

STEADICAM® Letter

NEWS FOR OPERATORS AND OWNERS

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McConkey on Thailand

For three months in the Spring of 1988, Larry McConkey worked on Brian De Palma's new feature, "Casualties of War." The film is coming out in early 1989.

LETTER: Was it any fun?

McCONKEY: Yes. I had never been to Southeast Asia before, and Thailand is now one of my favorite places in the world. I love the people and the country, and that has a lot to do with my impressions of the job itself. It is the only country outside the United States that I have felt truly welcome in as an American, and of course, that made the experience more delightful. But the first few days of work were brutal. The rest of the crew had a week or two to adjust to the climate before shooting, but I had to work the day after I arrived. It was hot, and it was humid.

LETTER: How hot was it?

McCONKEY: The first day it was 120° in the sun, and the humidity made it feel like it was virtually raining all the time. I had a long tracking shot down a dirt street in the Vietnamese village set. Now, I tend to be very careful not to wear myself out during a shoot, and I get as much rest as possible between takes and as much help from the crew as I can, but even so, after four or five takes I was actually thinking in panic, "How can I get out of this place and back on a plane for home?!" Everyone understood what I was going through, because they had gone through it a week earlier. Brian told me to sit down until I was rested. So with the entire cast and crew waiting, I sat for about ten minutes until I recovered. From then on I was very conscious of the importance of staying out of the sun whenever possible, constantly drinking water and the electrolyte solution the nurse was offering, and

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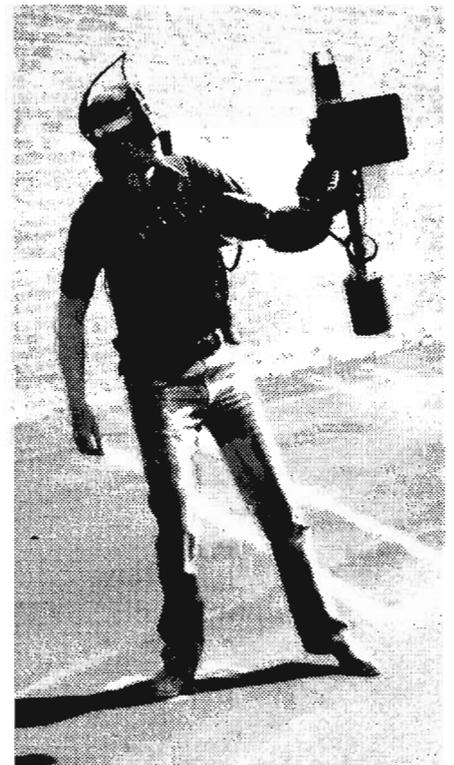
Ancient History

"The Brown Stabilizer"

That's what I wanted to call it. It wasn't just ego (that came later!). I thought it needed a simple, honest, "70's" kind of natural name, a pure name, not a stupid, gimmicky name like "Steadicam." It was Ed DiGiulio's suggestion, which I hated immediately. Of course, as he predicted, the word has now become simply a word, a noble word, meaning exactly what it says, and in fact, I am daily (well, yearly...), grateful that he prevailed and that we didn't call it the bloody Brown Stabilizer!

In any event, I recently unearthed some early pictures, and have been inspired to relate the one-and-only true version of the birth of our noble gadget. So here it is: the truth du jour, supplanting any and all spurious

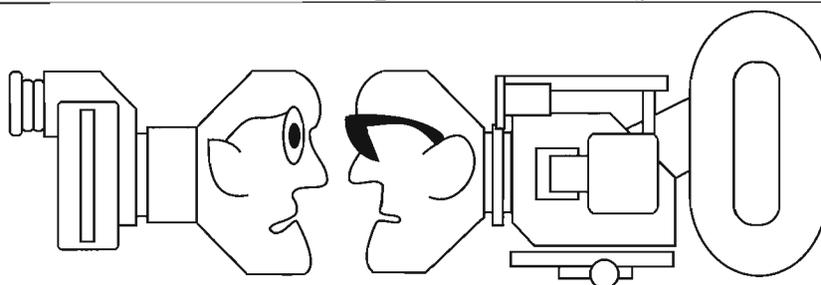
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1975: The first CP version!

THE BLUEDOTS MEET THE ANIMALS

Fun, Fear, and Loathing in Rockport



THE FUN

I wanted to write some verse for the last issue of THE STEADICAM LETTER but, like most of us, had my extracurricular activities and "The Vacation That Refused To Die III" abruptly terminated by the end of the Writer's Strike. This, of course, is hardly a complaint. For many years I have attempted to develop interests which would hold me through the cold winter months when agencies prefer warmer coastal climes and TV movies actually begin to look attractive (even to watch). Finally when I have found these interests, there seems little time available for their pursuit.

Yet I thought a few words about the Maine Steadicam course in August were due. To the instructors who so generously gave of their valuable time and talent: Bob Ulland, Katrina Resevic, Ralph Watson, Bob Stanley and Mark O'Kane--my sincerest thanks. Never have I spent time with such a charming and dedicated group. Katrina gave a brilliant, flawless performance as the actress in every single rehearsal and take of the final test (she even refused lunch), Bob Stanley was his usual patient, supportive and precise self (which is why he goes to England with me every winter to teach), Ralph shocked everyone with his tremendous artistic ability in fabricating some of the most ruthless Wrap Party assaults of David Lyman, Bob Ulland showed us all how it should be done, and Mark O'Kane (in his sunglasses) dared to face off with the local police department in the area of Steadicam Operators' Rights to the Sidewalk. What a group -- I salute you!

As usual, the Model II vests all fell apart and had to be reinforced with mountains of gaffer's tape, a big plus in getting novices to purchase rigs. Also as usual, instructors were housed in what only can be described as "substandard conditions" (looking very much like Manzanar and christened "Motel Hell" by the occupants themselves). Apparently The Workshops won't pay for a change of sheets. I can only say that my housing, advertised as having a "harbor view" (meaning the top of the mast of David Lyman's boat) was adequate - the rewards of being a "VIP". Always remember the three greatest lies: "It's only a cold sore," "Audi, The Art of Engineering," and "We never make any money on the Steadicam class."

Yet spirits were high. We drilled the class each morning in strict Marine fashion as they snapped to attention and yelled, "Sir, Yes Sir!" followed by "I can't hear you, Pussys!" followed by "SIR, YES SIR!!" followed by "Take Seats!" followed by "THANK YOU, SIR!!" Certainly a shock to the rest of the classes, it did get us ready to face another day, prepare us for a possible enemy assault, and become an unparalleled hit at the Wrap Party.

The wonder of the week was heightened (for Mac owners Bob Ulland and myself at least) by the specter of John Sculley who was taking a still photographic course on sabbatical. We managed to get him into the sling a few times (the second time he had it on for an hour) and even take some shots of the event--opportunity is not a lengthy caller. John has a natural curiosity about

things, which is certainly one element responsible for his enormous success. Whether he'll quit Apple and become an operator is, of course, another matter.

THE FEAR AND THE LOATHING

What was it that inspired Mark O'Kane, driving with me after the Wrap Party (and still at night in sunglasses), to suddenly and inexplicably lurch across the front seat and, in a deafening roar that almost drove us both off the road, scream out the window, "WHY DON'T YOU GET A GOD-DAMNED JOB?!!" at a group of ambling, post-dinner still photographers who, naturally assuming the outburst to have been generated by local wranglers of some type of shellfish rather than their photographic compatriots, were understandably taken aback.

