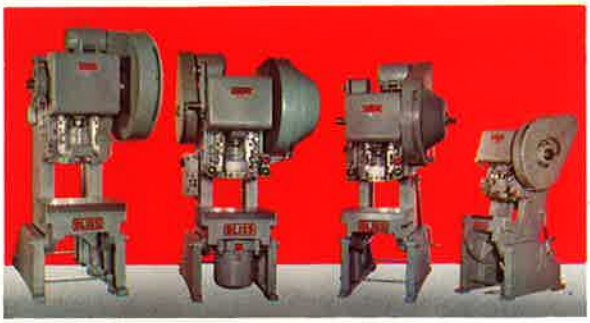
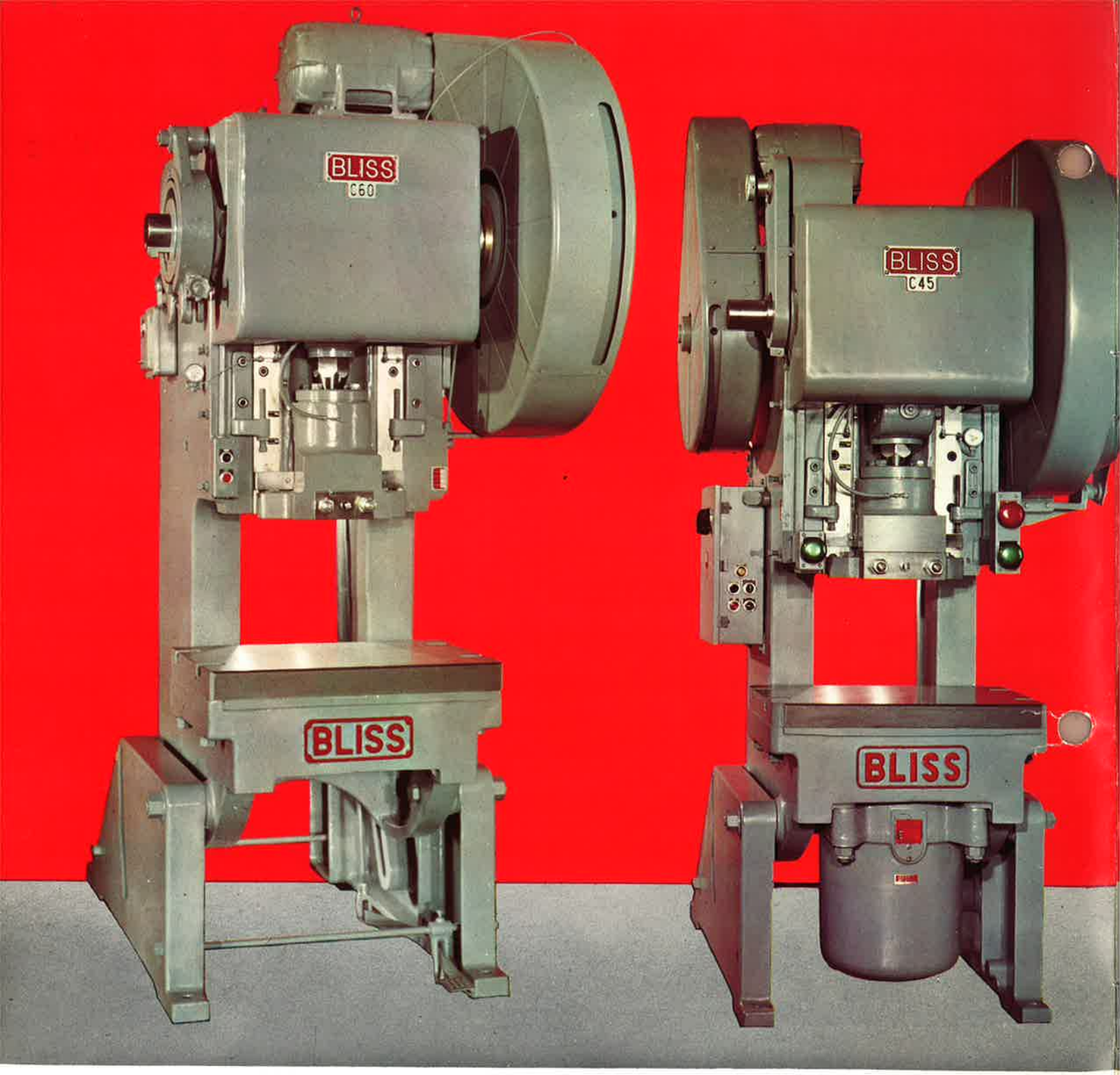


