

# CUTTING

Vol. 4, Issue 1

# Times

with better tools from

**Dapra Corporation**  
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# DAPRA®



## Introducing: Dapra's New Modular Heads

**Designed to Screw On to Industry Standard Systems**

Dapra now offers Ball Nose, Square Shoulder and Toroid heads that are compatible with ISO standard modular systems. These heads provide greater effective reach than solid end mills, while their close-tolerance mounting minimizes runout.

Since these screw-on heads feature standard inch wrench flats, no special metric wrenches are needed. The Square Shoulder and Toroid models are each available in sizes ranging from .750" to 1.500" diameter, while the Ball Nose model is available in diameters from .500" to 1.250". Please contact Dapra for complete specifications.



# 50 Years!

## Dapra Celebrates its 50<sup>th</sup> Anniversary

Dapra is proud to announce that the year 2005 marks the 50th anniversary of Dapra Corporation. In honor of this achievement and in appreciation for the support of our customers, we are planning a number of special offers for the 2005 calendar year. Look for special promotions in upcoming newsletters and on our Web site: [www.dapra.com](http://www.dapra.com). We look forward to celebrating with you.

## "Try Before You Buy"

**TRY THEM  
TODAY!**  
with **FREE  
Samples**

**Free Samples of  
CNC Pressed Square  
Shoulder Inserts**

See page 5  
for details



## DAPRA's Automatic Cutter Replacement Program Will Keep Your Ball Nose Operations Running

Every Dapra customer is automatically eligible to receive FREE replacement Ball Nose cutters by simply purchasing specified numbers of inserts. Every time you buy 30 inserts, Dapra will give you a free corresponding steel cutter body.

Furthermore, if you purchase 50 inserts, you will receive the appropriate Carbide Core or Carbide Shank tool. Please visit our Web site, [www.dapra.com](http://www.dapra.com), for complete terms and conditions.



## So, What's New?

See story on page 2...

# So, What's New?

*Dapra takes pride in their ability to provide customers with the ultimate in cutting performance. In support of this effort, Dapra recently announced the following product improvements:*



|← More Clearance! →|

## Ball Nose Finishing Mills

- Updated design provides more clearance and greater versatility
- Undersize shank tools for more clearance in straight-wall applications
- Metric sizes



## High-Velocity Face Mills



- Top clamps provide stronger insert locking for higher feeds and speeds
- Grade DMK157 for maximum wear resistance in production milling



## Square Shoulder Mills

- DMP307 high-performance insert grade for steels and stainless steels
- Helical Roughing End Mills from 1.000" to 1.500" cutting diameter
- Metric sizes



## Toroid Cutters

- New design, with top clamps, maximizes insert locking strength
- Expansion of Shell Mill line to include diameters up to 4.000", with more flutes
- Metric sizes coming soon



### Coming Soon:

- 15°, 30° and 45° utility cutters – featuring chamfer mills and extra corner face mills for your APET and XPET Inserts!
- .047" radius option for APET and XPET 1604 inserts – more corner radii means you can use our Square Shoulder for more applications!



# Case Studies:



## PERIPHERAL MILLING improved 675%

Dapra Toroid End Mill saved \$17,310 on 1500 parts  
Material: AMS6472 • Hardness: 30 Rc

	Competitor	DAPRA
Cutting Tool	1" Cobalt End Mill	1" Toroid End Mill
Speed	380 RPM	3600 RPM
Feed	4.0 IPM (100mm)	140 IPM (3550mm)
Depth of Cut	.250" (6.4mm)	.050" (1.3mm)
Width of Cut	1.0" (25mm)	1.0" (25mm)
Cycle Time	10.5 min./part	1.35 min./part
Tool Life	100 min.	15 min.
Insert Cost	\$100.00	\$9.00

## HELICAL BORING improved 500%

Dapra Toroid saved \$621 on 50 parts  
Material: 1045 Medium-Carbon Steel • Hardness: 28 Rc

3.0"  
(76mm)  
Dia. Hole

	Competitor	DAPRA
Cutting Tool	Drill + 1" End Mill	2" Toroid
Speed	2300 RPM	1530 RPM
Feed	25 IPM (635mm)	90 IPM (2300mm)
Depth of Cut	.100" (2.5mm)	.05" (1.3mm) - Helix
Width of Cut	1.0" (25mm)	1.25" (31.8mm)
Cycle Time	10 min./part	1.8 min./part
Tool Life	30 min.	60 min.
Insert Cost	\$9.00	\$7.95

## ROUGH CORE improved 200%

Dapra Toroid saved \$112 per part  
Material: H13

	Competitor	DAPRA
Cutting Tool	1" Button Cutter	1" Toroid
Speed	2500 RPM	3400 RPM
Feed	60 IPM (1500mm)	200 IPM (5000mm)
Depth of Cut	.05" (1.3mm)	.04" (1.0mm)
Width of Cut	.75" (19mm)	.75" (19mm)
Cycle Time	2 hours	45 min.
Tool Life	30 min.	45 min.
Insert Cost	\$8.00	\$7.95



