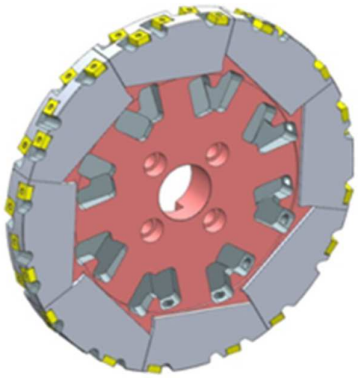
TALENT MANUFACTURING SOLUTION

.....the new edge of efficiency

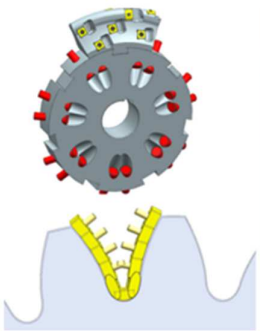
TMS PORTFOLIO AT A GLANCE

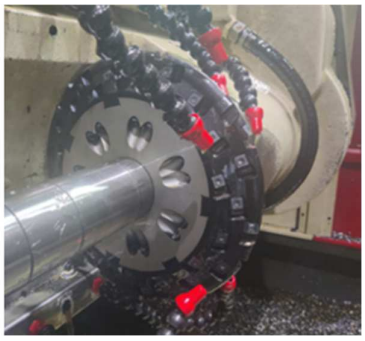
CRANKSHAFT MACHINING

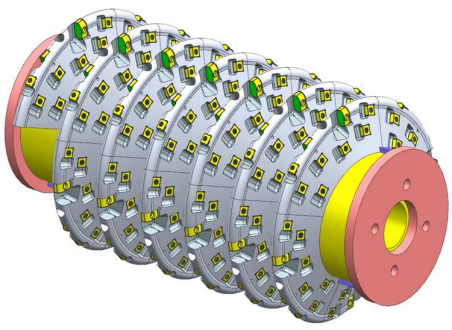


CAM SHAFT LOBE MILLING

JOURNAL MACHINING







GEAR MILLING SOLUTION

THE NEW EDGE OF PERFORMANCE

TAILOR MADE SOLUTION

Component Solutions - Automotive

Expertise for Challenging Production

Turn Milling for Small Batches

Cut to Length and Centring

Turn-turn Broaching & Inserts for Turn-turn Broaching

1 Expertise for Challenging Production

In the view of current market scenario Talent Manufacturing Solution has decided to expand their services to support the customers from all over the world to design tools and solutions by providing tailor made solution to premium sector business class customers. We have a expertise operating competence centre in Pune and specialists in all key markets, where we continuously develop cutting edge solutions together with customers and machine tool makers. Throughout the years, we've built a huge reference library with wide verities of diameter ranges.

We are now well capable of providing solution for a variety of Niche Applications, but common to all is the asymmetrical, innovative and relatively cost-effective design, that is prone to efficiency. The instability, along with high tolerance demands and challenging material machinability call for truly optimized tools and methods to succeed. We are committed to give a complete offer of tools and solutions that call for extra attention and satisfaction.

2 Main and Pin Journals

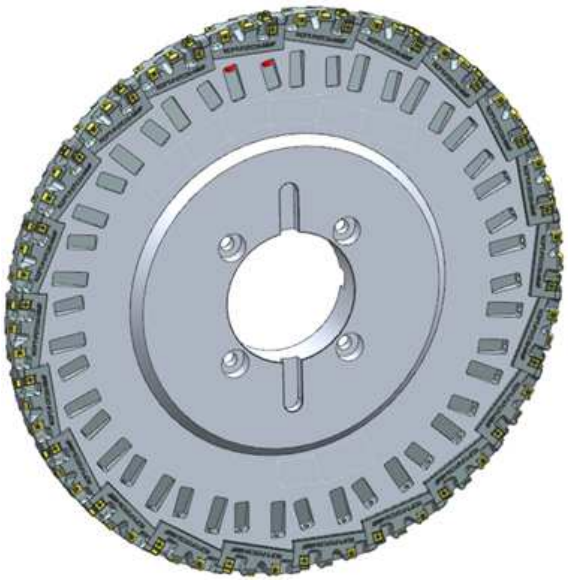
For roughing and semi finishing operations we recommend an internal or external milling concept for the pin journals and a turn-turn-broaching or milling solution for the main journals depending on the stock situation.

3 Internal Milling

The TMS's internal milling solution is a stable, exchangeable segment system with a high process security. There are several benefits compared to external milling. Firstly, the process stability enables low cost per part. The high tool life also improves the cost efficiency of this method. The range of different tools range from less than 15 kg tools up to large tools for ship diesel crankshafts. Tangential inserts with grounded geometries are available.

4 External Milling

External milling is a flexible and productive method used mainly for large-volume machining of small to medium-size automotive crankshafts. As a matter of continuous development TMS can offer cutters for external milling also, and we've continued to develop productive solutions. We can offer cost effective solution with a high number of effective teeth that can be designed to secure excellent chip removal, high cutting speeds and process security. The latest technology shortens tool change time substantially as only segments with a weight of less than seven kilo are exchanged. This means that you will not need a crane in front of the machine.



5 Turn Milling for Small Batches

Turn milling is a productive and cost-efficient method for small batches as there is a wide range of standard tools available. We are ambitious to machine as many verities of crankshafts as in existence but we haven't reached the limit yet.

6 Cut to Length and Centring

Our standard product range contains face-milling cutters with up to 16 cutting edges per insert.

