Library Loaner Telescope
Orion StarBlast 4.5 inch Reflector:
Not too small, not too large
Mark Stowbridge, originator
New Hampshire Astronomical Society
Features

• 4.5 inch aperture
• lightweight
• sturdy mount
• 8-24 mm

Celestron Zoom Eyepiece
• User’s Guide
These images of M42, the Orion Nebula, were drawn while looking through the Library Telescope.
Remove from shipping carton
Screwing eyepiece in to Focuser
• tapping into focuser ring
Stiffening the eyepiece travel by adding a 1/2 x 1/2 inch section of velcro, loop side
Securing the eyepiece with set screws
Making a protective end cap
The collimation screws are now inaccessible to unauthorized fingers.
Moon port: 1-3/4 inch mask for bright lunar viewing
Locating a target

1. Use the zoom setting of 24 mm, because it has the widest field of view.
2. Move the scope so that the target is centered in the finder.
3. The target should be in the eyepiece or just outside of it.
The telescope is sturdy, but keep these two important points in mind:

1. Never drop the telescope!

2. Do not look at the Sun with this Telescope! Severe, permanent eye damage will result!
Carry it by:

- grabbing the handle with one hand,
- grabbing the base and platform with the other.
Buckle up!

Seat belt the scope as you would a person.
Selected lunar objects in the User’s Guide
Monthly sky positions of the bright planets –

- Crescent of Venus
- Mars at its brightest
- Jupiter
- Saturn

### Planetary Positions

**Venus,** during its crescent phase, either in the west 45 minutes after sunset or in the east 45 minutes before sunrise

<table>
<thead>
<tr>
<th>Year</th>
<th>2015</th>
<th>2016</th>
<th>2017</th>
<th>2018</th>
<th>2019</th>
<th>2020</th>
</tr>
</thead>
<tbody>
<tr>
<td>January</td>
<td>---</td>
<td>---</td>
<td>In the SW after sunset.</td>
<td>---</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>February</td>
<td>---</td>
<td>---</td>
<td>In the West.</td>
<td>---</td>
<td>---</td>
<td>---</td>
</tr>
</tbody>
</table>

**Mars,** when it is close to Earth. About 90 minutes after sunset.

<table>
<thead>
<tr>
<th>Constellation</th>
<th>Scorpius, Libra</th>
<th>Sag., Cap.</th>
<th>Pisces, Aries</th>
</tr>
</thead>
<tbody>
<tr>
<td>January</td>
<td>---</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>February</td>
<td>---</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>March</td>
<td>---</td>
<td>Rises in the SE after midnight</td>
<td>---</td>
</tr>
</tbody>
</table>

**Saturn,** when it is seen 90 minutes after sunset

<table>
<thead>
<tr>
<th>Constellation</th>
<th>Scorpius</th>
<th>Ophiuchus</th>
<th>Sag., Cap.</th>
<th>Capricorn</th>
</tr>
</thead>
<tbody>
<tr>
<td>January</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>February</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>March</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>April</td>
<td>Very low in the SE.</td>
<td>Very low in the SE.</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>May</td>
<td>Very low in the SE.</td>
<td>Best views in the week around 2/05.</td>
<td>---</td>
<td>---</td>
</tr>
</tbody>
</table>

**Jupiter,** when it is seen 90 minutes after sunset

<table>
<thead>
<tr>
<th>Constellation</th>
<th>Cancer</th>
<th>Leo</th>
<th>Virgo</th>
<th>Libra</th>
<th>Scorpius</th>
<th>Sagittarius</th>
</tr>
</thead>
<tbody>
<tr>
<td>January</td>
<td>Low in the East.</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>February</td>
<td>In the East.</td>
<td>---</td>
<td>Very low in the East.</td>
<td>---</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>March</td>
<td>High in the SE.</td>
<td>Best views in the week around 2/05.</td>
<td>Very low in the East.</td>
<td>---</td>
<td>---</td>
<td>---</td>
</tr>
</tbody>
</table>
All sky maps in the User’s Guide
Selected Deep Sky Objects in the July and August early evening sky

Enjoy the Constellation Scorpius
Look for its signature fish hook shape standing above the southern horizon after darkness falls in July and August.

Globular Cluster M80:
1. M80 is found half way between Antares and Beta Scorpii.
2. It appears as a round, mottled ball containing the combined light of over 100,000 stars.
Distance: 33,000 light-years.

Open Clusters M6 and M7:
M7 is visible to the unaided eye from a dark site. These two clusters are best seen at low power. Many stars fill the field.
M6 Distance: 1600 light-years.
M7 Distance: 800 light-years.

Globular Cluster M4:
1. Place Antares on the eastern edge of the field of the lowest power eyepiece setting (24 mm).
2. M4 is found near the center of the field of view. It appears as a round, grainy ball containing the combined light of over 100,000 stars. Distance: 7200 light-years.

Open Cluster NGC 6231:
Point the telescope at Zeta and the cluster's many stars sweep out to the northeast.
Distance: 6000 light-years.
There is more than one cluster in the area. NGC 6231 has been called "The False Comet."
Enjoy!

- Craters on the moon
- Crescent of Venus
- Large moons of Jupiter
- Rings of Saturn
- Star Clusters
- Nebulae