



# American Buffalo

The Ultimate One Man Small Mining Operation

## Setup and Operating Instructions

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## Overview

Combine our world renowned Desert Fox Automatic Gold Panning Machine with an increased capacity Mountain Goat Reverse Helix Trommel and you get the American Buffalo.

The American Buffalo is a complete mining station that takes you from raw material to nice clean gold in one single process. Simply add your material to the wash hopper and let the American Buffalo do the rest!

## What Is Included In The Box?

- ◆ American Buffalo Unit
  - ⇒ Reverse Helix Trommel
  - ⇒ Wash Hopper
  - ⇒ Desert Fox Spiral Panner Assembly
  - ⇒ Nugget Trap Cover
  - ⇒ Adjustable Legs
  - ⇒ Splash Guard
- ◆ Custom Designed Water Tub
- ◆ Trommel Tailings Bucket
- ◆ Desert Fox Tailing Tub
- ◆ Trommel Pump with hose
- ◆ Desert Fox Pump with hose
- ◆ Gold Catch Cup

## Other Items You Will Need?

- ◆ 17 amp 12 volt DC Battery
  - ⇒ Or a 10+ amp AC to DC Power Supply
- ◆ 30 to 40 Gallons of Water
- ◆ Wetting Agent (i.e. Jet-Dry® )
- ◆ Gold Bearing Material To Process

## Getting Started

Once you have your unit unpacked and have identified all of the included parts, it's time to get everything setup so you can start processing your material.

1. The first thing you need to do is find a nice flat & fairly level area to setup the unit. Since we are working with water and gravity, the more level your work area is the better. Now position the Water Tub in your work area.
2. Insert the legs into the bottom of the unit.
  - ◆ The legs with the adjustable height bolts are the front legs and the ones without the bolts are the rear legs.
  - ◆ The front of the machine is the side where the Wash Hopper & Desert Fox Spiral Wheel are attached.
  - ◆ The rear legs can be set to two different heights while the front legs have two major positions with 4 minor positions.
  - ◆ To start, set the legs at their highest position.
  - ◆ **Note:** *the front of the unit should always be higher than the back of the unit in order for it to effectively process the material.*
3. Set the unit into the Water Tub.
4. Connecting the pumps.
  - ◆ The American Buffalo has two separate water pumps to ensure good water flow to both processing areas of the machine (Trommel & Spiral Wheel).
  - ◆ The smaller, 500 GPH pump should already be connected to the Desert Fox assembly.
  - ◆ The larger, 1,000 GPH pump should be connected to the Wash Hopper as in the following picture.



## Getting Started Continued

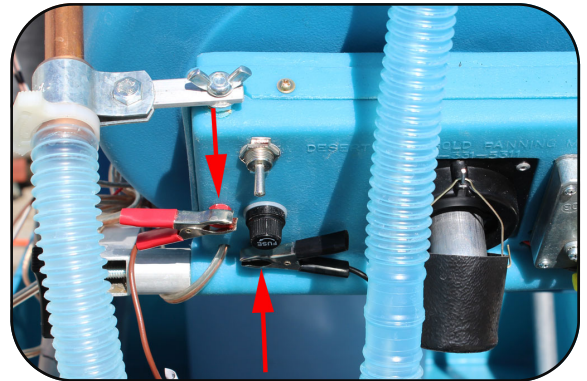
### 5. Attach the Splash Guard.

- ◆ Attach the splash guard to the front of the water tub under the desert fox wheel. This will allow you to move the Trommel forward creating more room for the tailings bucket in the back. It deflects any over splash water back into the tub.

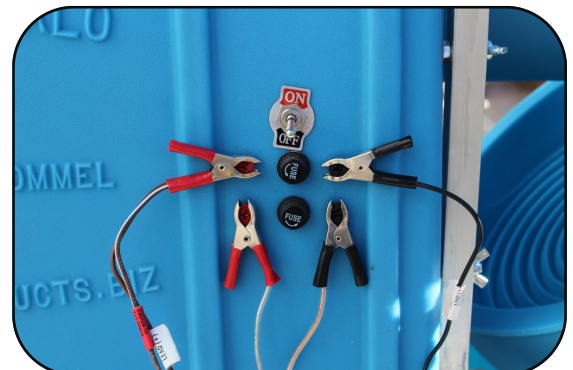


### 6. Connecting the power. To the unit. There are 4 separate power connections that you will need to make and we will step through each of them.

