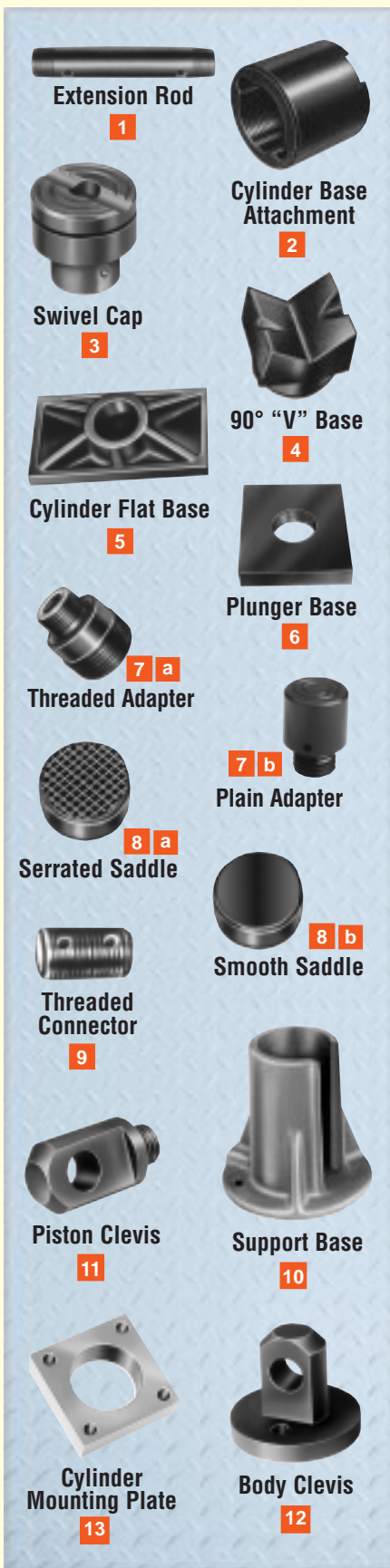


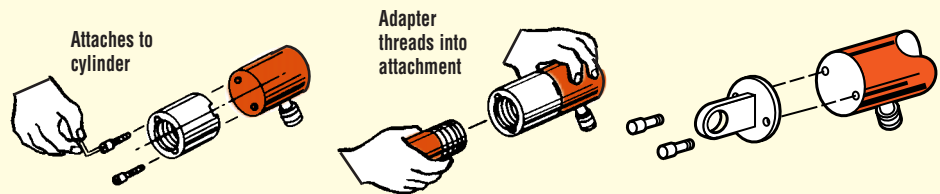
# Cylinder Accessories

## Mounting accessories for "C" Series cylinders

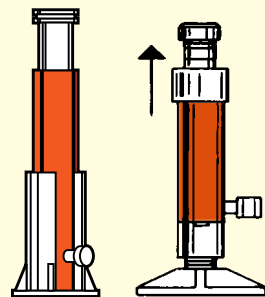


These accessories, which attach directly onto cylinder top or bottom, permit additional flexibility in the application of Power Team hydraulic cylinders to perform a wide variety of tasks. Rated for full capacity (700 bar) of cylinders, making them more versatile than they are already.

**Cylinder base or body attachment** — Cap screws attach this accessory to base of cylinder. Allows you to thread many male adapters into this attachment. Cap screws attach the body clevis accessory to base of cylinder for clevis attaching applications.

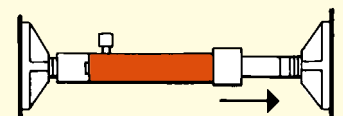


**Lifting applications** — Illustration below shows lifting application using cylinder flat base, cylinder base attachment and threaded tube coupling. Support base helps hold cylinder in an upright position by increasing the flat base area. Swivel cap tilts 5° to help reduce the effect that off-center loading will have on a hydraulic cylinder.

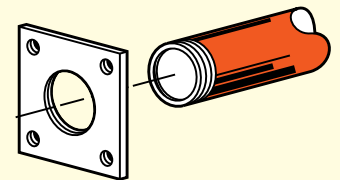


⚠ Lifting loads where the base of the cylinder is not parallel with the surface of the load engaged by the cylinder lifting cap is NOT recommended. If you must lift such a load, be aware that even with the use of a swivel cap, the cylinder can "kick out" from beneath the load and cause serious personal injury and/or property damage.

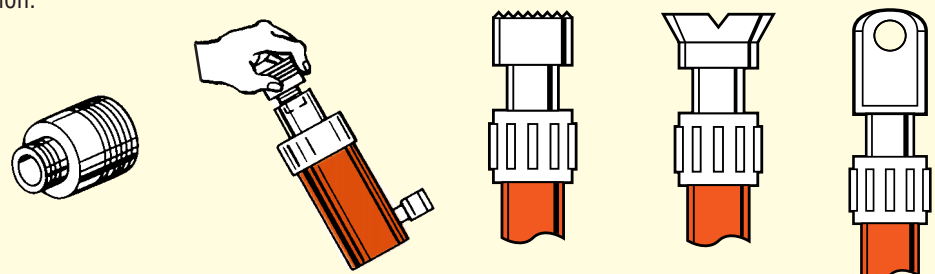
**Spreading applications** — Spreading application with two cylinder flat bases, threaded adapter, cylinder base attachment and threaded connector or extension rod.



**Fixed applications** — Cylinder mounting plate threads to the cylinder body, for fixed application.



**Threaded adapter** — Easily threads into threaded plunger end of cylinder. You are now ready to attach the saddles shown. Piston clevis threads into piston rod for clevis attaching application.



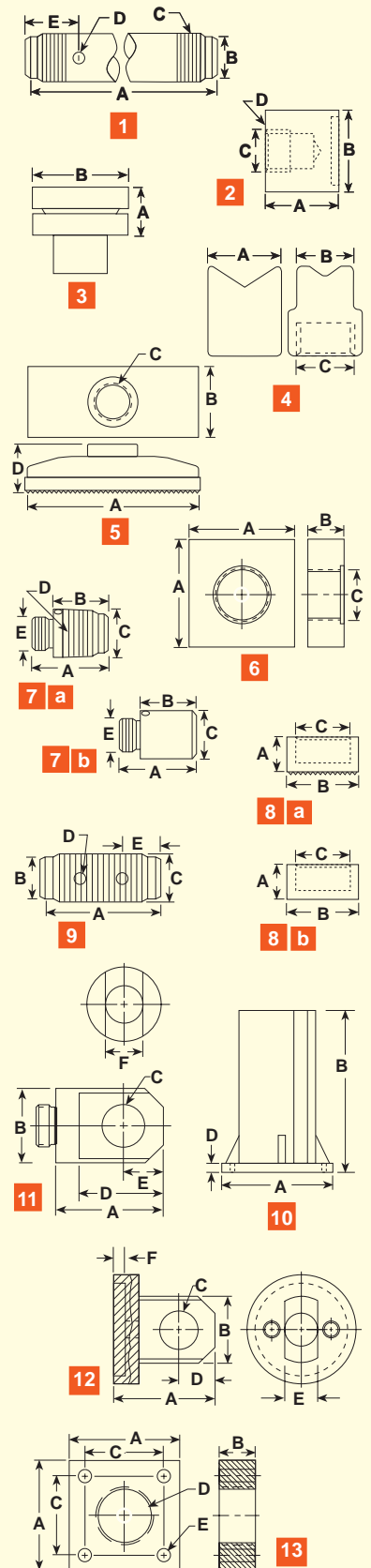
## ORDERING INFORMATION

Item No.	Cylinder Tonnage	Order Number	A (mm)	B (mm)	C (mm)	D (mm)	E (mm)	F (mm)
1	5	350895	127	22.4 Dia.	3/4 — 14 NPT	8.4 Dia.	50.8	—
1	5	38908	254	22.4 Dia.	3/4 — 14 NPT	8.4 Dia.	50.8	—
1	5	350896	457.2	22.4 Dia.	3/4 — 14 NPT	8.4 Dia.	50.8	—
1	10	350897	127	36.6 Dia.	1 1/4 — 11 1/2 NPT	8.4 Dia.	50.8	—
1	10	38909	254	36.6 Dia.	1 1/4 — 11 1/2 NPT	8.4 Dia.	50.8	—
1	10	350898	457.2	36.6 Dia.	1 1/4 — 11 1/2 NPT	8.4 Dia.	50.8	—
2†	5	208380	41.4	44.5 Dia.	3/4 — 14 NPSM	7.1 Dia. (2) 1/4 -20 UNC x 19.1 Lg. Socket Head Cap Screws	—	—
2†	10	208381	47.8	63.5 Dia.	1 1/4 — 11 1/2 NPSM	8.6 Dia. (2) 5/16-18 UNC x 19.1 Lg. Socket Head Cap Screws	—	—
2†	25	208382	60.5	98.6 Dia.	2 — 11 1/2 NPSM	13.5 Dia. (2) 1/2-13 UNC x 25.4 Lg. Socket Head Cap Screws	—	—
3	10 or 15	350144	22.4	30.1	—	—	—	—
3	25	350145	28.7	50.8	—	—	—	—
3	55 or 75	350376	31.8	71.4	—	—	—	—
3	100	351574	48.5	88.1	—	—	—	—
4	5	25388*	35.1	26.9	3/4 — 14 NPSM	—	—	—
4	10	25395*	54.1	54.1	1 1/4 — 11 1/2 NPSM	—	—	—
5	5	25750*	114.3	63.5	3/4 — 14 NPSM	34	—	—
5	10	32325*	166.6	88.9	1 1/4 — 11 1/2 NPSM	36.6	—	—
6	25	25652	152.4	31.8	2 — 11 1/2 NPSM	—	—	—
7a**	5	202178	41.4	28.7	26.9 Dia.	3/4 — 14 NPT	3/4 — 16 UNF-2A	—
7a**	10 or 15	202179	46.0	26.9	41.4 Dia.	1 1/4 — 11 1/2 NPT	1 — 8 UNC-2A	—
7a**	25	202180	69.9	47.8	60.5 Dia.	2 — 11 1/2 NPT	1 1/2 — 16 UN-2A	—
7b**	10 or 15	350724	50.8	31.8	37.6 Dia.	—	1 — 8 UNC-2A	—
7b**	25	350723	54.1	31.8	57.2 Dia.	—	1 1/2 — 16 UN-2A	—
8a	5	25746*	28.7	33.3 Dia.	3/4 — 14 NPSM	—	—	—
8a	10 or 15	31772*	28.7	50.8 Dia.	1 1/4 — 11 1/2 NPSM	—	—	—
8a	25	31776*	33.3	76.2 Dia.	2 — 11 1/2 NPSM	—	—	—
8b	5	351575*	28.7	33.3 Dia.	3/4 — 14 NPSM	—	—	—
8b	10	24016*	28.7	50.8 Dia.	1 1/4 — 11 1/2 NPSM	—	—	—
8b	25	351576*	33.3	76.2 Dia.	2 — 11 1/2 NPSM	—	—	—
9	5	25748	44.5	22.4 Dia.	3/4 — 14 NPSM	4.8 Dia.	12.7	—
9	10	25664	41.4	36.6 Dia.	1 1/4 — 11 1/2 NPSM	7.9 Dia.	14.2	—
9	25	25654	57.2	54.1 Dia.	2 — 11 1/2 NPSM	9.7 Dia.	16	—
10	10	420062	177.8	127	—	11.2	—	—
10	25	420063	177.8	127	—	11.2	—	—
11**	5	350095	44.5	28.7	16	36.6	16	14.2
11**	10 or 15	350094	65	42.9	22.4	58.7	25.4	25.4
11**	25	420059	74.7	57.2	31.8	68.3	31.8	38.1
12†	5	350096	52.3	28.7	16	16	14.2	6.4
12†	10	350097	76.2	42.9	22.4	25.4	25.4	6.4
12†	15	350098	77.7	42.9	22.4	25.4	25.4	6.4
12†	25	420061	90.4	57.2	31.8	31.8	38.1	6.4
13	5	350099	76.2	25.4	54.1	1 1/2 — 16 UN-2B	8.6	—
13	10	350100	88.9	25.4	66.8	2 1/4 — 14 UNS-2B	8.6	—
13	15	350184	88.9	25.4	66.8	2 3/4 — 16 UN-2B	8.6	—
13	25	420064	127	50.8	93	3 5/16 — 12 UN-2B	16.8	—

