## Carbide Tipped Cutter Heads



Delivering Productivity

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## Ordering Instructions

## A

## Tenon and Shaper Heads

Bore size and style
Size: $\qquad$
Style: Straight Cone Collet
Sleeve
Keyway size and quantity
Size: $\qquad$
Quantity: $\qquad$
Location (i.e. Staggered): $\qquad$
Type of material being cut: $\qquad$
Moulder Heads
Style

| $\square 4 \mathrm{WQI}$ | $\square 4 \mathrm{WQII}$ |
| :--- | :--- |
| $\square 6 \mathrm{WQI}$ | $\square 6 \mathrm{WQII}$ |

Bore size and style
$\square$ Straight $\square$ Cone Collet $\square$ Sleeve
Hook angle

- Soft wood 20 degrees
[ Hard wood 10 degrees
Type of material being cut: $\qquad$


## Adjustable Insert Cutters

## Adjustability

Vertical adjustment .100" increments: $\qquad$ (This depth of cut is based on $5-1 / 2^{\prime \prime}$ or $6-1 / 2^{\prime \prime}$ diameter head.)

Used moulder head
If plugs are needed, specify exact diameter: $\qquad$
Type of material being cut: $\qquad$

## Straight Cutter Heads

## Bore size and style

Size: $\qquad$
Style: Straight Cone Collet Sleeve
Type of material being cut: $\qquad$

## Mill-to-Pattern Cutter Heads

Collar Size
Is tool running with rub collar or berring: Yes No If Yes, specify its diameter: $\qquad$

## Diameter

Large/Small diameter of pattern: $\qquad$
Does the tool run in sets: Yes No If Yes, are matching diameters required: Yes No Specify matching diameter: $\qquad$
Bore size and style
Size: $\qquad$
Style: Straight Cone Collet Sleeve
Keyway size and quantity
Size: $\qquad$
Quantity: $\qquad$
Location (i.e. Staggered): $\qquad$

## Rotation

Right-Hand Rotation Left-Hand Rotation
Both Quantity: $\qquad$
Mounting Holes
Size: $\qquad$
Quantity: $\qquad$
Bolt Circle: $\qquad$
Are mounting holes to be countersunk: Yes No If Yes, specify which side is countersunk with the top tooth face coming: $\qquad$

## Assembled Cutters

Just locating pins: Yes No
Bolted together: Yes No
Hub mounted and pinned: Yes No
Hub mounted and bolted: Y Yes No

Type of material being cut: $\qquad$

## Mill-to-Pattern Router Bits

## Dimensions

Shank diameter: $\qquad$ Shank length: $\qquad$
Large/Small diameter to be held: $\qquad$
Type of material being cut: $\qquad$

## Spiracut Shaper Heads



## Applications

- For hand and automatic feed shaper operations
- Excellent tool for rip and end grain cuts


## Advantages

- CNC machined from solid steel for better accuracy
- Spiral tooth design for reduced cutting pressure, faster feed rates, and less horsepower required over straight knife heads
- Less noise generated
- Minimal tear out
- Individual teeth for lower maintenance cost


## Technical Information

- Stagger tooth design on one-piece, 2-wing head with replaces 2 - wing straight knife heads
- 25 degree hook is standard
- Additional hook angles available upon request
- Specify straight or cone collet bore
- Bore sizes available in $1^{\prime \prime}, 1-1 / 8^{\prime \prime}$ and $1-1 / 4^{\prime \prime}$
- Other bores available upon request

Optional Items for Shaper and Tenon Heads
5/32" Thick Carbide

Bores Over 2.125 (2-1/8")
Cone Bore
Face Shear Both Directions
Face Shear One Direction
Hubs and Trepans (up to 1 inch)
Hubs and Trepans (over 1 inch)

Keyways
Mounting Holes (qty. 1-6)
Mounting Holes (qty. 7+)
Set Screw Mounting
Shim Stock
Sleeve Bore
TC-4 (Tantung, Crobalt)

Add Hydro Bore to Heads up to 5" Add Hydro Bore to Heads > $>5^{\prime \prime}$

Add Grease Fitting \& Release to O.D. NP552 - High Pressure Grease Gun NP553 - High Pressure Hose

NP554 - Hydraulic Connector
NP555 - Grease Cartridge

Note: Sizes depicted in this catalog are only representative of our product line. Additional sizes available upon special quotation only.

