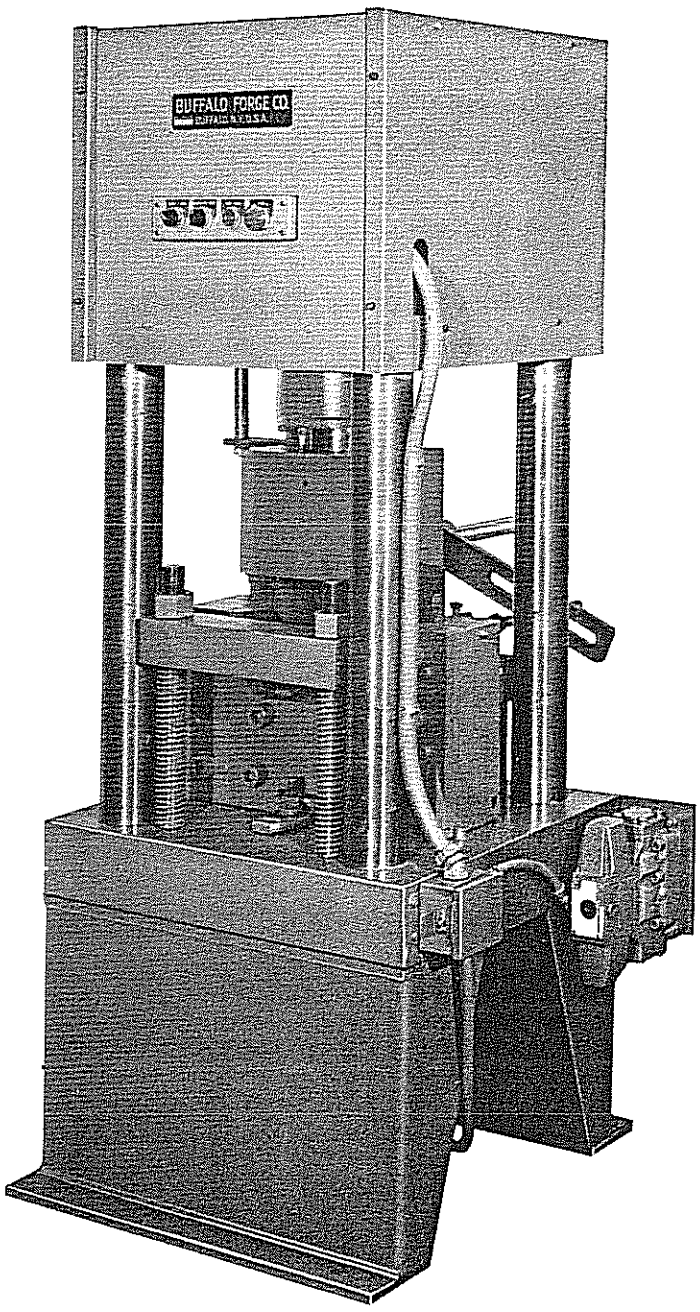
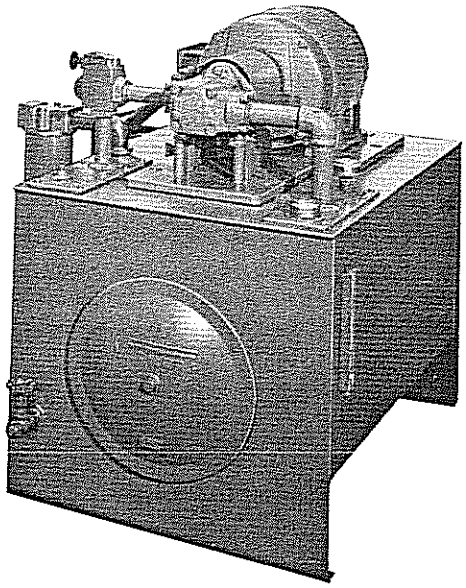
BUFFALO





The BUFFALO 60 and 190 ton Hydraulic Shears provide an economic means for production square shearing of structural steel sections including angles, channels, rounds, squares and flats.

Both models basically comprise a heavy duty hydraulic cylinder and stationary lower platen held together by four columns. The various types of quick change shear tooling are inserted between the cylinder ram and stationary platen. An electric powered hydraulic pumping unit provides the necessary shear force to close the shear blades giving smooth shockless operation. Any kerf is discharged into a scrap box located between the legs of the supporting bench.

