Guifil Hydraulic Press Brakes

Designed for Accuracy, Efficiency & Reliability

Essay International

Guifil engineering emphasizes accuracy and simplicity

The Technical Innovation

The Guifil Press Brake — a machine tool of original conception due to its accuracy, its efficiency, its reliability and to a design definitely revolutionary.

The accuracy and the extreme simplicity of operation.

Guifil engineers set out to make the phenomenon of deflection work FOR, rather than against, the bending of material. The conventional approach of a moving upper ram was soon discarded.

Instead Guifil produced a press brake with a moving lower ram. With this approach, the ram could be powered by three cylinders to spread out the force and avoid the uneven distortion of previous designs.

This up-acting system results in an ideal deflection curve. Both beams deflect in the same, NOT opposite directions. In addition, the three-point bending pressure eliminates the need for tedious and time-consuming shimming in the central portions of the ram. The Guifil approach increases productivity and cuts scrap while reducing trial and error during set-up.

Simple, Safe Operation (Simplicity)

Because the Guifil press brake is so simple to use, operators become productive after a very short learning curve.

To raise the ram, the operator steps on a foot pedal. This pedal is set up like a car's accelerator — the more pressure on the pedal, the faster the ram will rise. Infinitely variable control over ram speed means that bending is safe and completely controlled. Whip back and whip up of large sheets of material are easily eliminated.

A further contribution to safe operation, the ram halts immediately and drops when the operator removes his foot from the pedal. The ram can be

Simplicity and Strength Add Up To Reliability in Production Operations

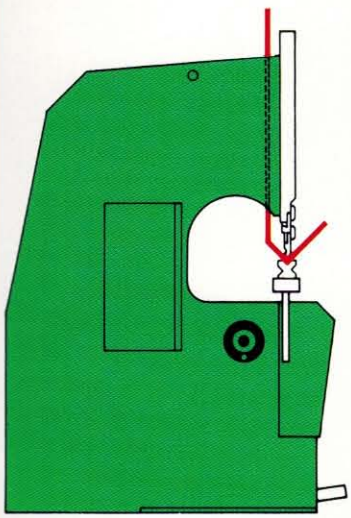
stopped in mid-stroke instead of completing its cycle as a mechanical press brake would.

When the operator keeps his foot on the pedal, the lower beam comes up to the precise point needed to achieve the desired bend angle. The beam stays in position until the operator lifts his foot.

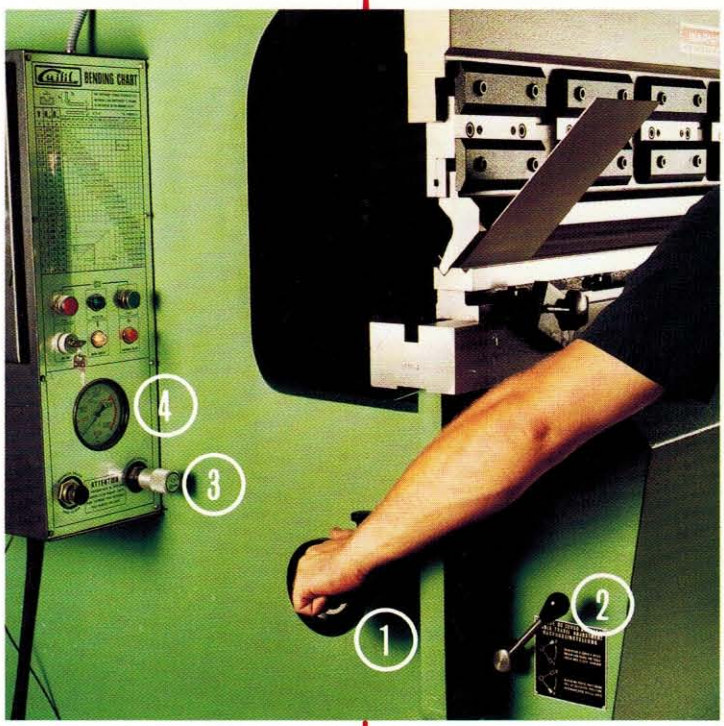
The handwheel control modifies beam movement under full tonnage to change the bend angle. This feature combines with the inherent accuracy of the Guifil machine to enable the operator to make a part from the very first blank. With our press brake on the job, you won't need 25 blanks to produce 20 parts.

