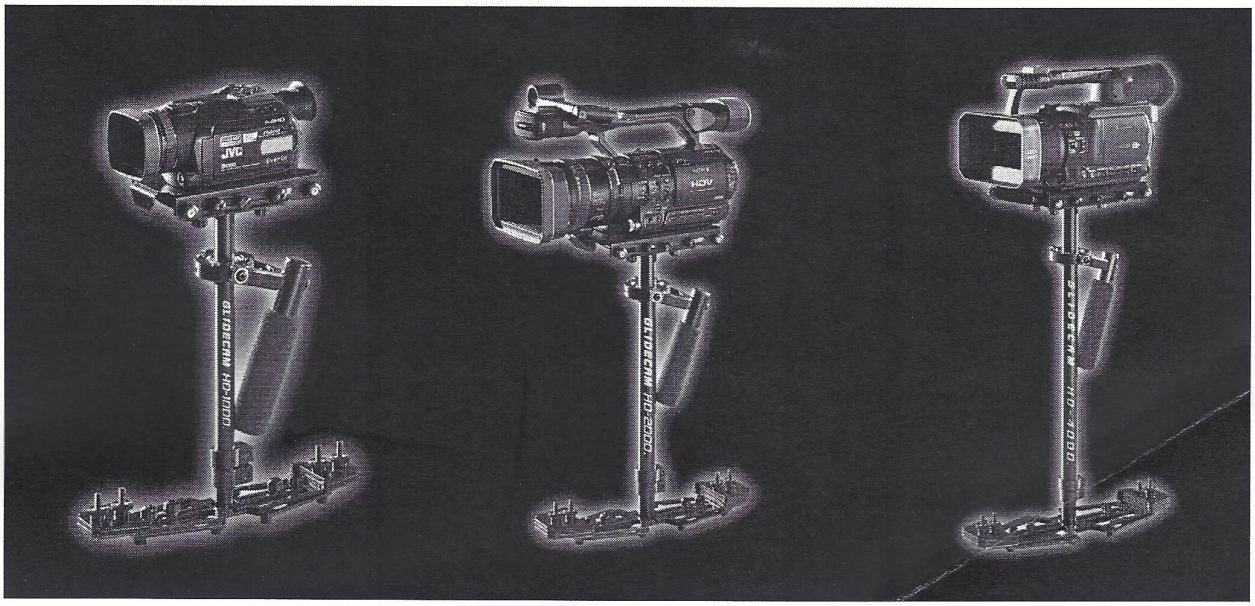
GLIDECAM INDUSTRIES, INC.®

GLIDECAM

The HD series

1000/2000/4000



Manual

Set-up and Operation Guide

Glidecam Industries, Inc, 23 Joseph St., Kingston, MA 02364
Customer Service Line 1-781-585-7900
Email tech@glidecam.com

Manufactured in the U.S.A.

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4 ATTACH YOUR CAMERA TO THE GLIDECAM HD-2000

Figure 29

Now it is time to attach your Camera to the **Glidecam HD-2000**'s **QUICK RELEASE PLATE**.
(See Figure 29)

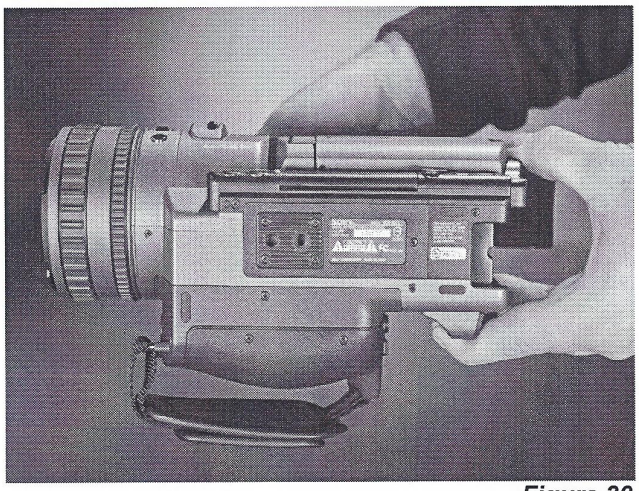

Figure 30

First find the **THREADED INSERT** on the bottom of your camera.
(See Figure 30)

Figure 31

Now preferably sit down in a chair and place your Camera **(base side up)** in your lap. Then place and center the **QUICK RELEASE PLATE** on the back side of your Camera.
(See Figure 31)

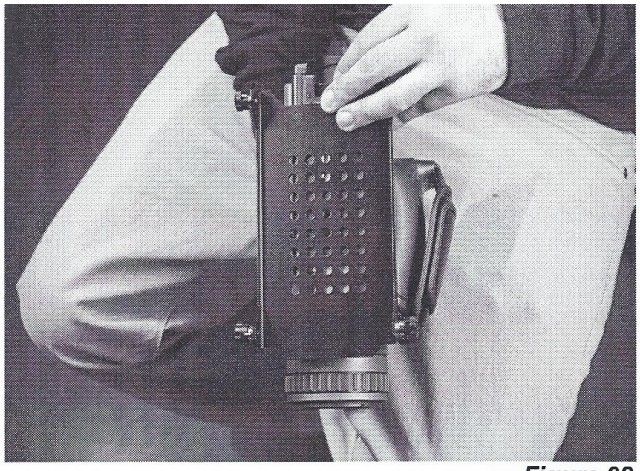

Figure 32

Make sure the **QUICK RELEASE PLATE** is in alignment square with the bottom of your Camera and make sure the **THREADED INSERT** on the base of your Camera is aligned with one of the **MOUNTING HOLES** in the **QUICK RELEASE PLATES.**
(See Figure 32)