## 3-D SURFACING improved 414%

Dapra Helical Ball Nose saved \$676 per part  
Material: Ductile Iron • Hardness: 200 Brn

	Competitor	DAPRA
Cutting Tool	1/2" Solid Carbide Ball	1/2" Helical Ball Nose
Speed	4500 RPM	8000 RPM
Feed	50 IPM (1270mm)	200 IPM (5000mm)
Depth of Cut	.020" (.5mm)	.020" (.5mm)
Width of Cut	.010" (.25mm)	.010" (.25mm)
Cycle Time	7.5 hours	1.9 hours
Tool Life	3.5 hours	4 hours
Insert Cost	\$56.00	\$18.00

## HARD FACE MILLING improved 2285%

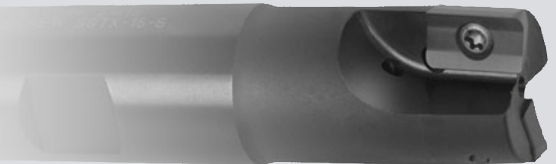
Dapra Square Shoulder saved \$1,700 per part  
Material: D2 • Hardness: 62 Rc

	Competitor	DAPRA
Cutting Tool	1/2" Carbide Ball	1" Square Shoulder
Speed	2000 RPM	750 RPM
Feed	20 IPM (500mm)	6 IPM (150mm)
Depth of Cut	.005" (.13mm)	.010" (.25mm)
Width of Cut	.020" (.5mm)	.375" (9.5mm)
Cycle Time	9 hours	48 min.
Tool Life	60 min.	30 min.
Insert Cost	\$65.00	\$6.40

## POCKET MILLING improved 355%

Dapra Square Shoulder saved \$2,560 on 250 parts  
Material: 6061 Aluminum

	Competitor	DAPRA
Cutting Tool	1" Square Shoulder	1" Square Shoulder
Speed	4000 RPM	10,000 RPM
Feed	100 IPM (2500mm)	400 IPM (10,000mm)
Depth of Cut	.100" (2.5mm)	.100" (2.5mm)
Width of Cut	.50" (12.7mm)	.50" (12.7mm)
Cycle Time	10 min./part	2.5 min./part
Tool Life	120 min.	240 min.
Insert Cost	\$11.00	\$9.60



## PERIMETER MILLING improved 292%

Dapra Helical Rougher saved \$14,300 on 5000 parts  
Material: Cast Iron

	Competitor	DAPRA
Cutting Tool	1 1/4" Helical Rougher	HREM1250 Helical Rougher
Speed	1980 RPM	2300 RPM
Feed	26 IPM (660mm)	28 IPM (710mm)
Depth of Cut	.450" (11.5mm)	1.125" (28.5mm)
Width of Cut	.300" (7.6mm)	.300" (7.6mm)
Cycle Time	65 hours / 5000 parts	21 hours / 5000 parts
Tool Life	76 min.	238 min.
Insert Cost	\$11.27	\$6.23

## FACE MILLING improved 450%

Dapra High-Velocity saved \$1,130 on 100 parts  
Material: 17-4 PH Stainless • Hardness: 40 Rc

	Competitor	DAPRA
Cutting Tool	2" Face Mill	2" High-Velocity
Speed	290 RPM	575 RPM
Feed	5 IPM (127mm)	20 IPM (510mm)
Depth of Cut	.100" (2.5mm)	.100" (2.5mm)
Width of Cut	1.5" (38mm)	1.5" (38mm)
Cycle Time	20 hours / 100 parts	5 hours / 100 parts
Tool Life	2 parts	15 parts
Insert Cost	\$9.00	\$7.95

# High-Performance Square Shoulder Milling

## Reduced Tooling Costs, Top-Quality Performance

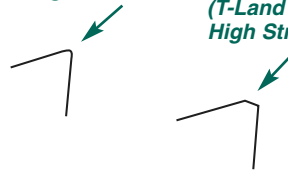
Dapra's newest HREM Square Shoulder Mill cutters are an unsurpassed overall value! Available in 1", 1 1/4" and 1 1/2" cutting diameters, they are designed for high performance in long-edge profiling and step milling applications. These new cutters have been optimized to provide the maximum in effective cutting edges, allowing high feed rates. When used with our APET and XPET inserts, they are the best overall performance/price value on the market.

APET and XPET CNC pressed-to-size inserts are the newest addition to Dapra's Square Shoulder milling line. They offer the same high-performance capabilities as the current precision-ground APHT inserts at a **30% lower price!** With simplified grade structures, Dapra has made it easier than ever to select the perfect geometry and grade to meet your tooling requirements.

