

Brasslite Stove Instructions – Brasslite Micro, Solo and Duo

Before using your Brasslite Stove please be sure to completely read the disclaimer, warranty and instructions described below. By using the stove, you agree to the terms of the disclaimer and warranty. Even if you are experienced with alcohol stoves, you will find the instructions useful.

DISCLAIMER

Backpacking involves serious dangers such as (but not limited to) injury, death, impairment of one's self or others, damage or destruction of property, and emotional trauma. All backpacking stoves create a potentially hazardous condition for the user. Seller assumes no responsibility for the condition and operation of this stove by buyer. Buyer assumes all responsibility for the use of this stove. Buyer assumes all risk of loss and injury and warrants that he or she will defend, indemnify and hold seller harmless. Buyer represents that no reliance is made upon any act or conduct of the seller.

This stove is intended for use with methanol (such as HEET gas-line antifreeze), commercial denatured alcohol (ethanol/methanol mixture), or pure ethanol ONLY! Other types such as Isopropyl alcohol (rubbing alcohol) burn with a sooty flame that can clog the jets, and are not recommended.

WARNING: NEVER use Coleman Fuel (white gas), gasoline, acetone, laquer thinner or a similarly volatile liquid inside this or any other alcohol stove. When lighted this stove vaporizes the fuel within creating pressure inside the chamber. The pressure generated by a fuel other than alcohol may build so rapidly that it cannot escape fully through the burner holes. The force may exceed the load strength of the stove walls. Using such fuels will almost certainly result in a large flare-up and may result in bursting of the stove chamber or even a grenade-like explosion.

CAUTION: DO NOT OVER-FILL THE STOVE. The stoves have a recommended maximum fuel capacity. The maximum recommended fuel capacity for the Micro is 1 US fluid ounce (30 ml). The maximum recommended fuel capacity for the Solo is 2 US fluid ounces (60 ml). The maximum recommended fuel capacity for the Duo is 3 US fluid ounces (90 ml). When using the included fuel dispenser bottle, it's best to measure fuel conservatively. Measurements on the bottle are approximate. There **MUST** be a sufficient gap between the fuel in the chamber and the jet holes. If there is no space or not enough space in the chamber, there is a chance that when the stove is lit liquid alcohol will spew from the jets rather than alcohol vapor. This can create a very hazardous fire. If alcohol is seen rising from the holes prior to lighting the preheat fuel, the stove is definitely overfilled. Do not light the stove. Pour the alcohol from the stove back into the fuel bottle and measure again.

Do not attempt to light this stove with the screw closure off. Vapors inside the stove can ignite all at once.

Do not attempt to light this stove if the stove is in any position other than sitting upright on its base.

NEVER use this stove inside a tent, or under a low hanging vestibule, due to fire danger. Oxygen depletion and carbon monoxide poisoning may also be the result of using this stove in any confined space, causing injury or death. **BE SAFE, NOT SORRY.**

WARRANTY

Both stove models have been tested to safely support a weight up to 20 lbs. (9 kg.) without deforming. The Micro and Solo models are intended for use with a maximum pot size of 1 liter. The Duo is intended for use with a maximum pot size of 2 liters. If a full cook pot is placed forcefully or dropped onto the stove, a force many times the weight of the pot is created and this may result in deformity of the stove chamber. The stove may also deform if dropped, stepped on, or stored loosely in a backpack. It is intended that it be stored inside a cook pot or other container. This stove is constructed of thin sheet metal and it must be handled with care. With proper care this stove will last for many years.

This stove was tested at the time of manufacture and was in good working order at the time of shipping. It is warranted to be free from structural defects for as long as the original buyer owns the stove. "Structural defects" refers specifically to voids or breaks in welds, solder seams and/or wall surfaces that rarely develop during normal use. In the rare case of a bona fide structural defect, seller agrees to pay the cost of return shipping charges and provide a new stove at no additional charge. Punctures, dents or other deformities that occur during use do not constitute structural defects. It is not recommended that the stove be operated in other than original condition and therefore seller makes no offer to repair any damages inflicted by buyer. No other warranty either express or implied is offered.

