels, fibrous sound insulation to plastic car interiors and printed circuit boards to plastic housings. Staking points are available in a range of standard sizes and forms, however custom tips may be manufactured for specific uses.



For further information on **PULSESTAKER**, please visit:

www.PULSESTAKER.com

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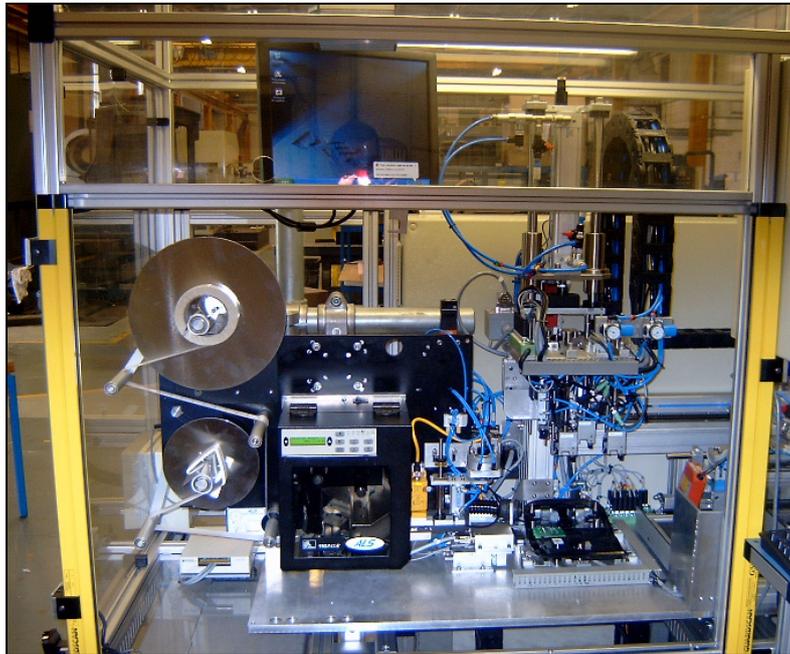
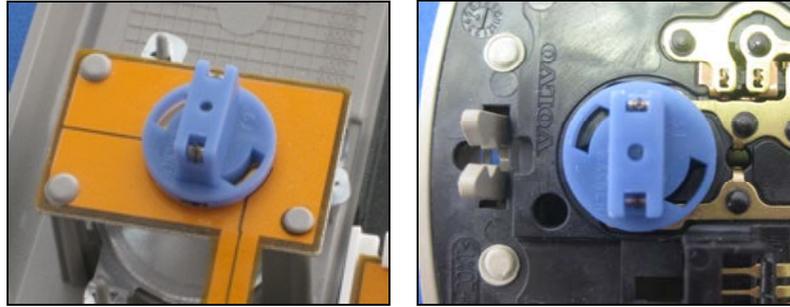
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Interior Reading Lamp



- 10 – 20 PULSESTAKE Points.
- End Of Line Testing integrated into machine.
- Product **Label Print** and application onto product.
- **Colour detection** for automatic setting adjustment.



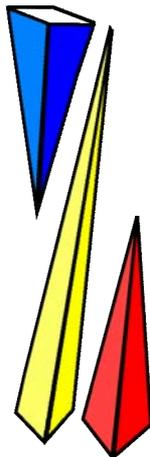
Technical Details

Number of staking points:	12 Stake Points.
Polymers Processed:	PCABS + PA 10% GF.
Machine Size (WxDxH):	2m x 1.6m x 2m.
Additional Features:	<ol style="list-style-type: none">1. Full electrical function testing of product.<ol style="list-style-type: none">A. Bulb operation and Current draw analysis.B. LED operation and Current draw analysis.C. Switch mechanical and electrical testing.2. Position detection and encoding of components.3. Plastic boss detection and state verification.4. Component colour detection.5. Barcode printing and label application.6. Barcode data verification.7. Integration to factory data network.

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Centre Console



- 10 – 32 PULSESTAKE Points.
- Colour detection for automatic setting adjustment.
- Interchangeable Nesting Solutions.
- Staking of **Chromed** products.



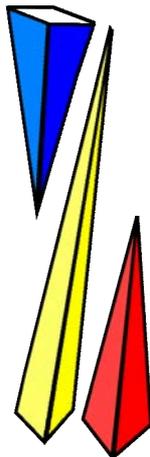
Technical Details

Number of staking points:	32 Stake Points. <i>Simultaneous staking of LHD & RHD products.</i>
Polymers Processed:	PCABS + PC 10% GF.
Machine Size (WxDxH):	2.5m x 1.5m x 2m.
Additional Features:	<ol style="list-style-type: none">1. Rectangular stake point to stop component slippage.2. Colour detection to set operating parameters.3. Two stage pressure control.4. Interchangeable product nests for varying products.

