



Mile High American Pale Ale

Let your spirits soar to new heights with this classic, American pale ale. For what could be more uplifting than this delicious and astoundingly refreshing amber beauty, with its pleasant malt foundation paving the way for the assertive hop presentation, which tickles your tongue with bright bitterness and fills your nose with the lofty, citrusy character of American-grown Centennial hops. If you can imagine the exuberance of a bald eagle soaring one mile above the snow-capped Rockies, then strap in and indulge yourself with a taste, because your imagination is your only limitation, and you will begin your journey one mile high!

Just the Facts, Ma'am:

BJCP Style: 10A. American Pale Ale
Original Specific Gravity: 1.051 - 1.055
Final Specific Gravity: 1.010 - 1.014
Alcohol by Volume: 5.4%
Color: 12 SRM (Bursting with amber and energy, like your spirits!)
International Bittering Units: 38
Time to Awesome Drinkability: 6 Weeks!

Your recipe kit includes the freshest malt, hops and yeast. If you are not going to brew your recipe immediately, it is important to refrigerate your yeast and hops. If your recipe includes bags of malt syrup, these should be refrigerated too. Bags of dried malt do not require refrigeration. Also, all grains are best stored at dry room temperature.

Ingredients:

Fermentables:

3.3 lbs Light Malt Extract Syrup
2.2 lbs Munich Malt Extract Syrup
1.1 lbs Wheat Malt Extract Syrup

Grains & Wort Additives:

6 oz 20L Crystal Malt (Crushed)
6 oz Amber Malt (Crushed)
4 oz 40L Crystal Malt (Crushed)
1 Whirlfloc Tablet or 1 tsp. Irish Moss (Clarifier, 20 Minutes)

Hops:

1 oz Columbus Hops (Bittering, 60 Minutes)
1 oz Centennial Hops (Flavor, 10 Minutes)
1 oz Centennial Hops (Flavor & Aroma, Dry Hop)

Yeast:

Liquid Yeast: Wyeast 1272 American II Ale Yeast
Wyeast 1056 American Ale Yeast

Or

Dry Yeast: Safale US-05 Yeast

Brewing Supplies & Flavors:

1 Muslin Bag
5 oz Priming Sugar

Brew Day Checklist:

On brew day, you will require the following equipment:

- Brew Pot - A 5 gallon brew pot is ideal, but never use a pot that is less than 4 gallons.
- Long-handled spoon or paddle for stirring the boiling wort.
- Primary Fermenter - A 6½ gallon (or greater) food-grade plastic bucket with lid, or a 6½ glass carboy.
- Airlock
- Stopper (if using a carboy)
- Funnel (if using a carboy)
- Hydrometer (Optional, if you want to measure your specific gravity)
- Sanitizing Solution
- Scissors

On the day you rack the beer into the secondary fermenter, you will require the following equipment:

- 5 gallon carboy
- Airlock
- Stopper
- Siphon Setup

The Magical Procedure:

Liquid Yeast Activation Before Brewing:

If you are fermenting with liquid yeast, you must activate the yeast packet before it is ready to pitch. Always check the manufacturing date stamped on the yeast packet. Yeast that is less than 1 month old may be activated on brew day. A yeast that is more than 2 months old may require additional preparation time. Always make sure your yeast has been properly activated before using. Please see www.boomchugalug.com/wyeast.htm for complete liquid yeast activation instructions.

Time to Brew!

Total Boiling Time: 60 Minutes. While your wort is boiling, you should sanitize your fermentation equipment, such as your primary fermenter, airlock, scissors, stopper, etc. After you have sanitized your fermenter, fill it with 2 gallons of cold water, into which you will later add your hot boiled wort.

1. Place the crushed grains in the muslin bag and add to 2 gallons of water. Measure the water volume carefully to ensure you extract the proper amount of hop bitterness during the boil.
2. Heat water until the temperature is between 150° and 170°F. Steep the grains between this temperature range for 30 minutes. Steeping longer than 30 minutes does not hurt.
3. Remove and discard the grains, and bring this mixture to a boil. Remove the pot from the heat and add the malt extracts. To prevent scorching, stir until



Flip the sheet to continue the magic. Also, this is a good time to pour a cold one! →



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all of the malt is dissolved. Then bring this mixture to a boil. Watch for boilovers!

4. When boiling begins again, add 1 oz of Columbus hops. Boil these hops for the entire 60 minutes.
5. With 20 minutes remaining in the 60 minute boil, add 1 Whirlfloc Tablet or 1 tsp. Irish Moss.
6. With 10 minutes remaining, add 1 oz of Centennial hops.

