Luftkappe Installation & Setup - Fox 34NA2 (2016-2017)

The Luftkappe can be installed by anyone who already possesses the tools and the know-how to service their own fork - or by anybody who has the tools and can follow instructions closely. Written instructions and an installation video are included below.

Nomenclature explanation:

"NA" air spring

NA stands for Negative Air (previous Floats used a coil negative spring). NA(1) air springs used a long equalisation needle from the topcap to the middle of the air shaft. These were used in 2015-17 36 Floats and the NA air spring update made available for 2013-15 34 Floats. If your 2013-15 34 got an "updated air spring" from Fox, this is what it got - **all 34s with NA spring systems are NOT compatible with the Luftkappes. However, Luftkappes ARE compatible with the 36 Float NA (2015-17) forks.**

"NA2" air spring

Introduced on 2016 34s (and 40s - no Luftkappe for the 40), the NA2 system got rid of the long needle and uses a transfer port (dimple) on the inside of the stanchion. This was used in the model year 2016-17 34s.

"Evol" air spring

Introduced in model year 2018 for 34 and 36 forks (and 32 - but no Luftkappe for these), this is an updated version of NA2 that has a slightly larger negative air chamber. **Fox still refer to this as NA2 in some documentation**. If your fork is a model 2018 and your air side fork topcap is black instead of grey (the valve caps are still blue), your fork is an Evol model.

Key things to note before you start:

1. You **need** a torque wrench. Don't try it without one. Beg, borrow, rent, buy or steal one from a friend.

2. **34 NA2 Specific:** You will need 10mm shaft clamps to hold the air spring shaft. Please don't try grabbing the shaft in a vice or in V-blocks, you WILL damage it. You will also want a 10mm bullet tool to install the new sealhead. These are included in the tool sets that we sell as an option with these Luftkappes.

3. We refer to the Fox service manuals for all aspects of the servicing OTHER than the specific installation of the Luftkappe to the air shaft.

4. The Luftkappe is ONLY compatible with Float forks. It does not work with Talas (travel adjust) forks.

5. Record your air pressure and rebound settings before you start doing anything else.

6. Don't do it drunk. Even if you're Australian. Especially if you're Australian.

7. You will need some supplies as well as tools - Slick Honey grease, 20wt WPL ShockBoost oil or Fox 20wt Gold oil, blue Loctite, **red Loctite (34 NA2 only)**, isopropyl alcohol and clean, lint-free shop towels.

8. The Luftkappe only replaces the piston - not the entire air shaft. We will be removing the existing piston from the air shaft, and replacing it with the Luftkappe.

INSTALLATION

Step One:

Read the Fox service manual that applies to your fork to get an idea of what you're going to need to do. They are linked to below:

Fox 34 NA2 (2016-17): Air-side Service Instructions

Step Two:

Execute the service procedure as laid out by Fox's service manuals, up until you have removed the air spring plunger assembly (including seal head) from the bottom of the left stanchion.

Step Three:

Luftkappe installation onto air shaft.

See video here: Vorsprung Luftkappe Installation Instructions for Fox Float …

34 NA2 (2016-17) Specific Steps:

3a) Clamp shaft in 10mm shaft clamps.

3b) Heat grey aluminium piston stud with a heat gun for several minutes to break down the red Loctite on its threads.

3c) Using Knipex plier-wrench or multigrips (yes, really - we are not reusing this part), firmly grasp the aluminium stud and unthread it from the shaft. Be careful not to slip and damage the shaft.

3d) Clean off the Loctite residue from the shaft threads

3e) Apply fresh red Loctite to the shaft thread and thread the Luftkappe stud into place by hand. Torque to 50in.lbs (5.5Nm).

3f) Slide plastic Luftkappe piston onto stud, and ensure o-ring on outside/top of piston is greased. Lightly grease inside surface of Luftkappe dome

3g) Apply blue Loctite to thread on piston stud

3h) Thread dome on to piston by hand, and torque to 50in.lbs (5.5Nm).

3i) Flip the shaft in the 10mm shaft clamps, and remove the small o-ring on the outside of the foot stud

3j) Heat the foot stud with the heat gun to break down the red Loctite on the internal threads, then remove the foot stud

3k) Clear out all Loctite residue from the threads and o-ring on the foot stud, and remove the old sealhead as well as the topout bumper.

3l) Place bullet tool in end of shaft and grease thoroughly with Slick Honey. **Carefully slide new sealhead over the bullet tool and onto the shaft, taking care not to damage the seals. Do not use excessive force - wiggling and applying pressure is fine but brute force WILL damage the seals.**

3m) Remove bullet tool and clean any grease out of the thread

3n) Apply a drop of red Loctite inside the shaft threads, then reinstall the foot stud. Torque to 50in.lbs (5.5Nm).