******NOTE: You have a Video Camcorder or Film Camera that is larger than the one used in this Manual, then you might wish to first find the true front to back center of gravity of your Camera by rolling the base of your Camera on a pen until it is balanced upon the pen, and mark this point on your Camera's side with a small piece of tape or a grease pencil, and then use this marking to center the QUICK RELEASE PLATE over your Camera's center of gravity.***

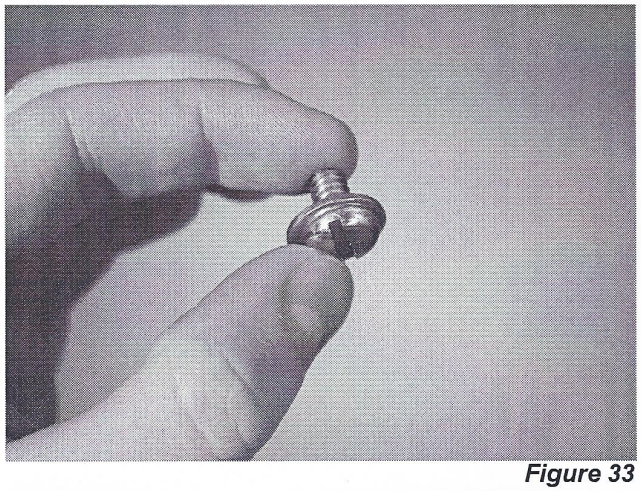

Figure 33

Now use a **CAMERA MOUNTING SCREW** and a **1/4" WASHER** attach the **QUICK RELEASE PLATE** to your Camera.
(See Figure 33)

******NOTE: If the shorter CAMERA MOUNTING SCREW does not work then try the slightly larger CAMERA MOUNTING SCREW. Also try using more than one 1/4" WASHER or no 1/4 WASHERS at all if you have trouble with the mounting procedure. You can also use the same MOUNTING SCREWS and WASHERS for the HD-1000 and the HD-4000***

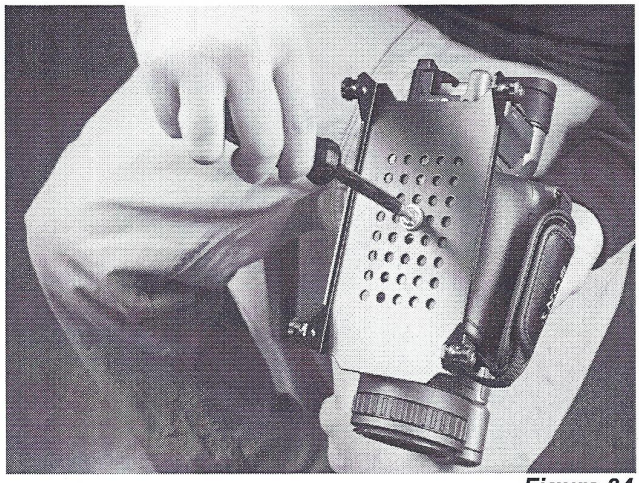

Figure 34

With your Camera base side up in your lap and with the **QUICK RELEASE PLATE** in place, use a flat head screwdriver to secure the **QUICK RELEASE PLATE** to your Camera using the **CAMERA MOUNTING SCREW** and **1/4" WASHER** combo you have just selected
(See Figure 34)

WARNING: Do not over tighten this screw. Over tightening could break the THREADED INSERT on your Camera.

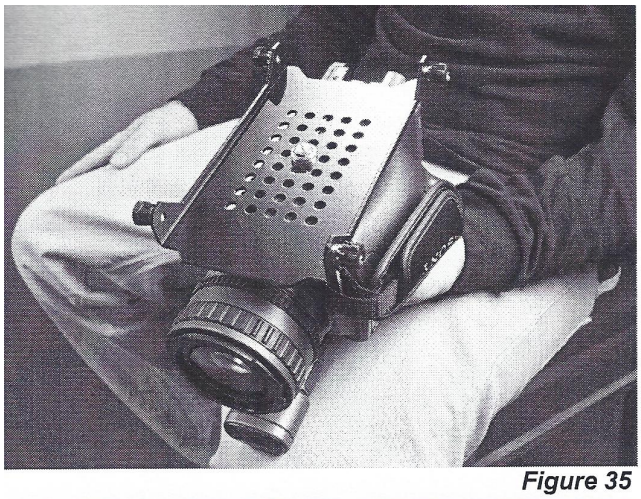

Figure 35

If all is correct, the **QUICK RELEASE PLATE** should now be securely fastened to your Camera.
(See Figure 35)

NOTE: If you can easily rotate the QUICK RELEASE PLATE on the base of your Camera, even though you have adequately tightened the CAMERA MOUNTING SCREW, and you do not feel comfortable tightening the CAMERA MOUNTING SCREW any more, then you should think about using some sort of a flexible GASKET between your Camera base and QUICK RELEASE PLATE. You could use rubber tape, or a square flat piece of rubber (for example, creating one by cutting up an old rubber dish washing glove).

