2016 P3 dt12 new picture

Penkse Shop Kansas City 0386-10 10 posts since Jul 20, 2020

2016 P3 dt12 new picture Sep 2, 2020 5:13 PM

2016 P3 Cascadia vin#HM7391 581,614 m. sister unit vin#HM7451 came in with slipping clutch and shifting into neutral while driving.
The trans was pulled and cpca had worn into clutch fingers and cpca was worn where it touched.
The tech rnr the clutch and cpca learned both and programmed modules.
I take over and am told it now wont shift into 5 or 6.
The sensor harness has been replaced as well as the output speed sensor.
Tried a different shift lever.
I have tested the can wires from trans to fire wall checked the terminals there and test to star point .
Load tested all power and grounds including ignition with a headlight.
Swapped tcm with sister unit no dice the sister unit drives good with bad trucks tcm.
Have disconnected all modules 1 at a time beside mcm tcm acm cpc. no dice.
So here is what it did when I took over it will buck in reverse and not move sometimes it revs out without moving some times no throttle sometimes it seems like it dumps the clutch This is in reverse.
So in drive it will move in 1st and 2nd all day in manual but as soon as you try to shift it to 3rd or in auto into 3rd it wont.
It coasts either to a stop and back into 1st or slow a bit and go back into second over and over.
So heres the weird part the tcm started not recognizing the trans and keeps doing so intermittently.
Programming the clutch or clutch and trans results in no movement it will coast with floor slant until hard reset.
Here is a logfile of in reverse.
and trans id plate

- gear teeth.png 363.6 KB
- driving log file.DrumrollLog 1.4 MB
- trans id plate.png 346.8 KB
- logfile.DrumrollLog 147528.DrumrollLog 394.5 KB

Scott Trippel *3,902 posts since Dec 13, 2014*

Re: 2016 P3 dt12 issue Sep 1, 2020 3:22 PM

Follow 12.1 in the transmission repair manual for symptom troubleshooting.
Step 6 has you drive the truck and get a log file.
Feel free to post the log file here.

Jesse Gutierrez *394 posts since Mar 5, 2017*

Re: 2016 P3 dt12 issue Sep 1, 2020 4:03 PM

How tight is the 21 pin black tcm connector x1 , I see these kinda issues very often intermittent shifting concerns related to a loose or poor connection at the TCM, always the first thing I check before digging into these types of DT-12 issues after a trans was installed etc

Penkse Shop Kansas City 0386-10 *10 posts since Jul 20, 2020*

Re: 2016 P3 dt12 issue Sep 1, 2020 4:15 PM

I have had it on and off a dozen times and it looks good I had to repair the cam lock the first time taking it apart drag tested all terminal etc. Does the log file I attached show up? my only issue is I have to back it out of shop and it wont move in reverse. Probably. I will try to get a driving log file asap.

Talbert Simonian *1,741 posts since Nov 21, 2014*

Re: 2016 P3 dt12 new logfile Sep 2, 2020 12:18 AM

Using the chart notice that it drop from 120 PSI on the air pressure to 100 PSI this is at Time Stamp 11:37:35 to 11:38:00. This could be your issue. Your loosing air pressure quickly that can have a affect on the clutch and the shifting.

Penkse Shop Kansas City 0386-10 *10 posts since Jul 20, 2020*

Re: 2016 P3 dt12 new logfile Sep 2, 2020 12:28 PM

We where advised to drain the fluid and check for metal, if present then get a swing if not replace the gear selector
and inspect the new clutch. My question now is the code for trans type error, where it think its connected to the wrong trans and has you look at the id plate. Even after doing t/s and programming it comes back. Idk ill let you know what happens thanks for the replies.

Eddie Stacy *10 posts since Dec 19, 2014*

Re: 2016 P3 dt12 new logfile Sep 2, 2020 12:23 PM

The log file looks like it tried to go into 7th gear several times and was unable to. I'm not sure if its because it wont or it wasn't driven fast enough to be allowed to. If it was it looks to me like it may have and range cylinder sticking usually due to being dry or the small o ring on the right side behind the range piston housing is deteriorated. Check time stamp 11:41 and 11:42. I would rebuild the range cylinder and grease it with the special grease it requires. If the piston does not have a replaceable seal and it is not damaged I would try just greasing it. You'll be able to tell by the red plastic on the pin inside the piston. It takes a special tool and heat to remove this piston without damaging the transmission. Also look for grooves in the piston housing. See the info attached.

