STEADICAM® Letter
NEWS FOR OPERATORS AND OWNERS
Volume 4, number 1 July 1993

Hugh Maynard shoots Richard Attenborough for the BBC at the South Pole

Steadicam Bottoms Out at 90° South Latitude

My mother met Hugh on a birding trip around Antarctica, and they got to talking and you just get the pictures.

This must be a record of some sort, the kind of historic or statistical event someone ought to be tracking for the edification of future Knights of the Green Screen. Anybody else ever been there? Is this a first? Has anybody been to the North Pole? The top of Everest? The bottom of Reseda?

Perhaps there are other records that should be officially noted in this journal. Vetted entries only!! (A warning: we're tired of endurance stories, how many pounds carried, and the like. Your editors are just getting too old to compete for these things.)

I think I hold the record for the sunny-day-on-dry-land-non-sweat induced-or-in-any-way-planned-wettest operating. Alas, the rig lasted only a few seconds... –Ed.

All dressed and nowhere to go but up

Forgotten Techniques

Last September I was asked to work on Jonathan Demme's new film *Philadelphia* which, strangely enough, was coming to Philadelphia and required a certain amount of Steadicam. As you may know, with the exception of a nostalgic runupthestairsagain for *Rocky V*, I have not worked on a picture since 1986. I had decided not to go on location in order to concentrate on my sometime inventing career, and seven years whizzed by without a day's work on a feature.

During that time any calls for my operating services were referred to the SOA Database, but this one was different. I admire Demme's work and he is great to work for... and he was shooting in Philadelphia! It had been a long wait for a picture like this to come to town. Still, I hesitated. After teaching all these years that "you never forget how to operate Steadicam," I wasn't worried about my abilities (though I should have been!) - I hesitated only because I was out of shape. I have led quite a sedentary life, and with the exception of hand-cranking the underwater camera back and forth in the Barcelona Olympics, most of my recent work has taken place on a variety of comfy chairs. Demme's first shot was alleged to be a four-minute running shot and I was a bit scared that I wouldn't get through it. After all, I can't run four minutes without the Steadicam – but I decided to attend the scout anyway and check it out.

Well, it was only a 3 minute and 20 second running shot, and 55 seconds of it were immobile in an elevator, and it was MOS, and so on. I concluded that if I could assemble an

Brownout *continued on p. 4*

Letter from Chile

Steadicam in Latin America

We have been aware of Steadicam from the beginning, but no one had enough confidence that their local market would support one. The Latin Americans are always wary of new inventions from the U.S. becasue of our economic pessimism. It is Brazil which has the largest market – including dramatic series on TV and indigenous motion picture production. Brazilians are first in South America in numbers of private companies and TV stations working with the latest technology and techniques.

Steadicam in Brazil has been available for at least six years. The first user was TV–Globo, South America's largest network. The economic problems in Argentina – including 600% yearly inflation – caused a number of private production companies to emigrate to Chile and Brazil, and this influx of creative individuals has helped both countries be more competitive. The Argentinians, with the most experience in motion pictures in South America, are very aggressive and used to working with the high-tech equipment bought from Japan and the U.S., such as Sony's digital recorders and editing gear. Currently, Argentina, Brazil, and Chile are the industry leaders, supported by their new democracies and economic systems.

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In Chile, the Steadicam system became better known when my company bought one in March of 1991 – an EFP with WRC–4 wireless. At the same time we organized the first workshop in Latin America, dedicated basically to creating Steadicam operators. Now we are planning a new workshop to educate directors, producers, DP's and agencies as to Steadicam's potential, because Steadicam is still a "legend" in Latin America.

In Chile, we have five working Steadicams

1. Channel 13 – EFP bought February 1991 – Universidad Catolica de Chile Television. They sent three cameramen to the workshop. One of them was known in the 1980's for making the "Parracam," a sort of primitive Steadicam, named after Victor Parra, one of Chile's most important cameramen.

2. A.A.S. Productions – I have an EFP bout in March 1991.

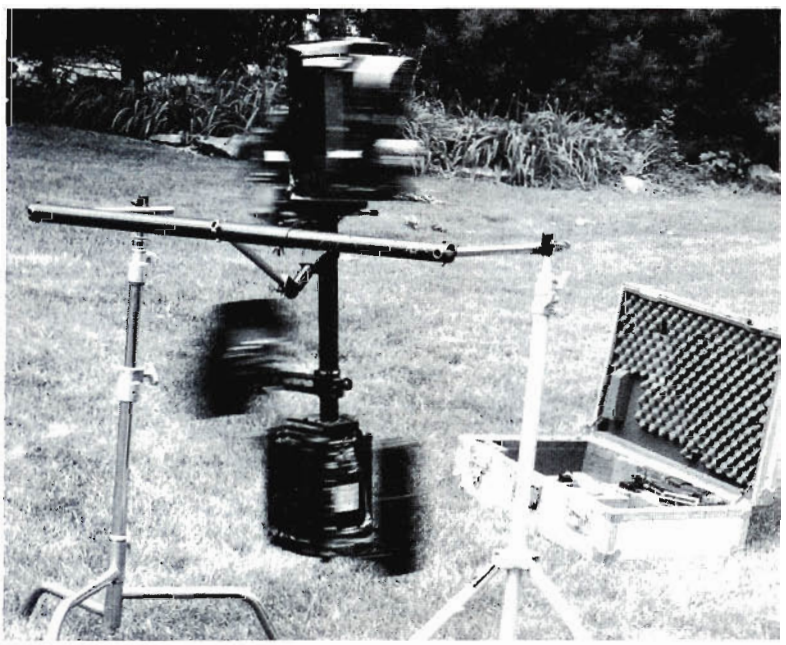
3. Post–Production – EFP bought in July 1991 – This company is dedicated to fashion photography, a.k.a. "Paula Producccions," who created *Miss Chile, Miss World, and Miss Universe.*

4. Arauco Films – EFP bought in August 1991 – A film rental house, with 16mm and 35mm Arriflex equipment.

5. Television Nacional de Chile – EFP bought in December 1992.

The "Steadimania" in Chile was the result of our workshop in 1991 for the fifteen people who believed that the Steadicam could be viable in our small market, and with the support from Cinema Products in Los Angeles. CP supplied our fine operators with certificates of completion, and our Steadicam has been working ever since. We are very happy with the condition of the Steadicam business in South America, particularly because Steadicam–Chile, our new Steadi–rental business is know for providing the best service in Chile.

