

# Drywasher Assembly & Operating Instructions

## **GOLD BUDDY**



**Gold Buddy Drywashers available from:**

GoldRushTradingPost.com

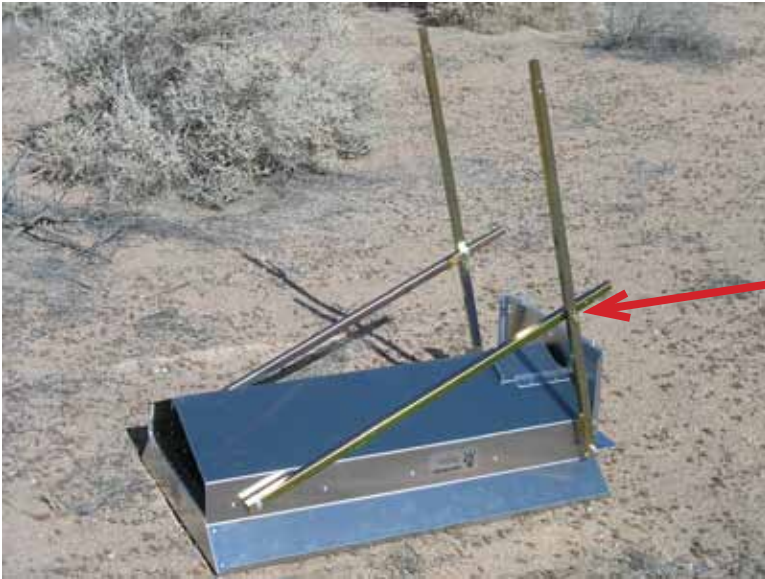
Phone: 503-583-2715



# Drywasher Components

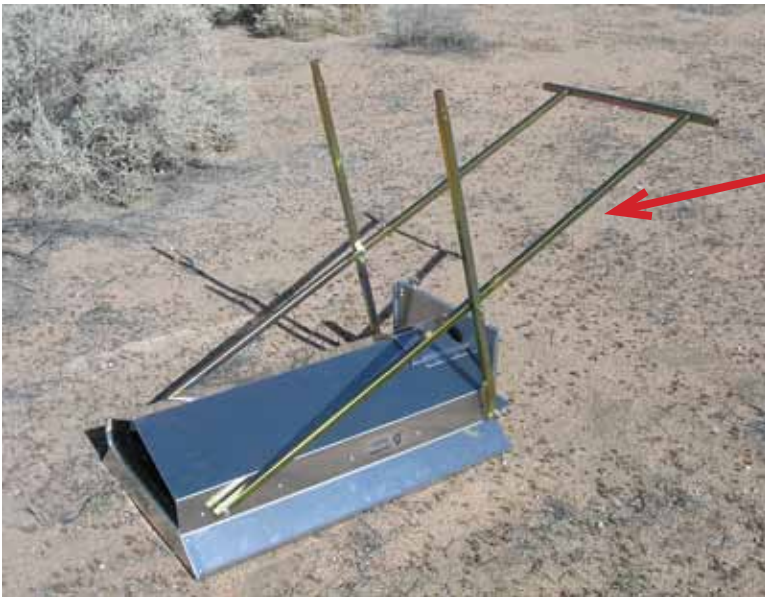






### Setting up the Hopper / Frame

**Step 1:** Your drywasher may have slightly different frame components than the illustration but the easiest way to assemble a drywasher is usually to place the Hopper on the ground upside down. The upper part of the front and rear legs are attached to the hopper and need to be lifted so that the point where they intersect can be bolted together making the frame rigid.



**Step 2:** Attach the bottom portions of the legs and secure them with the hardware provided. The bottom portions are different widths so you cannot get them mixed up.

