



Hydromissions® "Slapshot"
Universal Deep Well Pump
Cylinder



"SlapShot" Universal Deep Well Pump Cylinder

Specifically designed for the third world, this cylinder uses simple, **off-the-shelf parts** that are locally **available world wide** (the whole idea is for villagers to be able to make it for themselves). **Adaptable to any pump head** (Afridev, India Mark II, etc); both valves accessible without having to pull out riser main (**No extra fishing tool to get lost - it's built into the design!**).

Parts List (Lowe's SKU numbers provided)

1. (23902) 2" PVC coupling
2. (256099) 2" x 24" PVC pipe
3. (22909) 2" x 1" bushing
- 3b. (22909) 2" x 1" bushing (lip reamed out for foot valve seat)
4. 1" x 3" sch40 PVC pipe
5. (22300) 1/2" galv coupling
6. (24028) 1/2" x 3" galv pipe nipple
7. (21860) 3/4" x 1/2" galv bushing
8. (61252) 3/4" brass check valve (spring removed)
9. (24028) 1/2" x 3" galv pipe nipple (1/4" holes drilled for lift flow)
10. (21870) 1" x 1/2" galv bushing
11. (187372) 1" brass check valve (spring removed)
12. (23858) 1" pvc adaptor
13. 2" O.D. x 7/8" I.D. x 1" thick spacer (DIY part or Hydromissions part #SS-02 "Slapshot gasket & spacer set)
14. 2" O.D. x 7/8" I.D. x 1/4" thick leather gasket (DIY part or Hydromissions part #SS-02 "Slapshot gasket & spacer set)

Hydromissions® “SlapShot” Construction Tips

Spacers & gaskets: Our original spacers (13) were made by coring out hockey pucks with a 2 ½” hole saw, hence the name “SlapShot”. The spacers can be made out of any material you have available (wood, plastic, truck tires, etc) – they are just there to act as a piston and to hold the leather gasket (14) in place. The leather gasket itself can be cut from any rough leather available - leather crafts are usually easy to come by in most third world countries (you can cut a handbag if you have to).

Foot Valve Seat: (3, 3b, & 4) make up the foot valve seat. You will have to file the stop lip of (3b) to allow the 1” pvc pipe nipple (4) to go all the way through (see pictures). It is this nipple that serves as the seat for the removable foot valve (11/12).



Foot Valve: Parts (11/12) make up the foot valve. The foot valve is removable from inside the pump (you do not have to remove the cylinder or your 2” pvc riser main to access the valves – pretty cool).

DO NOT GLUE PARTS (12 & 4) TOGETHER! The point is that (12) press fits onto the pipe nipple (4) for easy removal if needed.

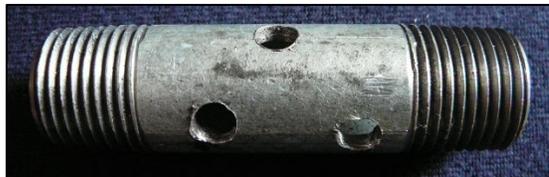
Check Valves: (8 & 11) Remove the springs (see picture). Arrows point upward.

Built-In Fishing Tool. (10) The bushing at the bottom of valve (8) serves as a built-in fishing tool for the foot valve (11/12). In normal operation, the resting position of (10) is about 1” above (11). When the sucker rod is disconnected, (10) can be clockwise threaded into (11). The design is self-aligning. Once (10) is tightly threaded into (11), a few more turns will loosen (11/12) from the foot valve seat (4) for removal. For reinsertion of the foot valve, loosely thread (11) onto (10), lower sucker rod down to the bottom of the cylinder, press (do not turn) (12) onto (4), then turn counter clockwise to release the foot valve from the fishing tool. Reset the sucker rod onto the pump head, and you are back in business.



Lift or Force Pump – Your Choice:

Depending on your application, you can convert the “SlapShot” from a standard lift pump to a reverse force pump simply by replacing the drilled pipe nipple (6) with a standard one (9). For force pump application, you will have to use ½” pipe as the sucker rod as this will also serve as the riser pipe for the pump.



Threaded Connections: It is good to use Teflon tape for metal threaded connections.

Foot Screen: The pvc foot bushing (3) will accommodate a 2” collar and a screen so you can rest the cylinder on the bottom of the well without it silting up. The size of the screen is your choice, but we usually go with 9”.

