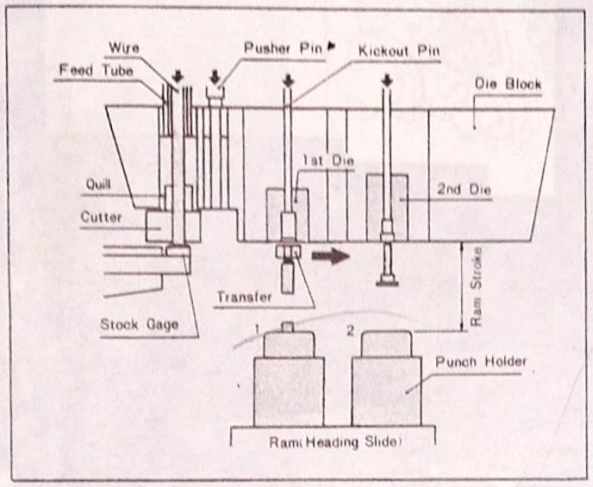
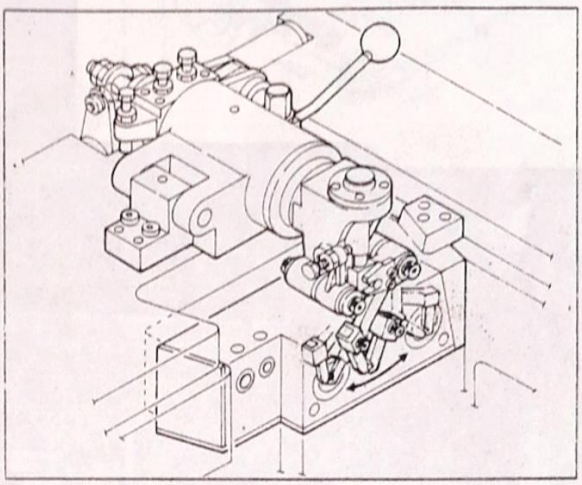
AOT SERIES

2-Die 2-Blow Headers

"Performance,, Engineered with Part-to-Part Flexibility, for More Parts per Minute, Less Costs per Part, and Less Time for Setup and Changeover

The AOT series cold header is an ingenious combination of extremely simple mechanisms, each engineered carefully and built ruggedly for its function it is designed to perform. Conventional vertically shifting and oscillating mechanisms for punch holders have been superseded. No locking mechanism is required for punch holders since they do not move. The results are: no need of kickout timing, easy punch adjustment, reduced maintenance and setup time, and more accurate part alignment.
The AOT employs the unique positive-motion double cam for trouble-free action of transfer fingers, and comes many other innovative design features for the long-lasting dies, the superb accuracy of cutter timing and the minimal maintenance requirements.



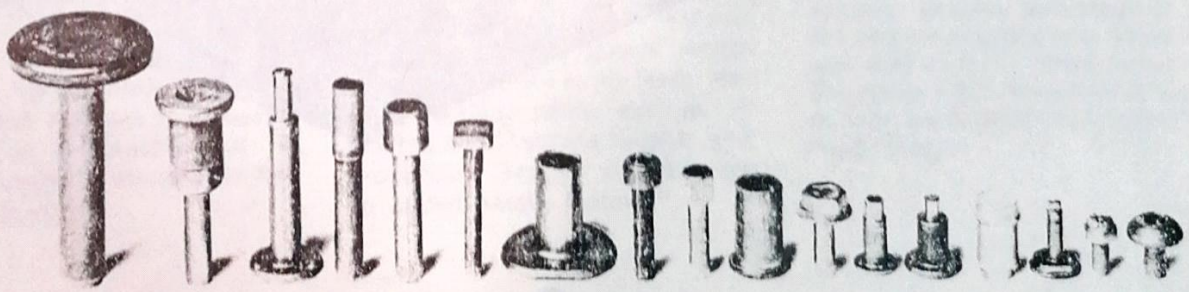


The AOT is a Single-Blow Header

Compared with conventional single-die two-blow headers which require two successive ram strokes to complete a part, each ram stroke próduces a finished part on the AOT series, halving the working time. Performance with half as many ram strokes drastically reduces maintenance and wear, and die life is increased due to half as many impacts on each die. The AOT headers are available in a full range of sizes and strokes to meet almost every requirement.

The AOT is a Transfer Header

This high-speed header uses two independently adjustable punches and dies with unique transfer and extrusion ability. One additional die allows for trapped or open extruding in the first die. Two dies in one machine allows for production of a wide variety of parts including flanged bolts, stepped parts, shoulder rivets, hollow rivets and other parts with complex configurations and yet requiring close tolerances which are difficult to make with two blows in one die.



