Nikon Micro 60mm f/2.8 AF-D vs G

How to Shoot Macro **Best Macro Lenses Compared**

Nikon 60mm f/2.8 AF-D and 60mm f/2.8 G AF-S. Roll over to focus each at 1:1.

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Nikon 60mm f/2.8 AF-D Review

Nikon 60mm f/2.8G Review

Why fixed lenses take better pictures.

Introduction

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Names

The AF-D is the older model, made since 1989. THe newer model is the AF-S G version. I'll refer to the newer model as either AF-S or G interchangeably.

I wouldn't buy either of these for myself, but heck, Nikon and Canon each make 60 different lenses because we all have different needs. See Recommendations for

details.

If I did get one of these, I'd get the older and less expensive AF-D, which costs less and has slightly better overall optical quality. I'd get the more expensive AF-S version only if I intended to use it on the cheapest D40, D40x or D60, but for those cameras, the included 18-55mm lens works almost as well.

I'll get into details below. Here's a summary of the significant differences:

1.) Price. The older AF-D lens costs $100 - $200 less.

2.) Working distance. You have an important extra inch between the front of the lens and your subject with the older AF-D lens. For the same photo at the closest focus distance (1:1 life size), you have 3 inches (7.5cm) of clearance, instead of only 2 inches (5cm), between your subject and the end of the lens with the AF-D.

3.) Camera compatibility. Both work perfectly on the majority of AF film and digital cameras made since 1993. The older AF-D lens works on manual focus cameras, while the new AF-S won't. The newest AF-S lens will autofocus on the cheapest D40, D40x and D60, while the AF-D version only focuses manually on those three cheapest cameras. (The 18-55mm kit lens usually included with the D40, D40x and D60 works so well that few people will have any need to get closer, and if they do, serious macro shooters use 105mm macros and focus manually instead.)

4.) Optics: The older AF-D has slightly better optics. It has less distortion, less falloff wide-open and 50% more working distance.

55mm f/2.8 AF

THe 55mm f/2.8 AF was made from 1987-1989. It is similar to the 60mm AF-D. I'll add it to the tables just for fun.

Specifications

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	55mm f/2.8 AF	60mm f/2.8 AF-D	60mm f/2.8 AF-S
Rear Gasket*	**No.**	**No.**	**Yes.**
Filter Size	62mm	62mm	62mm
Length (infinity ~ 1:1)	2.91 ~ 5.16" (74 ~ 131mm)	2.943 ~ 3.908" (74.76 - 99.26mm)	3.50" (89.0mm), fixed
Weight (measured)	13.895 oz. (393.95g)	15.780 oz. (447.35g)	15.100 oz. (428.0g)
Covers FX, DX and Film	**Yes.**	**Yes.**	**Yes.**

***Rear Gasket:** A rubber ring on the mount to help prevent moisture from getting in the camera.

Performance

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	55mm f/2.8 AF	60mm f/2.8 AF-D	60mm f/2.8 AF-S
Works on Manual-Focus Cameras	**Yes.**	**Yes.**	**No.**

Works on Most AF Film Cameras	**Yes.**	**Yes.**	**Yes.**
Works on All Digital SLRs	**Yes.**	**Yes.**	**Yes.**
Autofocus on D40, D40x and D60	**No.**	**No.**	**Yes.**
Aperture Ring	**Yes.**	**Yes.**	**No.**
Use with Built-in Flash at 1:1 on D40, D40x, D60 & D200		**No.**	**No.**
Use with Built-in Flash at 1:1 on D300		**Yes.**	**No.**
Ease of Manual Focus	Easy.	Easy.	Easy.
Ease of Getting in and out of Manual Focus Mode	**Fair** (need to move switch on camera)	**Fair** (need to unlock and rotate a ring)	**Excellent** (Just grab ring or tap shutter)
Hard Infinity Stop	**Yes.**	**Yes.**	**No.**
Useable with Extension Tubes	**Yes.**	**Yes.**	**No.**
Filter Threads	Plastic.	**Metal.**	Plastic.
Outer Barrel	Plastic.	**Metal** and Plastic.	Plastic.
Mount	Metal.	Metal.	Metal.
Made in	Japan.	Japan.	Japan.
Distortion (RMS, ∞ ~ 1:1)	**0.205**	**0.196**	**0.376**
Sharpness	Excellent.	Excellent.	Excellent.
Corner Sharpness at f/2.8	**Excellent.**	**Very Good.**	**Excellent.**
Falloff at f/2.8 (Dark corners)	**Moderate.**	**Mild.**	**Severe.**
Maximum Aperture (∞ ~ 1:1)	f/2.8 - 5.3.	f/2.8 - 5.0.	f/2.8 - 4.8.
Recessed Front Element	**Yes.**	**Yes.**	**No.**
Hood Needed	**No.**	**No.**	Maybe, at infinity.
Hood Included	**No.**	**No.**	**Yes.**
Working Distance (measured, closest focus setting)	**2-1/8" (55mm)**	**2-7/8" (73mm)**	**1-7/8" (48mm)**

Discussion

Camera Compatibility

See Nikon Lens Compatibility for details with every camera. For the 60mm f/2.8 AF-D, read down the "AF, AF-D (screw)" column. For the 60mm f/2.8 AF-S, read down both the "AF-S" and "G" columns.

