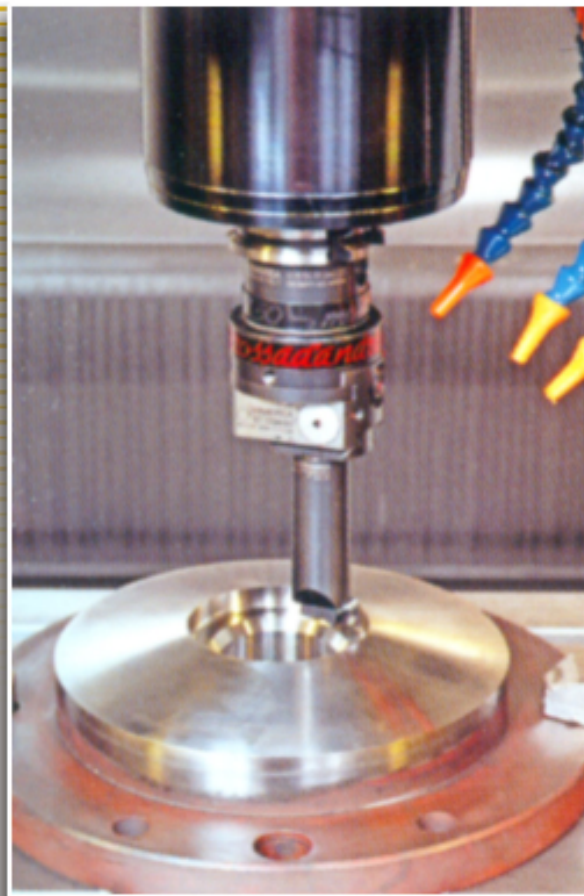


TOOL FOR THE PEOPLE WHO DEMAND QUALITY



Central Tool Room, Ludhiana.

Ministry of Micro, Small & Medium Enterprises
(An Indo German Project)



CTR Ludhiana is an Indo German project set up under bilateral agreement on technical cooperation between Government of India & Government of Germany in 1980 and it is working under administrative control of Ministry of Micro, Small & Medium Enterprises, Government of India. Our core service areas are :-

Tooling development

Rapid Prototyping

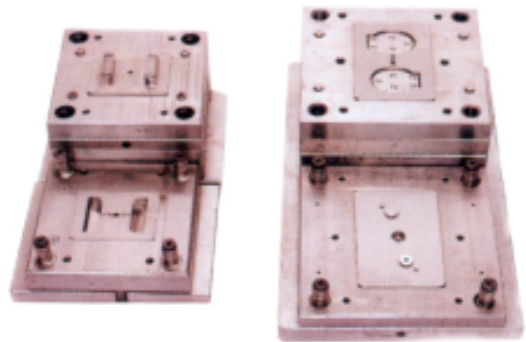
Heat Treatment

Training

An ISO 9001:2000 CERTIFIED ORGANISATION

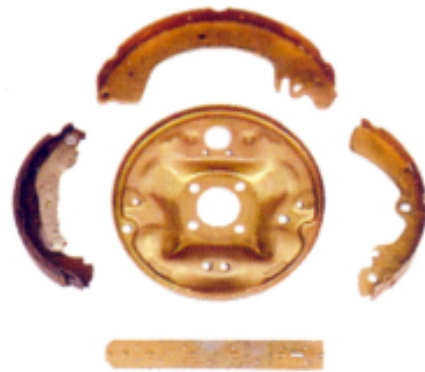
Production Department

- Guidance in Planning, Design and Manufacturing of tools as per latest International techniques.
- Manufacturing of Moulds, Press tools, Die Casting Dies, Jigs, Fixtures & Gauges.
- CTR has state of art Tool Room with all latest & Advanced Machines required for quality tools.
- Computer aided machining, Quality control and in house tryout facilities.
- Efficient & timely execution of projects through computer intermediate information system