Figure 36

Now securely place and center your Camera and the attached **QUICK RELEASE PLATE** on top of the **CAMERA MOUNTING PLATFORM.**
(See Figure 36)

****NOTE: Make sure the four knobs are pulled all the way out before installing. Once the plate is installed push the four knobs in and rotate clockwise to securely tighten.***

#5 BALANCING YOUR GLIDECAM HD-2000

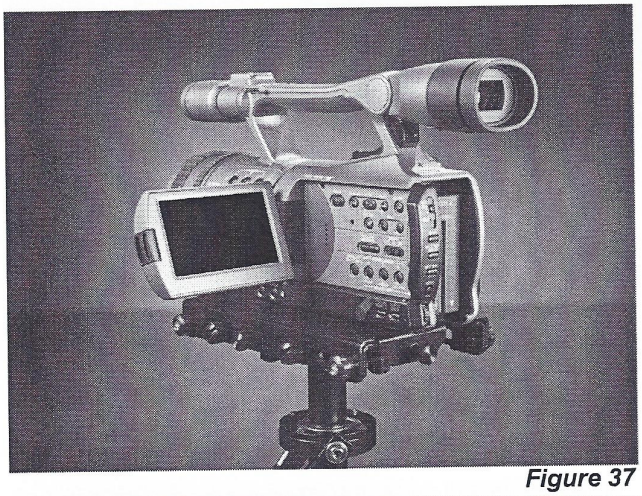

Figure 37

Before you begin the balancing process check the following:

1) Camera is securely attached to the **QUICK RELEASE PLATE** and the four knobs are pushed in and tightened.

2) The Lens Cap has been removed and secure.

3) Camera Battery and Video Tape are installed.

4) Flip out LCD in it's operating position
(See Figure 37)

5) Telescoping clamp has been tightened, weights added.

BALANCING THE HORIZONTAL AXIS

Figure 38

Now that your **Glidecam HD-2000** is setup and assembled properly, you can test and setup the horizontal balance of the system. The objective in achieving correct horizontal balance for the **HD-2000** is to allow the Camera to remain level during operation, given that you are not applying either a pan, tilt, or roll type hand pressure to the **HD-2000**. In other words if the **HD-2000** is horizontally balanced correctly, then the Camera will remain level, and the **CENTRAL POST** will remain vertical unless you intentionally position the **HD-2000** otherwise. Also, if the **HD-2000** is horizontally balanced correctly it will always return to a level and vertical position after you release any pan, tilt, or roll pressure on the **CENTRAL POST**.
(See Figure 38)

Figure 39

When testing for correct horizontal balance you need to make sure that you pick up your **HD-2000** from a flat surface **(a table for example)** and that you let the **HD-2000** hang freely as you hold it. **(See Figure 38)** If the **HD-2000** is balanced correctly on it's horizontal axis, then it will be level with the **CENTRAL POST** in a virtually perfect vertical position.
(See Figures 38)

Most likely your **HD-2000** will not be balanced **(Figures 39)** and so you will have to adjust it until it does.

WARNING: If you do not have enough COUNTER WEIGHT on the BASE PLATFORM at this time, the entire Glidecam will flip completely upside down. If this happens add more COUNTER WEIGHT below until during this test the Glidecam remains right side up.

The best way of adjusting the horizontal balance is to move the center of gravity of the Camera. This can be accomplished by either **#1)** re-bolting the Camera to a different area of the **QUICK RELEASE PLATE**, or by **#2)** adjusting the position of the **QUICK RELEASE PLATE** and **CAMERA MOUNTING PLATE** either front-to-back or side-to-side with the Camera on it. **Method #2** is the preferred method.

If the **Glidecam HD-2000** tilts to the front **(See Figure 39)**, then you will have to loosen the thumb screws on the side of the **CAMERA MOUNTING PLATE** and turn the **ADJUSTMENT KNOB** counter clockwise. If the **Glidecam HD-2000** still tilts to the front, then move the **QUICK RELEASE PLATE** more to the back by turning the adjustment knob. If the **Glidecam HD-2000** is tilting to the back, then move the **QUICK RELEASE PLATE** to the front by turning the **ADJUSTMENT KNOB** clockwise. Always secure the thumb screw after any adjustments. If you cannot get the front to back axis balanced with this method then try remounting your Camera to a different hole on the **QUICK RELEASE PLATE**. Once you achieve balance for the front-to-back axis, tighten the four thumbscrews on the **CAMERA MOUNTING PLATFORM**.

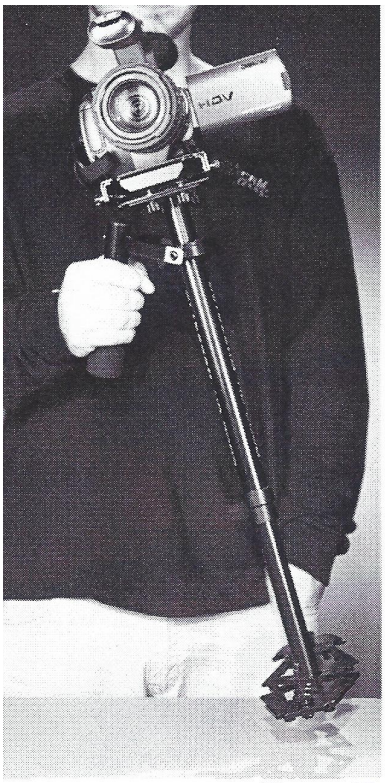

Figure 40

If the **Glidecam HD-2000** leans to the right, then you will have to loosen the **THUMB SCREWS** on the bottom of the **CAMERA MOUNTING PLATFORM** and then turn the side to side **ADJUSTMENT KNOB** counterclockwise. If the **Glidecam HD-2000** leans to the left from the operator's point of view **(see Figure 40)** then move it to the right by turning the side to side **ADJUSTMENT KNOB** clockwise. Always secure and firmly tighten the **THUMB SCREWS** after any adjustment. The side to side horizontal axis is shown correctly adjusted.
(see Figure 41)

After adjusting the side to side balance as mentioned above you might have to go back and readjust the front to back balance to obtain a truly fine balance of the whole system. You can use your eyes to judge for correct horizontal balance, or you can use a small and lightweight bubble level **(not included)** to ensure the **Glidecam HD-2000** has correct horizontal balance.

