

Jouse

User's Guide

Revision 1.0

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1.0 GETTING STARTED

1.1 What is the Jouse?

The Jouse is a modified joystick that acts as a computer mouse. The mouthpiece and sip/puff straw are attached to a joystick which, in turn, is attached to a swing-away arm. By moving the joystick you can move the mouse cursor on the computer screen. By sipping and/or puffing, you can make selections from menus and drag objects from one place to another on the computer screen. Sip for a right mouse click; puff for a left mouse click. A double puff produces a double mouse click.

The Jouse is mounted to the desktop and the Control Unit is placed on the desktop near the Jouse. Cables connect the Control Unit to the computer and to the Jouse. The person using the Jouse has the freedom to come and go at will.

The Jouse works as a serial mouse with an IBM or IBM-compatible computer and uses a Microsoft or Logitech mouse driver.

NOTE - The Jouse is not intended for use in critical control applications where failure might cause physical injury or harm.

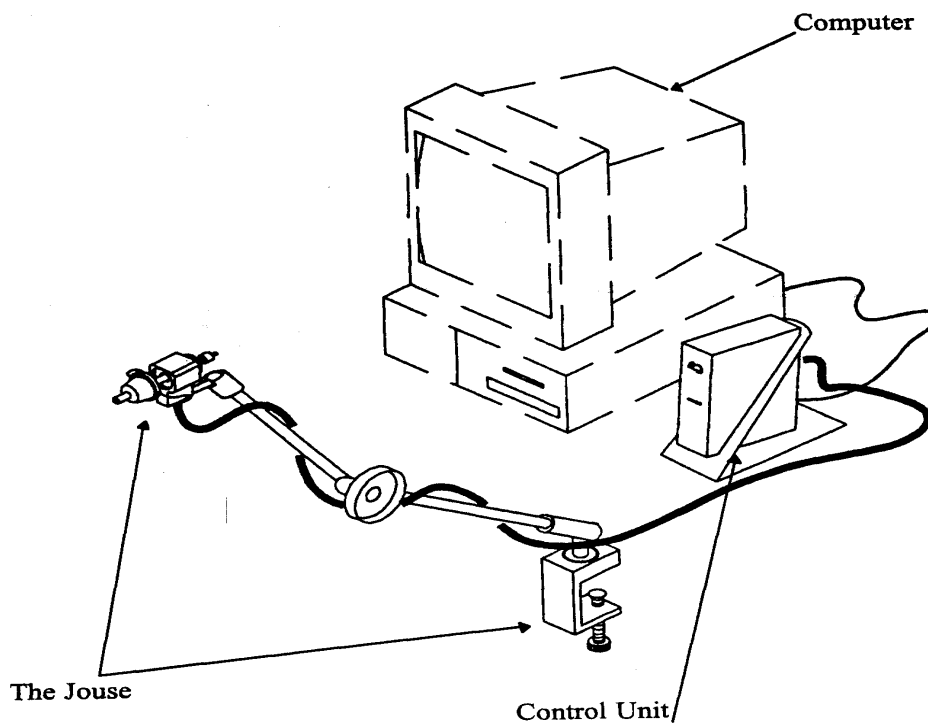


Figure 1-1: The Jouse

1.2 Setting up the Jouse

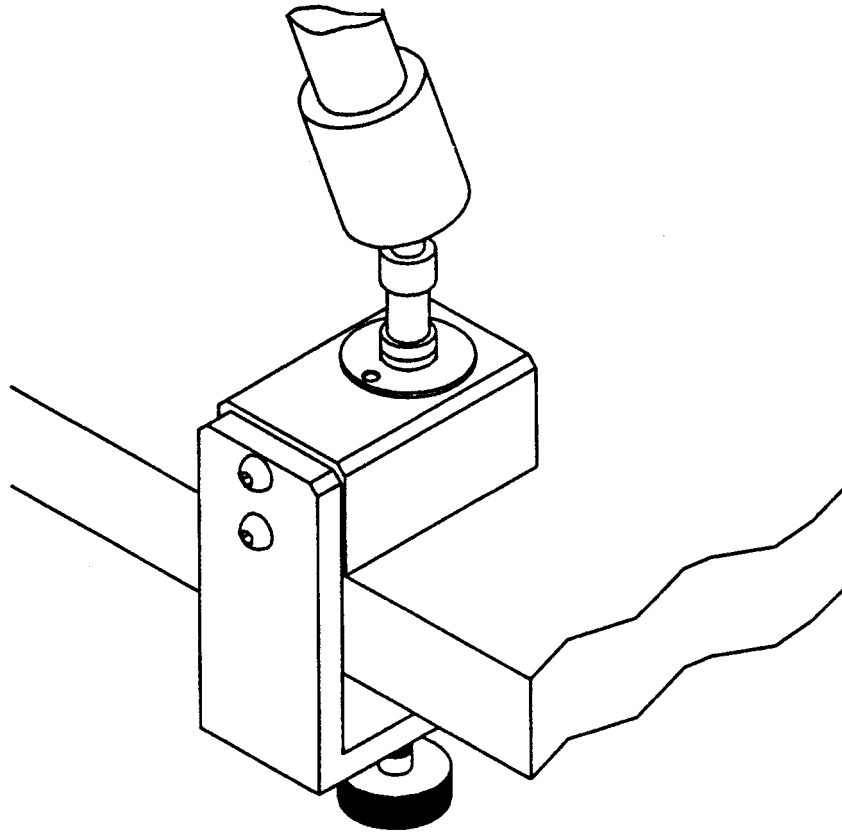


Figure 1-2: Connect the Swing-Away Arm to your Worktable

1.2.1 Attach the Jouse Arm to Your Worktable

Remove the Jouse from the carton. Be careful with the cables that are attached to it. The Jouse swing-away arm is folded over on itself. To unfold it, loosen the large knob on the side of the arm and lift up on the upper part of the arm until you cannot straighten it any further. Tighten the large knob to make the arm rigid.

There is a clamp at the bottom of the Jouse. Place this clamp over the edge of the worktable that you will be using for computer work. Ensure that the clamp is flush against the edge of the table. Tighten the clamp by turning the knob on the bottom of the clamp. Ensure that you tighten the clamp securely to the table.