Now besides being a brilliant designer, one of the wonderful things about Mark is that he lives in the moment. With speech patterns so fast a listener always has trouble with his first sentence, he's fiercely passionate about his interests and loyal to the end. So his dramatic, if somewhat pedestrian outburst, was perhaps not without cause. It could well have been prompted by the "Bluesdots's" (derived from their use of flashbulbs) previous attempt to reserve two entire outdoor tables at Friday night's packed dinner; a potential altercation at which he was not present. Perhaps it was the guy who came up to me after the Wrap Party and said, "You're pretty funny." (in truth, an accurate comment) only to be followed by, "You're a fuckin' asshole!" (debatable). Mark was present but, sadly,

didn't hear the remark, for surely the gentleman would have seen his own impending death instantly appear before him wearing sunglasses. I would have jumped him myself (a classic to be sure) except that it would have required a lengthy explanation to Sculley, with whom I was having a conversation at the time.

But I have a theory about it all: that the BMW-owning, designer pet-pulling, haute cuisine-munching, competition-stomping crowd of Wall Street has indeed begun entering the arts. With the newly-acquired auto-focus, iris, zoom, backlight-compensated, and motor-driven cameras, being an artist can't really be all that hard, can it? Just take a class. Of course, you'll never have to rely on it for a living, never have to make it a "God-damned job." Perhaps you can just sit by the window in your home and take shots of the scenery when the light is just right, then, after years of these right-brain experiences, finally teach what you've learned to others. So they have arrived.

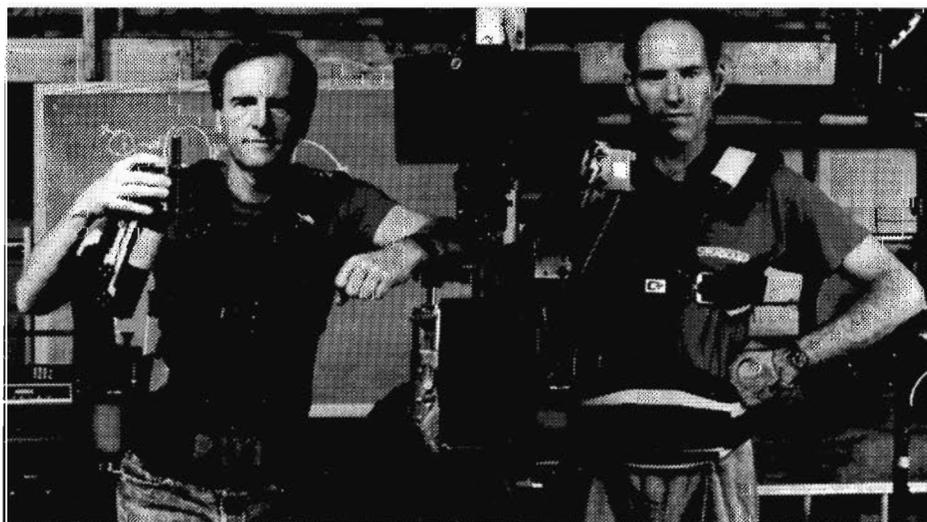
Viewed from such a perspective, certainly Steadicam operators must be a rather appalling lot (even with only one Aussie in the class). Certainly we're louder. Yet what we may appear to lack in civility, we certainly more than make up for in hard work,

enthusiasm, and camaraderie, three qualities quite foreign to their world.

Now keep in mind that this comes from one who is more than capable of being a snob, one whose grandfather was a doctor and traveled the world at the turn of the century shooting glass plates and could, had he been at The Workshops, have boasted to his credit shots of cannibal feasts, William Cody, and the famous still of Mark Twain (with whom he was friends) leaning back in a trans-Atlantic steamer deck chair. Yet for some reason, his grandson likes to spend time with grips, being out there humping on location and sweating it out in screening rooms, a life of pain and struggle-- a working man's profession, yet one of pride, passion, creativity, and surprisingly, glamor. How strange.

In the end however, one can hardly expect others to understand all this. To attempt an explanation would undoubtedly be folly. Perhaps the best we can do is lean out of cars and shout "Why don't you get a God-damned job?!" as sincerely as we can and hope someone, somewhere, eventually grasps the concept.

Ted Churchill



Applepals John Sculley and Ted Churchill test the new Cinema Products Executive Docking Stand

Association Notes

We are proud to welcome Alfred Chrosziel Film/Video Technic, Optex, and Panavision to our group of corporate members.

The elections are over, the results are in. Janice Arthur, Garrett Brown, Ted Churchill, Jerry Holway, Larry McConkey, Jimmy Muro, Steve St. John, and Bob Ulland have been elected to the board. Soon we will get together and chart a course for the future. Some possible issues and ideas: Pushing for more Lightweight Panaflexes, association sponsored reduced advertising rates in major publications and journals, seminars for producers, subjects for the newsletter, a phone number in Europe, and equipment resource lists. A high priority for the Association is to boost our advertising, especially outside of the USA. We need input from the "Non North American Operators" on the most effective publications and directories in which to advertise. Please advise us. Soon. By the way, we're up to 108 active and 28 associate members, and 29 others are subscribing to the newsletter.

STEADICAM Letter

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just moving more slowly. The camera grips were great, both English and Thai. As soon as I finished a shot someone grabbed the Steadicam from me while someone else slapped a bottle of cold water in my hands and someone else guided me to a waiting umbrella and applebox until the next take. After the first week I began to adjust and it got much easier. Monsoon season hit a few weeks after that. It would rain hard for an hour or two sometime in the middle of the day, but also there was a lot of cloud cover, and that knocked the sun down. It felt at least twenty degrees cooler, and it was a manageable 100 degrees or so. We all thought that was delightfully cool.

LETTER: How did the equipment hold up?

McCONKEY: Video doesn't seem to last in Thailand, any kind of video equipment. The Steadicam monitor actually held up better than anything else but it went down after about a month. The coatings on the monitor just came apart and deteriorated with all the humidity, and the tube shorted out. On my Steadicam, the cables to the monitor have connectors, so I am able to take off the monitor and put up a backup. In this case we had a Panaglides style monitor that was being used on the

'A' camera and with a little bit of rewiring, I was able to use that. It had a little better resolution and brightness than my own backup — an external viewfinder made by Sony for ENG cameras — but still a poor substitute for the original. I ripped out the electronics in the base of the Steadicam and sent it back to John Seitz along with the monitor. He was able to repair it and get it back to me a few weeks later, but in the meantime I went through four of the Panaglides-style monitors. One after the other they blew up, shorted out. When my monitor came back, that was a godsend. I went with it the rest of the job. So if you go to Thailand, bring some backup for the monitor, or if necessary, another Steadicam.

LETTER: Did anything else fail or present difficulties?

McCONKEY: The biggest problem was rust. You could sit your arm out in the morning, and you could watch the rust form. By the end of the day there was visible rust in a number of places. You had to hit it with WD-40 or something to get the rust off and keep more from forming. At one point there was a joint on the arm near the vest that I forgot to lubricate for a week or so. I pulled it out one day and it wouldn't move. It was rusted solid. It took me twenty minutes to get it all free again.

LETTER: What camera did you use?

