



TaeguTec  
**INDUSTRY 4.0**

# RAIL

TaeguTec **RAILWAY** Industry Solutions

# RAILWAY

## Mn CROSSING RAILS

Mn crossing rails are designed to intersect railroads. Made with a high manganese content of 12%, Mn crossing rails are challenging to machine. By working directly with our customers in the railway industry all over the world, TaeguTec has garnered a wealth of machining experience and knowledge in order to provide effective and powerful inserts, grades and cutter shapes.

## TONGUE RAILS

Combining a variety of form profiling cutters and state-of-the-art insert geometries, TaeguTec provides extremely strong and reliable cutting tools intended for our customers' rough machining requirements. TaeguTec's vast array of cutting tools guarantee process secure machining solutions such as cutters intended for the milling of the sides, tops and bottoms of rail profiles.

## REPROFILING

The railway industry is a capital-intensive industry; hence the proper maintenance of wheels and rails is a top priority. Traditionally, rail reprofiling required the use of grinding wheels, but recently this has shifted to milling operations. Wheel reprofiling machining, such as turning or under floor milling, are also in use. Whatever the requirement, TaeguTec's products ensure maximum tool life and reduced downtime.

## WHEELS

Railway wheels are a crucial component that require the highest machining standards. TaeguTec's vast experience include the supply of standard insert solutions that are geared towards the profiling of wheels. In order for the braking system to work safely and effectively, our DRILL-RUSH and TM-REAM lines provide the ideal holemaking solutions on the flange.

## AXLES

The wheels of a train are connected by a metal rod called an axle. This axle keeps both sets of wheels turning together at the same speed when the train is in motion. An axle is produced by traditional forging; roughing, semi-finishing and grinding processes are required. For high-speed trains, the roundness and straightness of the axle needs to be of a very high precision. More recently, the RF (radial forging) method has gained popularity for customers machining hammers on the RFM (radial forging machine). CERAMIC-SPEED dramatically increases productivity for customers machining hammers on the RFM.

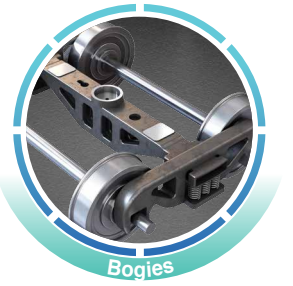
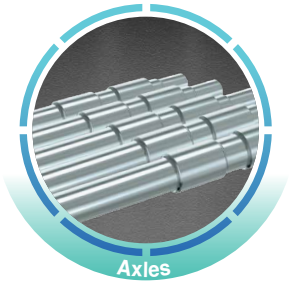
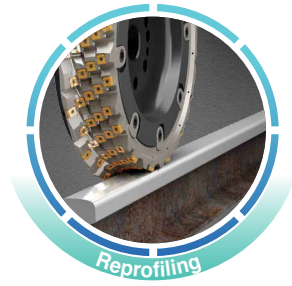
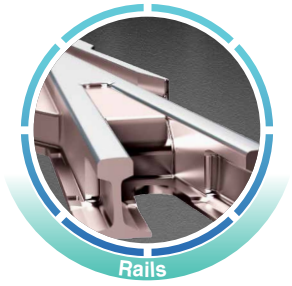
## MILLING INSERTS FOR RAILWAY

TaeguTec offers a variety of form profiling cutters and inserts for rail machining. Solutions for the rough machining of railway components is achieved effectively with TaeguTec's extremely robust, durable and reliable cutting tools.





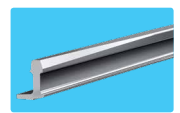
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Tongue Rails

