Contents

Showroom Shine

The Bonus chapter

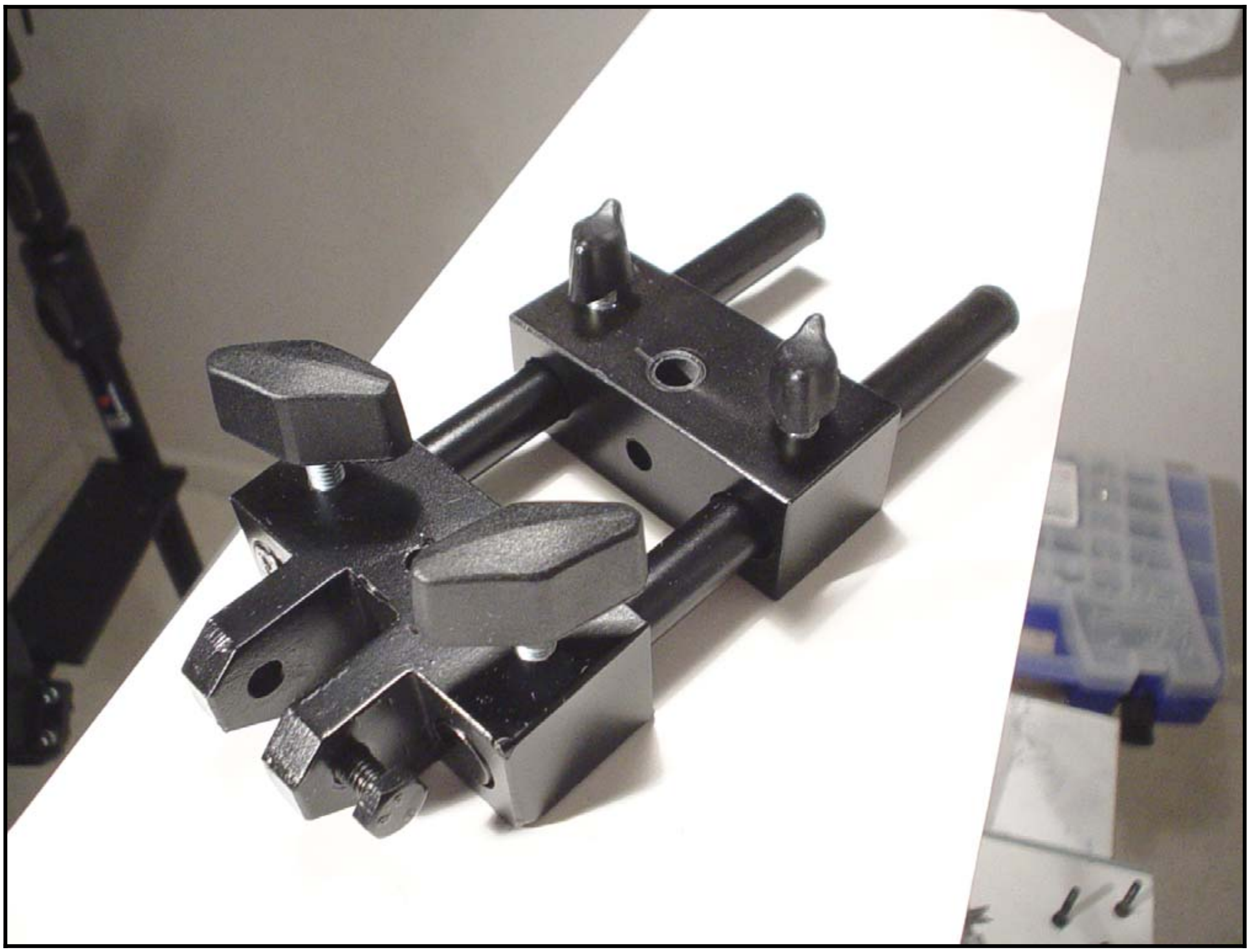
A Word of Mouth

The Monitor Support

The monitor support below is a relative easy construction that was pretty much straight forward in design wise. I wanted the option to be able to adjust the monitor in its x-axis as well as to be able to switch or rotate it for low mode operations. Another reason for an adjustable monitor is the advantage of being able to balance the rig dynamically – another important balancing procedure during setup.

Ref. 11a - Monitor on its mounted rods

The monitor support and adjusters are made of industrial strength plastic, a polymer type material, which was machine to the required shape



Ref.12 -
Monitor adjustable support device.

