Orbitform

...solutions delivered.

ASSEMBLY SOLUTIONS GUIDE

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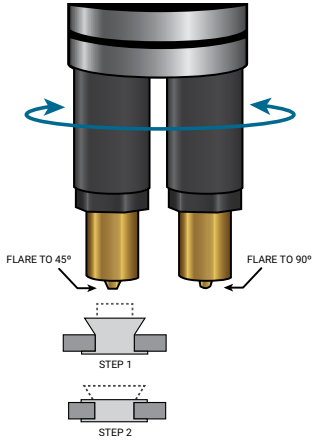
Orbitform
...solutions delivered.

WHAT WE DO

Orbitform experts deliver the right fastening, forming, and assembly solutions so manufacturers can achieve their desired outcome. From concept to installation, we design, manufacture, deliver, and support standard modular products or custom, complex assembly solutions. With our robust service offerings, customers receive unique value in each of the six pillars of Orbitform; Fastening and Forming, Process Intelligence and Control, Automation, Conveyors, Spare Parts Tooling & Service, and Solutions Lab.



BUSHING FLARE AND FLATTEN
SPECIALTY PRESS

Bushing Flare and Flatten process is a good solution for movable joints. Special rotating head package with tooling is utilized to install a bushing by first flaring at a 45º angle, rotating, then flattening and sizing the ID to achieve a 90º angle bend to maximize surface contact. This process extends the life of the joint.

BEFORE FORMING

DURING FORMING 45º

AFTER FORMING

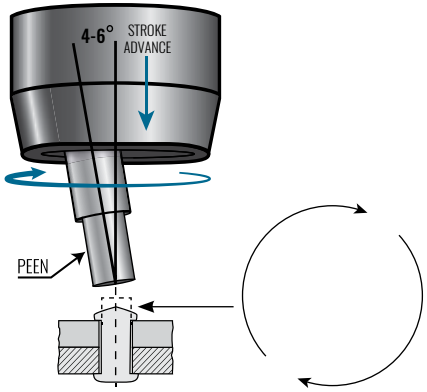
TOOLING

PROCESS INTELLIGENCE
Utilize force and distance monitoring to validate forming success.

PRESS RIVETING
A permanent assembly process that applies a downward force to form/displace material. The head package can be pneumatic, mechanical, hydraulic, servo, or hydro-pneumatic driven. This process is used often when the functional requirement of the joint demands maximum hole fill or workpiece-to-part-surface contact.

FLEXIBILITY
Quick change design press tooling allows you to change press tools in under a minute. You can maximize your machine production capacity by processing multiple press applications that fall within the machine force capacity (quick fixture changeover).

ACCESSIBILITY
Difficult to access joints where the rivet or workpiece is close to a side wall or near an obstruction, press forming requires minimal space to execute the process.



FINISHED FORM

FLARING

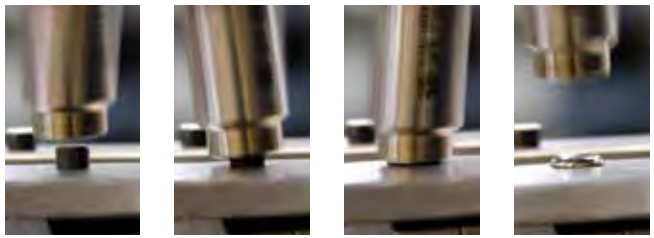
STAKING

MULTI-POINT

MULTI-SPINDLE

ORBITAL
FASTENING AND FORMING

Orbital forming is a cold-forming process using a peen tool held at a fixed angle to create a sweeping line of pressure around the part, progressively forming the material with each rotation. This process reduces the amount of forming force required by approximately 80% of a standard press.



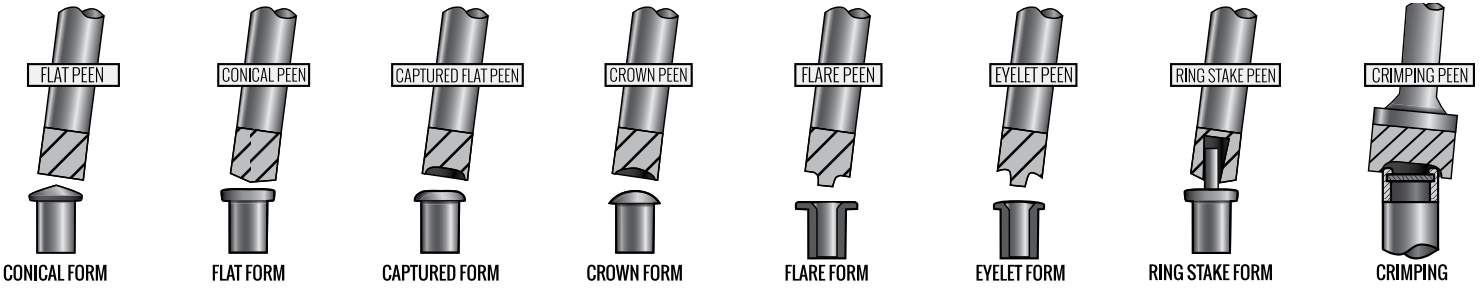
SMOOTH, NON-IMPACT RIVETS
Formed using around 80% less force than when using a standard press. Lower capital and tooling investment.

ARTICULATING JOINTS
Orbital forming allows for the creation of articulating hinge joints. With less downforce on the rivet, there is minimal rivet shank swell, allowing finished parts to articulate smoothly.

PROCESS MONITORING
Reduce scrap and malformed parts to increase throughput and efficiency. See page 20–21 for more information.

AESTHETIC APPEAL
All aspects of orbital forming produce high quality and visually appealing joints. With a wide variety of forming peen geometry options, Orbitform engineers develop tooling to best suit your needs.

ORBITAL HEADS & PEENS

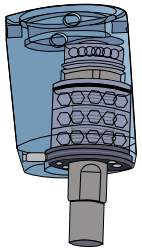


HS STANDARD

The standard orbital head attachment. Generally, with a 6º forming angle, the HS Series requires less down-force, inducing minimal shank and rivet shoulder swell. The minimal swelling allows for parts like permanently formed articulating hinges.

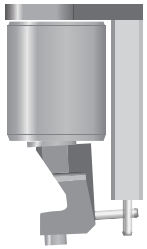
HL LONG REACH

When parts are challenging to reach, the HL Series has a longer reach forming peen, making it easier to form the rivet. It usually is available with a 4° forming angle, but can range from 3° to 6°, and requires more downforce than the HS Series. With the extra down-force, shank swell is increased, making formed rivets lock in place with increased resistance to joint fatigue.



