

GABRO COMBINED APERTURE GUILLOTINE & HOLE PUNCHER

SUPPLEMENTARY INFORMATION & PRICE LIST

TECHNICAL INFORMATION HAS BEEN INCORPORATED INTO THESE PRICE LISTS TO COVER THE EXTENSIVE INCREASE IN THE RANGE OF TOOLING BEING MADE AVAILABLE SINCE THE BROCHURE WAS PRINTED. THIS INCREASE IS THE DIRECT OUTCOME OF THE NEED TO MEET THE REQUIREMENTS AND SUGGESTIONS OF USERS AND OTHER INTERESTED PARTIES. IN DUE COURSE A REVISED BROCHURE WILL INCLUDE THE FULL RANGE.

INDEX

	SHEET
COMPLETE MACHINES.	I
BOLSTERS "A", "B", "C" & "D".	I
ADAPTORS & SUPPORT RING for use on BOLSTER "B".	III
PUNCH HOLDERS for FLAT FACED PUNCHES and SPANNERS to fit.	III
STRIPPERS.	II
DIE TURRET (For quick change of small Dies).	VIII
LOUVRE TOOL.	IX
CENTRE LOCATORS.	IX
AXLE & WHEELS for AC 450.	X
STAND for AC 450.	X
TOOL STORAGE.	X
NOTES on CAPACITIES.	X
BLADES & 4-PIECE DIES for use on BOLSTER "A".	II
PUNCHES FLAT FACED for use with BOLSTER "B" and the TURRET.	IV
DIES for use with FLAT FACED PUNCHES.	IV
DIES for use with TURRET.	VIII
PUNCHES "CLAW SHEAR" & DIES for holes in heavier gauges.	V
PUNCHES & DIES for RECTANGULAR HOLES with (a) SQUARE ENDS (b) RADIUSSED ENDS (c) RADIUSSED CORNERS.	VI & VII
PUNCHES & DIES for "D" and "DD" holes.	VIII
PILOT PINS.	III
LOCATING PLATES for DIES used on BOLSTER "C".	VII
SPECIALS.	X

The prices in this list cancel all others.

*GABRO ENG LTD. 16 ROYCE RD
FLEMING CRANLEY SURREY*

GALE BROS. (ENGINEERS) LTD. HATHERSHAM CLOSE, SMALLFIELD, SURREY, RH6 9JE.
Telephone 0342 84 2157.

*CRANLEY
0293 510227*

COMPLETE MACHINES to Standard Specification and equipped as Aperture-Guillotines and as described at illustration 1 on page 3, and fully specified on page 12 of the Brochure. Note. The specification includes a type "A" Bolster with 50 x 6mm Blade & Die. Other Bolsters may be substituted if the "A" type is not required.

AC 450 £495.28
AC 750 £595.83

BOLSTERS For equipment and tools see Index.

Pt.No.	Type "A" for use with flat Blades and 4-piece Dies detailed on Sheet II		
6	Bolster (main body)	£29.35	
50	Location Plate, 3 off at £2.76	8.28	
51	Clamp Plate, 3 off at £2.04	6.12	
1317	M6 x 25 socket hd. cap screws 6 off	.24	
1324	M6 x 35 socket hd. c/sunk screws 7 off	.63	
174	Die Side Piece Clamp	.66	
175	Die End Piece Clamp	.76	
1311	M6 x 25 hx. hd. screw, 1 off	.06	
1312	M6 x 30 ditto 1 off	.06	
1313	M6 x 35 ditto 2 off	.12	
1300	M6 full nuts 7 off	.21	
1327	M6 flat, black washers 4 off	.04	
	COMPLETE "A" BOLSTER except for Die Pieces.		£ 46.53
	Type "B" for use with circular Dies 61, 81 & 115mm O/D and flat faced Punches. Tools etc. on Sheets III & IV		
18	Bolster (main body)	£21.57	
50	Location Plate, 3 off at £2.76	8.28	
51	Clamp Plate, 3 off at £2.04	6.12	
1318	M6 x 30 socket hd. cap screws 6 off	.24	
1323	M6 x 25 socket hd. c/sunk screws 3 off	.30	
	COMPLETE "B" BOLSTER except for Adaptors & Dies.		£ 36.51
	Type "C" for use with rectangular Dies and "claw" type sheared Punches. Also shaped Punches, squares, etc. Tools, etc. on Sheets V & VII.		
59	Bolster (main body)	£20.07	
50	Location Plate, 3 off at £2.76	8.28	
51	Clamp Plate 3 off at £2.04	6.12	+
1317	M6 x 25 socket hd. cap screws 6 off	.24	
1305	M6 x 16 hex. hd. set screws 4 off	.12	
1328	M6 flat bt. washers 4 off	.04	
	COMPLETE "C" BOLSTER except for Dies		£ 34.87
	Type "D". Carries a Turret of 8 Dies for piercing up to 18mm dia. Also arranged to hold the Dies singly. Used with Punch Holders 87/92/73 & 92/296, (Sheet III) and Punches on Sheet IV.		
	PROVIDES DIES FOR SMALL HOLES CHEAPER THAN THOSE FOR BOLSTER "B", AND MUCH MORE QUICKLY CHANGED.		
	Tools etc. on Sheet VIII		
340	Bolster (main body)	£25.38	
50	Location Plate, 3 off at £2.76	8.28	
51	Clamp Plate, 3 off at £2.04	6.12	
1317	M6 x 25 socket hd. cap screws 6 off	.24	
346	Turret Screw (socket hd. special)	.50	
348	Turret Lift-spring	.20	
	COMPLETE "D" BOLSTER except for Turret & Dies.		£ 40.72