McCONKEY: I used the Panavision Lightweight, with 'C' series anamorphic lenses. Most of my scenes had dialogue, so I had to have a quiet camera and that means either a Panaglides or the Lightweight. I really don't know how I'd survive without it. It's by far my favorite choice.

LETTER: How was it working in the wide format?

McCONKEY: I've done quite a few anamorphic movies now. I approach it with a certain amount of caution, but I had a lot of fun with it, actually. I enjoy it more than spherical, particularly after this experience.

Most of that has to do with the extra challenges and possibilities of composition, especially with a moving shot. You can put somebody right over at the edge of the frame and have him walk all the way through it and then pivot around him, and that makes it quite a bit more exciting. On the other hand, it can be harder to hide the tendency of the Steadicam to roll with that huge, wide frame across the theater. You have to pay more attention than normal to keeping the camera level.

LETTER: Were the Steadicam sequences used throughout the movie, or were they reserved for special moments?

McCONKEY: Some were real pivotal moments, others were a way to just keep the narrative going. It's a Vietnam war story. A small squad goes out on a mission and atrocities are committed. Sean Penn is responsible for them. Michael J. Fox, a guy who's new to the country, is appalled and ultimately, wrestling with his conscience, decides to try make the others accountable. I shot a number of scenes where the squad was marching over bridges, through villages, along mountain trails, tracking shots that would change, for example, from two, then three soldiers in frame, and then down along the line of men to someone else, and so forth...

in one unbroken shot we'd get a lot of exposition. I also shot some key dramatic moments. There's an abduction of a woman, which is central to the film. The whole abduction scene is done as a single, unbroken POV shot.

LETTER: What sort of challenges did that present?

McCONKEY: I don't like what you normally think of as a POV with a shaking hand-held camera which calls attention to itself and you say, "Oh, it's moving around so badly, this must be point of view...or else bad technique." The Steadicam affords you a way to get a look at the world that's a little closer to the way we see it. Our eyes don't let anything jiggle or shake unless there is extraordinary vibration. Our sensory system manages to stabilize the image into a simple, clear vision.

What's most difficult is to imitate how your interest moves from one subject to another. Your eyes are flicking with incredible speed back and forth through this whole tapestry of experience around you and putting together a kind of compilation picture of the world that makes sense. That's something we can't do easily in film. We've got a single frame, we've got to move it around in some way that links one idea to another, that suggests the way your mind does it.

You've got to come up with a kind of technique, a kind of convention, some sort of formal language that you use to suggest what our eyes do. One thing that seems to work is locking on one part of the scene in the frame and keeping it there through a move, perhaps rotating around it, and just at the right moment letting it slide off and finding something else and hanging on that for awhile and then letting that slide off. This scene was perfect for that kind of technique.

Soldiers came into the village at night, searching from one hooch to another until they find a woman to kidnap. We moved down the village set and we'd slide off to the right of this little street into one hooch, look into it, back out, slide across the street to another one, back out and so on. Laurie Shane, the gaffer, was holding a red spotlight, flicking it on and off as if it were a flashlight that I was holding. We had to agree on exactly what I was "looking" at. I'd would

first "look" at a woman in the back, then I would pan down to "look" at the child at her feet, then Laurie would flick off the light and we would

"You've got to come up with a kind of technique, a kind of convention, some sort of formal language that you use to suggest what our eyes do."

move on. In other words, the camera and the light were coordinated. It almost matched the way it would have worked if the light had been hardmounted on the camera, but not quite. We started to examine the subtleties. Do you tend to move your eyes first and then the flashlight? No. You tend to move the flashlight to where you want to look first, and your eyes follow a split second later. We used little details like that to make this thing work.

After about 20 rehearsals and takes, I had discovered that the least possible panning and tilting was the best way to go. We finally ended up with one move that sinews its way down the street like a snake. It's a very efficient move from one place to another until finally, we reach the last hooch where it turns into an objective shot as the soldiers grab the girl.

LETTER: Who was involved in discovering the way the flashlight worked, and other decisions?

McCONKEY: That was mostly my decision. Brian DePalma always gave me all the support and help I could want. But in return he wanted a great shot. How I did that was up to me, as the operator, and Steve Burum, the DP. Brian would lay out a sketch of what he wanted. Quite often that sketch would be very explicit in many ways: the composition, what was important in the shot, how tight something should be, how wide, and the speed of the move. He had a very good idea of how it should look on the screen, but he didn't care how I accomplished that physically with the Steadicam. That was my job.

Most of the time, I insist on rehearsing without the Steadicam for as long as necessary until all those things that can be determined without it have been settled, that is, the basic blocking with actors and extras, the

overall rhythm, and various specific compositions. I also spot possible flares, shadows, and other problems during these walkthroughs. It actually constitutes most of the details of the shot.

On this film, the three of us would walk through first using our hands until the actors and camera had preliminary marks and the shot made sense. Then we'd get our stand-ins and start working with a viewfinder. At that point whoever had the strongest idea might take the viewfinder and say, "How about this?" Once Brian and Steve and I had worked out the significant points of the shot together, then I'd start working on my own.

If anything didn't make sense to me, I'd ask for a change and almost always it would be accepted by Brian. "What if I went a little to the right here?" "Fine." "Could we have a cross, I'm feeling like it's empty here." "Yeah, let's get a cross." I had more support than you can imagine, but if I ever made a wrong decision, something that wasn't consistent with Brian's sense of aesthetics or appropriate for the narrative, I'd lose a little credibility and he might not be so fast to listen to my next suggestion. So I had to be a little more careful than on most jobs to make the right suggestions.

Then I started working on how to incorporate all this into one shot that would flow from beginning to end. I've always believed that in this kind of Steadicam work, once the camera starts to move, what you need to have in mind is where it's ending, and your job is to make sure that every move helps to get you there in the most direct and efficient way possible. Anything that gets in the way of that goal is wrong. You should feel yourself being drawn along. It should be one arc, one move that has lots of little nuances but moves inevitably to that final ending frame. That's what's difficult, to take all these little compositions and moments and thread them all through until they make one flowing shot. I often think about this ahead of time, and the suggestions I would make to Steve and Brian were the kind that would allow me to string everything together. I was fortunate in that Steve Burum is exceptionally

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sensitive to the same concerns. I could always count on him to see where the shot was having problems and suggest a change to fix it. Once we started shooting, he would notice every little deviation from the ideal, and he not only let me do another take if I wanted one, he insisted on it. Sometimes we'd go to 10, 20, or 30 takes to get two that we all thought were perfect. It would generally take half a day to do a serious three minute shot like that.

LETTER: What was the most difficult shot in the movie?

"... not just the control and precision which was demanded, but also I had to move the Steadicam so that it matched the way a crane or a dolly might move."

McCONKEY: The most *frustrating* shot for me was an ambitious scene where the entire village is burning to the ground and the American soldiers are evacuating the villagers. There was a lot of pressure. The special effects department was trying to control the burning of this huge set so that they could repeat it several times. The scene was long, we had hundreds of extras, and it took so much time to reset that the odds of our getting 2 perfect takes with the right light, performances and camerawork began to look pretty slight. This brings us to the importance of a good monitor. I was using one of the Panaglide style monitors. The end of the shot required a whip pan with a lock-off on a very precise frame. The way I generally do that sort of thing is to glance ahead to where I'm going to land, and then I just throw my whole body into it, pull the camera around, and try to stop the camera exactly where it's supposed to be. Invariably it's never quite right, so just at the last moment, as the last bit of pan or tilt is slowing, I'll watch the monitor and make an adjustment. But with the Panaglide monitor, the resolution is so bad and it has so much blooming and streaking problems that unless there are very distinct shapes you can't see what is in the shot until the camera comes to a complete stop. In this case, I was looking for a gap in the

middle of tall weeds - a gap I couldn't see on the monitor. Invariably, I finished with the wrong composition. We finally had to redo the shot and engineer a cut to end the sequence.

