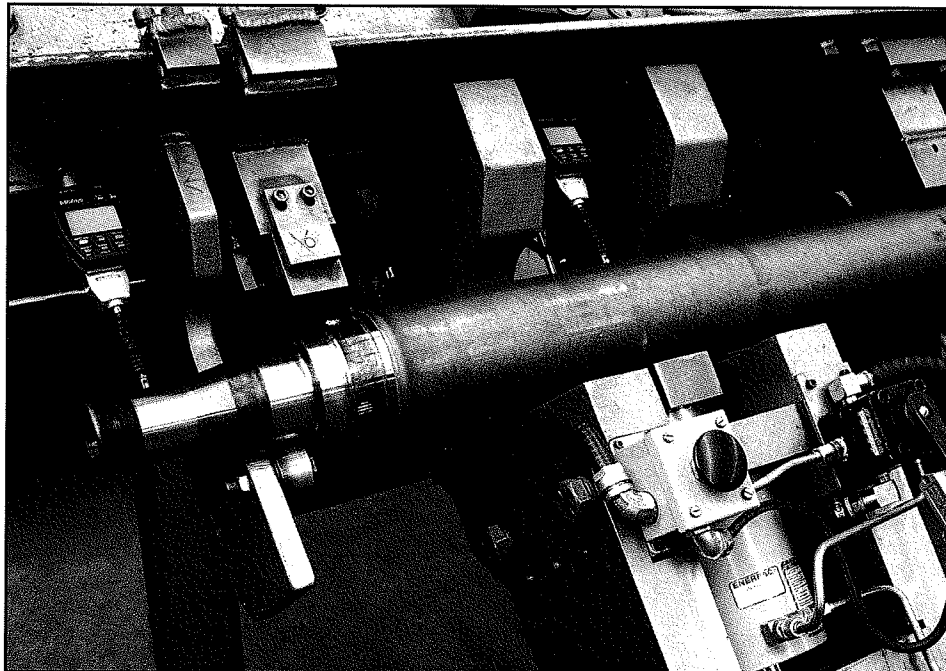


Axle Beams



Company Profile

A.R.D. Industries Ltd. is a privately held Canadian company incorporated in 1975, owned by James R. Huber and Ronald B. Shantz, managers of the company.

A.R.D. Industries Ltd. produces friction welded components and does sub-contract friction welding of customer's goods, for a broad variety of manufacturers, including electrical, automotive, truck and trailer, forestry, oil and mine tools, photocopier, hydraulic, etc., and is Canada's only friction welding sub-contract manufacturer.

Friction welding is a 'solid state' (no melting) joining process done on a machine tool, that welds a circular interface by rotation of one component and axial force between components, to heat and upset material by friction only, with no filler metal, flux, or shielding gas, only parent material length loss. Weld strength normally equals or exceeds parent material strength.

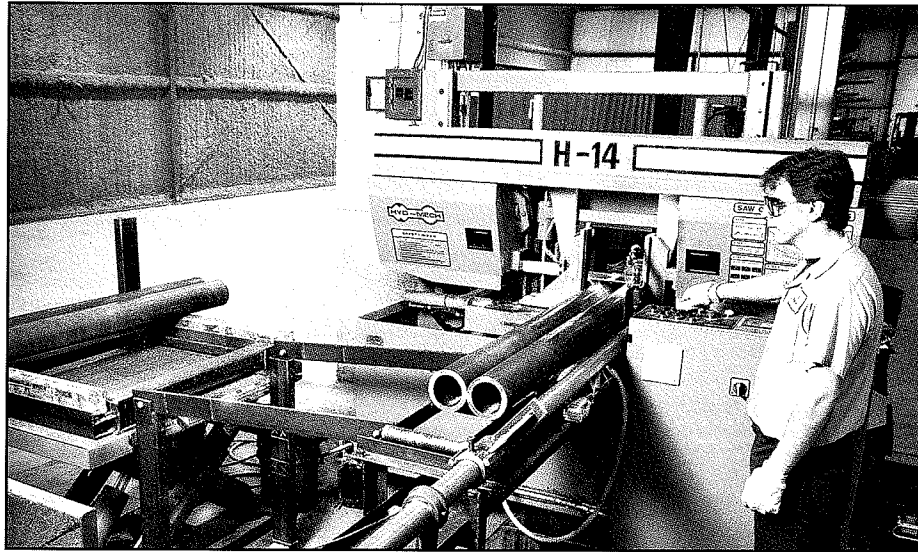
A.R.D. operates six (6) welders from six (6) tons to one hundred fifteen (115) tons forge capacity (with orientation) and also does production cutting, CNC turning and induction heat treating of welded assemblies. A.R.D. occupies 19,000 square feet in Cambridge, Ontario, Canada, has designed it's own "generic" control for retrofit to older machines and employs 25 people. A.R.D. is preparing for audit to ISO9002-1994 in the spring of 1999.

In recent years, transport trailer axle beams have become A.R.D.'s most important and largest volume product, for which the company has a capacity of 5,000 beams per month.