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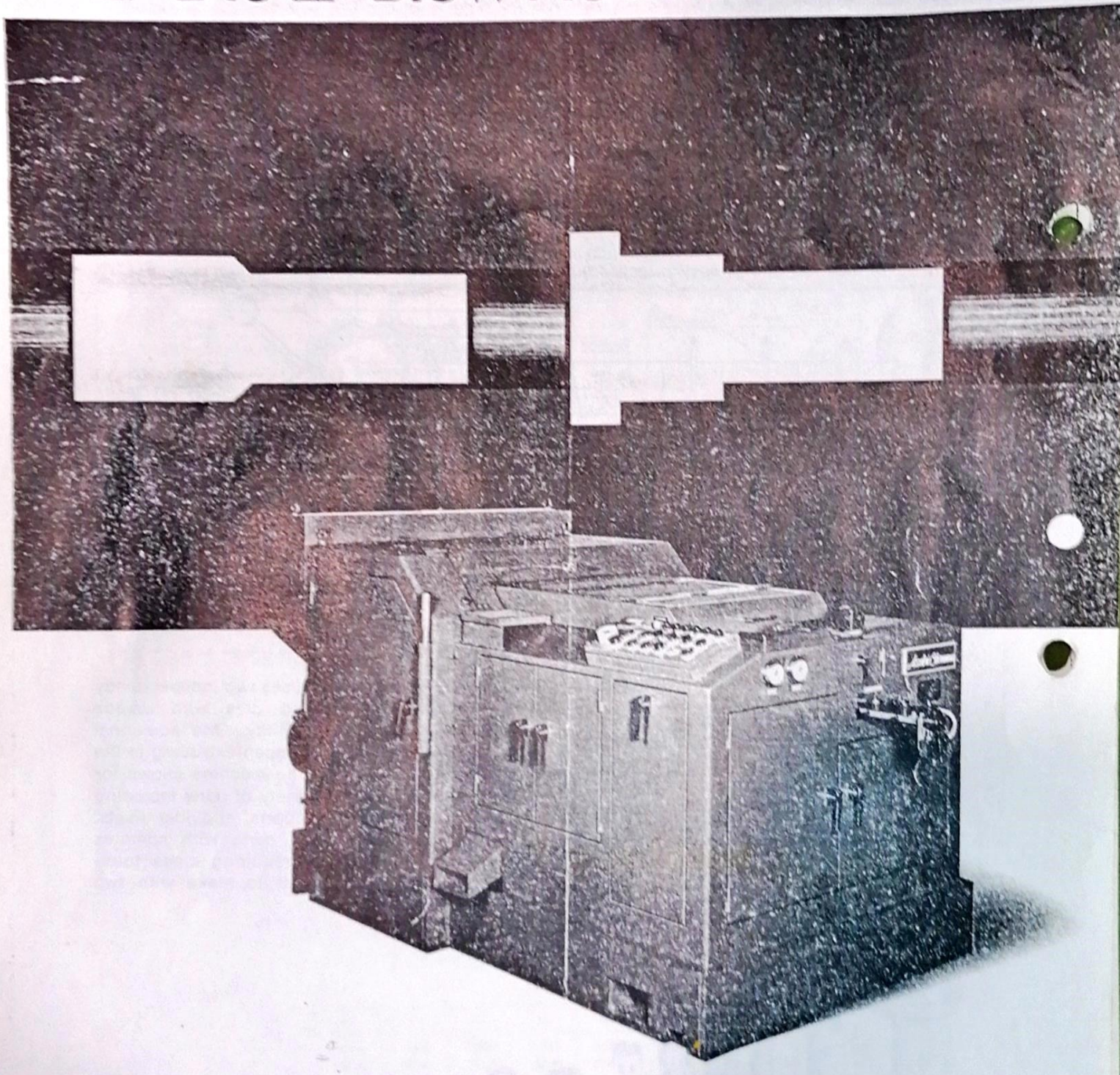
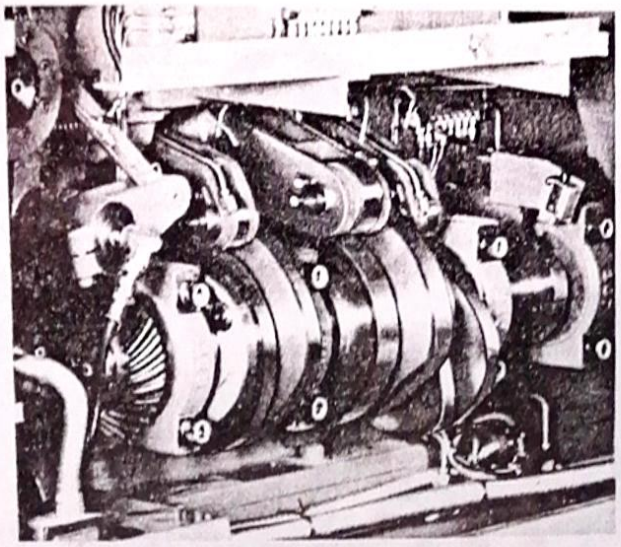
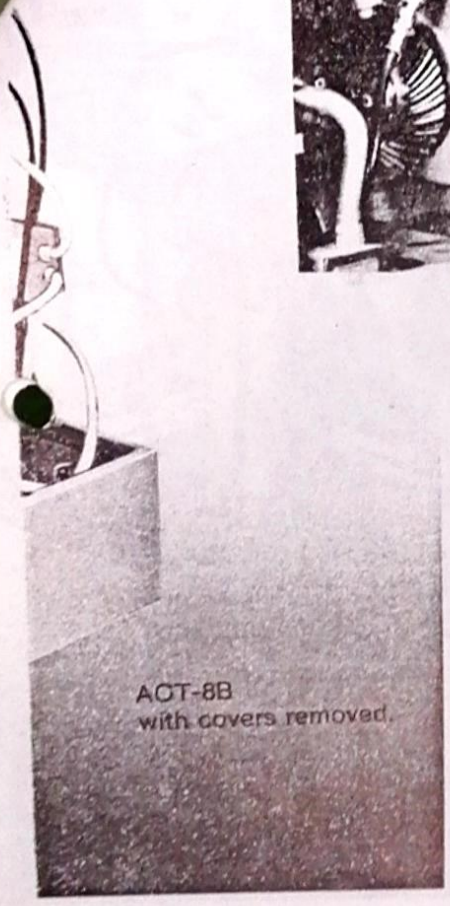


