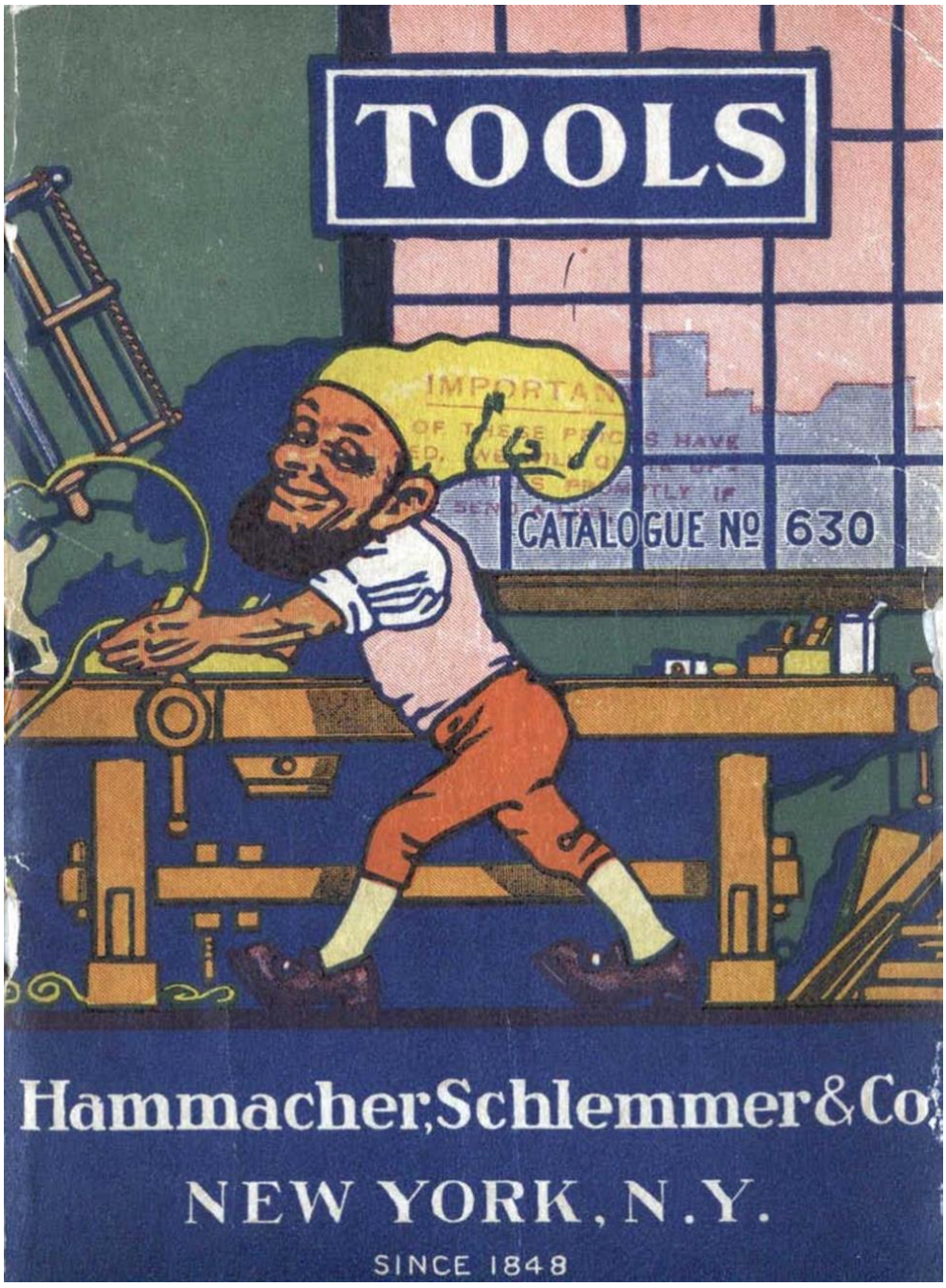
NEWS 187



March 2026

https://tttg.org.au ISSN 2206-1606

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March 2025

Cover: ***Hammacher, Schlemmer & Co - Catalogue No.630*** New York, NY, USA, c.1928

TTTG IS A MEMBER OF THE AUSTRALIAN MEN'S SHED ASSOCIATION

President's Report

John Deeble

A great milestone, TTTG now celebrating its 35th year of operation. No mean feat when so many community organisations struggle to remain viable. A special thank you to all our members, especially those who those who actively support TTTG activities.

The year began well with a successful Sydney Tool Sale. Twenty-four sellers displayed their wares across 72 tables. Over 100 eager buyers lined up early and made a very quick entry at 9.00am to find a bargain. A steady stream of buyers continued across the morning. Feedback from sellers has been positive and lots of tools made their way out the door. Special thanks to all our returning and new sellers for supporting the sale, we hope to see you all again on 21 February 2027. Save that date!

Thanks to John Bates for his organisation of the event plus all the TTTG Committee and some of their friends who pitched in. A special mention to Penny and Mike Williams who again staffed the TTTG Tables, selling TTTG products and promoting the group. We gained several new members on the day, welcome to TTTG: Spencer Lai, Ralph Hawkins, and Gavin Marjoram. We look forward to seeing you all at Member meetings and TTTG events

Strong promotional support from Steve, Cameron and the team at the Carbatec Sydney Store, Linda at Australian Wood Review, Australian Mens' Sheds and Sydney Woodworkers.

In 2026 we will be running three "Members and Friends Tool Sales" at Old Eastwood Town Hall (OETH), offering more selling opportunities to members. For table bookings contact John Bates. The tool sale dates and times (**note the later start and finish times**) for your diary are:

- Sunday 17 May 2026 9.00am to 12.30am
- Sunday 23 August 2026 9.00am to 12.30am
- Sunday 22 November 2026 9.00am to 12.30am

On Sunday 22 March TTTG held a "Blade Sharpening Workshop" at the Marsfield workshop. This hands-on workshop focussed on grinding and sharpening techniques and equipment. Many thanks to Matt Pryor, Anton Marinov, and Jim Windschuttle for presenting and supporting these workshops. Carbatec once again supported our efforts with gift vouchers to TTTG and the workshop attendees. Many thanks.

More workshops are in the pipeline, including saw sharpening. Numbers are limited so book early. Our Workshop fee is $70 and must be paid in advance.

We are always looking for contributions for NEWS. I want to thank Vic and Alan Williams for providing the Plane Restoration article originally published in the HTPSWA newsletter and regular contributors Mike Williams and John Daniel. We really appreciate your efforts.

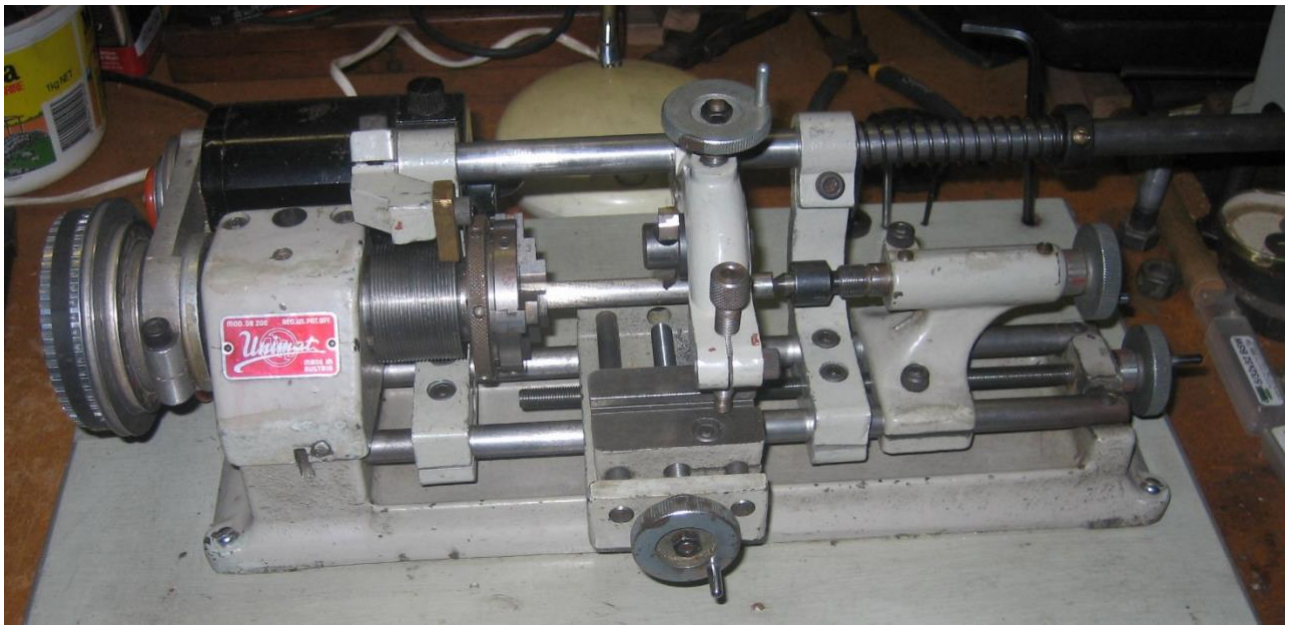
The Committee is always hunting for guest speakers for our Members Meetings and would be most grateful for any suggestions or contacts. Please let me know if you have a specific request for a meeting topic.