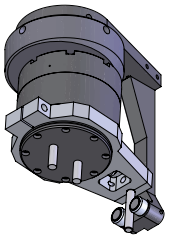
GOLD SERIES

An available upgrade for select orbital heads, Gold Series heads are heavy duty and provide a higher thrust capacity in a smaller package. Upgraded sealed bearing configurations provide increased capacity compared to the standard orbital heads. Orbitform Gold Series heads are excellent for forming harder materials and do not wear out from extended use.



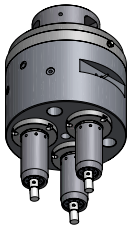
C-FRAME

When you need to hit rivets situated in a difficult to reach location, C-Frame orbital heads are the solution. If an overhang or other obstruction prevents the head from coming straight down on the rivet, this Orbital head can access it from the side while still providing down-force and forming capabilities.



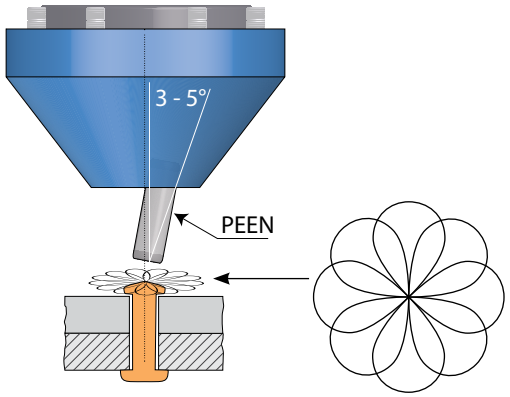
MULTI–POINT

For multi-forming options, a multi-point operates with multiple peens on a single head. Center distances vary based on customers' specific applications. Ideal for close center distances (≤4").



MULTI–SPINDLE

Another multi-forming option, the multi-spindle, has multiple orbital heads attached to various spindles. Center distances and the number of heads vary based on specific customer applications. Ideal for center distances 2" and greater (≥ 2").



RADIAL
FASTENING AND FORMING

Radial riveting and forming displaces material from the center outward in a rosette or rose curve pattern. This process is often the optimal assembly solution when working with small rivet shank diameters, delicate rivet materials, or unsupported rivet assembly applications.

NO GALLING

FINISHED FORM

DELICATE PARTS

SMALL PARTS
Radial riveting is well suited for rivets with a diameter of 1/8" and smaller.

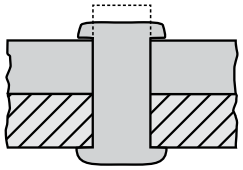
DELICATE MATERIALS
In the radial riveting process, the forming peen is driven to prevent scuffing and galling and is well suited for embossing applications.

FLEXIBILITY
Interchangeable cartridges allow you to convert an Orbitform orbital riveting powerhead into an Orbitform radial riveting powerhead, and vice-versa. This option offers additional versatility and performance.

CONTROLLED FORMING
The radial process allows the rivet to fill "D" type tabs and other irregular sections as the material is displaced radially outward.

LESS SIDE FORCE
Due to the displacing of material outwardly from the center using an 11-sided radial pattern, there is less side force applied during the radial riveting process than with the orbital process.

PROCESS INTELLIGENCE
Reduces scrap to increase your throughput and production efficiency (page 20–21).



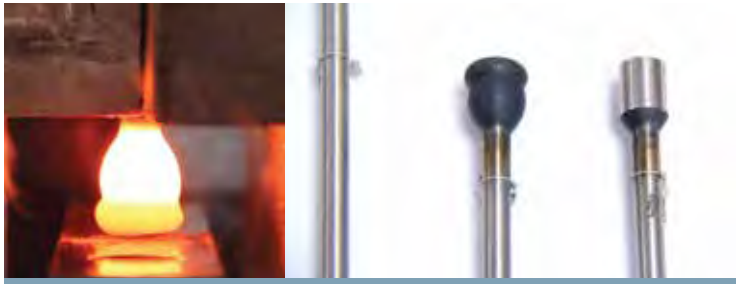
HOT UPSET
FASTENING AND FORMING

The Hot Upset riveting and forming process uses heat generated by an electric current passed through a tenon. Pressure is then applied to form the tenon. The forming material becomes malleable with heat and collapses under pressure applied by the powerhead. This process maximizes the hole to be filled, creating very high torque joints. This feature makes the process excellent for forming parts that incur high vibrational fatigue.

HIGH TORQUE JOINTS

HIGH PUSH/PULL FORCE JOINTS

FINISHED FORM



METAL GATHERING

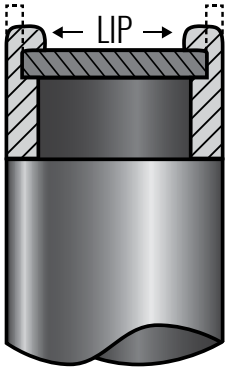
HARDENED RIVETS
Due to the nature of the hot upset process, harder material rivets can be formed, than with a cold-forming process.

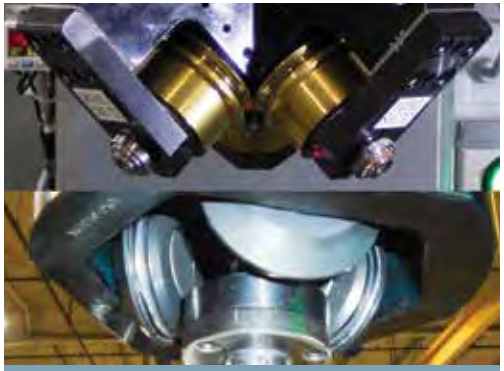
HIGH TORQUE JOINTS
Due to the increased hole fill with hot upset, it is possible to create joints that don't fail even under very high torque situations. The rivet expands to fill the hole and prevents rotation under high stress.

HIGH PUSH/PULL FORCE JOINTS
Create highly durable and long-lasting joints to achieve your high push/pull force specifications with the hot upset process.

MAXIMIZED HOLE FILL
Through heat and pressure, rivets fill a hole, giving you the most solid joints possible. Make your process last with maximum durability in your assembly.

RESISTANT TO VIBRATIONAL FATIGUE
Harder rivets, increased hole fill, and torque resistance geometry make hot upset formed joints extremely resistant to vibrational fatigue.





ROLLER ANGLE 45° & 90°

FINISHED FORM

THRU-SPINDLE PRESSURE PAD

STATIC
ROLLER FORMING

Roller Forming is a non-impact forming process using a spinning roller head with two or more rollers to apply a symmetrical force to form the part. A great replacement process to press crimping when forming a lip around a cylindrical part, the lip can be formed in or out. The non-impact nature, combined with precision and accuracy, makes it possible to form delicate and brittle materials. Static roller heads provide consistency and efficiency to your forming process.