LETTER: Were you ever looking for or designing in possible cuts in the middle of the sequences?

McCONKEY: No. Brian is very clear about what he wants. He has thought about the way he plans to cut each sequence, and if cuts are appropriate, they are already part of the plan. There were some long sequences that by design had no cuts for 3-4 minutes, and so, they simply had to work from beginning to end. If I really thought I couldn't do a shot, I'd certainly speak up. I didn't have to do that on this film. But never did I suggest (because it would have been inappropriate on this film) that we do something to make the shooting easier or faster. That has nothing to do with the way Brian DePalma makes movies. The shots that he gave me on the dolly and the Steadicam were among the most challenging I have ever done.

LETTER: Did you have to match your stuff with that of Doug Ryan's, the A camera operator?

McCONKEY: The style of the shooting was dictated by the cameraman, Steve Burum. His goal, he told me outright, was to try to make a film where we used the Steadicam throughout the film, but no one could tell. He wanted it to be interchangeable with the rest of the camerawork, with a couple of noticeable exceptions such as the POV work. We tried to do shots that absolutely looked like a dolly or a crane, except that if you were to look at them carefully, where did they put the track? And by that I mean not just the control and precision which was demanded, but also I had to move the Steadicam so that it matched the way a crane or a dolly might move. We didn't do very many radical Steadicam shots. As much as possible, all the moves were unobtrusive.

LETTER: Was there much discussion about the script on the set?

McCONKEY: No, not out on the set. It was expected that we had all read the script, knew it well, and understood what importance each scene had to the overall film. That was expected. I would always try to

sound out Steve and Brian as to smaller touches. I'd usually do that early on. When we were setting up the shot with the viewfinder, I would ask if this should be a "startling" move or "ominous" - descriptive, emotional terms like those - I'd ask questions and if I was right, I'd get a nod from Brian, but if I was wrong, he'd let me know that very clearly. I quickly became attuned to what he expected.

LETTER: Do you prefer working on a film like this over a long period of time?

McCONKEY: It is at times really frustrating to come on a film in the middle of the schedule and just do a little bit, to just start to get into the flow and have an influence on things and then leave. On the other hand, it's also terribly frustrating to be on a film for a long period of time and not be used much. That is probably worse.

LETTER: How much were you used on this film? Were you used every day?

McCONKEY: Not every day, but maybe every other day. There were certain scenes that were planned, executed and accomplished as a Steadicam sequence, and the average length of the shot was about two and a half minutes. But every once in a while I'd pop in and get a shot that they just couldn't get with a dolly. Here especially, the Steadicam had to look like a dolly, because it was being directly intercut with dolly shots, both static and moving. I also did some second unit DP work, and second camera as well. So I was kept busy throughout the film.

LETTER: How was the Steadicam used on this film that was different from other films you have worked on?

McCONKEY: I find that on a lot of films the Steadicam is seen as a way to do something more quickly or easily. Burum and DePalma use it more organically. It is simply another tool to be used where appropriate, and it is given the same amount of time and care as, if not more than, a more conventional piece of equipment. They both are unwilling to give up the control or precision they are used to with a dolly, so they demand a lot from a Steadicam Operator, but I got the support I needed to do that. Also,

Brian devised several scenes which he wanted as one unbroken shot... that's really the heart of it for him. They involved such complex moves that it just couldn't be done without a Steadicam. A couple of scenes went up to four minutes in length and they were shot without any additional coverage. So when Brian gets to the editing room and he clips those shots in, they had better work or he will have some serious editing problems. That's real gutsy directing and I enjoyed it very much.

One interesting aspect of this style of shooting is that the cast and crew got a chance to work with a whole continuous piece of drama, almost as if we were on the stage. We could all understand how it was working from beginning to end. Everybody got a sense of the flow, the importance of each part of the scene. Video playback was very important. Brian, Steve, and I would watch the playback, generally from my deck on the Steadicam, and we could judge how the shot was working, what parts were too slow, where there was a flaw in the operating, or whatever. I was rarely asked to move on until I felt it was as good as I could get it.

Casualties of War

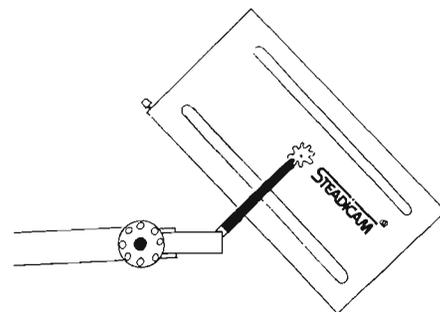
Producer	Art Linson
Director	Brian De Palma
Co-producer/Production Manager	Fred Caruso
Director of Photography	Steve Burum
Gaffer	Laurie Shane
Second Unit Director	Eric Schwab
Stunt Coordinator	Jeff Jenson
Special Effects Supervisor	Kit West
Camera Operator	Doug Ryan
Steadicam Operator	Larry McConkey
Focus Puller	Allan Blauvelt
	Danny Shemerdine
Clapper/Loader	Robert Bridges
Key Grip	"Chunky" Huse
Set Grip	Tony Turner
	Gavin Home
Chapman Crane Operator	Ken Reed
Studio	Columbia Pictures



Model III Monitor Mod

After ruminating over Garrett's first article on S.P.S. (Steadicam Precess Syndrome), I concluded that a rack-mounted monitor hinged at the center of gravity would be mighty useful. As I see it, the pivot of the monitor is death on good trim, but the need for clear eyeline is strong. So a compromise is made in the physics demands of the beast. At this point, a Model III owner has at his/her/its disposal a number of modifications to make both the entire camera platform rack side to side, and to move the entire electronics package fore and aft. This missing piece is a perfectly trimmed, yet still totally flexible monitor.

In fig. 1, we see a monitor as it appears on a Model III. Its design is tremendously helpful in fore 'n aft trimming, especially, but not always, in conjunction with the battery pack. Now to the drawbacks, and my idea for a solution. (is that a Scientific Oscar I doth smell, or just burned toast?) If the monitor were to be refitted as per my design in fig. 2, you could 1) Tip up and down to suit eyeline, 2) Pivot side to side when necessary, and 3) move the mass of the monitor fore and aft with the gear rack.



I'm interested in seeing if this idea pans out. If some bold soul does it, talk back through the Letter.

...For Model I and II owners, I've got a docking bracket that can't be beat. It's made out of drop-forged steel, and so far the prototype is amking me much happier than the stock docking bracket from CP. Something about trusting \$100,000 in goodies to easily fatigued aluminum makes me nervous. Talk to McConkey about broken docks...

And lastly: I think the single topic, in-depth articles are a great idea. The battery charger article is hopefully the first of many. How about one on the ins and outs of international shipping with your gear. What's a carne? (Yeah, I know- it's a steak).

