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04-25-2008, 06:38 PM #1

badguyMD
Squid

Join Date: Apr 2008
Posts: 5

transmission stuck in gear - couldn't shift...fixed

A couple weeks ago I was at the track when my 01 600 started having issues shifting. First issue was hitting a false neutral between 4th and 3rd. Did it again between 3rd and 2nd the next day, then started acting really weird. I could only shift between 3rd and 5th. During the next session it turned into only getting 3rd and 4th, then finally just stuck in 4th. I figured it was a bent shift fork or something, but was pretty clueless. So I decided to take a look. If anyone has any questions I'll try to answer them.

Here's a thread about it copied from another forum...

This was my bike a week and a half ago:

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This was my bike as of yesterday:

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The second day of my Jennings trip I couldn't shift out of 4th gear...pissed me off but at least it gave me one less thing to think about as i headed into a few of the turns...

Since I'm not made of money and want to preserve as much as possible for trackdays and essentials, I decided I'd fix it. Well, it was interesting getting things apart (I've never had anything torn down this far before) but I documented everything to help with reassembly, so I should be ok. I also found another problem when pulling it apart - the drive sprocket was loose, as was the speedometer rotor...i guess the guy who did the 520 conversion forgot to tighten things...

Anyway, I figured the problem was something with the shift shaft or maybe a bent shift fork, but it turned out to be something even simpler: a loose bolt The bolt holding in the shift plate (the star shaped plate with pegs that the gear shifter fork moves to turn the shift cam - damn that's confusing) was loose, letting the shift plate move enough that the full range of motion on the shifter wasn't enough to push the shift cam over to the next gear...I tightened it up and it worked just fine

What it looked like:

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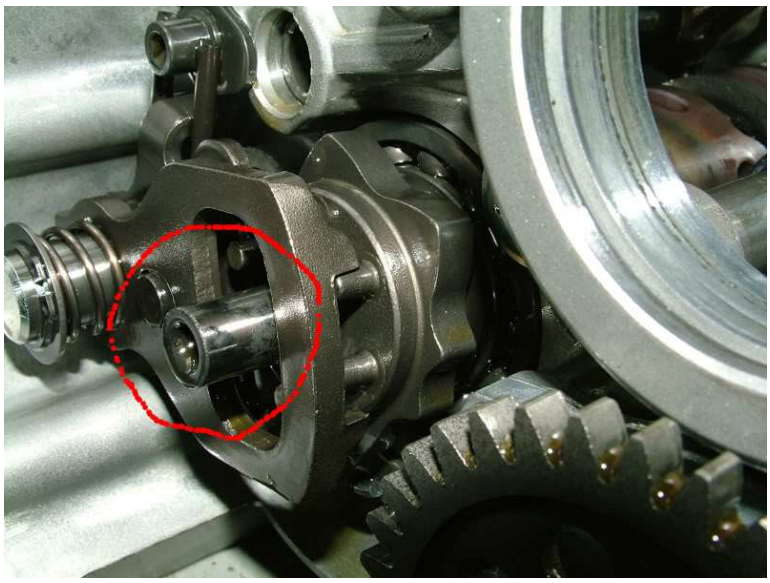
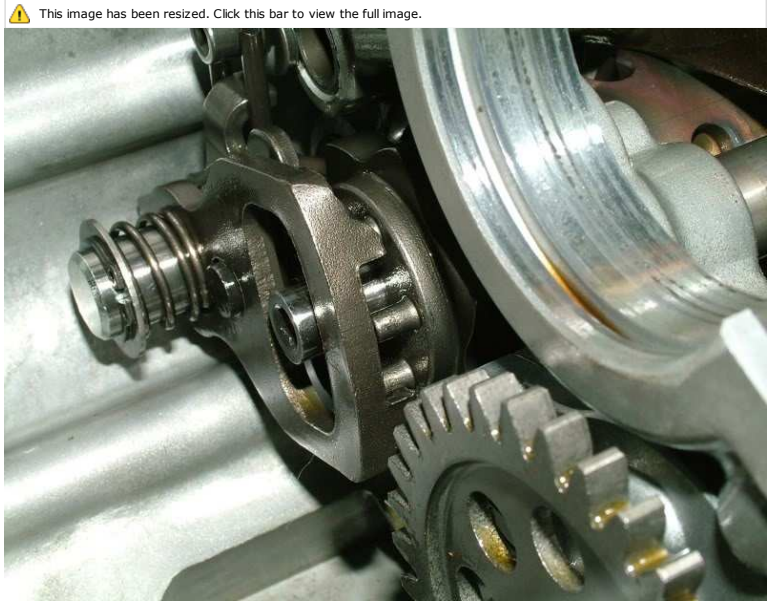


What it should look like:

This image has been resized. Click this bar to view the full image.



