

Meade Field Tripod Modifications

Make Your Tripod Easier to Use With A Wedge

Have you ever wished setup of your Meade Schmidt Cassegrain telescope using a wedge was easier? Do you find it awkward and needless to have to assemble the tripod and wedge prior to mounting the telescope? If so, try out this (reversible) modification to the Meade Field Tripod which makes using a wedge hassle free. Return to the days of old when the wedge was a more convenient, integral part of the tripod assembly.

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When I received my new Meade LX50 telescope last month, one of the things I didn't like much was the operation of the field tripod. The new field tripod is not quite like the unit I received back in 1987 with my LX3. The main change has been to the spreader bar tightening mechanism. The new field tripod has modifications which make it much easier to attach the LX200s in altazimuth mode. These modifications, however, make it considerably less convenient for users of the LX50 or LX200 telescope when used with a wedge.

When I looked closer at how the new tripod was constructed, I saw that it would be fairly easy to modify it so that the convenience of the older field tripod could be restored. I have made those modifications to my tripod and thought others may want to try the same.

The difference in the new versus old tripod is the leg spreader bar attachment and the way the unit is assembled for use. In the new tripod, there is a 9" long 1/2" threaded rod which passes through the center of the tripod head and is held in place by a "C" ring which keeps it from falling out of the tripod head. Below the tripod head is the three-armed spreader bar which locks the tripod legs in place once set up. This spreader can slide up and down on the 1/2" rod. At the bottom end of this threaded rod is a lock nut, threaded hand-wheel, and cap nut. These three parts are firmly tightened against one another to form a handle which allows you to tighten the assembly for set up.

To set up the tripod for use (in LX200 altazimuth mode), you mount the telescope atop the tripod and use the hand-wheel at the bottom of the threaded rod to screw it into the bottom of the telescope drive base. For wedge users, the procedure is to mount the wedge over the rod and screw on a hand-wheel to the top of the rod above the wedge. Next the spreader hand-wheel is tightened while holding the wedge's top hand-wheel to secure the whole assembly. The problem with this setup for wedge users is that in order to collapse the tripod legs for transport, the spreader must be unscrewed from the wedge clamping hand-wheel. This removes the wedge and allows the tripod legs to collapse for easy transport. I find this very inconvenient in regular use and prefer to leave the wedge permanently attached to the tripod. Set up then only involves spreading the tripod legs, clamping the spreader in place and mounting the telescope onto the wedge.

The modifications to achieve this extra convenience are quite simple. Materials needed are an extra 1/2" nut

and a 1/2" (inside diameter) washer. Tools needed are a couple of wrenches and a file or grinder. (A bench vise and electric drill or drill press will speed up the work.) The following steps describe the modifications.

1. Remove the "C" ring and slip the 1/2" rod out of the tripod.
2. Slide the spreader bar off the 1/2" rod.
3. Using the wrenches, remove the cap nut, hand-wheel, and regular nut from the 1/2" rod. (This is where a bench vise comes in handy. These parts are tightened against each other and were assembled with "Lok-Tite" compound. Clean any remaining compound off the parts once they are disassembled.)
4. On the extra 1/2" nut you purchased, use the file or grinder to round off the corners of the nut. Keep filing or grinding until you have reduced the diameter of the nut to just a bit smaller than 3/4". This nut will need to be able to slip into the position originally occupied by the "C" ring in the top of the tripod head plate. For this step, I threaded the nut onto a 1/2" bolt and chucked it into my drill. The drill was then used to spin the nut against a file until the proper diameter was reached.

You are now ready to reassemble the tripod.

5. Thread the 1/2" rounded nut onto the rod. Position it so that there is about 2.5" between the bottom of the nut and the top end of the rod.
6. Slide the rod down into position in the tripod head. The rounded nut should seat itself into the countersunk hole in the top of the tripod head (where the "C" ring once was) leaving about 2" of rod exposed.
7. From below the tripod head, thread on the 1/2" nut that was part of the original assembly. Screw it all the way up to the bottom portion of the tripod head and tighten so that it locks the rod firmly into place. The threaded rod is now captured as part of the tripod head.
8. Slide the spreader bar back into its position on the rod followed by the new washer.
9. Thread the spreader bar hand-wheel onto the rod last.
10. Now attach the wedge to the tripod top and secure with the wedge hand-wheel.

You're done. (You should have the "C" ring and 1/2" cap nut left over. Save them in case you ever want to restore the tripod for altazimuth style setup.) The new tripod assembly now allows you to loosen only the bottom hand-wheel enough to collapse the tripod while the wedge stays securely attached to the tripod head. The wedge may still be loosened using its hand-wheel for fine azimuth adjustment during polar alignment.

The key advantage of this modification is that now, when loosening the the wedge's hand-wheel for polar adjustment, the tripod legs remain safely locked in position. You now have independent control over the leg locking mechanism and the wedge adjustment mechanism. The tripod and wedge are also now one unified assembly, making transport easier.

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