Peter Abraham



Submit winning caption for this photo and win a free "too big for the hat" Association patch. Example: " Steadicam Precision Drill Team rehearses for 1976 Rose Bowl Parade."

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memoirs, dubious interviews, doubtful brochures, and slick video-magazine segments...

In 1929, Lee (Vacuum Tube) DeForest patented using a vacuum to silence a movie camera in a bell jar. This item popped up 41 years later in my very first patent search and squashed my first "invention," a vacuum-blimp for the Arriflex IIc. With hindsight, I should have persevered, since it would have weighed about five pounds, and might even today be better than lugging a BL-IV around, however...

I rebounded to another problem - how to improve the look of my hand-

rebuilt as a parallelogram mini-crane, and my ACL acquired a fiber-optics viewfinder in order to secretly shoot a commercial for Connecticut Natural Gas.

It almost didn't get finished in time. My basement-type machinist, when asked to drill the last few holes, came out with a line which we still use: "I can't stay up, I have to supervise men tomorrow!" Needless to say, this guy never worked again in the "brown stabilizer" business... We ended up at 3 a.m. in Bridgeport, Connecticut in a vast old railway machine shop, with the owner himself trying to remember how to operate his locomotive lathe in order to make us the last



Bungee cord suspension system for pain aficionados



"The Pole Rig" appeared in the spring of 1972

held shooting. I had mounted a camera on a long pole rig slung below a helicopter for shooting into the windows of moving Subarus. It was surprisingly stable, except in pan (the axis around the pole). I was intrigued and built a long "t-bar" rig of plumbing pipe, which was stable in all directions as one ran around the countryside. It was clumsy and rolled a lot, but the footage looked surprisingly good. I suppose if I had been satisfied with this gadget (which gets re-invented from time to time in this business, e.g. "shaki-cam" and "pogo cam"), the project would have ultimately fizzled, but I couldn't quite leave it alone. In the spring of 1973 the "pole" as it was still known, was

few dinky parts.

It worked, better than the earlier ones, and the camera stayed level as one boomed up and down, but carrying it was a big strain on the old hand. We hired the biggest, strongest cameramen in the land and sent them all home in a pillowcase after a day with the "Pole Rig"! So I built a body support which floated the whole contraption on the end of a nine-foot bunji cord running through yacht pulleys, and which provided my first taste for vanquishing Hooke's law, as to the "rate" of suspension systems.

The contraption was as slick, in this regard, as our present-day arm, but applied all of its massive torque to the what doctors call "that" muscle in

the operator's right shoulder. By now it employed a Kenyon gyro stabilizer and battery in place of the t-bar and weights, so you can imagine how excessive was its stability, and how impressive was the impact of seeing an operator looming around a corner carrying the Lusitania suspended from "that" muscle, fiber-optic bundle pressed against one eye, head tilted upward in a vain attempt to body-english some tilt into the shot, groaning weakly, vertebrae shifting like tiddly-winks...

It was beginning to sink in that this device might not be what the motion-picture industry was waiting for. I loved the results and knew that I was the only one in the world who could make such shots, yet it was also clear that none but crazed obsessives would endure using this contraption. We were shooting amazing commercials, with clients and crew signing agreements-of-secrecy. I had fabulous demo reels in 16mm and both Panavision and Cinema Products were interested, but both said they wanted to see a demo in 35mm (Oy!)

All the spare dough from my commercial-production company ended up in little machine shops, and did they ever see me coming! For example, in an attempt to make the camera pan and tilt independently, I

Muro Flies in Jamaican Jungle

I'm sure every one of you is familiar with "standing by" to the point of stir craziness. We're living in a world where a distant location means no escape for the "standing by" Steadicam guy. Stir crazy is putting it lightly. Entire species have become extinct between some Steadicam setups. Such was the case on location in Jamaica for the film "Finding Maubee", starring Denzel Washington and Robert Townsend. After a week in the jungle we (the crew) began to realize that Jamaica sounded nice on the phone, but what was this fish head doing on my plate?

The director, Carl, seemed a deranged lunatic. He idolized Hitchcock, a bottle of rum, and the most difficult camera angles imaginable. The DP was no better, sticking 12K's six feet from the actors and about two tons of glass in front of the lens. This was his idea of a gift to the guys who had to look (or tried to look) through the lens. Somehow, however, I grew to love both these guys. We had a wonderful crew, with a lot of local industry people from Kingston.

"Trau gave me the snarl of the decade. The director replied, "Trau's got one." I thought, "What a miserable contraption this must be."

Trau, the key grip, had the sternest, most serious face. He hardly ever smiled. While scouting a valley where "Ubu's hut" would be built, Carl mentioned that there was always Trau's cable shot... if we have time. I immediately blurted out about Garrett's cablecam. Which, I said, was available to me.

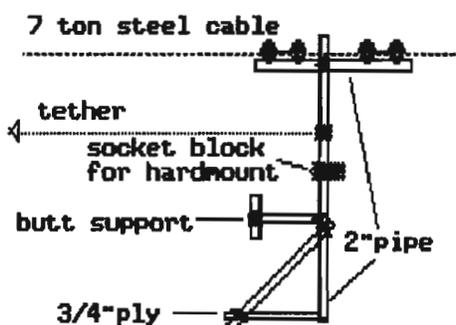
Trau gave me the snarl of the decade. The director replied, "Trau's got one." I thought, "What a miserable contraption this must be."

Four weeks later, we got to the location. Trau's severe countenance remained, but he had proved himself

the most energetic and helpful person on the set. His entire wardrobe consisted of four pairs of tattered shorts and some docksiders. Crescent wrench and walkie in hand, he ran one hell of a department, and he had gained the respect of the entire crew.

Heavy rains had turned the hillside to mud. Trau ran a very heavy cable down into the valley to ease the pain of humping heavy equipment down the slope on our backs. I had given up harrassing the director and was trying hard to make

Human Cable Rig



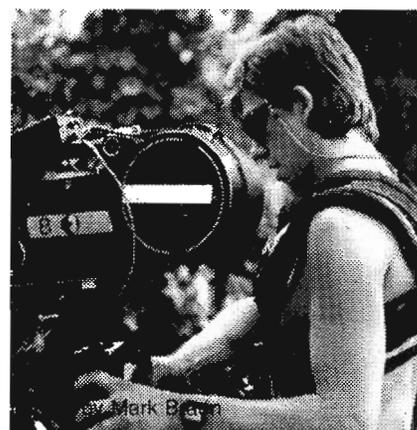
sunbathing look like a constructive job. It was Paul Birkett, the A camera operator, who suggested the Steadicam. I rejoiced. I knew if we did a step-off at the end of the cable run, we'd have the Steadicam shot of the year on our hands. "Last year it was Bobby's season opener to Vice. This year you and I will step into the honorable annals of history, Carly, baby!" Needless to say, I was brown nosing.

For safety's sake, we first experimented with the hard-mounted version. At the ends of a four foot piece of pipe were two sets of pulleys to ride on the cable. The vertical member was a piece of two inch pipe, and below that was a short cross piece to sit on, and below that, a foot rest. The U-bolt version of the hardmount was bolted to the two inch pipe. Drop speed was controlled by a tether. This is the best way to execute a shot like this, hardmounted and strapped in.