For more information, please contact Aldo Aste Sambuceti, Director and Producer, A.A.S. Productions, (567-32) 68 07 62 or (56-2) 235 76 19 (voice) or (56-2) 236 00 84 (voice and fax).



Dynamic balance testor in action

Dynamic Device has Dual Life

Designed for the SOA Workshops, this dynamic balance tester really works. There's plenty of room for the monitor and battery to spin freely, and lots of clearance between the J–box and the monitor. It's strong (can hold 170 pounds off two C-stands) and it comes apart easily for stuffing into a case. Made of thin-walled moly steel, it weighs in at three and a half to four pounds.

Don't have two C-stands? Use a C-stand and a grip, or a table, or two grips, ...or you get the idea. And if you've got two grips, it makes a great buddycam, with more clearance for you and your buddies. Comes with two holders for the C-stands for $300. Call Jerry Holway at (215) 524-5946.

Working in the Snow and Ice

Working on the edge. The steam rising from Ken's brow is from a power plant, not exertion.

Minnesota. Land of 10,000 lakes and five-month winters. If you want to do Steadicam here, you'd better be prepared.

Northern States Power has been doing a series of commercial spots highlighting their close cooperation with nature conservancy groups and individuals involved in nature conservancy and education. The "stage" was the great outdoors; the activities, winter kayaking, cross-country skiing, and the like. The director wanted a moving camera but didn't have the time or budget to bring in a dolly and track to the remote locations. Steadicam seemed the logical solution.

Fortunately for us, the weather was clear, 0°F, and no wind. We worked two locations, one by a river and the other by a swamp where a beaver had built a lodge and dam. The lodge was only accessible by packing toboggans with all our gear and walking into the woods 1/2 mile through the snow. The beaver wouldn't allow snowmobiles.

To keep from freezing, I dressed in layers. Long underwear, cotton turtle neck, hooded cotton sweatshirt, loose baggy pants, and Gore-Tex lined, light-weight and cleated-soled winter boots. It's important to wear clothes that wick away the sweat and still keep you warm. The Steadicam vest added an extra layer, and a wool watch cap topped everything off.

I've found that heavy mittens may keep your hands warm, but don't permit a good tactile feel to the post. Genuine soft doe skin gloves have a soft and pliable leather that allows a good feel and the leather did not slip on the smooth aluminum. The leather was also thick enough to keep my hands warm throughout the day. I have also tried helicopter pilot's NOMEX gloves with calf-skin finers and palms. I roughed up the finger tips of the operating hand with a metal file for a better non-slip feel, and these gloves also work well.

"The lodge was only accessible by packing toboggans with all our gear and walking into the woods 1/2 mile through the snow. The beaver wouldn't allow snowmobiles."

I rented extra batteries and gaffer-taped a pocket-sized chemical hand warmer to the battery on the camera. Spare batteries were kept in a cooler with a couple more hand warmers thown inside, which kept the batteries and videotape plenty warm.

Liquid crystal displays do not work well in the cold and quickly shut down at 0°F. Fortunately, I have CP's black and white green screen monitor (tube job) for the EFP and it worked flawlessly in the cold. My color Watchman froze up and wouldn't work. More hand warmers and/or a black and white tube watchman next time.

Packing all the gear in 1/2 mile required the use of my kid's two plastic toboggans for gear schlepping. I pre-balanced the Steadicam and then wrapped everything in soft packing blankets for the journey. The C-stand, 25 pound shot bags, camera, cooler, Steadicam, and audio gear all slipped along quite nicely through the woods.

Operating on snow, ice, and uneven ground was quite a challenge. We had to plan our route carefully for each shot, so that additional takes would not reveal our previous take's footprints. The depth of the snow and slippery ice underneath made walking difficult in places. Having the unit well balanced and a light operating hand was the key to success.

One shot called for me to come out from behind a tree and meet the talent. After a couple of steps, my right foot began to give way on the ice. I had to let go with my operating hand to keep upright, but was able to keep the arm hand steady and walk on. The shot stayed on line, the arm took up the shock of the slip, and the well-balanced rig never wavered.

While it is possible to work in the frozen North, one should take a few precautions. It's a lot slower going in the cold, so allow more time to do everything. And be sure to drink plenty of liquids, just as you would on interior or warm weather shoots.

I hope this helps anyone who's planni to shoot in the cold.

Ken Fournelle

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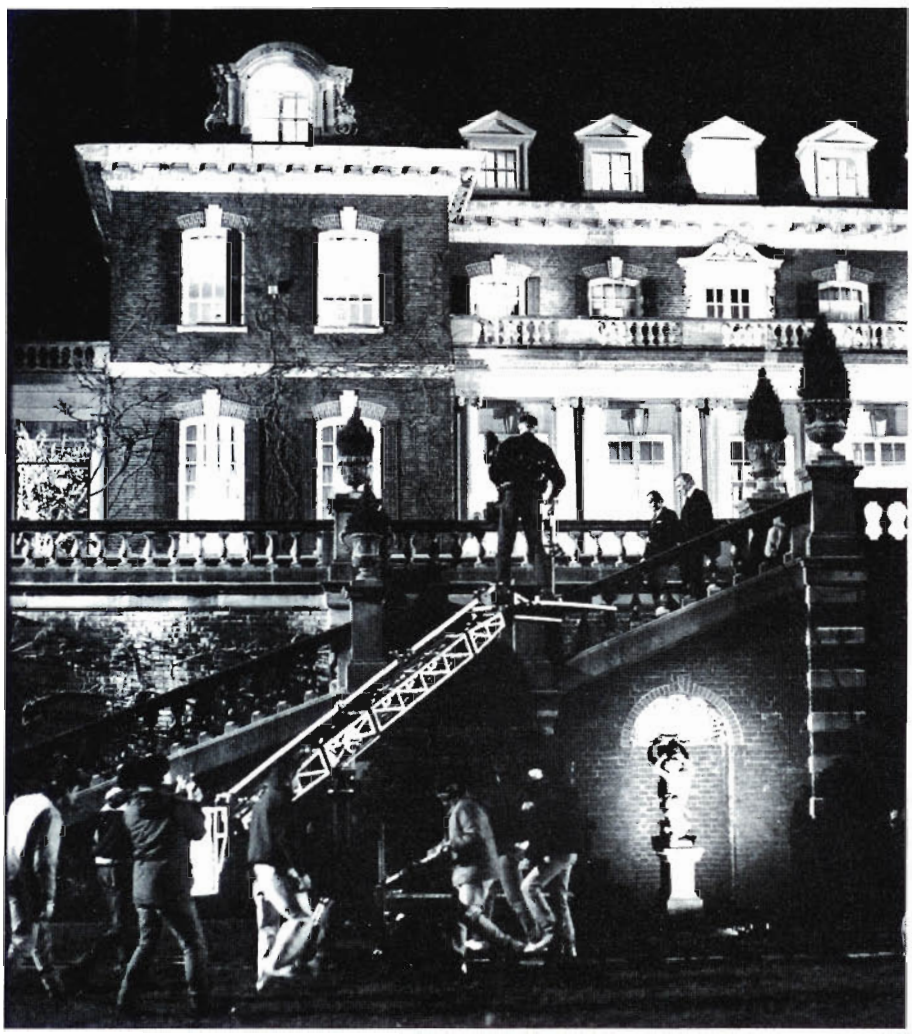
ultralite Steadicam with my old IIc, my EFP and a couple of the old "Pan-Arri" magnesium throated 400' magazines, I could probably do it. Demme's production manager predicted that there might be about ten additional days with the lightweight Panaflex (and no Primos!) so I took the job.

