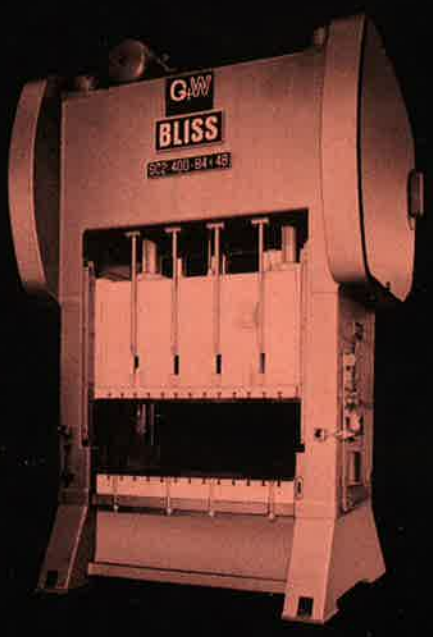
G+W BLISS

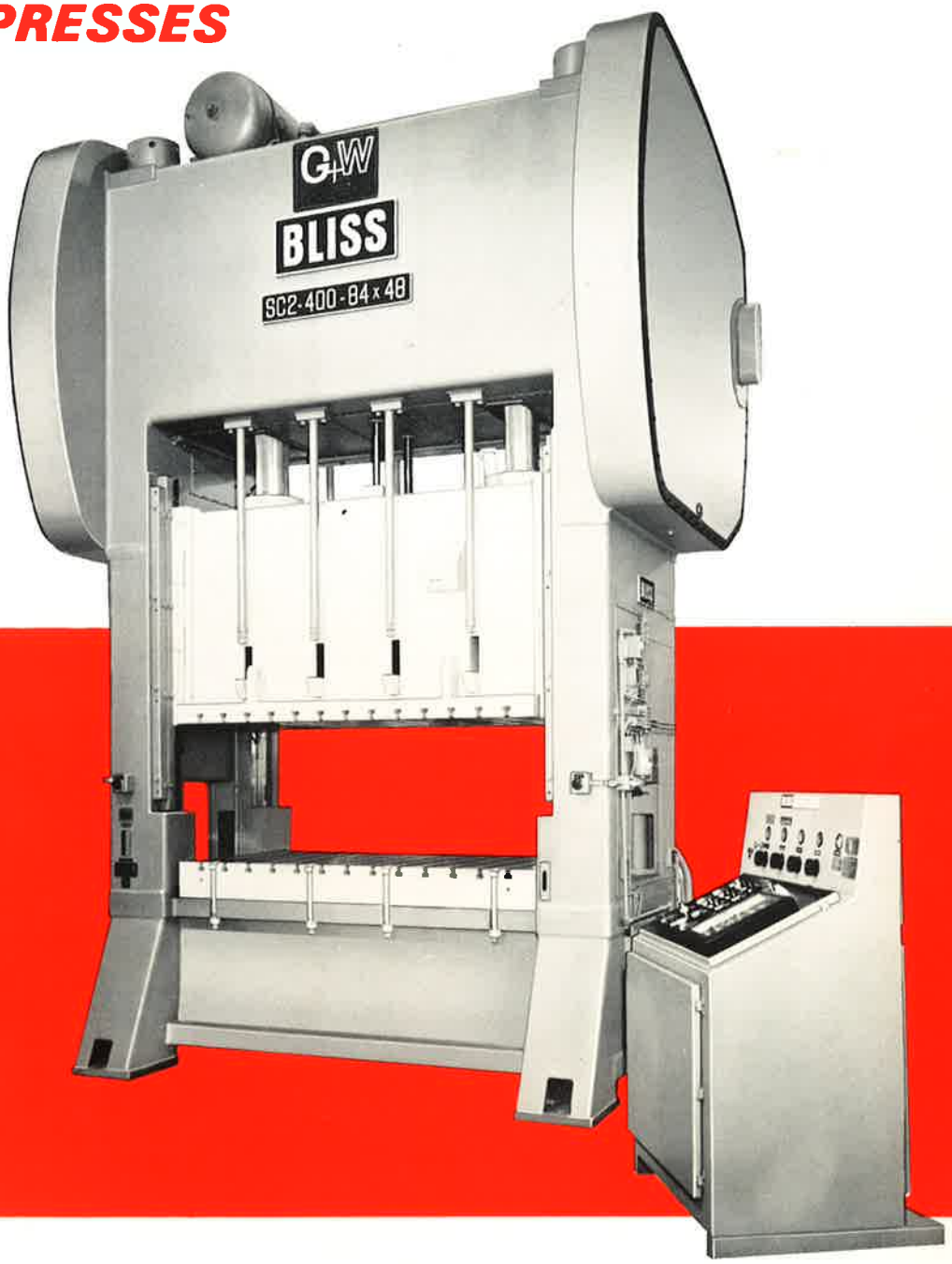
Steel Weldment Frame Single Action Two Point Presses