Immediately I realized that "balance-wise" we were dealing with the Skycam concept. The test shot started off wide and slowly tracked into a two shot in front of the hut. Okay but boring. Carl started calling for the step-on-and-off version.

Trau removed the seat and footrest, added a small platform for me to stand on and a butt rest for safety and comfort. I was going to have to operate one handed, one on the rig, the other holding on. The speed of the shot demanded that no safety rope be slipped on and off.

We started high above the road, three tiers of scaffolding up, locked off. As the jeep approached, the camera trucks right, and I step on to the contraption. I took a pretty severe risk and operated this opening as a two-handed deal. Strict communication with the grips was essential. Begin the move only on my cue, after my right hand drops from the arm and grabs on to the main support... for dear life. We'd let the sucker go, hidden in a pan, just as Denzel would leap from the vehicle. This part was easily scored with a 20mm lens. The aerial track could have been a little tighter, but it was a one take, burning set deal, and wider was safer, plus it brought a new perspective to the shot. I could reveal the hut sooner in the



background, and for a fleeting moment it would work as a vista before it rapidly closed in on Denzel as he frantically questioned bystanders in front of the hut.

Even though I communicated via wireless mike strapped to the vest, cueing the speed of the move was tricky. By the time the guys on the tether responded to me, it was already



too late. Speed changes had to be called in ahead of time. At the bottom, someone I trusted cued me to step off. At this point, the speed was so great I couldn't glance away from the monitor, or I'd lose the talent from the frame.

There was a tree that passed in the foreground that let me know the

"Carl is a nut for crazy shots, and too many ideas had been blown off due to budgetary restrictions and local problems. He wasn't going to let this baby go."

moment was near to jump off. After the step off, it remained a one handed deal. The camera pursued Denzel in a dead run just after he runs by. The shot ends as we pass some bushes covering the lens, and it match-cuts to another setup that begins in the same bushes.

Towards the end of the third day, it was clear we weren't going to score this setup, but Carl convinced production to return the next morning. We'd then bail for the next location (in theory, anyway). Carl is a nut for crazy shots, and too many ideas had been blown off due to budgetary restrictions and local problems. He wasn't going to let this baby go.

The next morning, huts burning, everybody was careful not to screw up their parts in this nightmare. The first take was the safety take. Good. The

fire was doused. Then once the security of a good take was in the can, we could live a little bit on the edge. Increase the speed. More flames. The third and final take was by far the most compelling and dramatic. An early step-off (near disaster) allowed another split second for Mr. Washington to run towards the camera, passing in a closer shot, before being pursued into the bushes. The spontaneity of this type of moment can't be set up intentionally, but it's what one remembers best about the whole shoot.

Jimmy Muro

Embroidered Logo Patches Now Available in Black and Silver (and maybe Green)



To order your patch, specify quantity and size. Medium fits on a hat. Large doesn't. Call Diane Bowersock for prices and ordering information. (215) CALL-CAM.

Quirk found in GUTT

Betacam defies trim

Although a problem was noted as we went to press with the Grand Unified Theory of Trim, version 1.0, we felt in the interests of science, clarity and brevity, that we ought to publish what was known at the time.

For lack of a better name (uncharm or oddspin just doesn't do it for me), we'll call the anomaly "The Betacam Effect". It has nothing to do with camera weight per se, but with the distribution of weight in the Betacam, LW Panaflex with anamorphic C series lenses, or Panavision's Optimax 3-D system. This effect may also be felt in any long/heavy camera or those silly guns in Aliens II.

When the rig is adjusted for sweet trim according to the rules of the GUTT, and when one sets the proper bottom heaviness by the "three second drop from 90° to vertical rule of thumb" (phew!), the rig is extremely sensitive in side to side trimming. If one then tries to drop the camera from 90° to vertical *side to side*, the darn thing just barely makes it to vertical... it's almost neutrally balanced side to side. This difference in side to side vs. fore and aft sensitivity may also be present with all cameras, but not really detectable until one works with the Betacam.

When I work with the Betacam, I set the bottom-heaviness with a one and a half to two second drop *fore and aft*. This allows reasonable control with side to side balance, and not too much pendular action or difficulty in tilting.

Why this anomaly exists confounds me. Can anyone out there shed some light on this phenomenon? Help!

Jerry Holway



"Steadicam Spoken Here."


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The J Bracket

Yesterday I spent a few hours with Garrett Brown discussing all the Association chores I needed to address. One was to write an editor's column. I'm still working on the others. But first we talked about an idea of his for an invention, and we drifted off to wonder what life might have been like in the past. Had we been there, would we have been able to discover, like Copernicus, that the earth revolved around the sun, or could we have invented the toilet? At any point in history, could any group of fairly intelligent folks who shared ideas have come up with the technical and philosophical innovations necessary for the development of mankind? Or was it only luck and flashes of lonely insight that has changed the way we live and think about the world? And what, if anything, does the Steadicam Operators Association have to do with all this? I'll try to explain.

After my conversation with Garrett, I fought the traffic jams, walked my dog, did the dishes, and settled in for a quiet evening. But I had to return a call to Liz Ziegler. We talked for awhile of other matters, and then we eventually got around to discussing Seitz's new side-to-side plate. Liz, a serious machinist, wondered if it had a little bit of play in the lead screw. She felt some play was helpful, because if a correction is made in one direction, one can feel in the screw which way to turn it the next time to get the desired result. If there is no play in the lead screw, one has to remember both what was done before and which rotational direction produced what result. It's a nifty insight, perhaps one that could come only from a machinist. I immediately pulled out my rig. There was some play in the screw and Liz's idea, of course, worked like a charm. I figured I'd get the idea into *The Letter* somehow.

Then I happened to watch a segment of the PBS series, "The Mind." In an experiment, some aging rats who had spent their lives isolated in featureless cages were suddenly thrust into a complex physical and social environment. At first the rats

withdrew, but soon they were exploring and interacting with other rats. In time, they got better and better at solving problems. Brain sections showed that the number of new synapses grew by 2,000 per neuron, or by as much as a trillion new connections in the entire brain. The old rats even lost weight and gave up smoking. I sensed this experiment was important for Steadicam operators, but the phone was ringing.

Jimmy Muro called to discuss how to shorten and focus his draft of the human cablecam article (in this issue). We decided that the exact technical information (i.e. how to do it) was of much less importance than how he and the others on the set were able to get together and solve the problem. The solution wasn't automatic, it didn't just happen because the technology was there. The conditions on the set and the relationships between Jimmy and the grips and others allowed them to extend the repertoire of Steadicam shooting. Although no one was going to be in that exact situation again, we felt that outlining some of the pitfalls and concerns would be of great value. Progress was being made on putting the December issue of the newsletter together.

And then it sort of came together. Operating a Steadicam is complex; it's part physical, technical, and conceptual, but above all, it's a business. What we can do for a picture still is new and largely unknown to most of the film world. The "Steadicam Mystique" can work for us or against us. Almost every day, there are questions, insights, tips, and stories that come my way. It's part of my job to make sure that the flashes of our individual insight don't get lost, and mistakes in our thinking and practice get corrected. Without the right bracket or mod, we can't even approach a shot. Garrett's and Arnold DiGiulio's articles on trim in the last two issues shook us free of previous dogma. Through the newsletter, we can learn to improve our technical understanding and our technique. But our Copernican-esque Association (he was and we are

concerned about rotational realities and forces in our universe) must also have an effect beyond dynamically balanced rigs and fancy modifications.

