



NORTHLINE
INDUSTRIAL

Test Fixture Bulletin

www.northlineindustrial.com

NORTHLINE INDUSTRIAL REPAIR INC. 2019

Automation Repair and Sales

Electronics
Robotics
Servo motors
Spindle Motors
CNC
HMI / Displays
Operator Stations
Monitors
PLCs
Light Curtains
Inverter Drives
AC/DC Drives
Welders
Process Controls



NORTHLINE
INDUSTRIAL



INDUSTRIAL REPAIR SERVICE & EQUIPMENT SALES

Northline Industrial, Inc.
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Redford, MI 48239

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Web : www.northlineindustrial.com

Phone : 313-537-9798
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Automation Repair
and Sales

Northline Industrial Inc.

Electronics
Robotics
Servo motors
Spindle Motors
CNC
HMI / Displays
Operator Stations
Monitors
PLCs
Light Curtains
Inverter Drives
AC/DC Drives
Welders
Process Controls

- | | | | |
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ABB IRC5 IRB2400 Robot System

Automation Repair and Sales

Electronics
Robotics
Servo motors
Spindle Motors
CNC
HMI / Displays
Operator Stations
Monitors
PLCs
Light Curtains
Inverter Drives
AC/DC Drives
Welders
Process Controls

Capabilities Include:

Flex Teach Pendant

3HAC023195-001/04

Main Servo Drive

3HAC025338

Servo Supply

3HAC026289-001 : DSQC626A

Control Power Supply

3HAC12928-1 : DSQC604

Rectifier

3HAC14549-3

SMU Board

3HAC16014-1/07 : DSQC562

Capacitor Unit

3HAC14551-2

Computer Unit

3HAC020929-006

Drive Power Supply

3HAC020466-001 : DSQC627

Motors

3HAC17346-1

3HAC17326-1/02

3HAC15ARA-AB11

Below is Northline's ABB IRC5 with IRB2400 manipulator robot system. IRC5 is ABB's fifth generation robot controller. Its motion control technology, featuring TrueMove & QuickMove, is key to the robot's performance in terms of accuracy, speed, cycle-time, programmability and synchronization with external devices. Our test system allows us to support dynamic repair and testing on IRC5 integral components such as the teach pendants, servo controllers, power supplies, auxiliary modules and servo motors. Repaired equipment is energized and system-tested to ensure a quality repair.



Contact your Northline sales representative for
all of your ABB repair needs.

ABB S4 IRB1400 Robot System

Automation Repair and Sales

Electronics
Robotics
Servo motors
Spindle Motors
CNC
HMI / Displays
Operator Stations
Monitors
PLCs
Light Curtains
Inverter Drives
AC/DC Drives
Welders
Process Controls

Capabilities Include:

Teach Pendant

3HNE00312-1

Servo Amp

3HAB2207-1/3 : DSQC-236D

Servo Supply

3HAB2215-1 : DSQC-314A

Logic Supply

3HAA3563-AUA : DSQC-258

Control Cards

YB560103-CH/10 : DSQC-239

(remote I/O)

3HAB2214 : DSQC-223 (I/O)

3HAB2214-1/2 : DSQC-315

(I/O)

3HAB2211-1 : DSQC-256 (Input

I/O)

3HAB2241-1 : DSQC-325 (CPU)

3HAB5956-1 : DSQC-323

(Memory)

3HAB6182-1 : DSQC-335 (CPU)

Motors:

3HAB3125-1/8

Below is Northline's ABB S4 with IRB1400 manipulator robot system. This controller first produced in 1992 is capable of controlling up to 6 servo axis. This control has a large install base in the welding and pick-and-place markets. Our test system allows us to support dynamic repair and testing on S4 integral components such as the teach pendants, servo controllers, power supplies, auxiliary modules and servo motors. Repaired equipment is energized and system-tested to ensure a quality repair.



Contact your Northline sales representative for
all of your ABB repair needs.

ABB S4C IRB2400 Robot System

Automation Repair and Sales

Electronics
Robotics
Servo motors
Spindle Motors
CNC
HMI / Displays
Operator Stations
Monitors
PLCs
Light Curtains
Inverter Drives
AC/DC Drives
Welders
Process Controls

Capabilities Include:

Teach Pendant:

3HNE-00313-1

Servo Supply:

3HAB8101-3 : DSQC-345B

Logic Supply:

3HAC3462-1 : DSQC-374

Servo Amp:

3HAB8101-7 : DSQC-346C

3HAB8101-11 : DSQC-

346E

Control Cards:

3HAC3180-1 : DSQC-373

3HAB5956 : DSQC-323

3HAC0373-1 : DSQC-361

Motors:

3HAC3403-1/2

3KAC1674-1

3HAC2206-1/2

The ABB S4C is a multi-processor compact controller offering high performance with quick acceleration and deceleration of the servo axis. This flexible system is found in many weld, paint, and industrial pick-and-place material handling applications. Northline has the ability to repair and dynamically load-test the major components of this system. We support repairs on system components such as the control processors, teach pendants, power supplies, servo motor and servo control modules. Dynamic system testing is accomplished by installing your repaired part into our system to ensure a quality repair.



Contact your Northline sales representative for
all of your ABB repair needs.

ABB S4C IRB6400 Robot System

Automation Repair and Sales

Electronics
Robotics
Servo motors
Spindle Motors
CNC
HMI / Displays
Operator Stations
Monitors
PLCs
Light Curtains
Inverter Drives
AC/DC Drives
Welders
Process Controls

The ABB IRB 6400 accounts for one third of the 90,000 ABB robot installations. This robot is a large, high-performance, all-steel constructed manipulator matched with the S4C controller. Northline has invested in this system to support the large install base on this industrial manufacturing robot. The acid test for any good repair is system-testing the repaired unit. We test your unit through a series of program exercises to simulate factory conditions. Additional weight on the manipulator, (up to 500lbs) allows us to load-test the system all the way back to the controller. Please inquire if we can repair your teach pendants, servo motors, drives, controller PCB's, or power supplies.

Capabilities Include:

Teach Pendant:

3HNE00313-1

Servo Supply:

3HAB8101-3 : DSQC-345B

Logic Supply:

3HAC3462-1 : DSQC-374

Servo Amp:

3HAB8101-8/10 : DSQC-346G

Safety Board:

3HAB7215-1/07 : DSQC-331

Comm Interface Board:

3HAC2424-1 : DSQC-369

Control Cards:

3HAC3180-1 : DSQC-373

3HAB5956 : DSQC-323

3HAC0373-1 : DSQC-361

Motors:

3HAB5760-1

3HAB0200-1/04



Contact your Northline sales representative for
all of your ABB IRB6400 repair needs.

ABB S4C+IRB2400 Robot System

Automation Repair and Sales

Electronics
Robotics
Servo motors
Spindle Motors
CNC
HMI / Displays
Operator Stations
Monitors
PLCs
Light Curtains
Inverter Drives
AC/DC Drives
Welders
Process Controls

Capabilities Include:

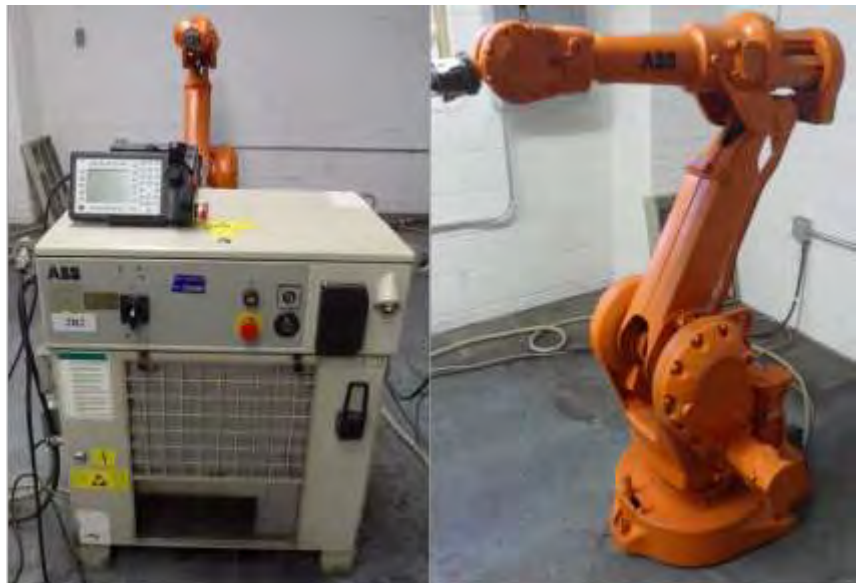
Teach Pendants:
3HNE Series

Power supplies:
3HAC Series
DSQC Series

Drive Boards:
3HAB Series
DSQC Series

Computer
3HAC9710-1

This is Northline Industrial's ABB S4C+PC robot system. This ABB controller is totally PC-based. An integral computer has all the necessary S4C+PC software preloaded. This allows the robot to operate with all the accuracy of the previous ABB hardware controllers along with the ease and reliability of a PC. The S4C+PC can be connected via Ethernet so coordinating factory tasks is simple and efficient. Dynamic testing is the only truly valid diagnostic-test, ensuring a quality repair. So contact your Northline sales representative today for all of your ABB S4C+PC service needs.



Contact your Northline sales representative for
all of your ABB S4C+ repair needs.

ABB S4C+PC IRB6600 Robot System

Automation Repair and Sales

Electronics
Robotics
Servo motors
Spindle Motors
CNC
HMI / Displays
Operator Stations
Monitors
PLCs
Light Curtains
Inverter Drives
AC/DC Drives
Welders
Process Controls

Capabilities Include:

Teach Pendants:

3HNE00313-1

Power supplies:

3HAC14265-1 : DSQC539

Drive Controller Module

3HAB8101-19/07D :

DSQC545A

Drive Module

3HAB8101-18/9 : DSQC546A

Motors

3HAC020208-001

3HAC17484-6

3HAC17484-9

3HAC17484-10

Safety Board

3HAC5687-1 : DSQC509

Comm Interface Board

3HAC5689-1 : DSQC504

Computer

3HAC020914-001

The ABB IRB6600 is a six axis robot mated with the S4C+PC Controller. This robot is best suited in heavily industrial uses such as spot welding, material handling, and machine tending. Northline has invested in this system to support repair and system testing on the multiple drives unique to this manipulator series. 2nd Generation TrueMove and QuickMove are additional software safety features of the IRB6600 not found on the 6400. Full system testing is the only measure of a successful repair. Let Northline be your spares and quality repair source on your ABB Robotics.



Contact your Northline sales representative for
all of your ABB IRB6600 repair needs.

ABB Robot Servomotor (Resolver) Test System

Automation Repair and Sales

Electronics
Robotics
Servo motors
Spindle Motors
CNC
HMI / Displays
Operator Stations
Monitors
PLCs
Light Curtains
Inverter Drives
AC/DC Drives
Welders
Process Controls

Northline has developed dynamic testing for all ABB resolver feedback robot servo motors that are “Pre 2004”. These include all the servomotors found on ABB robot manipulators used with the S3 through S4C+ controllers . This dynamic testing allows Northline to troubleshoot motors in for repair as well as a definitive final quality control. Dynamic testing is a confirmation for correct encoder alignment and full function.