## TH12 Reversible Tenon Heads



## Technical Information

- Center cutter is a one-piece staggered tooth design
- Trim blades on each side incorporate a 3:1 tooth design, mounted to the center of cutter for concentricity
- The reversible position utilizes $1 / 2$ or less of the total cutting width of the head The unused area can then be used by mounting the head in the opposite position Only one trim blade is needed in the non-reversible position
- For open end sleeve mount, you must add on the price of the sleeve


## Applications

- For single and double end tenon machines
- Used to cut hard and soft woods, veneers, laminated plastic, particleboard, etc


## Advantages

- CNC machined from solid steel for better accuracy
- Head is reversible for double production life over conventional heads
- Trim blades act as scoring saws to deliver a clean smooth edge on the material with minimal tearout

| Part No. | Head <br> Diameter | Cutting <br> Width |
| :---: | :---: | :---: |
| TH12-8-2 | $8^{\prime \prime}$ | $2^{\prime \prime}$ |
| TH12-8.75-2 | $8-3 / 4^{\prime \prime}$ | $2^{\prime \prime}$ |
| TH12-8-3 | 8 " | $3^{\prime \prime}$ |
| TH12-8.75-3 | $8-3 / 4^{\prime \prime}$ | $3^{\prime \prime}$ |

TH12 Replacement Saws
Head

| Part No. | Head <br> Diameter | Teeth |
| :---: | :---: | :---: |
| TH12-8-44 | $8^{\prime \prime}$ | 44 |
| TH12-8.75-44 | $8-3 / 4^{\prime \prime}$ | 44 |

## Whisper Quiet Moulder Heads



## Technical Information

- Stagger tooth design on a one piece head
- Soft wood $\left(20^{\circ}\right)$ and hard wood $\left(10^{\circ}\right)$ hook angles
- Additional hook angles available upon request
- Available in either a 4 wing (4WQI and 4 WQII) or 6 wing (6WQI or 6WQII) equivalent
- Additional wing counts available by quote only


## Applications

- For running dimension stock in through feed or conventional moulders


## Advantages

- CNC machined from solid steel for better accuracy
- Staggered tooth design provides deeper cuts and reduces air turbulence, noise and cutting pressures on the material
- Smooth finish on material (no lines)
- Less noise generated
- Individual teeth for lower maintenance cost


The Whisper Quiet II allows for the insertion of special adjustable inserts to produce plow cuts as well as profiles, shaping and molding simultaneously.

## Optional Items for Whisper Quiet Heads

Bores Over 2.125 (2-1/8")
Cone Bore
Hubs and Trepans (up to 1 inch)
Hubs and Trepans (over 1 inch)
Keyways
Mounting Holes (qty. 1-6)

Mounting Holes (qty. 7+)
Set Screw Mounting
Sleeve Bore
Add Hydro Bore to Heads up to 5"
Add Hydro Bore to Heads $>5^{\prime \prime}$
Add Grease Fitting \& Release to O.D.

NP552 - High Pressure Grease Gun
NP553 - High Pressure Hose
NP554 - Hydraulic Connector
NP555 - Grease Cartridge

Note: Sizes depicted in this catalog are only representative of our product line. Additional sizes available upon special quotation only.

## Whisper Quiet I Moulder Heads

## A <br> 4 Wing Head

B
The Whisper Quiet Moulder Head is the equivalent to a four (4) knife head. It has 8 rows of staggered teeth. Please specify the hook angle when ordering. Standard hook angle is either $20^{\circ}$ (soft wood) or $10^{\circ}$ (hard wood).


