

# How to Choose a Backpacking Stove

You've hiked all day, snacking on energy bars and peanuts. Now as you shed your pack and finally take a rest, you're ready for a nice, hot meal! Whether you whip up a three-course meal or simply boil water for your freeze-dried entree, you're going to need a reliable backpacking stove. Understanding a bit about stove sizes, features and the fuels they burn will help you choose the best one for your needs.

## QUICK READ

1. Determine the kinds of trips you'll be taking and places that you'll be traveling most often.
2. Choose the lightest, most compact stove that will still meet your needs.
3. Decide which fuel will work the best for your trip. Factors include cost, burn time and availability.
4. Consider the stove's handling characteristics and ease of use.

## What Kind of Trip are you Planning?

To find the right backpacking stove, focus on two things—the kinds of trips you want to take and the kinds of meals you want to enjoy.

Try to figure out how many people you'll be cooking for (which will affect how big a stove you'll need), what kinds of temperatures you'll be cooking in (which may affect the kinds of fuels you burn) and how complex your meals will be (which will affect how adjustable your stove will have to be).

## Select the Right Size

Backpacking stoves come in a variety of sizes—from lightweight micro-stoves that fit in your pocket to two-burner platforms that barely fit in your trunk. In general, stick with the lightest, most compact model you can find, unless your plans include short trips, big meals and large groups of people.

To save space and weight in your pack, look for stoves that:

- Can be disconnected from their fuel supply—Many stoves can be unhooked from external fuel bottles for easier storage in your backpack and less chance of breakage.
- Fold up or collapse—The legs, base supports and pot holder arms of many backpacking stoves can be collapsed or folded for easier packing.
- Fit inside of cookware—Some stoves are designed to fit inside of popular cook sets. This can be a great space-saver. (Be sure to bring a plastic bag to put your stove in so no fuel spills onto your pots and pans.)

## Consider Fuel Options

Before you look at specific stove models, take a few minutes to decide which type (or types) of fuel will work best for you. This will help you narrow down your options:

### Butane, Propane or Isobutane Blend Canisters

- **Positives**  
Convenient, clean-burning and easy to light. Burn hot immediately and do not require priming. Can be adjusted easily for simmering. Can't spill.
- **Negatives**  
More expensive than other fuel types. You must carry and dispose of the fuel canisters, and most are non-recyclable. Performance may decrease in temperatures below freezing, however blended alternatives - butane/propane and isobutane - work better than straight butane in cold conditions. Pure propane works well down to 0°F. Butane will not work below 32°F.
- **Overall Review**  
Great for warm- to moderate-weather campers who want easy adjustability, few hassles and who don't mind carrying a little extra weight in their packs.

### Kerosene

- **Positives**  
Inexpensive, easy to find (throughout the world), high heat output, spilled fuel does not ignite easily.
- **Negatives**  
Somewhat messy (burns dirty, smelly). Priming is required (easier if a different priming fuel is used), tends to gum up stove parts. Spilled fuel evaporates slowly.
- **Overall Review**  
A cheap, versatile fuel choice, especially for

backpackers who plan on traveling outside of the United States (where white gas and butane blends may not be readily available). Not as clean or easy to deal with as butane or white gas.

## White Gas

- **Positives**  
Inexpensive, easy to find throughout the United States. Clean, easy to light, spilled fuel evaporates quickly.
- **Negatives**  
Volatile (spilled fuel can ignite quickly), priming is required (fuel from the stove can be used). Can be hard to find outside of the United States.
- **Overall Review**  
A great overall performer, perfect for travel throughout North America in just about any weather conditions. Reliable, inexpensive and efficient.

## Denatured Alcohol

- **Positives**  
A renewable fuel resource, low volatility. Burns almost silently. Alcohol-burning stoves tend to have fewer moving parts than other types, lowering the chance of breakdown.
- **Negatives**  
Lower heat output, so cooking takes longer and requires more fuel. Fuel can be hard to find outside of the U.S. and Canada.
- **Overall Review**  
A viable, environmentally-friendly option for travel in the U.S. and Canada, especially if you crave peace, quiet and a slow pace on your backpacking trips.

## Unleaded Gas

- **Positives**  
Very inexpensive, easy to find throughout the world.
- **Negatives**  
Burns dirty/sooty, can lead to frequent stove clogs. Extremely volatile.
- **Overall Review**  
Usually used as a last resort only. Price and availability make it an attractive option for backpackers traveling in extremely remote areas.  
**NOTE:** Never use oxygenated gasoline in your backpacking stove. Sold in many parts of the U.S. in

the winter months, its additives can destroy rubber stove parts and seals.

## Multi-Fuel Stoves

Many of the backpacking stoves that REI carries are designed to burn more than one type of fuel. They tend to cost more than single-fuel models, and they can be more difficult to maintain. But if your plans involve visits to a wide range of destinations, the added flexibility will be worth the extra cost.

## Look for a Stove Design that Works for You

Backpacking stoves come in all kinds of shapes, sizes and designs. Once you've decided on a general size and fuel type, take a look at your options and ask yourself (or your REI salesperson):

- How easy is the stove to set up? Does it require assembly every time it's used? If so, is the assembly easy or complex?
- Is the stove sturdy? Is it stable on uneven ground? How hard is it to balance a pot on top?
- If a gas canister is used, is it easy to attach and remove? Can it be detached before it's completely empty?
- How easy is the stove to light? Does it require priming? Can it be primed with fuel from the stove itself?
- How easy is the stove to control? Can the heat output be adjusted easily? Will the stove simmer?
- How easy is the stove to maintain in the field? Can I handle basic maintenance myself?

## Consider Performance

Finally, once you've narrowed down your stove choice to a handful of specific models, consider their overall performance. A good way to do this is with REI's in-store printed comparison chart or stove test centers. Consider variables like:

- **Average boiling time** - Measures how hot the stove burns.
- **Water boiled per pint of fuel** - Measures how efficient the stove is. It's like comparing cars based on how many miles-to-the-gallon they get.
- **Burn time at maximum flame** - Measures how long the stove will burn on a given supply of fuel before it

has to be refilled.

Hints for improving your stove's performance:

- Use a lid when cooking.
- Use a windscreen.
- Use a heat-exchanger on trips of more than a few days (to improve fuel economy).
- Use alcohol for priming (this will help keep your stove soot-free).
- Learn how to clean and maintain your stove properly.
- Use a coffee filter to filter all of your liquid fuel before use.
- Use the sun or body heat to melt snow (rather than your stove).

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