Capabilities Include:

Pre-2004
ABB Robotic Servo Motors
w/ Resolver Feedback
S3 through S4C+ Robot Series

Manufactured by:

Elmo
Siemens

Contact your Northline sales representative for all
of your ABB servo motor repair needs.

ABB Robotic Wrist Assemblies

Automation Repair and Sales

Electronics
Robotics
Servo motors
Spindle Motors
CNC
HMI / Displays
Operator Stations
Monitors
PLCs
Light Curtains
Inverter Drives
AC/DC Drives
Welders
Process Controls

Capabilities Include:

Various Series and
Models of ABB
Robotic Wrist
Assemblies

This is an example of an ABB robotic wrist assembly. Northline Industrial now offers full rebuilds and dynamic testing for the ABB robot wrist assemblies. Northline supports many series and models of robotic wrists for remanufacture. Each remanufactured wrist is dynamically tested for accuracy and operation. Contact Northline for your specific ABB robotic wrist remanufacture needs.



Contact your Northline sales representative for all
of your repair needs.

Aker Wade UniMax 5001 Battery Charger

Automation Repair and Sales

Electronics
Robotics
Servo motors
Spindle Motors
CNC
HMI / Displays
Operator Stations
Monitors
PLCs
Light Curtains
Inverter Drives
AC/DC Drives
Welders
Process Controls

Capabilities Include:

UniMax 5001 Cabinet

Display Module

Charger Supply

This is the Aker Wade UniMax 5001 battery charger. It was designed to recharge fork lift batteries in high volume factory material handling applications. Northline Industrial can repair and dynamically test either the entire UniMax 5001 controller or the display control module or charger power module. Contact Northline Industrial for all of your Aker Wade charger repair needs.



Contact your Northline sales representative for all
of your repair needs.

Allen Bradley 1394 Digital Servo Control

Automation Repair and Sales

Electronics
Robotics
Servo motors
Spindle Motors
CNC
HMI / Displays
Operator Stations
Monitors
PLCs
Light Curtains
Inverter Drives
AC/DC Drives
Welders
Process Controls

Capabilities Include:

Main Controllers

1394-SJT05-A/C/T-XX
1394-SJT10-A/C/T-XX
1394-SJT22-A/C/T-XX
1394C-SJT05-A/C/T-XX
1394C-SJT10-A/C/T-XX
1394C-SJT22-A/C/T-XX

Axis Modules

1394 AM-XX
1394C AM-XX

AC Servo Motors

1326AS-XXXX
1326AB-XXXX

Below is Northline Industrial's 1394 Digital AC Servo System. This diagnostic system is comprised of the main system module, four axis amplifier modules (each with associated servo motors), and all necessary power and feed back cables. This 1394 test fixture allows dynamic testing of both the GML digital and digital Turbo system modules, as well as the analog types. Please contact Northline for all of your Allen Bradley 1394 repair needs.



*Contact your Northline sales representative for all
of your repair needs.*

Allen Bradley ArmorStart 280/281D DeviceNet Motor Control

Automation Repair
and Sales

Electronics
Robotics
Servo motors
Spindle Motors
CNC
HMI / Displays
Operator Stations
Monitors
PLCs
Light Curtains
Inverter Drives
AC/DC Drives
Welders
Process Controls

Capabilities Include:

**280/281D Base
Modules**

**280/281D Control
Modules**

Below is Northline Industrial's newest high tech repair capability, the Allen Bradley ArmorStart 280/281D DeviceNet Motor Controller. This system was designed to dynamically test various AB 280D motor controls with the DeviceNet interface. There are many different models of 280D that can be tested with this system. Many different control voltages such as 24VDC, 120VAC and 240VAC power can all be tested.



Contact your Northline sales representative for all of
your Allen Bradley 280/281D repair needs.

Allen Bradley MP Series Servo Test System

Automation Repair and Sales

Electronics
Robotics
Servo motors
Spindle Motors
CNC
HMI / Displays
Operator Stations
Monitors
PLCs
Light Curtains
Inverter Drives
AC/DC Drives
Welders
Process Controls

Allen Bradley MP Series servo motors are a premium permanent magnet Rotary Servo Motor with a high resolution encoder and optional brake. These compact brushless servo motors are installed in many automated applications demanding high performance motion systems.

This series of servo motors is typically used with the Allen-Bradley Kinetix® 6000, Kinetix 6200, Kinetix 6500, Kinetix 300, Kinetix 350 as well as the Ultra 3000 servo drive families.

Northline has developed dynamic testing for the MP, MPL and MPF Allen Bradley Series Servo Motors. This is a powered dynamic test that includes confirmation of the encoder alignment and torque / speed viability. We also perform thermal or vibration analysis testing upon request. Northline is able to support repair and testing of all sizes within this Allen Bradley MP series.

Capabilities Include:

MPL-AXXX
MPL-BXXX
MPF-BXXX
MPM-BXXX



Contact your Northline sales representative for all of your AB MP Series servo motor repair needs.

Allen Bradley PowerFlex 755 (Ethernet IP)

Automation Repair and Sales

Electronics
Robotics
Servo motors
Spindle Motors
CNC
HMI / Displays
Operator Stations
Monitors
PLCs
Light Curtains
Inverter Drives
AC/DC Drives
Welders
Process Controls

Capabilities Include:

20GXXXXXAA0NNNNN

Allen Bradley PowerFlex 755 AC Drives provide ease of use, application flexibility, and high performance. They include multiple control and hardware options, as well as optional embedded safety features. These drives are well-suited for a wide variety of motor control applications including pumps, fans, and conveyors. With Integrated Motion on EtherNet/IP, you can place these drives on the same network as Kinetix drives. Northline now has repair and test capabilities on the Powerflex 755 with Ethernet IP



Contact your Northline sales representative for all
of your AB PowerFlex 755 repair needs.

Automation Field Service

Automation Repair and Sales

Electronics
Robotics
Servo motors
Spindle Motors
CNC
HMI / Displays
Operator Stations
Monitors
PLCs
Light Curtains
Inverter Drives
AC/DC Drives
Welders
Process Controls

Capabilities Include:

Preventative Maintenance
CNC Control
Spare Part Support
Robotics
Project Management
Training
Systems Integration
Custom Automated Equipment
2D / 3D CAD Capabilities
3D Robotic Simulation
PLC Programming
SCADA Design & Programming
HMI Design & Programming
Motion Control
Industrial Networks
Fieldbus
Industrial Network Security
Electro-mechanical System Installations
Panel Build
Fluid Power
Hydraulics
Pneumatics
Barcode Readers
RFID

Today's manufacturing plants employ a wide variety of automated equipment from dozens of Manufacturers. Many times the man-power and experience needed to service and install this equipment is in short supply while trying to meet ever tightening maintenance budgets. We offer a range of engineering services - all designed to help your company reach its full potential. Northline has the staffing and expertise to troubleshoot and service your PLC, HMI, Drive, CNC and Robotic control systems. From a one-time issue, reoccurring preventative maintenance, machine retrofit of obsolete controls, or new installations, Northline can provide Field Service on your automated systems ... service that minimizes machine downtime and doesn't break the bank.



Contact your Northline sales representative for all of your repair needs.

Atlas Copco PowerMACS Torque Assembly System

Automation Repair and Sales

Electronics
Robotics
Servo motors
Spindle Motors
CNC
HMI / Displays
Operator Stations
Monitors
PLCs
Light Curtains
Inverter Drives
AC/DC Drives
Welders
Process Controls

Capabilities Include:

Comnode Touch
8433 2710 10
TC52 S Controllers
4240 0440 81
No Fieldbus
4240 0441 81
Profibus
4240 0443 81
DeviceNet
Power Box Unit (PBU)
4240 0702 00
R Servo Spindle Gun
4230 1902 80
4320 1903 80

Meet Northline Industrial's latest repair capability, the Atlas Copco PowerMACS multi torque control system. These torque systems were designed to uniformly tighten down groups of bolts in assembly operations where several fasteners being torqued down to predetermined torque specifications. Engine head bolts, main bolts, valve covers and automotive tires are good examples of multi rundown torque assembly operations.



Contact your Northline sales representative for all of your Atlas Copco torque systems repair needs.

BTM Pin and Hook Clamps

Automation Repair and Sales

Electronics
Robotics
Servo motors
Spindle Motors
CNC
HMI / Displays
Operator Stations
Monitors
PLCs
Light Curtains
Inverter Drives
AC/DC Drives
Welders
Process Controls

Capabilities Include:

Models:

PD202400A
PD202400B
PD211001A
PD211500D
PD231100B
PD234100C
PD248300A
PD248300B
PD248500A
PD285600B
PD285800A
PD291100A

BTM Pin Clamps reduce cost by both accurately locating through datum holes and clamping a part with one device. The BTM “Pin & Hook” clamps come in 3 types, clamping, retaining and locking. These clamps are pneumatically driven and operate with piston, spring, and air driven cam mechanisms. Northline has the ability to clean, rebuild, and dynamically run test these BTM pin and hook clamps. Please consider Northline to support BTM pin clamp spares at your plant.



Contact your Northline sales representative for all of your BTM pin clamp repair needs.

Emhart Tucker DCE1500 DCE1800 Stud Welders

Automation Repair and Sales

Electronics
Robotics
Servo motors
Spindle Motors
CNC
HMI / Displays
Operator Stations
Monitors
PLCs
Light Curtains
Inverter Drives
AC/DC Drives
Welders
Process Controls

Capabilities Include:

Stud Gun Testing
MR 410/420
LM 310

Feeder Testing
ETF 20
EFT 5

Weld Power Supply
DCE 1500
DCE 1800

Worldwide there are over 11,000 Tucker Stud welders in production. Northline is now supporting repair and test on components of the Emhart Tucker Automatic Stud Welding Systems. Northline can offer system testing on the stud guns & feeders. We offer repair and testing of the DCE weld power supply controllers. A dynamic test of repaired items is best quality control to simulate factory conditions and ensure full function.



Contact your Northline sales representative for all of your Emhart Tucker stud welder repair needs.

Fanuc 30i-B AC Servo System

Automation Repair and Sales

Electronics
Robotics
Servo motors
Spindle Motors
CNC
HMI / Displays
Operator Stations
Monitors
PLCs
Light Curtains
Inverter Drives
AC/DC Drives
Welders
Process Controls

Capabilities Include:

A06B-6200-HXXX (PS)
Power Supply Module

A06B-6202-HXXX (PS)
Level Up Power Supply

A06B-6240-HXXX (SV)
Servo Amplifier

A06B-6220-HXXX (SP)
Spindle Amplifier

A06B-6222-HXXX (SP)
Level Up Spindle

Northline is first as always with the latest Fanuc CNC repair capability. The Fanuc 30i-B Servo system offers a totally integrated range of drives and motors. Simple maintenance, high quality, compact design and exceptional performance are key factors inherent in their design. High efficiency drive components, power source regeneration and cycle time reduction features combine to reduce energy usage by as much as 30% to 50%!



Contact your Northline sales representative for all
of your Fanuc 30i-B Servo repair needs.

