

'12 Cascadia SOLO Clutch not adjusting...



[Landon Brennan](#) 22 posts since May 15, 2019

'12 Cascadia SOLO Clutch not adjusting S/N BP0651 Nov 23, 2020 5:24 PM

Original complaint was bad clutch brake operation, clutch seized up as most SOLO's do. I pulled the transmission down, another tech replaced clutch, got flywheel resurfaced, installed install kit with new clutch brake, reinstalled everything, followed SOLO install procedure to a T the way I understand.

Gap between brake and release bearing was about 5/8" this morning. I performed clutch reset procedure, assuming the cams didn't seat properly, or it released cock-eyed. Brake to release bearing gap is now 3/4". Bled slave by cycling it by hand as per solution I found here, but this clutch won't adjust itself. New clutch is a genuine Eaton clutch, unfortunately Eaton just told me that it can't have anything to do with their parts. I'm kind of at a loss, and don't want to start throwing parts at it. Any ideas?

Tags: freightliner, eaton, soloclutch



[Jesse Gutierrez](#) 480 posts since Mar 5, 2017

Re: '12 Cascadia SOLO Clutch not adjusting S/N BP0651 Nov 23, 2020 7:44 PM

page ten is troubleshooting for solo clutches maybe this will give you some help if you already haven't seen this manual

<https://assets.wellertruck.com/reference-materials/troubleshooting-manuals/eaton-fuller-heavy-duty-clutch-service-manual-rr-clsm-0200.pdf>



[Jon Cecil](#) 925 posts since Nov 25, 2014

Re: '12 Cascadia SOLO Clutch not adjusting S/N BP0651 Nov 24, 2020 5:30 AM

Was the clutch installed to the flywheel before stabbing the trans or was the clutch hung on the trans input shaft and installed together?

All 4 shipping bolts removed?

Did the wear indicator come out of the horseshoe when the clutch was depressed several times?

Clutch pedal extends to the floor all the way and retracts on its own?



[Landon Brennan](#) 22 posts since May 15, 2019

Re: '12 Cascadia SOLO Clutch not adjusting S/N BP0651 Nov 24, 2020 4:30 PM

Initially the indicator moved, now it does not. I believe tech installed clutch onto trans, as that's the way our shop tends to do it unless it's a DT12. All four shipping bolts removed as per procedure. We've both done

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quite a few solos, not to say mistakes can't be made, but fairly confident after checking everything over and repeating procedure that all is well.



[Jon Cecil](#) 925 posts since Nov 25, 2014

Re: '12 Cascadia SOLO Clutch not adjusting S/N BP0651 Nov 24, 2020 5:06 PM

Installing the clutch on the trans leaves some room for some error. Not to say it was installed improperly but installing the clutch onto the trans input shaft is not the proper way to install it. Did the indicator move just outside of the horseshoe or was it further away? Initial application of the clutch pedal will only move the indicator just outside of it. Possible someone missed installing a clutch disc? It sounds hard to believe that would happen but that's almost what it sounds like.



[Jesse Gutierrez](#) 480 posts since Mar 5, 2017

Re: '12 Cascadia SOLO Clutch not adjusting S/N BP0651 Nov 24, 2020 5:45 PM

very true Jon, I have seen some flat rate shops use this method as it makes install quicker but it leaves plenty of room for error, for example torqueing down the bolts of the clutch unevenly, a clutch pressure plate can be installed backwards and would not be noticed until your the you try to operate or adjust the clutch..... they may sound dumb as well but is it the correct clutch for the truck we had a truck in our shop once that was too large the housing was the same size but the intermediate plates were just a inch larger in diameter and would not sit flush in the flywheel center and the problem was not caught until they tried to adjust the clutch . they had even noted they had a difficult time installing the transmission as well .



[Kyle Siebert](#) 4,101 posts since Nov 14, 2014

Re: '12 Cascadia SOLO Clutch not adjusting S/N BP0651 Nov 24, 2020 5:57 PM

Or the clutch disk facing the wrong direction...



