

THE **GABRO**[®] HAND OPERATED, DEEP THROATED COMBINED APERTURE - GUILLOTINE & HOLE PUNCHER

TWO MODELS:- AC450 WITH 450mm THROAT & AC750 WITH 750mm THROAT

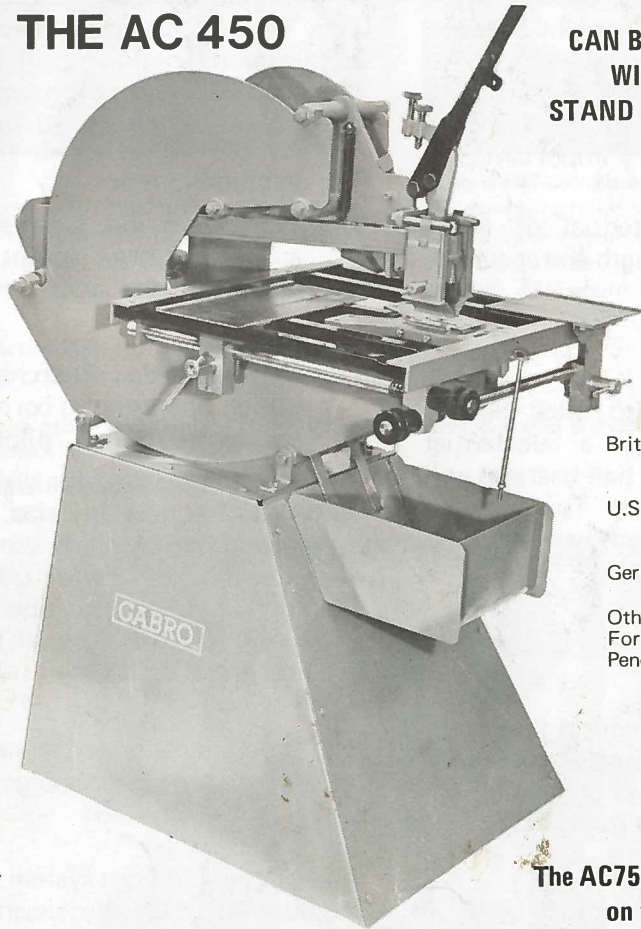
This brochure is designed to impart as much information as possible. Many details of design and procedures are illustrated to be of assistance both to an intending purchaser and to a user. For this reason a copy is included with the Instructions sent with each machine.

IMPORTANT NOTICE. Since this Brochure was printed, the scope of these machines and the tooling available has been much increased. Information on this has been incorporated in the SUPPLEMENTARY INFORMATION & PRICE LIST herewith. The more important changes and Sheet numbers are listed below.

- | | | | |
|---|-----|--|----------|
| (a) Now four types of Bolster & set up | I | (e) Round, sheared Punches for heavier gauges | V |
| (b) Punch Holders now fitted with springs for retracting Pilot Pins | III | (f) Tools for rectangular openings, square or radiused ends & radiused corners | VI & VII |
| (c) Capacities on page 11 re-rated | X | (g) Turret for quick change small Dies | VIII |
| (d) Capacity of Louvre Tool increased | IX | (h) Tools for "D" & "DD" holes & specials | VIII & X |

THE AC 450

CAN BE SUPPLIED
WITHOUT THE
STAND FOR BENCH
MOUNTING



British Patent Nos.
1391496
1415457
U.S. Patent Nos.
3851553
3996831
German Patent No.
7334307
Other British &
Foreign Patents
Pending.

The AC750 is illustrated
on the Back Page

AN ALL BRITISH PRODUCTION

MADE IN ENGLAND BY

GALE BROS. (Engineers) LIMITED

Weatherhill Works, Hathersham Close, Smallfield, Horley, Surrey RH6 9JE, England Tel: Smallfield 2157

THE GABRO[®] SOLUTION TO AN OLD PROBLEM

These self-contained GABRO machines are specifically designed for cutting openings and punching holes in almost any of the wide range of sheet materials now used throughout industry, commerce, art and education. A list of materials and capacities is given on page 11.

The quality and great variety of work that can be performed on them has never before been possible on one machine, or, in respect of some operations on anything except special purpose equipment.

They were conceived from an awareness of a practical need, and incorporate innovations of design and operation which make them quite unique.

They are designed and built in accordance with well established engineering practice, and prototypes have been subjected to at least 5 years workshop use.

TECHNICAL INFORMATION

1. Heavy and expensively machined castings, often considered necessary to maintain alignment between the punch and the die, have been abandoned in favour of a much less costly triangulated steel structure so contrived that deformation due to applied load cannot cause misalignment at this very important part of the machine.

The development of the full potential of these machines is due to the consistent strength and accuracy made possible by this unique design.

2. The punch or blade (sometimes also called the Top Tool) is mounted at the apex of a substantial triangular member pivoted on loaded ball bearings and constrained to move in a tightly held arc. This provides the "progressive blanking" action which has proved so successful on the well-known Gabro Guillotine/Notchers.

3. Excellent stripping of the workpiece from the punch is provided for by a range of clip-on pivoting strippers which have interchangeable feet and are adjustable for clearance over the workpiece. Purpose made feet can be provided for special applications.

4. The dies are mounted on bolsters fitted with hardened location plates which are easily set and ensure exact re-alignment between punch & die whenever tools or set-ups are changed.

5. The **dual nature** of the machines is a vital asset. They are built to accept **two distinct types** of punch & die combination, both fitting accurately and interchangeably into the machine, and either providing a complete self-contained unit.

The combinations are:—

(a) Flat blades with steep shear and with or without a "parrot's beak" point, operating in four sided adjustable dies, and

(b) a range of circular punches supplied with removable and interchangeable types of centre pilots, operating in corresponding dies. **Location by centre-punch, pilot or guide (fence).**

The first can be used for slots, rectangles and circular openings of almost any size, the second for standard holes, and the combined use of both for the cutting of a limitless variety of other sizes and shapes of opening. Changes from one to the other takes only a few minutes, also, special tools can be made where circumstances justify their use.

6. Compound guides (or fences) provide a ready means of locating holes or openings with little or no marking out.

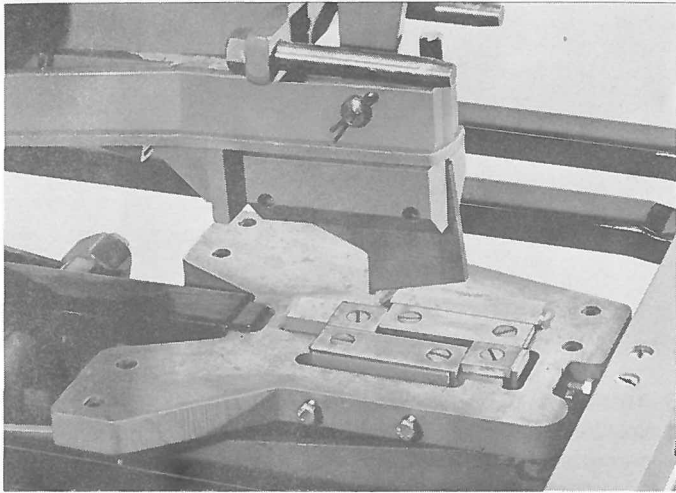
7. A well thought-out system of manufacture achieves absolute accuracy by assembly techniques making over-reliance on high-precision unnecessary. The very nature of the system provides a permanent built-in adjustment facility for easy maintenance and also for the simple restoration of punch & die alignment should the need arise. It also ensures that spare parts will fit.

THE IMPORTANT AND VALUABLE INNOVATIONS OUTLINED ABOVE ARE PROTECTED BY A NUMBER OF BRITISH AND FOREIGN PATENTS BOTH GRANTED AND PENDING.

