**ABBOTT ADD**

# TECHNICAL SERVICE BULLETIN

SUBJECT:
**TDx® Analyzer Revision 16.0 Software Upgrade**

TSB#: **09-040**

ORIGINATOR: **Kyle Hranitzky**
APPROVED: **Bob Schabel (04/16/98)**

PRODUCT:
**TDx® (09)**

REF. ECN: **12744-100**



| IMPLEMENTATION: | TSB Part/Kit #: **LN 06D92-01** | Upgrade Time: **0.5 hours** |
|---|---|---|
| ○ Immediate<br>○ Next Service Call<br>○ Next Failure<br>● Optional | TSB Effectivity/<br>Part(s) Availability: **01-MAY-98** | Validation Time: **2.5 hours** |
| Instruments Requiring Modification:<br>**See Administrative Notes** | **TSB Tracking by Serial # required (IMMEDIATE TSB's ONLY)**<br>○ YES<br>● NO | Total Mod. Time: **3.0 hours**<br>****NOTE** The instrument must be at TSB Level n/a prior to performing this TSB.** |

## I. DISTRIBUTION:

Worldwide

## II. PURPOSE:

The purpose of this TSB is to:

- provide an overview of the new features introduced in Revision 16.0 software
- instruct the field on how to install Revision 16.0 software.

## III. ADMINISTRATIVE NOTES:

- This TSB is applicable to all TDx instruments.
- This modification will need to be performed on all instruments. It has an effectivity of OPTIONAL.
- After the worldwide upgrade for all TDx Analyzers is complete, support of the TDx System Software prior to Revision 16.0 will be discontinued.
- This software upgrade must be performed prior to January 1, 2000, in order for the TDx Analyzer to run in the year 2000 and beyond.

**U.S.A.:** This software revision will be distributed through the RZZ system. The software will be mailed directly to the Customer. If an FSR installs the software, he/she should follow the installation instructions in this TSB.

**International:** This software will be distributed through the order entry system. Each country should send forecast requirements to its respective logistics organization. Please reference LN 06D92-01 in forecast requirements.

**CONTENTS OF THIS TSB**

**WHAT'S NEW IN REVISION 16.0?**

The major enhancements in Revision 16.0 software include:

- Sofware changes have been incorporated to allow assays to be run in the year 2000 and beyond.
- Deletion of unused assays.

**What's new in Revision 16.0? (cont)**

The following assays have been removed from the module:

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 19 | Dibekacin | 39 | Creatinine | 67 | Digoxin NXT | 77 | MAO Activity |
| 20 | Streptomycin | 41 | Iron/TIBC | 68 | Haloperidol | 80 | Norfluoxetine |
| 21 | Kanamycin | 42 | HDL Cholesterol | 69 | THC S | 82 | Amitriptyline |
| 28 | Fluoxetine | 45 | Amphet-classU | 70 | IgA | 83 | Nortriptyline |
| 34 | Glucose | 49 | Cotinine | 71 | IgG | 84 | Desipramine |
| 35 | BUN | 52 | Norclomipramine | 72 | IgM | 85 | Imipramine |
| 36 | Cholesterol | 54 | 5-HIAA | 73 | Transferrin | 86 | Cy A (P/S) |
| 38 | Amylase | 55 | Clomipramine | 74 | Total Doxepins | | |

Assay Parameter update.

- The MN POLA (XX.16) and MN SPAN (XX.17) parameters were adjusted where appropriate.
- Deletion of System 5.2 Activation Code feature.
- The System 5.2 Activation Code feature has been disabled for batch assays due to reagent improvements. System 5.2 activations will no longer be required. After TDx® System Software Revision 16.0 has been installed, all previous activation letters are not applicable unless the activation letter specifies TDx® Revision 16.0.
- RS-232 Interface Information.
- Changes to the software, including those made to accommodate the year 2000, will not impact interface software.

## IV. SPECIAL TOOLS:

None.