BEFORE FORMING

AFTER FORMING

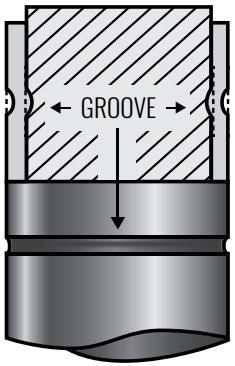
THRU-SPINDLE PRESSURE PAD
Applies pre-load to part prior to and during forming. Also can validate part presence and/or stack-up.

REPLACES CRIMPING
Forming the end of cylindrical parts with roller forming increases efficiency and accuracy with a process designed to create aesthetically pleasing lips and grooves. Eliminate stress cracks by replacing multi-point crimping with 360° of retention.

CAN FORM A RANGE OF DIAMETERS
Roller Forming can be used to form parts ranging in size from 1/8" to over 10".

FIXED ROLLERS FOR LIP FORMING
Form lips on the end of cylindrical parts with spinning rollers and applied downward force. With the use of a seal or gasket, you can create sealed joints with our roller forming process.

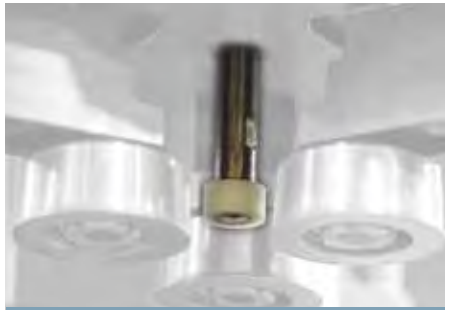
PRECISION CONTROL
Get the most out of your forming process: reduce production scrap with Orbitform's Process Intelligence (pages 20–21).



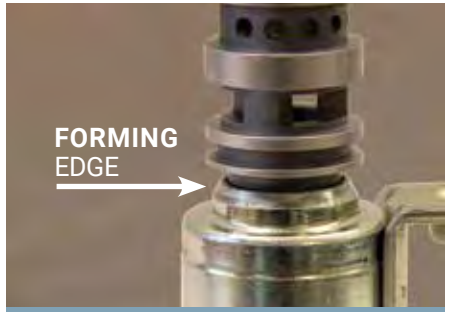
ARTICULATING
ROLLER FORMING

Used when forming a groove in a part or when there are obstructions to clear when forming a lip. The articulating roller heads advance radially from the side to form the workpiece. Roller tooling contact at the workpiece is consistent throughout the forming process, maintaining a tool path of 360º. Parts are formed from the inside out as a flaring process. These roller heads can deliver forming forces up to 5,000 lbs at 100 psi.

ROLLERS



THRU-SPINDLE PRESSURE PAD



FORMING AROUND OBSTACLES

BEFORE FORMING

AFTER FORMING

CROSS SECTION OF FORM

FORMING GROOVES
Form from the side with articulating rollers to create grooved parts.

NAVIGATING OBSTRUCTIONS
Roller heads can clear an obstruction before closing in on the part to be formed.

INFINITE ADJUSTMENT
Roller heads are available with adjustable center distances, allowing up to a 3" diameter increase along with analog readouts accurate to .001". With the proper fixtures, you can run parts with different diameters on the same machine.

THRU-SPINDLE PRESSURE PAD
Applies pre-load to part prior to and during forming. Also can validate part presence and/or stack-up.

125 Series

POWER	Pneumatic
HEAD FORMING CAPACITY	0.125" (3.2 mm)
MAX HEAD STROKE	1.5" (138 mm)
MAX THRUST	590 lbs @ 100 psi

M-125 image shown with pressure pad on standard bench machine

240 Series

POWER	Pneumatic
HEAD FORMING CAPACITY	0.236" (6 mm)
MAX HEAD STROKE	1.75" (44.45 mm)
MAX THRUST	1460 lbs @ 100 psi

M-240 image shown with no riveting tool on standard bench machine

310 Series

POWER	Pneumatic
HEAD FORMING CAPACITY	0.312" (8 mm)
MAX HEAD STROKE	2.0" (50.8 mm)
MAX THRUST	2120 lbs @ 100 psi
EXTENDED STROKE MODEL	6.0" (152.4 mm)

M-310 image shown with orbital riveting tool on standard bench machine

500 Series

POWER	Pneumatic
HEAD FORMING CAPACITY	0.500" (12.7 mm)
MAX HEAD STROKE	2.5" (63.5 mm)
MAX THRUST	4400 lbs @ 100 psi
EXTENDED STROKE MODEL	6.0" (152.4 mm)

M-500 image shown with pressure pad on standard bench machine

750 Series

POWER	Pneumatic
HEAD FORMING CAPACITY	0.750" (19.05 mm)
MAX HEAD STROKE	2.5" (63.5 mm)
MAX THRUST	7510 lbs @ 100 psi

M-750 image shown with orbital riveting tool on standard bench machine

840 Series

POWER	Pneumatic
HEAD FORMING CAPACITY	0.84" (21.4 mm)
MAX HEAD STROKE	2.5" (63.5 mm)
MAX THRUST	12500 lbs @ 100 psi

M-840 image shown with orbital riveting tool on standard pedestal machine

1000 Series

POWER	Hydraulic
HEAD FORMING CAPACITY	1.0" (25.4mm)
MAX HEAD STROKE	2.5" (76.2 mm)
MAX THRUST	18000 lbs @ 1000 psi
EXTENDED STROKE MODEL	6.0" (152.4 mm)

M-1000 image shown with roller forming tooling on custom pedestal machine

1500 Series

POWER	Hydraulic
HEAD FORMING CAPACITY	1.5" (38.1 mm)
MAX HEAD STROKE	3.0" (76.2 mm)
MAX THRUST	38500 lbs @ 1000 psi

M-1500 image shown on custom pedestal machine

SERVO DRIVEN POWERHEADS

Servo driven powerheads offer precision control, variable advance and retract rates and a range of forming forces for delicate to technically demanding assembly applications. Servo driven powerheads provide control, flexibility, and speed.

SV-125
Smallest SERVO Powerhead

SV-1000
Largest SERVO Powerhead

Standard Machines and Turn-key Systems Available

Reduces cycle time, advance and retract up to 4 inches per second	Precise advancement: speed and position	Form to a force and/or a distance	Save multiple programmed heights	Upgrade to pneumatic or hydraulic	High precision forming	Program dwell in both position and time to reduce spring-back after forming	Perfect for precision torque requirement joints

FORMING FORCE	From 1 up to 40,000 lbs
FORMING CAPACITY	From < 0.030" to > 0.84"
MAX STROKE	4.0"
ADVANCE/RETRACT RATES	From 0.005" to 4" per second

OPTIONS

- Internal load cell for force monitoring
- Pressure Pads (part clamping and height sensing)
- Columns with height adjustment
- Multiple tooling configurations

POWERHEAD FEATURES AND OPTIONS

1. THRU-SPINDLE PRESSURE PAD FOR ROLLER HEADS: Apply clamp and pre-load to the part before and during forming to ensure proper assembly and maintain consistency.