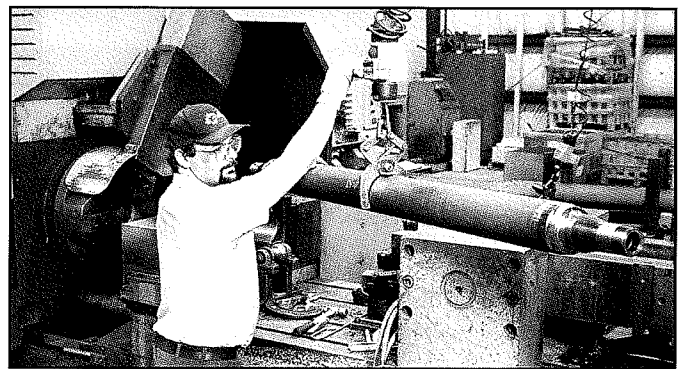
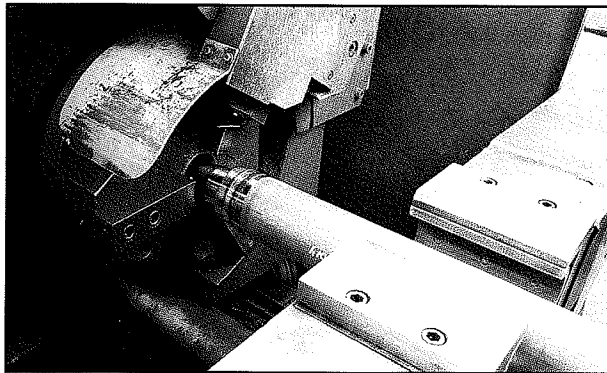
Material Sources

A.R.D. uses "World Class" qualified tubing and spindle suppliers that also supply integrated manufacturers of fully dressed axles and axle/suspension systems. All tubing is hardened and tempered to a minimum yield strength of 90 Ksi, for optimum strength/weight ratios. A.R.D. receiving inspection ensures material quality and conformance to specification.

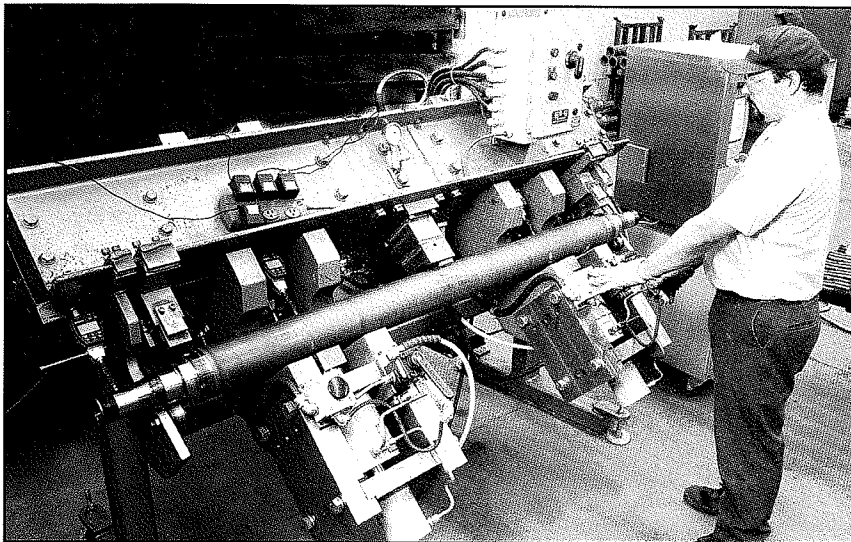
Production Operations



Saw cut tubes to length from standard 'Multi' and inspect for tube defects, squareness and length.



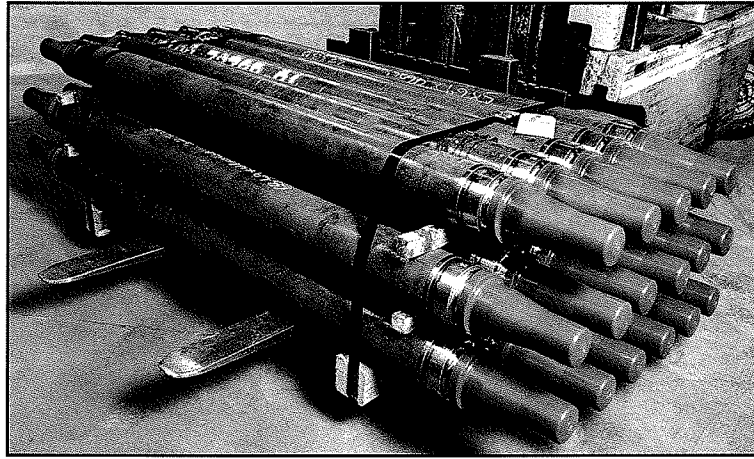
Friction weld spindles to tubes and hot scarf weld flash on welder. 'Bend test' first off parts, inspect overall length, flash diameter and 100% machine monitor all welds.



Inspect bearing TIR 100% and straighten beams as required on special machine.



Pin stamp serial # on each beam and archive heat lot data for 100% traceability.



Package for export or domestic shipment.

Current and Previous Axle Beam Customers:

Hendrickson Trailer Suspension Systems,
Canton, OHIO USA

IMT Corporation,
Ingersoll, Ontario Canada

Hayes Dana Inc., Chassis Products Div.,
Barrie, Ontario Canada

Available Axle Beam Models:

Spindle Bearing Groups: F22, F23, F24 (Propar)
Tube Sizes: 5.0" O.D. X .420, .460, .562, .600 & .700" minimum wall
Standard Track Widths: 71.5", 73", 77.5"
Special Track Widths: 28 - 96" per customer requirement.

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