IMPLEMENTATION ENGINEERS
Dynamic Solutions in Action

Operator Training Program
Machine Tool Manufacturer

Situation

The client is a manufacturer of heavy machine tools, generally a one of a kind product. The machine tool operators must be highly skilled, since nearly every part they manufacture is unique. They work to very demanding quality levels and tolerances. Increased demand for product and attrition in the ranks of skilled machine operators caused the client to hire a considerable number of new operators, and we were asked to develop and carry out a training program to help them become skilled machine tool operators.

Approach

Implementation Engineers prepared a series of training programs. These were compiled by first determining the knowledge and skills held by qualified operators, then translating that information into a knowledge base. The knowledge base was constructed in the following steps:

- Conducting an intensive series of interviews with people involved in heavy machine tool operation, which included managers, supervisors, programmers and machine operators.
- Reviewing operator manuals and service manuals for the machine tools, as well as cutting tool catalogs and textbooks.
- Reviewing available visual aids and seminars.

Results

The output from the assignment took several forms:

- A schedule of standard machine tool operating practices, which were posted at each machine.
- A series of classroom sessions dealing with relevant topics:
  - Tool selection, installation, and maintenance

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  - Setting up and aligning work pieces
  - Metal removal practices and operation sequences
  - Using, changing and indexing attachments
  - Metrology and work piece measurement
  - Laboratory test cases

- A series of examinations to determine the retention rate and level of comprehension of the lesson plan so it could be enhanced as we gained more understanding of the material and students.