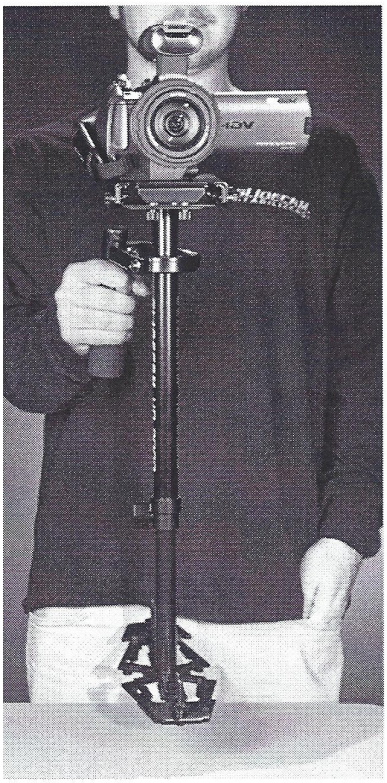

Figure 41

******NOTE: The Horizontal Balance of the Glidecam HD-2000 becomes less sensitive as the Glidecam HD-2000 becomes increasingly bottom heavy, and conversely, the horizontal balance becomes very sensitive, as the HD-2000 progresses towards correct vertical balance.***

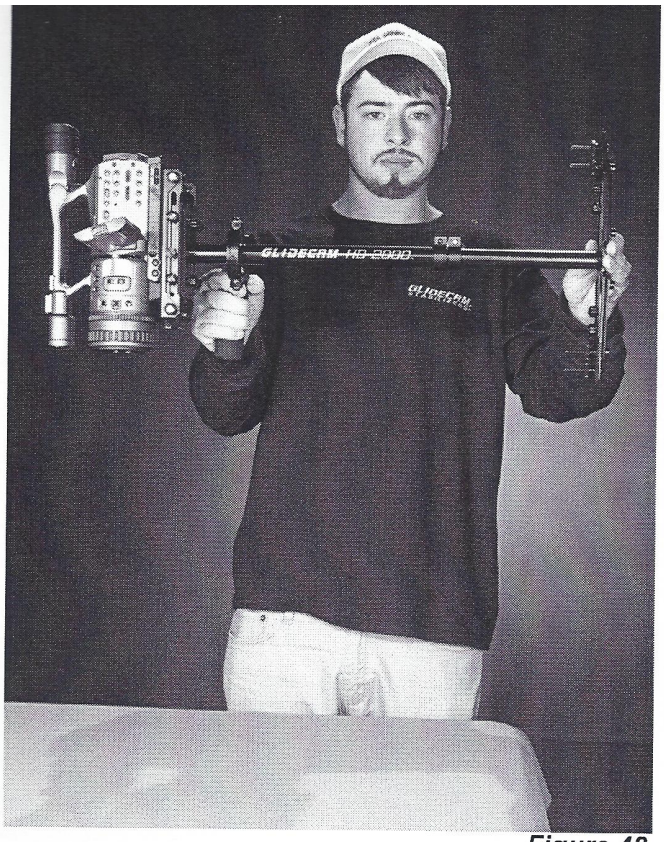

Figure 42

******NOTE: Later after you adjust the vertical balance of the GLIDECAM HD-2000 you will have to go back and readjust the horizontal balance again in order to obtain a true fine balance of the whole system.***

BALANCING THE VERTICAL AXIS

Now that your **Glidecam HD-2000** is horizontally balanced, it's vertical axis can now be tested and properly balanced. The objective in obtaining correct vertical balance of the **HD-2000** is to allow the Camera and **HD-2000** to remain level during operation, given you are not applying either a pan, tilt, or roll type of hand pressure to the **HD-2000**, and most importantly that the **HD-2000**'s **CENTRAL POST** remains vertical even if you are walking, running, or turning while the **Glidecam HD-2000** is in operation. In other words, if the **HD-2000** is vertically balanced correctly then the Camera will remain level, and the **CENTRAL POST** will remain vertical unless you intentionally position the **HD-2000** otherwise. If the **HD-2000** is not vertically balanced properly, then it will swing about and pendulum when you walk, run, or turn.

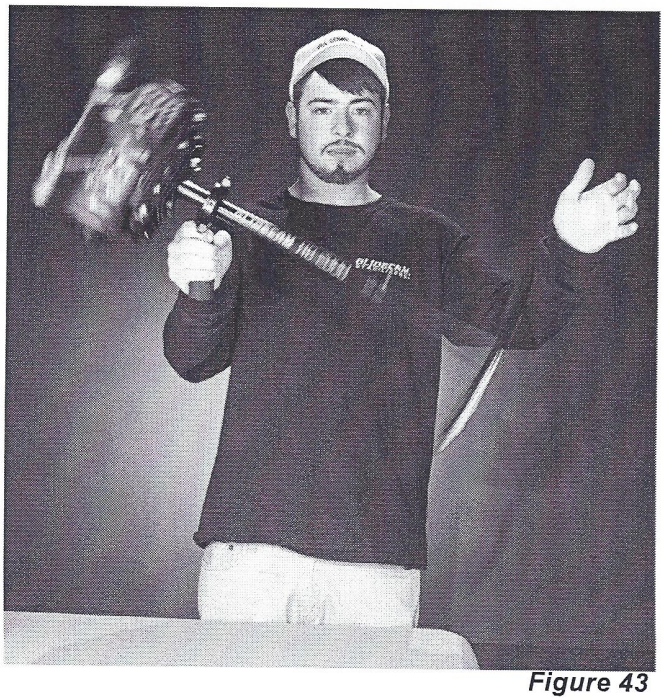

Figure 43

Again, if the vertical balance is set correctly you will be able to move about quickly, as well as start or stop moving suddenly, and still have the **CENTRAL POST** remain vertical. To adjust the **Glidecam HD-2000**'s vertical balance you can either add, or subtract **COUNTER WEIGHTS** from the **BASE PLATFORM**, or telescope the **BASE PLATFORM** in or out. After you have approximately the right amount of weight on the base, you can then fine tune the **VERTICAL BALANCE** by using the **TELESCOPING POST**.