THE TWO TYPES OF PUNCH & DIE COMBINATION WHICH ESTABLISH THE DUAL NATURE OF THE MACHINE —SET-UPS 1 AND 2 BELOW

WORK-STRIPPING

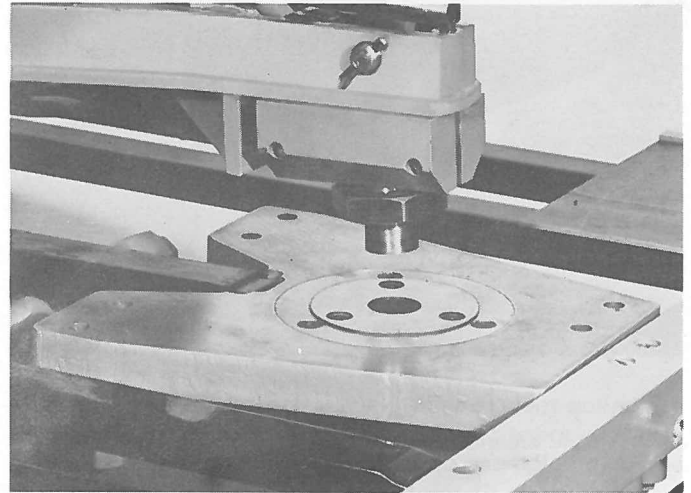
This important operation is achieved by a range of clip-on strippers with interchangeable feet and height adjustment. They appear in other illustrations but are omitted here for reasons of clarity. (Pat. App. for)



1. As an Aperture-Guillotine.

Fitted with a 50 x 6mm blade (with "parrot's beak" point) and four-piece adjustable die on type "A" bolster. One stroke cuts a slot 50 x 6mm. Longer slots are cut by successive strokes and shorter ones as at 11. Other sizes of blade are available as at 26.

This type of blade, used according to Instruction Sheets, provides the maximum capacity, i.e. 3mm Mild Steel.

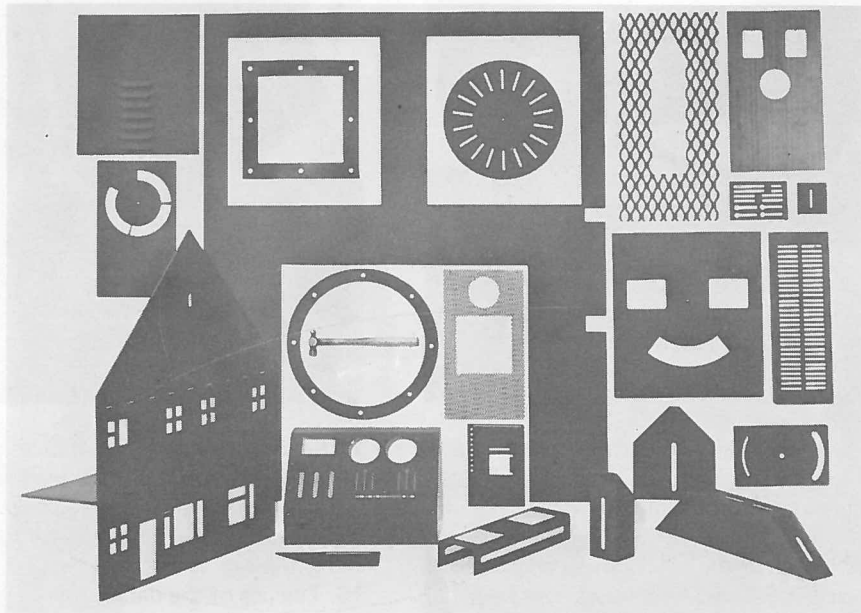


2. As a self-contained punching machine.

For punching holes up to 75mm dia. All but very small punches have interchangeable pilot pins. Dies fit type "B" bolsters and punches & dies align automatically after initial setting of bolster as at 6. Maximum diameter 75mm., minimum about 3mm. See Table on page 11 for capacities in materials, and thicknesses.

Changing from one set-up to the other takes only a few minutes. Pictures 4, 5 and 6 show how this valuable feature is achieved with tool re-alignment guaranteed.

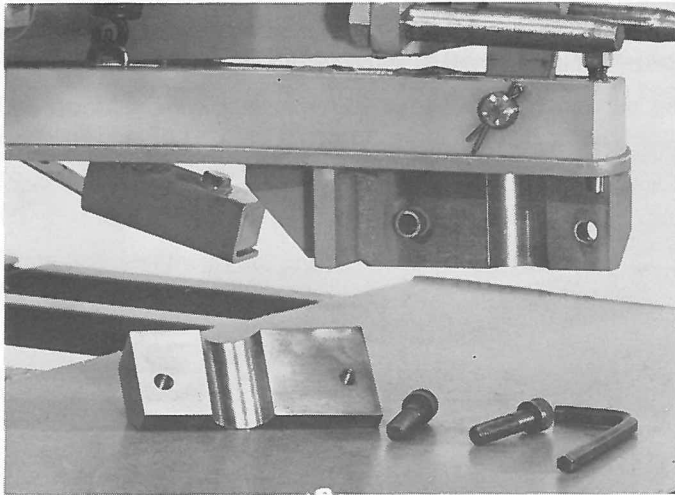
N.B. Either set-up provides a machine complete in by itself.



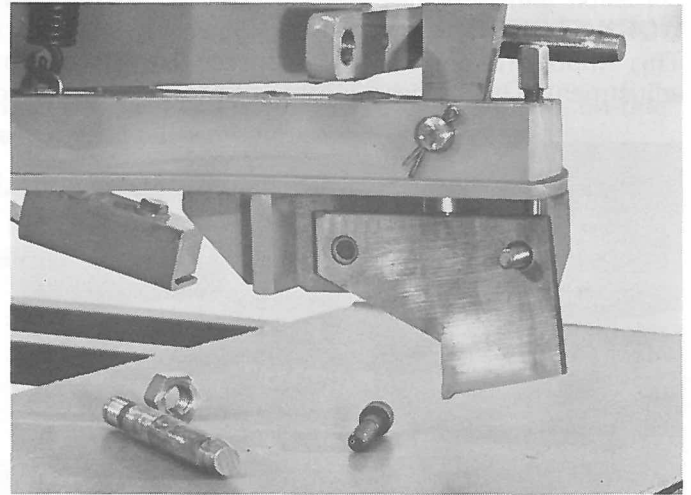
3. All the shapes and holes in the group above were made with the AC450

Pictures on the following pages help to explain how the above items were made using either one or both of the set-ups. For example, the square rubber gasket was shaped with No. 1 set-up and the holes punched with No. 2. The openings in the Formica (top right) were made with No. 2 set-up to punch the round hole and the rounded corners, and No. 1 set-up to complete the rectangles. Similarly the key-hole and rounded-end slots needed both set-ups. Special tools were used for the slots in the saw-guard (bottom right), made in quantity. The end of the doll's house (3mm hardboard) was made almost entirely with No. 1 set-up using a 25 x 3mm blade, which makes a convenient size mortice for jointing this material. The large panel is 1.25m x .68m x 1.5mm Mild Steel and needed only No. 1 set-up. For such cuts as the top of the wide gap, the AC450 can reach to the centre of a sheet .98m wide and the AC750 to the centre of a sheet 1.6m wide.

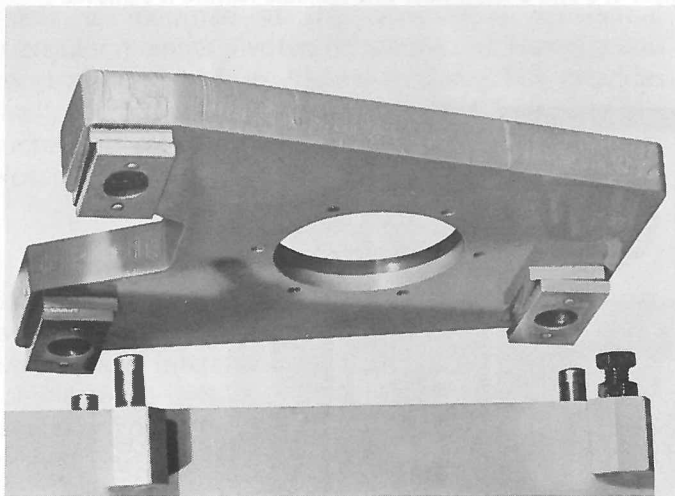
PICTURES 4, 5 & 6 BELOW ILLUSTRATE THE KEY FACTORS WHICH ENSURE THE TRULY EXCELLENT ALIGNMENT & RE-ALIGNMENT OF TOOLS, HOWEVER OFTEN CHANGED



