

SCANNER MAINTENANCE

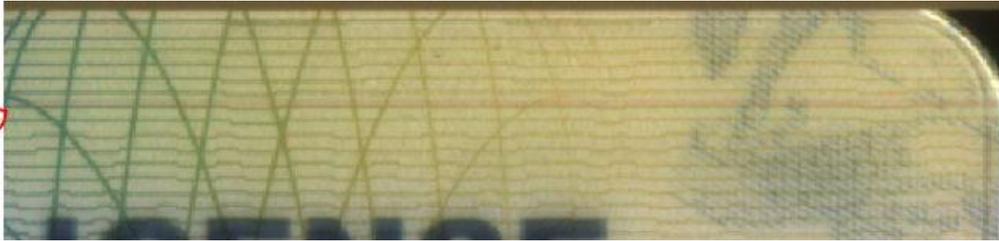
There are two distinct cleaning procedures for the M500 scanner that completes two separate functions:

The first procedure involves a special cleaning card that we offer either in singles or in bulk. The card is saturated, presumably in an alcohol solution and is meant to clean the rollers and magnetic stripe reader head. These are surfaces that are in direct contact with the IDs that are scanned and the rate of soiling of these surfaces depends on the average cleanliness of IDs scanned as well as the scan volume. One uses the card by simply inserting it into the M500; the rest is automatic. We recommend that this is done monthly in step with the monthly updates; however, depending on scan volume, this is not strictly necessary. If you scan much more than 10,000 IDs a month and especially if you approach 20,000 scans a month, the cleaning should be completed monthly. Otherwise it can be done roughly every two to three months.

The second procedure is somewhat more complex and requires three items. These items are a calibration card, an air divider (a specially-made plastic tool) and an aerosol can of electronics duster. This procedure cleans the mirrors that are located on the sides of the ID card slot. The instructions for this procedure are detailed below with pictures included. The particularly tricky part, at least the first time someone does it, is getting the air divider in place. Our best piece of advice is to look closely at the photos in the manual and realize that the tool will almost "snap" into place when inserted properly. The calibration card and air divider are replaceable; however, you should take care to keep them in good condition and avoid misplacing them. The calibration card should be put into its protective sleeve when not in use and should be disposed of when it becomes at all scratched or dirty. This process is also recommended to be completed monthly though if horizontal streaking is noticed in the scanned image, someone should complete the procedure immediately. If some types of debris are left in place on the mirrors, they may become adhered and therefore difficult to remove through normal methods.

The M500 package contains both a cleaning card and a calibration card. We have also included your first cleaning kit free of charge. This kit consists of two more cleaning cards, another calibration card, an air divider tool and one can of Ultrajet 70 aerosol duster. You don't strictly need to use Ultrajet 70 though it is recommended. The duster you use must be free of residue and preferably not be flammable. There are other brands that meet these criteria; however, we have not found them to be roughly the same cost as Chemtronics Ultrajet 70. Please do not use the kind that cost \$5-\$10.





Driving in Maryland implies consent to chemical testing for intoxication as required by law. Longer license suspension may result from refusal to be tested.
Class: C - Noncommercial vehicles weighing 26,000 or less pounds GVW, EXCEPT motorcycles.

05/17/1990
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A barcode is visible at the bottom of this section, partially obscured by the text above it.

Dust lines / yellowing at top of image

M500 MAINTENANCE VIDEO



Maintenance of the M500



<https://youtu.be/jNPWMe08hu4>

CALIBRATION CARD

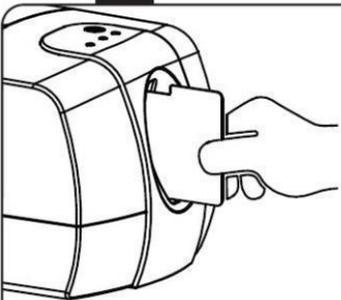
The main Purpose of the White Calibration Card is to perform a white color balance calibration. This calibration occurs when the Calibration Card is inserted into the M500 with the ARROW FACING IN towards the M500. (See the Calibration Card illustration below) . When this Calibration process is performed, an **EV_WHITE_CAL** event will occur, which will cause certain settings to be calculated and stored within the M500. During this process, the data displayed through the application software will be the previous calibration settings. The new settings will not be displayed until the next scan. These settings are used for color balance calculations within the M500 during normal scanning operation.

