



Current Tools

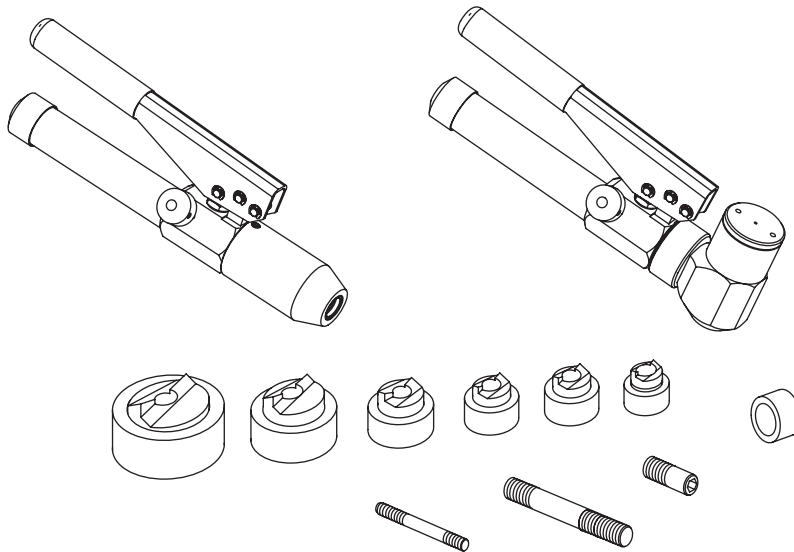
FOR THE PROFESSIONAL ELECTRICIAN

Current Tools™ Hydraulic Punch Drivers



Model 170 PM – Str. Hyd. Punch Driver Set
with 1/2" to 2" Punches and Dies

Model 179 PM – 90° Hyd. Punch Driver Set
with 1/2" to 2" Punches and Dies



Operating, Maintenance, Safety and Parts Manual

10/09 - REV. 1



Read and understand this material before operating or servicing any component of the Hydraulic Punch Driver Set. Failure to understand how to safely operate and service this unit may result in serious injury or death.

This manual is free of charge. All personnel who operate the Hydraulic Punch Driver Set should have a copy of this manual and read and understand its contents. To request a copy, call or write to the address below.

CURRENT TOOLS • P. O. BOX 17026 GREENVILLE, SC 29606
800.230.5421 or 864-721-4230 • FAX 864-721-4232
www.currenttools.com

TABLE OF CONTENTS

<i>Safety Alerts</i>	2
<i>Safety Information</i>	3 – 4
<i>Specifications</i>	4
<i>Operating Instructions</i>	5
<i>Set-Ups Diagram</i>	6
<i>Maintenance</i>	7
<i>Components List</i>	8
<i>Exploded View — Model 1700</i>	9
<i>Exploded View — Model 1790</i>	10
<i>Exploded View — Release Valve and Pump Assembly</i>	11

SAFETY ALERTS



Safety Alert Symbol

THIS SAFETY SYMBOL is used to call your attention to instructions that concern your personal safety. It means: ATTENTION! BE AWARE! THIS IS AN IMPORTANT SAFETY INSTRUCTION!

Read, understand, and follow these safety instructions. Failure to follow these safety instructions may result in injury or death.



DANGER

Immediate hazards which, if not avoided, WILL result in serious personal injury or death.



WARNING

Hazards or unsafe practices which, if not avoided, COULD result in serious personal injury or death.



CAUTION

Hazards or unsafe practices which, if not avoided, COULD result in minor personal injury or property damage.

RETAIN SAFETY INFORMATION



This manual should be read and understood by all personnel who operate or service this Hydraulic Punch Driver Set. Failure to understand how to safely operate and service this unit could result in injury or death. This unit should only be operated or serviced by qualified personnel.



IMPORTANT SAFETY INFORMATION

Follow ALL safety information provided by the manufacturer.

⚠ DANGER

NEVER use the Punch Driver Set or any of its components near live circuits. Doing so may cause serious injury or death.

⚠ WARNING

ALWAYS stand to the side of the punch driver when punching. This will help avoid injury should there be a component failure.

⚠ WARNING

Do NOT continue to operate the pump after the punch driver completes the punch. Doing so will damage the punch driver and could cause component failure resulting in serious injury or death.

