



ASSEMBLY INSTRUCTIONS

APV II™ (Straight-Down & Shot-Peener)

Complete Disassembly Instructions

- Loosen the 4 BOLTS(23) holding the BASE(21) to the CYLINDER(11) and remove the BASE(21). Be careful when removing the BASE(21) because the SLEEVE(16) can fall out of the CYLINDER(11) and break. (See Photo A)
- Remove the URETHANE SEAT(17), INSERT(18) and O-RING(19) from the BASE(20). (See Photo B)
- Slide the PIPE NIPPLE(21) out of the BASE(21) to remove it. (See Photo C)
- Remove the CAP(3) by unscrewing it counterclockwise using a wrench to expose the SPRING(5), BUMP RING(4), and PISTON ASSEMBLY(6-10). (See Photo D)
- Remove the BUMP RING(4) (See Photo E) and pull out the PISTON ASSEMBLY(6-10) by grabbing the PLUNGER STOP(6) with pliers. (See Photo F)
- Disassemble the PISTON ASSEMBLY(6-10) by removing the PISTON SEAL(8) with a pick tool being careful not to damage it. (See Photo G) Separate the PLUNGER(10), PLUNGER STOP(6), PISTON(9) and NYLON WASHERS(7) using 2 wrenches. (See Photo H)
- Remove the SLEEVE(16) from the bottom of the CYLINDER(11) carefully using a pick tool if necessary. (See Photo I)
- Carefully remove the first two PLUNGER SEALS(15) using a pick tool. Make sure not to damage them if they will be reused. (See Photo J)
- Remove the PLUNGER BUSHING(14). (See Photo K)
- Remove the second set of PLUNGER SEALS W/O-RINGS(13) using a pick tool again making sure not to damage them if they will be reused. (See Photo L)