I had a week to get in shape so I cut down slightly on the chow and actually put on the rig and practiced running up a very short hill. Twice. I also rode my mountain bike several times, and sprinted once to the delicatessen for lunch.

What I should have done was to review what I have been teaching for years at Steadicam workshops! Throughout about twenty days of work on *Philadelphia* and several more afterward on *Wolf* with Jack Nicholson, I consistently failed to remember some of the most basic techniques and rules of operating in time to help me get my shots. Hell, I dreamed up some of these tricks, yet they only came back to me on the way home in the van each day. It was humiliating. And it caused problems.

Back in the saddle on *Philadelphia*



Garrett re-invents "Shakey-crane" on *Wolf*

Lights in frame.

On my very first shot on the *Philadelphia*, I noticed a coop hanging down inside a door I was to enter, and asked DP Tak Fujimoto whether its cloth sides would be rolled up. He looked at me strangely and said "Of course," so I never looked again. Unfortunately, there was another coop a bit further inside the room, and it now appeared behind the rolled-up one. But I had never seen it. I did peer quizzically at the green screen and wondered about that blurry something at the top of frame on several takes, but I forgot, in each case, to go and see what it was. And Lo! In dailies there it was - a damned coop lighting a lawyer's office!

As I have told workshop participants perhaps 800 times: Keep looking! Use your own eyes and identify what each dangerous light actually looks like on your screen as you dip it into frame during rehearsals. Program yourself to watch for them as you shoot. Oy.

Actor tailgating.

As the auteur of operating, the Steadicam operator sometimes bears responsibility for focus as well as everything else. For example, imagine that your assistant's view is blocked by your 6'6" self and the actor doesn't maintain the agreed distance from camera. Tom Hanks can hit marks like a champ, but as I preceded him at high speed through narrow corridors, for some reason he kept overtaking and pushing in to the minimum focus of my 50mm lens. If I speeded up, he

"I was saved from near disaster by my old friend, supergrip Billy Miller, who watched me struggling with the worst possible vehicle and gently reminded me how I did this same shot a decade ago."

speeded up and Clayton couldn't see what was happening. The next day the lab reported a lot of missed focus in the shot, and so all day we felt like bums. Fortunately, the lab was wrong and the dailies looked pin-sharp. Somehow Clayton had managed to stay with it, and we were heroes again. But as I sat there, I remembered that I could have controlled the shot, and made Hanks' job easier just by mounting a simple car antenna with a flag extended out under the lens, so he could have a mark to help him maintain the distance. If I had thought of it in time, we could have gotten the shot in a take or two, instead the half dozen that were unsure of for focus!

Terra Incognita

Larry McConkey does it best (maybe overdoes it at times), but the man is never lost during a shot and neither is anyone else on the set – including craft service. There are marks for everything and everyone, and every event is planned. There is little that is random about one of Larry's shots, and as a result, after all of the preparations, he can usually deliver on the first take, and more important, so can everyone else. He's in the agreed-upon-place at the agreed-upon-time, and so are famous players, background actors, props, animals and p.a.'s. Of course, I forgot to do all of this, so every take was different - some were great, mind you - but they were each unique, and many were wasted because of unchoreographed variations. Planning, stupid! Marks!!

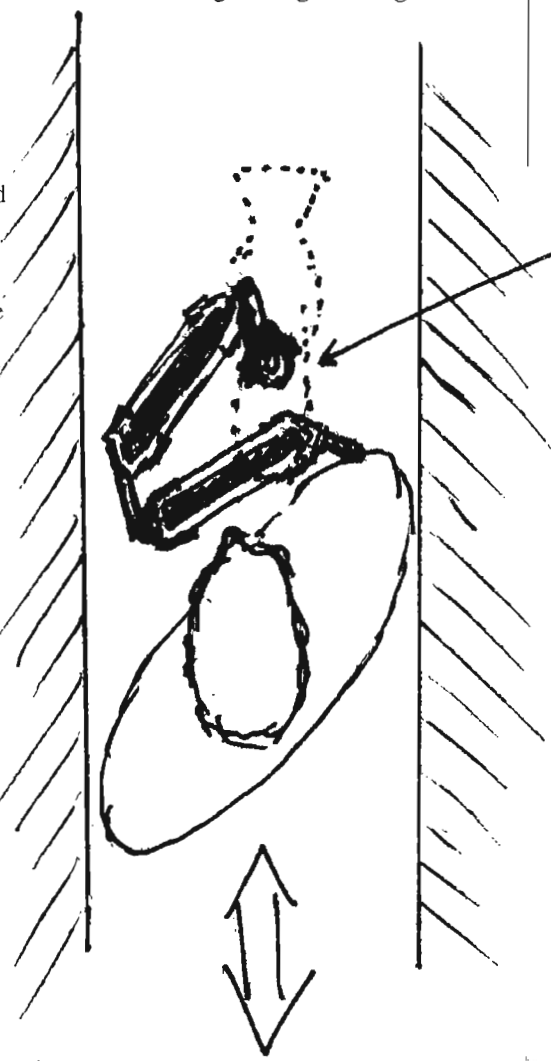
Tilt!*

*As in pinball. I forgot many of the subtleties of level control. In my memory, things were getting less and less bottom-heavy, so I began operating with a drop time greater than 3 seconds. In fact, a number of the living masters are returning to much greater bottom-heaviness for straight-ahead level shots.