⚠ WARNING

If the ram motion stops before the punching process is completed, Do NOT continue to operate the punch driver. Release the pump pressure and disassemble the set-up and determine the cause before continuing.

⚠ WARNING

Hydraulic tools create tremendous pressures and hydraulic oil can easily puncture skin. If your skin is pierced by oil you must seek medical attention immediately! NEVER touch the hydraulic hose or fittings while the unit is under pressure.

⚠ WARNING

ALWAYS thread the punch COMPLETELY onto the draw stud to avoid thread failure. If the punch tightens before it is completely threaded onto the draw stud, disassemble the set-up and determine the cause. Then reassemble the set-up.

⚠ WARNING

ALWAYS release the hydraulic pressure before servicing any component of the hydraulic system.

⚠ WARNING

NEVER attempt to exceed the punching capacity of this punch driver. Doing so may cause component failure and possibly serious injury or death.

⚠ WARNING

NEVER attempt to punch a hole through more than a single layer of material. Doing so may cause component failure and possibly serious injury or death.

⚠ WARNING

NEVER use this punch driver or any of its components except for its intended purpose.

⚠ WARNING

Hand pressure is sufficient to activate the pump. NEVER attempt to apply additional pressure to the pump handle.

⚠ WARNING

NEVER continue to operate the punch driver handle after the ram motion stops. Doing so could cause component failure resulting in serious injury or death.

continued on next page . . .

IMPORTANT SAFETY INFORMATION *continued . . .*

CAUTION

ALWAYS inspect every component of the punch set-up including the punch driver, punch, die, draw stud, adapter and spacer(s) before each use. Replace any worn or defective parts with Current Tools replacement parts. NEVER use dull punches.

CAUTION

NEVER use any component that has worn or damaged threads.

CAUTION

ALWAYS check to ensure all components are properly assembled before punching.

CAUTION

New punches are sharp. Be careful when handling them.

CAUTION

ALWAYS wear safety glasses when punching.

SPECIFICATIONS

Model No.	1700 Punch Driver	1790 Punch Driver
Weight	6.5 lbs.	7.6 lbs.
Dimensions	4.25" x 10.5" x 14 1/4"	4.75" x 11" x 13 3/4"
Capacity - PSI	8,000	8,000
CU in. of oil per stroke	0.050	0.050
Oil Capacity CU in.	8	8

Punching Capacity

(both models 1700 and 1790)

With Standard and Piece Maker™ Punches:

maximum 10 gauge (.134 in. thick) mild steel — 1/2" to 2" conduit size holes

With Piece Maker™SS Punches:

maximum 10 gauge (.134 in. thick) stainless steel — 1/2" to 1 1/4" conduit size holes

Current Tools™ Models 170PM and 179PM — Piece Makers™ — are designed to split the slug into two pieces for easy removal from the die after punch completion.

OPERATING INSTRUCTIONS

1. Match the punch, die, draw stud, adapter (if needed) , and spacer as required for the size hole to be punched. (*See SET-UPS page 6.*)
2. After marking the hole location, drill a hole approximately 1/32" to 1/16" larger than the draw stud being used. NOTE: **Alternate Method** - Drill a 7/16" hole to accept the 3/8" draw stud and use the 1/2" punch and die to increase the hole size to accept the 3/4" draw stud.
3. Thread the end of the draw stud with the shortest thread length into the punch driver until snug. (*See SET-UPS page 6.*)
When using the 1/2" punch and die, thread adapter #1703 into the punch driver, then thread the 3/8" draw stud #1550 into the adapter until snug. (*See SET-UPS page 6.*)
4. Install spacer if needed. Spacer is not used when using 1 1/2" and 2" punches and dies. (*See SET-UPS page 6.*)
5. Slide the die onto the draw stud with the open end of the die facing away from the punch driver. (*See SET-UPS page 6.*)
6. Place the draw stud through the hole you made in step 2. Then thread the punch onto the draw stud with the cutting face toward the material to be punched. Thread the punch onto the draw stud until the punch, die and spacer are snug against the material.

WARNING

ALWAYS thread the punch COMPLETELY onto the draw stud (or adapter) to avoid thread failure. If the punch tightens before it is completely threaded onto the draw stud, disassemble the set-up and determine the cause. Then reassemble the set-up.

