

KONECRANES®



Partners working together for better solutions

KONECRANES®
Lifting Businesses™

Konecranes as a company





OUR COMPANY IN NUMBERS

11,700
EMPLOYEES

609
LOCATIONS WORLDWIDE

ACTIVE IN ALMOST
50
COUNTRIES

EQUIPMENT IS
60%
OF TOTAL SALES

1,7
MILLION ANNUAL
SERVICE CALLS

SERVICE IS
40%
OF TOTAL SALES

MAINTENANCE CONTRACTS
COVERING MORE THAN
400,000
EQUIPMENT OF DIFFERENT
MAKES

\$2,530
MILLION IN SALES
IN 2011

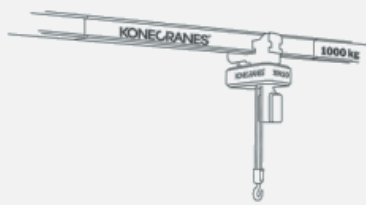


**MACHINE
TOOL
SERVICE**

OUR PRODUCTS AND SERVICES



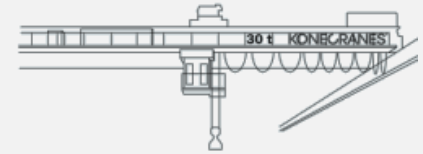
MANIPULATORS



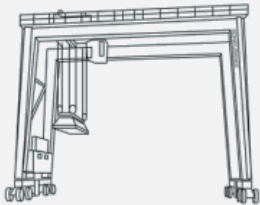
LIGHT LIFTING SYSTEMS



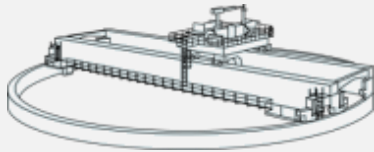
STANDARD DUTY CRANES



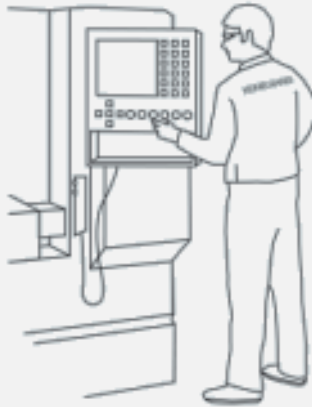
HEAVY DUTY CRANES



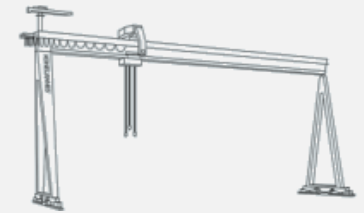
YARD CRANES



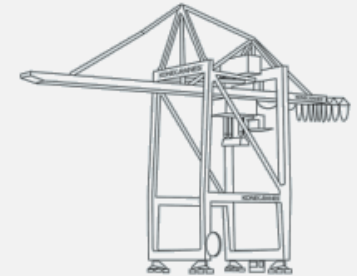
NUCLEAR CRANES



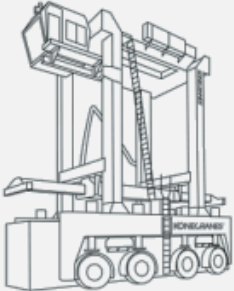
MACHINE TOOL SERVICE



GOLIATH SHIPYARD CRANES



SHIP-TO-SHORE CRANES



STRADDLE CARRIERS



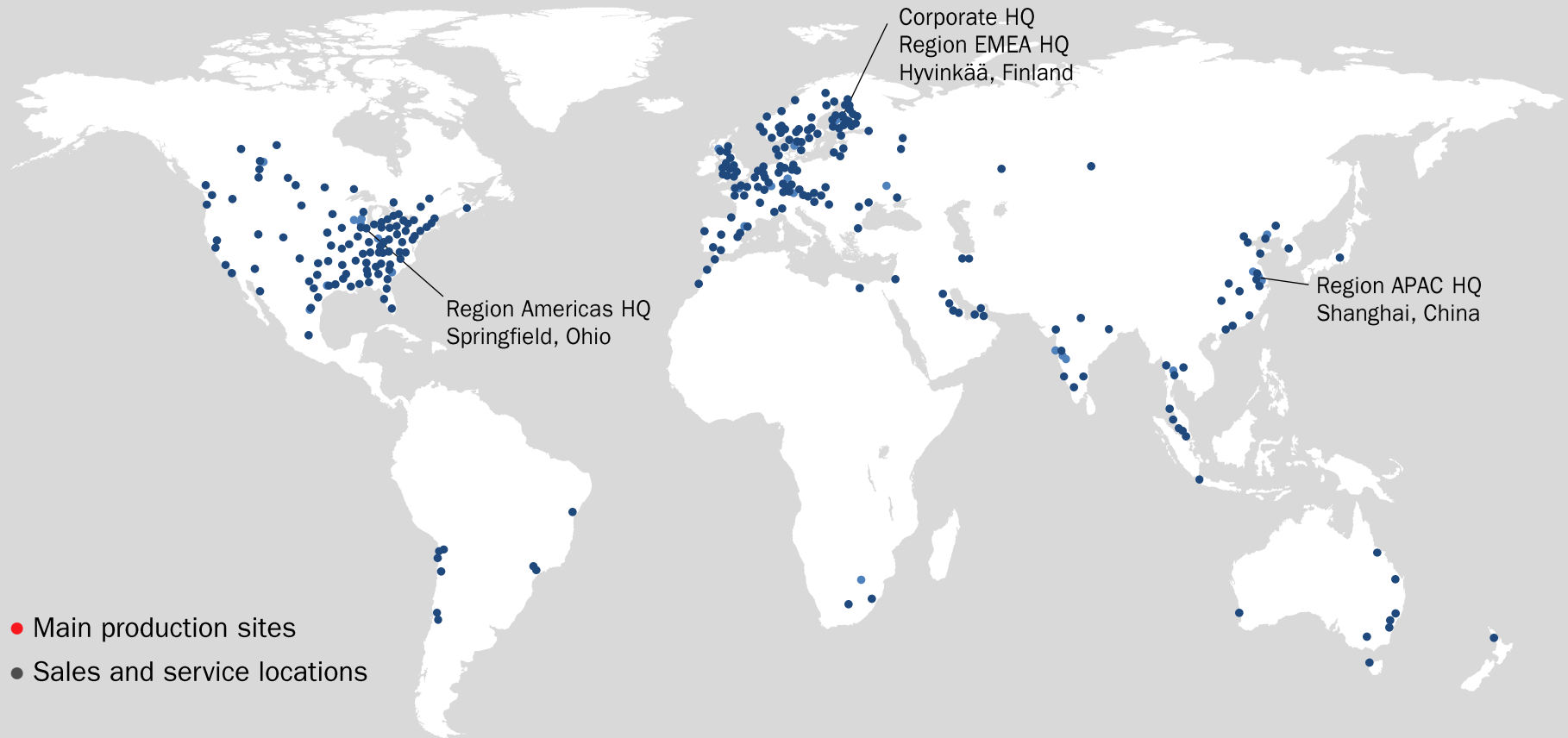
SERVICE AND MODERNIZATIONS



FORKLIFT TRUCKS & REACH STACKERS

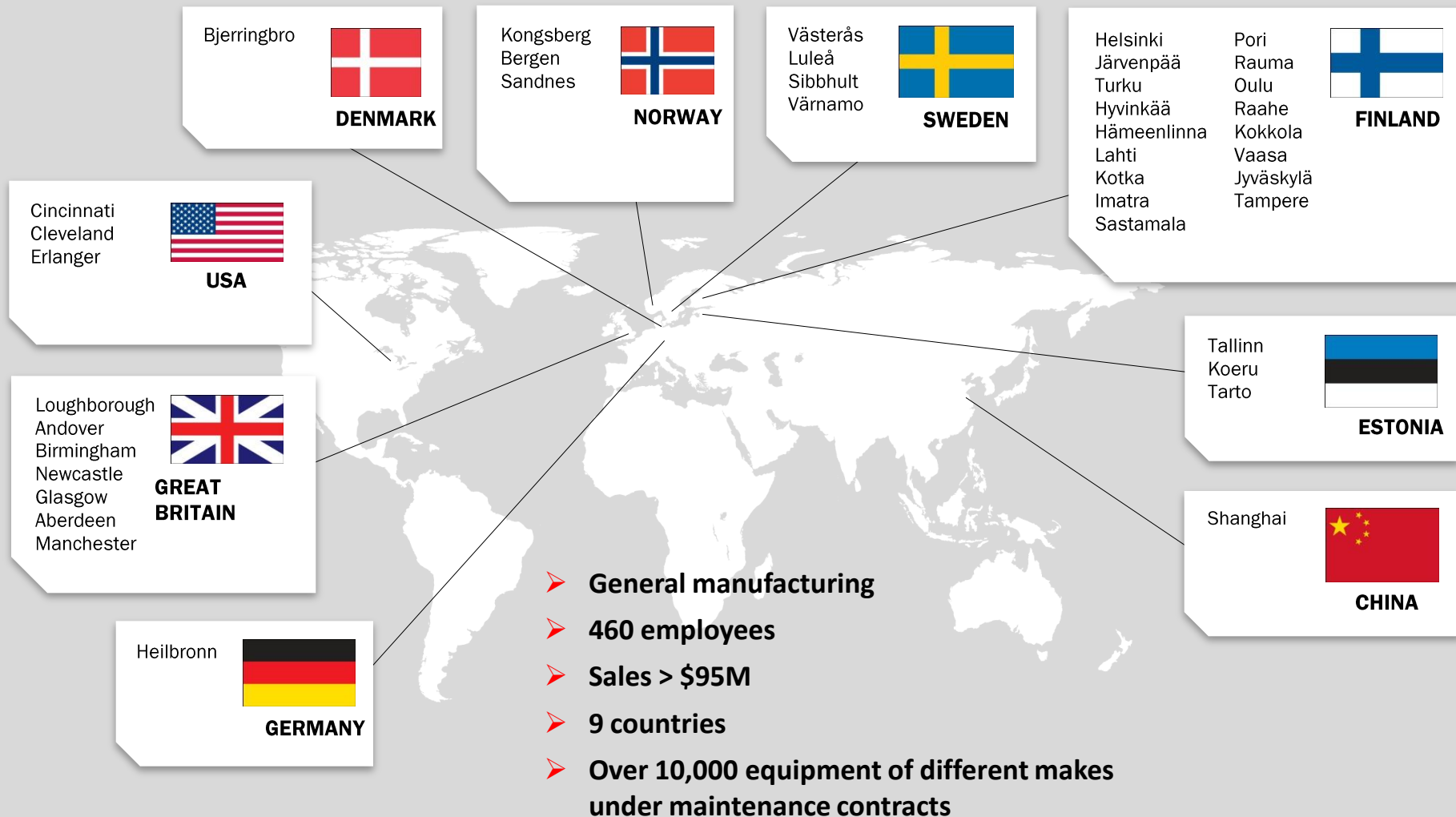


OUR COMPANY ON THE MAP



Konecranes World Wide Network of over 470 service depots, 500 locations operating in 50 countries with production on 3 major continents.

MTS locations around the world





Who is Konecranes Machine Tool Service? What is their Service Experience?

- In October 2009, Machine Tool Solutions Unlimited joined Konecranes and became part of a multi billion dollar corporation with a global footprint that provides localized service. MTSU, LLC opened in 2003.
- In August of 2010 Ohio Hi-Speed Machine joined Konecranes and became part of a multi billion dollar corporation with a global footprint that provides localized service. Ohio Hi-Speed opened in 1994.
- In October of 2010 King Tool Company joined Konecranes and became part of a multi billion dollar corporation with a global footprint that provides localized service. King Tool Company opened in 1978
- We currently operate a global machine tool service business that operates in eight countries including the U.S.
- The annual top line sales for our MTS division exceeds \$95M
- Our service engineers have assisted some of the most respected manufacturing companies in the U.S. to achieve operational excellence and sustain **“World Class”** status.



Who is Konecranes and the Machine Tool Service Division?

- MTSU joined the Machine Tool Services Division of Konecranes in October 2009
- Konecranes is a global Multi-Billion Dollar corporation that is financially strong (debt free) with over 9000 total employees.
- MTS is the largest machine tool servicing organization in the world with over 450 associates dedicated to machine tool service world wide.
- MTS has three facilities in Regions America
- MTS has global purchasing strength.



Who is MTS?