2. OFFSET MOTOR MOUNT: Shortens the over all length of the powerhead, or for the integration of a thru-spindle pressure pad.

3. CLUTCH BRAKE: Stop the spindle from spinning without shutting down the powerhead motor.

4. GEAR REDUCER: Use to achieve lower RPM to support roller forming or multi-point forming.

5. DIGITAL STROKE POSITION INDICATOR: Allows stroke position to be fed to PLC/HMI via ethernet for verification of stroke set position and increased setup control.

6. LVDT STROKE MONITORING: Monitor stroke distance and increase precision and consistent head forming.

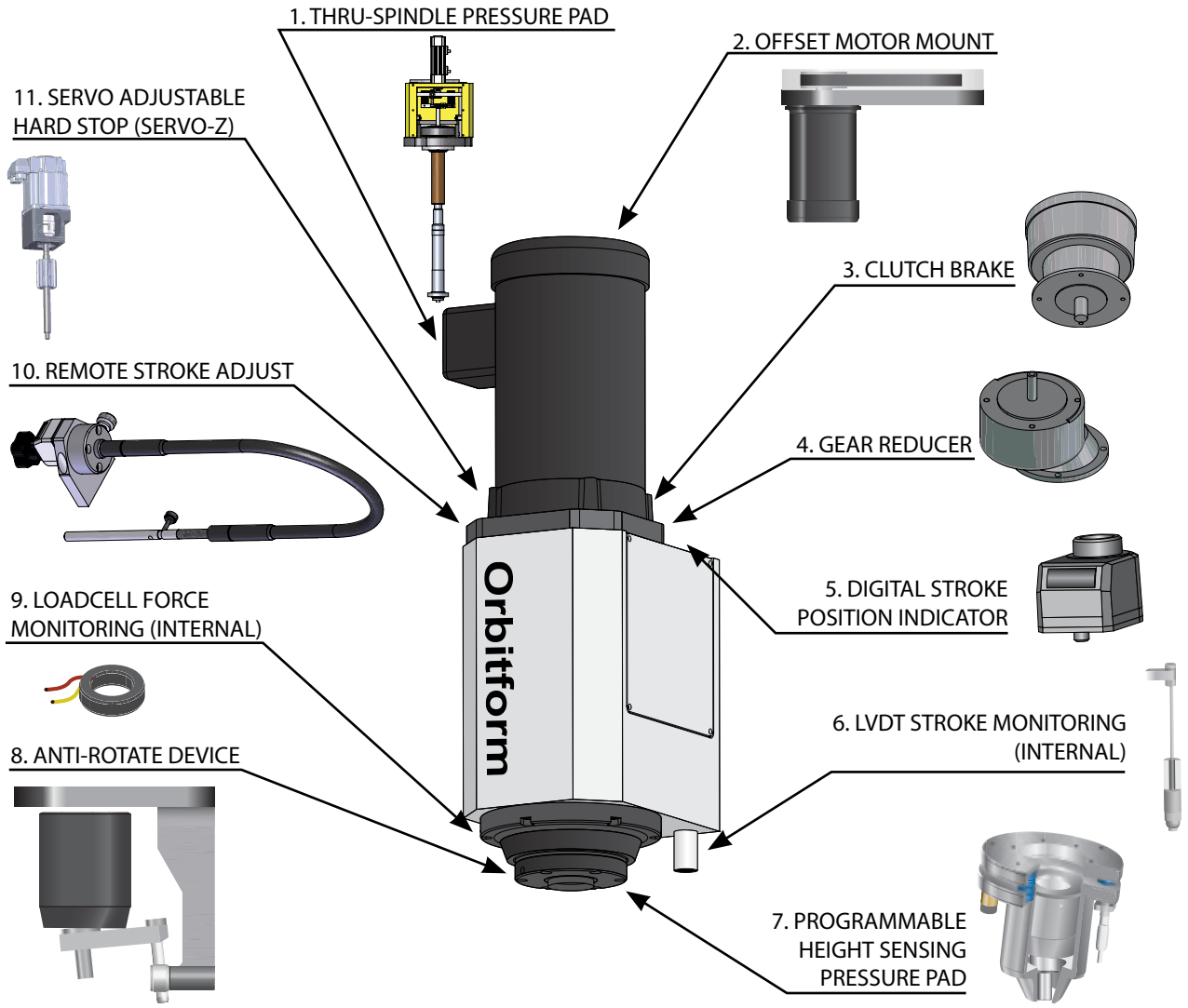
7. PROGRAMMABLE HEIGHT SENSING PRESSURE PAD: Works with other process monitoring to provide precision feedback of stacked parts.

8. ANTI-ROTATE DEVICE: Keep the peen from rotating, without eliminating orbital motion.

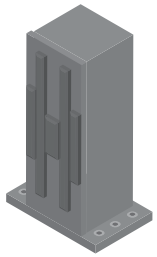
9. LOADCELL FORCE MONITORING: Force readouts and process optimization.

10. REMOTE STROKE ADJUST: Allows for access to the stroke adjust knob when the standard location is challenging to reach.

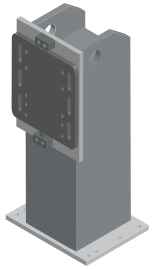
11. SERVO ADJUSTABLE HARD STOP: Automatically set the internal stop gear with a servo and adjust head stroke between cycles.



COLUMN & BASE OPTIONS



STANDARD ADJUSTABLE DOVETAIL COLUMNS
- Options and flexibility for z-axis powerhead gross adjustments
- Adjustable powerhead height to the part fixture for maximum compatibility
- Run a wider variety of parts on the same machine through easy adjustments



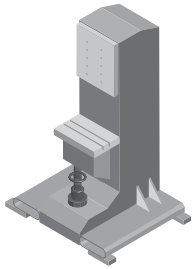
FABRICATED STRAIGHT COLUMN
- Custom designed for each application
- Straight column design is independent of the part holder
- Mounting plate included

STANDARD

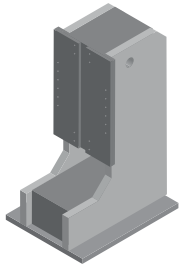
1 DRAWER

2 DRAWERS

BASE MACHINE DRAWER OPTIONS
36" W x 30" x 30" H (Stocked) – 3.96 cubic feet per drawer
24" W x 24" x 30" H (Not Stocked) – 2.17 cubic feet per drawer

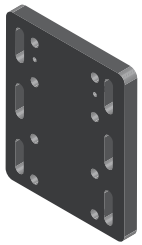


PEDESTAL COLUMN
- Used primarily with larger powerheads to support more forming force
- Adjustable saddle location for maximum flexibility
- Interchangeable part holder allows for running of different parts on the same machine
- Can be paired with a mounting plate for added flexibility