Try raising the gimbal a full half-inch above the neutral point and lookiong for a drop time of under two seconds. My dailies improved noticeably when I remembered to try this.

Not the wheelchair!

Yes, I remembered the physical act of operating. That felt as good as ever. What I forgot was the nuts and bolts, the focus motor setups, the organization of shots, the thousand variations on the theme of hardmounting - I forgot the rigs.



I was saved from near disaster by my old friend, supergrip Billy Miller, who watched me struggling with the worst possible vehicle and gently reminded me how I did this same shot a decade ago. I would have blown it! It became known as the "aria" shot, and it was quite wonderful, with the lens floating like a spirit several feet above Tom Hanks upturned face, as he danced alone with his i.v. stand.

Incredibly, I had selected the Ron Ford-type wheelchair to ride on (wearing the rig!), while standing on heaps of appleboxes, strapped to the backrest, holding the camera out at full extension with a lens height of 10 feet! Even the rehearsals were excruciating, and it was becoming clear, as Jonathan's enthusiasm for the shot grew, that we would do many four-minute takes! Fortunately Billy got to me before it was too late to change rigs. The Elemack was perfect!

The Steadicam was hard-mounted with the column up full and topped with several risers and my Mitchell Mount adapter. I stood comfortably on boards, leaning on the column, as the grips followed Hanks using the crab steering. Since most Elemacks gradually turn as they are crabbed, the secret to getting the shot was having another grip keep turning the loosened mount so the arm keeps pointing in the right direction while I walked around the Elemack base. It was remarkably easy, and the effect is electrifying. The operatic score, the Wim Wenders-like floating camera freely turning in the roll axis, moving through lights like a dream. I could never have done it on the wheelchair! Design vehicle shots right... or else!

"Sorry, Jack... "

I had one of the most difficult shots of my entire career on the first of two nights on *Wolf* with Jack Nicholson. It included a wobbly descending ride on a flimsy crane on unleveled track (because the crane and the track had to be carted off to either side in time to not appear in frame as I backed away for three minutes ahead of Jack and Chris Plummer. Funny, I got this part right every time (except once when the grips got tired and didn't get the track out of the shot in time). Holding on to the wildly oscillating risers on the crane while operating one-handed was tough but do-able. What took fourteen takes was something easy that I got wrong nearly every time. It was my fault - I just forgot the trick. When I remembered it on the way home, I felt quite stupid, but grateful to Nicholson for bearing with me. I simply needed to hit a mark while backing up, so that

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Brownout *continued from p. 5*

when the actors paused to say a few lines I would be able to see a particular element of the set behind them. I must have taught 500 workshop folks how to lay out a V-shape of rope and back into its apex, in order to hit a mark (which can then disappear with a flick of the wrist if you must resume backing). Why didn't I remember it? It is a problem with me. I tend to count on my skill with the Steadicam to wing my way through shots without enough preparation. Nuts.

Two New Tricks

To atone up for the foregoing lapses, here are two new techniques that might come in handy.

Narrowest Steadicam

A shot on *Philadelphia* required backing up at full running speed through the narrowest possible corridor made from two walls of filing boxes stacked closer together than the width of my shoulders. In order to get the shot I had to turn nearly sideways, and arrange the arm, gimbal and camera as shown in the top-view diagram. The "upper" arm link goes the opposite direction from normal, and the gimbal yoke is turned as shown. Although it's tiring after any length of time, this arrangement will get you through the narrowest possible space. If you are going to back up, I suggest you have yourself strongly spotted, so you can be forcibly kept from banging into anything!

"Active" Marks!

Here's a suggestion to help you back up along unpredictably curving paths, through doorways, etc. without anxiety and without looking away from the screen. I call it an "active" mark, since it is trailed along with you by your spotter. Make a flat strip of bright tape, folded over and stuck to itself so no sticky side shows. Attach five feet or so of this tape to a three-foot length of stick.

Have your spotter precede you, trailing the strip of tape along the ground. Adjust your speed and direction so that the centerpost always stays just above the trailing tape. It's up to your spotter to trail the tape so it indicates the ideal path for the camera, and keeps you from hitting any obstacles.

The only verbal communication you will need from your spotter is when a step up or down, or an irregularity in the ground is approaching. We gave this a test during one of the workshop "shots" and found that it works brilliantly; however, the spotter needs a high degree of concentration and some practice without the Steadicam along in order to learn the course.

Altogether, my return to Steadicam operating was a humbling experience. It is a great job, truly "The Last Great Job in the Business" as Ted Churchill puts it, and I had a terrific time, some of the time, but I was strongly reminded that it is also one of the most demanding and challenging jobs in the world, if your ambition is to be a "Living Master."

I have temporarily downgraded myself to "Expert" until I can do another workshop!

Garrett Brown

The Boom Bar

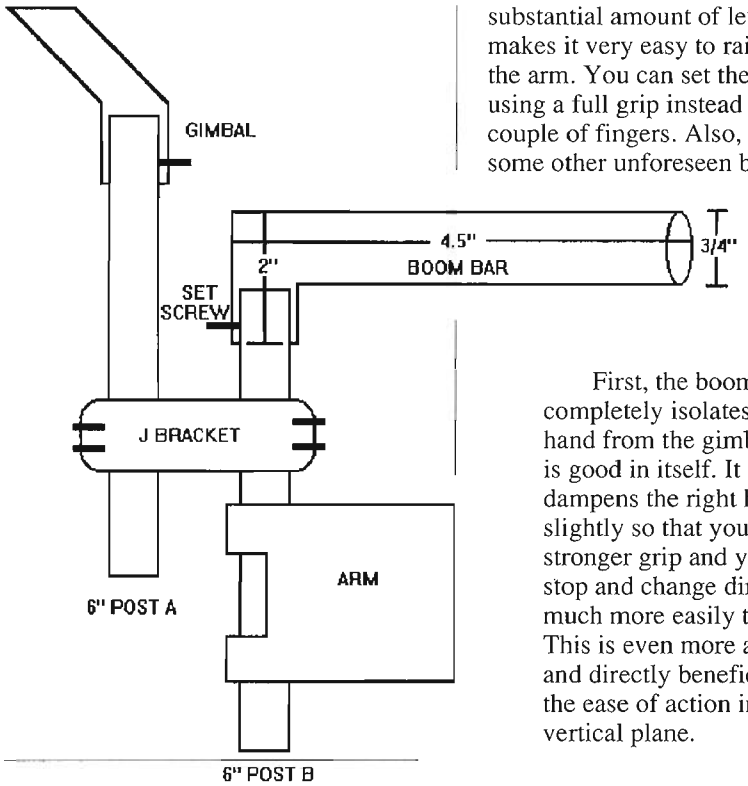


FIGURE 1: BOOM BAR IN HIGH MODE (not to scale)

This device came to be because of a conversation I had last fall with Larry McConkey. We thought it might be helpful to have a bracket that would make it easier to boom the Steadicam arm up and down. I put together a simple version of this concept, tried it for six months, and humbly offer it to you as the "boom bar."