\* Items require threaded adapter (item No. 7a) when used with "C" series cylinders. They may be used on threaded "CBT" cylinders without the use of an adapter.

† Mounting screws are included.

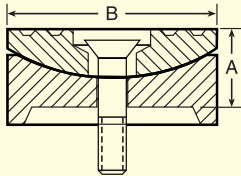
\*\* Can be used with RD106, RD1010 Cyl.



# Cylinder Accessories

## Swivel Caps for “R..c” and “R..l” cylinders

Reduce the effects of off center loading. Tilts up to 5 degrees. Radial grooves on top of cap reduce load slippage.

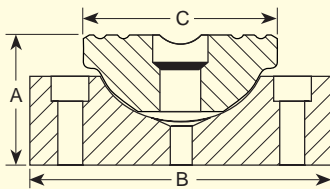


For use with “R..c” cylinders				
Use with Cyl. No.	Swivel Cap Order No.	A (mm)	B (mm)	Wt. (kg)
150-200 ton	420867	38.1	130.2	4.0
280 ton	420868	44.5	149.2	6.1
355 ton	420869	69.9	195.3	16.8
435 ton	420870	79.4	225.4	23.6
565 ton	420871	92.1	250.8	35.4

For use with “R..l” cylinders				
Use with Cyl. No.	Swivel Cap Order No.	A (mm)	B (mm)	Wt. (kg)
55-100 ton	420866	25.4	71.4	0.8
150-200 ton	420867	38.1	130.2	4.0
280 ton	420868	44.5	149.2	6.1
355 ton	420869	69.9	195.3	16.8
435 ton	420870	79.4	225.4	23.6
565 ton	420871	92.1	250.8	35.4

## Swivel Caps for “RSS”, “RA” and “RD” cylinders

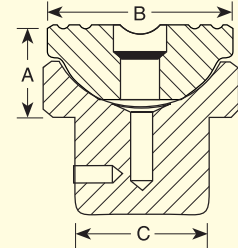
Reduce the effects of off center loading. Tilts up to 5 degrees. Radial grooves on top of cap reduce load slippage. Notch across face of each cap helps keep loads having a protruding or round shaped centered. Mounting screws included



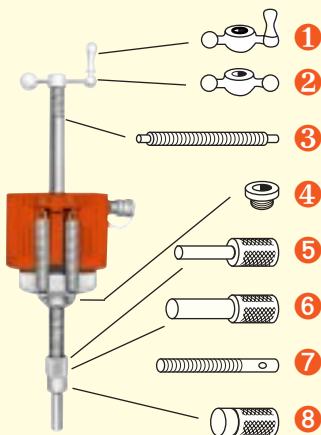
For use with “RSS” cylinders					
Use with Cyl. No.	Swivel Cap Order No.	A (mm)	B (mm)	C (mm)	Wt. (kg)
RSS101	350320	25.4	36.5	36.5	0.2
RSS202	350321	34.9	54	54	0.6
RSS302	350322	34.9	63.5	54	0.7
RSS502	350331	36.5	82.6	54	1.2
RSS1002	350332	46	111.1	85.7	3.0

For use with “RA” cylinders					
Cylinder Tonnage	Swivel Cap Order No.	A (mm)	B (mm)	C (mm)	Prod. Wt. (kg)
55	350376	31.8	71.4	71.4	0.9
100	350984	49.2	95.3	79.4	2.5

For use with “RD” cylinders					
Cylinder Tonnage	Swivel Cap Order No.	A (mm)	B (mm)	C (mm)	Prod. Wt. (kg)
10	350144	22.2	36.5	21.8	0.4
25	350145	28.6	54.0	36.5	0.6
55	351325	61.9	63.5	39.3	1.9
100	351324	75.0	95.3	67.5	5.1
150	351334	66.7	111.1	77.8	5.8



## “Center-Hole” cylinder accessories



	To use with Cyl. No. →	RT172, RH203	RT302, RH302 RH303, RH306	RT503, RH503, RH603 RH605, RH606	RT1004
No. Order Set No. →		RHA20	RHA30	RHA50	RHA100
① Speed Crank		24814	27198	29595	303785
② Speed Nut		302482	302483	33439	34136
③ Adjusting Screw		32118	34758	32698	32699
④ Threaded Insert		1"-8 thd. 508 mm lg.	1 1/4"-7 thd. 609.6 mm lg.	1 5/8"-5 1/2 thd. 762 mm lg.	2 1/2"-8 thd. 869.9 mm lg.
⑤ Pushing Adapter		201923	34510	34755	—
⑥ Pushing Adapter		201454	34511	34756	—
⑦ Jack Screw		24813	25931	32701	32702
⑧ Screw Cap		28228	28229	28230	—

Order threaded insert for RH series cylinders with the accessory set. (See page 161).  
Threaded insert supplied with RT series cylinders

### CYLINDER SEAL KITS

Cylinder Order No.	Nitrile Seal Kit*	Viton Seal Kit
C51C	300404	300210
C53C	300404	300210
C55C	300404	300210
C57C	300404	300210
C59C	300404	300210
C101C	300116	300211
C102C	300116	300211
C104C	300116	300211
C106C	300116	300211
C108C	300116	300211
C1010C	300116	300211
C1012C	300116	300211
C1014C	300116	300211
C1016C	300116	300211
C151C	300453	300471
C152C	300453	300471
C154C	300453	300471
C156C	300453	300471
C158C	300453	300471
C1510C	300453	300471
C1512C	300453	300471
C1514C	300453	300471
C1516C	300453	300471
C251C	300147	300213
C252C	300147	300213
C254C	300147	300213
C256C	300147	300213
C258C	300147	300213
C2510C	300147	300213
C2512C	300147	300213
C2514C	300147	300213
C552C	300114	300215
C554C	300114	300215
C556C	300114	300215
C5510C	300114	300215
C5513C	300114	300215
C756C	300647	300846
C7513C	300647	300846
C1002C	300112	300216
C1006C	300112	300216
C10010C	300112	300216
C55CBT	300404	300210
C106CBT	300116	300211
C1010CBT	300116	300211
C256CBT	300147	300213
C2514CBT	300147	300213
R1502C	300676	—
R1506C	300676	—
R15010C	300676	—

Cylinder Order No.	Nitrile Seal Kit*	Viton Seal Kit
R2002C	300677	—
R2006C	300677	—
R20010C	300677	—
R2802C	300678	—
R2806C	300678	—
R28010C	300678	—
R3552C	300679	—
R3556C	300679	—
R35510C	300679	—
R4302C	300680	—
R4306C	300680	—
R43010C	300680	—
R5652C	300681	—
R5656C	300681	—
R56510C	300681	—
R1002D	300928	—
R1006D	300928	—
R10010D	300928	—
R1502D	300929	—
R1506D	300929	—
R15010D	300929	—
R2002D	300930	—
R2006D	300930	—
R20010D	300930	—
R2802D	300931	—
R2806D	300931	—
R28010D	300931	—
R3552D	300932	—
R3556D	300932	—
R35510D	300932	—
R4302D	300933	—
R4306D	300933	—
R43010D	300933	—
R5652D	300934	—
R5656D	300934	—
R56510D	300934	—
R552L	300674	—
R556L	300674	—
R5510L	300674	—
R1002L	300675	—
R1006L	300675	—
R10010L	300675	—
R1502L	300676	—
R1506L	300676	—
R15010L	300676	—
R2002L	300677	—
R2006L	300677	—
R20010L	300677	—
R2802L	300678	—

Cylinder Order No.	Nitrile Seal Kit*	Viton Seal Kit
R2806L	300678	—
R28010L	300678	—
R3552L	300679	—
R3556L	300679	—
R35510L	300679	—
R4302L	300680	—
R4306L	300680	—
R43010L	300680	—
R5652L	300681	—
R5656L	300681	—
R56510L	300681	—
RA202	300631	—
RA204	300631	—
RA206	300631	—
RA302	300632	—
RA304	300632	—
RA306	300632	—
RA552	300391	—
RA554	300391	—
RA556	300391	—
RA5510	300391	—
RA1002	300444	—
RA1006	300444	—
RA556L	300395	—
RA1006L	300396	—
RD106	300117	—
RD1010	300117	—
RD256	300118	—
RD2514	300118	—
RD556	300005	—
RD5513	300005	—
RD5518	300005	—
RD8013	300410	—
RD1006	300006	—
RD10013	300006	—
RD10020	300006	—
RD1506	300007	—
RD15013	300007	—
RD15018	300007	—
RD2006	300008	—
RD20013	300008	—
RD3006	300466	—
RD30013	300466	—
RD4006	300467	—
RD40013	300467	—
RD5006	300468	—
RD50013	300468	—
RH102	300071	300221
RH108	300071	300221

