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[Near "bolt-on" Hydra-Boost brakes](#)

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10-19-2004

#1



Bill usn-1

Moderator IH Fuel Injection

Join Date: Dec 2002

Location: Back in the US-Whidbey Is, WA

Posts: 3,056

Build up part 1 "bolt-on" Hydra-Boost brakes

Thought I would do a short write up on the booster system I just installed on my scout. I typed Hydra-boost on purpose for all the PC people out there that don't like "hydro" when referencing anything other than water!!!

I know it's been done before but it turned out to be such a simple swap that made such a big improvement that I felt I should share.(sort of like FI!!!)

First I used the JY astro van system.

I grabbed the booster, master cyl, and proportioning valve with the lines that went to the anti-lock brake unit right below.

Here is a pic of the finished product first.

Then I will tell you how I did it.

So please hold off on the questions until I can get it all loaded.;

Other build ups.

[Rear Disc Jeep D300 OBA](#) [OBW Interior PS pump reseal](#) [Hydro boost Mirrors Headliner SOA Bushing replacement](#) [Roll cage And of course..FI](#)

Attached Thumbnails



Bill
USN-1

IF YOU WANT FUEL MILEAGE GO FUEL INJECTION! or diesel

76/345/727/scout300/354's/37's/SOA/EFI

75/345/727/JP300/373's/33's/SOA/EFI

IL VEICOLO UFFICIALE di RECUPERO della JEEP

Last edited by Bill usn-1 : 06-16-2008 at 11:34 PM.

10-19-2004

#2

**Bill usn-1**

Moderator IH Fuel Injection

Join Date: Dec 2002

Location: Back in the US-Whidbey Is, WA

Posts: 3,056

To start with I removed the old system from the scout and set it side by side with the new. I measured the push rod length and found the Hydra-boost was about 1" too long but the hole for the pedal was the right size.

So I cut the new rod in half and removed the amount needed to make it the right length.

Then I ground both ends to a taper.

I then layed the pieces end to end and rewelded back together.

I promise I have pics but I don't know where I filed them.

I'll edit later.

Once that was done I set it up on the fire wall and found the retaining nut was too large to pass thru the fire wall.

So I grabbed the die grinder and cleaned up the hole just enough for the nut to pass thru.

I only had to clean up the pedal bracket. The firewall hole was fine.

Once done the unit set flat on the fire wall and the 2 top holes lined right up.

I marked the location of the bottom holes, then removed the unit and drilled the holes. I used the stock studs on the top and 3/8 bolts for the bottom but you could just use the original studs for all 4.

Attached Thumbnails



Bill

USN-1

IF YOU WANT FUEL MILEAGE GO FUEL INJECTION! or diesel

76/345/727/scout300/354's/37's/SOA/EFI

75/345/727/JP300/373's/33's/SOA/EFI

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Last edited by Bill usn-1 : 10-20-2004 at 12:30 AM.

10-19-2004

#3

**Bill usn-1**

Moderator IH Fuel Injection

Join Date: Dec 2002

Location: Back in the US-Whidbey Is, WA

Posts: 3,056

Next I had to run the pressure hoses.
This is where I did a little research.

I found a really neat way to convert the late model o-ring fittings to the old style inverted flare that the scout uses.

They are bushings made by Lee manufacturing.

818-768-0371

Pressure 40620 \$3.97

Return 40630 \$3.97

They tap right in using a 1/4" bolt and nut as a driver!

Once in, the stock scout hoses bolt right up! 😊

Best part is they are about \$10 total to your door.

Attached Thumbnails



Bill

USN-1

IF YOU WANT FUEL MILEAGE GO FUEL INJECTION! or diesel

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Last edited by Bill usn-1 : 11-10-2004 at 02:16 PM.



10-19-2004

#4

**Bill usn-1**

Moderator IH Fuel Injection

Join Date: Dec 2002

Location: Back in the US-Whidbey Is, WA

Posts: 3,056

Here is a pic with them installed.

