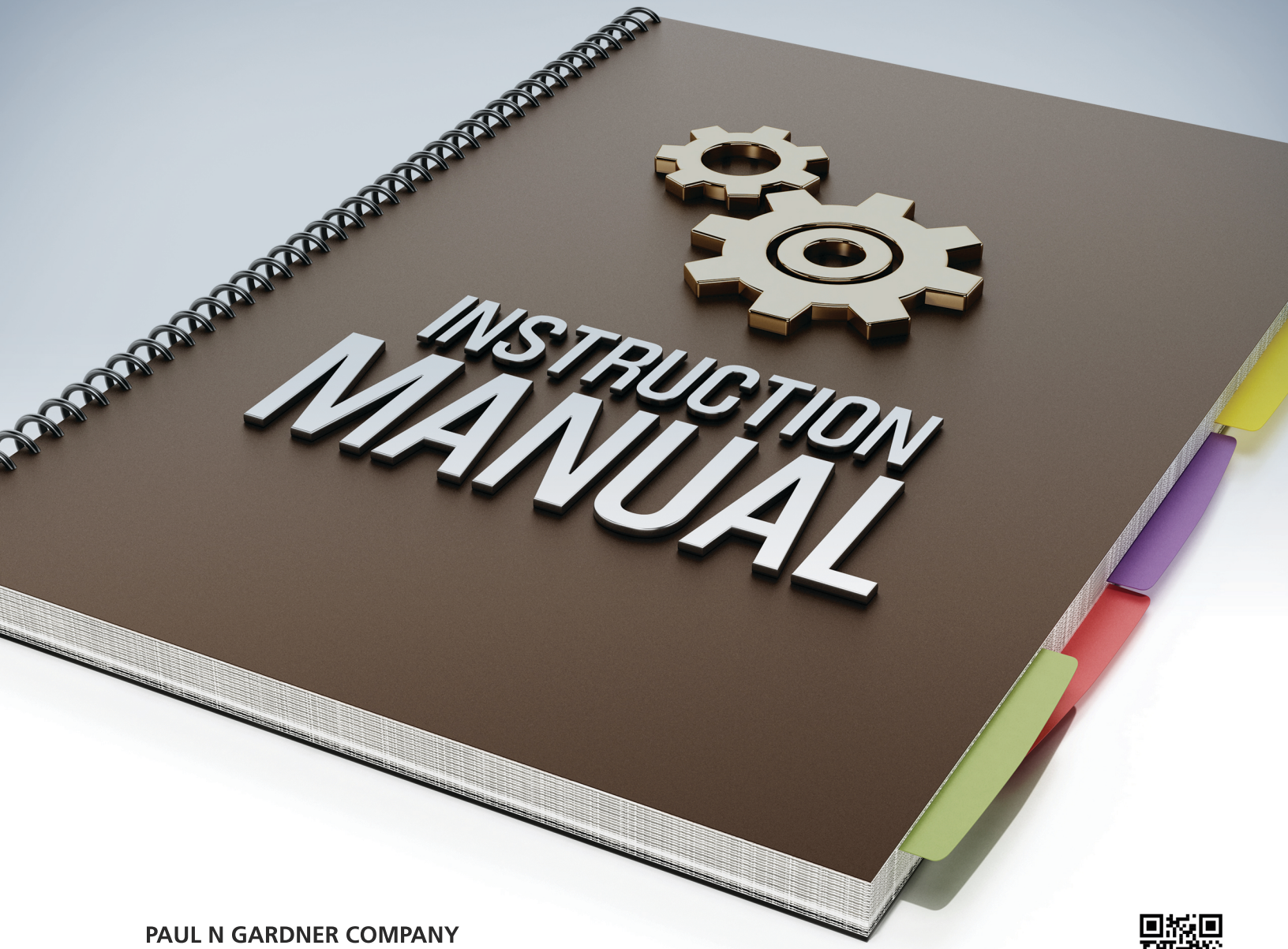

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INSTRUCTIONS

GARDCO DISTRIBUTED PRODUCTS

GARDCO®

A.T.A.®

Adhesion Testing Analyzer

United States Patent Number 9,841,369

OPERATOR'S MANUAL

SERIAL NUMBER_____
SALES REPRESENTATIVE_____
DATE OF DELIVERY_____
WARRANTY EXPIRATION DATE_____

A.T.A.® PACKING LIST

The following checked items have been included in your package. If any items are found to be missing, please notify us immediately.