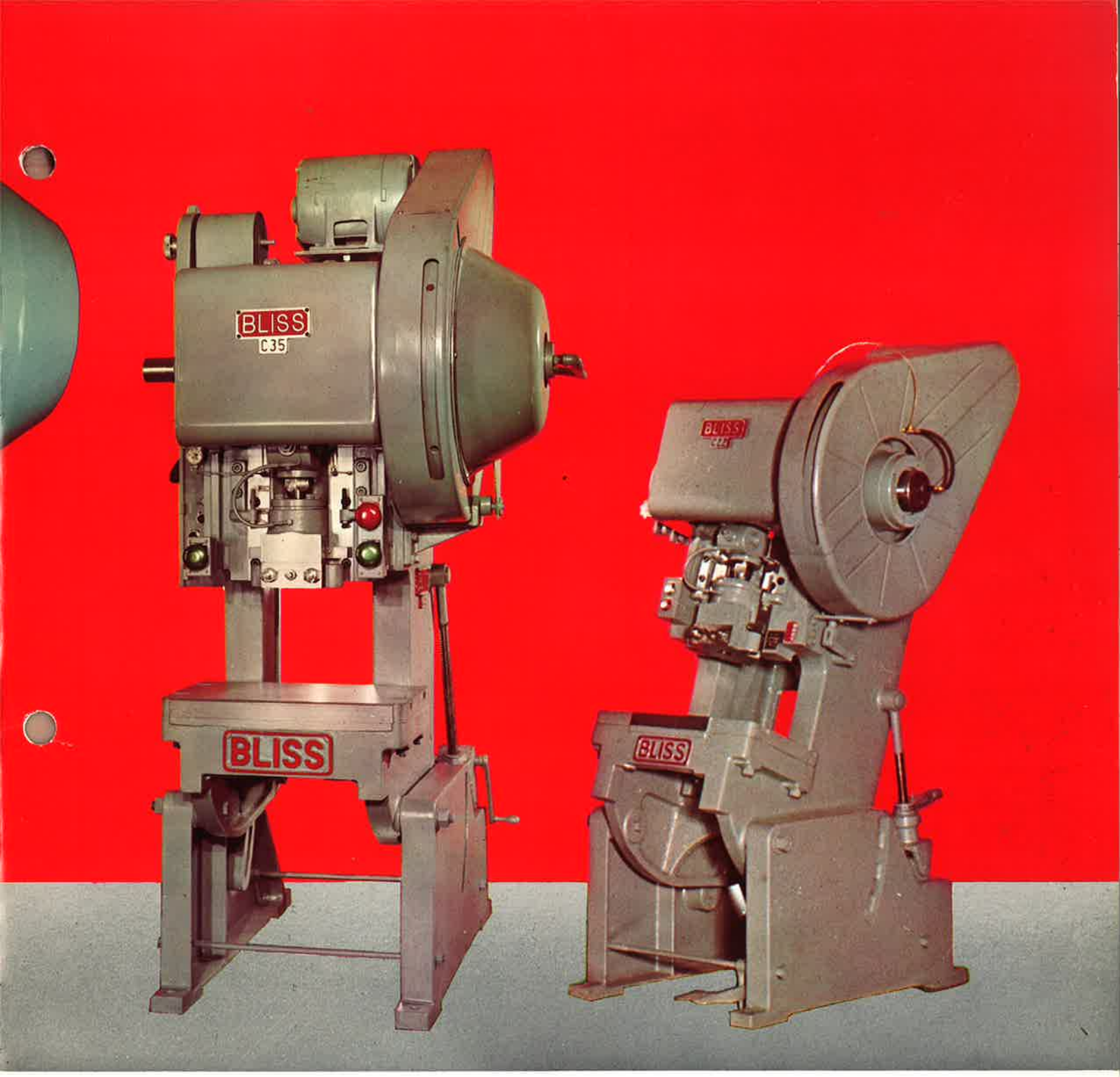
BLISS' big "C" series inclinable presses

