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Lower Ball Joint Questions

Sputnik · Oct 15, 2020

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Well-Known Member

Oct 15, 2020



#1

Planning on replacing my lower ball joints sometime soon.

I'm not clear from the manuals or looking at the actual assembly if I can remove them without dissecting the hub and brakes to get to the knuckle. Can I just loosen the castle, unbolt the 4 retention nuts and use a separator to pop them out, or is it more complicated than that (I feel like it is.)

What is the fastest, most efficient way to get the lowers out?

[Report](#)[Like](#)[Reply](#)**Growlerbearnz**

Administrator

[Staff member](#)[Supporting Member](#)

Oct 15, 2020



#2

Edit: I might be wrong on this one. It's been a while since I replaced a lower balljoint. See pictures by @Sputnik below.

Yes, you can remove the lower balljoint without disassembling everything above it.

Before jacking the van up, put a spacer between the upper arm and rebound stop...



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InstrumentOfPeace

Active Member

...and disconnect the sway bar ends from the lower arm.

Oct 15, 2020



#3

Then you're set. Jack up van, undo shock lower bolts, loosen castellated nut, I'll be following growlers instructions in the coming weeks. I'll let you know how I do. (Uppers & Lowers) extract taper using method of your choice. Then it's the 4 bolts holding the balljoint in place and it should come out.

Just watch the brake hose while the balljoint is disconnected and the hub is dangling from the upper arm, you don't want it to kink or pinch anywhere.

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Sputnik

Last edited: Oct 19, 2020

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Nothing says poor workmanship like wrinkles in the duct tape.

**Sputnik**

Well-Known Member

Oct 15, 2020



#4

Great! That's a very straightforward process.

Thanks

[Report](#)[Like](#)[Reply](#)**Sputnik**

Well-Known Member

Oct 15, 2020



#5

InstrumentOfPeace said:

I'll be following growlers instructions in the coming weeks. I'll let you know how I do.
(Uppers & Lower)

If you don't own a ball joint separator, AutoZone rents these for free (just needs a deposit). O'reilly's and Advance only had the pickle fork separators. (Not a Delica in the video, but same principle applies.)



How to Use a Ball Joint Separator

MrRangerZr1



Watch on

When I did the upper Ball joints, I initially tried separating with a picklefork and hammering on the knuckle, to no success. The separator above makes it easy (and I believe is the same kind shown in the manual.)

Last edited: Oct 15, 2020

[Report](#)[Like](#)[Reply](#)**InstrumentOfPeace**

Active Member

Oct 15, 2020



#6

Sputnik said:

If you don't own a ball joint separator, AutoZone rents these for free (just needs a deposit). O'reilly's and Advance only had the pickle fork separators. (Not a Delica in the video, but same principle applies.)

[Click to expand...](#)

I was just telling growler I had planned on getting one before even attempting to do this ... as well as topping off my patience level. I'm 100% positive it'll be a grand 'ol time. I'll definitely go for the rental first though!

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InstrumentOfPeace

Active Member

Oct 16, 2020



#7

Well, I got 1/4 of the way there this evening with the first upper joint. Had to put it all back together and soak the bottom 24mm bolt in PB Blaster. Damn thing is rusted on.

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Sputnik

Well-Known Member

Oct 19, 2020



#8

Clearly, I'm missing something in this lower ball joint disassembly.

The lower knuckle wraps around and below the ball joint, so there doesn't seem to be a lot of space to actually separate them, and the out CV restricts the upward movement of two of the four ball joint bolts and the lower control arm. (Seems like a really obtuse design.)



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Growlerbearnz

Administrator

Staff member

Supporting Member

I thought the whole hub swung out, pivoting on the top balljoint, bringing the lower balljoint with it, but it looks like you don't even have enough clearance to remove the 4 bolts.

I must admit it's been a while since I replaced that balljoint, and I might be thinking of some other vehicle! Sorry!

[How to look up part numbers](#) specific to your van.

Nothing says poor workmanship like wrinkles in the duct tape.
To my eye it seems like the hub would need to be removed from the axle to pivot up the axle to get the bolts out and to give enough room to move the lower control arm up.

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Sputnik

Well-Known Member

This link describes the battle.



#10

Growlerbearnz said:

I thought the whole hub swung out, pivoting on the top balljoint, bringing the lower balljoint with it, but it looks like you don't even have enough clearance to remove the 4 bolts.

