POWER TRANSMISSION COMPONENTS
FOR GEARBOXES, GEAR REDUCERS, ELECTRIC MOTORS, AND MECHANICAL DEVICES

- EXHAUSTIVE STOCK AT DIRECT-FROM-MILL COSTS IN MULTIPLE TOLERANCES, CONFIGURATIONS, AND GRADES
- WE ARE COMPETITIVE AT ANY QUANTITY DUE TO HIGH-VOLUME PROPRIETARY FIXTURING

OVER 1 MILLION POUNDS OF SQUARE AND FLAT STOCK

SPRINGS AND RETAINERS
FOR RIGGINGS, POWER TRANSMISSION, VALVES, AND ENGINE MANUFACTURERS

- GLOBAL SOURCING OF LONG RUNS
- COMPLETE SECONDARY OPERATION FACILITIES FOR PLATING, HEAT TREATMENT, WELDING, GRINDING, AND FINISHING

SOURCED WIRE FORM CAPABILITIES FOR QUANTITIES UNDER 10,000
FASTENERS AND CONNECTORS
FOR INDUSTRIAL, AGRICULTURAL, CONSTRUCTION, TURF, AND TRAILER PART MANUFACTURERS

LASERED LUGS
THICK PARTS
SPECIAL DOWEL PINS
SHIMS
DIN 983 PEERING NUTS
PARTS LASER CUT TO SPEC

¢ A COMPETITIVE LASER SHOP, COUPLED WITH OUR EXTENSIVE MACHINE SHOP,
  ALLOWS US TO BE A ONE-STOP SHOP FOR TURNED AND FLAT PARTS ¢

TURNING, LASER, AND GRINDING FOR QUANTITIES OF 1-10,000 PIECES

PINS AND LINKAGE PARTS
FOR AGRICULTURAL, INDUSTRIAL, AND COMMERCIAL EQUIPMENT

COLD HEADING
MULTIPLE CROSS HOLES
MACHINICAL DEVICES
GROUND WITH GROOVES
TURNED AND GROUND
HEX GROOVES
TURNED PARTS

¢ EXTENSIVE TURNING EQUIPMENT WITH AUTOMATIC BAR FEED ¢
¢ CROSS DRILLING AND LIVE TOOLS FOR REDUCED SET-UP ¢
¢ GLOBAL SOURCING FOR HIGH-VOLUMES ¢

ESPECIALLY COMPETITIVE FOR QUANTITIES UNDER 5,000 PIECES

SALES@HUYETT.COM
CAPABILITIES SUMMARY

- Nearly every square/flat combination up to 2" carbon steel.
- Direct from mill non-ferrous square stock up to 2" with some flats.
- DIN 6880 and ANSI B18.8.1 key stock class 1 and 2 fits.
- Turning up to 4°.
- Laser up to 1°.
- Water jet up to 8".
- Die cutting to 0.001".
- Wire forming up to 1/8".
- Centerless grinding within 0.0001".
- Most production methods geared to short runs.
- Global sourcing in the Pacific Rim, South America, India, and Eastern Europe.
- In-house engineering.

OVER 100,000 UNIQUE SKU's IN STOCK!

GENERAL COMMODITIES
PINS
RETAINING RINGS

GREASE FITTINGS

WASHERS

KEY STOCK

P.O. BOX 232
EXIT 49, G. L. HUYETT EXPRESSWAY
MINNEAPOLIS, KANSAS 67467

PHN: 785.392.3017
FAX: 785.392.2845
EMAIL QUOTES TO: SALES@HUYETT.COM

VISIT OUR WEBSITE AT WWW.HUYETT.COM
MANUFACTURING CASE STUDY

PROBLEM:
Engineers were looking to identify cost savings in an "end-stop key." The key slid back and forth in a channel, with a pin serving as a "stop." The legacy part consisted of a stainless steel key, partially drilled, with a grooved pin on one end.

OPPORTUNITY:
Dowel pins are more expensive to produce than alternate designs such as a rolled pin. Rolled pins have a less precise outside diameter than many dowel pins. Orientation may be required of the rolled pin, which can complicate installation. A "type H" grooved pin was the best solid pin application because it required a less precise hole than a dowel pin, and the grooved end provided a more sturdy grip.

An alternate design and build strategy was considered. Die casting provided sufficiently precise dimensions, with a solid stopping mechanism. With die casting, there was no pin installation cost, and overall design was more consistent. In addition, there was no need for operator intervention in pin depth and placement.