Machine Tool Service is a solutions oriented company, comprised of highly trained and experienced machine tool professionals and strategic partners. Our Associates are uniquely qualified to support our customers with a wide range of solutions and services in a technologically driven market .

Machine Tool Service associates have a strong background from many top machine tool builders and distributor service organizations, such as, ACME Gridley, American Tool Works, Bullard, Cincinnati Milacron, Cincinnati Gilbert, DeVlieg, Deckel, DynaPath, Emco, Giddings & Lewis, Haas, Hurco, Ingersoll, K&T, Kira, Lodge & Shipley, LeBlond, Makino, Motch, Mori Seiki, Okuma, Tree Machine, Warner & Swasey, ZPS to name only a few.

Machine Tool Solutions offers a local presence of highly skilled tradesmen who are highly trained and experienced machine tool professionals with hundreds of years experience.

Machine Tool Solutions Unlimited provides their customers with a wide range of solutions and services in a technology driven market to increase their customer's competitive advantage through productivity improvements



Who is MTSU



Machine Tool Solutions Unlimited (MTSU) is a solutions oriented company, comprised of highly trained and experienced machine tool professionals and strategic partners. Our Associates are uniquely qualified to support our customers with a wide range of solutions and services in a technologically driven market

Machine Tool Solution Unlimited is part of a multi million dollar company with \$150 million in annual machine tool service that is part of multi-billion dollar global corporation devoted to lifting their customer's business.

Machine Tool Solutions offers a local presence of highly skilled tradesmen who are highly trained and experienced machine tool professionals.

Machine Tool Solutions Unlimited provides their customers with a wide range of solutions and services in a technology driven market to increase their customer's competitive advantage through productivity improvements



Our Skills and Core Competencies

- Rebuild, remanufacture and control retrofit of gantry mills, machining centers, horizontal and vertical boring mills, grinders, lathes, turning centers, vertical turret lathes and transfer lines
- Component rebuilding of: Spindles, heads, carriers, automatic tool changers, gear boxes & transmissions
- Field service support ranging from minor repairs to complete on site rebuilds, retrofits and remanufacture
- Machine calibration utilizing our Hamar laser, Renishaw interferometer laser, Renishaw ball bar & Mahr-Federal electronic levels or Faro Laser Tracker.
- Preventative, predictive & facilities maintenance programs
- **Electrical and Mechanical** service repairs and modifications , professional **Management**.



MTS / Konecranes is proud to be
one of 12 Siemens Solutions Partners

Solution Partner

Automation

SIEMENS



MTS was one of GE Fanuc's Five Star Retrofitters until GE and Fanuc changed their relationship and the program ended.
MTS/Konecranes continues on as a preferred integrator for Fanuc