7 Turn-turn Broaching

Turn-turn broaching is a combination of turning and turn-broaching where the turning and turn-broaching tools are mounted radially on a disk turret that moves into the crankshaft and along the bearings, machining as the crankshaft rotates. It is a productive, cost effective and flexible method, capable of short cycle times, highest flexibility and fast tool-handling and tool-setting times. The Talent manufacturing solution has wide verity of inserts as well as many other solutions as the tools weigh less than 15 kilos. You can use up to 48 cassettes on a 700-millimetre tool.

8 Inserts for Turn-turn Broaching

Talent Manufacturing Solution can offer inserts for machining crankshafts in turn-turn broaching machines - for turning disc tools with up to 48 cassettes. The inserts various Taylor made are available in C, T, V and Special insert styles and have screw clamping for best stability. The inserts enable to apply maximum number of possible cutting edges in small cassettes with limited space. We have most modern grades with variants of CNMU, VBGT, and special types for journal width operation.

With a vision to develop more and more solutions for our premium class customers we have decided to expand our capabilities and capacities. In the line of this goal, we have developed some prototypes and successfully implement those on the field also.

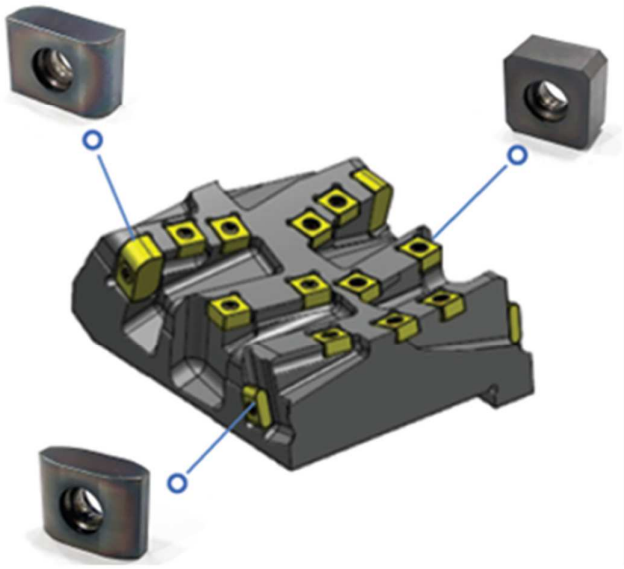
9 "Prototype" ON FIELD OFFERING

CUTTER CUTTING DIA = Ø 335.0

XXX = MRK "ORDERING CODE"

HARDNESS 42-46 HRC

REMOVE SHARP CORNER (EXPECT POCKET AREA)



Component Detail

	PIN	COLLAR
WIDTH	120.90 ± 0.1	124.20 ± 0.2
DIA	Ø 335.0 ± 0.1	Ø 383.5 ± 0.5
RAD	R6.40 ± 0.1	R3 ± 0.1
COMPONENT - RADIUS	R6.40	R3

MACHINE : Heller RFK 400/1

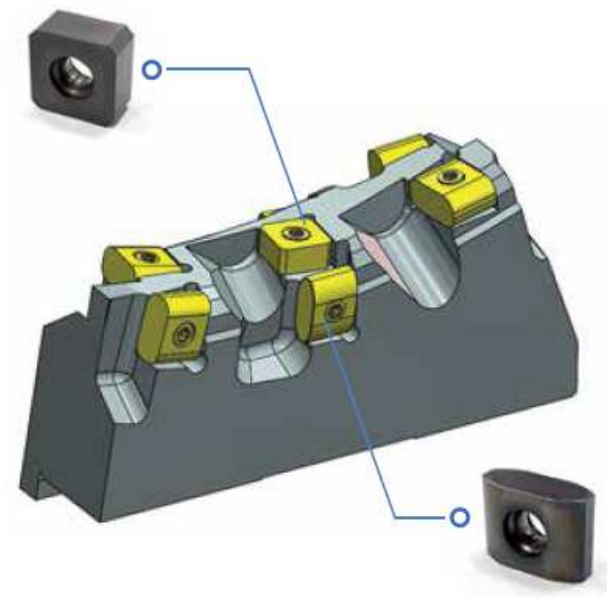
CUTTER BODY : Walter WF321-100448-A

CUTTER CUTTING DIA = Ø420.0

XXX = MARK "ORDERING CODE"

HARDNESS 42-46 HRC

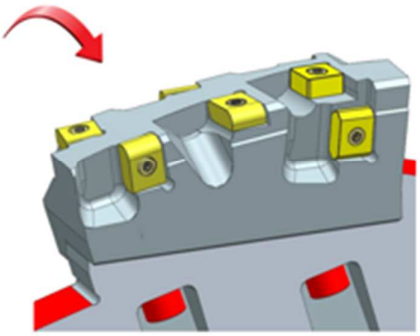
REMOVE SHARP CORNER (EXPECT POCKET AREA)



Component Detail

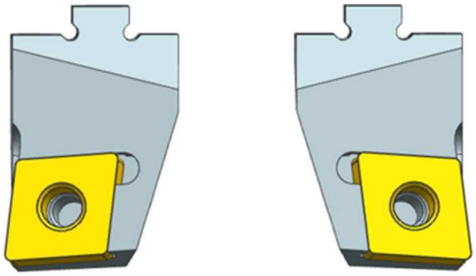
	PIN	COLLAR
WIDTH	32.85 ±0.1	35 ±0.2
DIA	Ø55.2 ±0.1	Ø65.7 ±0.5
RAD	R3.35 ±0.1	R8 ±0.1
COMPONENT - RADIUS	R3.35	R8