CATALOG 200



CATALOG 200

BLISS SINGLE ACTION TOP-DRIVE PRESSES



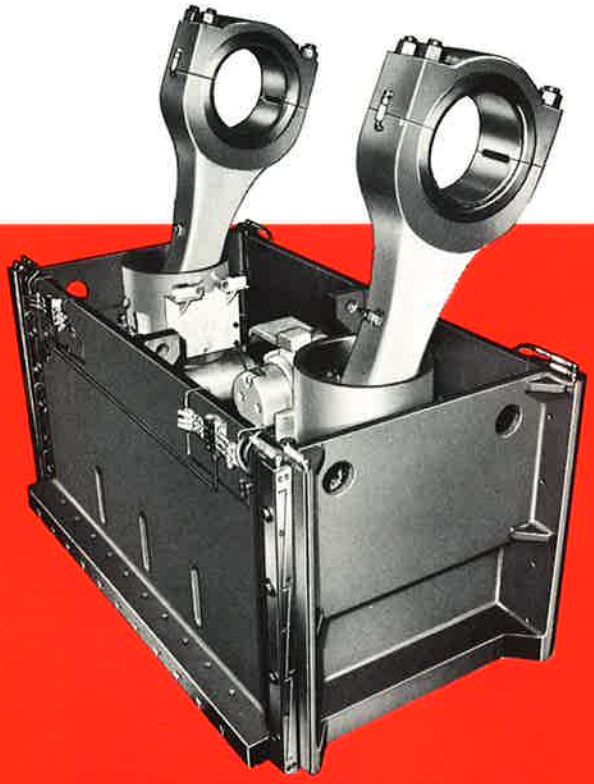
Bliss SC2 presses are used for general purpose forming, drawing, and blanking operations. They are suited to either short or long production run applications. Available in capacities from 150 to 400 tons these presses are offered in a wide range of bed areas. They can be furnished as either single geared or double geared machines with either single end or twin end drives.

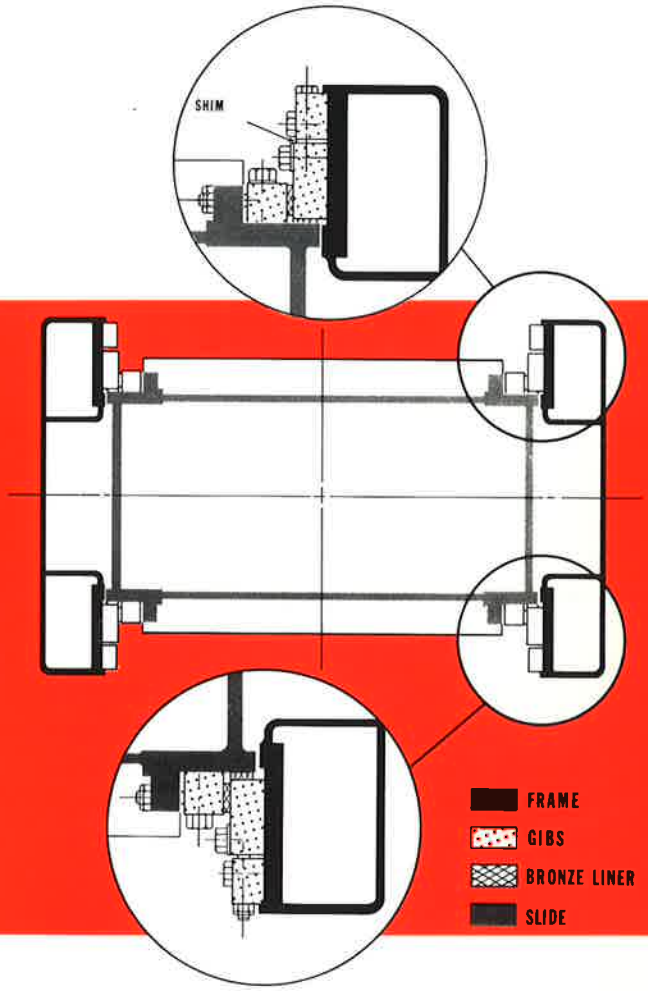
Standard units are of the non-inbuilt design with various degrees of inbuilding available as an option. Design features include 8 point gibbing, air counterbalances, provisions for bar-type knockouts, automatic recirculating oil lubrication, motor-driven slide adjustment and a combination clutch and brake. Many optional features are available such as overload devices, tie rod tensioning devices, die cushions and a variety of feed arrangements.

BLISS

SLIDE AND GIBS

Bliss reserves the right to discontinue or change specifications, designs, or materials without notice, in keeping with sound engineering principles and modern practices.



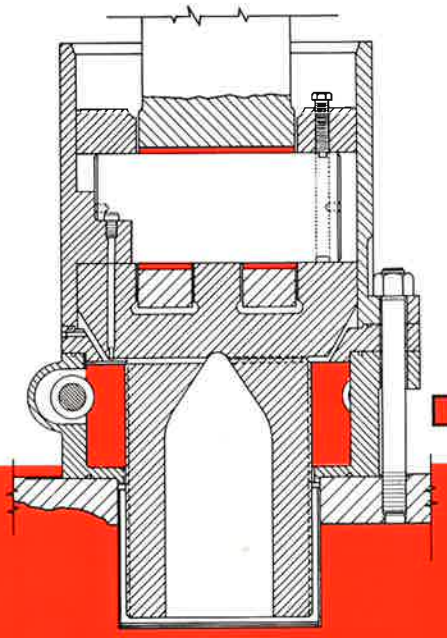


SLIDE CONSTRUCTION

The slide is a rigid, stress relieved weldment. Slide deflection at center shall not exceed .002" per foot of die space length and shall be measured from a straight-edge supported at the edges of the die space with the press loaded at rated tonnage. Load to be distributed over two-thirds of the die space length and symmetrically about its center. Other deflection characteristics are available on request.

GIBBING

Eight-point gibbing is standard on all Bliss SC2 Presses. This type of gibbing provides maximum guidance of the slide at all four corners in both directions of thrust. Bronze wear strips are on all eight slide ways. For positive locking, solid shims are inserted behind each gib after it has been properly adjusted.



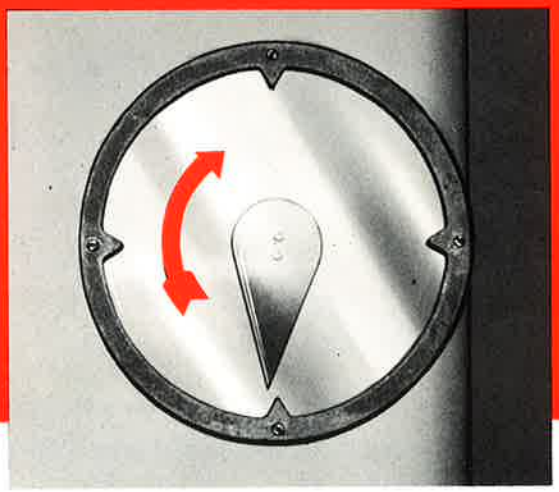
Denotes Bronze

SLIDE ADJUSTMENT

All presses in this line have power slide adjustment. The barrel-type connection is adjusted by a motor-driven steel worm meshing with a bronze worm-wheel and nut. This bi-metallic engaging surface provides maximum resistance to galling during extended periods of use. The connection is designed to minimize undesirable movement during tension and compression portions of the press cycle.