Fanuc Powermate CNC

Automation Repair and Sales

Electronics
Robotics
Servo motors
Spindle Motors
CNC
HMI / Displays
Operator Stations
Monitors
PLCs
Light Curtains
Inverter Drives
AC/DC Drives
Welders
Process Controls

Capabilities Include:

| | |
|-----------|-----------|
| A06B-6057 | A06B-6096 |
| A06B-6058 | A06B-6097 |
| A06B-6066 | A06B-6098 |
| A06B-6077 | A06B-6102 |
| A06B-6078 | A06B-6110 |
| A06B-6079 | A06B-6111 |
| A06B-6080 | A06B-6114 |
| A06B-6081 | A06B-6117 |
| A06B-6082 | A06B-6120 |
| A06B-6083 | A06B-6121 |
| A06B-6085 | A06B-6124 |
| A06B-6087 | A06B-6127 |
| A06B-6088 | A06B-6140 |
| A06B-6089 | A06B-6141 |
| A06B-6090 | A06B-6150 |
| A06B-6091 | A06B-6151 |
| A06B-6092 | |
| A06B-6093 | |

Northline Industrial introduces repair and testing capabilities on our uniquely designed Fanuc Powermate Series test station. This extremely flexible test system has the ability to dynamically test almost all of the Fanuc A06B family of power supplies, spindle and servo amplifiers including Fanuc's fiber-optic controlled equipment. This encompasses hundreds of model numbers and allows for full load, closed-loop simulation of factory conditions. Please contact us if you have questions about our testing procedures or the types of equipment we can repair for you.



Contact your Northline sales representative for all of your Fanuc Powermate CNC repair needs.

Fanuc Powermate D

Automation Repair and Sales

Electronics
Robotics
Servo motors
Spindle Motors
CNC
HMI / Displays
Operator Stations
Monitors
PLCs
Light Curtains
Inverter Drives
AC/DC Drives
Welders
Process Controls

Capabilities Include:

| | |
|------------------|------------------|
| A06B-6057 | A06B-6085 |
| A06B-6058 | A06B-6087 |
| A06B-6066 | A06B-6088 |
| A06B-6077 | A06B-6089 |
| A06B-6078 | A06B-6090 |
| A06B-6079 | A06B-6091 |
| A06B-6080 | A06B-6092 |
| A06B-6081 | A06B-6093 |
| A06B-6082 | A06B-6098 |
| A06B-6083 | A06B-6102 |

This is Northline Industrials “Fanuc Powermate D Control System”. It was designed to be used as a CNC control for multiple series of Fanuc servo drive systems with either the “Type A” or “Type B” PWM signal control interfaces. Legacy drives as old as the A06B-6057 “L Series” types and newer types such as the A06B-6093 “Beta” servo drives can all be tested with this newly developed Fanuc NC control system. In addition, this system can control either the 200V standard or 400V HV types of devices.



Contact your Northline sales representative for all of your Fanuc Powermate D repair needs.

Fanuc Powermate D System

Automation Repair and Sales

Electronics
Robotics
Servo motors
Spindle Motors
CNC
HMI / Displays
Operator Stations
Monitors
PLCs
Light Curtains
Inverter Drives
AC/DC Drives
Welders
Process Controls

Capabilities Include:

Fanuc 200V Amplifiers

A06B-6057-HXXX
 A06B-6058-HXXX
 A06B-6066-HXXX
 A06B-6079-HXXX
 A06B-6080-HXXX
 A06B-6089-HXXX
 A06B-6090-HXXX
 A06B-6093-HXXX

This is Northline Industrials new “Fanuc Powermate D Servo System” built for our North Carolina Repair lab. It was designed to be used as a CNC control system for dynamically testing multiple series of Fanuc servo amplifiers with either the “Type A” or “Type B” PWM signal control interfaces. This system covers the Fanuc 200V Series of drive models listed below. Please contact Northline for all your Fanuc servo amplifier repair needs.



Contact your Northline sales representative for all of your Fanuc Powermate D repair needs.

Fanuc Powermate Di

Automation Repair and Sales

Electronics
Robotics
Servo motors
Spindle Motors
CNC
HMI / Displays
Operator Stations
Monitors
PLCs
Light Curtains
Inverter Drives
AC/DC Drives
Welders
Process Controls

Capabilities Include:

A06B-6077
 A06B-6078
 A06B-6081
 A06B-6082
 A06B-6083
 A06B-6087
 A06B-6088
 A06B-6091
 A06B-6092
 A06B-6093
 A06B-6096
 A06B-6097
 A06B-6098
 A06B-6102

This is Northline Industrials “Fanuc Powermate Di Control System”. It was designed to be used as a CNC control for multiple series of Fanuc servo drive systems with the Fanuc fiber optic “FSSB” servo control interface. This system can control the older Alpha “6096” series of FSSB servo drives as well as the new Alpha i Series. In addition, this new Fanuc Alpha i control system is equipped with an integrated AC serial spindle control. Either serial or fiber optic spindles can be fully tested with this system. As always, this system can control either the 200V standard or 400V HV types of devices.



Contact your Northline sales representative for all of your Fanuc Powermate Di repair needs.

Fanuc R30iA

Automation Repair and Sales

Electronics
Robotics
Servo motors
Spindle Motors
CNC
HMI / Displays
Operator Stations
Monitors
PLCs
Light Curtains
Inverter Drives
AC/DC Drives
Welders
Process Controls

Capabilities Include:

CPU Drive Board
A16B-3200-0600

DeviceNet PC Board
A16B-2203-0910

Servo Drive
A06B-6107-H002

Cooling Module
A05B-2501-C312

Fanuc iPendant
A05B-2518-C200

Northline now repairs and tests components out of Fanuc Robotic's latest control system, the R30iA. This robotic control is found though-out the manufacturing industry in assembly, dispensing, paint, welding, and machine-tending applications. With our new test-stand we have the capacity to system test the R30iA controller, power supply, I/O, manipulator servo motors, associated PCBs and Fanuc's new iTouch 4D Teach Pendant. Please contact your Northline Industrial Representative for your Fanuc CNC repair needs.



Contact your Northline sales representative for all
of your Fanuc R30iA repair needs.

Fanuc Arcmate 120iC with R30iB Robot System

Automation Repair and Sales

Electronics
Robotics
Servo motors
Spindle Motors
CNC
HMI / Displays
Operator Stations
Monitors
PLCs
Light Curtains
Inverter Drives
AC/DC Drives
Welders
Process Controls

Capabilities Include:

Drive Board

A16B-3200-0780/034
A16B-2203-0910/07A

Servo Drive

A05B-2600-C313

Cooling Module

A05B-2601-C313

Fanuc iPendant

A05B-2255-C101#EAW

Servo Amplifier

A06B-6400-H102

Servo Motors

A06B-6400-H102

Northline now repairs and tests components out of Fanuc Robotic's latest control system, the R30iB. This robotic control is found though-out the manufacturing industry in assembly, dispensing, paint, welding, and machine-tending applications. With our new ArcMate 120iC we have the capacity to system test the R30iB controller, power supply, I/O, manipulator servo motors, associated PCBs and Fanuc's new iTouch 4D Teach Pendant. Please contact your Northline Industrial Representative for your Fanuc CNC repair needs.



Contact your Northline sales representative for all
of your Fanuc R30iA repair needs.

Fanuc RJ2 with S-420i Robot System

Automation Repair and Sales

Electronics
Robotics
Servo motors
Spindle Motors
CNC
HMI / Displays
Operator Stations
Monitors
PLCs
Light Curtains
Inverter Drives
AC/DC Drives
Welders
Process Controls

Capabilities Include:

CPU
A16B-3200-0040

Power Supply
A16B-1212-0871

Servo Amplifier
A06B-6076-H101

Teach Pendant
A05B-2301-C300

Operator Interface
A20B-1006-0290

Below is Northline Industrial's Fanuc RJ2 Controller with a S-420i Manipulator. This Test Fixture is used to provide a source of quality repair and support of the integral components of the RJ2 controller. CPU's, powers supplies, servo controllers, teach pendants, I/O modules and servo motors can all be energized and system tested with this fixture. This test system provides our customers a means of timely repair and test on their parts....maximizing customer machine uptime and production!



Contact your Northline sales representative for all
of your Fanuc RJ2 repair needs.

Fanuc Rj3 with S430iW Robot System

Automation Repair and Sales

Electronics
Robotics
Servo motors
Spindle Motors
CNC
HMI / Displays
Operator Stations
Monitors
PLCs
Light Curtains
Inverter Drives
AC/DC Drives
Welders
Process Controls

Capabilities

Teach Pendant

A05B-2301-C190

PowerSupply

A16B-2203-B370

Servo Amp

A06B-6100-H001

Boards

A16B-2100-0200 Top

A20B-2003-0131 CPU

Ethernet Module

A16B-3200-0330

DeviceNetModule

A16B-2203-0190

Motors

A06B-0136-B075

A06B-0166-B875

A06B-0163-B175

The Fanuc S430iW is a six-axis industrial robot capable of handling heavy assignments. Designed for the automotive industry, the S430iW RJ3 robot is found in parts transfer, material removal, dispensing and machine loading applications.

The FANUC S-430iw RJ-3 features the FANUC Servo Drive System, resulting in fast point-to-point positioning. Northline supports this equipment with repair and system testing of the controller and manipulator components. Teach pendants, CPU, E-stop PCB, Servo Amp and servo motors all require a system test to assure piece of mind that your spares are reliable and there when you need them.



Contact your Northline sales representative for all
of your Fanuc RJ3 repair needs.

Fanuc Rj3iB R2000iA Robot System

Automation Repair and Sales

Electronics
Robotics
Servo motors
Spindle Motors
CNC
HMI / Displays
Operator Stations
Monitors
PLCs
Light Curtains
Inverter Drives
AC/DC Drives
Welders
Process Controls

Capabilities Include:

Teach Pendant

A05B-2301-C370

CPU

A16B-3200-0412

E Stop PCB

A05B-2452-C473

Servo Amp

A06B-6105-H002

Motors

A860-2014-T301

A06B-0267-B604

A860-2010-T341

Northline Industrial's Fanuc RJ3iB robot control system features a Fanuc R-2000iA robot manipulator and is software-ready for testing the new Fanuc "i-Pendants"! The RJ3iB controllers are on the leading-edge of today's robot technology. These new Fanuc controllers utilize "Six Pack" servo-drive modules so changing them out is easy and efficient. Over 300lbs. of dead weight attached to the front of the R2000iA robot provides a full dynamic load-test for the servo drive modules. Contact your local Northline sales representative today for all of your Fanuc RJ3iB service needs.



Contact your Northline sales representative for all
of your Fanuc RJ3iB repair needs.

Fronius TransPuls Synergic (TPS) Weld Systems

Automation Repair and Sales

Electronics
Robotics
Servo motors
Spindle Motors
CNC
HMI / Displays
Operator Stations
Monitors
PLCs
Light Curtains
Inverter Drives
AC/DC Drives
Welders
Process Controls

Capabilities Include:

Series:

TPS 4000
TPS 5000

Parts Supported:

Chiller
Power Supply
Wire Feeders
Pendant panels
Field Modules

Northline Industrial is now a factory authorized service center for Fronius TPS weld systems. Northline technicians have completed factory training to support the TransPuls Synergic (TPS) Systems. This includes the TPS 4000/5000 Series and includes all system subcomponents including power supplies, wire feeders, chillers, pendants and field modules.