I look forward to another great year, with growing TTTG membership, continued sharing of knowledge and information, and support for traditional skills, tool technique, and restoration.

Further Adventures with My UNIMAT

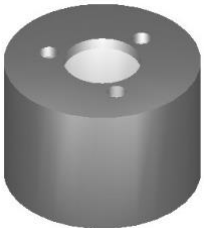
Mike Williams

The very simplicity of the early Unimats could be viewed as something of a downfall in some respects and perhaps the most obvious of these is the fact that without back gears, the units could not cut threads in the conventional manner. The manufacturers of the Unimat had got around this difficulty by providing a sort of copying function which was sold as an extra and I was truly fortunate that my Unimat had this particular extra.



The Unimat thread follower setup. The two strap-like brackets hold a subsidiary arm which connects the brass master thread follower to the thread cutter. The master thread cup is mounted behind the three-jaw chuck which in this case is holding a piece of aluminium between centres preparatory to being threaded.

Briefly, a brass thread-follower traverses a cup-like thread master, and this drags a cutter along the item to be threaded. Both internal and external threads can be cut in this manner, but external threads are much easier to do. My Unimat came with a couple of Imperial thread masters and one metric one. Presumably, the previous owner/user just purchased the thread masters as and when needed. This threw down the gauntlet to me to try and collect all the thread masters which were originally on offer.



A cup-like thread master. The centre hole and three screw holes are to mount the Unimat chuck.

At first, eBay proved a lucrative hunting ground, and I quickly amassed a number of the most common sizes, but this source slowly dried up, and the more unusual sizes never seemed to come to market. Slowly I developed an ambitious plan to manufacture the masters and complete the set!

Making the cups.

I made the cup-like masters out of one and three-quarter inch (1¾") thick wall tubing and closed the top with a piece of ⅛ inch plate, cut roughly to shape.

Prior to closing the top with the plate, I chucked the piece of thick-walled tube and lightly bored it into concentricity, to remove the internal bump caused by the tube seam weld. I then faced the tube edge to ensure that it was perfectly flat to receive the top plate. I also rubbed the plate on fine emery paper taped to a piece of plate glass to ensure that it was flat.

My next problem was how to attach the top plate. I wasn't sure that I had enough heat in my butane torch to braze the joint, so I settled on solder. I used a product called "solder-it" which comes in paste form, works at relatively low temperature and was advertised as soldering steel! It all seemed to work. I wired the two pieces together with the solder-it paste between and heated the lot with my butane torch. Suddenly, the solder-it ran around the joint and the job was done.

All that was required now was to re-chuck the cup and turn it perfectly round, including the recently soldered top plate, drill and bore a 13mm centre hole to accommodate the head screw and drill the 3 attachment holes (see the above picture of a completed cup to make all this clear).

Making the brass followers.

Well, that is how I made the blank master thread cups but now I had to make brass followers for the threads that I needed! To make the follower threads, I needed a cutter. I started with a piece of steel gauge plate and mounted it on a Unimat grinding wheel adapter (which I would never use) and then I was able to turn the gauge plate to the same radius as the master cups. I then rotated the Unimat head to turn a 60-degree edge to the gauge plate.

The finished 6-tooth cutter with relief filed between the teeth.

Fortunately, amongst the accessories that came with the machine was an indexing head, so I mounted the cutter blank on the indexing head and made 6 equi-spaced cuts with a fairly wide slitting saw. Some careful hand filing then followed to provide some cutting relief and reveal the cutting teeth. Finally, I hardened the cutting wheel by heating it with my propane torch and quenching in water. This was probably the wrong way to harden it as it was probably oil-quenching gauge plate, but it seemed to do the trick! I then tempered it in the kitchen oven, and it was ready to go!

The cutter mounted on the Unimat grinding wheel arbour.

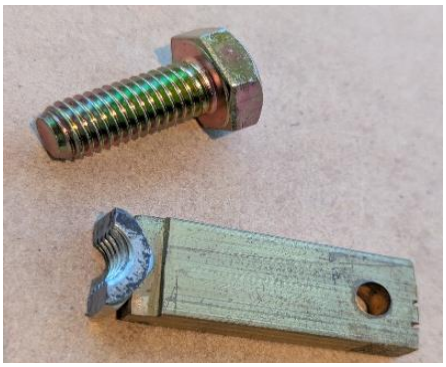
A finished brass thread follower.

I made the brass followers out of thick brass strip, roughly filing the working face with a round file into approximately the right curvature to mate with the master cups and then lightly ran the new cutter across the face to get it right and to remove the file marks. I could then cut the follower teeth one at a time by advancing the lead screw on the lathe the appropriate pitch amount. I didn't bother angling the follower to get the right thread angle as the follower was only a very small section compared to the master diameter.

Cutting threads on the masters

I tried 3 ways to cut the threads on the newly made cup masters, all reasonably successful but some more time consuming than others.

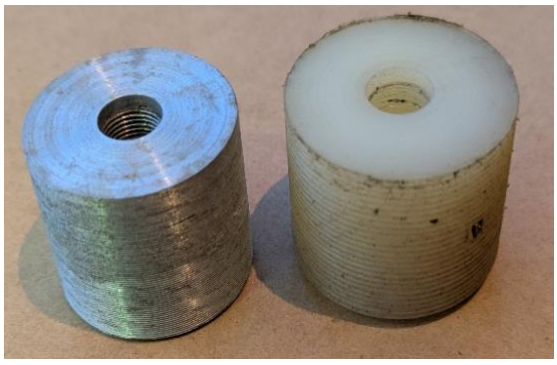
First method: An M10 bolt has a thread pitch of 1.5mm which was one of my missing thread masters so I cut an M10 nut in half and soldered it to a piece of brass to make a thread follower for an M10 bolt. I then used this setup to copy turn 1.5mm threads onto one of my master cup blanks.



A half M10 nut soldered to brass strip to make thread follower for an M10 bolt

Second method: Find a friend who has a lathe with back gears who can thread the masters for you! This was before I got my larger lathe with back gears and John Bates was kind enough to do the job. By this means, I was able to just about complete the set of masters, but John's lathe back gears were unable to turn a couple of threads that I wanted, specifically 19tpi and 50tpi so I had to resort to method 3 which was somewhat tedious and time consuming.

Third Method: I drew up a paper 360degree protractor and pasted it on the last drive pulley of the Unimat. I then made an Excel table for 0.05mm advances on the lead screw versus angle on the protractor and slowly (ever so slowly) cut a sub-master of the thread that I wanted. For the coarse threads I cut the sub-master onto a cylinder of Delrin but for the finer threads, I had to use aluminium. I then used the sub-masters to cut threads onto the final



Two sub-masters with threads cut piece - by-piece. 50tpi on the left and 19tpi right

A 19tpi thread master made from its sub-master, together with its mating brass thread follower.

masters and the piecewise linear nature of the sub-master all but disappeared on the final transfer to the masters.

