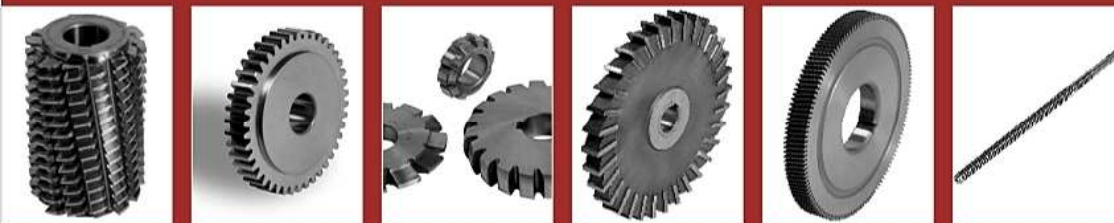




SUPER HOBS & BROACHES PRIVATE LTD.



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COMPANY PROFILE

FORMATION

The company was formed on February 2, 1999 with necessary set up to manufacture High Speed Steel Gear Cutting Tools and Broaches.

MANAGEMENT

The Directors of the company have sufficient experience and technical trained personnel quite conversant with the products.

TEAM

A group of highly dedicated and experienced employees form a dynamic team to take up normal as well as challenging jobs in the manufacture of Gear Cutting Tools, Broaches and Allied Products.

PRODUCTS

Full range of products contains the following:

BROACHES
CLASS 'A' & CLASS 'AA' GEAR HOBS,
GEAR SHAPER CUTTERS
GEAR SHAVING CUTTERS
GEAR CHAMFERING CUTTERS
GEAR DEBURRING CUTTERS
MASTER GEARS
PROFILE RELIEVED MILLING CUTTERS
SIDE & FACE MILLING CUTTERS
METAL SLITTING SAWS
SPLINED MANDRELS & SPLINE PLUG GAUGES
FLAT & CIRCULAR THREAD ROLLING DIES
BORE & SHANK TYPE MILLING CUTTERS to standard as well as to customer's drawings and specifications.

PROCESS

Each Cutting Tool is accompanied by process data sheet and each process is followed by stage inspection.

SPECIAL FEATURES

Each Cutting Tool thus manufactured is heat treated by SALT-BATH process which is one of the best methods. It ensures uniform and deep heating, better structure and better Tool life.

STANDARDS

The standards followed are BIS, BS, DIN, ASA, JIS and GOST etc. as per customer's choice and specification.



QUALITY ASSURANCE SYSTEM

MATERIAL PROCUREMENT

The raw material is either imported from Austria or Japan or is procured from Powmex Steels Limited set up in collaboration with Boehler Steels Limited, Vienna Austria world leaders in special Steels.

MATERIAL IDENTIFICATION

The stored raw materials are identified by color code by applying colors on the face as well as length of stored material.

SHELF LIFE

The raw material is stored in iron racks. Since the inventory of the material is maximum three months there is no need for any measures for control of shelf life etc. Prior to finishing tools are sand blasted to remove any rusting agents. After grinding and finishing tools are applied rust preventives and are securely packed in polythene bags and cardboard boxes.

CALIBRATION

Periodic Calibration of the measuring instruments and testing equipments is done as per BIS with the help of master gauges and meters or from some outside agencies.

PROCESS CONTROL (HEAT TREATMENT)

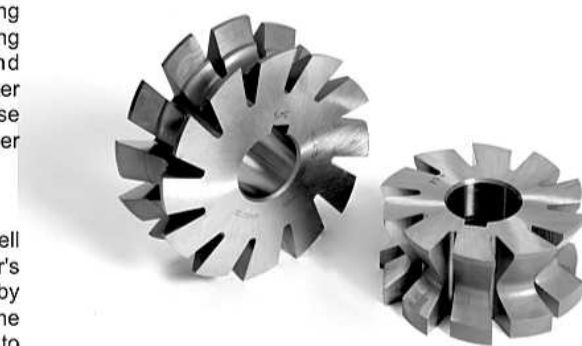
The temperature of the heat treatment furnace is being controlled with the help of Digital Temperature Indicators and Controllers, Infrared Type Pyrometer, Optical Pyrometer and Thermocouples.

INTERNAL INSPECTION

The inspection of the tool to be produced is being done at every stage of machining by keeping necessary Finishing/Grinding margins and expansion tolerances during heat treatment. After heat treatment the tools are ground to close tolerances as per standard specifications or as per requirement of the customer as per drawings etc.