D

E

| Head Diameter | Teeth | Cutting Width per Tooth | Wings | Cutting Width |
| :---: | :---: | :---: | :---: | :---: |
| $5^{\prime \prime}$ | 32 | .500" | 4 | $4 "$ |
| $5^{\prime \prime}$ | 48 | .500" | 4 | $6 "$ |
| $5 "$ | 64 | .500" | 4 | 8" |
| $5 "$ | 80 | .500" | 4 | $10^{\prime \prime}$ |
| 5" | 96 | .500" | 4 | 12 " |
| 5-1/2" | 32 | .500" | 4 | $4 "$ |
| 5-1/2" | 48 | .500" | 4 | $6{ }^{\prime \prime}$ |
| 5-1/2" | 64 | .500" | 4 | 8" |
| 5-1/2" | 80 | .500" | 4 | $10^{\prime \prime}$ |
| 5-1/2" | 96 | .500" | 4 | 12 " |
| $6 "$ | 32 | .500" | 4 | $4 "$ |
| $6^{\prime \prime}$ | 48 | .500" | 4 | $6^{\prime \prime}$ |
| $6^{\prime \prime}$ | 64 | .500" | 4 | 8" |
| $6^{\prime \prime}$ | 80 | .500" | 4 | $10^{\prime \prime}$ |
| $6^{\prime \prime}$ | 96 | .500" | 4 | 12 " |
| 6-1/2" | 32 | .500" | 4 | $4{ }^{\prime \prime}$ |
| 6-1/2" | 48 | .500" | 4 | $6^{\prime \prime}$ |
| 6-1/2" | 64 | .500" | 4 | 8" |
| 6-1/2" | 80 | .500" | 4 |  |
| 6-1/2" | 96 | .500" | 4 | 12 " |
| $8{ }^{\prime \prime}$ | 32 | .500" | 4 | $4{ }^{\prime \prime}$ |
| 8" | 48 | .500" | 4 | $6^{\prime \prime}$ |
| $8^{\prime \prime}$ | 64 | .500" | 4 | $8^{\prime \prime}$ |
| $8^{\prime \prime}$ | 80 | .500" | 4 | $10^{\prime \prime}$ |
| 8" | 96 | .500" | 4 | 12 " |

## Whisper Quiet I Moulder Heads

## 6 Wing Head

The Whisper Quiet Moulder Head is the equivalent to a six (6) knife head. It has 12 rows of staggered teeth. Please specify the hook angle when ordering. Standard hook angle is either $20^{\circ}$ (soft wood) or $10^{\circ}$ (hard wood).

| Head Diameter | Teeth | Cutting Width per Tooth | Wings | Cutting Width |
| :---: | :---: | :---: | :---: | :---: |
| 5-1/2" | 72 | .330" | 6 | $4 "$ |
| 5-1/2" | 108 | .330" | 6 | $6 "$ |
| 5-1/2" | 144 | .330" | 6 | 8" |
| 5-1/2" | 180 | .330" | 6 | $10 "$ |
| 5-1/2" | 216 | .330" | 6 | 12" |
| $6 "$ | 72 | .330" | 6 | $4 "$ |
| $6 "$ | 108 | .330" | 6 | $6{ }^{\prime \prime}$ |
| $6 "$ | 144 | .330" | 6 | 8" |
| $6 "$ | 180 | .330" | 6 | $10 "$ |
| $6 "$ | 216 | .330" | 6 | 12 " |
| 6-1/2" | 72 | .330" | 6 | $4 "$ |
| 6-1/2" | 108 | . 330 | 6 | $6{ }^{\prime \prime}$ |
| 6-1/2" | 144 | . 330 | 6 | 8" |
| 6-1/2" | 180 | .330" | 6 | $10 "$ |
| 6-1/2" | 216 | .330" | 6 | 12 " |
| 8" | 72 | .330" | 6 | 4" |
| 8" | 108 | .330" | 6 | $6{ }^{\prime \prime}$ |
| 8" | 144 | .330" | 6 | 8" |
| 8" | 180 | .330" | 6 | $10 "$ |
| 8" | 216 | .330" | 6 | 12" |

# Whisper Quiet II Moulder Heads 

## A 4 Wing Head

The Whisper Quiet Moulder Head is the equivalent to a four (4) knife head. It has 8 rows of staggered teeth. Please specify the hook angle when ordering. Standard hook angle is either $20^{\circ}$ (soft wood) or $10^{\circ}$ (hard wood). The Whisper Quiet II has 4 dovetail slots milled into the head to receive the insert cutters.

|  |  | produce plow cuts as well as profiles, shaping and molding simultaneously. <br> Cutting Width <br> per Tooth |  | Wings |
| :---: | :---: | :---: | :---: | :---: |

## WQII Insert Cutters

To Adjust:

1. Loosen allen screws " $A$ ".
2. Locate serrations of " $B$ " into serrations of "C" as desired. (Adjusts up or down in $.008^{\prime \prime}$ increments per serration.)
3. Locate insert cutters in moulder head slot.
4. Tighten allen screws " $A$ ".


Note: Sizes depicted in this catalog are only representative of our product line. Additional sizes available upon special quotation only.

## Whisper Quiet II Moulder Heads

## 6 Wing Head

The Whisper Quiet Moulder Head is the equivalent to a six knife head. It has 12 rows of staggered teeth. Please specify the hook angle when ordering. Standard hook angle is either $20^{\circ}$ (soft wood) or $10^{\circ}$ (hard wood). The Whisper Quiet II has 4 dovetail slots milled into the head to receive the insert cutters.