GABRO COMBINED APERTURE GUILLOTINE & HOLE PUNCHER.
SUPPLEMENTARY INFORMATION & PRICE LIST. EX WORKS.

BLADES & 4-PIECE DIES. USED WITH BOLSTER "A".

- (1) The Standard Blades listed below are normally provided with "parrot's beak" points, but Blades without this feature can be provided at the same prices. Note that the "beak" may be easily ground off.
 (2) Blades 3.3mm thick require the Packing Piece Pt.No.187.

Pt.No.					£			
97	Flat Blade 50 x 6mm				10.71			
40	Die Side Piece to suit	}	Complete	(2 off needed each	3.20			
41	Die End Piece " "					Die	(2 " "	2.56
99	Flat Blade 25 x 6mm				10.71			
40	Die Side Piece to suit.	L.H.)	}	Complete	(1 off needed			
42	ditto	R.H.)				Die	(1 " "	3.42
41	Die End Piece to suit.	Front				Die	(1 " "	2.56
43	ditto	Back				Die	(1 " "	3.45
182	Flat Blade 50 x 3.3mm				9.60			
185	Die Side Piece to suit	L.H.)	}	Complete	(1 off needed			
40	ditto	R.H.)				Die	(1 " "	3.20
41	Die End Piece to suit	Front				Die	(1 " "	2.56
184	ditto	Back				Die	(1 " "	3.11
183	Flat Blade 25 x 3.3mm				9.63			
185	Die Side Piece to suit.	L.H.)	}	Complete	(1 off needed			
42	ditto	R.H.)				Die	(1 " "	3.42
41	Die End Piece to suit.	Front				Die	(1 " "	2.56
186	ditto	Back				Die	(1 " "	3.15
187	Packing Piece for 3.3mm thick Blades.				.83			

STRIPPERS

Made in two parts:- Main Plate Assemblies and Feet. The pair of Main Plate Assemblies included with the machine may be sufficient, as all Feet will fit. In practice, however, a pair for each pair of Feet in frequent use is more convenient

67/163	Main Plate sub-assembly	£3.46
150	Spring Clip	.20
1310	M6 x 12 hx. hd. set screw	.04
1300	M6 full nut	.02
162	Clamp Plate Inner	.59
1342	M6 x 20 cup square bolt	.08
153/154	Tommy-nut	2.41

COMPLETE MAIN PLATE ASSEMBLY (2 off needed) each £ 6.80

STRIPPER FEET

Pt.No.	FOR USE WITH:- (diameter or diagonal)	ENCIRCLING HOLE	PER PAIR
68/69	Flat Blades & similar. One size.	-----	£ 4.90
68/155	Round, square, etc. Punches up to 6mm dia.	8 mm dia.	6.16
68/79	ditto	12 mm "	6.16
68/78 **	"	14 mm "	6.16
68/74	"	18 mm "	6.16
68/179	"	23 mm "	6.16
68/156**	"	29 mm "	6.16
68/157	"	38 mm "	6.16
68/77 **	"	47 mm "	6.16
68/180	"	56 mm "	7.60
68/76	"	65 mm "	7.60
68/75 **	"	75 mm "	7.60

** These four will cover the whole range of Punch sizes for most normal work. Closer fits can be chosen from the rest. SPECIALS CAN BE SUPPLIED.

Ref.011279 GABRO COMBINED APERTURE GUILLOTINE & HOLE PUNCHER. SHEET III
SUPPLEMENTARY INFORMATION & PRICE LIST. EX WORKS. EX V.A.T.

ADAPTORS & SUPPORT RING FOR USE WITH BOLSTER "B".

Pt.No.			
55	COMPLETE ADAPTOR & SCREWS FOR 61mm O/D Dies		£15.57
55	Adaptor without screws	£15.45	
1322	3 off M6 x 16 socket head c/sunk screws	.12	

54	COMPLETE ADAPTOR & SCREWS FOR 81mm O/D Dies		16.02
54	Adaptor without screws	15.90	
1322	3 off M6 x 16 socket head c/sunk screws	.12	

52	SUPPORT RING FOR 115mm O/D Dies		6.69
----	---------------------------------	--	------

PUNCH HOLDERS.