SHUTHEIGHT INDICATOR

Shutheight indicator is available as optional equipment. This device is located on the slide. It speeds die setting to previously established shutheights by direct read-out of shutheight in thousandths of an inch.

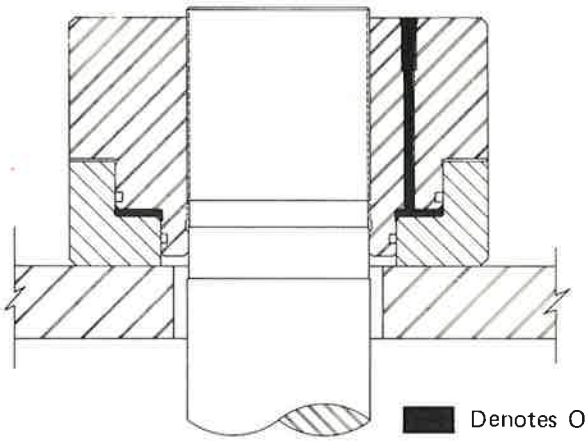


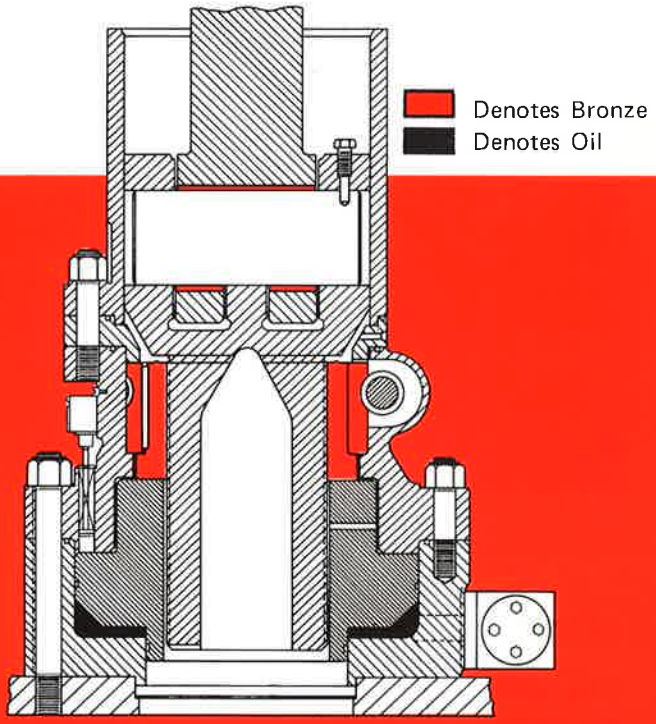
STROKE POSITION INDICATOR

This mechanically driven device shows the four quadrant positions of the crank throughout the stroke of the press. It can be positioned on the upright or at the back of the rotary limit switch and is an optional feature.

HYDRAULIC TIE ROD NUT

Standard tie rods are drilled for bolt heaters (calrods). One of the quickest and most convenient ways of prestressing tie rods in these straight side presses is by means of the two-piece, hydraulically expanded tie rod nut shown here, which is available as an optional feature. Used in place of standard tie rod nuts, these devices are mounted permanently on the crown or bed. Threaded on the rod until snug against the crown, the nut is then expanded until a shim of correct thickness to provide the proper tensioning in the rod can be inserted between the nut and cylinder housing. By reactivating the nut and removing the shim, stress on the rod is quickly removed to relieve an "on-bottom" condition. Operation of the nut is by means of a pneumatic or manually operated hydraulic pump.





HYDRAULIC OVERLOAD

Available as an option on all SC2 Presses, this device is highly recommended for protection against possible damage to press and dies due to errors in die setting or accidental overloading. The device is set to operate at 115% of press capacity unless otherwise specified. The overload system incorporates a hydraulic cylinder at each point of tonnage application, designed to open an overload relief valve upon exceeding a pre-set pressure. A remote control for the pressure limit is furnished.

COUNTERBALANCES

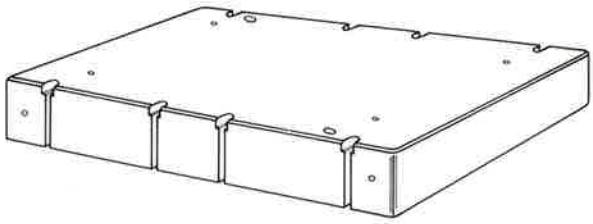
Counterbalance cylinders are provided on all presses. These units balance the weight of the slide and other reciprocating press parts. By varying the air pressure, it is possible to counteract the weight of dies, reducing wear of drive gears.

KNOCKOUTS

Slides are arranged with slots for bar knockouts. Knockout parts are optional.

