

# Arlen Ness Motorcycles

## Big Sucker and Billet Sucker Air Filter Kits

INSTALLATION INSTRUCTIONS  
AIR FILTER KITS, XL, 1986-UP  
P. N. 18-803, -804, -805, -806, -807

### Important Notice

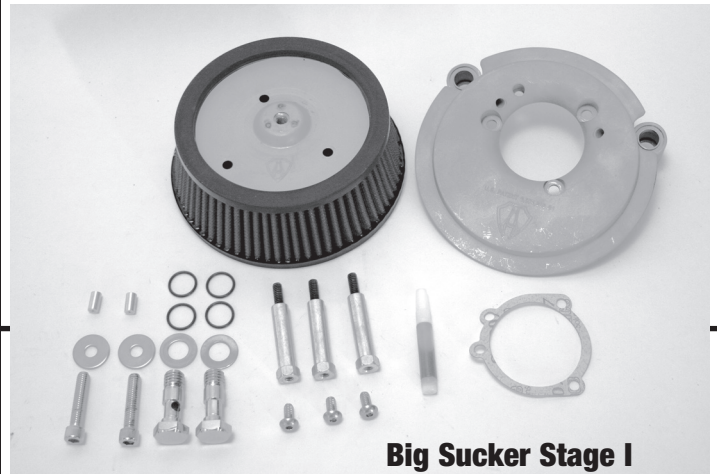
- Before installing your Ness-Tech air filter kit, read through these instructions completely; this will familiarize you with the way in which the parts fit together and the tools needed to complete the job. We strongly recommend that you also have the correct factory service manual for your motorcycle.
  - In the course of installing this kit, you will be replacing the stock air filter, rear air filter housing, air filter and breather bolts with custom manufactured parts.
  - Depending on the year your motorcycle was built, the factory installed parts are attached with either internal hex bolts, commonly called "allen bolts", or Torx head bolts. Make sure that you have the correct tool for the bolts you are removing. The disassembly and installation operations for these air filter kits do not require any special tools.
  - Please pay special attention to the section of the instructions dealing with the installation of the breather o-rings, washers and banjo bolts.
  - We recommend that you trial fit all bolts before applying any locking compound to their threads.
- Depending on other modifications to your motor you may need to re-jet your carburetor.

### Disclaimer

This Arlen Ness Motorcycles Big Sucker or Billet Sucker air filter kit is designed to fit on 1986-up Harley-Davidson Sportster motorcycles equipped with a 40mm Keihin CV or 44mm Screamin' Eagle CV carburetor. This air filter kit is not intended for use on pollution controlled motorcycles. It is intended for the very experienced rider only, to be used on motorcycles for off road events. The installation of this Arlen Ness Motorcycles air filter kit may adversely affect and or void your motorcycle's factory warranty.

### Note

These kits are designed to fit 1986-Up Sportster motorcycles equipped with 40 to 44mm Keihin CV type carburetors. You will not need all of the bolts and washers supplied in these kits, because of the different breather systems that have been fitted.



**Big Sucker Stage I**



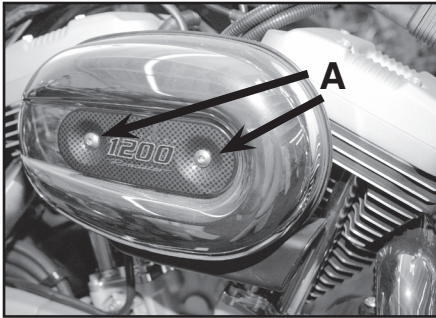
**Big Sucker Stage II**

### WARRANTY

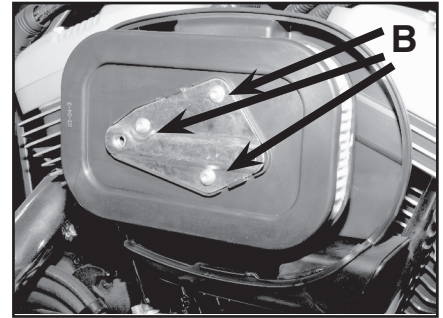
Arlen Ness Motorcycles Inc. warrants to the original purchaser that the parts in this air filter kit to be free of manufacturing defects in materials and workmanship for a period of one (1) year from the date of purchase. In the event warranty service is required, you must first call Arlen Ness Motorcycles immediately with a description of the problem.

