

Canon EOS 20D digital SLR camera
Customization of automatic focus and automatic exposure control
with Custom Function 4
(Believed generally applicable also to EOS 30D, 5D, 1D mark II, 1Ds mark II)

The operation of the camera for different settings of Custom Function 4 is shown in terms of the autofocus (AF) and automatic exposure (AE) operations stimulated by the * button and by half press of the shutter release button.

Key to symbols

- AFL** Automatic focus taken (or updated) and “locked” (that is, held until something takes a new focus)
- AFT** Automatic focus tracks so long as button remains pressed (only pertains to AI Servo focus) (continues through Continuous Drive shooting)
- ~~**AFT**~~ Automatic focus tracking suspended so long as button remains pressed (only pertains to AI Servo focus)
- AEL** Automatic exposure taken and locked (held) only so long as button remains pressed. Will not override AEL.
- AEL** Automatic exposure taken (or updated) and locked (held) until finder goes dark (4 seconds after neither the * button nor shutter release button are pressed). AEL prevents AES or AEL. With flash enabled, becomes flash exposure lock (FEL).
- (AES)** No automatic exposure action at half press; automatic exposure taken at shot time (refreshed at each shot in Continuous Drive)

Evaluative metering	Setting of custom function 04	One-Shot focus						AI Servo focus					
		* button				Shutter release button half press		* button				Shutter release button half press	
		With half press		Without half press ①				With half press		Without half press ①			
		AF	AE	AF	AE	AF	AE	AF	AE	AF	AE	AF	AE
0	nil	<u>AEL</u> ②	nil	<u>AEL</u>	AFL	AEL	nil	<u>AEL</u> ③	nil	<u>AEL</u>	AFT	(AES)	
1	AFL	nil	AFL	nil	nil	AEL	AFT	nil	AFT	nil	nil	AEL	
2	nil ④	AEL ②	nil	nil	AFL	AEL	AFT	nil	nil	nil	AFT	(AES)	
3	AFL	AEL	AFL	AEL	nil	(AES)	AFT	nil	AFT	nil	nil	(AES)	

① But finder must be “lit” (as if from a recent half press) ② Updates AE taken earlier at half press (**AEL**) ③ Prevents AES ④ But AFL when button released

Partial or center-weighted average (CWA) metering	Setting of custom function 04	One-Shot focus						AI Servo focus					
		* button				Shutter release button half press		* button				Shutter release button half press	
		With half press		Without half press ①				With half press		Without half press ①			
		AF	AE	AF	AE	AF	AE	AF	AE	AF	AE	AF	AE
0	nil	<u>AEL</u>	nil	<u>AEL</u>	AFL	(AES)	nil	<u>AEL</u> ③	nil	<u>AEL</u>	AFT	(AES)	
1	AFL	nil	AFL	nil	nil	AEL	AFT	nil	AFT	nil	nil	AEL	
2	nil	nil	nil	nil	AFL	(AES)	AFT	nil	nil	nil	AFT	(AES)	
3	AFL	nil	AFL	nil	nil	(AES)	AFT	nil	AFT	nil	nil	(AES)	

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Synopsis and Application Notes

This is a supplement to the chart of the implications of Custom Function 4 settings. Note that not every “if, and, or but” is covered. For complete details, consult the chart proper.

It has been suggested by others that this chart applies equally to the EOS-30D, EOS-5D, and certain EOS 1-series cameras. The author has not confirmed the degree to which this is so.

Abbreviations:

- HSR: Half press of the shutter release button
- *B: press of the “*” button
- AFL: Autofocus lock. Refers to taking focus which then stays where it is set until another overt act redoes it.
- AEL: Automatic exposure lock. Refers to making an exposure determination and saving it for use when the shot is taken. Note that if AEL has not already happened, the exposure is in any situation determined at the time the shot is taken.

Note that there are two different forms of AEL (differentiated here by different symbols, *AEL* and AEL).