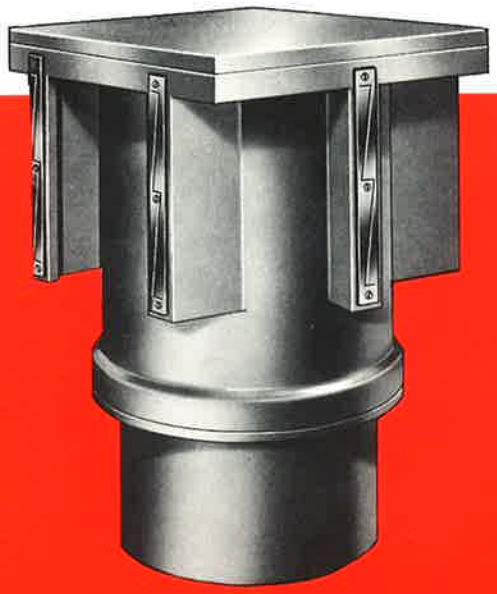
BLISS

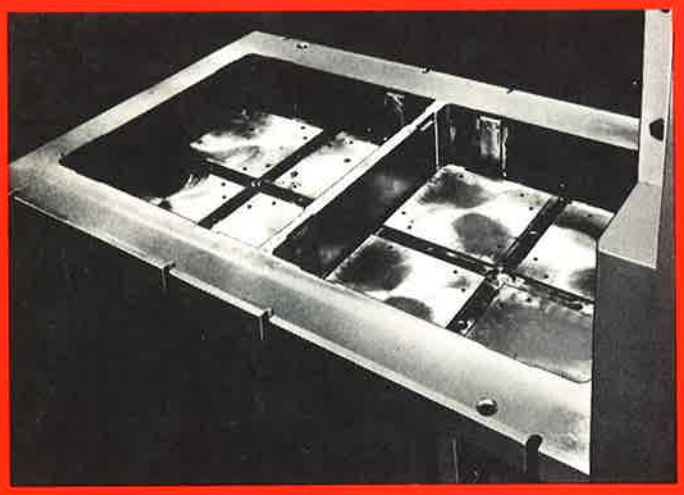
BEDS AND BOLSTERS



BOLSTERS

Standard bolsters are steel, provided with holes for conventional hold-downs. Additional machining for T-slots, etc. is optional.



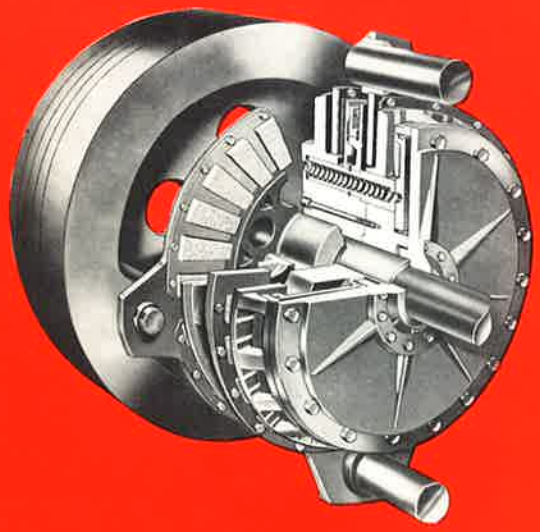


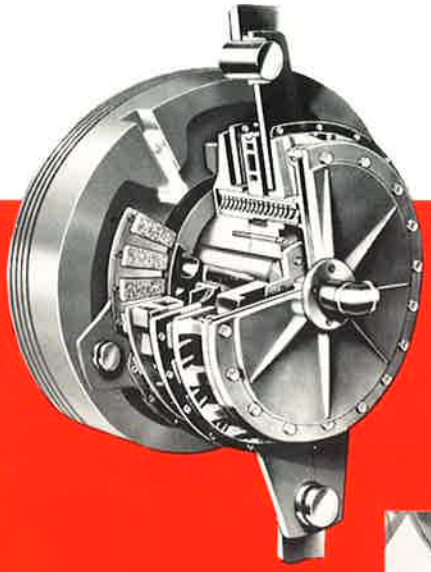
BEDS

Press beds are constructed of welded steel, stress relieved and rigidly reinforced. Bed deflection at center shall not exceed .002" per foot of die space length and shall be measured from a straight-edge supported at the edges of the die space with the press loaded at rated tonnage. Load to be distributed over two-thirds of the die space length and symmetrically about its center. All standard beds are machined for field installation of standard die cushions. Optional variations from standard machining include special machining for scrap discharge and provision of pads for specific feeding mechanisms to customer specifications.

EXPANDING THE CAPABILITY OF SINGLE ACTION PRESSES

Bliss cushions are available in a wide range of sizes, capacities, and operating features. With them, the quality as well as the versatility of work performed in single action presses can be substantially extended. Every Bliss press is furnished with the bed pre-machined to accept standard cushions. Standard cushions can be installed in side-by-side multiples for large bed areas or stacked to increase cushion tonnage in a relatively small die space.





TYPE "AK" ADJUSTABLE DISC COMBINATION AIR FRICTION CLUTCH AND BRAKE

This popular unit is a combination clutch and brake in which the friction clutch is air-operated and the disc brake is spring-set. When air pressure is released (or fails), springs automatically set the brake. An adjustment is provided which insures instant engagements and full energy transfer even after much wear on the linings. The driving disc moves only a fraction of an inch between full engagement and full brake. Heat is dissipated rapidly by the exclusive Bliss design which forces blasts of cooling air over surfaces where heat is generated. This unit's self-aligning feature eliminates much of the periodic adjustment required by some designs. Linings are replaceable without dismantling the clutch or drive. This brake and clutch arrangement is standard on SC2 presses.

