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MiniTech Engineering & Model Supplies

Newsletter

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IN THIS ISSUE

WHICH COLLET SYSTEM IS RIGHT FOR YOU?

BOOK REVIEW - STEAM ENGINE PRINCIPLES AND PRACTICE

CENTRE FINDER FOR ROUND BAR- HOW DOES IT WORK?

FOR SALE SECTION

A common dilemma our customers face when looking at the various options open to them regarding collets is what one is right for them. There are a wide variety of needs and we try to cater for as many as prudence dictates. The factory that makes hundreds of 'one off' items has very different needs to the home workshop. Here a small mill can constantly presents space problems between the work and the tool.

We have taken some time to explain the pros and cons of each of your choices. As a post script to this discussion can I say that it is never wise to use a drill chuck to hold an end mill or slot drill. They were never designed for the sorts of stresses that these cutters would place on it.

We have a very brief comment about CNC options. There aren't a huge number of CNC adherents out there but those we do see are very passionate and would appreciate the comparison we have made for them.

One of the simplest little tools we have is the centre finder for round bar. I wish I had known it existed years ago. It takes the guess work out of the equation and because it's so cheap should be one of those items you tack on to an order when making a larger purchase.

As we have advised previously, if you wish to be deleted from the Newsletter email please email me with your request..
bob@minitech.com.au

Retrofit CNC Kits for Sieg Mills or Factory built?

It's hard to get away from the ultimate comparison – price, but there is a huge scope for comparing these two options for the CNC enthusiast. A factory made CNC mill based on the Super X3 compared with an aftermarket add on kit manufactured by Australian suppliers. The retrofit kit including all the electrical as well as all the mechanical componentry (Which the buyer must fit) does not include the mill. For those who have ever wondered, here is the price comparison.

Sieg made KX3 CNC 3 axis Milling Machine with stepper motors including manufacturers operating software. All you need is a PC..
$10,100 incl GST

Australian made retrofit kits incl all elect and mech components necessary to fit to the three axis of a Sieg X3 Mill including a MACH3 license. All you need is a PC and an X3 mill ($1826 incl).
$6930 incl GST

Tall Tales

AN ELDERLY WOMAN WALKED INTO THE LOCAL COUNTRY CHURCH. THE FRIENDLY USHER GREETED HER AT THE DOOR AND HELPED HER UP THE FLIGHT OF STEPS. "WHERE WOULD YOU LIKE TO SIT?" HE ASKED POLITELY.

"THE FRONT ROW PLEASE." SHE ANSWERED. "YOU REALLY DON'T WANT TO DO THAT", THE USHER SAID. "THE PASTOR IS REALLY BORING."

"DO YOU HAPPEN TO KNOW WHO I AM?" THE WOMAN INQUIRED. "NO." HE SAID. "I'M THE PASTOR'S MOTHER," SHE REPLIED INDIGNANTLY.

"DO YOU KNOW WHO I AM?" HE ASKED. "NO." SHE SAID. "GOOD," HE ANSWERED.

DURING A ROBBERY, ONE OF THE ROBBERS MASK SLID DOWN. HE LOOKED AT A MAN NEARBY AND ASKED. "DID YOU SEE MY FACE?" THE MAN SAID "YES!"

WHEREUPON THE ROBBER PROMPTLY SHOT HIM.

THEN HE ASKED A WOMAN. "DID YOU SEE MY FACE?" SHE SAID "NO, BUT MY HUSBAND OVER THERE DID."

What collet system is right for me

There are many collet systems. The most popular are ER, morse taper, R8, 5C, Clarkson and Posilock. A collet is a type of chuck that is a sleeve with a (normally) cylindrical inner surface and a conical outer surface. The collet has slots cut along its length to allow it to expand and contract. Depending on the collet design, it can be either pulled (via an internal or external threaded section at the rear of the collet) or pushed (via a threaded cap with a second taper) into a matching conical socket to achieve the clamping action.

The disadvantages of the threaded type collet chucks are 2 sets of collets are required to cover metric and imperial collets i.e. one collet is required for every diameter. Apart from being expensive, the individual collets could hold threaded shank HSS cutting tools only. A huge benefit is guaranteed non-slip. Other advantages of the MT and R8 Collets are no chuck is needed but a drawbar is essential. As it goes directly into your spindle taper then there is a space saving in your work area. Also, if you only work with a limited number of size tools this could potentially be the cheapest option

These days the most popular collet chuck for holding cutting tools is the "ER" collet system and have become the industry standard. ER collet systems have spring type collets with opposing tapers. This allows the collet to compress up to 1mm and therefore a single collet can accept imperial sizes in the same collet (ie. A 6 - 7mm collet will accept ¼" cutting tools as well as every size between and including 6mm and 7mm).

Carbide cutting tools with straight shanks can now be easily held in ER collets thus allowing a whole new aspect of milling and turning especially in production. ER collets can accept threaded or unthreaded cutting tools as well as drills in 0.1mm increments or even taps can be held securely. ER collets come in a range of sizes; the last 1-2 digits after the letters ER refers to the diameter of the collets in that range at the widest point (less 1mm).

