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Forum - Golfmkv.com > Technical Discussions > Engine /
Drivetrain / Exhaust**My clutch installation thread 2007 GTI FSI**

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01-05-2011, 09:20 PM

#1

nkresho

suck, squish, bang, blow

Drives: 2007 FSI GTI
Join Date: Oct 2010
Location: Pittsburgh
Posts: 393[View nkresho's Garage](#)**My clutch installation thread 2007 GTI FSI**So, my **clutch** started slipping right after I went **stage 2 APR**.

I was getting **slip** right around peak torque (2500RPM-3000RPM). I was relatively easy on it for about two months and it stayed basically the same for the duration. If I was at WOT in gears 4-6 it would do it.

It was not sensitive to outside temperature, as it would **slip** at 80 degrees down to right around 15. Same **slip**, same rpm range, etc.

The last few times I drove it, it was starting to **slip** over a seemingly larger range, before catching. It would **slip** to about 4000rpm. Also, this was much worse with 2-4 people in the car.

I decided to go with another stock **clutch** as I don't want to deal with the tractor transmission sounds of a single mass flywheel.

I got the **clutch** from DBC for under \$300. It included the throw out bearing, friction disc, and the pressure plate. AFAIK that is the cheapest place around. The part number is on the box, in my pic. http://shop.dbctuning.com/06F141015C_p/06f141015c.htm

In addition, I had to buy a new axle bolt for the drivers side (one time use) and a couple of bottles of brake fluid (to bleed the **clutch**). I picked up a transmission jack from harborfreight for \$80 as well. <http://www.harborfreight.com/450-lb-...ack-39178.html>

The install was done in my non-heated garage. I used a propane heater.

I will try to be as descriptive as I can with the install pics.

I just took it for a spin around the block and it drives just fine. I won't get to see if the **slip** has been remedied for a hundred miles or so. I am going to try to stay out of boost for the first little bit as to properly bed the **clutch** disc.

Tool list:

- Jack
- Jackstands (2)
- drive-on ramps
- lots of metric sockets (mostly 13mm, 16mm, 17mm, and 18mm)
- 12 point 24mm socket (for axle bolt)
- metric combination wrenches (mostly 13mm, 16mm, 17mm, and 18mm)
- triple square set (IIRC I only used the 10mm)
- torx screwdrivers
- motive brake bleeder (you can get away without this one)
- torque wrench (capable of torquing the wheel studs at least 89 foot pounds)
- long breaker bar (1/2" for hard to get off bolts)
- maybe more, I can't remember...



Quote:

Here's the **clutch**. it's a LUK. Pressure plate, disc, throw out bearing, and alignment tool all in the same box.



Quote:

There's a bit of anti-rust treatment on the pressure plate. Gotta remember to clean it off before installing.



Quote:

Harbor freight tranny jack and my trusty propane heater.



Quote:

Here's a random shot of the car. A pic of the new axle bolts (I got two just in case I had to remove the passenger side axle) I didn't. They're the 12 point ones and the stock ones were 6 point, with a washer. And a reminder shot that the downpipe is going to need to be loosened. This is so the engine can move around freely.



Quote:

Pulling the drivers side wheel and the front underside engine cover.



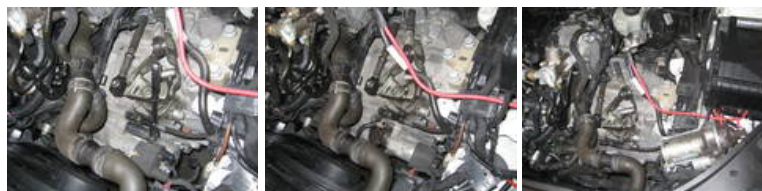
Quote:

Drivers side intercooler pipe removed, and the throttle body pipe is being removed. All of it was in the way of the transmission.



Quote:

Yank out that starter. Two bolts (kinda like studs with a fixed nut) These also partially attach the tranny to the motor.