Cylinder Order No.	Nitrile Seal Kit	Viton Seal Kit
RH120	300657	—
RH121	300576	—
RH121T	300576	—
RH123	300576	—
RH202	300615	—
RH203	300069	300222
RH206	300615	—
RH302	300037	300223
RH306	300037	300223
RH503	300059	300225
RH603	300477	300476
RH606	300477	300476
RH1003	300485	300585
RH303	300077	300224
RH306D	300822	300224
RH3010	300625	—
RH605	300269	300226
RH6010	300626	—
RH1001	300927	—
RH1006	300295	300227
RH10010	300629	—
RH1505	300154	300228
RH1508	300583	—
RH2008	300582	—
RHA306	300867	300868
RHA604D	300269	300226
RLS50	300454	—
RLS100	300455	—
RLS200	300456	—
RLS300	300457	—
RLS500S	300458	—
RLS750S	300459	—
RLS1000S	300460	—
RLS1500S	300461	—
RP25	300628	—
RP55	300627	—
RSS101	300010	—
RSS202	300011	—
RSS302	300297	—
RSS502	300292	—
RSS1002	300293	—
RSS2503	—	—
RSS1002D	300578	—
RT172	300358	—
RT302	300359	—
RT503	300360	—
RT1004	300024	—

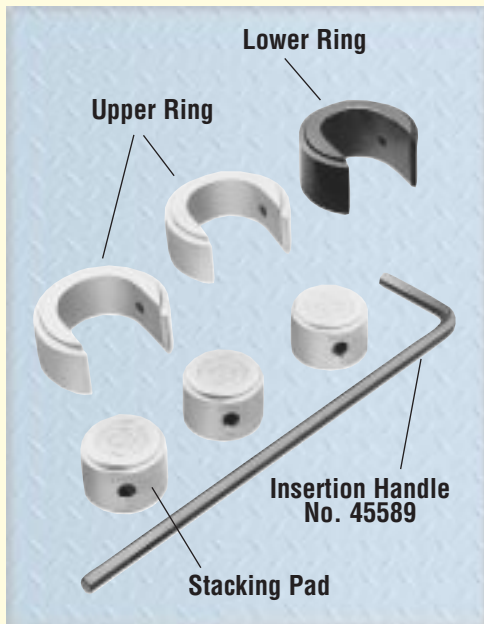
\* Nitrile seals come standard on all cylinders.



# Cylinder Accessories

## Cribbing blocks

### Cribbing block sets



Convert Power Team “Shorty” cylinders to mechanical cribbing devices; more stable than timber or other awkward, makeshift methods. Ideal for lifting applications such as structure moving. Reduce cribbing time dramatically. In effect, increases the stroke of the cylinder; stacking pads act as cylinder extensions:

1. Extend cylinder and insert lower supporting ring.
2. Retract cylinder, insert a stacking pad.
3. Extend cylinder again; pad increases cylinder stroke.
4. Repeat process until all rings and pads are used.

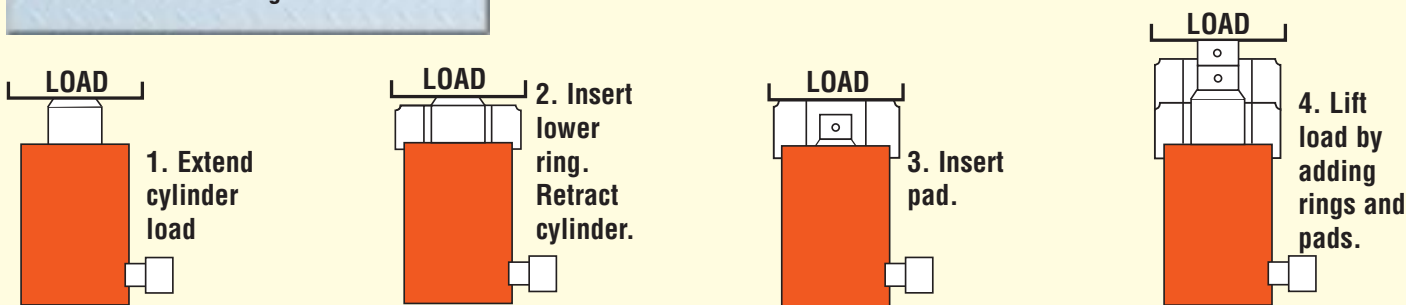
**Each cribbing block set includes rings, pads and insertion handle.**

**No. CB30** — Cribbing block set for use with No. RSS302; 30 ton cylinder.

**No. CB50** — Cribbing block set for use with No. RSS502; 50 ton cylinder.

**No. CB100** — Cribbing block set for use with No. RSS1002; 30 ton cylinder.

**No. 45589** — Insertion handle is used for inserting rings and pads.



### ORDERING INFORMATION

For Use with →	30 ton Cylinder No. RSS302			50 ton Cylinder No. RSS502			100 ton Cylinder No. RSS1002		
Order Number →	30 ton Set No. CB30			50 ton Set No. CB50			100 ton Set No. CB100		
	Lower Ring	Upper Ring	Stacking Pad	Lower Ring	Upper Ring	Stacking Pad	Lower Ring	Upper Ring	Stacking Pad
<b>No. Included in Set</b>	1	2	3	1	2	3	1	3	4
<b>Outside Diameter (mm)</b>	114.3	114.3	69.9	139.7	139.7	85.7	187.7	187.7	120.7
<b>Inside Diameter (mm)</b>	71.4	71.4	—	87.7	87.7	—	122.2	122.2	—
<b>Height, each (mm)</b>	57.9	45.6	45.2	56.4	43.7	42.8	54	44.5	43.7
<b>Total Stacked Height of Rings in Set (mm)</b>	138.1			131.7			174.6		
<b>Weight of Set (kg)</b>	9.1			12.7			29		

Each set includes one **Insertion Handle No. 45589** - 1/2" Hex. x 457 mm Long, 102 mm Bend

### Aluminum cylinder base



**Aluminum Cylinder Base** – For use when an enlarged cylinder base is needed or advantageous. Attaches to bottom of RA556, RA556L and RA5510 with four 3/8"-16 screws (included). Serrated base for extra stability.

**No. 208406** – Aluminum cylinder base, 178 mm square. For use with RA556, RA556L and RA5510 cylinders. Wt.: 1.8 kg

## Cylinder lifting handle

- No. 4206550R9** — Lifting handle accessory for “C” series, 25 ton cylinders.
- No. 4213120R9** — Lifting handle accessory for RH302, RH303, RH306 and RH306D, 30 ton cylinders.
- No. 252215** — Lifting handle accessory for RHA306, 30 ton cylinder.
- No. 4204960R9** — Lifting handle accessory for RA552 and RA554, 55 ton cylinders.
- No. 4204980R9** — Lifting handle accessory for RA1002, 100 ton cylinder.



## Head inserts

### Head inserts for RH Series cylinders



For Use With:	Threaded Insert Order No.
RH102, RH108	<b>28632</b> 3/4"-16
RH203	<b>28612</b> 1"-8
RH302, RH306	<b>38904</b> 1 1/4"-7
RH303	<b>28644</b> 1 1/4"-7
RH503	<b>38855</b> 1 5/8"-5 1/2
RH603, RH605 RH606	<b>34251</b> 1 5/8"-5 1/2

### “Quick Change” head inserts for RT Series cylinders



Switch from a tapped hole to a plain hole quickly with these cylinder head inserts. They are held in place with a socket screw. Plain hole permits use of a speed nut for readjusting cylinder after extension.

Quick-Change Inserts		
For Use With:	Threaded Order No.*	Plain Order No.
<b>RT172</b>	21669	<b>21714</b>
<b>RT302</b>	21873	<b>21872</b>
<b>RT503</b>	22274	<b>22275</b>
<b>RT1004</b>	24197	<b>24196</b>

\* Provided with cylinder

## Storage box for hydraulic cylinder and pump sets

Rugged industrial strength material, strong as steel, never needs painting, won't rust, dent or chip. Weatherproof lid is self sealing and lockable. Molded-in handles and removable heavy duty utility tray. Water-tight, one piece bottom and side construction. Strong enough to stand on.

- No. 350722** — 889 mm L x 356 mm H x 242 mm W, storage box.

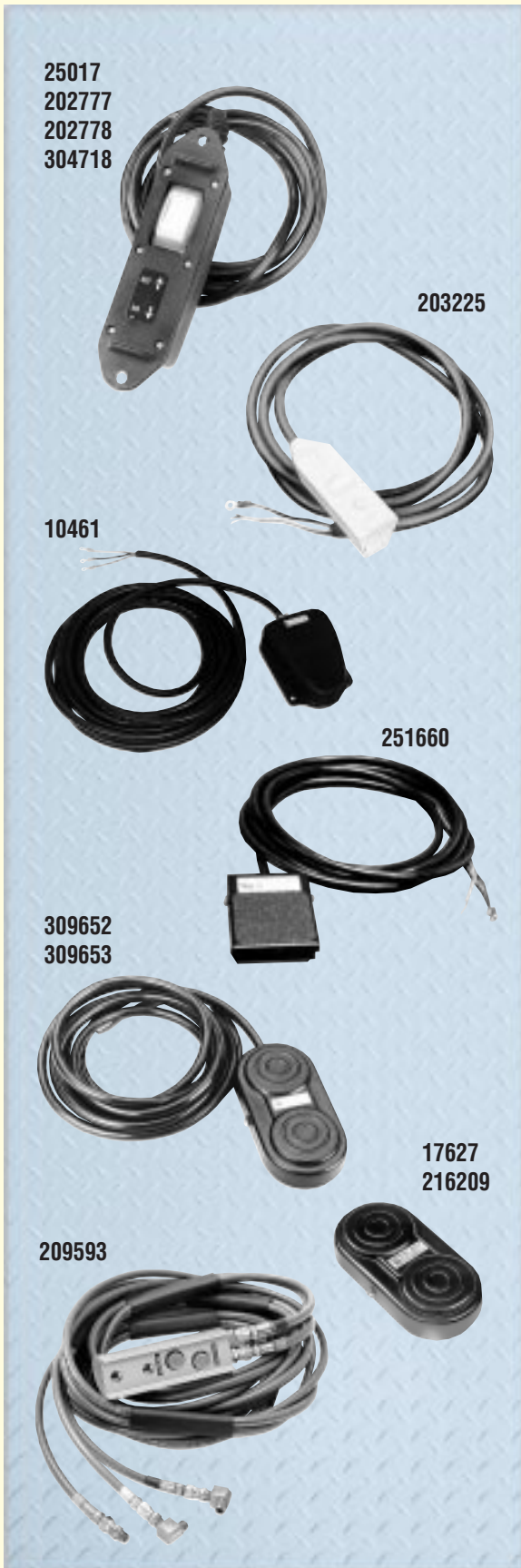


## Foot pump conversion kit

- No. FK59** — Foot pump conversion kit for use on P55/P59 pumps. Wt., 2.7 kg.
- No. FK159B** — Foot pump conversion kit for use on P157/P159 and P300/P300D pumps. Wt., 2.7 kg.



