

NIGHT VISION IMAGING (NVIS)

Requirements, Approvals, Maintenance

Presented to: Helicopter Air Medical Service

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Federal Aviation
Administration



Minimum Requirements

- **New models of aviation night vision goggles identified and manufactured on or after the effective date of TSO-C164 must meet the minimum performance standards (MPS) set forth in Section 2 of RTCA Document No. (RTCA/DO)-275, Minimum Operational Performance Standards for Integrated Night Vision Imaging System Equipment, dated October 12, 2001.**



- **There are alternative or equivalent means of compliance to the MPS of TSO-C164. If these provisions are invoked, it must be done in accordance with the provisions outlined in 14 CFR § 21.609 (Approval for deviation).**
- **Goggles are an integral part of the overall Night Vision Imaging System, not the entire system.**



- **The NVIS package includes alterations to interior and exterior lighting.**
- **NVG compatible lighting accounts for the largest portions of NVIS modifications to include light filters of some instruments.**



Approvals

- **FAA Order 8900.1, Vol. 4, Ch. 9, Sec. 1, Fig. 4-68, Major Alterations Job Aid, states: Flight deck lighting changes to support night vision goggle use, or any approvals related to night vision goggles require a supplemental type certificate (STC).**
- **STC Regulation: 14 CFR § 21.113**



Maintenance

- **Maintenance of the NVG appliance should be performed in accordance with the manufacturer's maintenance manual or other instructions acceptable to the administrator as required by the STC. (see § § 43.13 and 43.16)**
- **Additionally OpSpec A050 and D093 states the night vision device shall be maintained.**
- **Maintenance records are required to be kept on each NVG to ensure its conformity, airworthiness and meets the OpSec requirements.**



14 CFR § 43.16 Airworthiness limitations

- Each person performing an inspection or other maintenance specified in an Airworthiness Limitations section of a manufacturer's maintenance manual or Instructions for Continued Airworthiness shall perform the inspection or other maintenance in accordance with that section, or in accordance with operations specifications approved by the Administrator under part 121 or 135, or an inspection program approved under §91.409(e).



- **Table 5-1 in RTCA DO-275 contains a list of persons authorized to perform aviation NVIS maintenance, preventive maintenance, rebuilding, and alterations.**
- **Persons authorized to approve NVIS appliances or component parts for return to service after maintenance, preventive maintenance, rebuilding, or alteration is contained in Table 5-2 of the above document.**
- **Flight operations may still be conducted with aircraft that do not meet airworthiness standards for NVIS operations.**



Reference

- **TSO-C164 Night Vision Goggles, dated September 30, 2004**
- **RTCA Document No. (RTCA/DO)-275 Minimum Operational Performance Standards for Integrated Night Vision Imaging System Equipment, dated October 12, 2001**
- **RTCA/DO-268, Concept of Operations – Night Vision Imaging System for Civil Operators, dated March 27, 2001**
- **AC 27-1B, Certification of Normal Category Rotorcraft**
- **AC 29-2C, Certification of Transport Category Rotorcraft**



Questions / Issues

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