87/92/73	COMPLETE PUNCH HOLDER FOR ALL PUNCHES UP TO 6mm dia. (also for Punches over 6 to 18mm dia. with non-retracting Pilot Pins).		11.95
----------	--	--	-------

87	Spigot	5.60	
92	Nut	3.90	
73	Punch Head for Punches up to 6mm dia.	2.45	

195/199	SPANNER for above Holder and also Holder 92/296		4.68
---------	---	--	------

92/296	COMPLETE PUNCH HOLDER FOR PUNCHES OVER 6 to 18mm dia. fitted with Spring for retractable Pilot Pins.		10.33
--------	---	--	-------

92	Nut	3.90	
296	Spigot	6.19	
1348	Circlip	.04	
1349	Spring	.20	

195/199	SPANNER for above Holder and also Holder 87/92/73		4.68
---------	---	--	------

86/91	COMPLETE PUNCH HOLDER FOR PUNCHES OVER 18 to 29mm dia. fitted with Spring for retractable Pilot Pins.		11.51
-------	--	--	-------

86	Spigot	7.13	
91	Nut	4.09	
1348	Circlip	.04	
1350	Spring	.20	

196/199	SPANNER for above Holder		4.68
---------	--------------------------	--	------

70/85	COMPLETE PUNCH HOLDER & 3 ASSEMBLY SCREWS FOR PUNCHES OVER 29mm dia.		9.37
-------	---	--	------

70/85	Holder without Assembly Screws	8.25	
93	Assembly Screw with coned end (for centre-punch mark)	.50	
181	Assembly Screw with parallel pilot end 4mm dia.	.50	
1319	Assembly Screw with plain end (no pilot)	.12	

PILOT PINS

158/310	Retractable PILOT PIN 2 x 36mm for Punches Pt.Nos. 45/Dia., 396/D x W & 370/D x W Silver Steel.		.67
---------	--	--	-----

159/311	Retractable PILOT PIN 3 x 47mm for Punches Pt.No. 298/Dia. Silver Steel		.67
---------	--	--	-----

160/309	Retractable PILOT PIN 4 x 36mm for Punches Pt.Nos. 297/Dia. up to 45mm., 279/D x W & 280/D x W Case hardened.		.67
---------	---	--	-----

161/309	Retractable PILOT PIN 4 x 40mm for Punches Pt.Nos. 89/Dia., 90/Dia. & 279/Dia. over 45mm. Case hardened.		.67
---------	---	--	-----

309/312	Retractable PILOT PIN 4 x 47mm for Punches Pt.No. 299/Dia. Case hardened.		.67
---------	--	--	-----

GABRO COMBINED APERTURE GUILLOTINE & HOLE PUNCHER. SHEET IV.

SUPPLEMENTARY INFORMATION & PRICE LIST. EX WORKS. EX V.A.T.

FLAT FACED (UNSHEARED) PUNCHES, and DIES USED WITH BOLSTER "B" & WITH TURRET DIES on BOLSTER "D" as listed on Sheet VIII.

The PUNCHES listed below are flat faced. Their capacity limits given in the Brochure and qualified on Sheet X under "Notes on capacities", are lower than those of the "Claw shear" type used with the type "C" Bolster and listed on Sheet V. They produce flat blanks and the holes do not have the slight edge rounding which sometimes occurs when heavily sheared punches are used.

NOTE ON PART NUMBERING AND CLEARANCES.

Part numbers are made up of (a) the type of Punch or Die covering the range which includes the hole size required, and (b), the actual size of the Punch or of the Die opening. For example, a Punch to make a hole 12.5mm in dia. can be seen from Table I to be in the 90/dia. range and would be Pt.No. 90/12.5mm and the corresponding Die from Table II would be Pt.No. 96/12.8mm.

The extra .3mm on the Die opening is clearance (.15mm all round) and is the clearance recommended for this type of Die as it has proved to give excellent results over a wide range of materials and thicknesses, which is as generally required of Gabro machines. Other clearances can be provided.

NOTE CONCERNING PUNCHES 2 to 6mm dia.

The COMPLETE PUNCH is divided in the Table to show prices and Pt.Nos. of the parts. Initially a COMPLETE PUNCH is needed and, in line with the note above on part numbering, order thus:- 1 off Pt.No. 53/5.3mm Complete Punch.

TABLE I. PUNCHES. .

PUNCH DIA.mm	PUNCH ALONE	CIRCLIP	O-RING	WASHER	COMPLETE PUNCH	RELEVANT HOLDER**
From 2 to 6	53/dia. £ 3.19	1346 £ .03	1347 £ .06	345 £ .03	£ 3.31	87/92/73
	PUNCH		RELEVANT PILOT PIN or SCREW**			
Over 6 " 9	45/dia. £11.70		158/310			87/296
" 9 " 18	90/dia. 9.90		160/309			87/296
" 18 " 29	89/dia. 12.60		160/309			86/91
" 29 " 34.5	88/dia. 11.30		181, 1319 or 93			70/85
" 34.5 " 41	88/dia. 11.76		181, 1319 or 93			70/85
" 41 " 47.5	88/dia. 12.18		181, 1319 or 93			70/85
" 47.5 " 53.5	88/dia. 12.41		181, 1319 or 93			70/85
" 53.5 " 63	88/dia. 12.89		181, 1319 or 93			70/85
" 63 " 69.5	88/dia. 13.23		181, 1319 or 93			70/85
" 69.5 " 75	88/dia. 13.86		181, 1319 or 93			70/85

The DIES listed below are the Circular Dies for use with the flat faced Punches listed above. They should not be used with the "claw shear" Punches listed on Sheet V. The clearance and alignment method are different.