Now I just have to wait on gaskets and a replacement speedometer rotor and put things back together...I'll be back on the track in no time

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04-25-2008, 06:46 PM #2

Ibidu1
Slowpoke Racer

Join Date: Jul 2002
Location: Tampa FL
Motorcycle: Ibidu1
Posts: 6,481

Re: transmission stuck in gear - couldn't shift...fixed

Why didnt you post up before you did the tear down? lol

04-26-2008, 08:53 AM #3

badguyMD
Squid

Join Date: Apr 2008
Posts: 5

Re: transmission stuck in gear - couldn't shift...fixed

haha, I dunno...saw the other guy's teardown thread and figured I'd rip mine apart and see what I could see. If I got stuck I'd post up. I heard from another guy that this isn't too uncommon on these bikes - but even if someone had told me that was the problem before I found it myself, I'd still have to do the same amount of work
I tried searching for anyone else with the problem but didn't find anything...but I'll post up first about the next problem I run across and can't figure out so you can help me with it

07-09-2008, 03:16 PM #4

e.Rock
Novice

Join Date: Mar 2007
Location: Home of Point Beer
Motorcycle: 2001 GSX-R 1000, 2004 DL-1000 V-Strom
Posts: 81

Re: transmission stuck in gear - couldn't shift...fixed

Found this thread after searching for answers to my problem...

I had almost the exact same problems you're describing at a track day at Road America yesterday. The only difference is that mine ultimately ended up getting stuck in neutral rather than 4th gear, and my bike is an '01 1000.

I'm not entirely clear as to which shaft/bolt was loose on your bike? Is there a way you could have seen it without opening up the bottom end? Did you have any wear on the gears or forks because of this?

Thanks,
-E

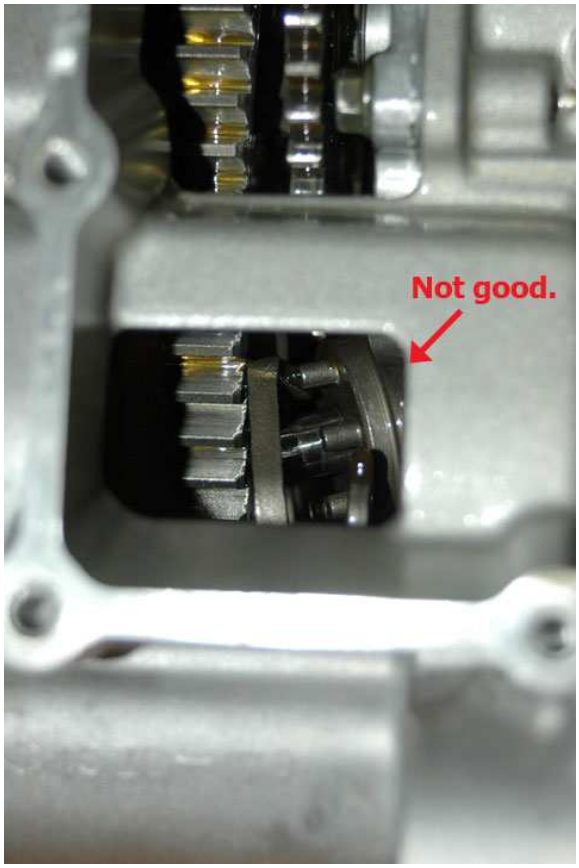
07-11-2008, 08:51 AM #5

e.Rock
Novice

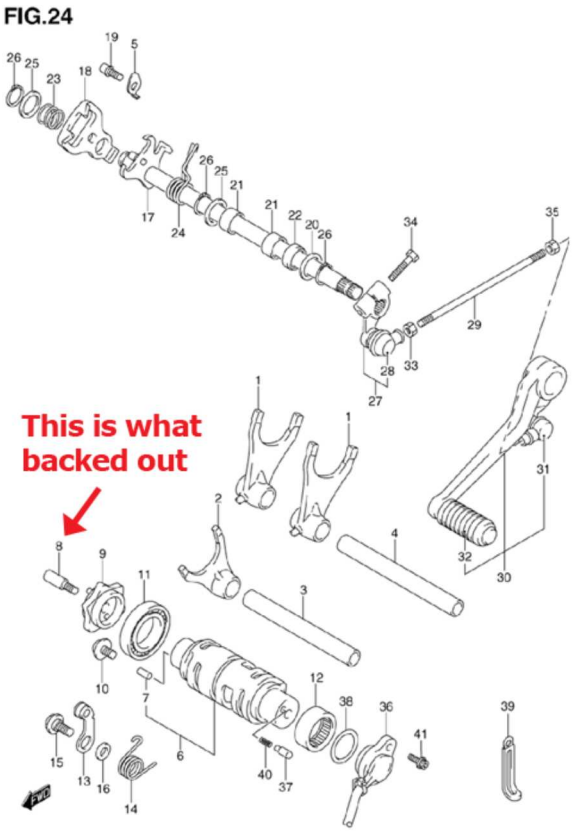
Join Date: Mar 2007
Location: Home of Point Beer
Motorcycle: 2001 GSX-R 1000, 2004 DL-1000 V-Strom
Posts: 81