Contact your Northline sales representative for all of your servo Fronius TPS welder repair needs.

Indramat DIAX04/IndraDrive

Automation Repair and Sales

Electronics
Robotics
Servo motors
Spindle Motors
CNC
HMI / Displays
Operator Stations
Monitors
PLCs
Light Curtains
Inverter Drives
AC/DC Drives
Welders
Process Controls

Capabilities Include:

System Components

Teach Pendant, MRC JZCN
Amplifier, CACR
Motors, SGMP
Power Supply, CPS

System Modules/PCB

JANCD-MCP01
JANCD-MIF01
JANCD-MI004
JANCD-MSV01B
JANCD-MRY01B-1
JANCD-MEW02-1

The Indramat DIAX04 and IndraDrive M series are a modular compact ac servo drive that integrates motion control, spindle control, amplifier, power supply and I/O in a single, compact unit. Northline Industrial now has the ability to load-test completed repairs and test SERCOS communication on the Indramat DIAX04 and IndraDrive series with our newly developed diagnostic test center. Many devices from Indramat's DIAX04 and IndraDrive series can be fully functionally and dynamically tested. Please contact your Northline Representative for more details.



Contact your Northline sales representative for all of your Indramat DIAX04 IndraDrive repair needs.

Indramat Multiseries Test System

Automation Repair and Sales

Electronics
Robotics
Servo motors
Spindle Motors
CNC
HMI / Displays
Operator Stations
Monitors
PLCs
Light Curtains
Inverter Drives
AC/DC Drives
Welders
Process Controls

Capabilities Include:

TVM
TDM
TDA
TVR
TVD
DDS
DKS
KDA
KDS
KDV
KDR

This is Northline Industrials “Indramat Multi Series Diagnostic Test System”. It was designed to dynamically run and test many of Indramat’s newer and legacy servo products with either the analog or SERCOS control interfaces. Many devices from Indramat’s ANAX, DIAX01, DIAX02 and DIAX03 series can be fully functionally and dynamically tested.



*Contact your Northline sales representative for all
of your Indramat repair needs.*

Indramat 2AD 2AC Spindle Motor System

Automation Repair and Sales

Electronics
Robotics
Servo motors
Spindle Motors
CNC
HMI / Displays
Operator Stations
Monitors
PLCs
Light Curtains
Inverter Drives
AC/DC Drives
Welders
Process Controls

Capabilities Include:

Controllers
RAC 2 & RAC 3

Spindle Motor
2AD
2AC

Northline Industrial is pleased to announce repair and full dynamic test capabilities for the Indramat 2AD/2AC asynchronous main spindle motors. Dynamic testing includes taking the spindle motor through a series of ramp up/down and quick stop speed changes with a RAC03.1 AC spindle drive. Turn to Northline for a quality repair of your Indramat 2AD/2AC Spindle Motors.



*Contact your Northline sales representative for all
of your Indramat repair needs.*

Indramat SERCOS Interface System

Automation Repair and Sales

**Electronics
Robotics
Servo motors
Spindle Motors
CNC
HMI / Displays
Operator Stations
Monitors
PLCs
Light Curtains
Inverter Drives
AC/DC Drives
Welders
Process Controls**

Capabilities Include:

Sercos Indramat Testing for:

**DIAX-03 Family
DIAX-04 Family
IndraDrive Family**

Shown below is Northline Industrial's New Fiber optic Indramat SERCOS Interface System. SERCOS (Serial Real-Time Communication System) is a globally standardized open digital interface for communicating between industrial controls, motion devices and I/O. Our test fixture allows us to dynamically test Indramat power supplies, servo drives and motors on completed repairs. This unit complements our dynamic testing capabilities and ensures a quality repair every time.



Contact your Northline sales representative for all of your Indramat repair needs.

Large Eddy Current Dynamic Load System

Automation Repair and Sales

Electronics
Robotics
Servo motors
Spindle Motors
CNC
HMI / Displays
Operator Stations
Monitors
PLCs
Light Curtains
Inverter Drives
AC/DC Drives
Welders
Process Controls

Capabilities Include:

High Current Dynamic Testing For:

Servo Motors
Spindles Motors
Servo Drives
Spindle Drives

This is Northline Industrial's **Dynamic Load Testing System**. It utilizes an large industrial "Eddy Current" Brake in order to provide a fully adjustable linear load on to various "servo" and "spindle" motors. Virtually any motor, servo or spindle, can be mounted to the load systems X-Y rotary table. From there it can be precisely positioned into proper alignment with the Eddy Current Brakes pulley sheave. The system has an integrated hydraulic crane to ease in the motor exchange process. This system was specifically designed to draw higher levels of "load current" through servo and spindle drive modules and power supplies. This will ensure a quality repair that can withstand the rigors of day to day factory operations.



*Contact your Northline sales representative for all of
your repair needs.*

Display/HMI Repair

Automation Repair and Sales

Electronics
Robotics
Servo motors
Spindle Motors
CNC
HMI / Displays
Operator Stations
Monitors
PLCs
Light Curtains
Inverter Drives
AC/DC Drives
Welders
Process Controls

Capabilities Include:

CRT-to-LCD Retrofit
LCD Integration
Slow-Scan
Auto-Sync

LCD, CRT, Touch Screen, CNC HMI, and many other monitors are repaired and serviced. Inverters, overlay replacement, backlight assemblies, and power supplies are just a few of the display repair services provided. Northline has the repair and test capabilities on the following Manufactures and Series:



- | | |
|-------------------------|------------------------------|
| • ABB | • ProFace |
| • Advantage Electronics | • Proto Trak |
| • Allen Bradley | • Samsung |
| • Automation Direct | • Siemens |
| • Buehler | • Selti Elettronica |
| • Cincinnati Milacron | • Sharp |
| • Modicon | • Star |
| • Cutler Hammer | • TCP Total Control Products |
| • GE Fanuc | • Tecnel |
| • KME | • Toshiba |
| • Kristel | • Totoku Electric Co. |
| • Mass Multimedia | • Wells- Gardner Electric |
| • Motorola | • Excel |
| • Nortech Engineering | |



**Contact your Northline sales representative for all
of your Display Repair needs.**

LCD CONVERSIONS

Automation Repair and Sales

Electronics
Robotics
Servo motors
Spindle Motors
CNC
HMI / Displays
Operator Stations
Monitors
PLCs
Light Curtains
Inverter Drives
AC/DC Drives
Welders
Process Controls

Capabilities Include:

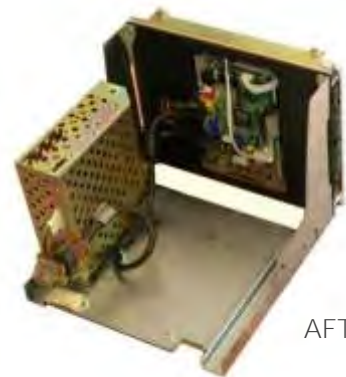
CRT-to-LCD Retrofit
LCD Integration
Slow-Scan
Auto-Sync



BEFORE

Convert your old
CRT Terminal...

...to a **NEW**
LCD TERMINAL!



AFTER

The benefits to a conversion are as follows:

- Less energy required to run (lower operating cost).
- Converted units weigh less (easier installation).
- LCDs emit less heat (extending component life).
- Cost-effective solution (compared to new).

No panel modifications are required to mount a converted unit. No supply voltage, communications port, or cable modifications are required. Just plug the cables from your existing system into the unit and you're up-and-running!

Lincoln Power Wave i400 Welder

Automation Repair and Sales

Electronics
Robotics
Servo motors
Spindle Motors
CNC
HMI / Displays
Operator Stations
Monitors
PLCs
Light Curtains
Inverter Drives
AC/DC Drives
Welders
Process Controls

Capabilities Include:

Load Bank Testing
Robot Interface
Ethernet
Digital Communication

Models:

11454
11774

The Power Wave i400 is one of Lincoln Electric's newest high-end robotic weld power supplies. This unit delivers Lincoln's best performance technologies and welding processes all rolled into one highly efficient inverter power source.

Northline Industrial has acquired all the necessary equipment, training, and software to perform full diagnosis, repair, and system load testing on any components of the i400 robotic welder power supplies.

Northline Industrial is a "Factory Authorized Service Center" for Lincoln Electric welders. Robot World, a division of Northline Industrial, is an "Authorized Lincoln Electric Robotic Integrator". Contact your Northline sales representative for all of your i400 welder needs.



Factory Authorized



Contact your Northline sales representative for all
of your i400 welder repair needs.

Miller 74 Series Mpa Plus Wire Feeders (Right & Left)

Automation Repair and Sales

Electronics
Robotics
Servo motors
Spindle Motors
CNC
HMI / Displays
Operator Stations
Monitors
PLCs
Light Curtains
Inverter Drives
AC/DC Drives
Welders
Process Controls

Capabilities Include:

74 Series Mpa Plus
Dual Wire Feeder
Controller

Right Wire Feeder
Mechanism

Left Wire Feeder
Mechanism

This is the **Miller 74 Series Mpa Plus** dual wire feeder. It comes in both manual and robotics application versions. It is a dual feed welder option for applications where multiple MIG guns are required. Northline offers full dynamic testing for both the right and left feeder mechanisms as well as the Mpa Plus wire feeder controller.



Contact your Northline sales representative for all
of your repair needs.

Mitsubishi CNC Diagnostic Test System

Automation Repair and Sales

Electronics
Robotics
Servo motors
Spindle Motors
CNC
HMI / Displays
Operator Stations
Monitors
PLCs
Light Curtains
Inverter Drives
AC/DC Drives
Welders
Process Controls

Capabilities Include:

MDS-B-CV-XXX
MDS-B-CVE-XXX
MDS-B-V1-XX
MDS-B-V2-XXXX
MDS-B-SP-XXX
MDS-C1-CV-XXX
MDS-C1-V1-XX
MDS-C1-V2-XXXX
MDS-C1-SP-XXX

Currently setting up
for the:

MDS-CH-V1-XX
MDS-CH-V2-XXXX

The Mitsubishi MDS (Servo/Spindle) drive units are widely used in the machine tool industry. In response to the increased need for a quality repair source, Northline has developed the Mitsubishi MDS 200V Series/C64 CNC Diagnostic Test System. This system allows us to dynamically test Mitsubishi servo, spindle and power supply units. It's design allows for quick parts substitutions and full functional-testing as a definitive check of a quality repair.



Contact your Northline sales representative for all of
your Mitsubishi repair needs.

Mitsubishi MDS-CH 400V Servo Diagnostic Test System

Automation Repair and Sales

Electronics
Robotics
Servo motors
Spindle Motors
CNC
HMI / Displays
Operator Stations
Monitors
PLCs
Light Curtains
Inverter Drives
AC/DC Drives
Welders
Process Controls

Capabilities Include:

MDS-CH-V1-XX Single Axis
Servo Amplifier Module

MDS-CH-V2-XX/XX Dual
Axis Servo Amplifier Module

MDS-CH-CV-XXX Power
Supply Module

***MDS-CH-SP(H)-XXX**
Spindle Amplifier Module
(Limited Testing Capability)

The Mitsubishi MDS (Servo/Spindle) drive series are widely used in the machine tool industry. In response to the increased need for a quality repair source, Northline has developed the Mitsubishi MDS-CH 400V Series / C64 CNC Diagnostic Test System. This system allows us to dynamically test Mitsubishi MDS-CH 400V servo, spindle and power supply units. It's design allows for quick parts substitutions as well as full functional-testing for a definitive check of a quality repair.