The entire machine is safety and operator oriented with the shear control, length of stroke adjustment, installation of tooling and scrap removal all being conveniently serviced from the lefthand side of the machine.

Hydraulic valves and electrical controls are an integral part of the shear permitting several machines to be connected to a central hydraulic pumping unit. This feature also provides for readily dismantling and transporting the shear for "on jobsite" operation.

Each Buffalo Hydraulic Shear proudly bears these three emblems.

Buffalo MEMBER nmba Made in U.S.A.

Your assurance of quality, service and dependability.

Features

1 Extra heavy design, features mill type or JIC square head cylinder.

2 Hydraulic components are "off the shelf" standard commercial units.

3 Length of stroke is readily adjustable to increase the number of cuts per minute.

4 Quick change tooling, conveniently installed from the operator's side, is automatically located and aligned between the platen and ram.

5 High strength screws and clamps hold tooling firmly in place.

6 Rugged construction provides safe and shockless operation.

7 Electrical controls are designed to meet safety requirements, include 115 volt control circuit, inching or single stroke selector switch and antirepeat foot switch control.

8 Platen is premachined to receive standard work support and hold down.

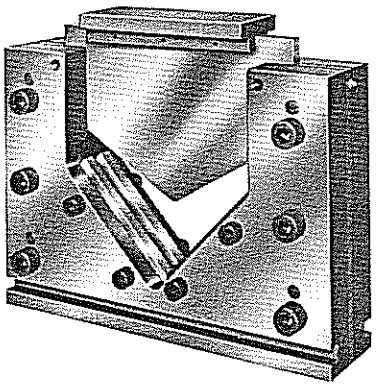
9 Scrap is bottom discharged. Base provides ample space for scrap box.

10 Dust cover has readily removable panels for servicing cylinder.

11 The shear and shear tooling is safety color coded.

12 Pumping units include a large capacity JIC reservoir, a vane type constant delivery pump, indicating type suction line filter, pressure gauge with shutoff valve motor, coupling, coupling guard and relief valve. Standard pumping units are designed to operate on petroleum base hydraulic fluid. Pumping units are also available for water glycol or synthetic fluids.

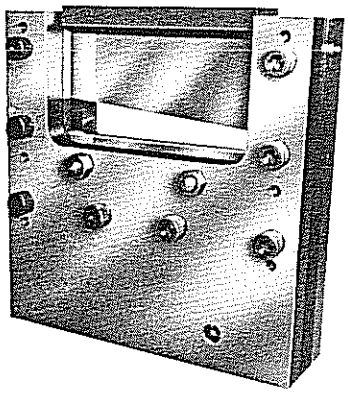
Tooling



Angle Tooling for 90° Cuts

Knives are made from high performance alloy tool steel with sufficient stock for several knife regrinds. The lower knives are reversible having four cutting edges. They are adjustable for proper knife clearance to assure clean, accurate square cuts without shock. Sliding surfaces are hardened to reduce wear and are provided with lubrication fittings. Tooling is readily and quickly changed, positively positioned and firmly clamped in place.

Flat bar shearing, limited to the length and thickness of one angle leg can also be accomplished using 90° angle tooling. No hold down is required with standard angle tooling.

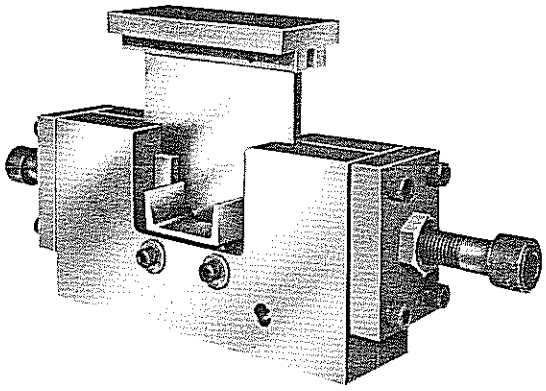


Flat Bar Shearing

Increased capacity with no noticeable amount of curl, twist or distortion, even on short shear lengths, are the result of a low rake knife (3°) and patented resilient work support. The kerf loss and scrap problems of double cut knives are eliminated with substantial increase in capacity. The moving knife has a choice of two cutting edges, each of the lower knives has four. Surfaces of the tool holder subject to wear are hardened and provided with lubrication fittings. An adjustable manual hold down is required with the flat bar tooling setup.