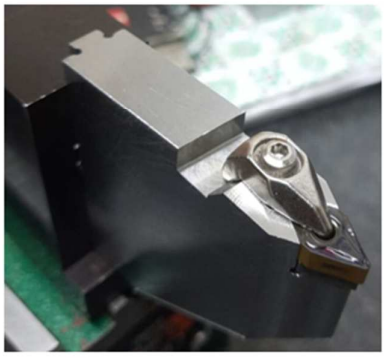
Ø800MM external pin milling cutter

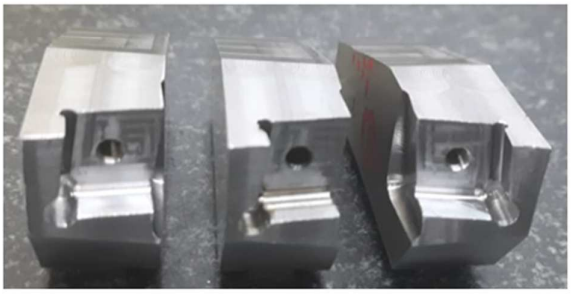


10 New tooling solution for Journal Turning, Gear end turning and Flange end Turning

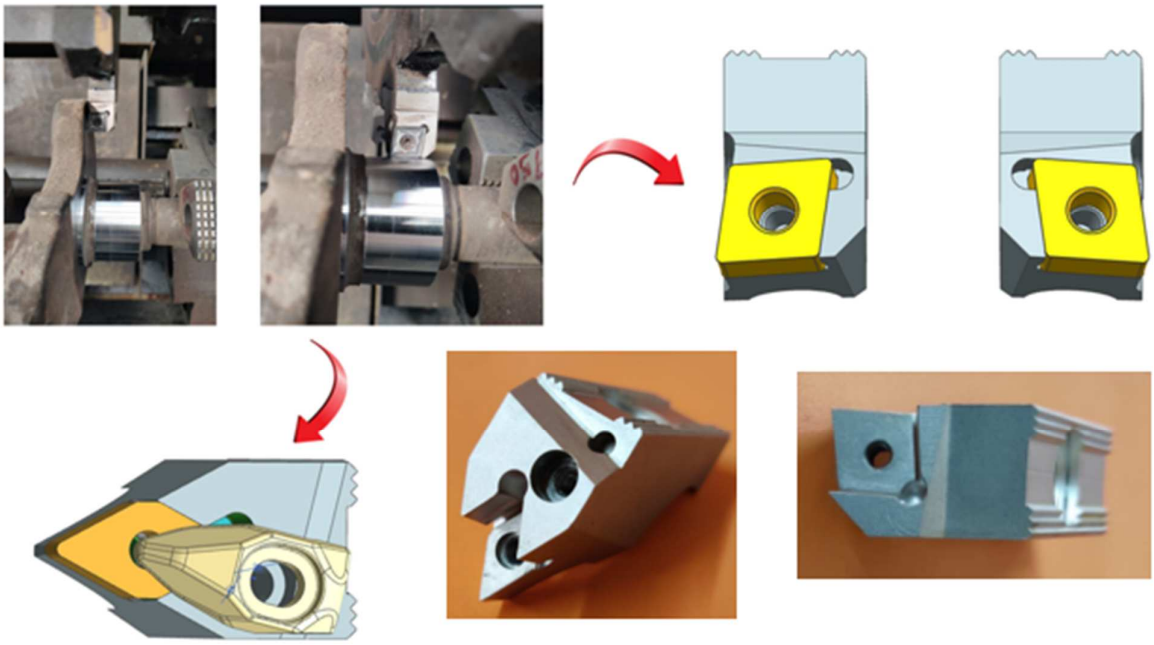
Tooling for DRZ1 machine for Crank shaft Turning



