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CP-351 COMPRESSION RIVETERS

Instruction and Parts Book for
**PNEUMATIC
COMPRESSION RIVETERS**

**CP-351, Model "C"
"C" TYPE AND ALLIGATOR YOKES**



Chicago Pneumatic TOOL COMPANY

®

6 EAST 44TH STREET, NEW YORK, N. Y. 10017

GENERAL INSTRUCTIONS

Air Supply

For satisfactory performance, 90 psi of clean, dry air is required AT THE TOOL with tool operating. Whip hose 5/16" I.D. may be used at the air inlet, but longer runs should be 3/8" hose size or larger, used with couplings of a minimum 9/32" I.D. The use of a C-104086 CHICAGO PNEUMATIC Air Line Separator and Filter and a C-104091 CHICAGO PNEUMATIC Air Line Pressure Regulator mounted as closely as possible to the tool is recommended.

Preparing for Operation

Daily before using and before putting tool into operation, disconnect air hose and pour about one ounce of recommended oil into tool air inlet. Blow out air line to clear it of accumulated dirt and moisture. Connect tool and operate to allow oil to be carried to the interior.

Lubrication

Daily before using and before putting tool into service, pour about one ounce of recommended oil into air inlet. In addition, use of a C-104101 CHICAGO PNEUMATIC Air Line Lubricator installed at the end of each air pipe leading to this pneumatic tool is recommended to assure a constant and adequate supply of lubricant to the motor.

At each inspection period, clean old grease from front end of tool and coat parts with recommended grease.

Recommended Lubricants

CHICAGO PNEUMATIC Airoilene Oil, which contains moisture absorbent, rust inhibiting additives and will not separate while the tool is idle, is recommended for use in the lubricator and may be purchased under the following symbols:

1 gal. can ----- P-089507
5 gal. can ----- P-089508

If recommended oil is not available, use a turbine or spindle grade oil with a viscosity of 100-150 SUS at 100°F which contains a rust inhibitor.

A good grade mineral oil grease such as Texaco Novatex #1 or equivalent is recommended for use in moving parts of front end units.

Cycle of Operation

The amount of pressure activating the piston (46) is controlled by the pressure regulator valve (51).

To increase pressure - turn pressure regulator knob (50) in a clockwise direction. Maximum pressure is produced when pressure regulator knob is turned all the way down.

To decrease pressure - turn pressure regulator knob in a counter-clockwise direction until desired pressure is reached.

When throttle lever (31) is depressed, compressed air forces the piston (46) forward and exerts pressure through the piston rod (47) to the wedge (58). In "C" Type Riveters the wedge forces the set holder lever (125) against the set holder (128). In Alligator Jaw Type Riveters the wedge forces the moving jaw (71) against the stationary jaw (70).

When the throttle lever is released, the air behind the piston escapes and compressed air enters behind the return piston (37) which moves back and returns the piston rod, piston and wedge to neutral position. The extent to which the return spring (83) draws back the set holder in the "C" Type Riveter or the moving jaw in the Alligator Jaw Type Riveter is controlled by turning the stroke adjusting thumb wheel (102).

To reduce return stroke - turn thumb wheel in a clockwise direction.

To increase return stroke - turn thumb wheel in a counter-clockwise direction.

If a greater return stroke is desired while positioning riveter or work piece, pull out escape button (108) which allows set holder ("C" Type) or moving jaw (Alligator Type) to return to its maximum open position.

Throttle Valve Adjustment

In case of loss of power caused by wear on the throttle valve stem (13), the throttle valve adjusting screw (32) may be moved down to compensate for the wear by loosening the adjusting screw nut (33), threading the adjusting screw down to the desired position and retightening nut.

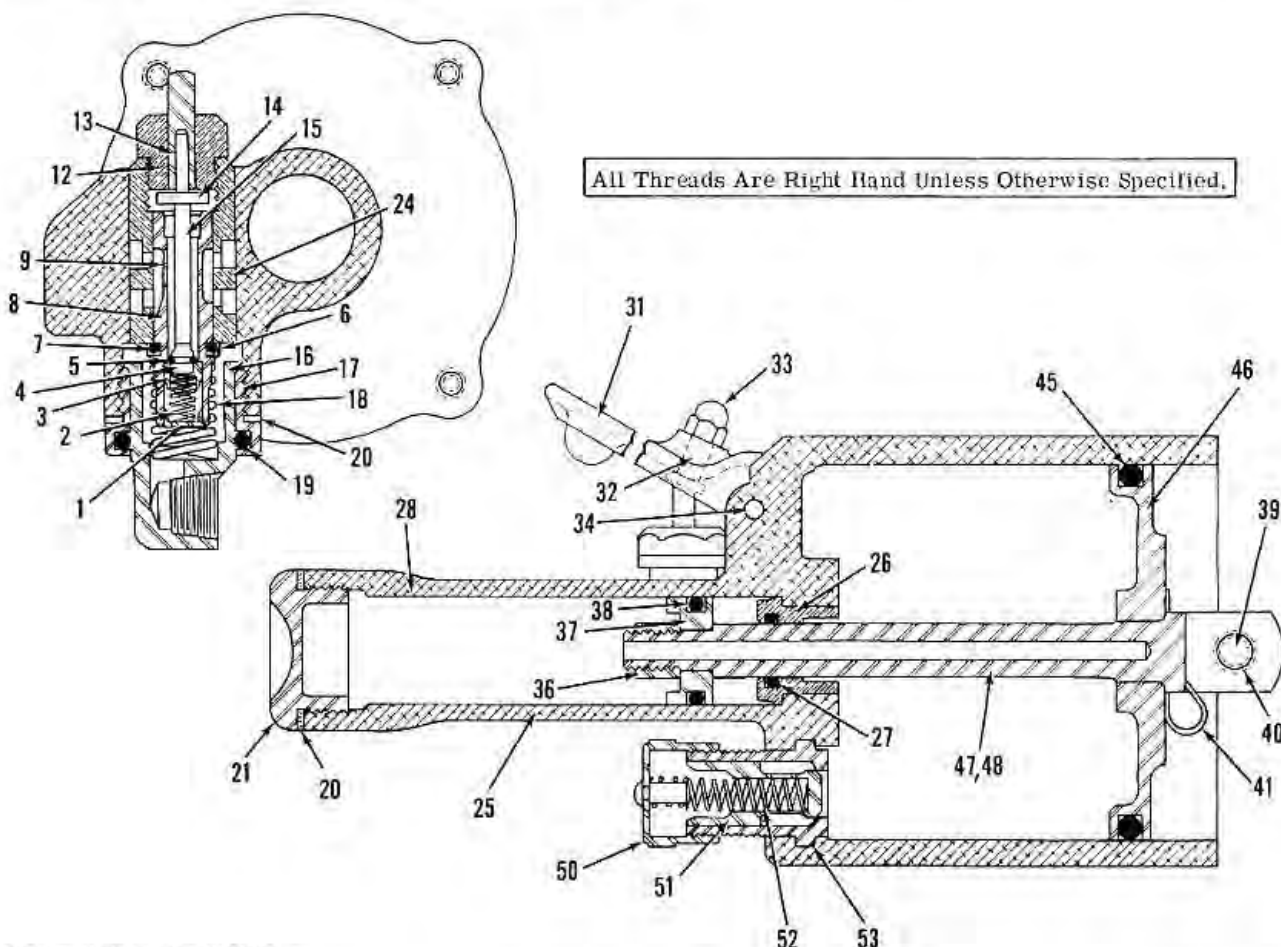
Maintenance

Do not penalize the operator by requiring him to use a tool which is not in first class condition. A regularly scheduled inspection and repair program will correct minor faults, avoid later, extensive repairs and maintain the tool at its highest efficiency.

1. Keep tool properly lubricated.
2. Provide 90 psi of clean, dry air AT THE TOOL.
3. Use hose and connections of proper size and in good condition.
4. Set up and maintain a repair and replacement program scheduled at regular intervals.