FANUC
FA AMERICA

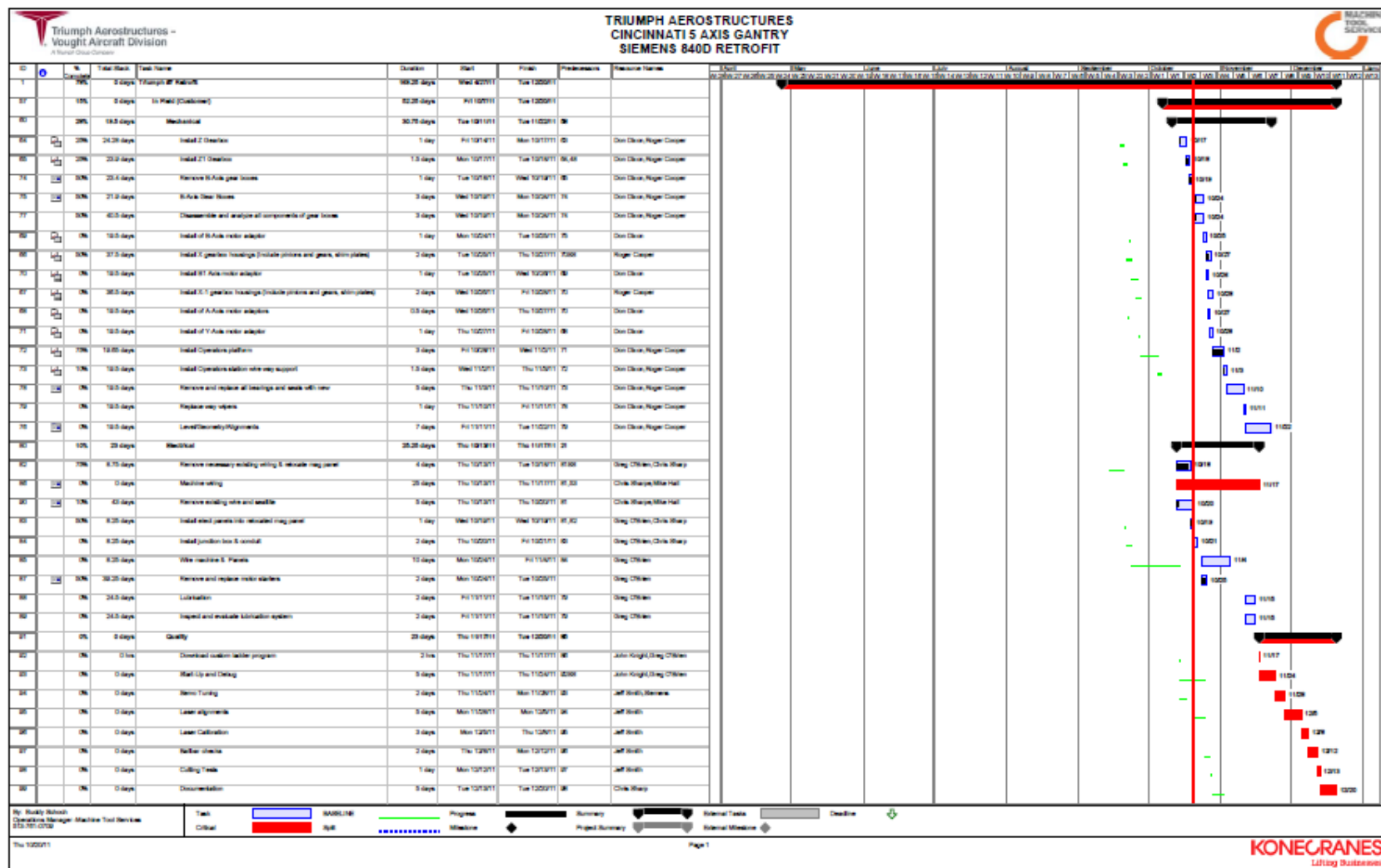


“Quality Results in a Timely Fashion” In Our Plant Or Yours





MTS / Konecranes utilizes professional Project Managers and Microsoft Project with Gantt Chart scheduling





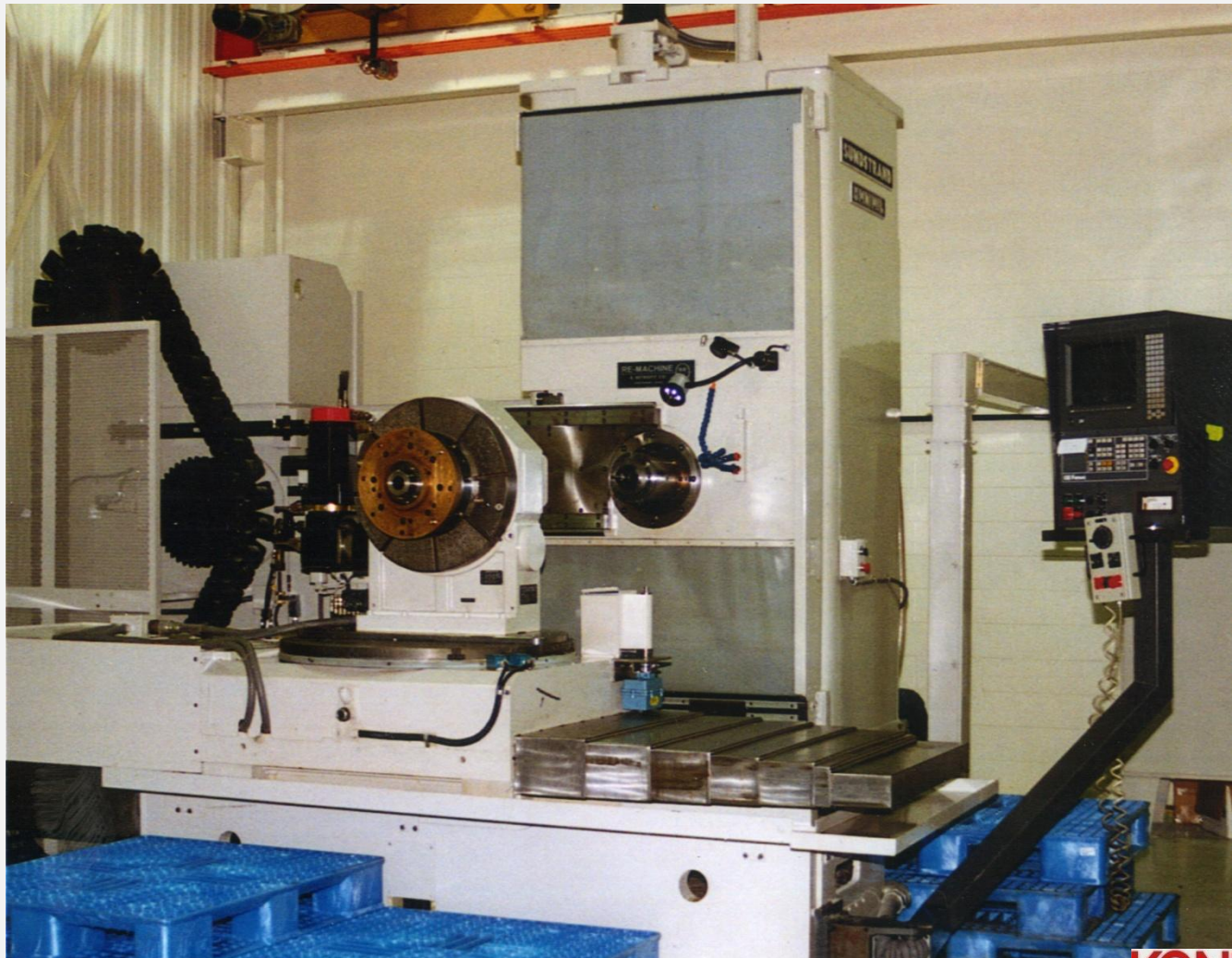
On-site rebuild of Morando SC-55

Completed on time and within budget



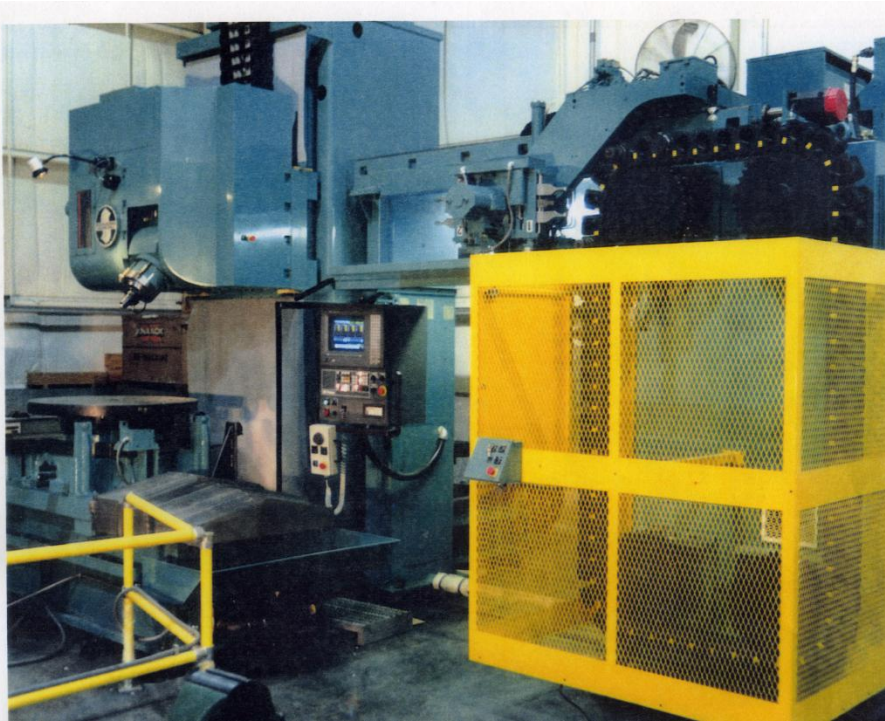


White Sunstrand Omni Mill OM2 remanufactured and retrofitted for Sermatech Lear, now part of GKN.