Where to store them all? I couldn't resist making a wooden box for them before consigning them to the Unimat accessories position on the tool shelf.

RIGHT: 24 Unimat thread masters with their brass followers. Some original Unimat equipment and some home made, covering the range 16tpi to 56tpi and 0.5mm to 1.5mm metric

Well, was it all worth it?

Not long after finishing this project, I bought a much larger lathe complete with back gears which could cut all the above threads!

The whole exercise itself was a great learning experience and I now know that if presented with the requirement to cut a strange thread outside the capability of my back-geared lathe I could make another thread master, however tedious this may be, by "Method 3" above and use the Unimat for the job.

SWAN AUGER BITS, ASSORTED IN NEW EXTENSION BIT BOX

SETS NOS. E 5132 1-2 TO E 5932 1-2

Attention of the trade is especially called to an absolutely new departure in compartment bit boxes. The Swan Extension Bit Box, by its simplicity, both in construction and operation, makes it one that the skilled mechanic cannot afford to be without.

By one operation in opening the box the entire set of bits is available for use, and likewise by one operation the box can be closed.

The bits in the first tray are available for use by simply lifting the cover without disturbing the bits in the other trays. This is a distinct advantage, and is not only handier but a great time saver for the skilled mechanic.

These boxes are made of hardwood and finely finished, and will not be furnished except when ordered in sets complete with bits.

THIRTEEN BITS — 32 1-2 QUARTERS

Set consists of one each — 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16-16ths

Set No.	Bit No.	Description	Set
E5132½	10	Cast Steel Auger Bits	$5.00
E5232½	20	Single Twist Auger Bits	9.10
E5432½	40	Irwin Pattern Auger Bits	9.10
E5532½	50	Rapid Auger Bits	8.60
E5732½	70	Extra Auger Bits	6.60
E5832½	80	Jennings' Pattern Auger Bits	7.50
E58632½	86	Jennings' Pattern Auger Bits, Blued	6.25
E58732½	87	Jennings' Pattern Auger Bits, Black Lip	6.25
E5932½	90	Cook's Patent Auger Bits	7.30

One Set in a box

Image from ***The James Swan Co. Premium Mechanics' Tools***, The James Swan Co., Seymour, Connecticut, USA, 1911, p.82.

More to come on famous cutting tools. Let us know what you want to see in NEWS.

Just a Pile of Old Spanners

John Daniel

To some, this is just a pile of ‘old spanners’, to the astute, it is a testament to manufacturers who harnessed the creative minds of its researchers, the ‘hands-on’ lateral thinking employees on the ground floor who were tired of ‘skinning their knuckles’ using inefficient and ‘clumsy’ tools.
To the perceptive eye, each one is a ‘piece of art’ with its sculptural lines and artist’s ‘signature’; well-deserving of a second glance.

How could one not appreciate the intrinsic value of such tools? *JD.*

CARBATEC supports TTTG

“Companion” LP-Gas Industrial Equipment

John Deeble

Companion

INDUSTRIAL EQUIPMENT FOR USE WITH LP-GAS

The advanced technological features and outstanding performance of this new range of Companion Industrial Equipment is the visible result of many months of intense effort.

Companion's highly specialised Research and Development division was given the task of developing a range of equipment which satisfied two main aims.

The first aim was to produce equipment which out-performed existing competitive equipment; the second was to achieve this in conjunction with a reduction and simplification of components.

Evidence of their success can be verified by the development of the new range of Companion burners which feature unique air cooling and stainless steel burner heads for added life. Patent applications and design registrations have been made for the new versatile single basic handpiece and economiser valve, together with the new concept of totally enclosed flame soldering irons.

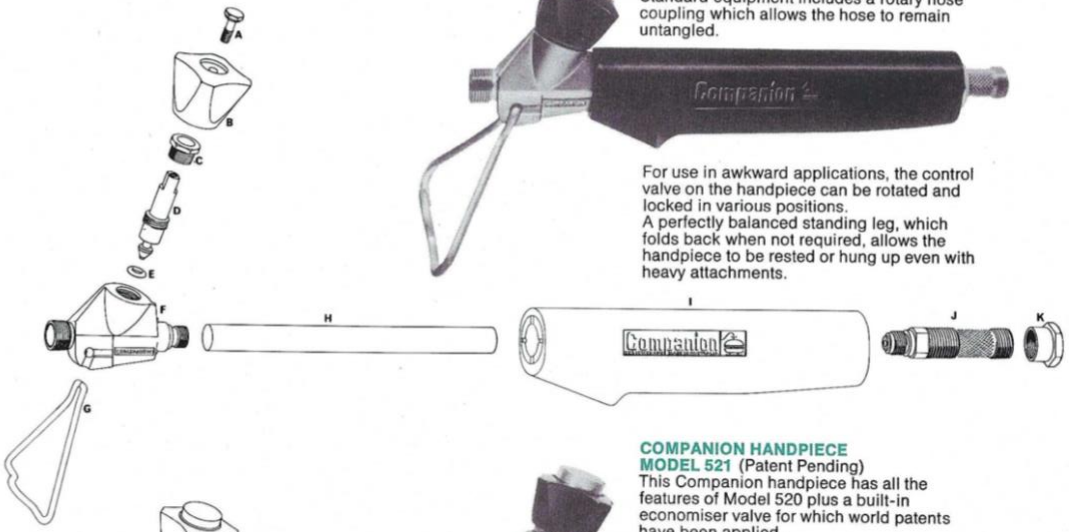
Companion Heaters Pty. Ltd. have been recognised leaders in quality, design, development and service for over a quarter of a century.

This new range of industrial equipment will only add to and enhance this reputation.

COMPANION HANDPIECE MODEL 520 (Registered Design)

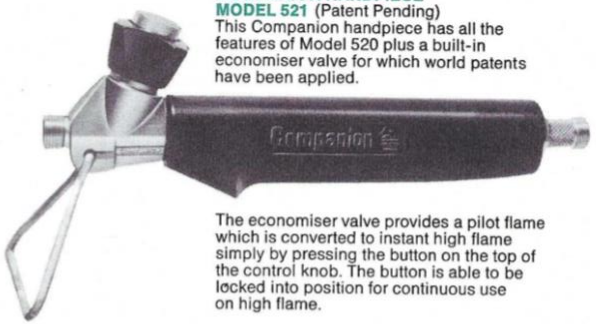
An attractively designed robust handpiece which suits all Companion attachments. The Companion handpiece fits comfortably into the hand and features a conveniently located fine control valve. Complete operation can be effected by one hand, leaving the other hand free.
Standard equipment includes a rotary hose coupling which allows the hose to remain untangled.

For use in awkward applications, the control valve on the handpiece can be rotated and locked in various positions.
A perfectly balanced standing leg, which folds back when not required, allows the handpiece to be rested or hung up even with heavy attachments.

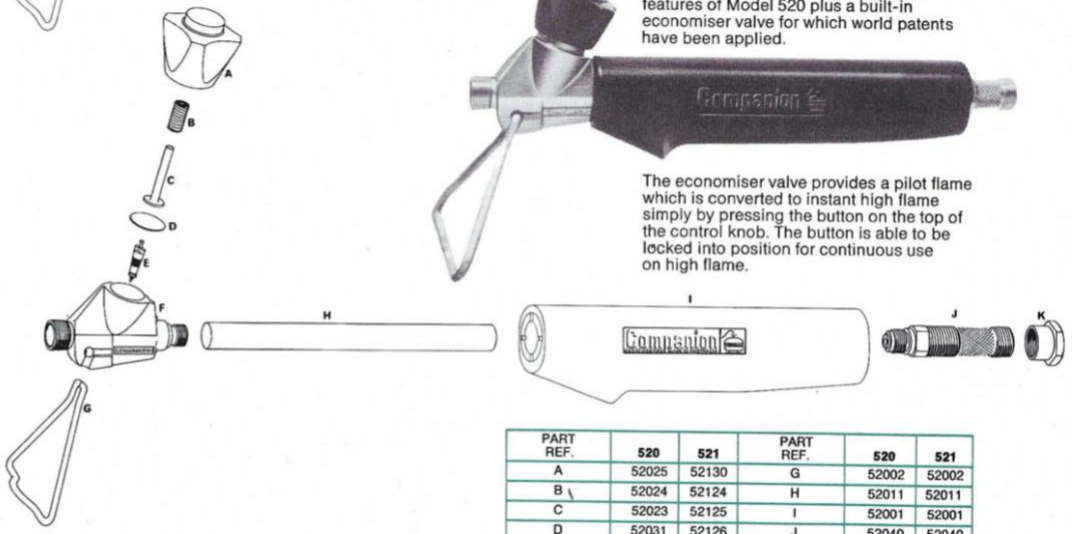


COMPANION HANDPIECE MODEL 521 (Patent Pending)

This Companion handpiece has all the features of Model 520 plus a built-in economiser valve for which world patents have been applied.