CP-351 COMPRESSION RIVETERS Model "C"

P-078074 POWER UNIT (Incl: ALL PARTS SHOWN BELOW)



▲ Changed Since Last Edition

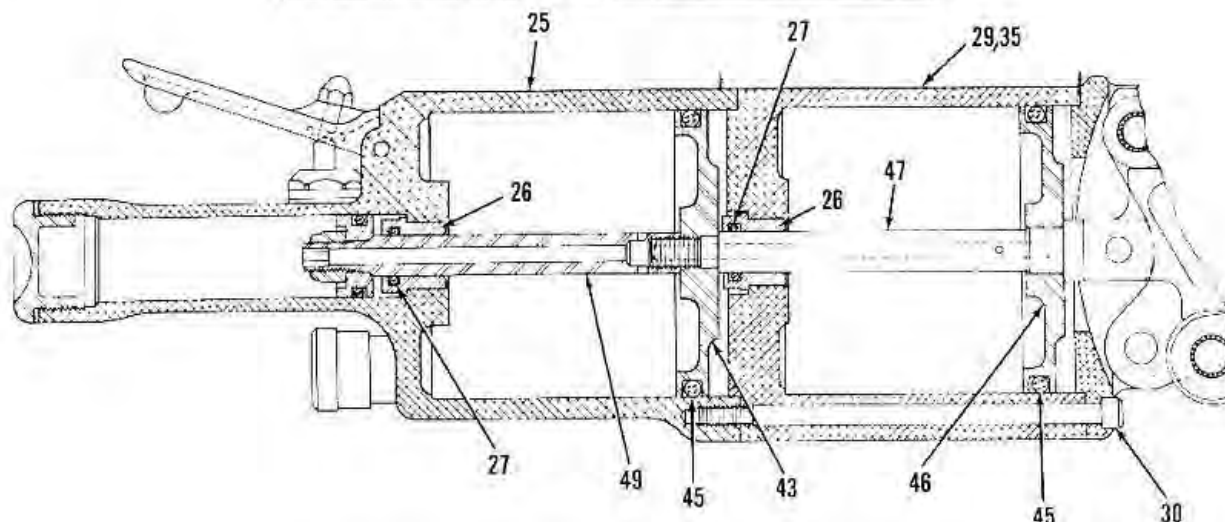
Index No.	CP Part No.	Description	No. Req'd.	Index No.	CP Part No.	Description	No. Req'd.
1	P-073018	Retainer-Valve Spring	1	27	P-083082	"O" Ring (-112)	1
2	P-073017	Spring-Throttle Valve	1	28	P-078076	Cylinder Complete (Incl: Index No's. 24, 25 & 26)	1
3	P-089289	Valve-Throttle (Inner)	1				
4	P-089290	Holder-"O" Ring	1	31	P-073052	Lever-Throttle	1
5	C-087316	"O" Ring (-006)	1	32	P-073115	Screw-Adjusting	1
6	P-089288	Retainer-"O" Ring	1	33	H-072480	Nut-Adjusting Screw (#10-32) (Acorn)	1
7	CA-083354	"O" Ring (-111)	1	34	P-073085	Pin-Lever	1
8	P-089287	Valve-Throttle	1	36	P-070438	Nut-Piston Rod	1
9▲	P-087561	Throttle Valve Complete (Incl: Index No's. 1 thru 8)	1	37	P-089740	Piston-Return	1
12	P-073014	Bushing-Valve Stem	1	38	C-083177	"O" Ring (-210)	1
13	P-073058	Stem-Throttle Valve	1	39	P-073116	Pin-Piston Rod	1
14	P-073060	Block-Valve Stem	1	40	P-074672	Ring-Retaining	2
15	P-073059	Stem-Valve	1	41	P-074326	Spring-Wedge	1
16	P-089178	Swivel-Air Inlet	1	45	P-089292	"O" Ring (-338)	1
17	P-073054	Nut-Swivel Air Inlet	1	46	P-089737	Piston	1
18	P-073057	Spring-Throttle Valve	1	47	P-073020	Rod-Piston	1
19	A-082759	"O" Ring (-213)	1	48	P-077832	Piston & Rod Complete (Incl: No's. 45 thru 47)	1
20	P-073009	Gasket	2	50	P-078068	Knob-Regulator	1
21	P-073008	Cap-Return Cylinder	1	51	P-073956	Valve-Regulator	1
24	P-073056	Bushing-Throttle Valve	1	52	P-073957	Spring-Regulator	1
25	P-073899	Cylinder	1	53	P-078075	Cylinder & Regulator Comp. (Incl: No's. 28, 50, 51 & 52)	1
26	P-057199	Bushing-Piston Rod (Incl: Index No. 27)	1				

When ordering spare parts, give Name, Speed or Size, Model and Serial Number of the tool and Part Number and Description of each part desired.

CP-351 COMPRESSION RIVETERS Model "C"

P-059243 TANDEM CYLINDER POWER UNIT (Incl: ALL PARTS SHOWN BELOW AND ON PAGE 3)

All Threads Are Right Hand Unless Otherwise Specified.



Index No.	CP Part No.	Description	No. Req'd.
25	P-073899	Cylinder	1
26	P-057199	Bushing-Piston Rod (Incl: One of Index #27)	2
27	P-083082	"O" Ring-Bushing (-112)	2
29	P-057194	Cylinder-Tandem	1
30	P-057197	Screw-Allen Cap (1/4"-20 x 5")	4
	P-070320	Wrench-Allen (3/16" Hex.)	1
35	P-059338	Cylinder Ass'y. (Incl: Index No's. 26 & 29)	1
43	P-057198	Piston-Tandem	1
45	P-089292	"O" Ring-Piston (-338)	2
46	P-089737	Piston	1
47▲	P-073020	Rod-Piston	1
49	P-057200	Rod-Tandem Piston	1

▲ Changed Since Last Edition

Tools With Tandem Cylinder Construction Have Limited Warranty to 10,000 Operating Cycles.

To Convert To Tandem Cylinder, Order
P-059244 TANDEM CYLINDER CONVERSION KIT

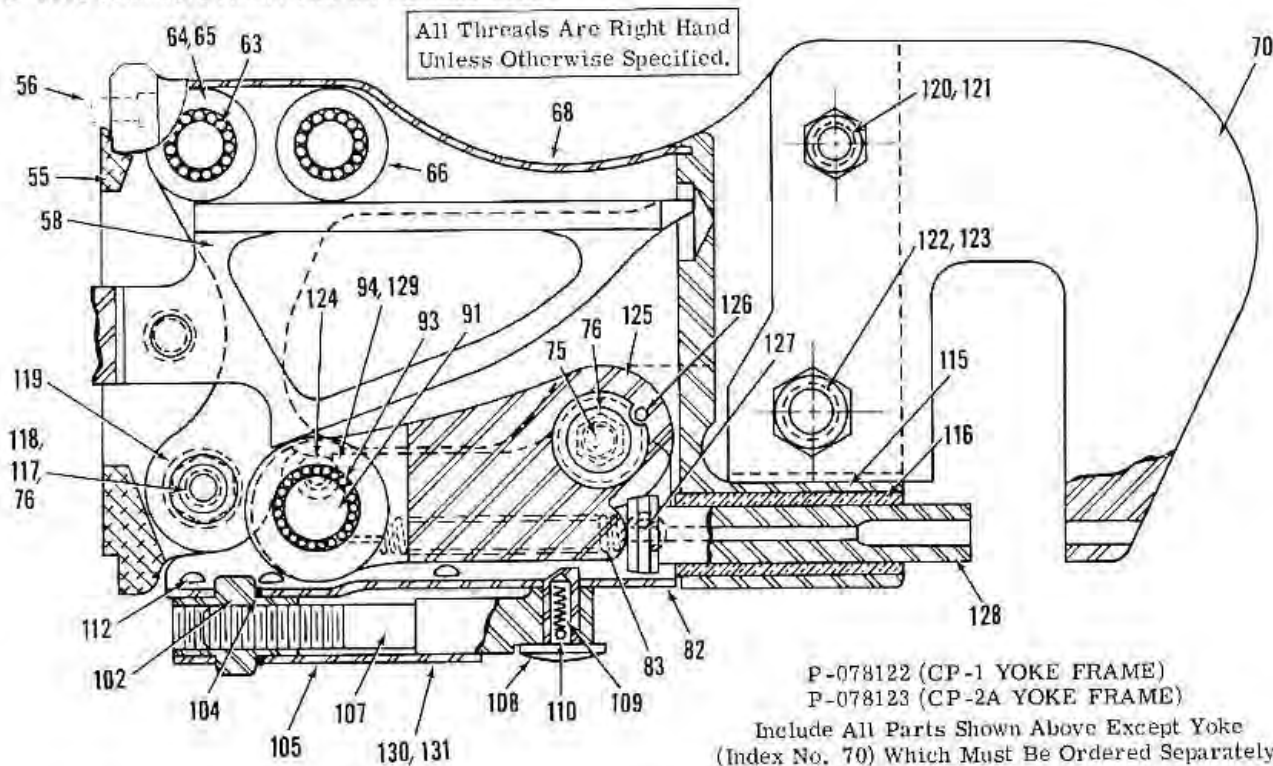
P-059338	Cylinder Ass'y. (Incl: Bushing)
P-057197	Bolt (4)
P-057198	Piston
P-057200	Piston Rod
P-089292	"O" Ring