7. Rotate punch driver to best operating position and complete the punching process by turning the knob on the punch driver clockwise, then activate by pumping the punch driver handle.

WARNING

Hand pressure is sufficient to activate the pump. NEVER attempt to apply additional pressure to the hand pump.

WARNING

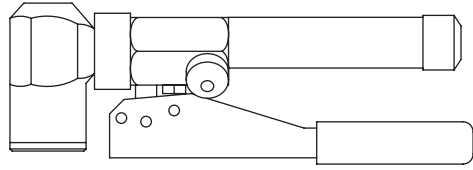
- DO NOT continue to operate the pump after the punch driver completes the punch. Doing so will damage the punch driver and could cause component failure resulting in serious injury or death.
- If the punch driver motion stops before the punching process is completed, DO NOT continue to operate the punch driver. Release the pressure and disassemble the set-up and determine the cause before continuing.

8. After punch completion, turn the knob counter-clockwise, to release the pressure.

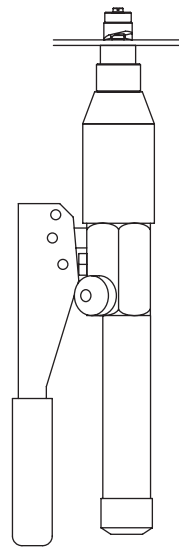
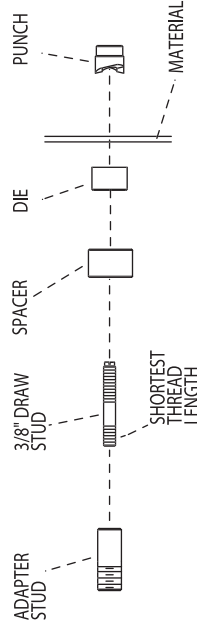
SET-UPS

EXPLODED VIEW

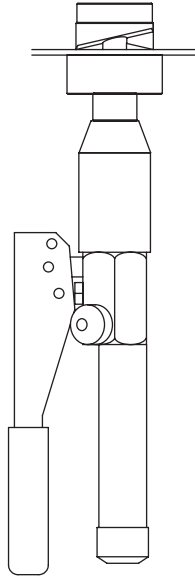
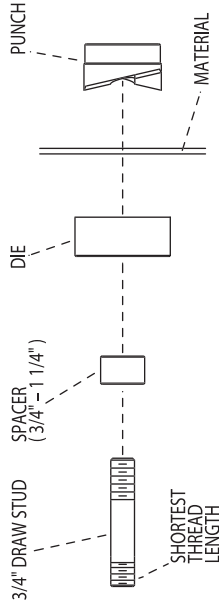
COMPLETED VIEW



When Using: **1/2" Standard and Piece Maker™ Punch and Die**

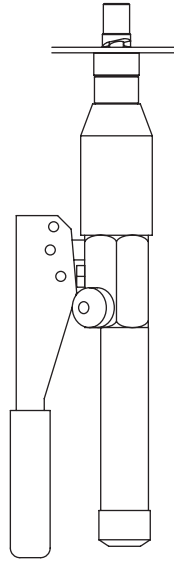
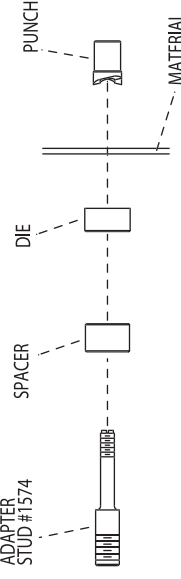


When Using: **3/4" to 2" Standard and Piece Maker™ Punches and Dies**

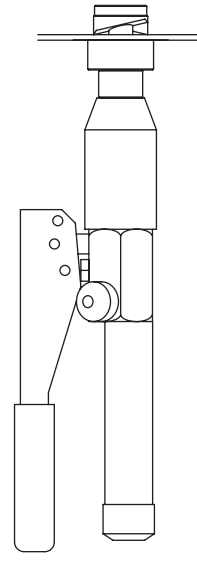
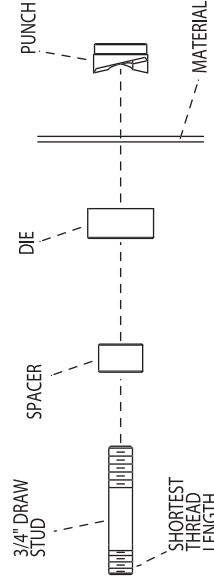


When Using: **1/2" Piece Maker™ SS (Stainless Steel) Punch and Die * See NOTE below.**

3/4" / 7/16"
ADAPTER
STUD #1574



When Using: **3/4" to 1 1/4" Piece Maker™ SS (Stainless Steel) Punches and Dies**



* NOTE: the #1574 draw stud is an optional item and must be purchased separately.

