



# SAFETY INFORMATION

- Be sure to work from secure and safe platforms and ladders
- Secure area underneath your work space to make sure nobody gets hurt in case you drop something
- Edges of cut copper are sharp; be sure to wear proper gloves when handling cut gutter
- When cutting copper, be sure to wear approved safety goggles
- Never install or work on damaged roof material or structure
- When you install gutters, make sure the collected water can run off without causing damages
- Never modify parts without consulting a professional or Slate and Copper's technical support team
- Dispose of leftovers and off-cut safely and in accordance with best practices
- Never leave any parts or tools unsecured on your roof, they might fall down causing serious damage or injury
- Never do installation work alone- always work in a team
- Check for power lines
- Never install on icy or slippery roofs or in windy conditions

**-IF YOU DO NOT FEEL YOU CAN COMPLETE THIS WORK SAFELY, CALL A LOCAL CONTRACTOR**

## WARNING:

Copper is a sharp metal and will bite you if you let it. Firmly and securely hold all pieces when working with them. Do not slide your hands or fingers along any straight or finished edges. This is partly the reason why we wore gloves in our demonstration. Wearing gloves will also help minimize the fingerprint marks on the gutter system. The best gloves to use especially for grip are ones with the palm and fingers coated with a rubber or latex material.

# INSTALLING STAR DROP OUTLET

Tools Required:

- \* Cord or Cordless Drill (3/8" size drill is perfect)
- \* Large Drill Bit for Drill (at least 1/2" bit)
- \* Cutout Template for the Hole (use a compass to make a circle)
- \* Something to Trace Around Template (sharpie pen works)
- \* Green and/or Red Tin Snips also Know as Left and Right Handed Tin Snips Respectively
- \* Pair of Pliers (just about any kind, but larger vice-grips will work better)



step 1

In picture Step 1 we show all the basic tools and materials needed for installation of a Star Drop Outlet. As you will see in our demonstration the basic installation of the Star Drop Outlet requires no riveting or soldering.



step 2



step 3



step 4

# PART 1

## First part- installing outlet onto gutter

First thing is first, lets see how the Star Outlet is actually installed onto the gutter. On the front of the Star Outlet there is a lip, and this lip is designed to interlock into the front bead of the gutter (see pictures Step 2& Step 3). Once the Star Outlet is hooked onto the gutter at the bead rotate the piece into proper position (picture Step 4).

The next step is to bend down the tabs on the back of the Star Outlet down into the back of the gutter (pictures Step 5, Step 6, Step 7, & Step 8).

The last step secures the Star Outlet to the gutter. Picture Step 9 shows how the Star Outlet is contoured to the bottom profile of the gutter once installed.



step 5



step 6



step 7



step 8



step 9

# PART 1

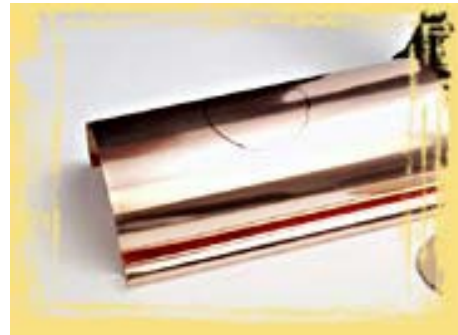
Now that we have our tools, and we know how the Star Outlet fits onto the gutter we can get ready to install our Star Drop Outlet.

First we must determine where we want to install our Star Drop Outlet on our gutter. For this demonstration we are installing our Star Outlet near the end of the gutter, since this is where most outlets end up being. After we know where our outlet is going, then we can get to the installing it.

You must make a template proportional to the size pipe you are using, and the best tool for this is a compass. If you are using 3" Downspout you need to make a 2 1/2" circle template. If you are using a 4" downspout you need to make a 3 1/2" circle. Turn the gutter upside down and center the template over the center of the bottom of the gutter, then use something to trace around the template (picture Step 10& Step 11).



step 10



step 11



step 12



step 13

# PART 1

Next take the drill with the large drill bit, and drill a hole in the center of the traced out circle (picture Step 12).

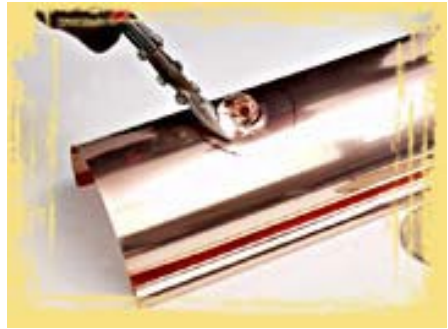
Then take a pair of tin snips (we used Red Tin Snips) and cut in spiral circles till you cut to the traced out line (see pictures Step 13, Step 14, Step 15, Step 16, & Step 17).

Now we need to bend down a 1/4" to 1/2" lip or flange with the pliers all the way around the hole (see pictures Step 18, Step 19, Step 20, & Step 21). We can now install our Star Drop Outlet over the center of the hole (Step 22& Step 23).

Lastly we can install the Heavy Duty Wire Strainer in our freshly cut hole (pictures Step 24& Step 25).



step 14



step 15

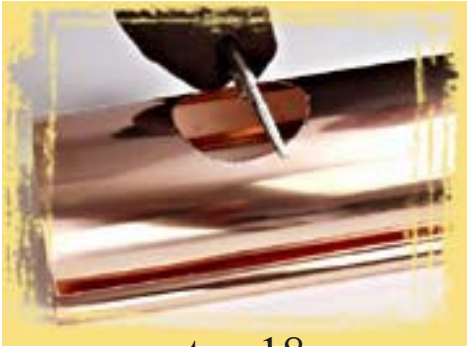


step 16

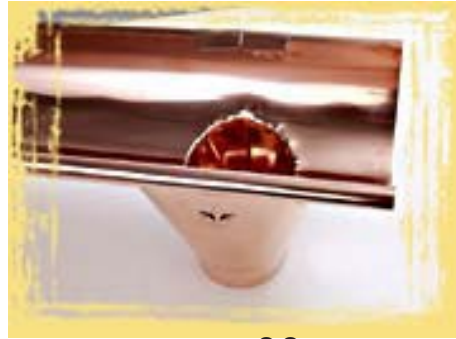


step 17

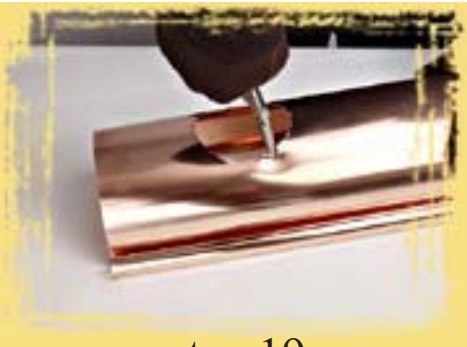
# PART 1



step 18



step 22



step 19



step 23



step 20



step 24



step 21



step 25