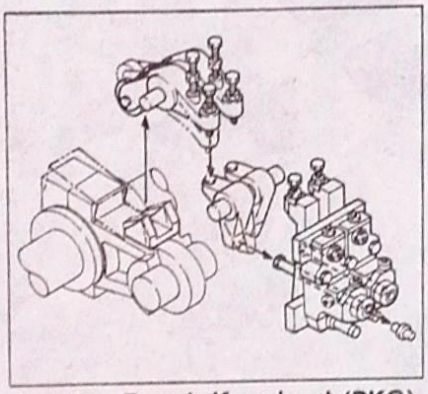
Asahi Okuma Industrial Co.,Ltd.



Side Shaft Drive

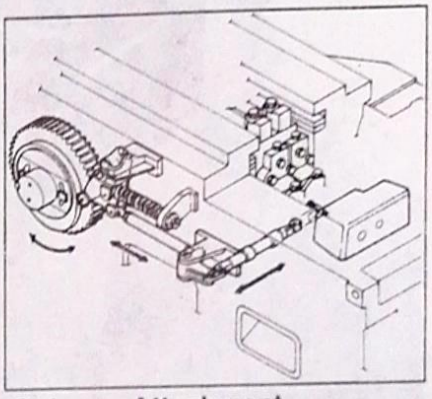
A single shaft coupled to spiral bevel gearing conveys the drive needed to perform wire cutoff, blank transfer and other protective functions. The related mechanisms can be adjusted simply by working on this single drive shaft from one side of the machine.





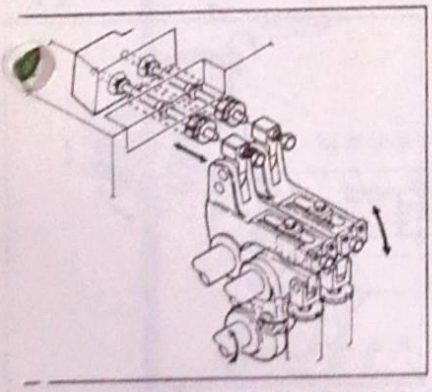
Positive Punch Knockout (PKO)

Essential to completion of parts with complex head shapes and large heads. All drive system components, located in the upper section of the machine, are easily accessible for fast setup and changeover.



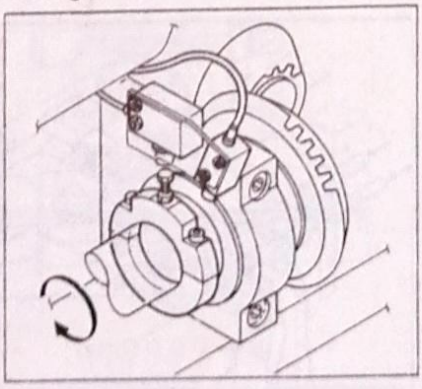
Stripper Attachment

Can be easily added to a standard model, making it adaptable to both tubular and solid parts. The use of a sliding die with this feature allows for production of tubular parts at high speeds.