Contact your Northline sales representative for all of
your Mitsubishi repair needs.

Mitsubishi MR-HXXX-AN Series AC Servo Amplifiers

Automation Repair and Sales

Electronics
Robotics
Servo motors
Spindle Motors
CNC
HMI / Displays
Operator Stations
Monitors
PLCs
Light Curtains
Inverter Drives
AC/DC Drives
Welders
Process Controls

Capabilities Include:

MR-HXXX-AN

Northline Industrial is pleased to announce the repair capability for the Mitsubishi MR-HXXX-AN servo amplifiers. The MR-H's servo settling time has been sharply reduced when compared to conventional servo systems. The ability of the MR-H to respond quickly and precisely to a reference change is due to the high-performance. The MR-H has the most stable performance at low speed in its class of devices. This is made possible through the application of a high-resolution serial encoder and the model-reference adaptive control theory. This low speed performance makes the MR-H well suited for low speed machining operations.

MELSERVO-H

ADVANCED SERVO SYSTEM



Contact your Northline sales representative for all of your Mitsubishi servo amplifier repair needs.

Mitsubishi Melservo MR-J2S-A Series

Automation Repair and Sales

Electronics
Robotics
Servo motors
Spindle Motors
CNC
HMI / Displays
Operator Stations
Monitors
PLCs
Light Curtains
Inverter Drives
AC/DC Drives
Welders
Process Controls

The Mitsubishi Melservo MR-J2S Super Series is a legacy AC servo amplifier and rotatory servo motor system that is advanced and flexible. Northline now offers repair on these MR-J2S servo amplifiers that helps avoid retrofitting and upgrades that are expensive and also create unwanted production downtime. In response to a need for a quality repair source, Northline has engineered a dynamic and full functional testing system as a definitive check of a quality repair. Call Northline if you need repair support on the Mitsubishi Melservo MR-J2S series.

Capabilities Include:

MR-J2S-XXXX
Melservo Amplifier Series

HC-SFSXXXX
AC Servo Motor



*Contact your Northline sales representative for all
of your repair needs.*

Motoman MRC w/SK16 Robot System

Automation Repair and Sales

Electronics
Robotics
Servo motors
Spindle Motors
CNC
HMI / Displays
Operator Stations
Monitors
PLCs
Light Curtains
Inverter Drives
AC/DC Drives
Welders
Process Controls

Capabilities Include:

System Components

Teach Pendant, MRC JZCN
 Amplifier, CACR
 Motors, SGMP
 Power Supply, CPS

System Modules/PCB

JANCD-MCP01
 JANCD-MIF01
 JANCD-MI004
 JANCD-MSV01B
 JANCD-MRY01B-1
 JANCD-MEW02-1

This is Northline Industrial's Motoman MRC with SK16 Manipulator Robot System.



This complete robot system allows for diagnostic and dynamic load-testing of the component parts that make up the system (see components on the left). This is the only valid system-test that ensures a quality repair on your Motoman MRC amplifier, power supply, teach pendant and other system components.

Contact your Northline sales representative for all of your Motoman MRC SK16 repair needs.

Motoman NX EA1400N Robot System

Automation Repair and Sales

Electronics
Robotics
Servo motors
Spindle Motors
CNC
HMI / Displays
Operator Stations
Monitors
PLCs
Light Curtains
Inverter Drives
AC/DC Drives
Welders
Process Controls

Capabilities Include:

Teach Pendant

Yasnac NX JZRCR

PC Servo Control

JZNC

Motors

SGMRS

SGMPH

Power Supply

JZNC

JZRCR

Yaskawa I/O

JZNC

Servo Packs

SGDR Type CNP6 CNP4

Converter

SDGR

This is Northline Industrial's Motoman NX with EA1400N Manipulator Robot System. This system allows for dynamic system-testing of our component repairs. This includes repair/testing capabilities on the Yasnac touchscreen teach pendants, Yaskawa power supplies, PC servo controller, servo packs and I/O. Dynamic-system testing is the only test that ensures a quality repair every time. Contact your Northline sales representative for all your Motoman NX EA1400N service!



Contact your Northline sales representative for all of your Motoman NX repair needs.

Motoman XRC UP165 Robot System

Automation Repair and Sales

Electronics
Robotics
Servo motors
Spindle Motors
CNC
HMI / Displays
Operator Stations
Monitors
PLCs
Light Curtains
Inverter Drives
AC/DC Drives
Welders
Process Controls

Capabilities Include:

Teach Pendant

JZNC-XPP02B

Power Supply

JUSP01AAC

Servo Amplifier

JZRCRX-XSU02

Yaskawa I/O

JZNC-XIU01-1

CPU Board

JANCD-XCP01

Boards

JANCD-XSP01

JARCR-XFB01B

JARCR-XFB04

JANCD-XCP01C-1

JANCD-XCP02B

Motors

SDMDH-45A2B-YR15

SGMGH-44A2A-YR15

SGMGH-13A2A-YR13

This is Northline Industrial's Motoman XRC 2001 with UP165 Manipulator Robot System. The XRC allows for control of up to 27 axis from one CPU with 32-bit RISC distributed architecture and digital servo drives. Our system allows for dynamic system-testing of our XRC component repairs. This includes repair/testing capabilities on the Yasnac teach pendants, Yaskawa power supplies, Servo controller, servo packs and I/O. Dynamic-system testing is the only test that ensures a quality repair every time. Contact your Northline sales representative for all your Motoman XRC service!



Contact your Northline sales representative for all of
your Motoman XRC repair needs.

Nachi AR52 SA160F Robot System

Automation Repair and Sales

Electronics
Robotics
Servo motors
Spindle Motors
CNC
HMI / Displays
Operator Stations
Monitors
PLCs
Light Curtains
Inverter Drives
AC/DC Drives
Welders
Process Controls

Capabilities Include:

AR-52-Kunit Power Unit
RAX11 19-98030041 Drive
R0P501 Teach Pendant
MFM552HIV Motor
MDM212HIV Motor
FJK2005A Logic Supply

This is Northline Industrials new Nachi AR52 Controller with SA160F Robot Manipulator System. This Test Fixture allows us to dynamically system test the AR52 controllers integral components including teach pendants, power supplies, servo amplifiers and logical control components. Once repairs are completed, they are system tested to ensure the repairs meet or exceed OEM specifications.



Contact your Northline sales representative for all of
your Nachi repair needs.

Nachi AW11 SG160R Robot System

Automation Repair and Sales

Electronics
Robotics
Servo motors
Spindle Motors
CNC
HMI / Displays
Operator Stations
Monitors
PLCs
Light Curtains
Inverter Drives
AC/DC Drives
Welders
Process Controls

Capabilities Include:

XTP111-15 Teach Pendant
RFX-1120G Servo Drive
UM136 Control PCB
UM169 Control PCB
UM116 Control PCB
System I/O PCB
System Power Supplies

This is Northline Industrials new Nachi AW11 Controller with SG160R Robot Manipulator System. This Test Fixture allows us to dynamically system test the AW11 controllers integral components including teach pendants, power supplies, servo amplifiers and logical control components. Once repairs are completed, they are system tested to ensure the repairs meet or exceed OEM specifications.



Contact your Northline sales representative for all of your Nachi repair needs.

Nachi AX10 SC400L-01 Robot System

Automation Repair and Sales

Electronics
Robotics
Servo motors
Spindle Motors
CNC
HMI / Displays
Operator Stations
Monitors
PLCs
Light Curtains
Inverter Drives
AC/DC Drives
Welders
Process Controls

Capabilities Include:

Teach Pendant

AXTP

Servo Drive

RIX 1120

Power Supply

PSU10-10

CPU Board

L8820C00

I/O Board

L8800M00

Sequence Board

L8800F00

High Power Contactor

L8811A00

This is Northline Industrials new Nachi AX10 Controller with SC400L-01 Robot Manipulator System. This test fixture allows us to dynamically system test the PC based AX10 controllers integral components including the color teach pendants, power supplies, servo amplifiers and logical control components. Once repairs are completed, they are system tested to ensure the repairs meet or exceed OEM specifications.



Contact your Northline sales representative for all of your Nachi repair needs.

Nasarc Intelliream MP Reamers

Automation Repair and Sales

Electronics
Robotics
Servo motors
Spindle Motors
CNC
HMI / Displays
Operator Stations
Monitors
PLCs
Light Curtains
Inverter Drives
AC/DC Drives
Welders
Process Controls

Capabilities Include:

Intelliream
IRM010001-MP
IRM020001-NT

Reamer
Sprayer
Cutter
TCP Check

The Nasarc Intelliream MP is a robotic torch maintenance center. This reamer removes and limits spatter and extends the life of your Robotic MIG Torch.

Northline supports repair and testing on this Nasarc Intelliream MP Reamer. We have obtained the necessary interface software to support an full system test. Our test rig allows for extended cycle testing and confirmation of the 4 available processes- reamer, sprayer, cutter, and TCP.



Contact your Northline sales representative for all of your Nasarc MP reamer repair needs.

Power Designers PCXP & PHLV Series Charger Systems

Automation Repair and Sales

Electronics
Robotics
Servo motors
Spindle Motors
CNC
HMI / Displays
Operator Stations
Monitors
PLCs
Light Curtains
Inverter Drives
AC/DC Drives
Welders
Process Controls

Capabilities Include:

PCXP Series (10, 20 30KW)
PCXP-10KW-48V-480VAC
Charger Modules

PHLV Series (10, 20, 30KW)
PHLV-10KW-48V-480VAC
Charger Modules

This is the **Power Designers PCXP and PHLV** series battery charger systems. These were designed to recharge fork lift batteries in high volume factory material handling applications. Each charger system contains one to three charger drawers that are of capability each. Charger drawers can be stacked in parallel to add charging capacity up to 30KW! Contact Northline for all of your Power Designer 10KW s battery charger needs.



Contact your Northline sales representative for all
of your repair needs.

Precision Spindle Repair

Automation Repair and Sales

Electronics
Robotics
Servo motors
Spindle Motors
CNC
HMI / Displays
Operator Stations
Monitors
PLCs
Light Curtains
Inverter Drives
AC/DC Drives
Welders
Process Controls

Capabilities Include:

| | |
|---------------|-------------|
| Blanchard | Kingsbury |
| Browne & | Landis |
| Sharpe | Makino |
| Bryant | Mori-Seiki |
| Chiron | Pratt & |
| Cincinnati | Whitney |
| Doall | Parker |
| Dumore | Majestic |
| Excel | Pope |
| Excello | Precise |
| Fanuc | Rigid |
| Franz Kessler | Rockwell |
| GMN | Setco |
| Gros-ite | Taft Pierce |
| Heald | Voumard |
| Ingersoll | |

Belt Driven



Lathe



Boring



Motorized



Gear Driven



High Speed



Block Type



Grinding



Milling



Machine Tool



- In-depth Inspection/analysis
- Written Repair Quotes
- Obsolete Parts Manufactured
- Precision Surface Grinding
- Worn component replacement
- Vibration Analysis

- Comprehensive Final Analysis
- Vibration Spectrum Reporting
- SKF Certified Technicians
- Routine & Emergency rebuilds
- Custom Modifications
- Fast Turnaround
- Guaranteed Quality



Contact your Northline sales representative for all of your Spindle repair needs.