Re: transmission stuck in gear - couldn't shift...fixed

I have an update that hopefully might help someone else catch this problem BEFORE it gets too far. I dropped my motor out last night and pulled off the oil pan to see what I could see...



Looking back at the OP, it appears as though I had the exact same problem, except mine has either come all the way out, or sheared off. I'll be splitting the cases tonight for a more thorough assessment.



So the moral of the story is, if your bike suddenly starts shifting hard, hitting false neutrals, then missing gears.... stop riding it!!! You'll need to pull the motor and open up the bottom end, but you could probably avoid some pretty costly repairs by just tightening it up before it works it's way all the way out like mine did.

Wish me luck
-E

No Guts, No Story.

QUOTE

07-11-2008, 10:15 AM #6

sleepy03
Rookie

Join Date: Dec 2003
Location: Behind the Zion curtain
Motorcycle: 02 Telefonica
Posts: 1,038

Re: transmission stuck in gear - couldn't shift...fixed

is there anyway to get to it with out having to drop the motor?

QUOTE

07-11-2008, 01:26 PM #7

e.Rock
Novice

Join Date: Mar 2007
Location: Home of Point Beer
Motorcycle: 2001 GSX-R 1000, 2004 DL-1000 V-Strom
Posts: 81

Re: transmission stuck in gear - couldn't shift...fixed

> Quote:
> Originally Posted by **sleepy03**
> *is there anyway to get to it with out having to drop the motor?*

The end of the bolt itself is behind the large gear behind the clutch basket (primary driven gear). Mine isn't in place, so I can't say for sure, but I suppose you might be able to get at it if you removed the clutch and primary gear...

For sure you could see if it was backing out if you pulled the clutch cover and looked behind the primary driven gear, but I'm not sure you could get a tool on it to tighten it.

I'll try and get a picture to explain what I'm trying to explain.

-E

No Guts, No Story.

QUOTE

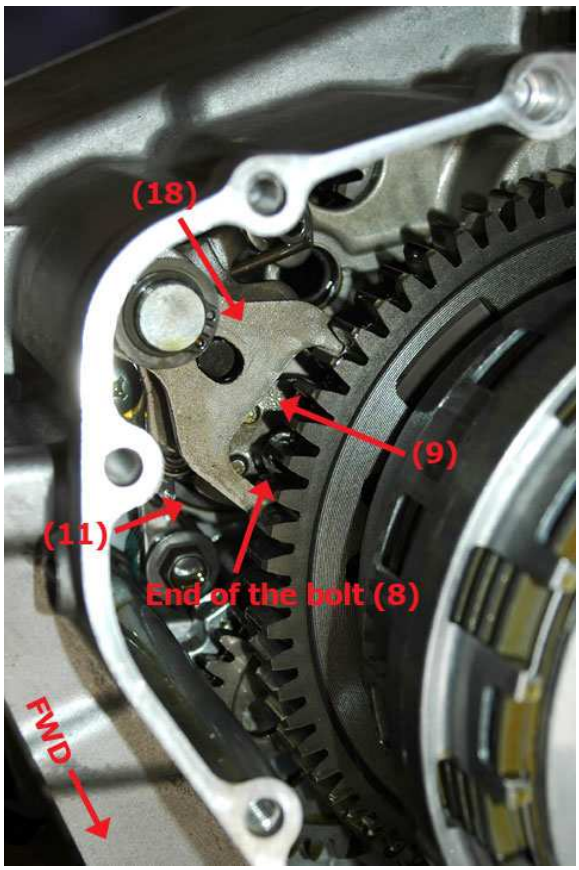
07-11-2008, 01:46 PM #8

e.Rock
Novice

Re: transmission stuck in gear - couldn't shift...fixed

Okay, here's the pic of mine. Keep in mind that my bolt is all kittywompus and wedged in there.