## REPROFILING

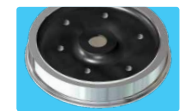


**10-11**  
Rail Reprofile for Rail Milling



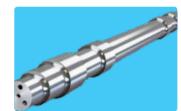
**10-11**  
Wheels Reprofile

## WHEELS



**12-13**  
Wheels

## AXLES



**14-15**  
Axles

## BOGIES



**16-17**  
Side Frames

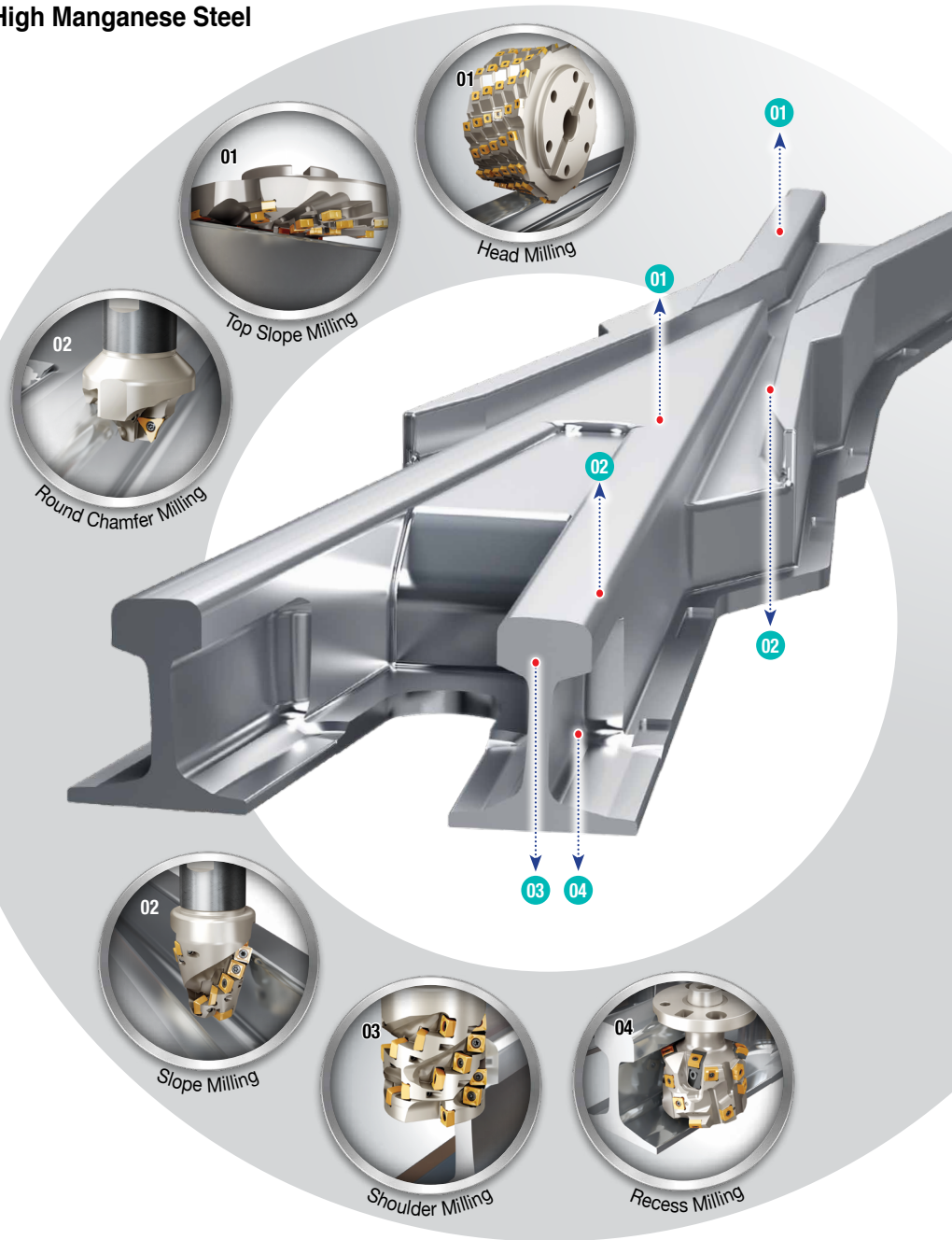