Instructions for making the Brasslite Windscreen/Heat reflector

Important Note: Your stove does not include a windscreen. This simple but time-consuming step has been omitted in order to keep stove labor costs down. Also, pots come in different sizes and accurate cutting according to your pot size saves more weight than a “fits all” windscreen. The instructions are easy to follow.

Materials: 12” wide heavy duty aluminum foil (purchase from any grocery store), paper clips (optional). Alternatively, aluminum oven liner can be used, which is thicker and more durable. If you use oven liner, use a single layer cut to the dimensions listed below (instead of folding it over itself to make it thicker, like you would do with the aluminum foil).

Tools needed: Yardstick or tape measure, permanent black marker (a sharpie works well for this), scissors, standard office paper hole punch.

To make reflector:

1. Tear off a piece of foil that is about 24 inches long. With dull side up, fold foil in half widthwise to make a double-thick piece that is 12 inches x 12 inches. Smooth flat.
2. Place your pot on the center of the foil, open side down.
3. Trace around the pot with a permanent black marker. Then mark another circle by hand that’s about ½” outside this line.
4. Cut out a circle of foil on the outside line.
5. Fold edge of circle over ¼” to reinforce it. Repeat this step so reinforcement is folded to the line.
6. The stove will rest on the center of this reflector during cooking to reflect heat back towards the pot, and provide some insulation from heat loss due to convection.

To make windscreen:

1. Measure the pot you intend to use by wrapping a tape measure around the widest point, or alternatively, wrap a piece of string around the pot and measure the length of it. Add 3 inches to the measurement. Unroll this amount of foil from the container, plus a little extra (It’s best to tear off a little extra rather than trying to tear off the exact amount. It’s easier to trim after folding).
2. With dull side facing up, fold the foil lengthwise in half, then half again, to obtain a strip that is 3” high, and “X” number of inches long. Smooth foil flat.
3. Fold loose side over ¼ “ to reinforce it.
4. Fold one end over ¼ inch to reinforce it. With fold towards the top, wrap foil around pot under the handle and check to see that there is 2 inch overlap of the ends. Trim foil as needed with scissors to get the correct overlap.
5. Fold other end over ¼ inch to reinforce it.
6. Using the paper punch, and starting 1 inch from the end, cut holes at 1 inch intervals ½ inch above the bottom of the windscreen to within 1 inch of the other end. This allows proper airflow during cooking.

The windscreen may be wrapped around the pot just after lighting, or alternatively held together with a paper clip and lowered around the stove from above after the stove is lit, before placing the pot on the stove. It’s important to make sure that the windscreen is not wrapped too closely to the stove. A gap of 0.5 inches (1.25 cm) is critical for proper airflow and proper stove operation. Wrapping the windscreen too tightly may dramatically reduce burn time due to greater pressure created by the elevated heat around the stove chamber. Oxygen starvation and reduced performance may also result if the windscreen is too tight.

Maintaining Stove: Brasslite stoves require very little maintenance. If the jets become clogged over time, use the supplied needle to open them. If sooty deposits form on the top, gentle scrubbing with an old toothbrush, abrasive cleanser, and hot water will usually remove them. If soot is really stubborn, boil the stove in a pot of soapy water for 5 minutes then scrub the stove gently with a steel wool soap pad. Follow up with the brushing described above. Be careful and gentle. Remember that the metal is thin and if you press too hard you can dent or deform the stove chamber. Rinse the stove to remove any soap residue, drain out the water, and then bake the stove in a toaster oven at 300 degrees F (150 C) for 15 minutes to dry out residual moisture.

Cook Pot Size: Pot choice is important to maximize fuel efficiency and cooking performance. A tight-fitting lid and properly used windscreen will dramatically improve performance and efficiency. The Micro will function well with small cook pots such as the MSR Titan, Evernew 0.9 Liter Titanium Pot, or similar pots of equivalent size up to 1 liter. The Micro is intended for use with a maximum pot size of 1 liter. Larger pots are not recommended because of possible stability problems. Small diameter pots (really they are cups) such as the Snow Peak 600 titanium cup and similar sierra cups may be used successfully with the Micro, but a minimum base of 4 inches (10.5 cm) is recommended. If the Micro is used with a small pot, it's recommended that the windscreen be set up with a minimum 5-inch (13-cm) opening to prevent oxygen starvation under the pot. The Duo is designed for use with a maximum pot size of 2 liters. For best results with the Duo, a pot with a minimum bottom diameter of 5 inches (13 cm) is recommended. Both the MSR Titan and Evernew 0.9 Liter meet this minimum requirement. Narrower pots may have a problem with flame spilling out the sides and into the air, wasting fuel and lengthening boil times.