1.2.2 Adjust the Jouse Arm

You will probably have to adjust the Jouse arm so that it is positioned correctly for the person who will be using it. Adjusting the swing-away arm is quite easy. Simply loosen the large knob on the side of the swing-away arm. This allows you to bend all three parts of the Jouse arm. Position the arm for the correct height. Position the mouthpiece and sip/puff tube so that all the user has to do is move his or her lips slightly in order to enclose and use the tube and mouthpiece. When you have positioned the arm the way you want it, tighten the large knob by turning it clockwise until it no longer moves.

If the mouthpiece is still not easily accessible to the person using the Jouse, information about adding an extension to the joystick/mouthpiece is provided in Appendix B.

See Appendix A for instructions on cleaning the Jouse mouthpiece.

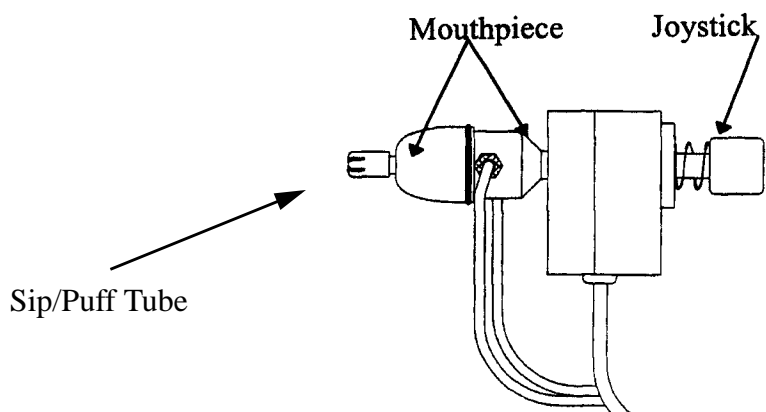


Figure 1-3: Mouthpiece and Joystick

1.3 Preparing Your Computer for Jouse

The following steps will help you prepare your Windows computer to accept the Jouse:

1. Uninstall any non-serial mouse drivers that are on your system (i.e., PS2 or USB). Procedures for doing this will vary with different operating systems, see your Windows Help for more information.
2. Shut down your computer.
3. Physically disconnect any non-serial mouse that may be connected to your computer (i.e., PS2 or USB).
4. Connect a Microsoft or Logitech-compatible serial mouse to your serial port.

5. Start your computer and install the proper Microsoft or Logitech mouse driver. Ensure that the serial mouse is operating properly.
6. Shut down your computer and remove the serial mouse from the serial port.
7. Connect the Jouse serial cable to the serial port from which you just removed the serial mouse, as per the instructions in Section 1.4.6 of this manual.

