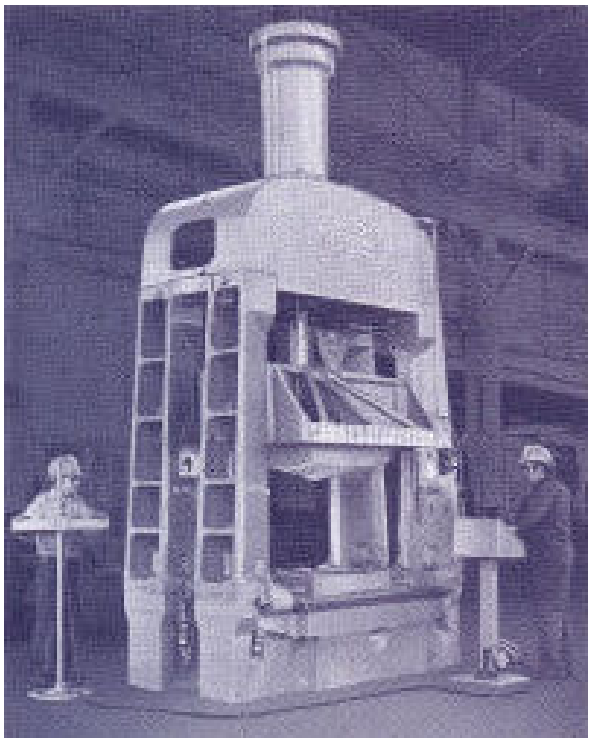
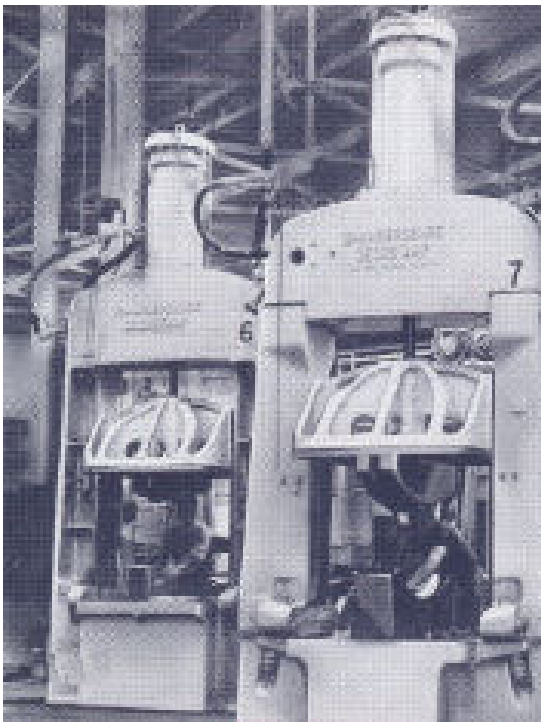
CHAMBERSBURG CECOSTAMPS





Ajax CECO

The Chambersburg Cecostamps

The Chambersburg Cecostamp is an air operated drop hammer especially designed to form sheet metal by impact. Blows of controlled intensities make a wide variety of shapes from any of the formable metals.

The most interesting thing about the Chambersburg Cecostamp is its versatility. The wide variety of shapes and parts which can be produced by Cecostamps is limited almost entirely by the ingenuity of the designer and the skill of the operator.

The Cecostamp is rated by the working dimensions of the ram and bolster, rather than tonnage, and die area defines the Cecostamp's capacity for forming operations. Chambersburg makes two basic Cecostamps, the familiar Model "L" and the new Model "A" for special high energy trapped rubber forming applications.

The Model "L" Cecostamps at Work

SHEET METAL FORMING

Since its introduction in the late 1930's, the Chambersburg Cecostamp has played a vital role in the manufacture of sheet metal components for aircraft and aerospace. Practically all of the world's major manufacturers are relying on the Chambersburg Cecostamps as a means of economically producing complex sheet metal shapes. And today's model "L" Cecostamp, with 10% more energy available than its predecessors, is particularly suited to the requirements for the tougher alloys of aluminum, steel, as well as the more sophisticated metals. The technology gained in the aerospace field has been applied to other successful Cecostamp applications such as prototype automotive stampings, mobile home parts, sheet metal components for agricultural and construction machinery industries, etc.

STRAIGNTENING AND COINING

The high speed impact blow of the Model "L" Cecostamp is advantageous for such operations as straightening, coining, flattening, and sizing of parts such as malleable and ductile iron castings and forgings. With impact there is a minimum of spring back, and additional blows can be struck for particularly tough jobs which, by other methods, might be governed by equipment tonnage limitations. These secondary operations have, in many instances, eliminated the need for costly manual inspection and reduced or eliminated certain machining operations.

And the Cecostamp can be especially engineered to make it compatible with parts feeders to increase production and reduce the need for manual skills.

EMBOSSING

The Cecostamp has been used to produce a variety of parts from traffic signs to sterling silver hollow ware, from decorative ceiling panels, to floor plates. The operator's ability to control the frequency and intensity of each blow causes the metal to flow into the most delicate die details without rupturing or tearing.