- ◆ Connecting the Desert Fox Pump Power.
  - ⇒ The small 500 GPH pump has two alligator clips on it that get connected to the back of the Desert Fox motor assembly.
  - ⇒ Be sure to connect the red clip to the red post and the black clip to the black post.

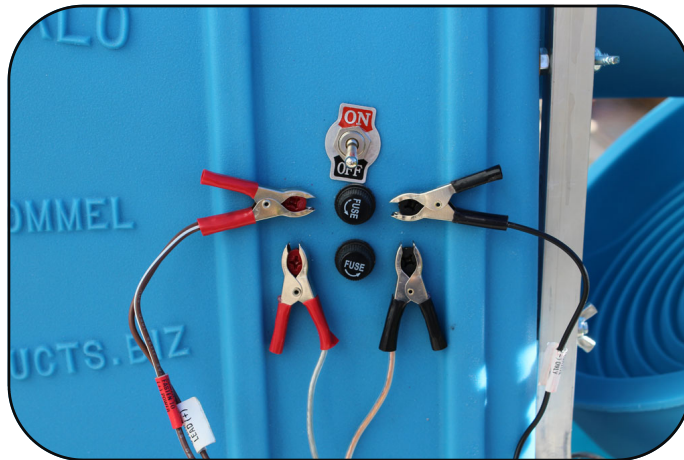


- ◆ Connecting the Desert Fox Spiral Wheel Power.
  - ⇒ The cable coming from the Desert Fox motor assembly unit has two alligator clips on it that get connected to the bottom posts on the side of the American Buffalo.
  - ⇒ Be sure to connect the red clip to the red post and the black clip to the black post.

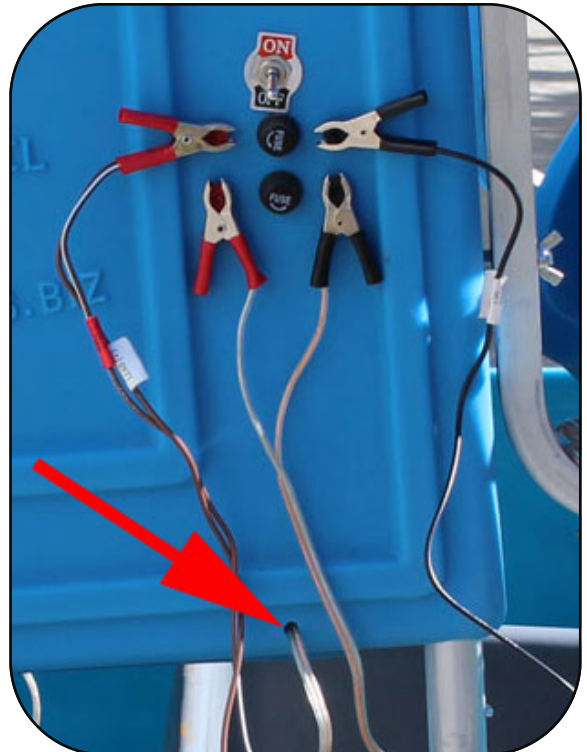


## Getting Started Continued

- ◆ Connecting the Trommel Pump Power.
  - ⇒ The large 1,000 GPH pump has two alligator clips on it that get connected to the top posts on the side of the American Buffalo.
  - ⇒ Be sure to connect the red clip to the red post and the black clip to the black post.



- ◆ Connecting the Main Power.
  - ⇒ The cable coming out of the bottom of the American Buffalo has two alligator clips on it that get connected to your 12 volt DC power supply.
  - ⇒ **Note:** the 12 volt power supply must be rated to supply at least 10 amps of output or the unit may not operate correctly.



## Getting Started Continued

### 7. Filling the Water Tub

- ◆ Add enough water to the Water Tub to completely cover both pumps.
- ◆ It is recommended that the pumps be at least 1 to 2 inches under water for best performance.