Channel Tooling

Channel tooling is designed on the principle of the parting knife or double cut technique. The side knives are adjustable manually and through the entire range of sizes sheared, to compensate for variation in mill tolerance as well as size. The fixed knives have multiple cutting edges and are adjustable for proper knife clearance to give a clean cut.



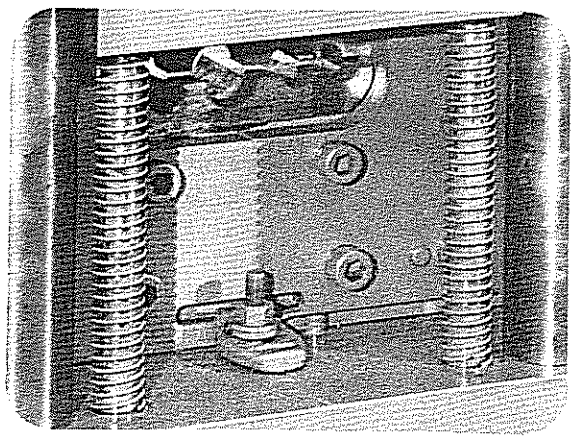
Round Bar Tooling

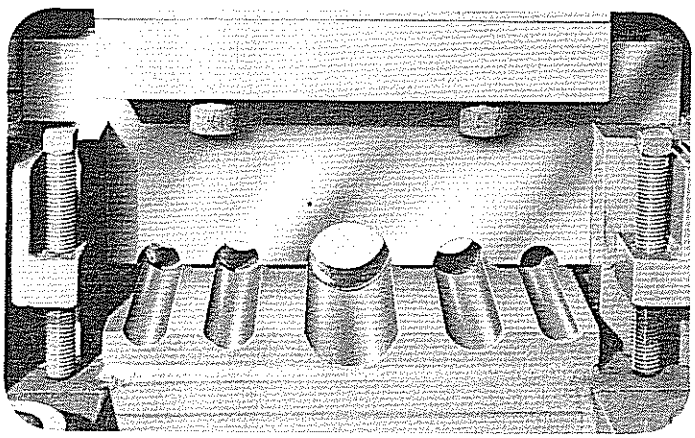
Two types are available, single or multiple opening. Both employ the billet shear knife principle to give longer tool life, increased guiding and cleaner cuts. The resilient work support is recommended to further improve the cut. It restricts bending and confines the workpiece to produce a cleaner, squarer, more accurate, near distortion free cut.

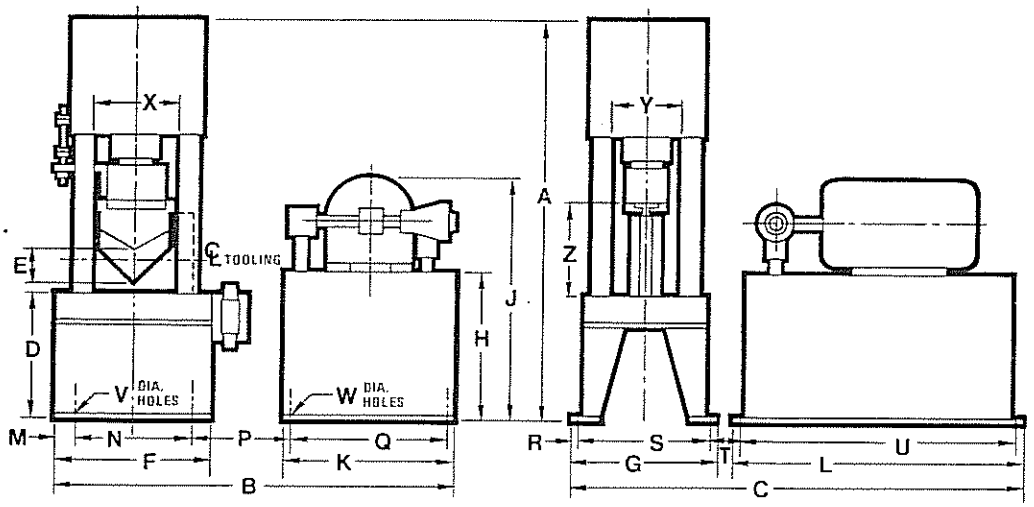
Multiple opening knives permit shearing a range of sizes without tool changes. They are, however, higher in initial and replacement cost. Single opening tooling, recommended for high production, feature lower initial cost, lower knife replacement cost, increased guiding and the ability to face and edge grind.