1.4 Connecting the Cables

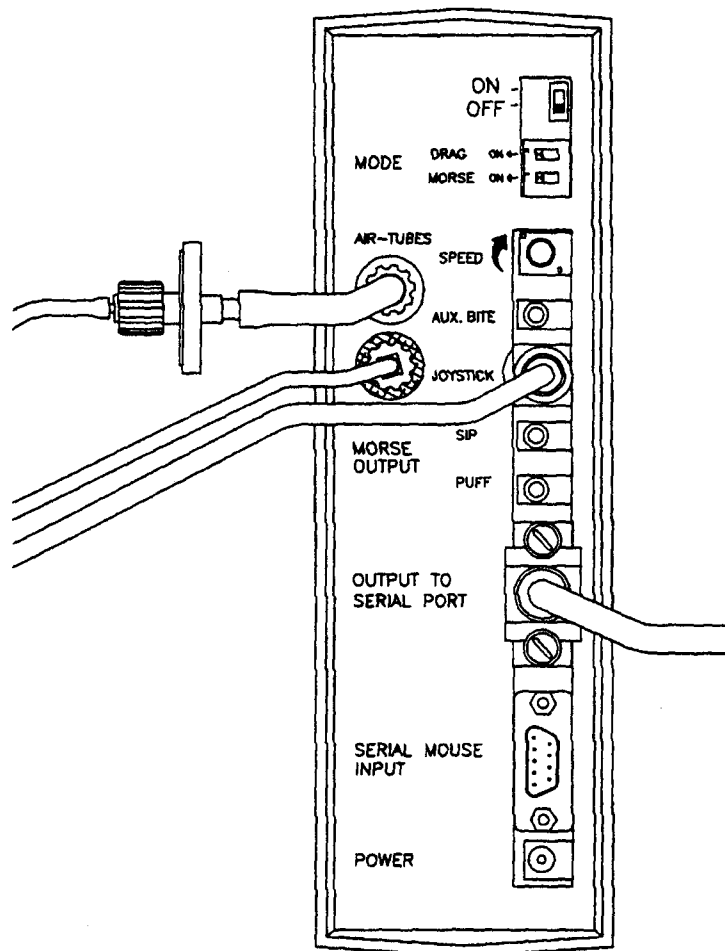


Figure 1-4: Back of Control Unit

1.4.1 Ensure that Your Computer is Off

NOTE - If you plan to use Morse Code with the Jouse, you must also connect the Morse Code cable. Complete the instructions in the following sub-sections first and then refer to Section 2.6 for Morse Code instructions.

1.4.2 Place the Black Control Unit in its Stand

Your Jouse package contains a black Control Unit and a black metal stand to hold it. The back of the Control Unit has the ON/OFF switch and all the cable connectors on it. Place the Control Unit in the stand so that its back rests on the back of the stand. (The bottom edge of the unit should rest on the flat base of the stand - see Figure 1-1). The front of the Control Unit has “Jouse,” “Mouse” and “Morse” on the panel as well as some instructions. This side of the unit pokes through the front of the stand and rests on the raised part of the stand as it curves into the base. When you are using the Jouse, you will want the front of the Control Unit to face you. While you are connecting the Jouse, look at the back of the unit.

1.4.3 Identify and Connect the Jouse Cables

On the back of the Control Unit, (the connector side), you can see the words **AIR-TUBES** above two white plastic connectors. The connector on top has a green band around it and the connector below it has a red band around it.

There are 3 cables already connected to the Jouse mouthpiece and joystick. They are bundled together with velcro straps. The end of one of the cables has a green collar around it. The end of another cable has a red collar around it. Plug the green-collared cable (sip/puff air-tube) into the green connector on the back of the Control Unit and screw the green collar down onto the connector. Plug the red-collared cable (bite tube) into the red connector on the back of the Control Unit and screw the red collar down onto the connector.

Plug the third cable with the longer black end into the connector labeled **JOYSTICK**. You may want to anchor the cables to the swing-away arm so they are out of the way. You can use the velcro straps that are supplied in your Jouse package.

1.4.4 Plug in the Battery Charger

Plug the large end of the battery charger into a wall outlet. Plug the small end of the battery charger into the connector labeled **POWER** on the back of the Control Unit.