The secondary purpose of the White Calibration Card feedback in the determination of whether or not dust or debris may have accumulated on the M500's mirrors. The Verification Process occurs when the Calibration Card is inserted into the M500 with the ARROW FACING OUTWARD. When this is performed, an **EV_WHITE_CALV** will occur. At this point, the application software should display RGB images to the user to facilitate the determination of whether or not there is dust or debris on the mirrors. Note. The Verification process does NOT re-calibrate the M500.



Calibration Card

The cleaning card is designed to clean the internal rollers and the Magnetic Read Head inside the M500. The need for cleaning varies, but is primarily dependent on the usage or the number of card scans. The general guideline is for cleaning once a month for high usage and once every three months for low usage environments. This process is very simple to perform as it is an automatic process once the cleaning card is inserted into the M500.



Directions :

1. Remove the cleaning card from the pouch.
2. Insert cleaning card into the feed path.
3. M500 automatically starts cleaning process.
4. Wait until the card is completely ejected.
5. Remove and properly dispose of the used card.

 <p>EN WARNING This product is saturated with EnVanish™ Electronic Cleaner 01 (Isopropanol - 1.20g). CAT: Electronic Cleaner, VOC STD: 75%. Made in the U.S.A. Causes serious eye irritation. Wash hands thoroughly after handling. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.</p> <p>IRRITANT</p>	<p>FR: AVERTISSEMENT Ce produit est saturé d'une Nettoyant électronique 01 EnVanish™ (Isopropanol - 1.20g). Provoque une sévère irritation des yeux. Se laver les mains soigneusement après manipulation. IEN CAS DE CONTACT AVEC LES YEUX: rincer avec précaution à l'eau pendant plusieurs minutes. Enlever les lentilles de contact si la victime en porte et si elles peuvent être facilement enlevées. Continuer à rincer. Si l'irritation oculaire persiste: consulter un médecin.</p>	<p>ES: ADVERTENCIA Este producto está saturado en Limpiador Electrónico 01 EnVanish™ (Isopropanol - 1.20g). Causa irritación ocular severa. Lavarse las manos después de tocarlo. SI ENTRA EN CONTACTO CON LOS OJOS: Enjuagarse bien con agua durante varios minutos. Quitarse las lentes de contacto, si tiene y puede hacerlo fácilmente. Continuar enjuagando. Si la irritación ocular persiste: procurar atención médica.</p>
<p>PT: AVISO Este produto está saturado com EnVanish™ limpador de eletrônicos 01 (Isopropanol - 1.20g). Provoca irritação ocular grave. Lave as mãos após o manuseio. SE O PRODUTO ENTRAR EM CONTATO COM OS OLHOS: Lavar cuidadosamente com água durante vários minutos. Remova lentes de contato, se presentes e for fácil de remover. Continuar a lavagem. Caso a irritação ocular persista: consulte um médico.</p>		
<p>Manufactured by KICTeam, Inc. • 1130 Minot Avenue • Auburn, ME 04210 • 1+ (207) 514-7030</p>		

Alternatively, you can purchase a 3rd party cleaning card. We have tested and recommend the KICTeam Waffletechnology Cleaning card, available on Amazon [here](#).

https://www.amazon.com/gp/product/B007X3S5O0/ref=ppx_yo_dt_b_search_asin_title?ie=UTF8&psc=1&pldnSite=1



AIR CLEANING

Even though the M500 is basically a sealed unit, dust and debris can, over time, accumulate inside the scan path, and in particular on the mirrors inside the unit. The detection process should be performed in a periodic basis to assess if dust has degraded the image quality. Every 10000 to 20000 cards scanned, the mirror inside the M500 will need to be checked for dust and cleaned.

The Detection and Cleaning process for the M500 mirrors requires the following items:

1. Calibration Card, this card is designed and made by E-Seek, Item # M500-CALIB.
2. M500 path Air Diverter, a plastic part made to block the scan path and divide the air flow, Item # M500-AIRDV.



Air Diverter

3. Air Duster, aerosol can of compressed air. The preferred air duster is designed to leave no residue with a high filtration. The non-flammable model of the product is preferred. The following Brand has been used and tested by E-Seek. Chemtronics Ultrajet 70.