BLISS
SINCE 1857 ®

CATALOG 2G



introducing the Bliss big **"C"** *Series*



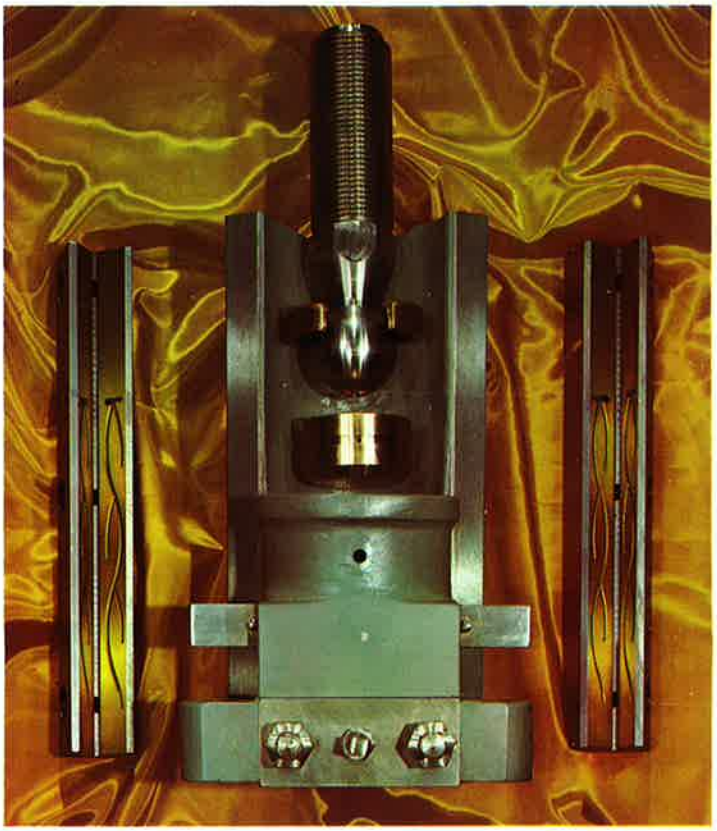
...an advanced concept in inclinable press design

- Less frame deflection
- More die space
- Large openings in bed and through frame uprights
- Heavier crankshafts
- Recirculating oil lubrication (optional)
- Portable inclining mechanism (optional)
- Choice of clutches (mechanical or friction)
- Modern, clean-cut design
- Bronze ball seat and bronze plated gibs.