Figure 44

This photo shows the **Glidecam HD-2000** swinging past the illustrated vertical line. The **HD-2000** will pendulum or swing past this line during the "**SLED ARC TEST**," and the **HD-2000** will swing back and forth over a dozen times if left to swing, but it is only the time the **HD-2000**'s first swing in an arc from horizontal to vertical that you need to analyze. After you have counted the times it takes for it to go from Horizontal until it passes vertical once, then simply stop the **HD-2000** from swinging, then either put the **HD-2000** down or make adjustments to perform the test again.

******NOTE: Adding more weight or telescoping out the base will speed up the DROP TIME. Removing weight or telescoping the base in will slow the DROP TIME.***

To test the balance of the vertical axis, perform what is called the **SLED ARC TEST**. to perform the **SLED ARC TEST**, simply hold the **Glidecam HD-2000** by it's handle and then grab a hold of the back end of the **HD-2000's BASE** PLATFORM, then pull the BASE up and back until the **HD-2000**'s **CENTRAL POST** is horizontal and motionless (**See figure 42)** then gently let go of the **BASE PLATFORM** and count how many seconds it takes for the **HD-2000** to go from the horizontal position it was just in **(See Figure 43)** to the moment it first passes the vertical.

If the **Glidecam HD-2000** is vertically balanced properly, then it should take about **TWO** to **THREE** seconds for this to happen. **(this is called DROP TIME)** Count your seconds with the words "one thousand one, one thousand two etc for accuracy. Adjust the amount of **COUNTER WEIGHTS** used on the **BASE PLATFORM** or adjust the length of the **TELESCOPING POST** up or down, until it only takes **TWO** to **THREE** seconds for the **HD-2000 CENTRAL POST** to first swing in an arc from horizontal to vertical.

*****NOTE: The amount of DROP TIME finally set is ultimately up to you to decide. Different DROP TIMES change the vertical balance, and therefore change the results obtainable when shooting.**

Another way to check for correct vertical balance, known as the **"MOVEMENT TEST,"** is to walk forward with the **Glidecam HD-2000** and then stop suddenly. If the **HD-2000 BASE PLATFORM** swings or pendulums away from you, or upright vertical position it was just in that moment you stopped, then you know the **HD-2000** is not balanced correctly. Adjust the amount of **COUNTER WEIGHTS** used on the **BASE PLATFORM** or adjust the length of the **TELESCOPING POST** up or down until the **HD-2000** remains vertical during the **"MOVEMENT TEST."**

This **"MOVEMENT TEST"** also applies to running or turning around quickly with the **HD-2000**. Again if the **HD-2000** is balanced properly, then any body movement like running or turning quickly will not effect the basic upright, vertical position of the **HD-2000**.

#6 HANDLING YOUR GLIDCAM HD-2000

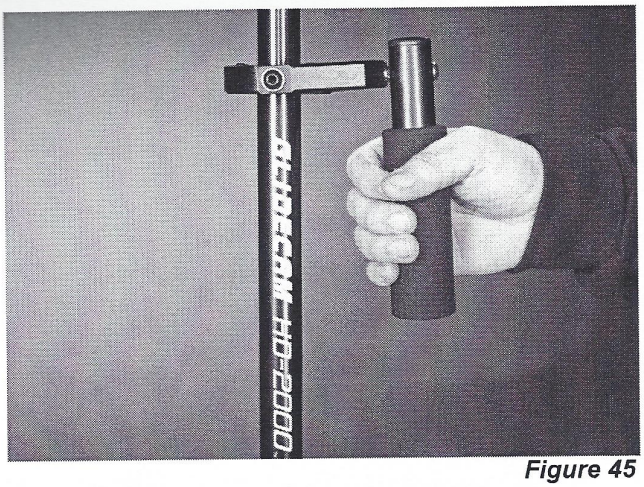

Figure 45

Figure 45 shows you the correct way to hold the handle; however, remember that you should always use both hands when using the HD-2000.

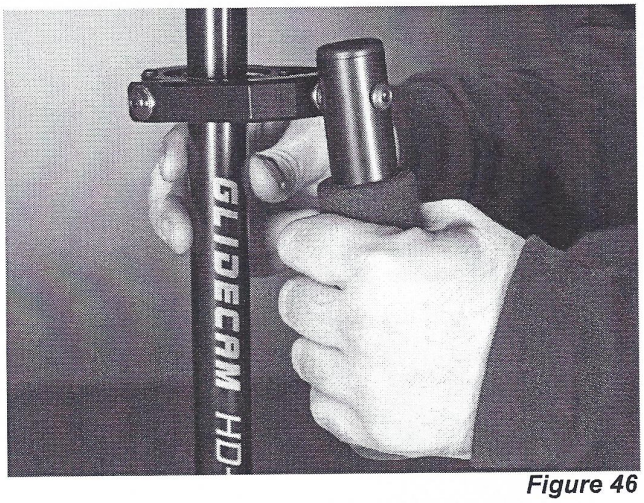

Figure 46

In Figure 46 notice how the "GUIDING HAND" does not touch the main bearing assembly or yoke, which can be seen just slightly above the fingers of the "GUIDING HAND."

