PRODUCTION FIXTURES

- Production Fixtures
- Automation
- Complete Turnkey Solutions

CO-OP TOOL WORKHOLDING SYSTEMS
A DIVISION OF HAMMILL MANUFACTURING COMPANY
Production Fixtures

• Co-Op Tool Workholding Systems provides a Turnkey Workholding Package including concept development, design - including tool layout, manufacture, assembly and prove-out at the customer plant.

• All fixtures are tested for accuracy and functionality with actual part pieces prior to shipping.

• Our commitment focuses on quality at the source – the manufacturing process. Innovative design, combined with years of experience result in consistent quality in every part.

• Fixture Actuation may be:
  – Hydraulic
  – Pneumatic
  – Manual
  – Captured Oil – accumulator built into fixture for cell applications
  – Spring Clamp with Air or Hydraulic Unclamp

All fixtures are Production Intent – designed to meet the challenges that face production manufacturing applications. Designs incorporate internal (gun-drilled) hydraulic and air passages, chip and coolant windows to prevent chip built-up, proven and reputable hydraulic components, and rock-solid engineering, all backed up with on-site service and support.

Applications:

• Multi-sided fixtures (up to 6 sides)
• Progressive Fixtures
• Indexing Fixtures
• Collet Centralizing Fixtures
• Broaching Fixture
• Trunion Fixtures
• Sequencing & Pressure Reducing Designs
• Rotary Transfer Fixtures & Pallets

All fixtures are supplied with a Complete Engineering Package, including CAD drawings, all detail drawings and commercial items.

Where established fixtures exist, Co-Op Tool can provide “Build-To-Print” manufacturing and “Rebuild/Reconditioning Services.” In addition, we can reverse engineer existing designs and provide a complete set of manufacturing drawings.

Co-Op Tool Engineers can Troubleshoot Existing Fixture Problems and provide long-term, production-intent solutions to fix the problem.

Our job is to keep You out of trouble!
**Turnkey Manufacturing Solutions:** Over 50 years of technological advancements gives Co-Op Tool the experience to design and build custom tooling for a customer’s unique requirements. This includes concept development, design, approval, manufacture, assembly and prove-out at the customer’s plant. We take responsibility for the entire project, providing a single-source for your accountability assurance.

**Automation Solutions**
- Custom End-of-Arm Tooling
  - 2-Jaw Parallel Gripping Systems
  - 3-Jaw Concentric Gripping Systems
  - Pullback (Angular) Gripping Systems
  - Rotating Gripping Systems
  - Collet Gripping Systems
  - Custom Gripping Systems
- Orientation Modules / Pre-Staging Modules
- Compliance & Alignment Devices
- Automation Fixtures
- Turnkey Automated Systems – Complete Automated Systems
- Perishable / Backup Tooling

**Automation Modules**
Co-Op Tool supplies turnkey automation modules for new applications, as well as retrofitting existing applications. We supply a complete turnkey package from the initial concept development, through manufacturing, assembly, installation and runoff on the customer’s floor.

**Custom Controls Engineering & Programming**
In cases where the machine control cannot handle the automation requirements, Co-Op Tool will provide turnkey controls engineering and programming. In addition, we provide a complete integration package, including on-site installation and support.

**Complete CAD Engineering Package**
Co-Op Tool provides a complete engineering package. In addition, as required, FEA and FMEA analysis is conducted to anticipate and prevent problems in the field.
Our commitment focuses on quality at the source – the manufacturing process. Innovative design, combined with 50 years of manufacturing experience, results in consistent quality in every part we manufacture and install in our systems.

**Fixture:** 2-sided, hydraulic fixture  
**Part:** Front axle assembly  
**Clamping Function:** Hydraulic clamping with spring actuated load-assist mechanism

**Fixture:** 2-sided, A/B fixture  
**Part:** Lower control arm  
**Clamping Function:** A-load – hydraulic toggle clamping with load-assist, B-load – spring actuated ID collet chuck with hydraulic assist, and hydraulic toggle clamps
Fixture: 2-sided, A/D fixture
Part: Transmission case
Clamping Function: Hydraulic clamping with sequencing and air sensing

Fixture: A/B fixture
Part: Transmission case
Clamping Function: Hydraulic clamping with spring actuated load-assist mechanism

Fixture: 2-sided, B/C fixture
Part: Rear knuckle, right and left hand
Clamping Function: Hydraulic clamping with sequencing and air sensing

Fixture: 2-sided, A/D fixture
Part: Rear knuckle, right and left hand
Clamping Function: ID pull-back collet chuck with hydraulic actuation, and spring-loaded radial orientation device
Fixture: 5-axis trunion fixture with integral servo motor
Part: Alternator cover
Clamping Function: Hydraulic clamping with air sensing, 5-axis motion is electronically controlled

Fixture: 4-axis trunion fixture
Part: CV housing
Clamping Function: Hydraulic part locator and hydraulic swing clamp, with sequencing
**Fixture:** Rotary Transfer Fixture  
**Part:** Brake caliper  
**Clamping Function:** Hydraulic clamp with air sensing for part presence

**Fixture:** 24-part, A/B/C/D Progressive Fixture  
**Part:** Steel housing  
**Clamping Function:** 2-jaw centralizing vice chucks, hydraulic clamp with air sequencing

**Fixture:** 1-sided "Window Frame" Fixture with replaceable fixture plates  
**Part:** Cylinder head  
**Clamping Function:** Hydraulic clamp with air sensing
The Divisions of Hammill Manufacturing Company

**CO-OP TOOL Workholding Systems**

*Custom Workholding*

- Excelling in the design, development and manufacture of custom workholding, including chucks, collets, hydraulic arbors and tombstone fixtures
- 90,000 Sq. Ft. Facilities

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