FIGURE 1



MAINTENANCE

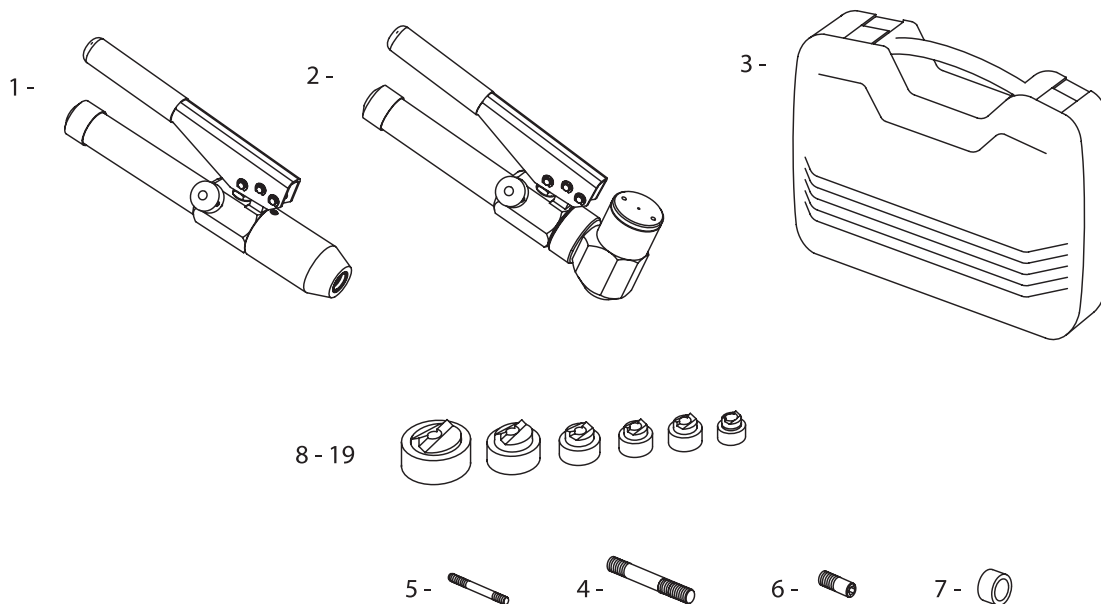
Oil Requirements: We recommend a high quality automatic transmission fluid such as Shell DONAX TG or equivalent

Filling the Punch Driver with Oil:

1. Secure the pump in a vise by clamping lightly onto the hex body with the reservoir and end cap facing upward, and unscrew the end cap.
2. Remove the fill plug located in the center of the piston follower, and then remove the piston follower. Check the piston follower O-ring and the fill plug for damage or wear, and replace as needed.
3. Fill the reservoir until the oil level is 3/4" from the top.
4. Push the piston follower into the reservoir until oil begins to come out of the hole.
5. To remove trapped air from the pump, turn the release knob clockwise to the closed position and pump the handle 5 times. Slowly turn the release knob counterclockwise while keeping light pressure with your finger over the hole in the piston follower. This allows air to escape under your finger and prevents ejecting oil. Repeat this procedure if needed.
6. Replace the fill plug in the piston follower.
7. Remove and clean the foam vent located inside the reservoir end cap. Then screw the reservoir end cap back onto the reservoir.