Attached Thumbnails



Bill

USN-1

IF YOU WANT FUEL MILEAGE GO FUEL INJECTION! or diesel

76/345/727/scout300/354's/37's/SOA/EFI

75/345/727/JP300/373's/33's/SOA/EFI

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10-20-2004

5



Bill usn-1

Moderator IH Fuel Injection

Join Date: Dec 2002

Location: Back in the US-Whidbey Is, WA

Posts: 3,056

I purchase 1 new stock scout hose so both of them are the same.
It's a powercraft 70973.

Attached Thumbnails



Bill

USN-1

IF YOU WANT FUEL MILEAGE GO FUEL INJECTION! or diesel

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75/345/727/JP300/373's/33's/SOA/EFI

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10-20-2004

6



Bill usn-1

Moderator IH Fuel Injection

Join Date: Dec 2002

Location: Back in the US-Whidbey Is, WA

Posts: 3,056

My next task was to boost the pressure to assist in steering and braking so I removed the pressure valve from the pump and installed 2- .030 shims for a total of .060. I also ground the tip of the center pin to adjust for the .060 shims.

Attached Thumbnails



Bill

USN-1

IF YOU WANT FUEL MILEAGE GO FUEL INJECTION! or diesel

76/345/727/scout300/354's/37's/SOA/EFI

75/345/727/JP300/373's/33's/SOA/EFI

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10-20-2004

#2



Bill usn-1

Moderator IH Fuel Injection

Join Date: Dec 2002

Location: Back in the US-Whidbey Is, WA

Posts: 3,056

Here are the washers

Attached Thumbnails



Bill

USN-1

IF YOU WANT FUEL MILEAGE GO FUEL INJECTION! or diesel

76/345/727/scout300/354's/37's/SOA/EFI

75/345/727/JP300/373's/33's/SOA/EFI

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10-20-2004

#8



Bill usn-1

Moderator IH Fuel Injection

Join Date: Dec 2002

Location: Back in the US-Whidbey Is, WA

Posts: 3,056

Here is the washer placement and the pin ground down to compensate for the washers.

EDIT: [After a month of driving I needed to reseal the pump(my fault!) and this is what I learned when I tried to *improve* on the upgrade already done.]

If you are thinking about drilling the pressure port fitting larger for more flow.....

I recommend you **NOT** do it. I saw it on a couple sites and given the theory that if a little is good then a lot is better.....

It's not. 1 of the sites recommends up to 1/16th bigger, well I went 1/8, from 1/8 to 1/4 port size.

It work great at idle! But as you rev the motor, it pushes soooooo much fluid that it literally sucked my hydroboost down and applies the brakes!!! : yikes :

On top of that, it will growl and whine like crazy, the faster the engine turns. : bonk :
So my advice, add the pressure, it has worked great!!! but leave the volume alone!

Attached Thumbnails



Bill

USN-1

IF YOU WANT FUEL MILEAGE GO FUEL INJECTION! or diesel

76/345/727/scout300/354's/37's/SOA/EFI

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Last edited by Bill usn-1 : 01-11-2005 at 07:20 PM.



10-20-2004

#9



Bill usn-1

Moderator IH Fuel Injection

Join Date: Dec 2002

Location: Back in the US-Whidbey Is, WA

Posts: 3,056

Here is the back of the pump.

Attached Thumbnails



Bill

USN-1

IF YOU WANT FUEL MILEAGE GO FUEL INJECTION! or diesel

76/345/727/scout300/354's/37's/SOA/EFI

75/345/727/JP300/373's/33's/SOA/EFI

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10-20-2004

#10



Bill usn-1

Moderator IH Fuel Injection

Join Date: Dec 2002

Location: Back in the US-Whidbey Is, WA

Posts: 3,056

Here is the pump back together and installed.

I also installed the astrovan master cyl and proportioning valve.

Remember I said I got the lines with the valve!!!

Well you will need to cut the end off the rear line and install it on the rear line of the scout then re-double flare the line.