1.4.5 Insert the Sip/Puff Tube into the Mouthpiece

There are small plastic sip/puff tubes in the plastic bag. Insert one of these into the hole in the mouthpiece of the Jouse. Insert it as far as it will go and ensure that it is tight. If, at any time, the sip/puff tube does not fit tightly into the mouthpiece, discard it and replace it with a new one.

1.4.6 Plug the D9 Serial Cable Into Your Computer and the Control Unit

Find the serial cable. It is the cable that is not attached to the Jouse yet. There is a medium sized, 9-pin connector on each end of the serial cable. Plug the female end (the end that has holes in it) into the serial port of your computer and plug the other end (the male end) into the connector labeled **OUTPUT TO SERIAL PORT** on the back of the Jouse Control Unit.

1.4.6.1 Using a Desktop Serial Mouse with the Jouse

Before you plug in a desktop mouse, both the computer and the Jouse must be off.

Plug the desktop mouse into the connector labeled **SERIAL MOUSE INPUT** on the back of the Control Unit.

When you want to move the desktop mouse, adjust the toggle switch on the back of the Control unit to **SERIAL MOUSE INPUT**, it then controls the cursor. When you want to stop using the desktop mouse and use the Jouse instead, simply adjust the toggle switch back to **OUTPUT TO SERIAL PORT** and the Jouse takes control of the cursor. In this manner, the Jouse and the desktop mouse can take turns controlling the cursor.

1.4.7 Turn the Control Unit On

The Control Unit on/off switch is at the top of the connector panel. Flip the switch from **OFF** to **ON**. When the Control Unit is on, the picture of the mouse on the front of the Control Unit will light. Check to see that the mouse is lit.

1.5 Test the Jouse

Turn the computer on. When you see the cursor, tilt the mouthpiece in the direction you want the cursor to move. Move the cursor around the computer screen.

1.5.1 Adjust Cursor Movement Sensitivity

The cursor may be moving too fast or too slowly for you. You can adjust the speed of the cursor in two ways:

- Turn the knob labeled **SPEED** on the back of the Control Unit until you find a cursor speed that suits you.
- You can adjust the cursor speed in the **Mouse Properties** of your Windows **Control Panel**. (See your Windows Help for more information.)

2.0 OPERATING THE JOUSE

2.1 Moving the Cursor

To move the cursor, hold the sip/puff straw lightly in your mouth and tilt the mouthpiece in the direction towards which you want the cursor to move. The more you tilt the mouthpiece, the faster the cursor will move. Let go of the mouthpiece and the cursor will stop moving.

When you are moving the cursor, do not sip or puff into the mouthpiece. Sipping or puffing will cause items to be selected or released on the screen.

2.2 Sipping and Puffing

You only need to puff or sip very lightly.

Puffing clicks the left mouse button and selects and releases items.

Puffing twice is a double click. (You may want to adjust your computers double-click speed in the **Mouse Properties** of your Windows **Control Panel** for optimal efficiency.)

Sipping clicks the right mouse button. This button performs different functions for different applications.

When you puff, the **Select** indicator on the front of the Control Unit will light to indicate you are making a selection. Puff again to release the item.

These instructions are printed on the front panel of your Control Unit for easy reference.

2.3 Selecting Items

To select an item from a pull-down menu, position the cursor over the menu you want to open. Lightly puff into the mouthpiece. Move the cursor down through the menu by tilting the mouthpiece. When you come to the item you want, puff lightly into the mouthpiece again.

2.4 Dragging Items

There are two ways to drag items:

- DRAG ON** When the switch marked **DRAG** on the back of the Control Unit is on, puff lightly with a slightly longer puff than usual until the Drag indicator on the front of the Control Unit lights. When the Drag light is lit you do not have to maintain air pressure to drag an item. Just move the item where you want it to go by tilting the mouthpiece. Puff lightly to release the item.
- DRAG OFF** When the **DRAG** switch is off, position the cursor over the item you want to drag. Puff lightly and maintain the air pressure while you move the item by tilting the mouthpiece. When you are satisfied with the position, release the air pressure to drop the item.

2.5 Entering Text

In Mouse Mode: Select letters from an on-screen keyboard such as REACH Interface Author™.

In Morse Mode: You can use Morse Code keyboarding software to select letters or produce dots and dashes by sipping and puffing. Third party products such as Words+ and the Darci card are available. The set-up of each will vary. To switch to Morse mode, see Section 2.6.

Voice Recognition: If your computer has the capability, you can also use voice recognition to enter text. One such product is IBM ViaVoice™.

