

**Delivering real benefits
in truck exhaust
manufacture**





Leading the way in tube manipulation technology and expertise

In today's fast-paced global economy, truck exhaust component manufacturers face greater challenges and rely on the precision quality of their tube bending machines more than ever before. Shorter product life cycles, enhanced product quality expectations, and pressures to decrease production costs are causing companies to take a closer look at their current manufacturing processes.

Manufacturers of truck exhaust components require high flexibility and fast changeovers with automated set-ups to maximise bender utilisation on a multiple article process. Machine robustness, rigid specifications to tube bending and form accuracy, the availability of tooling and spare parts on extremely short notice, are all critical factors to ensure that production plants remain in operation during scheduled production shifts.

Through pioneering design, state-of-the-art manufacturing capabilities – enabling rapid solutions to market – and a unique ability to translate each customer's vision and functional requirements into a leading-edge solution, AddisonMckee leads the way in bringing reliability, repeatability, precision and, most importantly, enhanced production capability, to even the most complex truck exhaust tube bending and manipulation requirements.

AddisonMckee provides an impressive suite of solutions for the truck exhaust industry – from large diameter, truck exhaust tube bending and end-finishing machines and associated tooling, to fully automated and integrated production cells, to muffler and catalytic converter assembly machinery, and much more – all using the latest technologies, but built on proven durable designs. The large variety of truck exhaust tube manipulation machinery installed throughout the world confirms our position as a world leader of truck exhaust tube forming solutions.



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Tube endforming, cutting and notching technologies



AddisonMckee also manufactures tube endforming, cutting and notching automation machinery for a wide variety of commercial exhaust applications.

These tasks include: tube expansion and reduction, sizing, beading, flaring, doming, parting, end-trimming, angle- and radius-cutting and more.

From our simple expansion and reduction process technologies, to our tube sizing equipment, blade parting machines and our versatile multi-hit ram formers, all models are extremely well-built, robust and easy-to-operate.

They also have proven reliability – gained through many years use in some of the world's most demanding production environments.

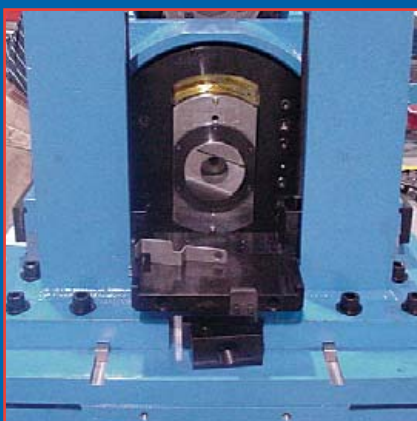


Large diameter tube endformers:

- PowerForm (PF) and FormMaster (FM) series
- 100mm (4") and 150mm (6") tube diameter capability
 - Rotary Form Generator/Trim (RFG/T)
 - Ram Form (RF)
 - Adaptable Ram Spin (ARS) = ER, RF, RS, RFG
 - Expand/Reduce (ER)
 - Inside/Outside Segmented (ID/OD)

Large diameter tube cutting/notching machines:

- PowerForm (PF) and FormMaster (FM) series
- 100mm (4") and 150mm (6") tube diameter capability
 - Hydraulic Tube Notcher (HTN)
 - Tube Trim with Pre-Notch (TTPN)
 - Horizontal Tube Trim with Pre-Notch (HTTPN)



Complete workcell automation and integration



With today's ongoing drive for greater efficiency, AddisonMckee offers a range of complete workcell automation and integration solutions designed to deliver exceptional levels of precision, speed and economy.



Recently developed for bending large diameter, thin-wall tubing for truck exhaust components, AddisonMckee truck exhaust manufacturing workcells typically provide 1D bending of various grades of mild and aluminised stainless steel tubing up to 150mm (six inches) in diameter, with wall thickness as thin as 1.65mm (65 thousands of an inch).

An AddisonMckee automated manufacturing cell may typically consist of:

- AddisonMckee 'DataBend' all-electric tube bending machine(s)
- A tube roll-down rack (for tube delivery) with seam detector (for correct tube orientation)
- A patented AddisonMckee bend-tool change solution
- AddisonMckee 'FormMaster' tube parting endforming machine(s)
- Robot(s); AddisonMckee cells integrate with most robotic suppliers
- A 'pin stamp' tube marking station
- An exit conveyor and cell master control unit



Capital and consumable tooling



Precision tooling is at the heart of every manufacturing process and, at AddisonMckee, we understand the critical role quality tooling performs in endforming.

We offer a complete line of bending and endforming tooling and accessories, all produced under the control of ISO9001: 2000 certified quality systems.

We also make available tooling inventory, as well as ordering programmes and agreements – all to meet our customers' demands for shorter lead-times, reduced stock and lower prices.