I guess you could come up with a brass adapter fitting but the flaring tool works fine!!!

Attached Thumbnails



Bill

USN-1

IF YOU WANT FUEL MILEAGE GO FUEL INJECTION! or diesel

76/345/727/scout300/354's/37's/SOA/EFI

75/345/727/JP300/373's/33's/SOA/EFI

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10-20-2004

11



Bill usn-1

Moderator IH Fuel Injection

Join Date: Dec 2002

Location: Back in the US-Whidbey Is, WA

Posts: 3,056

So, all we have left is the return line.

For those I just used 3/8" hose and I went to Lowes and picked up a brass T and 3- 3/8 barbed 1/4 npt fittings.

You run the return from the booster and the steering box together then back to the pump.

so now your done...unless you are also doing rear disc...that's another thread....

So go out and hit the brakes and put your self right thru the windshield!!!!

HTH some of you.

I really like these things.

The son says they are the best mod next to the FI! 🇺🇸

Attached Thumbnails



Bill

USN-1

IF YOU WANT FUEL MILEAGE GO FUEL INJECTION! or diesel

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Last edited by Bill usn-1 : 10-21-2004 at 09:53 AM.



10-20-2004

#12



Bill usn-1

Moderator IH Fuel Injection

Join Date: Dec 2002

Location: Back in the US-Whidbey Is, WA

Posts: 3,056

side shot.

Attached Thumbnails



Bill

USN-1

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75/345/727/JP300/373's/33's/SOA/EFI

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10-20-2004

#13



Bill usn-1

Moderator IH Fuel Injection

Join Date: Dec 2002

Location: Back in the US-Whidbey Is, WA

Posts: 3,056

OK

Game on!!!

Bill

USN-1

IF YOU WANT FUEL MILEAGE GO FUEL INJECTION! or diesel

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75/345/727/JP300/373's/33's/SOA/EFI

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10-20-2004

#14



scoutman800

Registered User

Join Date: Apr 2004
Location: salem, ohio
Posts: 68

thank you bill, i very much appreciate this sort of thing. especially that you took time to take pics while doing it. i often plan on taking some, but trying to work ahead of weather fronts and having to scrub road grime off to grab the camera gets in the way. if i'd known all this before i replaced virtually every bit of my braking system i'd have gone this route. gotta be cheaper too! thanks again for giving us a shot at doing this and benefitting from your work!



10-20-2004

#15

Jeff Eggemeyer

Registered User

Join Date: Jan 2003
Location: Troy, Illinois
Posts: 123

Hey Bill,

Does game on mean we have to paint the power steering pump housing too??

Very good job on the write up.

Did you happen to notice if the astro van steering link would work in place of the rag joint?? I have always wondered that.

Jeff

Bi-State Binders

'79 SII EFI 392 0.030 over/727/D300/Full size Axles Locked w/35s and a 38 gallon Fuel tank
'73 in pieces



10-20-2004

#16



Bill usn-1

Moderator IH Fuel Injection

Join Date: Dec 2002
Location: Back in the US-Whidbey Is, WA
Posts: 3,056

Never crossed my mind to look.
Found a place called AFCO IIRC that sells different joints for about \$50.
That's what I'm using. I just replaced the rag joint with a U-joint.

AFCO

Bill

USN-1

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Last edited by Bill usn-1 : 05-20-2005 at 02:49 AM.



10-20-2004

#17

Binderman

The KING of no progress!!

Join Date: Feb 2003
Location: Crowell Texas
Posts: 560

Overall length

Whats the overall length of the Astro hydro-boost from firewall flange to end on master cylinder?

May have to ditch my donor truck unit for the astro version if it is short enough to prevent any fender mods on my 800.

Your building up this truck and then you are gonna take it out of the states:(

Lookin good!!!

When does it go in the container again?

My "Disasterpiece"

1970 800A 4X4,HFI'd,304,B/W,27,44,3:73,28's.

The rest are in my 25 year plan!