6050 Dublin Blvd., Dublin, CA 94568; Tel: (925) 479-6350; Fax (925) 479-6351

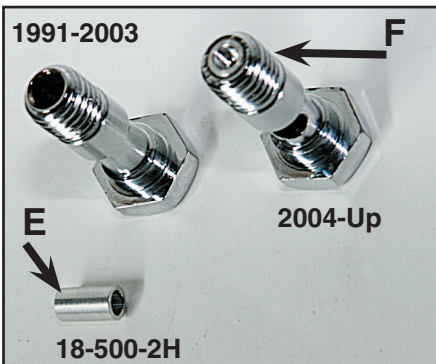
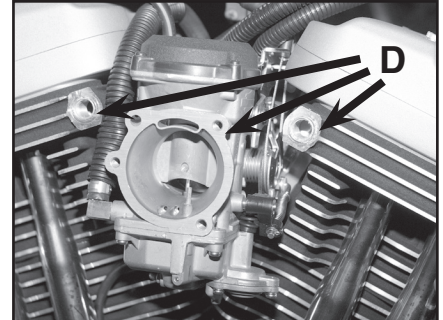
## Getting Started



Remove the two Phillips screws that secure the stock air filter cover and the cover, (A). The air filter element is attached with three Torx screws, (B), lift the element off, (some years have two hoses connecting the element to the cylinder head breathers). Remove the two breather bolts, (C), that secure the air filter housing to the cylinder heads.

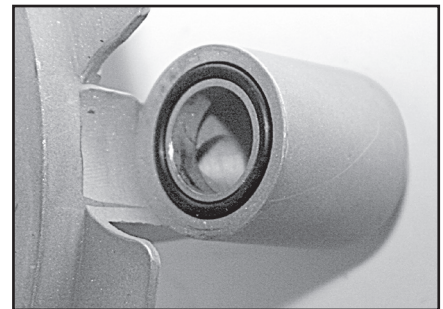


Disconnect the overflow hose from the carburetor and run it behind the rear pushrod tubes to the rear of the motor. On some models you will need to remove a breather hose that runs from the rear of the housing to a canister by the rear wheel. Carefully clean any gasket material off the front of the carburetor and cylinder head mounting bosses, (D).



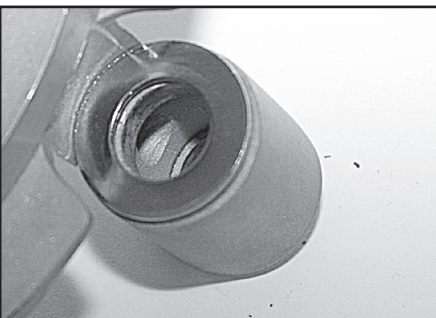
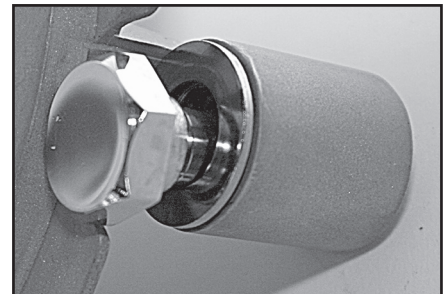
## Breather Banjo Bolts

The year of your motorcycle denotes which type of breather bolts are needed. **2004-Up:** On this model you must install restrictor bushings, E (P. N. 18-500-2H), inside of each breather bolt. Coat the outside of each restrictor bushing with blue Loctite; then, with the bushing's recessed end up, press it into the end of the breather banjo bolt, (F), and stake it with a center punch.



**1991-2003:** These models use our standard breather bolts.

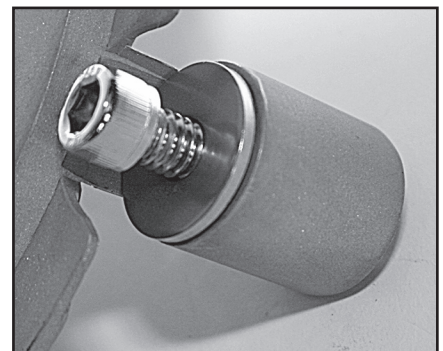
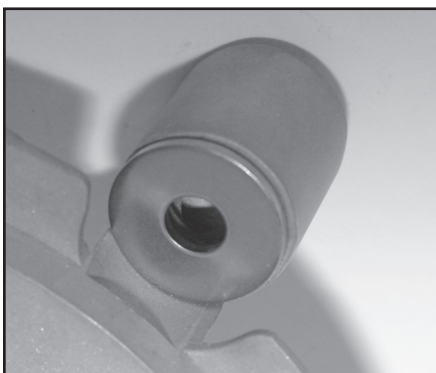
Fit O-rings into the grooves in the front and rear of the ears on the backplate, fit a chrome washer on each breather bolt and insert them into the bore in the ears of the backplate.



