



FACILITIES LIST

CNC Horizontal Machining Centers

3	Mori Seki NH4000DCG	14,000 rpm, full 4 th axis, thru spindle coolant, 60 tools w/ pallet changer, high speed machining, Maps II Control Renishaw probing system, travel size: X-22" Y-22" Z-24.8"	2 – 2005 1 - 2007
1	Kitamura HX400IF	13,000 rpm, full 4 th axis, thru spindle coolant, 50 tools w/ pallet changer, high speed machining. Fanuc 161-MB control, travel size: X-28.9" Y-24" Z-24"	2005
1	Toyoda FA-450	14,000 rpm, full 4 th axis, high speed machining w/ pallet changer. 1000 psi thru spindle coolant, Mitsubishi 530 control, travel size X-24" Y-24" Z-22"	1997
1	Kitamura H-400	10,000 rpm, full 4 th axis w/ pallet changer Fanuc 15 MB control, travel size: X-24" Y-20" Z-22"	1998

CNC Vertical Machining Centers

1	Mori Seki NV5000X1	14,000 rpm, high speed machining, Maps II control, high precision, thru spindle coolant, travel size: X-20" Y-40" Z-20"	2005
1	Femco 21100	8000 rpm geared head, 450 lbs of torque, high speed machining, 50 taper, Renishaw probing system, travel size: X-84" Y-39" Z-31"	2005
1	Daewoo DMV3016	12,000 rpm, high speed machining, Fanuc 18i, thru spindle coolant, ravel size: X-31" Y-16.2" Z-22"	2004
1	Matsuura MC-800	6000 rpm, jig bore accuracy, travel size: X-31" Y-18" Z-25"	1986

CNC Turning Centers

1	Daewoo 240MB	Single turret, w/ milling, w/ programmable tailstock bar 2 1/2" bar cap, 8" chuck, tool presetter, Fanuc 18-T control	2007
1	Daewoo 22LM lynx	Single turret, bar 2" cap, 6" chuck, tool presetter, Fanuc 0iTC control	2007



CNC Turning Centers continued

1	SNK Prodigy 27GT	4" turning gang tool lathe with C-axis on spindle and milling	2005
1	Emcoturn 332mcplus	Twin spindle, Twin 12 station turrets (high-low) w/ milling, pinch turning, bar feeder 1 1/4" bar cap. Siemens 840D control	2001
1	Methods TW-10	6 axis, Twin spindle, twin 12 station turrets, w/ milling, bar feeder 1 5/8" bar cap, 6" chucks, Fanuc 16 TT control, 1000 psi high pressure coolant, tool presetters	1996
1	Femco Durga 25E	10" diameter turning, w/ tail stock, Fanuc O-T control, 8" chuck, 24" between centers, tool presetter	1995
3	Takamaz X-10	6" diameter turning w/ auto loaders	1999-1999-1999
1	Tsugami ST-600	Swiss turn lathe, 9 axis, milling, and bar feeder	1998

Wire EDM

1	Mitsubishi FX-10K	4 axis w/ fine machining option, auto wire feed (working cube size 8 x 9 x 11)	1999
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Fabrication Equipment

1	Integrated robotics	IRB2400 5 axis ABB robot w/ 6 ft arm, .0023 repeatability over working cube, Bullseye II torch calibration system. Smartac weld joint detection system, ABB robotstudio 5 axis programming software w/ ArcWeld PowerPac. Fronius transplus synergic 5000 digital mig welder machine.
1	Calypso waterjet	Hammerhead system, 5' x 10' travels, 30 hp 60,000 psi pump*
1	CNC Plasma table	Thermal Dynamics plasma cutting system 4' x 10' travels
1	Miller 350 P	Mig welder, Processes: MIG, flux cored, and pulsed MIG, and Aluminum
1	Lincon 225 Precision Tig	TIG, AC TIG, pulse TIG, and Stick
1	Lincoln Idealarc	300 amp TIG AC / DC, Stick
1	Lincoln Power Mig 350 MP	Multi-Process capable. Welds MIG, flux-cored, stick, TIG, pulsed MIG; advanced processes like pulse-on-pulse MIG for Aluminum
8	Lincoln 215	PowerMIG welder*
2	Miller Dynasty 200 DX	TIG, AC TIG, pulse TIG, and Stick*



1	Miller Syncrowave 250 DX	TIG, AC TIG, pulse TIG, and Stick*
1	Adira Press brake	QHD CNC Press Brake 10 foot, 115 ton*
1	Accupress 725012	CNC Press Brake 12 foot, 250 ton*
1	Pacific J75-10	CNC Press Brake 10 foot, 75 ton
1	Americor Rolls	LH 160/5 plate rolls*
1	Adira shear	Shear, 1/4" x 10 foot, w/ 25.5 digital power back gage.
1	Accurshear	Shear, 3/8" x 12 foot, w/ CNC back gage*
1	Geka 100P	Iron worker
1	GEKA 80	Iron worker*

Saws

1	Cosen CO320NC	CNC horizontal bandsaw w/ bundle cutting. Hold +/- .005 on saw lg
1	PMC	Vertical band saw

Manual Equipment

1	Wacheon	Engine lathe 17" x 14"
1	Hardinge	Second operation lathe
1	Alliant	Manual milling machine 9 x 42 table, 3HP
1	Bridgeport	Manual milling machine 9 x 42 table, 3HP
1	Avery	4 spindle gang-type drill press
1	Trinco	Glass beader, dry blast
1	Chevalier	Tool and cutter grinder
1	Helicoil	Helicoil insertion tool
1	Pem	Pem insertion press



Inspection Equipment

1	DEA Mistral CNC Coordinate Measuring Machine w/ surfacing (working cube size 39 x 30 x 20)
1	DEA Mistral CNC Coordinate Measuring Machine w/ surfacing (working cube size 29 x 30 x 20)
1	Brown and Sharp Microval III Coordinate Measuring Machine
2	14" optical comparators w/ edge detection
1	SJ201 surface tester
1	SJ400 surface tester with curve capabilities

Parts Cleaning/Tumbling

1	Phillips	Ultrasonic vapor parts cleaner
1	Landa SJ-15R	Heated auto parts washer w/ 7 day programmable cycle, 350 lb capacity
1	Rotofinish	7.5 cubic ft tumbler w/ auto parts separator
2	Rotofinish	3.0 cubic ft tumblers

Assembly Facilities

NRL's assembly floor is 4500 sq ft of Climate controlled facility, which will have a clean room, (level still to be determined) that will meet FDA requirements for mechanical and electronic assemblies in the Medical arena. There will also be testing facilities for O2 cleaning, along with electrical testing.

Manufacturing/Engineering Department

NRL offers a complete Engineering and Tool Design Department which utilizes CAD/CAM software to produce state-of-the-art workholding solutions for today's marketplace. The CAD systems takes advantage of 3D files in solids, surfaces or wireframe format. The CAD/CAM system allows NRL to program directly from customer-supplied part files. Our CAM capabilities are: 5 axis in the milling and EDM section and 4 axis in the lathe section.

NRL is ISO 9001:2000