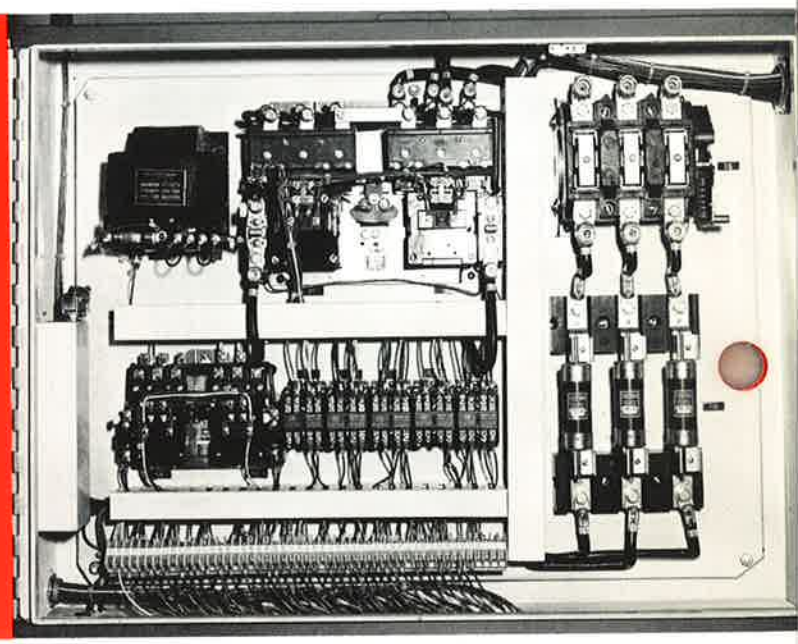
OPTIONAL "CKU" AIR FRICTION CLUTCH WITH UNIQUE "UNSTICKER"

This combination air-friction clutch and brake mounts on the crankshaft. Short, fraction-of-and-inch travel between full clutch engagement and full brake provides an extremely fast action.

An "unsticking" device is optional with each clutch for freeing a stuck press. A bumper pin is inserted, as shown (far right), in the fly-wheel or gear. As the wheel revolves, the pin strikes against a lug on the clutch body to free the press.

BLISS
CONTROLS

Design and engineering of standard Bliss Controls affords a wide range of choices to suit individual user requirements. Standard presses include all necessary controls for standard features, terminating in a single master control panel.



SET-UP CONTROLS

Standard Bliss controls provide a full complement of set-up controls including main motor "Start-Stop" button, "Power On" pilot light, lubrication pressure indicator light, and two (2) key-lock selector switches. One key-lock switch has positions "Off" – "Inch" – "Single Stroke" – "Continuous" and the other switch provides positions "Clutch" and "Slide Adjust". Also included are slide adjust "Raise" and "Lower" pushbuttons; one (1) auxiliary outlet plug in press "Top Stop" circuit; and one (1) auxiliary outlet plug in press "Stop" circuit. These outlet plugs are provided as a customer convenience and may be connected to die probes, stock control devices, etc. Wiring is color-coded and numbered to simplify maintenance and coordinate the actual wiring with the Bliss Service Manual wiring diagrams.

MAIN CONTROL CABINET

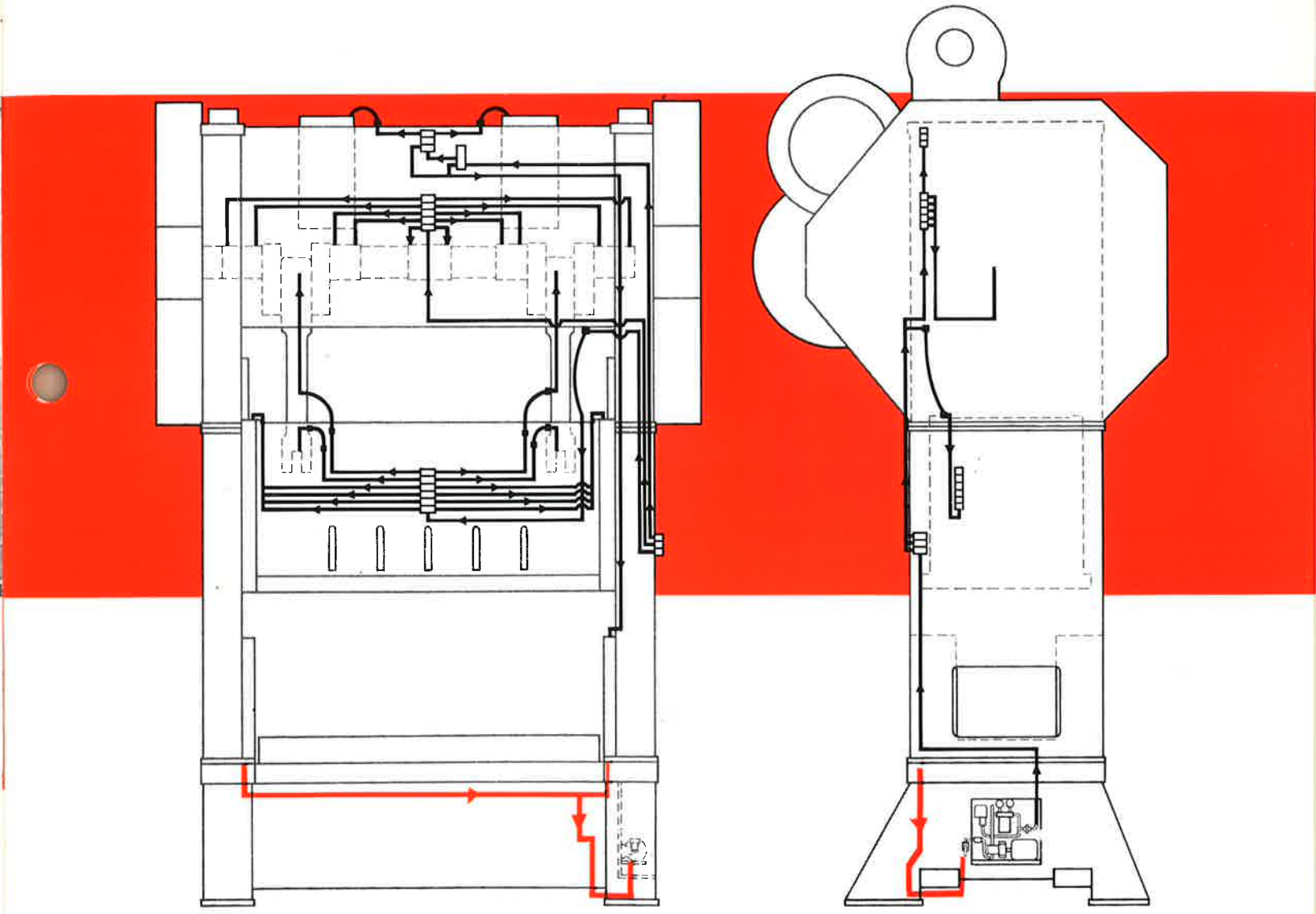
SC2-Series Presses are available with many different control options to suit individual user requirements. The basic Bliss 86H standard control is a combination clutch and motor control unit in a NEMA 12 enclosure. In full compliance with the ANSI B11.1-1971 Code as we interpret it, it includes a non-reversing main motor starter; reversing slide adjust motor starter; lube motor starter; limit switches for slide adjust control; fusible disconnect switch; control circuit transformer (110 volt secondary); Bliss four-cam rotary limit switch; double solenoid air valve, self-monitoring; clutch airline pressure switch; and counterbalance airline pressure switch.

