Installing the Video Camera Recorder

Turn the POWER switch of the video camera recorder to "OFF (CHG)," and leave the POWER switch of the sports pack "OFF."

1. Attach the camera mounting shoe.
   Align the screw position of the mounting shoe with the tripod screw on the bottom of the video camera recorder. Use the metal parts of shoulder strap as shown in the illustration.

2. Release the buckles.
   ① Keep sliding the unlock button in the direction of the arrow, slide the open slider and release the buckle.
   ② Open the rear body.

3. Coat the front glass with anti-fogging lens solution.
   Apply 2 to 3 drops of the anti-fogging lens solution onto the inside surface of the front glass of the sports pack.

4. Remove foreign materials such as dust, sand or hair from the O-ring, the groove and any surface it touches. Then, put the grease evenly on the O-ring.
   If the body is closed with such materials present, these areas may be damaged and water may leak in.

5. Connect the plugs to the each jacks of the video camera recorder.
   Depending on your video camera recorder, firmly insert the remote plug into the LANC jack or remote jack and the audio plug into the A/V jack.
   When using DCR-HC90 (See illustration B-5-A)
   ① Connect the remote plug.
   ② Connect the audio plug.
   ③ Set the cable as illustrated.

   When using DCR-HC43/HC42/HC39/HC33/HC32/HC22/DV319/ 
   (See illustration B-5-B)
   ① Connect the remote plug.
   ② Connect the audio plug.
   ③ Thread the cable through as illustrated.

   When using DCR-DVD303/DVD301/DVD305/DVD602/DVD403/ 
   DVD203/DVD201/DVD205/DVD202 (See illustration B-5-C)
   ① Connect the audio plug.
   Put the plug cover on the bottom of the audio plug so that it does not come out before the audio plug.
   ② Connect the remote plug.
   Do not push the remote plug over the grip of the video camera recorder. If it is attached, the following models, firmly insert the remote plug into the jack (or remote jack and the microphone plug into the MIC (IF IN POWER) jack, after carry out the following steps.

   When using DCR-HC40/HC30/HC20/HC18/HC16/DVD201/DVD101/ 
   (See illustration B-5-D)
   ① Remove the microphone plug from the plug holder, then remove the cable from the hook.
   ② Remove the audio plug from the cord holder and attach it to the plug holder, then hook the cable onto the hook and arrange it in the front part inside wall of the sports pack as illustrated.
   ③ Position the fully extended microphone plug and remote plug together, and attach them to the small hole of the microphone plug cord holder.

   When using DCR-HC40/HC30/HC20/HC18/HC16
   (See illustration B-5-E)
   ① Connect the remote plug.
   ② Connect the microphone plug.
   ③ Set the jack and cable in the direction as illustrated.

   When using DCR-DVD201/DVD101/DVD91
   (See illustration B-5-F)
   ① Connect the microphone plug to the MIC (PLUG IN POWER) jack and move the remote plug in the direction of the disc cover of the video camera recorder.
   ② Connect the remote plug to the remote jack.

Note
Be sure that both plugs are connected firmly.

Installing the video camera recorder.
Align the camera mounting shoe with the guide on the front body.
Insert the video camera recorder by pushing the rear of the camera mounting shoe until it clicks. Check the knob on the right side of the camera mounting shoe to ensure that it locked properly. Be careful not to pinch the cords then.
Be sure that the plugs connected to the video camera recorder do not touch any parts inside the sports pack. Be careful not to pinch the cords in the grip strap of the video camera recorder.

Note
Be sure to keep the video camera recorder horizontal when installing it.
Inserting the video camera recorder into the front body vertically may damage the camera mounting shoe and the front body.

7. Close the rear body.
   Then secure the rear body, and fasten the buckles until they click.

Notes
① Be careful not to pinch the cords when closing the rear body.
② When the video camera recorder is put into the sports pack, the center of the lens may shift with respect to the front glass of the sports pack. This will cause no problems when recording.
Handling the O-ring

What is the O-ring?
The O-ring ensures the waterproof qualities of the sports pack or other equipment. (See illustration [A])

O-ring maintenance is very important. Failure to carry out O-ring maintenance according to the instructions may lead to water leakage and cause the sports pack to sink.

Handling the O-ring

Fit the O-ring
Avoid fitting the O-ring in dusty or sandy locations.

1. Remove the O-ring. (See illustration [B])
   - To remove the O-ring, press it and slide it in the direction of the arrow as illustrated. The O-ring has enough slack to be able to be removed easily.
   - Be careful not to scratch the O-ring with your fingernail.
   - Do not use a pointed or metal object to remove the O-ring. This kind of object may scratch or damage the sports pack groove or O-ring.