TOOLING

Dies for the Model "L" Cecostamp may be made of a wide variety of metals. For short runs, or prototype forming, cast zinc alloy dies are commonly used. Shrinkage is remarkably even, very little finishing time is required due to the excellent "as cast" surface, and when the job is finished, the zinc ally dies can be remelted with minimal loss.

In addition, ductile iron, or steel dies, are suitable and may be more desirable to use where longer runs are anticipated, especially when stainless steel or other steel alloy is to be formed.

Such operations as deep drawing using draw rings, forming and trimming in a single die, multiple stage forming, and forming from pre-spun or pre-stretched blanks typify the variety of operations that are applicable to Cecostamping.

TABLE I - MODEL "L" CECOSTAMP SPECIFICATIONS AND DIMENSIONS

inches and pounds shown in white bands, metric measurements shown in color bands

Size Cecostamp Ram Dimensions						Floor Space*		Overall above Floor Line
R to L Betw. Guides	F to B	Ram Stroke	Cyl. Bore	Inlet	Exhaust	R to L	F to B	
Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.
mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.
21	18	24	6	3/4	1-1/4	50	22	117-1/2
533	457	610	152	19	32	1270	559	2985
30	24	36	7-3/4	1	1-1/2	66	26	146-3/4
762	610	914	197	25	38	1676	660	3727
48	36	42	12	1-1/2	2	88	42	179-1/4
1219	914	1067	305	38	51	2235	1067	4553
66	36	48	13-1/2	1-1/2	2	106	42	189-1/4
1676	914	1219	343	38	51	2692	1067	4807
48	48	48	13-1/2	1-1/2	2	91-1/2	48	193-1/4
1219	1219	1219	343	38	51	2324	1219	4909
66	48	48	15-1/2	2	3	110	48	199-1/4
1676	1219	1219	394	51	76	2794	1219	5061
66	60	48	17	2	3	110	60	199-3/4
1676	1524	1219	432	51	76	2794	1524	5074
96	48	60	20	2	3	150	49	234-1/4
2438	1219	1524	508	51	76	3810	1245	5950
96	60	60	23	2-1/2	3-1/2	150	60	234-3/4
2438	1524	1524	584	64	89	3810	1524	5963
120	60	60	28	3	4	178	60	246-1/2
3048	1524	1524	711	76	102	4521	1524	6261
120	96	60	36	3	4	178	96	248
3048	2438	1524	914	76	102	4521	2438	6299
120	120	60	38	3	4	178	120	248
3048	3048	1524	965	76	102	4521	3048	6299

*Control panel for operator 18" x 18" (457mm. X 457mm.). If 2 man operation, helper's control station 18" dia. (457mm. Dia.)

TABLE II - DIE LIMITATIONS AND COMPRESSED AIR SUPPLY

inches and pounds shown in white bands, metric measurements shown in color bands

Size Cecostamp Ram Dimensions		Minimum Ram Die Dimensions		Maximum Ram Die Weight	Base Strokes/ Hour	Air Consumption per minute Free Air**	Receiver Volume
R to L Betw. Guides	F to B	R to L	F to B				
Ins.	Ins.	Ins.	Ins.	Lbs.		cfm	cu. Ft.
mm.	mm.	mm.	mm.	Kgs.		m3/min	cu. Meters
21	18	15	12-1/2	600	280	42	34
533	457	381	318	273		1.19	0.96
30	24	21-3/4	17	1430	185	60	57
762	610	540	432	650		1.70	1.6
48	36	34	25-1/2	3500	162	142	151
1219	914	864	648	1590		4.02	4.3
66	36	46-1/2	25-1/2	5300	145	185	222
1676	914	1181	648	2409		5.24	6.3
48	48	34	34	5300	145	185	314
1219	1219	864	864	2409		5.24	8.9
1676	1219	1181	864	3180		6.54	8.9
66	60	46-1/2	42-1/2	8500	137	275	427
1676	1524	1181	1080	3863		7.78	12.1
96	48	68	34	11200	112	389	512
2438	1219	1727	864	5091		11.01	14.5
96	60	68	42-1/2	16000	105	478	695
2438	1524	1727	1080	7273		13.53	19.7
120	60	85	42-1/2	25500	102	700	1045
3048	1524	2159	1080	11591		19.81	29.6
120	96	85	68	47000	75	815	1670
3048	2438	2159	1727	21364		23.06	47.3
120	120	85	85	52000	72	880	1870
3048	3048	2159	2159	23636		24.90	52.9

** Free Air at 14.7 psia at 60 degrees F. (1.00 Kg. Per Sq. Cm. A. at 15.6 degrees C).

TABLE I – MODEL "L" CECOSTAMP SPECIFICATIONS AND DIMENSIONS

The general range of requirements encountered to date can be accommodated on the various standard sizes tabulated above. However, where special applications are encountered CECO will engineer the Model "L" Cecostamp to suit the job.