FK59  
FK159B



## On/off motor control

The following remote control switches will give you momentary “ON” control of your hydraulic pump. These switches are deadman type, spring loaded to the “OFF” position. They can be used with any Power Team electric hydraulic pumps.

**No. 25017** – Remote hand control. Has a rocker style switch, with a 3.1 m cord. Wt., 0.4 kg.

**No. 203225** – Remote hand control. Heavy-duty with single push button switch in a neoprene housing with 3.1 m cord. Housing seals out dust, lint and liquids (unit is not submersible). Wt., 0.4 kg.

**No. 10461** – Remote foot control, with 3.1 m cord. Wt., 1.4 kg.

**No. 251660** – Remote foot control, with 3.1 m cord. For use with the PE10 style pumps. Wt., 0.5 kg.

## Solenoid & motor control

### For use on solenoid valves that are used on single-acting cylinders:

**No. 202777** – Remote hand control. Has rocker style switch that is momentary advance, spring center hold and detented retract. It comes with a 3.1 m cord, for use with 3-way/2 or 3-position valves. Wt., 0.4 kg.

### For use on solenoid valves that are used on double-acting cylinders:

**No. 202778** – Remote hand control. Has rocker style switch that is momentary advance, spring center hold and momentary retract. It comes with a 3.1 m cord, for use with 4-way/3-position valves. Wt., 0.4 kg.

**No. 309653** – Remote foot control. Can be used in place of either of the above hand controls to control the same type of valves. The switch is momentary on both the advance and retract position and is spring centered to the hold position. This foot switch comes with 3.1 m cord. Wt., 1.8 kg.

**No. 17627** – Remote foot control. Same as the No. 309653 but without a cord. Wt., 0.9 kg.

**No. 304718** – Remote hand control. Has a rocker style switch that is momentary advance, spring center hold and momentary retract. The switch is wired to start and stop the motor when the valve is energized. It comes with a 3.1 m cord. To be used with 4-way/2-position valves. Wt., 0.4 kg.

**No. 309652** – Remote foot control. Has same functions as No. 304718. Supplied with a 3.1 m cord. To be used with 4-way/2-position valves. Wt., 1.8 kg.

**No. 216209** – Remote foot control. Same as the No. 309652, but without a cord. Wt., 0.9 kg.

**NOTE:** See valves listing to determine which remote to use. Page 144-155

## Remote air motor controls

This remote hand control has two momentary push buttons, one for advance and one for retract with spring offset to hold. To be used with 4-way/2-position air pilot valves.

**No. 209593** – Remote hand control with 3.7 m cord. Wt., 0.9 kg.

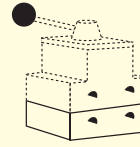


## Subplates

For remote mounting of control valves. They convert pump mounted valves to remote mounted valves quickly and easily.

**No. 9510** – Subplate for remote mounting the following valves; 9500, 9501, 9502, 9504, 9506, 9507, 9511, 9552, 9572, 9575, 9576, 9592, 9594 and 9609.  
Wt., 0.7 kg.

**No. 9620** – For use with 9500, 9501, 9502, 9552, 9572, 9592 and 9594. Same as No. 9510 but has integral pressure regulating valve. Wt., 1.7 kg.

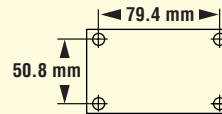


9510 and 9620 attach to the bottom of valve for remote mounting. The 9515 and 9521 mount between the pump cover plate and valve.

## Pump-mounted subplates

When fitted between pump cover plate valve mounting flange and control valve, provides a separate  $\frac{3}{8}$ " NPTF female port, open to "return" regardless of position of valve. Also provides a separate  $\frac{3}{8}$ " NPTF female pressure port. This subplate can be useful when you desire to use one pump with a deck-mounted control valve, plus a separate remote-mounted valve to control another function.

**For use with the following valves:** 9500, 9501, 9502, 9504, 9506, 9507, 9511, 9552, 9572, 9575, 9576, 9592, 9594 and 9609.



**No. 9515** – Subplate, Wt., 0.6 kg.

**No. 9521** – Subplate for use under most pump mounted valves to provide adjustable pressure control on units not equipped with an external pressure regulator. Wt., 1.7 kg.

## Air filter/regulator/lubricator

Recommended for use with single-speed air/hydraulic pumps found on pages 26-29, 30-31, 34-35.

**No. 9531** – Filter/regulator.  $\frac{1}{4}$ " NPTF inlet and outlet. Wt., 0.36 kg.

## Pressure switch

**Application:** Used in a hydraulic circuit where system pressure must be "held". Automatically (electrically) turns off pump motor when predetermined system pressure is reached.

Attaches directly to control valve manifold or can be mounted "in-line" to read system pressure. Has a  $\frac{1}{4}$ " NPTF male thread, and a  $\frac{1}{4}$ " NPTF fitting for gauge mounting if required. Adjustable from 70 to 700 bar. Can also be used to actuate other electrical devices in the system. Wired "normally open" and held closed by spring pressure.

**IMPORTANT:** Electrical rating of switch is 5 amps at 250 volts max. To prevent permanent damage to switch, a control relay must be installed to handle currents or voltage exceeding these limits. Pressure switch should never be used to directly actuate the electrical motor.

**No. 9625** – In-line pressure switch with  $\frac{1}{4}$ " NPTF gauge port. Wt., 0.5 kg.

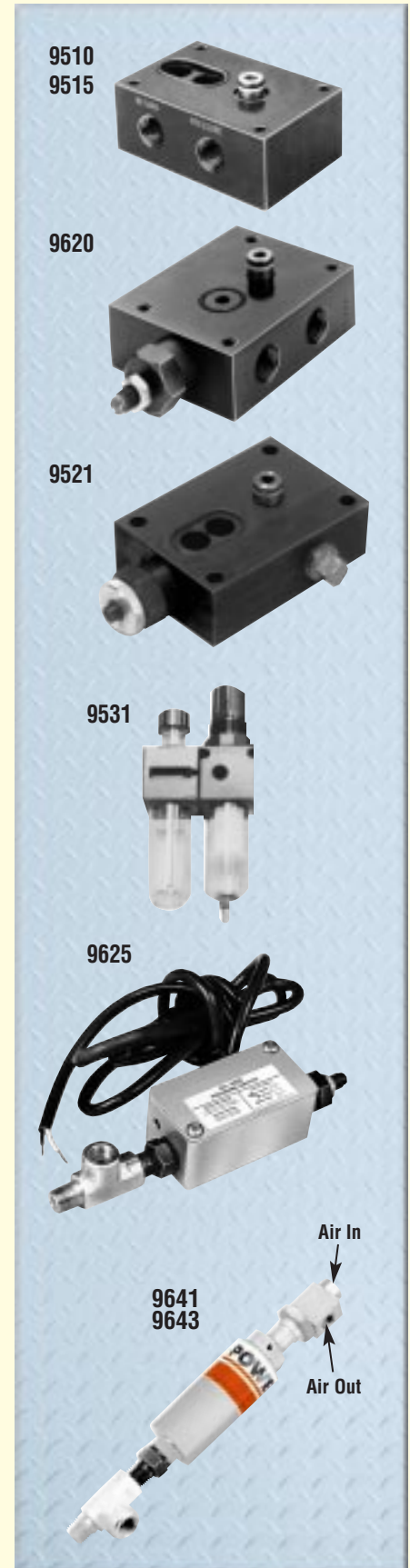
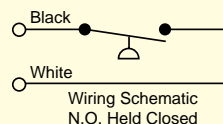
## Pilot operated air control valves

**Application:** For use when an air pilot signal is required at a set hydraulic pressure. Can be used to shift valves, and start or stop pneumatic pumps.

Attaches directly to control manifold or can be mounted "in-line" to read system hydraulic pressure. Automatically turns on an air pilot signal when a predetermined system pressure is reached. Has  $\frac{1}{4}$ " NPTF male thread and  $\frac{1}{4}$ " NPTF fitting for gauge mounting if required. Adjustable from 35-700 bar. Maximum rating of .71 cu. m/min. at 7 bar.

**No. 9641** – Pilot operated control valve, normally closed, with  $\frac{1}{4}$ " NPTF male thread. Wt., .45 kg.

**No. 9643** – Same as 9641 except normally open. Wt., .45 kg.





# Pump Accessories

253219  
253220



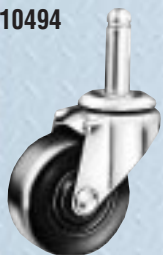
206767  
250175



Viton\* seal kits



10494



350431



16339



207762



## Oil cooler kits

**No. 253219** – Oil cooler kit designed for use with PE604T or PE604PT pumps (model “C” only) with 115 VAC. Wt., 2.3 kg.

**No. 253220** – Oil cooler kit designed for use with PE604T or PE604PT pumps (model “C” only) with 220 VAC. Wt., 2.3 kg.

## Reservoir breather kits

**No. 206767** – Reservoir breather kit designed for use on PA17, PA55, PE17, PE55, PE84, PE90, PE120, PG55, PG120, PQ60 and PQ120 series pumps. Wt., 0.6 kg.

**No. 250175** – Reservoir breather kit designed for use on PE21 and PE46 series pumps. These kits replace the reservoir filler cap when the pump is used in dusty and dirty environments. Wt., 0.6 kg.

## Viton\* seal kits

Can be used in all “C” and “RH” series cylinders (see pages 6-7 and 12-13), as well as the P12, P55, P59, P157/P159, P157D/P159D and P300/P300D series of hand pumps. These seals are required when fire resistant hydraulic fluids are used. For use with phosphate ester fluids. Not required with Flame-Out fluid.

Order Number	Use With	Model	Page
300507	P12	All	22
300472	P23, P55	All	22
300510	P59	All	23
300508	P157, P159, P300	A	24
300690	P157, P159	B	24
300696	P300	B	24
300508	P157D, P159D, P300D	A	24
300693	P157D, P159D	B	24
300699	P300D	B	24

\* Viton is the E.I. duPont De Nemours & Co., Inc, trade name for fluoroelastomers.

## Casters

50.8 mm diameter casters attach to the bottom of RP21 reservoir for portability. Sold individually; order the amount you need.

