

Starchives

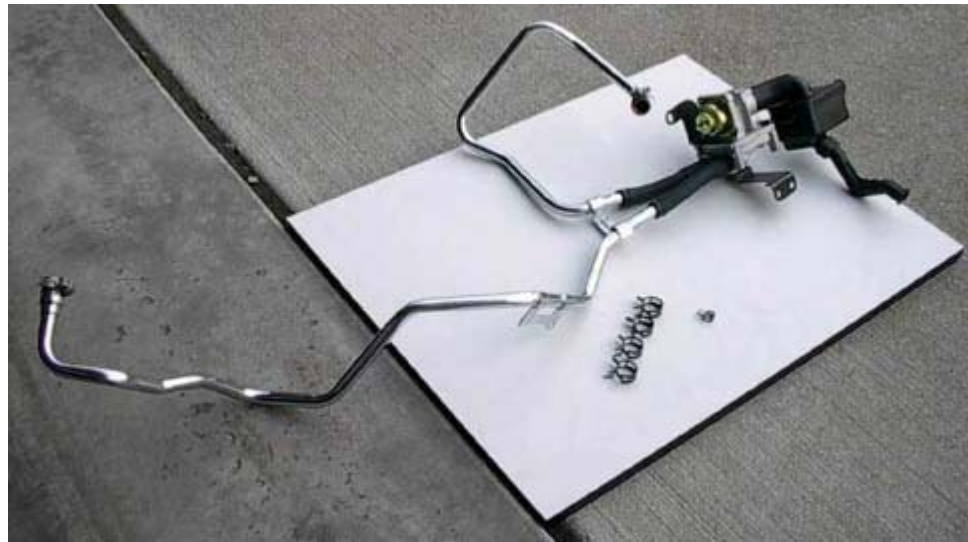
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## 1100 AIS Removal: I took the plunge

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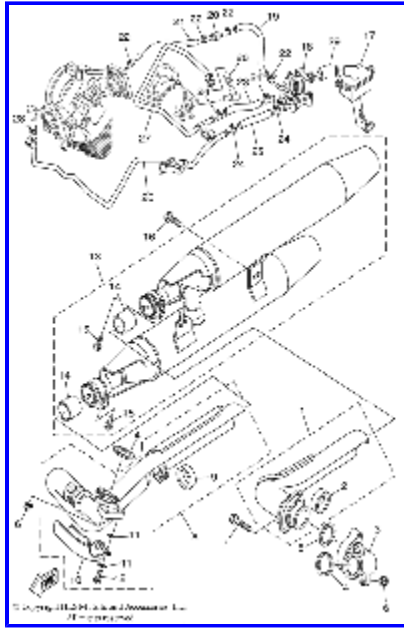
*"I saw that removing the entire assembly wasn't going to be quite the chore that I had at first envisioned."*

After reading several threads about the subject on the ISRA Forum and talking to the service manager at the dealership where I purchased my bike, I finally decided to tackle the job of removing the Air Induction System from my 2001 V-Star 1100 Classic. Actually, once I started with the two black hoses on the Air Induction System Assembly (I was just going to plug them) I saw that removing the entire assembly wasn't going to be quite the chore that I had at first envisioned.

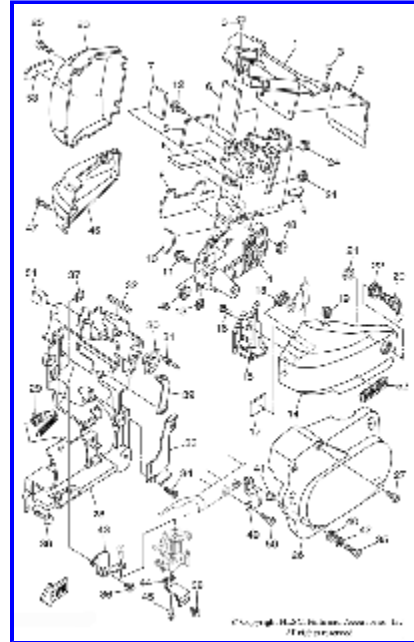


AIS main assembly with pipes... A weight saving in it's own right!

