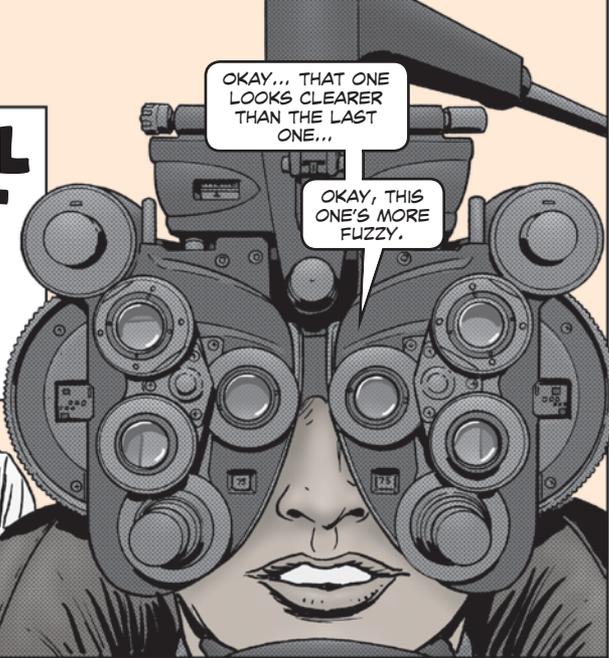


IT'S ALL ABOUT IMAGE



OKAY... THAT ONE LOOKS CLEARER THAN THE LAST ONE...

OKAY, THIS ONE'S MORE FUZZY.

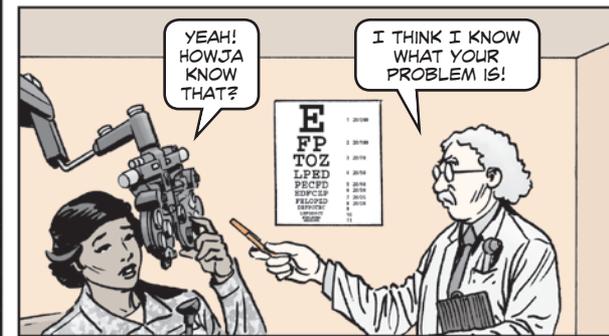


DO YOU STILL SEE ANY BLACK SPOTS?

NO... NOT NOW.



HEY... WAITAMINIT! DO YOU BY CHANCE WORK A LOT WITH AN NVD?



YEAH! HOWJA KNOW THAT?

I THINK I KNOW WHAT YOUR PROBLEM IS!

Field maintenance technicians, if you work on AN/PVS-14 monocular night vision devices (NVDs), AN/AVS-6 aviator's night vision imaging systems or AN/PVS-7 night vision goggles, listen carefully.

When you inspect and test the image intensifier tube, some of you are reaching the wrong conclusion about the condition of the tube. In other words, you're finding problems that don't exist and then turning in a perfectly good tube for disposal.

For example, the size and location of black spots often mislead technicians into thinking a tube is damaged. Actually, black spots are OK if they pass the black spot check in your TM.

In some cases, NVDs or tubes still under warranty are being turned in for disposal. All these unneeded turn-ins are expensive. The average cost of an NVD image intensifier tube is \$2,500.



SO THE NEXT TIME YOU INSPECT AND TEST THE NVD'S IMAGE INTENSIFIER TUBE, DO IT BY THE BOOK.

HERE ARE THE TMS YOU'LL NEED...

Night Vision Device	TM
AN/AVS-6(V)3 aviator's night vision imaging system (ANVIS)	TM 11-5855-313-23&P
AN/PVS-14 monocular night vision device (MNVD)	TM 11-5855-306-23&P
AN/PVS-7B, -7D night vision goggles (NVG)	TM 11-5855-262-23&P-2

Pay particular attention to the work packages and paragraphs about the image intensifier tube that cover the:

- warranty.
- 6-month service.
- preventive maintenance checks and services.
- black spot check using the black spot target, NSN 5855-01-305-8524.
- inspection criteria for the image intensifier tube.
- testing of the image intensifier tube with the TS-3895/UV or the TS-3895A/UV test set.
- testing of the image intensifier tube with the TS-4348/UV test set.

TM 11-5855-262-23&P-2

3-11 BLACK SPOT CHECK

Black spots are cosmetic blemishes and do not affect reliability. Generally, you can assume that the black spot was there during acceptance testing. However, occasionally the need may arise to verify the location, size and number of spots. This test allows the maintainer to evaluate possible out-of-specification black spots, dark spots, or opaque spots in the image area against the specifications for the image intensifier.

INITIAL SETUP

Test Facility

Dark room

Tools

Measuring tape, (Appendix B, Item 13)

3-volt incandescent flashlight or smaller, (Appendix B, Item 11)

Your TMs tell you how to perform a black spot check

Prevent lens damage by using lens caps in storage and during shipping.



Here are a few simple guidelines to follow when servicing the image intensifier tube...

Warranty

Read the warranty information in your TMs to find out what's covered. The warranty **does not** cover a product that's been misused, neglected or damaged in an accident. It also doesn't cover a product that hasn't been installed or maintained using the instructions in the TMs. Contact the vendor if you have warranty questions.