The Vest

The Vest was probably the easiest to build. Of course, it took many trails to get the strength required to support the weight needed. The material that makes up the core of the vest is aluminum. It is Light and easy to work with. The front spine of the vest is a 370mm by 30mm and 5mm piece of steel profile that resides in the front. On this elongated metal strip rides an adjustable mechanism, which slides up or down for a perfect fit. *See pic 22d*.

The vest upper back support padding is made from a hockey vest that I had bought on sale from a sporting good store. The extra protective shoulder padding was removed and the areas stitched back.

I thought the shape and style was ideal for this construction. At the same time it would relieve me from putting together something from scratch. After removing all the extra padding, Velcro fasteners were sewn onto the back padding at key areas that will connect it to the rest of the vest. *See pic 24*.

Nowadays ski ratchets have been added to give a tighter fit on the higher end steadicam and Glidecam models. A pair had already been added on mine. They have better control on the adjustments. It is a definite improvement. The vest on the following page has gone through many changes which has finally come to rest on the new look. Basically, everything has more or less been removed, exchanged or refurbished. I tend to use things over and over simply to conserve money. After all, this is home built country where budget is the main theme.

The Vest

The Two-spring arm

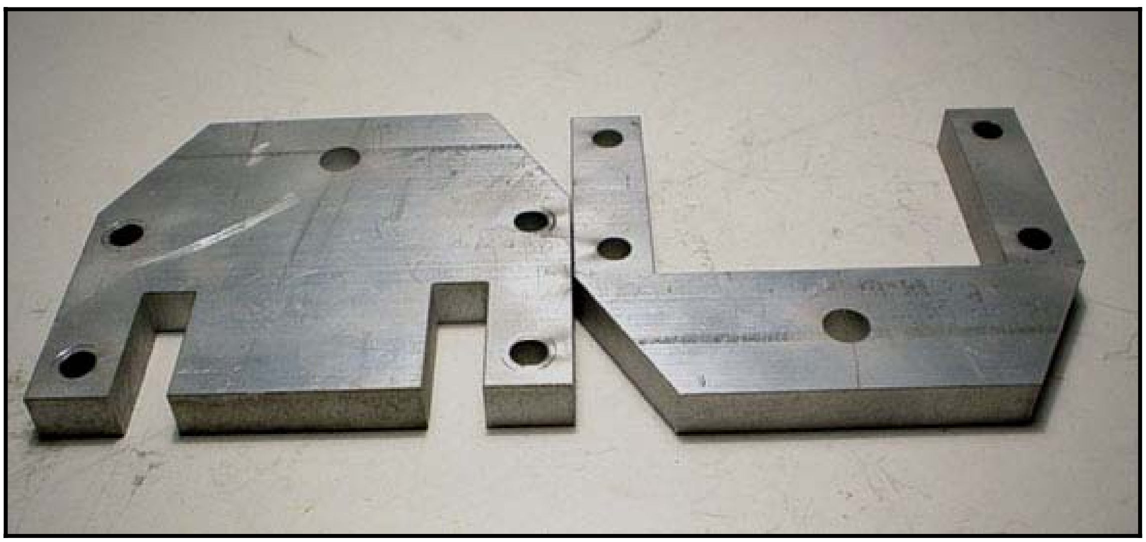
This approach is better in terms of operation, function and load capacity options. The idea for the two-spring design is similar to the approach that George Paddock uses in his Patented GPI Pro® arm system; which I must add is an ingenious mechanical construction.

GPI arm uses compression springs together with some really high tech construction parts making his arm a dream to fly. I, on the other hand, used extension spring each in a parallel configuration in the upper and lower arm axel. This simply means one spring in the upper shell and one spring in the lower shell. The arm being a dual arm brings the total amount of springs to four. Two springs in each arm.
When the springs are placed in their lateral linear and position at a certain angle, they are able to deflect producing the tensioning needed to support any size camera weight. Of course Pro® system does this absolutely perfect and almost too flawless.