The purpose of our Association is to get more jobs for our members and to make the jobs go better and easier. Through the database, we can connect operators, producers, assistants, gear, and backup support. We can take a lot of real or imagined hassles out of using the Steadicam. Our columns on operating and advertising will make it easier for all of us to survive.

In the next few months we'll place more advertising in a wide variety of publications and perhaps set up a European phone number and base camp. We need help from the members to accomplish this and other goals. One possible service will be to buy advertising space wholesale in a publication and resell the space, at a great discount, to our members. Diane Bowersock, our secretary, is making it much easier and faster to administer the database, and that gives me and Garrett more time to promote our craft.

It's my belief that this interaction of concepts, stories, and techniques will make us better and more successful operators. At the very least, if human beings have brains with capabilities equal to those of rats, there is hope for the industry. While we learn the physics of trim, producers and cinematographers can be successfully approached about our craft. We can change the way people think, as Ted Churchill so eloquently put it, about "our god-damned job."

Jerry Holway



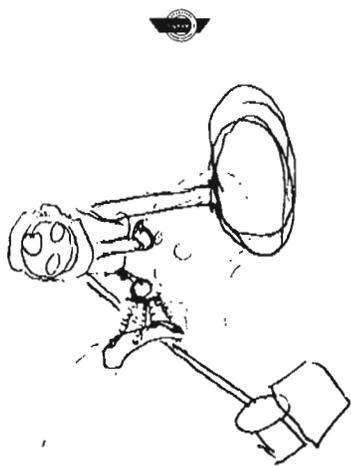
Deadline for Next Issue

Please submit your articles and photos by **February 20, 1989**. The maximum size for photos is 8 inches wide by 11 inches tall.

History continued from page 9

It seemed quite promising, although it needed a bit of practice(!) I set out to make a final demo and had a job lined up on which to try it - an Arnold Palmer sweater commercial, to be shot on a golf course in Latrobe Pa. At the last minute, Palmer's manager notified us that he wouldn't let Arnie sign any kind of agreement-of-secrecy, so we used a tripod for the shoot, and crept out onto the course again at twilight to shoot the last few shots for the demo. I had a suspicion that the footage might be great, but my Lab account with Deluxe General in New York was stopped two days later because of unpaid bills. I had an appointment with DiGiulio, a plane ticket bought on credit, and no dough to process the film. I went to L.A. anyway, in the hope that Deluxe in Hollywood had not yet been notified I was a deadbeat. I walked in to the lab only to find that they would not release either the negative or the print. My clothes were threadbare, I hadn't eaten for a week... *(HOLD IT! - there is serious doubt about this part. Maybe my lab account wasn't closed. Maybe I made this up in some interview, but so what? It doesn't matter - it's still plenty exciting!)* Anyway, I don't want to cast doubts on any other parts of the story, so I'll check it out and report back. OK? *To be continued...*

Garrett Brown



Another mysterious drawing from 1972. Could this be a spring loaded hat for floating a camera on your head?



1974: Garrett's final prototype with arm and fiberoptic viewfinder

Classifieds

Available: PAG fastchargers, for one, two or four Steadicam batteries. Call Derrick at Whitehouse AV. (213) 479-8313.

For sale: Steadicam Vest: Model I with new padding and new velcro. Call Brad Olander. (619) 483-1348.

Wanted: Used Steadicams, Models I, II, or III's. For cash, trade, or consignment. Call Derrick at Whitehouse AV. (213) 479-8313.

For sale: One historically significant CP fastcharger, Model NCQC-12. Seitz maintained!! \$2000. Call Ted Churchill, (212) 691-0536. No Bluedots, please.



Paleoscene "Pole Rig" Hominid unearthed in Pennsylvania bog

Ad Dendum

Now that you've had time to digest my first column and your holiday dinners, here's some additional food for thought. One of my agency's accounts—Wendy's Old Fashioned Hamburgers in central Florida—utilizes a very good and simple system for establishing their advertising budget. It's one that you, as a fledgling advertiser, might do well to emulate.

Wendy's takes a fixed percentage of their sales and earmarks it, on an ongoing basis, for advertising space/time and production. Why don't you do the same? It's a great way to answer that very perplexing question, "How much should I spend on advertising?"

Fast food companies traditionally spend between two and five percent of sales on advertising. Simply substitute your income for sales and—because you are no doubt dealing with considerably less than eight figures—lean toward the high end of the scale and got for five percent.

Let's say you earned \$75,000 last year. Your 1989 advertising budget should be about \$3750 to \$4000. Now that you've determined your budget, the next step in implementing an effective advertising campaign is to decide which medium best reaches your prospective employers. It is magazines, direct mail, or trade newspapers? Pick one and concentrate on it. A little bit of money will go a longer way if it's targeted and "repeated." You might do well to concentrate your dollars during specific times of the year as well, i.e., those months when film production is at its highest.

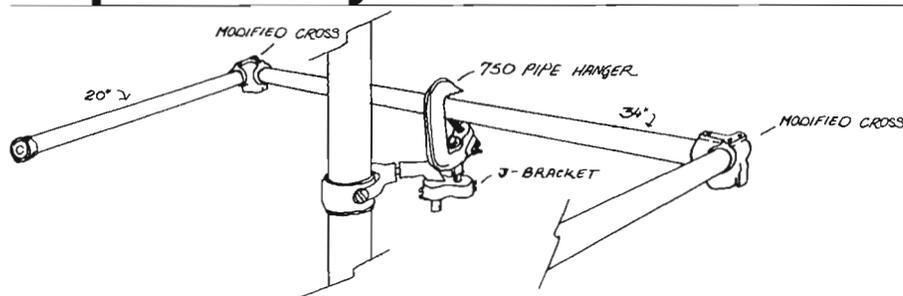
So the key to advertising planning is "targeting." Pinpoint your prospects, concentrate on one advertising medium, and, as much as possible, spend your dollars during the months when you are traditionally the busiest.

My editor has just informed me that I'm out of space, so until next time, have a happy and prosperous New Year. And a well-planned advertising campaign just might help.

Victor Sonder



Buddycam version 2.0, a quick way to meet friends



Here's a slightly different version of the Handlebar Rig, or "Buddycam" which was developed at the Master's and highlighted in the last issue of the letter.

Take some 3/4" Speed Rail and cut two 20 inch pieces and one 34 inch piece and connect them using two Modified Cross fittings to form an open ended box. (The length of the pipes is relatively unimportant; I used whatever was lying around). Then take a "750" pipe hanger and tighten it to the center of the long piece of pipe with the 5/8" stud pointing straight down. Take the long post out of your J-bracket and then slip the J-bracket over the bottom of the 5/8" stud so that the short post points straight up.

Lock the J-bracket at about a 45° angle to the left of the stud and pointing towards the open end of the rig. The Steadicam gimbal then slips over the short post of the J-bracket (as in "low-high mode"), and you're ready to run, fast.

The nice thing about this version is that it's made with materials that are commonly available on most film sets. You can use any diameter Speed

Rail. If you want to make your own, the pipe and fittings cost about \$35.00. The 750 pipe hanger is around \$50.00 new, but the electricians almost always have a few lying about. Setup time is about two minutes.