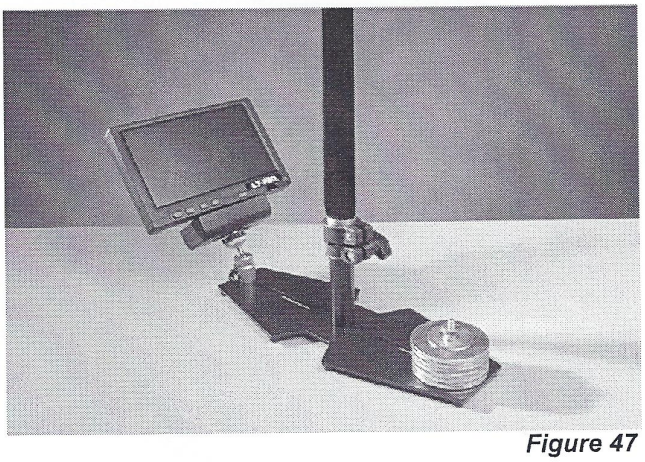

Figure 47

Before you operate and film with your **Glidecam HD-2000**, you will need to know how to handle the equipment. When handling your **HD-2000** you will use one hand to hold on to the handle and the other hand to gently guide the camera in the direction you wish to shoot. We call the hand that holds the handle, the **"HOLDING HAND"** and the hand that aims the Camera for tilting and panning. the **"GUIDING HAND."**

When holding the handle of your **Glidecam HD-2000** you will need to: **1)** hold it firmly, and **2)** hold it either in the middle or the bottom of the handle. Which position you choose will depend on the kind of shot you are shooting. For normal shooting hold the handle near the middle. **(See Figure 45)** For shots that require aiming the Camera either up or down or sideways, hold the handle firmly at the bottom. This will allow the **"YOKE"** part of the **GIMBAL** to twist around without hitting your hands or your knuckles.

When you handle your **Glidecam HD-2000** you will want to use your **"GUIDING HAND"** to gently hold onto either, the point just below the **"YOKE"** and bearing assembly, **(See Figure 46)** or and area down by the **BASE PLATFORM. (See Figure 53)** These two areas allow for easy control of the **HD-2000** when in use. Which position you choose will depend on the kind of shot you are shooting.

For normal shooting hold the **Glidecam HD-2000** at the point just below the **"YOKE"** and bearing assembly. **(See Figure 46)** This will allow you to subtly aim the Camera without disturbing the Camera's upright position. It is this position that will allow you the smoothest shots when walking or running with the **HD-2000** during normal shooting.

******NOTE: Make sure that your "GUIDING HAND" and "HOLDING HAND" do not touch either the bearing assembly or the "YOKE" during shooting, for unconventional shots, like ones that require aiming the Camera either straight up or down, or sideways, hold onto the HD-2000 on the lower part of the post or down near the weight. (See Figure 53) This will allow your "GUIDING HAND" to have a greater degree of control over the HD-2000 while shooting erratic shots.***

#7 OPERATING YOUR GLIDECAM HD-2000

Figure 48

The **Glidecam HD-2000** is designed to work correctly only when operated with two hands. **(See figure 46 and 48)** If you try to operate the unit with just your **"HOLDING HAND,"** the Camera will most likely drift away from it's original position. Without your **"GUIDING HAND"** in place, you will be unable to control the direction of the Camera.

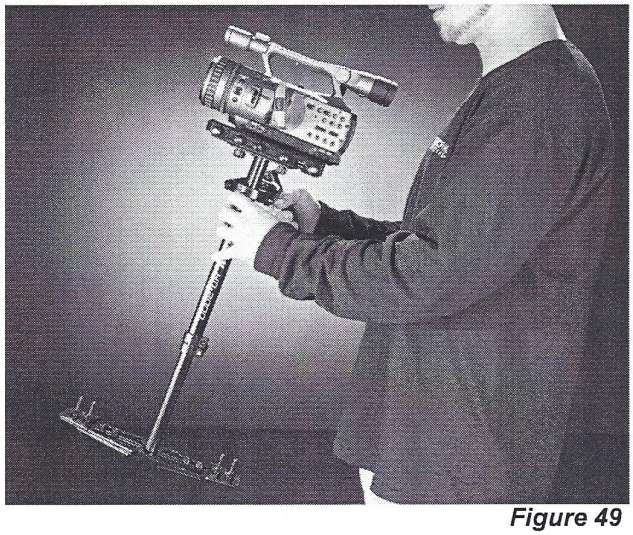

Figure 49

When Operating the **Glidecam HD-2000** you will not be able to put your eye right up to the eyecup on the viewfinder, for doing so will cause the unit to be restricted in it's ability to stabilize and eliminate Camera shake. Even though you cannot place your eye directly up to the Camera viewfinder, you can either use the Camera's built-in **LCD MONITOR** or attach an external **LCD MONITOR (not included)** directly to the **BASE PLATFORM** of the **HD-2000**. A **1/4" Monitor "MOUNTING HOLE"**is located at both the front and back edges of the **BASE PLATFORM.** **(See Figure 47)**

Figure 50

You can also attach an external **LCD MONITOR** to the accessory shoe on the top of your Camcorder. We believe that better results are obtained when you attach the Monitor to the **HD-2000**'s base, **(See Figure 47)** because this way you generally have to look slightly down to see the Monitor. In doing so, your feet are more visible to your peripheral vision. This makes negotiating obstacles with the **HD-2000** safer.