P-059243 Tandem Cylinder Power Unit
 Consists of P-078074 (Page 3) Plus
 P-059244 Above.

All Other Parts The Same As Shown On Page 3.

CP-351 COMPRESSION RIVETERS Model "C"

"C" TYPE COMPLETE FRONT END UNITS-LESS YOKE



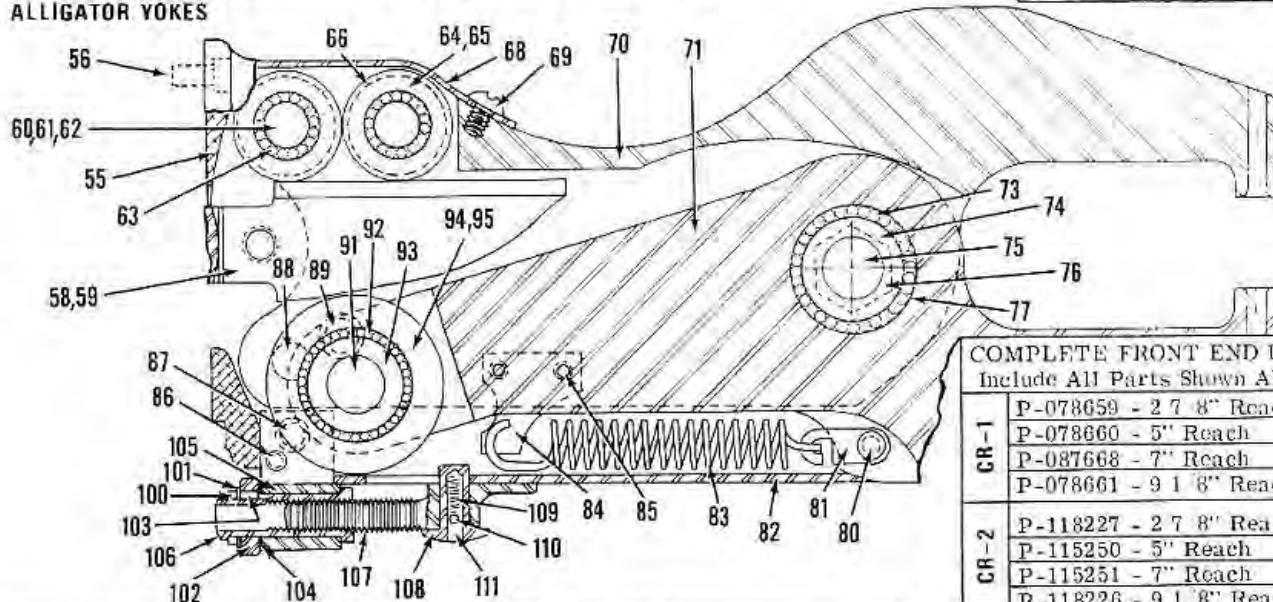
Index No.	CP Part No.	Description	No. Req'd.	Index No.	CP Part No.	Description	No. Req'd.
55	P-073002	Adapter-Cylinder	1	116	P-073036	Bushing-Holder Set (For CP-1 Frame)	1
56	P-073025	Screw-Adapter (1 4"-20 x 5 8)	4		P-073035	Bushing-Holder Set (For CP-2A Frame)	
	P-070320	Wrench-Allen (3 16" Hex.)	1				
58	P-073006	Wedge	1	117	P-073026	Bolt	3
63	P-073031	Bearing-Roller	38	118	P-073027	Washer	4
64	P-073030	Roller	2	119	P-073029	Spacer	1
65	P-078605	Roller Assembly (Incl: Index No's. 63, 64 & 66)	2	120	P-003092	Yoke Bolt (CP-1, 1 5 16" lg.)	1
66	P-073032	Washer-Thrust	4		P-003083	Yoke Bolt (CP-2A, 1 5 8" lg.)	
68	P-073033	Guard-Roller	1	121	P-003093	Nut-Bolt (5 16"-24)	1
70	See Tables 1 & 2 Page 8	CP-1 Yoke CP-2A Yoke	1	122	P-073047	Yoke Bolt (CP-1, 1 5 16" lg.)	1
					P-073046	Yoke Bolt (CP-2A, 1 9 16" lg.)	
75	P-073239	Shaft-Lever	1	123	P-006315	Yoke Nut (CP-1 7 16"-20)	1
76	P-006087	Nut (1 4"-28) (Hex.)	4		P-005997	Yoke Nut (CP-2A 7 16"-20)	
82	P-073693	Guard-Spring Return	1	124	P-073041	Screw-Guard (Round Head) (#10-32 x 1 4")	2
83	P-073238	Spring-Return	2	125	P-073005	Lever-Holder	1
91	P-073045	Shaft-Roller	1	126	P-073242	Pin-Lock	1
93	S-067191	Bearing-Roller	28	127	P-073961	Yoke-Spring	1
94	P-073043	Roller-Lever	1	128		Set Holder (See Pgs. 9-10)	1
102	P-073694	Wheel-Thumb	1	129	P-078606	Lever-Roller Assembly (Incl: Index No's. 93, 94)	1
104	P-074300	Washer-Wheel Spring	1				
105	P-074674	Bracket-Adjusting	1	130	P-078159	Bracket-Adjusting Assembly (Incl: Index No's. 82, 102, 104, 105 & 112)	1
107	P-074675	Screw-Adjusting	1				
108	P-074744	Button-Escape	1	131	P-078124	Stroke Adjusting Assembly (Incl: Index No's. 107, 108, 109, 110 & 130)	1
109	P-074317	Spring-Button	1				
110	P-074318	Pin-Button	1				
112	P-073700	Rivet-Bracket	6				
115	P-073004	CP-1 Yoke Frame (Incl: Index No. 116)	1				
	P-073003	CP-2A Yoke Frame (Incl: Index No. 116)	1				

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CP-351 COMPRESSION RIVETERS Model "C"

ALLIGATOR YOKES

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Unless Otherwise Specified.