I must admit it's been a while since I replaced that balljoint, and I might be thinking of some other vehicle! Sorry!

I read another description on delicacub.com similar to yours at the beginning of this thread, but I can't figure out how that could work (though I really wish I could haha). I think the 2WD doesn't have the knuckle that wraps under the ball joint, so maybe that's the difference.

In any case, it looks like I'll be disassembling more than I'd hoped to. Thanks.

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Growlerbearnz

Administrator

Staff member

Supporting Member

Oct 19, 2020



#11

(The mists of old man memory swirl, revealing a vision...)

Maybe I removed the driveshaft circlip behind the Auto Hub cover, and pushed the CV joint back enough to get the 4 bolts out? I distinctly recall the hub dangling from the top balljoint with the axle still in place, I had to use tie wire to keep it out of the way. And I got the 14mm ratcheting ring spanner stuck on one of the bolt heads when tightening, not enough clearance to the CV joint to get the spanner out.

...but again, while I'm sure I'm thinking of the Delica I might be thinking of some other procedure. There have ben a few.

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Nothing says poor workmanship like wrinkles in the duct tape.

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You and Sputnik



Sputnik

Well-Known Member

Oct 19, 2020



#12

Growlerbearnz said:

(The mists of old man memory swirl, revealing a vision...)

Maybe I removed the driveshaft circlip behind the Auto Hub cover, and pushed the CV joint back enough to get the 4 bolts out? I distinctly recall the hub dangling from the top balljoint with the axle still in place, I had to use tie wire to keep it out of the way. And I got the 14mm ratcheting ring spanner stuck on one of the bolt heads when tightening, not enough clearance to the CV joint to get the spanner out.

...but again, while I'm sure I'm thinking of the Delica I might be thinking of some other

Tantalizing information!! I'll have a go at it with that info in mind.

For anyone else reading, this video is for a Chevy Blazer, but seems similar to our L300s.



DIY Chevy Blazer Lower and Upper Ball Joint Re

Mark Jenkins



Sputnik

Well-Known Member

So I got the driver's side lower BJ out.

Watch on

What I did:

- Disconnect sway bar at control arms
 - Disconnect lower shock bolts.
 - Removed hub dust cover.
 - Removed axle circlip. It flew across the yard, but I was able to rescue it.
- Solely pushing axle/CV joint through hub still doesn't give enough movement (only about an inch) to get the lower ball joint out

- Soooo, I undid tie rod castle nut, and tapped the tapered stud out of the knuckle. (Careful with the threads - make castle nut flush with top of taper threads and then smack it with a hammer to protect threads for reuse). With the tie rod off, you have a lot more flexibility to move everything around .

- I also had to undo the upper ball joint (which I just installed a few weeks ago). Removed castle nut, popped upper ball joint taper out with the separator.

This allows the whole knuckle to move downward so you have room to separate the lower ball joint from the lower control arm.

- Popped the lower ball joint (which took A LOT of persuassion and PB Blaster.). Put a little pressure under the lower control arm with a jack to lift the arm a bit.



Notice the angle of the separator. Any other angle wouldn't allow the tool to grab, and it would pop off as I tightened it.

- Once the taper was loose, and all bolts out of the ball joint mounting legs, it was then a wrestling match to actually get the lower taper stud out of the lower knuckle, but it can be done. Notice how taut the brake hose is from the weight of everything. Don't let it stay like that.



I'm not sure of the implications of doing it this way. I've pulled the axle out of the hub and so I wonder if I screwed up the dust seals on the axle.

Anyway, hang the heavy hub/knuckle/brake assembly from the framework above the shock to get the weight off of the brake lines, like this:



E

ericpmasters
Active Member

I did same process as above to get mine out, i ended up undoing whole hub assembly and sway bar links to get enough movement to slide it out. Have the wire/rope available and at hand BEFORE you do all of this.

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I didn't have time to put it all back together, but hopefully that goes smoothly.



I think the Mitsubishi design engineers intended for the upper and lower ball joints to always be changed in unison to avoid dealing with the upper ball joint twice.