CUSTOMER_____P.O.#_____

ADDRESS_____

CITY_____STATE/COUNTRY_____ZIP_____

_____ GENUINE APPLE IPOD® TOUCH --- SERIAL NUMBER_____

_____ CUSTOM A.T.A.® STAND --- SERIAL NUMBER_____

_____ BATTERY (9 V) FOR A.T.A.® STAND

_____ POWER BANK EXTERNAL BATTERY FOR MOBILE IPOD® CHARGING

_____ AC TO DC DUAL USB ADAPTER (BLACK) AND LIGHTNING CABLE (WHITE)

_____ CARRYING CASE

_____ _____

_____ _____

TABLE OF CONTENTS

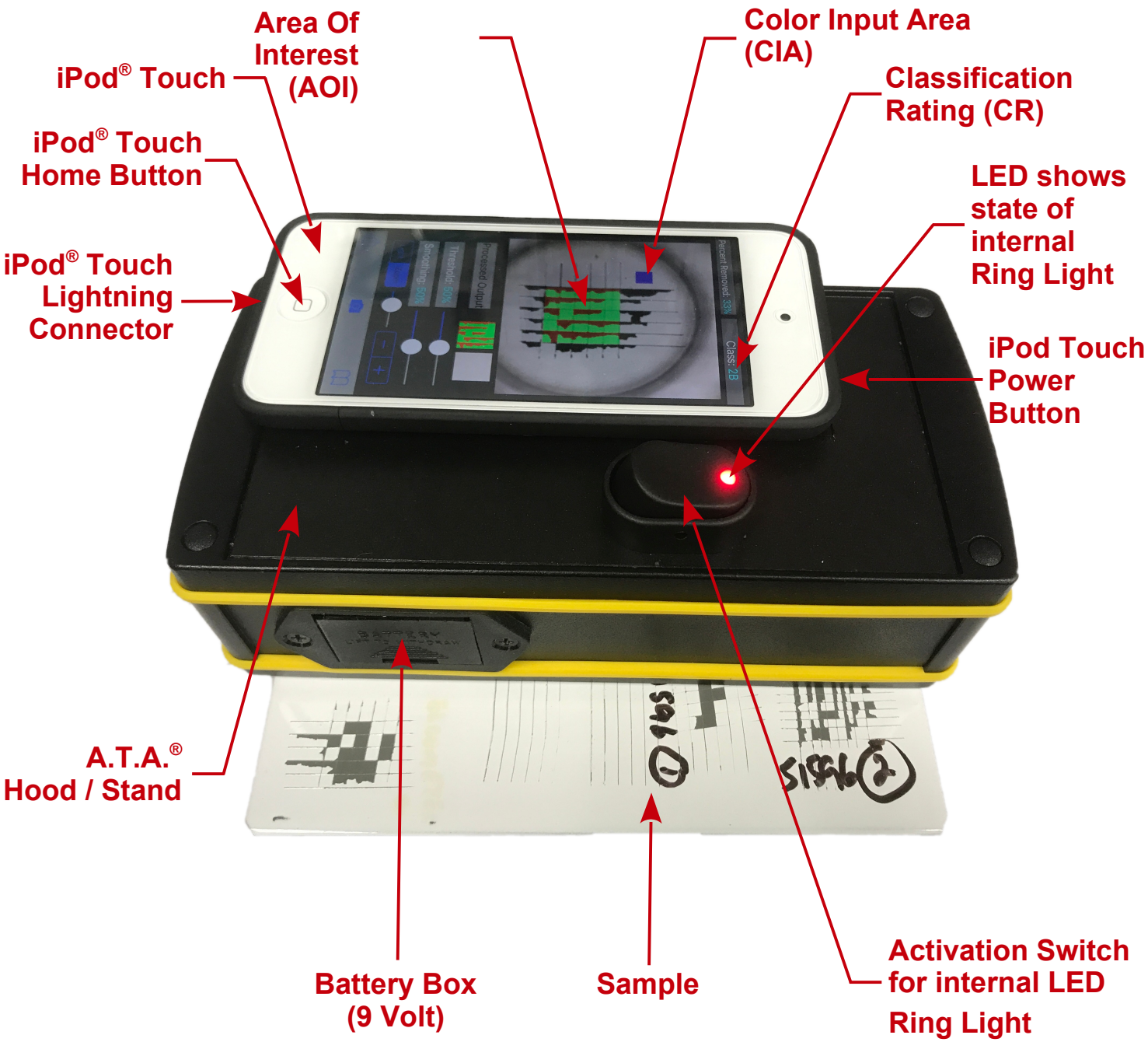
INSTRUMENT DESCRIPTION

The **A.T.A.®** (**A**dhesion **T**esting **A**nalyzer) system was developed to greatly improve the results obtained from various adhesion testing methods. As the product evolved, it was determined that a smartphone application alone was not accurate enough to produce repeatable results. For this reason, the custom **A.T.A.®** Hood / Stand is included. This Hood eliminates fluctuations due to ambient environmental lighting, prevents inaccuracies due to foreshortening, preserves iPod® battery life through the utilization of an external battery for lighting and allows for a well-defined working distance so that preset Areas of Interest can be incorporated with minimal user adjustment required. The resulting product was so innovative that it was granted United States Patent #9,841,369 on December 12, 2017.

For users of cross-hatch adhesion testing methods, including **ASTM D3359:** Standard Test Methods for Rating Adhesion by Tape Test and **ISO 2409:** Paints and Varnishes – Cross-cut Test, this system will accurately quantify the percentage of paint removed to the nearest 1% and display the Classification Rating of the coating automatically. This vastly improves the repeatability of these standards by removing the operator error involved in estimating the amount of paint removed. There are many reporting fields that can be tied to a specific test as well, such as type of coating, method of cure, type of blade, adhesion strength of tape (if known), tape manufacturer / lot number, location of failure within the coating system, immersion conditions, etc. The software complies all of these report fields along with an image of the test site into a format that is then easily shared instantly with interested parties via email.