COMPONENTS

PUNCH DRIVER SETS



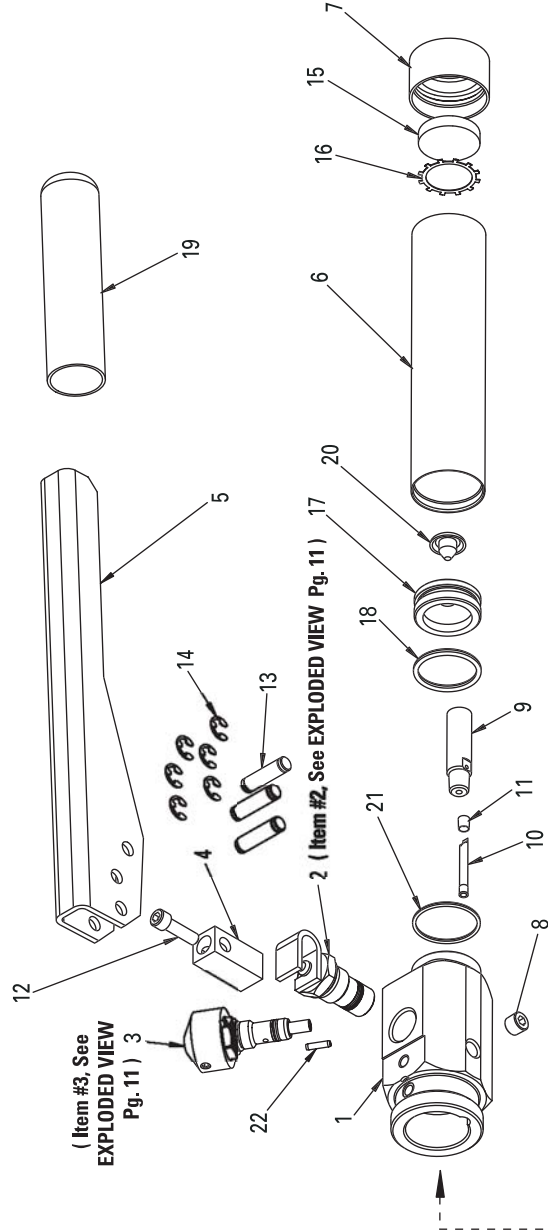
COMPONENTS LIST

ITEM#	CATALOG#	DESCRIPTION	#170	#170PM	#179	#179PM
.....1	1700	Punch Driver - Straight	1	1		
.....2	1790	Punch Driver - 90°			1	1
.....3	1701	Plastic Case	1	1	1	1
.....4	1702	3/4" X 4 1/8" Draw Stud	1	1	1	1
.....5	1550	3/8" Draw Stud	1	1	1	1
.....6	1703	Adapter Stud	1	1	1	1
.....7	1553	Short Spacer - S	1	1	1	1
.....8	1524	1/2" Piece Maker™ Punch		1		1
.....9	1525	1/2" Die		1		1
.....10	1526	3/4" Piece Maker™ Punch		1		1
.....11	1527	3/4" Die		1		1
.....12	1528	1" Piece Maker™ Punch		1		1
.....13	1529	1" Die		1		1
.....14	1530	1 1/4" Piece Maker™ Punch		1		1
.....15	1531	1 1/4" Die		1		1
.....16	1532	1 1/2" Piece Maker™ Punch		1		1
.....17	1533	1 1/2" Die		1		1
.....18	1534	2" Piece Maker™ Punch		1		1
.....19	1535	2" Die		1		1