## V. PARTS:

| | | |
|---|---|---|
| TDx Revision 16.0 Software Enhancement Kit | L/N 06D92-01 | |
| All information in the kit is multilingual. | | |
| The Enhancement Kit contains: | | |
| TDx System Software Module Revision 16.0 | P/N 31500-132 | |
| Product Information Letter Co-Nr 66-9929/R1 | | |
| TDx System Installation Instructions for Software Revision 16.0 | C0-Nr | 66-9930/R1 |
| TDx Revision 16.0 Software Enhancement Features | C0-Nr | 66-9931/R1 |
| Software Shipping Carton | | |
| Software Module Return Form | | |

### REPLACED PARTS:

n/a

### COMPATIBILITY:

n/a

## VI. PROCEDURE:

**INSTALLING THE REVISION 16.0 SOFTWARE**

Time: 3 hours

**CAUTION:** It is extremely important to perform these procedures in the order given.

1. Perform a Photo Check (Test 2.2).
2. Perform a Pipet Check (Test 2.3).
3. Print the System 2, 3, 6, 7, and 9 parameters and label as “ORIGINAL.”
4. Print assay parameters for all assays calibrated on the TDx Analyzer and label as “ORIGINAL.”
5. Turn off the power to the TDx Analyzer.
6. Unplug the AC power cord from the wall outlet.
7. Remove the rear panel by removing the RS232 cable, if applicable, and the rear-panel retaining screws
8. Remove the Printed Circuit Board (PCB) from slot #2.
9. Remove the software memory module that is attached to PCB #2.
10. Install the Revision 16.0 Software memory module on PCB #2.
11. Reinstall PCB #2 (with the new memory module attached) into slot #2.
12. Reinstall the rear panel. Reinstall the RS232 cable, if applicable.
13. Plug in the power cord.
14. Turn on the analyzer.
15. Enter the current date.
16. Enter the correct military (24-hour) time.
17. Perform Factory Set. Press: **TEST 6.2 RUN** (Password: 247)
18. Edit System 2, 3, 6, 7, and 9 parameters to match the parameter printouts marked “ORIGINAL.”

**Procedure (cont)**

19. Print a copy of System 2, 3, 6, 7, and 9 parameters.
    a. Label this printout “NEW.”
    b. Compare this “NEW” printout to the “ORIGINAL” printout obtained in step 3 to verify that the new values were entered correctly.
    c. If the value was not entered correctly, enter the correct value.
    d. Retain the “NEW” printout for the customer for future reference.
20. Using the assay parameters marked “ORIGINAL” obtained in step 4, with the exception of MN POLA (XX.16) and MN SPAN (XX.17), edit the parameters to “ORIGINAL” parameter values.
    [The MN POLA (XX.16) and MN SPAN (XX.17) parameters have been updated for many assays. After the TDx System Revision 16.0 software has been installed, all previous MN POLA and MN SPAN values are not applicable. **DO NOT** edit the MN POLA or MN SPAN parameters to their original values unless the activation letter specifies TDx System Revision 16.0.]
21. Perform a Photo Check (Test 2.2).
22. Perform a Pipet Check (Test 2.3).
23. Press: **ASSAY 88.21 DISPLAY**
    If a MN TR value less than 10,000 but greater than 0 is displayed, the Pipet Check was successful. If the display shows [MN TR 0], repeat the Pipet Check.
24. Run all levels of controls for all calibrated assays on the instrument.
25. Mark off TSB 40 on the Modification Control Sticker.
26. Update the Revision Log of the TDx System Operation Manual for each analyzer installed with Revision 16.0 Software. Also indicate that Product Information #66-9929/R1 was retained in the front pocket of the manual.
27. Complete the software module return form.
28. Return the old memory module to Abbott Laboratories in the postage-prepaid shipping carton provided.

MODIFICATION STEPS:
See Procedure above

CHECKOUT:
See Procedure above

MODIFICATION CONTROL STICKER UPDATE:
See Procedure above

END OF DOCUMENT

| ABBOTT ADD | **TECHNICAL SERVICE BULLETIN** |
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SUBJECT:
**TDx® Revision 15.1 Software**

TSB#: **09-039**

ORIGINATOR:
**Guy Cummings**

PRODUCT:
**TDx® (09)**

APPROVED: **Bob Schabel 12/Jan/94**

REF. ECN: **TDX 7212**

| IMPLEMENTATION: | TSB Part/Kit #: **N/A** | Upgrade Time: **1 Hrs.** |
|---|---|---|
| ☐ **Immediate**<br>☐ **Next Service Call**<br>☐ **Next Failure**<br>☒ **Optional** | TSB Effectivity/<br>Part(s) Availibility: **12-JAN-94** | Validation Time: **2 Hrs.**<br>Total Mod. Time: **3 Hrs.** |
| Instruments Requiring Modification:<br>**S/N 18522 & below** | | |

****NOTE** The instrument must be at TSB Level n/a prior to performing this TSB.**



## I. DISTRIBUTION:
Worldwide

## II. PURPOSE:
This is an information TSB which describes the parts and installation procedures required to upgrade the TDx® Analyzer with revision 15.1 software.