19.1 Range Piston Housing Inspection

Corrosion can cause seals to swell and/or distort which affects the air supply path to the range piston resulting in longer or aborted range shifts. This may also contribute to "transmission dropping to neutral" complaints.

2016 P3 dt12 new picture

Inspect as follows:

If corrosion is present, clean surface areas, then replace all O-rings; see images below. See Range Cylinder for removal and installation procedures. Refer to section "Removal of the Range Cylinder" and Refer to section "Installation of the Range Cylinder" .

Clean the area with a wire brush Spray some cleaner (no flash, brake clean) on a shop towel and wipe the area down to remove any oil Apply a 6.35 mm (0.25 in.) of Loctite 5900, overlapping both of the housings

2016 P3 dt12 new picture

2016 P3 dt12 new picture

2016 P3 dt12 new picture

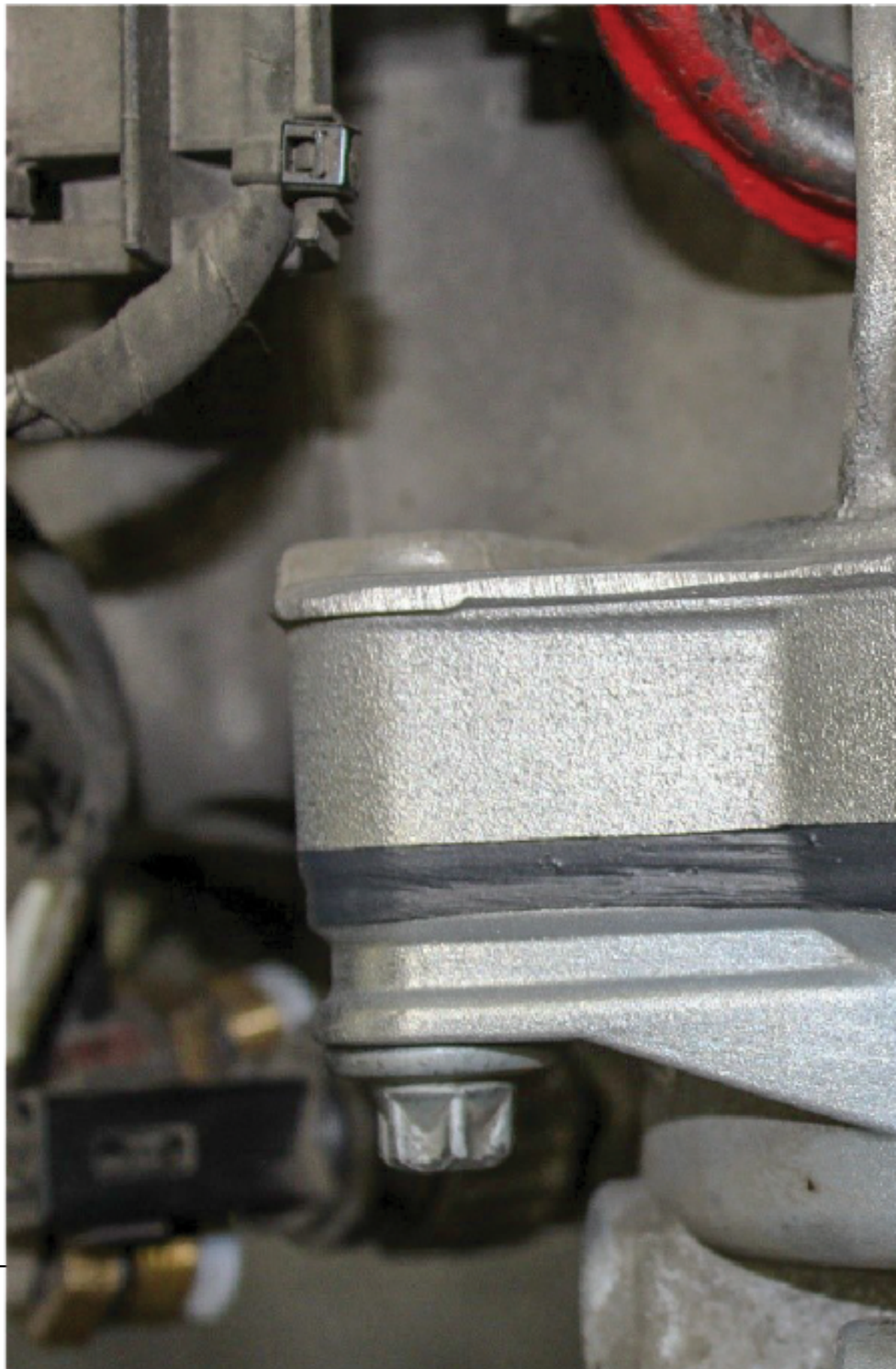
2016 P3 dt12 new picture

2016 P3 dt12 new picture

2016 P3 dt12 new picture

2016 P3 dt12 new picture

2016 P3 dt12 new picture

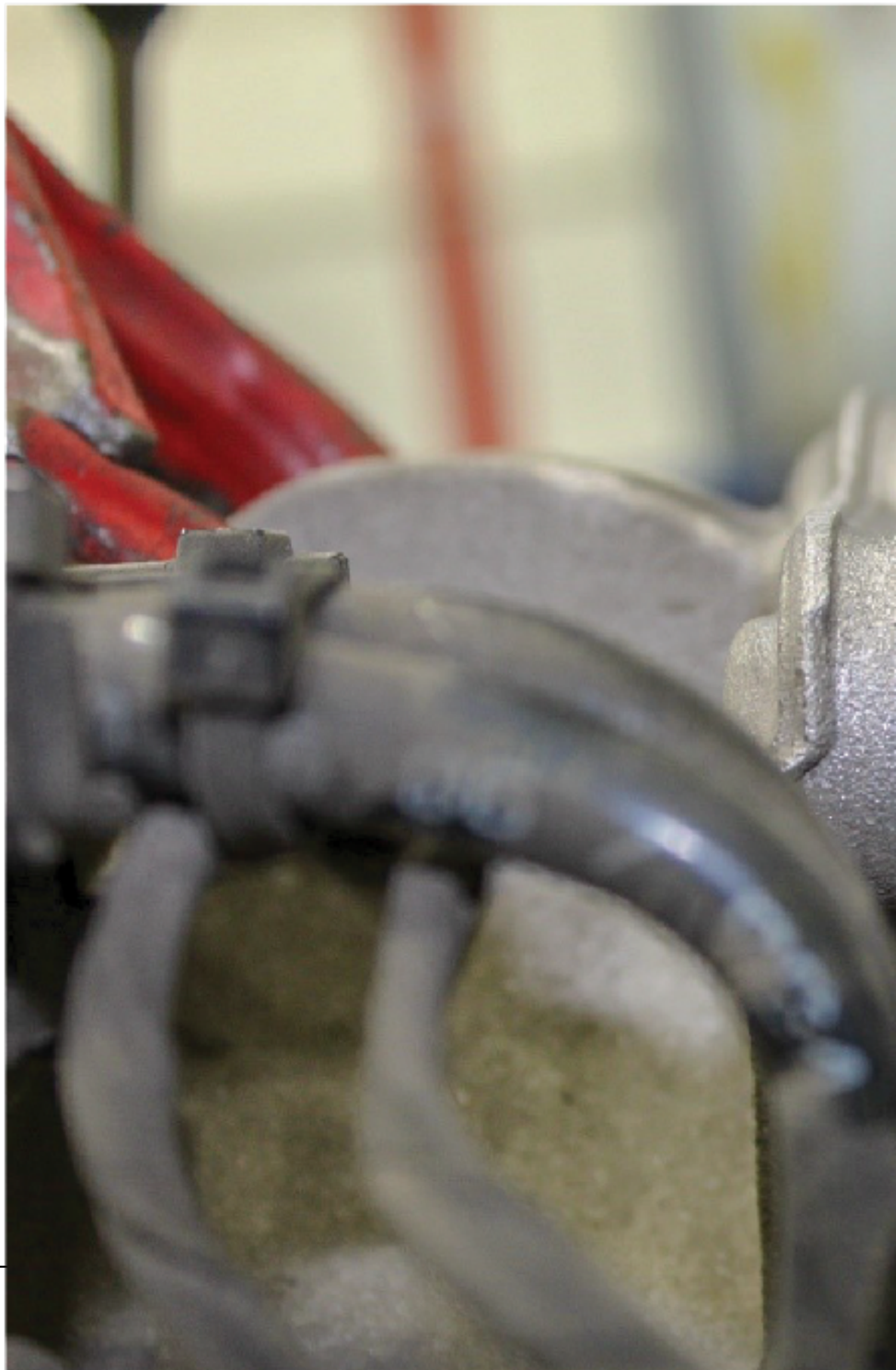


2016 P3 dt12 new picture

2016 P3 dt12 new picture

2016 P3 dt12 new picture

2016 P3 dt12 new picture



Penkse Shop Kansas City 0386-10 *10 posts since Jul 20, 2020*

Re: 2016 P3 dt12 new logfile Sep 2, 2020 12:31 PM

We where advised to drain the fluid and check for metal, if present then get a swing if not replace the gear selector
and inspect the new clutch. My question now is the code for trans type error, where it think its connected to the wrong trans and has you look at the id plate. Even after doing t/s and programming it comes back. Idk ill let you know what happens thanks for the replies