SOLUTION:
Using G. L. Huyett Engineering and Global Sourcing, a die casting contractor was located in Taiwan. Low tooling and setup costs, coupled with the installation and production cost advantages over multiple-piece designs yielded an acceptable part at a fraction of the legacy cost. Overall, the customer's goal of cost reduction was exceeded by a wide margin.
**PROBLEM:**

An agricultural equipment company was using tube connectors, tubing and a grease fitting to provide a service location to a recessed bearing. The recess exceeded the total length of commercially available grease fittings, and the legacy design was complicated to users. In addition, the legacy design was unreliable in an outdoor environment.

**OPPORTUNITY:**

A solid design sufficiently robust to allow deep seated installation and exterior wear & tear was required. The ability to change out faulty or contaminated parts was also considered; provided that there was sufficient seal to allow "flow through" of grease from a grease gun down into the bearing.

**SOLUTION:**

The G. L. Huyett manufacturing team designed a thick walled extension with tapered male threads to provide a "pilot" into the recessed hole. The tapered threads were designed to provide a dry seal, as well as to mate into the female threads on the other end. In addition, a mating deep seated "socket" was designed for a more automated assembly. It allowed interchangeable parts for repair and replacement. Special production processes were used to make the longer shanked part straight and true. The final design provided better reliability, simpler, and more robust design and interchangeability at slightly less than legacy costs.
MANUFACTURING CASE STUDY

PROBLEM:
A POWER TRANSMISSION CUSTOMER WAS USING A PRECISION DRILLED MACHINE KEY AS A POSITIONING REFERENCE IN AN IMPORTANT MECHANICAL APPLICATION. THE THREE HOLES IN THE PART POSSESSED HIGHLY PRECISE TOLERANCES FOR ALIGNMENT AND POSITIONING. THE LEGACY MANUFACTURING METHOD YIELDED HIGH SCRAP RATES AND SETUP COSTS. THIS WAS DUE TO THE ACCUMULATED MANUFACTURING TOLERANCES INHERENT IN THE CONVENTIONAL PROCESS.

OPPORTUNITY:
G. L. HUYETT HAS PROPRIETARY AIR-OVER HYDRAULIC MILLING FIXTURES THAT ARE SEATED ON PALLETS. THE AIR-OVER HYDRAULIC DESIGN PROVIDES HIGH RIGIDITY, CLAMPING POWER AND THROUGHPUT. THE THROUGHPUT IS INCREASED BECAUSE THE OPERATOR LOADS PARTS WHILE THE MACHINING CENTER OPERATES.

SOLUTION:
USING AN OVERSIZED BLANK PART, THE G. L. HUYETT MANUFACTURING TEAM DESIGNED PRODUCTION TO RUN ON THE AIR-OVER HYDRAULIC FIXTURES. THE ENTIRE KEY IS FORMED AND DRILLED FROM A SOLID PIECE, TURNED OVER, AND IN A SECOND PASS, THE BOTTOM IS REMOVED. THE RIGID ONE-PIECE PRODUCTION DESIGN AND TWO-PART PRODUCTION OPERATION RESULTED IN A COST SAVINGS OF 56%.

GLH-MCS-003-R02

CASE DESCRIPTION:
PRECISION DRILLED MACHINE KEY

09/2009
**Problem:**

A square handle used on electrical boxes required a radiused edge to ease installation, and had a precise effective length between grooves to ensure a tight fit. Because the part was square shaped, a lot of “chatter” is created during production by the “interrupted cut” during turning. The edges of the material “beat” on the tool until penetrated and turned smooth. Such “chatter” impairs accuracy and thus machine time must be increased as spindle speed is reduced.

**Opportunity:**

G. L. Huyett's Global Sourcing Team was able to locate profile mills to make raw material with pre-radiused edges. The raw steel was specified to precise lengths to reduce waste on the chucked end.

**Solution:**

The radiused raw stock reduced “chatter” and allowed spindle speed to be increased. Machine time is reduced by higher throughput, as well as the elimination of the radius as a turned operation. Scrap was reduced by 12% by coordinating raw material length to consumption and production setups. In addition, a test electrical box assembly was deployed as a “go-no-go” gauge to ensure perfect groove width accuracy.
# Request for Quote

## Required Information

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## Special Instructions

- [ ] Is this urgent?  
- [ ] Is this an emergency?

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Email: sales@huyett.com