

# Air Pistol Support Sling

For a long time now the coaches at USA Shooting have recognized the need to get youth involved in competitive shooting at a younger age. One of the problems is most airguns are just too heavy for smaller shooters. By reducing the felt weight of the pistol, smaller shooters can safely handle the airguns much sooner.

I have outlined the instructions for two designs of inexpensive, easy to build PVC based support slings. The pulley and counterweight system allows the coach to reduce the perceived weight of the airgun by any amount they wish. I purchased all the parts except the pulleys from local building stores and the cost for the fixed model was less than \$15. The adjustable model is \$20.



## Material List

- 12" x 12" wood base 1 1/2" PVC cap
- 1 1/2" x 1 1/2" x 1 1/2" PVC sch. 40 tee
- 48" of 1 1/2" PVC pipe
- (2) 1 1/2" x 1/4" bore pulleys
- (2) 1/4" x 2 1/4" bolts/nuts (20+) 1/4" washers

(2) 1/8 "x 3/4" fender washers 3' of 1/8" steel rod  
10lb. braided fishing line  
3/4" washers or suitable material for counterweight

## **Additional supplies required for adjustable model:**

24" of 2" PVC pipe  
2 1/2 "hose clamp  
2"PVC cap or 6" x6" drain trap  
2" PVC connector

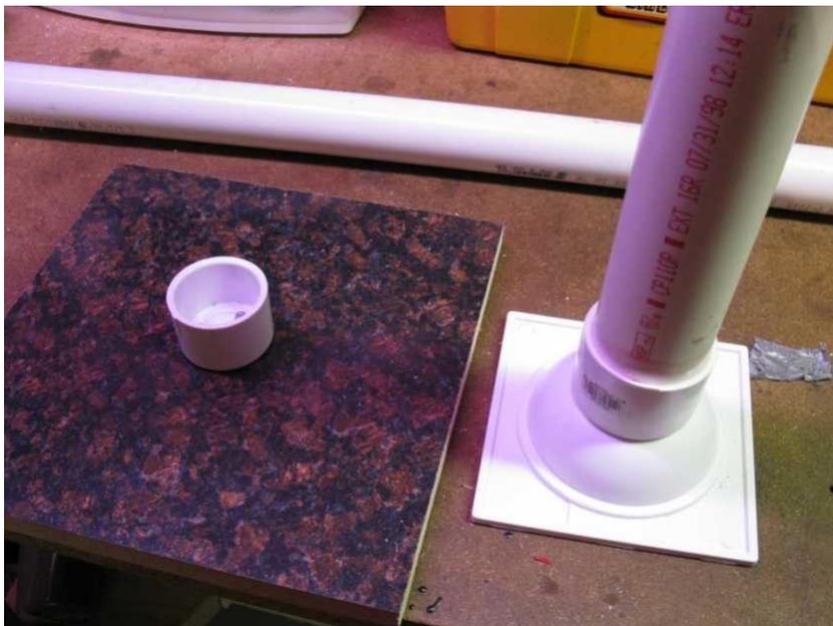
The PVC fittings fit tight enough to preclude the use of glue.

## **Assembly Instructions**

Start the project by grinding the top of the 1 1/2" cap flat so it lays level on the base board. Then screw the cap down to the board.



It may be easier to purchase a bell drain trap and coupling and attach these to the vertical pipe.



The length of the vertical pipe will depend on the height of your table and the height of your shooter. For a table that is 36" high a good length to start with would be 36" and shorten it from there if needed. The recommended lengths for the adjustable model is 24" for both the 2" and the 1 1/2" pipes.

To make the 2" pipe: Hold the slip fit 1 1/2" Make several cuts 4" long down one end. Enough material (kerf) must be removed so when the clamp is tightened the inner pipe is held tight.



The cross arms are made of 1 1/2" pipe 4" long on the weight side and 6" long on the shooter side. This offset gives the shooter room to move the gun and reduces the intrusion into the next firing point. I purchased plastic pulleys from a small parts store on the internet. Do not skimp on the pulleys. They must roll smoothly or the shooter will not be able to hold the pistol in their normal area of hold. Good quality ones can be had for less than \$3.00 each. Drill the axle hole back from the end of the cross arm the radius of the pulley plus 3/8". Keep the pulley centered by shimming the 1/4" axle bolt with 1/4" washers.



Cut a notch no more than 1/4" wide and 1/2" in for the line to run through. This will be used to trap the fender washer and keep the pistol hook from being pulled into the pulley, derailing the line.

Next, build the pistol hook and the weight bracket. I have found the 1/8" steel rod is heavy enough to work well and can be formed by using two pair of pliers.



The sizes shown in the picture work well for us but are by no means mandatory. I recommend that you do not put an up turned "hook" on the horizontal bar that the pistol rests on. It serves no real purpose and snags the gun if the shooter does not lift the gun all the way up.



You will want to cover the bare metal with something to keep the gun from getting scratched and slipping off the bar. I used a Plastisol base tool dip but duct tape, electrical tape or a small rubber hose slipped over the metal will work.

Run the string through the pulleys and thread through the fender washer. Leaving the washer free, tie the string to the pistol hook.



Repeat the process for the other side - making the string long enough so that when the weight is just touching the base the pistol hook is just touching the cross arm.



There you have it. Two very simple pistol slings that are inexpensive and easy to build. To adjust the amount of lift on the pistol simply add or remove washers to the counter balance. You will notice the weights swaying when held in suspension by the pistol. This movement can not be felt by the shooter. Feel free to modify, improve and customize these slings to suit your needs.