

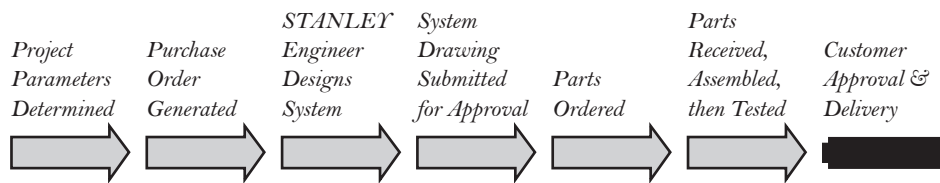
# Engineered Systems - Turnkey System Design

## Comprehensive Project Management from Proposal to Customer Approval

STANLEY offers these important advantages:

- A menu of standard and customized solutions apply to a wide range of applications
- Integrated supplier (all tools, controllers, accessories, etc. + design and installation/ support services from a single source) for assured, seamless system integration
- Full project management accountability with single point contact

## Typical Project Milestones:



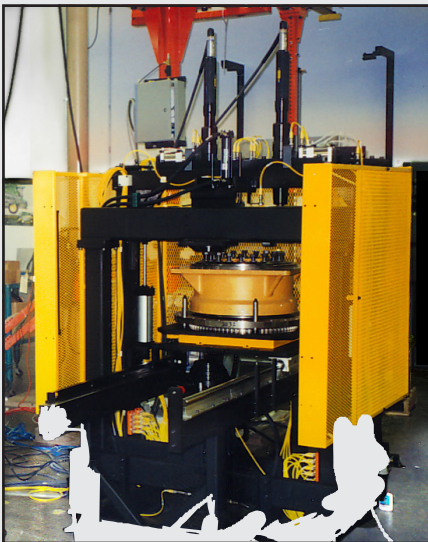
## STANLEY Turnkey Solutions:

- Application engineering
- Comprehensive system design capabilities including estimates, specification, manufacturing, and flexible component sourcing
- Project scheduling
- System integration
- Installation/ Startup
- PLC Software, custom ladder
- Documentation
- Training

## STANLEY Solutions In Action - Multi-Spindle Fixtured Tools

### Semi-Automation

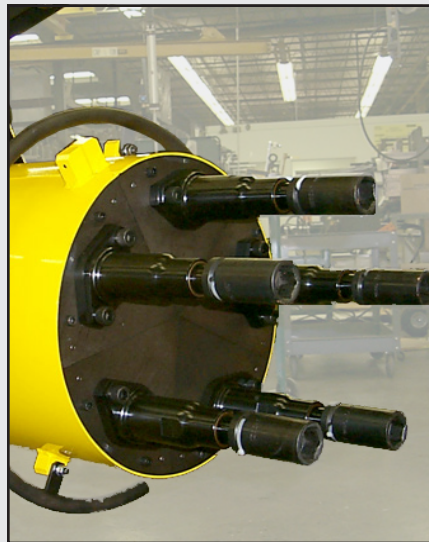
Off road final drive assembly machine



- 3 station assembly operation:
  - Hydraulic press
  - Digital measurement
  - Fastener secure
- Part indexing, bolt spacing and configurations for distinct assemblies
- Custom controls integrate to plant network
- All controls and design to customer specs

### Trunnion

Secures fasteners in randomly oriented bolt circle



- Trunnion rotates to align tools with fasteners
- Torque recovery strategies available for wheelnut secure installations
- Multiple spindle systems absorb torque reaction
- Automatic "bias-in", kick-off", and headlight options available

### Bolt-Holding

Holds bolt stationary while securing nut



- Reactionless operation reduces injuries
- Semi-automatic rundown
- Cycle complete operation eliminates external influence
- Multiple spindle options available