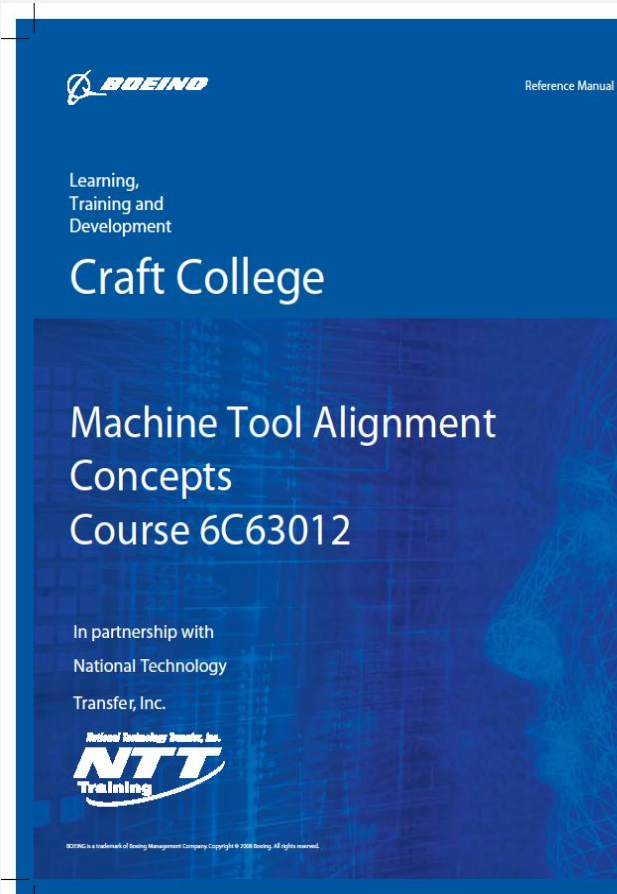


White Sunstrand 5-Axis Omni Mill OM3 for Aerospace Industry (General Electric)





Developed the course materials and syllabus for teaching over 300 skilled tradesmen for Boeing's Craft College in Machine Tool Alignment Concepts, 3 Axis Alignments, and 4th and 5th Axis Alignments



Machine Tool Alignment Concepts

This manual is intended for instructional purposes only. Although there is a lot of technical information this manual should not be relied upon for technical detail and it should not be considered as the only source of information available. Always consult the manufacturer or other authoritative source before making any design changes or performing maintenance.

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Machine Tool Measurements (Metrology) from Lawrence
Livermore National Laboratories

AUTHOR'S NOTES

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MTS/Konecranes is capable of providing customized training programs for any of your manufacturing and machine tool needs.

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3.8	Way Bearings Used to Adjust Geometry	
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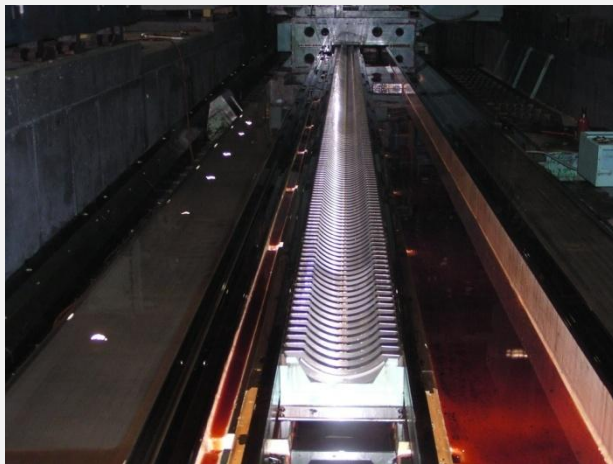
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Appendix A Definition of Terms *(Terms compatible ANSI Standards)*

Appendix B ASME B5.54



Specialists in Large Machine Tools *like* Horizontal Boring Mills, Gantry Mills, Vertical Boring Mills



We have done Henry Line, Mecof, Mighty, Cincinnati 5-Axis Mills





AAR Summa Technologies Milacron Gantry Mill Retrofit





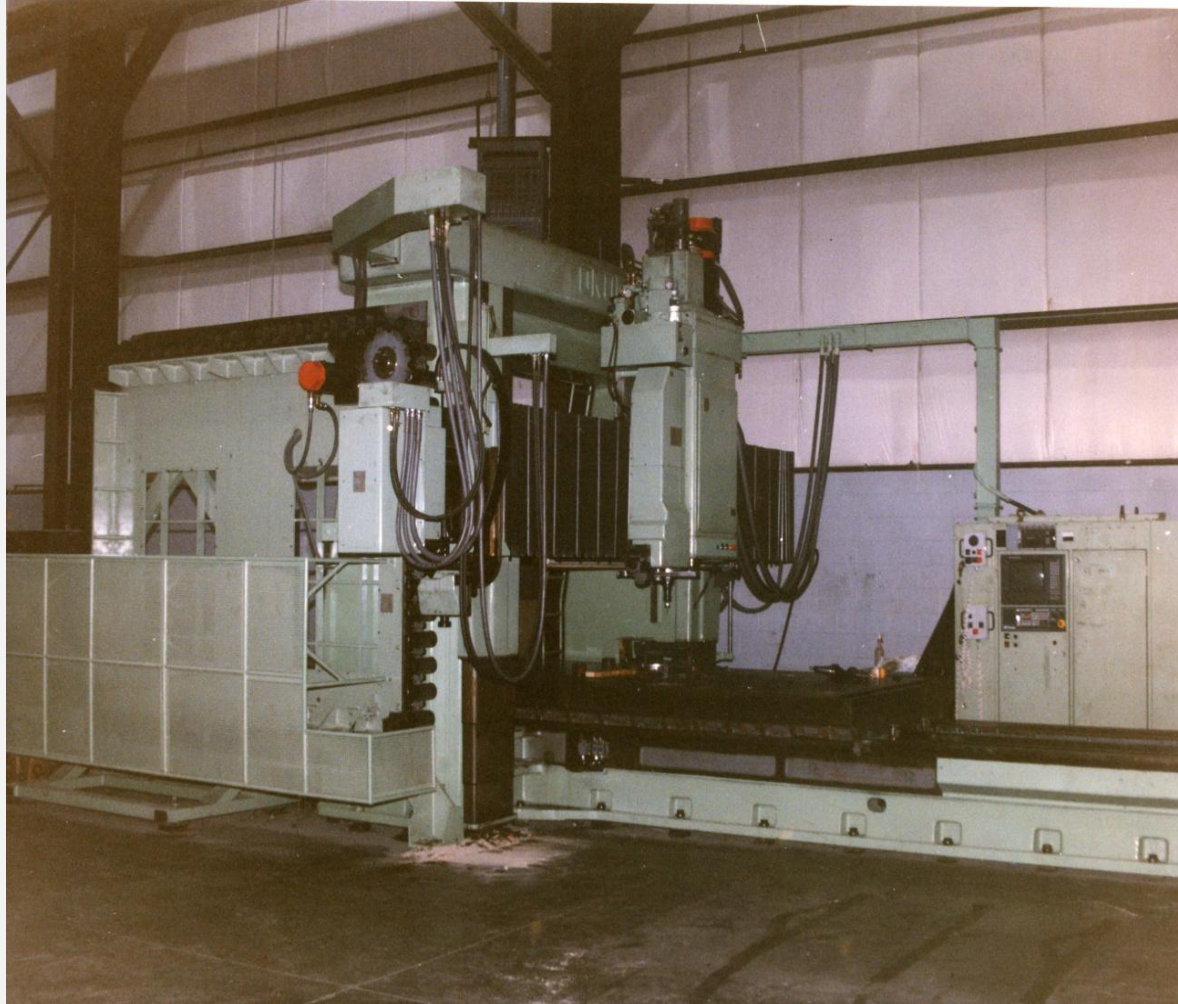
Fosdick Moore Jig Grinder



MTS has many scraper hands allowing us to take on Super Precision Machine Tools



Patterson Pump Okuma Bridge Mill



Okuma Bridge Mill Rebuild





Siemens Retrofit and Select Mechanical Rebuild work for Triumph Aerostructures





Ingersoll Gantry Mill at P&H Mining



Milti-Axis, Multi- Spindle Machines

3 Spindle Gantry Mill Depicted



Cincinnati 30V-5 Axis & Ingersoll Gantry Mills





Detailed & Thorough Documentation

Projects

2001-30 Torrington MicroCentr

Project Setup

Project name: 2001-30 Torrington MicroCentr

Display Device

Model: QUICKPANEL 10.5" Color (QPI-3xxxx)

Initial Screen: 1

PLC & Protocols

SIO/CN1 PLC: GE SNP

Port... Protocol... System...

OK Cancel Help

Additional Project Setup (More...)

Date created: Wed 07/24/02 05:37:49PM

Modified: Sat 01/25/03 07:33:04PM

Author: Dale L. Sweetland (Multimedia Industrial Controls, Inc.)