### 8. Positioning the tailings bucket and tailings tub.

- ◆ The white bucket is used to collect the tailings from the Trommel and should be positioned at the rear of the unit inside the Water Tub.
- ◆ The grey tailings tub is used to collect the tailings from the Desert Fox Spiral Wheel. It should be positioned between the front legs of the machine so it can collect the waste material coming out of the Spiral Wheel.
- ◆ You will need to fill the white bucket and the grey tub with water in order to get them to stay in position.

### 9. Connecting the Nugget Trap Cover.

- ◆ The unit can be operated with the Nugget Trap Cover on or off.
- ◆ With the Nugget Trap Cover off, the material can be processed at a much faster rate as the light material can pass out through the back of the machine without restriction.
- ◆ However, it is recommended that you initially operate the unit with the Nugget Trap Cover in place until you are familiar with the machine and the material you are processing.
- ◆ Having the Nugget Trap Cover in place allows the material to process longer in the Reverse Helix drum giving you much better results when very fine gold is present.
- ◆ To attach the Nugget Trap Cover, simply slide it onto the back of the Reverse Helix drum and tighten the three fastening bolts. These only need to be finger tight.

### 10. Setting the Desert Fox Wheel Angle.

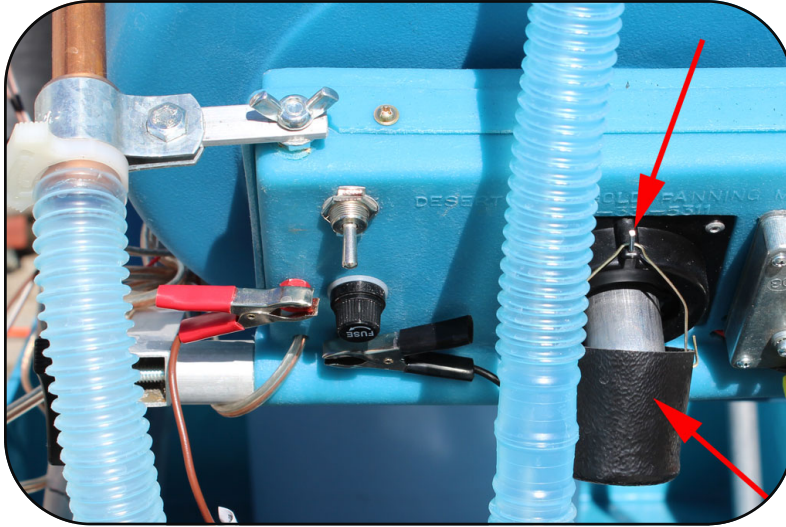
- ◆ The best angle to start with is 45 degrees.
- ◆ You may have to adjust the wheel angle periodically, depending on the material you are processing. For example, material with large amounts of black sand will require a steeper pitch to minimize what ends up in the Gold Catch Cup.



## Getting Started Continued

### 11. Attach the Gold Catch Cup

- ◆ On the back of the Desert Fox motor assembly is a small hook that the Gold Catch Cup gets hung onto. The spout coming from the center of the wheel deposits the gold into the Gold Catch Cup.



### 12. Adding a Wetting Agent to the Water

- ◆ A wetting agent is used to break the natural surface tension of water.
- ◆ Without a wetting agent, some of the gold can actually float on the surface of the water and get washed away.
- ◆ Some popular wetting agents are Jet-Dry® or Cascade Crystal Clear, both of which should be available at your local grocery store.

### 13. Testing The Unit

- ◆ Now that the unit is all setup and ready to go, turn on the switch on the side of the unit to get things running.
- ◆ Here are some key things to check before running any material.
  - ⇒ Is the Reverse Helix drum turning?
  - ⇒ Is the Desert Fox wheel turning?
  - ⇒ Is water being pumped into the Wash Hopper?
  - ⇒ Is water being pumped into the Desert Fox wheel?
  - ⇒ Is the Desert Fox tailings tub positioned correctly?
  - ⇒ Is the trommel tailings bucket positioned correctly?
  - ⇒ Is the Gold Catch Cup in place?

## General Operation

Now that you have the machine all setup and running properly, it's time to start processing some material. Start slow and familiarize yourself with the machine before running tons of material blindly through it. It is best to put together some sample material that you know has gold in it and use that first as you learn how to operate the machine.