The economiser valve provides a pilot flame which is converted to instant high flame simply by pressing the button on the top of the control knob. The button is able to be locked into position for continuous use on high flame.



PART REF.	520	521	PART REF.	520	521
A	52025	52130	G	52002	52002
B	52024	52124	H	52011	52011
C	52023	52125	I	52001	52001
D	52031	52126	J	52040	52040
E	52032	52127	K	52003	52003
F	52022	52122			

Companion

COMPANION SOLDERING IRONS.
Patents Pending.
New Companion soldering irons feature a completely enclosed and storm proof flame. This gives a far greater thermal efficiency than has previously been possible. Because the heat is contained within the stainless steel tube, the handpiece remains cool.

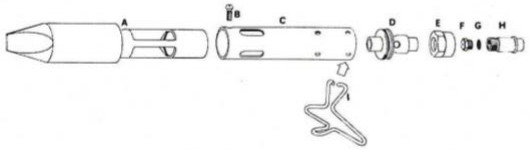
ATTACHMENT 770

The complete soldering iron attachment screws directly onto the Companion handpiece.

602 10 oz. soldering kit. Comprises 520 Companion handpiece and 770 soldering iron attachment.

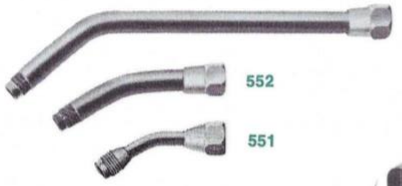
ATTACHMENT 771

603 20 oz. soldering kit. Comprises 520 Companion handpiece and 771 soldering iron attachment which is provided with an extra support leg.

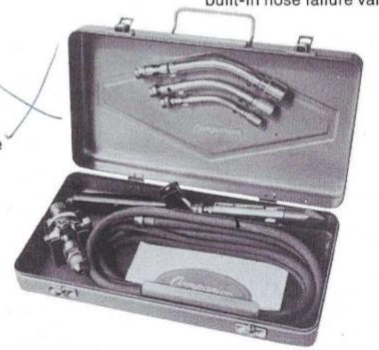


PART REF.	770	771	PART REF.	770	771
A	77010	77120	F	77032	77032
B	77011	77011	G	73733	73733
C	77002	77002	H	77034	77034
D	77001	77001	I	—	77121
E	77003	77003	CONS. OZS/HR AT 40 P.S.I.	5	5

COMPANION SOLDERING IRON ATTACHMENT No. 351
This is a small, convenient attachment with a 3¼ oz. copper bit for use with 450 burner.



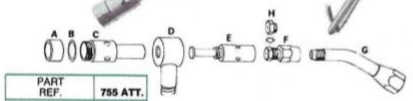
651 PLUMBERS' KIT
In all-metal carrying case. Contains three neck tube burners, 950, 951, 952, new soldering iron No. 602, 12 feet of hose, and a high pressure regulator with built-in hose failure valve.



NECK TUBES Nos. 551, 552 AND 553
A range of neck tubes to suit various applications. All Companion burners 737 - 744 can be attached to any of these neck tubes.

NECK TUBE ADAPTOR No. 55404
To enable old type burners to be used on new neck tubes.

604 COMPANION LEAK DETECTOR
Completely new design. Small, neat and highly efficient.
This extremely sensitive leak detector is used to detect and locate leaks in refrigeration installations. It has a metallic flexible detection tube and can be used on all refrigeration plants employing non-inflammable gases of the halogen type. Comprises 520 handpiece and 775 leak detector attachment.

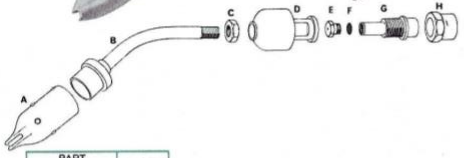


PART REF.	755 ATT.
A	77504
B	77503
C	77502
D	77510
E	73701
F	73730
G	55110
H	73732
CONS. OZS/HR AT 40 P.S.I.	½

654 REFRIGERATION KIT (not illustrated)
Contains 604 leak detector, 6 feet of hose, 3967 cylinder, handpiece number 520 and three neck tube burners — 950, 951, 952.

655 LEAK DETECTOR KIT (not illustrated)
Contains a 3960 cylinder, and 605 leak detector unit, which screws directly onto cylinder.

COMPANION PAINT BURNER 449
The flat flame spreader gives a broad, intense flame which is completely windproof. The flame intensity is able to be regulated enabling controlled use for sensitive and difficult situations.
Comprises 520 handpiece and 441 paint burner attachment.



PART REF.	441 ATT.
A	16573
B	16572
C	16224
D	17309
E	10730
F	73733
G	17307
H	16317
CONS. OZS/HR AT 40 P.S.I.	12

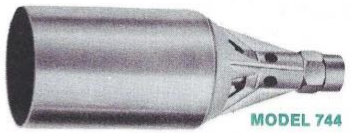
COMPANION BRANDING IRON
For branding boxes, timber, meat etc. Comprising 520 handpiece, 557 neck tube, 941 burner, 65610 brand holder.
Two sizes of brands available 3″ x 2″ or 5″ x 4″ as extras.

A completely new range of industrial burners from Companion

Ahead of anything in its class.

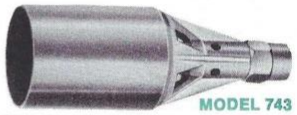
Effective metal to metal seal on Companion burners eliminates the use of lead washers. All Companion burners are designed for peak performance with propane gas supplied at 40 P.S.I. Built-in stability allows operation from 28 to 120 P.S.I. supply pressure.
All burners are available with alternate connection threads to suit old model equipment.
Burners numbered 740 to 744 have stainless steel burner tubes and unique air flow cooling for indefinite life.

PART REF.	744	743	742	741
A	74402	74302	74202	74102
B	74401	74301	74201	74101
C	74432	74332	74232	74132
D	73733	73733	73733	73733
E	74134	74134	74134	74134
BURNER NUT ASSEMBLY	74430	74330	74230	74130
CONSUMPTION OZS/HR 40 P.S.I.	140	70	35	16



MODEL 744

A powerful flame with a great heat output designed for large heating jobs, pipe bending, and industrial applications.



MODEL 743

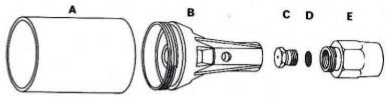
This burner produces a powerful bushy flame and is suitable for heavy work including pipe bending.

MODEL 742

A broad bushy flame. For heavy soldering work, brazing and annealing.

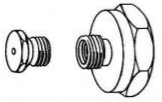
MODEL 741

Gives a broad bushy flame designed for electrical soldering, brazing and annealing work.

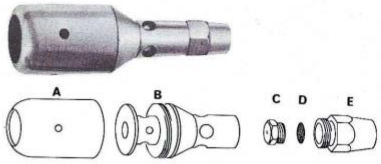


PART REF.	740	739	738	737
A	74002	73902	73802	73702
B	74001	73901	73801	73701
C	74032	73932	73832	73732
D	73733	73733	73733	73733
E	74134	74134	74134	74134
BURNER NUT ASSEMBLY	74030	73930	73830	73730
CONSUMPTION OZS/HR 40 P.S.I.	7½	3	1½	½

A simple operation converts all new Companion burners to fit old equipment.