**No. 10494** – Single caster wheel. Wt., 113 g.

## Fluid level/temperature gauge

Displays fluid level and temperature of hydraulic oil in reservoir. 0°-100°C, 32°-212°F. 31.8 mm wide and 162 mm high.

**No. 350431** – Fluid level/temperature gauge.

## Foot control guard

Guard for use with 10461 and 251660 foot controls.

**No. 16339** – Wt., 2 kg.

## Magnetic strip

Magnetic strip with adhesive back can be added to No. 25017, 202777, 202778 and 304718 hand controls. Provides 2.7 kg. of holding force.

**No. 207762** – Wt., 28.3 g.

## Universal pump cart

Mobilize your hydraulic pumps with the PC200. The rugged tubular frame can easily handle pumps weighing up to 91 kg. With 305 mm wheels, the cart rolls easily. Just load the pump onto the cart and wheel it right to the job. The universal mounting hole pattern lets you handle a wide variety of Power Team pumps.

**No. PC200** – Universal pump cart with 305 mm wheels. Cart can be used with the following pumps: PA60, PA64 and PA554 air/hydraulic pumps; PE55 series, PE183-2 and PE184-2 electric/hydraulic pumps; PE21, PQ60 and PQ120 series “Quiet” pumps; PG55 series gas engine/hydraulic pumps; and pumps with optional 19- and 38-L reservoirs; Nos. RP50, RP51, RP101 and RP103. Wt., 12.3 kg (Shown with pump, pump not included)

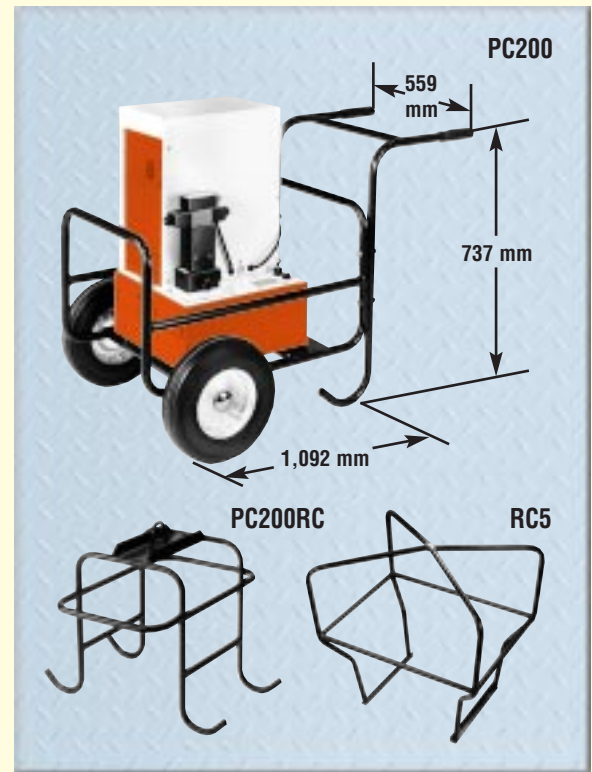
## Protective pump roll cage

Safeguards pump, gas engine and valves on the job site. Horizontal bars provide convenient hand holds for carrying pump, a pick-up point permits lifting unit with an overhead crane or other device. Standard equipment on PG1203 and PG1204. Can be ordered as an option with any other gas, air, or electrically driven hydraulic pump equipped with a 19 L reservoir.

**Note:** Refer to PG1203/PG1204 specification chart (pages 68-69) for dimensions of roll cage.

**No. PC200RC** – Roll cage for use with PC200. (Cannot be used on pumps with 38 L reservoirs.) Wt., 16.3 kg.

**No. RC5** – Roll cage. Wt., 8.9 kg.

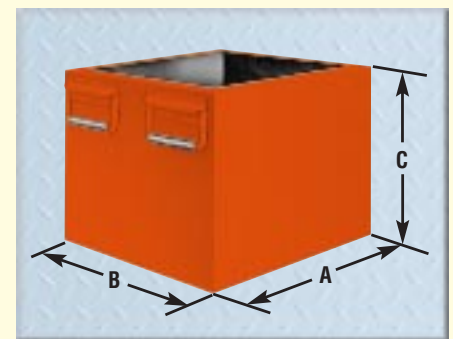


## Large capacity reservoirs

Capacity (liters)	Order Number	Usable Oil (liters)	Use With	Size (mm)		
				A	B	C
7.6	RP20**	7.1	PA6, PA50 series (models A-E)	292	241	165
7.6	RP20-F**	7.1	PA6 series (model F), PA 50 series (model F & G)	292	241	165
9.5	RP20M*	7.2	PA6, PA50 series (models A-E)	292	241	165
9.5	RP20M-F*	7.2	PA6 series (model F), PA50 series (model F & G)	292	241	165
9.5	RP21*	7.2	PE18 series	292	241	165
9.5	RP22†	7.1	PE55, PE90, PE120, PA55	292	241	165
19	RP50	18.4	PA46, PE46, PE21	381	318	203
19	RP51	18.4	PE55, PE90, PE120, PA55	381	318	203
37.9	RP100	35.1	PE55, PE90, PE120, PA55	381	318	356
37.9	RP101	35.1	PG55, PG120	381	318	356
37.9	RP103*	37.0	PQ60, PQ120	392	362	313
37.9	RP104	35.1	PA46, PE46, PE21	381	318	356

\* Four mounting holes: 1/2"-20, for 50.8 mm diameter swivel casters (No. 10494)

\*\* High density polyethylene reservoir. † Aluminum reservoir.



**NOTE:** All metal reservoirs are equipped with drain plugs and all necessary conversion items.

Hydraulic oil is not included with reservoir kits. Please order separately. See page 78.

## Metal reservoir conversion kits for pumps \*Includes gaskets and fasteners.

Pump Number	Metal Res. Order Number	Metal Reservoir Capacity	Reservoir Weight (kg)
PA6	213896	1.7 liters	1.4
PA6A	213896	1.7 liters	1.4
PA6D	213896	1.7 liters	1.4
PA6-2	213895	9.5 liters	4.1
PA6D2	213895	9.5 liters	4.1

Pump Number	Metal Res. Order Number	Metal Reservoir Capacity	Reservoir Weight (kg)
PA50	213896	1.7 liters	1.4
PA50R	213896	1.7 liters	1.4
PA6R	213896	1.7 liters	1.4
PA50R2	213895	9.5 liters	4.1
PA172	213895	9.5 liters	4.1

Pump Number	Metal Res. Order Number	Metal Reservoir Capacity	Reservoir Weight (kg)
PA174	213895	9.5 liters	4.1
PE172	213895	9.5 liters	4.1
PE172A	213895	9.5 liters	4.1
PE172S	213895	9.5 liters	4.1
PE174	213895	9.5 liters	4.1

# Hydraulic Tool Accessories

## Optional accessories for use with CC5, CC10 & CC25 hydraulic clamps

Swivel Caps		Threaded Adapters		Pushing Adapters		Pushing Adapters		Pushing Adapters		V Pushing Adapters		Pushing Adapters
<b>5/10 ton</b> <b>350144*</b>	<b>25 ton</b> <b>350145</b>	<b>10 ton</b> <b>38597</b>	<b>25 ton</b> <b>38953</b>	<b>10 ton</b> <b>28228**</b>	<b>25 ton</b> <b>28229**</b>	<b>10 ton</b> <b>201923**</b>	<b>25 ton</b> <b>34510**</b>	<b>10 ton</b> <b>201454**</b>	<b>25 ton</b> <b>34511**</b>	<b>10 ton</b> <b>34806**</b>	<b>25 ton</b> <b>34807**</b>	<b>5 ton</b> <b>309874*</b>
A-34.9 mm	A-50.8 mm	A-1 - 8	A-1 1/4-7	A-60.3 mm	A-73 mm	A-79.4 mm	A-82.6 mm	A-79.4 mm	A-82.6 mm	A-66.7 mm	A-79.4 mm	A-51.6 mm
B-19.1 mm	B-25.4 mm	B-1 - 8	B-1 1/2-16	B-1 - 8	B-1 1/4-7	B-57.2 mm	B-66.7 mm	B-57.2 mm	B-66.7 mm	B-1 - 8	B-1 1/4-7	B-70.6 mm
		C-19.1 mm	C-69.9 mm	C-38.1 mm	C-44.5 mm	C-137 mm	C-149 mm	C-137 mm	C-149 mm	C-38.1 mm	C-44.5 mm	C-15.9 mm
		D-50.8 mm	D-111 mm			D-12.7 mm	D-19.1 mm	D-19.1 mm	D-25.4 mm	D-25.4 mm	D-31.8 mm	
						E-1 - 8	E-1 1/4-7	E-1 - 8	E-1 1/4-7			

\* May be used with CC5

\*\* Must be used with a threaded adapter.

## Punch/Die Sets for HP20 & HP35 hydraulic punches

Punch Size (mm)	Punch Style	For use with HP20 Hydraulic Punch				For use with HP35 Hyd. Punch	
		Punch Number	Flat Die No.	Bevel Die No.	Coupling Nut No.	Punch/w Flat Die Set	Punch/w Bevel Die Set
6.4	Round	251970	251983	—	252001	—	—
7.9		251971	251984	—	252001	PD313	—
9.5		251972	251985	251996	252001	PD375	PD375B
11.1		251973	251986	251997	252001	PD437	PD437B
13.5		251974	251987	251998	252001	PD531	PD531B
14.3		251975	251988	251999	252001	PD562	PD562B
17.5		251976	251989	—	252001	PD688	—
19.8		251977	251990	—	252002	PD781	—
20.6		251978	251991	—	252002	PD812	—
12.7	Square	251979	251992	—	252002	—	—
13.5		251980	251993	—	252002	—	—
6.4 x 19	Obround	251981	251994	—	252002	—	—
9.5 x 19		251982	251995	—	252002	—	—

Punch Size (mm)	INCHES		MM	
	Hole Dia.	Bolt	Hole Dia.	Bolt
6.4	1/4	#10	6.3	—
7.9	5/16	1/4	7.9	—
9.5	3/8	5/16	9.5	M8
11.1	7/16	3/8	11.2	M10
13.5	17/32	7/16	13.5	M12
14.3	9/16	1/2	14.3	—
17.5	11/16	5/8	17.5	M16
19.8	25/32	—	19.8	M18
20.6	13/16	3/4	20.6	—

Typical 20 ton style tooling



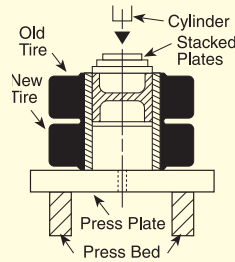
## Accessories for HP20 hydraulic punch

- No. HP20FS** – Optional foot switch mounted in foot switch guard. Supplied with 3 m cord and male remote connector. Wt., 0.9 kg.
- No. HP20HS** – Replacement handswitch. Supplied with 3 m cord and male remote connector. Wt., 0.9 kg.
- No. 252000** – Optional coupling nut wrench. Makes punch/die changes easier without “rounding-off” coupling nuts. Wt., 0.23 kg.