Join Date: Mar 2007
Location: Home of Point Beer
Motorcycle: 2001 GSX-R 1000, 2004 DL-1000 V-Strom
Posts: 81



I've labeled some of the corresponding parts from the exploded view in my previous post. You can just see the edge of the large bearing that the whole thing rides on (#11) - the bolt *should* be in the center of that bearing.

Obviously, the clutch is on the right, and the primary driven gear is behind that. The motor is sitting on it's face, so the parts would normally be in the bottom back corner on the bike (note FWD -->)

Can anyone tell me if I need to remove the clutch to split the cases and get at the tranny?

-E

No Guts, No Story.

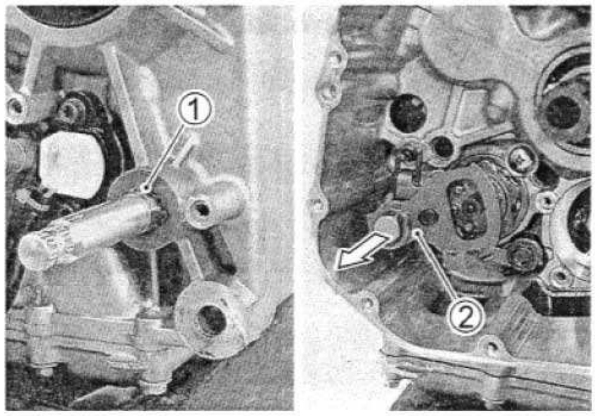
07-11-2008, 01:57 PM #9

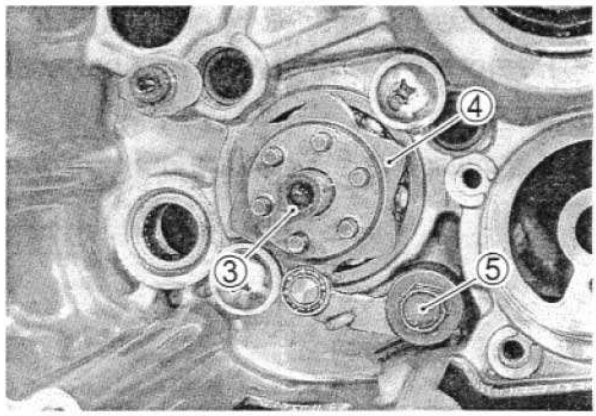
e.Rock
Novice

Join Date: Mar 2007
Location: Home of Point Beer
Motorcycle: 2001 GSX-R 1000, 2004 DL-1000 V-Strom
Posts: 81

Re: transmission stuck in gear - couldn't shift...fixed

Ah ha! Here's the crappy pictures from my service manual - this is the step after the clutch and primary gear have been removed. You can clearly see the gearshift cam plate (#4) and bolt (#3), which are accessible through the hole in the gear shift plate (#2).





So it would appear as though you could get at this without pulling the engine! Assuming, of course, that you check it early and it doesn't come all the way out like mine did.

-E

07-12-2008, 02:32 AM #10

sleepy03
Rookie

Join Date: Dec 2003
Location: Behind the Zion curtain
Motorcycle: 02 Telefonica
Posts: 1,038

Re: transmission stuck in gear - couldn't shift...fixed

ah yeah thats the shift detent star, there is a company out there that makes a replacement for it and says that it improves your shift feel. ill try to find a link and post it up

07-25-2008, 04:42 PM #11

sleepy03
Rookie

Join Date: Dec 2003
Location: Behind the Zion curtain
Motorcycle: 02 Telefonica
Posts: 1,038

Re: transmission stuck in gear - couldn't shift...fixed

found the website that has the shift kits for this problem

http://www.factorypro.com/Prod_Pages/prods63.html

07-25-2008, 10:34 PM #12

ekjesse
Lifetime Premium

Re: transmission stuck in gear - couldn't shift...fixed

Nice pics (and rebuilds) guys.....fix anything else while you where in there?

Keep us posted.

Join Date: Oct 2007
Location: NC
Motorcycle: 2001 750
Posts: 1,007

07-27-2008, 09:41 AM #13

e.Rock
Novice

Join Date: Mar 2007
Location: Home of Point Beer
Motorcycle: 2001 GSX-R 1000, 2004 DL-1000 V-Strom
Posts: 81

Re: transmission stuck in gear - couldn't shift...fixed

Quote:

> Originally Posted by **ekjesse**
> *Nice pics (and rebuilds) guys.....fix anything else while you where in there?*
>
> *Keep us posted.*

I ended up having to replace the detent star and bolt, the shift shaft and the gear shift plate - they were all dinged up in varying degrees from the bolt coming out and the detent star getting wedged behind the driven gear.