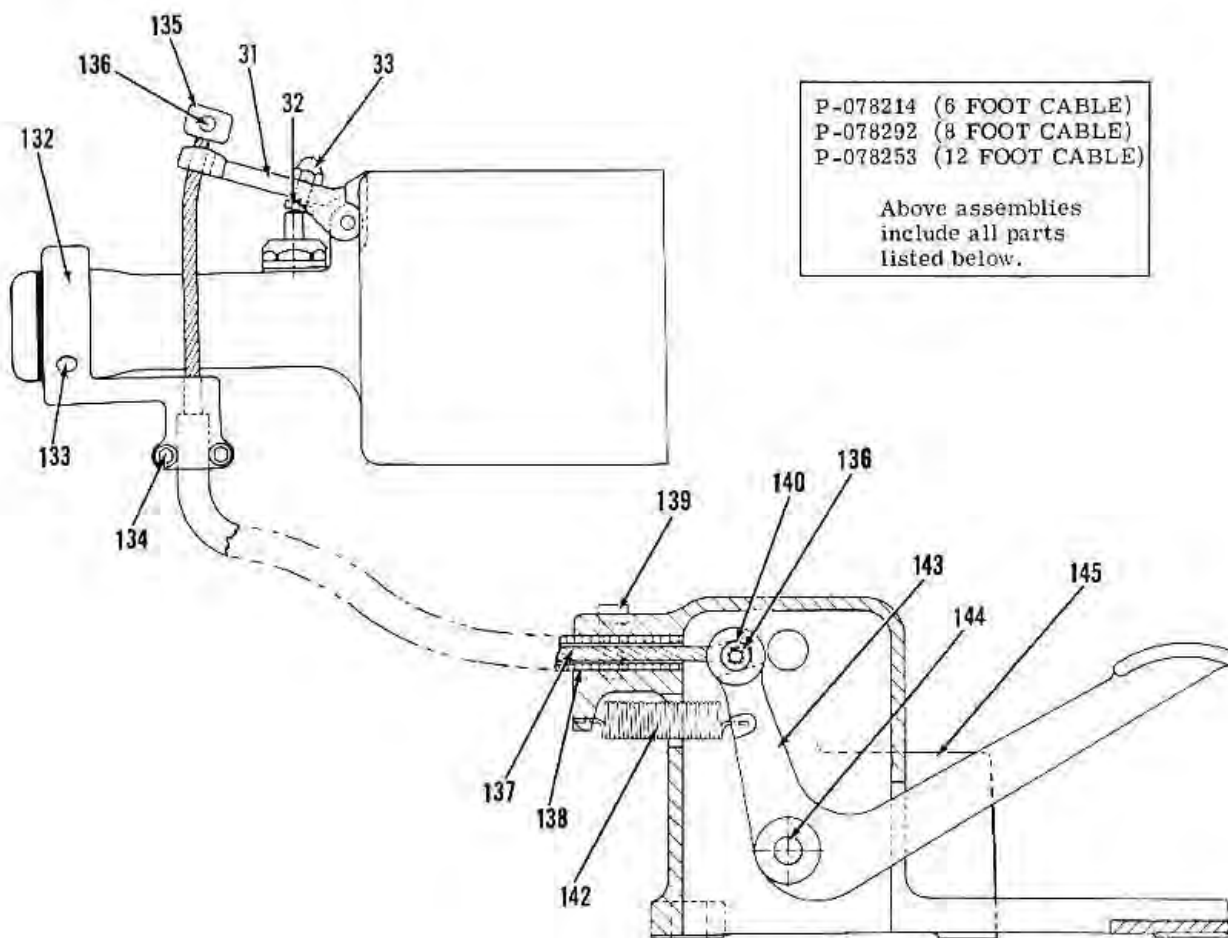
COMPLETE FRONT END UNITS Include All Parts Shown Above

CR-1	P-078659 - 2 7/8" Reach
	P-078660 - 5" Reach
	P-087668 - 7" Reach
	P-078661 - 9 1/8" Reach
CR-2	P-118227 - 2 7/8" Reach
	P-115250 - 5" Reach
	P-115251 - 7" Reach
	P-118226 - 9 1/8" Reach

Index No.	CP Part No.	Description	No. Req'd.	Index No.	CP Part No.	Description	No. Req'd.
55	P-073087	Adapter-Cylinder	1	88	P-073093	Dowel-Jaw	2
56	P-073025	Screw-Adapter (1 1/4"-20 x 5/8")	4	89	P-073094	Screw-Jaw (5/16"-24 x 1 1/2")	2
	P-070320	Wrench-Allen (3/16" Hex.)	1		S-069343	Wrench-Allen (1 1/4" Hex.)	1
58	P-073090	Wedge (2 7/8", 5" & 7" Jaws)	1	91	P-081936	Shaft-Bearing End	1
	P-082671	Wedge (9 1/8" Jaws)	1	92	S-067191	Bearing-Roller (2 7/8", 5" & 7" Jaw)	52
59	P-082672	Shim-Wedge (9 1/8" Jaws)	2		S-067191	Bearing-Roller (9 1/8" Jaw)	58
60	P-073095	Bolt-Jaw	2		P-073101	Race-Inner Bearing (2 7/8", 5" & 7" Jaw)	1
61	P-073096	Washer	2		P-082673	Race-Inner Bearing (9 1/8" Jaw)	1
62	P-003093	Nut-Jaw (5/16"-24)	2	93	P-073102	Roller-Bearing (2 7/8", 5" & 7" Jaw)	1
63	P-073031	Bearing-Roller	44		P-082674	Roller-Bearing (9 1/8" Jaw)	1
64	P-073097	Roller	2		P-078603	End Bearing Assembly (2 7/8", 5" & 7" Jaws)(Incl: No's. 93, 94 & 52 of 92)	1
65	P-078604	Roller Assembly (Incl: No's. 63 & 64)	2		P-078832	End Bearing Assembly (9 1/8" Jaw) (Incl: No's. 93, 94 & 58 of 92)	1
66	P-073098	Washer-Thrust	4	100	P-074314	Washer-Retainer	1
68	P-073099	Guard-Roller	1	101	P-074320	Washer-Wheel Thumb	1
69	P-073041	Screw-Roller Guard (#10-32 x 1 1/4" Round Hd.)	1	102	P-080155	Wheel-Thumb	1
70	See Table 3 Pg. 8	Jaw-Stationary (Incl: Index No's. 84 & 85)	1	103	P-073078	Pin-Wheel Thumb	1
71	See Table 3 Pg. 8	Jaw-Moving	1	104	P-074300	Washer-Friction	1
73	P-073112	Bearing-Roller	39	105	P-074310	Bracket-Adjustable (2 7/8" Jaw)	1
74	P-073110	Race-Bearing	1		P-074311	Bracket-Adjustable (5", 7" & 9 1/8" Jaws)	1
75	P-073108	Bolt-Bearing	1	106	P-080156	Sleeve-Wheel	1
76	C-068527	Nut-Bolt (1/2"-20)	1	107	P-074315	Screw-Adjusting	1
77	P-073111	Washer-Thrust	2	108	P-074316	Button-Escape	1
80	G-084533	Rivet-Guard (5/32" Dia. x 1" Lg.)	1	109	P-074317	Spring-Button	1
81	P-073103	Link-Spring (2 7/8" Jaw)	1	110	P-074318	Pin-Retaining	1
	P-073236	Stud-Spring (5", 7" & 9 1/8" Jaws)	1	111	P-078596	Stroke Adj. Comp. (2 7/8" Jaw) (Incl: No's. 100 thru 110)	1
82	P-074308	Guard-Spring (2 7/8" Jaw)	1		P-078595	Stroke Adj. Comp. (5", 7" & 9 1/8" Jaws)(Incl: No's. 86, 100 thru 110)	1
	P-074309	Guard-Spring (5" Jaw)	1				
	P-074322	Guard-Spring (7" & 9 1/8" Jaw)	1				
83	P-073106	Spring-Return (2 7/8" Jaw)	1				
	P-073245	Spring-Return (5", 7", & 9 1/8" Jaw)	1				
84	P-073091	Anchor-Spring (2 7/8" Jaw)	1				
85	P-073092	Rivet-Anchor (2 7/8" Jaw)	4				
86	P-073246	Pin-Spring (5", 7" & 9 1/8" Jaw)	1				
87	P-073514	Screw-Guide	2				

When ordering spare parts, give Name, Speed or Size, Model and Serial Number of the tool and Part Number and Description of each part desired.