## Rubber tire removing/installing set

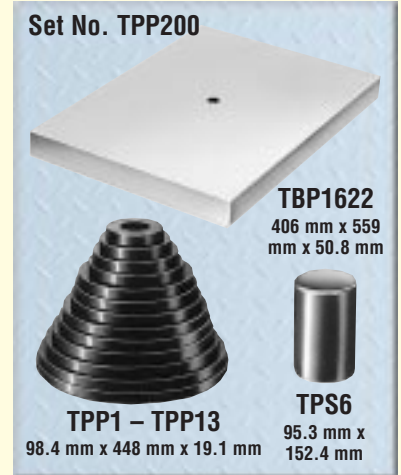
Now an easy way to press solid rubber tires. The TPP200 uses plates instead of combination rings to press a rim from an old tire into a new one. Plates are stacked so none is more than 50.8 mm smaller than the one under it to keep the plates from bending. They can be used on any Power Team press with 55 ton capacity or more. **NOTE:** Many tires require 100 tons of force or more, depending on tire size and condition. These plates withstand max. force of 150 tons.



Pressing rim into new tire on Power Team Press.

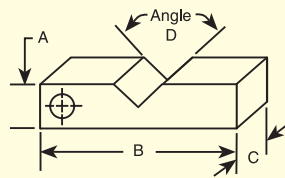
**No. TPP200** – Tire press plate set. Includes 13 press plates, spacer pushing adapter and press bed plate. For use on solid rubber tires from 102 mm to 451 mm I.D.

Set No. TPP200		
Order No.	Tire Size I.D.	Plate O.D.
TPP1	102 mm	98.4 mm
TPP2	127 mm	123.8 mm
TPP3	152, 159 mm	149.2 mm
TPP4	165 mm	161.9 mm
TPP5	203 mm	200 mm
TPP6	254 mm	250.8 mm
TPP7	267 mm	263.5 mm
TPP8	286 mm	282.6 mm
TPP9	305, 308 mm	301.6 mm
TPP10	356 mm	352.4 mm
TPP11	381 mm	377.8 mm
TPP12	406 mm	403.2 mm
TPP13	451 mm	447.7 mm
TPS6	Spacer/Pushing Adapter	82.6 x 152.4 mm
TBP1622	Bed Plate	406 x 559 x 51 mm

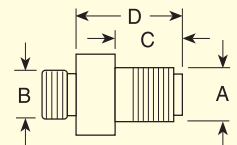


## Press accessories, “V” blocks & threaded adapters

V-BLOCKS (mm)				
Order No.	Width A	Length B	Thick C	Angle D
1890	50.8	228.6	31.8	120°
1891	63.5	292.1	44.5	
1892	88.9	355.6	50.8	
1893	127	355.6	38.1	
207395	146.1	584.2	63.5	



THREADED ADAPTER DIMENSIONS				
Adapter No.	A	B	C (mm)	D (mm)
38597	1- 8	1- 8	19.1	33.3
38953	1 1/4 - 7	1 1/2 - 16	69.9	111.1
37368	1 1/8 - 5 1/2	—	42.9	63.5
43562	2 1/4 - 12	—	57.2	76.2
38954	1 1/8 - 5 1/2	1 1/2 - 8	82.6	106.4
43563	2 1/4 - 12	2 3/4 - 12	57.2	81
46070	2 1/4 - 12	2 - 4 1/2	57.2	81

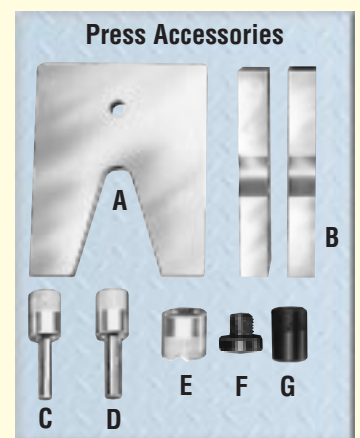


## Press accessory kit

Make your Power Team press even more versatile with one of these accessory sets. These sets will eliminate makeshift set-ups. Many of these items can be used with pullers you already have.

## ORDERING INFORMATION

Use With Press:	Order No.	A V-Throat Press Plate	B V-Blocks	C Pushing Adapter	D Pushing Adapter	E V-Pushing Adapter	F Threaded Adapter		G Pushing Adapter
							Single-Acting Cyls.	Double-Acting Cyls.	
10 Ton	SPA10	1888	1890 (Pr.)	201923 12.7 mm dia. shank	201454 19 mm dia. shank	34806	Included in Set 38597	38597	—
25 Ton	SPA25	1889	1891 (Pr.)	34510 19 mm dia. shank	34511 25.4 mm dia. shank	34807	Included in Set 38953	38953	—
55 Ton	SPA55	—	1892 (Pr.)	34755 25.4 mm dia. shank	34756 31.8 dia. shank	34808	Not Included Order Separately 37368	38954	—
80/100 Ton	SPA100	—	1893** (Pr.)	—	—	36469	Not Included Order Separately 43562	43563 46070***	21332
150/200 Ton	SPA200	—	207395 (Pr.)	—	44458 57.1 mm dia. shank	44457	None*	—	—



**CAUTION:** Pushing adapters are designed for use with specific shaft sizes, and depending on the condition of the shaft ends, the adapter may not withstand the full press tonnage. Always use a protective blanket or other suitable guard when pressing.

\* Pushing adapters thread directly into RD15013 and RD20013 cylinders.

\*\* V-blocks, No. 1893, are recommended for use with 80-ton Roll-Bed press. Not recommended for use with 100 ton Roll Bed.

\*\*\* For 80-ton Roll-Bed press.

**NOTE:** Individual press accessories may be ordered separately.



# Jack Accessories

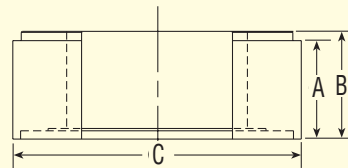
## Cribbing block sets - Includes one jack module extension



For heavy-duty lifting in railroad, construction, mining and industrial applications.

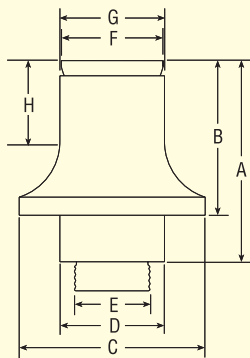


Order No. →	55 Ton		100 Ton		150 Ton	
	CBS55		CBS100		CBS150	
No. in Set	1	4	1	4	1	4
A	38.1	76.2	38.1	76.2	38.1	76.2
B	44.5	82.6	44.5	82.6	44.5	82.6
C	139.7	139.7	187.5	187.5	222.3	222.3
Jack Module Ext.	173		177.8		168.4	
Total Stack Ht.	515.9		520.7		511	
Product Wt. (kg)	16.3		30.9		38.6	



- Convert jack module into stable mechanical cribbing device.
- Increase retracted height up to 520.7 mm inches.

## Jack module extensions



Capacity (tons)	Order No.	A (mm)	B (mm)	C (mm)	D (mm)	E (mm)	F (mm)	G (mm)	H (mm)	Prod. Wt. (kg)
55	58945	223.8	173	127	66.8	1 <sup>11</sup> / <sub>16</sub> -8UN	63.5	66.8	92.2	9.5
100	58943	228.6	177.8	174.7	98.6	2 <sup>3</sup> / <sub>4</sub> -12UN	95.3	98.6	95.3	18.2
150	58944	219.2	168.4	203.2	114.3	3 <sup>1</sup> / <sub>4</sub> -8UNC	111.3	114.3	88.9	22.7

- Increases jack's reach.
- Swivel cap (5° max.) provides more secure load holding.

## Stressing jack accessories and hoses—ORDERING INFORMATION

Used with Stressing Jack	76.2 mm Nose Piece	76.2 mm Wedge Seater	152.4 mm Nose Piece	152.4 mm Wedge Seater	9.5 mm Diameter Gripper Set	11.1 Diameter Gripper Set	12.7 mm Diameter Gripper Set	15.2 mm Diameter Gripper Set	Replacement Gripper Handle	Gripper Retainer Plate (2 used)
SJ2010	252564	252562	252759	252763	252568	252761	252567	NA	252570	252565
SJ2010P	252564	252562	252759	252763	252568	252761	252567	NA	252570	252565
SJ2010DA	252543	252542	252760	252764	252650	252762	252555	NA	252556	252544
SJ3010	252564	252562	252759	252763	252568	252761	252567	252569	252570	252565
SJ3010P	252564	252562	252759	252763	252568	252761	252567	252569	252570	252565
SJ3010DA	253363	253361	253364	253362	253390	NA	253391	253365	252556	252544
No. 9758	Hose - 3.1 m rubber, wire-braid (2-ply, 1,400 bar burst rating) 3/8" NPTF male hose ends									
No. 9763	Hose - 3.1 m rubber, wire-braid (2-ply, 1,400 bar burst rating) 9.5 mm x 1/4" NPTF male hose ends									

Green tinted blocks indicate parts originally supplied with tool.

## Dual gauge conversion kit

Dual gauge conversion kit for 50 gpm tester. Provides more precise low pressure readings. Remove pressure gauge block and gauge from tester and replace it with this block. Install high pressure gauge from tester (0-350 bar) onto this new block.

**No. 307281** – Dual gauge conversion kit. Consists of gauge mounting block, pulsation dampener, thermal overload protector, low pressure gauge and gauge protector. Wt. 0.45 kg.

**307281** Low pressure gauge calibrated 0-42 bar, 0-600 psi.



## Auxiliary power cords for use with 300 and 750 L/min. testers

**No. 37045** – Auxiliary power cord. For use with any 12 or 24 volt battery to remotely power tester. Wt. .05 kg. **CAUTION: For use on negative ground systems only.**

**No. 204990** – Auxiliary power converter. Permits use of 120/230 volt outlet to power tester. Wt. .45 kg.



## Hoses

**No. 9785** – Hose, 19.1 mm I.D. x 3/4" NPTF male both ends. 3.1 m length. 155 bar working pressure. (2 req'd on 200 and 300 L/min. testers) Wt., 0.3 kg.