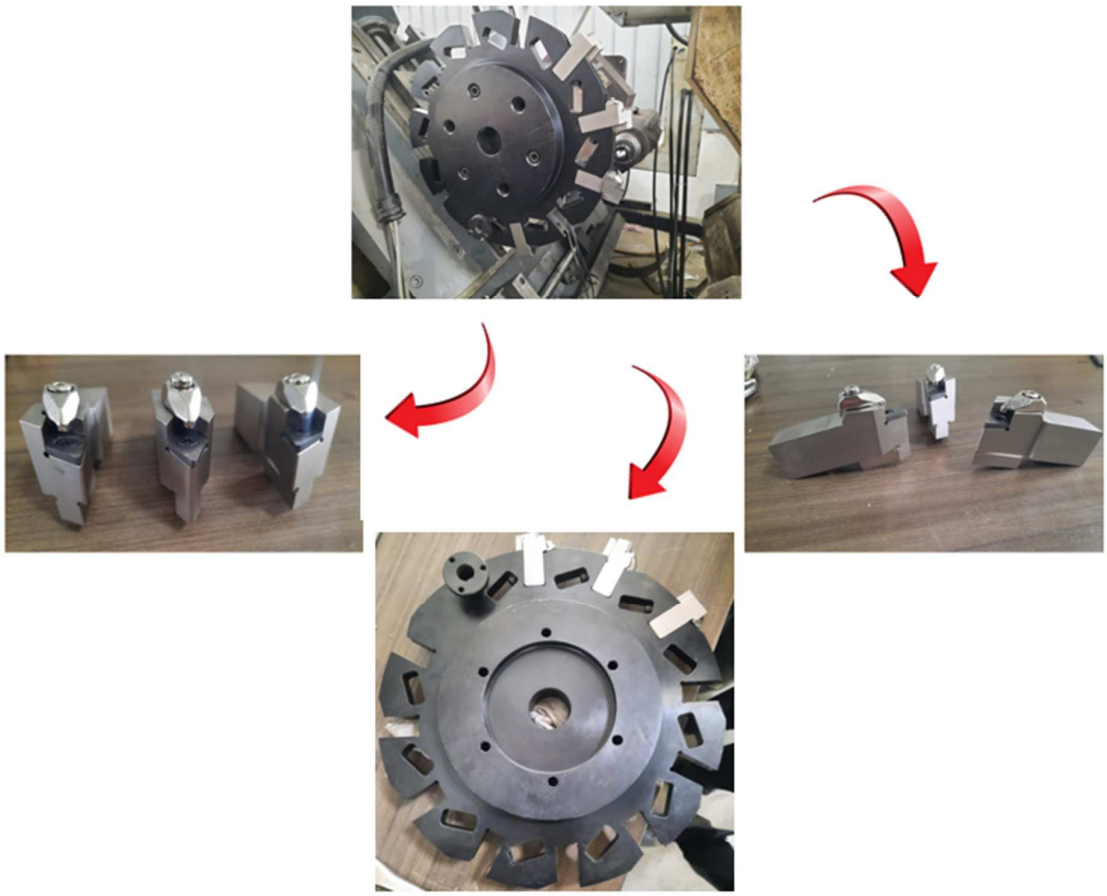




Tooling for DRZ2 machine for Crank shaft Turning



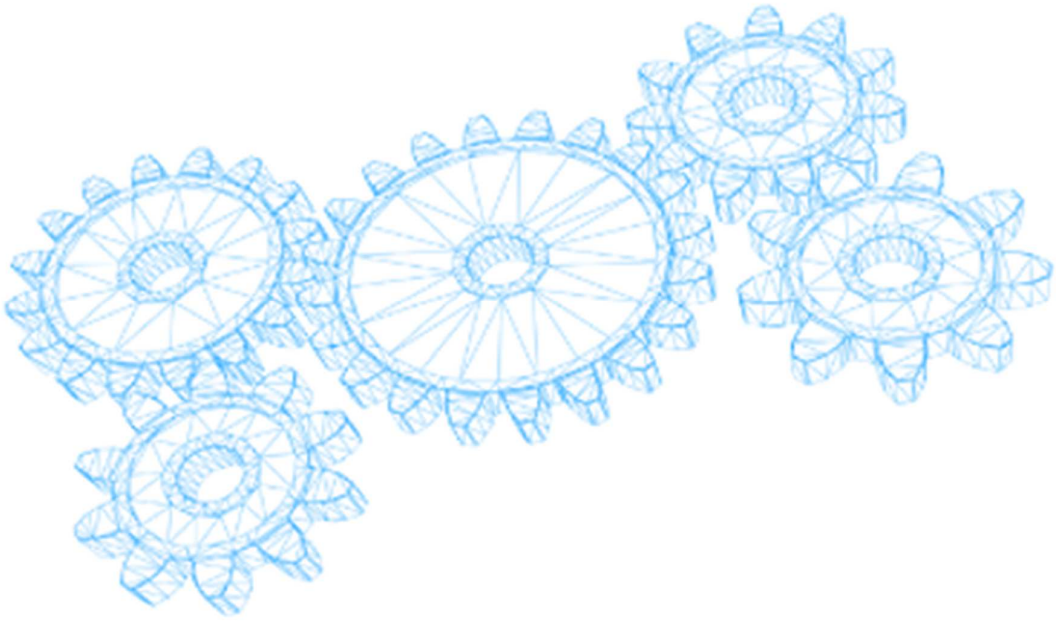
New Tooling solution for regular CNC Journal turning machine



TAILOR MADE SOLUTION

Today gear cutting processes are highly optimised. Details are becoming more and more important. This allows for further savings to be achieved. At the same time, expectations for quality and process security have also increased. Our tool solutions set the tone and cadence in the same line: TMS is a dependable partner for large quantities - for example in the automotive industry - and also with very large machinery as seen in wind energy technology. With the power of innovation, experienced application consultants, a reliable service network and excellent engineering, we will help you, the user, optimize your tool strategy for the future.

We are also offering cutting tools for gear production. We have offer innovative developments to serial production status to meet the ever-increasing requirements. Today, we offer the widest customise tool range for gear cutting in the market to our customers. The product offering includes small-module and large-module index able tools for roughing and finishing of gears.



