Optimizing the Venus 2000 System

Different Strokes for Different Folks

by Wayne in Hawaii

The Venus 2000 concept is built around alternating vacuum and air pressure on a sealed system with a trapped, adjustable air volume. Basically, a motor flexes a diaphragm on one end (the power unit) of a hose and this causes a latex tube to flex on the other (receiver) end of the hose. This sounds simple, but in fact, the power needed to drive such a system is quite large! The Venus 2000 power unit addresses this problem effectively, but the result is neither tiny nor light. It is of necessity a rather beefy unit.

The resulting **"black box"** is a quite rugged and very durable power unit that is the culmination of a lot of experience making this concept work.. A Venus 2000, unless it slipped by with a major manufacturing defect, is not going to fold up and self destruct after a few uses like a lot of mechanical sex toys for men.

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I first owned an original Venus unit and later upgraded to a Venus 2000 with the 10:1 gear ratio motor and then a newer unit with the 15:1 gear ratio unit. This later version continues to be my favorite because of its better slow speed power and performance while still having adequate top speed. Some still prefer the older 10:1 unit because it will run a bit faster at top speed.

In my experience, Abco has never failed to respond fairly and professionally to the few problems I have encountered over the years. I should point out that I do not represent the company, work for them, or have any other connection with Abco other than satisfied, long-time customer.

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I will describe the innards of the modern Venus 2000 power unit and the few adjustments you might make inside there. Also you will need to go inside for the rare events like changing out a worn diaphragm. But basically the Venus 2000 power unit is a black box, with nothing you need to regularly mess with inside. There really is little you can, or should fiddle with inside the power unit. So if there are so few things that can or should be done to the Venus 2000 power unit, what is there to really optimize about the Venus 2000 system?

The Receivers

Once one has solved the basic problem of supplying the power in a safe, rugged and reliable fashion, in the case of the Venus 2000 in the form of alternating air pressure and vacuum, the black box can be just that. A place where the power cord, stroke adjustment hose, large receiver hose and control box connect. What goes on inside the power unit need be of little concern.

The receiver, pardon the pun, is where the *"rubber meets the road"*. Everything about the performance of the Venus 2000 system in actual use revolves around the fit, design and construction of the personalized receiver. All your satisfaction, or frustration, with the Venus 2000 system will most likely be traced directly to the fit, suitability and understanding of the individual receiver unit.

It is at the **receiver** that everything really happens. Optimization of the size and fit of the receiver, or receivers, makes all the difference in how effective the Venus 2000 is for each individual user.

For new users there is a learning curve that can be greatly shortened by a full understanding of the receiver. For long time users there is an opportunity to find new optimizations in the receivers and their use. The last major advance in the Venus system, the addition of the trapped air vent valves to the once solid receiver end caps, solved the final real problem with the Venus system. Given the flexibility possible in the creation of receivers, the Venus 2000 system should work for just about every male with a well thought out and optimized receiver.

Fortunately, Abco supplies all the parts you need to experiment with receivers. The basic clear plastic tubular receiver housings come in several sizes and custom lengths. The receiver end caps are available with one or two valves. Plus the critical and all important latex liner material is sold in an array of sizes. You can even find replacement or extension hoses for both stroke control and receiver main hoses. All of these are quite sensibly priced and you can afford to have quite a collection of such parts. Also there are a few things "found around the house" that can be used as well in receiver construction.

A few basic tools will allow you to experiment with constructing custom receivers, once you understand the basic principles involved. I keep a small kit in a little zipper bag together with all my liner material etc, for when a receiver rebuild is in order. Unlike the power unit, receivers do wear out. They use natural latex as a key component and there is no getting around the fact latex does biodegrade. Receiver maintenance is just something one needs to master. **Fortunately, it is quite easy.**

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Tool Kit for the Venus 2000 System

By far the most important single tool one needs for receiver maintenance is a **pair of scissors**. Good ones. You want the kind sold as garden scissors or kitchen scissors. They need to be a bit heavy duty but not as heavy as those monsters for dismembering turkeys. More like a shop scissors than sewing scissors. They are used for the cutting of the latex liner material mostly and this is a constant and important operation. Mine were specifically sold as garden shears, which explains the strange semi-circular notch in the blade. It was for cutting off small twigs.

Other tools include a **screwdriver/Allen wrench set**. I was able to find a very cheap $10 set at Radio Shack that included a screwdriver with replicable 1/4 inch hex drive screwdriver tips. Included was a nice large flat blade tip that works for the giant screw that you need to remove to change the mechanical stroke length setting on the drive wheel, but also the exact hex key tip needed for the four flat head case screws on the Venus 2000 power unit. An ordinary Allen key will work just fine, but the screwdriver format is quite handy.

A **scrubber pad** is essential. It is like sandpaper for plastic when used right. The green kind that is coarse and is sold in pads and as one face of special scrubber sponges for the kitchen sink. Nothing works as well for making sure the ends of the receivers are nice and smooth and well rounded. These are major wear points and some care with these edges will greatly reduce one of the major causes of receiver liner failure. I use sandpaper as well for rough work, but always finish with a brisk polish with the plastic scrubber pad either wet or dry. It can also be used to "frost" or slightly roughen the outer faces of the ends of receives which improves the grip of the liner material when in place. In the first picture it is the green rectangle on top of the red tool bag.

A "Sharpie" type permanent black marker is very nice for labeling your liner stock and marking lengths etc. I use the kind that smells of organic solvents when you take the lid off, not the water based kind. And the kind that comes to a point, not the flat wedge tip kind. Three are several sizes of liner stock you will want to keep on hand and keeping them in labeled plastic bags is recommended.

A small plastic flexible ruler is nice and you may end up with your favorite extra tools. I often resort to a broken drumstick that has had the broken end all polished up and cleaned, to push liner material through receivers for instance, it was once a plastic "Wham Rod" type drumstick.

A **toothbrush** is just about essential. It is used to vigorously scrub the valves in the end caps after use, while holding them under running water to get all the lubrication out of the valve mechanism. I recently found a larger stiffer "pot scrubbing" brush that may be a bit better. Seems to be hog bristle. It does an excellent job of cleaning the receiver cap and valves. The bottle brush at the top of the photo was supplied with the Venus 2000 system.

Receivers need to be rinsed out after every use and allowed to drain, but it is also important to give the valves a good scrub at the same time. If the lubricant dries in the valve it will seize up. Some kind of small metal tip can "worry" the ball and break it free if it gets stuck, something like the end of a giant paperclip, applied after some soaking and scrubbing of the valve.

Special Liner Working Tools

And then there is my special tool. Several cork borers. You can live without these of course, but I have found them very useful for liner work. They are usually brass tubes and you may have to make your own out of brass tubing from the local hobby shop. They are just brass tubes with T-handles on them. One end is sharpened on the outside to make a cutting edge.

It is not a very durable cutting edge. I use a small block of wood as a backing for the cutting and you need to use care with these so they do not slip. You press them down and rotate them back and forth a bit and they will cut a beautiful clean hole in the latex rubber liner material. They are a form of chisel, so you need to use particular care working with these. Why one would want to make holes in the liner material will be explained in the description of optimizing the critical constrictors on receivers.

I was shocked when I priced cork borers, they have become **outrageous!** After a search revealed how unbelievably expense these things are if you try to purchase them from a laboratory supply house, I checked for alternatives. What found are **leather punches.**

These are very similar in how they work, though more ruggedly constructed. Tandy Leather makes them in both a nice set with replaceable tips that is quite economical. Also individual steel punches, even some in interesting shapes like those which punch oblong holes. If you get the set be sure to get the Maxi one, as those holes are a much more useful, larger size.

0ther special tools might include pinking shears which can cut a toothed edge on liner material. A roller cutter, the kind used in dressmaking. These rotary cutters require a special cutting mat. Of special interest is one that cuts a smooth wavy line, a kind of wavy pinking shears.

For changing the length of receivers buy cutting off one end of the housing, a fine tooth hacksaw seems to work quite well. I have had good results from one called a "close quarters" hacksaw. It is quite compact and is well suited to working its way around the plastic housing cleanly.

The description of constrictor construction and receiver optimization will make clear how some of these special items might be used. But, all you really need for a simple liner replacement is a good pair of scissors to cut the latex liner material to length for the constrictor section, the liner length and the securing bands.

Critical Workings of the Venus 2000 Receiver

It is quite important to understand exactly how the Venus 2000 receiver works. A lot is made of its *"hands off"* mode of operation. This is only one way the receiver can be used, but it is certainly the most unique among sex toys for men.

The power unit supplies alternating air pressure and vacuum. This goes into an air space on the receiver that is sealed. One wall of this sealed space is the rigid receiver housing. The other wall is the latex liner. As the pressure fluctuates, it compresses or expands the latex liner. The liner pulses in size. The total trapped air volume can be adjusted with what is called the "stroke control hose". This adjustment can cause the liner to go from fully expanded by vacuum and nearly filling the rigid receiver housing, to being quite collapsed by pressure and trying to balloon out the ends. A irrigation syringe can be fitted to the stroke control hose to allow for very fine and specific control of the trapped volume of air in the sealed system.

The basic idea is that when the penis is lubricated and inserted into this pulsing latex liner, it will be alternately sucked into and expelled out of the liner to some extent determined by the exact trapped air volume. The receiver will ride up and down the length of the erect penis if the receiver can move freely.

A wide range of liner material widths is available to customize the fit of the receiver. Note that the liner material is specified for sale by its flat width. This means that when it is formed into a tube as it is installed on the receiver, it will produce a considerably smaller tubular tunnel as demonstrated by the chart. This is of course a relaxed tubular size, without and stretch or vacuum pulled on it.

[Flat and Tubular Liner Stock in Inches]

Flat Size	Tube Size
1.62	0.99
1.75	1.07
1.88	1.16
2.00	1.23
2.12	1.31
2.25	1.39
2.50	1.55
3.00	1.87

Approximate Conversion from Flat material to Tubular size

with a small correction for material thickness

In order for this system to work there is one very critical consideration. Air trapped in the sealed system, represented by the internal capacity of the power unit diaphragm pump, the hose, and the receiver volume between the rigid housing and the liner material is **good**. It is the working air volume of the system. Air trapped inside the liner tunnel of the receiver, is **BAD!**

Air trapped inside the receiver liner tunnel will also be sucked in and expelled out as the liner contracts and expands. If the penis tries to share the liner tunnel with THIS bad trapped air, it will be summarily expelled, spit out. The receiver will pop off. Not to put too

In the early days there was a required procedure to deal with this problem. You needed to use the stroke control hose to build up the good trapped air volume until you had the liner completely collapsed, forcing out all the air you could from the liner tunnel, and then pressing the end of the penis against the receiver opening, allow the air volume to normalize, sucking the lubricated penis into the interior of the liner tunnel without any trapped bad air. This was important because the receiver caps had no one way valves. This procedure still works.

But the revolution in ease of use came when the one way valves were added to the caps. Now trapped air could be expelled out the end cap as the penis is inserted in the other end. This is why a properly working valve on the end cap, and rinsing and scrubbing the valve after each use is so important. The system is not perfect. Lubrication loves these valves and will almost immediate seek them out and try to clog them. Usually the valves will just clear themselves in use if a bit of lubrication gets into them.

An interesting modification of the receiver can be made using a baby bottle nipple to make a barrier to help prevent lubricant from getting into the valves in use. This will be described later.