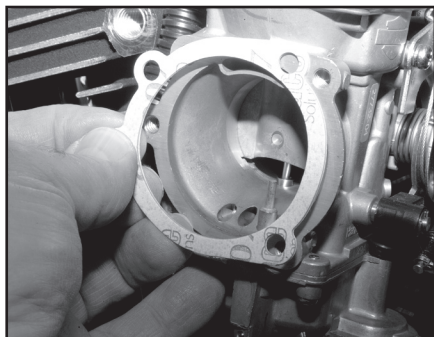
## Non-Breather Mounting Bolts

**1986-1990:** These models use two 5/16-inch chrome Allen bolts to mount the backplate to the cylinder heads.

Fit O-rings into the grooves in the front and rear of the ears on the backplate, fit a chrome washer, with a small, 5/16-inch hole on each mounting bolt and insert them into the bore in the ears of the backplate.

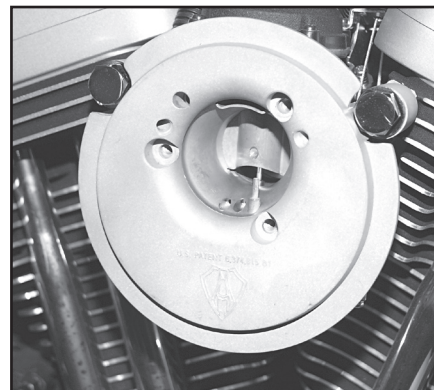


## Backplate

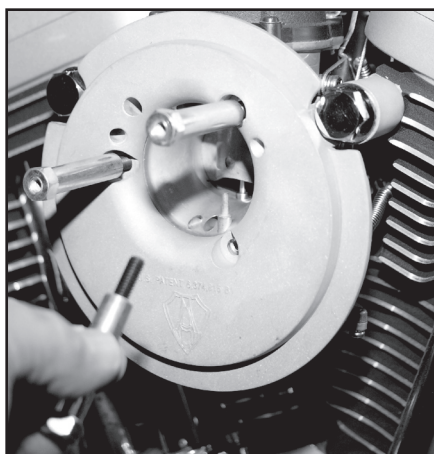


Peel the protective paper off of the carburetor gasket and fit the gasket to the mouth of the carburetor.

Apply two drops of blue Loctite to the threads of the breather bolts and while being careful of the o-rings, center the backplate over the carburetor and loosely thread the breather/backplate mounting bolts into the cylinder head.



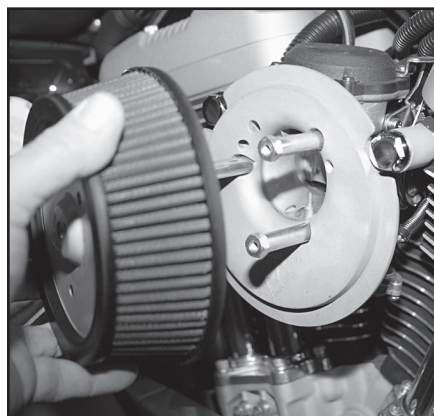
## Air Filter Element



Apply a drop of blue Loctite to the threads of the three standoff bolts and thread them into the carburetor.

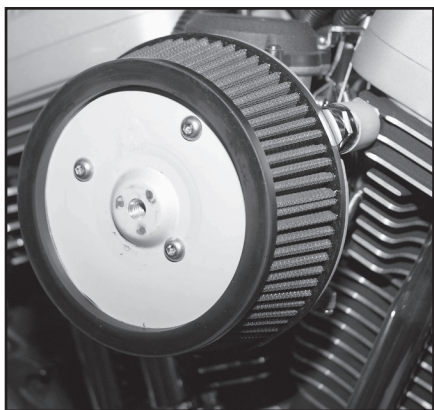
Torque the three carburetor standoff bolts to 3-5 ft-lbs.

Torque the two breather/backplate mounting bolts to 10-12 ft-lbs.



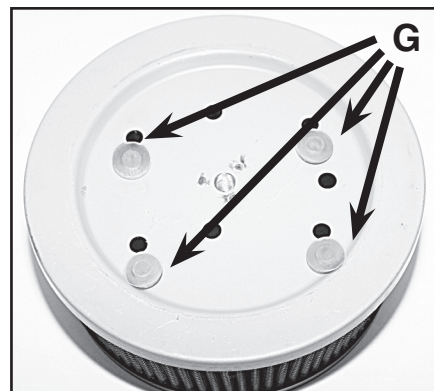
### Stage I:

Fit the air filter element over the stand-offs and align the mounting holes. Apply a drop of blue Loctite to the threads of each 1/4-20 button head screw and torque them to 3-5 ft-lbs.