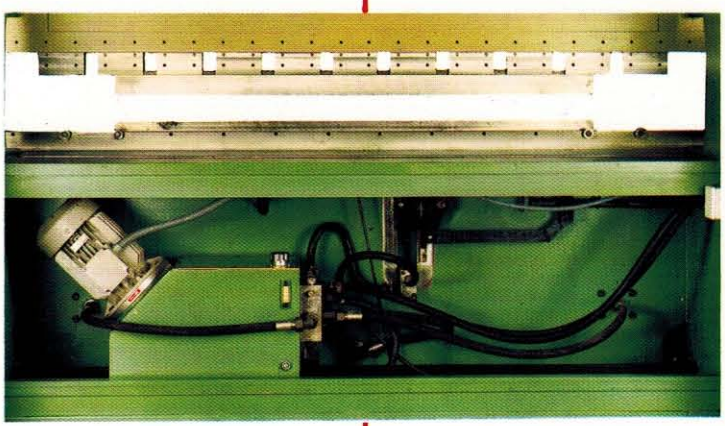
A Strong Foundation

Guifil builds its press brakes with a super-rigid frame to which the upper ram is anchored by an interlock system that is precisely adjustable, and that remains so during years of constant operation.



Guifil's deep throat design, short side frame and unobstructed top beam extend bending capabilities





Simple 3-Speed Hydraulics

A major asset of the upstroking Guifil brake is its simple, efficient hydraulic system. Fewer working parts means less wear and less risk of deteriorating accuracy. It also means lower maintenance cost and less downtime.

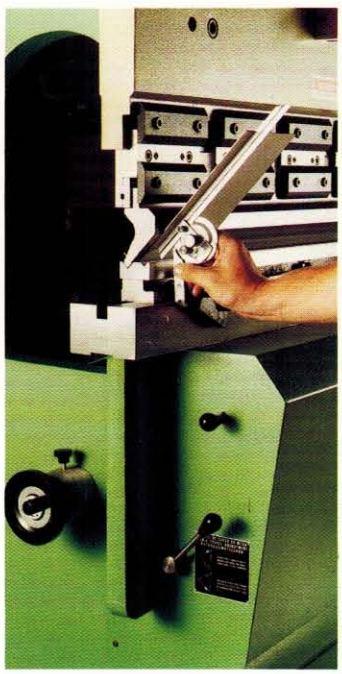
In operation, the primary hydraulic cylinder raises the ram quickly. As the punch engages the workpiece, the secondary cylinders move the ram more slowly, reducing whip up during bending. This is the only work the hydraulic system does in the Guifil upstroking system, as opposed to the additional effort required of a conventional downstroking system, of retracting and supporting the ram. Due to gravity, the ram retracts quickly and drops to a pre-set bottom stop.

On many press brakes, this automatic 3-speed system is an expensive option. Guifil feels the safety and accuracy it ensures are important enough to make it a standard feature!

Simple Set-up

Guifil press brakes set-up quickly. The Ram stop position adjusts with a convenient hand control located within easy operator reach. The Ram bottom position can also be adjusted to reduce press brake cycle time. The simple design delivers reliable repeatability with a minimum of readjustment.

1. **Hand Wheel for Top Stop**
2. **Bottom Stop**
3. **Tonnage Control**
4. **Tonnage Gauge**



Quick set-up time increases productivity

Precision, Sensibility, Reliability

"The angular quality of a bend is dependent upon the precision of punch penetration into the die."