The Whisper Quiet II allows for the insertion of special adjustable inserts to produce plow cuts as well as profiles, shaping and molding simultaneously.

## WQII Insert Cutters

To Adjust:

1. Loosen allen screws " A ".
2. Locate serrations of " $B$ " into serrations of "C" as desired. (Adjusts up or down in .008" increments per serration.)
3. Locate insert cutters in moulder head slot.
4. Tighten allen screws " A ".

Cutting Width

| Head Diameter | Teeth | per Tooth | Wings | Cutting Width |
| :---: | :---: | :---: | :---: | :---: |
| 5-1/2" | 72 | .330" | 6 | $4 "$ |
| 5-1/2" | 108 | .330" | 6 | $6{ }^{\prime \prime}$ |
| 5-1/2" | 144 | . 3301 | 6 | 8" |
| 5-1/2" | 180 | .330" | 6 | $10^{\prime \prime}$ |
| 5-1/2" | 216 | . 330 " | 6 | 12 " |
| $6{ }^{\prime \prime}$ | 72 | .330" | 6 | $4 "$ |
| $6{ }^{\prime \prime}$ | 108 | .330" | 6 | $6{ }^{\prime \prime}$ |
| $6{ }^{\prime \prime}$ | 144 | . 3301 | 6 | 8" |
| $6{ }^{\prime \prime}$ | 180 | .330" | 6 | $10 "$ |
| $6{ }^{\prime \prime}$ | 216 | .330" | 6 | $12^{\prime \prime}$ |
| 6-1/2" | 72 | . 3301 | 6 | $4 "$ |
| 6-1/2" | 108 | .330" | 6 | $6{ }^{\prime \prime}$ |
| 6-1/2" | 144 | .330" | 6 | 8" |
| 6-1/2" | 180 | . 330 " | 6 | $10 "$ |
| 6-1/2" | 216 | . 3301 | 6 | 12 " |
| 8" | 72 | .330" | 6 | $4 "$ |
| 8" | 108 | .330" | 6 | $6{ }^{\prime \prime}$ |
| 8" | 144 | . 330 " | 6 | 8" |
| 8" | 180 | .330" | 6 | $10 "$ |
| 8" | 216 | .330" | 6 | $12^{\prime \prime}$ |

[^0]
## Straight Cutter Heads


$15^{\circ}$ hook angle is standard on all straight cutter heads.

## Applications

- Used on shapers, moulders, tenon machines, etc
- Select carbide grade for your specific application


## Advantages

- Additional diameter, bores and kerfs available
- Standard tools have carbide ground flush on sides
- Economically priced; available in 3,4, or 6 wings


## Wings

Cutting Widths

| Diameter | 3 | 4 | 6 | 1.00 " | 1.50" | 2.00" | 2.50" | 3.00" | $3.50 "$ | 4.00" |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $3^{\prime \prime}$ | $\checkmark$ | $\checkmark$ |  | $\checkmark$ | $\checkmark$ | $\checkmark$ | $\checkmark$ | $\checkmark$ | $\checkmark$ | $\checkmark$ |
| $4^{\prime \prime}$ | $\checkmark$ | $\checkmark$ | $\checkmark$ | $\checkmark$ | $\checkmark$ | $\checkmark$ | $\checkmark$ | $\checkmark$ | $\checkmark$ | $\checkmark$ |
| $5^{\prime \prime}$ | $\checkmark$ | $\checkmark$ | $\checkmark$ | $\checkmark$ | $\checkmark$ | $\checkmark$ | $\checkmark$ | $\checkmark$ | $\checkmark$ | $\checkmark$ |
| $6^{\prime \prime}$ | $\checkmark$ | $\checkmark$ | $\checkmark$ | $\checkmark$ | $\checkmark$ | $\checkmark$ | $\checkmark$ | $\checkmark$ | $\checkmark$ | $\checkmark$ |
| $8^{\prime \prime}$ | $\checkmark$ | $\checkmark$ | $\checkmark$ | $\checkmark$ | $\checkmark$ | $\checkmark$ | $\checkmark$ | $\checkmark$ | $\checkmark$ | $\checkmark$ |