Eddie Stacy *10 posts since Dec 19, 2014*

Re: 2016 P3 dt12 new logfile Sep 2, 2020 12:49 PM

Sometimes it logs that code if it can' shift for one reason or another. Warranty history shows the trans was replaced around April 2018 and split pin was done on the old trans. Also the data plate shows the trans that is old enough to need a split pin by the serial number. Even though the split abort counter is zero doesn't mean it isn't having a problem with the splitter pin. Unless it has been done I would look into that if you end up pulling it back out. Either way if you find metal in the screen or on the plugs the trans will have to be replaced you wont have to worry about either. Warranty history shows the trans was replaced in around April 2018 and split pin was done on the old trans. Let me know what you find.

Penkse Shop Kansas City 0386-10 *10 posts since Jul 20, 2020*

Re: 2016 P3 dt12 new picture Sep 2, 2020 5:21 PM

The range cylinder looks great as well o-rings and all. So the oil looked really good but looking in the fill plug? on the passenger side the gear teeth are worn and the reddish parts are rust also.

What do you think about the gear in the picture its all the way around the gear, to the left of the tooth is fresh looking and worn on the right.

Eddie Stacy *10 posts since Dec 19, 2014*

Re: 2016 P3 dt12 new picture Sep 2, 2020 5:42 PM

I'm not seeing a picture attached.

Penkse Shop Kansas City 0386-10 *10 posts since Jul 20, 2020*

Re: 2016 P3 dt12 new picture Sep 2, 2020 5:54 PM

Disregard that looking at some pictures the gear is machined that way. So much for that.

Eddie Stacy *10 posts since Dec 19, 2014*

Re: 2016 P3 dt12 new picture Sep 2, 2020 6:24 PM