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Door Panel



- 30 – 80 PULSESTAKE Points.
- Colour detection for automatic setting adjustment.
- Body Clip detection.
- Integration to Pick by Light Systems.
- Part Presence Detection



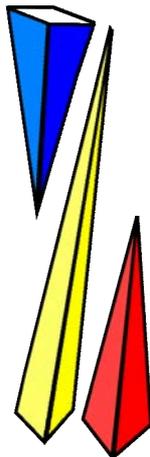
Technical Details

Number of staking points:	80 Stake Points.
Polymers Processed:	ABS, PP, POM. <i>Simultaneous processing.</i>
Machine Size (WxDxH):	2m x 3.5m x 2m.
Additional Features:	<ol style="list-style-type: none">1. Slide and tilt product nest for ergonomic loading and unloading.2. Independent multiple operating heads.3. Two way communications to factory Pick by light system.4. All component detection for manufacturing reassurance. Poke by Yoke.

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Interior Rear Console



- 10 – 30 PULSESTAKE Points.
- Hybrid machine integrating **Ultrasonic Welding**



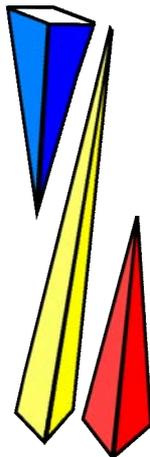
Technical Details

Number of staking points:	Hybrid machine integrating staking and ultrasonic welding.
Polymers Processed:	PCABS + PP.
Machine Size (WxDxH):	1.5m x 2m x 2m.
Additional Features:	<ol style="list-style-type: none">1. Hybrid machine integrating staking and ultrasonic welding in a single machine.2. Sliding Product nest.3. Pneumatically operated sound insulating door.

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Hand Brake Gator



- 10 – 20 PULSESTAKE Points.

HPULSESTAKER
 Plastic Joining Solutions



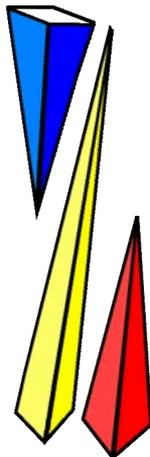
Technical Details

Number of staking points:	20 Stake Points.
Polymers Processed:	PP + Polyurethane Trim
Machine Size (WxDxH):	2m x 2m x 2m.
Additional Features:	<ol style="list-style-type: none">1. Simple machine with sliding safety door.2. Pre clamping of gator trim prior to staking.3. Fixed position product nest.

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Rear Lights



- 10 – 96 PULSESTAKE Points.
- Simultaneous processing of **Left and Right** lamps



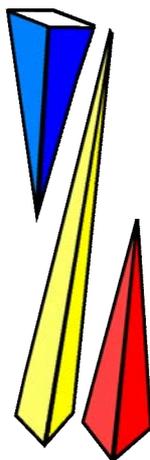
Technical Details

Number of staking points:	96 Stake Points.
Polymers Processed:	PCABS.
Machine Size (WxDxH):	2m x 2m x 2m.
Additional Features:	I. Simultaneous Staking of both LHS + RHS lights.