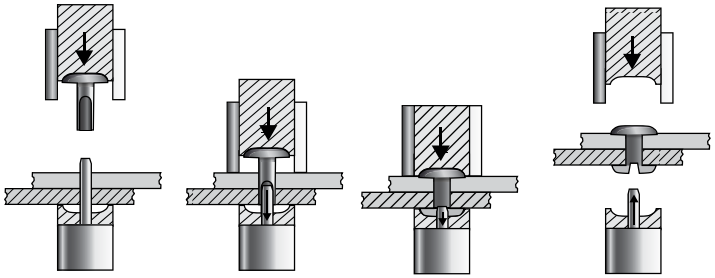


FABRICATED C-FRAME COLUMN
- Custom designed for each application
- Fixed height and part saddle ensure part consistency
- Mounting plate included

T-SLOT
- Custom designed for each application
- Easy Fixture Mounting
- Mounting area for dual palm buttons
- Provides additional structural support



MOUNTING PLATE
- Supports ease of head alignment during integration
- Allows for powerhead mounting on a custom column
- +/- one inch of adjustment for powerhead height
- Custom configurations available upon request

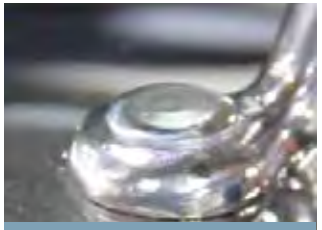


IMPACT RIVETING

Impact Riveting is an assembly process using a direct-acting force to fasten two parts together permanently. There is a wide variety of rivet and material possibilities, such as solid or semi-tubular rivets. Cycle time is fast, and operation is simple, giving you an assembly advantage.

SEMI-TUBULAR

- Requires less force than solid rivets
- Long rivets do not buckle the rivet shank
- Hollow ended with a hole depth that is slightly deeper than the material stack-up
- Most of the joint strength is compressed between the rivet head and rivet clinch (formed end)
- Rivet shank expansion is minimal
- Insertion force is typically less than 40% of that required for a solid rivet



SOLID

- A compressive load is applied to the end of the rivet shank, causing the shank to swell within the desired part stack-up as it shortens under the load
- Used for permanent assembly of heavy-duty joints
- Can set solid mild steel rivets up to 1/2" in diameter
- Larger diameters for softer metals such as aluminum and brass
- Forming ability varies based on rivet specifications

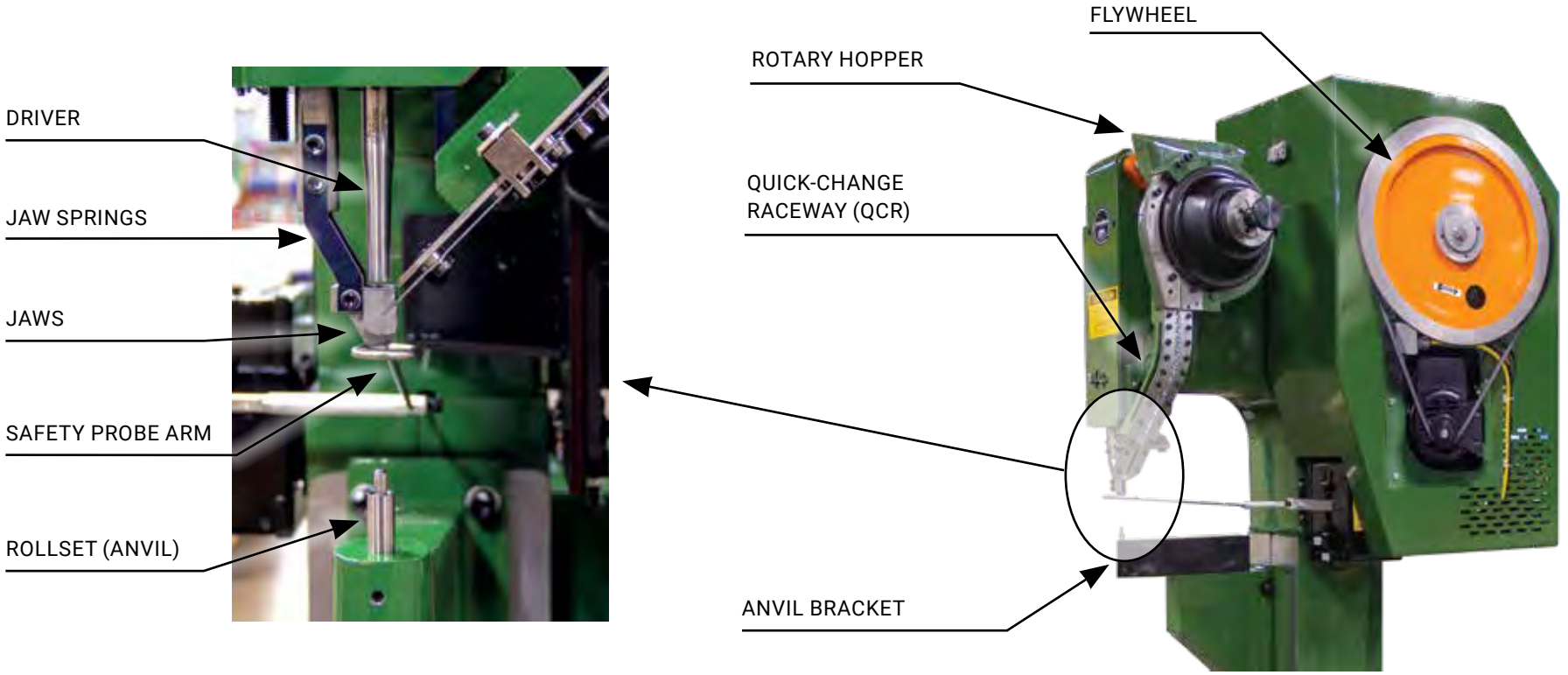
For solid rivets requiring more force, Orbitform offers our hydra-pneumatic and hydraulic heavy duty impact riveters. These machines are application specific and require an enginering review.

AUTOMATIC RIVET FEEDING
Save time and money with impact riveting and automatic rivet feeding. Minimize cycle times to increase throughput and lower operating expenses.

MULTI-POINT RIVETING
Keep your throughput high with multi-point riveting. With the ability to form multiple rivets at the same time at a fixed distance, part forming is much faster. All fixturing and machining is custom-designed to fit your specific impact riveting needs.

SAFETY OPTIONS AVAILABLE
With safety features and control options available, machine operators have a safer working environment. Dual palm buttons, Lexan guarding, light curtains, and obstruction detection rings ensure safety throughout the forming cycle. Orbitform has developed two safety ring options to meet your application needs.