Filling and Lighting Stove

Acceptable fuels for Brasslite Stoves: Pure methanol (such as HEET brand auto gas-line de-icer, or its generic equivalent), Ethanol/methanol mixture (a.k.a. Denatured Alcohol sold in paint and hardware stores), Pure ethanol (i.e. 200 proof grain alcohol sold in liquor stores and pharmacy supplies (very expensive!). **Note:** Isopropanol (i.e. ISO-HEET, or rubbing alcohol) is **NOT** recommended because it burns with a very sooty flame that will prematurely clog the jets. **NO OTHER FUELS ARE RECOMMENDED. USE OF OTHER FUELS BESIDES ALCOHOL VOIDS WARRANTY.**

CAUTION: In daylight the flame of an alcohol stove is virtually invisible. Unlike a white-gas or compressed-gas stove, there is no hissing sound to assure you it's running. When lighting the stove in daylight it helps to have the windscreen partially around the stove so that the flame can be seen more easily. **DO NOT OVERFILL STOVE.** A space above the fuel inside stove is necessary for proper operation. If the stove is overfilled liquid fuel may be ejected instead of alcohol vapor, creating a potentially hazardous fire.

Maximum recommended fuel capacity for Micro: 1 US fluid ounce (30 ml).

Maximum recommended fuel capacity for Solo: 2 US fluid ounces (60 ml).

Maximum recommended fuel capacity for Duo: 3 US fluid ounces (90 ml).

Filling Stove Using Custom 8 oz. and 16 oz. Dispenser Bottle: *

Amount Of Water To Boil	Amount Of Alcohol Needed	Number of 8oz. Reservoir Measures	Number of 16oz. Reservoir Measures
16 oz. (500 ml)	0.75 oz (22 ml) +	1 1/2	3/4
24 oz. (750 ml)	1 oz. (30 ml)	2	1
32 oz. (1 liter)	1.5 oz (45 ml)	3	1 1/2
40 oz. (1250 ml)	2 oz. (60 ml)	4	2

1. Squeeze desired amount into fuel reservoir. Keeping bottle upright, invert stove and insert tip of spout into stove fuel port. Turn both stove and bottle over, and dispense fuel. Repeat as necessary to dispense desired total amount of fuel into stove, depending on how much water you want to boil.
2. Replace thumbscrew a few turns (it's not necessary to tighten thumbscrew all the way).
3. Choose desired fireproof, level cooking surface. Unfold and smooth reflector and place stove in center of reflector.
4. Squeeze alcohol into priming pan at base of stove until pan is full (2.5ml., 1/2tsp).
5. Ignite alcohol in reservoir using match or piezo-electric type lighter.
6. Place pot on center of stand and immediately enclose pot with foil windscreen.

* Minimum fuel quantities for boiling are suggestions based on field-testing and owner reports. They may need to be adjusted to accommodate your specific pot, windscreen configuration, hiking environment. Longer cooking will require more alcohol.

+ Except in cold weather, the Micro may require less than 0.75 oz to bring 16 oz. of water to boil. Experiment with your pot and conditions. Many people have reported successfully bringing 16 oz. to boil with as little as 0.6 oz. (18 ml) alcohol.

Important: If cooking finishes before fuel is gone, allow remaining fuel to burn off before cooling stove and storing. It's recommended that you store your stove inside your cook pot to protect it. Wrap it in a bandana or pack towel to prevent it from rattling around. This cloth can double as a potholder.

Brasslite Stove Field Tips:

Cooking in cold weather: Alcohol stoves need special care to operate properly in cold weather conditions. The stove won't operate well if heat isn't maintained in the stove body after ignition. In winter weather it's helpful to carry a 6" square of 1/2" thick fiberglass insulation to put under the heat reflector, to prevent heat loss in the stove body by direct contact with the cold ground. To conserve fuel and make stove performance more consistent, please also observe the following procedure: At night, store your fuel and water bottles inside your sleeping bag at the foot end. While hiking during the day, keep the fuel and water bottles buried inside your pack rather than storing them in an outside pocket. Carry a tealight or other candle and before filling the stove with fuel, warm the body of the stove from beneath for a minute or so until it feels warm, but not too hot to hold.