**16-17**  
Beam Bolsters



# Mn Crossing Rails

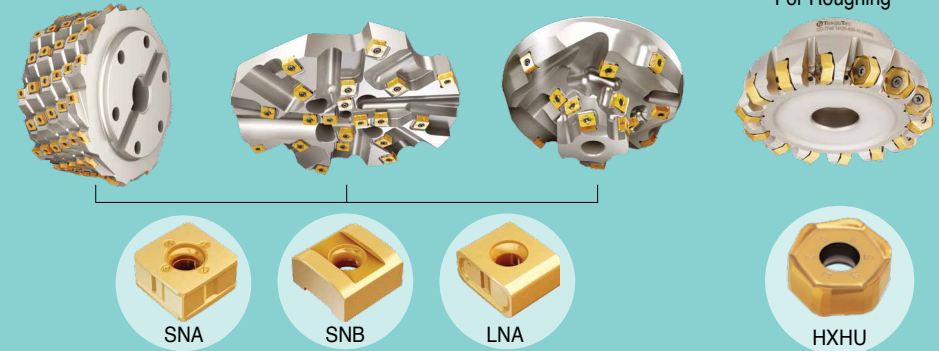
High Manganese Steel



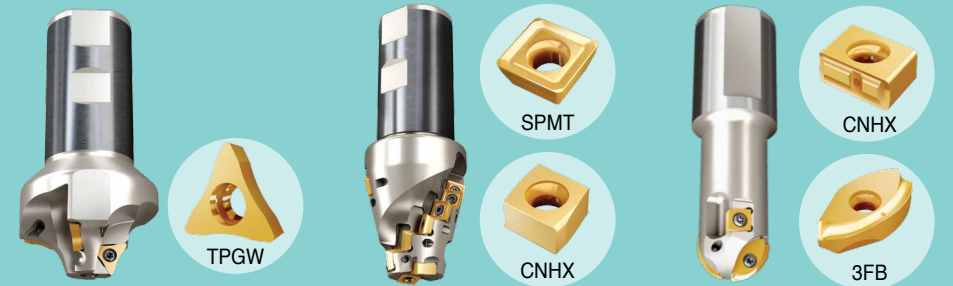
## Rail Parts

### Mn Crossing Rails

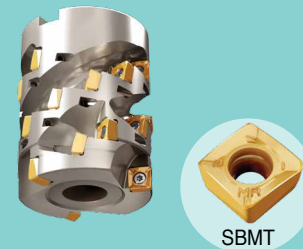
#### Top Milling 01



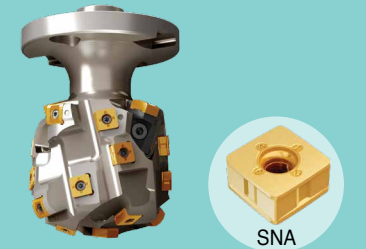
#### End Milling 02



#### Shoulder Milling 03



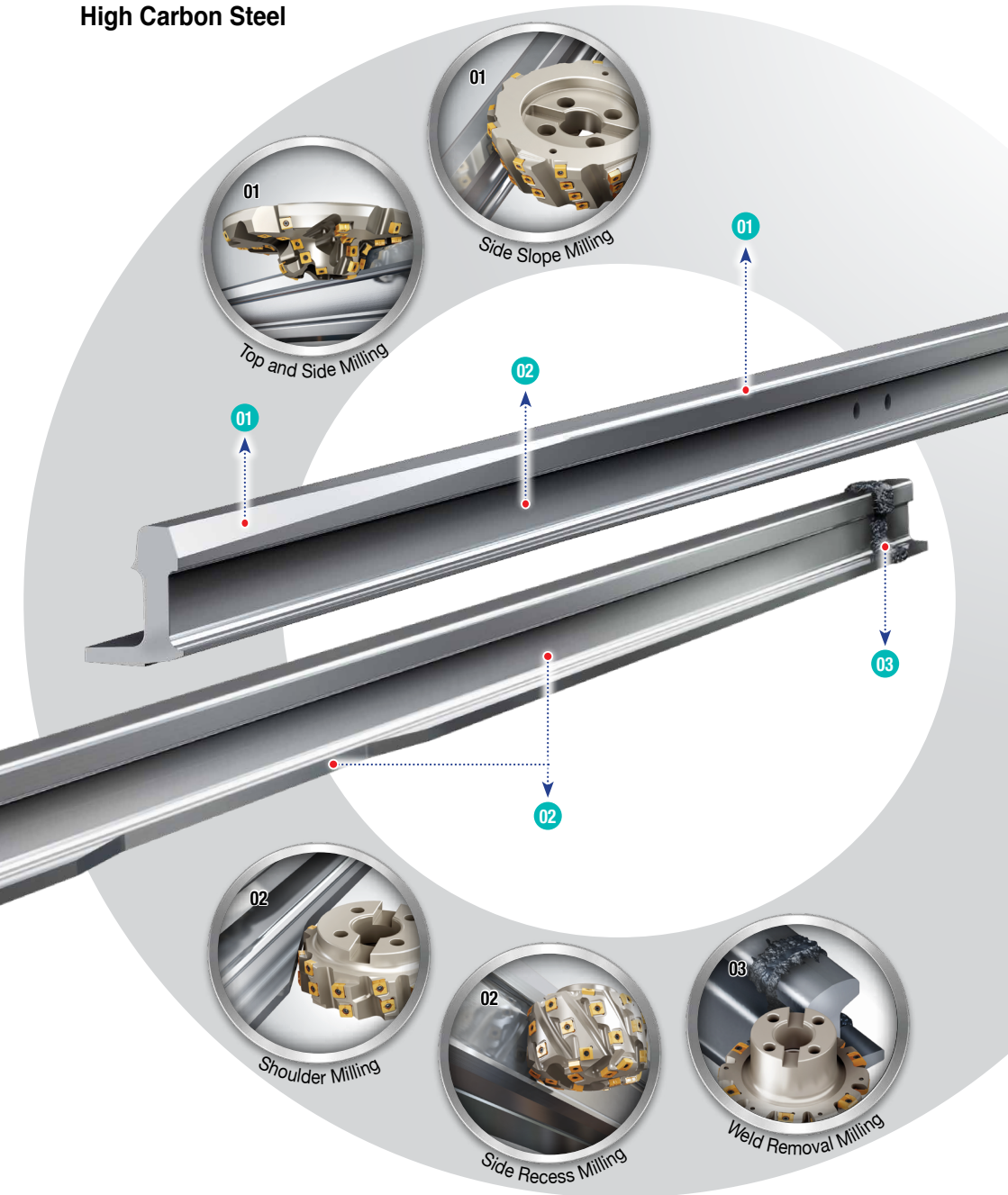
#### Recess Milling 04





# Tongue Rails

High Carbon Steel

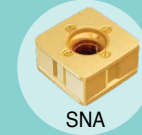


## Rail Parts

### Tongue Rails

#### Profile Milling - Variety of Special Cutters

01



SNA



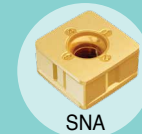
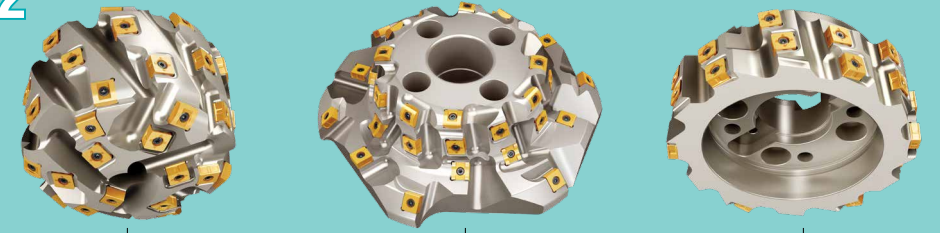
SNB