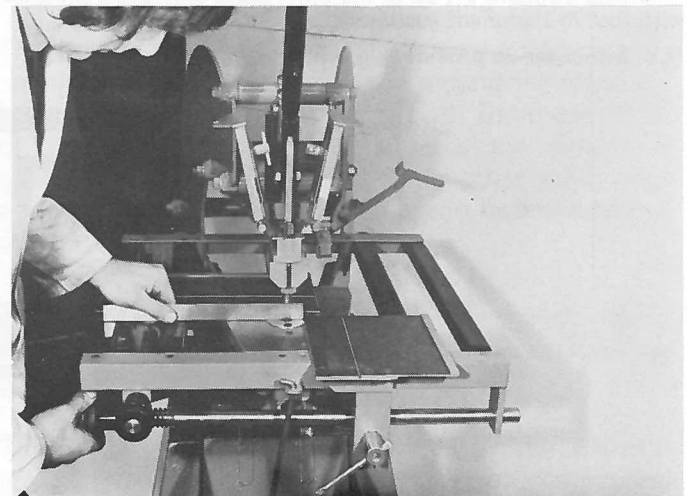
4. The top tool clamping block is designed to take either flat blades or spigot type punch holders shown at 27. The blades have two holes, one of which is an exact fit on the protruding bush at the left of the fixed block. The other provides large clearance for the front clamping screw to allow a small amount of adjustment for the purpose explained at 5. The split bore ensures exact positioning of punch holders. It sets square-ground punches at 2° to provide "shear".



5. This shows how the top of the front end of the blade abuts against a vertical adjusting screw. Turning movement of the blade is permitted by the large clearance hole mentioned at 4. This arrangement gives fine adjustment for correct clearance between the back of the blade and the die, whilst correct clearance at the front of the blade is controlled by adjustment of the die itself.

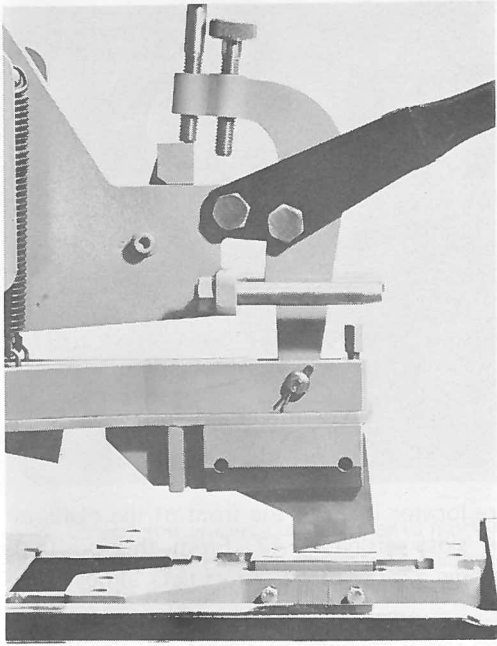


6. Bolsters are provided with three ground locating plates which fit exactly on three hardened pegs. They are adjustably secured to the underside by secondary clamping plates with two screws to each pair, tightened from the upper surface. With the bolster in place and the screws loosened the tools can be aligned, and after the screws have been re-tightened, the bolster can be lifted off and replaced repeatedly in perfect alignment. The fourth corner rests on an adjustable stool to prevent rocking.



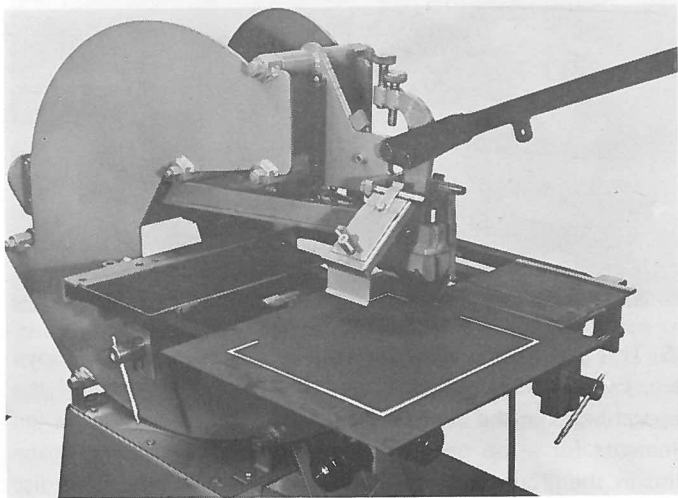
7. Rear and side guides (fences) are fitted, each with quick release for rough positioning and micro-adjustment for fine setting. Front edges carry datum marks, and can be adjusted endwise to bring the marks into position relative to the tools. Here, the fences are being set for punching the corner holes at 16. The use of the datum mark is shown at 17.

THE PICTURES ON THIS PAGE PROVIDE AN INTRODUCTION TO THE ALMOST LIMITLESS SCOPE OF THESE VERSATILE MACHINES.

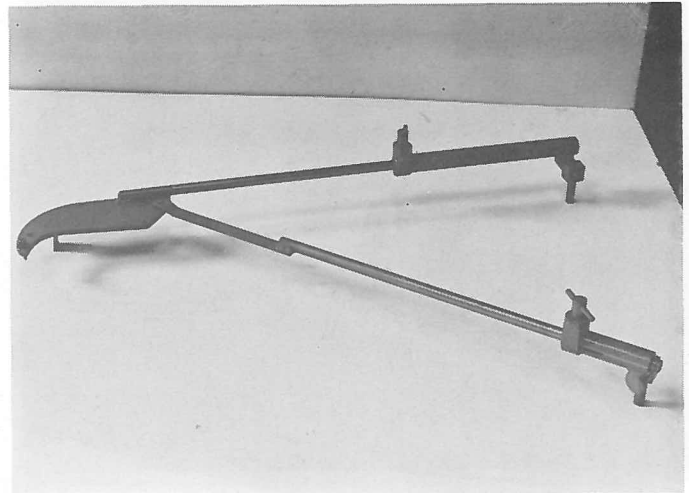


8. The depth of entry blades and punches into the dies is controlled by the two knurled stop screws shown here. The block on which the longer screw abuts is pivoted. It can be swung in or out of use instantly. The setting illustrated is typical for such work as at 11 with only the tip of the blade being allowed to enter the die for the first cut, after which the block can be swung away or the screw adjusted to allow the blade to enter as far as is necessary for the second cut.

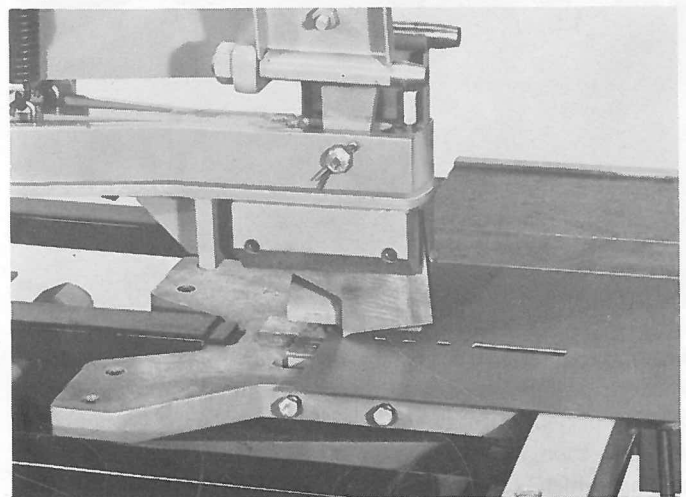
The shorter of the two screws is used mainly to ensure that blades and punches enter the dies no further than is necessary to cut the hole. This provides easy stripping and avoids damage to tools, which could occur if blades or punches enter too far. The shorter screw is also used to set louvre tool at 21.



10. The Aperture-Guillotine in action. It needed about two minutes to cut out the rectangle. The side guide (or fence) was used to guide the work. Where marking out is necessary, the line-guide shown at 18 can be used. The design of the strippers, one of which is swung out to show the blade, can be clearly seen.

