

Phase and Purpose	Telescope position	Tests
1. Autoguider commissioning	Telescope on bright star near zenith	<ul style="list-style-type: none"> <li>Adjust Field lens autoguider optics for best focus.</li> <li>Confirm guide star image quality.</li> <li>Confirm CCD noise performance</li> <li>Determine CCD pixel scale</li> <li>Confirm guide star S/W acquisition and tip-tilt guiding at 40Hz.</li> <li>confirm XY offsets</li> <li>First pointing model</li> </ul>
2. Preliminary staring functionality and performance tests  (Confirm there are no serious problems possibly requiring immediate warm-up for single-pointing stare mode)	Telescope on stars near zenith. No autoguiding.  Telescope on star at airmass ~1.5	<p>Obtain reasonable IR images over full science field, as judged by eye and data pipeline image and WF parameters.</p> <p>Determine</p> <ul style="list-style-type: none"> <li>Set approximate M2 zenith position in three axes. Add/remove shims.</li> <li>Set approximate cryostat tilt</li> <li>Approximate M2 and focus offset between filters</li> <li>IR pixel scale</li> <li>Throughput in JHK</li> <li>Determine background levels in JK</li> <li>Run detector Noise tests</li> <li>Calculate detector spatial offsets and rotation on sky</li> </ul> <p>First pipeline tests.</p> <p>Check for serious image degradation with telescope attitude, using nominal M2 lookup table. Including through-zenith.</p>
3. Final staring functionality and performance tests  (final optimisation of single-pointing performance)	Telescope on star near zenith. Autoguiding on.	<p>Obtain best IR images over full science field, as judged by data pipeline image parameters.</p> <p>Determine</p> <ul style="list-style-type: none"> <li>Accurate pointing model</li> <li>Accurate M2 and focus offset between filters</li> <li>refine cryostat tilt</li> </ul>

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		<ul style="list-style-type: none"> <li>• M2 position in three axes</li> <li>• Photometric repeatability</li> <li>• Field distortion</li> <li>• Determine that image degradation with telescope attitude is within spec.</li> </ul> <p>Determine the best M2 positions at a series of telescope positions – revise the M2 lookup table.</p>
4. Survey performance (commission software/hardware automatic survey mode)	Automatic acquisition of fields	<p>Automatic acquisition of guide stars and observing fields</p> <ul style="list-style-type: none"> <li>• Meet efficiency spec</li> <li>• Determine faintest guide star magnitude</li> </ul>