TABLE II. DIES. See note on part numbering and clearances above.

PART NO.	DIE OPENING DIA.mm	O/D of DIE mm	PRICE	RELEVANT ADAPTOR OR SUPPORT RING **
96/dia.	From 2.3 to 12.5	61	£11.54	55
96/dia.	Over 12.5 " 18.3	61	12.26	55
95/dia.	" 18.3 " 45.3	81	15.12	54
94/dia.	" 45.3 " 75.3	115	19.86	52

** The Prices of the relevant Holders, Pilot Pins, Screws, Adaptors and the Support Ring are all on Sheet III.

GABRO COMBINED APERTURE GUILLOTINE & HOLE PUNCHER. SHEET V.
SUPPLEMENTARY INFORMATION & PRICE LIST. EX WORKS. EX V.A.T.
SHEARED PUNCHES & DIES. USED WITH BOLSTER "C".

PUNCHES "CLAW SHEAR" for Round Holes.

These Punches are specially formed at the cutting edge to give them much greater capacity than can be achieved with flat faced Punches. The particular method of "shearing" gives the larger sizes a claw-like appearance, hence the name. They produce very good holes in the heavier gauges, up to 14 SWG, 2mm in steel or 10 SWG, 3.2mm in aluminium including some alloys. The blanks are distorted and of no use. If circular blanks are wanted the flat faced Punches on Sheet IV should be used. (Gauges will be somewhat less). All "claw shear" Punches are fitted with spring-loaded retracting Pilot Pins for locating in either pilot holes (3.1 or 4.1mm) or a centre-punch mark. A Locating Peg ensures correct fitting in the machine.

NOTE ON PART NUMBERING AND CLEARANCES.

Part numbers are made up of (a) the type of Punch or Die covering the range which includes the hole size required and (b) the actual size of the Punch, or Die opening. For example, a Punch to make a hole 40mm dia. can be seen from the table to be in the 297/dia. range and would be Pt.No. 297/40mm. Similarly the corresponding Die would be Pt.No. 295/40.5mm.

The extra .5mm is for clearance (.25 all round) and is the maximum for this type of Die, as it has proved satisfactory for the heavier gauges for which "claw" type Punches are designed, that is, up to 14G, 2mm in steel (Occasional 12G, 2.6mm) and 10G, 3.2mm in aluminium.

NOTE.

In the table below the COMPLETE PUNCH is divided into its components to show prices and Pt.Nos. of spare parts. Initially a COMPLETE PUNCH is needed and is ordered thus:- 1 off Pt.No. 297/40mm Complete Punch.

HOLE DIA.mm	PUNCH ALONE	PEG	PILOT	SPRING	CIRCLIP	COMPLETE PUNCH
From 8 to 10	298/dia. £ 12.80	349 £ .25	159/311 £ .67	1349 £ .17	1348 £ .04	£13.93
Over 10 to 25	299/dia. £ 12.90	349 £ .25	309/312 £ .67	1349 £ .17	1348 £ .04	£14.03
Over 25 to 35	297/dia. £ 20.11	349 £ .25	160/309 £ .67	1350 £ .18	1348 £ .04	£21.25
Over 35 to 45	297/dia. £ 26.64	349 £ .25	160/309 £ .67	1350 £ .18	1348 £ .04	£27.78
Over 45 to 55	297/dia. £ 33.30	349 £ .25	161/309 £ .67	1350 £ .18	1348 £ .04	£34.44
Over 55 to 65	297/dia. £ 39.98	349 £ .25	161/309 £ .67	1350 £ .18	1348 £ .04	£41.12
Over 65 to 75	297/dia. £ 47.54	349 £ .25	161/309 £ .67	1350 £ .18	1348 £ .04	£48.68

DIES FOR "CLAW SHEAR" PUNCHES 120 x 100 x 10 mm. USED WITH BOLSTER "C".NOTE.

In the table below the COMPLETE DIE is divided into its components to show prices and Pt.Nos. of spare parts. Initially a COMPLETE DIE is needed and is ordered thus:-1 off Pt.No.295/40.5mm Complete Die. SEE NOTE ON PART NUMBERING AND CLEARANCES (above).