### APET/XPET Insert Pricing

Size	Coating	10 - 49	50 - 149	150+ pcs.
APET/XPET 10mm	Coated	\$7.00	\$6.65	\$6.30
APET/XPET 16mm	Coated	\$8.00	\$7.60	\$7.25
APET/XPET 10mm	Uncoated	\$6.50	\$6.15	\$5.80
APET/XPET 16mm	Uncoated	\$7.50	\$7.15	\$6.80

XPET Cutting Edge  
(Honed Edge)  
High Shear



APET  
Cutting Edge  
(T-Land Edge)  
High Strength



See the bottom of page 5 to try APET/XPET Inserts before you buy.

### Geometry Selection:

#### XPET Inserts -

High positive cutting edge, providing smooth cutting action and reduced burr. Best for gummy materials like low-carbon steel, stainless steel and non-ferrous.

#### APET Inserts -

Combination positive/negative design, providing a strong cutting edge in tougher applications. Use for higher-strength materials, interrupted cuts and for edge strength in cast irons.



### Try Dapra's newest high-performance grade!

#### DMP30 (uncoated)

- A perfect blend of toughness and wear resistance
- Optimum grades for high-speed machining of most steels
- Offered uncoated (DMP30) and in two coated versions:

#### DMP307 (coated)

- DMP30 coated with our high-temperature AlTiN PVD coating
- Best steel milling grade available anywhere
- Use for high-speed machining, heavy roughing and semifinishing applications

#### DMP303 (coated)

- DMP30 coated with our medium-temperature TiCN PVD coating
- Excellent for low-to-medium operating speeds where toughness and good wear resistance are expected



## Quick, Dependable Service – Nationwide

Dapra Corporation is proud of their strong National Sales Force. Representatives are available in any region of the United States to provide you with quick and hassle-free ordering services. Please visit the Company Directory on Dapra's Web site for the most up-to-date list of corporate contacts.

[www.dapra.com](http://www.dapra.com)



## Stock Up on High-Velocity Cutting Tools with our **Buy One, Get One FREE Promotion!**



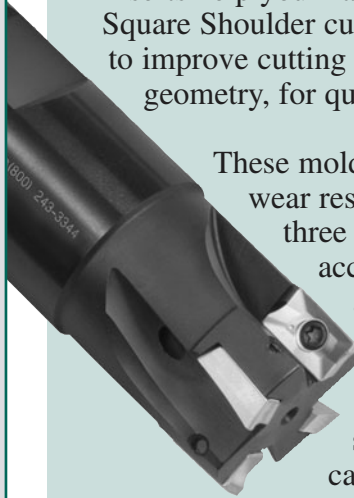
Now through February 28, 2005, you can maximize your face milling, helical interpolation, pocketing and general machining performance and **SAVE MONEY** as well! When purchasing Dapra's High-Velocity End Mills and Inserts, if you buy one cutter body and 30 inserts to fit it, you'll get a second cutter body of equal or less value **FREE**. If you need High-Velocity Shell Mills instead, just purchase a cutter body and 50 inserts, and your second cutter body will be **FREE**.



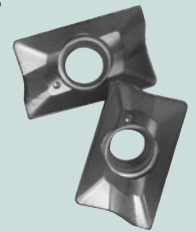
Please contact your local Dapra distributor, or call us directly, to take advantage of this limited-time offer!

## If Your Goal is **Improved Cutting Performance,** APKT and ADKT Square Shoulder Inserts are the Affordable Solution!

Dapra's newly introduced APKT and ADKT Inserts help you make the most of your existing Square Shoulder cutter. They are the low-cost way to improve cutting performance with a positive geometry, for quiet, efficient cutting action.



These molded inserts provide maximum wear resistance and are available in a choice of three new grades, which should be selected according to application temperature and cutting speed characteristics. APKT and ADKT Inserts are ideal for cutting of materials ranging from steel and stainless steel to cast iron and high-temperature alloys.



### Molded Insert Pricing

Part Number	10 - 49	50 - 149	150+ pcs.
APKT100304-DMP302	\$8.00	\$7.60	\$7.25
APKT100304-DMP306	\$8.00	\$7.60	\$7.25
ADKT150508-DMP303	\$10.35	\$9.30	\$8.85

*Don't wait to improve your Square Shoulder Roughing – order your APKT/ADKT Inserts now.*

## Current APHT Insert Users:

### Free Samples of CNC Pressed Square Shoulder Inserts Allow You to "Try Before You Buy"

Dapra invites you to experience the high-performance cutting capabilities of our APET and XPET CNC Pressed Inserts by trying free samples. Call Dapra and tell us what cutter you have, and we will send enough inserts to load the tool. Designed for aggressive cutting, with good accuracy and repeatability, these Square Shoulder Inserts are available in two geometries:

**XPET** – sharper edge with light hone for excellent shear of softer steels, stainless steels, high-temperature alloys and gummy materials

**APET** – strong cutting edge for milling of harder steels and cast irons



Three base grades are available to handle a wide range of cutting conditions. Call us today to order your free samples.