• *The design facts speak for themselves*

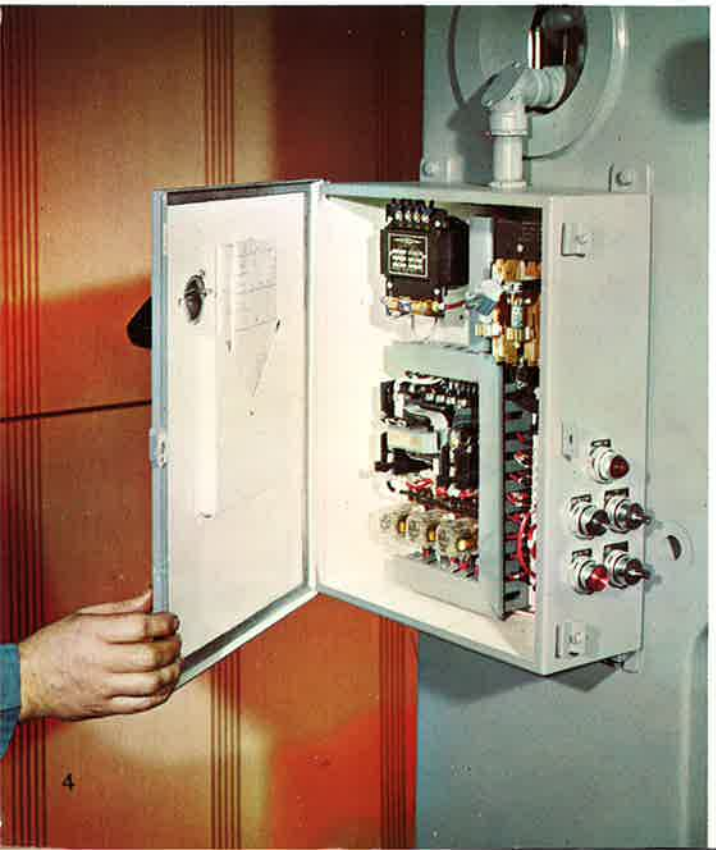
Tonnage ratings exceed JIC specifications. In order to take advantage of the more rigid frame which is a feature of the new "C" Series presses, each working part has been designed to develop tonnages in excess of JIC specifications without structural strain. The crankshafts of the new "C" series are large, having as much as 25%-30% greater diameter at the crankpin. Precision forged from SAE 1045 steel, all crankshafts are normalized to insure toughness and shock resistance under load, and machined and finish ground to extremely close tolerances. Main shaft bushings, and those on the connection are bronze.

Each model in the new series develops its rated tonnage at a measured distance from bottom stroke. Bliss guarantees that this distance exceeds JIC specifications in all press sizes.



• *Compact combination controls*

The electrical controls of "C" Series presses are contained in a single, compact enclosure. These controls include safety features such as a fusable disconnect switch, a control circuit transformer, a NEMA 12 enclosure, an anti-repeat circuit, and a double relay safety circuit. Besides the standard "run" "stop" and "jog" buttons, settings for either continuous or single-stroke operation are provided. Console-type controls are also available.