Notes:

Torrington Microcentric Grinder
Remanufactured by Cincinnati Machine Tool Services, Inc.
August, 2002

OK Cancel Help

Project Setup

Serial Parameters

Electrical Format: RS232C

Baud rate: 19200

Data bits: 8

Parity: None Odd Even

Stop bits: 1 2

Handshake: None Xon/off

OK Cancel Help

Project Setup

GE SNP (Serial)

CPU id: 0C

Timeout: 3 seconds

Processor type: X31/X32

OK Cancel Help

Project Setup

QUICKPANEL System Configuration

Options

Panel trigger tag: 2RU1011

Panel confirmation tag:

Print trigger tag:

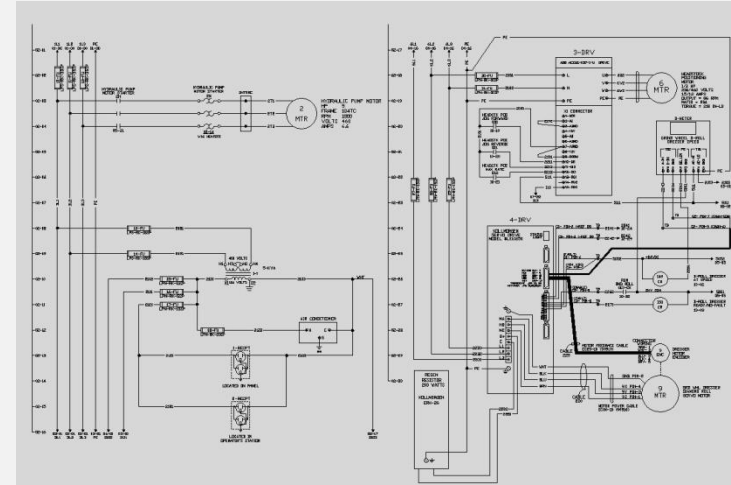
Watchdog

Tag:

Timeout: 0 seconds

Define Passwords...

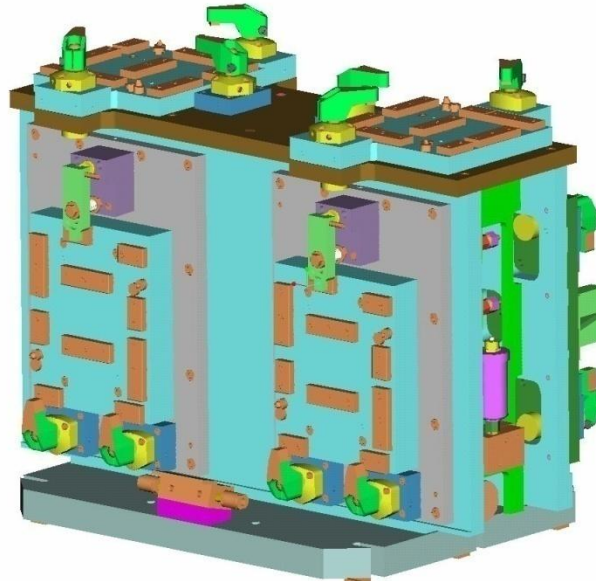
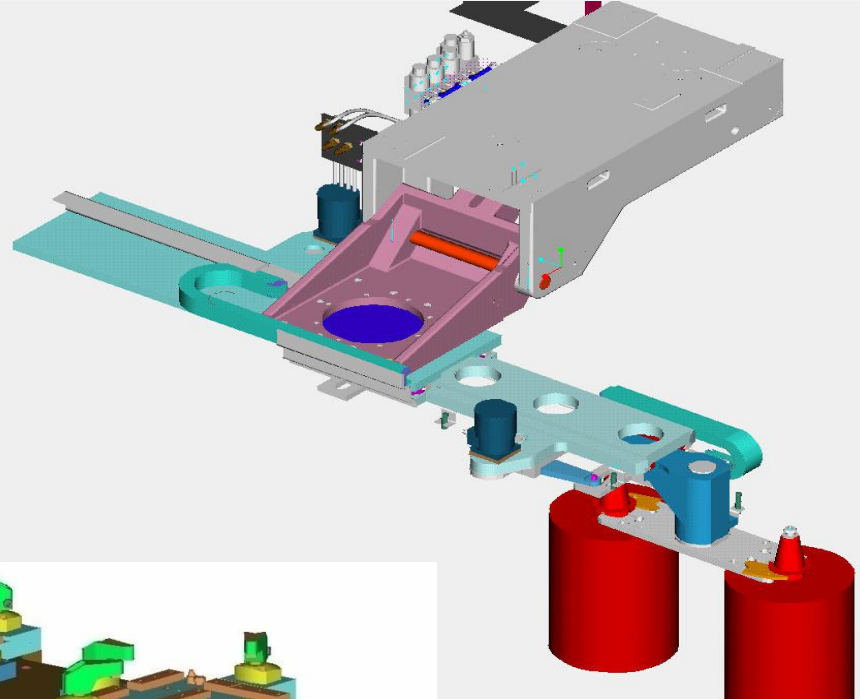
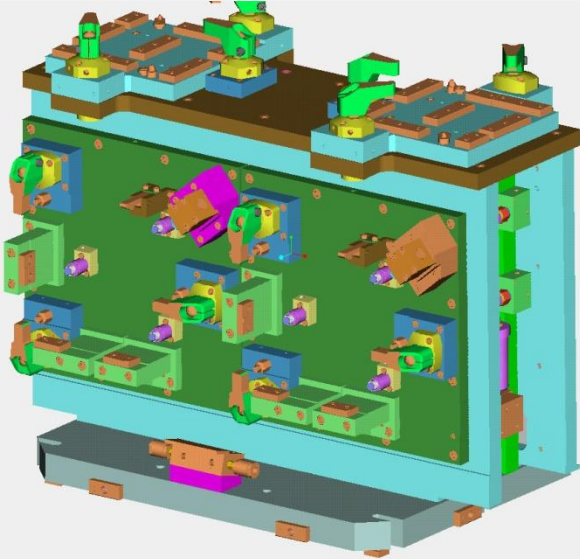
OK Cancel Help