## Optional Items for Straight Cutter Heads

5/32" Thick Carbide
Bores Over $2.125\left(2-1 / 8^{\prime \prime}\right)$
Cone Bore
Face Shear Both Directions
Face Shear One Direction
Hubs and Trepans (up to 1 inch)
Hubs and Trepans (over 1 inch)
Keyways

| Mounting Holes (qty. 1-6) | Add Hydro Bore to Heads up to $5^{\prime \prime}$ |
| :--- | :--- |
| Mounting Holes (qty. 7+) | Add Hydro Bore to Heads >5" |
| Set Screw Mounting | Add Grease Fitting \& Release to O. D. |
| Shim Stock | NP552 - High Pressure Grease Gun |
| Sleeve Bore | NP553 - High Pressure Hose |
| TC-4 (Tantung, Crobalt) | NP554 - Hydraulic Connector |
| Top Bevel Both Directions | NP555 - Grease Cartridge |
| Top Bevel One Direction |  |

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## Brazed Profile Router Bits

## Router Bit Diameter up to 3"

Flutes

| Body Width | $1 \& 2$ | $3 \& 4$ | $2+2$ |
| :---: | :---: | :---: | :---: |
| $.188 "-4 "$ | $\checkmark$ | $\checkmark$ | $\checkmark$ |


|  | Pattern Depth |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Body Width | $\mathbf{0 . 2 5 "}$ | $\mathbf{0 . 5 0 "}$ | $\mathbf{0 . 7 5 "}$ | $\mathbf{1 . 0 0 "}$ | $\mathbf{1 . 2 5}$ | $\mathbf{1 \& 2}$ | $\mathbf{3}$ | $\mathbf{4}$ |
| $.50^{\prime \prime}$ | $\checkmark$ | $\checkmark$ | $\checkmark$ | $\checkmark$ | $\checkmark$ | $\checkmark$ | $\checkmark$ | $\checkmark$ |
| $.75^{\prime \prime}$ | $\checkmark$ | $\checkmark$ | $\checkmark$ | $\checkmark$ | $\checkmark$ | $\checkmark$ | $\checkmark$ | $\checkmark$ |
| $1.00^{\prime \prime}$ | $\checkmark$ | $\checkmark$ | $\checkmark$ | $\checkmark$ | $\checkmark$ | $\checkmark$ | $\checkmark$ | $\checkmark$ |
| $1.50^{\prime \prime}$ | $\checkmark$ | $\checkmark$ | $\checkmark$ | $\checkmark$ | $\checkmark$ | $\checkmark$ | $\checkmark$ | $\checkmark$ |
| $2.00^{\prime \prime}$ | $\checkmark$ | $\checkmark$ | $\checkmark$ | $\checkmark$ | $\checkmark$ | $\checkmark$ | $\checkmark$ | $\checkmark$ |
| $2.50^{\prime \prime}$ | $\checkmark$ | $\checkmark$ | $\checkmark$ | $\checkmark$ | $\checkmark$ | $\checkmark$ | $\checkmark$ | $\checkmark$ |
| $3.00^{\prime \prime}$ | $\checkmark$ | $\checkmark$ | $\checkmark$ | $\checkmark$ | $\checkmark$ | $\checkmark$ | $\checkmark$ | $\checkmark$ |
| $3.50^{\prime \prime}$ | $\checkmark$ | $\checkmark$ | $\checkmark$ | $\checkmark$ | $\checkmark$ | $\checkmark$ | $\checkmark$ | $\checkmark$ |
| $4.00^{\prime \prime}$ | $\checkmark$ | $\checkmark$ | $\checkmark$ | $\checkmark$ | $\checkmark$ | $\checkmark$ | $\checkmark$ | $\checkmark$ |

## Optional Items for Brazed Profile Router Bits

Alternating Shear
Bearing, Drilled and Tapped
Bits with Boring Point
Drill Ream and Set Screw
Face Shear in One Direction or ATB
Mill A Flat on Shank of Router Bit
Multi-Piece Units (2 or more pieces)
TC-4 (Tantung, Crobalt)

If Overall Length of Router Bit is:
3" or less: No Additional Charge
$3.1^{\prime \prime}$ to 4.5": Additional Charge
4.6" or Greater: Additional Charge

If Large Diameter of Router Bit is:
3" or Less: No Additional Charge
3.1" or More: Additional Charge

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## Mill-to-Pattern Profile Cutter Heads



Provide rotation direction and pattern sketch (see page 5) when ordering.