<https://www.chemtronics.com/p-844-ultrajet-70.aspx>

There are three parts to maintain the M500:

Verification (Step 1-2)

Cleaning (Step 3-5)

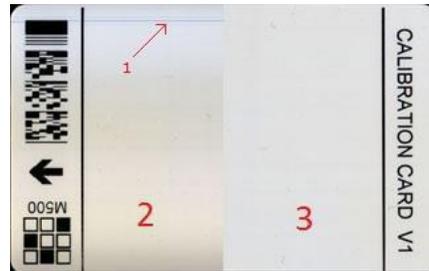
Calibration (Step 6-7)

Step 1: Insert the Calibration Card with the arrow facing outward (away from the M500).



Calibration card inserted with arrow facing outward

Step 2: Verifying that the dust/debris exists on the mirrors.



Calibration card Image from application

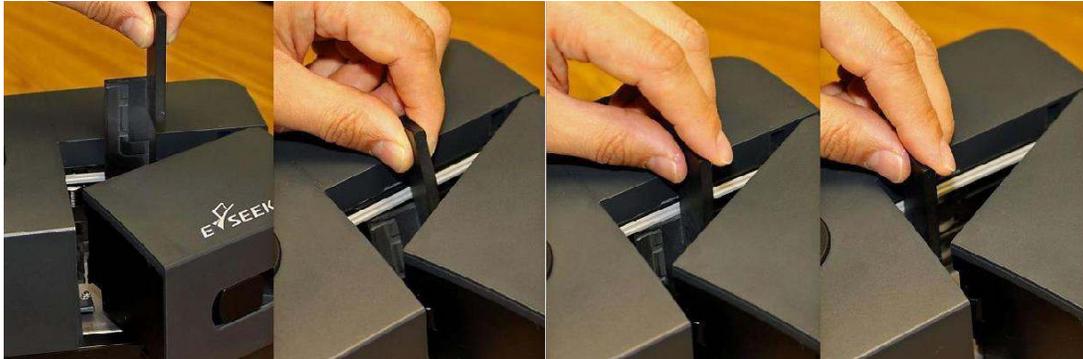


Note the horizontal dust lines at top of the card

If there is dust on the mirrors, you will see a dust line (as illustrated by the number 1 on the figure below) on the left section (number 2) of the image. The Left section (number 2) is the uncorrected side of the image and the Right Section

(number 3) is the corrected side of the image. This method helps to see the raw uncorrected image which allows the dust line to be visible. If such a line exists there is dust on the mirrors, and you should proceed to the Cleaning process, Step 3.

Step 3: Cleaning Process. Open the M500 side door and insert the Plastic Air Divider.



Air Divider Plastic insert

1. Insert the Air Divider down inside the M500 into the opening.
2. Position the Air Divider under the top spring loaded line (Grey Plastic).
3. Align the Air Divider to the M500 side wall.
4. Push the Air Divider completely into the M500 Scan path.

Step 4: Use of the Air Duster. Insert the pressurized Air Duster nozzle into the M500 scan opening.



Air Duster operation

Follow the operational directions on the Air Duster for use. Typically, you want to press the Air Release Valve in each of the 4 positions shown below for about 2 seconds each. Do not over use the duster in any position, if the duster gets too cold, wait for about 10 seconds and complete the cleaning operation.



DO NOT hold the Duster upside down.

Step 5: Remove the Plastic Air Divider and close the side door of the M500. Next REPEAT only Steps 1 & 2. If you see the Dust Line disappear in the uncorrected (Left Section of the Image), then proceed to Step 6. If the Dust Line is still present or has moved to a new location (only on the Left uncorrected image side), then go to Step 3.

Note: Once the dust is removed from the mirrors, you may see a new line on the Corrected section (Right Side) of the image. At this time ignore the Right side image.

Step 6: Calibration. At this point you need to calibrate the M500 without any dust present on the mirrors. This is a simple and mostly automatic process. Simply insert the Calibration Card into the M500 with the arrow FACING INWARD. The M500 will accept the card into the unit and goes through the calibration process automatically. Once the calibration is complete the Calibration Card will be ejected. This operation will store the Calibration Data within the M500.



*Calibration card inserted with arrow **facing inward***

Step 7: Completion. At this time, you can repeat only Steps 1 & 2 to verify your cleaning results. You should see the Left image with no dust and the Right image with a clean White even background.