CP-351 COMPRESSION RIVETERS Model "C" FOOT CONTROL THROTTLE



All Threads Are Right Hand Unless Otherwise Specified.

Index No.	CP Part No.	Description	No. Req'd.	Index No.	CP Part No.	Description	No. Req'd.
31	P-074831	Lever-Throttle	1	137	P-074828	Cable-Throttle (6')	1
32	P-073115	Screw-Adjusting	1		P-080267	Cable-Throttle (8')	
33	H-072480	Nut-Screw (#10-32)	1		P-080120	Cable-Throttle (12')	
132	P-074830	Bracket-Cable Casing	1	138	P-074829	Casing-Cable (6')	1
133	H-073533	Screw-Bracket (1/4" -28 x 5/16")	3		P-080268	Casing-Cable (8')	
	R-009300	Wrench-Allen (1/8" Hex.)	1		P-080119	Casing-Cable (12')	
134	P-073474	Screw-Bracket Clamp (#10-32 x 1/2")	2	139	C-064806	Screw-Clamp Base (1/4"-20 x 3/4")	2
	P-070493	Wrench-Allen (5/32")	1		P-070320	Wrench-Allen (3/16" Hex.)	1
135	P-074827	Collar-Cable	1	140	P-074822	Trunnion-Foot Lever	1
136	S-038995	Screw-Set (1/4" -28 x 1/4")	2	142	P-074823	Spring-Lever Return	1
	R-009300	Wrench-Allen (1/8" Hex.)	1	143	P-074821	Lever-Foot	1
				144	P-070947	Pin-Lever Foot	1
				145	P-074820	Base-Foot Throttle	1

When ordering spare parts, give Name, Speed or Size, Model and Serial Number of the tool and Part Number and Description of each part desired.

CP-351 COMPRESSION RIVETERS Model "C" "C" TYPE YOKES & ALLIGATOR JAW DIMENSIONS

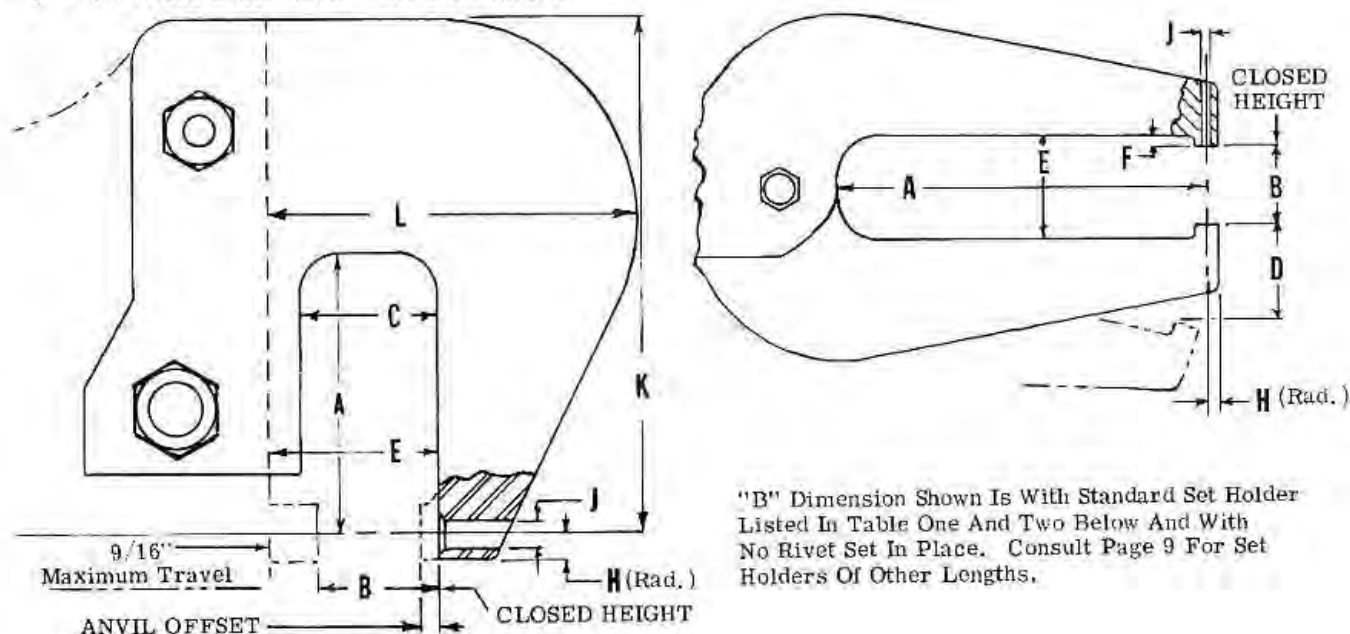


TABLE 1
 YOKES USED WITH CP-1 YOKES FRAMES
 9/16" Maximum Travel, .1875" Rivet Set Shank (Dimension "J")

Yoke Part No.	Reach A	Closed Height B	Throat Gap C	E	Lower Offset H	K	L	Set Holder Symbol No.
P-009530	2 1/8	25/32	1 5/32	1 17/32	7/32	3 13/16	2 15/16	P-073237
P-009500	2	5/8	1 1/8	1 3/8	7/32	3 1/2	2 19/32	P-073237
P-009503	4	15/16	1 7/16	1 11/16	7/32	6	3 3/8	P-073237
P-009504	1 9/16	2 1/8	2 5/8	2 7/8	7/32	2 13/16	3 3/4	P-073237
P-009516	1 13/16	3 1/8	3 5/8	3 7/8	3/16	3 3/16	4 3/4	P-073237
P-009521	2 1/16	5/8	1 1/16	1 3/8	7/32	2 15/16	2 1/4	P-073237
XP-006434*	3 1/2	3/4	1 1/2	1 7/8	7/32	5 1/2	3 11/16	P-073237

*Has 3/8" Anvil Offset

TABLE 2
 YOKES USED WITH CP-2A YOKES FRAMES
 9/16" Maximum Travel

Yoke Part No.	Reach A	Closed Height B	Throat Gap C	E	Lower Offset H	Rivet Set Shank J	K	L	Set Holder Symbol No.
P-009600	2 1/16	3/4	1	1 1/4	7/32	.1875	3 13/16	2 3/4	P-073237
P-009604	2 1/2	1 5/8	1 9/16	2 1/8	7/16	.3125	4 1/2	3 21/32	P-073237
P-009605	3 3/4	1 1/8	1 1/4	1 5/8	7/32	.1875	5 7/8	3 15/16	P-073237
P-009609	3 5/16	2 13/16	3	3 5/8	1/4	.1875	6 1/16	6 1/8	P-074797
P-009611	3 1/4	15/16	1 1/16	1 7/16	7/32	.1875	5 1/4	2 7/8	P-073237
P-009612	3 3/4	1 1/8	1 1/4	1 5/8	7/32	.1875	5 7/8	3 15/16	P-073237
P-009620	2 3/8	1	1 1/4	1 1/2	7/32	.1875	4 1/32	3 3/16	P-073237
XP-006435*	6	1 1/8	2	2 1/4	9/32	.250	9 1/4	5 1/4	P-073237

*Has 5/8" Anvil Offset

TABLE 3
 ALLIGATOR JAW DIMENSIONS

Rivet Set Shank	Front End Units See Pg. 6	Stationary* Jaw	Moving Jaw	Reach A	Closed Height B	Maximum Travel D	Yoke Gap E	F	H	J
CR-1	P-078659	P-073089	P-073088	2 7/8	7/8	5/8	1 5/8	3/8	7/32	.1875
CR-1	P-078660	P-073243	P-073244	5	7/8	1 3/8	1 5/8	3/8	7/32	.1875
CR-1	P-087668	P-088832	P-088831	7	1 1/2	1 11/16	2	1 1/4	7/32	.1875
CR-1	P-078661	P-073748	P-082632	9 1/8	3/4	1 11/16	2 1/8	1 1/16	7/32	.1875
CR-2	P-118227	P-074306	P-074307	2 7/8	7/8	5/8	1 5/8	3/8	7/32	.250
CR-2	P-115250	P-018724	P-018725	5	7/8	1 3/8	1 5/8	3/8	3/8	.250
CR-2	P-115251	P-080111	P-080112	7	1 1/2	1 11/16	2	1 1/4	3/8	.250
CR-2	P-118226	P-018704	XP-090807	9 1/8	3/4	1 11/16	2 1/8	1 1/16	3/8	.250

*Includes Index No's. 84 & 85, page 6.