OPERATOR CONTROLS

Operator's push buttons for controlling press functions are normally located on the right hand press column. Included are two (2) "Run-Inch" buttons with ring-type guards and anti-tiedown provision; one (1) "Stop" button; and one (1) "Top Stop" button. Many other arrangements are available as options, including pedestal mounts, foot controls, remote consoles, outlets for run-button arms, and additional operator buttons.

LUBRICATION

The Bliss recirculating oil system is fully automatic and continuously circulates clean, filtered lubricant to the main bearings, connections, and slide gibs at a controlled rate. A high-low pressure switch and a low reservoir switch interlock the lubrication system with the main motor circuit. Signal lights indicate performance. A visual indication is obtained by a cycle indicator pin in the master block. The system must have correct operating pressure before the press can be started. Main gears run in oil.



Pressure Line
Return Line

BLISS

TYPE "G" ROLL FEED

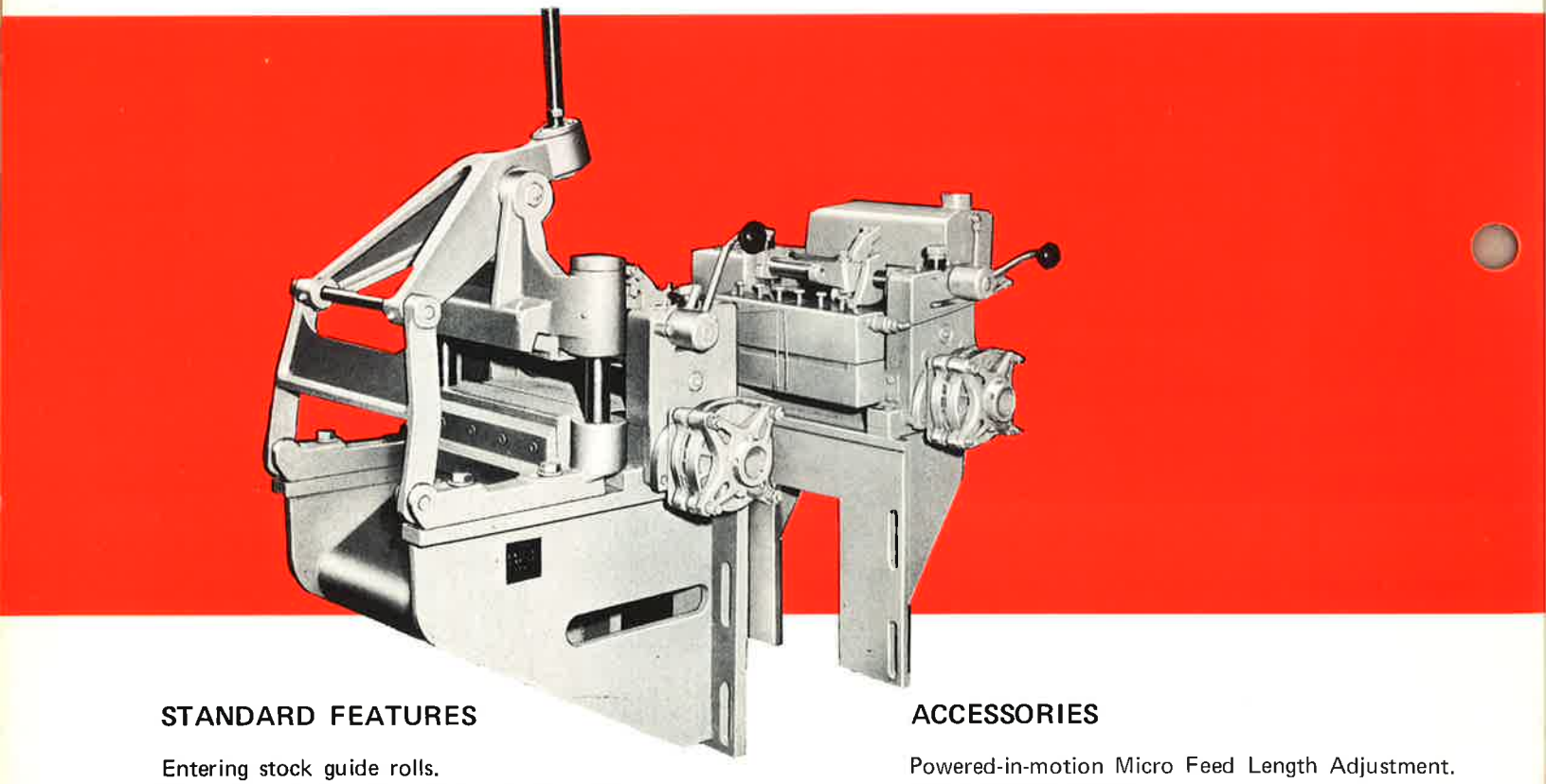
RUGGED, ACCURATE, PROFITABLE

Design evolution of press-feeding mechanisms in the last several years has come a long way toward closing the technology gap between automation devices and the press itself. Today, with properly selected feeds, it is commonplace to project press speeds far beyond those possible with manual feeding.