Figure 1 shows the boom bar in high mode. Two six inch posts (A and B) are connected by a J–bracket. The bottom of post B slide into the arm. The top of post A accepts the gimbal end. The boom bar is a 4.5 inch long tube with a two inch right angle at one end. It sits above post B and is locked with a set screw. You hold the boom bar with your right hand instead of holding the end of the gimbal. I position the boom bar perpendicular to my line of travel and high enough above the arm so that I can boom as far as necessary without pinching my hand (three inches seems about right, depending on the shot).

The boom bar offers a substantial amount of leverage which makes it very easy to raise and lower the arm. You can set the lens height using a full grip instead of just a couple of fingers. Also, there are some other unforeseen benefits.

First, the boom bar completely isolates your right hand from the gimbal, which is good in itself. It also dampens the right hand action slightly so that you can take a stronger grip and yet start, stop and change directions much more easily than before. This is even more apparent and directly beneficial than the ease of action in the vertical plane.

"You can fashion a quick boom bar in about two minutes if you have a second J–bracket "

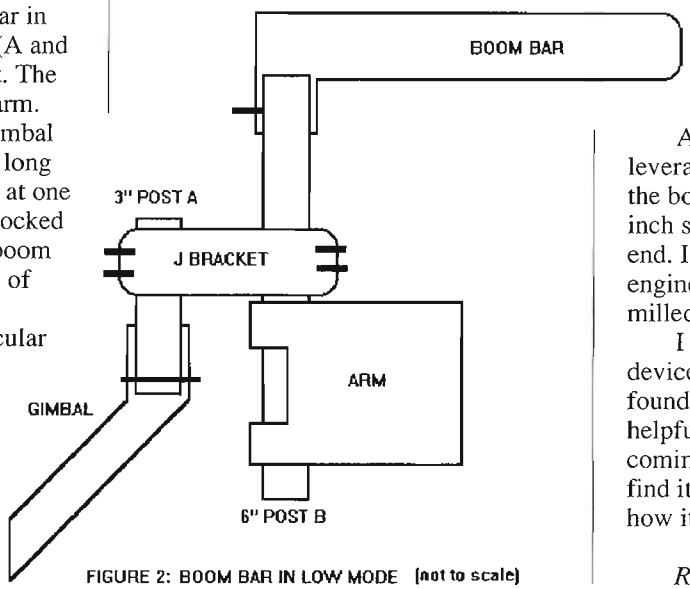


FIGURE 2: BOOM BAR IN LOW MODE (not to scale)

Low mode is simple (see Figure 2). The boom bar is only a doubling of the single post we have always used. To convert, I replace post A with a three inch post locked below the J-bracket. The gimbal points up and is connected to the bottom of post A, as usual.

You can fashion a quick boom bar in about two minutes if you have a second J–bracket (see Figure 3). Just use the 2nd J–bracket on top of post B in place of the boom bar.

This is what I first tried and all the benefits were immediately apparent.

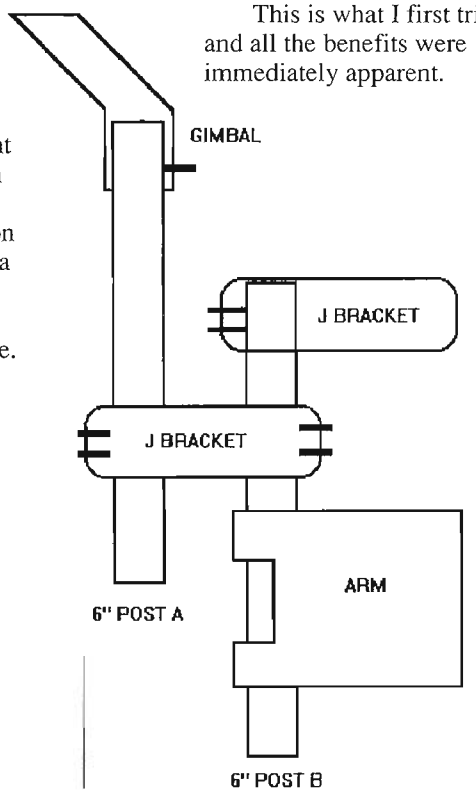


FIGURE 3: QUICK BOOM BAR USING 2 J BRACKETS

Anything else is just added leverage and window dressing. In fact the boom bar I now use is simply 3/4 inch speed rail with an elbow on one end. I will leave it to the mechanical engineers in the group to design a milled and anodized version.

I cannot say if this very simple device will work for you. However, I found it easy to make, extremely helpful and with no apparent shortcomings. Please let me know if you find it useful or have any thoughts on how it might be improved.

Rick Raphael

Building a Better Vehicle

Interior view of Bill's castle. His caddy rides shotgun

Tired of trying to put away all your gear in the middle of a downpour somewhere between Colorado Springs and North Dakota while the rest of the crew has left for dinner? I was.

Last year at the 1991 Malibu Classic I met Bob Crone and he mentioned how his Plymouth Voyager has really made his life easier. I incorporated his ideas into a design for my needs and discovered that my "desired" vehicle, using a late model used van, would cost about $35,000. Too much! I went back to modifying a Voyager that I already owned, but I was still suiting up in rather adverse conditions. What to do?

On the way to see my accountant one day, I passed a 12 year old Metro City Ambulance with a huge "For Sale" sign in it. Except for a power winch in the front bumper, power locks, and cruise control, it was loaded with everything on my wish list and then some, and best of all, it cost only $4,000!