RIVET SET SYMBOL NUMBERS

TABLE 4

CR-1 SHANK CUPPED RIVET SETS							
Rivet Dia.	Body L'th.	AN-435 Button	AN-430 Round	AN-455 Brazier	AN-456 Modified Brazier	AN-470 Universal	AN-442 Flat
3/32	1/4	P-091601	P-089370	P-089390	P-089410	P-089430	P-091621
	3/8	P-091602*	P-089371	P-089391*	P-089411*	P-089431*	P-091622*
	1/2	P-091603*	P-089372*	P-089392*	P-089412*	P-089432	P-091623*
	5/8	P-091604	P-089373	P-089393	P-089413	P-089433	P-091624
	3/4	P-091605	P-089374	P-089394	P-089414	P-089434	P-091625
1/8	1/4	P-091606	P-089375*	P-089395*	P-053826	P-089435*	P-091626
	3/8	P-091607*	P-089376*	P-089396*	P-053827*	P-089436*	P-091627*
	1/2	P-091608*	P-089377*	P-089397*	P-053828*	P-089437	P-091628*
	5/8	P-091609	P-089378	P-089398	P-053829	P-089438	P-091629
	3/4	P-091610	P-089379	P-089399	P-053830	P-089439	P-091630
5/32	1/4	P-091611	P-089380	P-089400	P-053831*	P-089440*	P-091631
	3/8	P-091612*	P-089381*	P-089401*	P-053832*	P-089441*	P-091632*
	1/2	P-091613*	P-089382*	P-089402*	P-053833*	P-089442	P-091633*
	5/8	P-091614	P-089383	P-089403	P-053834	P-089443	P-091634
	3/4	P-091615	P-089384	P-089404	P-053835	P-089444	P-091635
3/16	1/4	P-091616	P-089385	P-089405	P-053836	P-089445*	P-091636
	3/8	P-091617*	P-089386*	P-089406*	P-053837*	P-089446*	P-091637*
	1/2	P-091618*	P-089387*	P-089407*	P-053838*	P-089447*	P-091638*
	5/8	P-091619	P-089388	P-089408	P-053839	P-089448	P-091639
	3/4	P-091620	P-089389	P-089409	P-053840	P-089449	P-091640

Spare Retaining Ring Symbol Number CR-1, P-092705.

*Standard Sizes. Others made to order

CR-2 SHANK CUPPED RIVET SETS

Rivet Dia.	Body L'th.	AN-435 Button	AN-430 Round	AN-455 Brazier	AN-456 Modified Brazier	AN-470 Universal	AN-442 Flat
1/8	1/4	P-091641	P-089450	P-089470	P-089490	P-089510	P-091661
	3/8	P-091642	P-089451	P-089471	P-089491	P-089511	P-091662
	1/2	P-091643*	P-089452*	P-089472*	P-089492*	P-089512*	P-091663*
	5/8	P-091644	P-089453	P-089473	P-089493	P-089513	P-091664
	3/4	P-091645	P-089454	P-089474	P-089494	P-089514	P-091665
5/32	1/4	P-091646	P-089455	P-089475	P-053841	P-089515	P-091666
	3/8	P-091647	P-089456	P-089476	P-053842	P-089516	P-091667
	1/2	P-091648*	P-089457*	P-089477*	P-053843*	P-089517*	P-091668*
	5/8	P-091649	P-089458	P-089478	P-053844	P-089518	P-091669
	3/4	P-091650	P-089459	P-089479	P-053845	P-089519	P-091670
3/16	1/4	P-091651	P-089460	P-089480	P-053846	P-089520	P-091671
	3/8	P-091652	P-089461	P-089481	P-053847	P-089521	P-091672
	1/2	P-091653*	P-089462*	P-089482*	P-053848*	P-089522*	P-091673*
	5/8	P-091654	P-089463	P-089483	P-053849	P-089523	P-091674
	3/4	P-091655	P-089464	P-089484	P-053850	P-089524	P-091675
1/4	1/4	P-091656	P-089465	P-089485	P-053851	P-089525	P-091676
	3/8	P-091657	P-089466	P-089486	P-053852	P-089526	P-091677
	1/2	P-091658*	P-089467*	P-089487*	P-053853*	P-089527*	P-091678*
	5/8	P-091659	P-089468	P-089488	P-053854	P-089528	P-091679
	3/4	P-091660	P-089469	P-089489	P-053855	P-089529	P-091680

Spare Retaining Ring Symbol Number CR-2, P-092706.

*Standard Sizes. Others made to order.

Symbol Numbers for Soft Set Blanks:

CR-1 Shank, P-093672 (Body Length 3/4", Dia. 5/8")

CR-2 Shank, P-093673 (Body Length 3/4", Dia. 3/4")

To Harden Above Blanks:

Heat To 1575°F

Quench In Oil

Draw At 750°F One Hour (42-47 Rc)

TABLE 5
FLUSH SETS

Body Length	CR-1 Symbol Numbers	CR-2 Symbol Numbers
1/8	P-089495*	
1/4	P-089496*	P-089501
3/8	P-089497*	P-089502
1/2	P-089498*	P-089503*
5/8	P-089499*	P-089504
3/4	P-089500*	P-089505

*Standard Size

TABLE 6
SET LENGTH
SPACER SHIMS

Thick-ness	CR-1 Symbol Numbers	CR-2 Symbol Numbers
1/64	P-083254	
1/32	P-083255	P-083257
1/16	P-083256	P-083258
1/8		P-083259

Symbol Numbers Cover One Rivet Set With Retaining Ring.

RIVET SET SELECTION DATA

To develop maximum power, the riveter must drive the rivet near the end of its stroke. The use of rivet sets having the required body length "A", shown in figure 1, is the governing factor in applying the fixed closed height of the riveter to various lengths of rivet. Note that "A" is the external body length and, as shown in the sectioned view in figure 1, it is not affected by the rivet set cupping.

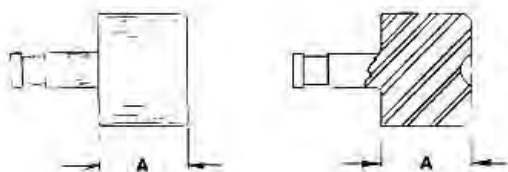
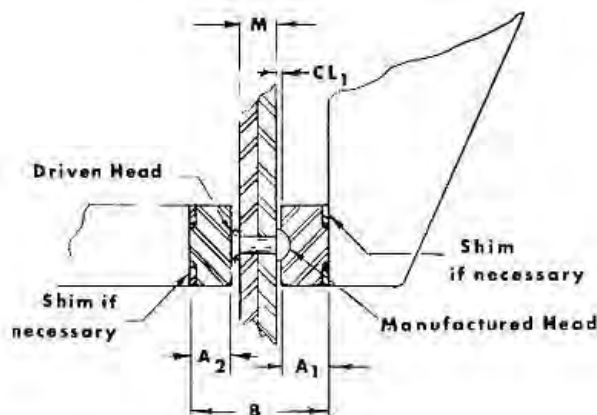


FIG. 1

Rivet sets of proper body length, A_1 or A_2 , shown in figure 2, are selected from tables 4 and 5 above according to rivet shank diameter and cupping to match the manufactured head of the rivet: button, round, flat head or countersunk.



A_1 & A_2 - Set Body Length,
 B - Closed Height Of Tool,
 (See Page 9, Yoke Dimensions)
 CL_1 - Clearance Between Rivet
 Set And Material,
 M - Total Material Thickness.