This brings us to the final, super critical part of the receiver. The entrance. While the cap and its valve is critical to the operation of the receiver, it pales in comparison with the constrictor, the structure designed to allow the penis to enter, and slide back and forth, but prevent entrance of air into the liner tunnel during use.

Originally this was a special annular piece of firm foam rubber that was inserted into the receiver between the rigid receiver housing and the liner material at the entrance end. Its purpose was to make the critical seal around the shaft of the penis. Not too firm, or no sliding would happen. Not too loose or instead of the penis being sucked into the receiver, a shot of air would be sucked in around it. If it is a big enough shot of air, even the valve can not vent it in time and once again the receiver pops off.

So herein lies the rub. The liner needs to be quite active, expanding and contracting, sucking and squeezing out, changing size and shape in a rhythmic fashion. BUT! The receiver entrance, the open end of the receiver, needs to be relatively inactive, with a proper adaptive snug seal around the shaft of the erection, even as the penis changes size and shape with level of excitement and the receiver slides back and forth.

This is the job of the constrictor and the other tricks aimed at making essentially two areas in the receiver liner. An entrance which does not flex a lot and provides a snug seal, and a quite active area which is capable of expanding and contracting a lot. This is the key, realizing there are **two areas** on a receiver liner, the **active area** and the **seal area**.

With the bad air vent valve in the receiver cap, Abco brilliantly solved one pressing problem and made the Venus system completely practical. You can argue the merits of the one and two valve caps. I am undecided. The two valves can vent faster, but also gum up twice as much, need twice as much cleaning and also have twice the chance to stick and leak.

The final problem is solved by fitting of the receiver, and particularly the design of the constrictor and entrance area relative to the active liner area.

While factory supplied complete receivers are fully functional and if ordered carefully relative to erection size are quite satisfactory, I have found that personal fitting is the final frontier for getting the most out of your Venus 2000 system.

So much of the detailed discussion will focus on this one area, the open end of the receiver, and its associated constrictor. Trust me. Get this right and Venus 2000 will do everything claimed for it and more. I suspect you will end up with several receiver housings and a supply of liner material, creating several different favorite receiver configurations.

A Few Common Problems and Solutions

Perhaps the most common problem at one time was the end cap popping off. In those days there was the hideous red bands. Not hideous looking, but terrible to install, remove, and a real pain when it came time to change liner material. The idea was that the caps and these red plastic bands held things together.

I rapidly found that I could live without the red bands. I just started using 1-inch to 1.5-inch wide bands of smallish liner material instead, as replacements for the function of the red bands. These liner bands proved much easier to remove and replace. They were quite effective in securing the installed liner at the entrance end.

Still the problem of the caps coming off at the wrong time remained. What was happening was the lubrication could work its way under the caps and into the area where they slip over the liner material on the outside of the housing. Once so lubricated there was no way to keep the caps on.

Receiver Caps Popping Off in Use

The solution for caps popping off is simple. First, you must clean up the cap and get all the lubricant off the inside. Second, you must clean up the liner, especially the part folded over the outside of the cap end and get all the lubricant off this. This could include any cornstarch as it is also a good dry lubricant.

The solution turned out to be another band of liner material. First cut a band of liner material. I might recommend 188 material for this, especially for the 2-inch housings and caps. Cut it at least 1-inch wide, maybe a bit more. Apply this new wide latex band over the cap with half of this band on the cap and half overlapping onto the housing, straddling the bottom edge of the cap. This extra pressure on the cap and the friction of the overlap should solve the cap popping off problem effectively.

Lubrication Clogging Cap Air Vent Valves

A second problem is lubrication clogging the cap air valve. One of course has to wash this out and clean it with a brush after each use. You probably also have to keep something like a jeweler's screwdriver, or large partially straightened out paperclip, handy to worry it loose just before use. They seem to find a way to stick even if properly cleaned and need a nudge after storage to free up the little ball.

In use the lubrication seems to be magnetically drawn to the cap valve. I can in no way claim credit for this solution, but I can attest that it does seem to help a lot. You can create a barrier for the lubrication and try to prevent it from reaching the cap valve. What is most effective for this is a modified baby bottle nipple. You need to find one that is two inches wide at the flange edges so it will just be as wide as the 2 inch tubular receiver housing. I do not know of any baby bottle nipples that will fit the larger tubular housings like the 2.5 inch size.

Next you carefully cut off the protruding small diameter part of the nipple, leaving a funnel like creation with about a 1/4 inch to 3/8 inch hole in the center. Turn this upside down into the end of the liner on the cap end so its flange rests on the end of the tubular housing. Now just install the cap right over it. With this flexible plastic "funnel" stuck down into the center of the liner at the cap end, you create a mechanical barrier that is reasonable effective in preventing migration of the lubrication up into the cap valve.

In use the valves will usually clear themselves of reasonable amounts of lubricant. They can spit it about however. If this is a problem, depending upon exactly where and how you are using the Venus unit, you can cut the end of an old sock off. Cut it right past the turn at the heal. Now slip this sock end over the receiver as a cover and secure it with a rubber band. After use it can be easily rinsed out. It will effectively catch any lubricant trying to spit out of the cap valve.

Pinholes in Liners under the Caps

A second benefit of the nipple trick is padding the liner end where it is pulled up and over the tubular housing on the cap end. The end cap has several raised reinforcing ridges formed into it. These can attack the liner at a few pressure points and create a favorite place for the liner to fail after extended use. A place where small holes are ground into the liner material right at the end of the housing. Without something like the nipple flange to pad the top, you can try to avoid pushing the cap all the way down, thus attempting to seat it with a tiny gap between its reinforcing ridges and the top edge of the tubular housing. This can keep these cap ridge pressure points from pushing into the latex liner material. But the flange on the modified nipple does a stellar job of protecting the liner from the cap's pressure ridges as a bonus.

You can often salvage such a pinhole damaged liner by just pulling a bit more tension on it from the cap end. This can migrate the area with the holes up and over the outside of the housing so that good liner material is available to restore the seal on the end. The holes in the material outside the housing do not matter much. This is a nice quick fix for this favorite liner failure mode. Even if the modified nipple was not effective in reducing cap vent

clogging with lubricant, it would be nice just as padding to help reduce this common failure mode of liner material.

A hole in the rubber causes things to quickly go wrong. You can test a receiver by carefully sucking a strong vacuum on it to inflate the liner into the tubular housing quite dramatically. Now seal things off and wait. It should stay expanded if everything is well sealed and not leaking. If it relaxes back down, you know you have a leak somewhere that needs fixing.

Loose Receiver Hoses

With use the hoses can become loose. Like all rubber products they can stretch with long use. The internal diameter of the hose gets larger where it is constantly forced over the tubulations on the receiver and power unit. A simple solution is just to cut about 3/4 inch off the end of the hose when it gets so loose it slips off at the wrong time. That should remove the stretched section at the end. Still you may have a problem tugging the receiver hose off the power unit. A heavy duty solution is to apply a tiny hose clamp gently over the receiver hose where it attaches to the power unit. You need very little tension on the hose clamp to keep the hose from ever slipping off at the wrong time again, even if it gets a bit of a tug during enthusiastic use.

If you find that tugging on the hose is a recurrent problem, you probably need more hose in your favorite setup. You can order more from Abco in a longer length just right for your usage conditions.

A similar problem is the stroke control hose not opening up when the clamp is released. It seals or sticks shut. This is just old age catching up with the rubber of the stroke control hose. You can try forcing some cornstarch down into the hose to powder it inside, or just cut off the end of the hose where the clamp has been at work on it. Also you can purchase a replacement from Abco. The stroke control hose is something I found could be nearly twice as long as originally supplied. It is small diameter and even if made several feet longer to match the remote control head's cord length and leave lots left over, it will not add significantly to the trapped air volume.

All latex rubber will degrade over time and with use. So replacing the hoses at rare intervals may be required, though they should last easily a year or more depending upon use. You want to avoid getting lubricant into the receiver end of the larger hose. Once lubricated it will never stay put. You can wash out that end carefully with soap and water to fix the problem. Usually the lubricant is only in the last inch or so of the contaminated hose.

Receiver Rebuilding and Optimization

The basic receiver consists of a few simple parts. A clear tubular rigid receiver housing, an end cap with its vent valve, the latex liner, the constrictor, and a couple of bands of liner material used to hold things firmly in place.

First we need to describe the most basic possible rebuild of a Venus 2000 system receiver. This is a no frills example that focuses on just getting the required parts back in place and the receiver quickly and cheaply back into operation. Following these steps should lead to a nice looking rebuild such as pictured on the left:

Simple Rebuild Detailed in Photos

Even with this extremely simple rebuild there is a lot of scope for customization. You can select from a wide size range of liner material. For most people the 200 and 225 liner material is probably about right, but you may prefer the tighter fit of 188 or the looser fit of 250, as long as you can get a workable seal at the constrictor. You can experiment with the length of the constrictor which is allowed to fold back into the tubular housing.

You can also experiment with using a different size of liner material for the constrictor. What you want is a nice smooth tunnel entrance without any folds. You can usual achieve this with a constrictor made from one size smaller liner material than the liner itself. Two sizes smaller is almost impossible to use without puckering and folding of the liner material resulting, unless you resort to tricks described later.

You can experiment with the end to end tension of the liner itself. This can range from essentially no tension end-to-end when the liner is installed, to quite a bit of end-to-end pre-tensioning. This changes the behavior of the liner and modifies the shape of the entrance, specifically the amount of funnel shape produced. The photo above shows a liner with a fair amount of end-to-end tension. This is setup is quite workable in spite of the funnel shaped entrance. If you look carefully you can see that this version uses a punched constrictor and note how it is making an impression through the liner material, since this photo was taken with a slight vacuum on the receiver body itself.

O-Ring Buttressed Constrictors

With the addition of a proper size O-ring, especially when used with the two-inch housing, you end up with a very nice and efficient receiver entrance and constrictor combination. By finding just the right O-ring size

receiver. The extra end-to-end tension possible with the O-ring in place allows you to smooth out any wrinkles or folds in the liner material caused by using smaller liner material for the constrictor. The net result is you can have a large active area which is nice and loose and still have a constrictor that will adapt over a wide range and maintain a decent seal.

The Abco brochure on receiver rebuilding describes a variation on constrictors in which the **constrictor material is folded** back on itself. Basically installed twice. Making for a very rugged double wall constrictor. An extra long constrictor is installed, and then the end brought back out the front of the receiver, and folded down over the outside again to create the doubled constrictor. I have never tried this, though I have often used two different single layer constrictors. They also describe purposely putting a twist in one of these doubled constrictors when installing the folded back section as a variation.

Now you have a wider range of things to experiment in the quest for the best fit. You are no longer as constrained as to what sizes of liner material you can use for constrictors. You can try larger amounts of tension, or even a larger size of liner, and still not sacrifice the entrance shape. One size does not fit all. In fact, you may find that one size does not even fit one, due to variations from day to day. There is no reason to have a single receiver when you can optimize several for different scenarios of usage or physical enthusiasm for having some fun.

Going a bit further, we can try to modify the liner material used for the constrictor, adjusting its tension, by punching strategic holes in it. Unlike the liner, this material need not for an airtight seal, that is the job of the final layer, the full length liner itself.