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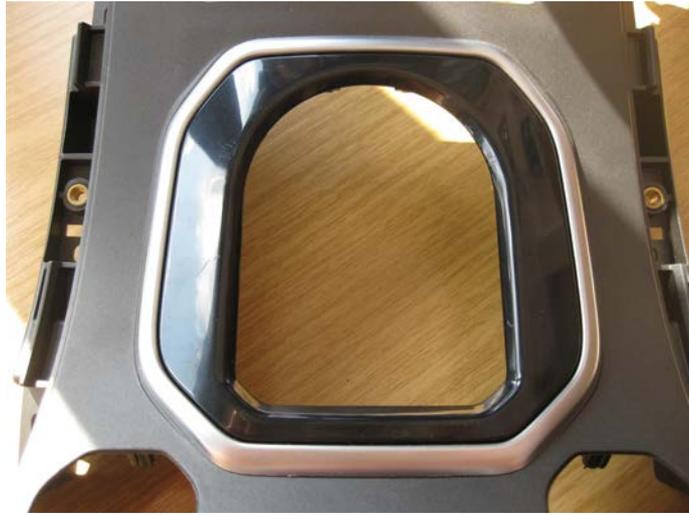
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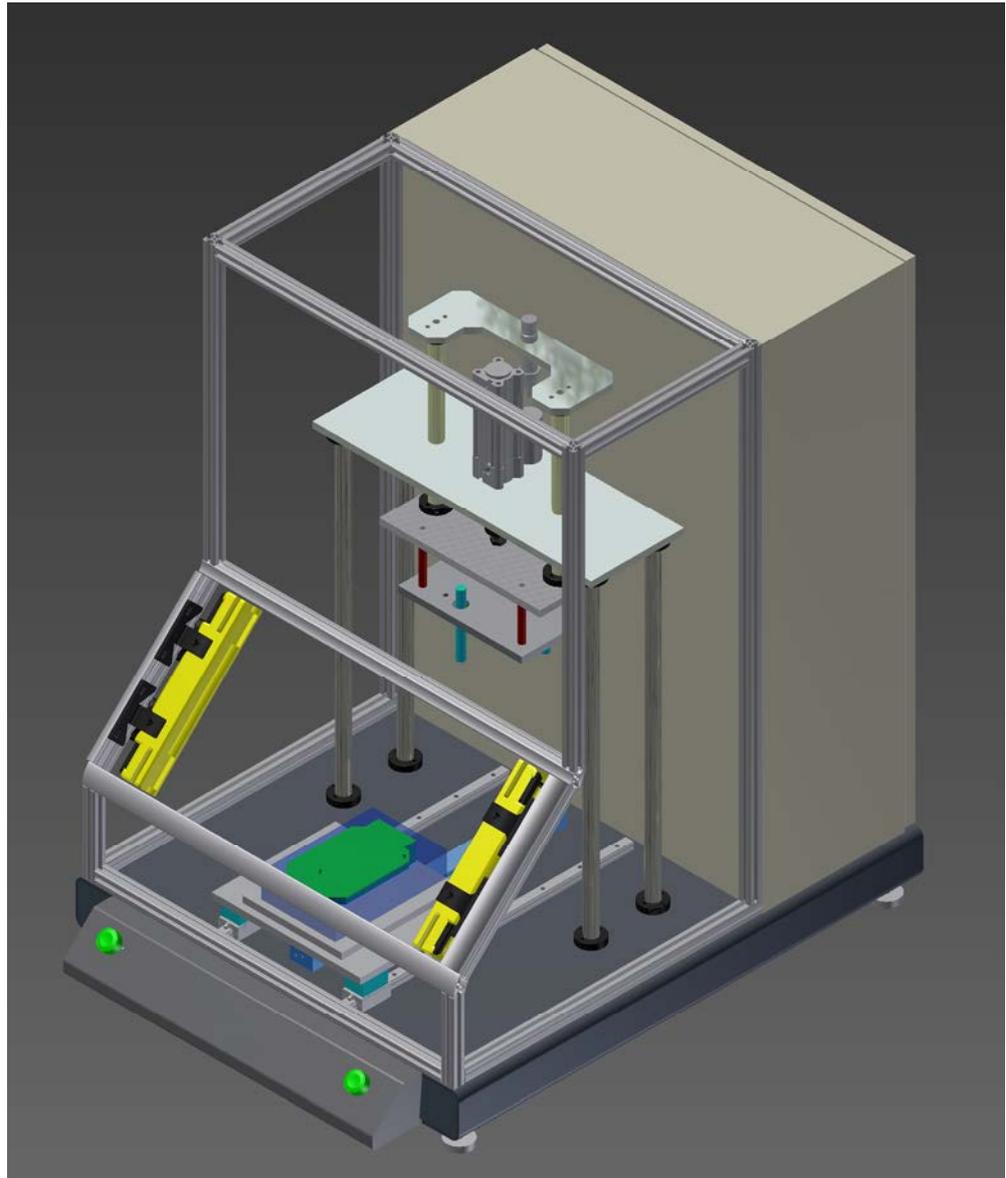
Staking of Chromed Parts



- Ability to stake most Chromed Parts.
- Melts plastic below Chrome and collapses stake.



Automatic Desktop Unit



- 1 – 10 PULSESTAKE Points.
- Model shown above includes safety **Light Barrier**.
- Available with **Sliding Product** drawer.
- **Two Handed** Start.
- **Current Detection**.
- **Boss Height** detection.
- **Data Export**.
- **Independent Heat Control**.