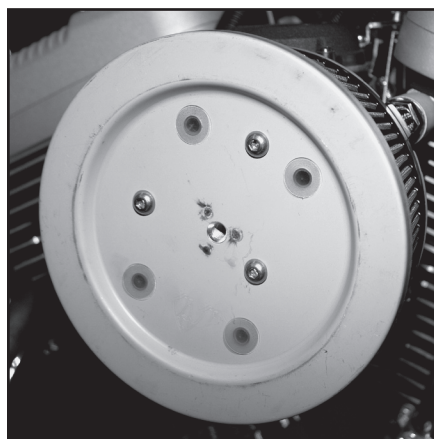


### Stage II:

There are four plastic hole plugs that must be installed in the air filter element, (G). The holes are in a rectangular pattern that doesn't correspond the holes for the standoff bolts. Gently push each plug into its hole until it is fully seated.



Fit the air filter element over the stand-offs and align the mounting holes. Apply a drop of blue Loctite to the threads of each 1/4-20 button head screw and torque them to 3-5 ft-lbs.

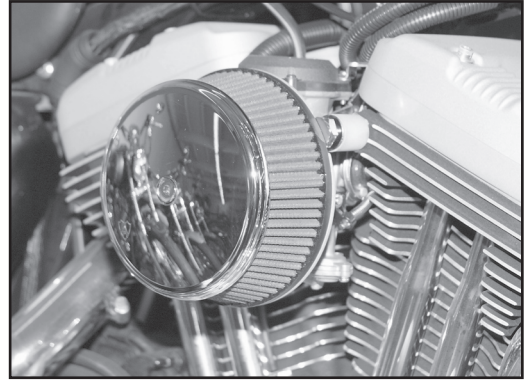


## Air Filter Covers

The stock Sportster air filter cover will not fit over the Big Sucker Stage I or Big Sucker Stage II air filter elements.

**Arlen Ness Motorcycles** makes several billet covers and an 8-inch chrome cover to fit these air filters.

**Photo #1:** The Stage I billet cover is available in smooth, (shown), or scalloped. To install, put a drop of blue Loctite on the mounting screw, center the cover and torque it to 3-5 ft-lbs.



**Photo #1**

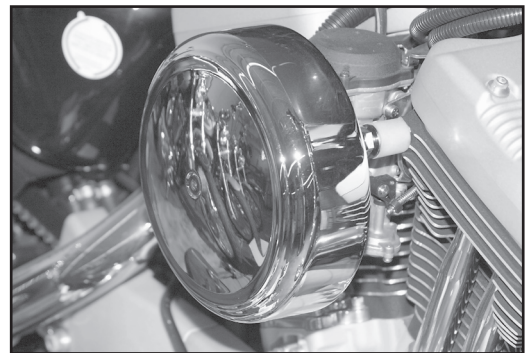
**Photo #2:** The Stage II billet cover is available in smooth, (shown), grooved or scalloped. To install put a drop of blue Loctite on the mounting screw, center the cover and torque it to 3-5 ft-lbs.



**Photo #2**

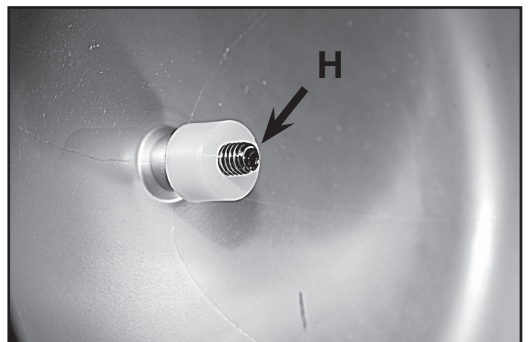
**Photo #3:** The Ness-Tech 8-inch chrome cover will fit the Stage I or Stage II air filters.

To install on a Stage I air filter, put a drop of blue Loctite on the mounting screw, center the cover and torque it to 3-5 ft-lbs.



**Photo #3**

**Photo #4:** Stage II air filters require a nylon spacer, (H), on the inside of the cover. To install on a Stage II air filter put a drop of blue Loctite on the mounting screw, insert it through the hole in the cover, slip the nylon spacer over the screw, center the cover over the air filter element and torque it to 3-5 ft-lbs.



**Photo #4**

**Questions?**  
Call Arlen Ness  
925-479-6350