Punched Liner Material for Constrictors

These tricks used in combination create an extremely flexible system for setting up receivers. You should be able to create excellent results under almost any circumstances with a setup possible from some collection of O-rings, assorted liner material and constrictor selection. As said before you will likely find that several receivers set up with different liners and constrictors are quite handy to deal with the day to day differences in the mental enthusiasm and the physical enthusiasm that can exist. By the time one is skilled in creation of liner and constrictor setups at will, it is even possible to design receivers specifically for use with weak or less than full erections. Special receivers designed to be used in conjunction with the various mountings suggested elsewhere.

Notes on Tubular Housings

For most folks, I imagine the 2 inch tubular housing will be about right. The 2.5 inch housing is also a good size, but if at all possible I think the 2 inch housing should be used. In the old days of the foam constrictors, the 2.5 inch housings were more required since you needed

liner can be a close fit to the housing, so a rather large liner can be installed in the 2 inch housing.

Remember we said the Venus 2000 system works by manipulating the pressure and vacuum of a trapped air volume using a diaphragm. Well this diaphragm has only a certain range it can flex over. I have found that for the liveliest possible receiver, especially at high speeds, keeping the total trapped volume to a minimum is worthwhile. This implies using the smallest receiver outer housing that will get the job done, both in diameter and length.

The tubulation for the hose can be setup on either end. In fact I have one very special custom created receiver which has the hose tubulation in the middle. It has to be rated as a failed experiment. I also have cut down a hose fitting to make it as short as possible. Another probably failed experiment as the hose slips off it too easily. This picture shows three unusual housings, starting on the left with a massive 3 inch housing and matching cap, the housing with the hose tubulation in the center, and a 2.5 inch housing with a very short modified hose tubulation.

You can cut a tubular housing to length if you are careful. First take a piece of stiff paper and wrap it around the housing at about the desired length. Line up the edges of the paper as they wrap around, and you will end up with a very nice square reference line. Now mark the line with some kind of marker. You can cut on this line carefully with a close quarters or regular hacksaw with a fine toothed metal cutting blade. The trick is to saw your way around the tube, do not try to cut it off, but use the saw to chase the cut around the surface of the tube, rotating a bit as you go and cutting about 1-2 inches of the length of the cut at a time.

The cut edge should be sanded and then polished down with the plastic scrubber pad for several reasons. First a nice smooth edge that is well rounded will increase the life of the liner material at this critical stress point. Second, a bit of frosting of the plastic by the scouring pad will make the latex grip the receiver housing very well and help keep the liner and constrictor parts in place.

In use I find the receiver seldom needs to ride the full length of the penis. Often the best sensations are obtained with it riding back and forth only a few inches, focusing mostly on the head of the penis. There is little point in a seven inch housing for most people given this consideration. You may find that in use, the receiver need not be as long as the erection even at its most enthusiastic. The reduction in trapped air volume by shortening the receiver to say six inches may be found to be worthwhile in terms of the stiffness of the action with the reduced trapped air volume.

Venus 2000 Power Unit Internals

The current Venus 2000 power unit is built extremely well. It uses quality industrial parts such as the carefully selected DC gear head motor. There is little that can be done to further optimize the supplied basic power unit. You get what you pay for with the Venus 2000, and most of that goes to pay for what is now the black cube, the power unit. I have always preferred the unit with the detachable speed control box on a cord.

The original Venus was a fire engine red unit permanently built into an enclosure like a black plastic brief case. It was significantly larger overall, but did have storage space for the hoses. The new Venus 2000 format is MUCH better in my opinion.

The current Venus 2000 power unit has a nice sturdy handle on the top, and four rubber feet on the bottom. It has a connector for the remote speed control unit, a small fitting for the stroke control hose, a larger fitting for the receiver hose, and an A/C power connector which has a surprise inside. The black turtle shell case is secured with four flat head screws with hex driver sockets in them for an Allen key.

The Venus 2000 **control box** is available on a cord as a handheld unit. The right photo shows the speed controller as supplied by the company. The green toggle switch lights up when the unit is turned on. The cord uses a six pin connector to handle the connections to the speed control potentiometer and the power switch.

My control unit is slightly different than a factory unit. The toggle switch used to have a light in the toggle, but the switch failed. Abco would have been glad to replace it, but I was in a hurry and went to Radio Shack where I got an almost equivalent switch rocker switch. But this new switch did not have a built in power light, so I added the green LED on the side. So a stock unit is a tiny bit different. It is still can be hard to notice the "power on" light sometimes.

The photo at the right shows my modified controller bundled with the stroke control hose with its white plastic clamp used to seal and unseal the hose. A new module by the company has significantly upgraded this feature, replacing the white plastic clamp with a **very nice double push button air valve arrangement.** This new replacement for the old plastic pinch clip works quite well and is an outstanding idea and implementation, though I could not resist the temptation to try to improve on it.

In order to prevent leaving the unit on accidentally and stalled, I usually unplug the A/C power cord either from the wall or the front of the power unit when not in use. I have never had the Venus 2000 seriously overheat when set to minimum and left on. It would not be good to leave it stalled under heavy load however. I just find it easy to pull out the A/C power chord at the front of the black Venus 2000 power box and there then is no question.

NOTE: The Venus 2000 has both standard A/C and high voltage DC voltages present inside when it is powered on. You should only have the cover off when the power cord is completely unplugged and removed from the front of the unit.

There is an **A/C power fuse**, rather hidden in the power connector on the black power unit. It is a little tray that pulls out. At one time there was a problem with these fuses blowing, but a factory fix some years ago seems to have solved that problem and I have not had to get into my supply of replacement fuses in several years. The photo shows the little drawer which can be quite hard to see, and even pop open with your fingernails once you do find it. The drawer is in two sections, the front section is for storage of the spare fuse and the active fuse is in the rear section.

The fuses are small units available at Radio Shack or car parts stores. Replacement fuses are not hard to find if you should happen to blow one. It is worth checking this A/C power fuse if your Venus 2000 suddenly goes completely dead for no apparent reason. Even after Abco assured me on the phone that the fuse tray really was there, I still had to look very closely to find this little drawer. That is it, pulled out, below the A/C power connector in the photo. The round multi-pin connector at the top is for the remote speed control unit.

Power Unit Adjustments

The Venus 2000 has several internal adjustments. With long wear and tear, you can be required to replace the main diaphragm at rare intervals. It is a rather soft and squishy material. The only real trick to replacing one is the careful positioning and tightening of the large hose clamp. If you don't get things quite right, the diaphragm can just ooze off the housing when you try to tighten the hose clamp. But a bit of fiddling with the exact positioning of the clamp and edge of the diaphragm usually gets it taken care of in just a few minutes.

So far I have had to replace one diaphragm and really it was my own fault. An experiment I tried severely abused the diaphragm and caused it to fail. I replaced it a second time to upgrade to a new softer type that Abco developed that is generally better. In the photo you can see the large diaphragm and just make out the setscrew and the hose clamp. Also the top of the electronic speed control board, which is what the hand control unit regulates through, and the mechanical stroke length control settings on the drive wheel.

There is also a **mechanical stroke adjustment** that can be usefully changed, but once you find your personal range, it never seems to need changing. This is not to be confused with the adjustment allowed by the stroke length control hose. But is based on the drive wheel which has five positions on which the diaphragm crank can be installed, changing the basic length of the diaphragm movement on each rotation of the gear motor. This mechanical stroke length control is about the only user adjustable setting inside the power unit you can, or should probably mess with.

The inner most mounting hole is a very short stroke and not likely to be useful except under special circumstances. The fifth and outer hole is quite a long stroke and results in wild action that may be impossible to control. Holes 2, 3, and 4, the middle three are the most likely settings to be right for a give user. Adjusting this is discussed later on a separate page. In the photo you can see the diaphragm, the stroke rod, the electronic speed control board and the drive wheel with its five positions for the coupling screw.

Detailed View Inside the Power Unit Housing

I personally have found greasing one critical area at long intervals to be worth doing. Specifically the fat screw part that secures the brass bushing of the stroke rod to the drive wheel. I use 90-weight wheel bearing grease, just a little dab will do. Just carefully remove the fat pushrod retaining screw with a large screwdriver, and grease up the inside of the brass pushrod bearing.

There is an electronic adjustment for minimum and maximum speed ranges set at the factory that probably does not normally need readjustment. These are located on the main power controller board, the electronic circuit where the A/C power from the wall plug is converted into the high DC voltage that actually drives the gear head motor at variable speeds. Unless you are an electrical engineer, you probably do not want to mess with the electronic speed control board. They are located at the top of the electronic control board. Be warned (yet again because I cannot say this enough!) There are dangerous voltages here and unless you really know what you are doing, **you should never power up the Venus 2000 with the cover off!**

Lubricants for Receivers

Since liner material is latex, it only makes sense to use latex safe lubricants for receivers. Lubrication is essential to proper working. Things you **would not want to use** include:

- Soap -- Even the gentlest soap is too irritating in such a use.
- Mineral Oil -- Bad for the latex, you will be replacing a lot of liners.
- Petroleum Jelly -- Way too thick and also very bad for the latex.
- Baby Oil -- Just horrible for the latex.
- Hand Lotion -- Or other lanolin based products are also very bad for the latex.

What you **do want** is the same kind of lubricant you might use with any latex condom, classic **condom safe lubricant**. It makes some sense, condoms are typically latex, just like the liner material. Now here is the rub *(pun)*.

Lubricants can be quite **expensive!** Some lubricants are extremely proud of themselves. You tend to use up a lot of lubricant with the Venus receivers. What I have found best is *"house brands"*. Whatever your local chain store drug outlet is, I bet it has a house brand similar to KY Jelly with a much cheaper price. Called something generic like "Personal Lubricant" and sold in a quite plain box. You can probably locate it near the condoms. It will specifically say **"latex safe"** or **"condom safe"** and likely be a clear gel in a large tube. Simple, effective and cheap are the "buy-words" here. It adds up over time and the $2.50 a tube stuff will probably work just fine.

If you find the gel type too thick, you can experiment with adding just a little bit of water. You can get plastic squeeze bottles which can be used for holding the slightly diluted gel. One of the few things you might use besides water to dilute lubricating gel is glycerin from a drug store. The glycerin does not dry rapidly like water diluted gel. For use with the Venus 2000 system the gel type that is often the cheap house brand available can be too thick, and a mixture of water and glycerin is quite effective in thinning it out. Plus being safe for the latex as well. Getting the right consistency for this particular use can greatly cut down on the amount of lubricant used, along with cap valve clogging. Places that sell supplies for camping or travel often have assortments of plastic squeeze bottles with nice dispensing tops, like on the left in one of the above photo.

The Glycerin Question - Good or Bad?

Glycerin is a kind of sugar so it can encourage microbe growth. Glycerin containing personal lubricants are said to encourage infections in some women that use them. They also tend to make for lubricants that are sticky and messy, though effective and relatively long lasting. Some people avoid the glycerin containing or based lubricants for some of these reasons.

All of these lubricants are basically the same types of chemicals with minor variations. One such variation being the "glycerin based" vs. the "glycerin free" categories. Of course, you may be a connoisseur of fancy lubricants and if a fancy spread does it for you, by all means enjoy. The components listed on this box of KY Jelly are given in this table.