The nipple is removed from the burner nut and put into a replacement burner nut number 93840.

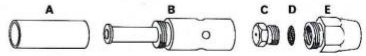


MODEL 740
A completely storm proof burner with a pencil flame. Ideal for outdoor use.

739

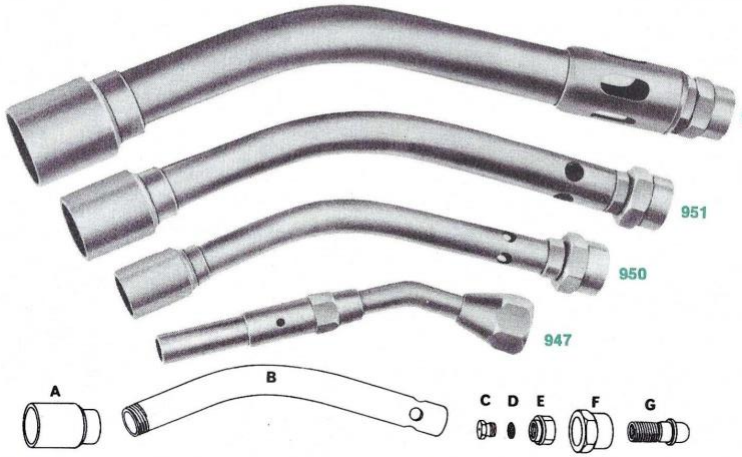
738

737



MODELS 737, 738 AND 739 —
are brass burners with a needle shaped flame. Precision heating for instruments, jewellery and fine soldering work.

Companion burners can be ordered to suit old model supports. The catalogue numbers then change from 737 - 744 to 937 - 944. These are known as the "9" series.



COMPANION NECK TUBE BURNERS
This burner design gives a conical flame shape. Ideal for local heating. For sheltered jobs requiring a powerful and relatively confined flame.

MODEL 952
Most powerful burner in this series. Used for brazing, small tube bending and annealing.

MODEL 951
Can be used for silver and soft soldering jobs, lead wiping etc.

MODEL 950
A small burner for the handyman. Soft soldering and work with plastics.

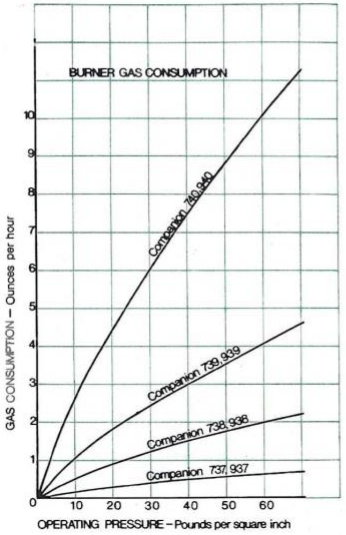
NEEDLE BURNER, MODEL 947
For precision soldering work where a very fine needle flame is necessary. A very important burner for jewellers, dental mechanics, instrument makers etc.

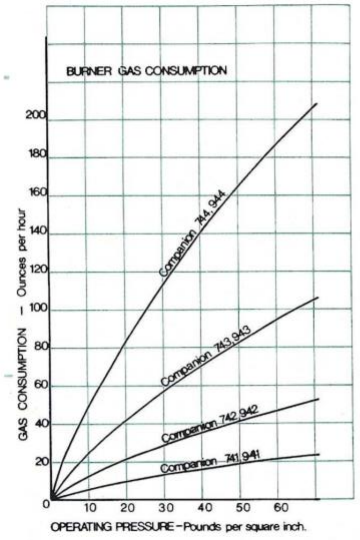
PART REF.	952	951	950	947
A	18676	18666	18658	73702
B	18667	18659	18650	73701
C	10729	16431	13219	73732
D	73733	73733	73733	73733
E	18668	18660	18653	BURNER NUT 73734
F	16317	16317	16317	NECKTUBE 55110
G	18651	18651	18651	
BURNER NUT ASSEMBLY	18670	18662	18654	73730
CONSUMPTION OZS/HR 28 P.S.I.	30	9½	5	½

MODEL 735
Gives a broad coronary flame. Suitable for laboratory purposes and general use. Also available to suit old model burner supports as model 935. Nipple No. 16248.

Companion

GAS CONSUMPTION CHARTS



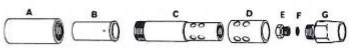


COMPANION HANDPIECE No. 440
Sturdy and comfortable, this handpiece is suitable for light applications and handymen.

BENT NECK TUBE No. 562
To take old model "9" series burners.

STRAIGHT NECK TUBE No. 561
Also designed for old model "9" series burners.

LABORATORY BURNER 642
This is a specially designed Bunsen burner for use with propane at 40 P.S.I. The valve gives precise control of the gas supply and primary air intake is adjusted by an annular sleeve. Comprises 374 burner support and 732 laboratory burner attachment.

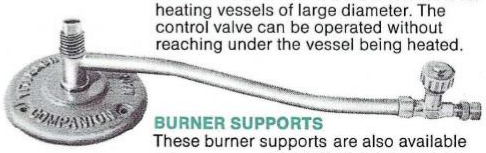


PART REF.	732 ATT.
A	73204
B	73240
C	73201
D	73202
E	16248
F	73733
G	74134
BURNER NUT ASSEMBLY	73230
CONS. OZS/HR AT 40 P.S.I.	4¼

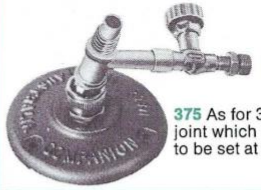
FLAME SHAPER 73220 Circular flame shaper for heating laboratory vessels etc.

73210 FLAT FLAME SHAPER — suitable for bending glass tube.

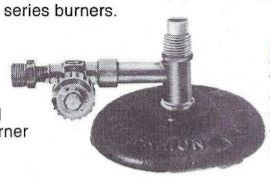
377 Features a control valve situated at some distance from the burner. Ideal for heating vessels of large diameter. The control valve can be operated without reaching under the vessel being heated.



BURNER SUPPORTS
These burner supports are also available to suit "9" series burners.

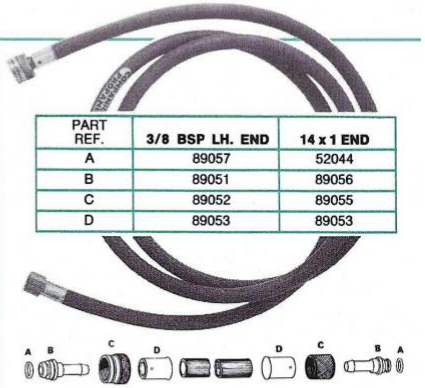


375 As for 374 plus a ball joint which allows the burner to be set at any angle.



374 Specially designed for laboratory purposes. This model can be fitted with a nipple and nut for coupling to copper tubing of ¼" diameter for fixed installations.

376 Ideal for fixed mounting purposes and where individual control of the burners is necessary.
Can also be fitted to ¼" O.D. copper pipe or Companion hose.



PART REF.	3/8 BSP LH. END	14 x 1 END
A	89057	52044
B	89051	89056
C	89052	89055
D	89053	89053

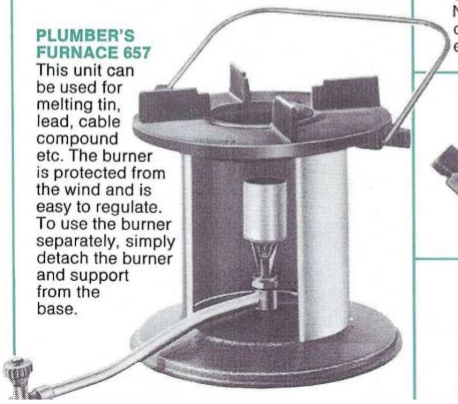
HOSE
Fully tested to 400 P.S.I. High pressure double braided hose of propane and cold-resistant synthetic rubber. Complete with couplings for connecting burner supports to gas outlet. New spannerless connections. Convenient and quick hand tightening. Fits all Companion equipment, new and old. All lengths available.