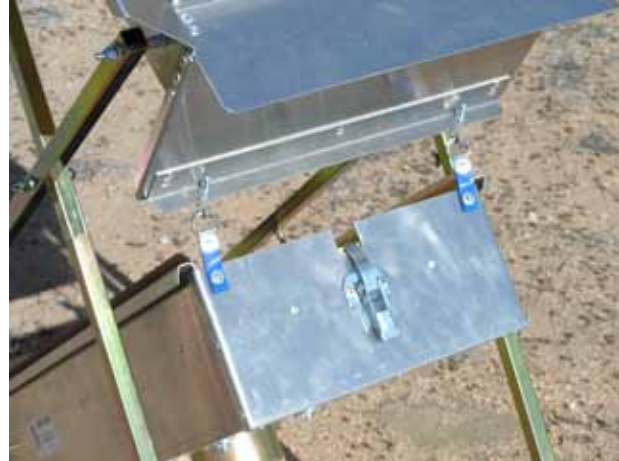


**Step 3:** Flip the assembled unit right side up and it should look like this.

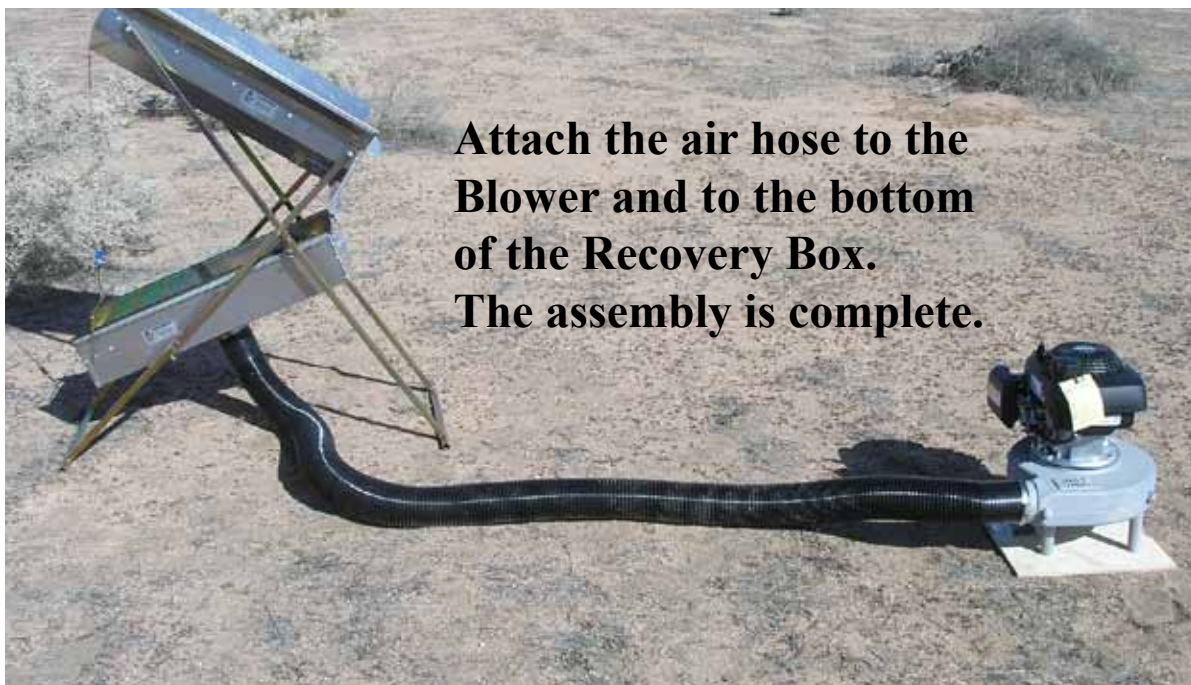


**Add the Recovery Box Step 1:**  
Place the recovery box beneath the  
drywasher as illustrated.

**Step 2:** Lift the Recovery Box and slide  
the d-ring attachments onto the hooks on  
the bottom of the Hopper.



**Step 3:** Lift the other end of the Recovery  
Box and attach the chain to the s-hook and  
the basic assembly is complete except for  
the air hose.



**Attach the air hose to the  
Blower and to the bottom  
of the Recovery Box.  
The assembly is complete.**



## Fine tuning your GOLD BUDDY drywasher.

Drywashers are an excellent tool to recover gold from dry material. Because the nature of the material can vary widely from fine dust to gravel and the gold being recovered can vary in size from chunks to very small pieces the size of face powder a drywasher can be configured to maximize the recovery rate in any circumstance.

A drywasher recovers gold because of the following characteristics.

- (1) The recovery box is shaking, allowing more dense material to sink.
- (2) The material in the recovery box is being fluidized by a constant cushion of air, which also allows the more dense material to sink quicker. When the gold reaches the cloth it is trapped under the riffles.
- (3) An electrostatic charge develops on the cloth at the bottom of the recovery box, because air is constantly blowing through the cloth. This static charge on the cloth attracts and holds the gold on the cloth.

You can alter all of these characteristics by adjusting the rate that material flows through the recovery box, the amount of air going into the recovery box, and the amount of shaking in the recovery box. All of these factors can be adjusted to fit the size of the gold being collected and the nature of the material being fed into the hopper.

