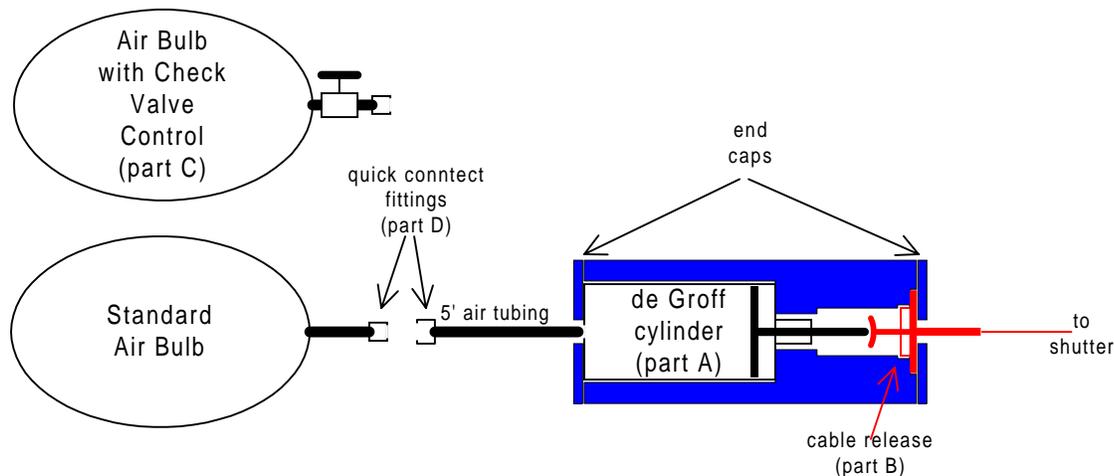


A while back I posted a note asking about heavy-duty air cable releases. The responses from that post lead me to the de Groff release as the biggest, most powerful release available. My requirements were greater than most. I also wanted to trip a Copal "Press" shutter, and be able to hold the shutter open while in the "B" setting (Press shutters don't have a "T" setting).

After getting a de Groff air release, I realized that the product as shipped wasn't going to meet all my needs. My solution was to use parts from the de Groff air release in combination with several other components. Simply, I found that if the de Groff cylinder actuated another standard cable release, I got the best results. The second part of the solution relates to my requirement to be able to use a Press shutter in the "B" setting. To accomplish this, I must be able to switch from the standard air bulb delivered with the de Groff to an air bulb with a check valve, which can be released. Blood pressure equipment use air bulb/valves that meet this requirement, and are readily available at hospital supply stores.

The following diagram outlines this design:



The housing for the de Groff cylinder/cable release plunger was prototyped out of a piece of wood. I used a small drill press to fabricate the piece. Careful measurement and drilling was required so the cylinder would meet the plunger at the right point. I felt it important to retain both the cylinder and the cable plunger with their own end caps (also made of wood). This allows solid mounting of the components with a minimum of wander inside the chamber. The prototype took me about 1.5 hours to construct. This assembly could be made smaller and more elegantly out of other materials, however my basic wooden prototype does the job. To minimize vibration from the assembly when the release is fired, I placed some foam around the assembly, and then fasten the assembly to my tripod with a Velcro strap. Comments on the components used are listed below.

Part A: DG1400 Medium Format Air Release with 5' of tubing ~\$75.00 - \$80.00  
 Additional tubing @ \$1/ft.

Comments: The best in class, but not all that great in absolute terms. I had a local machinist look at the cylinder, and it isn't that tight, precise or finely made. I tried to find an off the shelf cylinder from a pneumatic automation supply vendor (e.g. Clippard), but the appropriate size cylinders require much higher air pressure to operate than an air bulb can generate (they are designed

to be used in robotic control applications). The de Groff does work however. The DG1400 comes with a right angle cable release attachment that you have to remove to use as I describe. de Groff also makes another model with a cable release embedded (DG1600). At first glance this would appear to be the better choice, however the sample I examined had several flaws that made me choose the DG1400. For my taste, the cable was too short (~10 inches). When the de Groff fires, the body of the cylinder (which has a fair amount of mass) move in the direction the piston is moving (I believe physics is at work here). I only felt comfortable mounting the cylinder to something stable away from the camera. To do this, and allow for front lens movements, the DG1600 cable was too short. The cable would also occasionally stick. The embedded cable in the DG1600 appeared to be a "value" cloth covered cable release. Using the DG1400 has another advantage. If the standard cable release within the assembly ever gets damaged, it can be easily replaced. The DG1600 would require more specialized repair. My usage of the de Groff was clearly beyond what it was designed for, so some of these problems might not exist under normal use. de Groff is a very small company. Although they are very nice and accommodating, I've found it difficult to get my order fulfilled accurately and in a timely fashion (4 weeks so far, and I still don't have all the correct parts ordered).

de Groff, Inc.  
709 East Oakside Street  
South Bend, IN 46614  
219-288-2506

or Calumet (see below)

Part B: HV2000 20" Pro Cable Release ~\$20.00

Calumet Photographic  
890 Supreme Drive  
Bensenville, IL 60106  
800-225-8638  
[www.calumetphoto.com](http://www.calumetphoto.com)

Comments: I chose this cable release because it did the job, and I had one on hand. The spring return is strong. It is very flexible. The end where you push is fairly large and dished (so the cylinder piston is more likely to be centered on the cable). It's long enough so I can mount the de Groff / cable plunger assembly on my tripod, and still reach up to my lens. Everything on the plunger end is round and symmetrical. This made it easy to embed this part in the assembly because all I needed were common drills to fabricate the unit. The cable releases on the markets that have contoured wings for your fingers would be more difficult to embed. I'm sure there are other suitable cable releases on the market that would work equally well.

Part C: Cat. No. 1894 Baumanometer AIR-FLO Control and Large Size Bulb for a Sphygmomanometer (blood pressure device) ~\$11.00

W. A. Baum Co.  
620 Oak Street  
Copiague, NY 11726  
516-226-3940  
[www.wabaum.com](http://www.wabaum.com)

Comments: This allows me to keep a press shutter open in "B" setting. I replace the standard air bulb with this one when I need this capability. To use it you screw in the air release control and squeeze the air bulb. Because the de Groff cylinder leaks air fairly quickly, you have to keep the system pressurized by continuing to squeeze the bulb gently every second or two. To release the shutter, you open up the air release control. What I like about this particular unit is the size of the bulb (same as the original de Groff bulb) and that it can release the air quickly so shutter closure is fairly precise.

Parts D: APC-220-04 (male air tubing quick connector) ~\$1.25 each  
APC-170-04 (female air tubing quick connector) ~\$2.50 each

Colder Products Company (CPC)  
1001 Westgate Drive  
St. Paul, MN 55114  
800-945-3814, 651-604-4336  
[www.colder.com](http://www.colder.com)

Comments: These are great! They are pneumatic quick connect fittings which are inexpensive and high quality. Since my air cable release is modular with different lengths of tubing and different air bulbs on the end, it made sense to try and make it easy to reconfigure. They are also lightweight so they minimize the likelihood of the air cable bending and causing a kink as the air bulb is held in different orientations.