MODEL 1700

STRAIGHT HYD. PUNCH DRIVER

EXPLODED VIEW



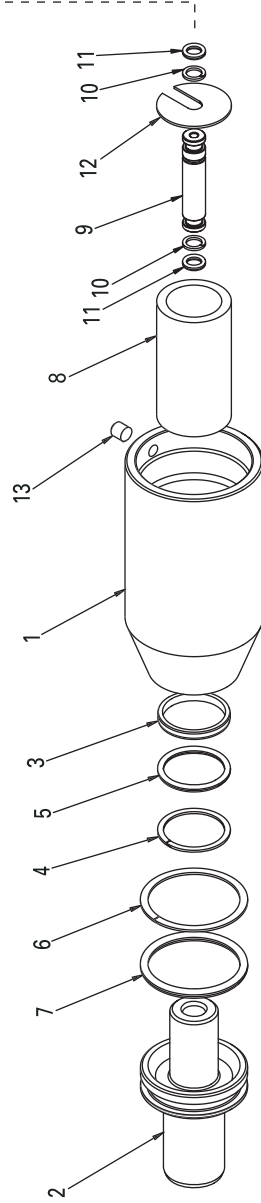
PUMP BODY

ITEM#	PART #	QTY	DESCRIPTION
1	1700-14	1	Body Assembly - Pump
2	1700-15	1	Pump Assembly
3	1700-16	1	Release Valve
4	1700-17	1	Link - Front
5	1700-18	1	Handle
6	1700-19	1	Reservoir
7	1700-20	1	Cap Reservoir
8	1700-21	1	Plug
9	1700-22	1	Relief Valve 3
10	1700-23	1	Inlet Filter
11	1700-24	1	Filter Retainer
12	1700-25	1	Soc. HD. Cap Screw 1/4 - 20 x 7/8 Lg.
13	1521-18	3	Handle Pin
14	1521-28	6	Retaining Ring
15	1700-28	1	Foam Vent
16	1700-29	1	Retaining Clip
17	1700-30	1	Piston - Follower
18	1700-31	1	O Ring
19	1700-32	1	Grip
20	1700-33	1	Fill Plug
21	1700-34	1	O Ring
22	1700-35	1	Roll Pin - 1/8 x 1/2 Lg.



RAM ASSEMBLY - Straight

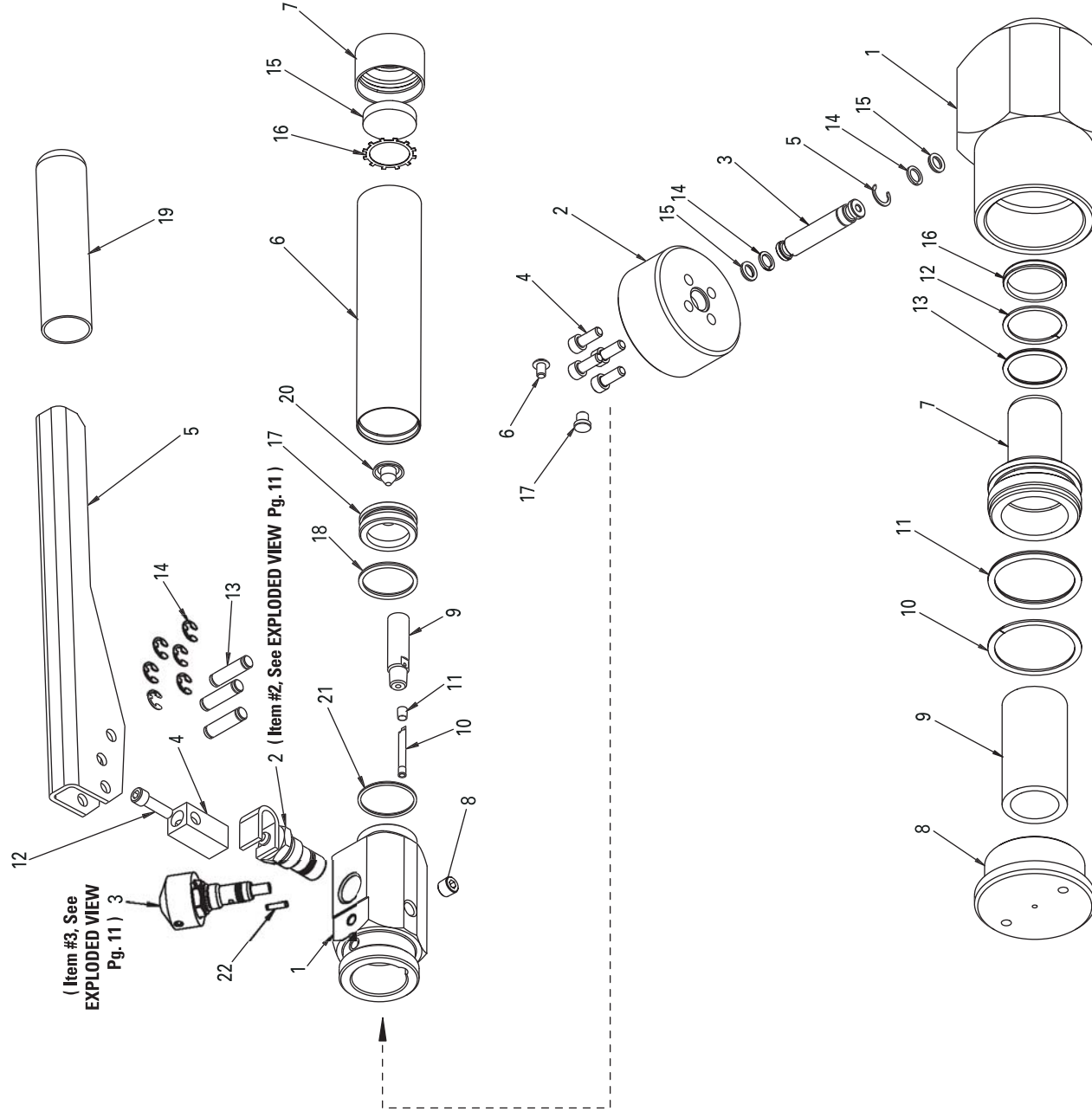
ITEM#	PART #	QTY	DESCRIPTION
1	1700-1	1	Body Ram (Straight)
2	1700-2	1	Piston Ram (Straight)
3	1700-3	1	Seal Retainer
4	1700-4	1	Back Up Ring
5	1700-5	1	O Ring
6	1700-6	1	Back Up Ring
7	1700-7	1	O Ring
8	1700-8	1	Ram Spring
9	1700-9	1	Bushing Straight Ram
10	1700-10	2	Back Up Ring
11	1700-11	2	O Ring
12	1700-12	1	Bushing Plate
13	1700-13	1	Set Screw-Cone Pt 1/4-20 x 3/8