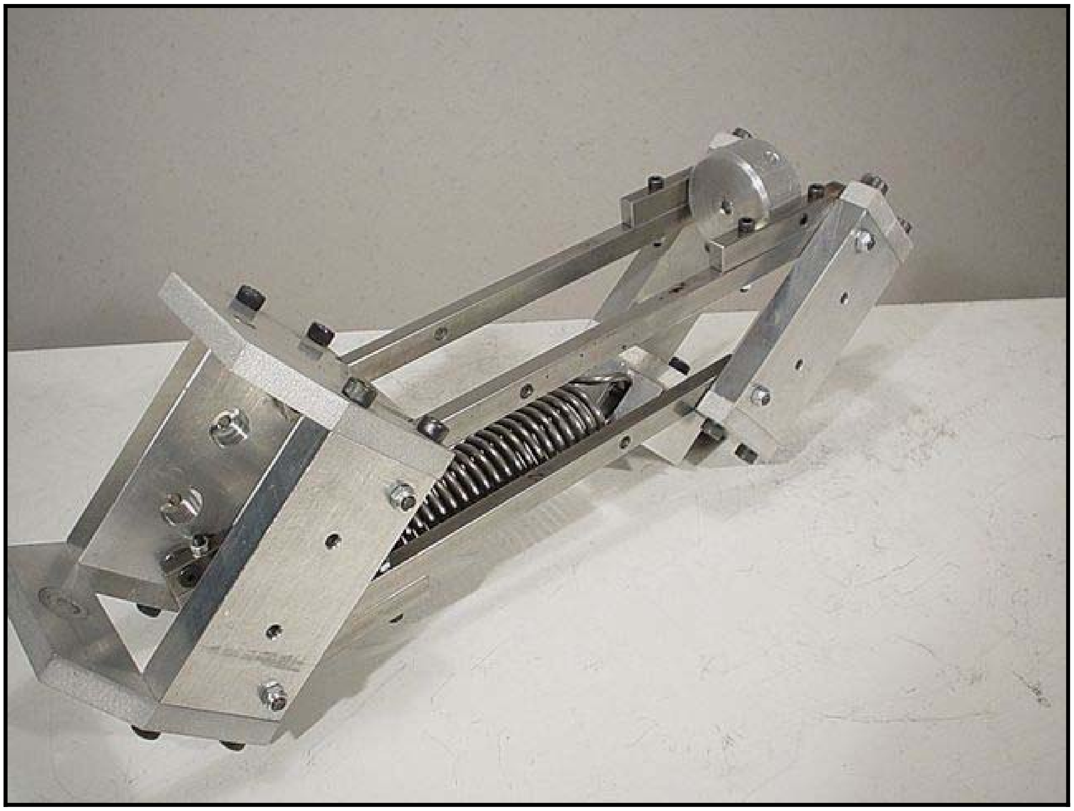
As mentioned in my criteria's a dual action arm was to be. With this design I can achieve more boom range in any direction of travel and provides better stability especially while running with the rig. It isn't a must but is definitely advantageous. Knowing the kind of weight I wanted the rig to handle, it was obvious that the arm had to be built solidly. So I used thicker aluminum pieces for the construction and profile steel. Yes, I did say steel but they are strip profile that acts as the braces for connecting both arm blocks together at their axis, *see pic 31*. Not a very good choice in terms of weight but the design I had in mind was going to take less time to do. This was the only deciding factor otherwise the arm would have taken longer to do, something my machinist wasn't willing to sacrifice at that point in time, knowing the amount of jobs he had already on hand.

Anyhow, I used four 250mm x 12mm steel profiles for the connecting both arm blocks together. This ensured me that the arm would not buckle under heavier loads while operating. Yes, this does increase the weight, not that

much though, but as I already explained above, this was my best alternative at the time. I had designed the arm for a one/two spring operation. I didn't want any cables or pulleys of the kind. I wanted to avoid as much friction as possible. In each arm block exists 4 SKF ball bearings with an axel shaft hole of 5mm. These are quality type standard bearings. *See pic 35*. In one complete arm there are two arm blocks for a total of 8 bearings per arm excluding the elbow bearings. *See pic 27a* on following page. With the grand total of 24 bearings in the entire arm, one can definitely expect frictionless operation, which is good enough for me. To hold the sidewalls together, two well machined U-shaped plates were used.
See picture below.