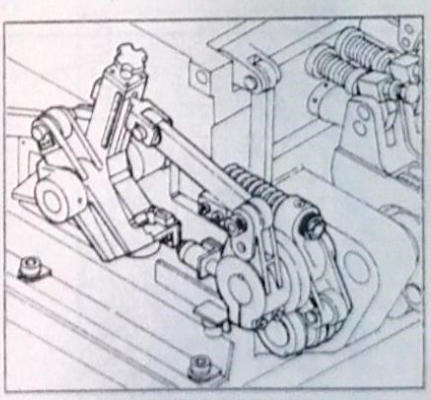
Jnique Knockout Mechanism

The rotary cam operated mechanism affords a faithful and smooth ejection of each workpiece from the die, making the kickout operation almost noise-free. The 1st and 2nd dies are individually and easily adjustable for a required length of stroke with the aid of a scale.



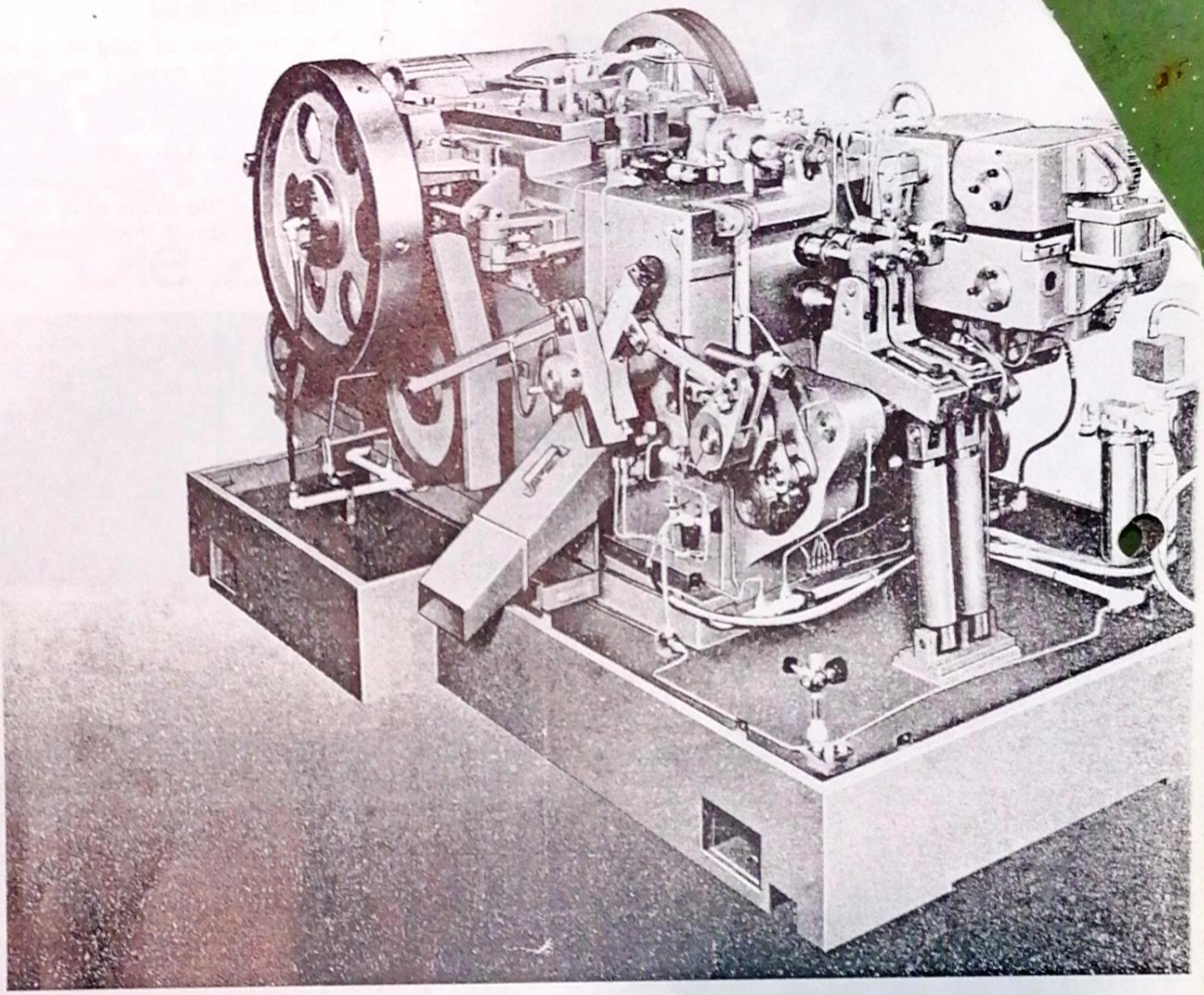
Safety Devices

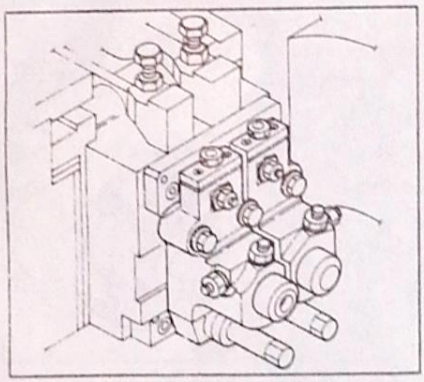
The machine is carefully designed with safety in mind. It comes with a complement of safety features such as a short cutoff length detector, "no-wire no-feed" device, overload safety devices, all making the machine reliable and productive. Simpler controls are an added safety feature.