DIE OPENING DIA. (Punch + .5mm)	DIE ALONE	DIE BASE	LOCATING PLATE	HX.SCREWS	WASHERS	COMPLETE DIE
From 8 to 16	306/dia. £ 6.58	304 £ 8.35	352 £ 2.79	1310 £ .08 (2)	1328 £ .04 (2)	£17.84
Over 16 to 29	307/dia. £ 7.88	305 £ 9.34	351 £ 3.58	1310 £ .08 (2)	1328 £ .04 (2)	£20.92
Over 29 to 52	295/dia. £21.51	---	350 £ 3.98	1310 £ .08 (2)	1328 £ .04 (2)	£25.61
Over 52 to 75.5	295/dia. £23.09	---	294 £ 3.98	1310 £ .08 (2)	1328 £ .04 (2)	£27.19

GABRO COMBINED APERTURE GUILLOTINE & HOLE PUNCHER. SHEET VI.

SUPPLEMENTARY INFORMATION & PRICE LIST. EX WORKS. EX V.A.T.

PUNCHES FOR RECTANGULAR HOLES TO 25mm WIDE (SEE ALSO FLAT BLADES ON SHEET II). PUNCHES OVER 25mm WIDE ARE SPECIAL. SEE SHEET X.

NOTES.

- (1) PUNCHES bolt on in the place of the Blade. All are angled and some also hollowed for "shear". Normal maximum capacity 18 G, 1.2mm M/S. They are supplied for a range of openings from 1.5 to 25mm wide and up to 65mm long, with ends either square or radiused, or with radiused corners. Larger holes are made by using more than one stroke.
- (2) DIES are solid, rectangular, provided with Locating Plates, and are used with Bolster "C". The openings have .25mm clearance added all round. Other clearances (subject to feasibility), are special.
- (3) PART NUMBERS are made up of (a) the type of Punch or Die covering the range which includes the required opening, and (b) the actual dimensions of the Punch or of the Die Opening. For example a PUNCH for an opening 14mm Wide x 25mm Long would be part numbered thus:-
 From TABLE I, with square ends, Pt.No. 302/14 x 25mm.
 " " II, with Radiused ends, Pt.No. 360/14 x 25 x 7mm.
 " " III, with corners Radiused 3mm, Pt.No. 303/14 x 25 x 3mm.
 The corresponding Dies would be:-
 (From TABLE IV, with square ends Pt.No. 300/14.5 x 25.5mm
 " " V, with radiused ends Pt.No. 363/14.5 x 25.5 x 7.25mm.
 " " VI, with radiused corners Pt.No. 301/14.5 x 25.5 x 3.25mm.

ON SHEET VII In each, the first two figures give the W x L and the third the R.

N.B. Die Opening figures include the clearance. (Std. .25mm all round)

TABLE I. PUNCHES with SQUARE ENDS. Pt.Nos. & Prices. Ex Works. Ex V.A.T.

WIDTH mm	LENGTH TO mm	ANGLED FOR SHEAR	ANGLED & HOLLOWED FOR SHEAR
From 1.5 to 3.0**	65	355/W x L £24.78	-----
Over 3.0 " 6.0	65	356/W x L 25.41	-----
" 6.0 " 9.5	65	357/W x L 26.64	-----
" 9.5 " 12.5	65	-----	302/W x L £37.92
" 12.5 " 15.5	65	-----	302/W x L 41.34
" 15.5 " 18.5	65	-----	302/W x L 46.34
" 18.5 " 22.0	65	-----	302/W x L 50.25
" 22.0 " 25.0	65	-----	302/W x L 56.07

TABLE II. PUNCHES with RADIUSED ENDS. Pt.Nos. & Prices. Ex Works. Ex V.A.T.

WIDTH mm	LENGTH TO mm	ANGLED FOR SHEAR	ANGLED & HOLLOWED FOR SHEAR
From 1.5 to 3.0**	65	358/W x L x R £28.92	Radius ended Punches not usually hollowed.
Over 3.0 " 6.0	65	359/W x L x R 29.82	
" 6.0 " 9.5	65	360/W x L x R 36.56	
" 9.5 " 12.5	65	360/W x L x R 47.39	
" 12.5 " 15.5	65	360/W x L x R 48.68	
" 15.5 " 18.5	65	360/W x L x R 50.63	
" 18.5 " 22.0	65	360/W x L x R 52.91	
" 22.0 " 25.0	65	360/W x L x R 57.72	

TABLE III. PUNCHES with RADIUSED CORNERS. Pt.Nos. & Prices. Ex Works. Ex V.A.T.

WIDTH mm	LENGTH TO mm	ANGLED FOR SHEAR	ANGLED & HOLLOWED FOR SHEAR
From 4.0 to 6.0	65	361/W x L x R £32.57	-----
Over 6.0 " 9.5	65	362/W x L x R 41.69	-----
" 9.5 " 12.5	65	-----	303/W x L x R £48.38
" 12.5 " 15.5	65	-----	303/W x L x R 51.92
" 15.5 " 18.5	65	-----	303/W x L x R 56.73
" 18.5 " 22.0	65	-----	303/W x L x R 58.54
" 22.0 " 25.0	65	-----	303/W x L x R 62.84

** These Punches require Packing Piece Pt.No. 187 (Sheet II).

GABRO COMBINED APERTURE GUILLOTINE & HOLE PUNCHER. SHEET VIISUPPLEMENTARY INFORMATION & PRICE LIST. EX WORKS. EX V.A.T.DIES for RECTANGULAR OPENINGS. USED ON BOLSTER "C". PUNCHES on SHEET VI.NOTES.