Use with Built-in Flash

The lens can cast a shadow from the flash when used too close. This isn't a problem with a shoe-mounted flash, but the little pop-up flash of the D40 doesn't pop up far enough to clear the AF-D at 1:1. The flash of the D300 pops up enough not to cast a shadow.

Hard Infinity Stop

The older lens' focus ring has a hard stop exactly at infinity. For astronomical uses or when you know the subject is at infinity, just turn the focus ring to the stop.

The AF-S has no stop, so you can't do this. It saves Nikon, and therefore all of us, a little money by making a lens with one less critical manufacturing adjustment. No big deal, modern AF systems are sensitive enough to focus on planets at night, even if our eyes weren't good enough to do it on manual focus cameras.

Distortion

The older AF-D has no visible distortion of straight lines.

The newer AF-S has enough distortion to be just barely visible in cases where you need a perfectly straight line to stay that way along an edge of the image. This is my biggest complaint against the AF-S lens: micro lenses are supposed to have this under control, and less expensive lenses do a better job than the AF-S lens.

Get the AF-D lens if this is important to you.

Sharpness

Both lenses are the benchmarks against which other lenses are compared.

The only way to see any difference is to look in the far corners of the FX frame at f/2.8 at infinity. If you do (which is stupid, because if you want to shoot at f/2.8 you'd be better off with a fast 50mm lens), the AF-S is slightly better than the AF-D, but only if you're shooting special test targets and then blow them up very large.

The gotcha is that the AF-S may have negligibly sharper corners at f/2.8, visible only under special test conditions, but the AF-S has such severe light falloff that the dark corners at f/2.8 are obvious under all conditions.

Don't use large apertures close-up for flat subjects, since it's highly unlikely you'll have your setup well enough aligned to have the sides in perfect focus.

Falloff (dark corners)

This is the most obvious defect of the 60mm f/2.8 AF-S. Shoot it at f/2.8 on film or FX, and the center is light and the corners are very dark at infinity. It's fine with the older AF-D, and the AF-S is fine if you're shooting at 1:1.

No one buys a micro lens to shoot wide open at infinity, so no big deal. If this is important to you, get the AF-D, get any regular 50mm lens instead, or don't shoot at f/2.8.

Working Distance

The AF-D has an inch more working distance. Roll mouse over to compare.

This is why I don't recommend 60mm micro lenses for most people, including myself.

The reason to buy a micro lens is to shoot subjects smaller than covered by your normal lens. With a short 60mm micro lens, you have to get so close that you probably won't be able to light your subject well, and you'll disturb living subjects.

If I need to photograph objects smaller than covered by my regular lens (the 18-55mm kit lens focuses as close as 4-1/2" (11.5cm) from the front of the lens!), I use a 105mm micro so I can stand far enough away.

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General

I wouldn't buy either one of these lenses, since I prefer 105mm and longer micro lenses. I prefer the extra working distance and more reasonable perspective offered by not having to jam a lens onto my three-dimensional subjects.

Of these two lenses, I'd get the older and less expensive AF-D. I suspect that it has been discontinued with the 2008 introduction of the AF-S, so if you want one, now is the time to get it.

The only reason to get either is because they can frame smaller objects than a normal lens. I don't want to get any closer than a normal lens because I'll block the light and can annoy my subjects. The correct way to get close-up photos of small objects is to use at least a 105mm macro lens so you can stay at least a foot away for sanity's sake.

60mm Micro lenses are useful only if you're shooting with on-lens lighting, like ring lights or the SB-R system.

If I want optical quality, the $110 50mm f/1.8 AF-D or 18-55mm DX kit lenses are as good, so long as I don't need to get closer than they focus.

The best application of the AF-S lens is for police departments and military operations which have already deployed numerous D40, D40x or D60 cameras, and need a special lens which will be used by a wide range of personnel with a ring-light for unusually close-up photos on a daily basis.

For everyone else who uses a single camera sporadically with a ring light, like coin collectors, the AF-D is a better idea, especially if money matters.

60mm micro lenses are best for flat subjects, like stamps. Three-dimensional subjects can look unnatural shot from as close as a 60mm lens requires for good magnification.

On the D40, D40x and D60

The reason to pay more for get the newer 60mm AF-S lens is because it can autofocus on the cheapest D40, D40x and D60.

For most people, the 18-55mm kit lens that comes with these cameras gets as close as anyone wants, and when you're close enough to justify a true micro lens, people usually focus manually anyway.

The cheap 18-55mm kit lens that came with my D40 gets as close as I would ever want to get at 55mm: 4-1/2" (11.5cm) from the front of the lens. If I want to shoot smaller objects, I use a 105mm or longer macro lens.

I see few instances where the kit lens isn't sufficient, and in those cases, a 105mm micro lens is most likely the lens you'd want.

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