One-Stroke Clutch

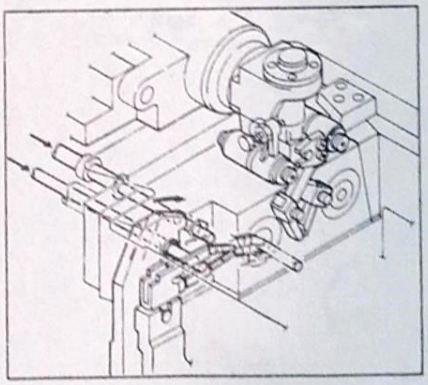
This feature, backed up by an electric switch and pneumatic actuator, enables wire stock to be fed into the machine only when the wire feed clutch is timed correctly. The result is that the wire can be cut off to an exact length during the first heading cycle.





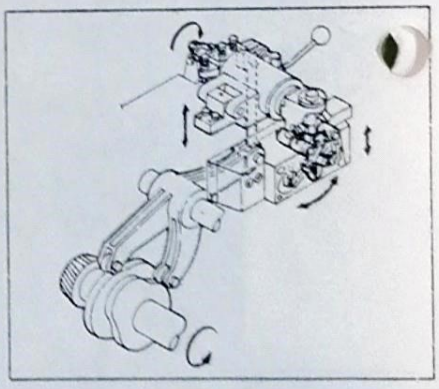
Individual Punch Adjustments

The 1st and 2nd punch holders on the face of the ram are arranged in parallel and may be adjusted independently of each other in either direction, facilitating both coarse and fine adjustments required. Less experienced personnel may be trained over a short period of maintenance of perfect die-to-punch alignment throughout a production run.



Closed Bushing-Type Cutter

Use of a closed bushing type cutter has proven to insure production of a clear, square cutoff, improved product quality, reliable high speed performance and longer tool life.