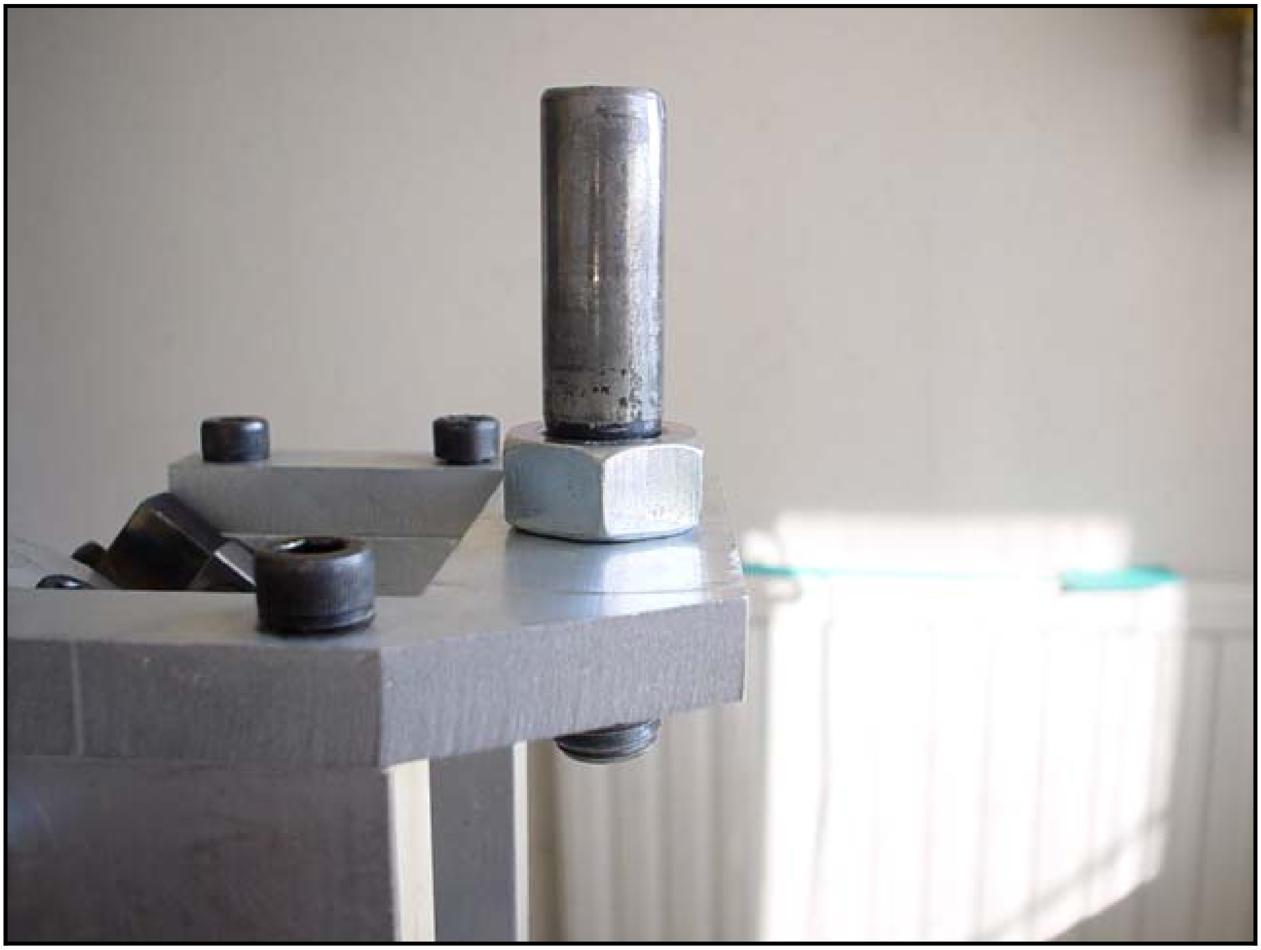
Ref. 27
Top pieces of the arm blocks

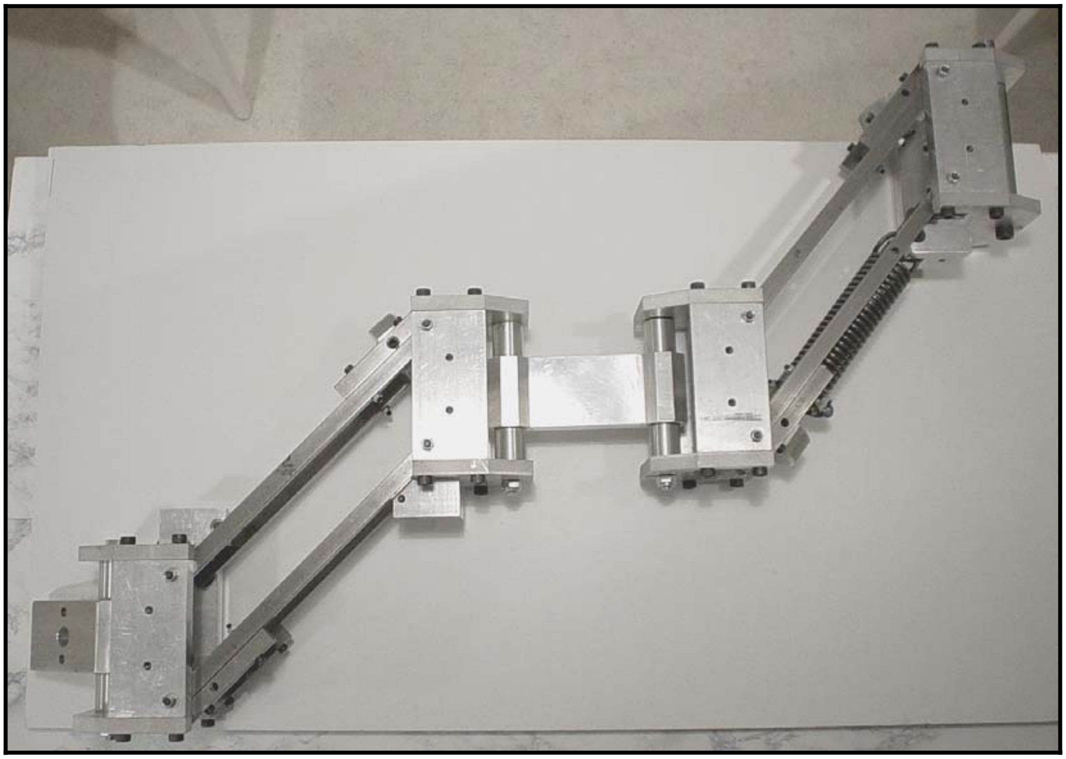


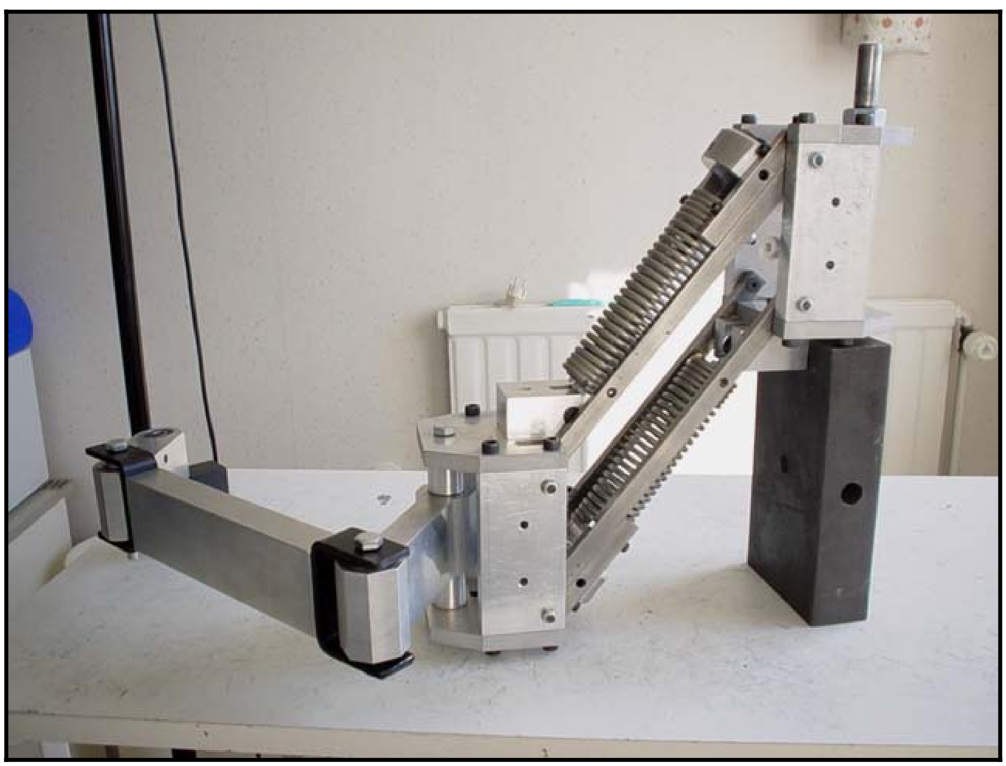
Arm with one spring mounted

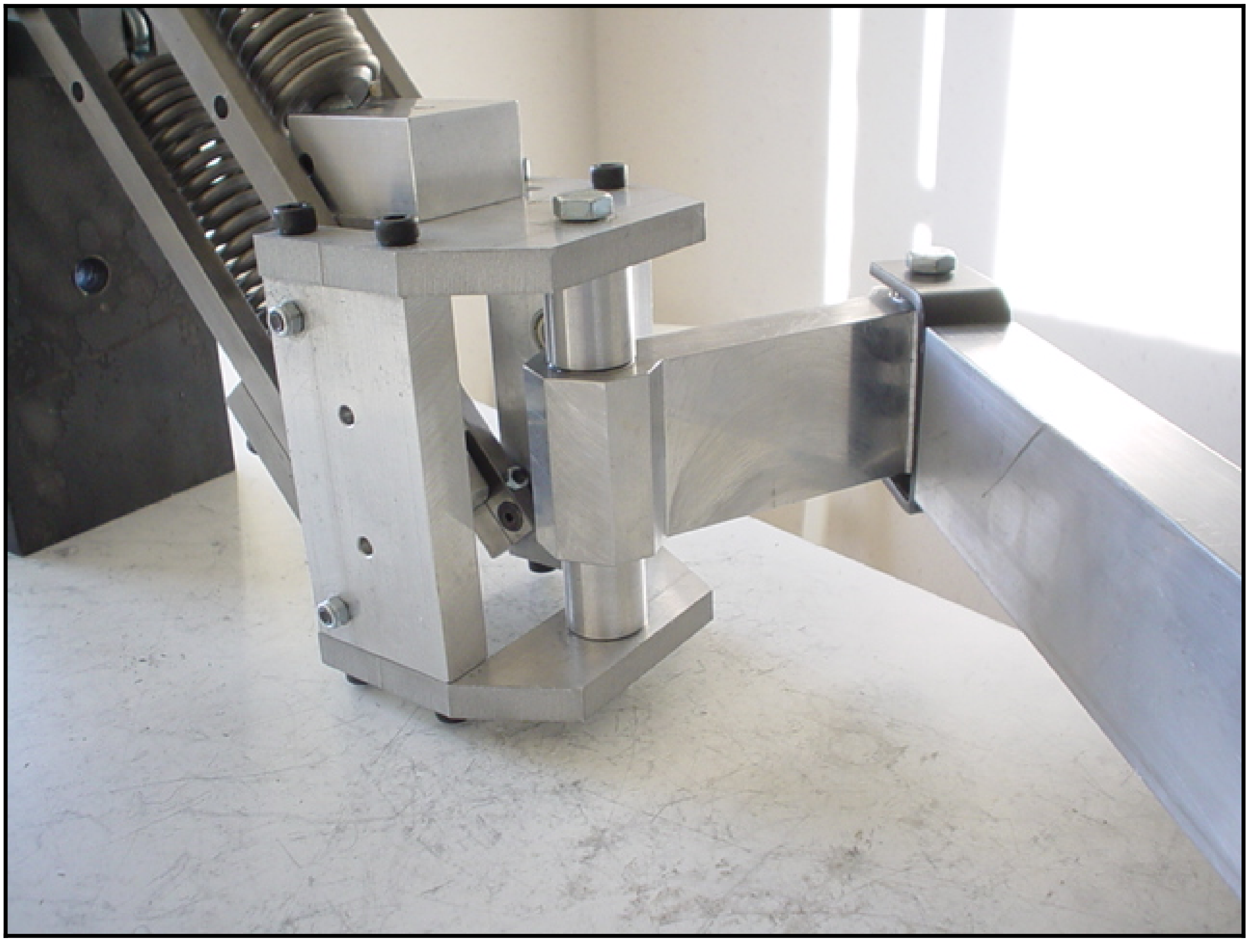
The picture above shows the arm with one mounted spring attached. This shows the beauty of the concept of this arm and how flexible it is. A big plus with this type of design and one of the strongest reasons for accepting it has the standard in my book.
The space between the bones of the arm is capable of larger spring diameter up to 46mm OD. This also, increases the weight capacity and the capability of the arm depending on the strength of the springs and their rate.

Later on further down the line, I'll give compression springs a try. This would only require me to make new spring adjusters. Using compression springs would be advantageous as it has fewer prunes to failure compared to its tension counter-part. Ability to fly heavier loads would be another key factor as well, but that is less of an issue for me at this point in time


The 14mm mounted stud on the end of arm


The Dual action arm


The single action arm



Back view of the single action arm