Indramat Rexroth MKD/MHD Servo Motors

Automation Repair and Sales

Electronics
Robotics
Servo motors
Spindle Motors
CNC
HMI / Displays
Operator Stations
Monitors
PLCs
Light Curtains
Inverter Drives
AC/DC Drives
Welders
Process Controls

Capabilities Include:

MKD 041B-XXX-XXX-XX
 MKD 071B-XXX-XXX-XX
 MKD 090B-XXX-XXX-XX
 MKD 112B-XXX-XXX-XX
 MKD 112C-XXX-XXX-XX

MHD 041B-XXX-XXX-XX
 MHD 071B-XXX-XXX-XX
 MHD 090B-XXX-XXX-XX
 MHD 093A-XXX-XXX-XX
 MHD 093B-XXX-XXX-XX
 MHD 093C-XXX-XXX-XX
 MHD 095C-XXX-XXX-XX
 MHD 112D-XXX-XXX-XX
 MHD 115B-XXX-XXX-XX
 MHD 115c-XXX-XXX-XX

The Rexroth MKD and MHD series permanent magnet synchronous servo motors are used in a wide variety of motion control applications. The MKD/MHD series motors can be used with various series of Indramat / Rexroth servo drives.

Northline now supports repair and dynamic system testing for the MKD/MHD series servo motors. Thermal and vibration testing upon request. Turn to Northline to support your Rexroth MKD and MHD Series servo motor repair needs.



Contact your Northline sales representative for all of your Rexroth MKD/MHD servo motor repair needs.

Indramat Rexroth MSK Servo Motors

Automation Repair and Sales

Electronics
Robotics
Servo motors
Spindle Motors
CNC
HMI / Displays
Operator Stations
Monitors
PLCs
Light Curtains
Inverter Drives
AC/DC Drives
Welders
Process Controls

Capabilities Include:

Models:
MSK030C thru MSK100E

Rexroth's MSK Series is a Synchronous servo motor with a maximum torque and an encoder capable of a diverse range of applications. Northline has gathered all the necessary power and feedback cables as well as electronic IndraDrives to support full dynamic test of the MSK servo motors. Thermal, Vibration testing available upon request .

An OEM dynamic system test is the only reliable method to insure full function and reliability of your critical spares. A Full Service Report is provided with each repair. Choose Northline as your reliable Rexroth



Contact your Northline sales representative for all of your Rexroth MSK servo motor repair needs.

Rexroth PSI 6000 Series Resistance Welders

Automation Repair and Sales

Electronics
Robotics
Servo motors
Spindle Motors
CNC
HMI / Displays
Operator Stations
Monitors
PLCs
Light Curtains
Inverter Drives
AC/DC Drives
Welders
Process Controls

Capabilities Include:

PSI 63CX.1XX L1
Discrete Control (Air)

PSI 63CX.1XX W1
Discrete Control (Water)

PSI 6300.7XX L1
EtherNet IP (Air)

PSI 6300.7XX W1
EtherNet IP (Water)

Northline Industrial introduces its latest capability in EtherNet IP controlled resistance weld control systems. The PSI 6000 concept provides parameterized functions for the resistance welding process in order to realize specific complex sequences. All units have a free slot that will accept Rexroth quality control modules. Secondary currents ranging from 250 up to 120,000 Amps are available on demand regardless of the preferred welding method. The integration of the weld timer control functions into an AC, or medium frequency inverter, provides a solid basis for modern automation tasks. The PSI 6000 concept is the amalgamation of many successful solutions in the field of resistance welding. A particularly valuable advantage of this innovative product is its enormous input and output flexibility.



Contact your Northline sales representative for all of your Rexroth PSI 6000 series weld repair needs.

Servo Motor Repair

Automation Repair and Sales

Electronics
Robotics
Servo motors
Spindle Motors
CNC
HMI / Displays
Operator Stations
Monitors
PLCs
Light Curtains
Inverter Drives
AC/DC Drives
Welders
Process Controls

Capabilities Include:

- AC Servo Motors
- Brushless DC Servomotors
- AC Spindle Motors
- Induction Motors
- DC Motors
- Robotic Wrists

An experienced technician is assigned the responsibility of servicing your repair; they will perform a number of computer, mechanical as well as technical base steps. Each repair goes through a systematic process: disassembling, cleaning, evaluating, assembling, aligning/synchronizing & testing. Once the technician has completed the repair, it is sent to quality control (QC) for final inspection and testing. A summarized report accompanies each job & outlines the initial test results at incoming, replacement & repair of defective components, cause of failure, bench & system test results. Common Manufacturers Supported:

- | | | |
|--------------------|------------|-----------------------|
| • Allen Bradley | • ABB | • AEG |
| • Baumuller | • Bautz | • Cincinnati Milacron |
| • Elmo | • Emerson | • Fanuc |
| • Fuji | • Gettys | • Gould |
| • Giddings & Lewis | • Indramat | • Industrial Drive |
| • Kollmorgen | • Lenze | • Mitsubishi |
| • Moog | • MTS | • Pacific Scientific |
| • Panasonic | • Parker | • Siemens |
| • Yaskawa | • Whedco | |



Contact your Northline sales representative for all of
your Servo Motor Repair needs.

Servo Motor Repair

Automation Repair and Sales

Electronics

Robotics

Servo motors

Spindle Motors

CNC

HMI / Displays

Operator Stations

Monitors

PLCs

Light Curtains

Inverter Drives

AC/DC Drives

Welders

Process Controls

Capabilities Include:

- AC Servo Motors
- Brushless DC Servomotors
- AC Spindle Motors
- Induction Motors
- DC Motors
- Robotic Wrists

ABB • Elmo

3HAB
3HAC
8C Series
PS Series

AEG

120 Series
R Series
S Series

Allen Bradley Reliance

1326AB
1326AD
1326AS
1326DP
F Series
H Series
LD Series
N Series

Baldor

BSM,M

Elwood Getty's • Gould

120 Series
R Series
Alpha αis
Alpha α(HV)i
Alpha α(HV)is

GE Fanuc

Alpha α
Alpha αi
Alpha αis
Alpha α(HV)i
Alpha α(HV)is
Alpha αM, B, βi, βis
MTR-3S
MTR-3T
S Series
SL Series
Spindle
α Spindle
H Series
SW Series

Giddings & Lewis

FSM Series
HSM Series
NSM Series
YSM Series

Giddings & Lewis

FSM Series
HSM Series
NSM Series
YSM Series

Indramat • Rexroth

MAC Series
MDD Series
MHD Series
MKD Series

Industrial Drive • Inland

B Series
TT Series
TTBL Series

Ingersoll Rand

E-2630 "R"
E-3340 "U"

Kollmorgen Goldline

AKM Series
B Series
BH Series
M Series
MH Series

Lenze

MCA Series
MCS Series
MDFKS Series
MDSKS Series
MDFQA Series

Modicon

120 Series
Cyberline R Series
Cyberline S Series

Sew Eurodrive

F Series
K Series
R Series
S Series

Siemens

1FK6 Series
1FK7 Series

Contact your Northline sales representative for all of
your Servo Motor Repair needs.

Servo Motor Testing

Automation Repair and Sales

Electronics
Robotics
Servo motors
Spindle Motors
CNC
HMI / Displays
Operator Stations
Monitors
PLCs
Light Curtains
Inverter Drives
AC/DC Drives
Welders
Process Controls

Capabilities Include:

Surge Testing
DC Hipot
Meg-OHM
Voltage & Current leak Measurement
Feed Back Alignment
Increment encoders
Serial Encoders
Resolver Feedback

In an evolving effort to improve quality and reliability of our repairs, Northline Industrial has added 2 testsystems to our arsenal.

The Mitchell TI-3000 is an industry standard for run testing servo feedback motors. This system allow run testing of multiple manufacturerson a common drive system using a patented Commutation Converter technology. Used to confirm alignment and feedback confirmation with a dynamic test.

The Baker Instrument Company ST106E is a Surge and DC Hipot tester in one. As a test to measure voltage and current leak, this unit allow us to test integrity of AC Stators, DC field coils, DC armatures, Synchronous motors, generatorsas well as a myriad of coils and Motor windings. Used before and after repair as predictive maintenance tool.



Contact your Northline sales representative for all of
your Servo Motor Repair needs.

Siemens Drive-CLiQ Servo Motors

Automation Repair and Sales

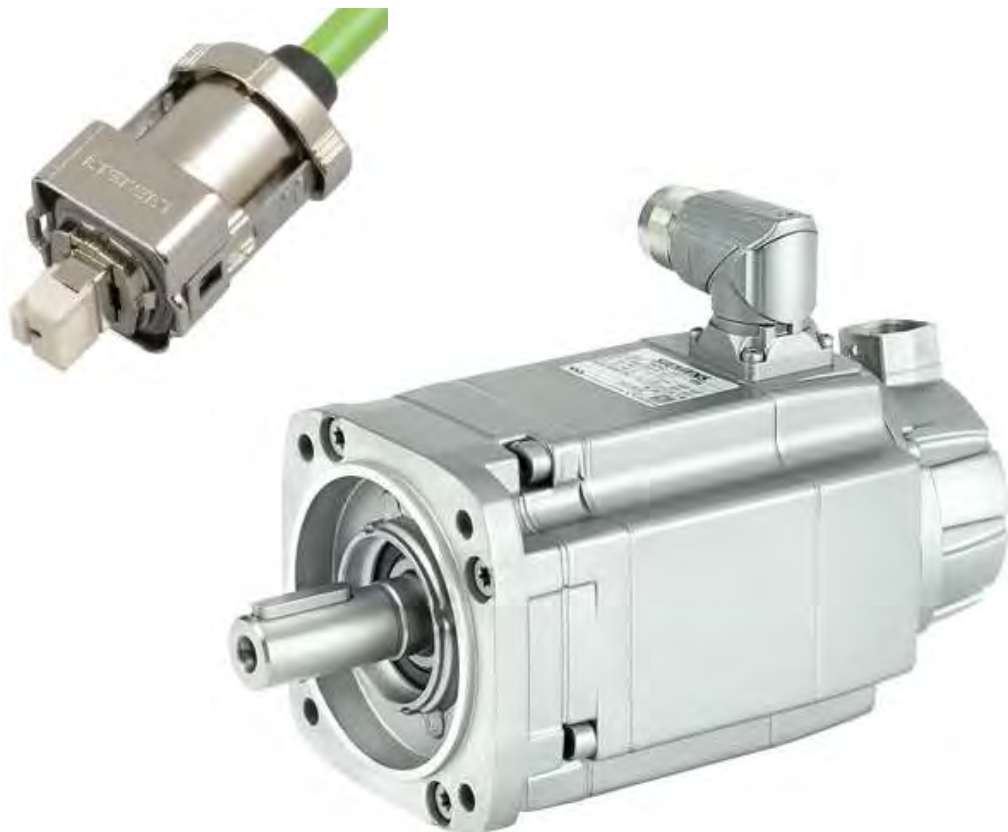
Electronics
Robotics
Servo motors
Spindle Motors
CNC
HMI / Displays
Operator Stations
Monitors
PLCs
Light Curtains
Inverter Drives
AC/DC Drives
Welders
Process Controls

Capabilities Include:

Servo Motors used on:

Siemens SINAMICS with
"Drive-CLiQ Equipped"
Servo Feedback Interfaces

Siemens Sinamics "DRIVE-CLiQ" is a "multi feedback" communications interface. This enables users to select the measuring system that is perfectly tailored to their application. Feedbacks that use new measuring techniques (such as magnetic / inductive systems, magneto-strictive sensors, lasers) can also be connected through DRIVE-CLiQ as well as traditional optical encoders and resolvers. With DRIVE CLiQ, the motors information is automatically programed into the drive saving set up time. Northline has invested in the hardware needed to perform a full system test of Siemens Drive-CLiQ Motor and Interface. Choose Northline for your quality repair partner.