**Software Changes:**
New pipetting modes 42 and 43 to run the new Methotrexate II assay have been added. Methotrexate II is a 4 POT assay.
System 1.6, software revision, will now appear as "Rev X.X MM/DD/YY" to reflect the version date.
If upgrading from Rev 12.0/12.1 or lower, see TDX® TSB 09-035 for the new operation features of Rev 15.0 Software, e.g. diluent syringe stored down, pipe ck Rng I check, Turbo®/U.D. MTBF counter.

**Installation Misc.:**
U.S.: TMRs will upgrade the US Methotrexate customers starting in Dec 93. Any subsequent service requiring software will be performed by the FSR.
International: The individual country managers will determine how the software will be installed. Each country will be responsible for all costs associated with this product enhancement (i.e. material cost of software and installation labor).

## III. ADMINISTRATIVE NOTES:
N/A

## IV. SPECIAL TOOLS:
N/A

## V. PARTS:

| LN | Description | Contents |
|---|---|---|
| 9521-19 | TDx® Rev 15.1 Software Upgrade Kit | Rev 15.1 software module,<br>Operations Manual update,<br>15.1 Installation Guide,<br>Customer Letter, |

| | | |
|---|---|---|
| | | Activation Information |
| 9521-20 | Rev 15.1 Software Module | Rev 15.1 software module, installation information |
| 9520-59 | Rev 15.1 Interface Specification | |

U.S.: The software module, 9521-20, will be stocked in the remote depots.
International: International service locations should send their forecast/orders via the regular spare parts channels.

**Service Kit Impact**
The TDx® software module will be deleted from the TDx kit.

**Replaced Parts**
U.S.: Parts replaced as part of an upgrade should be coded as:

| Service Code | Trouble Code | Repair Code |
|---|---|---|
| 03 | 11 | 93 |

Return all parts with your regular return parts shipment.
International: Each country should send returned parts directly to Abbott - Irving. Parts for return should be marked "RETURNED TSB PART, TSB 09-039" to receive proper credit.

**Compatibility**
There are no known compatibility issues with Rev 15.1 software.

## VI. PROCEDURE:

1. Follow the attached installation instruction guide:
   **NOTE:** Be sure to perform TEST 3.7, 4 POT BOOM CAL.
   The RS232 port must be activated. Perform the following procedure after the upgrade for systems interfaced to DataTrac or an LIS.
   a. Press SYSTEM 6.1 EDIT.
   b. Enter the TDx serial number then press ENTER.
   c. Display reads "WRT PROTECT"
   d. Turn off system power switch. Wait 5 seconds. Turn on system power switch.
   e. Enter date and time.

**VII. MODIFICATION STICKER UPDATE:**

Ensure TSB Modification Sticker is updated to TSB 39.

**PLEASE REFERENCE INSTALLATION INSTRUCTIONS PREVIOUSLY SENT OUT WITH PAPER COPY OF THIS TSB. IF YOU HAVE QUESTIONS, CONTACT THE X-SYSTEMS CSE.**

END OF DOCUMENT

| ABBOTT ADD | **TECHNICAL SERVICE BULLETIN** |
|---|---|

SUBJECT:
**TDx® GROUNDING**

TSB#: **09-038A**

ORIGINATOR: **BUDDY BOKONY**
APPROVED: **William Johnston 7/1/94**

PRODUCT:
**TDx® (09)**

REF. ECN: **TDx-7161**



| IMPLEMENTATION: | TSB Part/Kit #: **3-47464-01** | Upgrade Time: **1.0 Hr.** |
|---|---|---|
| ● Immediate<br>○ Next Service Call<br>○ Next Failure<br>○ Optional | TSB Effectivity/<br>Part(s) Availibility: **JAN-94** | Validation Time: **2.0 Hr.** |
| Instruments Requiring Modification:<br>**SEE BELOW** | **TSB Tracking by Serial # required (IMMEDIATE TSB's ONLY)**<br>● YES<br>○ NO | Total Mod. Time: **3.0 Hr.**<br>****NOTE** The instrument must be at TSB Level n/a prior to performing this TSB.** |

→ **THE IMPLEMENTATION OF THIS TSB IS NOW IMMEDIATE.**

→ **THIS TSB MUST BE TRACKED BY SERIAL NUMBER BY AREAS OF THE WORLD**
→ **COMPLETION DATE IS DECEMBER 31, 1994.**
→ **INSTRUMENTS REQUIRING MODIFICATION:**
**S/N 5103-96; 12648, 12651, 12655, 12656, 12671 through 12682, 12877 and above.**
**S/N K00101 through K00630 manufactured in KOREA.**
**TDx® Systems Designated with -96 that have a polycarbonate (plastic) baseplate.**

Since **SEPTEMBER 1993** Re-manufactured TDx Systems from DALLAS have this **MODIFICATION INSTALLED**. If there is a ground strap attached to the Liquid Heater, the modification has been installed. Proceed to the "MODIFICATION CONTROL STICKER UPDATE" section and complete.