2.6 Switching to Morse Mode

To change from Mouse mode to Morse mode, bite lightly on the bite bubble around the mouthpiece (or squeeze the bite bubble lightly if the user is not yet using the Jouse) - see Figure 2-1. The Mouse indicator on the front of the Control Unit should turn off and the Morse indicator should light - see Figure 2-2. To switch back to Mouse mode, bite lightly on (or squeeze) the bubble again. The Morse indicator will turn off and the Mouse indicator will light.

When you are in Morse mode, use the sip/puff switch to enter dots and dashes.

With your Morse Code application running, practice entering Morse Code selections.

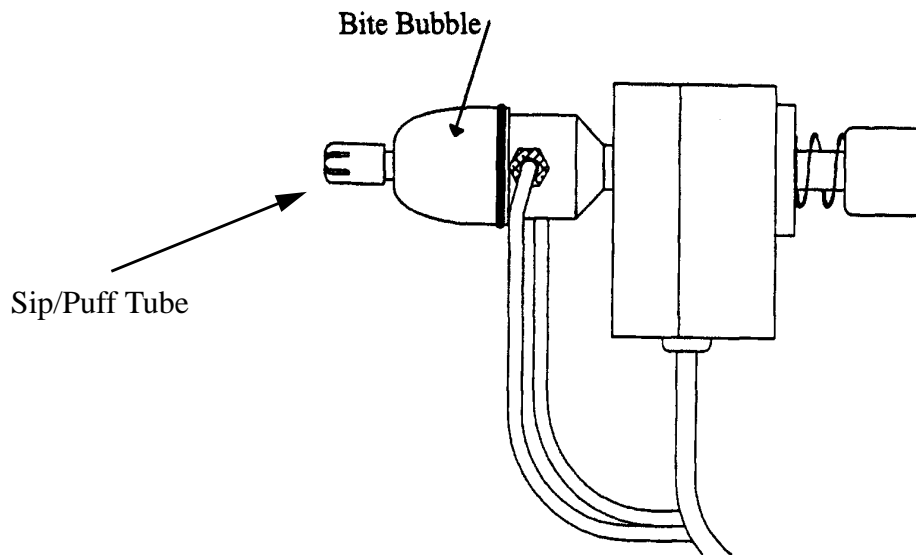


Figure 2-1: Bite Gently on the Bite Bubble to Change from Mouse to Morse

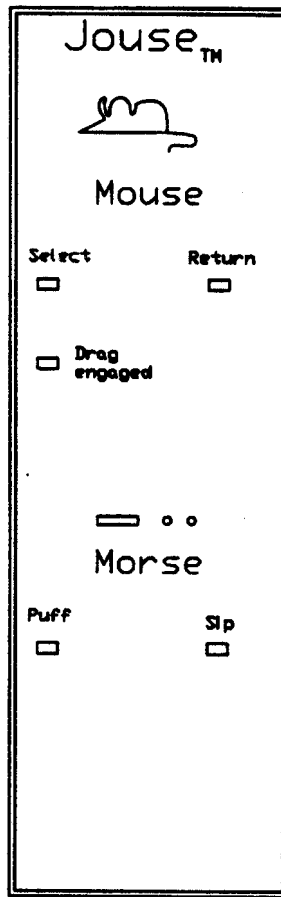


Figure 2-2: Mouse and Morse Indicator lights

3.0 TROUBLESHOOTING

- Problem** The mouse cursor is not visible on the computer screen or it is visible but won't move.
- Solution** The Jouse will not work unless you are only using a serial mouse with a Microsoft or Logitech mouse driver installed on your computer.
- Solution** Always turn on the Jouse Control Unit before you turn on the computer. If your computer and Control Unit are currently on, shut down the computer. Turn the Control Unit off. Turn the Control Unit back on. Check to see that the mouse on the front of the Control Unit is lit. Turn the computer on. You should see the mouse cursor on the computer screen and you should be able to move it by tilting the Jouse mouthpiece.
- Solution** The Jouse is in Morse mode. Bite lightly on the bite bladder to change to Mouse mode.
-
- Problem** The cursor will not move in the direction you want it to go.
- Solution** The **JOYSTICK** cable must be perpendicular to the floor. That is, it must be underneath the joystick, not off to the side, or the cursor will not move correctly. Refer to Figure 2-1.
-
- Problem** Cursor movement is too slow or too fast.
- Solution** Adjust the cursor speed either by adjusting the **SPEED** control on the back of the Control Unit or by adjusting the cursor speed in the **Mouse Properties** of your Windows **Control Panel**.
-
- Problem** You have a facility where more than one Jouse joystick and Control Unit are in use. Cursor movement with the units is jerky and uncontrollable or the cursor drifts around on the monitor.
- Solution** Each Jouse joystick and Control Unit is marked with a serial number. Each joystick must be connected to the Control Unit that has the same serial number as the joystick. You cannot interchange joysticks and Control Units.