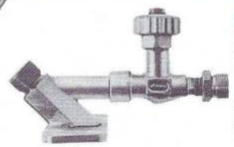
HIGH PRESSURE REGULATORS
Available with or without hose failure valves.
Regulates gas pressure between 28-56 lbs. P.S.I.

No. 19642 ⅜ BSP L.H. Inlet ⅜ BSP L.H. Outlet
With built-in hose failure valve and release button.
No. 19645 P.O.L. Inlet ⅜ BSP L.H. Outlet
With built-in hose failure valve and release button.
No. 16042 ⅜ BSP L.H. Inlet ⅜ BSP L.H. Outlet
No. 16045 P.O.L. Inlet ⅜ BSP L.H. Outlet

HOSE FAILURE VALVES
Automatically cut off gas supply in the event of hose failure.
No. 19282 ⅜ BSP L.H. Inlet ⅜ BSP L.H. Outlet
No. 19285 P.O.L. Inlet ⅜ BSP L.H. Outlet

PLUMBER'S FURNACE 657
This unit can be used for melting tin, lead, cable compound etc. The burner is protected from the wind and is easy to regulate. To use the burner separately, simply detach the burner and support from the base.





BENCH VALVE 110
Used for fixed installations.
¼" copper pipe runs to valve and Companion hose from outlet.
Polished brass.

RIGID FILLING ARM 485
Designed for filling Companion cylinders from large cylinders.

COMPANION GAS CYLINDERS

COMPANION GAS CYLINDER 3960 — ¾ lb. capacity.

COMPANION GAS CYLINDER 3962 — 1⅜ lb. capacity.

COMPANION GAS CYLINDER 3967 — 2¼ lb. capacity.

COMPANION GAS CYLINDER 3965 — 4⅜ lb. capacity.

Companion cylinders are manufactured from special heavy gauge drawn steel plate. All Companion cylinders are made and fully tested to comply with the highest requirements of the Standard Association of Australia and overseas specifications.

PROTECTION COLLAR
All Companion cylinders, with the exception of cylinder 3960, can be supplied with protection collars fitted. For use in heavy industrial applications.
Each cylinder comes complete with carrying handle.
4962 1⅜ lb. capacity
4967 2¼ lb. capacity
4965 4⅜ lb. capacity

ADAPTORS AND FITTINGS

Part No.	Thread	Purpose
101	P.O.L. — ⅜ BSP LH Male Right Angle	Enables Comp. equipment to run from large cylinders (10 lb. and over).
104	P.O.L. — ⅜ BSP LH Male Straight	Enables Comp. equipment to run from large cylinders (10 lb. and over).
55404	Metric 12 x 1 F— Metric 20 x 1 Male	For connecting old model burners to new neck tubes.
55600	⅛ BSP Male — Metric 12 x 1 Male	For connecting "7" series burners to piping etc.
55611	Metric 14 x 1 Male — ⅜ BSP LH Male	Connecting two lengths of Comp. hose.
55616	⅛ BSP Female — 14 x 1 Male	Connecting Comp. hoses to control valves.
55639	⅛ BSP Male — 14 x 1 Male	Connecting neck tubes to econ. valve (old model).
55650	20 x 1 Female — 14 x 1 Male (Metric)	Fits old model handpieces to enable use of 950 series of burners.
55669	⅛ BSP Male — ⅜ BSP LH Male	Connecting lamps or hoses to piping.
55679	⅛ BSP Male — 20 x 1 Male	Connecting "9" series burners to piping.

T. PIECE

Part No.		
55607	⅜ BSP LH Female — ⅜ BSP LH Male	Enables two hoses to run from one Comp. cylinder.

HOSE CLIP CLAMPS

No.	
150	To efficiently crimp hose clips No. 17401 without damage.

COMPANION CONTROL VALVES

No.	Inlet	Outlet
16114	⅛ BSP Male	⅛ BSP Female
16115	⅛ BSP Male	14 x 1 Male
16139	⅛ BSP Male	⅜ BSP LH Male

Companion

Availability of equipment, general conditions of distribution and other information, may be obtained from the Marketing Division, Companion Heaters Pty. Ltd., P.O. Box 251, Box Hill, Victoria 3128, Australia.

IND. 1. April, 69

If you have some rare instruction sheets, or 'novel' tools why not tell us about them?

Send details to secretary@tttg.org.au

More Sidchrome Gold

by The Editor

Sidchrome ‘gold’ tools are not just relics of the past; they are even made to order.

Our favourite on-line seller, eBay, had a new Sidchrome 36 / 41 x 450mm ratchet podger bar on sale for just AU$499.00 plus postage. It was listed as “Special Order” citing model number SCMTRH3641.

The Sidchrome Australia on-line catalogue lists this tool as being available in 10 sizes. The 36 x 41 mm size being the largest. And yes, that is a ‘large’ tool to be sure. Maybe the smaller 10 x 12 mm ratchet podger would be a better fit for your toolbox and pocket.

So don’t wait for this one to become a collectable. Jump in now before the price goes up. Heck, why not buy all 10 sizes? They come in any colour you want, as long as it is black.

Remember, as always, it pays to shop around for a better price.

Blackwoods sell the 36 x 41 mm for just AU$208.96 including GST.

I will let that one sink in. Happy tool hunting.

JDs – For A Moment, I thought it was a Sargent

by John Daniel

I have always been intrigued by 'user-made tools,' *foreign orders* and the like, made during lunch breaks running into work hours in places of employment; not overlooking the tools made during the depression years when times were hard and money was scarce.

Over the years many examples of these non-factory-made tools have passed through my hands; for this article, I'll focus on combination planes that were likely made in the 1950's, coinciding with the influx of skilled European migrants who arrived to fill the shortages of skilled and semi-skilled workers in housing, manufacturing, and general infrastructure where there was a sense of prosperity in the post second world war period.