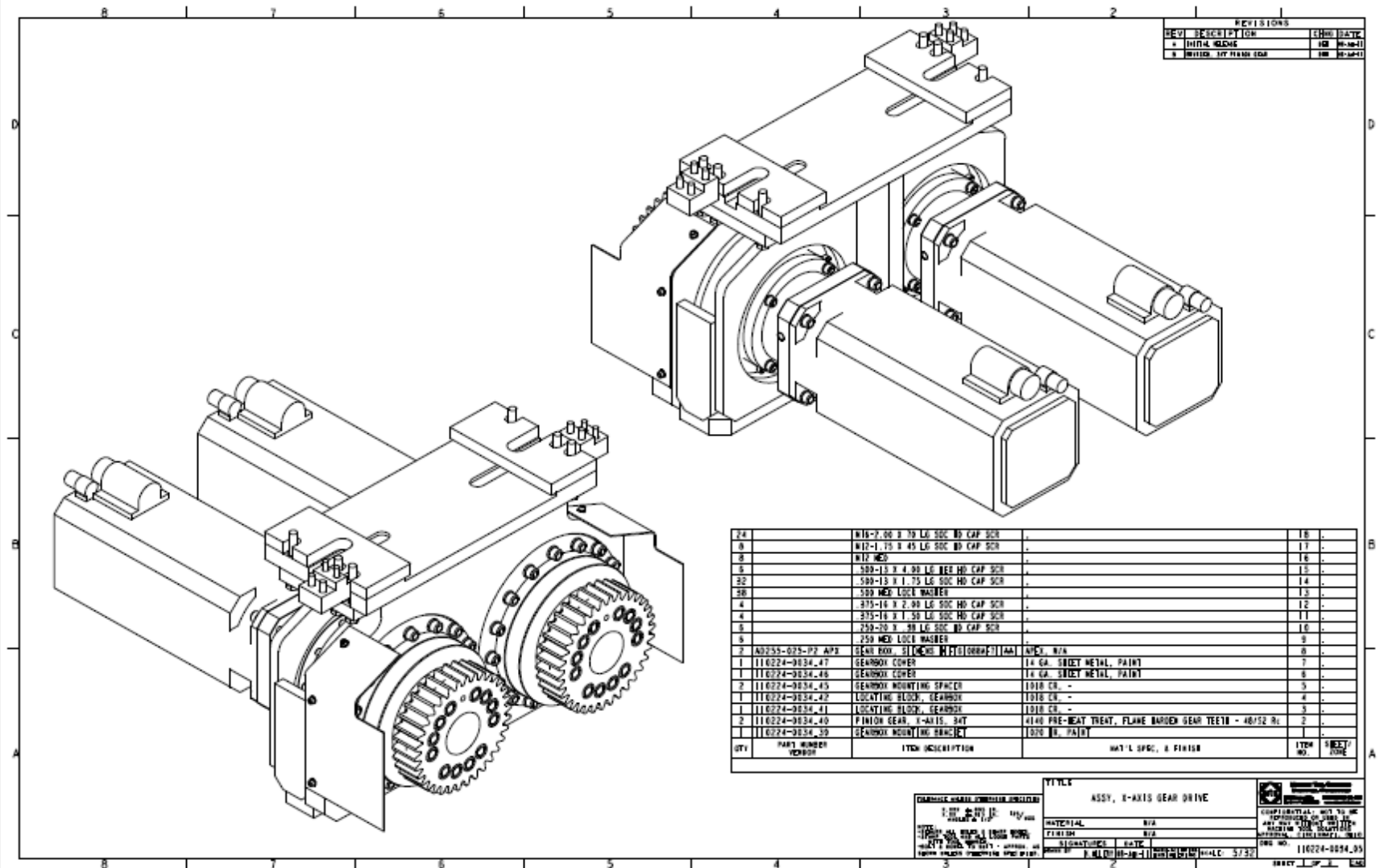
ITEM	QTY.	COMPONENT	IDENTITY	MANUFACTURER	CAT. # OR DESCRIPTION	VENDOR
1	1	ENCLOSURE - FLOOR STANDING		HOFFMAN	A-72X731BLPFC	JOHNSON
2	1	PANEL - COMPONENT MOUNTING		HOFFMAN	A-72P72	JOHNSON
3	1	SWITCH - MAIN DISCONNECT	1-DISC.	ALLEN BRADLEY	1494V-DK622	CINTI. BELTING
4	1	CONDITIONER - AIR	1-AC	AFV - MCLEAN	BR49-0616-002 4000 BTU 115VAC	F.B. LAWRENCE
5	1	TRANSFORMER	1-T	SQUARE D	GLASS 7400 MODEL 25P 1 SKVA	IN STOCK
6	1	DRIVE - GRINDING WHEEL	2-T	GE	P/N 9121J6001 5HAY 3 PH.	ATR DISTRIBUT
7	1	MOTOR - GRINDING WHEEL LOAD	1-MTR	ABB	ACS401-603032 30HP 460/2/60	CINTI. CONTROLS
8	1	MOTOR - HEADSTOCK	1-MTR	ABB	ACS401-600632 3HP 460/3/60	CINTI. CONTROLS
9	1	MOTOR - HEADSTOCK	2-MTR	ABB	ACS401-600632 3HP 460/3/60	CINTI. CONTROLS
10	1	MOTOR - HEADSTOCK	3-MTR	ABB	ACS401-600632 3HP 460/3/60	CINTI. CONTROLS
11	1	MOTOR - HEADSTOCK	4-MTR	ABB	ACS401-600632 3HP 460/3/60	CINTI. CONTROLS
12	1	MOTOR - HEADSTOCK	5-MTR	ABB	ACS401-600632 3HP 460/3/60	CINTI. CONTROLS
13	1	MOTOR - HEADSTOCK	6-MTR	ABB	ACS401-600632 3HP 460/3/60	CINTI. CONTROLS
14	2	METER - DIGITAL	2-METER, 3-METER	NEVPORT	1DP-0	SUNSOURCE FVR
15	2	MOTOR - INFEED CROSSSLIDE	2-MTR, 3-MTR	GE FANUC	1C8001M040N0425	ATR DISTRIBUT
16	2	SERVO - DRIVE	5 & 6-DRV	GE FANUC	1C8001S010401	ATR DISTRIBUT
17	2	CABLE - POWER		GE FANUC	1C8003P02100	ATR DISTRIBUT
18	2	CABLE - ENCODER		GE FANUC	1C8003P02100	ATR DISTRIBUT
19	1	DRIVE - DRESSER	4-DRV	HOLLANDSDEN	LE10250	SUPER ABRASIVES
20	1	MOTOR - DRESSER	9-MTR	BAYSIDE <KIT MOTOR>	K089-100-C02-001	SUPER ABRASIVES
21	1	CABLE - MOTOR	CABLE-230	SUPER ABRASIVES	EC30-18	SUPER ABRASIVES
22	1	CABLE - ENCODER	CABLE-228	SUPER ABRASIVES	EC29-18	SUPER ABRASIVES
23	1	DIODE	13	ANY	1H4054	ALLIED ELECTRIC
24	1	OPERATORS STATION		GE FANUC	QPI-31200-C2P	USER SUPPLIED
25	1	CABLE - OPERATORS STATION	506-CALLE	GE FANUC	HMI-CAB-C82	USER SUPPLIED
26	1	RACK - PLC I/O SLOT	BACK 0	GE FANUC	1C693M03391	JOHNSON
27	1	POWER SUPPLY	SLOT POWER SUPPLY	GE FANUC	1C693M03391	JOHNSON
28	1	PROCESSOR - CPU	SLOT CPU/1	GE FANUC	1C693M03391	JOHNSON
29	1	MODULE - MOTION	SLOT 1/D-2	GE FANUC	1C693M03391	JOHNSON
30	1	MODULE - COMMUNICATION SNP	SLOT 1/D-3	GE FANUC	1C693M03391	JOHNSON
31	4	MODULE - INPUT 120VAC 16PT	SLOT 1/D-4, 5, 6 & EXP. SLOT 1	GE FANUC	1C693M03391	JOHNSON
32	1	MODULE - OUTPUT 120VAC 16PT	SLOT 1/D-7	GE FANUC	1C693M03391	JOHNSON
33	2	MODULE - OUTPUT 120VAC 8PT	SLOT 1/D-8, 1/D-9	GE FANUC	1C693M03391	JOHNSON
34	2	BOX - BREAKOUT TERMINAL	30P-TB & 40P-TB	GE FANUC	1C693M03391	JOHNSON
35	2	CABLE - DSM TO BRK OUT BRD	312-CABLE & 412-CABLE	GE FANUC	1C693M03391	JOHNSON
36	1	BATTERY - CPU RAM BACKUP	LOCATED IN POWER SUPPLY	GE FANUC	1C693M03391	JOHNSON
37	1	BALANCER - SPS WHEEL		SBS	MODEL 4500 SERIES	MFR DIRECT