- *AEL*: The exposure determination is only held so long as the button that causes it remains depressed.
- AEL: The exposure determination is held (even if the activating button is released) until “the finder goes dark” (4 seconds after neither the * button nor shutter release are pressed).

Note that with a flash active, in any situation where *B normally does AEL, it does flash exposure lock (FEL) instead. In situations where *B does not do AEL, no FEL is available.

CF04 set to 0 (default)

With Evaluative metering and One-Shot focus both in effect, HSR does AFL and *AEL*.

With Partial or CWA metering and One-Shot focus, HSR does AFL only.

With AI Servo focus (any metering mode), HSR makes “focus tracking” run; it does not do AFL or AEL.

In any metering/focus mode combination, *B does (or updates) AEL; with flash active, it does FEL instead.

If AEL was already done with HSR, *B will update the determination. If *B is used to do AEL before HSR, HSR will not update the exposure determination (unless of course the AEL has already expired; see chart for details); neither will the determination be updated at shot time.

Application note

This mode allows exposure determination to be taken and held (AEL) at the photographer's discretion, using *B. This can be useful in making an exposure determination using one camera "aim" and taking focus with another "aim".

CF04 set to 1

In any metering/focusing mode combination, HSR does *AEL* (but not *AFL*).

In One-Shot focus mode, *B does *AFL*.

In AI Servo focus mode, *B makes focus tracking run (so long as the button is held) (designated "AFT" in the chart)..

Application note

This gives the photographer full and direct control of when focus is taken (in One-Shot focus) or when focus tracking runs (in AI Servo focus), using *B.

Note that this is the only CF04 setting in which HSR does *AEL* in AI Servo focus mode. This is particularly useful when using AI Servo focus in connection with Continuous Drive and the photographer does not want the exposure updated for each frame.

Note that focus tracking can be suspended momentarily (as when a "foreign object" moves across the scene in front of the subject being tracked). by letting off *B.

There is no way to do *AEL* other than with HSR. There is no way to do *FEL*.

The button plan is simple: HSR always does *AEL*; *B always does focus (*AFL* or focus tracking, depending on focus mode).

CF04 set to 2

With Evaluative metering and One-Shot focus, HSR does *AEL* and *AFL*.

During HSR, *AFL* can be redone by pressing *B.

During HSR, *AEL* can be redone by pressing **and releasing** *B.

In other mode combinations, there is no way to do *AEL* (via either HSR or *B).

There is no way to do *FEL*.

In AI Servo focus (any metering mode), HSR runs focus tracking, but *B suspends it so long as the button is held.

Application note

This setting is just the same as with CF04 set to 0 except that there is no *B AEL and, in One-Shot focus, the photographer can temporarily suspend focus tracking (as when a “foreign object” moves across the scene in front of the subject being tracked) by pressing *B.

There is no way to force AEL other than with HSR (which only happens with Evaluative Metering and One-Shot focus).

CF04 set to 3

In One-Shot Focus with Evaluative metering, *B does AFL and AEL (AEL held only so long as *B is held).

In One-Shot Focus with Partial or CWA metering, *B does AFL only.

In any metering/focus mode combination, HSR does nothing regarding focus or exposure; AE is set at shot time if not earlier set with *B.

In AI Servo focus (any metering mode), *B runs focus tracking so long as the button is held.

Application note

This setting works the same as when CF04 is set to 1, except that:

- HSR does not do AEL; exposure will be taken at shot time if AEL (with *B held) is not in effect then. The significant implication is that, when using Continuous Drive (and no *B), exposure will be updated for each shot. (With CF04 set to 1, where HSR applies AEL, the exposure setting would be held for all shots in the sequence.)
- *B does AEL rather than AEL (that is, *B must be held to retain the advanced exposure determination until shot time).

FOCUS PRIORITY

Note that in most cases, AEL will not be taken if AFL is called for at the same time but focus has not been achieved. The subtleties of this are not reflected by the chart.

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