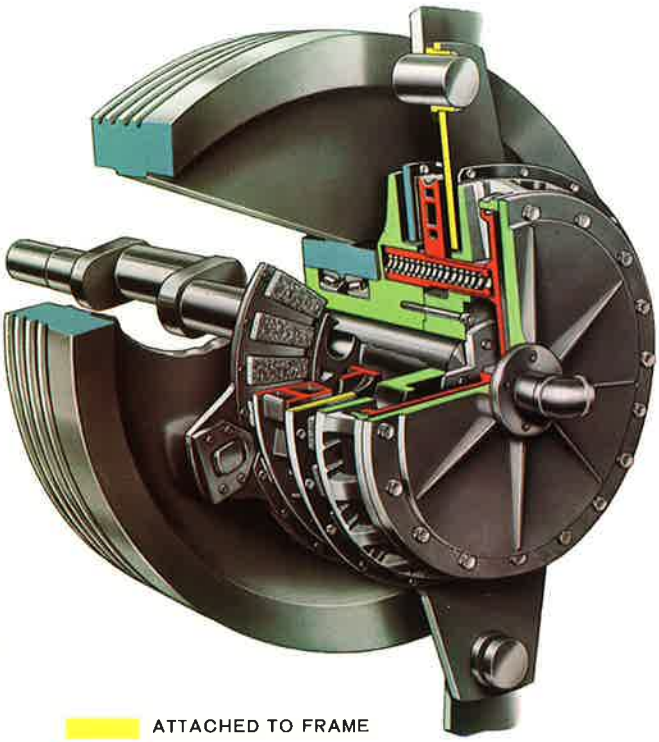


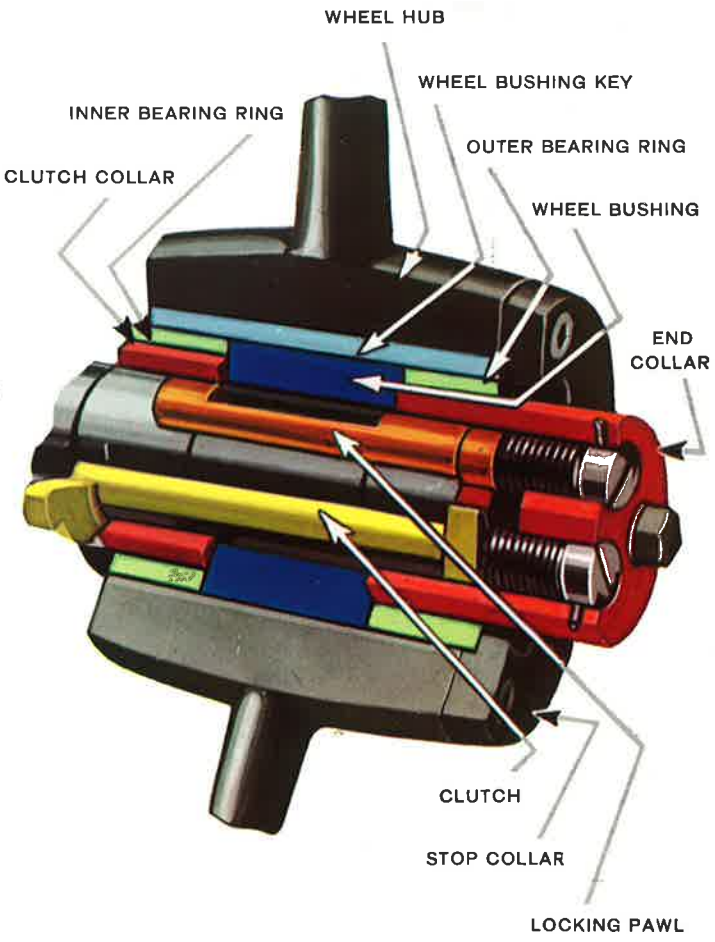
• *Strength, wear-resistance and ease of adjustments*

Slide, connection and gibbing. The slide adjustment on the larger sizes of Bliss "C" Series inclinable presses provides longer adjustment, together with exceptional ease of locking, and a strong connection. The ball-type connection screw is similar to that used on Bliss High Production presses and has thoroughly proven its dependability.

The liberal size of the bronze ball seat and the bronze ball cap provides full wearing surfaces for the connection screw, while laminated shims make it possible to maintain proper ball clearances at all times. Extra-long slides and bronze plated V-gibs are standard on all "C" Series presses. All "C" Series presses are furnished with semi-automatic lubrication. Automatic and recirculating systems are optional. These automatic systems are a great advantage when high-speed or automatic operation is the norm, because they provide clean, continuous, economical lubrication.

Two clutches suit any job requirements





Type CK Combination Air-Friction Clutch and Brake mounts on the crankshaft. On geared presses the main gear runs continuously. This reduces flywheel slowdown, cuts power consumption and distributes tooth wear around the periphery of the gear. Also, a crankshaft mounted CK clutch allows exceptionally high single trippings without overheating. Short, fraction-of-an-inch travel between full clutch engagement and full brake provides an extremely fast action. Clutch mounts outside the press frame, dissipating heat rapidly and prolonging lining life. Linings can be quickly replaced without dismantling the clutch.

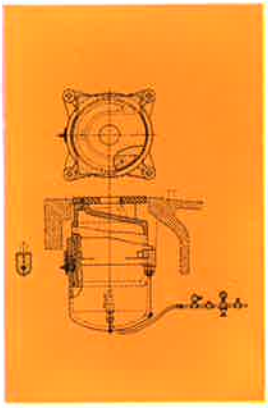
In tests, as well as in actual production, a CK clutch has been single-tripped millions of times without a single failure of any description, stopping every time at top stroke.