- (1) Each Die needs a Locating Plate. These are priced separately in TABLE VII. They are re-usable with replacement and other Dies.
- (2) The .25 mm all round Die clearance has proved satisfactory for general use on the Gabro. Other clearances can be provided, subject to feasibility and special prices.
- (3) Part numbering is explained in Note (3) on Sheet VI.

TABLE IV. DIES for PUNCHES with SQUARE ENDS (TABLE I). EX WORKS. EX V.A.T.

DIE OPENING WIDTH in mm, (i.e. Punch width plus .5 clearance.) See Note (2) above.	PART NO. As Note (3) Sheet VI.	PRICES. ACCORDING TO O/A LENGTH OF OPENING in mm (i.e. Punch length plus .5 clearance) and Pt.Nos. of relevant Locating Plates.				
		From To 5 10	Over To 10 25	Over To 25 40	Over To 40 55	Over To 55 66
From 2.0 to 6.5	300/W x L	£42.63 364	£45.11 353	£47.58 365	£51.43 366	£59.40 366
Over 6.5 " 12.5	300/W x L	£38.01 364	£40.49 353	£42.96 365	£49.23 366	£53.90 366
" 12.5 " 18.5	300/W x L	---	£38.01 353	£39.66 365	£45.93 366	£49.78 366
" 18.5 " 25.5	300/W x L	---	£43.14 367	£47.36 367	£53.70 368	£57.34 368

TABLE V. DIES for PUNCHES with RADIUSED ENDS (TABLE II). EX WORKS. EX V.A.T.

DIE OPENING WIDTH in mm (i.e. Punch width plus .5 clearance.) See Note (2) above.	PART NO. As Note (3) Sheet VI.	PRICES. ACCORDING TO O/A LENGTH OF OPENING in mm (i.e. Punch length plus .5 clearance) and Pt.Nos. of relevant Locating Plates.				
		From To 5 10	Over To 10 25	Over To 25 40	Over To 40 55	Over To 55 66
From 2.0 to 4.5	363/W x L x R	£49.73 364	£51.38 353	£53.03 365	£56.88 366	£64.03 366
Over 4.5 " 12.5	363/W x L x R	£27.78 364	£29.43 353	£31.08 365	£32.73 366	£34.38 366
" 12.5 " 18.5	363/W x L x R	---	£32.07 353	£33.89 365	£35.70 366	£37.53 366
" 18.5 " 25.5	363/W x L x R	---	£33.56 367	£34.38 367	£37.68 368	£39.33 368

TABLE VI. DIES for PUNCHES with RADIUSED CORNERS (TABLE III). EX WORKS. EX V.A.T.

DIE OPENING WIDTH in mm (i.e. Punch width plus .5 clearance.) See Note (2) above.	PART NO. As Note (3) Sheet VI	PRICES. ACCORDING TO O/A LENGTH OF OPENING in mm (i.e. Punch length plus .5 clearance) and Pt.Nos. of relevant Locating Plates.				
		From To 5 10	Over To 10 25	Over To 25 40	Over To 40 55	Over To 55 66
From 4.5 to 12.5	301/W x L x R	£38.18 364	£39.83 353	£41.48 365	£43.13 366	£44.78 366
Over 12.5 " 18.5	301/W x L x R	---	£41.15 353	£42.80 365	£44.45 366	£46.10 366
" 18.5 " 25.5	301/W x L x R	---	£43.13 367	£44.78 367	£46.43 368	£48.08 368

TABLE VII. LOCATING PLATES for DIES in TABLES IV, V & VI. See Note (1) above.

LOCATING PLATE ALONE	HX.HD.SCREWS	WASHERS	COMPLETE
Pt.No. 353 £ 5.49	Pt.No. 1310 £ .08 (2)	Pt.No. 1328 £ .04 (2)	£ 5.61
364 £ 5.16	"	"	£ 5.28
365 £ 6.98	"	"	£ 7.10
366 £ 7.80	"	"	£ 7.92
367 £ 7.47	"	"	£ 7.59
368 £ 8.46	"	"	£ 8.58

DIE TURRET FOR USE ON BOLSTER "D" (SHEET I)