[Jesse Gutierrez](#) 480 posts since Mar 5, 2017

Re: '12 Cascadia SOLO Clutch not adjusting S/N BP0651 Nov 24, 2020 6:05 PM

yup that too as well and if your installing with the clutch on the trans you cant tell



[Robert Cadell Jr](#) 2,775 posts since Nov 9, 2014

Re: '12 Cascadia SOLO Clutch not adjusting S/N BP0651 Nov 24, 2020 6:04 PM

I was never a fan of this way of installing clutches but the guys I've seen pull it off it's a art all of its own. Theres a method to everyones madness.

Rob "Doc" Cadell

DTNA Master Tech/Elgin Lead Technician

Trans Chicago Freightliner BFWD

Shorewood,IL

'12 Cascadia SOLO Clutch not adjusting...

(803)-917-5397

Good Hunting – You'll find your problem



[Landon Brennan](#) 22 posts since May 15, 2019

Re: '12 Cascadia SOLO Clutch not adjusting S/N BP0651 Nov 25, 2020 2:36 PM

I've driven the truck, and the clutch itself operates as it should. No drag to indicate a clutch disk installed backwards, no vibration to suggest an out of balance concern. Feels and works great, minus bad brake operation. I had read another thread on here about this similar issue with a new Alliance brand SOLO not adjusting, the original poster wound up getting the clutch to adjust by driving the truck, a few hard clutch dumps, and working the clutch, but I haven't had such luck. I'm thinking its either a short stroke issue or a faulty clutch as the tech that installed it has a couple decades under his belt, although, nothings impossible. I will try to extend the stroke with a spacer of sorts before suggesting tearing the trans back out. If it happens to be a stroke issue, any ideas what would cause it? I did a squeeze test and the master/slave doesn't seem to be leaking pressure.



[Robby Dabernig](#) 122 posts since Nov 14, 2014

Re: '12 Cascadia SOLO Clutch not adjusting S/N BP0651 Nov 24, 2020 1:57 PM

Maybe the master is leaking slightly and not getting full travel out of the clutch causing it to adjust wrong when initially pressed? When the clutch is pressed, is the bearing making it to the brake?



[Landon Brennan](#) 22 posts since May 15, 2019

Re: '12 Cascadia SOLO Clutch not adjusting S/N BP0651 Nov 24, 2020 4:28 PM

No, it is not making it to the brake as the gap is 3/4"



[Joshua Tait](#) 5 posts since Nov 13, 2014

Re: '12 Cascadia SOLO Clutch not adjusting S/N BP0651 Nov 24, 2020 2:43 PM

had this problem as well-it turned out the clutch travel was not stroking the clutch far enough to set the initial setting-we removed the slave and manually stroked the clutch to full travel-the clutch then set up and worked ok



[Landon Brennan](#) 22 posts since May 15, 2019

Re: '12 Cascadia SOLO Clutch not adjusting S/N BP0651 Nov 24, 2020 4:28 PM

Will have to try that. Ever diagnose what was causing the lack of stroke???



[Eric Bloom](#) 123 posts since Nov 10, 2014

Re: '12 Cascadia SOLO Clutch not adjusting S/N BP0651 Nov 24, 2020 6:09 PM

'12 Cascadia SOLO Clutch not adjusting...

flywheel cut to far ? time to take the trans out and start from scratch. we have also seen bad solo clutches out of the box.



[Jonathan Kern](#) 3 posts since Aug 4, 2017

Re: '12 Cascadia SOLO Clutch not adjusting S/N BP0651 Nov 24, 2020 7:46 PM

We had this exact same issue out our shop with the last few solo clutches. In the adjusting procedure it says if the clutch will no adjust to install 1/2" spacers between the transmission and bell housing. We ended up manually stroking and it worked every time. We made up a spacer to go into the slave.