Quote:

Twist the starter out of the way and you have access to the shift linkages. You don't have to completely unwire the starter.

S3 DV relocate, stock clutch #2, K04 is finally installed, my cam follower wear

Last edited by nkresho; 02-01-2013 at 07:07 AM.



01-05-2011, 09:28 PM

#2

nkresho

suck, squish, bang, blow



Drives: 2007 FSI GTI
Join Date: Oct 2010



Quote:

Pop the retainers off the shifter linkages. Make sure you don't lose them, they could fly across the garage if you're not careful.

Location: Pittsburgh
Posts: 393

[View nkresho's Garage](#)



Quote:

Disconnect the shifter linkage bracket from the tranny (2 bolts and one nut, IIRC)



Quote:

You're going to need to support the engine, since the 2 tranny mounts (drivers side and pendulum) will have to be removed. There's a nice round spot. I put a rag between the jack and oil pan, as I didn't want to mar it too badly. Then there's the driveshaft to transmission output connection. There are a total of six triple-square bolts on each one. You might want to loosen these with someone pressing the brakes for you, so the whole driveshaft doesn't start spinning on you.



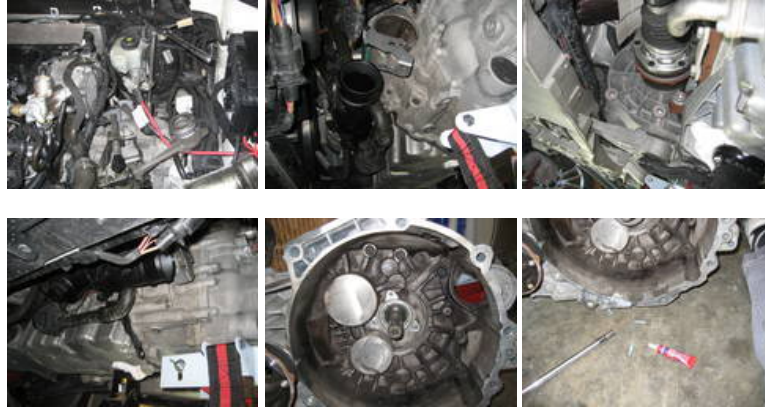
Quote:

When I pulled the line off the throw out bearing, I used the new one to plug it. Then I twisted it out of the way so I could work.



Quote:

Remove the drivers side inner fender cover. This is two parts. Then a shot of the tranny jack getting in place.



Quote:

Not a lot of pics of the agony of wrestling the tranny off the engine. But here are a few pics of the inside of the **clutch** side of the tranny. Notice the loctite. This is for the reinstallation. I like to use it on most of the bolts inside the transmission (pressure plate to flywheel, throw out bearing to transmission, etc, etc).



Quote:

Cleaning the anti-rust off the pressure plate. Inspecting the flywheel for cracks or irregularities. I didn't find any real issues here. No signs of temperature problems. No scoring. No gouges or deep scratches. Also, check the flywheel for excessive play. it should rotate about 1-2cm clockwise to counterclockwise. Too much more and you're looking at replacing it.

S3 DV relocate, stock clutch #2, K04 is finally installed, my cam follower wear

Last edited by nkresho; 01-06-2011 at 08:52 PM.



01-05-2011, 09:32 PM

#3

nkresho

suck, squish, bang, blow



Drives: 2007 FSI GTI
Join Date: Oct 2010
Location: Pittsburgh
Posts: 393

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Quote:

More flywheel shots. I cleaned it with a clean paint brush first, to get all the loose dust off, then I used a toothbrush and some degreaser to get it spotless. Compressed air got the nooks and crannies. Make sure to wear a respirator if you do that. IIRC, there's no asbestos in there, but breathing that dust can't be good for you.