2. Inspect the O-ring.
   - Check carefully for the following. If found, wipe off with a soft cloth or tissue paper.
     - Is there any dirt, sand, hair, dust, salt, thread scraps, etc. on the O-ring?
     - Is there any old grease on the O-ring?

   ![O-ring inspection diagram]

   - Lightly run your fingertip around the O-ring to check for any invisible dirt.
   - Be careful not to leave any cloth or tissue paper fibers on the O-ring after wiping it.
   - Check the O-ring for cracks, skewing, distortion, fine splitting, scratches, sand inclusion, etc. Replace the O-ring if it is cracked or scratched.

3. Inspect the O-ring groove.
Grains of sand or hardened salt sometimes get into the groove. Carefully remove them by blowing with an air spray or by wiping them with a cotton wool bud. Be careful not to leave any fibers from the cotton wool bud inside.

4. Inspect the contact surface on the other side of the O-ring in the same way.

5. Apply a coating of grease to the O-ring.
   - Use your fingertips to thinly coat the entire surface of the O-ring with a small drop of grease. (See illustration [C])
   - Do not use paper or cloth as fibers may stick to the O-ring.
   - Make sure there is always a thin coating of grease on the surface of the O-ring. Grease protects the O-ring and prevents wear.
   - Fit the O-ring immediately after coating it with grease. Do not leave the greased O-ring on a table or other surface.

6. Fit the O-ring into the groove of the sports pack.
Fit the O-ring evenly into the groove paying attention to the following points:
   - Check for dirt on the O-ring.
   - Check the O-ring is not twisted. (See illustration [D])

How to check for water leakage
After replacing the O-ring, close the sports pack without inserting the equipment you are going to use. Immerse the sports pack in water to a depth of about 15 cm for about three minutes and check that no water leaks in.

Maintenance
If the sports pack is allowed to dry with sea water still in the O-ring groove, salt crystals form which may impair the O-ring’s functions.

O-ring serviceable life
The serviceable life of the O-ring varies with frequency of use of the sports pack and conditions. Generally, it is about one year. Even if the O-ring is not cracked or scratched, deformation or wear reduces its waterproof qualities. Replace the O-ring with a new one if you find cracks, skewing, distortion, fine splitting, scratches, sand inclusion, etc. After replacing, check that no water leaks in.

Grease
Use the grease supplied. Using other manufacturer’s grease will damage the O-ring, and cause water leaks.

Anti-fogging lens solution
Coat the surface of the front glass with the supplied anti-fogging lens solution. This is effective in preventing from fogging.

How to use the anti-fogging lens solution
Apply 2 or 3 drops of the liquid to the front glass and wipe evenly to spread the liquid out by using the swabs, a soft cloth or tissue paper.

O-ring, grease and anti-fogging lens solution

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Precautions on Use
- Do not subject the front glass to strong shock, as it may crack.
- Avoid opening the sports pack in the sea or at the beach. Preparation such as installing and changing the cassette tape, the “Memory Stick Duo” and the disc should be done in a place with low humidity and no salty air.
- Do not throw the sports pack into the water.
- Avoid using the sports pack in places with strong waves.
- Avoid using the sports pack under the following situations:
  - in a very hot or humid place.
  - in water hotter than 40 °C (104 °F).
  - at temperatures lower than 0 °C (32 °F).
In these situations moisture condensation or water leakage may occur and damage the equipment.
- Avoid installing the video camera recorder in a humid place. Installing in a humid place will lead to condensation.
- Use the sports pack for no longer than one hour at a time in temperatures above 35 °C (95 °F).
- Do not leave the sports pack under direct sunlight for a long period of time. If you cannot avoid leaving the sports pack under direct sunlight, be sure to cover the pack with a towel or other protection.

If sun oil is on the sports pack, be sure to wash it off thoroughly using lukewarm water. If the sports pack is left with sun oil on its body, the surface of the sports pack may become discolored or damaged (such as cracks on the surface).

Water Leakage
If water happens to leak in, stop exposing the sports pack to water immediately. If the video camera recorder gets wet, take it to the nearest Sony service facility immediately.

Repair costs must be borne by the customer.

NOTICE FOR THE CUSTOMERS IN THE U.S.A.

CAUTION
You are cautioned that any changes or modifications not expressly approved in this manual could void your authority to operate this equipment.

NOTE:
This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:
- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.


The sports pack SPK-HCA is water- and moisture- resistant, making it possible to use the Sony digital video camera recorder.

- Usable at the depth as low as 5 meters (16.4 feet) under water.
- For using your video camera recorder with this pack, refer to the operating instructions of the recorder.
- Before you start recording, make sure that the video camera recorder is working correctly and there is no water leakage.
- Sony does not accept liability for damage to the video camera recorder, battery, etc., when using the sports pack or for the cost of recording if water leakage occurs as a result of incorrect use.