Taking these technological advances into consideration, we are confident that the **A.T.A.®** (**A**dhesion **T**esting **A**nalyzer) system will greatly improve the accuracy and repeatability of your adhesion testing results for years to come.

A.T.A.® FUNCTIONAL DIAGRAM



A.T.A.® OPERATION PROCEDURE

NOTE: Please follow the instructions outlined on the Quick Start Guide sheet that was included in your package before proceeding with the following steps! You must activate the iPod® Touch, download the application and enter your calibration code before you can use the system!

I. Pre-Analysis Preparation

A. Since the A.T.A.® System is designed to analyze the result of a pull-off or cross-hatch adhesion test, the test must be completed prior to utilizing the A.T.A.® System. Perform the adhesion test as outlined in the relevant standard (if applicable) and in accordance with the adhesion tester's manufacturer recommendations.

B. OPTIONAL: Carefully apply a A.T.A.® Mask (currently in development) to the test site by matching the end of the mask as close as possible to the border of the test site that you wish to analyze. Note that the other end of the mask has a curved geometry that matches the internal curvature of the cutout on the bottom of the A.T.A.® System for easy alignment.

C. Attempt to wake the iPod® Touch from sleep by pressing the iPod® Touch Home Button or Power Button. If the iPod® Touch is unresponsive, press and hold the iPod® Touch Power Switch to turn it on. If the iPod® Touch displays a low battery indicator, charge the iPod® using the white Lightning Cable, black AC to DC Dual USB adapter and a 120 VAC power source. Alternatively, you may charge the iPod® using the Power Bank External Battery (included with your package) and white lightning cable by pressing the button on the Power Bank once the cable connections have been made.

NOTE: You may continue to use the iPod Touch and A.T.A.® App while the iPod® Touch is charging!

D. Check to make sure that a 9 volt battery is installed in the Battery Box with special attention paid to the polarity illustrated within the box itself. Once the battery is installed, activate the rocker switch on the top of the A.T.A.® Hood / Stand and observe the red LED to verify that the battery has sufficient power for lighting the sample. If the LED does not light, replace the battery.