RIVET VARIETY MEETS VERSATILITY
Orbitform's wide range of riveters can form semi-tubular, solid, and self-piercing rivets, giving you the broadest range of forming capabilities possible. With machines ranging from electro-mechanical, pneumatic, and hydra-pneumatic, Orbitform riveters can meet your needs.



FIXED CENTER DOUBLE RIVETERS

Orbitform's fixed center riveters are compact specific purpose machines designed to set two rivets simultaneously on very close centers. The minimum distance is dependent on the size of the rivet heads. Maximum rivet spacing is up to four inches. Joined parts that require two rivets can benefit from the low costs of one machine as compared to two machines.

PNEUMATIC	MODEL 56	MODEL 57	MODEL 58
MAX RIVET DIAMETER	.125" (3.2 mm)	.187" (4.8 mm)	.25" (6.4 mm)
MAX RIVET LENGTH	.562" (14.3 mm)	.75" (19 mm)*	.75" (19 mm)
THROAT DEPTH	9.0" (228.6 mm)	12.0" (304.8 mm)	12.0" (305 mm)
STROKE	2.0" (50.5 mm)	3.0" (76.2 mm)	3.0" (76.2 mm)

**Up to 3" rivet lengths available*

ELECTRO-MECHANICAL	MODEL 63	MODEL 64
MAX RIVET DIAMETER	.093" (2.4 mm)	.156" (4 mm)
MAX RIVET LENGTH	.562" (14.3 mm)	.75" (19 mm)
THROAT DEPTH	6.25" (159 mm)	6.25" (158.8 mm)
STROKE	2.0" (50.8 mm)	2.0" (50.8 mm)

ELECTRO-MECHANICAL	MODEL 255	MODEL 256
MAX RIVET DIAMETER	.125" (3.2 mm)	.156" (4 mm)
MAX RIVET LENGTH	.562" (14.3 mm)	.75" (19 mm)
THROAT DEPTH	12.0" (305 mm)	12.0" (305 mm)
STROKE	2.5" (63.5 mm)	2.5" (63.5 mm)

ELECTRO-MECHANICAL	MODEL 305 ✣	MODEL 310 ✣	MODEL 313 ✣
MAX RIVET DIAMETER	.187" (4.7 mm)	.187" (4.8 mm)	.187" (4.7 mm)
MAX RIVET LENGTH	.75" (19 mm)	1.0" (25.4 mm)	1.375" (35 mm)
THROAT DEPTH	12.0" (305 mm)	12.0" (304.8 mm)	12.0" (305 mm)
STROKE	3.5" (89 mm)	3.5" (89 mm)	3.5" (89 mm)

ELECTRO-MECHANICAL	MODEL 405	MODEL 410 ✣	MODEL 413 ✣
MAX RIVET DIAMETER	.25" (6.4 mm)	.25" (6.34 mm)	.25" (6.34 mm)
MAX RIVET LENGTH	.75" (19 mm)	1.0" (25.4 mm)	1.375" (35 mm)
THROAT DEPTH	12.0" (305 mm)	12.0" (305 mm)	12.0" (305 mm)
STROKE	3.5" (89 mm)	3.5" (89 mm)	3.5" (89 mm)

ELECTRO-MECHANICAL	MODEL 423 ✣
MAX RIVET DIAMETER	.25" (6.345 mm)
MAX RIVET LENGTH	3.0" (76.2 mm)
THROAT DEPTH	12.0" (305 mm)
STROKE	5.5" (140 mm)

✣ *Also available with a 24" throat depth*

ELECTRO-MECHANICAL	R–SERIES
MAX RIVET DIAMETER	.25" (6.34 mm)
MAX RIVET LENGTH	2.0" (51 mm)
THROAT DEPTH	8.0" (203 mm) [Custom Option]
STROKE	3.0"–5.0" (76.2 mm–127 mm)

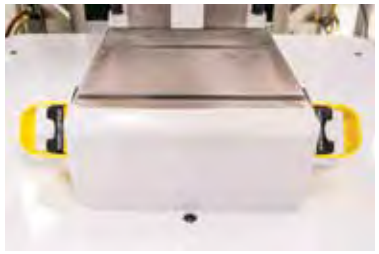
ELECTRO-MECHANICAL	RHV–SERIES
MAX RIVET DIAMETER	.375" (9.5 mm)
MAX RIVET LENGTH	2.0" (51 mm)
THROAT DEPTH	8.0" (203.2 mm) [Custom Option]
STROKE	3.0"–5.0" (76.2 mm–127 mm)

HYDRA-PNEUMATIC	HP–SERIES
MAX RIVET DIAMETER	.437" (11.1 mm)
MAX RIVET LENGTH	1.5" (38.1 mm)
THROAT DEPTH	12.0" (305 mm) [Custom Option]
STROKE	4.0" (101.6 mm)

SAFETY FEATURES

DUAL PALM BUTTONS

Used as safeguarding devices in the single stoke mode of operation on all of our riveting machines. This feature keeps the operator's hands away from the point of operation during the entire machine stroke.



POLYCARBONATE GUARDING

A lightweight thermoplastic that allows operators to inspect and regularly monitor the machine visually. It has superior dimensional stability while being heat resistant. Polycarbonate machine guarding panels block any small debris that could potentially injure a bystander.

LIGHT CURTAINS

Used to safeguard personnel in the vicinity of moving machinery with the potential to cause harm. They allow the operator to assemble and load parts without the obstructions of traditional machine guarding.

HORIZONTAL SAFETY PROBE

This device, available as electronic or pneumatic, consists of two main components: the drop-probe assembly and the control box. The drop-probe assembly functions by allowing the sensing probe to drop around the point-of-operation hazard before each intended machine cycle.

HORIZONTAL

PNEUMATIC SAFETY PROBE

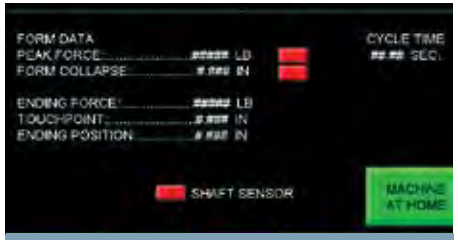
When a footswitch is activated, a wire ring pivots down. When the ring reaches a predetermined point—less than a finger's width—a solenoid activates the clutch trip mechanism. If the probe is interrupted during descent, the clutch trip mechanism cannot operate. It is easy to install, adjust, and maintain.

PNEUMATIC

JAW LOWERING SAFETY PROBE

This safety device takes the mechanics of the pneumatic safety probe and uses the existing jaws–not a probe–to check for clearance. This option is ideal when part geometry is challenging with the probe arm.