KY Jelly Components

Chlorhexidine Gluconate
Glucono Delta Lactone
Glycerin
Hydroxyethyl Cellulose
Methylparaben
Purified water
Sodium Hydroxide

One can see that adding additional water and glycerin to this mixture is not out of line. It is an effective way of adjusting this from a jelly to a thick liquid and increasing its drying time, in the case of more glycerin. It will be sticky and a bit messy as with all glycerin containing lubricants, but if you are OK with glycerin, this can be a cheap option. BTW, Sodium Hydroxide is lye! It is here in very small amounts to adjust the ph or acidity of the jelly. You should **definitely NOT** go around adding lye to any lubricant!

Rinse out the receiver after every use, taking care to scrub any lubricant from the cap vent valve with a brush of some kind. You do not want lubricant to dry in the valve. I like to leave a receiver standing on the edge of the sink vertical with its mouth down so it can drain any lubricant hiding up in the cap area.

You really should remove the top cap during such cleanings, it can be hard to effectively clean the area around the edge of the inside of the top cap effectively without removing the cap each time. If your lubricant contains glycerin it is probably even more important to wash the receiver out well after each use. Also take care **not to get water inside** the housing, that is between the latex liner and the receiver housing's inner wall. There are tiny black caps supplied that are supposed to be used for sealing up the hose tubulation during cleaning. Mine keep disappearing, so I am just careful to keep my thumb over the tubulation opening while washing up.

Storage of Liner Material and Receivers

It is important to keep in mind that natural latex biodegrades. It has a long shelf life if properly stored, but can be ruined in days if you do not pay attention to how to store it. Abco has tried a number of ideas in an attempt to make a super liner, but good old latex is hard to beat for a lot of applications, and this seems to be one of them.

First, air is the mortal enemy of latex products. So the number one rule for storing latex is very simple. Seal it up. It does not have to be fancy. I use Ziploc type bags for mine. Press out extra air and seal the bag firmly.

Second, sunlight is the death of latex products. So keep them in a dark place. I use a drawer where I keep all the receiver parts and supplies and tools. **No UV light for latex products.**

Protected from light and air with a few simple precautions will considerably extend the life of latex supplies like liner material. A closed cardboard box with the latex stuff in sealed plastic bags does the trick. Liner material will last for many months stored this way in an area not overly hot. The classic *"cool dark place".*

Another useful latex preservation product is baby **cornstarch**. The kind for powdering babies. Not the Talc, or talcum powder, but the cornstarch. You will need to carefully read the ingredients label to tell the difference in most cases, though some products are labeled as cornstarch. It is quite hard to find unscented, but rarely it is available. Also look out for types that contain some kind of moisturizer. With luck you can find one that is just ultrafine cornstarch.

I use Johnson's Baby Cornstarch when I can find it. It is very fine though usually stinky. Dusted on latex it takes away all stickiness and seems to preserve the latex further. Be warned, it makes the latex quite slippery, so you may need to rinse off a section of dusted liner before you can get it to stay put when you try to install it on your receiver. But it can be used to dust exposed parts of a receiver after it is dry and before you put it away. Generic house brand baby cornstarch is probably just as good and cheaper.

Storage and Cleaning of Receivers

Which brings up another point. Storage of receivers. They also benefit from being kept out of the light, especially direct sunlight. I have found a particular plastic "Rubbermaid" type of rectangular tub, about 14 x 20 inches and about six inches deep. It slides nicely under the bed. Laying the receivers in this tub and sliding it under the bed works for me as easy storage. Plus the tub is easy to clean. Even rinsed receivers can drool lubricant.

Notice I keep saying "receivers" plural? You will quickly discover that once you have mastered receiver maintenance and fitting, that there is no reason not to have several, set up differently. The major cost is in the power unit. Fiddling with receivers, rebuilding them with different sizes of the liners and constrictors, is quite inexpensive.

On the topic of cleaning, the most important part is of course rinsing after use. Following by standing the receiver up on its mouth end to drain. During rinsing you need to be particularly careful about getting water inside the hose fitting, between the liner and the receiver housing. If you do, you really need to break down the receiver and dry it out. The latex will grow mold if stored damp. Abco has nifty little black caps to place over the tube fitting for washing up to prevent exactly this kind of accident. But I never can seem to find where the little things have run off to! So I just carefully keep my thumb on the hand holding the receiver over the tube fitting while rinsing it out.

Rinse with COLD water! Or warm at best. The Venus receiver is made of a thermoplastic. If you get it really hot, like with the hottest water a hot water tap might supply, it will soften and distort. Use only cold or warm water for rinsing out the receiver units. Also the caps are thermoplastic. If you wash them in very hot water they will SHRINK! Some interesting possibilities exist for advanced receiver fiddling based on the thermoplastic nature of the housings, but for most users, you should be careful not to get the receiver parts too hot.

If you boil a receiver, expect to end up with a real mess!! If a receiver grows mold or becomes a noxious mess, it is best to strip it down, discard the mold infected latex parts, clean the end cap and housing carefully with soap and warm water, and start over with new latex liners, constrictors and bands. Properly rinsed after each use and drained and allowed to dry, and this should not be a problem at all.

The valves need special attention and a scrub brush, such as a stiff old toothbrush. The valves attract lubricant to an amazing extent. Some have reported that a shot from a can of silicone lubricant onto the ball of the valve will help keep it from gumming up and sticking. I just scrub mine up with water nicely.

The Double Push Button Stroke Hose Valve Controller

In 2004 ABCO came out with a new accessory. For a long time the stroke control hose was closed with a white plastic clamp of a type found in hospitals. This pinch clamp was simple and cheap and worked well. It was easy to figure out how to use.

You would flip the clamp open, and blow or suck on the hose to adjust the internal trapped air volume of the receiver/power unit combination, which in turn controlled the stroking action. It was not overly elegant, but quite functional.

The new push button unit is very elegant and uses high quality parts. It couples a pair of check valves pointing in opposite directions with a pair of air push button valves. It relies on the action of the power unit cycle in combination with these check valves. If you push one button and hold it a short period, there will come a time during the cycle of the power unit when there is a vacuum or a pressure relative to the outside air. If you are holding down the valve connected to the intake oriented check valve, air will be added to the trapped volume. If you are holding down the other one, air will be subtracted from the trapped volume. The need to fiddle with a clip or suck on a hose or blow on a hose is eliminated.

If you look carefully at this internal view of the new air valve unit, you can see the check valves and the backs of the push button air valves. The large brass tubulation at the bottom in this photo is the connection to the end of the stroke control hose. The white plastic clamp is no longer needed. Pushing and holding both push button valves allows pressure/vacuum to equalize on the receiver.

In use I found there were times when I could not get the pressure I wanted in some of my modified receivers and other gimmicks powered by the Venus 2000 power unit. While it worked fine with stock receivers in routine use, I felt I needed the ability to force more air in than the natural cycle action would take.

The fix was simple, I just got some additional 1/8 inch I.D. hose. In my case I was able to get some aquarium hose of high quality in the right size. I then just slipped this over the free end of the check valve which is oriented to allow air into the system. Now by pressing the appropriate push button valve and blowing into the attached hose, I can overpressure the system if I wish to. Or I can ignore the hose and use the valve console as it it were not modified. If you look carefully at the left side of the above photo, you can see the light green hose added and just visible under the black loop of hose you can see where it attaches to one of the clear plastic check valves. I made a hole in the side of the plastic valve box to allow the blow hose to exit.

Whether or not this modification is worth while to you will depend a great deal on how you use and enjoy your Venus 2000 unit and receivers. You may find the unmodified controller works great for you in all cases.

The one thing that did bother me was the old slither problem. I have always had a problem with the speed controller slithering away like a snake determined to hide under the bed. I attacked this with a clip arrangement that allowed it to be secured to a sheet or pillow case or some other convenient place, which was in turn slipped over the cable going to the speed control unit. This clip helped a lot.

Unfortunately, the new air valve unit also believed in slithering and also thought hiding under the bed was just the right thing to do. Now I had two control units competing to see which could be most irritating and disappear the quickest onto the floor, or slither behind something. It was becoming a bit of a juggling contest.

So I decided one big console was better than two little ones. I placed them side by side, lining up the cord and the hose, fiddling with the positions until I liked the arrangement, and then made a paper template. I cut out a nice sheet of 1/8 inch aluminum. I happened to have some scrap that was already painted a nice color.

I rounded the edges of the metal plate and attached the two units with fat double sided adhesive "tape", actually a kind of mounting material made by 3M. I needed several layers

to fill up the recessed base of the air control unit and the speed control unit. But when done, the attachment proved to be quite strong.

I had also drilled a hole in the new combined base in a convenient place so I could mount the clip near the center of balance. I have found these clips in several places. Sometimes used to reseal bags of fancy coffee or tea. Often the perfect clips are found on nametags. They have "buck teeth", that is one jaw overlaps the other as they close, which makes them particularly effective in grabbing clothing or sheets. The ones from nametags often have nice little flat plastic "loops" on them making them easy to combine with a split ring for mounting.

I had some split spiral wrap from Radio Shack used to control cable bundles, so to make it fancy, I slipped it over the hose and cable to bundle them together. You may or may not want to do this. I am still undecided. It makes it fancy looking, but it stiffens the combination. Being stiffer, this puts up a big more fight, and is a bit harder to get to "stay" where you want it.

I happened to have some nice rubber feet about 3/4 inch in diameter which were also stick on, so I placed them on the back of the console rather as an afterthought. What a great afterthought! As it turns out these things grab onto sheets and other cloth surfaces and fight the slither factor very nicely. Between making one console out of two and adding the rubber feet, nearly all the problem was solved. The clip makes for added versatility in keeping this console completely under control during use.

Modifications to Liner Material

[This is probably the strangest of the ideas presented. But it can be made to work and is listed here just to be somewhat complete.]

The most obvious liner modification is to **stretch the liner** material end to end several times before installation. Latex is a strange substance. It is a natural polymer. It has a wonderful random alignment of its molecules which makes natural latex superior in some applications to the more regimented orientation typical of the synthetic rubber versions. When first made a natural latex product also has some weak cross linking that makes it initially stiffer than it needs to be.

The Virgin Rubber's Green Flash

Take a virgin rubber band, brand new out of a fresh box of rubber bands, preferably about 1/4 inch wide and natural colored. Never touched before. Go into a nice dark place with it and after your eyes get used to the darkness, rapidly stretch it. You may be quite shocked to see it light up with a rather bright **green glow** radiating out of the latex! What you are seeing is some of this energy being dissipated, some of the cross linking of a certain type, being broken and the molecules being aligned. You may also notice the rubber band is now **softer**, with noticeable different properties. A given section of the rubber band only flashes once, by the way.

You can treat liner material the same way, though I doubt if you will get a nice green flash. You can stretch it a number of times lengthwise to free it up and get it nice and flexible before you install it. It will still respond by getting softer and more pliable in that direction, even without the green flash.

But you can also stretch liner material stock in another way. You can stopper one end with a solid large cork or rubber stopper firmly attached with rubber bands. Then plug the other end of about a 12-inch length of liner material with a one hole rubber stopper or cork on the other end. Now you can pump the liner material up with a pump of the type used for basketballs and such. Such small hand pumps often come with a long tapered fitting that will go right into the hole in a one hole rubber stopper.

When you inflate the liner material it will balloon out in the middle. Now some of it will burst, but if you have a good batch it can be inflated over a significant part of its length and left for several minutes. When deflated you will find it is permanently bulged out in the middle. If you try this be sure to use precautions like eye protection etc. If one does burst it can make quite a bang.