Here's what I got: A 1500 lb. capacity wheel chair lift (see photo) which helps with heavy boxes that producers sometimes con you into carrying for them, an inverter that delivers 120VAC while on the highways or in remote, powerless locations, and a 120VAC wired system to hook up to the set's power when available. It sports lights both inside and out, (a lifesaver when the rest of the rest of the crew vanishes for dinner or in the wee hours before the sun's up and the generator boys haven't had their first cuppa yet), and it's got two airconditioners and double heaters to keep you comfortable when the weather isn't cooperating. It has headroom for a 5'6" person to stand up in (sorry Garrett) and get rigged up out of the elements. Lots of compartments line the walls for all the extras and spares you need.

"Except for a power winch in the front bumper, power locks, and cruise control, it was loaded with everything on my wish list and then some, and best of all, it cost only $4,000!"

In addition, the suspension is designed to transport critical care patients, so it rides like a Cadillac. The 460 cubic inch engine gives me all the power I need, but it's hard on gas – 9 to 10 mpg – so I plan on doing the natural gas conversion soon.

Another benefit is the cost of insurance: about half that for the Voyager. And the final plus – people pull over to let you get by and the kids wave "Hi" at you.

Since buying this vehicle, I've had two more chance to buy ambulances for under $6,000 each. So if you need a little more room, consider a used ambulance. Visit your local service or you can get in touch with me and I might be able to help you out.

Bill Leingang

Exterior with wheel chair lift

Zen and the Art of Gimbal Maintenance, or...

Wherein Robert Holmes ponders the mysteries

In most discussions involving Steadicam, as sure as the sun will shine, there will always be talk about the rig, the Machine, the ability of a Steadicam operator to trim out the rig to a particular touch. But with all this in mind, where does the technical style and form of operation become what are the mental processes that execute the shot that lingers in the memory of most operators as the "floating entity in space?" How is it done? How does a great operator anticipate every step throughout the shot so that every variable from composition to mise-en-scene is accounted for? How do you talk about what goes on?

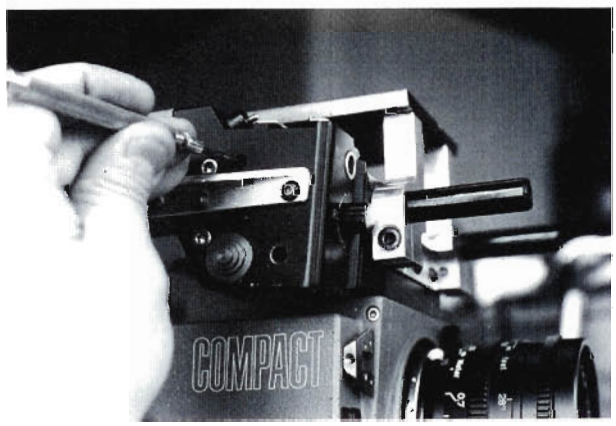
Last summer I met Ian, a visitor from Ireland who shares an interest in flying. We talked about the handling of aircraft, and the differences in experiencing non-powered flight verses a powered aircraft. Ian mentioned an experience while flying in California that would test all the reasons why he got into glider flying. While out for an afternoon flight Ian rose into the wind and ascended, heading north then turning right to fly over a mountain range.

Seeing a valley on the eastern slope, Ian descended to give it a look. While at 4,500 feet, the winds shifted and the parameters to achieve enough lift to climb over the 10,500 foot mountains to the west all changed. Now the awareness, the experience became the only guidance to save Ian's life. That "indefinable something" took over, the separation from fear into a heightened state of awareness. Ian not only became the aircraft, but also the weather surrounding him.

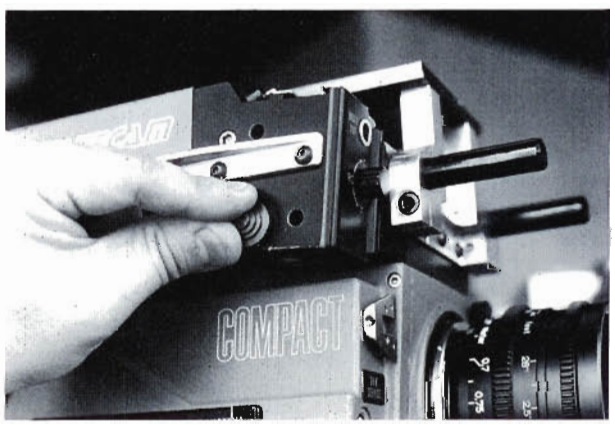
Beyond the panic and sheer terror that he was going to crash, Ian felt a sensation of "thought/no–thought" as he crept along the eastern slope of the mountains, feeling the winds through the airframe, making minimaneuvers until he was able to climb over the mountains and land the plane.

In Eastern religious thought, that indefinable something has a name, "Shikan–Taza." In this heightened state of awareness, there is a nonsensory apprehension of reality that takes in all the sounds, sights, and other impressions, yet the sensory images are not analyzed or interpreted. The "Shikan–Taza" is a meditation wherein one is neither tense nor hurried, and certainly never slack. It is the mind of somebody facing death.

Beyond the fascination with the machine, the rig, the mods, and the toys and all the technical improvements that will eventually come to Steadicam, there will always be an operator that can "See" and not see. And as we all continue to improve our skills, the mountains will always loom to the West.

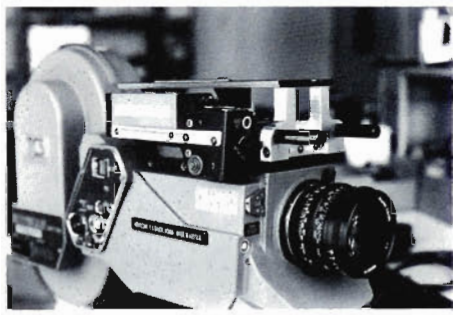


Loosening the screws



The little red knob does it

More Help From TCS



The Compact with video unit mounted to side of the video block

It would be nice if the video image from the Moviecam Compact popped up on your Steadicam screen perfectly centered. If it isn't, you may have to settle for what you see. On most camera set-ups, a relay optical system is employed and attached directly to the viewfinder.

Incorporated in the relay systems are X and Y axis adjustments permitting you to move the video image anywhere on the screen. On the Moviecam Compact, however, there's no such provision. Fortunately, the dedicated technicians at Technological Cinevideo Services in New York have figured out a solution to this problem. They've incorporated a small lever which is directly attached to the CCD chip. When the screws that hold the chip are loosened, the image is free to be moved via a small red knob. When the image is positioned exactly where you want it on the Steadicam monitor, retighten the screws and you're ready to shoot beautifully composed pictures.