### Here are the basic steps of operation:

1. Start the machine and make sure that the drum and wheel are turning and that water is flowing to both.
2. Add material to the Wash Hopper.
  - ◆ Allow the material to completely clear the hopper before adding more material.
  - ◆ Try not to overload the hopper as it will restrict the water flow to the trommel drum.
  - ◆ **Note:** *though you can add material directly from the ground to the hopper, it is recommended that the material be classified to at least 3/4" prior to processing.*
3. Watch the material coming out of the front of the trommel drum to make sure it is properly flowing into the Desert Fox wheel.
4. Watch the Desert Fox wheel to make sure it is not getting overloaded with material. This will happen more often when running un-classified material but can happen if you are processing a large amount of material in a short period of time.
  - ◆ If you notice this happening, simply stop adding material into the Wash Hopper and wait for the Desert Fox to catch up.
5. Periodically check your tailings bucket and tub.
  - ◆ The tailings bucket can fill up pretty quick depending on the amount of material you are running and should be checked often. Considering that most of the material you process is waste material, the tailings bucket is where it is going to end up.
  - ◆ The tailings tub will need to be changed less often, but still watch it.



## General Operation Continued

### 6. Preventing & Clearing Clogged Pipes

- ◆ If your material contains a lot of organic material (i.e. leaves, roots, grass, etc.), then it is best to enclose the pumps in a nylon stocking or mesh bag.
- ◆ Doing this will prevent 90% of your clogging problems, but if you notice reduced water flow, stop the machine and checkout what might be causing it.
- ◆ If organics get into the pipes, you will have to take them apart and clean them out.
  - ⇒ None of the pipes are cemented together which allows you to easily take them apart for cleaning.
- ◆ If the pipes are clear and you are still having water flow issues, you may need to open the pumps and clean them out.
  - ⇒ Please refer to the pump's documentation for steps on cleaning the pump.
- ◆ Another thing that can cause water flow problems is too much silt build up in the Water Tub.
  - ⇒ If this happens, you will need to clean out the Water Tub and fill it with fresh water.
  - ⇒ It is best to thoroughly rinse your pumps of any excess silt before resuming operation of the machine.

### 7. The final step is to check the Gold Catch Cup.

- ◆ Once you have processed some material and allowed it to run through the trommel and Desert Fox wheel, it's time to check the Gold Catch Cup.
- ◆ Be sure to turn off the machine prior to removing the Gold Catch Cup as you could end up with gold in the Water Tub.
- ◆ Carefully remove the Gold Catch Cup from the back of the Desert Fox motor assembly and dump the contents into your favorite gold pan.
- ◆ If you notice a large amount of black sand in the cup with the gold, increase the angle of the wheel by a few degrees (i.e. from 45 to 48) and run some more material and check your results.
- ◆ Every location you explore will have slightly different characteristics, so you have to make sure you adapt your processing methods accordingly.

**Always be sure to replace the Gold Catch Cup before turning the machine back on!**

# LIMITED WARRANTY

*THE AMERICAN BUFFALO* IS WARRANTED FOR THE PERIOD OF ONE (1) YEAR FROM DATE OF PURCHASE. WARRANTY VALID FOR ORIGINAL PURCHASER ONLY. WARRANTY DOES NOT COVER POSTAGE TO OR FROM THE FACTORY.

**CONDITIONS:**

WARRANTY COVERS MOTOR , BELTS AND LABOR EXCEPT IN CASES OF OBVIOUS ABUSE OR NEGLIGENCE. MACHINE MUST BE STORED INSIDE AND OUT OF WEATHER WHEN NOT IN USE. WARRANTY COVERS ONLY ORIGINAL PURCHASER.

**HOW TO OBTAIN WARRANTY REPAIRS:**

CALL 1-800-331-5311 FOR RETURN AUTHORIZATION NUMBER AND THE SERVICE DEPARTMENT ADDRESS FOR THE REPAIR. YOU MUST INCLUDE POSTAGE TO RETURN THE MACHINE TO YOU AFTER REPAIR.

**PUMP WARRANTY:**

THE PUMP IS COVERED BY SEPARATE WARRANTY FROM THE MANUFACTURER, SEE INSTRUCTION SHEET FURNISHED BY THEM TO OBTAIN WARRANTY REPAIRS.