3o) Thoroughly coat piston with Slick Honey

3p) Install piston into bottom of stanchion, only far enough to let you get the sealhead in as well. Take care not to damage anything - do not use excessive force, if something is catching, remove it and work out what the issue is.

3q) Press sealhead into bottom of stanchion, taking care not to damage the o-ring on its outside

3r) **Install stainless steel shim spacer.** Reinstall Hoopster/Spirolox retaining ring - stainless shim spacer should be between the retaining ring and the sealhead.

3s) Remove the top cap and remove two bottomless tokens (if they are installed).

3t) Reinstall the top cap.

Step Four

Continue servicing the fork as per Fox's instructions if you are servicing the damper or replacing the wiper seals, or skip to the reassembly instructions. Follow the factory instructions for reasssembly, but do not repressurise yet.

Note: ensure footbolts are done up with the fork fully extended. If they're done up with it partly or completely compressed, the fork will suck down into its travel.

Reinstall onto the bike once reassembled and checked.

SETUP

Step One

Your token configuration should start with two tokens less than you had previously. The maximum number of tokens you can safely run is TWO LESS than what is specified by Fox for the configuration of fork you have, when it is in stock guise.

Step Two

Your starting air pressure should be approximately the same as your air pressure was before installing the Luftkappe, however it's easiest to get there in two or three steps.

a) Pressurise the fork to roughly 1/3 of the final pressure you are aiming for. You will notice the fork is now very stiff at the start of the travel, and is topped out quite hard. 34 forks will not have a bumper, and the topout will be very harsh.

b) Compress the fork several times, very slowly, to allow pressure to equalise between the positive and negative chambers. You will feel a soft notch in the motion near the start of the stroke - if you hold the fork at that position you will feel it get softer over the space of a couple of seconds at most.

c) Once the two chambers are equalised fully, the fork will top out pneumatically (not hard contact between two surfaces).

d) After the two chambers are equalised, pump the fork up to roughly 2/3 the pressure you are aiming for and repeat the equalisation process there.

e) Repeat equalisation process at full pressure.

Step Three

Ride your bike and adjust pressure and volume configurations as you see fit.

TROUBLESHOOTING/FAQ

I can forcibly extend my 34 about 20mm past where it extends to before it hits a hard stop, what's going on?

This is pneumatic topout in action - topout bumpers are not necessary in this fork. Being able to forcibly extend it a considerable distance past its proper topout point is normal and will not occur in use. This does NOT apply to the 36, which you will only be able to force to extend a few mm by compressing the topout bumper.

After installing my Luftkappe, the fork is not extending to full travel, what is happening?

After installation, the fork should extend to within about 2mm of its original travel when the fork is unweighted (lift front wheel off the ground to allow weight of wheel to pull on fork) - measure exposed stanchion to check. If it doesn't, this is a sign that one or more of the following things has happened:

1. The footbolts were not done up with the fork at **full** extension. This must be

done or the fork will have a vacuum in the lowers that sucks it down. Undo the footbolts and tap them loose, then do them back up at full extension.
2. The piston was inserted too far into the chamber before the seal head was installed, trapping a lot of air in the negative chamber that the air in the positive chamber is not able to overcome in order to reach the equalisation port. You can try forcibly extending the fork to reach the equalisation point, and/or use higher pressure in there to assist you. If it does equalise but still stays sucked down, this is not the cause.
3. You do not have the correct size air shaft in there. If you have changed the shaft, this is very likely the cause. Replace the shaft with the correct one.
4. There is excessive grease in the negative chamber, or the topout bumper was not removed. Make sure these are removed.
5. There is some fault with the main piston quad ring that is preventing it from sealing properly, such as debris jamming in between it and the stanchion. This will typically cause complete collapse of the fork.

My fork sags just under the weight of the bike, why?

It should sag a couple of mm, because the bike has weight. If your suspension does not sag at all under the bike's weight then it is excessively sticky or preloaded. Think about it this way - if you, the rider, weigh 90kg (200lbs) and the sprung mass of your bike weighs 10kg (22lbs), your bike's sprung mass constitutes about 10% of the total sprung mass. If you run approximately 20mm sag in the fork when the rider is on the bike, then it makes sense that you'd see roughly 2mm sag with no rider on the bike.

I have to run more pressure now to get the same sag, why?

Part of the point of the Luftkappe is that it reduces the initial stiffness of the air spring. As a result, yes, you'll run more sag. Besides that, measuring sag on a fork is very inconsistent and unreliable - use pressure as a measurement instead. If the fork feels like it's riding too low in the travel due to the extra sag, it may simply be that your handlebars need to be a few millimeters higher.