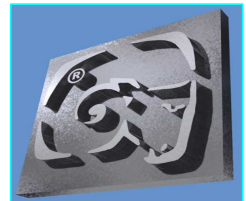




Ramcel Engineering Equipment List



Production Equipment

24 Stamping Presses - Capacities to 400 ton

1 Minster E2 400 Hevi Stamper - 54" x 120" Bed - 10" Stroke
1 Minster E2 300 Hevi Stamper - 48" x 84" Bed - 12" Stroke
1 Minster E2 200 Hevi Stamper - 42" x 84" Bed - 10" Stroke
2 Minster P2H 160-63 (180 tons) - 34" x 63" Bed - 6" Stroke
1 Minster P2 150-60 - 40" x 60" Bed - 6" stroke
7 Minster P2 100-48
4 Minster P2 60-36
1 Minster PM2 60-36 (800 SPM)
2 Minster Pulsar TR2 60-36 (900 SPM)
1 Minster 60 OBI
2 Walsh 65 Ton OBI
1 Walsh 38 Ton OBI

Machining Center

1 Mazak Vertical CNC Machine - 20" x 40" Table

Welding Equipment

1 Lars model 140AP-DV/40KVA

Independent Levelers

2 Bruderer 18-260
1 Bruderer 180-400
1 Bruderer 1-12B0
1 Bruderer 10120
1 Kohler 30-600Tr

Deburring Equipment

1 UltraMatic Automatic Vibratory Deburring Machine - 14 Ft Cubic Bowl
3 Sweco Vibratory Deburring Machines 3 CU. FT.

Degreasing Equipment

1 Finishing Equipment Degreaser - Automatic two dip
vapor degreaser with super heat

Reeling Equipment

7 Take up reels for continuous strip product

Tapping and Insertion Equipment

1 Reynolds #4 thru 1/2"
1 Brother #0 thru 5/16"
1 Haeger Hardware Insertion Press - 8 Tons, 23" Throat - Automated
2 AutoSert Hardware Insertion Presses - 8 Tons, 17" Throat - Automated
1 Universal Tapper Model AVS

Tool Room Equipment

Surface Grinders

1 Okamoto DX - 20" x 40"
3 Browne & Sharpe - 6" x 12"
1 Mitsui - 8" x 18"
1 Mitsui - 6" x 12"
4 Boyar-Schultz - 6"x 12"

Milling Machines

2 Bridgeport Model 2J 42" with digital readout
1 Bridgeport EZ Track

Jig Grinder

1 Moore No. 3 - 11" x 18"

Miscellaneous

1 Jones & Lamson Epic 114 Comparator, 14" screen
1 Jones & Lamson PC 14-A Comparator, 14" screen
1 Ikeda Radial Drill
2 Fosdick Drill Press - 24" x 36" table
2 Hardinge Lathes - 10" Swing
1 Do-All Band Saw
1 Wilton Drill Press
1 Forte Cut Off Saw

Quality Assurance and Inspection Equipment

Inspection Microscopes

Nikon SMZ - 1B Microscopes 10X21

Vision System Inspection

View Summit 800 Video Inspection Machine, +/- 2.5 microns
Working stage 30" x 30" x 10" Software Version 7.01

Rockwell Hardness Tester

Wilson-INSTRON Rockwell Hardness Testers 3 OUS
HR15N-30N-15T-30-T

Mitutoyo Formtracer CBH-400

Contracer X axis +/- (2+L/100um)
Straightness 1um/100mm

Coordinate Measuring Systems

Browne & Sharpe CMM Micro Val PFX DCC
High Accuracy Touch Signal Probe
Liner accuracy 0.0002 inches (0.005mm)
Repeatability 0.00015 inches (0.003mm)

Measuring Instruments

(8) Optical Comparators (OGP) & (J&L)
with 30C"/14C" view capability of (10X)-(20X)-(50X)-(100X)

Calibration Manager

Calibration-Link Manager 2005 Version 1.0

Rockwell Hardness Tester

Wilson-INSTRON Rockwell Hardness Testers 4JR
HRC / HRB

Gauge Force Testers

Chatillon TCM200 Force Testers w/Digital Force Gages DFIS 100

SPC Data Collection Software

SQC Pack 3.0
QI Macros for Excel

High Precision Digital Height Gages

Mitutoyo Heightmatic Series 574

Computer Workstations

SPC Custom In-Process Data Collection Software - (4) Work Stations