



# Brewing Equipment for Home Brew Fanatics

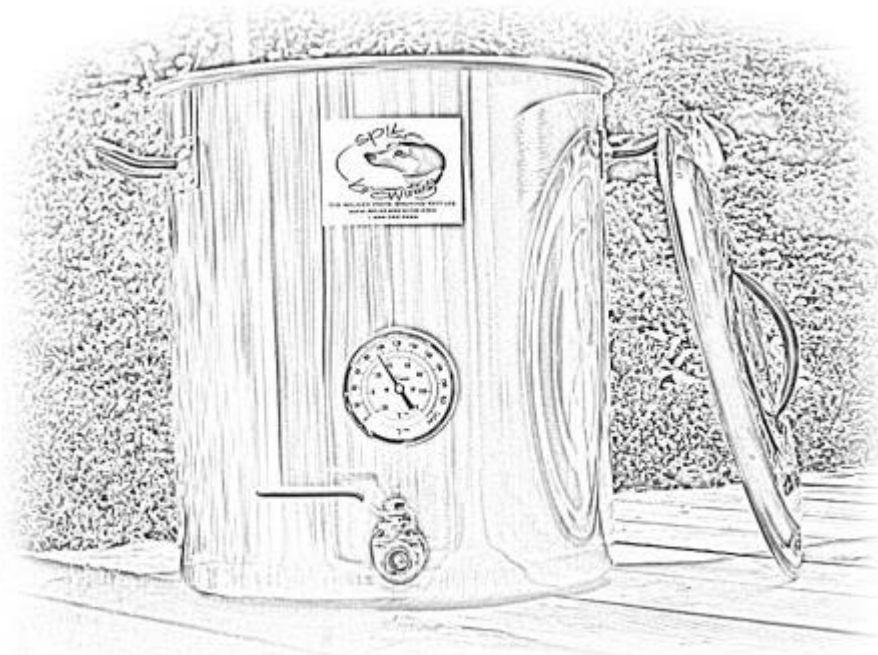
Proudly Welded in the USA

Phone 888.629.4999

Website [www.spikebrewing.com](http://www.spikebrewing.com)

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You are now the proud owner of a new stainless steel Spike Brewing kettle. Please read through this manual for safety, installation and cleaning instructions.



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## Safety

- Never leave your kettle unattended while brewing or after brewing when the kettle is still hot.
- Do not brew with your kettle in a poorly ventilated area. Gas burners give off odorless Carbon Monoxide which can cause drowsiness and even death. Refer to your burner's manual for instructions and warnings.
- Never lift your kettle when it has liquid in it (cold or hot). Burns and/or injury could result. Use the ball valve to drain the kettle safely before moving.
- The entire kettle, including the ball valve, thermometer and handles will be hot during and immediately after brewing. Use caution when touching any of these components as burns may result.
- Brewing is inherently dangerous. Spike Brewing LLC does not assume any liability or responsibility for any such personal injury, death or property damage.

If you have any additional questions please contact us before proceeding.

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## Welds

All of the couplers have been proudly welded right here in the United States. Our welders specialize in stainless steel TIG welding for the brewing and food & beverage industries and our couplers are TIG welded according to AWS Standards for sanitary welding to ensure only the highest quality for your brew.

### Outer Weld

All Spike Brewing kettles use TIG welded couplers. In our opinion this is a superior way to connect ball valves, thermometer, etc. Welded fittings are used in the professional brewing industry, require less maintenance and offers a leak free guarantee.

Figure 1 shows the outside weld of a Spike coupler. If your weld ever dulls use Bar Keepers Friend® to shine it back to new.

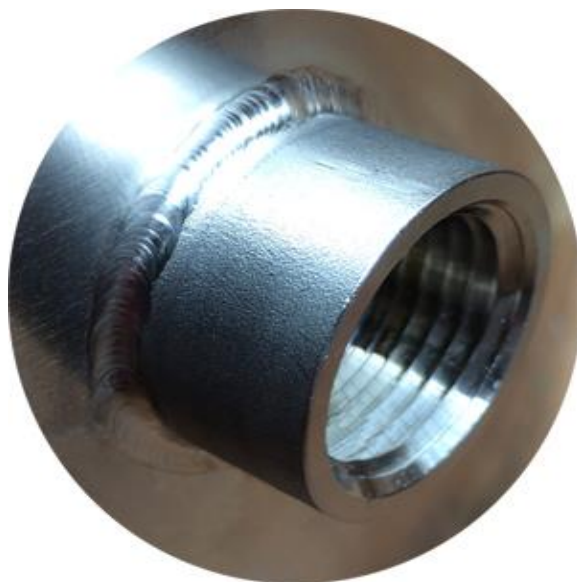


Figure 1 – Outside Weld



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## Inner Weld

Spike Brewing kettles are welded to AWS Standard D18.2, which addresses the weld discoloration on austenitic stainless steel. Weld discoloration can be used to determine the quality of the weld and how the surrounding area will be affected. All our welds are within spec of the Standard, meaning the corrosion resistance of the stainless steel has not been compromised.