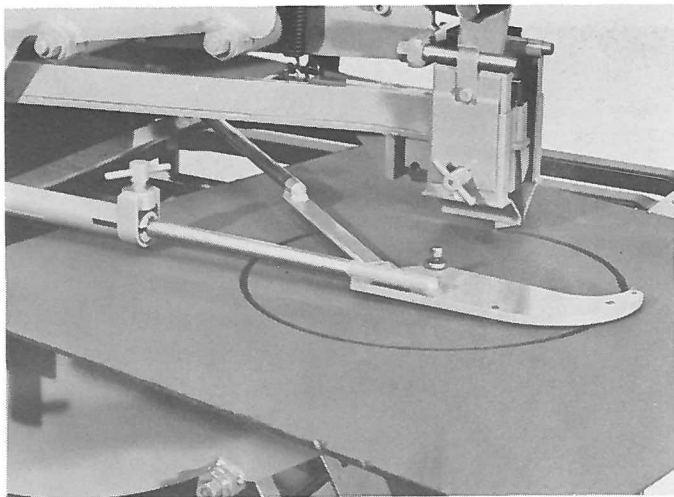


9. The Centre Locator. This accessory has many uses as illustrated overpage. It consists of a head-plate with several tapped holes to take centre-locating or other screws, and a pair of telescopic arms. Pivoting spigots on the arms drop into corresponding sockets, one on each side of the machine. This device provides a means of establishing a centre point wherever needed. Longer arms are fitted for the AC750.



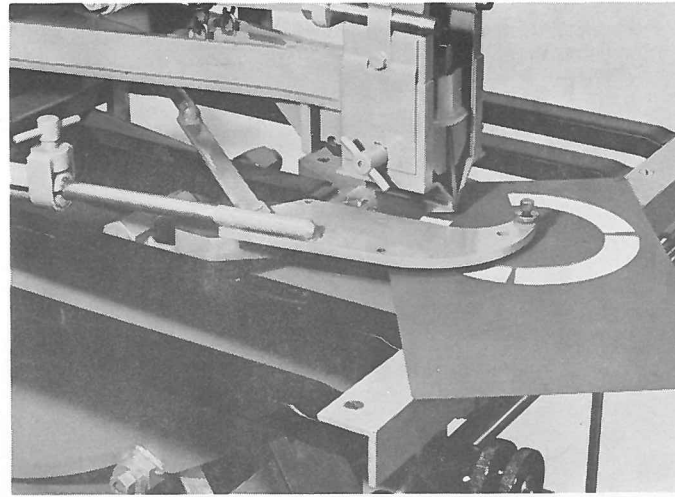
11. Cutting short slots using the technique explained at 8. (The "parrot's beak" blade is best for this.) One end is cut by allowing only the tip of the blade to enter the die, and the work is then turned. The slot is completed from the other end, the stop screw being adjusted to allow the cuts to meet. (Strippers removed for clarity.)

TYPICAL USES OF THE CENTRE LOCATOR



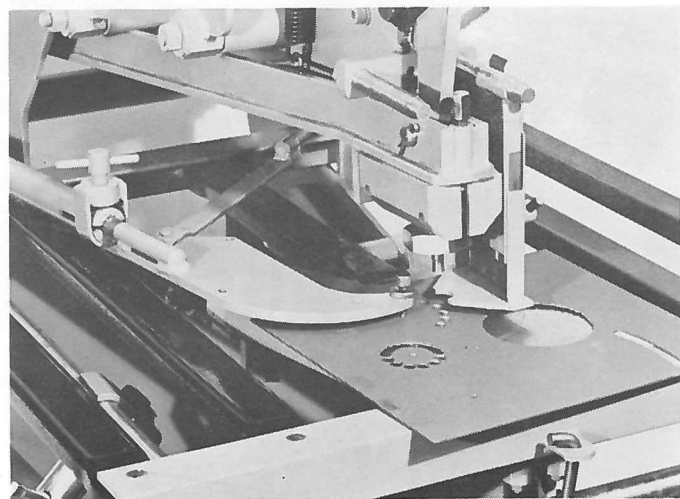
12. The centre locating accessory has many uses. Here, set to the side of the 25 x 6mm blade, it is being used to cut out a large circle. Circumferences finish as a series of short flats and this is generally acceptable without further work as the out-of-round is small, e.g. .5mm at 300mm dia.

This is a quick way to cut out large holes and discs to about 800mm dia. and in material to 3mm mild steel.

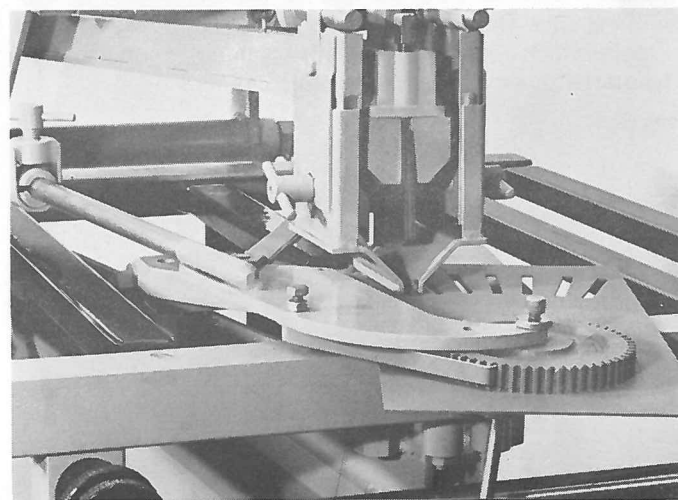


13. Here the centre locator is set to the front of the blade as distinct from the side setting at 12. From this position circumferences become a series of very short flats, almost true circles.

Used for circles and radial openings of almost any size and at radii up to 450 or 750mm (more with improvised extension). Note the alternative tapped locations for the centre pin. The "bridge" cutting technique at 14 must be used.



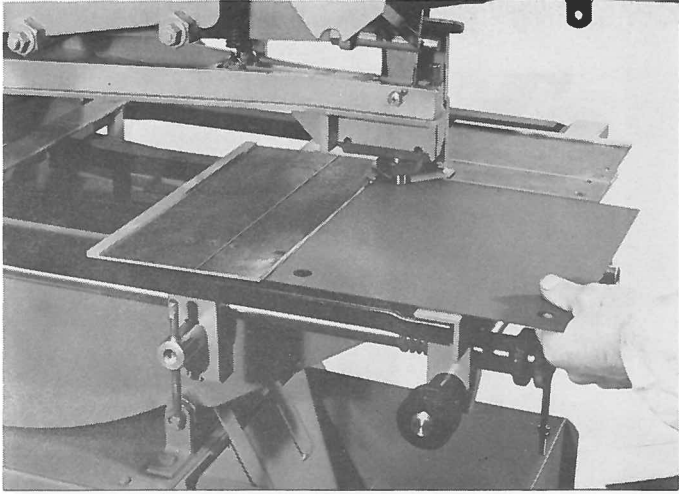
14. The Centre Locator used with a round punch for cutting smaller openings and those otherwise difficult radial slots. The partly finished work shows how full holes must be punched first and then the "bridges" removed. **This avoids one-sided cutting which can force the punch over and damage the cutting edges.** The small "peaks" left are readily filed away to leave accurate holes or slots with a good finish.



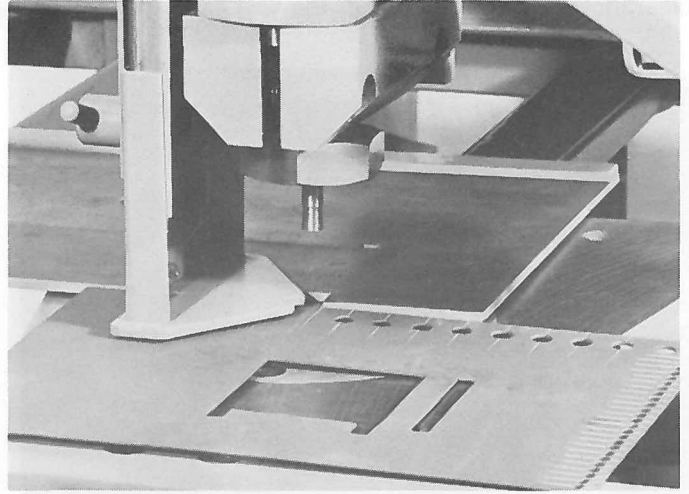
15. This shows how a lathe change-wheel, stuck with adhesive (e.g. Evostik 528), and a simple pawl pivoted at one of the tapped holes in the centre locator head-plate, can provide the elements for a job needing simple indexing. The slots in the disc in the group on page 3 were made in this way. The disc was cut as at 12.

