

## Accessible Aperture for Backyard Astronomers:

# Meade's 12-inch LightBridge

*We test a new truss-tube Dobsonian reflector that offers deep-sky observers a conveniently transportable telescope for field use*

APERTURE FEVER—THE BURNING DESIRE TO UPGRADE TO A LARGER telescope—is a well-known affliction among amateur astronomers. Although the symptoms are controlled somewhat by a combination of personal budget constraints and the nontransportability of a monster scope, owning your own Big Telescope remains a powerful lure.

Anyone with aperture fever (you know who you are!) is likely to be intrigued by Meade's new LightBridge Newtonian truss-tube Dobsonian, available in 8-, 10- and 12-inch sizes in both Standard and Deluxe versions. For our tests, Efston-Science of Toronto made available from stock a 12-inch LightBridge Deluxe model.

The LightBridge is the first mass-produced truss-tube Dobsonian telescope. Instead of a solid tube constructed of metal or Sonotube, the upper portion of the telescope is supported by rigid but lightweight truss tubes. The result is a lighter and more easily transported telescope. For most vehicles, a solid-tube 10-inch Dobsonian is about the limit. But once disassembled, the entire 12-inch LightBridge easily fit into the back of my wife's midsized four-door sedan.

### GETTING IT TOGETHER

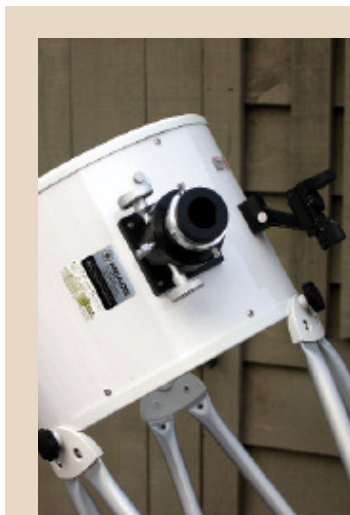
Six trusses hold the upper tube assembly (UTA) in place. Fitting into slots, the trusses are held securely to the rear optical-tube-assembly base and the UTA with captive bolts with easy-to-turn knobs. This allows the telescope to be quickly assembled or disassembled. I did have some difficulty, however, attaching the UTA to

the trusses by myself in the dark. For set-up and disassembly at night, two people would be a distinct advantage for this largest of the three LightBridge models.

Dobsonians are elegantly simple to use, but some Dobsonian owners find that they have to modify or lubricate the telescope's bearings to reduce balky motion when tracking a celestial object. The LightBridge Deluxe is the smoothest-moving mass-produced Dobsonian I've ever used. It comes with steel roller bearings in the

base, which allows very fluid motion in azimuth (left-right). If necessary, friction can be adjusted by tightening a small knob protruding through the rocker base. Altitude (up-down) is also quite smooth, with metal bearings sliding along felt pads. The Standard model does not have the roller bearings in the base and uses Teflon pads on its azimuth bearings.

**TOWER OF POWER...AND MORE**  
For more than a quarter of a century, the Dobsonian-mounted Newtonian reflector has been a favourite of deep-sky observers seeking the most telescope aperture at the lowest price. Meade's LightBridge truss-tube versions add a few new features to this venerable design.



### TRUSS-DOB ANATOMY

The upper tube assembly (left) is held in place by six aluminum truss tubes—the key to the LightBridge's exceptional portability. The two-inch focuser is standard on all LightBridge models. The primary mirror and its supports at the base of the tube (right) are open to the air, which reduces cool-down time as the temperature drops in the evening. A built-in fan assists with the cooling process. When disassembled, the pieces fit in a midsized sedan.



My initial star test showed that the telescope's 12-inch f/5 mirror was significantly out of collimation, a fairly common occurrence after shipping and delivery. Collimation can be intimidating to some, but it is an essential part of Newtonian reflector ownership for optimum views (clear instructions are supplied in the owner's manual). The LightBridge is collimated by adjusting three screws behind the primary mirror using a standard slot screwdriver. Performing this procedure can be time-consuming: Bend over, make an adjustment, stand up, realign the star in the eyepiece, then repeat—many times. This initial collimation would have been considerably less tedious if I had arranged to have someone assist me. Once the telescope had been collimated, then used, disassembled and reassembled for another night's viewing, however, only some minor tweaking was required.

The primary-mirror cover must be handled carefully and placed in a safe location when removed from the mirror. Constructed of thin plastic, it resembles a flimsy garbage-can lid and could easily be broken if stepped on in the dark. To reduce cooldown times, a battery-powered fan is mounted beneath the primary-mirror cell—a nice feature.

### UNDER THE STARS

The 12-inch mirror performed very well. A star test showed well-corrected optics. Under a dark, moonless sky with excellent transparency, the Orion Nebula revealed a wealth of nebulosity, with a distinct green hue at the core. Galaxies M81 and M82 contrasted well against a black background. Open clusters showed beautiful groupings of pinpoint stars. The views were comparable to my 12.5-inch MAG1 PortaBall reflector, which has excellent (and expensive) optics.

Although seeing conditions were only average on each night of testing, fleeting moments of stable air permitted fine views of Saturn at 191x, and I was able to see banding on the planet's surface, Cassini's division, the inner C ring and the shadow of the planet on the rings. The fluid motion of the Crayford-style focuser made minor adjustments easy when observing at high power. Although the focuser allows for smooth tweaking at high magnifications, the telescope itself vibrates annoyingly for three to



four seconds after each adjustment or after moving the instrument to track the object.

The LightBridge Deluxe model comes equipped with an excellent red-dot finder that displays a dot, a cross, a bull's-eye or a diamond pattern and allows adjustments in intensity (the Standard model is equipped with a red-dot finder only). I found the placement of the finder awkward and had to lean over the scope to view through it. Ease of use would be increased if the finder was moved closer to the focuser, although this would require drilling two small holes through the UTA.

### SIZING UP THE ACCESSORIES

A 26mm QX wide-angle 2-inch eyepiece (70-degree apparent field) is included with the Deluxe model (a 26mm 1.25-inch Super Plössl comes with the Standard; both scopes have a 2-inch focuser with a 1.25-inch adapter). While the 26mm QX suffices as a low-power utility eyepiece, the outer portions of the field of view display significant aberrations because of the LightBridge's fast focal-ratio optics.

The most glaring deficiency of the LightBridge is the lack of a fabric shroud to prevent stray light from entering the open optical path and reducing contrast. A shroud also helps keep dew and dust

from the optics. Meade has recently announced that a shroud will be available as an accessory later this year.

Overall, the LightBridge is a joy to use. Its truss-tube design allows easy transport to an observing site. With extremely smooth-moving axes—the most important feature of a Dobsonian mount—the 12-inch LightBridge provides impressive low-power views of faint deep-sky objects and good planetary images. Considering the reasonable price, a LightBridge Newtonian is a perfect cure for anyone infected with aperture fever. ■

### MEADE 12-INCH DELUXE

[www.meade.com](http://www.meade.com)

Rating: ★★★★★<sup>1/2</sup> out of five

12-inch f/5 BK-7 primary mirror

Focal length: 1,524mm

25% secondary (by diameter)

2-inch Crayford-style focuser with 1.25-inch adapter

Optical tube assembly weight: 47 pounds

Mount weight: 33 pounds

Meade 26mm QX wide-angle 2-inch eyepiece

Meade AutoStar Suite Astronomer Edition software

Price: \$1,379.95

Canadian prices of other models:

8-inch Standard: \$619.95; Deluxe: \$749.95

10-inch Standard: \$854.95; Deluxe: \$984.95

12-inch Standard: \$1,249.95