JAW LOWERING

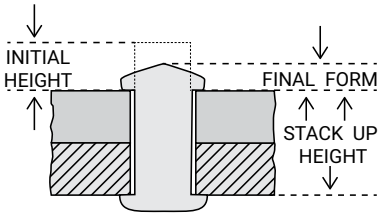


AUTO SCREEN

PROCESS LIMITS

MONITOR TESTING

SERVO-Z



LOAD CELL

LVDT

PROCESS INTELLIGENCE

Orbitform machines have optional part serialization, data logging, process monitoring, servo-driven control, and vision software. These services provide enhanced quality, operational efficiencies, and proof documentation to strengthen the security of your business.

PIVOT JOINT TESTING EQUIPMENT

IN-PROCESS TORQUE CHECK

PIVOT JOINT TESTING EQUIPMENT
Assembly equipment designed to produce a test sequence that appropriately provides accurate pivot joint function data.

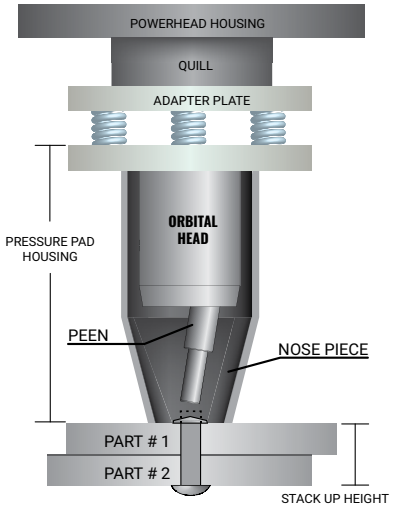
PROCESS INTELLIGENCE METRICS
Force Output, Rivet Presence Detection, Dwell Time, Rivet Height, Forming Height, Stack Up Height

PROCESS CONTROL SETTINGS
Form to Force, Form to Distance, Form to Height, Form to Collapsed Position, Variable Forming Rate

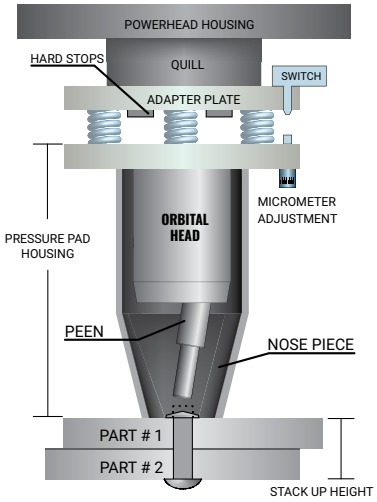
PROCESS MONITORING MEASUREMENTS
Force Monitoring, Form Height, Form Collapse, Part Presence

PRESSURE PAD OPTIONS

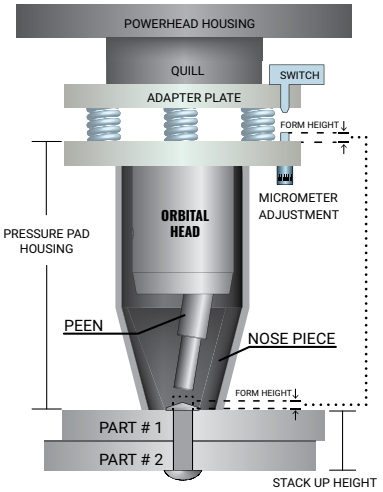
STANDARD



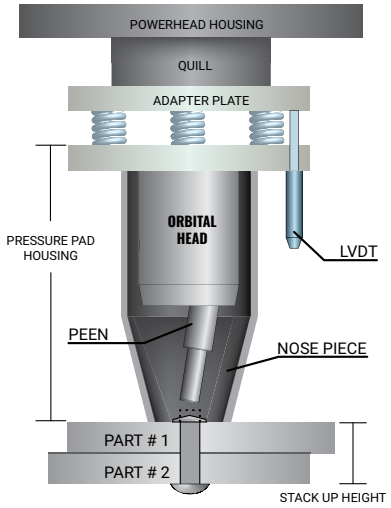
HARD STOP



HEIGHT SENSING

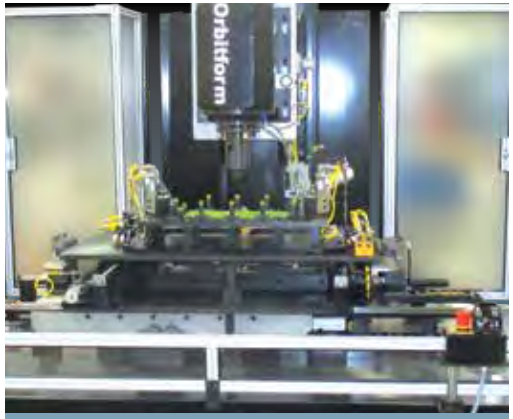


PROGRAMMABLE HEIGHT SENSING



STANDARD	HARD STOP	HEIGHT SENSING	PROGRAMMABLE HEIGHT SENSING
• Compress parts during forming	• Hard stop maintains repeatability	• Consistent form height	• Measure part stack up
• Engineered nose piece available	• Switch controlled dwell time	• Adjusts to variations in part stack up	• Measure rivet stick up
	• The part must withstand the powerhead force	• Switch controls retract, no dwell time	• Form to height
		• Accuracy depends on flow control and sustained line pressure*	• Accuracy depends on flow control and sustained line pressure*

** For greater accuracy a Programmable Servo-Z is recommended to eliminate variations in air supply inherent with height sensing pressure pads*



SERVO POSITIONING TABLE XY MACHINE

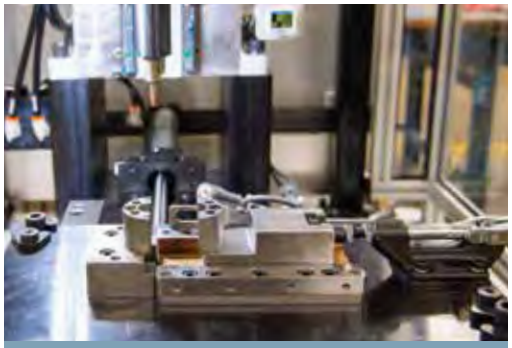
INDEXING DIAL MACHINE

ROBOT INTEGRATION

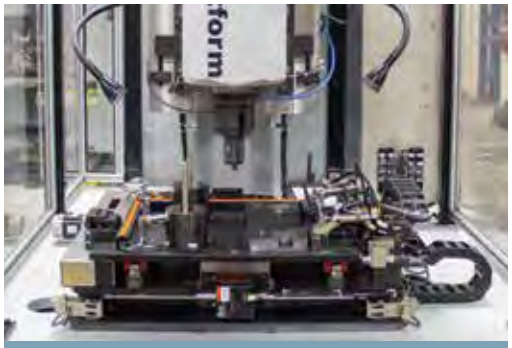
AUTOMATION ASSEMBLY

Orbitform delivers your desired custom assembly outcome based on your individual needs.