Accuracy requires well fitted pawl and spindles.

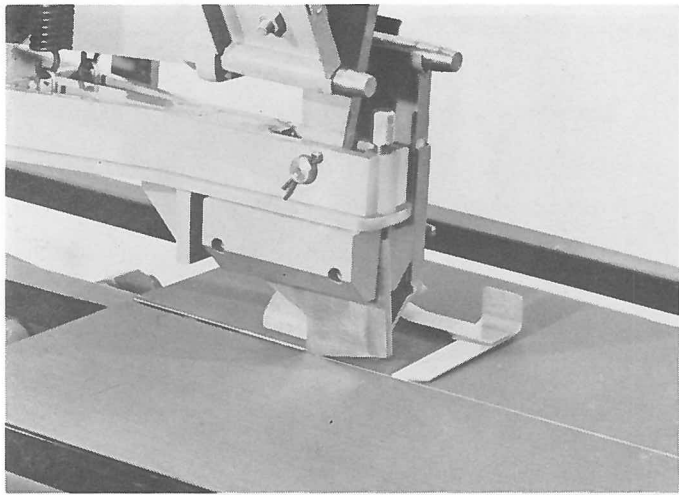
MORE EXAMPLES of how almost every aspect of work involving the hand-power production of holes and apertures has been catered for.



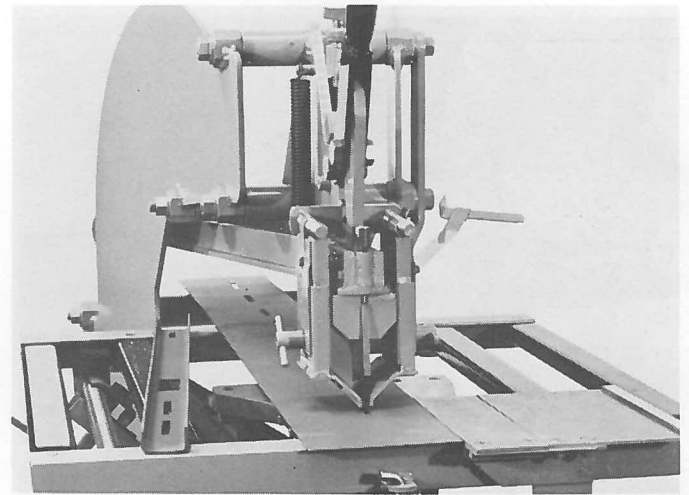
16. Use of the guides (fences) makes marking out unnecessary for most jobs. The strippers, here swung clear to show the fences, are normally adjusted down to give whatever clearance is needed. For some jobs they can be set to rest firmly on the fences, which, being 3.2mm thick, allow a comfortable working clearance for most sheet material.



17. The rear fence datum mark described at 7 is here being used to punch rows of holes. Scribe lines on the workpiece are lined up with the datum mark to give the spacing, and the fence is set back to fix the distance from the edge. The datum mark can be set to the centre or side of the punch as required. Circular work can be similarly pierced with the side fence set to ensure diametric accuracy. The design of strippers for round punches shows clearly here.



18. The Line-guide. Sometimes the fences cannot be used and then the line-guide is brought into use. The nib, seen here just touching the line, is arranged to indicate the exact position of both the sides and front end of the die, usually hidden by the workpiece. When not in use it can be swung away and is re-located by accurate ball plunger.

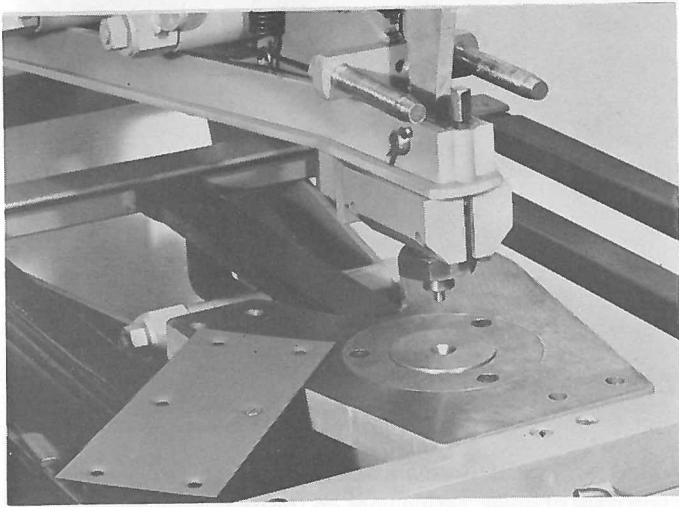


19. The open nature of the triangulated structure permits narrow material to be fed through to unlimited length, as can be seen here. Tools can operate to the centre of a strip 265mm wide on the AC450, and 290mm wide on the AC750.

In order that improvements may be brought into effect immediately, the manufacturers reserve the right to alter the design or construction of machines or accessories, and to supply when so altered without reference to illustrations or descriptions in this or any other publications.

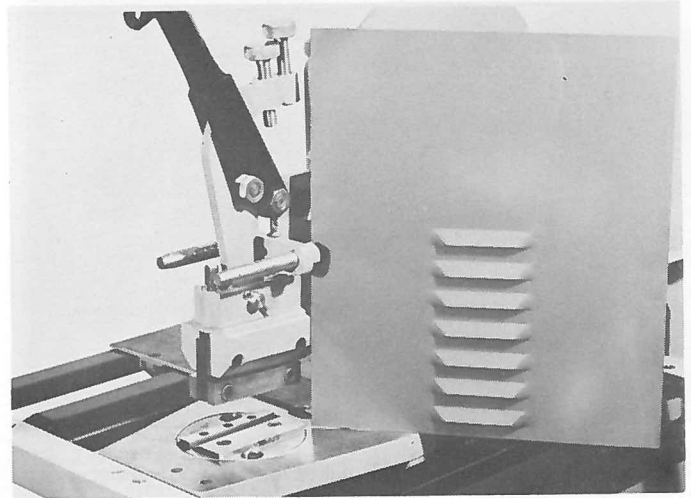
GABRO[®] MACHINES CAN BE OF GREAT VALUE IN EDUCATION

Apart from straightforward training, they are ideal for demonstrating basic principles, showing the effect of clearances and lubrication in the vast field of industrial press work for example.

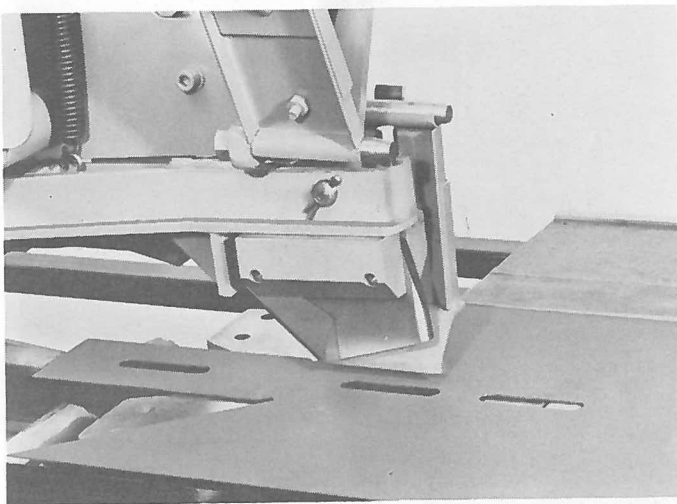


20. Press countersinking is an excellent method of freeing sheet areas from troublesome obstructions such as screw heads, etc. The tools for this fit the punch holders and type "B" bolsters in exactly the same way as the punches & dies, and with so little trouble that press countersinking becomes the simplest of operations.