Contact your Northline sales representative for all of your Siemens Drive-CLiQ servo motor repair needs.

Siemens PM240 Power Modules

Automation Repair and Sales

Electronics
Robotics
Servo motors
Spindle Motors
CNC
HMI / Displays
Operator Stations
Monitors
PLCs
Light Curtains
Inverter Drives
AC/DC Drives
Welders
Process Controls

Capabilities Include:

Sinamics G120 Inverters:
PM240 Power Modules

Models:

6SL3120-XXXXX-XXXX
6SL3121-XXXXX-XXXX
6SL3130-XXXXX-XXXX
6SL3210-XXXXX-XXXX
6SL3224-XXXXX-XXXX

The SINAMICS G120 inverter has been designed for the accurate and efficient control of the speed and torque for three-phase motors. The SINAMICS G120 system comprises two basic modules, the “Control Unit” and the “Power Module”. The PM240 power modules belong to the modular family of SINAMICS G120 inverters. The PM240 Power Modules are designed for line voltages of 3 AC 380 V to 480 V range. Depending on the power rating, they are supplied in frame sizes FSA ... FSGX.

Northline now supports repair and system test of the PM240 Series power modules. Turn to Northline for a reliable repair partner of your Siemens PM240 power modules.



Contact your Northline sales representative for all of your Siemens PM240 power module repair needs.

Siemens 611 AC Servo Control System

Automation Repair and Sales

Electronics
Robotics
Servo motors
Spindle Motors
CNC
HMI / Displays
Operator Stations
Monitors
PLCs
Light Curtains
Inverter Drives
AC/DC Drives
Welders
Process Controls

Capabilities Include:

Infeed Power Module
6SN1145 (Entire Series)

Power Amplifier Module
6SN1123(Entire Series)

Control Card Modules
6SN1118 (Analog and
Universal Series OD and
OG series)

This is Northline Industrial's Siemens 611 AC Servo Control System. This system was designed to provide all the necessary life support for larger Siemens 6SN1145 and 6SN1123 infeed and power modules. The test station utilizes an integral "Siemens 611 Universal" control card that is capable of controlling up to two servos, spindle or induction axis. All facets of the 611 Universal card can be properly tested. There are dozens of 6SN1118 control cards for the 611 series and Northline is continually adding more cards to our dynamic testing capabilities. This system is used in conjunction with Northline's "Dynamic Load System" in order to ensure a quality repair every time. Please contact us if you have questions about our testing procedures or the types of equipment we can repair for you.



Contact your Northline sales representative for all of
your Siemens 611 repair needs.

Small HP Dynamic Load System

Automation Repair and Sales

Electronics
Robotics
Servo motors
Spindle Motors
CNC
HMI / Displays
Operator Stations
Monitors
PLCs
Light Curtains
Inverter Drives
AC/DC Drives
Welders
Process Controls

Adjustable
Amplifier
Loading

Northline can also provide load-testing for your Fanuc servo amplifiers with our “Dynamic Load Control” station. Various-sized motors can be easily connected to a “Load” motor. The load motor generates voltage that can be applied to a resistor bank capable of handling up to 24K watts of power. The amount of voltage applied to the resistor bank can be adjusted from 0 to 100% thru PWM circuitry designed by Northline engineers. This allows us to load almost all Fanuc servo amplifiers up to their full ratings, providing true “System Testing”.



Contact your Northline sales representative for all of your repair needs.

STI Opto Shield OS3101

Automation Repair and Sales

Electronics
Robotics
Servo motors
Spindle Motors
CNC
HMI / Displays
Operator Stations
Monitors
PLCs
Light Curtains
Inverter Drives
AC/DC Drives
Welders
Process Controls

This is the STI OptoShield **OS3101** series of laser safety scanner. It is used in a variety of safety and control applications such as in automatic guided vehicles as well as high tech factory safety devices. Northline Industrial's OS3101 diagnostic system utilizes STI's **RM-2AC** safety interface monitoring module. The RM-2AC coupled with dedicated custom made control interfaces will ensure a valid diagnostic test every time. Consult your local Northline Industrial sales representative for service details on the STI OptoShield OS3101 Series of laser scanners today!

Capabilities Include:

OS3101

**RM-2AC Safety
Interface**



*Contact your Northline sales representative for all of your
STI OptoShield repair needs.*

Surplus Equipment Sales

Automation Repair and Sales

**Electronics
Robotics
Servo motors
Spindle Motors
CNC
HMI / Displays
Operator Stations
Monitors
PLCs
Light Curtains
Inverter Drives
AC/DC Drives
Welders
Process Controls**

With a large warehouse of surplus inventory, and numerous industry partnerships, we are able to source legacy, current production & OEM obsolete equipment. Our industry-leading repair lab supports testing of the Surplus Spares we sell. Popular manufactures inventoried such as Allen Bradley, Fanuc & Indramat. Northline Industrial offers a one year in-service warranty on all surplus items.

Northline specializes in finding obsolete and hard-to-find automation parts.



Manufacturers Supported:

**ABB
Allen Bradley
Cutler Hammer
Eaton
Fanuc
General Electric
Indramat
Modicon
Miller
Reliance
Sick Optic
Siemens
Sola
Square D
Yaskawa**

Upgrading your System? We can help by selling the equipment you are removing from service while providing cost savings on the new equipment you require.



Please visit our E-bay store using the Link below. If you do not see your item listed, please contact your Northline Sales Representative. We are purchasing new inventory every day.

E-bay Store Link: <http://stores.ebay.com/Northline-Industrial/>

Email Surplus Sales: sales@northlineindustrial.com

Telesis TeleScribe

Automation Repair and Sales

Electronics
Robotics
Servo motors
Spindle Motors
CNC
HMI / Displays
Operator Stations
Monitors
PLCs
Light Curtains
Inverter Drives
AC/DC Drives
Welders
Process Controls

Capabilities Include:

SC3500
TMC400
TMC400/1700
TMC400/4100
TMC400/4150
TMC400/6100
TMC420
TMC470
TMM4250
TMM5100
TMP1700
TMP3100
TMP3200
TMP4100
TMP5100
TMP6100

Below is Northline Industrial's Telesis TeleScribe series test jig. It was designed to dynamically test various Telesis pin stamp Marking systems. Northline rebuilds these servo driven units then utilizes this jig to assure precise, repeatable pin positioning - ensuring consistent appearance of the mark from part to part.



Contact your Northline sales representative for all
of your Telesis servo motor repair needs.

ELCo Enterprises “Torch Wizard” Reamer

Automation Repair and Sales

Electronics
Robotics
Servo motors
Spindle Motors
CNC
HMI / Displays
Operator Stations
Monitors
PLCs
Light Curtains
Inverter Drives
AC/DC Drives
Welders
Process Controls

Capabilities Include:

EL-NCS-AC-16-D
Ream, Spray & Cut

EL-NCS-A-16-D
Ream & Spray Only

Northline Industrial is pleased to announce the repair capability for the Torch Wizard MIG reamer. Torch Wizard Nozzle Cleaning Stations assist in maintaining quality and productivity in MIG welding cells by quickly and efficiently removing spatter build-up in the gas nozzle. Anti-spatter is applied evenly through two spray jets, allowing for simultaneous reaming & spraying thereby reducing cycle time by up to 50%!



Contact your Northline sales representative for all
of your Torch Wizard reamer repair needs.

Tregaskiss TT Reamer

Automation Repair and Sales

**Electronics
Robotics
Servo motors
Spindle Motors
CNC
HMI / Displays
Operator Stations
Monitors
PLCs
Light Curtains
Inverter Drives
AC/DC Drives
Welders
Process Controls**

Capabilities Include:

Tregaskiss TT Reamer

Northline Industrial is pleased to announce the ability to dynamically test the Tregaskiss TT Reamers. Tregaskiss reamers are commonly used to maintain MIG welding nozzles in high production welding assembly processes. Tregaskiss is known as a world leader in weld system maintenance equipment. Contact your Northline Industrial Sales Representative for all of your Tregaskiss repair and service needs.



Contact your Northline sales representative for all of your Tregaskiss TT Reamer repair needs.

UATC-20 Temperature Control Module

Automation Repair and Sales

Electronics
Robotics
Servo motors
Spindle Motors
CNC
HMI / Displays
Operator Stations
Monitors
PLCs
Light Curtains
Inverter Drives
AC/DC Drives
Welders
Process Controls

Capabilities Include:

UATC-20 Temp Modules (115V
& 220V)

Various Manufacturers

ITC
IMS

This is the **UATC-20** temperature Control module. Northline has full repair capability and load testing for this thermal device. Many manufacturers make this module or ones similar to it. Whether it is configured for 220VAC or 115VAC, Northline covers them all!



Contact your Northline sales representative for all
of your repair needs.

Motor Vibration Analysis

Automation Repair and Sales

Electronics
Robotics
Servo motors
Spindle Motors
CNC
HMI / Displays
Operator Stations
Monitors
PLCs
Light Curtains
Inverter Drives
AC/DC Drives
Welders
Process Controls

Capabilities Include:

Fans
Blowers
Generic gearboxes
(rolling element bearings)
Machine tools Motors
(servo, spindle)

The Fluke 805 is a Northline Industrial's latest investment in tools to improve repair quality, document repair variables, and speed our repair process on motor repairs. The 805 is a vibration meter that measures variation caused by device angle or contact pressure. This unit allows us to quickly measure overall vibration, bearing condition, and temperature. These quantitative numbers give us another tool to improve customer uptime by quickly diagnosing issues, documenting baselines for future repair, and as a final quality check on performed repairs. This unit allows for export and trending into an Excel document to track motor health throughout it's lifecycle.



Contact your Northline sales representative for
all of your repair needs.

Welder Repair

Automation Repair and Sales

Electronics
Robotics
Servo motors
Spindle Motors
CNC
HMI / Displays
Operator Stations
Monitors
PLCs
Light Curtains
Inverter Drives
AC/DC Drives
Welders
Process Controls

Let Northline Industrial be your source for repair of your inverter-duty and resistance weld equipment. Northline is a Factory-Authorized Service Center for Lincoln Electric, Fronius, Miller, Tregaskiss, OTC – Daihen, ESAB, Victor, Thermal Dynamics, and Thermal Arc weld equipment. From wire-feeders to entire robotic weld cells, Northline can refurbish and give new life to your repairable assets. System-testing is an important part of our service-philosophy and a service report is included with every repair. We perform load-bank and live weld testing to ensure a quality repair.