	Range	Increments
ER8	1 -5mm	0.5mm
ER11	1 -7mm	0.5mm
ER16	1-10mm	1mm
ER20	2-13mm	1mm
ER25	2-16mm	1mm
ER32	3-20mm	1mm
ER40	4-26mm	1mm
ER50	12-34mm	2mm

Set of 4 Posilock Collets. (Requires a Posilock chuck with suitable arbor for your machine)

Morse Taper collet for inserting directly into the spindle. No chuck necessary but drawbar is required.

ER Collet showing opposing tapers. Collet chuck is required with arbor to suit your machine.

ER Collet Set showing Collet chuck with R8 taper arbor, locking nut, C Spanner and range of collets (Selectable)

Go to ….
http://www.minitech.com.au/ to see our Products and the various options for collet sets.

How to Use the Centre Finder for Round Bar…

It is only a matter of time before you will need to drill a hole through the side of a piece of round bar. If that hole has to pass through, or align with, the centre of the bar, then you will need something like this.

This clever and inexpensive little tool guarantees your accuracy. It consists of a round shaft that has a flat metal piece cut to 90º and is attached to the shaft at a pivot point. The tip of the inverted V that this piece forms has a pointer and the shaft has an etched line.

Simply place the round shaft in the chuck that will ultimately hold the drill that will do the cutting then move the work or the chuck across and down on to the work until the inverted V straddles the round bar.

Then move the table that holds the work or the head that holds the chuck until the pointer lines up with the etched line on the shaft of the tool.

When the pointer lines up with the etched line the chuck lines up with the centre of the bar.

The tool is then removed from the chuck and a cutting tool substituted. Hey presto, a cut that bisects the bar dead centre. How easy is that?

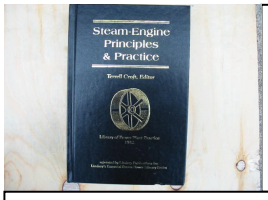
At only $13.20 it has to be one of the cheapest and handiest tools you will own.

NOT TO BE CONFUSED WITH THE PRECISION CENTERING SQUARE..

This little tool finds the centre of round ***or*** square bar *at the end of the stock*. When placed over the end, the 90º arms ensure the centre arm bisects the centre. You scribe a line along this arm and then rotate the tool and scribe another line. Where the lines intersect is dead centre of the bar. Useful if you need to drill a hole longtudinally.

2 types available...For bar up to 50mm - $17.60
For bar up to 80mm - $23.10

BOOK REVIEW…



Steam engine Principles and Practices-Edited by Terrell Croft - $54.95

First published in 1922 by McGraw-Hill, this beautifully bound hardback book was reprinted by Lindsay publications in 2008.

The preface itself identifies its purposes as to NOT cover the design of steam engines but rather directs its subject matter to enable the reader to select, operate, care for and repair steam engines.

It has 514 pages and infused with 548 illustrations to clarify subject matter. It is separated into 16 divisions rather than chapters and include such things as; function and principle of steam engines, mechanisms and explanation of their naming conventions, slide valves and settings, Corliss and Poppet valves and their settings, the principles and adjustment of governors, compound and multi expansion engines, condensing and non-condensing operations, efficiencies and how to improve them, modern steam engines and testing, reciprocating engines, use of superheated steam, lubrication and problem solving.

A customer sent an order to a distributor for a large amount of goods totaling a great deal of money. The distributor noticed that the previous bill hadn't been paid, so he asked his collections manager to leave a voice-mail for them saying, "We can't ship your new order until you pay for the last one."

The next day the collections manager received a collect phone call, "Please cancel the order. We can't wait that long."

FOR PRIVATE SALE

Chinese manufactured.
Between Centres 18"
Centre Height 6"
Spindle Bore 1.2"
Single Phase Motor
Milling Head No 3 Morse Taper
Auto Lead Screw
Complete with:
Compound X Slide
Milling Table and Risers
Posi Lock Chuck
Trepanning
Plus assorted "Bits and Pieces"
$1250.00.

If you require more information, please ring Derek on 07 34251413

(If you would like to advertise an item please send a pic and text to bob@minitech.com.au)

FAQ's

Q. Why don't we have a greater range of combination lathe milling machines?
A. Because most combination machines have the column of the mill located in the middle of the lathe bed and therefore makes the work area of the machine too "crowded". We have opted for a combination machine (HQ500IM) that has the mill column over the lathe head stock and able to turned aside.

Q. Aren't Chinese and Indian product rubbish?
A. Product from any country can be poor quality, including China and India. We were burnt a few years ago by one company whose product was inferior. All our current suppliers have proven records of quality despite there being the occasional reject. (Which we give full refunds on)

Q. Do you open Saturday mornings?
A. We have been opening Sat am's for years and it was quite a surprise for us to discover that many of our customers didn't know this.