Training Department

- Industry based long term training in Tool & Die making
- Specialized hi-tech courses in tool & die Technology & CAD/ CAM for Engineer Graduates, Diploma & ITI Certificate holders
- Tailor made Skill enhancement courses for industry
- Basic Certificate Course in Heat Treatment
- CTR City Center for training of CAD/ CAM at SISL Ludhiana



Design Department

- Design and development of Moulds, Press tools, Die Casting Die, Jigs, Fixtures, Gauges and Component drawing etc.
- Equipped with Software like Mechanical desktop, Unigraphics-NX4 including Mould and Progressive die wizard, Mould flow, Hyperform / LS DYNA, CATIA, I-Deas, Pro-E, AutoCAD & Solid works

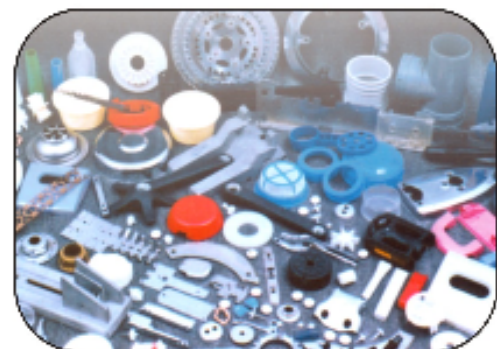


Heat Treatment:

- Hardening, Tempering, Normalizing, Case Hardening, Annealing and Stress Relieving etc and Heat Treatment
- Testing Hardness, Microstructure and Material Composition of various Steels.
- Heat Treatment of HSS, SP203, Stavax, Callmax, D-II, DIN 2714, P20, H111, H113 etc.

Metrological Facilities

- State of art CMM Carl Zeiss (Prismo 5, HITG VAST) with digitizing and reverse engineering capability
- Tool Maker's Microscope -NIKON
- Microfile Master - Tesa



MACHINE LIST

Sr. No.	MACHINE DESCRIPTION MAKE/ MODEL	BRIEF SPECIFICATION
1	CNC MACHINING CENTRE DECKEL MAHO DMC 70 V HI-DYN	Table Size -900 x 550mm Movement (XYZ) -700, 550, 500 RPM 1-18000
2	CNC MILLING MACHINE WITH DIALOG-11 DECKEL / FP5A	Table Size -1000 x 550mm Movement (XYZ) -710 x 600 x 445mm
3	VERTICAL MACHINING CENTER BRIDGE PORT VMC 2216,	Table Size 900 x 350mm X 560, Y 406, Z 508, Spindle Speed 10,000 RPM
4	CNC UNIVERSAL CYLINDER GR. M/C STUDER S30 LEAN PRO	Center Distance 1100mm Center Height-175mm
5	SCHOLT CYLINDRICAL GRINDING M/C.	Center distance- 750mm Center Height -150mm
6	SURFACE & PROFILE GRINDING M/C. JUNG / JF 520	Table Size-600x200mm Movement (XY) -600x200mm
7	CNC TURNING CENTER EMCOTURN 345	Max. Turning dia -220mm Work length- 310mm Speed -0-36300 RPM Max. Feed- 70 m/min C axis max. speed 100 RPM, -Rotation 6000 RPM
8	CNC LATHE MACHINE, HMT	Center Distance -1000mm Center Height 260mm
9	HIGH SPEED PRECISION LATHE HMT NL 22	Center Distance 1000mm Center Height 220mm
10	PERFEX LATHE GERMANY	Center Distance -1500mm Center Height -260mm
11	JIG BORING MACHINE HAUSER / OP-3	Table Size -595 x 320mm Movement (XYZ) 400 x 250 x 400mm
12	JIG GRINDING MACHINE HAUSER	Table Size-350x600mm Movement -(XYZ) -250x400x400mm
13	CNC EDM SPARK EROSION M/C CHARMILLES / ROBOFORM 70	Table Size-400x300mm Movement (XYZ) -300 x 250 x 250mm
14	EDM SPARK EROSION M/C DECKEL / DE 20	Table Size 430x340mm Movement (XYZ) 320x220x320mm
15	AGILE WIRE CUT CLASSIC 25	Table Size 750 x 550 x 250 Ra - 0.3mm Movement -350 x 250 x 250
16	CNC WIRE CUT EDM ROBOFIL 290 CHARMILLES	Table Size-850x500x200 Movement (XYZ) -400x250x200 Max. Taper L300
17	EDM DRILLING MACHINE	Table size -550X350mm Movement 300x200x250mm Electrode Size 0.5, 0.8, 1, 1.5, 2 & 3mm
18	CNC EDM WIRE CUT ELECTRONICA-SPRINT CUT	Table size -650 x 440 Movement 300 x 400 x 225, Accuracy - 0.01
19	INJECTION MOULDING M/C WINDSOR / SP 130	Shot Wt. -270gm Ejector Stroke- 95mm Distance between tie bar 380 x 380mm
20	INJECTION MOULDING M/C L&F DEMAG 200	Shot Weight 482 & 746 Gms. Distance between tie bar 860 x 860mm Mould height (310-710mm)
21	CMM-CARL ZEISS (PRISMO S.HTG VAST) WITH DIGITISING AND REVERSE ENGINEERING	XYZ-700x900x500, Measuring uncertainty (1.5+L/350)
22	Micro Hite -TESA	Max. Height-500mm & 615mm
23	Tool Makers Microscope (Comp. control) NIKON	200x200mm Proj.Lenses-1x, 3x, 5x and 10x