LNA

#### Side Profile Milling

02



SNA



SNB



LNA

#### Weld Removal Milling

03

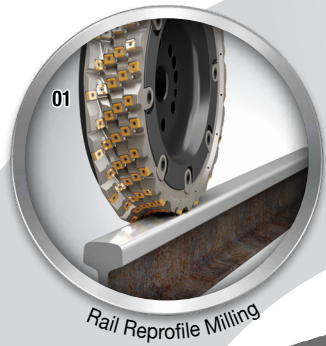


SNB

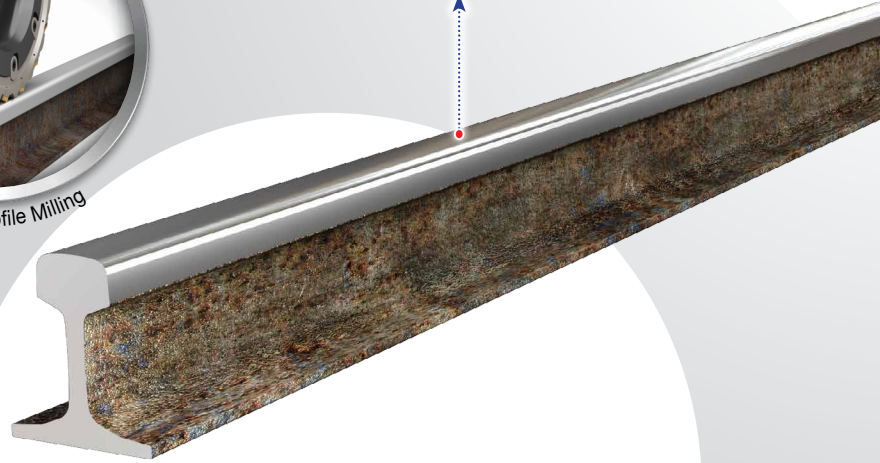


# Rail Reprofile Milling

High Carbon Steel



Rail Reprofile Milling

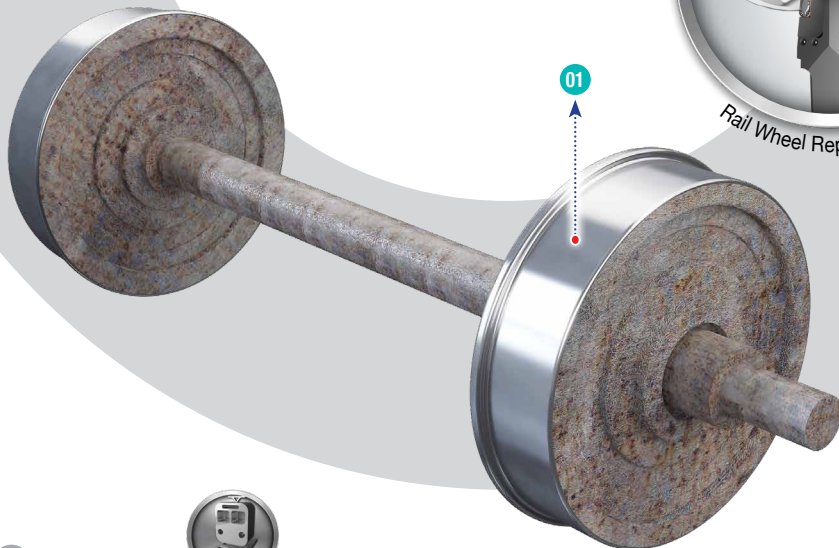


# Wheel Reprofileing

Alloy Steel



Rail Wheel Reprofile Turning



## Reprofiling Parts

### Rail Reprofile Milling

#### Rail Reprofile Milling

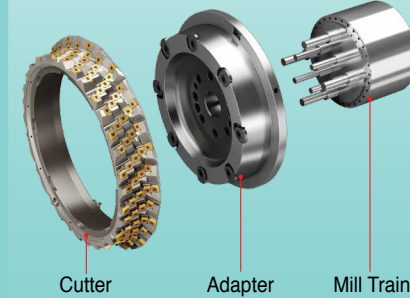
01

**Lighter**  
Less than half the weight

ex) D600 cutter



**Quicker**  
Simple and user-friendly clamping system



**Safer**  
Lighter cutter protects users



### Wheel Reprofileing

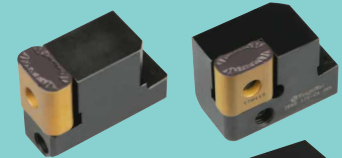
#### Wheel Reprofileing

01

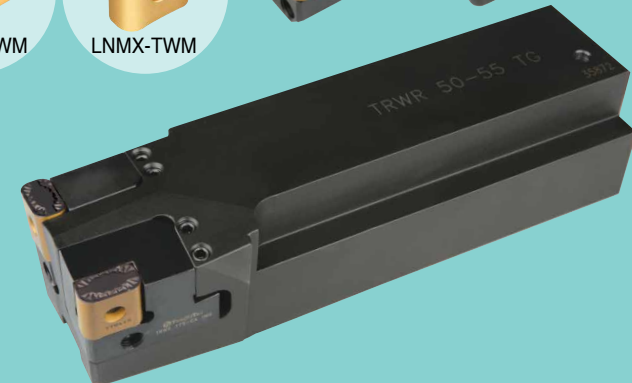
For Roughing