TABLE II - DIE LIMITATIONS AND COMPRESSED AIR SUPPLY

Dies for the Model "L" Cecostamp should be designed so that the minimum die dimensions are not less than that show above. Dies should be located centrally on the ram and bolster so as to evenly distribute the force of the blow. The use of ram bolster plates and smaller than minimum size dies is not recommended.

The Model "L" Cecostamp is designed to operate on clean, dry compressed air delivered at 100 PSIG (6.8 atmospheres). The air supply should be ample and delivered through piping that is free of obstructions. A manual solenoid trip valve is furnished for installation in the supply line to the Cecostamp. Individual receivers, or sufficient header volume, must be provided to facilitate an adequate supply of compressed air. Available at extra cost is the ASME receiver, am exhaust muffler to reduce exhaust noise, and flexible connections for inlet and exhaust piping.

The basic strokes per hour, related to air consumption figures and receiver sizes, shown above, are based on the average number of forming blows used hourly for conventional sheet metal forming operations rather than the number of blows the machine can deliver per hour. If, for any reason, more strokes per hour are contemplated, air requirements should be raised proportionately.

The Model "L" Cecostamp

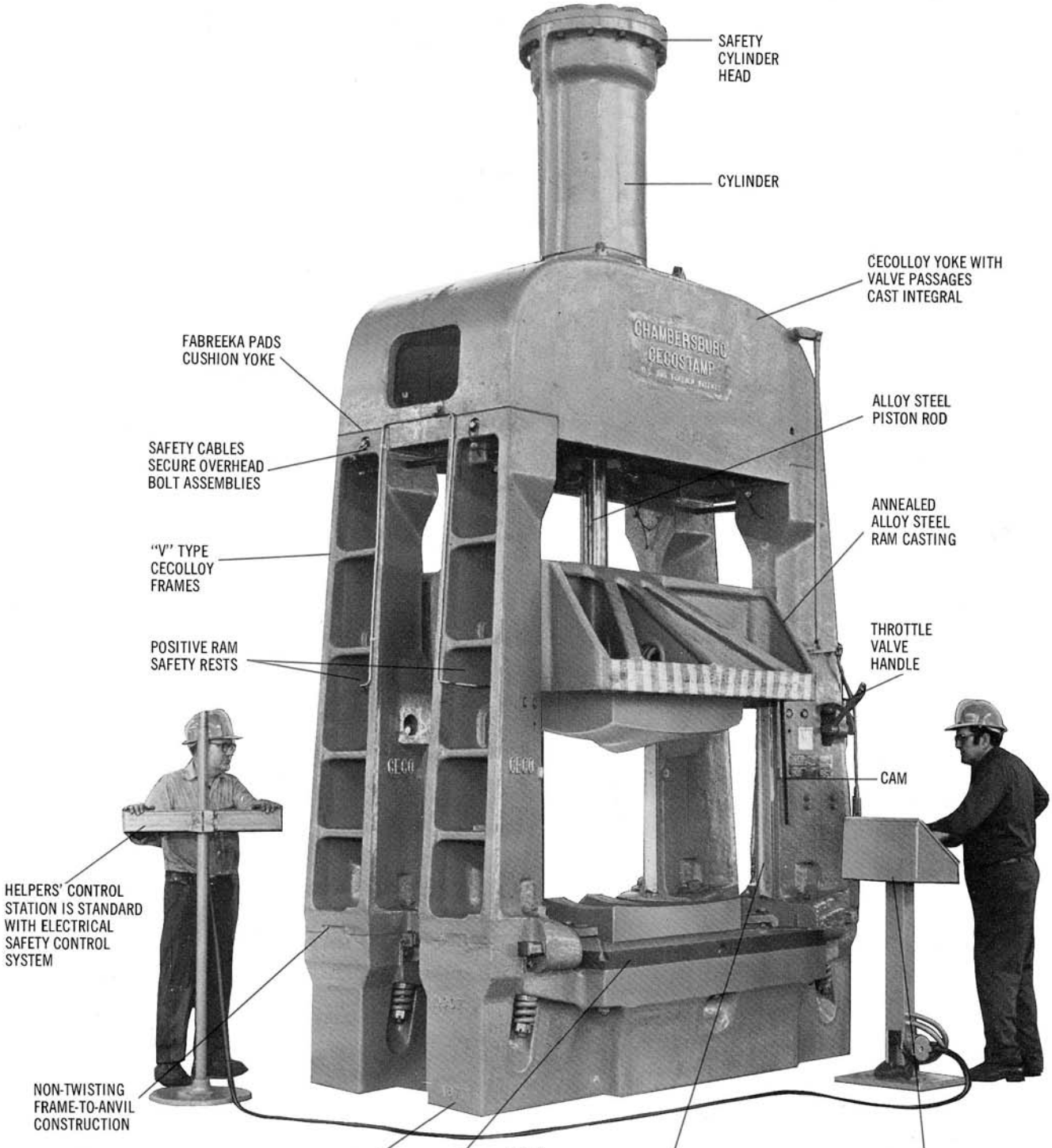


FIG. 6

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