The following hose assemblies are all 4-ply spiral wound wire, 3.1 m long. For use with 750 L/min. testers.

**No. 9786** – Hose, 25.4 mm I.D. x 1 1/4" NPT male both ends. Recommended max. flow 340 L/min., with a working pressure of 275 bar. Wt., 6.4 kg.

**No. 9787** – Hose, 31.8 mm I.D. x 1 1/4" NPT male both ends. Recommended max. flow 530 L/min., with a working pressure of 210 bar. Wt., 9.5 kg.

**No. 9788** – Hose, 38.1 mm I.D. x 1 1/2" NPT male both ends. Recommended max. flow 750 L/min., with a working pressure of 175 bar. Wt., 11.4 kg.

**9785  
9786  
8987  
9788**



## Hose reducer bushings

**No. 203264** – Consists of two hose reducer bushings, 1 1/4" NPT female x 1 1/2" NPT male end. Needed to adapt No. 9786 25.4 mm I.D. hose and No. 9787 31.8 mm I.D. hose to tester. Wt., 1 kg.

**203264**



# Service Accessories

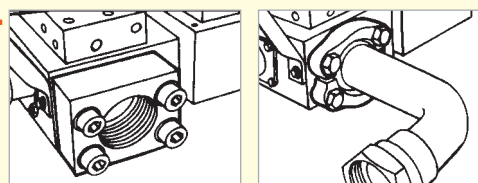
## Fittings and adapters

### Accessories for use with 750 L/min. hydraulic tester

The inlet and outlet hose assemblies are attached to the HT200 hydraulic tester by the use of flanged-head adapters and split flanges, or by a set of female straight adapters.

#### Flanged head adapter unions and split flange kit

- No. 203154** – Straight flange adapter. 38.1 mm flanged-head to 1½" NPSM female swivel. Wt., 1 kg.
- No. 203155** – 45° flange adapter. 38.1 mm flanged-head by 1½" NPSM female swivel. Wt., 1.5 kg.
- No. 203156** – 90° flange adapter. 38.1 mm flanged-head by 1½" NPSM female swivel. Wt., 1.9 kg.
- No. 203017** – Split flange kit. Consists of four flange halves and attaching bolts to permit use of 38.1 mm I.D. flange adapters listed at left. Wt., 1.3 kg.



#### Female straight flange adapter

- No. 203003** – Consists of two female straight flange adapters with attaching bolts. When attached to inlet/outlet ports, allows connection of 1½" NPT male hose ends to tester. Wt., 3.9 kg.



### Hydraulic fittings for use with all testers.

	<b>No. 16954</b> – 90° swivel adapter, ¾" NPTF male x ¾" NPSM female. Wt., 362 g.		<b>No. 26073</b> – Swivel adapter, ¾" NPTF female x ½" NPSM female. Wt., 136 g.
	<b>No. 22041</b> – Coupler, ¾" NPTF male x ¾"-16 female ORB. Wt., 226 g.		<b>No. 26074</b> – 45° swivel adapter, ¾" NPSM female x ¾" NPTF male. Wt., 272 g.
	<b>No. 22042</b> – Coupler, ¾"-16 female ORB x 1½"-12 female 37° JIC. Wt., 181 g.		<b>No. 26075</b> – Swivel adapter, ¾" NPSM female x ¾" NPTF female. Wt., 181 g.
	<b>No. 22043</b> – Coupler, ¾"-16 female ORB x ¾"-18 female 37° JIC. Wt., 181 g.		<b>No. 26076</b> – Swivel adapter, ¾" NPTF male x ¾" NPSM female. Wt., 181 g.
	<b>No. 22044</b> – Coupler, ¾"-16 female ORB x ½"-20 female 37° JIC. Wt., 181 g.		<b>No. 26077</b> – Cap, ¾" NPTF. Wt., 272 g.
	<b>No. 27737</b> – Swivel adapter, ¾"-16 male x ¾" NPSM female. For use with No. 9785 hose, which has ¾" NPTF male thread. Wt., 136 g.		<b>No. 26078</b> – Plug, ¾" NPTF. Wt., 136 g.
	<b>No. 27287</b> – Coupler, ¾"-16 UNF female ORB x 7/8"-14 UNF female 37° JIC. Wt., 181 g.		<b>No. 26079</b> – Adapter, ¾" NPTF female x 1½"-12 male ORB. Wt., 181 g.
	<b>No. 13449</b> – Cap, 1½"-12 UNF female, ¾" O.D. tube, 37° flare. Wt., 91 g.		<b>No. 208402</b> – 45° union adapter, 7/8"-14 UNF male 37° JIC x ¾" NPTF female. <b>210 bar working pressure.</b> Wt., 272 g.
	<b>No. 26068</b> – 45° swivel adapter, 1" NPTF male x ¾" NPSM female. Wt., 362 g.		<b>No. 208401</b> – 45° union adapter, 7/8"-14 UNF male 37° JIC x ¾" NPTF female. Wt., 317 g.
	<b>No. 26069</b> – Swivel adapter, 1" NPTF female x ¾" NPSM female. Wt., 226 g.		<b>No. 206753</b> – Coupler, 1½"-12 UNF female 37° JIC x ¾" NPTF female. Wt., 500 g.
	<b>No. 26070</b> – Adapter, 1" NPTF male x ¾" NPTF female. Wt., 136 g.		<b>No. 26666</b> – Connector, 1½"-12 UNF male 37° JIC x ¾" NPTF male. Wt., 181 g.
	<b>No. 26071</b> – Service tee, ¾" NPTF female (2) x ¾" NPTF male. Wt., 408 g.		<b>No. 28984</b> – Straight adapter, ¾" NPTF female x 1½"-12 UN male 37° JIC. Wt., 272 g.
	<b>No. 26072</b> – Swivel adapter, ¾" NPSM female x ½" NPTF male. Wt., 181 g.		<b>No. 28985</b> – Straight adapter union, 1½"-12 UN female 37° JIC x ¾" NPTF female. Wt., 590 g.

**NOTE:** The recommended maximum working pressure on the above fittings is 350 bar except the 208402.

## Hydra Grip-O-Matic® puller accessory kits

K82 accessory kit for the Hydra-Grip-O-Matic® puller No. PH83C. Includes 2-way puller head, 2 jaws, 2 threaded legs and sturdy carrying/storage case.

**No. K82** – Accessory kit for PH83C Grip-O-Matic® hydraulic puller.

K83 2/3 way head accessories kit for a Hydra Grip-O-Matic® puller No. PH83C. Includes 2/3 way puller head, 3 jaws, 3 threaded legs and sturdy carrying/storage case.

**No. K83** – Accessory kit for PH83C Grip-O-Matic® hydraulic puller.



## Puller Accessory converts PH113C into a Hydraulic Straightening Tool

Portable...Good for straightening mechanical shafts, round bars, etc. Simply remove pump and cylinder from puller head and insert them into the straightening tool accessory. This product is widely used in steel mills, wire roll companies, wire extruding companies, textile industry, and any straightening situation where portability and power are required. Contoured heat-treated shaft adapter included.

**No. HST11** – Spread: 89 mm to 410 mm, Reach: 150 mm. Wt., 9.5 kg.

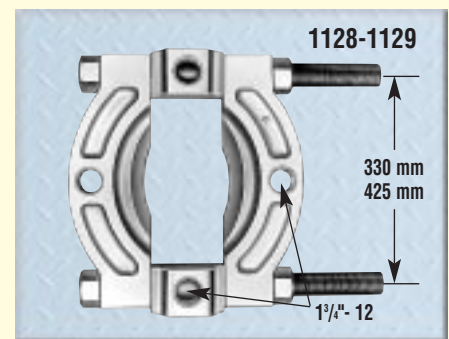


## Pulling attachment accessory

“Knife-like” edges of attachment fit behind bearings or other parts for easy removal with “Enforcer 55”, even if space does not permit hooking puller jaws directly to part being pulled.

**No. 1128** – Spread: 127 mm to 327 mm. Wt., 45.4 kg.

**No. 1129** – Spread: 152 mm to 425 mm. Wt., 89.4 kg.



## Long jaw set for PH83C and PH113C Grip-O-Matic® pullers

This long jaw set is the perfect addition to the PH83C or PH113C Grip-O-Matic® hydraulic pullers. The extra long jaws give you the added capability of pulling a wider variety of parts. Jaw capacity is 8 tons when used with the PH83C puller; 11 tons when used with the PH113C puller.

**No. 1188** – Spread: 279 mm to 317 mm, Reach: 317 mm.





# Measurements and specifications

## Selecting a punch

The following information is provided as a convenient general reference guide for metal punching operations.

## Hole size vs. material thickness

Punching holes in metal is the fast, economical way to get precise hole size, smoothness and minimum burr. Compressive strength of the punch steel determines that the thickness of the metal being punched must not exceed the diameter of the punch. This relationship varies with the type of material. For example: the minimum hole diameter will be 6.4 mm in 6.4 mm mild steel, 6.4 mm in 4.8 mm stainless steel, and 6.4 mm in 7.9 mm aluminum.

## Maximum rated capacity

All punching tools have their maximum capacity for safe, dependable operation over a long life span. The hydraulic punches listed in this catalog have a “rated capacity” based on their design strength. Before selecting a tool, use the following charts to determine the specific tonnage required to punch the size and shape holes through the type and gauge metal considered.

## Determining tonnages for round holes

To determine tonnages for hot rolled mild steel (typically used in bar size angle iron, channels, tees and zees) with a 3,500 bar shear strength, read directly from chart #1. **Example:** To punch a 9.5 mm diameter hole thru 9.5 mm thick mild steel, chart #1 shows 11.1 tons are required. For ASTM A-36 steel (typically used for structural size wide flange, H and I beams, tees and zees) with a 4,200 bar shear strength, read direct from chart #2. **Example:** To punch a 6.4 mm round hole in 6.4 mm thick A-36 steel, chart #2 shows 5.9 tons of force is needed.