Speed is not the only factor responsible for the growing rate of automation. More uniform productivity, optimum tool life, reduced machine wear and improved quality control are among the other benefits of automation.

As pioneers in the development of high speed presses with integrated roll feeds, Bliss has long had a stake in advancing feed technology. The Bliss Roll Feeds presented here are the result of 40 years of development and working experience. Their many standard and optional features enable each user to realize fully the production and profit potential of his press equipment. Bliss feeds have the versatility to be adaptable to most press applications.

ALL BLISS ROLL FEEDS ARE PROVIDED WITH COVERS IN COMPLIANCE WITH THE ANSI B11.1—1971 CODE, AS WE INTERPRET IT.



STANDARD FEATURES

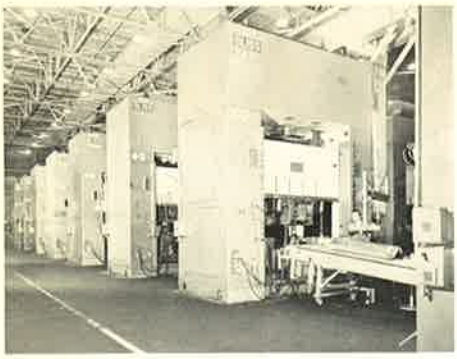
Entering stock guide rolls.
Heavy-duty brake, air-cooled and adjustable.
Torsion bar design maintains parallelism of rolls.
Sealed anti-friction bearings on rolls and drive shafts.
Hand operated roll opener.
Ratchet feed height adjustment.
Roll release mechanism to permit stock piloting.
Extra-heavy mountings for rigidity and durability.
Gears running in oil.
Centralized lubrication.

ACCESSORIES

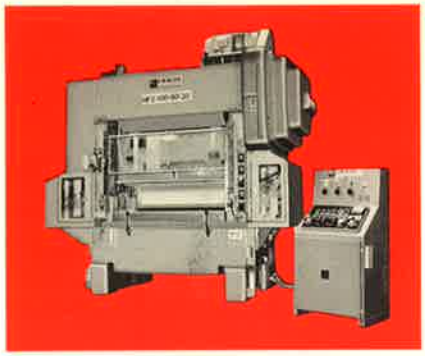
Powered-in-motion Micro Feed Length Adjustment.
Compensating gearing.
Stock buckle detector and automatic press stop.
Counterweighted throw blocks for high speed operation.
Stock oiler rolls with reservoir and metering valves.
Spray-type stock oilers.
Anti-backup rolls.
Special finishes on rolls.
Special feed lengths.
Low inertia rolls available for special applications.
Shear-type, press-actuated scrap cutter.
Power run-in for starting new strip.
Automatic lubrication system.

