

Nikkor 300mm f/4D ED IF AF-S Review

Nikon updates a classic. Is it better than the original?



The 300mm f/4 lenses side by side. The front lens is the slightly bulkier AF-S version, while the more svelte older version is in the rear. The apparent length difference is mostly an optical illusion--standing on end they're nearly identical in length. Note the longer lens hood and wider focus grip of the AF-S version.

Lens Formula	10 elements in 6 groups; 2 ED elements.
Other Features	Rotating tripod collar, AF-S (internal, silent wave) focus.
Size and Weight	About 9" long, 50.8 ounces (1440g) with collar.
Price	US\$1260

The Basics

It seemed like more than 12 years, but after a long run of being produced exactly in the same non-D version, Nikon finally got around to adding the distance technology to the [classic 300mm f/4](#). But they didn't stop there. The new lens uses AF-S (silent wave) technology to focus faster and quieter, sports a new tripod mount, and has a host of other new features. About the only thing that remained the same is the overall length and the f/4 aperture. The question, of course, is did they get all the changes right?

For those who can't afford the big aperture teles, the 300mm f/4 was Nikon's answer: give up one stop of aperture and you could get an equally sharp telephoto that weighed about half that of its f/2.8 cousin, but focused slowly. From 1988 to 2001, that was the choice. Buy a 300mm f/2.8, which kept getting new features and abilities (D-type technology, silent wave autofocus, AF-S with manual override, etc.), or buy the old reliable 300mm f/4, which had none of those new features.



How sharp is the lens? This image of the newborn gorilla at the National Zoo in DC is handheld at 1/60 and f/4. What little loss of sharpness I see in the image is almost certainly attributable to the fact that I used no camera support.

After what seemed far too long a wait, Nikon finally got around to updating the 300mm f/4. The changes are not just cosmetic, but substantive in almost every way:

- 1 The lens now uses the AF-S silent wave motor. This means eerily silent focusing, with a bit more snap than before (read on).
- 1 The lens focuses substantially closer (5 feet [1.45m] instead of 8 feet [2.5m]), and has gained two additional elements (still in six groups, though).
- 1 The filter mechanism has changed from 39mm drop-in to Nikon's standard 77mm front thread.
- 1 The dreaded "put a sock on it" lens hood is gone, replaced by a standard 77mm cap.
- 1 The tripod socket has been grown considerably in size (read on, though).
- 1 The "girth" of the lens has been enhanced, making the diameter larger (though

Quick Evaluation

Highly recommended; a great telephoto performer that doesn't cost a fortune.

★★★★☆ features
 ★★★★★ performance
 ★★★★★ build*
 ★★★★★ value

* would be five stars if the tripod collar were better.

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Some Other Info

NB writes: *Generally accurate review with a much more balanced and informed discussion of the vibration issue than present elsewhere. But, my comparison of the older model with the AF-S on AF is different: I get much better results in every way with the AF-S. As to sharpness with extenders, I get the same fabulous results with a Tamron 1.4 and very, very good results with the Tamron 2x (I can enlarge an image shot at f5.6 to 16x20 without losing critical sharpness).*

Thom's Response: I should have noted that the results I get with the TC-14E on the AF-S version of the lens are visibly better than the results I get with the TC-14B on the older lens.

with little effect on weight), and increasing the size of the width of the focus ring.

Handling

Despite all the changes to the lens, if someone had slipped the new AF-S into my bag to replace my older 300mm f/4, I probably wouldn't have noticed except for two things: the larger tripod collar, and the regular lens cap.

Of course, once on the camera, I might have noticed. Focusing with the new AF-S version seems to just happen, without any lens noise. The older 300mm made a noticeable whine as it searched for focus. It's also nice to be able to just grab the focus ring and override the camera, as you can with all AF-S lenses.

Unfortunately, the 300mm f/4 AF-S doesn't have the focus hold buttons of its larger, more exotic cousins. This is a significant drawback, as the lens can still be slow to focus in some situations, and, like most telephotos, tends to wander off in search of a new focus point if your subject moves even a little bit. "Slow to focus?" Yes, that's what I said. I don't *notice* any dramatic increase in focusing speed, though it is indeed measurably faster in most situations when you put a stopwatch to it. Slightly more annoying is the fact that the nice variable focus limiter on the older lens is replaced a single switch on the new one. Your choices are full range of focus, or focus from 10 feet (3m) to infinity.