Quote:

And the reinstall of the pressure plate with the **clutch** disc in there. Notice the alignment tool in there to keep it straight while you tighten the 12 point 10mm bolts to the flywheel. Then I wasn't in the mood or position to take any more pics of the agony of wrestling the tranny back on the engine. The last pic shows the culprit. That passenger side tranny output cup (rusty thing in the center of the pic) is a real bitch to get past the flywheel teeth. It wants to catch whenever you try to **slip** the engine and tranny together. That was like a half hour to an hour, just to get that thing off and back on. IMHO the very worst part of the whole installation.

Torque Specs:

Wheel studs to wheel hub: 120 Nm (89 ft/lbs)

Drive axle to wheel hub hex head bolt: Use new bolt
200 Nm (147.5 ft/lbs) plus an additional 1/2 turn 180*

Drive axle to wheel hub 12-point bolt: Use new bolt
70 Nm (51.6 ft/lbs) plus an additional 1/4 turn 90*

Drive axle to flange shaft/transmission Multi-point socket head bolt: Use new bolts
70 Nm (51.6 ft/lbs) Pre-tighten to 10 Nm (7.4 ft/lbs) in diagonal sequence

(more to be added)

S3 DV relocate, stock clutch #2, K04 is finally installed, my cam follower wear

Last edited by nkresho; 01-06-2011 at 08:53 PM.



01-05-2011, 09:41 PM

#4

NJdubber

Performance Enthusiast



Drives: 2006 Audi A3
Join Date: Jun 2009
Location: Northern NJ
Posts: 1,739



Quote:

Originally Posted by **nkresho**
Bed time. I will work on the pic descriptions later...

An amazing DIY with a ton of pics! I'm sure when your free you can do a nice write up.

Brilliant Red 2006 Audi A3 Sports Package: FrankenTurbo F23T, Eurodyne Maestro, APR HPFP, RS4 PRV, Forge Twintake, Precision 600HP Intercooler w/ FFE piping, ATP DP, JunB.L. CB, BSH CC, VF Full Mounts, 42 Draft shifter bushings, Vogtland Coils, APR Rear Sway, BSH End links, VMR Vent Gauge



01-05-2011, 09:42 PM

#5

bostonaudi

Formula 5000 Champion



Not too shabby, and you saved install costs. I think you made right decision, the more I think about it the more dumb it seems to take out DMF. I've been driving about 2 months now too babying slipping **clutch**, gotta do the same job you just did soon. I was quoted \$400 to R&R mine locally, which isn't terrible, but doesn't seem job is too bad with that tranny jack.

PCA HPDE Instructor (#62 United Grey 2008 GTI)
<http://www.jkautomotive.net/>

Drives: 2008 GTI, 1995 BMW M3
 Join Date: Mar 2007
 Location: Charleston, SC
 Posts: 2,793

[View bostonaudi's Garage](#)



01-05-2011, 11:16 PM

#6

NJdubber

Performance Enthusiast



Drives: 2006 Audi A3
 Join Date: Jun 2009
 Location: Northern NJ
 Posts: 1,739

Quote:

Originally Posted by **bostonaudi**

*Not too shabby, and you saved install costs. I think you made right decision, the more I think about it the more dumb it seems to take out DMF. I've been driving about 2 months now too babying slipping **clutch**, gotta do the same job you just did soon. I was quoted \$400 to R&R mine locally, which isn't terrible, but doesn't seem job is too bad with that tranny jack.*

I agree this thread has made that job an easier DIY. I'm glad he did this, thats on my next to do list after a K04 upgrade.

Brilliant Red 2006 Audi A3 Sports Package: FrankenTurbo F23T, Eurodyne Maestro, APR HPFP, RS4 PRV, Forge Twintake, Precision 600HP Intercooler w/ FFE piping, ATP DP, JunB.L. CB, BSH CC, VF Full Mounts, 42 Draft shifter bushings, Vogtland Coils, APR Rear Sway, BSH End links, VMR Vent Gauge



01-05-2011, 11:24 PM

#7

NewToVW

Automotive Ninja



Drives: 2009 GTI 4DR 6MT
 Join Date: Dec 2008
 Location: USA
 Posts: 1,132

Nice. It doesn't look like too bad of a job. The last transaxle I dropped by myself was out of an MR2 Turbo in a one car garage... that was pretty hard.