Projects developed

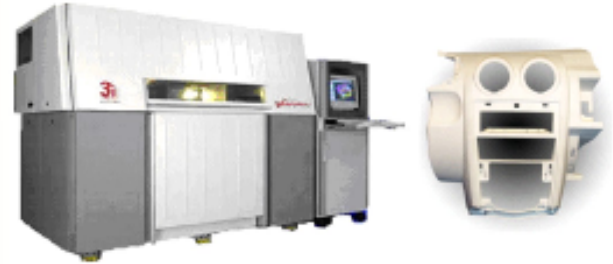
- Car seat sliders
- MCB s
- Acceptance gauges
- Staplers
- Recliner assembly
- Door closure- plastics
- Punching machines
- Water maters
- Door lock -plastics
- Quartz movement
- Sanitary joints

Rapid Prototyping Centre

Rapid Prototyping Center at Central Tool Room have following facilities :

Selective laser sintering (SLS)

Parts can be produced within hours directly from CAD data on Vanguard HS Machine in the materials like Nylon, Glass filled Nylon, Polystyrene (used for making patterns for investment casting) and Elastomers (Rubber like Parts). These parts can be directly used for functional fitment testing and assembly.



3-Dimension Printing (Polyjet)

Parts can be directly produced from 3D Cad data on Objet Eden 260, Polyjet technology in Acrylic based photopolymer material. Technology enables us to create accurate finely detailed models with 16 micron layers. Models can be used for assembly & functional testing. Various coatings are also possible on these parts.



Silicon Molding

Multiple parts can be produced from one master Prototype in Polyurethane based Resin Material equivalent to thermoplastics (ABS, PA, PP, PMMA, PC etc.) using MCP-HEK Vacuum Casting system.



Medical Modelling Using RP

Rapid Prototyping Center offers Medical Modelling facility for producing Medical Models directly from CT/MRI Scanned data. These Models can be used for Operational planning, Visualization of anatomical structures, Spatial display model, Implantation, Teaching aids and to produce customized implants.



MSME

MICRO, SMALL & MEDIUM ENTERPRISES
सूक्ष्म, लघु एवं मध्यम उद्यम
OUR STRENGTH - इगारी शक्ति

For Further Details Contact us at :

CENTRAL TOOL ROOM

A-5, FOCAL POINT, LUDHIANA-141 010.

Phone : +91-161-2670058, 2670059, 2676166, 2673564

Fax : +91-161-2674746

E-Mail : centool@jla.vsnl.net.in, info@ctrfluidhiana.com

Visit us at : www.ctrfluidhiana.com