Bliss Rolling Key Clutch is the most satisfactory positive clutch ever developed for power presses. The engaging surfaces are large and close to the shaft axis, resulting in low velocities and greatly reduced strain on the working parts. Driving and locking members function independently, allowing for full engagement before impact. The Bliss flywheel does not rotate directly on the crankshaft. Instead, it is keyed to removable bronze bushings. This reduces wear in the flywheel bore. It also eliminates the cocking forces that cause uneven wear on clutch parts, and the constant "clacking" noise often experienced with other mechanical clutches. The Bliss clutch is ideally suited for either single tripping or continuous operation.

CO-14-4 die cushion as mounted on C-45 press.

Bliss-Marquette die cushions make any big "C" Series inclinable a double-action press

The inherent versatility of "C" Series inclinable presses can be greatly extended by equipping geared models with a Bliss-Marquette "CO" die cushion. The press frames have already been machined to receive the cushions, so mounting one is a simple matter. The cushion supplies blankholding pressure for a wide range of drawing and forming operations, and can also be used to operate a lift-out pad. The adjustable pneumatic pressure in the heavily-designed cylinder of the cushion provides uniform blankholding pressure, eliminating "wrinkles" and fractures of the blank in drawing operations.



CO die cushion is internally guided. To keep the pins in the die when air is exhausted, the downward travel of the pressure pad can be limited from 2" to maximum stroke of cushion. CO cushions have a patented slug chute that permits drawing and piercing in one operation. Blanks can also be dropped through the die to the chute without removing the cushion, providing the pressure pad has a hole.

There's a cushion for each press...

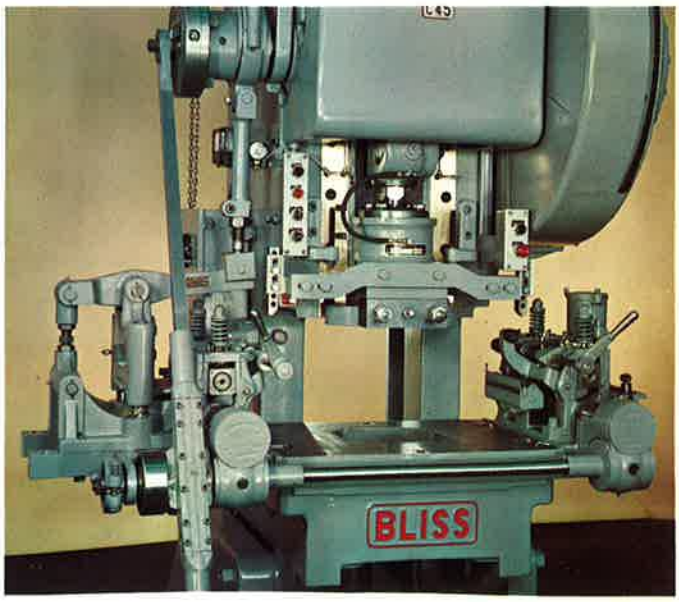
Press	Cushion Size	Pressure Capacity Tons*	Weight, lbs.	Lug Centers F. to B., in.	R. to L., in.
C-22	CO-10-3	3.9	370	12½	11
C-35	CO-10-3	3.9	370	12½	11
C-45	CO-14-4	7.7	580	17	14
C-60	CO-14-4	7.7	580	17	14

* At 100 p.s.i. air line gauge pressure.

Two to ten times the output when your new big "C" Series inclinable has a BLISS FEED

Bliss offers the complete package of press and feed designed to go together. Your Bliss press and feed are built as a unit in the Bliss factory. Bliss feeds are designed to meet many different stamping requirements. In general, a feed will greatly increase the output of a "C" Series inclinable press when it is being used in continuous operation. Moreover, the use of feeds also makes possible the operation of a whole battery of presses by a single operator.

