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1.0 SCOPE:

This test procedure is used to insure that the eyepiece assembly as a module satisfies Itek product design and engineering specifications.

2.0 APPLICABLE DOCUMENTS

- 2.1 Eyepiece Assembly Dwg. 141705
- 2.2 Design Spec. 12A113
- 2.3 Spec. Document, Itek File #X15
- 2.4 Reticle Housing Dwg. 141708

3.0 TEST DESCRIPTION:

3.1 Purpose and Objective:

The tests of the eyepiece assembly will be performed prior to its attachment to the support structure. The tests will confirm the functional characteristics of the eyepiece, filter and the setup reticle in its housing prior to the installation of the eyepiece assembly.

3.2 Test Specimen:

The tests will be conducted on the complete eyepiece assembly, #141705. The setup reticle in its housing #141708 will be removed and replaced as required.

3.3 Test Requirements:

a. Without the setup reticle in place

- (1) The eyepiece must focus at and cover the aperture stop with $\pm 3D$ of focus correction available.
- (2) The filter must snap into place and not encroach upon the aperture stop. The cover must prevent stray light.
- (3) The acceptance cone must be $F/8$ for all field positions.
- (4) The curvature of field must not be greater than $2 \frac{1}{2} D$.

b. The setup reticle must locate within $\pm .015''$ of the optical centerline, on repetitive installation and upon rotation in its seat.

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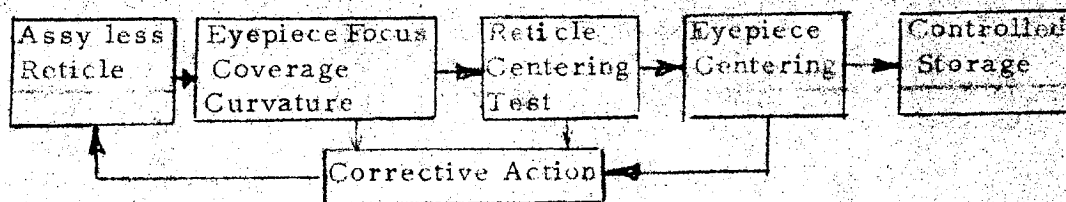
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c. The eyepiece optical axis must be parallel to the axis of the housing within 20 minutes and centered on the setup reticle within $\pm .020''$.

3.4 Test Conditions:

No specific conditions apply.

3.5 Test Flow:



3.6 Anticipated Results:

The tests are confirmatory and are not expected to produce quantitative results.

3.7 Safety Precautions:

Not applicable.

3.8 Instrumentation:

- (1) Gaertner M115A filar microscope and stand with X-Y stage
- (2) Bausch & Lomb Model 2963-1147, 3x Diopter Telescope
- (3) Nikon Autocollimator Model 6D with stand

3.9 Facilities and Equipment:

The tests will be conducted in a laboratory environment with ambient humidity and temperature of $75^{\circ} \pm 10^{\circ}$ F. No special facilities or equipment required.

4.0 TEST PROCEDURE:

- 4.1 Verify that the eyepiece is erile type. Check correctness of parts, assembly and general workmanship.
- 4.2 Test eyepiece for coverage of the clear aperture of the stop.

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- 4.3 Test focus range with the diopter telescope, focusing on the setup reticle.
- 4.4 Test curvature of field with halftone screen in the aperture stop and diopter telescope.
- 4.5 Test filter insertion and removal. Test the cover for light tightness.
- 4.6 Test setup reticle centering, including repetitive placement and rotation, with the filar microscope centered by X-Y stage on the aperture stop.
- 4.7 Test eyepiece centering with the autocollimator measuring the angular departure between the reticle and the return image.

5.0 TEST DATA

Test results will be recorded on a data sheet as required under section 4.0.

6.0 QUALITY ASSURANCE PROVISIONS

Each unit shall be subject to inspection and test surveillance by the project quality assurance department to the extent necessary to assure that drawing and specification requirements are met.

7.0 CHANGES

Any changes to this procedure must be approved by the test engineer and processed through drawing control procedure. Testing that cannot be accomplished at this unit level will be accomplished at the next higher assembly level.

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