NOTE: The 9 volt battery supplies power to the internal LED Ring Light. Improper installation of the 9 volt battery with reversed polarity could damage the LEDs, requiring servicing of the system at the owner's expense.

E. Press the iPod® Touch Home Button and enter your passcode (if applicable) to unlock the device.

F. Locate the A.T.A.® App Icon  on the iPod® Touch display and touch it to start the App.

A.T.A.® OPERATION PROCEDURE (cont')

II. Using the A.T.A.® App

A. Upon starting the A.T.A.® App, you will need to set the blade type that you are using so that the green Area of Interest (AIO) is sized appropriately. To accomplish this, press the blue icon in the lower left hand side of the A.T.A.® App display that resembles a square with an arrow pointing up. This will bring up a menu that will allow you to set your blade size from a list of many different available options. When your blade size is properly displayed, press the blue 'A.T.A.' label in the top left hand side of the screen to return to the primary A.T.A.® App window.

B. Lift and position the A.T.A.® Hood / Stand over your test site and rest it on the surface. If you are using an A.T.A.® Mask, it will assist you in alignment but may require slight rotation of the A.T.A.® Hood / Stand for perfect alignment between your test site and the green Area of Interest (AIO) in the central active area of the A.T.A.® App. If you are not using an A.T.A.® Mask you will need to manually adjust and rotate the A.T.A.® Hood / Stand until your test site is perfectly aligned with the green AIO.

C. Touch the blue Color Input Area (CIA) square in the central, circular active area of the A.T.A.® App and then release it. Touch it again and drag your finger to an unblemished area of the test surface to set the color of the coating being tested.

> **NOTE:** Do not place the **blue** CIA in an area that is blemished or that overlaps the green AIO! If you do, your results will not be accurate!

D. The percentage of coating removed is automatically calculated and displayed on the screen with the corresponding Classification Rating.

E. Touch the blue camera icon at the bottom center of the screen to take a screenshot of the analysis. A dialog box will appear, providing an opportunity to assign a descriptive name to the result. You may save the screenshot as is, or you may press 'Add Detail' to specify other testing parameters pertinent to the test. Some reporting fields are automatically generated and cannot be changed, such as Timestamp, Percent Removed, ISO / ASTM Class, and Blade Type. Other reporting fields can be changed by pressing the associated label and manually entering the details to include:

- **i.** Test Name change
- **ii.** Failure Mode or Location
- **iii.** General Notes
- **iv.** Substrate Type
- **v.** Coating Type
- **vi.** Cure Method
- **vii.** Immersion Conditions
- **viii.** Tape Details

A.T.A.® OPERATION PROCEDURE (cont')

F. If desired, you may immediately transmit or share the results of the analysis by pressing the blue 'Share Results' button at the bottom of the Test Details page. Alternatively, you may simply press the blue 'A.T.A.' label in the top left hand side of the screen to save the details you've entered and to return to the primary A.T.A.® App window to prepare for another test.

NOTE: You will encounter an error message if you attempt to share the test results via email but have not properly entered your email account credentials via the Mail App. Touch the Mail App icon on the bottom of the iPod Touch screen to get started.

F. To analyze another adhesion test, return to Step II. A. above.

III. Post-Analysis Review and Sharing Options

A. It is possible to share the results of your adhesion testing analysis with colleagues electronically. To do so, touch the A.T.A.® App Icon on the iPod® Touch display if it not already running and then touch the blue open book icon in the lower right hand side of the A.T.A.® App display. A list of all of the saved analyses will be shown.

B. Touch the line that corresponds to the analysis that you would like to share to bring up the relevant data. Some reporting fields are automatically generated and cannot be changed, such as Timestamp, Percent Removed, ISO / ASTM Class, and Blade Type. Other reporting fields can be changed by pressing the associated label and manually entering the details.

C. If you wish, you may delete previously saved tests by pushing the blue 'Edit' button in the top right hand side of the iPod® Touch display and the pushing the red '-' button that is adjacent to the test you would like to delete.

NOTE: Deleted tests cannot be recovered, so delete with caution!

D. Press the blue 'Share Results' button at the bottom of the Test Details page to bring up a list of ways that the test data can be transmitted or shared with colleagues.