Fuel Filler Spout: If you somehow lose your filler spout in the field, all is not lost. Carry some aluminum foil and duct tape in your repair kit (a good idea anyway for general repairs). Fashion a small funnel using a triangular piece. If you don't have foil, you can always cannibalize the heat reflector for this purpose. The funnel will work without tape if you crimp the foil at the top opening.

Fuel Filler Screw: It's not recommended that the stove be operated with the filler hole uncovered. An extra machine screw comes with your stove. If you want to buy another at your local hardware store, the correct size is a round end, 10/24 x 3/8" or 1/2" length machine screw. The best material is stainless steel, but brass is acceptable. Plain steel will rust and is not recommended. If you have lost your filler screw in the field and did not remember to bring a spare, in a pinch a coin such as a nickel or quarter or a small flat stone will cover the hole successfully. Alternatively, a temporary self-threading screw can be made with aluminum foil.

Make Your Own Pot Cozy

A pot cozy is a simple and elegant alternative to simmering that will dramatically save fuel. If you want a pot cozy but prefer not to make your own, you may order one from www.AntiGravityGear. Several stock sizes and custom sizes available. All proceeds go towards supporting Boy Scout Troop 270 in Hampstead, NC. A worthy cause indeed.

MATERIALS REQUIRED:

- 1) 3/8 " closed cell foam (cut an old foam pad or buy a cheap one from K-Mart or WalMart)
- 2) 2 inch wide aluminized furnace tape (duct tape can be used but makes for a slightly heavier cozy).
- 3) Heavy duty Aluminum foil

TOOLS REQUIRED:

- 1) Scissors
- 2) Felt marker
- 3) Yardstick
- 4) Tape measure

INSTRUCTIONS:

The pot cozy is made of 3 parts, a circular top, a circular bottom and a rectangle that is bent around to form a tube. Aluminum foil is added to the inside bottom to prevent sticking.

Step 1: Take into consideration the lid and folding handles, if your pot has them. Using the tape measure, measure around the circumference of the widest part of your pot. Next, determine the maximum height of your cook pot with the lid. Add half an inch (12-mm) to the height.

Use these 2 measurements to cut out a rectangle of foam. When the foam is bent it should form a tube that will easily slide over your pot, but have a close fit.

Join the tube together with tape across the seam, running the tape around until it overlaps itself. Test it over your pot to see it slides over the pot firmly but easily.

Step 2: Now use the foam tube to draw two circles on another piece of the closed cell foam. The diameter of these circles should be the same as the outside of the tube made in step one. Cut these circles out, place one on one end of the cylinder and run tape around the bottom of the cylinder with 1/2 on the cylinder and the other 1/2 protruding over the bottom. Fold the protruding overlap onto the bottom of the cylinder. The tape folds over in places, this is OK. If you want it to look really neat, you can make slits in the tape every 1-inch to within 1/4" of the bottom so that the sections will overlap cleanly.

Step 3: Place your cook pot open side down on a piece of aluminum foil and trace a circle around it with the marker. Cut out the foil, make 4 small loops of tape, place them evenly along the bottom of the foil and tape the foil to the inside of the foam cylinder.

Step 4: The foam lid may either simply rest on top of the cylinder, or you can use tape to make a hinge by running a strip along both sides of the cylinder onto the outside and inside of the lid. Your cozy is now done!

If the food you are cooking normally requires 20 minutes of simmering, cook for 5 minutes past boil and store in pot cozy for the remainder of the time you'd normally cook. Even items like rice and beans can be prepared in this manner. The cozy will keep your meal piping hot for up to 3 hours, depending on conditions.

Your questions, suggestions and comments are always welcome. Feel free to email me and I will respond as quickly as possible. If you enjoy your Brasslite stove and think it's a good product, please be sure to recommend it to your hiking comrades, and post your opinions on the Yahoo group "Backpackinglight". If you feel really enthusiastic about your stove, please consider taking the time to post an owner review on the Backpack Gear Test Web Site (www.backpackgeartest.org)

Thanks for your purchase, and happy trails!

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