Sophisticated design, manufacturing, and building of your complete assembly solution happen all under one roof. Keeping the production of your machine in one location allows for exceptional project management from start to finish. Our knowledgeable controls engineers have experience integrating auto part feeding, part presence, part testing, and so much more.



SLIDE FIXTURE



AUTO TOOL CHANGING

DESIGNED, MACHINED, AND BUILT IN-HOUSE
All the designing and building of our systems and machines take place in-house. That means every piece of Orbitform equipment is manufactured in the USA.

SINGLE & MULTI-STATION WORK CELLS
Automate between different machines and processes with Orbitform. Let our knowledge take you a step ahead of the competition. Reduce set-up times and increase throughput with multi-station work cells.

PROCESS INTELLIGENCE
Monitor force output, stack up height, dwell time, rivet height, forming height, and detect rivet presence to ensure every part formed satisfies your specifications.
See page 22-23.

GREATER PRODUCTION
Multiple operations and processes reduce set-up times and increase production speeds.

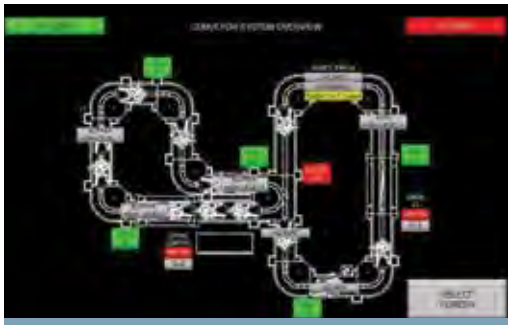
PALLETIZED

LOW BACK PRESSURE

PART ON CHAIN

CONVEYOR ASSEMBLY

Orbitform offers robust conveyor solutions with intelligent traffic control to improve your part flow. Through protective part handling, we move your parts and assemblies quickly and safely.



CONVEYOR OVERVIEW SCREEN

PRECISION LINK

HIGH VOLUME PRODUCTION
Keep production levels up with the high capacity of palletized conveyors. Integrate with third-party equipment to ensure high efficiencies.

PART BUFFERING
Reliable part buffering technology ensures that parts are ready for assembly at each working station on the conveyor line.

NO PART-TO-PART CONTACT–PALLETIZED IMPRESSION LINK
Parts ride on individual pallets to eliminate contact with surrounding parts on the line and maintain orientation.

FORM PARTS DIRECTLY ON THE LINE
With accurate pallet stopping technology, lines can locate and support parts in assembly stations directly on the conveyor line.

MINIMAL CONTACT FORCE
Parts exert very little force on each other as they move down the line. The force of movement comes from the chain itself.

FLAT BELT CONFIGURATIONS
Flat belt configurations are available. Contact us for more information.

SPARE PARTS, TOOLING
AND SERVICE

We stand ready to support your machining and maintenance needs. Orbitform can engineer, reverse engineer, manufacture, and supply spare parts and tooling for your assembly machines. Industry leading spare parts and tooling lead times.

Orbitform provides a strategy of reliable, advanced, and effective industry-leading service and support. We are committed to reducing downtime and increasing efficiency, with the capacity to be both reactive and proactive to the needs of your business.

We provide on-site training, preventative machine maintenance, troubleshooting, and technical support.

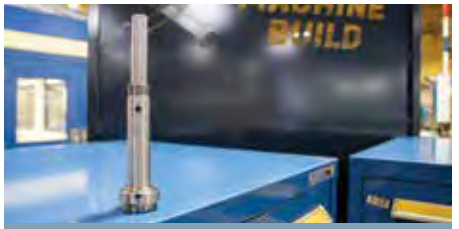
Manufacturers with the forethought to stock their floor with spare parts and tools as well as perform routine maintenance, reduce machine downtime and production setbacks.

https://www.orbitform.com/services-processes/spare-parts-tooling-service/

Spare Parts and Tooling Sales Engineer
serviceparts@orbitform.com

Service Manager
service@orbitform.com

NOSE PIECE



SPINDLES

ORBITAL TOOLING

ROLL SETS

IN-HOUSE MACHINING

ON HAND STOCK

SUPPLY NON-ORBITFORM TOOLING
We can reverse engineer parts created by other machine builders.

QUALITY SERVICE
Our dedicated spare parts and tooling department is driven to meet your needs and deliver your parts promptly.

PARTS ON HAND
We have most of our standard machine parts on hand and also stock parts for custom-built machines as well.

SOLUTIONS LAB

PROCESS IDENTIFICATION

PROTOTYPING

TOOLING DEVELOPMENT

SMALL BATCH PRODUCTION RUNS

SOLUTIONS LAB

It starts with your part, where our Applications Engineers know the best way to optimize your assembly process. We build in value by defining, verifying, and optimizing the right manufacturing process to achieve your functional, quality, and aesthetic requirements.

PROCESS IDENTIFICATION
After examining your parts and prints, we suggest which of our 6 core processes will be the best solution based on your required specifications. Leveraging multiple processes allows us to be unbiased in our approach. Engaging in a lab development to assemble your sample or prototype parts provides confidence prior to making a large equipment investment.

PROTOTYPING CAPABILITY
Theory can only take you so far. We can guide in developing your part every step of the way. Our lab engineers use their experience to advise on the best way to assemble your parts and test that theory.

IMPROVE YOUR PROCESS
If your process works, but you would like to improve it, we can guide you with best practices to improve your cycle time and throughput.

SMALL PRODUCTION RUNS
If production quantities are low and return on investment doesn't justify the capital investment of a machine, we can run the parts on one of our lab machines.

Orbitform
...solutions delivered.

Orbitform experts deliver the right fastening, forming, and assembly solutions so you can achieve your desired outcome.

Fastening & Forming

... unbiased approach.

Orbital • Impact • Articulating/Static Roller Forming
Hot Upset Forming • Radial • Specialty Press

Automation

... custom assembly outcomes.

Total Customization • Robotic Integration
Work Cells • Small Dial • XY Machine
Servo Positioning Slide • Build-to-Print

Conveyors

.. advancing your parts & assemblies.

Palletized Conveyors • Traffic Control • Total Customization
Work Cells • Low Back Pressure Conveyors
Dumpers/Sorters • Precision Link Integration • Build-to-Print

Process Intelligence & Control

... measure, learn, control, repeat.

Process Monitoring • Serialization Integration
Data Logging • Servo-Driven Control
Vision Integration • Pivot Joint Testing Equipment

Spare Parts, Tooling & Service

... immediate assistance & support.

Perishable Tooling • Orbitform Machine Parts
Part Touching Fixture Components
Non-Orbitform Reverse-Engineered Tooling

Solutions Lab

... it starts with your part.

Process Identification • Tooling Development
Prototyping • Small Batch Production Runs