NOTE: You will encounter an error message if you attempt to share the test results via email but have not properly entered your email account credentials via the Mail App. Touch the Mail App icon on the bottom of the iPod® Touch screen to get started.

A.T.A.® OPERATION PROCEDURE (cont')

IV. Close-out Procedure

A. Turn off the internal LED Ring Light by placing the Rocker Switch in the 'off' position. The red LED indicator will no longer be lit.

B. Press and hold the iPod® Touch Power Switch until the display darkens to turn off the iPod® Touch to conserve battery life.

NOTE: You may wish to take this opportunity to connect the Lightning Connector from the iPod® Touch to the black AC to DC Dual USB Adapter and a 120 VAC Power Source or to the Power Bank External Battery to ensure that the iPod® Touch has sufficient battery life for your next set of tests.

FREQUENTLY ASKED QUESTIONS (FAQ)

Q: Do I really need to use the A.T.A.® Masks (currently in development)?

A: No, but aligning the test site with the green Area of Interest (AIO) is much easier when the masks are employed. When the masks are used properly, the majority of the alignment is complete. All that is required of the user is a bit of rotation to ensure perfect alignment. If the masks are not used, good alignment can still be achieved but it will take more time and adjustment.

Q: How accurate is the A.T.A.® System?

A: The A.T.A.® System can calculate the percentage of coating removed to the nearest 1%. To verify the accuracy of your A.T.A.® System, consider sending it in for certification (currently in development).

Q: What is the certification process of the A.T.A.® System?

A: Using a set of internally-developed certification standards of known areas, your system can be operated and adjusted to match the areas defined by the standards. A certification is then provided to you showing the standard and your system's resulting analysis. This process is currently being tested and may not be immediately available.

Q: How often should my A.T.A.® System be certified?

A: It is recommended that the A.T.A.® System be certified every 12 months. For infrequent users (i.e., users that only use the unit occasionally) it can be longer.

Q: How can I extend the battery life of my iPod® Touch?

A: There are several ways you can extend the battery life. First of all, you can activate Airplane Mode on the iPod® Touch to limit outside communication. To do so, unlock the iPod® Touch and swipe up from off of the screen. Touch the Airplane Icon, changing it to blue to activate Airplane Mode. Prior to sharing your analysis results you will need to turn Airplane Mode off by swiping up from off of the screen and deactivating Airplane Mode.

Other apps running in the background can decrease battery life as well. To see which other apps are running, unlock the iPod® Touch and double press the Home Button. A series of windows will appear with each window displaying a different app currently running on the device. Touch within one of these windows and swipe up to kill the app.

WARRANTY / SERVICE

Please note that issues relating to the iPod® Touch must be handled through Apple. For more information about iPod® service, please visit: https://support.apple.com/ipod/repair/service.

The manufacturer warrants that each new A.T.A.® Adhesion Testing Analyzer manufactured or sold is free from defects in materials and workmanship under normal use and service. This applies to the A.T.A.® Hood / Stand specifically and related components and is effective for one year after purchase.

Liability under this warranty is limited to servicing or adjusting any unit returned (prepaid) to the factory for that purpose, and replacing any defective parts thereof. This warranty does not apply to any unit that has been subject to neglect, accident, misuse, improper operation, **or in any way has been altered or repaired by persons other than those authorized by the manufacturer**. Proper serial number tracking is required to take advantage of our warranty service as well.

For WARRANTY service, please include the P.O. Number of the purchase (if applicable), the model and serial number of the warranted product and any specific repair instructions. Upon examination by the manufacturer, it will be repaired or replaced at the expense of the manufacturer. Shipping to the factory must be prepaid. Return shipping to the United States or Canada will be paid by the manufacturer.

For NON-WARRANTY repairs, contact the service center for a repair estimate (301) 975-9798. Please have available the P.O. Number to cover repair costs, the model and serial number of the product and any specific repair instructions or requests. Shipping costs for non-warranty repairs are the responsibility of the customer.

Return any unit needing repair to:

Paul N Gardner Company
9104 Guilford Road, Suite H
Columbia, MD 21046

This warranty is in lieu of all other warranties, expressed or implied, and no one is authorized to assume any liability on behalf of the manufacturer, or impose any obligation upon it in connection with the sale of any instrument or supplies, other than stated above.

Appendix B