NOTES

- (1) The Turret is designed for quick change of Dies on small work. It carries 8 Dies for piercing from 2 to 18mm dia. The heads of the Dies are concentric with the Die openings and are used to locate the Dies. Changing to any Die on the Turret is a matter of a moment, as also, is changing Turrets.
- (2) Dies can be supplied either pressed into the Turret or loose. Single Dies can be used without the Turret, with Clamp Plate Pt.No.343/347.
- (3) Part numbers are made up of (a) number of type of Die (Turret, 344) and (b) dimensions of the Die opening; for example, a Die to match a Punch 12mm dia. would be Pt.No. 344/12.3mm. The extra .3 is clearance as explained at (4).
- (4) The .3mm clearance (.15 all round) has proved satisfactory for general use on the Gabro. Other clearances can be provided subject to feasibility and special prices.
- (5) The Punches and Holders for use with the Turret Dies are the same as those used with the "B" Bolster Dies. The Punches are Pt.Nos. 53/dia., 45/dia. & 90/dia. on Sheet IV, and the Holders are Pt.Nos. 87/92/73 & 92/296, on Sheet III.

Pt.No.			
341	Turret alone without Dies		£15.33
344/dia.	Turret Die (Die opening 2.3 to 18.3)	per Die	7.92
343/347	Die Clamp Plate for securing single Die.		3.93
346	Spare Turret Screw (one supplied with Bolster "D")		.60
348	Spare Turret Lift Spring (one supplied with Bolster "D")		.20
	Charge for assembling Dies in Turret (press fit)	per Die	.50
	Turret with 8 Dies assembled		82.69

PUNCHES & DIES FOR "D" & "LD" HOLES.

NOTES

- (6) Punches are mounted on a bolt-on Holder, Pt.No. 57/58, which fits in place of the Standard Blade, and Dies on standard Location Plates which fit the type "C" Bolster.
- (7) Principle of (3) & (4) applies. Example:-from Table I, a Punch for a "D" hole 15mm Dia. x 13mm Wide across the flat would be Pt.No. 279/15 x 13mm, and the Die, from Table II, Pt.No. 282/15.3 x 13.3mm.
- (8) In the Tables, components making up Complete Punch and Die Assemblies are tabulated to give Pt.Nos. & prices of spare parts. Initially the Complete Assemblies are needed. All parts fit spare Punches & Dies.

TABLE I PUNCHES FOR "D" & "DD" HOLES

PUNCH BASIC DIA. mm	TYPE	PUNCH ALONE	PILOT PIN	PUNCH HOLDER	HX. CSK. SCREWS	SPRING PIN	COMPLETE PUNCH ASSEMBLY
From 5 to 9	D	369/D x W £21.60	158/310 £.67	57/58 £ 9.44	1321 £.18 (2)	1345 £.02	£31.91
Over 9 " 35	D	279/D x W £21.76	160/309 £.67	57/58 £ 9.44	1321 £.18 (2)	1345 £.02	£32.07
From 5 " 9	DD	370/D x W £22.23	158/310 £.67	57/58 £ 9.44	1321 £.18 (2)	1345 £.02	£32.54
Over 9 " 35	DD	280/D x W £22.59	160/309 £.67	57/58 £ 9.44	1321 £.18 (2)	1345 £.02	£32.90

TABLE II DIES FOR "D" & "DD" HOLES.

DIE OPENING BASIC DIA. (PUNCH + .3 mm)	TYPE	DIE ALONE	LOCATING PLATE	HX. HD. SCREWS	WASHERS	COMPLETE DIE ASSEMBLY
From 5.3 to 35.3	D	283/D x W £29.87	353 £ 5.49	1310 £.08 (2)	1328 £.04 (2)	£35.48
" 5.3 " 35.3	DD	282/D x W £30.87	353 £ 5.49	1310 £.08 (2)	1328 £.04 (2)	£36.48

Ref.011279 GABRO COMBINED APERTURE GUILLOTINE & HOLE PUNCHER. SHEET IX.

SUPPLEMENTARY INFORMATION & PRICE LIST. EX WORKS. EX V.A.T.

LOUVRE TOOL.

NOTES.

- (1) The Louvre Tool illustrated in the Brochure has been replaced with the one detailed here. It has its own Bolster. Capacity 18G.1.2mm M/
- (2) The Top Tool bolts in the place of the Standard Blade and the Bottom Tool is built up from replaceable units on a special Bolster (type "E", not listed with other Bolsters on Sheet I). Re-sharpening and replacing parts is simple and inexpensive.
- (3) The size of the louvre produced is 100mm long O/A with air space 4.5 and can be formed in material up to 18G, 1.2mm mild steel.
- (4) 100mm long is the maximum. Tool can be modified to make shorter louvres and would be charged at standard price plus cost of modification.
- (5) The Tool is provided with a spacing gauge. Minimum spacing 20mm lip to lip.

N.B. If a sample of the louvre is required please specify, or send a piece of, the relevant material.

