

# BEST PRACTICES

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## Best Practices #025: Audio/Visual Heading: Demonstrations



Many AAW Chapters use miniature video cameras and monitors to improve the experience of watching woodturning demonstrations up close, but there always seem to be problems finding an optimal camera location. Oh, the distractions!

The ability to insert a mini camera into the action area without interference is a plus for all parties. That's the perfect role for a camera boom.

You've probably seen something like this in movies depicting Hollywood movie-making. The same device is ideal for AAW chapters to improve videos of woodturning demonstrations. This inexpensive 48" boom fills the bill.

### Assemble a boom

Turn a 1 ½" – long snug-fitting dowel plug and tap it flush into each end of the two 48" lengths of ½" electrical conduit. Then cut 1"-long slots into one end of each length. Cut the slots with either a handheld hacksaw with two blades installed (you will need a wider than normal kerf) or soon-to-be-retired 6 tpi bandsaw blade (**Photo 1**).

Drill 3/16" holes (sized to the bolts) 3/8" from the two ends and perpendicular to the slots (Photo 2). Assemble one end of the boom with an angle bracket, 3/16x1" bolts, and matching wing nuts. Assembling only one end now will facilitate the important alignment of the additional slot cuts in the next step.

Repeat the slot-cutting and drilling steps at the other ends of the conduit, then assemble the second angle bracket with bolts and nuts.

This will complete the parallelogram configuration of the boom.

Mark and bend a right angle at 5" from the end of the 1/4x1x7" aluminum flat bar mount support. (I placed the bar in a vise and used a wooden mallet to form a sharp 90-degree angle.)

Drill two 3/16" holes in the longer leg of the aluminum mount piece to fit the legs of the U-bolt and a larger hole in the short leg to accept a ¼" bolt from the tripod mount (**Photo 3**). Clamp the upper boom conduit shaft with the U-bolt, cutting off any extra thread if necessary. Most current tripods have a quick release mount that bolts a plate to the boom mount base and facilitates ease of setup/tear down.

Before final assembly, drill a 3/16" hole in the boom-end corner bracket and add the camera mount as illustrated *above*. Drill matching holes in the camera mount platform and handle. Pop-rivet both in place with 3/16" rivets (**Photo 4**).

A ¼"-20 tpi wing bolt matches up well for securing most video cameras. **Photo 5** shows a bracket required for some mini cameras. Follow the same drilling and riveting steps to attach the handle.

### **Put your boom to use**

After securing the boom on a sturdy tripod and mounting the camera, you can easily adjust the camera angle from the handle end of the boom. Place the tripod at the tailstock end of the lathe bed.

The combination of ease of adjustment and good placement of the tripod will keep you out of range for most turning demonstrations.

### **Tips for a Memorable Demo**

For an audience of more than 25 woodturners, I recommend a three-camera video setup as the most versatile support for a turning demonstration. Mount Camera 1 on a tall stand and position it to shoot over the lathe headstock/handwheel. Aim the camera toward the tool rest.

Mount Camera 2 in front of the lathe at about tool-rest height and aimed toward the tool rest.

Mount Camera 3 on a tripod boom and operate from the tailstock end. Aim this camera toward the tool rest.

Another option is a video camera with a good zoom lens and mounted on a tripod. The operator can zero in on the turning action from beyond the audience's line of sight.

Camera operators should have turning experience in order to anticipate which camera selection on the three-way camera switcher will provide the best detailed view of the process. As recommended elsewhere in this article, pay constant attention to the on-screen image.

Ideally, the demonstrator and camera operator should coordinate their actions before and during the demo. Output equipment is usually a TV monitor or digital projection, and this is where the significant equipment expense is incurred.

**Supplies:**

1/2x48" electrical conduit; 1 1/2"-long hardwood plugs cut from dowel or turned for tight fit in conduit; 2 1/2" flat angle brackets; 3/16x1" bolts and matching wing nuts; 1/4x1x7" aluminum flat bar; U-bolt to fit over the conduit; 1/4x1x5" aluminum bar stock; 1/8x1x4" aluminum right-angle bar stock; 1/4"-20 tpi wing bolt. Assembly also requires 3/16" pop rivets.

**Resources:**

From 123 CCTV Security Camera Surveillance Systems (123cctv.com): Sony ultra-mini camera #2445c (3 recommended). Switcher #2704ns.

From B & H Foto & Electronics Corp. (bhphotovideo.com): Impact light stand #LS-6B (2 recommended). Sunpack tripod #SU9002DX.

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