Complex Tool Changer & Fixture Designs

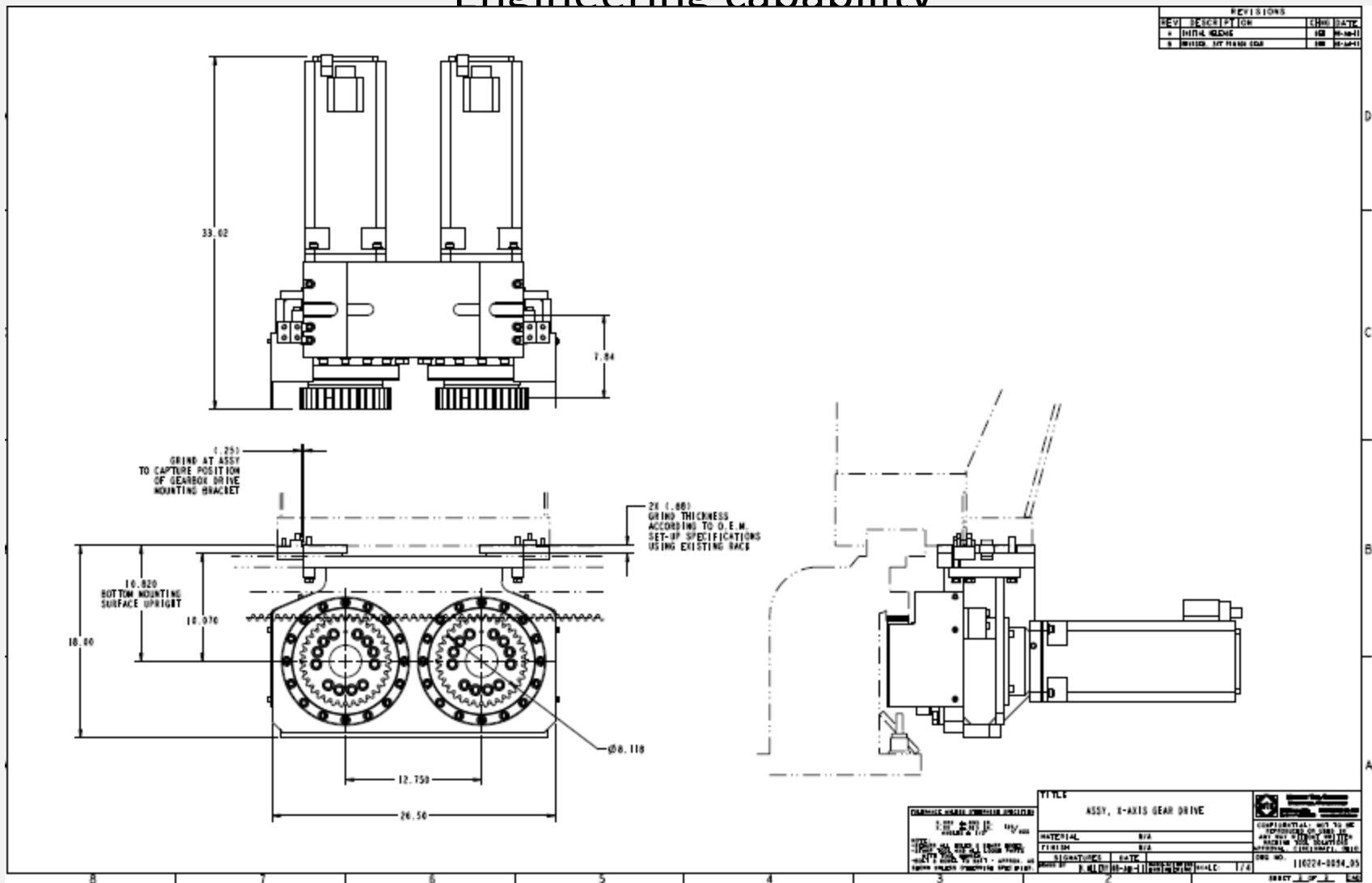


MTS / Konecranes Proprietary Anti-Backlash Gearbox Design for Gantry Mills

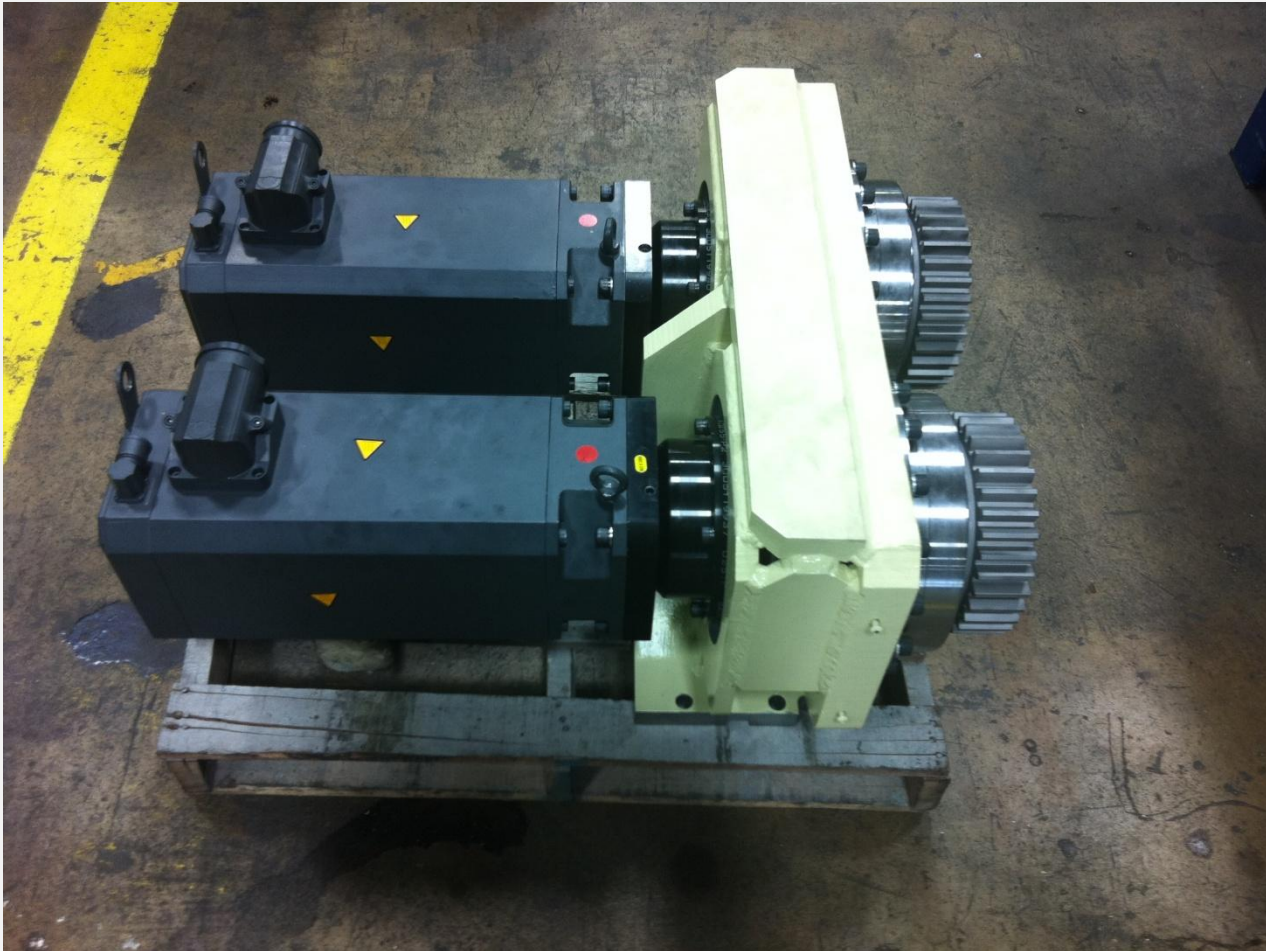




MTS / Konecranes has full Mechanical and Electrical Engineering capability

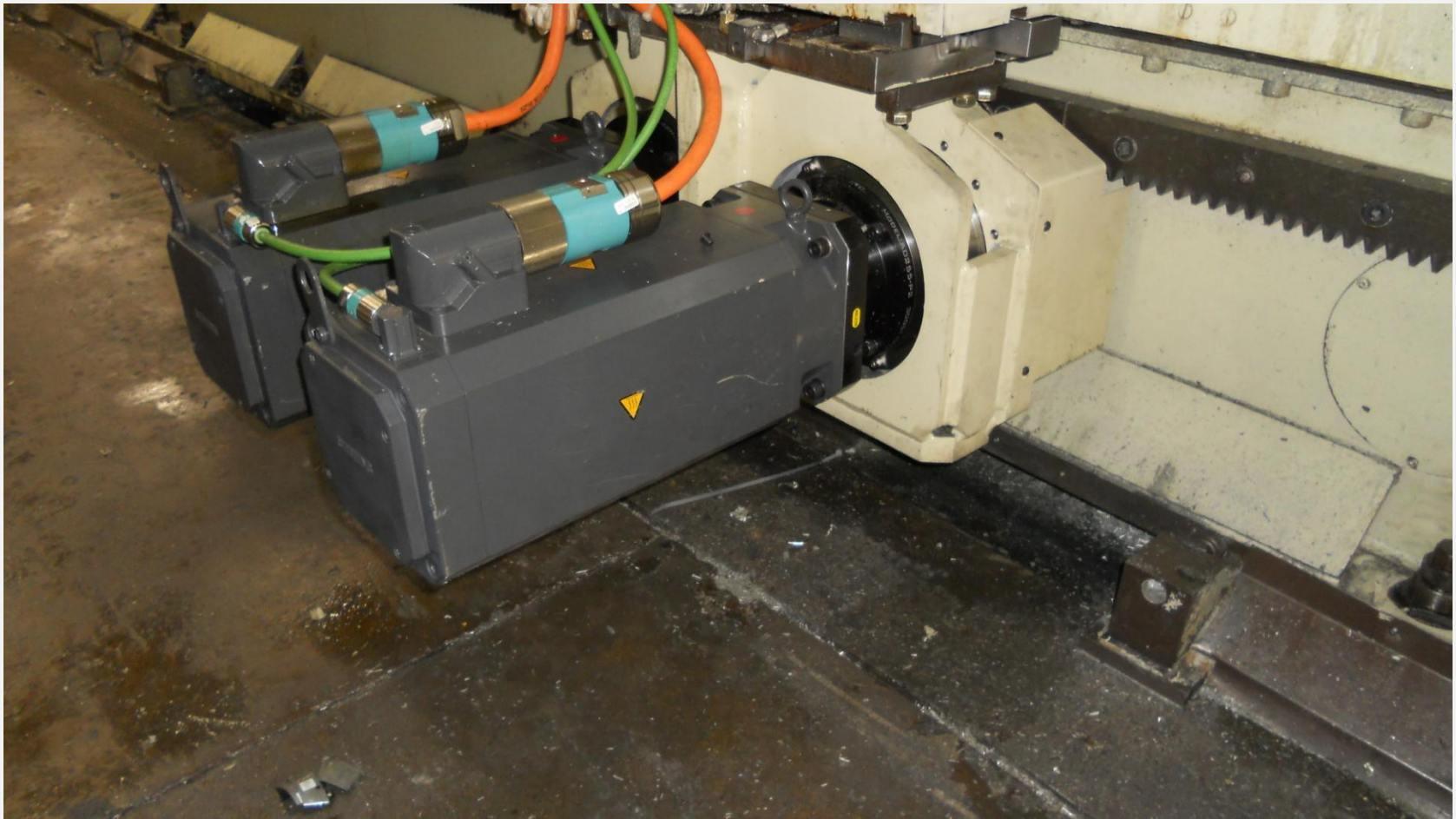


Assembled Anti-Backlash Gear Boxes





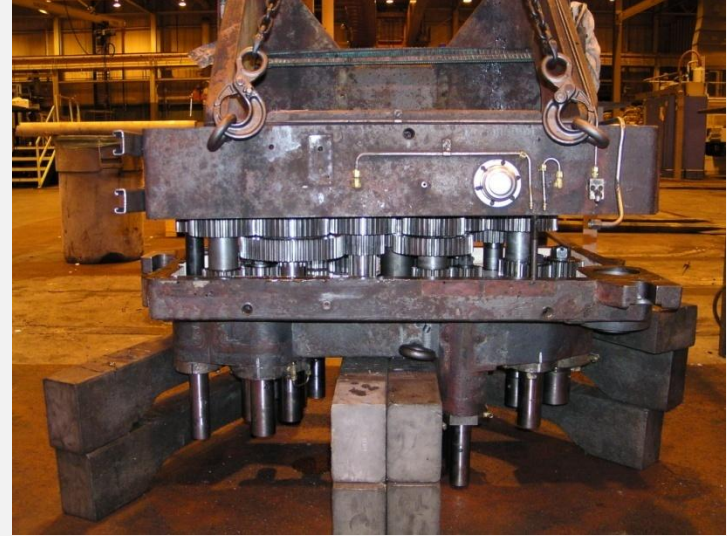
Anti-Backlash gearboxes mounted on the gantry



Special Platform with Siemens 840D operators station



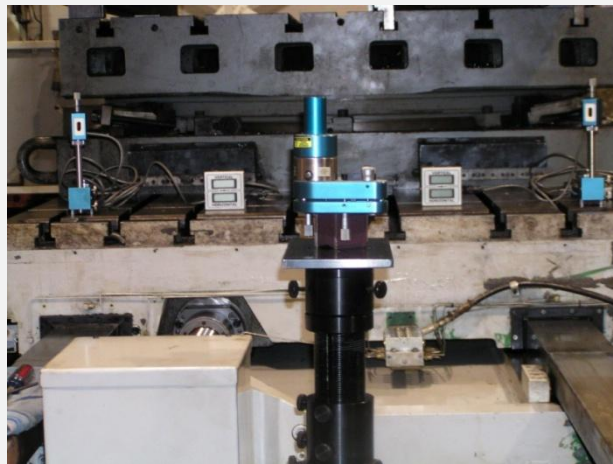
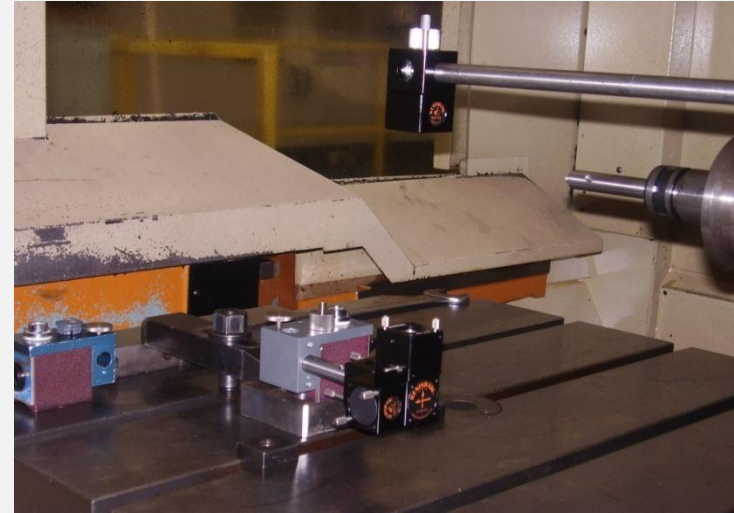
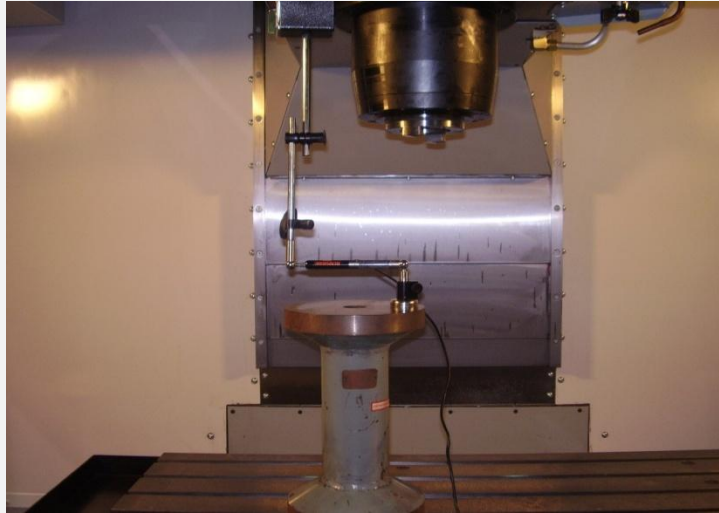
Multiple spindle & transfer line rebuilding





ISO, QS, ASME B5.54 Calibration & Alignment

Utilizing our Mahr-Federal electronic levels, Hamar laser, Renishaw laser & Renishaw telescoping ball bar





Machine Tool Solutions Unlimited

Would also like to offer a program with the following:

- Initial Assessments on machine tools
- A Shop Floor Automation which addresses OEE through machine tool monitoring and reporting systems
- Machine Leveling, Alignment and Calibrations
- A “finger print” of each machines current status.
- A customized preventative maintenance program
- A program that evolves into a predictive maintenance program for all the machines
- A site and maintenance agreement to address your maintenance needs with periodic (quarterly and annually) **Business Reviews** that measures ROI and provides accountability to Overall Machine Efficiency (OEE) targets and goals.



Testimonials

James M. Bowman, Link Belt

Your continued commitment to quality, attention to meeting the customer's deadlines and coming in on budget continues to make your company the first I call when support is needed on our machine tools outside of my own staff. Thank you and your team.

Frank Muhl, Akron Central Engraving Mold & Machine Company

Machine Tool Solutions Unlimited professional attitude and vast experience is second to none and we would not hesitate in calling on them for any of our future machine tool needs.

Don Swincinski, Penn Machine Co.

Over the years your company has assisted us with service to milling machines, grinding machine, and machining centers as well as alignments and calibrations. Your company diversity and flexibility makes the relationship we have indispensable.

Scott Betz, AAR Summa Technologies

We are making parts, and have had no issues with any of the work you have performed. As I have said before, I would certainly recommend you guys to anyone, and I hope you give me that opportunity sometime.

Les Bowers, Honda Motor Company