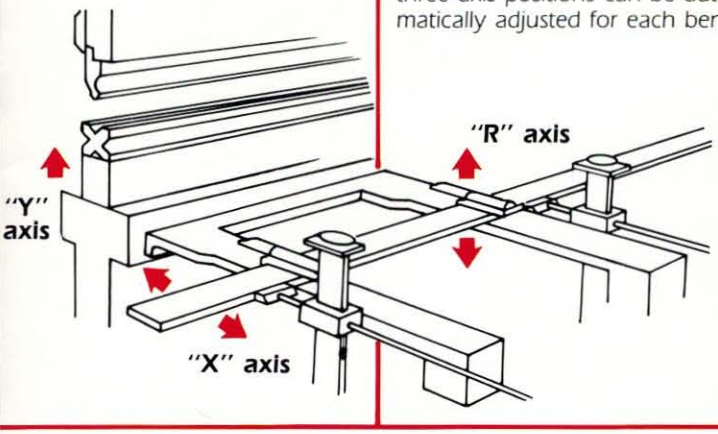
To reach this precision, Guifil has designed its press with a hydraulic bending depth control. The operating principle is simple: When the working beam reaches the required level the beam stops moving. To modify the penetration under tonnage it is only necessary to operate the hand wheel control.

First advantage: The hydraulic stop allows one to form a bend at the required angle without trial and error or extra handling of the piece by a progressive control of the angle during bending.

Second advantage: This valve allows "manual bending" by controlling the upstroke of the beam as well as the down-stroke. (This is particularly required when the machine is equipped with CNC). Bending can be achieved at a required speed when forming long or heavy plates without whip-up; therefore without "Back Bending".

With fewer mechanical parts, the hydraulic depth stop is precise, sensitive and, most important, very reliable.

This original system conceived by Guifil, unique in its simplicity, is also designed to accommodate any type of 'Y' axis CNC control.



Optional CNC Control Quadruples Output

An optional CNC gauging control system can almost double press brake output while reducing scrap waste and ensuring part uniformity.

Programming is simple: the operator goes through the steps of a forming operation, calibrating the control as he goes. Stored for ready use at any time, the program can be adjusted immediately for variations in material thickness, temper, or shear size.

In production, the automatically controlled gauge positions for each successive bend, maintaining precise angles and flanges. For the next part, the gauge quickly returns to the first position and begins again.

. . . Gauging Possibilities . . .

X,Y, and R axes can be precisely pre-set and locked for repeated accurate bends. With the addition of numeric controls, all three axis positions can be automatically adjusted for each bend.

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Important Features

- Up acting parallel deflection
- Roller bearing guide system assures superior positioning accuracy and precise tool alignment
- Accurate adjustment under full tonnage
- Compact, efficient single acting hydraulic system with overload protection
- Simplicity in design requires minimal maintenance
- Universal tool holders accept American or European style tooling
- Extra wide table with slot and set screws
- Strong interlocked rigid frame
- Fully unobstructed upper beam with deep throat
- Adjustable tonnage with readout
- Stroke limitation

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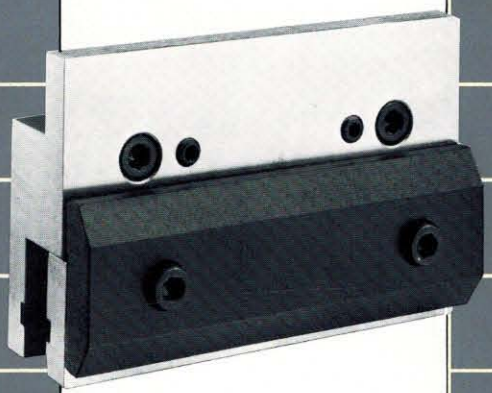
The Guifil Difference

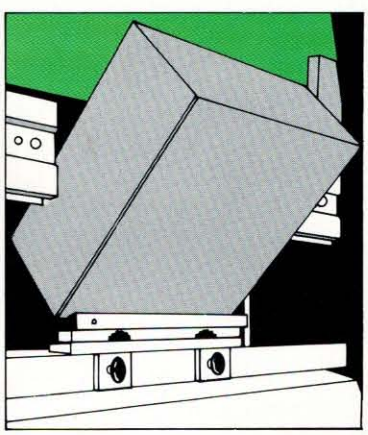
. . . in Accuracy . . .