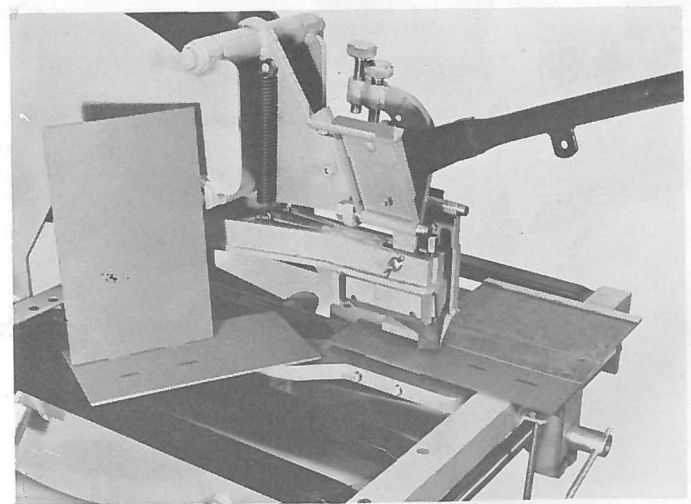
Strippers are not usually needed.



21. Making louvres. This equipment has a top tool fitted as Set-up No. 1 (page 3) and bottom tool as Set-up No. 2 using the type "B" bolster. It requires simple initial setting and thereafter interchanges as simply as other tools. It cuts and forms louvres as illustrated, 80mm long and 4mm air space, at one stroke. Maximum capacity 1.0mm mild steel.



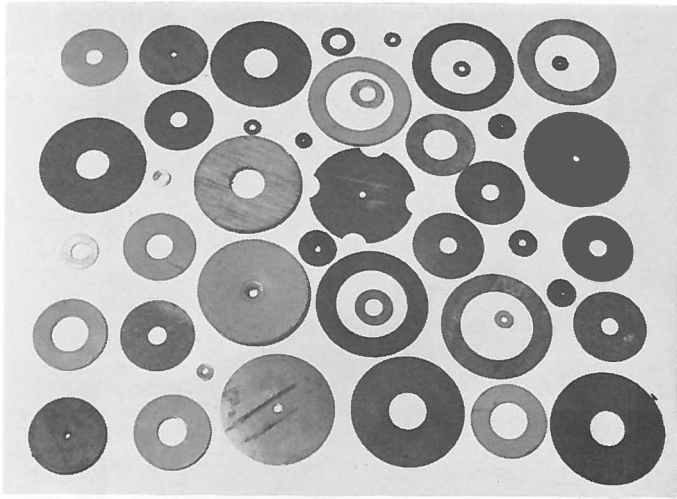
22. A good example of a "Special". The top tool is fitted as Set-up No. 1 (page 3). The die is mounted on a type "A" bolster and made up from four pieces. After the initial alignment of the tools has been carried out, re-assembly into the machine, ready for use, is a matter of a few minutes only. For short run repetition work, such special tools are invaluable.



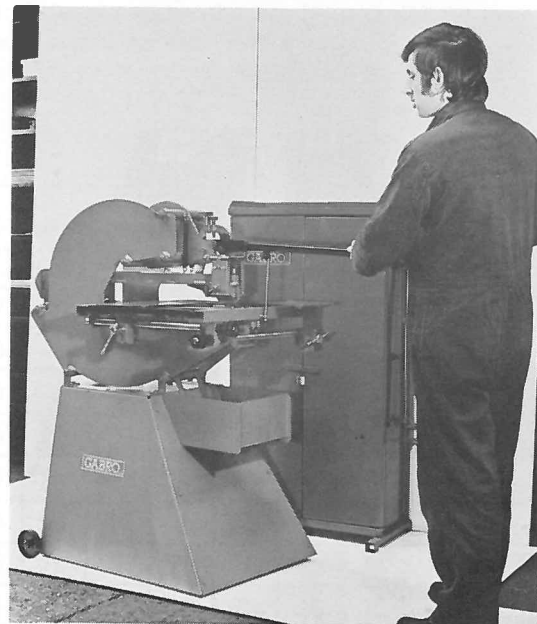
23. Fitted with, for example, a 25 x 3mm blade & die, the machine offers great scope for work in hardboard. Model makers and others will appreciate the ease with which mortice & tenon and other joints can be made.

NOTE. All sizes of blade, and most "specials", use type "A" bolsters for their dies, and as initial assembly of the dies is a slower type of job than the normal rapid interchange, a bolster for each set-up should be considered as a worthwhile investment.

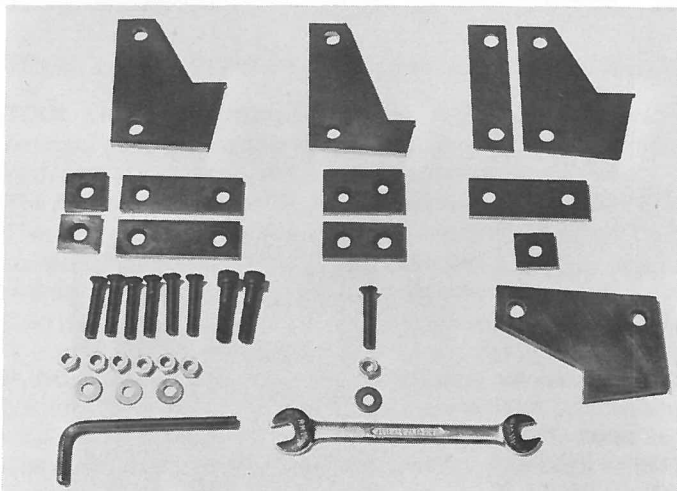
THE REMOVAL OF TOOL-ALIGNING TEDIUM, THE PROVISION OF WIDE VERSATILITY, THE ESCHEWING OF KNIFE-EDGE TECHNOLOGY AND THE USAGE OF GOOD ENGINEERING AT MODEST COST, WERE SOME OF THE AIMS THAT PRODUCED THESE UNIQUE MACHINES, CONFIDENTLY OFFERED ANYWHERE AND EVERYWHERE THAT SHEET MATERIALS ARE WORKED.



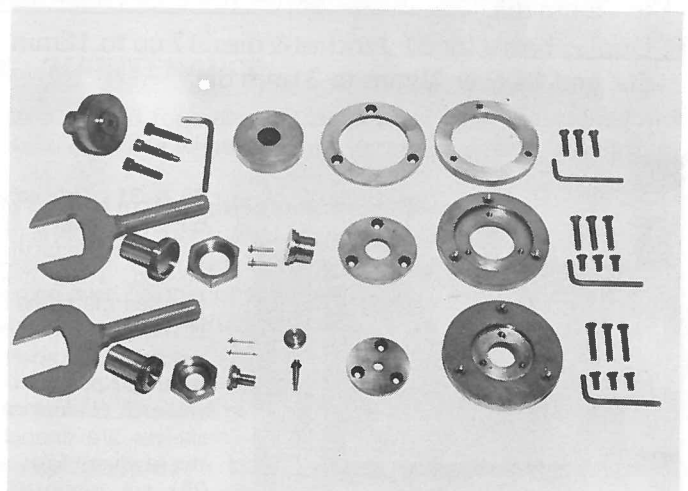
24. Special washers and discs are often difficult to make but they are easily produced on the Gabros. This group is made from many materials including steel, lead, copper, aluminium, hardboard, cardboard, leather, rubber, Formica, plastic sheet, flexible magnetic sheet, etc.



25. The AC450 is designed to be transportable. The handle is provided with a hold-down hook as standard, and the axle & wheels shown here can be supplied as extra equipment. The axle can be fitted at any time, as it is secured by two of the Stand assembly bolts.



26. Blades & Dies used for No. 1 Set-up Page 3.
Top Left. Basic standard set, i.e. 50 x 6mm "Parrot's beak" blade and 2 each die side and end pieces.
Top Centre. Parts needed to convert to 25 x 6mm Blade.
Top Right. Parts needed to convert to 50 x 3mm Blade.
Bottom Right. Blade with straight shear (no "Parrot's beak").
Bottom Left. Screws and tools provided as standard.
 Other combinations of blades & dies available.