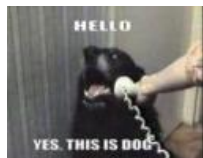


01-06-2011, 12:15 AM

#8

TwentyonePSI

Crody



Drives: SuperDuperTurboRacecar
 Join Date: May 2009
 Location: Toledo
 Posts: 15,319

Sub'ed. I may need this someday. Nice job.

BRO.



01-06-2011, 01:50 AM

#9

Dan GSR

Autocross Champion



Drives: 06 GTI
 Join Date: Jul 2006
 Location: NY , Long Island
 Posts: 8,669

[View Dan GSR's Garage](#)

i hope you set the preload on the pressure plate

LI MKV 2006 United Grey GTI, manual pkg 0

CROSS Competition Coilovers/BSH Billet Pendulum Mount/VMR wheels

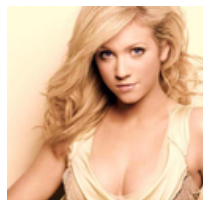


01-06-2011, 02:05 AM

#10

Jtrem

Pro TeaBagger



Drives: '05 e46 M3
 Join Date: Oct 2009
 Location: SoCal
 Posts: 16,806



Damn I hope I never have to do this.



01-06-2011, 02:16 AM

#11

GTivan72

Taka Take OFF







Drives: RS-MKV GTI
 Join Date: Apr 2008
 Location: Modesto, CA
 Posts: 1,126

[View GTivan72's Garage](#)


Im a diy guy but damn im paying someone for this.











01-06-2011, 10:12 AM #12


nkresho
 suck, squish, bang, blow




Drives: 2007 FSI GTI
 Join Date: Oct 2010
 Location: Pittsburgh
 Posts: 393
[View nkresho's Garage](#)

Quote:
 Originally Posted by **Dan GSR** 
i hope you set the preload on the pressure plate

Not sure exactly how this might be done? Isn't the throw out bearing self adjusting (spring loaded internally)?



If I am getting this right, the preload is the amount of pressure the TOB exerts on the pressure plate when it is not under pressure and releasing the **clutch**, right?



Please elaborate as I am very interested now:

What might be a downside to neglecting to complete this task?


How would one adjust the preload on our cars?

S3 DV relocate, stock clutch #2, K04 is finally installed, my cam follower wear












01-06-2011, 11:41 AM #13

1FastRedGTI
 Oval Newbie


Drives: 2008 Red GTI (FSI)
 Join Date: Sep 2010
 Location: Carlsbad, NM
 Posts: 145

Quote:
 Originally Posted by **nkresho** 
*So, my **clutch** started slipping right after I went **stage 2 APR**.*

*I was getting **slip** right around peak torque (2500RPM-3000RPM). I was relatively easy on it for about two months and it stayed basically the same for the duration. If I was at WOT in gears 4-6 it would do it.*

*It was not sensitive to outside temperature, as it would **slip** at 80 degrees down to right around 15. Same **slip**, same rpm range, etc.*



*The last few times I drove it, it was starting to **slip** over a seemingly larger range, before catching. It would **slip** to about 4000rpm. Also, this was much worse with 2-4 people in the car.*



*I decided to go with another stock **clutch** as I don't want to deal with the tractor transmission sounds of a single mass flywheel.*

1) I think if you use all that torque it will only be a matter of time before it starts to **slip** again. If you wanted to keep the DMF, you would have been better off with an aftermarket **clutch** that works with the stock flywheel but can hold more torque.