Figure 2 – Inner Weld



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## Cleaning

### **1<sup>st</sup> cleaning**

Spike Brewing kettles have had extensive welding done in a shop environment so they will not be clean or sanitized out-of-the-box. Your kettle will require a good scrubbing before using it to brew.

A solid cleaning with a rag or sponge will clean the kettle right up. A solution of dish soap, Powered Brewery Wash (commonly known as PBW), an oxygen -based cleaner (such as OxyClean<sup>®</sup>).

### **Regular cleaning**

Your kettle should be cleaned shortly after brewing so nothing gets baked on. Always allow adequate time for the kettle to properly cool before cleaning. We recommend using a mild solution of powered brewery wash or an oxygen-based cleaner to clean the kettle after a brew. Bar Keepers Friend<sup>®</sup> works great to polish your kettle back to a like-new shine.

### **Don'ts**

- Do not use bleach or any products that contain bleach. Bleach will corrode stainless steel.
- Do not use steel wool, steel brushes, or anything that has carbon steel. The iron in these can impregnate the stainless steel and cause rusting.
- Do not let cleaning solutions sit in the kettle for an excessive amount of time. They can cause damage to the kettle if left to sit for an extensive amount of time.
- Scotch-Brite<sup>®</sup> pads may cause light scratching. We recommend testing on the bottom of the kettle before using on the rest of the kettle.



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## Installation

**\*\*\*Standard Teflon<sup>®</sup> tape (plumbers tape) is required to make a water tight seal\*\*\***

### Ball Valve

If you purchased a ball valve from Spike Brewing you received a ball valve (Figure 3) and a nipple (Figure 4). To ensure that all machining oils are thoroughly removed prior to first use, it is recommended that the valve be disassembled and cleaned. The nipple should also be cleaned before first use.

#### To install Ball Valve and Nipple into the kettle:

1. Wrap Teflon<sup>®</sup> tape on both male ends of the nipple (Figure 4)
2. **Tip:** 2-3 wraps of Teflon<sup>®</sup> tape should be enough
3. Screw one end of the nipple into the coupler you chose to use for your ball valve
  - a. Hand tighten the nipple into the kettle (this should be enough to make a water tight seal)
    - i. Optional: Using an adjustable wrench, you can snug the nipple a little past hand tightened
    - ii. **DO NOT tighten the nipple (or any component) with all your strength. All components use NPT threads which are tapered. The Teflon<sup>®</sup> tape is what makes the water tight seal; not the tightness of the fitting.**
4. Hand tighten the ball valve (Figure 3) onto the other end of the nipple
5. More than likely the ball valve will not be aligned correctly after hand tightening (see Figure 5)
  - a. For proper orientation, a combination of tightness and amount of Teflon<sup>®</sup> tape will need to be adjusted
6. Follow Figure 6 instructions to orient the ball valve correctly



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Figure 3 – 1/2" NPT ball valve