Parts List

Repair Kit - 888-2148-30099PB

APV II STRAIGHT-DOWN, REPAIR KIT W/TC SLEEVE, INCLUDES # 8, 10, (2)13, (2)15, 16, 17, 18 & 20

Seal Kit - 888-2148-30098PB

APV II STRAIGHT-DOWN, SEAL KIT, SEALS ONLY W/ URETHANE SEAT, INCLUDES # 8, (2)13, (2)15, 17 & 20

Repair Kit - 888-2148-32799PB

APV II, SHOT-PEENER-30#, REPAIR KIT W/TC SLEEVE & SEAT, INCLUDES # 8, 10, (2)13, (2)15, 16, 17, 18 & 20

Seal Kit - 888-2148-32798PB

APV II, SHOT-PEENER-30#, SEAL KIT, SEALS ONLY, INCLUDES # 8, (2)13, (2)15 & 20

	888-2148-307PB	APV II STRAIGHT-DOWN METERING VALVE W/TUNGSTEN CARBIDE SLEEVE (PIPE NIPPLE NOT INCLUDED)
	888-2148-327PB	APV II, SHOT-PEENER-30#, STRAIGHT-DOWN METERING VALVE W/TUNGSTEN CARBIDE SLEEVE & SEAT (PIPE NIPPLE NOT INCLUDED)
1	888-2148-0001PB	APV II, KNOB (BLACK PIRATE BRAND)
2	888-2014-300PB	VENT, 1/8"
3	888-2148-0002PB	APV & APV II, CAP ASSEMBLY
4	888-2149-00019PB	APV & APV II, BUMP RING
5	888-2149-00003PB	APV & APV II, SPRING
6	888-2148-00015PB	APV II, PLUNGER STOP (STAINLESS)
7	888-2148-00016PB	APV II, NYLON WASHER
8	888-2148-00004PB	APV & APV II, PISTON SEAL (GREEN URETHANE)
9	888-2148-00005PB	APV II, PISTON
10	888-2148-00007PB	APV II, PLUNGER (STAINLESS/SOLID TUNGSTEN CARBIDE)
11	888-2148-00009PB	APV II, CYLINDER, W/1" NPT CLEANOUT
12	888-4203-50000PB	SWIVEL 90°, 1/8" MNPT X 1/8" F
13	888-2148-00006PB	APV & APV II, PLUNGER SEAL W/ O-RING (CLEAR URETHANE)
14	888-2148-00017PB	APV II, PLUNGER BUSHING (STAINLESS)
15	888-2148-30006PB	APV II, PLUNGER SEAL W/O O-RING (CLEAR URETHANE)
16	888-2148-00013PB	APV & APV II, SOLID TUNGSTEN CARBIDE SLEEVE
	888-2149-00010PB	APV & APV II, URETHANE SEAT
17	888-2149-40710PB	APV, SHOT-PEENER-30#, TUNGSTEN CARBIDE SEAT, (AVAILABLE IN REPAIR KIT ONLY)
18	888-2148-00014PB	APV II, INSERT (STAINLESS)
19	888-2149-00018PB	APV & APV II, O-RING
20	888-2149-00935PB	O-RING FOR STRAIGHT-DOWN METERING VALVE INSERT
21	888-2149-40711PB	BASE FOR STRAIGHT-DOWN METERING VALVES
	888-2149-50616PB	PIPE NIPPLE, LARGE BORE, 1" FEMALE x 1-1/2" MALE FOR STRAIGHT-DOWN METERING VALVES
	888-2149-50716PB	PIPE NIPPLE, LARGE BORE, 1-1/4" MALE x 1-1/4" MALE FOR STRAIGHT-DOWN METERING VALVES
	888-2149-50816PB	PIPE NIPPLE, LARGE BORE, 1-1/2" MALE x 1-1/2" MALE FOR STRAIGHT-DOWN METERING VALVES
23	888-7010-50714PB	BOLT, 3/8" UNC x 3-3/4"
24	888-3014-206PB	APV II, PLUG, PIPE STAINLESS 1"
25	888-3029-10615PB	NIPPLE, TBE, GALV, 1" x 5"
26	888-3006-106PB	ELBOW, STREET, 90°, GALV, 1"
27	VB100	BALL VALVE, FULL PORT, 1" NPT
28	888-7010-51512PB	HEX BOLT, 5/8" UNC x 3-1/2"
29	888-7017-515PB	NUT, 5/8" UNC
30	888-7027-55202PB	FLAT WASHER, 5/8" UNC