2) I can see some slight marks on the flywheel friction surface. I hope it's not too bad, like finger nail deep gouging. I had a friend who replaced a slipping **clutch** and forgot to resurface/replace the stock flywheel. His new **clutch** only lasted a week. He ended up redoing the **clutch** and learning his lesson the hard way.

2008 Red GTI (FSI Manual)-17x8 Moda MD12 wheels/BSH torque mount insert

01-06-2011, 12:54 PM #14

Jtrem
 Pro TeaBagger


If I went through this trouble I think I would drop the cash on an aftermarket **clutch** flywheel.



Drives: '05 e46 M3
Join Date: Oct 2009
Location: SoCal
Posts: 16,806



01-06-2011, 04:48 PM

#15

vwbulla

FIA World Rally Car Newbie



Drives: 2006 gti
Join Date: Sep 2009
Location: chicago
Posts: 471



subd

01-06-2011, 08:57 PM

#16

nkresho

suck, squish, bang, blow



Drives: 2007 FSI GTI
Join Date: Oct 2010
Location: Pittsburgh
Posts: 393

[View nkresho's Garage](#)



Thanks for all the kind words so far guys.

I guess I have to respect the comments of "why not go aftermarket", as we're all entitled to our opinions, but I have clearly given my reasons for my choices. I have read many threads where FSI people with **stage 2**, **stage 2+**, and some big turbo applications have had no **clutch** slipping issues with the stock **clutch**, whatsoever. So, I am wagering my time (~10 hours), money (about \$400) and effort, that this will help my problem. I am realistic enough to understand that it may not help. And at that time I will do what I have to do to fix it then... I have a second car to drive while I work, so I was under no pressure to hurry this procedure.

</rant>

Finally got some of the descriptions up. If anyone has any specific questions about any of the pics, I can add info to the original post to reflect it.

I missed the pics of the battery uninstall. It's treally straightforward though. I think it's 3 13mm bolts and a 10mm on the battery terminals. it can be one of the first things you pull. Also, remember to get your wheel lock out of the trunk before disconnecting the battery. I had to crawl in through the back seat, since the hatch is electrically opened.

It's snowing it's ass off outside tonight, so I haven't really gotten to drive the car. I will definitely report back in the break-in period, and when it is good to go I will absolutely report my results as far as slipping goes. If it isn't greatly improved, we're going to cal this whole thing a bust and go for a southbend **stage 2**. I really, really, really don't want to do that though. For a number of reasons. Namely a thousand reasons, secondarily, like I said above, the chatter of a smf drives me absolutley insane.

S3 DV relocate, stock clutch #2, K04 is finally installed, my cam follower wear

Last edited by nkresho; 01-06-2011 at 09:08 PM.

01-07-2011, 04:35 PM

#17

bostonaudi

Formula 5000 Champion



Drives: 2008 GTI, 1995 BMW M3
Join Date: Mar 2007
Location: Charleston, SC
Posts: 2,793

[View bostonaudi's Garage](#)

Quote:

Originally Posted by **nkresho**
Thanks for all the kind words so far guys.

*I guess I have to respect the comments of "why not go aftermarket", as we're all entitled to our opinions, but I have clearly given my reasons for my choices. I have read many threads where FSI people with **stage 2**, **stage 2+**, and some big turbo applications have had no **clutch** slipping issues with the stock **clutch**, whatsoever. So, I am wagering my time (~10 hours), money (about \$400) and effort, that this will help my problem. I am realistic enough to understand that it may not help. And at that time I will do what I have to do to fix it then... I have a second car to drive while I work, so I was under no pressure to hurry this procedure.*

You should be all set with new OEM clutch/PP again. Remember, it held for a while, it should hold at least as long again. My car held for 45k and nearly 20 DE's with OEM **clutch** and stg2 programming - getting pounded on a track over and over with no issues for that amount of time tells me OEM isn't exactly weak (I'm talking myself out of spending \$1100 for a SB as I write). The markup on these kits is completely absurd as well. If the Luk OEM setup is \$300, we're being asked to believe that a SMF adds another \$800?????