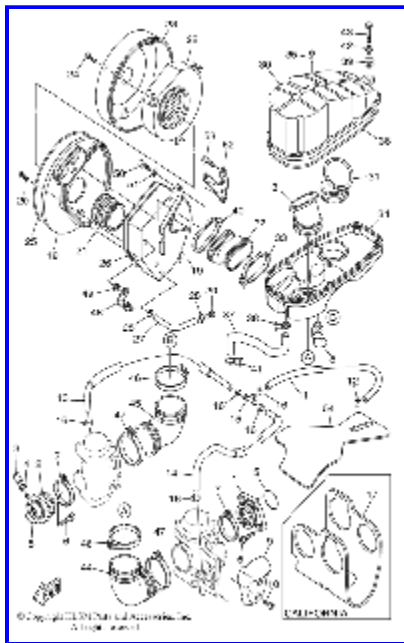
In order to follow along with this removal procedure I have including some exploded parts diagrams that you should click on each and then print out for reference. You can get these pictures and order every part, down to the smallest nut and bolt, from the Troy Racing web site at <http://www.troy-racing.com> (Click on the "microfiche parts finder" link at the top middle of the page.) A very handy reference site as it has these sorts of diagrams for every Star out there. Thanks guys!



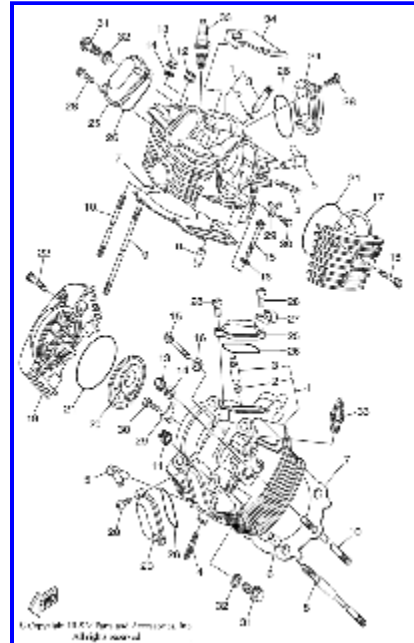
Fuel System - Exhaust.



Frame &amp; Body - Side Cover.



Fuel System - Intake.



Engine - Cylinder Head.

#### Items necessary for project:

- Popping and Backfiring 1100 V-Star (1)
  - Metric Hex Key Set
  - Metric Socket Set
- Dremel Moto-Tool With Cutoff Wheel and Wire Brush Attachments
  - Phillips Head Screwdriver
  - Pliers
- High Temperature Copper Silicone Gasket
  - 10mmx25mm Allen Head Bolt (2)
    - 5/8" Vacuum Cap (2)
    - 5/16" Vacuum Cap (1)

*Before you begin this procedure, remember that I am not a licensed mechanic, the reason that I wrote this article is to show step-by-step how I performed the removal of this assembly from my bike. I make no guarantees that these steps will work the same on your bike as they did on mine, if you decide to follow them. The risk that you take by removing this assembly is your own, as it was mine.*

For the majority of the procedure refer to the FUEL SYSTEM/EXHAUST diagram, if another diagram is necessary it will be specifically referred to.

Remove the Side Cover #14 (refer to the FRAME BODY/SIDE COVER diagram) this is the Side Cover that houses your tool bag. Next, remove the Side Cover #26, you need only remove the four Bolts #35, you do not need to remove the two Bolts #27. You now have full access to the Air Induction System Assembly #18, the Air Filter #17, and the Hose #29 connecting them.



Covers removed. AIS assembly highlighted in red.

Remove Hoses #23 and #25 and Clips #24 from Pipes #26 and #27 and from the Air Induction System Assembly #18.