[Landon Brennan](#) 22 posts since May 15, 2019

Re: '12 Cascadia SOLO Clutch not adjusting S/N BP0651 Nov 25, 2020 7:51 PM

How did you manage to manually stroke the clutch Jonathan? I made a longer rod for the slave, seem to get the same amount of stroke regardless.



[Jonathan Kern](#) 3 posts since Aug 4, 2017

Re: '12 Cascadia SOLO Clutch not adjusting S/N BP0651 Nov 25, 2020 8:13 PM

I made a 1/2" spacer to make the rod for the slave longer. We called Eaton for assistance and they informed us that if the release bearing does not move more than .600" it will not adjust. Also we had to use the adjusting tool to push the tab back to new. Then adjusted it like normal with 5 clutch depressions.



[Ian Fournier](#) 10 posts since Jan 26, 2017

Re: '12 Cascadia SOLO Clutch not adjusting S/N BP0651 Nov 24, 2020 7:59 PM

we had this issue once and while, normally before road test if I feel the clutch brake is not grabbing well enough or there is an odd amount of dead pedal I do the 20 clutch applications rule to try to set the adjuster, but on a few I have had to be, lets say " aggressive" with it, like a few quick applications and then letting the pedal slap back hard like a clutch dump with truck running in "N" eventually I have found it to like shock the adjuster ring and free it up to move the last few clicks it need to get to the happy 1/2 spot. hope this helps.



[Scott Trippel](#) 4,057 posts since Dec 13, 2014

Re: '12 Cascadia SOLO Clutch not adjusting S/N BP0651 Nov 25, 2020 4:37 PM

Did you replace the bearing cover that the clutch brake is squeezed too?

The original complaint stated was "bad clutch brake operation"

Some people do not realize that the bearing cover is a wear point and when you combine that wear with flywheel wear and machining you may not be able to achieve enough squeeze because you are at the end of stoke travel



[Landon Brennan](#) 22 posts since May 15, 2019

Re: '12 Cascadia SOLO Clutch not adjusting S/N BP0651 Nov 25, 2020 4:51 PM

'12 Cascadia SOLO Clutch not adjusting...

Yes, that bearing cover was replaced with the install kit. I believe the issue lies with the clutch/hydraulic actuation system as the gap is 3/4"



[Landon Brennan](#) 22 posts since May 15, 2019

Re: '12 Cascadia SOLO Clutch not adjusting S/N BP0651 Nov 25, 2020 4:54 PM

Unfortunately I wasn't the one who performed the installation so, all I can say is what he told me/what I've noticed. I'm pulled off the job for right now too, so, I'll be sure to try a few things when I get back on it.



[Kyle Siebert](#) 4,101 posts since Nov 14, 2014

Re: '12 Cascadia SOLO Clutch not adjusting S/N BP0651 Nov 25, 2020 8:06 PM

You could see if the crank thrust bearing is bad. That would cause the lack of full stroke. I doubt that would cause it. But worth a quick check to see if the crank flops forward a 1/8" when pried forward. I think the spec is barely noticeable like .008"

Flywheel or clutch housing appear to have been replaced? Or warranty showing they've been replaced? You won't find a good p/n on these components, which sucks.

I believe a backwards disk causes it to be consistently engaged.

Where is the wear tab at on the clutch?

Does it look like the slave is making a full stroke when the clutch is depressed? The

Just cause the previous tech has decades of experience, doubt everything. Nobody's perfect.

Could just be your new clutch is defective. Cage it when you take it off. And make sure you get with Eaton warranty to explain all you checked. They might have you put spacers between the engine and trans housings and try again, like someone mentioned earlier. But it could be your flywheel is ground down too much.

How far is the release bearing from the clutch brake when depressed? Can you squeeze a tiny feeler gauge?

Just trying to get a idea of is this a clutch brake squeeze issue or clutch not fully disengaging issue?