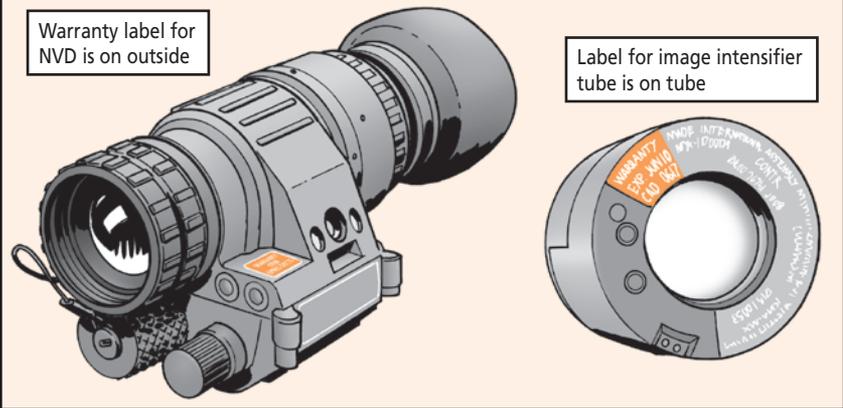
PQDRs and Warranty Claims

Before you submit a product quality deficiency report (PQDR) or warranty claim, carefully inspect and test the image intensifier tube. Make sure the tube has an actual defect.

Also check the warranty labels to make sure the warranties haven't expired. There are two warranty labels. The label for the NVD is on its outside. The label for the image intensifier tube is on the tube itself. You have to remove the eyepiece to get to the tube.

Warranty label for NVD is on outside

Label for image intensifier tube is on tube



Unnecessary Fees

The vendor may charge you a testing fee of \$100 or more per image intensifier tube or \$150 per NVD if you return these items under a PQDR or warranty claim and the vendor finds no defects. The vendor can also charge you if you return these items and the vendor finds proof of misuse or neglect. Of course, if the vendor finds that your returned item has defects, the vendor will waive the testing fee.

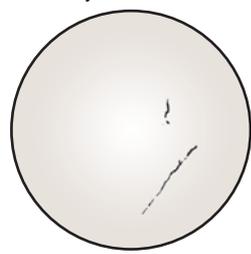
The Topic Is Optics



THE FOLLOWING EXAMPLES MAY HELP YOU UNDERSTAND WHAT YOU'RE SEEING WHEN YOU LOOK THROUGH THE EYEPIECE OF YOUR NVD...

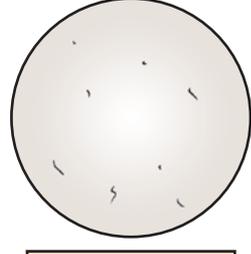
Emission point: This is a steady or fluctuating pinpoint of bright light in the image area that does not go away when all light is blocked from the objective lens of that monocular. The position of an emission point does not move within the image area.

Laser damage: The image shows black spots and lines caused by a laser.



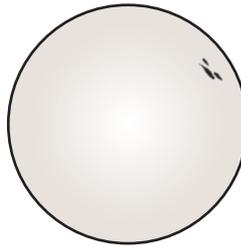
Damage caused by laser

Dirty optics: The oddly shaped marks scattered throughout the image are sometimes mistaken for black spots and lines. They're actually bits of debris. To clear up the image, clean the lenses, the light interference filter (LIF) and the image intensifier tube's curved output fiber-optic faceplate.

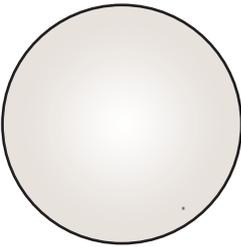


Don't mistake bits of debris for black spots

Black spots: These are cosmetic blemishes in the tube. The image on the left shows an internal tube blemish near 3 o'clock. It was caused by the user dropping the NVD. The image on the right shows a faint black spot at 5 o'clock. This is a more typical kind of spot. Black spots are acceptable as long as they don't interfere with viewing the image. They're also acceptable if they pass the black spot check in your TM.

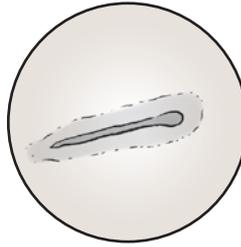


Black spot caused by dropping NVD

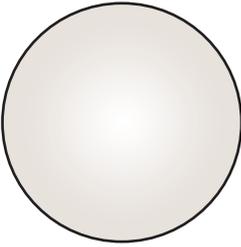


Typical black spot

Sun exposure: The left side of the image shows sun damage to the NVD's image intensifier tube caused by not using a lens cap. The right side of the image shows an undamaged image intensifier tube. A lens cap protected the tube when the NVD was not in use.



Sun-damaged image intensifier tube. No lens cap used



Undamaged image intensifies tube. Lens cap used

If you have questions about NVDs or tube inspection and testing, contact Program Executive Office (PEO) Soldier's Greg Patrick at DSN 654-0139, (703) 704-0139, or email: gregory.s.patrick6.civ@mail.mil