Chill out, Man! (Chill the Wort)

1. At the end of the 60 minute boil, cool the wort to approximately 75°F as quickly as possible. With extract brewing, the easiest way to quick-chill the wort is to place your brew pot into a sink full of ice. For complete instructions using this method, please see www.boomchugalug.com/cooling.htm.
2. Add your chilled wort to the 2 gallons of water already in your fermenter.
3. Add any extra water needed to bring the total volume in your fermenter to 5 gallons.
4. If you would like to measure the specific gravity, now is a good time. To get an accurate reading, it is important to make sure all of the heavy wort extract you added to the fermenter has been completely mixed in the water.

Pitch the Yeast! (Into the Wort, But Not Out the Window!)

1. When your wort has cooled to 75°F (70° - 78°F is okay), aerate the wort before adding the yeast. Simply close the fermenter and swirl around to mix in oxygen. If you are swirling a carboy, it is helpful to place the carboy on a thick, folded blanket to avoid damaging the vessel.
2. After aerating, pitch (add) the yeast. Use the sanitized scissors to cut open the yeast packet. If you are using liquid yeast, sanitize the pack before opening. If you are using dried yeast, simply sprinkle the yeast over the wort. No mixing is necessary with dried yeast.
3. Close the fermenter, attach the airlock, and keep the fermenter warm (between 70° - 78°F) until you see fermentation beginning, such as the airlock bubbling once every 30 seconds. Wrapping the fermenter with a blanket is an easy way to keep the fermenter warm.

Primary Fermentation:

There are several ways to know when fermentation has begun. First, you will begin to see bubbling through the airlock. If you are using a carboy, then you will usually see the yeast begin to form a layer over the beer's surface.

1. Once fermentation begins, move the fermenter to a room with the proper temperature. The ideal temperature to ferment this beer is between 62° - 72°F. Do not let the temperature drop below 62°F. If you do, fermentation may stop too soon. That's a bummer, man.
2. Active fermentation may take as long as two weeks after pitching the yeast, although fermentation may finish in 3 to 5 days.

Secondary Fermentation:

After about one week, fermentation will begin to slow. This is a good time to siphon the beer into the 5 gallon glass carboy.

1. Dry Hop: When siphoning your beer into the secondary, add 1 oz of Centennial hops. Just cut 'em open and dump 'em in. Dude, that was easy!
2. Allow the beer to rest in the secondary for 1 - 2 weeks before bottling.

Time to Bottle!

There a several ways to tell when fermentation is complete (besides your

drooling). If you correctly pitched the yeast and fermentation quickly began, and if the beer fermented vigorously and the fermenter was always within the correct temperature range (62° - 72°F), then fermentation should finish in two weeks or less. You should see virtually no activity in the airlock. For example, if the airlock only bubbles once a minute or longer, then fermentation should be complete. If you are unsure if fermentation has ended, you may use your hydrometer to measure the specific gravity. If your specific gravity does not change after two or more days, then fermentation is complete and you are ready to bottle!

1. Before bottling, sanitize your bottling bucket, auto siphon (or racking cane), hose, bottle filler, caps and bottles. Glass bottles may be sanitized one day in advance by baking them in the oven. Instructions for bottle baking may be found at www.boomchugalug.com/baking_bottles.htm
2. Dissolve 5 ounces (weight) or 3/4 cup of priming sugar (dextrose / corn sugar) in 16 oz water. Boil for 5 minutes.
3. Pour the sugar solution into the bottling bucket, and siphon in the beer. Siphon carefully, trying to minimize splashing and aeration of the beer. Also when siphoning, be sure to leave behind the sediment at the bottom of the fermenter. When done siphoning, gently stir the beer in the bucket to make sure all of the sugar solution has been dissolved. Your racking cane makes a convenient stirring wand.
4. Elevate your bottling bucket, and attach your siphon hose and bottle filler to the bucket's spigot. Fill the bottles to about 1 inch from the top, and cap each bottle.

Carbonation and Maturation!

Now that your bottles are primed and capped, the remaining yeast will undergo a second fermentation in the bottle whereby they eat the priming sugar and produce carbon dioxide, which is trapped in the bottle to produce the carbonation. While your beer is carbonating, it will also be clearing and maturing - the young, rough undeveloped flavors develop into your magical beverage! Your wondrous elixir reaches awesome drinkability about 6 weeks from the day you began the brew, but don't be surprised if it keeps getting better as time goes on.

1. Place your bottles in a dark place at room temperature (62°F - 75°F), and wait at least two weeks for the beer to carbonate. It is important to keep the beer between 62°F - 75°F for carbonation to develop. If the beer cools below 62°F, it may not properly carbonate. In brewing, this is officially known as the buzzkill. Keep it warm, let it carbonate!
2. Once your beer is carbonated, you may store it in a cool place. Unfiltered home-brew is unfiltered, and unfiltered beers will improve with time. If your young beer is rough or yeasty, these flavors will mellow over time. Cheers!