MAINTENANCE OF QUALITY RECORDS

The maintenance of quality records for special as well as standard tools manufactured as per customer's drawings and specifications is being maintained by preparing drawings and by keeping a record of the same by giving specific job/reference number to facilitate repeated orders.





GEAR HOBS

SHB Manufacture Gear Hobs in HSS M2, M35 and ASP 30 material. Gear Hobs for Spur and Helical Gears in Single Start and Multi start Threads can be supplied in Class 'A', Class 'AA' & Machine Relieved forms conforming to DIN 3968 standard with pitches ranging from 0.5 to 25 Module or equivalent D.P.'s in various Pressure Angles.

Special features like Topping, Semi-Topping, Protuberance, Pre-Grinding, Pre-Shaving etc. can also be provided as per Customer's requirement.



SPLINE HOBS

SHB Manufacture Spline Hobs to standard as well as to specific requirements of the user for Straight Sided as well as Involute Splines in Class 'A' and Class 'AA' accuracies with following features:

1. With lugs without chamfer
2. Without lugs without chamfer
3. With lugs and chamfer
4. Without lugs but with chamfer
5. With full fillet radius without chamfer
6. With full fillet radius with chamfer



CHAIN SPROCKET HOBS

SHB Manufacture Roller Chain Sprocket Hobs in Class 'A', Class 'B' & Class 'AA' accuracies in profiles conforming to BIS, BS, DIN, ASA and JIS etc. specifications with pitches ranging from 5 mm to 75 mm.

These Hobs are offered with Topping & Non-Topping profiles.



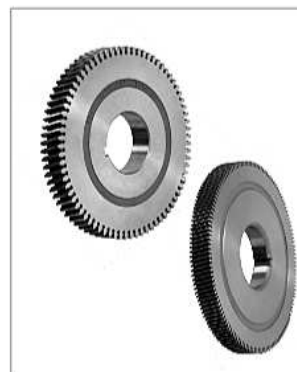
TIMING PULLEY HOBS

SHB Manufacture Timing Pulley Hobs in Class 'A' and Class 'AA' accuracies for Timing Pulleys with Straight Sided or Involute Teeth for Rubber Timing Belt Pulleys, Polyurethane Metric Timing Belt Pulleys, HTD and STD Profiles. The Hobs can be supplied in pitches ranging from 2.032 mm or 1/5" to 20 mm or 1 1/4".



WORM HOBS

Manufactured generally to customers drawings and specifications in Topping and Non-Topping forms Shank Type (worm gear) Hobs can be supplied in Machine Relieved as well as in Ground Relieved forms. These cutters can be supplied in Single and Multi Start Pitches as per requirements of the user. Maximum length of the cutter (including shank) that can be had is 400 mm.



GEAR SHAVING CUTTERS

Manufacturing of Gear Shaving Cutters such as Conventional, Diagonal, Underpass and Plungecut is undertaken by SHB.

Materials used for Shaving Cutters includes M35 and M2 as well as Powder Metallurgy High Speed Steels.

Manufacturing as well as Resharpener of shaving cutters is being carried out on CNC Gear Shaving Cutter Grinding Machine.





GEAR SHAVING CUTTERS RESHARPENING

SHB offers services for Resharpener of all types of Indigenous as well as Imported Gear Shaving Cutters on state of the art CNC GEAR SHAVING CUTTER GRINDING MACHINE.

Standard Involute, Tip Relief, Profile & Lead Crowning, 'K' Profile & Special Profiles as per requirements of the customer can be provided.



MASTER GEARS

SHB Manufacture Spur & Helical Master Gears as per customer's requirement for composite double or single Flank / Profile Checking. Master Gears are manufactured out of best quality imported material to ensure longest possible tool life. Master Gears are supplied generally in Class 3 or Class 4 accuracies of DIN 3962.



GEAR SHAPING CUTTERS

SHB Manufacture Gear Shaping Cutters in Module, DP and CP series. Spur as well as Helical Shaper Cutters can be supplied in Disc, Hub and Shank Type Varieties. Material used is generally AISI M35 Grade and accuracies are as per DIN-1829 Standard Class 'AA' and Class 'A'.

Profile modifications including Chamfering, Semi-Topping, Topping, Protuberance, Flat or Fillet Root can be provided.