Appendix A

Cleaning the Jouse

CLEANING THE JOUSE

The Jouse should be cleaned frequently. If more than one person is using the Jouse, always change the air-tube cable, bite bubble, sip/puff tube and the mouthpiece between users. Additional air tubes, sip/puff tubes, bite bubbles and mouthpieces are included in the multi-user package.

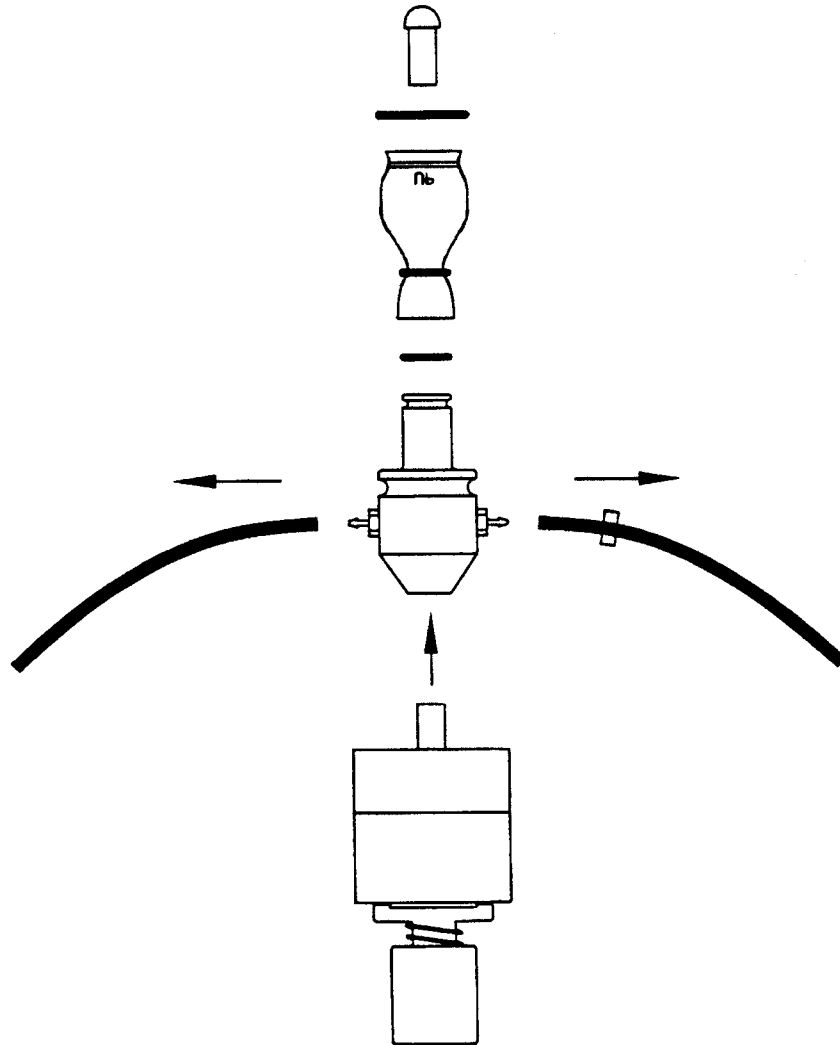


Figure A-1: Disconnect and Remove Each Part of the Mouthpiece

NOTE - The mouthpiece can be autoclaved, pasteurized or disinfected in a solution. If these options are not at your disposal, wash the mouthpiece in warm soapy water and dry thoroughly.

Follow this procedure to clean the Jouse:

1. Pull the air tubes off the mouthpiece. Hold the mouthpiece in one hand and, with your other hand, firmly pull each air tube loose from its connector. (The sip/puff tube is green; the bite tube is red.) The air tubes pop off the connectors with a strong tug.
2. On the back of the Control Unit, disconnect the **JOYSTICK** cable. Disconnect the **AIR TUBE** cable (both the green and red ends) by unscrewing each connector. Remove the velcro straps that hold both the air-tube and joystick cables together. Set the **JOYSTICK** cable aside.