DIMENSIONS

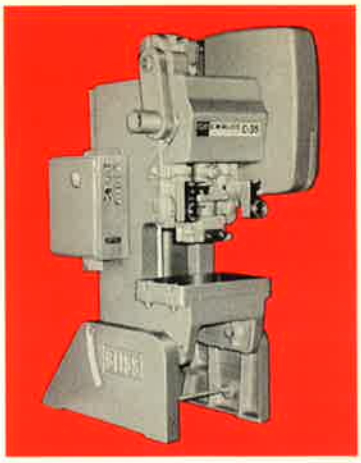
BLISS No.	SC2-150	SC2-200	SC2-250	SC2-300	SC2-400
Capacity near bottom of stroke - - - - - - - - Tons	150	200	250	300	400
Type of frame -	Tie-rod	Tie-rod	Tie-rod	Tie-rod	Tie-rod
DIMENSIONS COMMON TO ALL WIDTHS:					
Shaft diameter at main bearings - - - - - - - - Ins.	6	7	7½	8	9
Stroke of slide —Standard - - - - - - - - - - - - Ins.	4	4	8	8	8
Stroke of slide —Maximum - - - - - - - - - - - - Ins.	12	16	16	16	18
Strokes per min. —Press singled geared - - - - No.	35	30	30	27	25
Adjustment of slide - - - - - - - - - - - - - - - - -	8	10	10	10	10
Die space on bed, stroke down, adjustment up, standard stroke - - - J. I. C. Ins.	32	34	37	40	44
Distance bottom of foot to top of bed - - - - Ins.	32	32	32	32	36
Opening in uprights, front to back - - - - - - - Ins.	20	25	25	25	25
Left to right, bolster and slide face - - - - - - - - Ins.	**48**	**48**	**48**	- - - - - - -	
Front to back, bed and slide face - - - - - - - Ins.	30-36-42	36-42	36-42	- - - - - - -	
Bolster thickness - - - - - - - - - - - - - - - - - Ins.	5½	6	6½	- - - - - - -	
Bed opening—L to R - - - - - - - - - - - - - - - Ins.	36	36	36	- - - - - - -	
Bed opening—F to B - - - - - - - - - - - - - - - Ins.	21-27-33	21-27	21-27	- - - - - - -	
Motor, main drive - - - - - - - - - - - HP. and RPM.	15-1200	20-1200	25-1200	- - - - - - -	
Motor, slide adjusting - - - - - - - - - HP. and RPM.	3-1800	5-1800	5-1800	- - - - - - -	
Left to right, bolster and slide face - - - - - - Ins.	**60**	**60**	**60**	**60**	
Front to back, bed and slide face - - - - - - - Ins.	36-42-48	36-42-48	36-42-48-54	41-48-54	
Bolster thickness - - - - - - - - - - - - - - - - - Ins.	5½	6	6½	6½-7-7	
Bed opening—L to R - - - - - - - - - - - - - - - Ins.	48	48	48	48	
Bed opening—F to B - - - - - - - - - - - - - - - Ins.	27-33-39	21-27-33	21-27-33-39	27-33-39	
Motor, main drive - - - - - - - - - - - HP. and RPM.	15-1200	20-1200	25-1200	30-1200	
Motor, slide adjusting - - - - - - - - - HP. and RPM.	3-1800	5-1800	5-1800	5-1800	
Left to right, bolster and slide face - - - - - - Ins.	**72**	**72**	**72**	**72**	**72**
Front to back, bed and slide face - - - - - - - Ins.	36-42-48	36-42-48	42-48-54	42-48-54	48-54-60
Bolster thickness - - - - - - - - - - - - - - - - - Ins.	5½	6	6½	6½-7-7	7½
Bed opening—L to R - - - - - - - - - - - - - - - Ins.	60	60	60	60	60
Bed opening—F to B - - - - - - - - - - - - - - - Ins.	27-33-39	21-27-33	27-33-39	27-33-39	33-39-45
Motor, main drive - - - - - - - - - - - HP. and RPM.	20-1200	25-1200	25-1200	30-1200	40-1200
Motor, slide adjusting - - - - - - - - - HP. and RPM.	3-1800	5-1800	5-1800	5-1800	7½-1800
Left to right, bolster and slide face - - - - - - Ins.	**84**	**84**	**84**	**84**	**84**
Front to back, bed and slide face - - - - - - - Ins.	36-42-48	36-42-48-54	42-48-54-60	42-48-54-60	54-60
Bolster thickness - - - - - - - - - - - - - - - - - Ins.	5½	6	6½-6½-6½-7	6½-7-7-7	7½
Bed opening—L to R - - - - - - - - - - - - - - - Ins.	72	72	72	72	72
With F to B rib in center—width of rib - - Ins.	2	2	2	2	33-39
Bed opening—F to B - - - - - - - - - - - - - - - Ins.	27-33-39	21-27-33-39	27-33-39-45	27-33-39-45	40-1200
Motor, main drive - - - - - - - - - - - HP. and RPM.	20-1200	25-1200	30-1200	30-1200	7½-1800
Motor, slide adjusting - - - - - - - - - HP. and RPM.	3-1800	5-1800	5-1800	5-1800	
Left to right, bolster and slide face - - - - - - Ins.	- - - - - - -	- - - - - - -	**96**	**96**	**96**
Front to back, bed and slide face - - - - - - - Ins.	- - - - - - -	- - - - - - -	48-54-60	48-54-60	54-60
Bolster thickness - - - - - - - - - - - - - - - - - Ins.	- - - - - - -	- - - - - - -	6½-6½-7	7-7-7	7½
Bed opening—L to R - - - - - - - - - - - - - - - Ins.	- - - - - - -	- - - - - - -	84	84	84
With F to B rib in center—width of rib - - - Ins.	- - - - - - -	- - - - - - -	2	2	33-39
Bed opening—F to B - - - - - - - - - - - - - - - Ins.	- - - - - - -	- - - - - - -	33-39-45	33-39-45	50-1200
Motor, main drive - - - - - - - - - - - HP. and RPM.	- - - - - - -	- - - - - - -	30-1200	40-1200	7½-1800
Motor, slide adjusting - - - - - - - - - HP. and RPM.	- - - - - - -	- - - - - - -	7½-1800	7½-1800	



STRAIGHT SIDE ECCENTRIC PRESSES



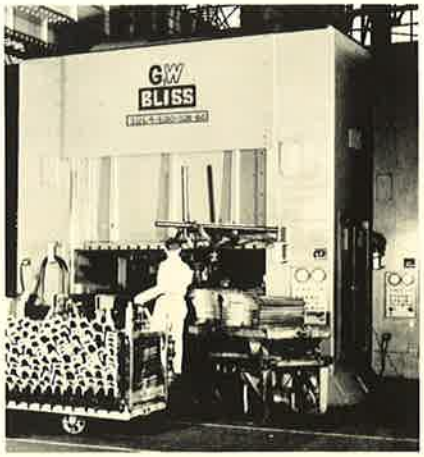
HIGH PRODUCTION PRESSES



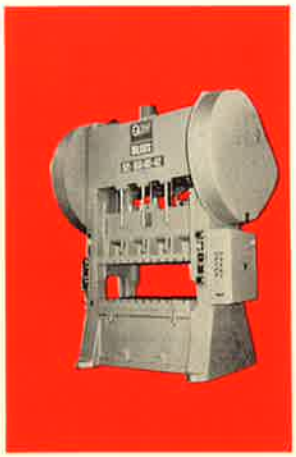
INCLINABLE PRESSES

other Bliss presses

KNUCKLE JOINT PRESSES



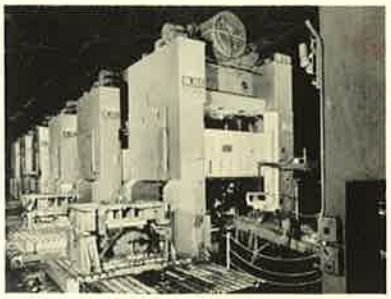
SINGLE AND MULTIPLE ACTION
UNDER-DRIVEN PRESSES



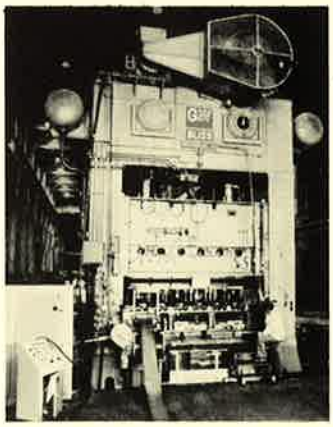
STRAIGHT SIDE
TWO POINT PRESS

POWERBAR PRESSES

WELDING PRESSES



ROLLING BOLSTER PRESSES



TRANSFER FEED PRESSES

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