Ok that looks more familiar now. Especially the bit where the hub suddenly turns off to the side and yanks on the brake line. But the part of this idea my dad describes what needs to happen to just take the whole hub and knuckle out. This might be ultimately easier in the end:

Quick tip: leave the castle nut in place but loose when using that style of balljoint separator, so the separator is mostly pressing on the nut rather than the threaded taper. The separator will grip better, and there's less chance of damaging the threads.



Growlerbearnz
Administrator

[Staff member](#)

[Supporting Member](#)

fundamentally lazy, involves the least amount of work. Before jacking the van up: Turn steering to the left, and on. Also, the balljoint separator didn't fit on the steering knuckle? It's useful for all those tapers. ;-)

[delicaforum.com](#)

Last edited: Oct 20, 2020

While you're there, how are your CV axle boots? Also a great time for a brake pad change.

Nothing says poor workmanship like wrinkles in the duct tape.

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Last edited: Oct 21, 2020

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Sputnik

Well-Known Member

Oct 20, 2020



#16

Growlerbearnz said:

Ok that looks more familiar now. Especially the bit where the hub suddenly lurches off to the side and yanks on the brake line.

Quick tip: leave the castle nut in place but loose when using that style of balljoint separator, so the separator is mostly pressing on the nut rather than the threaded taper. The separator will grip better, and there's less chance of damaging the threads.

I ended up taking the caliper and the whole knuckle off per your differential/CV removal thread. The stupid brake dust shield screw that connects to the calliper was rusted in place and had to be persuaded with some vice grips - I'm going to replace that with a small bolt. It was just easier to manipulate components than the whole heavy awkward ball of wax.

The CV boots could use some love, but I have to find and then wait for parts to arrive, so I guess that's something for another day.

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[You and Growlerbearnz](#)



Growlerbearnz

Administrator

Staff member

Supporting Member

Oct 20, 2020



#17

Oh and the hub seals are probably ok. They're not under pressure, they're only retaining grease, and they don't see much action.

[How to look up part numbers](#) specific to your van.

Nothing says poor workmanship like wrinkles in the duct tape.

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[sealica and Sputnik](#)

**sealica**

Active Member

Supporting Member

Apr 12, 2023



#18

I had my lower ball joint off when replacing the CV/boot. I decided to replace it because it was making a knocking noise when the threaded shaft was pushed all the way in any direction. The upper ball joint did not make noise like this. I'm unsure how to properly assess a ball joint which has been removed because all the advice on this topic is geared towards diagnosing one before it's removed (makes sense).

It doesn't feel incredibly floppy ... but that clunk/knock sound just sounded too familiar ...

I've been chasing a clunking over bumps for quite a while and tried most/all of the other suggestions. I recently had two different mechanics (tire shop & regular mechanic) tell me everything seemed tight and good up front. I also conducted my own tests using the "grab the wheel" method and everything seemed fine.

[Video of manipulating the ball joint](#)

Test drive after replacing the ball joint does seem to suggest the intermittent clunk is about half in volume (but test drive was short), and the vehicle *feels (in my head)* tighter on that side ... but before I dive in and replace the other ball joint I'm curious if it was maybe somewhat normal for a *used* ball joint (7 years installed, low miles, but lots of bumpy).

Last edited: Apr 12, 2023

[Report](#)[Like](#)[Reply](#)**DustAngel**

Well-Known Member

Apr 12, 2023



#19

Of course the ball joint is a loaded suspension item so you may or may not hear the noise when installed. I for one feel that this ball joint shouldn't make any noises and it sure moves easy with your hand. I recommend replacing and check the other side as well (wondering if these are aftermarket)

1995 L400 2.8L diesel automatic

[Report](#)[Like](#)[Reply](#)**sealica**

Active Member

Supporting Member

Apr 12, 2023



#20

DustAngel said:

Of course the ball joint is a loaded suspension item so you may or may not hear the noise when installed. I for one feel that this ball joint shouldn't make any noises and it sure moves easy with your hand. I recommend replacing and check the other side as well (wondering if these are aftermarket)

They have "555" stamped on them, sourced from Coombs ... I recall them coming in Blueprint boxes - which is what I used to replace, but sourced from

Latvia (ebay) instead of Coombs. I just checked my records and actually replaced 7 years ago; so considering the rough terrain mileage these have gone through it would be unsurprising that they're worn out.

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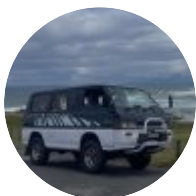
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