Figure 51

******NOTE: Figures 51 through 53 show the Glidecam HD-2000 being used in different ways.***

Operating your ***Glidecam HD-2000*** for extended periods of time can easily tire your ***"HOLDING HAND."*** If fatigue sets in while shooting you can try operating the ***Glidecam HD-2000*** with you other hand. You can also rest for a while by placing the unit upright on a level surface, docking the sled if using the bracket or by laying it down on the ground.

Figure 52

******NOTE: Glidecam Industries, Inc. also sells accessories for the Glidecam HD-2000 that can help you use the HD-2000 for extended periods of time. Call us, or one of our authorized dealers, or visit our website at www.Glidecam.com on the internet to find out more. The Glidecam Smooth Shooter, Glidecam X-10, Glidecam BodyPod, and the Glidecam Forearm Brace make excellent support accessories for the HD-2000.***

Figure 53

When handling and operating your **Glidecam HD-2000**, always avoid violent, jerking arm and/or body movements. Doing so could cause damage to the unit or cause your Camera to pull loose from the **QUICK RELEASE PLATE**.

The **Glidecam HD-2000** does not work underwater, nor is it waterproof **(meaning the bearings and of course your Camera)**, so avoid direct exposure to rain or water spray. Also, the bearings are not sand proof, so avoid getting dirt or sand into them **(see bearing maintenance section)**.

#9 IMPROPER TECHNIQUES

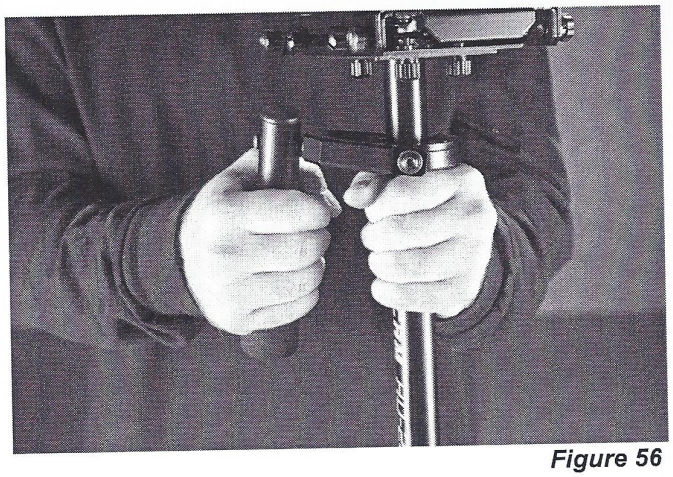

Figure 56

When shooting with the **Glidecam HD-2000**, do not grab the **CENTRAL POST. (See Figure 56)** This defeats the purpose and isolation that the **THREE AXIS GIMBAL** provides. Instead, handle your **Glidecam HD-2000. (See Figures 46 and 48)**

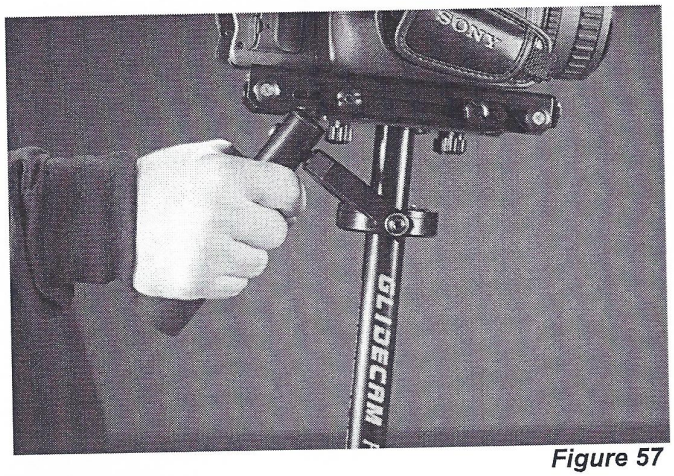

Figure 57

Do not allow the Handle of the **Glidecam HD-2000** to come in contact with the **CAMERA MOUNTING PLATFORM**. **(See Figure 57)** If the Handle comes in to contact with the **CAMERA MOUNTING PLATFORM** it will limit your range of motion, and will result in "jerky" and unpleasant footage. Instead, position the Handle straight up and down.
(See Figure 45)

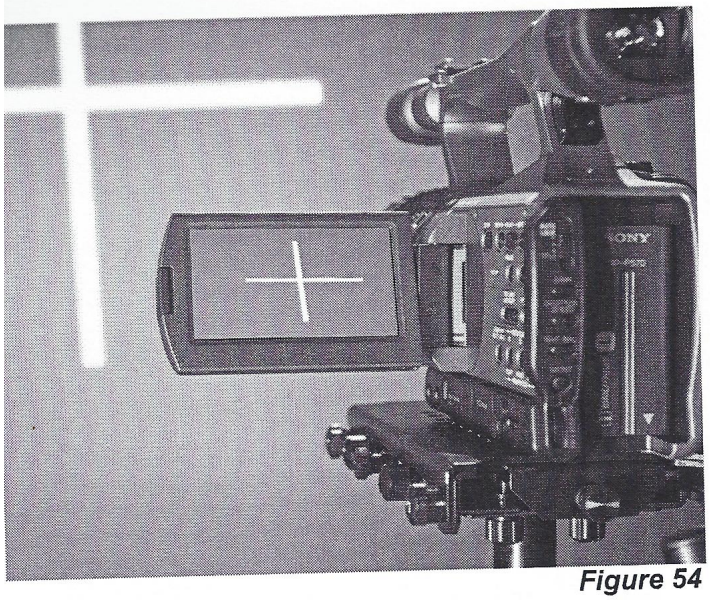

Figure 54

Use of a Wide Angle Lens Converter

If you have a common consumer Camcorder you will probably discover that the widest focal length setting on it's lens is not very wide. You might find that this wide setting is not adequate enough to give you the look produced by professional Hollywood dollies, cranes, and stabilizers. To achieve this kind of look you might have to place a **WIDE ANGLE LENS CONVERTER (not included)** on the front of your existing camcorder lens. We highly recommend that you use one on your camcorder when shooting.