Guifil's up acting, parallel deflection concept minimizes distortion but the necessity for worn tooling compensation is essential to precision forming. Rather than shimming, Guifil's sectional tool holders have adjustment wedges that are adjustable in front by means of push/pull screws and thus do not require tapping or hammering from the side!



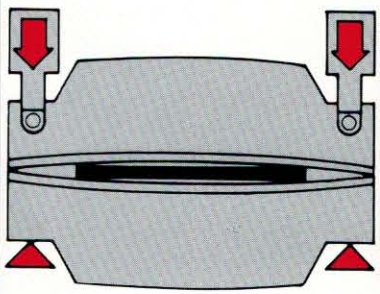
. . . in Tooling Versatility . . .

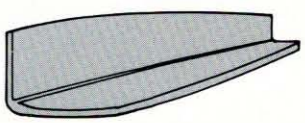
Universal tool holders accept american or european tooling and can be "stacked" to enable the forming of deep box bends and other operations not possible with conventional tooling setups.



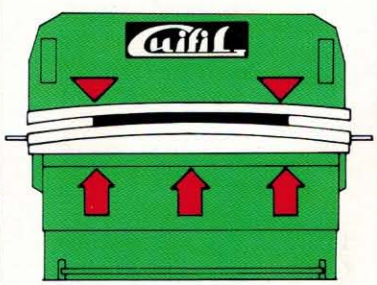
. . . in Controlling Deflection . . .

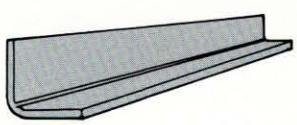
Conventional press brakes create greater punch/die penetration at the beam ends than in the center. This results in a varying bend angle across a workpiece. Guifil's upstroking ram action applies smooth, even pressure at spaced points. The bend angle is consistent across the workpiece.





Typical bending results with downstroking press brakes.



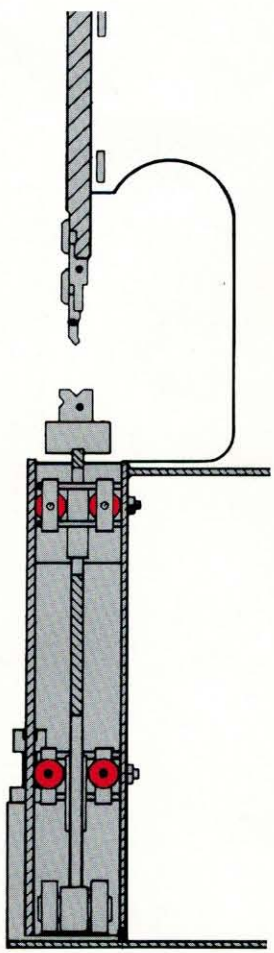


Guifil upstrokers with 1 (one) double central cylinder and two equidistant lateral cylinders give uniform parallel deflection along entire workpiece.

. . . in Tooling Alignment and Bending Accuracy

The bottom beam is guided by several precision bearings spaced along the beam length. These roller bearings are prepacked with grease. No wear, no maintenance, the guides remain accurate throughout the life of the Press. Beam parallelism is not a setup concern.

The eccentric shaft in mechanical brakes that drives the ram produces wobble caused by friction. Gibs (guideways) and screws designed to control wobble require lubrication and still wear quickly, reducing accuracy because of excessive free play. Guifil's simpler, bearing-guided system eliminates these problems.