Harold, after checking out the OKK MCH-1000 repair, our accuracy is better than ever. The worst spot I can find is only 0.045mm out over 800mm distance on the tombstone. We are very pleased with the results. I just wanted to thank everyone there for the continued support. Jeff Smith & Buddy Schoch has done a great job on the repairs. Please let them know how much we appreciate the long hard hours they put into the repairs. They always go the extra mile. I think they are a great asset to your company. We look forward to a long working relationship with your company. Thanks again, Les Bowers Honda Engineering
N/A



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Harold

I wanted to take a moment to extend my sincere thanks and gratitude for the excellent job your team executed on our #4 Cincinnati Milacron Mill upgrade. As you were aware, this upgrade took us out of our comfort zone because of the previous issues, scope of work for the upgrade and the negative impact that an extended commissioning would have on our business. Not only was the commissioning completed ahead of schedule, this mill has operated without any upgrade related issues for nearly two years—and counting!

In addition to the upgrade I wanted to thank your team for the outstanding PM performed prior to the upgrade. This was the second major PM that was performed on this unit. The first was performed by the OEM and the second was performed by MTSU. We had the same technician work with both contractors. According to our technician, Jon Burkhart, there was no comparison. I appreciate the time Jeff Smith and the rest of your team took to transfer their knowledge to our technicians, the in-depth attention to detail and the constant communication through the entire job and huge cost savings.

I have held numerous positions in industrial maintenance for over thirty years. The working relationship between our team and yours is rare. Your folks have a great work ethic and the amount of resources both within MTSU and with your strategic partners is amazing. After dealing with several other machine builders it was such a blessing to find a company that values integrity, honesty and customer satisfaction with such high regard. I wish you well with all your endeavors and look forward to working with your team in the future.

Sincere Gratitude
Peter J Frailey
Peter J. Frailey
Electrical Technical Supervisor
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Our Customers





KONECRANES®



Partners working together for better solutions



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