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## **CODE OF PRACTICE FOR STEADICAM OPERATION**

The following recommendations and statements assume the use of genuine 'Steadicam' equipment by an experienced Steadicam Operator. This is not a risk assessment but may be a useful reference when surveying a working area.

### **1: BACKGROUND**

The 'Steadicam' camera stabilizing system has been specifically designed for use over both smooth and uneven surfaces, i.e. rough terrain, stairs and rostrums etc. Smooth camera operation would otherwise require construction of platforms for wheeled dollies or the use of a Camera Crane.

The extreme flexibility of the Steadicam has ensured that it has been in constant use in the film industry for some 30 years.

The system consists of a 'Flying' camera platform supported by a sprung metal arm attached to the operator by a tightly fitted harness. The complete system when rigged with a Television Camera or small Film camera weighs approx 30kg and must be operated by a competent, trained 'Steadicam Operator'.

In most cases the Steadicam Operator has a clear view of his feet and can uniquely react to changes in the immediate environment. However at times the camera will swing across his direction of motion and can restrict his vision.

The Operator's attention is shared between framing the shot on his viewfinder and looking where he is going. In circumstances where he is traversing uneven terrain only minimal attention is given to framing the shot, the operator instead concentrates on watching his footing.

Utilized in Television as well as Film the Steadicam offers an unrivalled flexibility of smooth shadow free shots and a unique sense of intimacy for the viewer.

More detailed technical information can be found at [www.stedi.co.uk](http://www.stedi.co.uk)

### **2: Basic Health and Safety Duties**

The Operators prime Health and Safety responsibility is to ensure that he and those around him are not put at risk by his equipment or actions.

### **3: Steadicam Operation and assessment of risk**

There is a small risk of collision, tripping (or slipping) and subsequent falling.

Collision or falling whilst operating Steadicam may cause injury to the operator and damage to equipment. In such circumstance damage or injury may also be sustained by persons or equipment causing the collision or otherwise in the direction of flight.

These tripping / collision hazards can be generalized by the following four categories and can be minimized by observing the following practices:

- **ENVIRONMENT/FIXED TRIPPING AND COLLISION HAZARD.**

The Steadicam Operator will assess the initial safety of the operating environment. The Operator has the right to refuse to operate in any area that presents an unacceptable risk until that risk is reduced or removed.

Steps and uneven surfaces are not normally a problem, but slippery floor surfaces and camouflaged or otherwise hidden items on the floor should be avoided by the designer.

- **ACTIONS OF OTHER PERSONNEL/STUDIO ETIQUETTE**

All personnel in the studio or location must be aware that a Steadicam is in operation. The 1<sup>st</sup> A/D or floor manager should also announce this fact to any audience if present.

Personnel (and audience) must also be fully aware of the Steadicam's area of operation and should not enter that area unless required when the Steadicam is in motion. Even preventing collision with unexpected personnel can still cause serious injury to the Steadicam Operator.

- **MOVABLE TRIPPING/COLLISION HAZARD**

Personnel should not introduce any tripping or collision hazard into the Steadicam's area of operation that may escape the attention of the Operator or his Camera Assistant.

Such items may include bags, props, cables, movable pieces of set, water or special effects such as dry ice and snow.

- **LIGHTING.**

The environment should be adequately lit so that the operator can see any hazards. Where a dimly lit shot is required working lights should be provided for rehearsals.

- **CAMERA CABLES**

When using cabled cameras the cable should be in the charge of a competent camera assistant and must be kept clear of the Steadicam and the operators feet at all times. The assistant also has a responsibility to monitor the safety of the operating area.

Where possible all camera cables etc should be kept clear of areas where the Steadicam Operator will be changing direction or braking to end a shot.

## **4: Weather Conditions / Effects**

- **RAIN / CONDENSATION / RAIN EFFECTS**

Although relatively splashproof the Steadicam Sled will be severely damaged by water ingress. The Steadicam arm also contains steel bearings which can be damaged by water.

The system is powered by a 12v or 24v battery and is relatively safe although there is a possibility of electric shock if a CRT monitor is used. Extreme care should also be taken if additional mains cables are used for lighting or camera power.

If used in wet conditions time should be allowed to further waterproof the equipment. This can be done by enclosing in cling film or sealing using heavy clear camera bags. A rain cover should also be used on the arm.

- **WIND**

Air movement will upset the fine balance of the Steadicam. In extremely windy conditions there may be an element of danger to the operator depending on the terrain. Use in windy conditions becomes increasingly difficult as the varying and unpredictable air movement reduces the operators ability to frame the shot.

In such conditions the Steadicam can be shielded from the wind using baffle boards although if changing direction relative to the wind the Steadicam can easily be hit by a gust of air that will spoil the shot .

Stability can also be increased by using 'Antlers' and making the sled extremely bottom heavy. Gyros can also be used but they are expensive, noisy and require additional batteries.

If the wind is having a noticeable effect on the quality of shot a decision may have to be made by the DoP and steadicam Operator to cease using the Steadicam.

## **5: Deep Water**

Extreme care should be taken when operating Steadicam near deep water. The equipment is harnessed to the operator's body and weighs some 30KG. It has no buoyancy so will immediately pull the operator below the surface of the water should he fall or be knocked in.

The Steadicam vest is normally equipped with a quick release rip chord which will allow the operator to bail out of the system. Newer vests have cross straps which must be left undone in order for the quick release to work.

In common with most boating accidents the reliability of any safety measure is compromised should the operator be injured as he enters the water.

Obviously the best course of action is to keep the operator well away from the water's edge by guiding him using competent Camera Assistants or Grips.

## **6: Fatigue during operation**

Due to the physical nature of Steadicam operation, the operator is solely responsible for determining his operating duration between rest periods in accordance with his ability and stamina. No other member of the production may require the operator to exceed this safe duration.

The golden rule is 'when it hurts.... Put it down'.

Operating duration can be adversely affected by studio or location conditions such as temperature and increased camera weights when used with Autocue etc.

The Steadicam operator should also have access to a supply of drinking water on the location or studio floor regardless of normal safety rules.

## **7: Rigging Hazards**

The Steadicam is to be rigged only by a competent operator who must ensure that it is correctly and safely rigged. The owner/supplier of the Steadicam must ensure that it is well maintained.

The rigging/storage area should be inherently safe and free from tripping hazards.

Personnel on the floor must be aware of the fragility of the Steadicam especially whilst it is docked on its cart or stand. Care must be taken to avoid knocking over the stand.

### **Summary:**

- All persons on the location must be aware that a Steadicam is in operation.
- No person should impede the Steadicam when in motion or introduce any hazard that may go un-noticed by the operator.
- General wandering around of personnel in the working area should be discouraged.
- The Steadicam Operator shall assess the suitability of the operating environment.
- Extreme care must be taken when working near deep water.
- The Steadicam operator shall determine his operating duration.
- A competent Steadicam assistant must be utilized.

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