**The Material Flow Rate:** There are three factors that control how quickly the material will flow through the drywasher. #1 is the Flow Gate adjustment at the bottom of the Hopper. This is a simple slide door that controls the size of the opening that allows material to exit the Hopper into the Recovery Box. The wider the opening the faster the material will flow. #2 is the angle of the Recovery Box. The steeper the angle, the faster the material will flow. #3 is the volume of air from the Blower. This is controlled by the throttle on the blower engine.

Shallow Recovery Box Angle

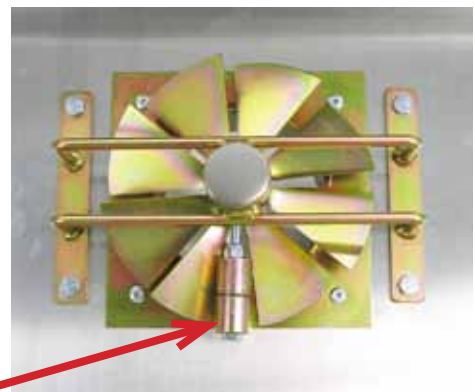


Steep Recovery Box Angle



**The Cushion of Air:** It is important to keep in mind that the volume of air has multiple effects on the drywasher performance. A high volume of air causes coarse material to move faster and causes the Recovery Box to shake faster and harder. It also can blow very fine gold completely out of the drywasher if it is adjusted too high. The Flow Rate, the Recovery Box angle, and the Air Volume all have to be taken into consideration in the setup.

**The Amount of Shaking:** The shaking of the Recovery Box is the result of the air entering the box across the blades of a fan attached to offset weights. Therefore the degree of shaking is influenced by the air volume, controlled by the engine throttle, and the counterweights on the fan assembly, which can also be adjusted. The effect of the counter weights can be adjusted by increasing or decreasing the amount of weight applied. You can also use a shorter bolt and move the weight toward the center of the hub which will reduce the amount of shaking. More shaking does not always translate into more gold recovery.



The weights are held on by a standard 1/4 (20) bolt and a self locking nut. You can add or remove weight to fine tune your drywasher. Ordinary 1/4 inch washers make ideal weight adjusters.

**Using a Drywasher:** Set your drywasher up as instructed with the blower placed upwind to minimize the amount of dust on the blower. Also you should always set the blower on a pad of some type to keep it from sucking up dust. You do not want dust being blown inside the recovery box. It will plug up the cloth from the inside and cause the bearing in the shaker fan to wear out quicker.

Start with the angle of the recovery box down about 30 degrees. Start the blower and adjust the throttle to about half speed. Shovel some material into the Hopper and adjust the Flow Gate so that the material entering the Recovery Box does not enter faster than the material can move out. It is best to start with a smaller flow and increase it as you watch the material start to move through the Recovery Box. Fine tune the blower throttle, angle of the Recovery Box, and the Flow Gate setting so that the material is flowing steadily. These settings depend on the nature of the material and how fast you want to run it. The steeper the angle of the Recovery Box the quicker the material will run through it.

Once the adjustments are set so that the material flow rate from the Hopper through the Recovery Box are to your satisfaction, it is just a matter of steadily shoveling material onto the classifier screen. At some point the fine material running out of the Recovery Box will build up and start to keep the Recovery box from shaking properly. Periodically you will need to shovel it out of the way.

Some notes about fine gold recovery. If you are drywashing in an area where the gold is normally very fine you can increase the recovery dramatically by pre-screening the material going into the drywasher. Like gold panning or any other recovery device, the better the material is classified the better the recovery. There is nothing to be gained by setting up your drywasher to handle 1/4 inch gravel when you know all the gold you see will be -30 mesh. By pre-screening with a smaller classifier, #12 screen for example, you will speed up the process through the drywasher and increase your fine gold recovery dramatically with settings to run the smaller material.

### Material Flow



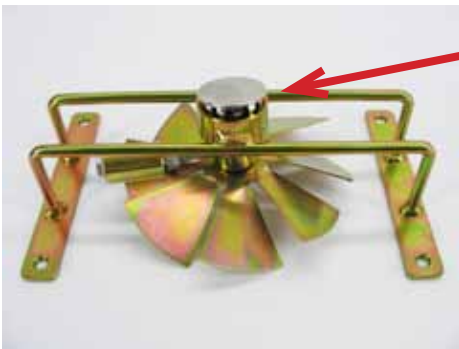
**Clean Up:** When you are ready to clean up release the latches on both ends of the recovery box and pull the riffle tray out. Dump the contents of the tray into your gold pan for immediate clean up or put them into a concentrate container for later cleanup. Replace the riffle tray and you are ready to continue drywashing.

**Caution:** Don't put the riffle tray in backwards. Drywasher riffles are exactly backwards from stream riffles in a sluice. Just keep in mind that the values running down the drywasher gets stuck in front of the riffles and can't get out.