## Applications

- Used on shapers, moulders, tenon machines, CNC routers, router tables, etc


## Advantages

- Tool diameter, wings, bore and pattern are all designed to fit customer requirements
- Laser cut grinding template for accuracy and repeatability of pattern
- Multi-piece units are available to maintain critical dimensions of the profile


## Technical Information

- CNC machined cutter bodies
- Computer generated profiles for accuracy

Wings

| Diameter Range | Body Width Range | Pattern Depth | 2 | 3 | $\mathbf{4}$ | $\mathbf{6}$ | 8 | 10 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $3.00^{\prime \prime}-4.00^{\prime \prime}$ | $.188^{\prime \prime}-2.00^{\prime \prime}$ | $0.25^{\prime \prime}-2.00^{\prime \prime}$ | $\checkmark$ | $\checkmark$ | $\checkmark$ | $\checkmark$ |  |  |
| $4.10^{\prime \prime}-5.00^{\prime \prime}$ | $.188^{\prime \prime}-3.00^{\prime \prime}$ | $0.25^{\prime \prime}-2.00^{\prime \prime}$ | $\checkmark$ | $\checkmark$ | $\checkmark$ | $\checkmark$ | $\checkmark$ |  |
| $5.10^{\prime \prime}-6.50^{\prime \prime}$ | $.188^{\prime \prime}-6.00^{\prime \prime}$ | $0.25^{\prime \prime}-2.00^{\prime \prime}$ | $\checkmark$ | $\checkmark$ | $\checkmark$ | $\checkmark$ | $\checkmark$ | $\checkmark$ |
| $6.51^{\prime \prime}-7.00^{\prime \prime}$ | $.188^{\prime \prime}-6.00^{\prime \prime}$ | $0.25^{\prime \prime}-2.00^{\prime \prime}$ | $\checkmark$ | $\checkmark$ | $\checkmark$ | $\checkmark$ | $\checkmark$ | $\checkmark$ |
| $7.10^{\prime \prime}-8.00^{\prime \prime}$ | $.188^{\prime \prime}-6.00^{\prime \prime}$ | $0.25^{\prime \prime}-2.00^{\prime \prime}$ | $\checkmark$ | $\checkmark$ | $\checkmark$ | $\checkmark$ | $\checkmark$ | $\checkmark$ |
| $8.10^{\prime \prime}-9.00^{\prime \prime}$ | $.188^{\prime \prime}-6.00^{\prime \prime}$ | $0.25^{\prime \prime}-2.00^{\prime \prime}$ | $\checkmark$ | $\checkmark$ | $\checkmark$ | $\checkmark$ | $\checkmark$ | $\checkmark$ |
| $9.10^{\prime \prime}-10.00^{\prime \prime}$ | $.188^{\prime \prime}-6.00^{\prime \prime}$ | $0.25^{\prime \prime}-2.00^{\prime \prime}$ | $\checkmark$ | $\checkmark$ | $\checkmark$ | $\checkmark$ | $\checkmark$ | $\checkmark$ |
| $10.10^{\prime \prime}-12.00^{\prime \prime}$ | $.188^{\prime \prime}-6.00^{\prime \prime}$ | $0.25^{\prime \prime}-2.00^{\prime \prime}$ | $\checkmark$ | $\checkmark$ | $\checkmark$ | $\checkmark$ | $\checkmark$ | $\checkmark$ |

## Optional Items for Mill-to-Pattern Heads

5/32" Thick Carbide
Bores Over $2.125\left(2-1 / 8^{\prime \prime}\right)$
Cone Bore
Dual Hook Angles In One Cutter Head
Face Shear Both Directions
Face Shear One Direction
Hubs and Trepans (up to 1 inch)
Hubs and Trepans (over 1 inch)

Keyways
Mounting Holes (qty. 1-6)
Mounting Holes (qty. 7+)
Set Screw Mounting
Shim Stock
Sleeve Bore
TC-4 (Tantung, Crobalt)
NP552 - High Pressure Grease Gun

NP553 - High Pressure Hose
NP554 - Hydraulic Connector
NP555 - Grease Cartridge
Plastic Checking Templates
Steel Checking Templates
Product Description Product Material
Grinding Template for Plexiglass
Grinding Template for Saw Steel

## Mill-to-Pattern (MTP) Router Bits Sketch



Remember: When ordering a MTP tool, it is important to indicate the proper rotation of the tool. You must also indicate the top or bottom of the material. A sketch of the tool in a face coming position is also required. Please note if the tool is conventional or climb cutting.


Sketch your router pattern here:
$\square$


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