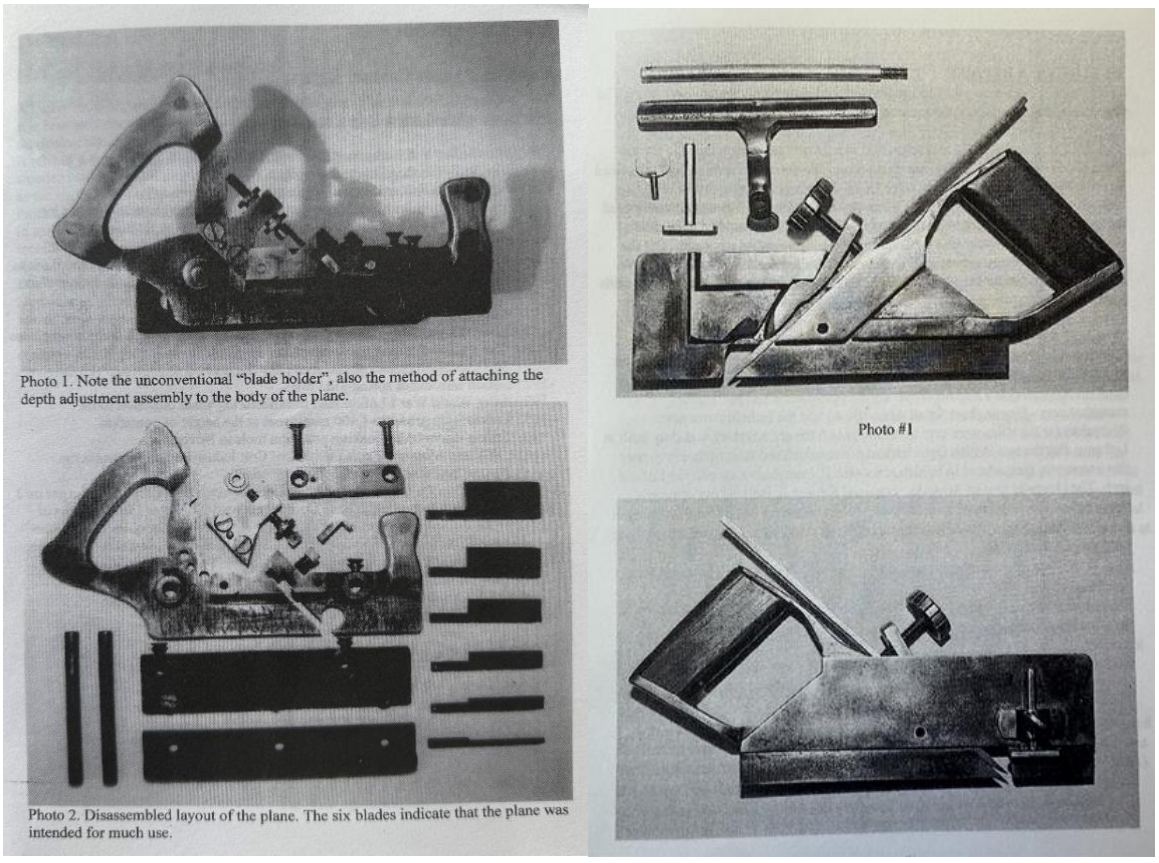


Photo 1. Note the unconventional "blade holder", also the method of attaching the depth adjustment assembly to the body of the plane.

Photo 2. Disassembled layout of the plane. The six blades indicate that the plane was intended for much use.

Photo #1

Such planes illustrated in TTTG's Newsletter No.68 and No.72

In TTTG's Newsletter No 68, 2002, titled, **"Most definitely Australian made,**" I stated, *"We see many examples of user-made tools with a close resemblance to some commercially manufactured examples. Occasionally we come across something a little unique, perhaps not unique in its purpose but certainly in its design and construction…*In the example I observed that, "*This plane, no doubt, was the brain-child of a person with an appreciation of good design an understanding of metal fabrication. The overall design is simple and basic,*

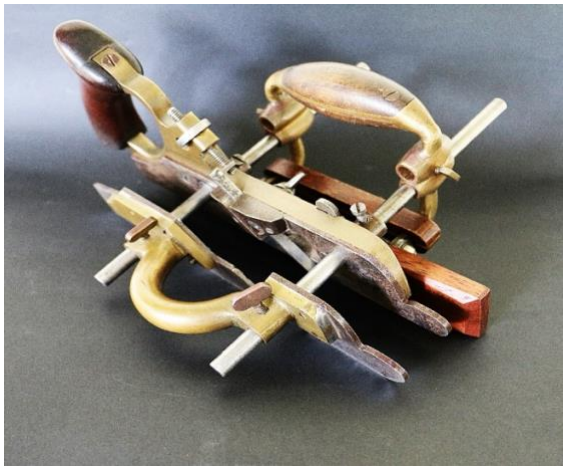
with function and assembly the main concern. There are no unnecessary embellishments, rather the line and balance of the tool is enough to gain user acceptance; in other words, the tool looks the part and conveys that it can do the job."

In Newsletter 72, August 2003, "**A Tradesman's integrity,"** I stated, *"The maker of this plane may not have had an eye for design; however, he understood function and had a Fitter's approach to achieving his goal. It may not win a design award; it is a work of art and is the result of innovative thinking."*

Only recently a friend handed me a nicely crafted box with the remark," I would like to pass this plane on to someone who would appreciate it…I feel that you would know that someone." Fortunately, I did know someone, however, before 'passing it on,' I feel it is worthy of a mention, adding it to my thoughts expressed in the two previous articles, using it as the third in this co-incidental 'trilogy' of these survivors.

The first thought that came to mind on opening the box was that it was a gunmetal Sargent; maybe it was the hand-grip on the fence that distracted me; once taken out of the box, it was obvious that it was a one-off non-factory-made plane.

Once out of the box, surprisingly, the plane was quite heavy, though little wonder as the body was hand-made from solid half-inch thick plate brass fitted with a thick steel skate (materials possibly sourced from the factory scrap bin) and wood-faced solid brass fences sliding on heavy steel rods…this plough plane was made to last!






Fortunately, this generous request of *'finding someone that would appreciate it'* has now been fulfilled and is in the care of a *fellow conservator* who, coincidentally, is the care-taker of the other two planes; now the proud owner of these three planes; a *trilogy* with a happy ending. *JD*

G15 FERRO PAK RUST PREVENTATIVE

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G15 – provides long-term corrosion resistance

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- Is thixotropic and therefore will not sag, run-off and is ideal for clean trouble-free application. G15 holds on sharp edges.
- Is resistant to sunlight. It has been tested for exterior exposure under adverse conditions and has passed such long-term tests without failure.
- Does not stain metal surfaces. When used over steel, copper, aluminium, and their alloys; the coating does not stain under normal conditions of exposure.
- Has good water displacing properties.
- Can be used as a general-purpose lubricant.

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ON SALE AT ALL MEETINGS AND TOOL SALES

Notes on Restoring a Plane

by Vic Williams (TTTG and HTPSWA)

Among tools auctioned by the Hand Tool Preservation Society of Western Australia from the estate of former HTPSWA Chairman, and founding member, the late Bob Shoosmith, was a derelict rusty Spiers infill plane.

It would have attracted a lot of interest except for some major damage to its rear, where a long past former owner had cut away a section of wood in a most unprofessional and unattractive manner.

Figure 1. Plane as found - plenty of surface rust - minor minor damage

Figure 2. Major damage at ear of lane.

I could, and perhaps should have avoided it, but I am a sucker for a challenge, so I bid for it with little opposition and won. It was not at all clear to me how to deal with the plane. This is indeed a challenging restoration job.

1.1 To Restore or Not?

I do not want to imply that restoration is always the best thing to do. Hand tool enthusiasts hold a wide range of views; from people who happily repaint black japanning, or polish with Brasso, to people who oppose ANY changes being made. Then there are pure collectors, and people who decry perfectly good tools being put on a shelf and not used as originally intended. We as members need to respect such views, some of which can be held with a great deal of passion.

If you are thinking about restoring a tool, you would do well to be aware that there will not be universal agreement that it is the correct thing to do. The decision to restore is not one to take lightly.

I far prefer not to restore or repair tools, but I see little choice in this case. The plane will likely end up in a skip if no-one recovers it, so I am not compromising a valuable bit of heritage.

1.2 Exploratory Surgery

At this stage, the main task was to explore the situation as fully as necessary to reach an informed decision on the best way forward.

Before we go further, a note about how these planes were originally built is appropriate.

If you have ever considered making your own infill smoothing plane you will have come up against the difficulty of shaping and fitting the rear infill. It is an odd-shaped part with very few reference surfaces to measure from.

The commercial makers, Spiers, Mathieson, Preston and probably Norris all made this job easier by building the rear infill of their smoothing planes in two pieces (see Fig 3):

- A lower section with its top surface flush with the tops of the metal sides of the plane, and
- A top section glued to it that extends over the metal sides to be flush with the outer plane surfaces. If you look closely at any of these planes you will see the join by sighting down the blade bed, or at the rear, where you might see an abrupt change in grain pattern instead.

Figure 3: The rear infill made of two pieces of rosewood glued together

Close inspection revealed the top part of the infill to be slightly misaligned, in a way that would have prevented the plane working properly. With this being the case, it was necessary to separate the two parts of the rear infill. This was achieved by tapping a carefully placed chisel, to reveal the original joint surface with its toothing marks and animal glue bond.

I learned something new about the original construction after doing this. The top infill has thin rosewood fillets glued to its sides. This is how the outer wood surfaces were made flush with the metal sides of the plane. The fillets are cut from the same bit of rosewood as the central bit. They are fitted so neatly that the joins are not detectable on the dressed outer faces.

Figure 4: Showing side fillets glued to main part of rear infill

Having explored the situation in sufficient depth it was time to set the job aside and carefully think about the next step.

2.1 Cleaning the Metal Sides

With the plane disassembled as far as it is going to be (see Part 1), this is the best time to tackle the metal parts of the plane.

The orange live rust was wire-brushed away to reveal shallow rust pits surrounded by unattractive dark blotches amid patches of clean metal.