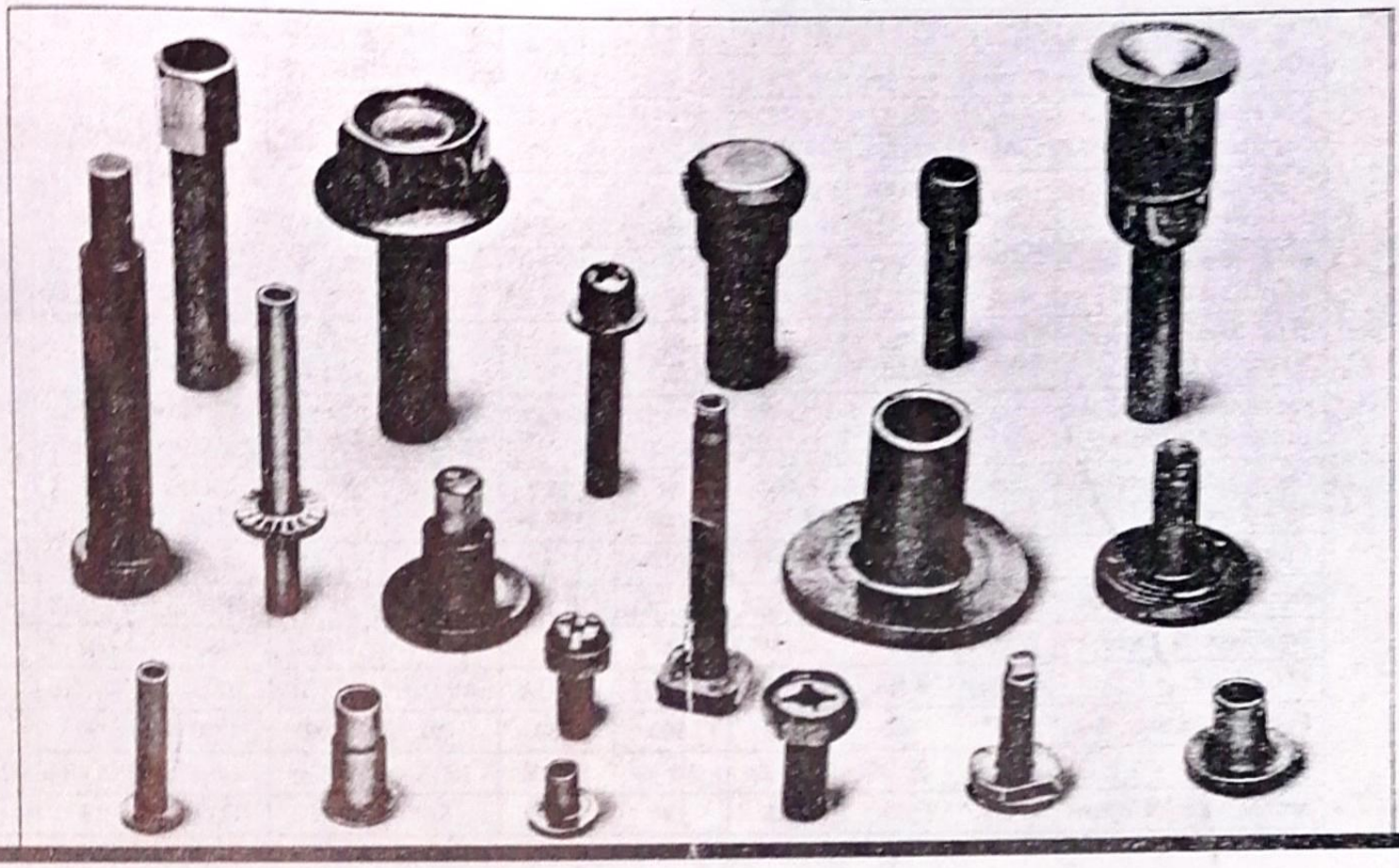


Positive Transfer Drive

Transfer fingers securely grip and smoothly move the workpiece from the 1st to the 2nd die since the mechanism is driven through a unique positive-motion double-cam arrangement. This has made possible malfunctioning or trouble less frequent than with the machines using a cam with a spring-loaded follower.

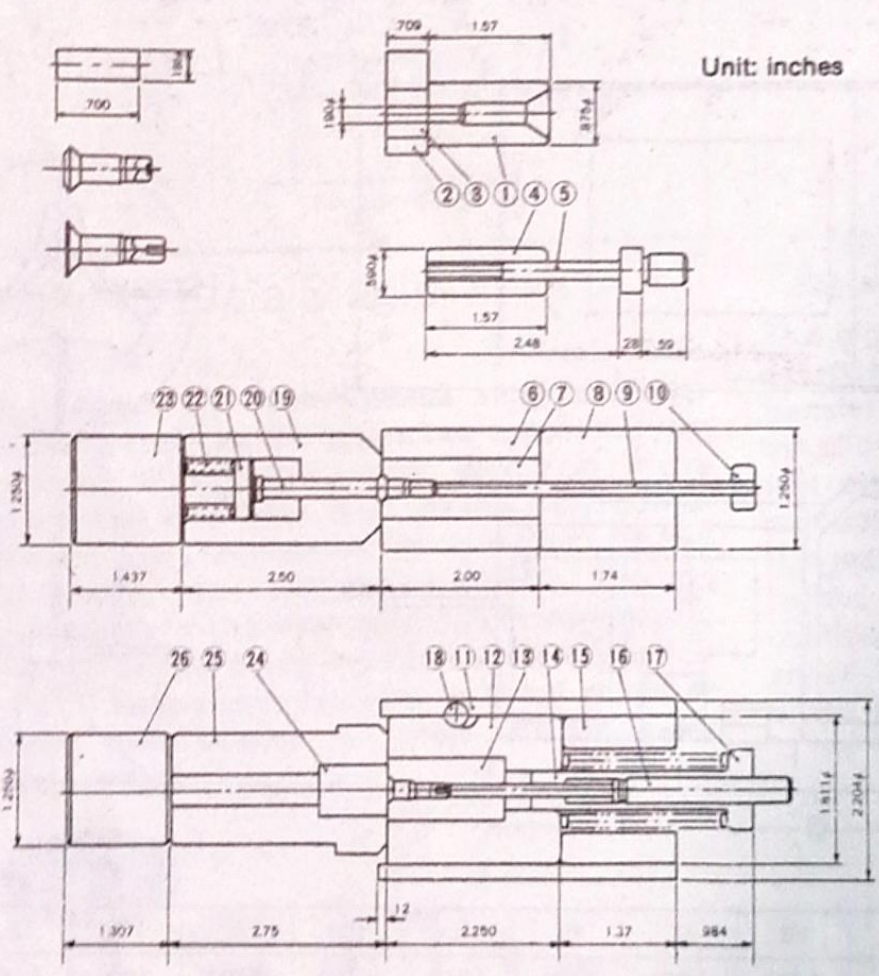
Typical Products

The Asahi-Okuma 2-die 2-blow headers produce fasteners of solid, or of tubular configuration, or any other shape you require; stepped, shouldered or multi-diameter parts. Such a diversified range of products can all be forged with efficiency, accuracy and ease unheard of in conventional single-die headers.