**CHART #1 Tons of pressure required to punch mild steel**

Material Thickness		3.2	4.8	6.4	7.9	Round Hole Diameter (mm)							
mm	Inches					9.5	11.1	12.7	14.3	15.9	17.5	19.1	20.6
0.9	<sup>1</sup> / <sub>32</sub>	.4	.5	.7	.9	1.1	1.2	1.4	1.6	1.8	1.9	2.1	2.3
1.2	<sup>3</sup> / <sub>64</sub>	.5	.7	.9	1.2	1.4	1.6	1.9	2.1	2.4	2.6	2.8	3.1
1.6	<sup>1</sup> / <sub>16</sub>	.6	.9	.6	1.5	1.8	2.1	2.3	2.6	2.9	3.2	3.5	3.8
1.9	<sup>5</sup> / <sub>64</sub>	.7	1.1	1.2	1.8	2.2	2.6	2.9	3.3	3.7	4.0	4.4	4.8
2.7	<sup>7</sup> / <sub>64</sub>	1.0	1.5	1.5	2.6	3.1	3.6	4.1	4.6	5.1	5.7	6.2	6.7
3.0	<sup>1</sup> / <sub>8</sub>	1.2	1.8	2.1	2.9	3.5	4.1	4.7	5.1	5.9	6.2	7.1	7.6
3.4	<sup>9</sup> / <sub>64</sub>	1.3	2.0	2.4	3.3	4.0	4.6	5.3	5.9	6.6	7.3	7.9	8.6
4.8	<sup>3</sup> / <sub>16</sub>	—	2.8	2.6	4.6	5.5	6.4	7.4	8.3	9.2	10.1	11.0	12.0
6.4	<sup>1</sup> / <sub>4</sub>	—	—	3.7	6.1	7.4	8.6	9.8	11.1	12.3	13.5	14.7	16.0
7.9	<sup>5</sup> / <sub>16</sub>	—	—	4.9	7.8	9.2	10.7	12.3	13.9	15.4	17.0	18.5	20.0
9.5	<sup>3</sup> / <sub>8</sub>	—	—	—	—	11.1	12.8	14.8	16.5	18.5	20.2	22.1	23.8
12.7	<sup>1</sup> / <sub>2</sub>	—	—	—	—	—	—	19.7	22.0	24.6	26.9	29.5	31.8

Tons of Pressure

MEASUREMENTS AND SPECIFICATIONS

## CHART #2 Tons of pressure required to punch ASTM-A36 structural steel

Material Thickness		Round Hole Diameter (mm)												Tons of Pressure
mm	Inches	3.2	4.8	6.4	7.9	9.5	11.1	12.7	14.3	15.9	17.5	19.1	20.6	
2.7	7/64	1.2	1.9	2.5	3.1	3.7	4.3	4.9	5.6	6.2	6.8	7.4	8.0	
3.0	1/8	1.4	2.1	2.8	3.5	4.2	4.9	5.7	6.4	7.1	7.8	8.5	9.2	
3.4	9/64	—	2.4	3.2	4.0	4.8	5.6	6.4	7.2	7.9	8.7	9.5	10.3	
4.8	3/16	—	3.3	4.4	5.5	6.6	7.7	8.8	9.9	11.0	12.1	13.2	14.3	
6.4	1/4	—	4.4	5.9	7.4	8.6	10.3	11.8	13.2	14.7	16.2	17.7	19.1	
7.9	5/16	—	—	7.4	9.2	11.0	12.9	14.7	16.5	18.4	20.2	22.0	24.0	
9.5	3/8	—	—	8.8	11.0	13.3	15.5	17.7	19.9	22.1	24.3	26.5	28.7	
12.7	1/2	—	—	—	—	—	—	23.6	26.5	29.4	32.4	35.3	38.3	

## Determining tonnages for irregular shaped holes

When punching irregular shaped holes (square, obround, ect.) multiply the length of metal to be cut by the multiplier given for a 25.4 mm length of cut in chart #3. Example: The shear length (or total distance around a 12.7 mm square hole) is 50.8 mm. To punch such a hole in 6.4 mm thick mild steel, multiply 50.8 x .246 (from chart #3) = 12.5 tons. For stainless steel this would be 50.8 x .374 = 19 tons.

## CHART #3

Tons of pressure required to shear 25.4 mm length

Material Thickness	Mild Steel	Stainless Steel	Brass	Tons of Pressure
4.76 mm	.167	.276	.128	
6.35 mm	.246	.374	.177	
7.94 mm	.314	.472	.216	
9.53 mm	.373	.560	.246	
11.11 mm	.432	.649	.305	
12.70 mm	.491	.737	.344	

## Die Clearance

The relationship of the larger die hole size to the punch size is die clearance and is stated as a percentage of the thickness of the material being punched. The range of clearance varies from 10% for thin materials to 20% for thicker materials. For 19 mm material, the total die clearance is 3.8 mm.

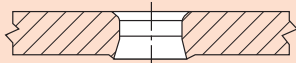
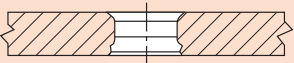
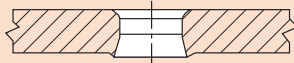
Clearance should always be specified when there is any reason for doubt (see illustrations below). Effects of die clearance are more noticeable in thicker materials (such as 12.7 mm) than in thinner material (such as 4.76 mm). When ordering die sets, specify the type and thickness of material being punched (see chart #4).

## CHART #4 Clearance for Mild Steel

Material Thickness	Approximate Decimal Thickness (inches)	Overall Clearance—Add to Punch Size	Tons of Pressure
4.554 mm	.1793	.553	
6.35 mm	.1875	.584	
7.94 mm	.250	.940	
9.53 mm	.3125	1.194	
11.11 mm	.375	1.448	
12.70 mm	.500	1.905	

**NOTE:** Most grades of half hard aluminum use the same clearance as shown above. In many cases, your own experience may dictate that you call for clearances different from the above, especially when punching other materials such as stainless steel. Special clearances may be ordered for that purpose.

## Die clearance has the following effects:

Too much clearance	Too little clearance	Correct Clearance
 <ol style="list-style-type: none"> <li>1. Extra roll-in at top of the hole.</li> <li>2. Too much burr at bottom of the hole.</li> </ol>	 <ol style="list-style-type: none"> <li>1. More punching pressure needed. Can reduce tool life.</li> <li>2. High stripping force causes part distortion and extra punch wear.</li> </ol>	 <ol style="list-style-type: none"> <li>1. Straighter hole thru material.</li> <li>2. Minimum distortion at top of hole.</li> <li>3. Minimum burr at bottom of hole.</li> </ol>

# Measurements and specifications

## Use the 200, 300 and 750 L/min. tester to simulate actual operating conditions if the system under test

**Testing the pump:** Operator runs engine at a specific rpm and adjusts tester's pressure compensating valve to simulate a work load. By comparing meter readings with manufacturer specs, proper operation of pump can be confirmed. If oil flow and pressure do not meet specs, the pump is faulty. Or, if test results and specifications agree, the operator will know that the problem is elsewhere in the system and that other tests must be performed. Regardless of the component being tested, hook-up and testing is accomplished in minutes. **NOTE:** These hydraulic testers should always be used with the owner's manual/manufacturers' specifications for the system under test.

### Cyl. Caps furnished with "C" Series Cylinders:

5 ton cylinders	<b>No. 201375</b>
10 ton cylinders	<b>No. 201362</b>
15 ton cylinders	<b>No. 201362</b>
25 ton cylinders	<b>No. 201412</b>
55 ton cylinders	<b>No. 36161</b>
75 ton cylinders	<b>No. 36161</b>
100 ton cylinders	<b>No. 36161</b>

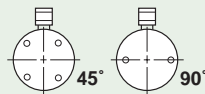
### PERFORMANCE

The table at right gives you an idea of what to expect when coupling RD series cylinders to a Power Team pump. Actual performance will vary according to job conditions.

Pump	Cylinder	Time to Extend Cyl. 25.4 mm	
		7 bar	700 bar
PE55	RD55	1.0 sec.	12.0 sec.
	RD100	1.8 sec.	22.5 sec.
	RD200	3.5 sec.	45.0 sec.
	RD400	7.2 sec.	85.0 sec.
PQ120 Series	RD200	3.4 sec.	20.6 sec.
	RD300	4.9 sec.	30.0 sec.
	RD400	6.4 sec.	39.0 sec.
PE400 Series	RD500	8.1 sec.	49.5 sec.
	RD300	3.0 sec.	8.5 sec.
	RD400	3.9 sec.	11.1 sec.
	RD500	4.9 sec.	14.1 sec.

### Base Mounting Holes for "RD" cylinders

**NOTE:** Base mounting holes are standard on all RD cylinders. Orientation of base mounting holes to coupler. Orientation on RD300, RD400 & RD500 series is random.

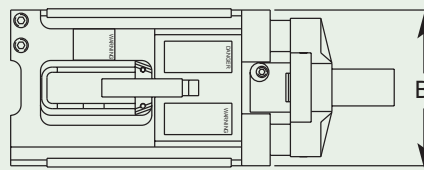
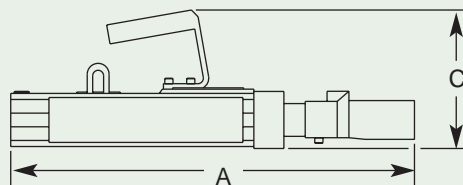


Tonnage	10	25	55	80	100	150	200	300	400	500
No. of Holes	2	4	4	4	4	4	4	4	4	6
Thread Size	3/8"-16	1/2"-13	5/8"-11	5/8"-11	3/4"-10	1"-8	1 1/4"-7	1 1/4"-7	1 1/2"-12	1 3/8"-12
Depth (mm)	16	19	22	22	25	25	32	44	48	51
B.C. Dia. (mm)	51	70	89	114	140	152	165	159	184	203
Orientation	90°	45°	45°	45°	45°	45°	45°	Random	Random	Random

### Mounting holes for "RLS" cylinders

<b>RLS50</b>	8.6 mm C'bore x 6.4 mm deep, 5.6 mm thru hole	<b>RLS200</b>	15.5 mm C'bore x 10.4 mm deep, 10.4 mm thru hole	<b>RLS500S</b>	17.8 mm C'bore x 12.7 mm deep, 11.9 mm thru hole	<b>RLS1000S</b>	20.3 mm C'bore x 14.2 mm deep, 13.5 mm thru hole
<b>RLS100</b>	10.7 mm C'bore x 8.7 mm deep, 7.1 mm thru hole	<b>RLS300</b>	15.5 mm C'bore x 11.2 mm deep, 10.4 mm thru hole	<b>RLS750S</b>	20.3 mm C'bore x 14.2 mm deep, 13.5 mm thru hole	<b>RLS1500S</b>	20.6 mm C'bore x 14.2 mm deep, 13.5 mm thru hole

### Post Tension/Stressing Jack dimensions



Order Number	A (mm)	B (mm)	C (mm)	Weight (kg)
SJ2010	533.4	228.6	165.1	25
SJ2010P	533.4	228.6	165.1	25
SJ3010	558.8	259.1	177.8	34.5
SJ3010P	558.8	259.1	177.8	34.5
SJ2010DA	469.9	190.5	165.1	19
SJ3010DA	469.9	215.9	165.1	23.5