Ralph Fujiwara

Working towards the Ultimate Model IIA

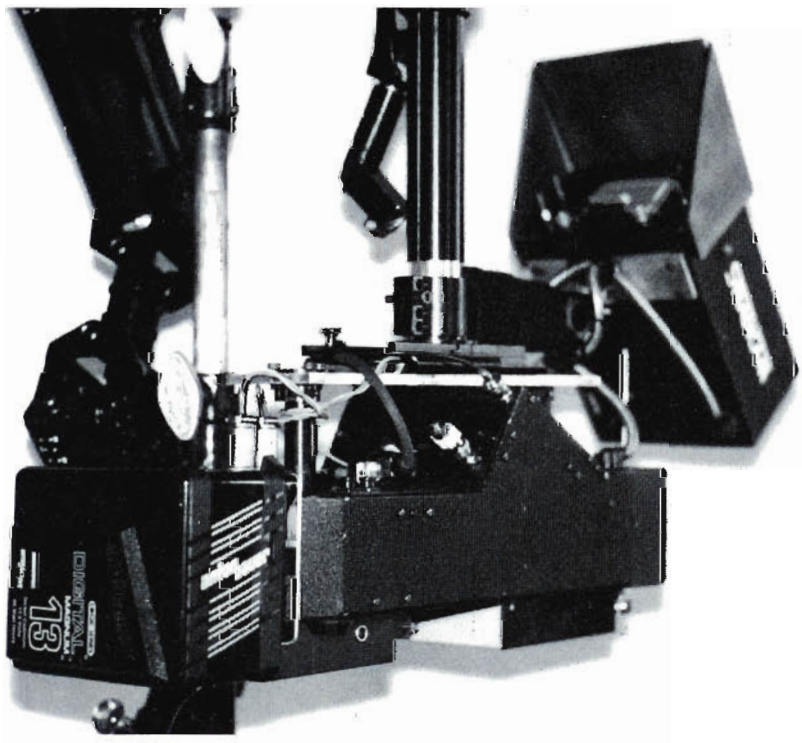
Peter Abraham's Model II was the first highly-modified Steadicam I ever saw; he called it the IIA. His was the impetus for my own project.

A week after my first workshop I bought a stock Model II and I quickly removed the battery pocket and built a mounting plate for an Anton/Bauer SnapOn™ plate. Using ProPac™ batteries, I was able to run my monitor and one lens motor for about two hours continuously. Total cost: $100 plus the batteries.

Next I replaced the twin post design with a custom made telescoping post. I recycled and old Model III post, cut it down to 13 inches for the upper section, and then fabricated a lower (inner) post from aluminum tubing. The lower section was turned down to fit into the Model III post, and a slot was milled into it so that an internal–clamping crescent could slide up and down. Next, a Model III lower fore-aft plate was attached.

A plate was fashioned to bridge the space on the sled between the former post brackets. The fore–aft sled dovetail was mounted to this bridgeplate. Recycled pieces of old Model II posts were used as spacers. The lockdown bolts that hold the sled dovetail to the bridgeplate pass through channeled slots instead of clear holes, thus giving side–to–side balance capabilities to the electronics module.

"The lockdown bolts that hold the sled dovetail to the bridgeplate pass through channeled slots instead of clear holes, thus giving side–to–side balance capabilities to the electronics module. Total cost: $450, plus, of course, a Model III gimbal."



Detail of bridgeplate, receiver mounting, and battery mod

Check out the safety harness, too

Total cost: $450, plus, of course, a Model III gimbal.

The latest modification to my IIA was completed just in time to display at the October Maine workshops. After much R, D, & D (research, debate, and design), Peter Abraham and I once again disassembled our sleds and began to drill holes and reroute cabling. Our intention was to run our cables from the sled to the J–box up through our telescoping centerposts.

We broke the cabling down into its component levels of power, video, and lens control. Since each group should be isolated, we decided that cabling each group individually would not only simplify our project, but would also provide for cleaner, more efficient exchange of signals.

The video signal from the J–box travels down the post through a carefully measured piece of miniature coaxial cable from Belden, type 9221. It sprouts from the base of the post and plugs into a chassis mount BNC connector on the electronics module.

Power from the battery heading to the J–box takes a similar route. A chassis–mounted connector mates with another cable also sprouting from the base of the post.

For lens control, I use the Cinema Products WRC–4 system. My receiver mounts beneath the sled. A short jumper cable plugs into the receiver and another chassis–mounted connector to power the receiver, motor amp, and servo motors. This jumper then mates with a D-Sub 9 coiled cable assembly from Belden Cable.

Multiple connectors were used instead of hardwiring so that the post may be easily disassembled and the cables pulled through for future mods or gimbal cleaning.

All cables exit the smallest possible hole at the top of the post. The lens control cable cable mates directly with the CP motor amp. Power and video cables terminate in the J–box as usual.

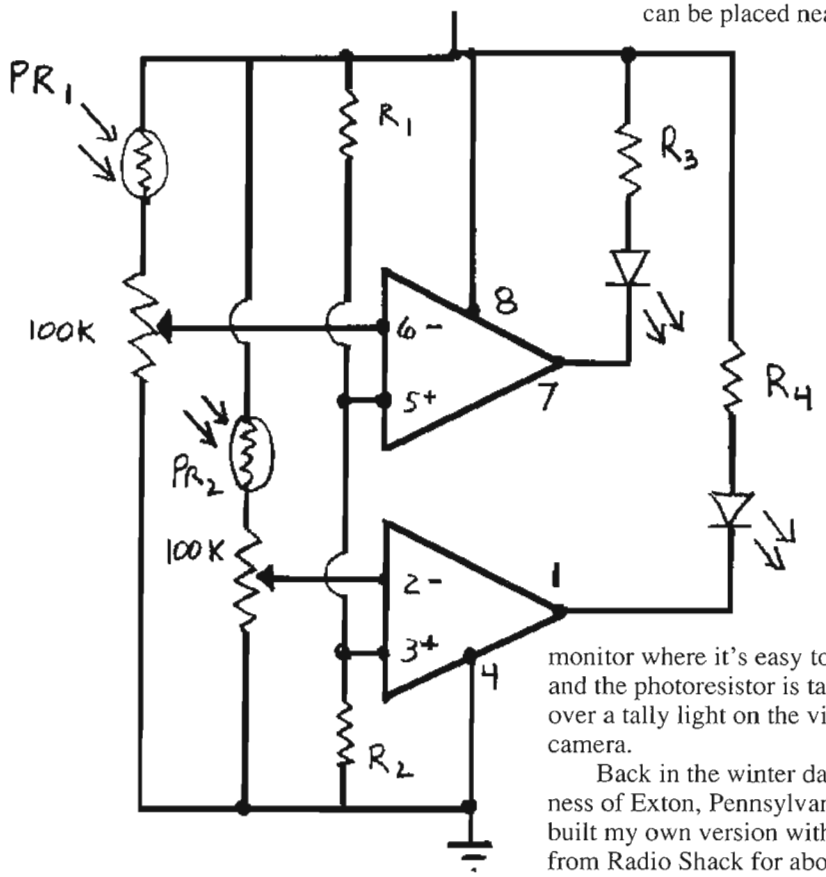
With this rig, dynamic spin balancing is possible, plus the rig sports a cleaner, sleeker profile and has less exposed cabling. This whole mod, including cable, connectors, basic machining, and snacks cost about $100. That's a lot of bang for the buck.