Figure 4 – 1/2" NPT nipple

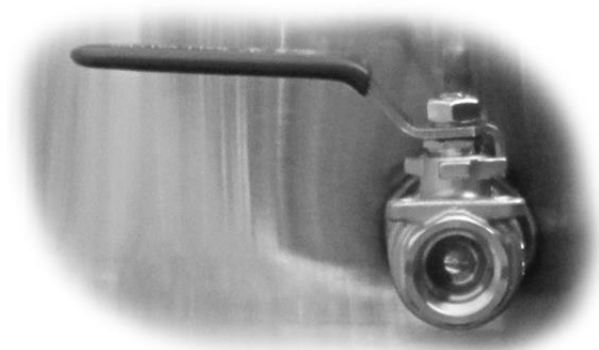


Figure 5 – Correct ball valve orientation



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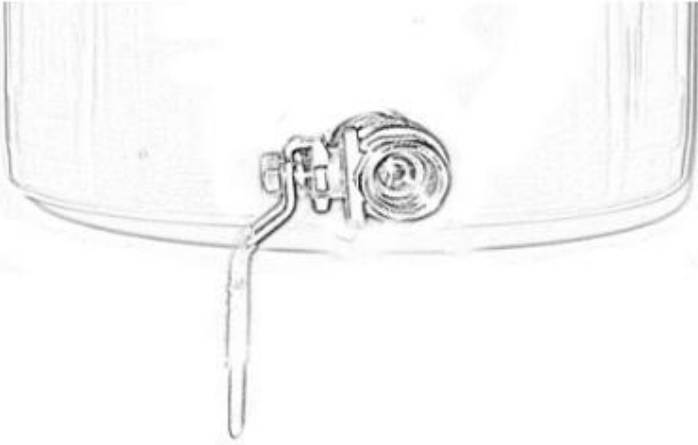
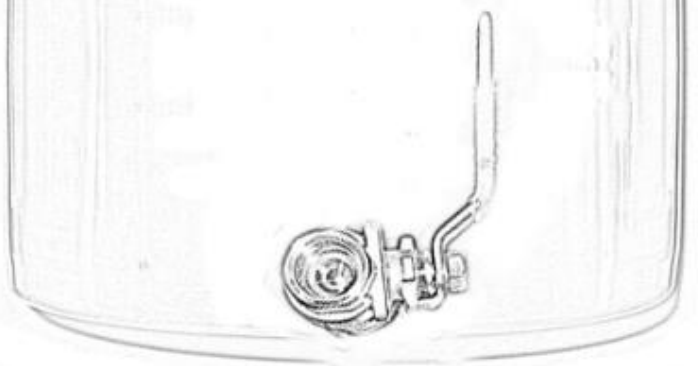
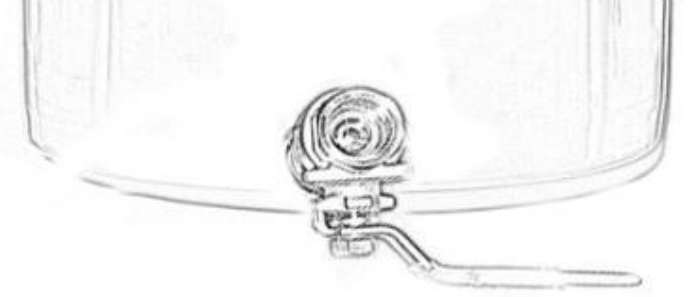
Orientation	Problem	Solution
	<p>90° counter clockwise from normal</p>	<ul style="list-style-type: none"> <li>- Less Teflon® tape</li> <li>- Tighten more</li> </ul>
	<p>90° clockwise from normal</p>	<ul style="list-style-type: none"> <li>- More Teflon® tape</li> <li>- Tighten less</li> </ul>
	<p>180° from normal</p>	<ul style="list-style-type: none"> <li>- More Teflon® tape and tighten less</li> <li>- Less Teflon® tape and tighten more</li> </ul>

Figure 6 – Valve Orientations





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## Thermometer (optional)

It is recommended that the thermometer be cleaned before use. Do not fully submerge the thermometer in water when cleaning.

### To install Thermometer into the kettle

1. Wrap Teflon<sup>®</sup> tape onto the threads of the thermometer
  - a. 2-3 wraps of Teflon<sup>®</sup> tape should be enough
2. Screw thermometer into the coupler you want to use for your temperature readings
  - a. Hand tighten the thermometer into the kettle (this should be enough to make a water tight seal)
    - i. Optional: Using an adjustable wrench, you can snug the thermometer a little past hand tightened
    - ii. **DO NOT tighten the thermometer (or any component) with all your strength. All components use NPT threads which are tapered. The Teflon<sup>®</sup> tape is what makes the water tight seal; not the tightness of the fitting.**
3. More than likely the thermometer will not be aligned correctly after hand tightening (see Figure 7)
  - a. To get the proper orientation a combination of tightness and amount of Teflon<sup>®</sup> tape will need to be adjusted
4. Follow Figure 8 instructions for getting the thermometer to orient correctly