If more than one person is using the Jouse, either discard the air tube cable or clean it thoroughly and clearly mark it with the user's name. If the Jouse is only being used by one person you can clean the air-tubes and re-use them. (The Jouse package has an extra air-tube cable. The multi-user package has several air-tube cables.) You can clean the entire air-tube cable by immersing it in warm, soapy water. If you want, you can take apart the clear tube and white plastic collar (the filter on the end of the cable) for extra cleaning.

3. Pull the sip/puff tube out of the mouthpiece. Either discard it or clean it thoroughly.
4. Peel the bite bubble and O-rings off the mouthpiece. When the bite bubble is removed, remove the small O-ring from around the narrow end of the mouthpiece. Either discard the bite bubble and O-rings or clean all of them thoroughly.
5. Hold the joystick in one hand and firmly pull the entire **mouthpiece** off the joystick with your other hand.

Wash all of the above parts in warm soapy water. The mouthpiece itself can be autoclaved, pasteurized or disinfected in a solution. Ensure that all parts are dried completely before putting them back on the Jouse arm.

If you are replacing the mouthpiece with a new one from your Jouse package, all you have to do is push the new mouthpiece onto the joystick shaft, connect the air-tube cables and insert the sip/puff tube, as described in Steps 6 to 9.

6. When the mouthpiece is clean and dry, push it back on the joystick shaft as far as it will go. Ensure that the small green and red air-tube connectors are lined up on the mouthpiece so that each one is pointing out sideways from the mouthpiece.

NOTE - If you took the small red and green connectors off the mouthpiece, look at the end of the mouthpiece where the sip/puff tube goes. You can see a small hole on one side of the mouthpiece next to the sip/puff tube holder. The red connector goes into the same side of the mouthpiece as this hole.

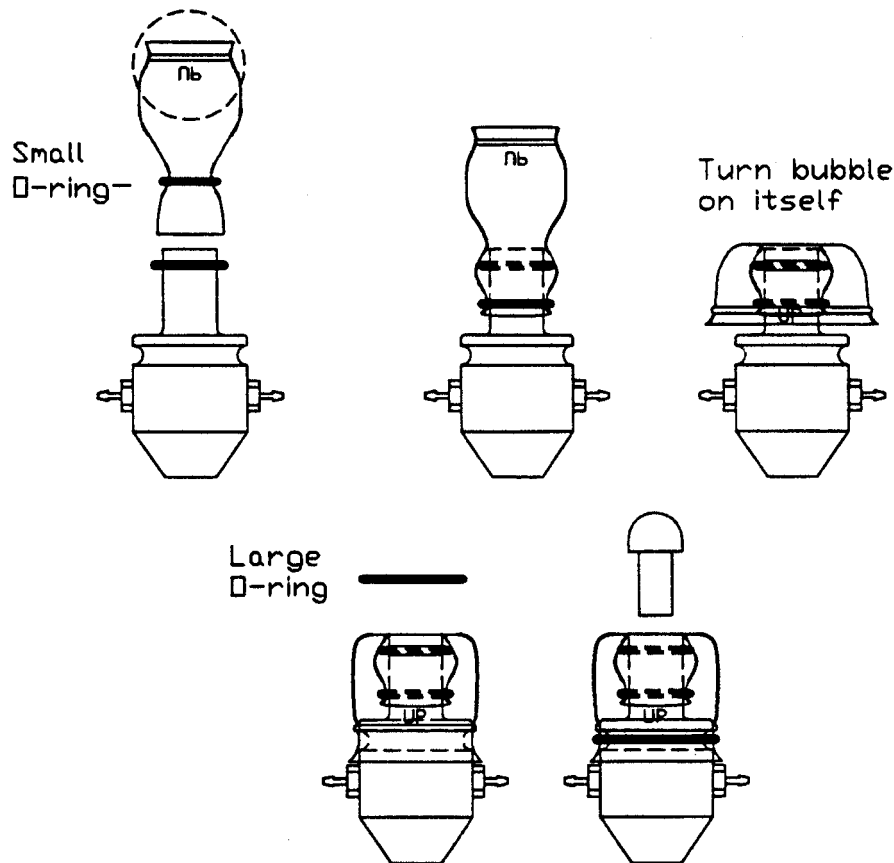


Figure A-2: Replace the Bite Bubble and Sip/Puff Tube

7. Place the smallest O-ring in the groove around the small end of the mouthpiece (where the straw goes in). Place the next smallest O-ring around the small end of the bite bubble. Pull the small end of the bite bubble, with the O-ring on it, over the small end of the mouthpiece. Gently press (or 'massage') the end of the bubble onto the mouthpiece over the O-ring on the mouthpiece shaft. Ensure that the bite bubble is on the mouthpiece completely and evenly.