I also chose to split the cases and inspect the tranny while I had the motor out, and 2nd gear was starting to show some wear on the dogs, so I opted to replace that. Motor is back in the frame now, fires up and shifts through the gears on the stand, but haven't had it out on the road.

Ordered the parts from Service Honda (they have Suzi parts now!), and it cost me somewhere in the neighborhood of $170, including 2nd gear and gaskets. Seems cheap compared to what I was expecting when I thought I grenaded my transmission... :_crying2:

No Guts, No Story.

02-05-2009, 06:20 PM #14

Kevincc
Squid

Join Date: Feb 2009
Location: Savannah, GA
Motorcycle: 2001 GSXR 600
Posts: 2

Re: transmission stuck in gear - couldn't shift...fixed

Sorry to bring up an old thread but this probably saved me a few hundred dollars. Had the same issue but had no idea about what it was. I was just gonna drop the bike off at the local motorcycle shop. I found this article and had it fixed in a few hours. Thanks for all the info guys.

02-10-2009, 05:30 PM #15

Junkyard600
Rookie

Join Date: Dec 2008
Posts: 774

Re: transmission stuck in gear - couldn't shift...fixed

Kevincc, so did you just remove the cover and clutch and fix this? I may need to do this to my bike but I don't want to go through pulling the engine.

02-10-2009, 06:04 PM #16

sleepy03
Rookie

Join Date: Dec 2003
Location: Behind the Zion curtain
Motorcycle: 02 Telefonica
Posts: 1,038

Re: transmission stuck in gear - couldn't shift...fixed

Yes you can do this without pulling the motor, you have to pull the cover, clutch and clutch basket and primary drive gear.

I will actually be doing this over the weekend and will take pics and post the up as I go, I wont be pulling the motor to do mine.

02-10-2009, 06:09 PM #17

Junkyard600
Rookie

Join Date: Dec 2008
Posts: 774

Re: transmission stuck in gear - couldn't shift...fixed

I can deal with that but Id almost rather sale than pull the engine on a bike I got to long ago for 4K.

02-12-2009, 09:41 AM #18

jamesNotIr1000
Superbike Champ

Re: transmission stuck in gear - couldn't shift...fixed

Quote:

Join Date: Feb 2002
Location: Dover AFB Deleware
Motorcycle: 05 Gixxer 600
Posts: 8,165

> Originally Posted by **sleepy03**
> *Yes you can do this without pulling the motor, you have to pull the cover, clutch and clutch basket and primary drive gear.*
>
> *I will actually be doing this over the weekend and will take pics and post the up as I go, I wont be pulling the motor to do mine.*

Ditto, you dont have to pull the motor out to fix it. That is unless as stated above you had continued to ride it and it backed out all the way or sheared off.

I was on verge of pulling motor when i decided to take to my local mechanic and have hime check these types of things before i took the time to pull the motor just because i wasnt to familiar with messing with the clutch/clucth basket etc. But he pulled all that out and sure as hell that screw had backed out, he fixed it, put it all back together and she test rode fine on the way home

QUOTE

02-15-2009, 07:06 PM #19

Kevincc
Squid

Join Date: Feb 2009
Location: Savannah, GA
Motorcycle: 2001 GSXR 600
Posts: 2

Re: transmission stuck in gear - couldn't shift...fixed

Yea. Sorry Junkyard600. These guys seemed to have helped you. I was the same way. Would rather buy another bike than pull the motor. Guess once you do it, it might not be so bad. This fix in cake though. Did not take long at all. Good luck.

QUOTE

02-16-2009, 05:16 PM #20

F. Richard Head
Rookie

Join Date: Oct 2003
Location: AZ
Motorcycle: 2003 GSXR 750
Posts: 1,104

Re: transmission stuck in gear - couldn't shift...fixed

I have another failure that contributes to missed/failed shifts.

I have an '03 750 with over 4,000 track miles on it. I could shift between first and second with no problem; however, in the pits, I couldn't shift up into 3rd at all. Lever just moved full distance without engaging anything.

On track-with the exception of a few missed shifts, bike shifted normally under flogging.

I've grabbed an image posted above and drawn an arrow to the issue. The pin transfers the motion from the shaft to the shift plate. This pin had become incredibly loose and wasn't moving the plate enough to complete the shift consistently, and when it did move it enough, it didn't return the plate to the lever-neutral position consistently.

Fix is to replace the shift shaft or weld it. I opted for welding... cheaper, and it will never fail again.

Missed shifts are now a thing of the past... so smooth...

Attached Images
shiftplatebolttight.jpg (97.3 KB, 553 views)

QUOTE

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