For Medium



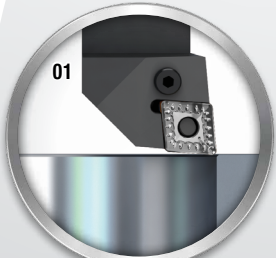
For Finishing





# Wheels

Alloy Steel



01

Hub Boring



02

Web and Rim Turning



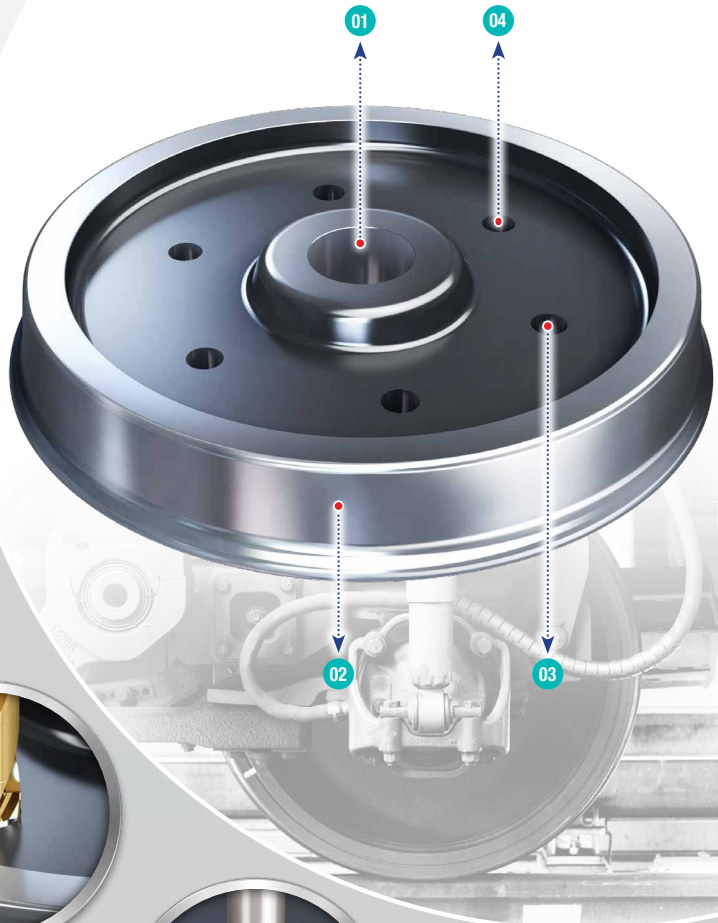
03

Drilling



04

Reaming



## Wheel Parts

Wheels

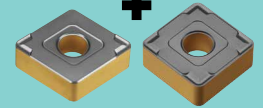
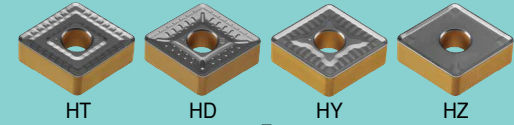
Hub Boring **T-TURN**

01



SNMD/CNMD

Top Side for Roughing



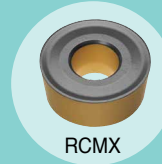
Bottom Side for Finishing

Web and Rim Turning

02



RCMX-RA



RCMX

CADAPTER



T-TURN



Drilling

03



DRILL RUSH



TCD

Reaming

04



TMREAM



TM



# Axles

Alloy Steel



01 High Feed Turning



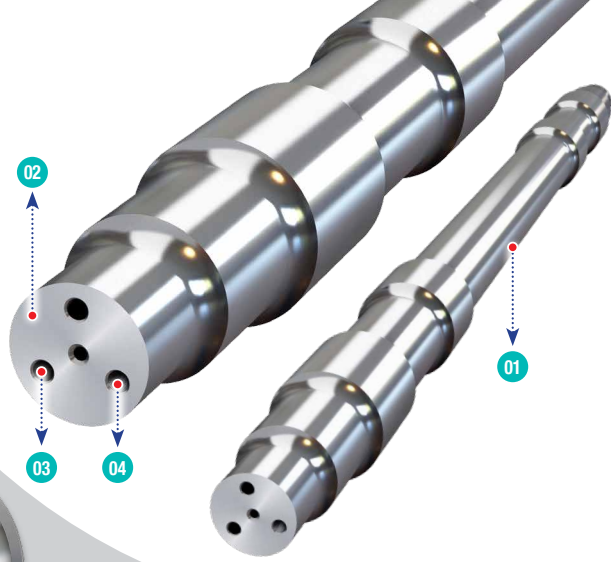
02 Face Milling



03 Drilling



04 Tapping



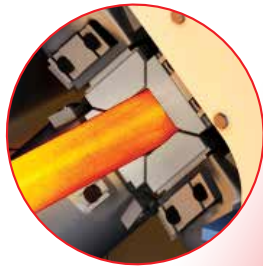
# RFM

(Radial Forging Machine)