Using both hands, pull the large end of the bite bubble back on itself until it covers the groove on the large end of the mouthpiece. (The groove on the bite bubble fits over the groove for it on the large part of the mouthpiece. In effect, you are turning the bite bubble inside-out in this step.) Find the large O-ring. Stretch the large O-ring and place it over the large end of the bite bubble. It fits into the groove on the bubble and helps to hold the bite bubble in place.

8. Place a new or thoroughly cleaned sip/puff tube into the mouthpiece. Push the tube firmly into the mouthpiece until it will not go in any farther. If you cannot make the tube fit tightly into the mouthpiece, discard it and put another one in.

9. After the air-tubes have dried thoroughly, connect them to the mouthpiece. The tube that has the green band on it goes on the small green connector on the mouthpiece. The tube that has no band on it goes on the small red connector on the other side of the mouthpiece. Push firmly on each tube so that the end of each tube is up against the round band of each connector on the mouthpiece.
10. Re-connect the air tube cable to the correct **AIR-TUBE** connectors on the back of the Control Unit (green to green and red to red). Re-connect the **JOYSTICK** cable. Plug in the battery charger.
11. If you are binding the air tube and joystick cables to the swing-away arm, replace the velcro strips.
12. Turn the Control Unit on. If everything is connected correctly, the Mouse light will be lit.

Appendix B

Adding an Extension to the Joystick Mounting Arm

ADDING AN EXTENSION TO THE JOYSTICK MOUNTING ARM

If the mouthpiece and sip/puff tube are not easily accessible to the user, you may want to add the mouthpiece extension. Before adding the extension, turn the Control Unit off. Turn your computer off.

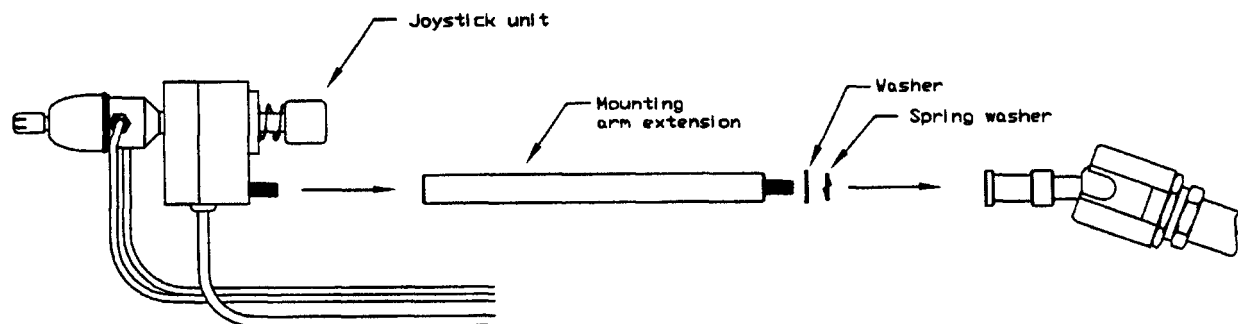


Figure B-1: Adding the Mounting Arm/Joystick Extension

Disconnect the **AIR TUBE** cables and the **JOYSTICK** cable from the back of the Control Unit. Disconnect the **AIR TUBE** cables from the mouthpiece (the cables pop off the red and green connectors with a strong tug.)

Hold the Joystick/mouthpiece and turn it counter-clockwise until it is completely detached from the swing-away arm.

Remove the black metal extension rod from its bag. There may already be two washers on the threaded end of the extension rod. If the washers are not on the extension rod, you will find them in the bag. Place the regular round black washer on the threaded end of the extension. Place the spring washer (the split washer) over the regular washer. Place this end of the extension rod into the silver mounting that is attached to the swing-away arm. Screw the extension into the arm. Place the joystick/mouthpiece on the other end of the extension and screw it onto the extension rod.

Re-connect the cables to the Control Unit (see Section 1.4). Turn the unit on.

Now adjust the arm and joystick/mouthpiece to suit the person using the Jouse.