**Maintenance:** About the only parts on the drywasher that ever require maintenance are the bearings in the Shaker Fan Assembly and the replacement of the cloth in the recovery tray.

The cloth in the recovery tray should not require frequent replacement under normal use where there is very little wear on the cloth. If the cloth is accidentally torn in a small area, the torn spot can be glued down with silicone or a similar glue without effecting the performance of the drywasher. If the cloth is badly torn or just wears out, it can be replaced but the process requires tools that would not normally be available in the field.

**The Shaker Assembly Bearing:** This bearing should not require frequent replacement but will wear out and need to be replaced periodically. This is a sealed bearing and attempts to put oil into or on it will usually not help. The life of the bearing will be affected by the severity of the shaking which are influenced by the amount of air and the weight of the counterweights. Another factor is the amount of dust being blown inside the recovery box by the blower. It helps to always set the blower on some surface to prevent it from sucking up fine dust off the ground and blowing it directly into the recovery box across the fan and bearing housing. This fine dust can work its way into the bearing. An easy way to do this is to sit the blower on a small piece of carpet, wood, or a vehicle floor mat. If you are using the JOBE 4 Cycle Hurricane Blower, it comes with a plywood shipping base attached which will prevent the blower from sucking up dust if you leave it attached.



**To Replace the Bearing:**

Snap the dust cover off the bearing housing. The replacement bearing is a GOLD BUDDY part #5169, which is available from any GOLD BUDDY dealer, or a standard bearing #1614Z available from any industrial supply outlet.



Remove the internal snap ring that holds the bearing in place which will allow you to remove the center bolt, and bearing. Reverse the process to install the new bearing.

These are all the parts of the Shaker Fan Assembly.





# About Blowers:

## **What Kind of blower should I use to run my drywasher?**

If you have the Stallion Drywasher with a 4 inch air hose you need to use the JOBE Hurricane blower with a 4 inch discharge, or an equivalent blower. If you have one of the smaller models with a 3 inch air hose you normally will use a gasoline powered leaf blower.

**What size leaf blower should I use?** Gasoline powered leaf blowers are described by the size of the engine or by air flow speed. All of these descriptions are hard to relate to the effectiveness in running a drywasher. As a general rule of thumb, any gas powered leaf blower will run any of the GOLD BUDDY drywashers with a 3 inch air hose. The smaller the blower the harder it will have to work. Working hard means higher engine speeds, less life expectancy of the blower, and more noise. Usually larger more expensive leaf blowers can run at lower speeds, are quieter, and will last longer.

**Features to look for.** The features you need in a leaf blower are an easy way to attach the 3 inch air hose and a mechanism to set the throttle speed and lock it. Most blowers have a wand that attaches to the discharge to direct the air flow. This tube is usually about 3 inches in diameter so it can be cut off at some point to provide for an easy way to attach the air hose. You need to be sure the blower has a throttle that is adjustable and can be locked in place once the desired engine speed is set.

**Features to avoid.** You want a blower that can be placed on the ground and is stable so it will not fall over. Avoid designs that only work properly when you are holding them in your hand. Some blowers are designed to inject the engine exhaust into the air stream. This is a good idea for blowing leaves because it makes the engine a little quieter. It is a very bad idea for drywashing because it injects the exhaust containing oil into your air hose and eventually into your recovery box. This oil will gum up the inside of the recovery box and plug the cloth from the inside. Many HOMELITE blowers have this design. If you have a blower with this design you can correct the problem by turning the exhaust around so it blows out the other direction.

**What about a gas powered vacuum?** These blowers work well for running a drywasher. You should remove the blower from the vacuum bucket to make sure the air flow is not restricted.

**Try to prevent your blower from blowing dust into the recovery box.** You should always determine the wind direction and place your drywasher upwind from the drywasher. You should also place the blower on a solid mat of some type to keep it from sucking up dust off the ground. A small square of carpet, wood, or rigid plastic will work well. If you have the JOBE Hurricane blower it comes attached to a plywood base for shipping. If you leave the blower attached to that base it provides a perfect dirt shield and makes the blower more stable when you are transporting it.

## **Warranty:**

GOLD BUDDY drywashers are warranted for 5 years against defects in workmanship subject to limitations. Parts that can wear out like the cloth in the riffle tray and the bearing in the shaker mechanism are excluded. Also problems caused by abuse, modification, or uses other than the intended use are excluded.

**Gold Buddy Drywashers available from:**

**GoldRushTradingPost.com**

**Phone: 503-583-2715**