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This **bulged out area** makes the compliment of a constrictor. This liner now has thicker ends relative to its middle which are of a smaller diameter. After an effective inflation, the section is like a 225 liner with a 4-inch length long center section that is 250 material. This can be installed complete with constrictors and so forth but you end up with a liner even bigger and looser fitting section in the middle.

An ideal liner would have this property. It would be thicker latex on the two ends, especially the entrance end, and wider and thinner material in the middle for better action. Attempts were made to create such a liner by casting and other methods but they never quite worked.

So far getting lucky with a section of liner that can be pumped up like a balloon and left to stretch without bursting, is the closest I have been able to come to creating such a liner that is a smaller thicker section on each end and a wider thinner section in the middle. While it may not be too obvious in the picture, the center liner section which has been inflated, has a significantly softer and thinner center section that the two unmodified examples above and below it.

As I said, if you try this please be careful and take precautions, expecting the liner material to burst as it often does when inflated.

Alternate Receiver Mountings

While much is made of the hands free use of the Venus 2000 receiver, it is only one method of use. It also requires a significant erection and a receiver fitted to that state of erection.

However, **the receiver can be supported in a number of ways**. This allows receivers to be heavier, have accessories and most of all, it eliminates the need for a significant rather invariant erection.

The simplest type of support is to use the receiver while kneeling on a bed or other soft surface with the receiver on a stack of pillows adjusted to the correct height to slide back and forth on the top pillow. Variations on this theme should certainly come to mind. Such as sitting in a reclining chair with a thin pillow on your thighs under the receiver for it to slide back and forth on.

You can tie two hot water bottles together. A couple of strips of foam rubber are placed on either side of a receiver and the entire thing is slipped between the two hot water bottles filled with warm water. The hot water bottles have hard inserts in the top where the plug screws in. It is easy to lash these two areas together. On the opposite end are the two hanger holes molded into the water bottles which can be tied together making a double hot water bottle. It is easy to slip a Venus receiver between the two with our without the extra foam rubber. I find a few strips of foam help keep things centered and in place. This combination can be mounted on a stack of pillows as above. It ends up quite heavy as you might expect with all that water and is backward. You decide if the warmth is worth the effort.

One interesting concept was to affix a string bridle to the receiver, at approximately a balance point for and aft. This is easy to do with a large fishing swivel and some string and a bit of boy scout training. If you find lashing too much trouble, then resort to the great engineering solution of duct tape. Then a neck strap of the type used by saxophone players is attached to the receiver. Such neck straps are very well designed and easy to adjust for length. This takes the weight of the receiver and still allows it to pendulum back and forth easily.

Perhaps one of the more interesting variations is attachment of the receiver very close to the mouth end, to an opening in a pair of jockey shorts or similar garment. The attachment is made by cutting a small hole in the right place, and carefully working the mouth end of the receiver through the hole. The mouth end of the receiver can then be fastened with some large rubber bands to the cloth of the opening. This creates a wearable receiver. This has lots of possibilities. The stroke length can be set quite long since the receiver is nicely captive and much constrained from popping off even with vigorous action. It can be used sitting, or standing or even lying down.
The trick is not to make too large a hole. Then when the end of the receiver is inserted, the fabric will stretch and form around the mouth of the receiver like a flange, making attachment with the rubber band quite easy.

Click Image for More Info

There is a type of toy which is like big inflated boxing gloves. Two sizes of these inflated boxing gloves exist, the regular and the super. The Venus 2000 receiver fits nicely into either of these, but it will try to seal off the receiver cap. You can take a small piece of stout tubing, even a large straw, and fix it to the side of the receive with rubber bands. Even when the inflatable bopper is inflated tightly, the straw will leave an air path for the cap valve to continue to vent. When mounted in one of these inflatable-boxing-glove-type things, the receiver can be easier to support on pillows at the right height, or if used lying on our back, the rocking of the combination can be controlled by the position of you thighs.

The Unusual and Versatile Geo Balloons

Qualatex makes a special balloon called a "Geo". This remarkable balloon is a donut shape. The one of special interest is the 16 inch round Geo balloon. There is also a 16 inch "petal" type. They can be used two ways. A Geo can be tightly inflated and then deflated to stretch it, and then barely inflated and tied off, not really inflated, just filled with air until it is about to start inflating. This air filled donut can be slipped over the mouth end of the receiver.

This works well with the inflatable boxing glove toy or the jockey shorts type of receiver mounting. A barely inflated Geo can also be used on the mouth of a receiver mounted between two hot water bottles described above. In all these cases it provides a bit more padding and an extended entrance area.

A Geo can also be slipped over the body of the receiver, the smaller kind like the 2-inch receiver especially, and inflated. With or without a second Geo barely inflated and slipped over the mouth of the receiver. blown up around the receiver, you end up with a combination a full 16 inches or more across and barely different in weight than the receiver itself. This makes for a lot of possibilities in terms of supporting the receiver.

In either case, the inflatable boxing glove toy or the receiver with inflated geo, they work extremely well while lying on your back. The "head" like structure will rock back and forth. By adjusting the distance your thighs are apart, you can adjust this rocking motion and vary it easily. The results are remarkable. Perhaps even enhanced if covered with a sheet to further modify the action. The receiver with a Geo around it can also be clamped between the thighs and manipulated that way.

Inflating a Geo around a receiver is one case in which you may want to make up the receiver with the hose tubulation at the back or cap end of the housing. This allows the front to be free of the hose for a better fit on that side. Putting the hose on the rear of the housing does give the hose a greater opportunity to pull sideways on the receiver, so it is a tradeoff.

The Geo can be inflated around a receiver mounted on the jockey shorts also. This then creates something that will bounce against your belly and thighs while in use for extra stimulation. Keep in mind that two sizes of the Qualatex Geo's are made, six and 16-inch. The six inch is too small for any practical use with the Venus receivers. Also two styles, petal and round, of which the round seems most useful, though both styles will work.

At one time I constructed a sophisticated gantry. It was a sight to behold, an engineering marvel. It used a system of pulleys, carefully selected counterweights and an adjustable T-shaped support. It would exactly counterbalance the Venus receiver's weight and cause it to hang down, but still freely move from side to side and up and down. It was effective when used lying on your back. But it was complicated and you had to align yourself right under it. It did the job and created essentially a weightless receiver. The inflated Geo and the inflatable boxing glove toy mounting both turned out to be more flexible, accomplish much the same sensations and be much easier to set up for use.

Face down use of the Venus receiver can be achieved with some of the softer of the above described arrangements. Especially the stack of pillows with our without the hot water bottles, probably with the addition of another pillow on top as a good idea.

A small section of copper tubing about 3/8 inch O.D. can be used to join lengths of the main receiver airline. You can purchase extra receiver hose from Abco in any length. There are times when a nice short hose is convenient and times when a much longer hose is convenient. A pair of hoses, one 50% longer than the other, can be used to make three different lengths of receiver hose with

one simple coupler made from just a 1-inch section of copper or plastic tubing of the right size.

Also you can optimize a receiver design for these constrained applications. You might use a larger liner for a looser fit since some air leakage would not be as big a deal, or leave the liner looser and less tensioned end to end, so it can balloon out a bit more on the end, or use less of a constrictor for freer motion. Again counting on the much more constrained receiver to behave itself, vs. the demanding "hands free standing up" type of usage.

With the jockey shorts type of wearable receiver mounting, the receiver action can be quite vigorous and even without a major erection things will stay where they should.

The point is that with imagination,

you can find a number of ways to use receivers.

Sound Suppression Base for Venus

Sound suppression has been a big topic with some Venus 2000 fans. The basic problem is the power unit is not only heavy, but the power stroke is not even. It has a point, not unlike top dead center on an automobile compression, stroke where effort maximizes. Thus as the drive wheel rotates, the torque required is not even through 360 degrees.

As it hits this "bump in the road" on each turn of the crank, it can make a "*whoomp*" sound. Not overly loud, but obvious if under heavy load. If the diaphragm is set just right and the slack in the drive motor gear reduction is just right, and the load is light, Venus 2000 can be as quiet as just the whoosh, whoosh of the air in and out of the hose connectors. I do not want to imply that the Venus 2000 power unit carries on like an old rickety bedstead rhythmically slamming into the wall or someone whaling away on the floor with a rubber hammer. If it does, there is something wrong that needs correcting.

But in my experience the power unit tends to make some noise. Of course, I do not find this airborne noise a problem in my case, and just ignore it. But there is one thing I do mind and do take care of. Noise transmitted through **contact** with the building structure.

If you place the Venus 2000 power unit on a hard surface, that surface will act like the sounding board of a piano and amplify it. It will travel through walls and floors. While keeping any minor airborne sound in the privacy of your own bedroom is easy, this structure dwelling sound roams freely from room to room.

The solution to this conducted sound is to **"acoustically disconnect"** the Venus 2000 power unit from the building structure. This can be as simple as running the power unit on a thickly carpeted floor, where the carpet prevents it from contacting a hard surface directly to which it can transmit sound by direct conduction.

But my solution has been to create a wooden base for my Venus 2000 and float that base on two 1/2 inch layers of foam rubber, like used for padding in shipping delicate objects. I was able to find four extra long rubber feet to replace the short ones on the original unit. This allowed me to countersink four holes in the wood base to accommodate the feet. The holes were drilled with one of those big flat paddle drills, a 1 1/4 inch wood bit. Only about 1/4 inch deep was plenty. The extra long rubber feet drop into these four holes, locking the power unit in place on the wooden base.

Even this is overkill. Any piece of wood or really heavy cardboard will work without the holes. You just need something flat and solid to support the feet and keep them from sinking deep into the foam. The holes or recesses for the feet are just something I had resources to do.

The reason I did not set it directly on the foam was that the feet would sink deeply into it and heavily compress the foam right under the feet and "defeat" the purpose. Also I wanted to keep the underside of the Venus 2000 power unit clear of contact with the foam padding so the power unit base could have air under it. This lead to the design with a hard layer floating on the foam. One can even be extra fancy and put a sheet of stiff cardboard between the two layers of the foam. It is known that such a structure, alternating layers of hard and soft material, are quite effective in preventing conduction of sound energy.

With the Venus 2000 acoustically disconnected from direct contact with a hard surface this way, it is much quieter and what sound remains does not transmit except through the air. You can prove this by placing the Venus 2000 on a hard topped dresser, turning it on, and then picking it up by the handle on the power unit. You should hear an immediate change as soon as you lift the power unit free of the dresser top.

Once I had the base plate, I also mounted a small round base fixture I had salvaged along with some aluminum support rod. This extra rod, plus a special clamp, created a little adjustable support arm that can support the receiver hose. In fact, this sound suppression base was salvaged from a less than successful larger project I called The Venus 4000.

In my normal use, the Venus 2000 power unit sits on a dresser next to the bed on its padded base. This adjustable support arm helps keep the hose under control and makes sure the hose does not unduly pull on the receiver. I have found that in my normal use, this hose hanger arm is a quite worthwhile addition.

But the main function of the base is to sound isolate the Venus 2000 power unit from the rest of the world. The idea is simple. A hard surface for the Venus to sit on, like a section of 1/4 inch plywood, and that floated on some foam rubber or a pillow, instead of the Venus 2000 being set directly on the hard surface of the dresser which in turn sits in hard direct contact with the floor. Thus breaking up the path which would allow Venus 2000 sound to be amplified by the *"back board"* of the dresser top and transmitted through the structure of the building. The little adjustable hose support is just a bonus.