FIG. 2

Determine body length required as described in the following cases.

(A) Driving flat head on flat manufactured head rivet, using two flush sets (figure 3).

1. Add total material thickness, "M", plus height of manufactured head plus height of driven flat head (Usually 1.2 shank diameter "D").
2. Subtract this sum from closed height dimension "B". The remainder roughly equals $A_1 + A_2$.
3. Select two flush rivet sets of approximately equal length so that dimensions A_1 and A_2 add up to this remainder or the nearest available lesser length. $A_1 + A_2$ should not be more than 1.32" greater than dimension "B".

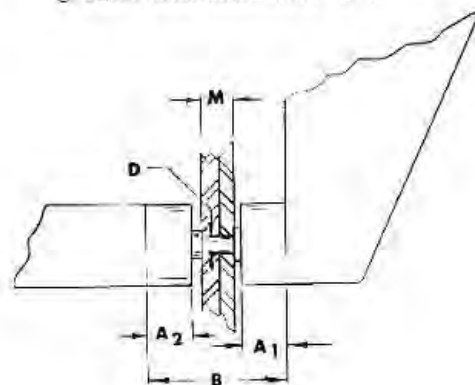


FIG. 3

(B) Driving a flat head on a rivet requiring a cupped set. (Figures 4 and 5.)

1. Add total material thickness, "M", plus height of driven flat head plus clearance CL_1 .
2. Subtract this sum from closed height, dimension "B".
3. Select one cupped set and one flush set as described in paragraph A, step 3.

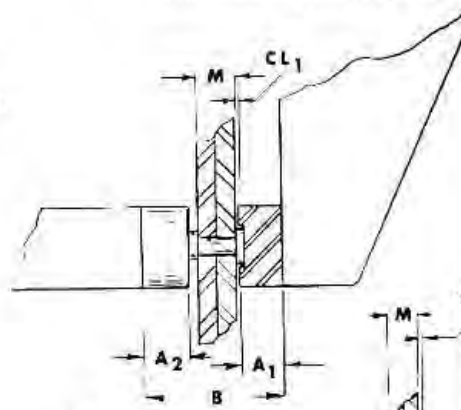


FIG. 4

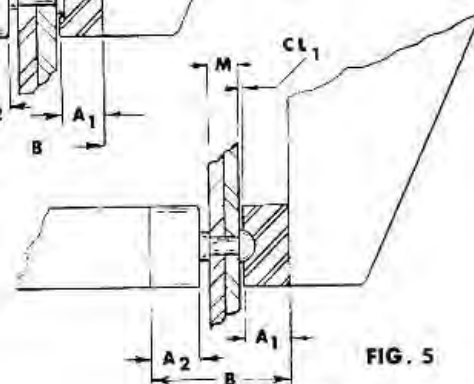


FIG. 5

(Continued on Page 12)

(Continued from Page 11)

(C) Driving a flat head on a countersunk manufactured rivet (figure 6).

1. Add total material thickness, "M", plus height of driven flat head.
2. Subtract this sum from closed height, dimension "B".
3. Select two flush sets as described in paragraph A, step 3.

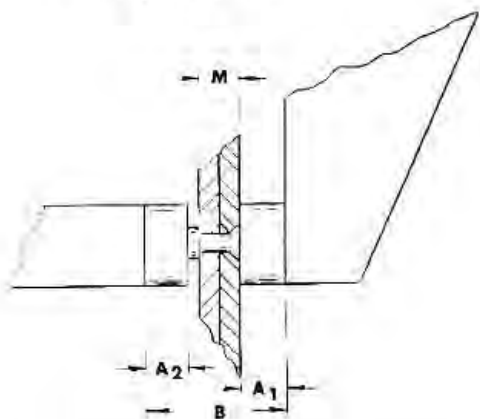


FIG. 6

(D) Driving a modified cone head on a rivet requiring a cupped set (figure 7).

1. Add total material thickness, "M", plus 1.32" for clearance.
2. Subtract this sum from closed height, dimension "B".
3. Select one modified cone set and one cupped set as described in paragraph A, step 3.

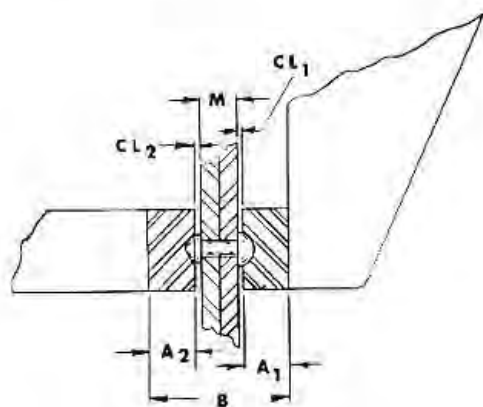


FIG. 7

(E)* Driving a countersunk head on a countersunk manufactured head rivet (figure 8).

1. Add total material thickness, "M".
2. Subtract this sum from closed height, dimension "B".
3. Select two flush sets as described in paragraph A, step 3.

NOTE: It may be desirable to allow some excess material for chipping. In this case, add allowance, CL2, to total material thickness.

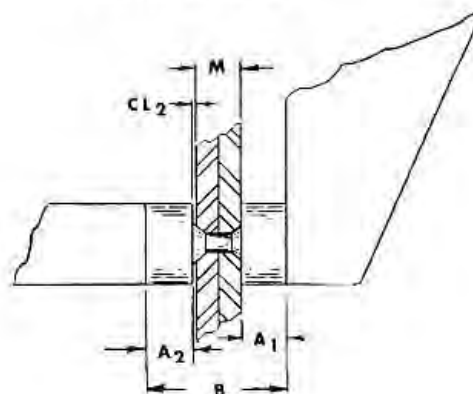


FIG. 8

(F)* Driving a rounded head on a rounded manufactured head rivet (figure 9).

1. Add total material thickness, "M", plus 1.32" for clearance (CL1 - CL2).
2. Subtract this sum from closed height, dimension "B".
3. Select two cupped rivet sets as described in paragraph A, step 3.

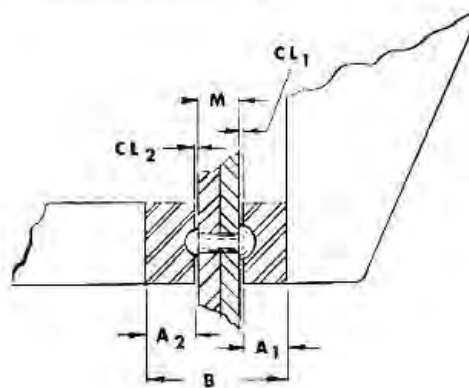


FIG. 9

In the above cases, no allowances have been made for manufacturing tolerances on rivets, material, tool parts or yoke deflection. All of these could affect the closed height, dimension "B".

Rivet sets should be selected by nominal "A" dimension. Where fine adjustment is necessary, spacer shims listed in Table 6 on page 10 should be used. Tool will stop at maximum power position when closed height is established.

* Not recommended due to the fact that excessive power is required to flow material into remote corners of formed head.

SPARE PARTS SERVICE CHART

Index No.	CP Part No.	Description	No. Req'd.	High Wear 100%	Medium Wear 70%	Low Wear 30%	Non Wear 10%	Subject To External Damage
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POWER UNIT

Order Spare Parts based on number of tools in use.

EXAMPLE: For 10 tools in use: stock 10 high wear items, 7 medium wear items, etc.

This service chart is based on average tool usage. The service life of parts may vary in specific cases depending on usage.

LEGEND

- X—Type of wear, if no other comments apply.
- L—Easily lost. Carefully reserve during disassembly.
- D—Easily damaged during disassembly and assembly.
- R—Require replacement at recommended intervals.
- R1—Replace each time tool is disassembled.
- R2—Replace each second time tool is disassembled.