[Landon Brennan](#) 22 posts since May 15, 2019

Re: '12 Cascadia SOLO Clutch not adjusting S/N BP0651 Nov 25, 2020 9:51 PM

Neither flywheel or housing has been changed that I can find.

Wear tab is right outside of the horseshoe.

Compared the stroke of this slave to another truck of the same spec, seemed similar but too many variables to say for sure, is there a way to consistently measure that I've missed in tech literature??

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With the clutch pedal depressed, the gap becomes roughly 1/8".

It sounds like the service manager wants to gamble and change Master, Slave, and line I guess.



[Kyle Siebert](#) 4,101 posts since Nov 14, 2014

Re: '12 Cascadia SOLO Clutch not adjusting S/N BP0651 Nov 25, 2020 10:24 PM

Im kind of leaning towards master or slave issue.



[Landon Brennan](#) 22 posts since May 15, 2019

Re: '12 Cascadia SOLO Clutch not adjusting S/N BP0651 Nov 25, 2020 10:28 PM

As am I.

Jonathon as per previous reply I built and installed a 1/2" longer slave rod, didn't change the length of the stroke.



[Landon Brennan](#) 22 posts since May 15, 2019

Re: '12 Cascadia SOLO Clutch not adjusting S/N BP0651 Nov 26, 2020 9:10 PM

Installed a new master cylinder this afternoon, bled system, clutch set up after five pumps, and clutch brake/ clutch operates flawlessly.

Thanks for all the insight & resources guys. Really appreciate it.



[Kyle Siebert](#) 4,101 posts since Nov 14, 2014

Re: '12 Cascadia SOLO Clutch not adjusting S/N BP0651 Nov 25, 2020 8:08 PM

What was the gap before you replaced the clutch? Did you replace the input shaft?



[Landon Brennan](#) 22 posts since May 15, 2019

Re: '12 Cascadia SOLO Clutch not adjusting S/N BP0651 Nov 25, 2020 8:25 PM

Gap prior to clutch replacement was 5/8"-11/16". Clutch was seized and would not reset. The input shaft, fork, flywheel resurfaced, bearing cover, clutch brake, and clutch all replaced. When replaced, I was handed the RO and was told clutch brake still was not operating. The gap was 5/8", and there was about a piece of paper between the brake and release bearing, no squeeze. I performed the reset procedure, the gap grew to 3/4", and the clutch will not adjust any closer to the brake. I've ensured the master/slave is bled, checked for bypassing in the master/slave with a squeeze test, I've spaced the slave, and even drove the truck to see if maybe the cam was jammed and would release. Clutch operates perfectly, truck shifts well, but the clutch brake can't be squeezed.



[Kyle Siebert](#) 4,101 posts since Nov 14, 2014

'12 Cascadia SOLO Clutch not adjusting...

Re: '12 Cascadia SOLO Clutch not adjusting S/N BP0651 Nov 25, 2020 8:13 PM

Seriously doubt this is a new clutch issue. If the complaint is the same before and after clutch replacement. I suspect a issue with the master and slave not being able to grab the clutch brake.



[Jonathan Kern](#) 3 posts since Aug 4, 2017

Re: '12 Cascadia SOLO Clutch not adjusting S/N BP0651 Nov 25, 2020 10:18 PM

Install the spacer with the rod in the slave. Press the clutch and move the wear tab back to new. Then do your 5 depressions



[Jesse Gutierrez](#) 480 posts since Mar 5, 2017

Re: '12 Cascadia SOLO Clutch not adjusting S/N BP0651 Nov 26, 2020 9:47 PM

Awesome so seems as if the master cylinder was leaking ? Did you find out where ? At the firewall maybe where it mounts to the pedal ?



[Landon Brennan](#) 22 posts since May 15, 2019

Re: '12 Cascadia SOLO Clutch not adjusting S/N BP0651 Jan 26, 2021 9:14 PM

Sorry for the late reply, only leak was coming from the shaft seal on the master.