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![O-ring inspection diagram]
Using the Sports Pack

Selecting the mode
1. Turn on the sports pack.
   Turn the POWER switch to "ON."

   **Note**
   If the video camera recorder is left in Standby mode for five minutes or more, it
   switches off automatically. This is to preserve the battery.
   You can change the "ASHUT OFF" setting of this function to [Never] using the
   video camera recorder. For details, refer to the operating instructions of your video
   camera recorder.
   To return to Standby mode, turn the POWER switch to "OFF." again.
2. Select the desired mode.
   Change the mode in the following sequence by sliding the POWER switch to
   "MODE:"
   - CAMERA → MEMORY → VCR

   **Note**
   The POWER switch of the sports pack has priority over the POWER switch of the
   video camera recorder.

   **Retractable mirror**
   You can shoot while watching the reflection in the retractable mirror.
   1. Open the retractable mirror.
   2. Open the wings and insert the projections into their holes.
   3. Close the retractable mirror
   Release the projections on both wings, and close the lower wing first.

Recording

Recording moving pictures
When in CAMERA mode, moving pictures are recorded onto a cassette tape or a disc
and when in MEMORY mode, moving pictures are recorded on to a "Memory Stick Duo."

   **Press the START/STOP button.**
   Recording starts.

   **To stop recording**
   Press the START/STOP button. If you press the START/STOP button once more, recording will start again.

   **To turn off the power**
   Stop recording before turning the POWER switch to "OFF."

   **Zooming (see illustration [H]):**
   - Press the wide button to zoom out.
   - Press the telephoto button to zoom in.
   - Press gently to zoom more slowly.

Recording still pictures

   **MEMORY mode**
   Still pictures are recorded onto a "Memory Stick Duo" or a disc.
   1. Lightly press the PHOTO button.
   The green mark at the top of the LCD screen stops flashing and remains on. You can
   now record a still picture.
   * No image is recorded yet.
   2. Firmly press the PHOTO button.
   The image shown on the screen is recorded.

Troubleshooting

<table>
<thead>
<tr>
<th>Symptom</th>
<th>Cause</th>
<th>Corrective Actions</th>
</tr>
</thead>
<tbody>
<tr>
<td>The sound is not recorded.</td>
<td>The microphone plug or audio plug is not connected.</td>
<td>Connect the microphone plug to the MIC (PLUG IN POWER) jack or the audio plug to the A/V jack on the video camera recorder.</td>
</tr>
<tr>
<td>There are droplets of water inside of the sports pack.</td>
<td>The buckles are not fastened. The O-ring is not set correctly. There are scratches or cracks on the O-ring.</td>
<td>Fasten the buckles until they click. Put the O-ring in the groove evenly. Replace the O-ring with a new one.</td>
</tr>
<tr>
<td>The recording and playing back function does not work.</td>
<td>The battery pack is run out. The remote plug is not connected. The tape has run out. The &quot;Memory Stick Duo&quot; is full. The safety tab on the cassette and the &quot;Memory Stick Duo&quot; is set to unrecordable position. The disc has run out of space. The disc has been finalized.</td>
<td>Charge the battery pack fully. Connect it to the LANC jack or remote jack on the video camera recorder. Rewind the tape or use a new one. Insert another &quot;Memory Stick Duo&quot; or erase unneeded data from the &quot;Memory Stick Duo.&quot; Slide the safety tab or install a new cassette tape and a new &quot;Memory Stick Duo.&quot; Use a new disc or format the disc space. Unfinalize the disc (DVD-RW only) or use a new disc.</td>
</tr>
</tbody>
</table>

Maintenance

- After recording in a location with a sea breeze, wash the sports pack thoroughly in fresh water with the buckles fastened to remove salt and sand, then wipe with a soft dry cloth. It is recommended that you submerge the sports pack in fresh water for about 30 minutes. If it is left with salt on it, metal portions may be damaged or rust may form and cause water leakage.
- If sun oil is on the sports pack, be sure to wash it off thoroughly using lukewarm water.
- Clean the inside of the sports pack with a soft dry cloth. Do not wash the inside of the sports pack.
- Be sure to perform the above maintenance each time you use the sports pack. Do not use any type of solvent such as alcohol, benzine or thinner for cleaning, as this might damage the surface finish of the sports pack.

When storing the sports pack

- Attach the SPORTS pack supplied with your sports pack to prevent wear of the O-ring. (See illustration [B])
- Close the pack without fastening the buckles to prevent wear of the O-ring.
- Prevent dust from collecting on the O-ring.
- Avoid storing the sports pack in a cold, very hot or humid place, or together with naphthalene or camphor, as these conditions might damage the unit.