Inconel 718



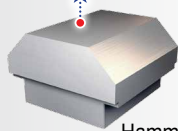
Face Milling



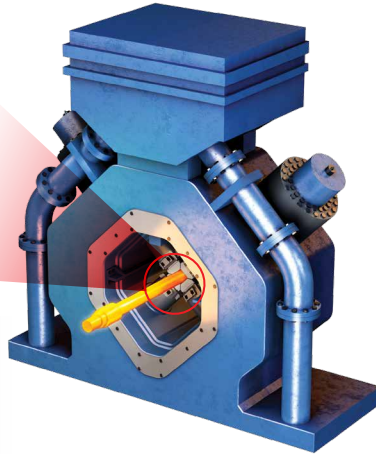
01



Blank



Hammer



# Axle Parts

Axles

Turning **COOLBURST**

01



**POSSTURN**



ZNMV-BM



ZNMV-BF

High Feed Turning



Drilling

03

**DRILLRUSH**



TCD

Double Head Milling

02

**CHASE2HEPTA**



**CHASE2QUAD**



XNHU



SNMX

Tapping

04

**T-TAP**



RFM

Hammer Machining on the Radial Forging Machine

01

**CERAMICSPEED**



BNGX 12

**CERAMICSPEED**



BNGX 09

**CHASESPEED**



RNGN

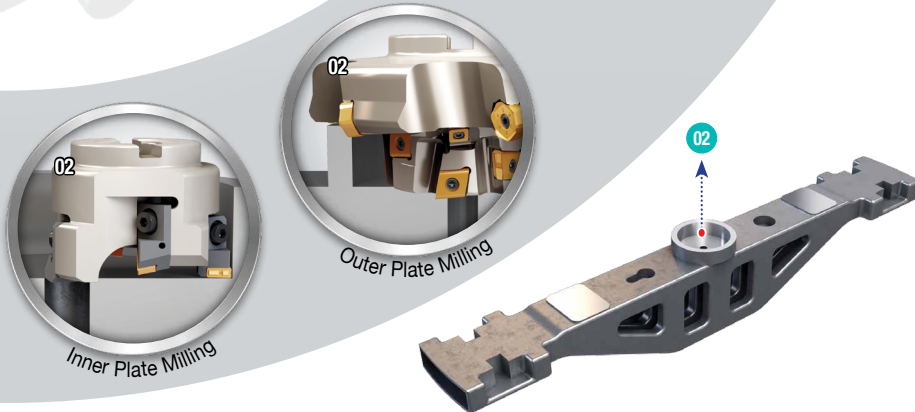




## Side Frames High Carbon Steel



## Beam Bolsters High Carbon Steel



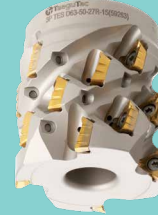
## Side Frames

### High Productivity Milling 01

MILLRUSH

TANGSPEED

CHASEMILL

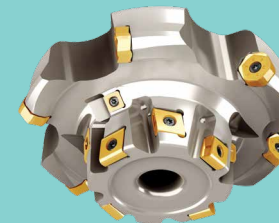


Face Milling



## Beam Bolsters

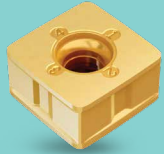
### Center Plate Milling 02



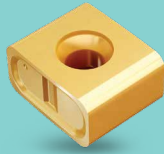
# Milling Inserts for Railway

## Inserts for special milling cutters

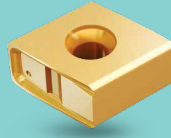
Unique tangential positive cutting edge for smooth cutting and low cutting force in heavy machining



