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Power Steering Flush & Reservoir Replacement

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2010, 18:03

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Jan 2004

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Garage:

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#### Power Steering Flush & Reservoir Replacement

Ok, so maybe this is overkill, but I was on vacation this week and decided to take care of some DIYs on the car. My power steering had been making some noise at lower speeds and there was a small leak at the reservoir (probably a bad o-ring). I decided to go ahead and replace the reservoir since the part was relatively cheap and I believe it has a non-replaceable filter in it. I also decided to go ahead and do a full flush of the system since the fluid looked like coffee. Again, this may be over-kill, but here is what I did along with a few photos. This isn't hard, but as with anything proceed at your own risk:

#### Parts required:

- Plastic bucket, bottle or some other disposable item that can hold 2-3 quarts of ATF and you don't mind drilling a hole in.
- 5' of 3/8 inside diameter hose
- 5' of 5/8 inside diameter hose
- 3/8" brass or plastic barb (used to join two sections of hose - i got these at home depot for like \$1.50 each)
- 5/8" brass or plastic barb
- 5/8" brass or plastic tap (has a thread on one side and a barb on the other to connect the bucket to the hose)
- 2 small hose clamps (that can fit over the 3/8 line)
- 2 medium hose clamps (that can fit over the 5/8 line)
- Turkey baster
- Plastic cups or something else to catch ATF that leaks as you remove hoses
- disposable bottle to catch old fluid - I used an empty washer fluid bottle

#### Steps:

1. Remove the air filter box, top and bottom sections. Clips on top and next to maf's and then one band clamp at bottom for air inlet hose. M but a few good pulls and it came loose. You may be able to get to the resevoir without removing, but it only takes a couple minutes and ext
2. Use the turkey baster to suction out as much of the fluid from the resevoir as possible.
3. Remove the 3 10mm bolts holding the resevoir in place. 2 attach the resevoir to the car, 1 holds the clamp that keeps the resevoir in plac
4. With reservoir now free, hold a cup under it and tip on its side to drain out as much remaining fluid as possible.
5. Remove band clamps from suction (larger hose) and return lines (smaller hose). My car had the crush type clamps that were a \*\*\*\*\* to get to get them off. I used the more typical screw type clamps as a replacement, much easier to adjust.

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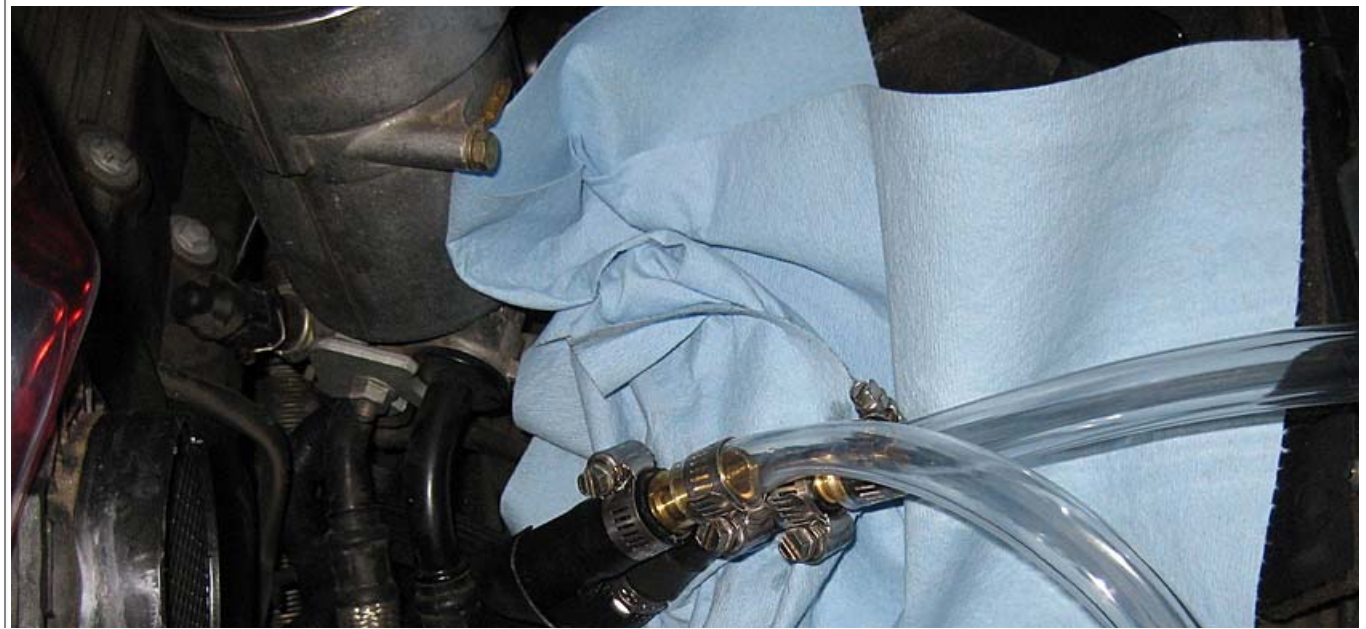
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6. With clamps off, slowly work the suction and return hoses off of the reservoir - have plenty of shop towels ready to catch any spills. Takes come off with hand pressure only, just be patient so you don't make a huge mess. Set reservoir aside or dispose if you are replacing.
  7. Hold a cup under each hose and bend down to drain out more fluid.
  8. Now you can attach the barbs and new section of hose to each of the suction and return hoses. I used clamps to make sure the hoses would flush.
  9. I drilled a 3/4" hole in the bottom of a cheap plastic bucket and screwed in the barb with the threads (it is just tight enough that the ATF did not come out). I attached the 5/8 hose between the bucket and the SUCTION hose (the LARGER of the two). Don't screw this part up or you'll have a big mess to the return line and put the other end in the washer fluid bottle to catch the old fluid.
  10. Fill the bucket with 2 quarts of ATF. I used mobil 1 synth. Hold the bucket at about chest high and allow the fluid to fill the hose down to the bucket. You should start to see old fluid come out of the return line due to the pressure.
  11. I then had a friend crank the engine (make sure you don't have any tools or towels near the fan, etc) and then turn the wheels left and right for a few seconds to completely flush out the old fluid and start running bright red (see the contrast in the color in the picture below).
  12. Carefully remove each fill hose from the suction and return lines and cover the end with your finger to keep any excess fluid from dumping out.
  13. Attach the reservoir (impossible to mess up the connections since the pipes are sized to fit the two hoses) and tighten new band clamps. clamp and 3 10mm bolts holding it in place.
  14. Top up reservoir and check for leaks. I ran the car for a few min, then let sit for 1 hr then topped up.
- No leaks and the noise is gone. Again, there may be easier ways of doing this, but given how nasty the old fluid looked, I'm glad I flushed all