Work Support (U.S. Patent No. 31-52499)

Supporting the cutoff end of a bar, restricts bending, distortion and twist, with no reduction in shearing capacity. The work support utilizes a hardened steel cap cushioned by a block of resilient plastic, engineered to exert a counteracting force without affecting shearing tonnage or increasing machine stresses. The support plate is shaped to contour for round bars. Arrangement is included to preload the work support producing an adjustable counteracting force.







	A	B	C	D	E	F	G	H	J	K	L	M	N	P	Q	R	S	T	U	V	W	X	Y	Z
60 Ton	85-5/8	57-1/4	67-1/8	25-3/8	4	20	22	25	38-3/8	25	37-1/4	2-1/2	15	15-1/2	23-1/2	1-1/4	19-1/2	10-1/2	34-1/2	7/8	11/16	13-1/2	8-1/2	15-3/8
190 Ton	75-1/8	74	81-1/4	23-5/8	5	29	28	27-3/4	45	32	61	3-1/2	22	18	29	1-1/4	25-1/2	4-1/2	49	7/8	3/4	16-1/4	13-1/4	16-5/16

MACHINE SIZE	60	190
Tonnage	60	190
Cylinder		
Diameter of Piston	8"	14"
Stroke	4"	5"
Diameter of Rod	3-1/2"	5-3/4"
Column Diameter	2-1/2"	3-3/4"
Distance between columns		
Left to Right	12-1/2"	16-1/4"
Front to Back	9-1/2"	13-1/4"
Distance between ram and platen		
Minimum	11-1/2"	13-5/16"
Maximum	15-1/2"	18-5/16"
Normal pass line height	31"	33"
Strokes per min. @ max. pressure		
1" Stroke	34.0	29.5
2" Stroke	17.0	14.7
3" Stroke	11.0	9.8
4" Stroke	8.5	7.4
5" Stroke	—	5.7
Pumping Unit		
GPM	13.2	40.5
Maximum Pressure - P.S.I.	2500	2500
Motor HP	15	30
RPM	1800	1800
Reservoir Capacity	60 gal.	100 gal.

MACHINE SIZE	60	190
ANGLE TOOLING (Double Shear)		
Angles ASTM-A-36	6"x6"x1/2"	8"x8"x1"
	4"x4"x1/2"	6"x6"x1"
	3"x3"x1/2"	5"x5"x3/4"
	2"x2"x3/8"	4"x4"x3/4"
Flats AISI-C-1020	6"x1/2"	8"x3/4"
	4"x1/2"	6"x3/4"
	3"x1/2"	5"x3/4"
CHANNEL TOOLING (Double Shear)		
Channels ASTM-A-36	6"@13#	10"@30#
	5"@9#	9"@20#
	4"@7.25#	8"@18.8#
	3"@6#	7"@14.75#
	2"@2.57#	6"@13#
ROUND BARS (Single Shear)		
AISI C-1020 65000 TS	1-3/4"	3-1/8"
C-1030 80000 TS	1-1/2"	2-3/4"
C-1045 95000 TS	1-3/8"	2-1/2"
C-4140 95000 TS	1-3/8"	2-1/2"
C-4340 110000 TS	1-1/4"	2-1/4"
C-1090 140000 TS	1-1/8"	2"
SQUARE BARS (Single Shear)		
AISI C-1020 65000 TS	1-1/2"	2-3/4"
C-1045 95000 TS	1-1/4"	2-1/8"
FLAT BARS (Single Shear) 3° Rake		
AISI C-1020 65000 TS	10"x1/2"	12"x1"
	5"x5/8"	10"x1-1/8"
	3"x3/4"	7"x1-1/4"

We reserve the right to make changes and improvements in the design of our products without making replacements on existing machines —to alter designs or specifications in this bulletin where changes are deemed necessary by us for improvement of the machine