LOUVRE TOOL COMPLETE

£82.87

Pt.No.			
308/309	Top Forming & Cutting Blade		£19.72
321	Pressure Bar drilled (attaches to 308/309)		2.69
322	Pressure Bar tapped (ditto)		3.22
1341	Screws for 321 & 322, 2 off at .11 (M8 x 45 Cap)		.22
	Bolster type "E" :-		
313/314	Main Body		25.02
50	Location Plate, 3 off at £2.76		8.28
51	Clamp Plate, 3 off at £2.04		6.12
1317	Screws for 50 & 51, 6 off (M6 x 25 Cap)		.24
317	Bottom Die (provides cutting edge)		6.38
1318/1300	Screws & Nuts for 317, 2 off (M6 x 30 Cap)		.20
316	Bottom Anvil		2.94
1311	Screws for 316, 2 off (M6 x 25 Hx. Hd.Set)		.08
318	End Anvil	pair	4.42
1318/1300	Screws & Nuts for 318, 4 off (M6 x 30 Cap)		.40
315	Side Anvil		5.12
1352/1300	Screws & Nuts for 315, 2 off (M6 x 30 Skt.Hd.Csk.)		.38
320	Spacing Gauge		.78
1351/1300	Bolt & Nut for 320 (M6 x 25 Cup Sq.)		.08

CENTRE LOCATORS

COMPLETE CENTRE LOCATOR as described in the Brochure

AC 450	£31.02
AC 750	£31.44

Pt.Nos. 450 & 750

137	Swivel (2 off) Fit in Socket on Machine	ea.	1.67
1304	M8 Lock nuts for 137 (4 off)	"	.02
151	Knurled Locating Pin		.80
152	Knurled Lock Nut for 151		.78
135/136	Tommy-nut (2 off)	ea.	2.20
138/139/140/141	Head & Arms Assembly		7.76

450 only.

129/130/131/132/133	Left Hand Tube Assembly		8.27
130/131/132/133/134	Right Hand ditto		8.06

750 only

107/130/131/132/133	Left Hand Tube Assembly		9.91
108/130/131/132/133	Right Hand ditto		8.29

GABRO COMBINED APERTURE GUILLOTINE & HOLE PUNCHER. SHEET X.

SUPPLEMENTARY INFORMATION & PRICE LIST. EX WORKS. EX V.A.T.

COMPLETE AXLE & WHEELS ASSEMBLY FOR AC 450 £ 9.93

Pt.No.			
142/143	Axle		4.25
144/145/146	Wheel (2 off needed)	each	2.88
1332	Cotter Pin 3/16" x 1½" (2 off needed)	"	.07

STAND FOR AC 450 (Included in standard specification, deduct if not required). Price, painted and with assembly bolts but excluding packing. 34.48

TOOL STORAGE. (Page 10 in the Brochure)

Pt.No.			
232 233	Angle Frame No. 1		5.46
	Divided Container No. 2		5.12
	Divided Container No. 3		4.28
	Undivided Container No. 4		2.25
	Display Board No. 5 (Holds 115mm O/D Dies & Punches)		6.13
	Display Board No. 6 (Holds 61 & 81mm O/D Dies & Punches)		7.44
	Display Board No. 7 (Holds "Claw Shear" Punches & Dies)		

Available shortly

N.B. Numbers 1 to 6 refer to illustration 28 in the Brochure.

Tool Cabinet as illustrated at 30 & 31 in the Brochure, but not including any Containers or Display Boards, i.e. items 2 to 7 above. (see NOTE) 128.00

NOTE

The Containers and/or Display Boards needed for the cabinet will depend on the tooling to be used, and can be ordered independently as the need arises. Experience has shown that two of the shelves are usually sufficient for Strippers, the others will take two containers each.

NOTES ON CAPACITIES.

N.B. Where there is any doubt about the capability of the Gabro being adequate for a particular job, the makers should be consulted and wherever possible supplied with a sample of the relevant material.

- (1) Referring to page 11 of the Brochure, experience has shown that the maximum diameters indicated err on the conservative side, for example the thickest mild steel that can be blanked at 75mm dia. is shown as .5mm or 24 G; in practice, no difficulty is experienced in blanking .9mm or 20 G in the grades of M/S for general purpose use. In the smaller sizes the differences are less marked, for example a 25mm hole can be blanked in 1.4mm M/S as against 1.2 shown, provided the material is of commercial low tensile grade. For blanking in heavier grades use "claw shear" Punches as in (2).
- (2) Referring to No. V of these Sheets, it will be noted that the "claw-shear" punches are stated to be limited to 14 G or 2mm M/S, but it is possible to increase this to 12 G or 2.6mm in common grades of M/S.
- (3) Referring to Sheets IV & VIII, the capacities of these tools is fairly well indicated on page 11 of the Brochure as modified at (1) above.
- (4) Referring to Sheets VI & VII, these shaped tools are generally used in the electro-mechanical & electronic control fields where gauges are light, usually not over 1.2mm, and are usually adequate, but see N.B. above.

SPECIALS

Where work not covered in the Brochure or in these Sheets is required to be done, the possibility of special tools or an adapted machine should be considered and the makers contacted.

The right to require payment in advance for special work is reserved. Also when there is an element of risk of failure, responsibility for this cannot be accepted where this possibility has been made clear.