GEAR DEBURRING CUTTERS

SHB manufacture Gear Deburring Cutters to remove burrs formed during teeth cutting and chamfering operation. These cutters are used in conjunction with Gear Chamfering Cutters.

Material used is mainly HSS M-2.

Gear Deburring Cutters for Samputensilli Machines can be manufactured in standard form as well as to the specific requirements of the customer.

Standard Tools for Gears with Parallel faces as well as Serrated Tools for Gears with inclined faces can be supplied as per requirement of the customer.



GEAR CHAMFERING CUTTERS

SHB manufacture Gear Chamfering Cutters to chamfer the flank edges of Spur and Helical Gears. The Chamfering operation prevents edge distortion during Heat Treatment and protects the profile during handling.

Chamfering Cutters are mainly used for Chamfering of Gears by Automobile Industry. These cutters can chamfer both the flanks of the gear at a time. Same set of chamfering cutters can be used for similar gears having different face widths. The variation in the width of the gears is adjusted with the help of suitable spacers.



FORM RELIEVED MILLING CUTTERS

Cutters with Special Profiles made to specific requirements of the customer in Single, Multi and Interlocking profiles can also be had on specific request.

We manufacture Ground or Unground Form Milling Cutters from a variety of Imported materials suited to your job requirements. A large variety of coatings are available to enhance performance and durability of the tools.

We offer extremely short lead times for manufacturing milling cutters.





PUSH & PULL TYPE BROACHES

SHB Manufacture Push & Pull Type Broaches in HSS (M2) Grade Steel in following profiles :-

SPLINES :

1. Straight Sided
2. Involute
3. Serrations
4. Trapezoidal

INTERNAL HOLE :

1. Square
2. Round
3. Rectangular, Hexagonal
4. Irregular Shapes etc.

KEYWAY :

1. With or Without Chamfer
2. Convex/concave
3. Combined Round & Single Keyway etc.

Note :- Push Type Helical Broaches upto 600 mm length can also be manufactured and supplied



SPLINE GAUGES PLUG TYPE

Spline Gauges are the best Inspection Tools to check internal as well as external Splined Profiles for Index and Profile errors. The use of Spline Gauges ensures the quickest process for acceptance of Splined components in mass production.

SHB manufacture Spline Plug Gauges with requisite close accuracies.

Spline Plug Gauges can be manufactured and supplied in following profiles:

1. Straight Splines
2. Involute Splines
3. Serrations
4. Trapezoidal Splines



SPLINE MADRELS

SHB Manufactures Spline Mandrels which are used to locate the Splined Components on PCD of Splines or on the Major Diameter of internal Straight sided Splines or Involute splines. The Component has to be Located in this manner to check the component accuracies like Face Run Out, OD Run Out with respect to PCD/Major Dia. Spline Mandrels are also used to carry out finish machining operations with respect to PCD/Major Dia.



METAL SLITTING SAWS

SHB Manufacture Metal Slitting Saws in Coarse and Fine Teeth with or without keyways as per IS: 5031 and BS-122-Part-1. The Metal Slitting Saws can be supplied in diameters 2" or 50mm to 12" or 300mm and Thickness 0.5 to 6mm. The material used is HSS M-2 and M-35.



SIDE & FACE CUTTERS

SHB Manufacture Straight Teeth & Staggered Teeth Side & Face Cutters in HSS M-2 & M-35 material as per BS-122-1-1953 and IS : 6308-1982. Side & Face Cutters are available in the following sizes :

Straight Teeth

Dimensions	Dia	Width	Bore
MM	50-200	3-32	16-40
Inch	2½-8	1/8-1¼	1-1½

Staggered Teeth

Dimensions	Dia	Width	Bore
MM	50-200	5-32	16-40
Inch	3-8	¼-1	1-1½



GROUND THREAD ROLLING DIES

SHB Manufacture Ground Thread Flat and Circular Thread Rolling Dies for Thread Rolling of Fasteners and Components. These Dies are manufactured out of best quality imported D2 and HSS material.

SHB keeps almost all the sections and Threads in various pitches in ready stock to meet the emergent requirements of its valued customers. Odd sections as well as special pitches can be supplied at a short notice. Regular pitches available are in Metric, BSW, UN, UNF, BSF and BA Threads.

Rethreading service for Flat as well as Circular Dies is also available.

Note : We also supply Circular Threading Crushers as per specific requirements of our Customers.