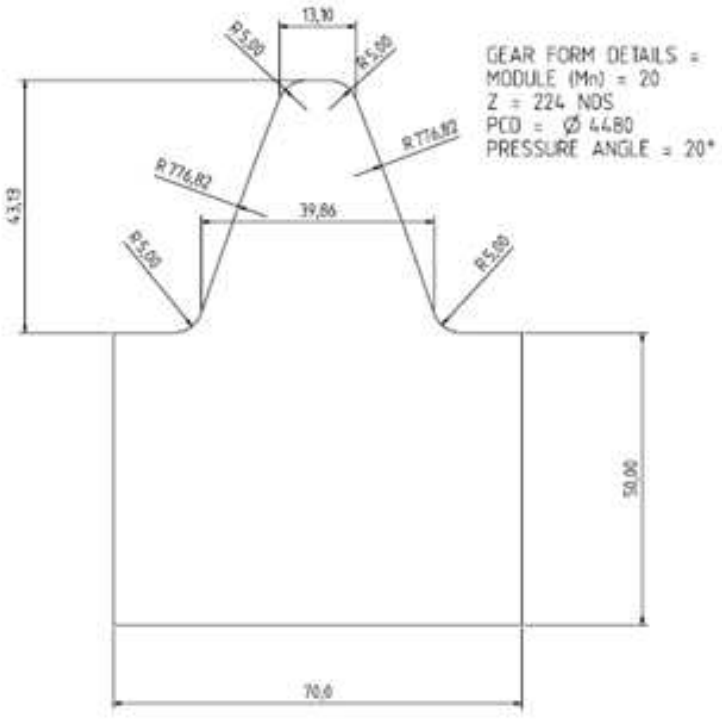
THE NEW EDGE OF EFFICIENCY

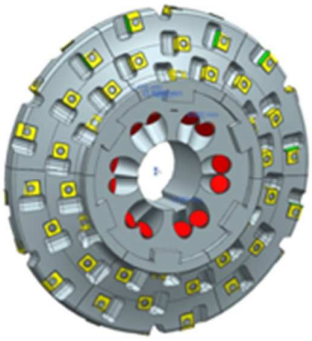
TALENT MANUFACTURING SOLUTION

"Prototype" ON FIELD OFFERING

TAILOR MADE SOLUTION

Gear gashing cutters

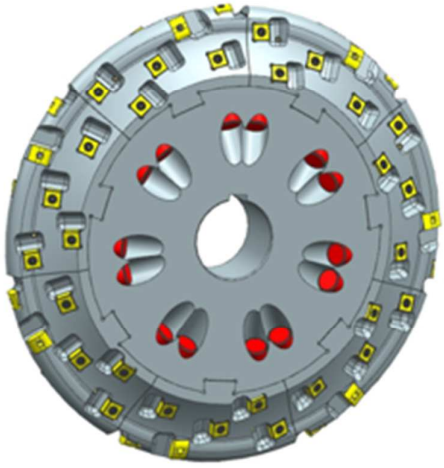


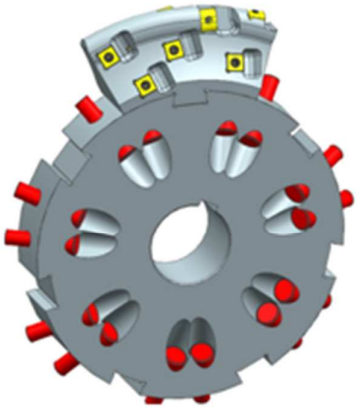


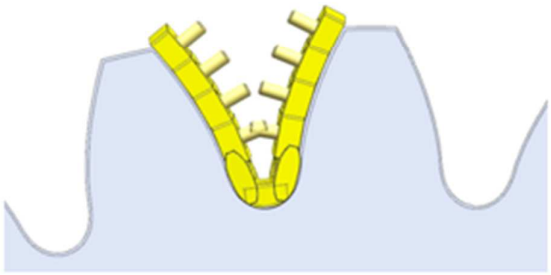
Idea Generation

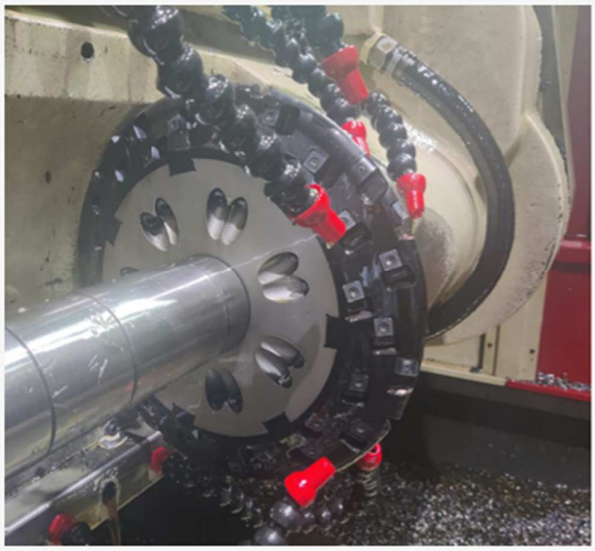
Reality

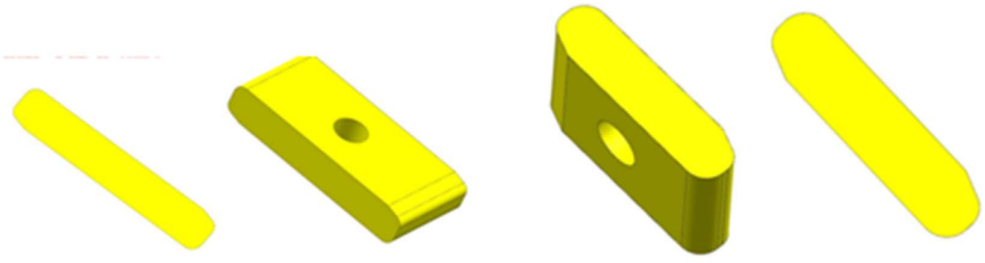
TMS on field solution offering











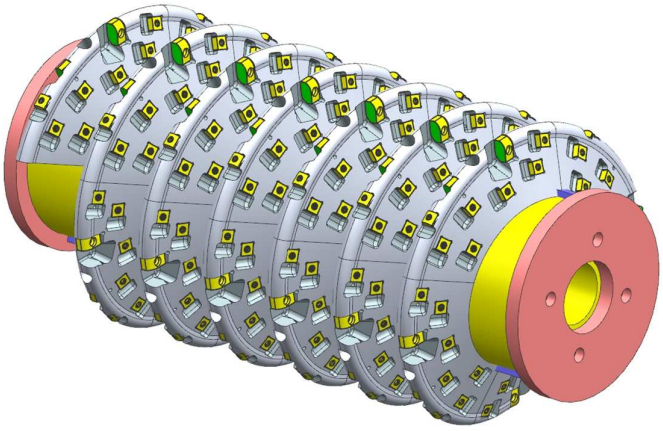
Inserts 983

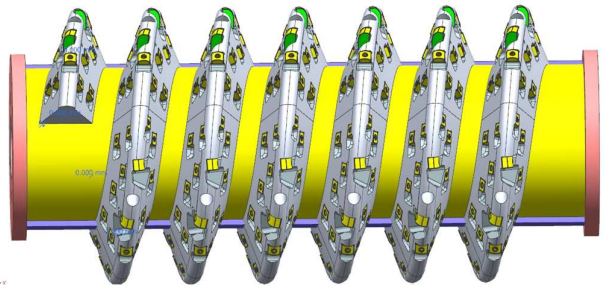
Inserts 984

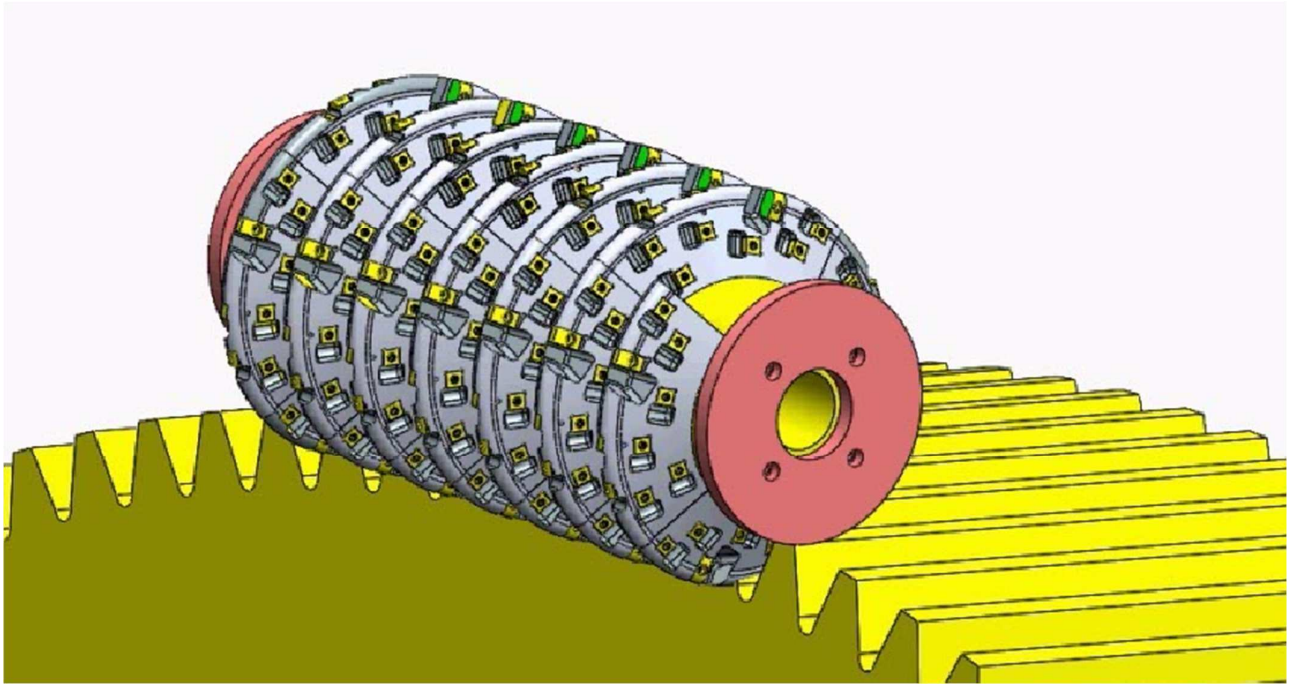
Inserts for Gear Gashing cutter 983 and 984

Gear hobbing cutters

Hobbing is a machining process for gear cutting, cutting splines, and cutting sprockets using a hobbing machine, a specialized milling machine. The teeth or splines of the gear are progressively cut into the material by a series of cuts made by a cutting tool called a hob. Hobbing is relatively fast and inexpensive compared to most other gear-forming processes and is used for a broad range of parts and quantities. Hobbing is especially common for machining spur and helical gears. Considering the difficulties in existing service and supply and expensive cost of gear hobs because of imported root, TMS has decided to solve this problem and with this vision we have decided to design, develop and manufacture these kinds of tools domestically here in India.