You shouldn't have to worry about preload as the flywheel wasn't turned, Luk pressure plates are self adjusting, and you replaced it all with new. If it shifts fine now its all set.

Is this the jack you used?

<http://www.harborfreight.com/450-lb-...ack-39178.html>

PCA HPDE Instructor (#62 United Grey 2008 GTI)
<http://www.jkautomotive.net/>

Last edited by bostonaudi; 01-07-2011 at 05:34 PM.



01-07-2011, 06:02 PM

#18

nkresho

suck, squish, bang, blow



Drives: 2007 FSI GTI
Join Date: Oct 2010
Location: Pittsburgh
Posts: 393

[View nkresho's Garage](#)

Yes, that is the same jack. It worked pretty well. I would have liked the ability to angle the base in it more. You have to hold the rear facing part of the tranny up a little higher than the front when removing it. The jack left a good deal to be desired in that capacity. I ended up wedging a few hammers (handle side) between the jack and the transmission.

Don't get me wrong, though, it definitely made the job much easier than benchpressing the tranny would have been. And it's a lot safer, as your chance of dropping it, or putting undue stress on the output shaft when pulling it off.

S3 DV relocate, stock clutch #2, K04 is finally installed, my cam follower wear

Last edited by nkresho; 01-07-2011 at 10:38 PM.



01-07-2011, 09:38 PM

#19

SpoonGTi

NOM NOM NOM...



shit... doing the DSG flush makes me look like a pussy, LOL... actually its not that bad. But I would be all over that DIY on the **clutch** replacement. I love working on my own shit and just like he said he's a DIY guy and so am I. Its just having the patience's, time, and the right tools on hand when you do it. props for him

Mods: I lost track...



Drives: 08' VW GTI-UG 2dr.
Join Date: Feb 2008
Location: Placentia, Ca
Posts: 1,707



01-08-2011, 08:21 PM

#20

virendra

Passed Driver's Ed



Drives: VW R32 2006 Manual
Join Date: Dec 2010
Location: Hong Kong
Posts: 11



i did the same for a VR32 4WD 2006 model. A bit different but the car design is v modular and you are better off dropping everything to do it properly . engine and gear box as a unit.

The front radiator assy / bumper etc come off in less than 10 minutes and you have a full exposed engine/g box with no obstruction at the front.



01-08-2011, 08:53 PM

#21

nkresho

suck, squish, bang, blow



Drives: 2007 FSI GTI
Join Date: Oct 2010
Location: Pittsburgh
Posts: 393

[View nkresho's Garage](#)

Still babying it, but the car is driving great. I am up to about 60 miles on it so far. Lots of city. On the highway I made sure to keep shifting from fourth to fifth to sixth and back again. I want to gie it about 100 miles of bedding time before I get into boost above 5psi.

No rattles, creaks, or other issues to note.

Engagement feels a little more brisk than it was before, but nothing really major. Like it is catching more quickly with less **slip** than before. Might be the feel of the pendulum mount insert I put in when I was installing the **clutch**.

I bled the **clutch** again tonight too. I was getting a click right at the beginning of the press of the **clutch**. Initially, I thought it might be the pedal, but after some more reading, it seems others have had an issue with bubbles in the throw out bearing causing it. When I bled it, I didn't see any visible bubbles tonight. But, the click is gone now, so maybe there were microbubbles? Not sure.

So, yeah, everything is going gfreat so far with the new **clutch**. I will post here again when I finally get to get on it some. I am very curious to see if it holds where the old one was slipping.

[S3 DV relocate](#), [stock clutch #2](#), K04 is finally installed, [my cam follower wear](#)



01-08-2011, 09:59 PM

#22

donjuan1jr

whats a turbo?




Drives: MKV GTI 3071R
Join Date: Dec 2008
Location: Orange County, NY
Posts: 2,273





Wait so air in the line will cause that click?

Gotta bleed my shit then.




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