Typical Tooling Layout — Tubular part on Type AOT-63

Unit: inches



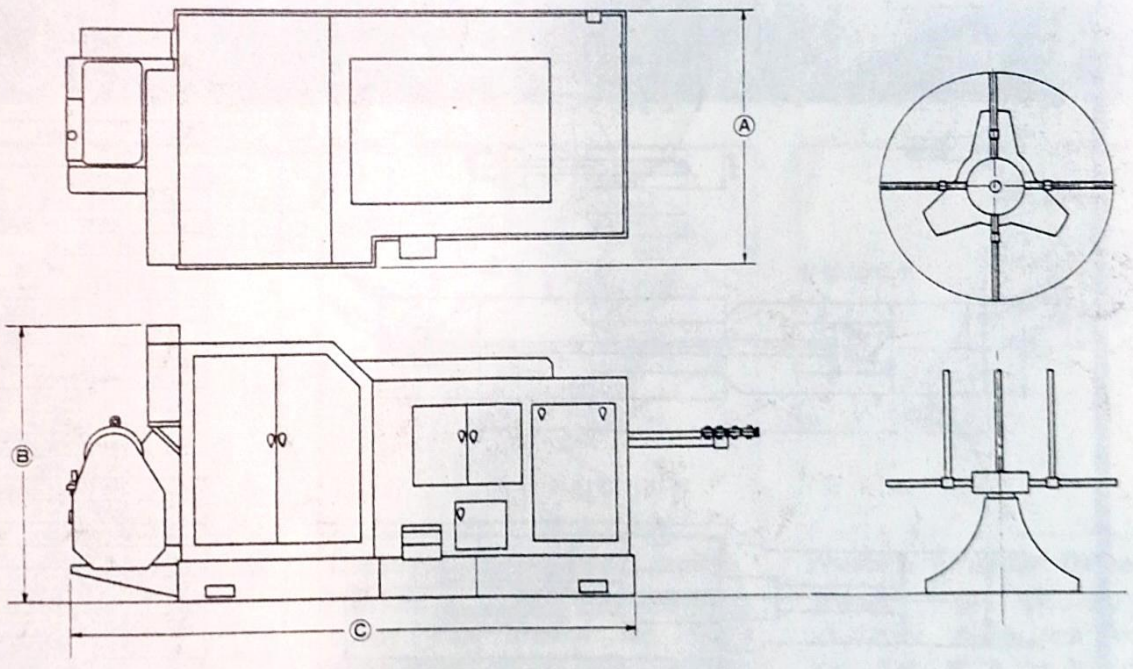
NO.	NAME	MAT
1	Quill	M4
2	Cutter holder	H13
3	Cutter insert	Carbide
4	Pusher rod guide	S1
5	Pusher pin	M2
6	1st Die casing	H13
7	1st Die insert	Carbide
8	1st Die packing	S1
9	1st Die k.o. pin	M2
10	Die button	4140
11	2nd Sleeve	S1
12	2nd Die	H13
13	Extrusion pin	ASP60
14	Spring support	S1
15	Die packing	S1
16	2nd Die middle pin	M2
17	Spring	
18	Stopper pin	M2
19	1st Punch	S1
20	Punch pin	M2
21	Punch spacer	S1
22	Spring	
23	Punch packing	S1
24	2nd Punch insert	Carbide
25	2nd Punch casing	H13
26	2nd Punch packing	S1