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13th September 2010, 01:17

[ger](#)

Member, P500, DSC On (&gt;600)



Join Date: Nov 2009  
Location: Wales  
Age: 38

Garage: [M5 Le Mans Blue](#)Sales Feedback: [\(0\)](#)

Thanks: 160  
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Did this yesterday. I wanted to replace my old leaking, 'reservoir to pump' pipe and flushed out the old stuff whilst I was at It's nice to know that it's all clean and fresh in there now.

It's also pretty amazing how quickly the fluid is pumped though once the engine is running, only a handful of seconds is req steering by your assistant).

Thanks for the clear 'how to.'



11/2000 M5 Le Mans Blue

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13th September 2010, 02:32

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Member, P500 Sport, DSC off (&gt;900)



Join Date: Mar 2009  
Location: Saratoga, CA

Garage: [2001 M5 Anthracite](#)Sales Feedback: [\(0\)](#)

Thanks: 474  
Thanked 458 Times in 282 Posts

**Well done!**

I am the #1 fan of "overkill", so I guess we are kindred spirits. Nice job with pic's too.

Regards,  
Alan

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13th September 2010, 15:48

[getbent](#)

Addicted Member (&gt;300 posts)

Join Date: Jan 2004  
Location: Washington, D.C.

Garage: [2003 M5 Carbon](#)**Thanks for feedback, but I just learned a lesson...**

Well live and learn from this one. I took the belly pan off this weekend to clean it up and just poke around to see if anything that I noticed was the power steering suction hose is weeping where it is clamped to the power steering pump itself. No leal installed, but I should have checked the hose at the other end when I had it all apart the first time. Its not bad, but will hav wish I had spent the extra 10 min to take the pan off when I first did this DIY so I wouldn't have to drain it again. At least I

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13th September 2010, 16:00

[abbas.ali](#)Member, Sport: On DSC: On  
(> 100 posts)Join Date: Oct 2007  
Location: panama city FL,  
USAGarage: [bmw m5 black](#)

Sales Feedback: (0)

Thanks: 80  
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14th October 2010, 05:59

[kjbruckner](#)Member, Sport: Off DSC: On  
(> 50 posts)

Did this last weekend, was experiencing loss of boost during low speed corners. Seems to be OK now. I did use 3 quarts - 2 just didn't seem enough to get all the crap out of the system. I'm at 92K miles, original fluid. By the way, replaced the leaking return hose, the reservoir (the fluid was so dirty that I didn't want to keep the non-remov the crush clamps while I was at it. Once the air got out of the system, noise disappeared, boost is back to normal. Nice job of the how to - thanks for putting it together.

*Last edited by kjbruckner; 14th October 2010 at 06:02.*Join Date: Apr 2008  
Location: New JerseyGarage: [2002 M5 Sterling Gray](#)

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14th October 2010, 15:12

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Addicted Member (&gt;300 posts)

Join Date: Jan 2004  
Location: Washington, D.C.Garage: [2003 M5 Carbon Black](#)

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