Model A Ford
Tech Report


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By Willie Priaulx September 2023

Air Filter or Not to Air Filter

That is the question – and a major topic of conversation at the High Country Tour in Breckenridge this past June. "It Never rains in Colorado in June" they said. Seems they forgot to tell the Weather Troll, and on those drizzly afternoons in the mountains, the repair tent offered refuge from the weather and plenty of opportunity to check under the hoods. One look at my air filter started a series of discussions.

One of the Colorado A-400s recently had an air filter fire. The damage to the engine compartment had been repaired and the hood repainted before regionals, but the story was still fresh. No one wants an engine fire and the concern is well warranted.

The choice to use an air filter or not, is of course up to you, and depends in part on how your car is used. Henry used no air filters, so if your goal is to have a show car the choice is easy. If touring is your plan, racking up the milage, then an air filter probably makes good sense.

For me, if I have a babbitt engine with substantial mileage already on it, adding an air filter at this point may be unwarranted. My newly rebuilt, insert bearing engine however, definitely gets an air filter, no question.

If you decide to use an air filter on the Model A Ford, it's essential that it meets these criteria;
1. It must be safe, shed excess fuel from flooding or leaking, and not become a fire hazard.
2. It must not restrict the air flow to the carburetor and provide maximum performance.

Unfortunately, the most commonly available air filter sold for the Model A Fails both of these requirements. The 90° bend places the air filter directly next to the hottest part of the exhaust system in a downward position that will collect any gas leakage. The replaceable paper air filter clogs quickly and restricts air flow. In my humble opinion, this air filter is an accident waiting to happen and should Not be used.

The solution is a K&N® washable, reusable High-Flow Air Filter™ fit on a simple do-it-yourself airway made from common 1½" PVC pipe fittings from the local home store. Originally designed for high-performance on the racetrack, K&N air filters are engineered to ensure maximum airflow.

I have been using the K&N air filter for several years now and can recommend it without reservation. Even at altitude in Breckenridge, where both man and machine were sucking for more air, any restriction caused by this filter was negligible.

PARTS

K&N Clamp-On Air Filter (3.5”x4.0”)	RD-0700	~$50
K&N Cleaner & Red Oil Service Kit	99-5000	~$18

DIY PVC Airway Hardware (schedule 40): ~$12

- 1- 1½” PVC Street 90°
- 1- 1½” PVC 90° Elbow
- 6” length 1½” PVC Pipe
- 1- 1½” PVC Street 45°
- 1- 2” to 1½” PVC DWV Flush Bushing (OD 2 3/8”)
- 1- 2½” Hose clamp

PVC primer & cement. Satin black spray paint.

INSTRUCTIONS

The Do-It-Yourself Airway is a series of pipe fittings, glued together and connected with hose clamps to the Zenith carburetor on one end, and the air filter on the other end. This design routes the airway under the carburetor, with the filter forward and away from the exhaust manifold. The last 45° elbow raises the filter above the lowest section of the airway where a small drain hole clears any leaked fuel. The full assembly can be installed and removed with a screw driver.

1. The large end of the Street 90° fits over the carburetor mouth and will be used as the mounting collar with a hose clamp. This flange measures 1 7/8” ID and 2 1/4” OD.

   Cut two 9/16” diameter semi-circles in the flange at the horizontal center line with a die grinder, Dremel tool or round file. These cutouts will accommodate the choke shaft bushings cast in the carburetor and allow the fitting to slide fully on the carburetor.
   (See Gray cutout area in Figure 3)

   Cut 4 relief slots in the flange with a hack saw to allow the collar to compress under the pressure of the hose clamp.
   (See Red cut lines, Fig 3)

Fig. 3

2. Assemble the five pipe fittings in the configuration shown in Figure 4 and glue it all together using PVC cleaner/primer and cement.

   This is also a good time to remove stickers and sand off any unwanted mold marks.

3. Drill a 1/8” drain hole at the bottom of the 45° elbow.

Fig. 4

4. Now paint your new Airway satin black for a nice professional finish, or it will look like you just cobbled together some plumbing parts from Home Depot.

5. Test fit the airway assembly to the carburetor and air filter. If the fit is too loose for the hose clamp to tighten securely, some shim stock may be needed. I have used ½” strips of aluminum soda can, strips of inner tube rubber, or simply several wraps of duct tape.

6. Attach the Airway to the carburetor and air filter with hose clamps.

The K&N® High-Flow Air Filter can go up to 50,000 miles under normal highway driving conditions before cleaning is required. That’s a quote straight from the manufacturer folks! For Model A usage, a cleaning every other season or so should be more than sufficient. Cleaning and oiling instructions come with the service kit.

Enjoy the ride and keep the rubber side down – Willie