The ring on the support arm can also be used to hang the control head from a special little clip. The Venus 2000 control head has a nasty habit of wanting to be on the floor, and slithering off like a snake at every opportunity.

This second modification used a small clip such as used to close fancy coffee bags after opening. Because of a pronounced overbite, such clips get a great grip on bed sheets, for instance. Added to a few swivels and split rings, I found a combination that would slip over the controller's

bundles was used to bundle the stroke control hose and the controller wire next to the control unit head. The entire thing can now be secured to a pillow case, or a sheet or even hung from the ring on the little gantry. Result?

No more slithering away onto the floor at every opportunity. These clips are also found on fancy plastic nametags for attachment of the nametag to the shirt, a good reason to save your next nametag.

The Venus 2000 has a plastic base plate secured under the rubber feet. At one point I tried removing this to improve cooling. But I have not really found that the Venus 2000 heats up a lot, even with extended usage. What I did find was the plastic plate seals up some holes in the metal plate that is the real base of the Venus 2000 and does add to the noise suppression.

Personally, I find this solution to any noise the Venus 2000 makes in operation more than enough, and better than struggling with the diaphragm fit and other hardware in an effort to totally quiet the unit. The baseboard and foam layer trick should keep things quiet enough that no one will be tipped off to what you are up to in the privacy of your own bedroom, at least not by noise from the Venus 2000 power unit. If you can't help giving the game away, that is not something the sound suppression base is going to help with.

Low Pass Filter Effect on High Speeds

The Venus 2000 operates over a wide speed range. At low speeds the basic design of the system is adequate to handle the full range of movement of the diaphragm and the amount of air displaced, even with the longest of the stroke settings on the drive wheel. At slow speeds, these air pressure fluctuations are efficiently delivered to the receiver through the 3/8 I.D. of the receiver hose and the constrictions of the tubulations on each end..

But as stroking speeds increase, you can see a noticeable change in the length of the produced receiver stroke and a change in the stroking efficiency. This is because of an effect called **"low pass filtering"**. Basically this means that when viewed as a dynamic system, the system is different than when viewed as a static or fixed system. And the difference is **more pronounced at higher speeds.**

Skippable Grizzly Details

The air volume changes produced in the diaphragm motion are transmitted to the receiver volume through a length of hose. This hose can be viewed as an **air flow resistance**. The volume of the diaphragm can be viewed as a **capacitor**. The volume of the receiver can be viewed as a **second capacitor**. The motor can be viewed as an **A/C voltage generator**. The air flow back and forth as an **A/C current** generated.

The way this is hooked up, this combination adds up to what an electrical engineer would recognize as the equivalent of a low pass filter circuit.

When running at low speed, the hose has no problem moving virtually all the air being displaced by the diaphragm's back and forth movement, through the receiver hose and into and out of the receiver. But as stroking speeds increase, the resistance of the hose becomes too large, and instead of moving all the air back and forth through the hose, more motor energy goes into generating back pressure in the diaphragm, compressing the air in the diaphragm since it just cannot be squirted in and out through the receiver hose resistance fast enough.

Less total air movement at the receiver end of the hose means less response from the receiver regardless of how furiously the power unit slugs away. If you wondered why the hose on the Venus 2000's air line from the power unit to the receiver was so large, a full 3/8 inch I.D., this is why. To keep the air flow resistance down and maintain reasonable performance at high speed. It is a tradeoff between something massive like a 1 -inch I.D. hose which would have great high speed performance but be completely unworkable because of its size and strain on the receiver, and a small 1/8 inch I.D. hose that would be great in terms of size and easily ignored by the receiver, but strangle all but the slowest speed performance.

The use of the 3/8 inch hose obviously was selected carefully as it is a good match for overall performance. If one is really fond of the higher speed ranges on the Venus 2000, there are several things you can do to **optimize performance at the faster speed ranges.**

First, you can **use as short a hose as is reasonable**. Shorter length means less resistance to the reciprocating air flow from the same diameter receiver hose. This should help a bit. The diameter of the stroke control hose, the 1/8 inch one, is largely irrelevant since it does not move any of the air used in the power stroke and adds little to the total trapped air volume.

You can gain a tiny additional bit by using a taper reamer or round rat tail file to **clean out the inside of the hose tubulation** on the receiver body itself. There is a nasty burr at the entrance that constricts the diameter there for no good reason. I have reamed out all the tubulations on my receivers. The gain is probably small, but I like the cleanliness of the reamed out tubulations.

Also you should use one of the **shorter stroke settings** on the drive wheel for faster speeds. The longer stroke settings at high speeds are just going to back up more air and more backpressure. The motor will run better at higher speeds with the shorter stroke setting, and be more tuned to the amount of air it can move in and out of the 3/8 inch hose on each cycle.

More trouble than it is worth category

Changing to a larger receiver hose would be a big deal! Simply kludging on a fatter hose with a couple of adapters is not going to work.

The fitting (tubulation) on the diaphragm housing would have to be changed (enlarged) and the fitting (tubulation) on the receiver would also have to be somehow made bigger in I.D. Also the weight and strain of the larger hose would probably be such a hassle as to prove to be a really bad idea. There would start to be a serious problem with wall thickness on the larger hose as well. If kept reasonably thin to be flexible and light, you would end up with the hose itself acting as a receiver liner and soaking up a significant portion of the pressure fluctuations, trying to collapse and balloon, instead of transmitting the pressure fluctuations efficiently.

It is hard to imagine you could change to anything much larger than 7/16th inch. Probably not worth the large amount of modification to the power unit and receivers to use the larger hose. If you did not change the fittings themselves, simply going to a larger hose would not help that much. All the constrictions from diaphragm to receiver liner would have to increase in size.

One significant thing you can profitably try is to **decrease the total trapped air volume.** To keep lively movement of the receiver, decrease the trapped volume in the receiver itself,

resistance of the receiver hose is not all that practical, you can attack the "capacitance" at the "load", the receiver end of the hose. This is most easily done by using a 2-inch housing if at all possible. You should also consider cutting down the housing to the minimum reasonable length for your particular fit. For instance shortening a seven inch housing to 6.5 inches. The low pass filter is made up of the combination of the receiver capacitance and the hose air flow resistance.

Decreasing the trapped air volume at the receiver end of the hose should noticeably change the responsiveness of the receiver at the higher speeds. It will be livelier and keep up with the increasing speed a bit more effectively. It will reach a higher stroking speed before its stroking length starts to decrease due to the low pass filtering effect. There is a limit to how effective any of this can be.

So if you are into high stroking speeds:

- **Use as short a length of hose as reasonable.**
- **Clean out the tubulations with a taper reamer, or round file.**
- **Use one hole shorter stroke on the mechanical drive wheel setting.**
- **Use as small a diameter housing as possible to keep down trapped receiver air volume**
- **Consider whether or not the receiver housing could be a bit shorter.**

Even if you are mainly into the slowest stroking speeds, you will find that reducing the trapped air volume in the receiver, at the far end of the hose, will **stiffen the action**, it will make it less "mushy" and more responsive.

If you find you are able to move from a 2.5 inch to a 2 inch housing, you should find you can also change to a more inner, and shorter mechanical stroke length hole setting on the drive wheel, changing the mechanical advantage on the pump mechanism itself. This change will slightly increase the power on the stroke and should even decrease the low end stall speed.

For the same reason you will find it worthwhile to not use a receiver any longer than it really needs to be. With care and a decent hacksaw, you can easily cut a bit of one end or the other of a receiver, though you need to be very careful about shortening the end with the tubulation. There needs to be a fair amount of plastic past the tubulation to allow for mounting the constrictor and the liner on that end.

Hard to Find Stuff

[Several hard to find things are prominently mentioned in this website. Here are some tips on how to locate them.]

Cork Borers (i.e. *Leather Punches*)

Turns out that these are now priced like valued antiques and outrageous in cost. I got lucky and salvaged my cork borers as a random collection of sizes from broken sets swept up during a big renovation cleaning and on their way to the dumpster. I polished them up and sharpened the few good ones.

It appears an even better solution is to use **leather punches**. These are steel and available in range of sizes even a few interesting special shapes.. The classic company for purchasing leather working tools and supplies is:

Tandy Leather Company

Look on their website under hand tools. Many of the punches are in number sizes and quite small. Also most of the hand punches that look like fancy pliers are all make quite small holes. But there are a number of punches meant to be hit with a hammer which are in very nice sizes like 1/4 to 1/2 inch in diameter. There is even a nice inexpensive special board just right for use to back the punches while punching holes. Tandy Leather Company also has stores in some larger cities which might have some of the right sizes of leather punches in stock.

Geo Balloons

These unique balloons are only made by Qualatex (Pioneer Balloon Company). Qualatex balloons are used by a vast array of flower shops and gift shops and balloon decorators. If you live in a decent size city, there is probably a company that sells balloons to all these places. You are looking for the Geo balloons in 16-inch size, either round or blossom style, and in a bag of 50 balloons in assorted colors. This is the format you are most likely to find them in. There are a few places which might sell them to you over the web as well such as:

Balloon Supply & Design House

Look on their website under latex balloons and special shapes to find the Geo balloons. You can occasionally find Geo's in single color sacks, but typically the only ones available are assorted color 16-inch rounds. Another option might be a friendly balloon decorator company or flower shop that purchases Qualatex balloons commercially and could get one or two bags of the Geo's for you.

O-Rings in Large Sizes

Lots of companies make O-rings and you can by them in lots of about 100,000 at a time. There seems to be very few places to get a handful. Be sure to try your local auto parts store. Sizes of interest are 326 and 327 especially but 325 might not be too small and 329 might not be too big. Other than that, on the web, there seems to be just one good place, a company famous for ages for supplying small fiddly bits of hardware:

Small Parts

Look on their website under components and look for O-rings made from Buna-N material. They have packs as small as 10 and 25 and they are quite inexpensive. You will probably pay more for the FedEx shipping than for all the O-rings you could possibly use. There are two sizes one might use for the 2.5 inch housing mentioned before, but such large I.D.'s with such small cross sections are of questionable use, but worth trying.

Ideas That Did NOT Work Out Well

(*OK, My Failures*)

[Like all experimenting, there are far more failures than successes. Some lead to even better and workable ideas. Others leave problems for future solution.]

The Giant Gantry!

One of these was the **giant gantry mounting**. It was a thing of beauty. Of all of my attempts at lily gilding the Venus 2000 system, this has to rank as one of my most overbuilt. Standing about five feet tall and originally mounted on what you see as the sound suppression base it was a receiver support. The gantry's vertical member was a nearly five foot long length of 1/2 inch diameter aluminum rod.

At the top of this was a three foot plus crossbar made from a tapered stick of fiberglass, such as a stout fishing rod would be constructed from. At the very tip of that horizontal fiberglass rod, and at several other strategic places were mounted high quality pulleys in a complex configuration complete with counterweights. The counterweights were very large lead things called "bank sinkers" you get from a fishing supply store.

The idea was that a harness could be mounted to the cap of a Venus 2000 receiver with a swivel and attached to the cord hanging down from the end of the gantry. The receiver could thus be counterweighted, yet still free to move up and down and side to side. It would have essentially no weight since its weight would be cancelled by the system of pulleys and counterweights and cords running back and forth. When all ready for use, it looked a bit like a Saturn V launch pad.