Besides the double-roll feed shown here, Bliss offers single-roll feeds, dial feeds and a variety of special feed designs, as well as a line of coil cradles, stock straighteners, scrap cutters and other special stock-handling equipment.



Specifications

PRESS No.	C-22	C-35	C-45	C-60
Capacity in Tons*	22	35	45	60
Clutch (Crankshaft Mounted)	Air Friction or RKC	Air Friction or RKC	Air Friction or RKC	Air Friction or RKC
Crankshaft				
Diameter at Main Bearing ins.	2½	3	3½	4
Diameter at Crank Pin ins.	3¾	4½	5¼	6
Motor Required HP	2	3	5	5
Speed of Motor				
Non-Geared Press rpm	1200	1200	900	900
Geared Press rpm	1800	1800	1800	1800
Strokes Per Minute				
Non-Geared Press	150	120	110	100
Geared Press	60	55	50	45
Stroke of Slide				
Standard ins.	2½	3	3	4
Maximum ins.	4	5	6	8
Adjustment of Slide ins.	2¼	2½	3	3
Slide Area across bolt lugs LR x FB ins.	10¼ x 8⅛	10¼ x 8¾	15 x 10½	17 x 12
Stem Hole in slide (Dia. x Depth) ins.	1½ x 2½	2 x 2¾	2 x 3	2 x 3
Bed Area LR x FB ins.	23½ x 14½	26½ x 17½	29½ x 19½	32 x 22
Bed Opening LR x FB ins.	13 x 9	15 x 10	16 x 12	18 x 14
Dia./Intersecting Circle in Bed ins.	10½	12	14½	16
Depth of Throat, distance back from center of slide ins.	7½	9	9½	11
Width of Opening in Back ins.	12	12½	14	15
Width between Gibs ins.	5¾	6 15/16	9½	11¼
Bolster Thickness ins.	1¾	2	2½	3
Standard Die Space, distance bed to slide, SDAU, standard stroke ins.	9¼	10¾	12¼	14¼
Maximum Die Space, distance bed to slide, SDAU, standard stroke ins.	10¼	11¾	13¼	15¾
Distance Bed to Gibs, standard on standard body ins.	12	14	15½	18½
Distance Bed to Gibs, maximum on standard body ins.	13	15	16½	20
Distance Floor to Bed with Press Erect ins.	31½	32¾	33	35
Overall Height with Motor ins.	88½	97½	104½	114
Floor Space of Legs LR x FB ins.	26½ x 44½	30½ x 52¾	33½ x 54	37 x 65
Floor Space Overall, Erect				
Non-Geared Press LR x FB ins.	43 x 54	48½ x 62¾	52¼ x 68½	58 x 80½
Geared Press LR x FB ins.	49 x 54	55 x 62¾	57¾ x 68	64½ x 80½
Inclining Attachment	Optional	Optional	Optional	Optional
Weight of Press, Approx. (with air clutch)				
Non-Geared Press lbs.	3300	5400	7200	11,000
Geared Press lbs.	3600	5900	7900	11,750
Standard Cushion—Geared Press Only	CO-10-3	CO-10-3	CO-14-4	CO-14-4
Cushion Capacity at 100 PSI air pressure tons	3.9	3.9	7.7	7.7

Bijur hand pump lubrication standard.
*Ratings shown are rated at a distance above bottom that exceed JIC specifications.

Complete parts and services are available for big

"C" Series inclinables

In keeping with Bliss' long-standing policy of providing fast service and quick delivery of replacement parts, complete inventories of parts for the new "C" Series presses are available at all Bliss service centers. Shafts, bearings, pinions, gears and other parts are stocked for immediate shipment, while sales offices and representatives are located in major industrial cities and are in daily contact with these service centers, maintained at our strategically-located plants.

As a result, the purchaser of a new "C" Series press can rest assured he will have the same fast maintenance and repair service that he has come to expect for any of his Bliss presses.

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