Figure 7 – Correct Thermometer Orientation



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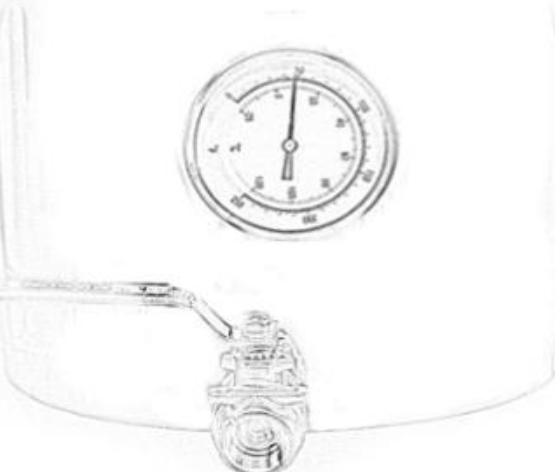
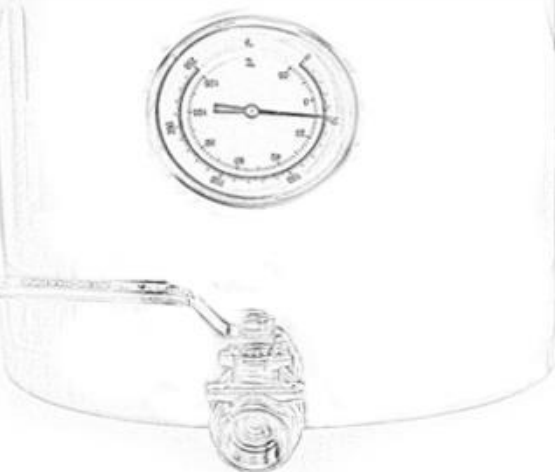
Orientation	Problem	Solution
	<p>90° counter clockwise from normal</p>	<ul style="list-style-type: none"> <li>- Less Teflon® tape</li> <li>- Tighten more</li> </ul>
	<p>90° clockwise from normal</p>	<ul style="list-style-type: none"> <li>- More Teflon® tape</li> <li>- Tighten less</li> </ul>
	<p>180° from normal</p>	<ul style="list-style-type: none"> <li>- More Teflon® tape and tighten less</li> <li>- Less Teflon® tape and tighten more</li> </ul>

Figure 8 – Thermometer Orientations



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## Sight Glass (optional)

### Sight Glass Components:

- (1) Stainless Steel Shield
- (1) Pyrex Glass Tube
- (2) 90° Push to Connect Fittings
- (1) Volume Sticker
- (1) Clip On Heat Shield

### Tools Needed:

- 15mm wrench
- Or
- Adjustable wrench

### Tips & Tricks:

1. To remove the glass from the elbow it helps to press down the collar (circled in Figure 9) as you pull the glass out
2. Hand tighten both the 90° elbows first and then tighten with the wrench. This will keep the glass parallel to the kettle reducing the stress on the glass
3. Once the glass is inserted into the elbow keep the glass parallel to the kettle. Pulling the glass out of parallel can cause it to crack in the elbow



Figure 9 – Lower elbow

### **CAUTION:**

The shield is machined from thin walled stainless steel tubing. The edges may be very sharp; use precaution!



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## Steps for Installation:

1. The sight glass should come assembled (see Figure 10)
2. Wrap 2-4 layers of Teflon tape on to each of the (2) 90° elbows like shown in Figure 10



Figure 10 – Assembled sight glass with Teflon tape one threads

3. Align the sight glass assembly to match up with the two welded ports on the kettle (see Figure 11)



Figure 11 – Assembled sight glass aligned with welded ports

4. Once the elbows are aligned with the welded ports hand tighten each elbow down. Figure 11 shows what the elbow will look like once it's hand tightened.



Figure 11 – Hand tighten lower elbow



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5. Repeating the process from Step 4, line the threads of the 90° elbow up with the coupler threads, press down to help engage the threads and hand tighten (see Figure 12)
  - a. The 90° elbow may end up a little short and mis-align with the top coupler. Simply pull the 90° elbow until it aligns with the coupler and then tighten.



Figure 12 – Top Elbow Installed

6. Using your wrench, tighten both the 90° elbows until it is snug. (DO NOT use all your strength to tighten. Over tightening can cause damage to the threads)
7. Once your sight glass is installed fill your kettle up with 3 gallons of water. Once the water level settles attached the included volume sticker so the 3 gallon mark lines up with the water level inside the kettle.
8. The sight glass volume sticker should be applied on the right side of the view window directly onto the sight glass shield.
9. Before brewing attached the supplied clip on heat shield to prevent flames from lapping up at the sight glass.



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## Warranty

The Spike Brewing warranty covers all welds by Spike Brewing. If for any reason a weld is to leak, Spike Brewing will replace the kettle.

Specifically excluded from this warranty is normal wear from brewing, damage caused by misuse and/or abuse, failure to follow proper cleaning and maintenance procedures, thread damage from over tightening, or any modification to the kettle that may compromise its integrity.

Thank you for your purchase and if you ever have any questions, please feel free to contact us!  
Happy Brewing!!



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