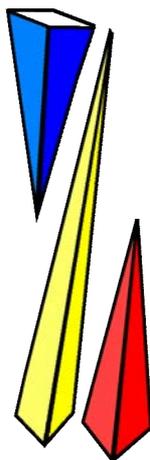
Technical Details

Number of staking points:	I - 10 Stake Points.
Polymers Processed:	Various
Machine Size (WxDxH):	600mm x 830mm x 900mm.
Additional Features:	<ol style="list-style-type: none">1. Light Barrier Safety Protection.2. Slide Table3. Position detection and encoding of components.4. Plastic boss detection and state verification.5. Component colour detection.6. Various Technologies;<ul style="list-style-type: none">Hot AirPermanently HeatedUltrasonicPulseStaking

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Single Transformer Hand Unit



The single transformer **PULSESTAKER** unit has all of the following specifications:

- Transformer 600VA.
- Can operate two matched tips.
- Voltage adjustment for precise setting.
- Can be used for hand staking operations.
- Easy to integrate into automated equipment.
- All settings easily adjusted from HMI.
- Standard languages available English, German, Spanish and Italian
- Can power the majority of tip sizes from 2.5mm to 10mm.
- All connections are available on the rear panel.
- Many type of tip holder are available, pistol, hand grip, spring type slide unit and pneumatic slide unit. *refer to Tip Holding Options*

Unit Connections:

- 1. Mains power (230Vac)
- 2. Low voltage out
- 3. Compressed air input
- 4. Compressed air output
- Control signals – Inputs
- Control signals – Outputs

Detailed specification:

Size: 380mm Wide, 340mm Deep, 180mm High.
 Weight: 15Kg.
 Power: 230 Vac, 1000W.
 Air: 50 to 100nl/min depending on tip size. Diameter 6mm tubing



Hand Unit Options

1. **Standard Staking Connections:** *Model 1*
2. **Quick Release Staking Connections:** *Model 2*
3. **Optional Model Upgrades:**
 1. Current Monitoring.
 2. Tip Movement Encoding
 3. Data Export.
 4. Password Protection of program.
 5. 4 programs, selectable manually or remotely.
 6. Various Tip holding options, *refer to Tip Holding Options.*



Model 1

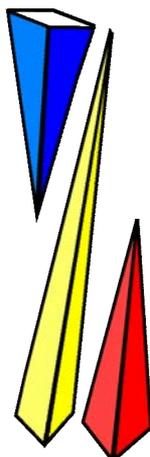


Model 2

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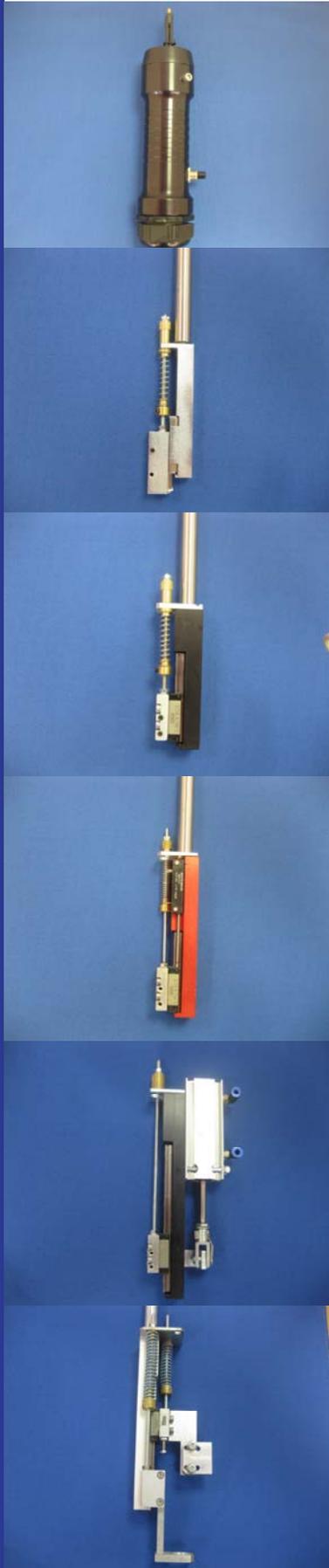


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Tip Holding Options

Hand Grip

- For use with Hand Unit.
- **Quick Release connectors** available
- Integrated start button for remote start.

Small Slide Unit

- **Slim Slide Unit.**
- **Adjustable** stroke distance.

Medium Slide Unit

- **Adjustable** stroke distance.

Medium Slide Unit with Encoding

- **Adjustable** stroke distance.
- Integrated **position encoding** for stake verification.

Large Slide Unit with Pneumatic Cylinder

- **Adjustable** stroke distance.
- **Large** stroke distance.
- **Pneumatic Cylinder** integrated for high pressure stake.

Large Slide Unit with Clamping Foot

- **Adjustable** stroke distance.
- **Large** stroke distance.
- **Spring Loaded** foot for localised **product clamping**.

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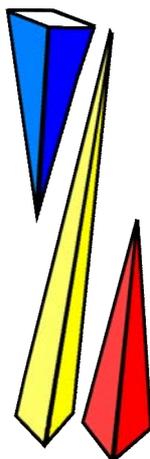
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