You can use this gag with just one other person to hold up the left side, but it works much better when two people carry the rig and you simply operate. It also gives the grips a chance "to be part of the Steadicam shot" — something that they may or may not appreciate. However, I tried this out with my next door neighbor and he figured it out in thirty seconds, so in a pinch you could just grab a couple of extras. It works in High Mode or Low Mode, shoots forward or back and you may just set the Land Speed Record for "Quatra or Hexapedal Steadicam" with it.

Rick Raphael

Letters to the editor

11th October, 1988
To the Steadicam Association:

A note to the association, I have recently acquired a MKIII with all the tricks, follow focus, etc, and I am presently using it on a New World Picture called "The Punisher." Everything is going okay with the rig, very pleased with the mods which have been done on it. The picture is a

"Rambo" style film, so for me there are plenty of Steadicam shots and I'm very pleased with the fight sequences we have shot so far.

While in Philadelphia, when Seitz was doing mods on the rig, the discussion turned to Seitz's supply problem being that they took too long for modifications etc. John explained to me that they were busy and needed time to become restocked. I heard

they took two weeks with the doors closed to do this.

I felt John had been honest with me and me him, regarding the requirements from us as users of equipment and him as supplier manufacturer, and modifier. I was on the understanding that certain parts would be available to me later than I had hoped in regards to a film I was about to work on. This film would run ten weeks and I was encouraged to believe that two weeks into principal photography I would have the required parts.

This letter is being written with two weeks of principal shooting left to be completed. During this time I have seen nothing of these parts, nor any communication as to why they haven't been available to me. The response from my phone calls was that it always looks like something will be ready next week!

The reason behind the letter is obvious. I would like it to be known to other Steadicam owners that yes, it is happening to us over here.

Regards, *Ian L. Jones*,
Bentleigh, Australia

November 14, 1988

Here's a useful addition to the school figures discussed in the first issue. It requires an assistant and some music. Your assistant controls the music, while you are performing a long and difficult shot. Whenever the music stops you must immediately remove both hands from the Steadicam. This tells you a great deal about trim and posture.

The best shots for this are the ones with lots of side changes but not much in the way of vertical movement or fast pans. The choices of music are open to more personal interpretation, but extra care should be taken when using angry spouses, up and coming operators, or the "Mississippi Halfstep."

Best wishes,

John Beck



Planning the Ultimate **STEADICAM**®

Some of you have been hankering, wondering, dreaming of the ultimate Steadicam: what could it look like? Would it have an on-board computer to figure out dynamic trim? Motorized side-to-side plates for coaxial magazine weight shifts? Heated lumbar pads? Here's our chance to tell CP what we, the people most likely to buy and use the next generation machine, really want.

Which of the current Model III features are essential, which are not? What gadgets/add-ons and mods should be part of the standard design? Indicate your preferences on the following survey.

A check in the far left box means that the Model IV must have this. A check in the second box means you're strongly in favor of the modification; a check in the middle means it might be nice as an option, the next box means you're not crazy about it, and a check in the far right box means you just don't want it and don't want to pay for it either.

We'll tabulate the results and send them to CP as well as publish them in the next issue of The Letter.

Some of the items may need a little explanation.

A 7: Ted Churchill's drop arm pivots up and down from the center post and rotates upside down for low-mode. It also telescopes to allow much greater positional control.

#B 5a: "Slots" here and elsewhere refer to spaces for optional slide in circuit boards, similar to those found on computers. Dummy boards for connections could be utilized where necessary or when operators already have "outboard" devices, such as Seitz's motor amp.

#B 10, 11, and 12: There seems to be some interest in creating more graphics capability for the Steadicam. Masks and extra framelines could be used to hold spaces for elements to be added later, such as tag lines in commercials, or to indicate headroom as well as frame lines, multi-format shooting, etc. A lightpen or similar drawing device could be used to line up points on the screen in ultra-low light or other critical situations, or to

	want it ←	→	forget it	
A. Sled, physical:				
1. Integral side-to-side plate for camera trim	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Integral fore/aft plate for electronics and battery balance	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. Telescoping center post	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. Built in adjustable sunshade for monitor	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. Adjustable bubble just below monitor screen	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. Monitor pivot at monitor c.g.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. Multi-position monitor (Churchill's "drop arm")	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8. Vernier adjustment on electronic bubble level adjustor	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9. Better rain and moisture protection	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
B. Electrical/Electronic:				
1. Better RFI shielding	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. More accessible fuses	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. More commonly available fuses	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. Wiring to junction box inside post	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. Larger junction box with space for				
a. Slots for motor amp on a circuit board	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. Seitz-type amp to motor connectors	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. An extra 4 pin XLR connector	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. Larger monitor screen	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

draw eyelines or beginning/end frame markers directly on the screen.

#C 2: A set of easily attached and removed bungee cords can be used with the arm to increase or decrease the lifting power of the springs (depending on the points of attachment on the arm), thus allowing the arm to lift very heavy cameras (BL IV's) or make the adjustable springs work better when using very light film or video cameras.

#F 1: With Holway's docking stand, the Steadicam stands on a small platform instead of hanging precari-

ously by the gimbal. The unit doesn't flop about when changing magazines, checking the gate, setting the bubble level, etc., nor is an assistant required to hold the sled still when attaching the camera, motors, and other accessories. Integral are two big hooks to keep your arm and vest out of the dirt, a bracket for allen wrenches, and a 5/8" stud (which is smooth and non-binding) on which to balance your rig. It also has adjustable legs for non-level terrain, weighs about four pounds, and collapses to fit inside the sled case.

B. Electrical/Electronic, continued:

want it ← ————— → forget it

- 7. Color monitor screen
- 8. Video "bars" generator
- 9. Standard and overscan switch
- 10. Extra horizontal and vertical frame lines
- 11. Transparent masking for "tag shots"
- 12. Light pen or other drawing capability
- 13. Redesign of electronics to save weight, power, space
- 14. Built in slot or space for wireless receiver
- 15. Built in slot or space for video transmitter
- 16. Built in slot or space for small format VCR
- 17. Isolated video inputs and outputs
 - a. 1 output to include frame lines but not bubble level
- 18. Built in interfacing with major camera indicators
(warning lights above monitor)
- 19. Eliminate electronic "target" and let electronic "bubble" float across by
itself (Target is confusing and unnecessary for indicating center)

C. Arm:

- 1. Lighter arm (titanium/magnesium)
- 2. Provision for add-on bungee cords to strengthen or weaken arm for heavy
and light cameras. (set of four bungee cords included)

D. Vest:

- 1. Redesign of pins and cones for quick release
- 2. Return to velcro (properly done) for quick release

E. "EFP" Steadicam:

- 1. Should CP make an inexpensive Steadicam for EFP/light film cameras,
with a solid-state screen and surgical rubber arm springs?
- 2. Would it be a good value at \$15,000 US, if it included one channel of by-
wire lens servo control (focus or iris) and remote video zoom control?

F. Other:

- 1. **Would you rent a Lightweight Panaflex that ran on 12 volts?**
- 2. Lightweight fast charger, with battery rejuvenator circuits.
- 3. A lightweight docking stand (Holway's "no drop" design).
- 4. Would you prefer a standard 2 inch center post?

**PLEASE INDICATE YOUR PREFERENCES AND MAIL BACK TO STEADICAM OPERATORS ASSOCIATION
108 CHURCH STREET, PHILADELPHIA, PA 19106**