Specifications

TYPE		4B	4L	6B	6L	8B	8L	10B	10L	12B	12L
Max. Cutoff Diameter	mm (in.)	4 (3/16)	4 (3/16)	6 (1/4)	6 (1/4)	8 (5/16)	8 (5/16)	10 (3/8)	10 (3/8)	12 (1/2)	12 (1/2)
Max. Cutoff Length	mm (in.)	35 (1 3/8)	50 (2)	45 (1 3/4)	70 (2 3/4)	60 (2 3/8)	100 (4)	80 (3 1/8)	130 (5 1/8)	120 (4 23/32)	170 (6 11/16)
Min. Cutoff Length	mm (in.)	8 (5/16)	8 (5/16)	12 (1/2)	12 (1/2)	16 (5/8)	16 (5/8)	20 (3/4)	20 (3/4)	24 (1)	40 (1 9/16)
Max. Kickout Length	mm (in.)	25 (1)	40 (1 9/16)	35 (1 3/8)	50 (2)	55 (2 3/16)	75 (3)	75 (3)	100 (4)	100 (4)	130 (5 1/8)
Min. Kickout Length	mm (in.)	6 (1/4)	8 (5/16)	9 (11/32)	12 (1/2)	12 (1/2)	16 (5/8)	15 (19/32)	20 (3/4)	18 (23/32)	50 (2)
Quill Hole Diameter × Depth	mm (in.)	14×37 (9/16×1 7/16)	14×52 (9/16×2)	20×51 (3/4×2)	20×81 (3/4×3 5/32)	28×75 (1 1/8×3)	28×99 (1 1/8×4)	36×92 (1 3/8×3 3/4)	36×117 (1 3/8×4 21/32)	45×110 (1 3/4×4 3/8)	45×160 (1 3/4×6 5/16)
Pusher Die Hole Diameter × Depth	mm (in.)	14×45 (9/16×1 3/4)	14×60 (9/16×2 3/8)	15×51 (19/32×2)	15×81 (19/32×3 5/32)	20×75 (3/4×3)	20×99 (3/4×4)	25×92 (1×3 3/4)	25×117 (1×4 21/32)	30×110 (1 3/16×4 3/8)	30×160 (1 3/16×6 1/4)
Die Hole. Diameter × Depth 1st (No.1) and 2nd (No.2)	mm (in.)	32×50 (1 1/4×2)	32×65 (1 1/4×2 5/8)	48×70 (1 7/8×2 3/4)	48×100 (1 7/8×4)	64×100 (2 1/2×4)	64×125 (2 1/2×5)	80×125 (3 1/8×5)	80×150 (3 1/8×6)	96×150 (3 3/4×6)	96×200 (3 3/4×8)
Center Distance between 1st and 2nd Dies	mm (in.)	45 (1 3/4)	45 (1 3/4)	55 (2 3/16)	55 (2 3/16)	70 (2 3/4)	70 (2 3/4)	90 (3 9/16)	90 (3 9/16)	110 (4 3/8)	110 (4 3/8)
Punch Hole. Diameter × Depth 1st (No.1) and 2nd (No.2)	mm (in.)	25×60 (1×2 3/8)	25×60 (1×2 3/8)	35×80 (1 3/8×3 1/8)	35×80 (1 3/8×3 1/8)	50×115 (2×4 1/2)	50×115 (2×4 1/2)	65×130 (2 9/16×5 1/8)	65×130 (2 9/16×5 1/8)	75×160 (3×6 5/16)	75×160 (3×6 1/4)
Center Distance between 1st and 2nd Punches	mm (in.)	45 (1 3/4)	45 (1 3/4)	55 (2 3/16)	55 (2 3/16)	70 (2 3/4)	70 (2 3/4)	90 (3 9/16)	90 (3 9/16)	110 (4 3/8)	110 (4 3/8)
Ram Stroke Length	mm (in.)	65 (2 9/16)	90 (3 9/16)	100 (4)	125 (4 15/16)	110 (4 3/8)	160 (6 5/16)	140 (5 1/2)	200 (6)	180 (7 3/32)	240 (9 [illegible])
Punch Front Dead Center	mm (in.)	18 (11/16)	18 (11/16)	20 (3/4)	20 (3/4)	25 (1)	25 (1)	30 (1 3/16)	30 (1 3/16)	40 (1 9/16)	40 (1 9/16)
Total Forming Force	metric tons	15	15	30	30	50	50	80	80	120	120
PKO Stroke	mm (in.)	8 (5/16)	8 (5/16)	10 (3/8)	10 (3/8)	15 (5/8)	15 (5/8)	20 (3/4)	20 (3/4)	24 (1)	24 (1)
Production Capacity, Max.	pieces/min	400	350	300	250	250	200	200	160	160	120
Main Motor	kW (Poles)	5.5 (6)	5.5 (6)	7.5 (6)	7.5 (6)	15 (6/12)	15 (6/12)	18.5 (6/12)	18.5 (6/12)	22 (6/12)	30 (6/12)
Approx. Machine Weight	tons	2.5	3.3	4	4.5	6.5	7.5	11.5	13	18	20

Notes (1) English dimensions are approximate.
(2) Indicated machine specifications may vary according to your special requirements.

Installation Floor



		4B	4L	6B	6L	8B	8L	10B	10L	12B	12L
A	mm	1,040	1,040	1,300	1,330	1,500	1,550	1,700	1,800	2,000	2,150
	(in.)	(40.9)	(40.9)	(51.2)	(52.4)	(59.1)	(61.0)	(66.9)	(70.9)	(78.7)	(84.6)
B	mm	1,330	1,330	1,350	1,400	1,480	1,500	1,770	1,800	1,980	2,200
	(in.)	(52.4)	(52.4)	(53.1)	(55.1)	(58.3)	(59.1)	(70.0)	(70.9)	(78.0)	(86.6)
C	mm	2,000	2,200	2,600	2,850	3,060	3,400	3,780	4,200	4,330	5,050
	(in.)	(78.7)	(86.6)	(102.4)	(112.2)	(120.5)	(133.9)	(148.8)	(165.4)	(170.5)	(198.8)