

FIXTURES

Quad Vertical Combination (QVC) or Dual Vertical Combination (DVC) Chucks

Holds up to 8 parts in the Quad Vertical Combination Chuck or 4 parts in the Dual Vertical Combination Chuck on horizontal machining centers. Permits virtual continuous spindle use, decreased tool changes, and practically eliminates downtime for parts changeover.

"C" Frame Fixtures

Provides complete machining of large valve body flanges and/or weld connections by clamping on part's body. Parts are machined complete in a single operation.

Horizontal Indexing Trunnion

Can be accommodated by virtually all vertical machining centers. Multiple fixtures mounted on up to four sides allow access to three sides of workpiece. May be manually or automatically indexed. Hydraulic clamping available.

Modular Fixtures

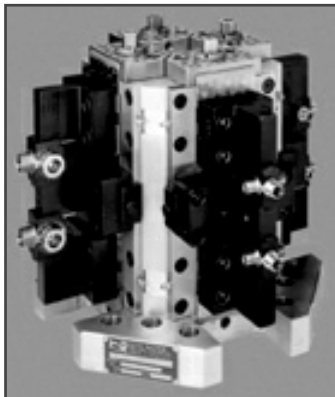
Expands and contracts to fit the largest and smallest parts by rearranging the clamping components in the x-y-z axes. Vee adjustments are self-centering or convertible to independent operation. System reduces the number of dedicated fixtures required. Reduces load and unload times.

Special Hydraulic & Manual Fixtures

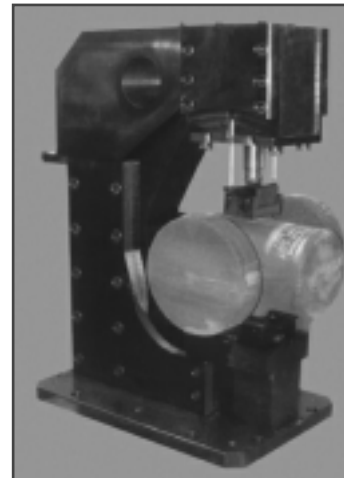
Special manual and hydraulic fixtures hold parts that are large or have unusual configurations or are difficult to machine. Royal will provide modularity and interchangeability, where feasible, to provide the lowest cost solution.

Rotating Fixtures

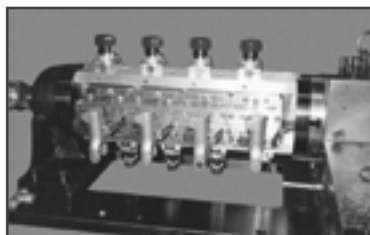
Provide a means to machine odd shaped parts in a lathe. Specifically useful to do yokes and automotive spindles. Hydraulic pressure provided through rotating coupling.



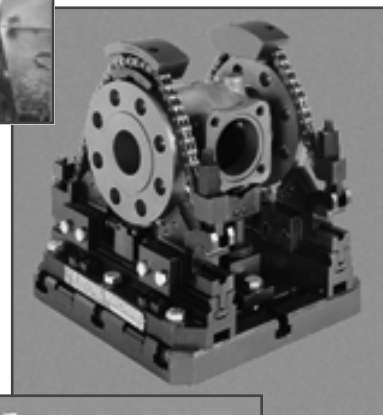
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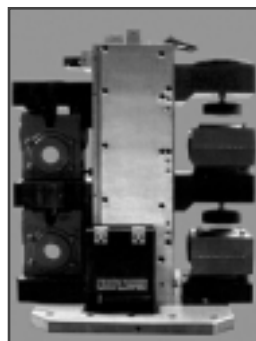
"C" Frame Fixture



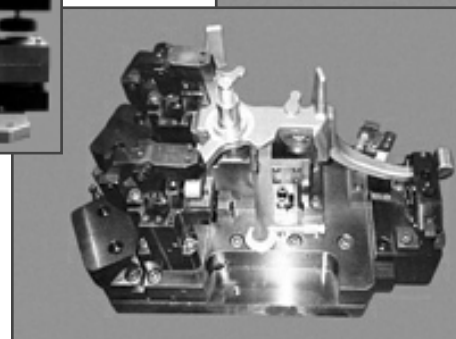
Horizontal Indexing Trunnion



Modular Fixtures



Special Hydraulic & Manual Fixtures



Rotating Fixtures