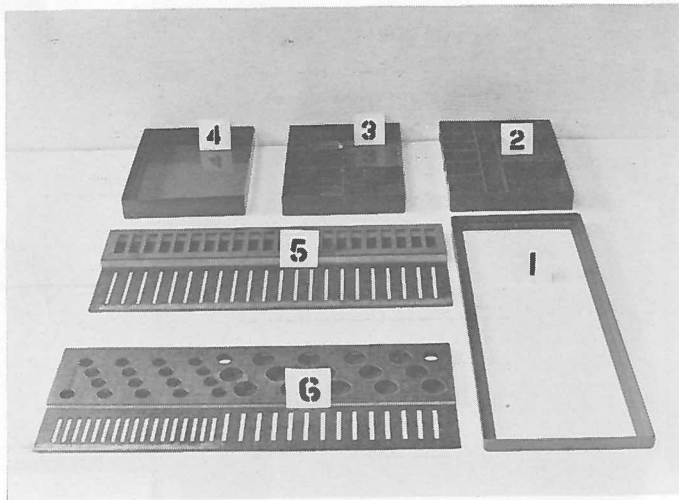
27. Holders, Punches, Dies etc. for No. 2 Set-up Page 3.
Top Row. For large holes:- Holder. Screws with either parallel, coned or no pilot. Punch & Die. Support Ring. Screws.
Middle Row. For medium holes:- Spanner. Holder & Nut. 4mm pilot pins, parallel or coned. Punch & Die. Adaptor Ring. Screws.
Bottom Row. For small holes:- Spanner. Holder & Nut. 2mm pilot pins, parallel or coned, with punch. 2 piece punch for very small holes. Die. Adaptor ring. Screws.
 All tools line up once Bolster has been set. (See 2 & 6)

A 10mm A/F & 11mm A/F spanner and hexagon wrenches (Allen Keys) supplied.

TOOL STORAGE

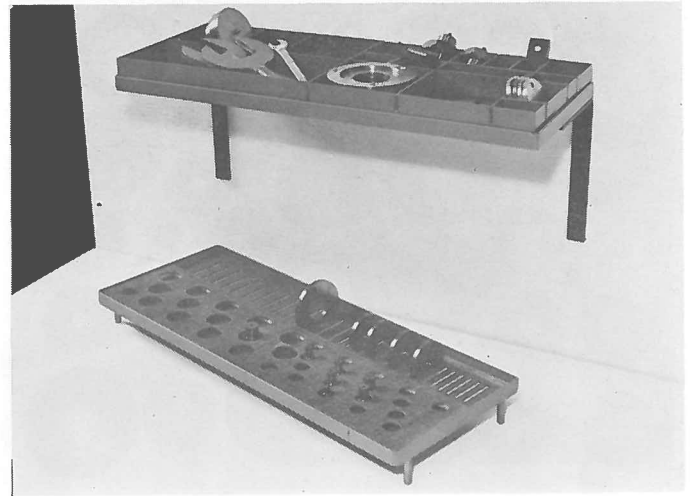
The need for storage space can vary from very little, where machines are equipped as Aperture-Guillotines only, to very great, where machines are used to the full extent of their versatility.

The equipment offered here is designed to cover this wide range, and is based on the six units shown at 28. They are utilised as at 29, or built into the cabinet below.

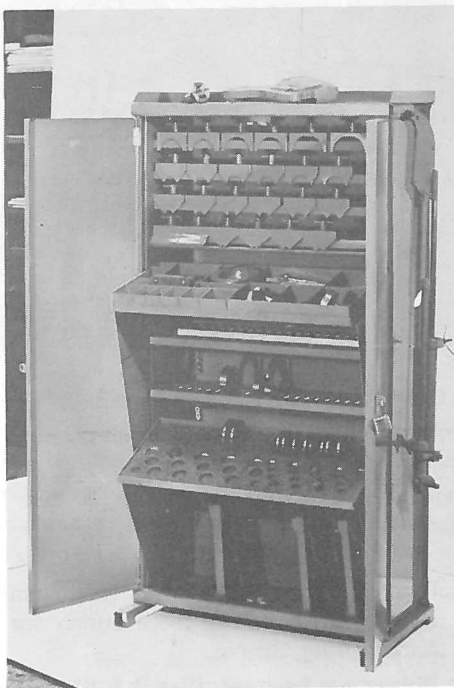


28. The six basic units for storage:-

1. Mild steel angle frame.
2. Divided container 300 x 230 x 40mm with compartments to suit all items at 26 & 27 except large spanners.
3. Divided container as 2, but with larger compartments.
4. Container as 2, but without divisions.
5. Display board for 22 punches & dies over 31 mm to 75mm dia.
6. Display board for 31 punches & dies, 17 up to 18mm dia. and 14 over 18mm to 31mm dia.



29. The angle frame (No. 1 at 28) can be supplied with brackets for wall mounting, or legs for free-standing. It will accept any two of the containers 2, 3 & 4 or either of the display boards 5 & 6 (all shown at 28). Where the number of tools does not warrant display boards, containers 2 & 3, here shown wall mounted, will be found adequate by themselves.



30 & 31 The cabinet, 1300mm high x 680mm wide x 300mm deep, offers as much storage facility as is ever likely to be needed. It is made of mild steel and finished matching colour.

It has four removable shelves at the top, spaced 55mm apart. Each will accept up to seven strippers or two of the containers; (Nos. 2, 3 or 4 at 28). Generally, three shelves are enough for strippers. Below the shelves, four angle frames (No. 1 at 28) are mounted on side trunnions to allow them to swing out to bring the contents into full view and convenient to hand. The illustration shows the first and fourth frames pulled out and held at the correct angle by chains.

At the bottom there is a rack for bolsters. Any combination of containers and display boards can be fitted into the cabinet, and any spare space used for other tools.

A hook is provided at the side to hold the centre locating accessory.



Wherever sheet metal is punched & pierced, it is also notched & folded.

The Gabro BF 620 Box Folder & the Gabro Guillotine/Notchers are companion machines. Brochures on request.

MAXIMUM AND MINIMUM CAPACITIES APPLIES TO BOTH MACHINES

THE MAXIMUM capacities given below have been established by actual trial with tools in good condition, set and lubricated as recommended in the Instruction Sheets sent with each machine. The machines are strongly built to withstand a certain amount of abuse, but punches and dies must never be abused. (See TOOL LIFE below.)

THE MINIMUM capacities are controlled by the sizes of the smallest blades or punches that can be used without their breaking, and this depends on the amount of care that is exercised. For this reason, blades less than 3mm thick or 25mm long, and punches less than 3mm dia. are supplied to special order to enable the manufacturers to accumulate experience to pass on to customers with special needs.

| GUILLOTINING. Maximum thickness in mm. Blades: - 50 x 6, 50 x 3, 25 x 6 & 25 x 3mm with "Parrot's beak". Blades without "Parrot's beak" allow one thickness less in metals. | | PUNCHING Maximum diameters in mm. | | | | | | | | | | | | | |
|---|---|--|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|
| | | Material thickness in mm | | | | | | | | | | | | | |
| | | 0.5 | 0.6 | 0.7 | 0.9 | 1.2 | 1.6 | 2.0 | 2.6 | 3.0 | 3.2 | 4.0 | 5.0 | 6.0 | |
| Mild Steel | 2.6 | 75 | 70 | 60 | 40 | 25 | 12 | 10 | 6.5 | 5.5 | 5.0 | — | — | — | |
| Stainless Steel | 2.0 | 25 | 15 | 10 | 9 | 8 | 6 | 4 | — | — | — | — | — | — | |
| Aluminium | 5.0 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 50 | 30 | 20 | 12 | 6 | 5 | |
| Copper | 3.2 | 75 | 75 | 75 | 50 | 40 | 25 | 15 | 12 | 10 | 8 | 6 | 5 | — | |
| Brass | 3.0 | 75 | 75 | 75 | 50 | 30 | 15 | 12 | 8 | 7 | 6 | 5 | — | — | |
| Hardboard | 9.0 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | |
| Asbestos | 6-8 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | |
| Expanded Metal | Thicknesses at least as for sheet in same material, sometimes a little above. | | | | | | | | | | | | | | |
| Formica & Other Laminates | Well-known grades up to 1.6mm. Thicker, subject to trial. Grease tools to aid stripping. | | | | | | | | | | | | | | |
| Angles, Channels;Etc. | Thicknesses as for sheet in same material. Where tools are required to work close to root, vertical side is limited to 30mm for guillotining, and 15mm for punching. | | | | | | | | | | | | | | |
| Other Materials | Almost any non-brittle material can be worked. The range is almost limitless and includes woven and other mesh, leather, rubber, glass fibre, copper-faced insulation board, metal covered and plain plywood, cardboard, to name but a few. In nearly all cases a simple experimental trial cut will establish workable thicknesses. Makers will gladly advise. | | | | | | | | | | | | | | |

TOOL LIFE. PUNCH & DIE CLEARANCE. GRINDING. MAINTENANCE.

