

June 2009

MiniTech Engineering & Model Supplies Newsletter

Vol 1 No 4

IN THIS ISSUE

**HOW DO YOU USE A
TRANSFER
PUNCH???**

**MACHINE TAPERS -
HANDY STUFF TO
KNOW !**

**BOOK REVIEW -
"MILLING
OPERATIONS IN
THE LATHE**

FOR SALE SECTION

This edition comes with an attached brochure from one of our regular suppliers. The brochure includes a number of items that we don't normally stock as we don't get much call for them. Of course there are a significant number of items that we do normally stock. As a service to you we are forwarding the brochure in it's entirety for your enjoyment.

Some may have wondered if the stimulus payments from the federal government have been working. Well it has – a bit. We are delighted to report that in the last month we delivered a lathe to at least one customer who volunteered that his purchase was made as a courtesy of the government handout

Whereas we are very grateful for the business that came our way as a result of the government strategy, I just can't reconcile my mind to the fact that in times of economic and employment volatility, they want our citizens to spend up big.

Most would say the wise and prudent strategy during such times as we have now would be to do exactly the opposite to what the boffins in Canberra are saying i.e save not spend.

Who would have thought that we would be saying "Do what the politicians recommend" ☺

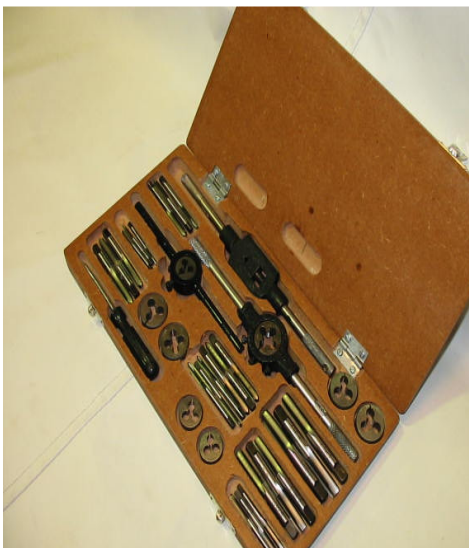
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Seems an elderly gentleman had serious hearing problems for a number of years. He went to the doctor and the doctor was able to have him fitted for a set of hearing aids that allowed the gentleman to hear 100%.

The elderly gentleman went back in a month to the doctor and the doctor said, "Your hearing is perfect. Your family must be really pleased you can hear again."

To which the gentleman said, "Oh, I haven't told my family yet. I just sit around and listen to the conversations. I've changed my will five times!"

New Products....



ME TAP AND DIE SET

Well they aren't exactly NEW but they have been missing from our stock inventory for so long they may as well be NEW. \$170.50Incl gst

We have been trying to source these from suppliers since we sold out of them in August 2008. Have had a lot of inquiry for them and in recent months had all but given up on them. They are now at the wharf and will be in store in 2 weeks. The set has 34 pieces and contains ...

Taps ME x 40 - 1/8, 5/32, 3/16, 7/32 & 1/4"

Taps ME x 32 - 9/32, 5/16 & 3/8"

Sets include Taper, Intermediate and Bottom Taps and 8 dies to suit.

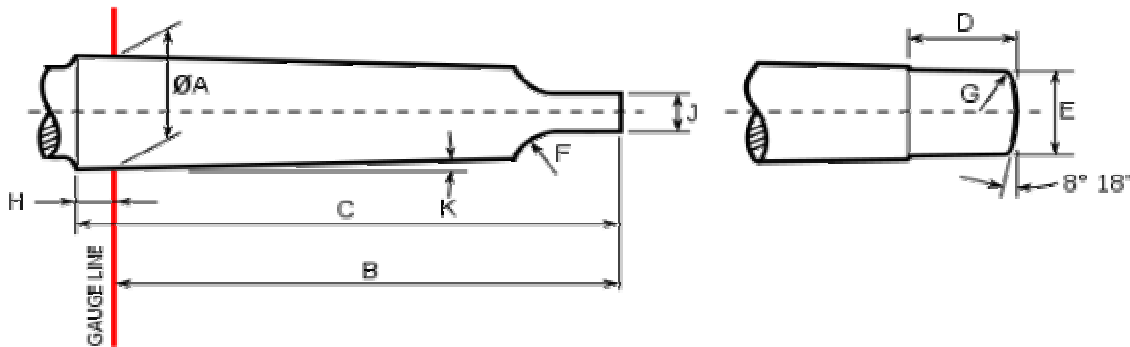
Comes in a sturdy and well presented wooden case and includes a screw driver, 2 tap wrenches and 2 die holders (13/16" and 1")

Machine Tapers – a summary

Morse Taper.