Brant Fagan

Cheap Thrills, Bright Lights

Yes, Virginia, the striker works

During the January workshops in Oslo, Dick Ying showed me his auxillary tally light. It's simple, battery-powered, and controlled by a small photoresistor, so it works with any camera. The red LED can be placed near the monitor where it's easy to see, and the photoresistor is taped over a tally light on the video camera.



Back in the winter darkness of Exton, Pennsylvania, I built my own version with parts from Radio Shack for about $6, then added a $17 plug for 12 volts.

Here are the schematics for a two-sensor, two-LED version. Why two? One for camera run or tally, the other (at Larry McConkey's suggestion) for the "error" light on the wireless focus receiver.

I've never been able to see the error light while operating, and there are times when it's critical to know if the signal's getting through. Because the photoresistors can sense any indicator light, you can use the unit for any purpose you choose. VCR recording, transmitter on, etc.

A fancier solution would be to mix the warning or other signal into the video (similar to the electronic bubble) so that it could be seen on the monitor and/or recorded with the on-board VCR. But I don't think that can be done for $10.

Notes on the drawing: The two photoresistors are Radio Shack# 276-1657 (5 for $1.98!!), R1 and R2 = 470k , R3 and R4 should be between 150 and 2k , depending on input voltage and the desired brightness and color of the LEDs you choose. 5k pots would be a nice feature, but add a minimum resistor in series so you can't blow out the LED!

The chip is a TL082 (RS# 276-1715 @ $ 1.89). For a quad version, try a LM339 (RS# 276-1712 @ $ .99).

Jerry Holway

Classifieds

For sale: Model III Steadicam with 5 batteries, main support post, Seitz internal receiver, main mounting assembly with side to side plate, J-box with 2 video outs, amp bracket, assorted dovetail plates, Seitz fore & aft post connection, (at electronics module end), moveable battery system, monitor support bracket, DeRose handgrip.

Unit also has Seitz installed plug for 24 volt converter system & video playback switch. Monitor cables have been extended on this unit and the Steadicam has all of Seitz electronic updates and electronic protection features. Price $17,000. Call Bob Ulland (813) 294-7274.

More for sale: The most recent vintage, extremely low mileage ARRI 35-3 camera, 120 FPS F-R, Cat# K1.32000.I302058, SN 41335. Purchased 11-17-88.

This camera is sold body only w/ 3 lens mounts, (Panavision, BNC, and PL) and Barton speed control for Steadicam use and eyepiece (no door) for $33,000.

Call Bob Ulland (813) 294-7274.

For Sale: Complete Steadicam Package, Model 2.5, heavily modified sled with fore & aft, side to side, type III post, gimbal and camera platform. Includes six batteries, two chargers, vest and arm adjustable to 45 lbs. $19,000. Call Dave (212) 288-1603.

For Sale: Model I.

Fax (506) 857-4265, attention Charles Day.

Wanted: Used or new Coherent Video Transmitter. Leave message at (33) 93695005 or Fax (33) 93182769.

Wanted: Pre-owned Model 3 or 3A with accessories. Contact L. John Morelli, 19 Miller Road, Hicksville, NY, 11801. (516) 932-3923 or (212) 876-1481.

For Sale: Brand new Steadicam batteries (6), high capacity with dual Micromaster charger (brand new) with custom hard case. Plus many other accessories available.

Priced to sell. Call Robert Stanley at (213) 663-6635.

Next Issue

Exotic gutter cleaning or...

For Sale: Eyepiece tap for Panavision. Fits Gold and Platnium. Makes your rig instantly compatible with Panaflex; no more begging for a "speciality" Panaflex. Only three made. Fits any C-mount video camera. Great rental. $2,800. Also for sale: Full set (16) arm trunions (solid) w/ hardware.

Jerome Fauci, (310) 372-1493.

Nice offer: I am offering, to anyone who is interested, a ground glass for your camera that is a stop & 1/2 to 2 stops brighter. There is no loss of focusability or depth. The resolution is exactly the same as on the normal ground glass.

I have ground glasses for BL's, Arri 3's, 2C's and Panavisions for loan. People who have used or own them include Bob Ulland, Larry McConkey, Jim McConkey, Jeff Muhlstock, Mark Van Loon, Peter Corberr, Harry Sandbank, Phil Marco Fernbach/Robins, Michael Sohrom, Don Trumbull (Apogee), General Camera, Praxis Film Works, Atlantic Cine Equipment and others.

For more information, please contact Ted Flaxman. (212) 206-1818 or (201) 761-7619.

Reports from around the world. Battle testing the new Steadicam SK. Whatever we can say about the "Model Four." Fear of Flying, Part III. More.

If you'd like to contribute, please send articles and pictures directly to Jerry Holway, 448 Spruce Drive, Exton, PA 19341-2020. Or fax me at (215) 524-5946, or call me 524-5979. If you have a Mac, send me a diskette or I've even got a modem. The less I type, the sooner a new issue can be made.

STEADICAM Letter

780 Parkway
Broomall, PA 19008
(215) CALL CAM
Fax (215) 325-9541

Jerry Holway, Editor
Garrett Brown, Contributing Editor

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