

Where to Attach - Camera Strap Lug or Tripod Socket

BosStrap physically tested both types of lugs, the slot type (used on most Canons) and the post type (used on some Nikons like D300, D3, etc.) A steel weight of approximately 60 pounds was suspended from a single post and one lug on representative bodies. The test was repeated. The force (weight) was applied axially to the post and as axially as possible to the lug. No failures occurred. At 125 lbs force, the post pulled out from the camera body after about 5 seconds.

The post style strap attachments are held in place with a 1.6 mm cross screw inside the camera body. To pull out, a double shear must occur. Assuming the steel screw (it was magnetic) is a mild steel (typical), a quick calculation indicates it should fail at about 155 pounds force. Failure at 125 lbf was reasonably consistent given assumptions in the calculations.

The lug type strap attachment is more complicated to analyze. Based on tearing down some cameras with this style of lug, and some drawings found on the web, these components are secured with one or two screws that hold the lug on two to three pins/posts or bosses machined in the camera body. All the pins/bosses and the screws would have to fail before a lug would pull out. No calculations were attempted.

Back in November, BosStrap consulted with a thirty-year camera repair tech at a local repair facility. Another tech briefly joined the conversation. The topic was their experiences with regard to strap attachment failures. In many makes and styles of cameras, only two issues arose, both with the post style. There was some rotational play that was evident, assumed to be from over torquing the post. In no case did the post pull out.

One of the local camera club members submitted a question to Canon. This was followed by a verbal response from a Canon Tech. Then another Canon Tech sent an e-mail response. Here is the question, a summary of a phone conversation, and Canon's email response.

Question to Canon.

There is an inquiry request for : EOS (SLR) Camera Systems , EOS Digital SLR Cameras, EOS 7D

User Question : Hello, I recently purchased a shoulder strap for my 7D. It is the type which can have a 1/4-20 stainless screw attached to it ... which can thread into the 1/4-20 thread on the bottom of the camera. My concern is not the Stainless Steel screw..., but the solidness of the

thread insert in the camera itself, which (I believe) was primarily designed to hold a camera, right side up, on top of a tripod. Is the screw insert solid enough and secure enough inside the camera body so that it won't pull out when the camera (and lens /70-200mm)is hanging upside down at my hip as I walk around with it. Is there a maximum pull load rating on the screw insert? Or,if you could confirm that it is more than solid enough to handle all your pro DSLR's (hanging upside down with a 70-200mm lens) it would prompt me to carry it upside down near my hip with the shoulder strap. Thank you in advance for all your help. Sincerely. XXX

Club Member's Report on Verbal response with Canon Tech 1.

Hi Everyone,

FYI ... I just got off the phone with a Canon tech guy. I asked about the durability of the screw insert in the bottom of their pro line of DSLRs'.

I was considering using a ... Stainless Steel Screw to attach the camera to a shoulder strap so you can hang the camera near your hip. **They recommended not using any camera/screw type connection alone if the camera (or camera and lens) is going to hang freely upside down. You should also tether the camera from the main strap to one of the original camera grommets that a traditional neck camera strap normally attaches to. Use a tether is strongly recommended.** [my emphasis]

They feel that the SS screws that are being promoted by ... are extremely strong and a great product ! However, Canon also feels they may not have gone far enough to evaluate the strength of the camera screw insert after their screw is inserted and tightened. **The camera screw insert is an alloy, slightly stronger than aluminum and was designed to hold a camera securely upright on top of a tripod.** [my emphasis]

Canon's response Tech 2

*From: Canon Support - 2
Sent: Fri 4/01/11 7:43 PM
To: xxx
Dear xxx*

Thank you for your inquiry. We value you as a Canon customer and appreciate the opportunity to assist you. With regards to this accessory there is no guarantee from Canon that it will properly hold

the camera in the position you mention.

Your notions regarding the 1/4" 20 thread on the bottom are correct, this is for connection to a tripod for holding the camera right side up. In this regard it is very strong and should have no problem holding the camera. There is no published maximum load for this mount though and for this reason I can't guarantee the cameras safety when mounted with such a heavy lens being held down on your hip. The mount wasn't really designed for this and damage may occur if this were to fall in this position. We apologize for any inconvenience that this may cause you at this time.

I hope this information is helpful to you. Please let us know if we can be of any further assistance with your EOS 7D.

Thank you for choosing Canon.

Sincerely,

Technical Support Representative

Here is an exchange BosStrap had with Nikon on April 3, modified from the question posed in the e-mail to Canon:

"I recently purchased a shoulder strap for my D300S. It is the type which that has a 1/4-20 stainless screw attached to it which threads into the camera tripod socket. My concern is not the Stainless Steel screw on the strap, but the strength of the threaded insert in the camera body itself, which (I believe) was primarily designed to hold a camera, right side up, on top of a tripod. Is the screw insert solid enough and secure enough inside the camera body so that it won't pull out when the camera (and lens 70-300mm) is hanging upside down at my hip as I walk around with it. Do you have a maximum pull load rating on the tripod socket insert? Could you confirm that the tripod socket is capable to safely handle your pro DSLR's (hanging upside down with a 70-300mm lens). Thank you in advance for all your help. Sincerely, YYY"

Nikons response on April 5th:

"Hi

Thanks for the question and sorry for the delay in responding.

The camera tripod mount is designed to support the weight of the camera and lens but is not designed for potential shocks that this sort of strap [using the tripod socket] may impart on it. In normal usage of this sort of strap (sliding the camera up or down) it should be fine but we would not recommend swinging or dropping the camera and having the strap catch it. We don't publish any particular test data, though....

-David"

New Information (July 19, 2011):

At the recent New England Camera Club Council Conference in Amherst, MA, Nikon staff were asked about attaching a sling style strap to the tripod socket. We were told that the tripod socket is not designed to hang the weight of a camera from it, and there would be serious concerns about the internal camera seals being loaded in a way they were not designed for.