It did work quite well enough, but it required you to carefully center yourself underneath the contraption. Combined with the setup and storage required, it was a hassle.

The simple Geo balloon mounting made it obsolete. The Geo balloon mount enables just about all the action possible with the gantry and then some, is much easier and more versatile and portable. With just about zero storage room required for the deflated Geo balloons.

The giant gantry is however memorialized in the much smaller version that is used as a hose support arm mounted in the sound suppression base fixture that is all that remains of the larger base and fitting which once held the huge overhanging "L" of the gantry.

The Venus 4000

One of the last frontiers of Venus 2000 system optimization is stroke randomization. Creating a stroke pattern that is more human and less mechanically repetitive. Various schemes have been tried and suggested, some even working to some extent.

One of the most extravagantly overbuilt was the **Venus 4000 system**. Since I had two Venus systems, I came up with the idea that if the two receiver air outputs of two independent power units were joined with an air manifold, one could produce a composite stroke. Like adding two waveforms of different frequency to create a complex waveform.

A base was constructed with eight holes, two patterns of four, into which the feet for each of the two units could drop, thus holding them in relative position. A manifold was constructed. Both units were set to short stroke lengths. The fast one was set to the shortest possible mechanical stroke length setting. The other which was meant to be the slow running unit was set to about hole 3 on the drive wheel.

From the manifold a single receiver hose emerged and went to the receiver. Turning on the one unit, the one which is meant to be controlled, at a slow speed, the other unit was turned on at a quite fast speed with its very short stroke. Sure enough, the rapid short stroke was superimposed on the slower longer stroke. When it did work, it was quite nice!

"WHEN IT WORKED" is the operative term here. The two Venus units acted like long lost cousins and used the manifold to "talk to each other". The pressure pulses from the one unit would try to synchronize the other unit just like two A/C generators applied to the same load want to run at the same frequency and phase.

There seemed to be no way to prevent this. The two units had to be set at extremely different speeds. Smooth adjustment was not possible. Unpredictable results would be obtained by changing one frequency or the other by a small amount. The best result came when the two units were running at similar speeds, at least in terms of the composite stroke produced being most satisfying. But that was **exactly** the kind of speeds the two units **did not like** and tried to force into step.

After considerable testing the entire idea was abandoned as terribly expensive, complex and yielding far too little satisfactory production of a simulation of randomized stroking. It was quite big and heavy to boot.

The base seen in the sound suppression section is all that remains of the idea. It was cut in

the results generated, ended up in its present form. As the sound suppression base with its four holes for one half of the Venus 4000 system, and a vastly cut down and simplified "gantry" for supporting the hose in some usage configurations.

External View of the Venus 2000 Power Unit

The Venus 2000 power unit. In front is an inexpensive screwdriver from Radio Shack with replaceable tips. This particular tip happens to be the exact Allen wrench size for the four case screws that hold the black plastic turtle shell on the power unit. You can see in the upper left the multi-pin connection for the remote control box. Below that is the socket for the A/C power cord with its fuse drawer hiding below it very well concealed. The other side are the two connections for the rubber air hoses. The top tubulation is for the stroke control hose, which is about 1/8 inch ID, and the bottom one for the receiver air hose which is about 3/8 inch ID.

You can just make out one of the screw heads holding the cover on at the bottom left corner of the case. Note the nice handle on top. The unit is a bit heavy and a well placed stout handle is a plus. Note the handle is off center. This is for balance as the motor is on

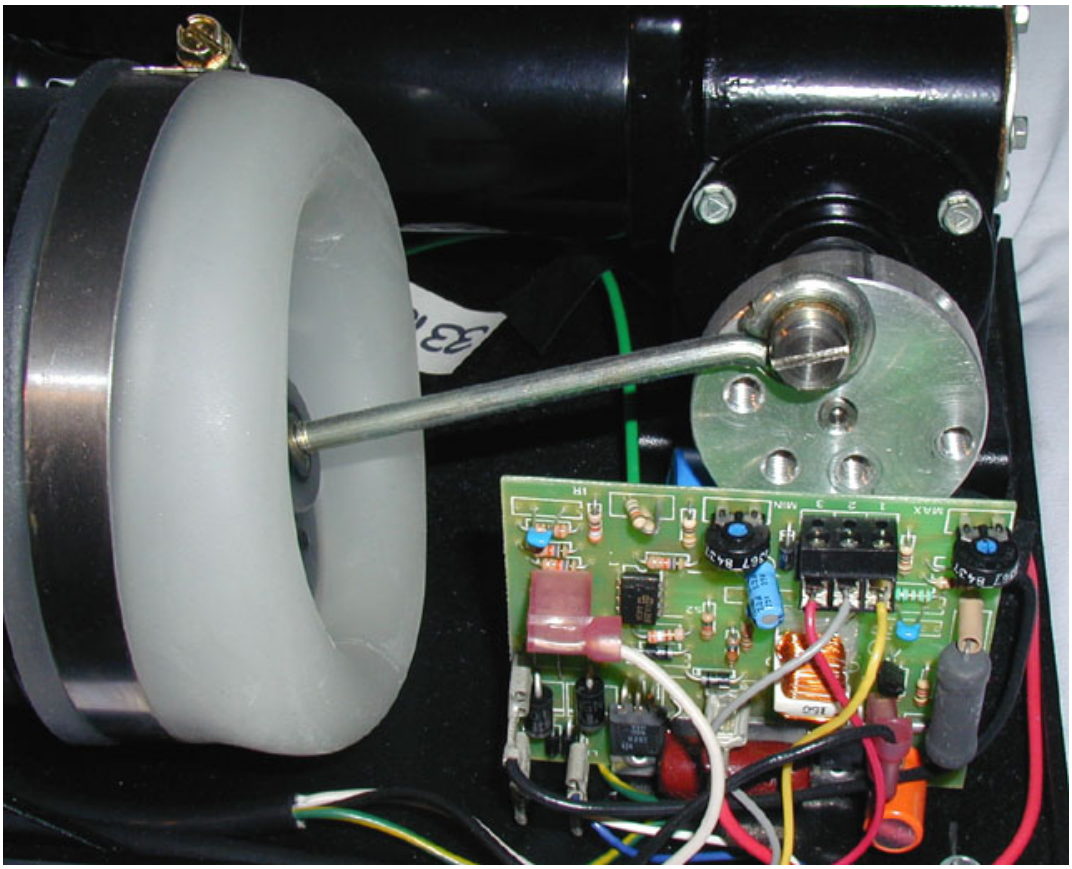
A Historical Family Photo

Family Photo of the early commercial unit known as the Venus 2 or Venus][power unit (Right) with the latest Venus 2000 power unit (Left) with a 15:1 gear head motor inside and made for a detachable remote speed control unit (not shown).

This older Venus][power unit is still completely functional. Note its attached speed control knob and LARGE markings keep the receiver and stroke control hoses sorted out. Notice also the screws holding the red power unit cover into the plastic brief case. The power unit was a part of the brief case and not removable. Also the power cord is not removable.

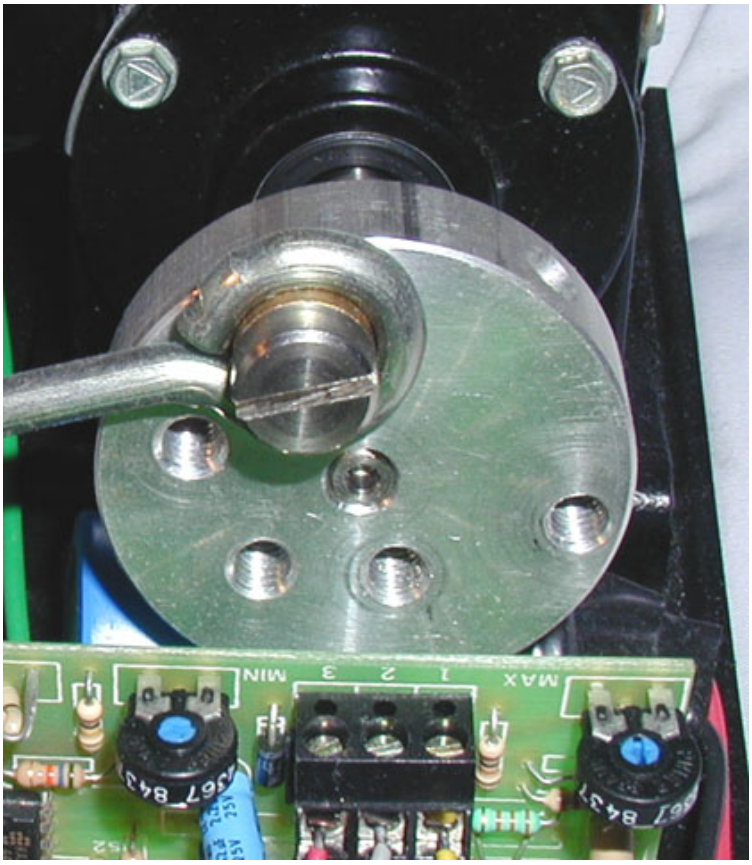
The very NON-low profile fire engine red color was not important since this unit closed up into an inconspicuous, if rather large black plastic brief case for storage. The extra space in the brief case allowed for storage of the hoses and one could even manage to get a receiver in there if you packed the hoses carefully. In terms of weight, it feels even heavier than the newer power unit on the left in the top photo. In just about every regard, the newer packaging is better, but there is something to be said for the racy][logo and bright read color the black briefcase enclosure allowed for...

Detailed Closeups of Inside the Venus 2000 Power Unit



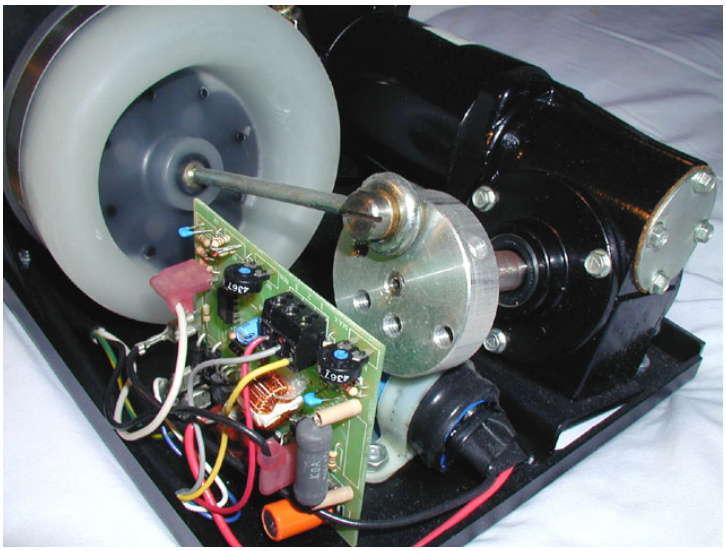
Here we see the diaphragm on the left with its push rod attached to the drive wheel. You can just see the adjustment screw on the large hose clamp that holds the diaphragm in the upper left hand corner. Note the several threaded holes on the aluminum drive wheel into which the pushrod can be mounted. Behind the drive wheel is the gear housing of the powerful DC industrial motor that runs the entire thing, a big step forward from the windshield wiper motor that powered the first prototype according to company lore.