MODEL 1790

90° HYD. PUNCH DRIVER

EXPLODED VIEW



PUMP BODY

ITEM#	PART #	QTY	DESCRIPTION
1	1700-14	1	Body Assembly - Pump
2	1700-15	1	Pump Assembly
3	1700-16	1	Release Valve
4	1700-17	1	Link - Front
5	1700-18	1	Handle
6	1700-19	1	Reservoir
7	1700-20	1	Cap Reservoir
8	1700-21	1	Plug
9	1700-22	1	Relief Valve 3
10	1700-23	1	Inlet Filter
11	1700-24	1	Filter Retainer
12	1700-25	1	Soc. HD. Cap Screw 1/4 - 20 x 7/8 Lg.
13	1521-18	3	Handle Pin
14	1521-28	6	Retaining Ring
15	1700-28	1	Foam Vent
16	1700-29	1	Retaining Clip
17	1700-30	1	Piston - Follower
18	1700-31	1	O Ring
19	1700-32	1	Grip
20	1700-33	1	Fill Plug
21	1700-34	1	O Ring
22	1700-35	1	Roll Pin - 1/8 x 1/2 Lg.

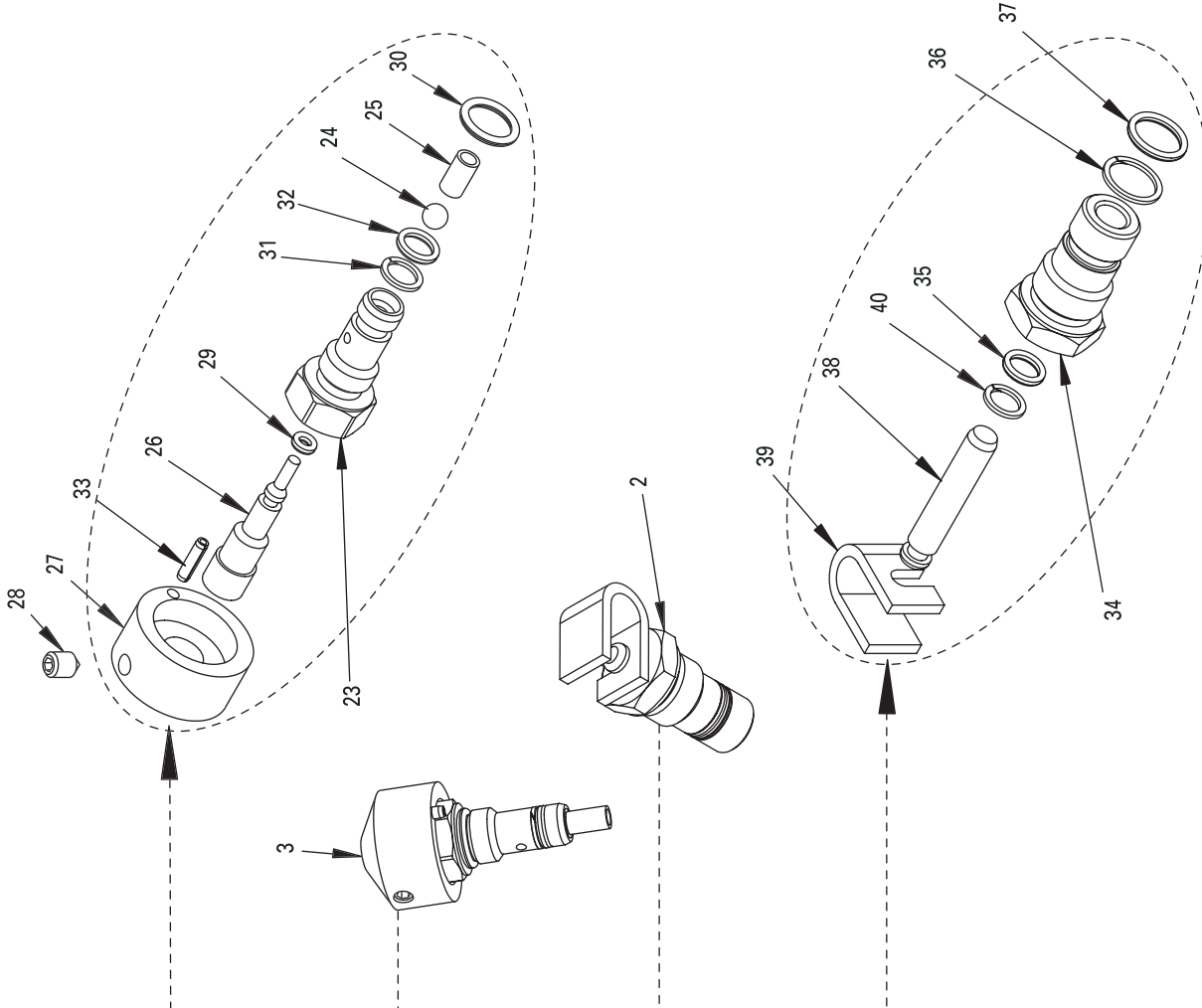
RAM ASSEMBLY - 90°

ITEM#	PART #	QTY	DESCRIPTION
1	1790-1	1	Body Ram (90°)
2	1790-2	1	Connector Ram (90°)
3	1790-3	1	Bushing
4	1790-4	4	Soc. HD. Cap.Screw #10-24x1/2"Lg.
5	1790-5	1	Retaining Ring