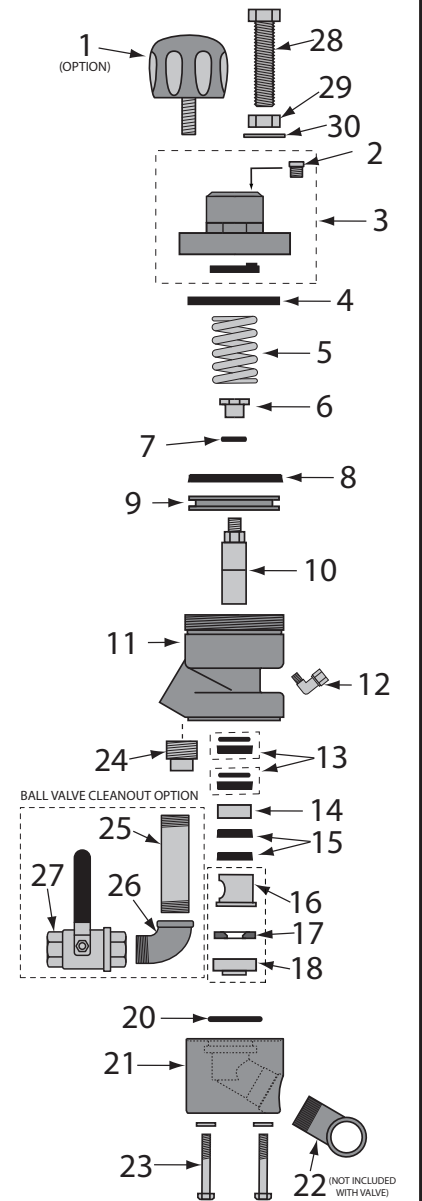


Photo A



Photo B



Photo C



Photo D



Photo E



Photo F



Photo G



Photo H



Photo I

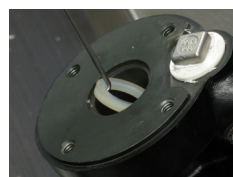


Photo J

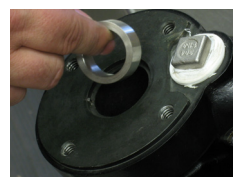


Photo K

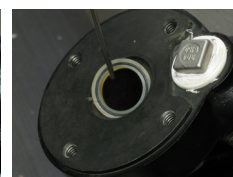


Photo L



ASSEMBLY INSTRUCTIONS

APV II™ (Straight-Down & Shot-Peener)



Photo M

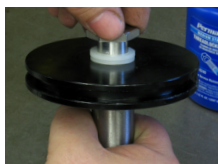


Photo N



Photo O



Photo P



Photo Q



Photo R



Photo S



Photo T



Photo U



Photo V



Photo W



Photo X



Photo Y



Photo Z



Photo AA



Photo BB

Complete Assembly Instructions

1. Apply Threadlocker Blue to the threads on the PLUNGER(10). (See Photo M)
2. Assemble the Piston Assembly by stacking the PLUNGER(10), PISTON(9), NYLON WASHERS(7) (2 required) and PLUNGER STOP(6). Tighten the assembly with 2 wrenches being careful not to over-tighten and crush the washers. (See Photo N)
3. Install PISTON SEAL(8) with open side facing the PLUNGER(10). (See Photo O)
4. Lubricate the inner wall of the CYLINDER(11) with Anti-Seize Lubricant. (See Photo P)
5. Slide the PISTON ASSEMBLY(6-10) into the CYLINDER(11) until it bottoms out keeping it square with the side of the CYLINDER(11) so the PISTON ASSEMBLY(6-10) does not bind against the CYLINDER(11) wall. (See Photo Q)
6. Re-apply Anti-Seize to the CYLINDER(11) after inserting the PISTON ASSEMBLY(6-10). (See Photo R)
7. Insert the BUMP RING(4) into the CYLINDER(11) (015-2) and re-install the CAP(3) and SPRING(5), and tighten with a wrench. (See Photo S)
8. Install the first PLUNGER SEAL W/O-RING(13) by sliding it over the PLUNGER(10) with the open side of the seal first using a pick tool to help the outer edge into the CYLINDER(11). (See Photo T)
9. Press the PLUNGER SEAL W/O-RING(13) into the CYLINDER(11) using the SLEEVE(16) as far as it will go, then insert the second PLUNGER SEAL W/O-RING(13) following the same procedure. (See Photo U)
10. Insert the PLUNGER BUSHING(14) into the CYLINDER(11) and press into place using the SLEEVE(16). (See Photo V)
11. Install the two PLUNGER SEALS(15) without O-rings closed side first by inserting them one at a time around the PLUNGER(10) and pushing them each into place with the SLEEVE(16). (See Photo W)
12. Install the SLEEVE(16) into the CYLINDER(11) by aligning the notch in the SLEEVE(16) with the alignment pin in the CYLINDER(11) and pressing it firmly in place (See Photo X).
13. Insert the PIPE NIPPLE(22) into the BASE(20) aligning the flat area on the PIPE NIPPLE(22) with the opening on the BASE(20) (See Photo Y)
14. Install the INSERT(18), O-RING(19) and URETHANE SEAT(17) into the BASE(20) making sure the insert is flush with the BASE(21) and PIPE NIPPLE(21). (See Photo Z)
15. With the BASE(21) in one hand and holding the INSERT(18) and URETHANE SEAT(17) in place with the other hand, place the BASE(21) onto the CYLINDER(11). (See Photo AA)
16. Hand-tighten the BOLTS(23) that hold the BASE(21) to the CYLINDER(11), then using a wrench or socket, tighten them securely in an "X" pattern. (See Photo BB)