Remove Hose #19 and Clip #22 from the Air Induction System Assembly #18. Here you have a choice, you can plug Hose #19 with a 5/16" Vacuum Cap or trace it back to where it attaches to the Carburetor Joint #1 (refer to the FUEL SYSTEM/INTAKE diagram) remove it there and place a Vacuum Cap on the stem of the Carburetor Joint #1. I've only done the former for now, when I get industrious I'll take it the rest of the way. The seat and the tank must be removed to access the carburetor.

Remove all of the bolts and brackets securing the Air Induction System Assembly #18, the Air Filter #17, and the Hose #29 and remove them from the bike. You can now replace the Side Cover #26.

Remove Pipe #26 from the left side of the engine by loosening the screw at the Elbow Pipe at the front of the front cylinder head. Remove Gasket Muffler #28 from the Elbow Pipe on the front cylinder. Release the clutch cable from the bracket attached to Pipe #26. Remove the two Bolts securing this bracket to the Crankcase Cover, once the bracket is removed you can replace the rear bolt, the other will be replaced later. Release Pipe #26 from the bracket attached to Pipe #27, you may now remove it.

Remove Pipe #27 from the right side of the engine by the loosening screw at the Elbow Pipe at the rear of the rear cylinder head. Remove Gasket Muffler #28 from the Elbow Pipe on the rear cylinder. Next you must loosen the two Bolts #7 of Upper Exhaust Pipe Assembly (loosen only, do not need to remove) then, with a little work Pipe #27 will come out with no damage. Retighten two Bolts #7.

Using a Dremel with a cutoff wheel remove the clutch cable bracket portion from the bracket on Pipe #26, next, using a wire brush attachment polish the rough edges, then reattach it to its original location on the Crankcase Cover and reattach the clutch cable. [You can if you wish leave this bracket off altogether as it really is not necessary to hold the clutch cable. Also, if you don't cut the bracket, it means the whole AIS removal procedure can be reversed back to stock if required. - Ed.]



Cut, smooth and then replace the Clutch Cable Bracket.

The Air Induction System is now removed from the engine. To complete the process take a 10mmx25mm Allen Head Bolt and coat the threads with High Temperature Copper Silicone Gasket (leaving approximately 1/4" of bottom threads, so no gasket material will get into the cylinders) and place one into each Elbow Pipe and tighten with pliers. Wipe away any excess gasket material. Gasket material should cure for twenty-four hours. Just as an added final touch I took two 5/8" Vacuum Caps and placed them over the two Allen Head Bolts turned Plugs, now it has a more finished look to it. Replace Side Cover #14.



With the Plug in place.

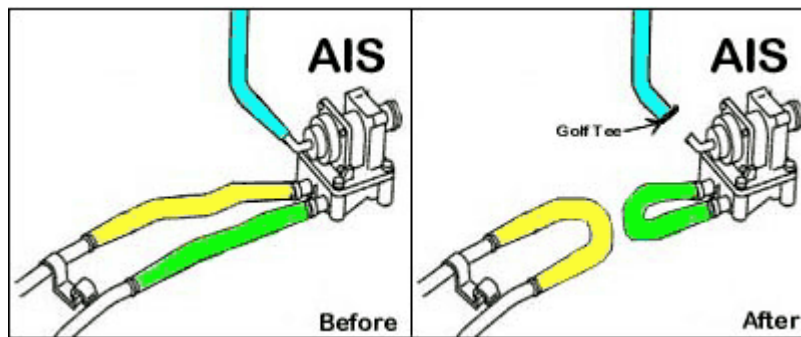
Capped to tidy it up.

You are now ready to fire it up and listen to that NON-backfiring V-Twin, the way that it should sound!



Ahhh... The finished article.

[Editors Note: There is also a lazy way to disable the AIS as shown by the diagram below, but it does not get rid of the ugly pipes that encase our lovely engines. It can however, be done (and reversed) in under five minutes. ;-)]



The lazy way to disable the AIS.