Capabilities Include:

- MIG Welders
- TIG Welders
- Stick Welders
- Electrically driven Welders
- Reamers
- Robotically Controlled

ESAB
Fronius
Hobart
Lincoln Electric

- SMAW
- GTAW
- GMAW
- Multi-Process
- Multi-Operator
- Advanced Process
- Robotic Automation
- Submerges Arc Wire feeders
- Semi Automatic Wire feeders

Medar
Miller Electric

- Syncrowave Series
- Spectrum Series
- Delta Weld Series
- Invision Series
- Auto Delta Series
- Axxess Series
- Millermatic

Nasarc

- Intelliream

OTC Daihen

- D Series

Robotron



Square D
Thermal ARC
Thermal Dynamics
Tregaskiss

- TT Reamer
- TT3E Reamer

Victor Technologies

Contact your Northline sales representative for all of your Welder repair needs.

Weltronic GEN 6000 Robotic MiniPak Weld Controls

Automation Repair and Sales

Electronics
Robotics
Servo motors
Spindle Motors
CNC
HMI / Displays
Operator Stations
Monitors
PLCs
Light Curtains
Inverter Drives
AC/DC Drives
Welders
Process Controls

Capabilities Include:

WTC GEN 6000
Robot MiniPak

This is the **Weltronic (WTC) MiniPak** welder control for robotic applications. It is a self contained weld control system that mounts to the top of the robots control cabinet. It is a Mid Frequency Direct Current (MFDC) weld control that allows a smaller weld transformer to be physically mounted to the robot manipulator arm. Northline offers full dynamic load testing for these WTC MiniPak weld controls. Contact Northline for all of your WTC GEN 6000 weld control repair needs.



Contact your Northline sales representative for all
of your repair needs.

Yaskawa Motoweld EL-350

Automation Repair and Sales

Electronics
Robotics
Servo motors
Spindle Motors
CNC
HMI / Displays
Operator Stations
Monitors
PLCs
Light Curtains
Inverter Drives
AC/DC Drives
Welders
Process Controls

Capabilities Include:

**Motoman EA1400N
Manipulator**

**Yaskawa NX100
Controller**

**Motoweld EL-350
Inverter**

Northline Industrial has made the investment in time and equipment to support your Motoweld EL350 Motoman Equipment. System-testing is an important part of our philosophy, so with a custom control box, Yaskawa wire-feeder, EA1400N Manipulator, NX100 controller and Miller Load bank, you are assured of a quality repair every time. A detailed service report is also included with every repair.



*Contact your Northline sales representative for all of
your Welder repair needs.*

Yaskawa Sigma Series

Automation Repair and Sales

Electronics
Robotics
Servo motors
Spindle Motors
CNC
HMI / Displays
Operator Stations
Monitors
PLCs
Light Curtains
Inverter Drives
AC/DC Drives
Welders
Process Controls

Below is Northline Industrial's newest repair capability, the Yaskawa Sigma Series diagnostic test system. This test system was designed with a modular support concept that allows for quick and efficient set up. The Yaskawa SigmaWin + software allows for thorough analysis of the drives operational functions. This extremely flexible system allows for multiple support voltages encompassed within the Sigma I, II, III & V series and provides a dynamic system test of the amplifiers. Contact Northline Industrial for all of your Yaskawa repair needs.



Capabilities Include:

Sigma I: SGDA and SGDB

Sigma II: SGDH and SGDM

Sigma III: SGDS

Sigma V: SGDV

Contact your Northline sales representative for all of your Yaskawa Sigma Series repair needs.

Yaskawa Sigma II Servo Motor Repair (200V Class)

Automation Repair and Sales

Electronics
Robotics
Servo motors
Spindle Motors
CNC
HMI / Displays
Operator Stations
Monitors
PLCs
Light Curtains
Inverter Drives
AC/DC Drives
Welders
Process Controls

Capabilities Include:

SGMAH

SGMPH

SGMGH

SGMSH

SGMUH

SGMBH

Below is Northline Industrial's newest repair capability, the Yaskawa Sigma II series test system. It was designed to dynamically test various Sigma II associated AC servo motors. There are many Yaskawa servo motor types that can be tested with this system including: SGMAH, SGMPH, SGMGH, SGMSH, SHMUH & SGMBH types of servo motors.



Contact your Northline sales representative for all of your Yaskawa servo motor repair needs.

Yaskawa Sigma V Series AC Servo Motors

Automation Repair and Sales

Electronics
Robotics
Servo motors
Spindle Motors
CNC
HMI / Displays
Operator Stations
Monitors
PLCs
Light Curtains
Inverter Drives
AC/DC Drives
Welders
Process Controls

Capabilities Include:

Rotary

SGMMV
SGMJV
SGMAV
SGMGV
SGMSV

Direct

SGMCS

Linear

SGLGW
SGLFW
SGLTW

These are the **Yaskawa Sigma V** series or AC servo motors. They are the latest generation of Yaskawa Sigma series motion control automation. The Sigma V series has far more options and features than previous versions of Sigma products. Contact Northline Industrial for all of your Sigma V servo motor repair needs.



Contact your Northline sales representative for all
of your repair needs.

Yaskawa Sigma V AC Servo Amplifiers

Automation Repair and Sales

Electronics
Robotics
Servo motors
Spindle Motors
CNC
HMI / Displays
Operator Stations
Monitors
PLCs
Light Curtains
Inverter Drives
AC/DC Drives
Welders
Process Controls

This is the **Yaskawa Sigma V AC 200V** servo system. It is the latest version of the Yaskawa Sigma Series of motion control servo motors and amplifiers. Many of the Yaskawa Sigma series are backwards compatible thusly allowing upgrades from previous versions of the Sigma series a snap! The Yaskawa Sigma V series offers more features and options than previous Sigma series versions.

Capabilities Include:

200V Types

SGDV-R70
SGDV-R90
SGDV-1R6
SGDV-2R8
SGDV-3R8
SGDV-5R5
SGDV-7R6
SGDV-120
SGDV-180
SGDV-200
SGDV-330
SGDV-470
SGDV-550
SGDV-590
SGDV-780



Contact your Northline sales representative for all
of your repair needs.

Component Level Testing

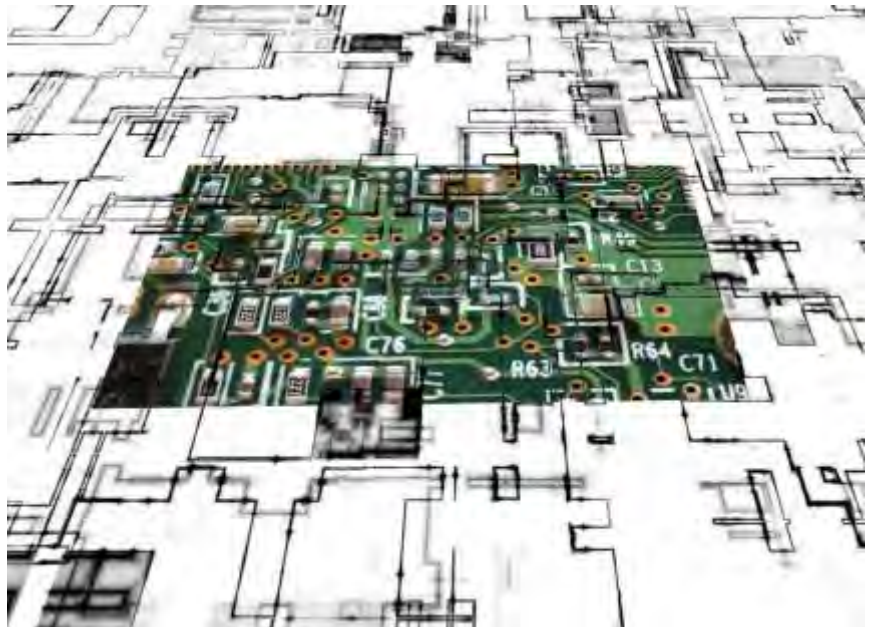
Automation Repair and Sales

Electronics
Robotics
Servo motors
Spindle Motors
CNC
HMI / Displays
Operator Stations
Monitors
PLCs
Light Curtains
Inverter Drives
AC/DC Drives
Welders
Process Controls

Capabilities Include:

Printed Circuit Boards
Modules
Encoders
Temp Sensors
Counters
Timers
PLC
Light Curtains
Digital
Analog

When either “System” or “Functional” tests are impossible or unfeasible, “Component Level” testing is used. Component Level testing is a methodology used to confirm the integrity on all the individual board subcomponents and traces. Specialized multi meters, oscilloscopes, continuity testers, capacitance meters, and Pin Point machines are used to confirm repaired/replaced equipment of this type. Traces and cold solder joints are reflowed and non conforming board level parts are replaced with new.



Contact your Northline sales representative for all
of your repair needs.

Full Function Testing

Automation Repair and Sales

Electronics
Robotics
Servo motors
Spindle Motors
CNC
HMI / Displays
Operator Stations
Monitors
PLCs
Light Curtains
Inverter Drives
AC/DC Drives
Welders
Process Controls

Capabilities Include:

Drives
Power supplies
Displays
Servo Feedback Motors
Welders

Full “Function” testing is a methodology used to ensure a quality repair on a subcomponent of your production machines. This is employed when a dedicated system test is unnecessary due to the nature of the part. Functional testing provides an dynamic closed loop test to confirm proper function or output of an individual device.

Specialized multi meters, oscilloscopes, power supplies, load banks, capacitance meters and specifically designed test jigs are the tools we use to achieve full-function testing of repaired components.



Contact your Northline sales representative for all of your Fanuc R30iA repair needs.

Shipping Instructions – US Customers

Examples of items that might be shipped in standard boxes:

Drives (small to medium - light)
PLC (most)
Terminals (small to medium)
Amplifiers
Power Supplies
Boards
Light Curtains (short to medium)
Servo Motors (small)

Examples of items that might need to be shipped in non-standard boxes (unusual-size or double-walled box):

Drives (medium to large - heavy)
Welders (small)
Terminals (large/heavy)
Power Supplies (very large/heavy)
Light Curtains (long to very-long)
Servo Motors (medium)

Examples of items that might need to be shipped on a pallet:

Drives (large to very large)
Welders (medium to large)
Power Supplies (very large/heavy)
Spindle Motors
Servo Motors (large to very large)

Our Shipping Address*:

Northline Industrial, Inc.
12238 Woodbine
Redford, MI 48239

**No RMA is required! A Work Order # will be assigned upon receipt of the unit at Northline.*

Please provide the following with your shipment:

1. Purchase Order/Job Reference or Packing List.
2. Contact information (phone, address, etc.).
3. Indicate if the repair is a RUSH.
4. We encourage a problem description or symptom be included (if known).

Packaging and Shipping Tips:

1. Always use packing material when shipping in a box. DO NOT ship items loose in a box!!
2. DO NOT package large, heavy items with smaller, light-weight items.
3. Consider the weight of the item when selecting a package-type...heavy items (more than 70 lbs) should be secured to a pallet/skid for truck delivery.
4. Double-walled boxes offer more strength and protection than single-walled boxes.