The present one is either a 10:1 or 15:1 Bodine right angle drive, gear head DC motor, a very powerful motor especially after the gear reduction. In the closer photo below you can see the brass bushing inside the loop of the drive rod. Some wheel bearing grease inside this brass bushing might be added at infrequent intervals, or when you change the mechanical stroke length adjustment setting.



On the front is the motor control board, which if powered up can contain dangerous voltages both DC and AC. While I am not recommending you fiddle with these, you can see the two potentiometers that control the minimum and maximum speed range under the drive wheel in this closer picture. They are electrically above and below the control pot whose wires mount in the three screw terminal strip in the middle. These are set at the factory, and I found only a slight optimization was possible over factory settings, not worth the effort in my opinion. Also it is quite risky if you do not know exactly what you are doing!

DO NOT POWER UP THE VENUS 2000 POWER UNIT WITH THE COVER REMOVED!



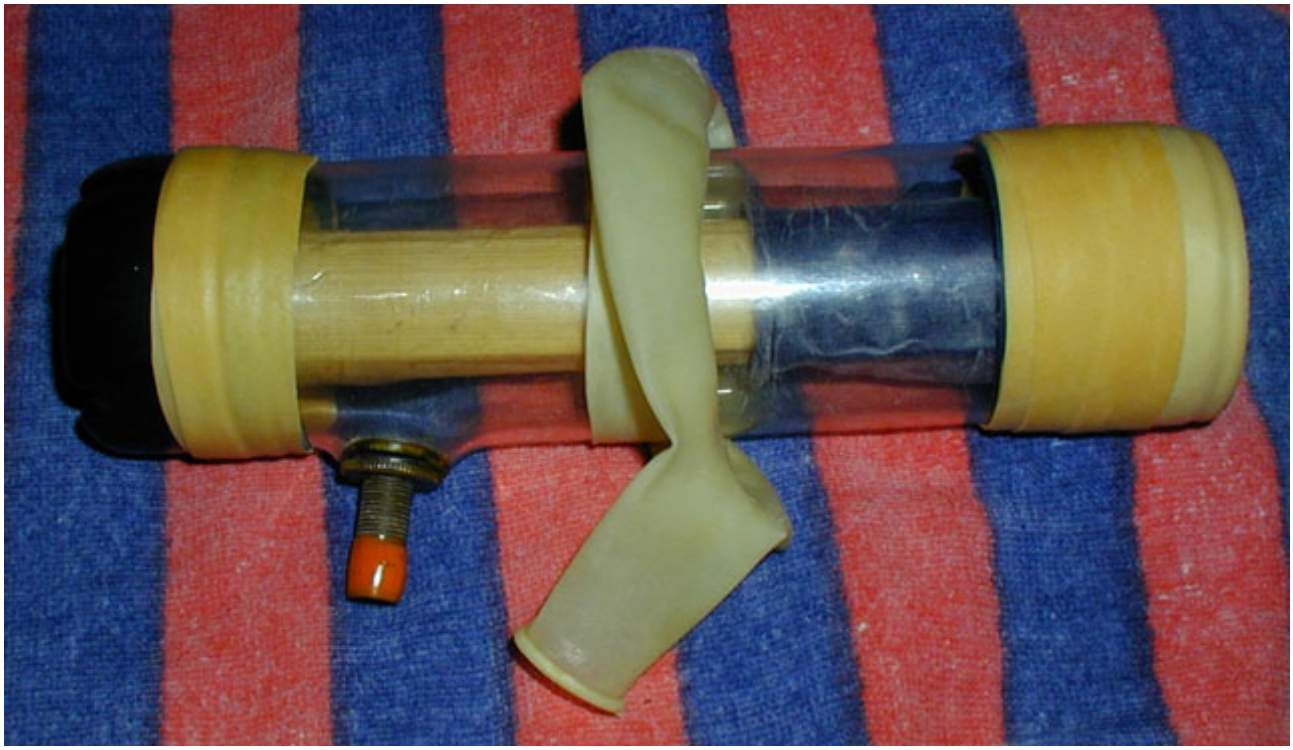
Selective Stretching of Liner Material by Inflation

To try to stretch the center portion of a section of liner material by inflation, you need to first seal the cut length up on both ends. One thing that works well for this is a pair of rubber stoppers, one solid and one with a single hole in it. Note they are installed backwards, fat end first, for a better grip, and held firmly with rubber bands.

A small basketball type hand pump is used for the inflation. Many such small pumps come with several screw in tips, one of which is a plastic straw affair that will fit right into a stopper's hole. You want the liner material to inflate in the middle as near as possible. Some liner material is not well suited for this, because it is quite thin on one side relative to the other and will balloon out on the thin side only. It will probably just burst.

These toys were meant to be a type of inflatable boxing gloves for kids to play with. They are made from strong inflatable vinyl and come in two sizes, regular and super. The super will hold a 2.5-inch receiver housing, the regular will hold a 2-inch housing. If the super is inflated rather tightly it also holds a 2-inch housing securely. The opening in both is deep enough for a seven inch long receiver. You need to vent them to keep the cap vent working. The easiest way to do this is to secure a length of stiff tubing, like a heavy duty straw, to the side of the receiver lengthwise using rubber bands or tape. This allows for an escape route for the vent valve to get rid of trapped air. The top photo shows a Geo balloon, barely inflated, used as a extra cushion for the entrance of the receiver. It is a 2-inch housing in the regular inflatable boxing glove type toy.

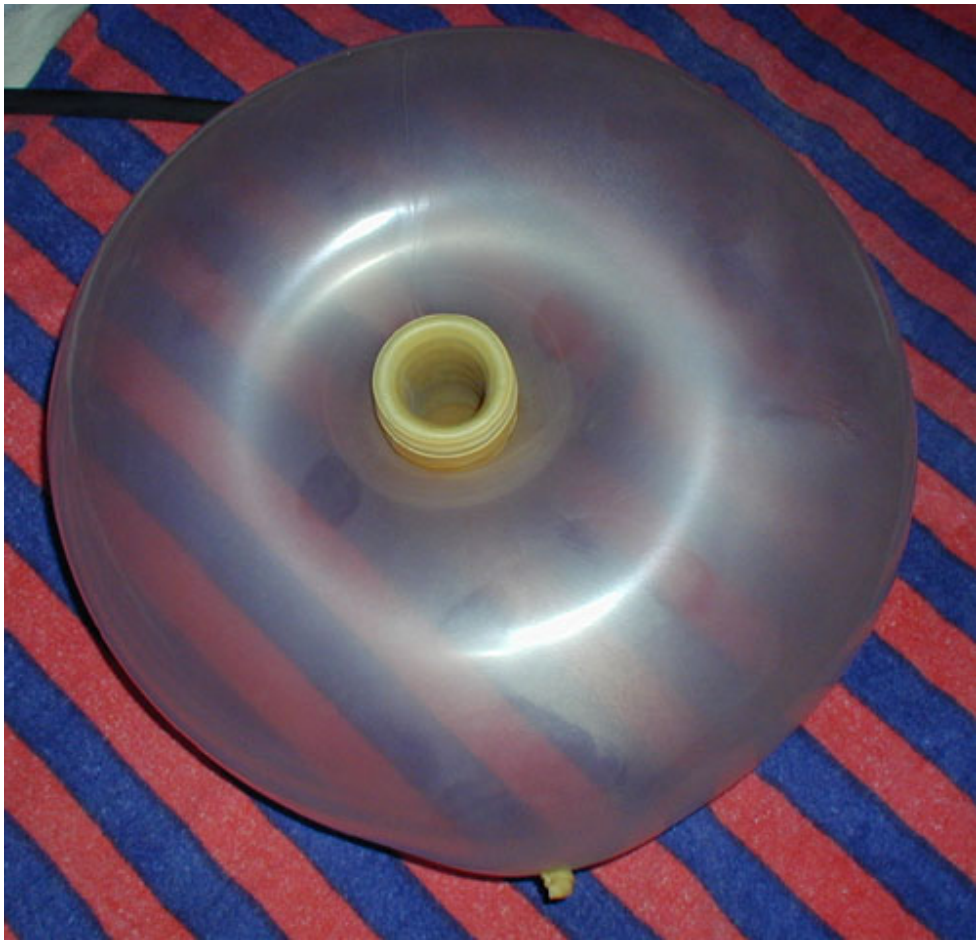
Mounting Inflated Geo Balloons on Receivers



By slipping a 16-inch round Qualatex Geo Balloon over a 2-inch receiver, you can blow the balloon up carefully in place. This creates a large fat support around the receiver which adds virtually no weight at all. You just gently stretch the balloon's center hole over the receiver housing and get it evened out before inflation. The Geo is a very strange donut shaped balloon made on special machines. There is another 16-inch version called the "blossom" version, which has five lumps around its circumference and blows up into kind of a five-sided somewhat flower shape. It also has potential. The dark material inside the receiver, is the neck from a giant blue balloon used as a high compliance enhancement for the constrictor on this particular receiver.

You might also note the hose tubulation in the above picture is at a funny angle? This is the result of overheating with very hot water which softened the plastic of the tubular housing. Since I have several housings and this was considered a plus for use with inflated Geo mountings, I just left it. But it does illustrate that the housings can be softened and distorted by very hot water, being a thermoplastic.

However, the receiver now has different properties in use. It can be manipulated by the thighs while laying on your back to control the receiver action. A very nice type of rocking action can be generated. In other positions the banging of the Geo against the thighs and belly can enhance the sensations. While kneeling, it will support the Geo on a pillow or two to adjust the height. The bottom of the Geo will support the receiver and encourage it to rock back and forth. The blossom shape works well for this as you can position it with one of its "flat" sides down.



This is one case where mounting the hose tubulation at the rear of the housing could be an advantage. But the Geo balloon support works either way. This is not really a practical solution to the face down receiver problem. The hard receiver is still a major factor in any attempt to use the receiver face down without lots of padding underneath it and there is danger the balloon might burst, so face down use cannot be recommended.

The above example has the hose at the front. The scissors and the receiver give some idea of the final inflated size of the combination. The blossom types do not inflate quite so large, but are more popular and may be easier to locate. Only Qualatex makes these Geo balloons and you will need to find a business that supplies balloon decorators and flower shops and is a Qualatex distributor in your area. They are a bit pricy since they are such a unique balloon, but a bag will last quite a while.

In either case you can add the barely inflated second Geo trick to the front opening, especially in the case of the hose mounted on the front. First inflate a 16-inch Geo balloon tightly and let set for a minute or two. Then deflate the stretched Geo and re-inflate it just a tiny bit, just enough to give it shape and some spring, and tie it off. This creates a nice fat inflated O-ring which can be stretched over the receiver opening. The above photo shows a red Geo that has been so prepared.

You might notice this red Geo has been exposed to the air for some time and has lost its initial glossy appearance. This is typical of latex degradation. But these barely inflated Geos can be expected to last for several days at least, longer with careful storage, but they may need re-inflating at intervals. This red Geo has also been lightly powdered with baby cornstarch to preserve it in storage, exaggerating the frosted appearance.

The above photo shows 16-inch Geo rounds and the 6-inch Geo blossoms. The six inch size seems to be of no real use with the Venus receivers, all of their dimensions are too small. There is a 16-inch size of the blossom style however, mentioned above. It looks the same, with the five lumps around the center hole, but it is much closer to the size of the round 16-inch Geos shown. When looking for the Geo balloons, do not get the six inch size by accident. The six inch blossoms are show here just to illustrate that shape.