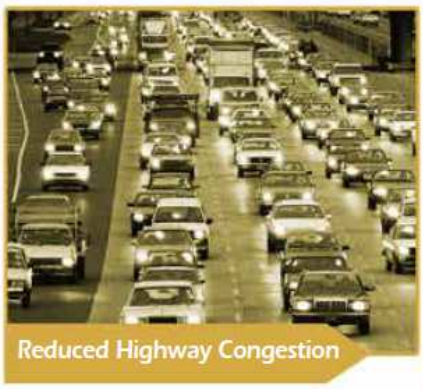
THE NEW EDGE OF PERFORMANCE

TAILOR MADE SOLUTION

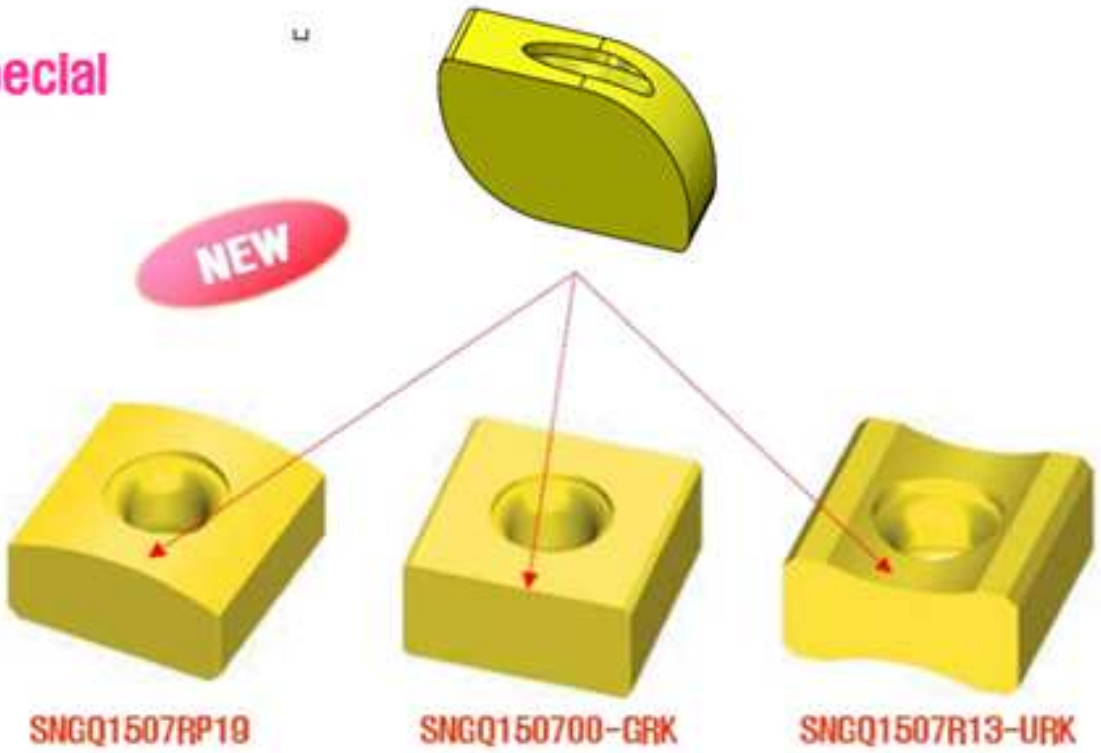
The railway industry has played an important role in the past two decades becoming one of the leading means of transportation for freight and passengers. Ongoing investments in modern railway track infrastructure has opened a new edge to high-speed transportation mobility.

In addition, the environmental advantages offered in railway transportation are expanding railway traffic awareness. To keep up with the growing demands in this heavy metalworking industry, TMS has developed special machining expertise for railway components with innovative cutting tools and robust carbide grades.

Environmental Value



Development in Rail segment



Switches and crossings


Crossover

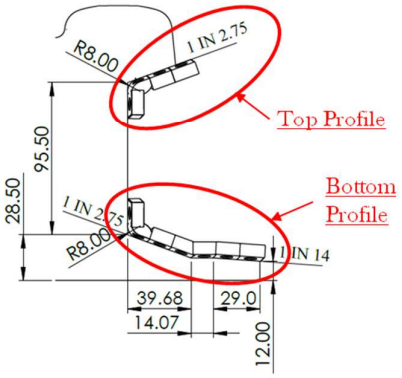

Switch Diamond


Three-Way Switch

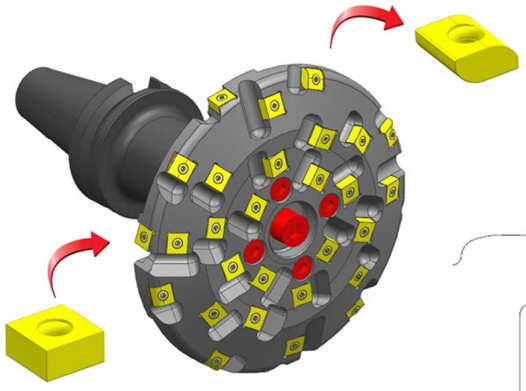
FISH PLATE MACHNING (XSNGQ15-----)

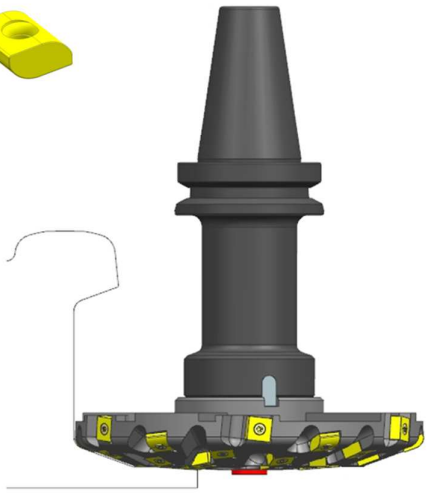
Design and Development of fish plate milling cutter for CMS crossing

1 Bottom Profile Machining Solution

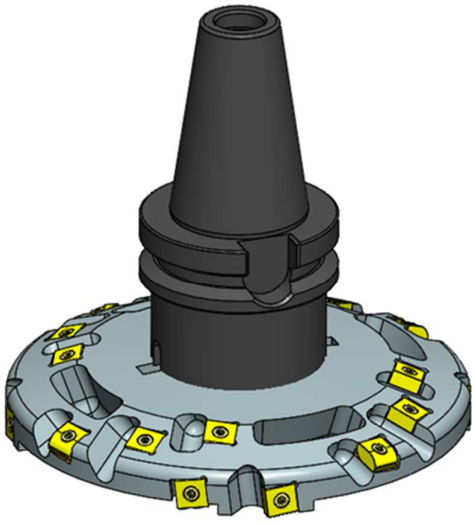


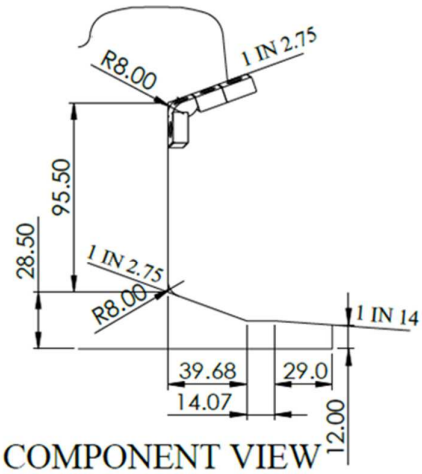
Component profile for 60KG rail for CMS crossing