Was the range piston dry?

Penkse Shop Kansas City 0386-10 *10 posts since Jul 20, 2020*

Re: 2016 P3 dt12 new picture Sep 2, 2020 6:30 PM

No it has the spendy graphite lube on it and looks good not really any corrosion.

Devon Wartluft *141 posts since Jan 31, 2018*

Re: 2016 P3 dt12 new picture Sep 3, 2020 6:32 PM

Ive seen it a few times before that the software kept it from shifting passed sixth. This was awhile ago but i did have a fault code along with it or it was listed in PSL under the trans trouble shooting. The other time a hole in the trans cooler leaked out all the fluid ended up getting a trans. Also a bad TCU on another unit.

Penkse Shop Kansas City 0386-10 *10 posts since Jul 20, 2020*

Re: 2016 P3 dt12 new picture Sep 3, 2020 8:21 PM

The issue is 3rd 5th 7th 9th, it will skip past these gears in eco mode or so the dash says and be fine in 1st 2nd 4th 6th 8th idk csc said to replace shift control and counter shaft brake. thanks Eta it will get stuck trying to go into 3 5 7 9 slow down and go into the lower gear (with reduced coasting speed) or skip down even futher so??? eta also R1 will not work it bucks sometimes hard but doesn't move then R2 seems to work ok

Devon Wartluft *141 posts since Jan 31, 2018*

Re: 2016 P3 dt12 new picture Sep 3, 2020 8:50 PM

Double check input shaft play once unit is down. Last time i asked CSC would release the spec, if it is excessive the bearing behind could be toast and the shafts arent aligned right and could be causing the issue. Either way follow CSC depending on the coverage and what you say the mileage is it may still have transmission coverage so you at least have a bit of CYA for warranty purposes.