TOOL LIFE. The cutting elements are made from high grade tool steel as used for mass-production press tools and, if used with ordinary care, are capable of the same level of massive output. No false economy whatsoever is entertained in their manufacture. With careful — intermittent — use, they could last for years.

The Aperture-Guillotine has four-piece dies with a number of edges to be used in turn, giving long runs between grinds.

There is only one major abuse which can unduly reduce life between grinds, and that is allowing top tools to foul dies. This can be caused by (a) failure to carry out the initial alignment which, as described in this brochure, is the very basis of the system, or (b) making one-sided cuts in circumstances where the top tool can be forced over. Neither of these actions is likely to do more damage than prematurely blunt the tools. Both are easily avoided, and are dealt with in the Instruction Sheets, with other useful hints.

PUNCH AND DIE CLEARANCE can affect the cleanness of cut and the effort required, and is variously recommended to be from 5% to 10% of the stock thickness. However, it is obvious that on a machine intended to cut a wide range of materials in a wide range of thicknesses, some sort of compromise must be arrived at.

The Aperture-Guillotine Set-up presented no problem as the dies are easily adjustable. Moreover, the .1mm per side set as standard at the factory, need not be changed for the most commonly worked middle range of thicknesses. Full information on this will be found in the Instruction Sheets.

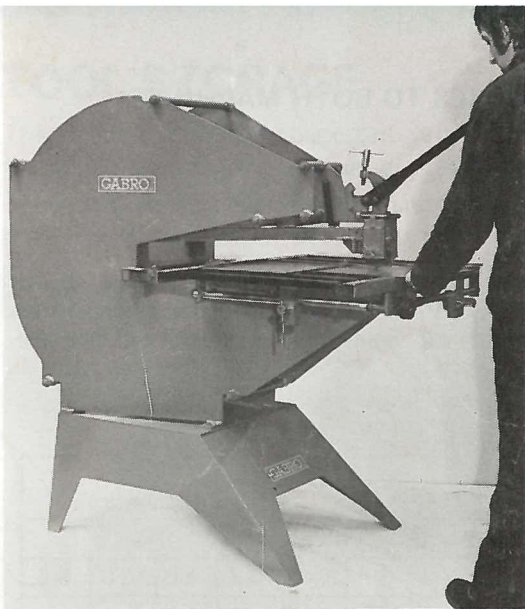
The Punching Machine Set-up required a fixed compromise for standard tools, and this has been set at .15mm per side (.3mm on the dia.). Other clearances can be supplied if requested.

Apart from the "Special" at 22, every example shown in this brochure was made with standard tools with standard clearances.

GRINDING. Where good grinding facilities are not available, parts should be returned to makers. However, a certain amount of grinding can be done by a skilled person on a good bench-grinder. Sharpening methods are fully dealt with in the Instruction Sheets.

MAINTENANCE. Apart from attention to the cutting elements very little maintenance is required, and what is necessary is dealt with in the Instruction Sheets.

GABRO MACHINES ARE MADE BY SIMPLE TECHNIQUES, AND ARE ALWAYS REPAIRABLE.



THE AC 750

- 32** The main difference between this larger machine and the AC450 is its much greater throat depth – 750mm as opposed to 450mm; it also accepts wider material for the purpose illustrated at 19. All the tooling: Blades, Dies, Punches, Bolsters, etc. fits both machines, and the cutting capacities are the same. Because of its greater throat depth, the AC750 is much heavier than the AC450, and its welded pedestal is an integral part of it, being designed to provide the necessary rigid base. The pedestal has tapped holes in the feet to take levelling screws, and the machine is not sold without it. It is important to note that the AC750 is for work which cannot be reached by the AC450. It does not cut thicker material.

This machine is tooled and in production, but, for the time being space problems oblige us to supply to order only.

SPECIFICATION OF BASIC MACHINES

IMPORTANT. The Aperture-Guillotines as illustrated on the Front Page and above and also at 1. on page 3, are designated the **basic machines** and form the basis of the standard specification, prices, dimensions and weights. Variations to include punching etc. are specified by adding or subtracting as required, using the list of equipment below, and the Price List.

STANDARD SPECIFICATION

AC450. Supplied with:— 50 x 6mm "Parrot's beak" blade. 4 piece die on Type "A" Bolster (Blade & Die from high grade alloy die steel). Barred table 590mm square – steel channel. Side & Rear Fences. Line-guide. One pair strippers. Sheet Metal Stand. Scrap box. Instruction Sheets & Wrenches. All as generally illustrated and described in this Brochure. Machine assembled (except handle). Table & Stand knocked down. All packed in non-returnable wooden crate for home and export.

AC750. Supplied with:— 50 x 6mm "Parrot's beak" blade. 4 piece die on Type "A" Bolster (Blade & Die from high grade alloy die steel). Barred table 800mm wide x 600mm deep – steel channel. Side & Rear Fences. Line Guide. One pair strippers. Pedestal of 6mm welded steel plate. Instruction Sheets & Wrenches. All as generally illustrated and described in this Brochure. Machine assembled (except handle and pedestal). Table knocked down. Packed on non-returnable pallet and polythene sheeted for home sales. Export packing as required. Machines also supplied unpacked for customer collection.

SPARE & ADDITIONAL EQUIPMENT

See Price List for details

| | Illustration |
|---|--------------|
| Bolster Type "A". For use with 4 piece dies | 1 |
| Bolster Type "B". For use with round dies | 2 |
| Support Ring & Adaptor Rings for round dies | 27 |
| Holders for round punches | 27 |
| Blades & 4 piece dies. | 26 |
| Round punches & dies. | 27 |
| Strippers | 7 & 10-19 |
| Louvre Tool complete | 21 |
| Centre Locators | 9 |
| Sheet Metal Stand for AC450 | Front Page |
| Scrap Box for AC450 | Front Page |
| Axle & Wheels for AC450 | 25 |

DIMENSIONS

| | AC450 mm | AC750 mm |
|--|-------------|-------------|
| Height to top of handle | 1930 | 1930 |
| Height of Stand or Pedestal | 600 | 400 |
| Width x Depth, Handle up (floor area) | 650 x 1000 | 830 x 1445 |
| Width x Depth, Handle down (floor area) | 650 x 1660 | 830 x 2120 |
| Table size, Width x Depth | 590 x 590 | 800 x 600 |
| Table height | 900 | 900 |
| Length of handle | 960 | 960 |
| Bench fixing area, width x depth | 380 x 420 | — |

TOOL STORAGE

| | Illustration |
|---------------------------|--------------|
| Angle Frame No. 1 | 28 |
| Divided Container No. 2 | 28 |
| Divided Container No. 3 | 28 |
| Divided Container No. 4 | 28 |
| Display Board No. 5 | 28 |
| Display Board No. 6 | 28 |
| Angle Frame Wall Brackets | 29 |
| Angle Frame Legs | 29 |
| Cabinet | 30 & 31 |

SHIPPING SPECIFICATIONS

| | AC450 m or kg. | AC750 m or kg. |
|---|-------------------|--------------------|
| Wt. of Std. machine & stand, unpacked | 123 | 196 |
| Wt. of Std. machine ex stand, unpacked | 100 | — |
| Wt. of Std. machine & stand, crated | 153 | 253 |
| Wt. of Std. machine ex stand, crated | 130 | — |
| Wt. of Std. machine & stand, palletted | — | 217 |
| Packed dimensions width x depth x height | .96 x .46 x .84 | 1.41 x .71 x 1.24 |
| Cubic capacity, packed | .37m ³ | 1.24m ³ |
| Wt. of Stand, packed | 31 | — |
| Packed dims, of stand | .62 x .82 x .06 | — |
| Cubic capacity of stand, packed | .03m ³ | — |

Cabinet: Approx. dims. & wts.: outside, unpacked, 680 x 300 x 1300mm 55kg. **Crated:** 1.35 x .77 x .44m = .46m³ 72kg.