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NVG Parts

The following guidance is provided by Night Flight Concepts, Inc. The intent of the bulletin is to educate and make aware to the maintainers of NVGs issues surrounding unapproved parts. More information is available on this subject via email to info@nightflightconcepts.com.

NVG Assembled in the Field

As the NVG industry expands, the need for NVG maintenance and repair will increase. The Federal Aviation Administration (FAA) developed regulatory guidance on the use of NVGs, but the maintenance of NVGs has gained minimal attention. Due to this lack of oversight, there is an increasing amount of bogus parts being identified by NVG technicians. In this bulletin, we will attempt to highlight some of these issues.

An immediate concern is companies that sell NVGs they have assembled that do not have appropriate quality control measures in place. In particular, the M949 model of NVG has been assembled by several companies with quality issues that range from questionable image intensification tubes, to NVGs that were sold as new with obvious used internal parts. When an NVG is acquired through a low-cost, non-OEM provider, the purchaser takes many risks. Some of these risks may simply be expensive while others may have life-threatening consequences.

FAR Part 145 NVG Repair Stations have provided data to show that NVG image tubes have been altered in the field to extend the useful life of the product. Essentially, an image tube that will not pass an inspection is taken apart, the image tube adjusted, and the NVGs re-inspected with a passing grade. This sounds simple and innocent enough but the process eliminates built in safety features of the image tube. When an image tube fails inspection, it may occur for several reasons. If the NVG technician alters the image tube, the resulting effect could potentially be a sudden failure of the tube itself. If this occurred during a critical phase of flight, the results could disastrous.

When purchasing NVGs, purchase through an OEM approved distributor. This will ensure you are purchasing the highest quality NVGs with manufacturer support.

NVG Objective Lens Classification

An issue that is plaguing the NVG industry today is identification of Class B objective lens on newly acquired or pre-existing NVGs. The minimum standard objective lens for a civil NVG is a Class B objective lens. What this means to the user is the NVGs ability to filter light will have much broader spectrum. Instead of an NVG only filtering blues and green, a Class B objective lens will



filter light in the white, red, and amber light spectrum. This is important so that the lights you see on the warning caution panel, instrument, and other indicators in the aircraft will use the same colors as if the aircraft were flying without NVGs.

Although this is now a minimum standard, several NVG OEMs and their distributors continue to supply Class A objective lens on newly purchased NVGs. Their reasoning is simple...they design their cockpit modification to Class A technology, so they sell Class A NVGs to match the cockpit. The fact is a Class B NVG will filter a Class A cockpit, but a Class A NVG will not filter a Class B cockpit. A Class B NVG purchase is the right decision.

If you find that you have NVGs that are equipped with Class A objective lens, you may want to have them upgraded to Class B, if applicable to those NVGs. Not all Class A NVGs can be upgraded.

NVG Part Traceability

In closing, treat your NVGs as you would any other part on an aircraft. Don't get caught in a situation where a good deal was found online, but the parts are not safe for use. If you find a good deal...great! Make sure that each and every part is traceable and is supplied with the appropriate paperwork acceptable to your regulatory authority.

There is several reputable NVG part suppliers willing to assist you with any and all NVG parts needs you may have. Develop a relationship with your NVG parts retailer and communicate frequently. There are times that parts availability may be affected by military activity. NVG technology remains on the US munitions list and is controlled by the US Department of State, Commerce, and Defense. Products supporting NVGs will be available to military assets first. An example at the time of this bulletin would be helmet mounts consistent with the ITT F4949 and L3 M949 NVGs. They are currently backlogged for the distant future.

As discussed, maintain a good relationship with your NVG maintenance provider to know what you may wish to stock the shelf.

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