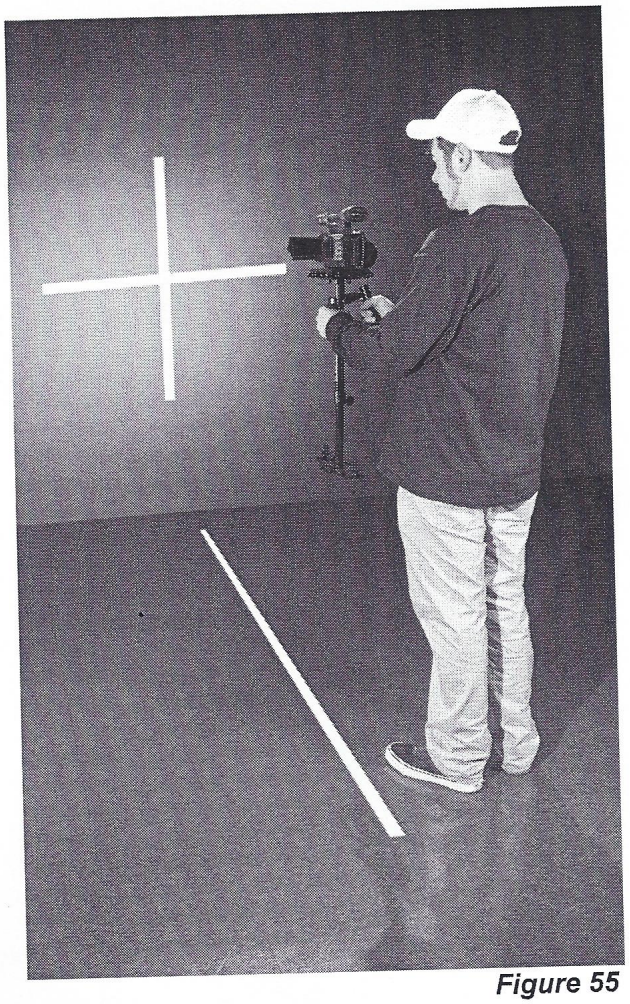

Figure 55

Walking the Line

This is a training exercise that is designed to help operate your **Glidecam HD-2000** more accurately. Using masking tape, camera or gaffer's tape, create a cross mark on a flat or even wall **(See Figure 55).** This cross mark will be used for framing purposes. Now, on the floor leading up to the cross mark, tape a straight line, about 10 to 20 feet long. The idea behind this exercise is to walk the line that you have taped on the floor, while keeping the cross mark centered in the **LCD Monitor**. **(See Figure 54)** Practicing this exercise will teach you how to frame a shoot with precision.

#10 Other Camera Attachment Methods

Creating a Gasket: If when attaching your camera to the **QUICK RELEASE PLATE** you find that the bottom of your camera isn't flat enough to allow a good solid attachment, try making and adding a paper/cloth or rubber gasket to the **QUICK RELEASE PLATE. (Try using a piece of a rubber dish washing glove.)** Simply cut the material to the size of the top of the **QUICK RELEASE PLATE** and then create a hole in it to allow the **CAMERA MOUNTING BOLT** to fit through it and into the base of your Camcorder.

#11 Professional Usage

If you are using the **Glidecam HD-2000** to shoot professional looking shots, and you plan on incorporating them into a short movie or some sort of commercial project, we suggest that you preplan the shot out in advanced, perhaps rehearse the move a few times before shooting, and that you have an assistant to help you during complex shots. This will give you optimum results and will make your movies look more professional.

Good luck with your shooting.

#12 Maintenance

Bearing Maintenance: The main bearing on your **Glidecam HD-2000** is attached to the Central Support Post about to inches down from the top. It is metal and is partially enclosed by the Bearing Assembly. If after some period of time your bearing doesn't turn smoothly, you can oil it lightly with light lubricating oil. We recommend that you use very little oil. Very little, because this all that is needed, plus anything more than a little will end up coming out of the bearing and on to the rest of your Glidecam **HD-2000**. Light lubricating oil may also be used if needed on the **YOKE** and **HANDLE BEARINGS**. Be sure to keep the oil away from your Camera and clean up any over spill when done.

Cleaning: Do not use solvents or harsh cleaners of any kind on your **Glidecam HD-2000**.If the unit becomes dirty, use only a cloth or sponge with water to gently rub the unit clean.

Storage: If going to store your **Glidecam HD-2000** for a long period of time then please store the unit upright in a dry or low to normal humidity area whenever possible. If you are unable to find an environment like this, then we suggest you store the unit in an air tight plastic container or bag. Standing the unit upright helps alleviate stress on the system.

#13 WARNING

You should make sure that you're very careful when using your **Glidecam HD-2000** at night or in low light conditions. Do not make the mistake of focusing so much on what you are shooting that you trip and fall over something, or wander into something dangerous like a swimming pool or automobile traffic. Be extra careful when shooting on stairs, uneven terrain, etc. These cautions pertain to daytime shooting as well. Make sure that all children using this product have adult supervision. If you plan on shooting while moving fast, or while moving on uneven terrain, then be sure to wear knee and elbow pads, eye protection and a helmet.