My "Ruedh"

FREE 1972 1110 4x4,V8(?)727,205,44 drum/60/3.54's,small cheap tires.

LOOOOADS-O-RUST!! Donor body located. Not!! JY owner played the "crusher value" card. : angry:

NON-working rear window. Need info!!!

www.northtexasbinders.com



10-20-2004

#18



Bill usn-1

Moderator IH Fuel Injection

Join Date: Dec 2002
Location: Back in the US-Whidbey Is, WA
Posts: 3,056

Quote:

Whats the overall length of the Astro hydro-boost from firewall flange to end on master cylinder?

15"

The master cyl is 8.5 the original MC is 8.25 so not much difference there.

Quote:

When does it go in the container again?

The plan now...is to drive the scout to florida when we move to spend our last christmas there.

Then we have to drive to Norfolk, VA to put it on the boat and catch our Military airlift to Italy.

Looking to be in VA in early Jan whether the scout is done or not!!!!!!

Bill

USN-1

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10-21-2004

#19



Bill usn-1

Moderator IH Fuel Injection

Join Date: Dec 2002

Location: Back in the US-Whidbey Is, WA

Posts: 3,056

Here is the link to the U-joints [AFCO](#)

Bill

USN-1

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11-03-2004

#20



Bill usn-1

Moderator IH Fuel Injection

Join Date: Dec 2002

Location: Back in the US-Whidbey Is, WA

Posts: 3,056

I may be looking at a second part to this depending on how "Part 3" works out!

Bill

USN-1

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11-03-2004

#21



Join Date: Dec 2002

Location: Scouting around somewhere in Idaho!



Eagle-Mark 
Web Wheeler For Hire!

Posts: 3,818

Which u-joint did you use? Looks like a easy way out of a rag joint...

Founder [North Idaho Off Roaders](#)
Webmaster [North Idaho Trail Blazers](#)
KAT Team Member [Blue ribbon Coalition](#)
Member [Idaho State 4x4 Association](#)
Kootenai County OHV Advisory Committee
Former Idaho Director PNW4WDA



1973 IH Scout II six cylinder
1989 Chevy Iroc Z28 5.7L TPI on the bottle...
1990 Chevy Suburban Silverado 5.7L 2wd
1985 Chevy Four Door Dually 7.4L 2wd
1990 Chevy Blazer Silverado 5.7L 4x4

No none of my vehicles have rust!!! 



11-03-2004

#22



Bill usn-1 
Moderator IH Fuel Injection

Join Date: Dec 2002
Location: Back in the US-Whidbey Is, WA
Posts: 3,056

I don't really remember now.
I got it thru the local dirt track shop here.

1 end was the steering box spline and the other was the DD.
I had to grind the one side flat on the original shaft since it already had 1 flat side on it.
Then it slipped right in and locked down.

I don't remember if mine was 3/4 or 13/16 shaft?

Bill
USN-1

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11-05-2004

#23

**Bill usn-1**

Moderator IH Fuel Injection

Join Date: Dec 2002

Location: Back in the US-Whidbey Is, WA

Posts: 3,056

Here was my joint conversion.

Attached Thumbnails



Bill

USN-1

IF YOU WANT FUEL MILEAGE GO FUEL INJECTION! or diesel

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75/345/727/JP300/373's/33's/SOA/EFI

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11-05-2004

#24

**Bill usn-1**

Moderator IH Fuel Injection

Join Date: Dec 2002

Location: Back in the US-Whidbey Is, WA

Posts: 3,056

pic two

Attached Thumbnails



Bill

USN-1

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75/345/727/JP300/373's/33's/SOA/EFI

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11-05-2004

#25

**Bill usn-1**

Join Date: Dec 2002

Location: Back in the US-Whidbey Is, WA



Moderator IH Fuel Injection

Posts: 3,056

pic three

Attached Thumbnails



Bill

USN-1

IF YOU WANT FUEL MILEAGE GO FUEL INJECTION! or diesel

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Off Road & High Performance

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