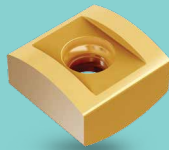
SNA13/16-MR



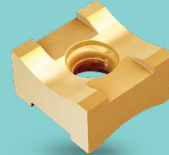
LNA13/16-MR



CNA13/16-M

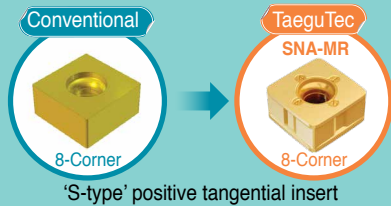


SNB13/16-CV

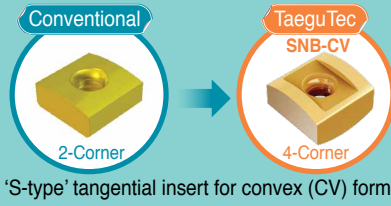


SNB13/16-CC

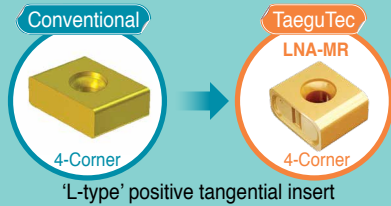
## Patented Inserts



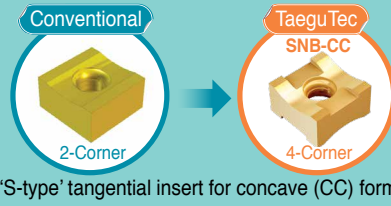
'S-type' positive tangential insert



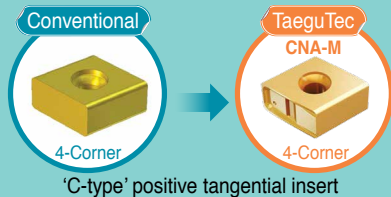
'S-type' tangential insert for convex (CV) forms



'L-type' positive tangential insert



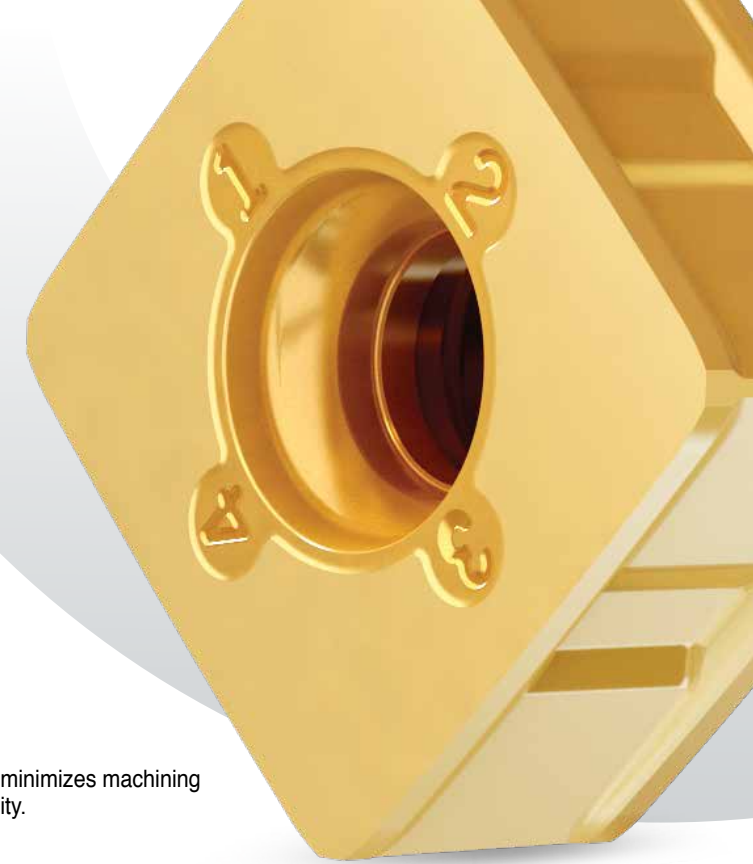
'S-type' tangential insert for concave (CC) forms



'C-type' positive tangential insert

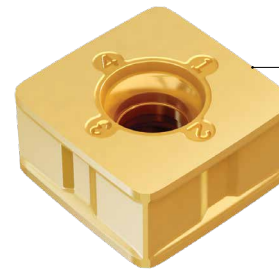
## Insert Features

Unique cutting edge design minimizes machining steps for better surface quality.



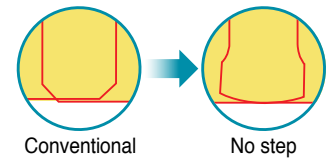
### Smooth cutting edge

Unique tangential positive cutting edge for low cutting resistance in heavy machining



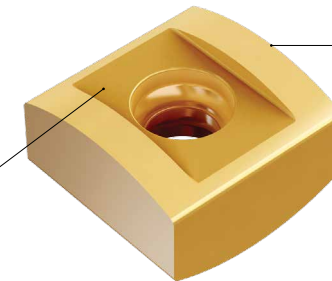
### No step cutting edge

Design minimizes machining steps due to insert overlap



### 4 cutting edges

Unique dual face top and bottom design is attributed to the insert's double-corner feature.



### Error Proof

avoid insert mismounting  
Each insert has its own unique pocket





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6 2 4 2 8 2 2

- Cat.No: 6242822
- English Version: CT 01/2022
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