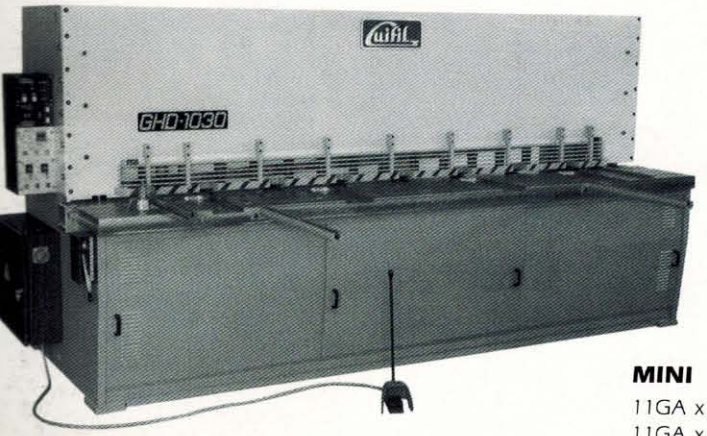


SPECIFICATIONS

STANDARD MODELS			PE 15-30	PE 20-30	PE 20-60	PE 25-60	PE 30-60	PE 25-100	PE 30-100	PE 30-150	PE 30-200	PE 30-300
FULL TONNAGE		U.S.	33	33	66	66	66	110	110	165	220	330
BENDING LENGTH		ft; in	5′	6′8″	6′8″	8′4″	10′1″	8′4″	10′1″	10′1″	10′1″	10′1″
DISTANCE BETWEEN UPRIGHTS		ft; in	4′5″	4′5″	4′11″	6′8″	8′4″	6′8″	8′4″	8′4″	8′4″	8′4″
THROAT DEPTH		ft; in	10″	10″	1′4″	1′6″	1′6″	1′6″	1′6″	1′6″	1′6″	1′6″
STROKE LENGTH		ft; in	4″	4″	4″	4″	4″	4″	4″	4″	5″	6″
SPEEDS (Approx.)	APPROACH	in/sec.	1.77	1.77	1.77	1.77	1.77	1.58	1.58	1.18	1.18	1.18
	WORKING	in/sec.	0.47	0.47	0.24	0.24	0.24	0.28	0.28	0.20	0.28	0.28
	RETURN	in/sec.	2.56	2.76	2.17	2.36	2.56	2.17	2.17	1.97	1.97	1.97
TABLE LENGTH		ft; in	4′11″	6′7″	6′7″	8′2″	9′10″	8′2″	9′10″	9′10″	9′10″	9′10″
OPEN HEIGHT WITHOUT TOOLS		ft; in	1′	1′	1′	1′	1′	1′	1′	1′	1′2″	1′4″
ELECTRIC MOTOR POWER		HP	5.5	5.5	5.5	5.5	5.5	10	10	10	20	30
POWER HYDRAULIC CYLINDERS		N.er	1 (double)	1 (double)	1 (double) + 2	1 (double) + 2	1 (double) + 2	1 (double) + 2	1 (double) + 2	4	4	4
MAX. LENGTH		ft; in	6′	7′8″	7′8″	9′4″	11′	9′4″	11′	11′	11′	11′
MAX. WIDTH		ft; in	4′2″	4′2″	4′9″	5′	5′	5′1″	5′1″	5′9″	5′9″	6′6″
TOTAL HEIGHT		ft; in	5′10″	5′10″	6′	6′8″	6′8″	7′4″	7′4″	7′11″	7′11″	8′8″
DEPTH UNDER FLOOR		ft; mm	—	—	—	—	—	—	—	2′8″	3′	3′2″
APPROXIMATE WEIGHT		Lbs.	4300	4740	6280	8160	9480	13230	14100	18080	22050	27560

Through Guifil's continual development, variations in specifications and performance are subject to change without notice.

Guifil Shears



GHD

1/4″ x 8′ 5/16″ x 8′ 3/8″ x 8′ 1/2″ x 8′
1/4″ x 10′ 5/16″ x 10′ 3/8″ x 10′ 1/2″ x 10′

GH

9GA x 6′
9GA x 8′
9GA x 10′

MINI

11GA x 5′
11GA x 6′
11GA x 8′

HN CORNER NOTCHER

9-3/4″ x 9-3/4″ x 9GA.

Essay International, inc.