1	P-073018	Retainer-Spring	1				X	
2	P-073017	Spring-Valve	1			X		
3	P-089289	Valve-Throttle (Inner)	1			X		
4	P-089290	Holder-"O" Ring	1			R2		
5	C-087316	"O" Ring	1	R2				
6	P-089288	Retainer-"O" Ring	1				X	
7	CA-083354	"O" Ring	1	R2				
8	P-089287	Valve-Throttle	1		X			
12	P-073014	Bushing-Valve Stem	1		X			
13	P-073058	Stem-Throttle Valve	1			X		
14	P-073060	Block-Valve Stem	1			X		
15	P-073059	Stem-Valve	1			X		
16	P-089178	Swivel-Air Inlet	1			X		
17	P-073054	Nut-Swivel	1			X		
18	P-073057	Spring-Throttle	1		X			
19	A-082750	"O" Ring	1			X		
20	P-073009	Gasket	2					L
21	P-073008	Cap-Cylinder	1					X
24	P-073056	Bushing-Throttle Valve	1			X		
25	P-073899	Cylinder	1					X
26	P-057199	Bushing	1		X			
27	R-083082	"O" Ring	1	X				
31	P-073052	Lever-Throttle	1					X
32	P-073115	Screw-Adjusting	1			X		
33	H-072480	Nut-Acorn	1				X	
34	P-073085	Pin-Throttle Lever	1				L	
36	P-070438	Nut-Piston Rod	1			X		
37	P-089740	Piston-Return	1		X			
38	C-083177	"O" Ring	1	X				
39	P-073116	Pin-Piston Rod	1	X				
40	P-074672	Ring-Retaining	2			X		
41	P-074326	Spring-Wedge	1		X			
45	P-089292	"O" Ring	1	X				
46	P-089737	Piston	1		X			
47	P-070320	Rod-Piston	1		X			
50	P-078068	Knob-Regulator	1				L	
51	P-073956	Valve-Regulator	1			X		
52	P-073957	Spring-Regulator	1		X			

TANDEM CYLINDER POWER UNIT

29	P-057194	Cylinder-Tandem	1					X
43	P-057198	Piston-Tandem	1		X			
49	P-057200	Rod-Tandem Piston	1		X			

"C" TYPE FRONT END

55	P-073002	Adapter-Cylinder	1					X
56	P-073025	Screw-Adapter	4					L
58	P-073006	Wedge	1			X		
63	*	Bearing-Roller	38		X			
64	P-073030	Roller-Frame	2		X			
66	P-073032	Washer	4				L	
68	P-073033	Guard-Roller	1					X
70	*	Yoke	1		X			
75	P-073239	Shaft-Lever	1			X		
82	P-073693	Guard-Spring	1				X	
83	P-073238	Spring-Return	1		X			
91	P-073045	Shaft-Lever Roller	1		X			

*See Parts List.

When ordering spare parts, give Name, Speed or Size, Model and Serial Number of the tool and Part Number and Description of each part desired.

SPARE PARTS SERVICE CHART

Index No.	CP Part No.	Description	No. Req'd.	High Wear	Medium Wear	Low Wear	Non Wear	Subject To External Damage
93	S-067191	Bearing-Roller	28		X			
94	P-073043	Roller-Lever	1		X			
102	P-073694	Wheel-Thumb	1			X		
104	P-074300	Washer-Spring	1			X		
105	P-074674	Bracket-Adjusting	1				X	
107	P-074675	Screw-Adjusting	1		X			
108	P-074744	Button-Escape	1		X			
109	P-074317	Spring-Button	1		X			
110	P-074318	Pin-Spring	1				L	
115	*	Frame-Yoke	1			X		
116	*	Bushing-Holder	1		X			
117	P-073026	Bolt-Yoke Frame	3				X	
118	P-073027	Washer-Yoke Frame	4				X	
119	P-073029	Spacer-Yoke Frame	1				X	
120	*	Bolt	1			X		
122	*	Bolt	1			X		
123	*	Nut	1					L
124	P-073041	Screw-Guard	2				X	
125	P-073005	Lever-Holder	1			X		
126	P-073242	Pin-Shaft	1			X		
127	P-073961	Yoke-Spring	1			X		
128	*	Holder-Set	1			X		

Order Spare Parts based on number of tools in use.

EXAMPLE: For 10 tools in use: stock 10 high wear items, 7 medium wear items, etc.

This service chart is based on average tool usage. The service life of parts may vary in specific cases depending on usage.

LEGEND

X—Type of wear, if no other comments apply.

L—Easily lost. Carefully reserve during disassembly.

ALLIGATOR YOKES

55	P-073087	Adapter-Cylinder	1					X
58	*	Wedge	1			X		
59	P-082672	Shim-Wedge	1				X	
60	P-073095	Bolt-Jaw	2				X	
61	P-073096	Washer	2					L
62	P-003093	Nut-Jaw	2					L
63	P-073031	Bearing-Roller	44		X			
64	P-073097	Roller-Jaw	2		X			
66	P-073098	Washer	4				L	
68	P-073099	Guard-Roller	1					X
70	*	Jaw-Stationary	1		X			
71	*	Jaw-Moving	1		X			
73	P-073112	Bearing-Roller	39			X		
74	P-073110	Race-Bearing	1			X		
75	P-073108	Bolt-Bearing	1			X		
76	C-068527	Nut	1				X	
77	P-007311	Washer-Bearing	2				L	
80	G-084533	Rivet-Guard Spring	1				X	
81	P-073103	Link-Spring	1			X		
	P-073236	Stud-Spring	1			X		
82	*	Guard-Spring	1				X	
83	*	Spring-Return	1		X			
84	P-073091	Anchor-Spring	1			X		
86	P-073246	Pin-Spring Return	1			X		
87	P-073514	Screw-Guard	2		X			
88	P-073093	Dowel-Jaw	2		X			
89	P-073094	Screw-Jaw	2		X			
91	P-081936	Shaft-Bearing	1	X				
92	*	Bearing-Roller	*		X			
93	*	Race-Bearing	1			X		
94	*	Roller-Bearing	1			X		
100	P-074314	Washer	1				L	
101	P-074320	Washer	1				L	
102	P-080155	Wheel-Thumb	1			X		
103	P-073078	Pin-Thumb Wheel	1		X			

* See Parts List

When ordering spare parts, give Name, Speed or Size, Model and Serial Number of the tool and Part Number and Description of each part desired.

SPARE PARTS SERVICE CHART

Order Spare Parts based on number of tools in use.

EXAMPLE: For 10 tools in use: stock 10 high wear items, 7 medium wear items, etc.

This service chart is based on average tool usage. The service life of parts may vary in specific cases depending on usage.

LEGEND

X—Type of wear, if no other comments apply.

L—Easily lost. Carefully reserve during disassembly.

Index No.	CP Part No.	Description	No. Req'd.	High Wear 100%	Medium Wear 70%	Low Wear 30%	Non Wear 10%	Subject To External Damage
104	P-074300	Washer-Friction	1			X		
105	*	Bracket	1				X	
106	P-080156	Sleeve	1			X		
107	P-074315	Screw-Adjusting	1		X			
108	P-074316	Button-Escape	1		X			
109	P-074317	Spring	1		X			
110	P-074318	Pin-Spring	1				L	

FOOT CONTROL THROTTLE

31	P-074831	Lever-Throttle	1				X	
32	P-073115	Screw-Adjusting	1			X		
132	P-074830	Bracket-Casing	1			X		
133	H-073533	Screw-Set	3			X		
134	P-073474	Screw-Clamp	2			X		
135	P-074827	Collar-Cable	1		X			
136	S-038995	Screw-Set	2			X		
137	*	Cable	1			X		
138	*	Casing-Cable	1		X			
139	C-064806	Screw-Clamp	2		X			
140	P-074822	Trunnion	1		X			
142	P-074823	Spring-Return	1		X			
143	P-074821	Lever-Foot	1			X		
144	P-070947	Pin-Foot Lever	1		X			
145	P-074820	Base-Throttle	1			X		

*See Parts List.

When ordering spare parts, give Name, Speed or Size, Model and Serial Number of the tool and Part Number and Description of each part desired.



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