Invented by Stephen A. Morse (also the inventor of the twist drill) in the mid 1860s. Morse Tapers come in eight sizes identified by number between 0 and 7. Often this is abbreviated as MT followed by a digit, for example a Morse taper number 4 would be MT4. Morse tapers can have two types of end...Tang to facilitate removal with a drift or threaded to be held in place with a drawbar. The taper itself is roughly 5/8" per foot, but exact ratios and dimensions for the various sizes of tang type tapers are given below.

Morse Taper number	Taper	A	B (max)	C (max)	D (max)	E (max)	H	J	K
0	19.212:1	9.05	56.50	59.50	10.50	6.00	3.00	3.90	1° 29' 27"
1	20.047:1	12.07	62.00	65.50	13.50	8.70	3.50	5.20	1° 25' 43"
2	20.020:1	17.78	75.00	80.00	16.00	13.50	5.00	6.30	1° 25' 50"
3	19.922:1	23.83	94.00	99.00	20.00	18.50	5.00	7.90	1° 26' 16"
4	19.254:1	31.27	117.50	124.00	24.00	24.50	6.50	11.90	1° 29' 15"
5	19.002:1	44.40	149.50	156.00	29.00	35.70	6.50	15.90	1° 30' 26"
6	19.180:1	63.35	210.00	218.00	40.00	51.00	8.00	19.00	1° 29' 36"
7	19.231:1	83.06	285.75	294.10	34.90	-	-	19.00	1° 29' 22"



Brown & Sharpe Like the Morse, these have a series of sizes, from 1 to 18, with 7, 9 and 11 being the most common. Actual taper on these is within a close range of .500" per foot.

R8 This taper was designed by Bridgeport Machines, Inc. for use in their milling machines. It is used with a drawbar extending up through the spindle to the top of the machine. They are also keyed to prevent rotation during insertion and removal. However, cutting torques are transferred through friction at the taper, not through the key. The angle of the cone is typically 16 degrees and 51 minutes (i.e. 16.85 degrees) with an OD of 1.25" .

Jacobs- The Jacobs Taper (abbreviated JT) is commonly used to secure drill chucks to an arbor.

Jacobs Taper	0	1	2	2 short	3	4	5	6	33
Small End (mm)	5.80	8.47	12.39	12.39	18.95	26.34	33.43	15.85	14.23
Big End (mm)	6.35	9.75	14.20	13.94	20.60	28.55	35.89	17.17	15.85
Length (mm)	11.11	16.67	22.23	19.05	30.96	42.07	47.63	25.40	25.40

Jarno - Range from a # 2 to a # 20. The diameter of the big end in inches is always the taper size divided by 8, the small end is always the taper size divided by 10 and the length is the taper size divided by 2. For example a Jarno #7 measures 0.875" (7/8) across the big end. The small end measures 0.700" (7/10) and the length is 3.5" (7/2).

NMTB - The National Machine Tool Builders Association in the USA laid down standards for machine tool design, among other things: the taper used on CNC milling machines. The taper is variously referred to as NMTB, NMT or NT. Essentially this defines a taper of 3.500 inches per foot, or 16.59429... degrees. All NMTB Tooling has this taper but the tooling comes in different sizes. NMTB- 25, 30, 35, 40, 45, 50 and 60. With the 40 taper being the most common by far. The goal of the taper is to allow a quick and easy change between different tools (either automatically or by hand) and still keep it tight and centered while in use.



GETTING TO KNOW YOU...

JENNY COWAN - MINITECH STAFF

(WITH GRANDSON LACHLAN)

What What would you prefer to drive?

A white one. (Note from Bob – A Jaguar)

Where would you like to go on Holiday?

America to see my sister.

Do you return tools to their place after you have used them or when you finish the project?

Never touch the things but I have been known to hound Bob to put his tools back when he's done.

Project working on now?