This is not great news because anything done to remedy the situation will irreversibly alter the surface.

Avoid this step if you can, but I draw-filed the sides until most rust pits disappeared, then used abrasive cloth down to 400 grit, to reduce the inevitable scratch marks. I used various holding methods to keep the scratches parallel to the sole and cleaned the file frequently with a file card to reduce the risk of pinned bits of steel cutting deep scratches. The steel ends up brighter than I am happy with and has coarser tooling marks than were originally present, but my experience is that these settle down over time.

I treated the sole similarly but left more rust pits than on the sides for fear of widening the mouth by taking too much metal off the sole.

This might be controversial, but I find draw-filing to be the most accurate (low capital) way to flatten a plane's sole to the standard needed for high performance planes. Sanding as suggested by the books may be simpler but is prone to rounding the sole in my experience. Although draw-filing leaves deep scratches on the sole, careful finer abrasion can make smooth flat areas between the scratches, achieving a suitably flat and smooth surface overall.

Figure 5: Cleaned gunmetal lever and blade

2.2 Cleaning the Blade Assembly

The parallel blade (or iron) is made by fellow Scottish maker, Mathieson, and has an early serrated-border brand mark consistent with the early age of the plane itself. It is a composite of soft iron forge-welded to a tool-steel cutting edge. The soft iron part of the blade has a rough stippled surface with areas of dark oxide scale.

These must be original features acquired from the blacksmith's forge. In view of this I did little more than to wire brush the orange rust away. I doubt these early blades were ever bright metal, except at the cutting edge.

2.3 Cleaning the Gunmetal Lever

My observations of well-preserved gunmetal screw-levers suggest their front faces were originally dressed sufficient to remove all tooling marks, before being coated by French-polish. Often the metal and polish have mellowed to give an attractive warm gold colour. This cannot be replicated successfully as you cannot abrade away all the little dents and scratches with their oxidised bottoms that the tool has acquired over its life. Polishing them as is would look like an amateur job.

The screw-lever had a few speckles of original polish surrounded by unattractive oxide patches in some parts and abraded scratched metal in other parts. I went for the minimum cleaning needed to make a more even surface. I used a worn bit of Scotch Pad with a salt and vinegar mixture which works well on brass and gunmetal and does not leave an unduly

bright polished surface. One note of caution; salt and vinegar will be highly corrosive on the adjacent steel parts, so neutralise it with baking soda and wash & dry the area thoroughly. A final burnish with 0000 grade steel wool softened the finish.

3.1 Repairing the Rear infill

The top part of the rear infill was the most difficult part of the job, as it had a missing chunk sawn off by a previous owner. I cleaned the sawn rear face and planed it flat. Then I replaced the missing chunk of wood in four steps. First was a rosewood core fixed to the original piece with a sliding dovetail joint (see Fig 6). It extends to the back of the plane but does not extend to the top or sides. I then carefully fitted chamfered fillets to the top and sides of that core (Fig 7). The chamfered joins are much tighter than the end-to-end-grain joint in the core piece.

Figure 6: Sliding Dovetail Core attached to Rosewood core.

Figure 7: Chamfered fillets

As the top and bottom halves of the infill were originally held together with animal glue, I used similar glue to reattach them.

This unhandled plane model presents a simple shaping job. There are enough photographs of similar planes on dealer websites to give a clear picture of the correct shape to copy. The vertical rear face of the plane is simply curved to the same profile as the curved heel of the steel sole. The radiused top edges are then continued around the back of the plane. These were achieved by sawing, rasping, and sanding to shape.

3.2 You Cannot Get Rosewood Any More

Prior to the Second World War the commercial plane makers, Spiers, Mathieson, Preston, and Norris, mostly used Brazilian Rosewood for their planes, as did most tool manufacturers in general.

Since then, Brazilian Rosewood has become an endangered species and was protected by the UN Convention on International Trade in Endangered Species (CITES) in 1992. Most countries prohibit export or import of rosewood blanks and manufactured items because of this protected status.

I used Indian Rosewood for this repair, having bought a few pieces from a Sydney specialty wood supplier many years ago. I do not have enough left to do many more repairs like this.

Indian Rosewood and all other rosewood species were afforded CITES protection in 2017.

You will not be able to get rosewood for repairs like this in future.

4.1 Finishing.

I avoid refinishing if possible.

My preferred approach is to clean wood parts with one of the many cleaning mixtures available. I have used this one for many years: 3parts turpentine, 3-parts raw linseed oil, 3-parts vinegar, and 1-part methylated spirits. I got this recipe from an article in HTPAA's Toolchest journal. There are similar recipes published in various furniture restoration books. Rub this mixture on and off with rags. Then remove stubborn spots of house paint etc. with fingernails and harder implements as needed.

Even if the resulting surface does not look to have any preserved
French-polish, it is worth trying this next step. It is an old Frenchpolishers' method for rejuvenating polished surfaces. It was first described to me by Ray Bellinger who used to give French-polishing talks at the Perth Wood Shows.

Thoroughly mix 2-parts raw linseed oil with 1-part methylated spirits. You only need a few drops of this mixture for a typical hand tool but be absolutely certain to have more oil than methylated spirits. Sparingly rub this on the wood with your fingers until the surface feels very slightly tacky. Then rub off with a clean cloth. This can brighten polish you did not think was there. Any polish you could see beforehand, will look brilliant after this treatment. The method does not add any new polish and does no harm to the patina of scratches and dents on old tools. I have found this to work wonders on japanned metal surfaces also.

For the present project, the repairs necessarily left bare wood, so the above methods are not applicable.

Up until about the 1930's commercially made infill planes were French-polished. Later Norris planes are finished with some sort of varnish, similar to our modern polyurethane finishes.

The trouble with refinishing is that unless you sand so deep that you risk compromising the shape of the work piece, you still have dents, scratches etc that form part of the aged patina. Shellac or varnish sink into these depressions. Each little indentation ends up with shiny edges that are the hallmarks of an amateur refinishing job.

I solve this by filling the dents with hard stopping-wax before applying the first coats of shellac. This is a conventional French polishing technique. Once the French-polish is fully cured, you can either leave the filled dents or pick the wax out of them with a none-too-sharp awl. This leaves the dents and scratches unpolished, more in keeping with their original state.

With only a few bits of rosewood to choose from, I could not get a really good colour match between new and old wood. Application of wood stain prior to polishing partly corrected this, and addition of spirit-based stain during the skinning stage of the French-polishing process further reduced the visual impact of the new pieces.

The repaired surfaces look too new for my liking and lack any patina. This was always going to be the case; however, I prefer to leave them like this rather than attempt to forge an artificial patina.

4.2 The End of the Journey

After tuning up the blade assembly, properly mating the cap iron to the blade, and bedding it solidly on the blade bed, the plane now works superbly.

Figure 8. The Completed Plane Cutting Fine Shavings

This project has transformed the plane from an ugly duckling that attracted little interest, and did not work properly, to a presentable, fully operational item. The repair joints are very tight but are still visible to anyone who looks closely, and the market devalues repaired items. Nonetheless this work must have added value to the plane somehow. I am under no illusions that the days I spent on it can ever be reflected in the value of the plane, but that was never my purpose.

This has been about skill, historical knowledge, learning, and *their* preservation, values that go way beyond the object itself.

Or I could have avoided buying the plane in the first place.

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TTTG Sharp Oil (back in stock) …

$6 per bottle or 2 bottles for $10

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John Bates secretary@tttg.org.au

TTTG Members Meeting & AUCTIONS

Old Eastwood Town Hall, 74 Agincourt Road, Marsfield, NSW

Members Meetings (open to all) are held on the second Tuesday in:
February, April, June, August, October, and December

TTTG Auctions surplus tools – bargains galore!
Braces, hammers, saws, spanners, pliers, auger bits, and more.

WHY DO WE HAVE TOOL AUCTIONS? WELL, WE HAVE TO PAY THE BILLS SOMEHOW! SO PLEASE BID GENEROUSLY

For event details and news items see the NEW TTTG website
www.tttg.org.au