Unparalleled tooling quality and experience:

- 20 years of experience in tooling design & manufacturing
- Superior AddisonMckee quality and reliability
- Premium tool steels and heat treating processes

Dedicated service and support:

- Global customer support infrastructure
- Development and testing cell at AddisonMckee – USA facility

Impressive delivery capability:

- Class-leading lead times for standard consumable tooling
- Automated design to minimise engineering time
- Dedicated manufacturing cell to maximise throughput
- Common tools (barrels, mandrels, accessories) held in inventory

Exceptional value:

- Competitively priced worldwide
- Corporate tooling agreements with preferred pricing available



Commercial exhaust benders

With legislation indicating future reductions in diesel exhaust emissions, AddisonMckee technology can also help you meet the greatest demands yet to face exhaust manufacture:

- Faster changeovers and shorter batch runs
- Tighter radius bending on thinner wall at large diameters
- Compound bending
- Boost-to-tangent to reduce costly tail-end scrap
- Better wall thinning control

Features for the highest levels of controllability, reliability, accuracy and repeatability:

- All-electric, modular technology
- Reduced running and maintenance costs
- Cleaner, quieter operation
- Improved axis resolution – for better repeatability
- Stack-tool and multi-radius capability; tooling benefits via large, programmable stack height
- Boost from 8000Nm to 15000Nm
- Boost-to-tangent – for maximum tube utilisation
- Auto setting and fully programmable
- Faster floor-to-floor via greater axis control

The DataBend DB100, 130 and 150 ESRB

...large diameter, all-electric, flagship series

diameter	100mm (4"), 130mm (5") & 150mm (6") tube dia capability
material	thin-wall stainless steel
axes	fully electric
"d" ratio	1D



With AddisonMckee's world-beating, flagship range of all-electric truck exhaust benders, manufacturers can enjoy greater efficiencies and significant reductions in tube wastage.

Further advancing the ongoing drive towards tighter bends, higher standards and reduced manufacturing costs, AddisonMckee tube manipulation technology significantly enhances tube savings and considerably improves the process cycle time for larger tube diameters and tight, multi-radii bends.

The PowerBend PB100 and 150

...large diameter, hydraulic, 3-axis draw bending

diameter	100mm (4") and 150mm (6") tube dia capability
material	cold-rolled steel
axes	3-axes, hydraulic
"d" ratio	2D

A high-performance draw bending range, designed for the accurate and repeatable production of tubular components, PowerBend models provide levels of accuracy, repeatability, quick tool change and ease of operation as required by today's truck exhaust manufacturing industries.

"The AddisonMckee PB series of benders are, without a doubt, the best bending machines for the money on the market today. The control is the most stable and reliable I have ever worked with on a CNC hydraulic bender, while maintaining a very user-friendly interface for the operator. I would encourage anyone considering a bending machine purchase to contact me directly, so I can extol the virtues of the PB."

Mike Baverstock, Engineering Manager
Southern Tube Form, LLC



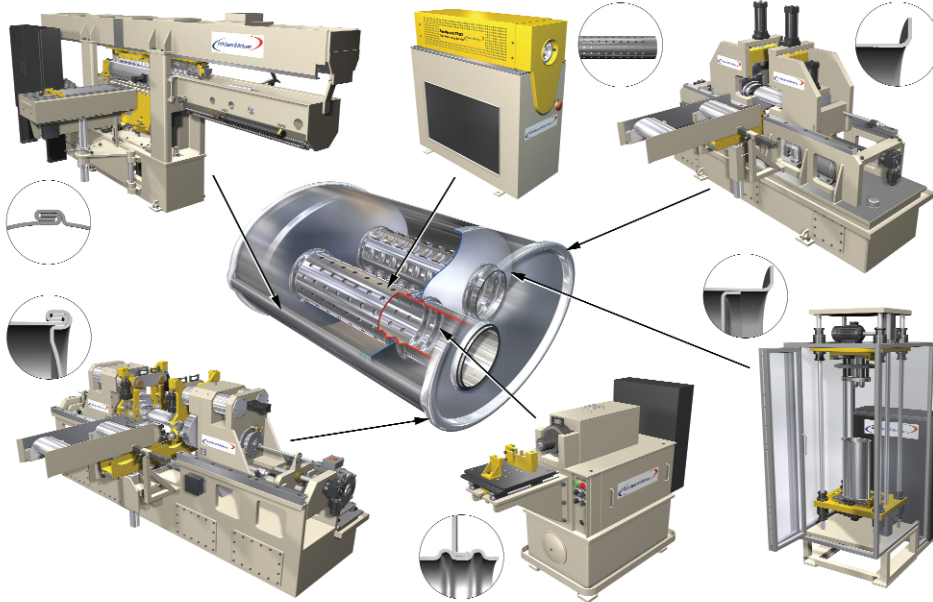
Key features:

- Maximum 20 bends per programme
- X, Y, Z/Y, B, C axis data input
- Automatic release of tube prior to final bend
- Extensive programme storage with USB ports backup
- Allen-Bradley control unit, drives and motors
- Rexroth hydraulics
- Foot pedal cycle start
- Recapture software
- Anticipated mandrel retraction
- Safety scanner and barrier rail
- Recapture software and online diagnostics

Other precision technologies from AddisonMckee

Complete muffler assembly solutions

For lockseaming, flanging, stuffing, capping, spinning, louvring, perforating and ridgelocking



Catalytic converter assembly solutions

For rolling, closing, brick stuffing and end cone sizing



C-Frame hydraulic presses

Available in 25-, 50-, 75- and 100-ton models



Inspection systems

Non-contact measuring machines for use specifically in the tube bending industry – to obtain data for bending machines and to provide information for inspection purposes.

In-process and final-inspection bend check gauges



Lubricants

A choice of clearly superior tube lubricants for tube bending, cutting and washing operations.



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