The Manual/Autofocus switch (now Manual/Autofocus with Manual override) has moved from where it was easily found on the focus ring to back near the tripod collar. And it's identical in size and feel to the focus limiter switch. I guess Nikon didn't expect users to make changes by feel (and you can't merely go by top/bottom, as the rotating tripod collar can flip that orientation!).

The new tripod collar is a mixed blessing. It moves the balance point to a better position (with some bodies, the older 300mm tended to be balanced a bit too far forward). It's also easy to find the adjustment knob and rotate the collar. Unfortunately, the smooth feel of the old rotating collar is missing.

This new tripod collar drew a number of criticisms when it first appeared (it also appears on the 80-400mm VR). Numerous posts and discussions on the news groups argued that the lens now "vibrates" at some shutter speeds, even on a tripod. Indeed, if you press the mounting foot towards the lens, you'll find that there is a fair amount of give. Part of the problem is the lock mechanism. If you just turn the knob to a standard "hand tightening" level, the collar isn't working as a single piece, and you can move the foot substantially. If you tighten a little more, most, but not all, of the give disappears. Some users have taken to wedging something between the foot and the lens body to improve the "stability" of the mount, but I've yet to find a situation where I can clearly point to the tripod collar stealing sharpness from a photo. If you find yourself shooting in the "danger zone" (1 second to 1/30), you might want to pay close attention to stability of the lens on the pod, though. If you're really concerned, buy the replacement collar that Kirk sells for the lens. Kirk's version is clearly superior to Nikon's, with a nice front brace to keep the whole lens/collar absolutely rigid. It's worth the extra money if you're going to shoot with this lens from a tripod.



Here's the two feet side by side (AF-S is on top, the old lens on the bottom). [Note that the AF-S has a Kirk quick mount plate on the bottom of the foot, which accounts for some of the extension.]

The new foot extends further from the lens body (good), moves the center of gravity forward (good), and tends to wiggle a bit (bad).

Good points on the new lens: a regular lens cap, a standard filter size, and a built-in lens hood. No more fiddling with the "sock cap", or buying expensive drop-in polarizers.

Performance

Performance here boils down to two things: autofocus speed and sharpness.

Let me report the good news first. Everything that was wonderful about the old 300mm f/4 seems to remain. I can't see any tangible visual difference between pictures shot with the old and the new version--it's as if Nikon took the optics out of my old lens and installed it in a new body (with a couple of minor changes, that's essentially what they did). Being able to focus to 5 feet (1.45m) is a big performance plus, in my opinion. I see a itsy bitsy amount of sharpness loss in the corners at f/4 with the focused racked all the way to 5 feet, but not enough for me to worry about.

Better still, the lens is incredibly sharp when using the TC-14E 1.4x teleconverter (I used the original TC-14E, not the newer TC-14E II, but that shouldn't make a difference, as only the cosmetics are different). And I do mean incredibly. All the attributes that I like at 300mm f/4 are still present at 420mm f/5.6! Yes, it focuses a bit slower with a converter and hunts a bit more, but it is still very sharp.



Watching the leaves fall.
420mm f/5.6 (Nikkor 300mm f/4 AF-S with TC-14E 1.4x teleconverter, shot wide open). On monopod at 1/320. And, yes, that's a leaf falling on the right that the tiger was watching. National Zoo, Washington DC, shot during my November DC workshop.



Here's an *unsharpened*, unadjusted, actual pixels view of a section of a NEF shot with the TC-14E 1.4x teleconverter on the lens at f/5.6 (wide open). The full picture is in the main body text, at left.

Autofocus speed hasn't improved enough to get excited about. Moreover, the lens is still prone to start hunting if your subject moves a bit. Unlike the previous incarnation, you can't limit the focus search to a narrow range (10 feet to infinity is not narrow, Nikon!). With a teleconverter on, this problem is exacerbated--focusing gets slightly slower and more "nervous."

Drawbacks

- 1 **Autofocus Speed.** Not a barnburner, not a sluggard. But from an AF-S lens, you'll expect more.
- 1 **Tripod Collar.** A bit too much give in the foot, and why does the rotation feel so rough compared to the predecessor?
- 1 **No Focus Hold Button, Limited Focus Range Option.** A focus hold button or a better focus limiter option would have made major improvements to the handling of this lens, given its focus speed and proclivity to hunt.

Positives

- 1 **Stellar Optics.** Still sharp. Even with a teleconverter on.
- 1 **No More Sock Cap, Funky Filters.** As befitting a pro-calibre lens, the front element has standardized at the 77mm thread Nikon uses on all their other non-exotic pro lenses.