6	1790-6	1	Button HD. Cap. Screw#8-32x1/4"Lg.
7	1790-7	1	Ram Piston
8	1790-8	1	Ram Cap
9	1790-9	1	Ram Spring
10	1700-6	2	Back Up Ring
11	1700-7	2	O Ring
12	1700-4	1	Back Up Ring
13	1700-5	1	O Ring
14	1700-10	2	Back Up Ring
15	1700-11	2	O Ring
16	1790-16	1	Seal Retainer
17	1790-17	1	Rotation Stop

MODEL 1700/1790 – RELEASE VALVE

EXPLODED VIEW

and PUMP ASSEMBLY



RELEASE VALVE — #3			
ITEM#	PART #	QTY	DESCRIPTION
23	1700-16A	1	Release Body
24	1700-16B	1	Ball 1/4
25	1700-16C	1	Spring Release
26	1700-16D	1	Release Screw
27	1700-16E	1	Knob
28	1700-16F	1	Set Screw - Cone PT 1/4 - 20 x 3/8
29	1700-16G	2	O Ring
30	1700-16H	1	O Ring
31	1700-16I	1	Back Up
32	1700-16J	1	O Ring
33	1700-16K	1	Roll Pin - 1/8 x 1/2 Lg.

PUMP ASSEMBLY — #2			
ITEM#	PART #	QTY	DESCRIPTION
34	1700-15A	1	Piston Barrel
35	1700-15B	1	O Ring
36	1700-15C	1	Back Up Ring
37	1700-15D	1	O Ring
38	1700-15E	1	Piston Dowel
39	1700-15F	1	Piston Tab
40	1700-15G	1	Back Up Ring