

# R.T. Patterson Company, Inc.

## Engineers and Consultants

### CLIENT

General Motors Powertrain  
Bedford, IN

### PROJECT

Die Stands for Upright Storage of 50-Ton Die  
Casting Dies

### PROJECT SCOPE

General Motors wanted to store eight different large 50 ton die casting dies assembled and in the upright position to save floor space and reduce die changeover time including time to install on the stands which had to be designed for quick change with all die types. RTP provided concepts and a detailed design for several styles of die stands, a plant layout, installation scope of requirements-drawings, inspection services for fabrication and construction engineering assistance. Additionally, RTP provided PE certification for the stands.

### RTP SCOPE OF WORK

RTP provided the following engineering services:

- Assist in the development of the Scope of Work for OEMs.
- Develop multiple plant layout concepts for evaluation by the client.
- Develop multiple die stand assembly concepts for evaluation by the client.
- Prepare detailed specifications and Scope of Requirements for OEMs and install contractor.
- Develop structural design drawings for:
  - Installation layouts of various locations in the plant including on slab and over the tunnels.
  - Fabrication drawings for modular one place, two place and three place die storage stands for Die Cast North.
  - Fabrication drawings for Die Preparation stands for Die Cast South.



### RTP SCOPE OF WORK - Continued

- Fabrication drawing for die spacers unique to each die class and quick access tool storage rack..
- Specification for forged T-bolts for each die and certification of fabrication process.
- Fabrication drawings for in-plant upgrade to SGE die compatibility for Die Prep stands.
- Fabrication drawings for compact one place die storage stand for SGE in Die Cast North.
- New design of one and two die modular die stands for wider dies in DCS.
- Fabrication drawings for HIBC Die Storage and prep stands.
- Fabrication drawings for HIBC preheat stand with thermal barrier and Thermal Control Units.
- Provide installation instructions for leveling, grouting and anchoring the stands
- Provide design assistance for die stand on motorized die transfer system.
- Foundation with guide rail and electrical installation for motorized die transfer cart.
- Tool and bolt chart specific for each tool family.
- Provide PE certification for all die stands, spacers and fasteners.
- Provide on-site inspection at fabrication shop for each stand.
- Provide on-site construction assistance engineering during installation.