Getting Bob to do the jobs on the list on the fridge.

3 people you would like to have dinner with?

As long as it's dinner that I don't have to cook or clean up afterwards... anyone who has a good clean sense of humour

Who would you *not* want to be trapped on a desert Island with?

Anyone sleazy.

Longest Career Position?

1 Year as a primary school teacher, 3 years as book keeper at Minitech, 30+ years as a stay at home mother. (Each of them as challenging as each other)

What do you do when you're not working?

Being the eldest of 5 sisters and one brother gives me plenty to do so it's lucky I like cooking. Reading is bliss

Favourite Food?

1. Chocolate 2. Chocolate 3. Chocolate

Best Film you've seen?

Sound of Music (Note from Bob "She tapes it everytime it's on TV. We have about 6 copies of it")

How many keys on your key ring?

4 keys and 10 little dangly things

What car do you drive?

A silver one (Note from Bob- A Corolla)

How to use a transfer punch



Have you ever had a piece of metal with a number of holes in it and you have wanted to replicate it exactly on another piece of metal. Getting the holes in the exact position without drilling through and potentially damaging the existing holes of the original material has caused some mark out calisthetics in the past.

Sets of transfer punches were developed as the cheap and accurate solution. The sets include a range of outside diameters to cover most of the standard measurements. The original material is clamped to the target

material and the correct size punch is selected that provides a snug fit in the original hole.

A sharp blow to the punch creates a centre pop on the target material in the dead centre of the hole through which it passed. Transfer punches are available in the following sizes - Imperial - 28 piece set covers from 3/32" to 1/2" by 1/64" increases. (\$38.50). Metric - 25 piece set covers from 1mm to 13mm by 0.5mm increases. (\$35.20)

Book review

This is a book that could save you a lot of money. It could even be seen as costing us here at Minitech money if our customers were more familiar with it. The book isn't secret and we have been selling it for years, it is the Workplace Practice Series Book on "Milling Operations in the Lathe" by Tubal Cain.

It has been assumed by many amateurs that the cutting tool must always be mounted in the tool post and the material to be cut is always rotated in a chuck. Many believed that if those roles were to be reversed then a milling machine was required (as a lathe could not cut in a vertical direction). The addition of a vertical slide to the tool post solves that issue and hey presto..you have a machine that can do most milling operations and you don't need to outlay your hard earned \$\$\$ for a mill. This book shows how this done.

Chapters include; Milling Cutters, Tooth Geometry, Speeds, feeds and cutter holding, Workholding, Milling attachments, Indexing and Dividing, Procedures and case studies, Combined operations and complex milling as well as Care of Cutters. \$19.80 incl GST

FOR SALE

MYFORD TOOLMEX 6" 4 JAW INDEPENDENT CHUCK. Screw on type. (No backplate required) Perfect condition. Cost \$750 - Sell \$450
Alan Littler 02 6649 1220 or Mobile 0409 066 206. Arrawarra (near Coffs Harbour)

VERTEX POSILOCK COLLET CHUCK. MT2 taper arbor, 4 collets 1/4, 3/8, 1/2, 5/8". In timber box, PC, \$150
Alan Littler 02 6649 1220 or Mobile 0409 066 206. Arrawarra (near Coffs Harbour)

Care and use of Dial Indicators

- Use only on machined surfaces
- Do not allow contact point to run off the end of the work
- Do not exceed range of movement
- Do not oil the contact spindle
- Store in dry and dust free environment.
- Keep cutting oil from splashing dial
- Make sure contact point is square with work
- Make sure the pressure on the contact is as direct as possible

WANTED !

We would like to invite anyone who wishes to advertise items for sale or wanted, to please send an email with details to sales@minitech.com.au. There is no charge. Space will be at a premium so please keep it brief.

If you have some workshop hints or tips please send them in or if you have a project that you are working that you would like to share we would love to include it. News, events and promotions could also justify a space so long as they aren't too wordy.

We are delighted to be bringing these newsletters and hope you like them. If you would like to make suggestions for improvement we would be happy to receive them....honestly!

If you have received this newsletter in error or wish to have your email address deleted from our mailing list, please send a message with **remove from mailing list** in the subject line and the only email you will receive after that is one confirming that the action has taken place.

Gordon, Isaac and Bob