2 Top Profile Machining Solution





COMPONENT VIEW

ROTATION : RH

NO. OF POCKETS : 15

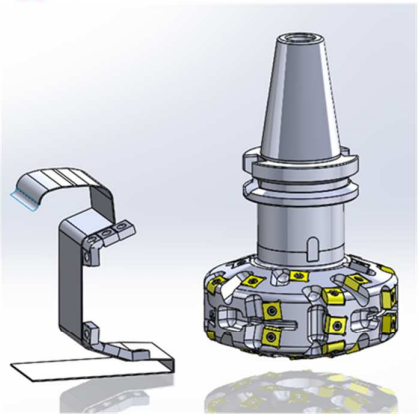
EFFECTIVE NO OF TEETHS : 5

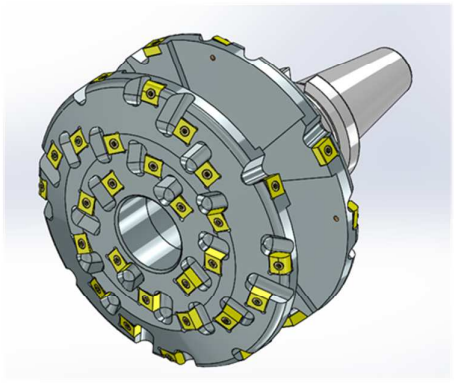
PITCH : DIFFERENTIAL

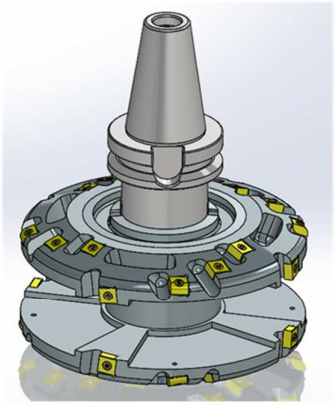
AXIAL AND RADIAL RUNOUT WITHIN 0.03MM

COMPONNENT SURFACE WILL OBSERVE OVERLAPPING STEP MARK OF 0.1MM~0.2MM

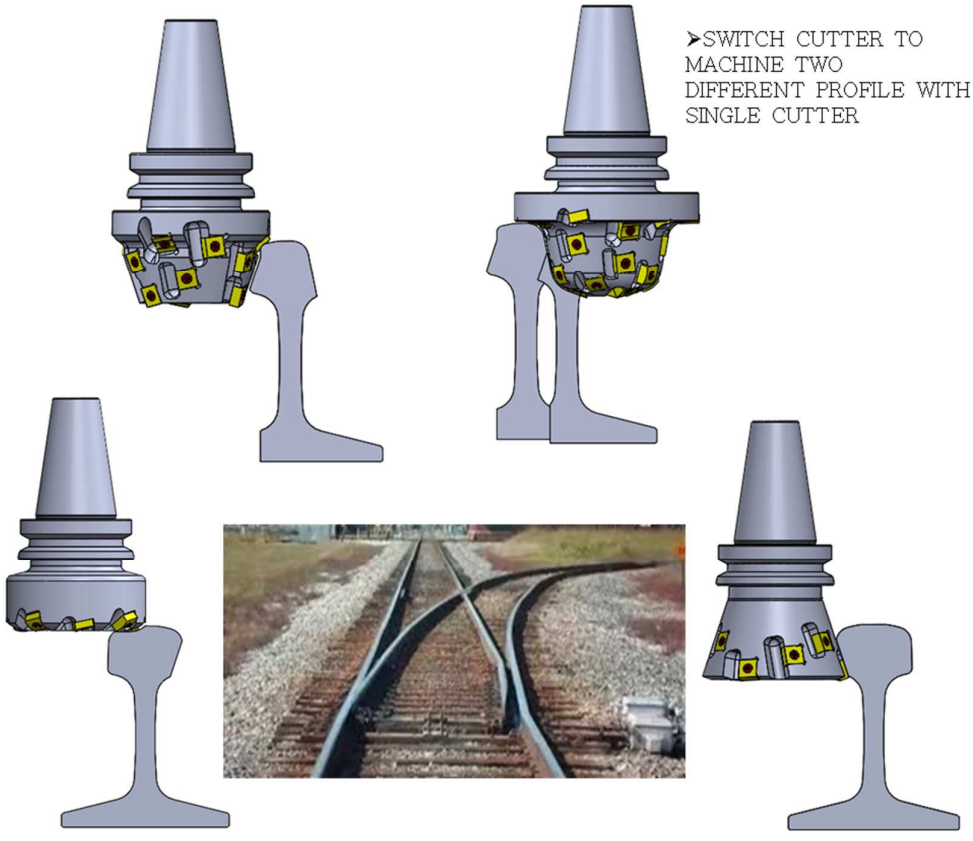
APPROXIMATE WEIGHT OF ASSEMBLY: 14KG







3 Switches and alignments



आत्मनिर्भर भारत.

AATMANIRBHAR BHARAT.

#VOCALFORLOCAL

DESIGN AND DEVELOPMENT