**I. DISTRIBUTION:**
**Worldwide**

**II. GENERAL:**

**A. Purpose:**
**To bring any TDx® instrument with a plastic baseplate into CSA compliance.**

**B. Administrative Notes:**

**UNITED STATES:** Ten ( 10) TDx® Grounding Kits ( P/N 3-47464-01 ) will be shipped to each Field Service Representative. A quantity of two ( 2 ) will be added to FSE-Kit-9.

**Tracking ( USA ):** The modification will be installed and closed in Fieldwatch as normal for all polycarbonate TDx Systems. A (-) dash should be placed over the 38 on the modification control sticker, to indicate the TSB does not apply to metal base TDx Systems found with either a --96 or within the serial number range. The Fieldwatch call should be closed with a hardware Rev. level of 38, but show no parts used. This is a deviation from the normal procedure explained in FSO -014 and a signed deviation is on file in the National Field Service Office.

**INTERNATIONAL:** International Service locations should order/ forecast TSB parts via their regular spare parts channels.

**C. Time Required:** 1 hour for modification installation, 2 hours for modification checkout.

**D. Tools required:** Standard FSE Tool Kit
Calibrated multimeter or equivalent for measuring resistance

**E. Parts: TDx GROUNDING KIT ( P/N 3-47464-01 )**

| Part Description | Part number/Catalog number | Quantity |
|---|---|---|
| HARNESS, GROUND STRAP #1 | 45205-102 | 1 |
| HARNESS, GROUND STRAP #2 | 45206-102 | 1 |
| HARNESS, GROUND STRAP #3 | 45327-101 | 1 |
| BAG A ( for Power Entry Assembly ) contains: | | |
| SCREW, Pan hd #6-32x .62 | 14489-161 | 1 |
| NUT, Hex #6-32, KEP | 31156-101 | 2 |
| BAG B ( for Liquid Heater and Top Rear Cover ) contains: | | |
| SCREW, PHP, #8-32x .38, Captv | 14494-206 | 2 |
| BAG C ( for PMT H.V. Power Supply and Optics ) contains: | | |
| SCREW, Pan hd, #6-32x .31, Captv | 14494-105 | 2 |
| BAG D ( for Air Duct Cover ) contains: | | |
| SCREW, Pan hd, #6-32x .50 | 10854-416 | 1 |
| WASHER, Internal tooth #6 | 10893-003 | 1 |
| NUT, Hex #6-32 | 14422-004 | 1 |
| NUT, Hex #6-32, KEP | 31156-101 | 1 |

**Parts: ASSOCIATIONS**

**HARNESS, GROUND STRAP #1**
Connects Power Entry Assembly ground to Liquid Heater, High Voltage Power Supply, FPIA Optics Assembly, and Air Duct Cover.

**HARNESS, GROUND STRAP #2**
Connects Power Entry Assembly ground to Card Cage Assembly and Top Rear Cover.

**HARNESS, GROUND STRAP #3**
Connects Power Entry Assembly ground to Pump Assembly Mounting Bracket and Buffer Platform.

→ **III. PROCEDURE:** ( **Print all System Files prior to performing this modification.** )

FOLLOWING ARE TWO ( 2 ) METHODS TO MODIFYING THE TDx SYSTEM. THEY ARE ELECTRICALLY EQUIVALENT BUT OFFER DIFFERENT INSTRUMENT DISASSEMBLY INSTRUCTIONS AND ALTERNATIVE TERMINAL LOCATIONS.

**FIELD SERVICE**

**STEP 1.** Turn the instrument OFF. Remove the power cord from the back of the instrument and the AC receptacle.

**STEP 2.** Remove and set aside the Buffer Cover, Front Panel, and Access Door.

**MANUFACTURING**

**STEP 1.** Turn the instrument OFF. Remove the power cord from the back of the instrument and the AC receptacle.

**STEP 2.** Remove and set aside the Buffer Cover, Front Panel, and Access Door.

**FIELD SERVICE** **MANUFACTURING**

**STEP 3.** Disconnect Printer connectors P9 and P10 from the Motherboard. Remove the Printer Tub from the Top Rear Cover.

**STEP 4.** Access the back of the instrument and remove the Rear Panel.

**STEP 5.** Remove the Left Hand Side Panel.

**STEP 3.** Disconnect Printer connectors P9 and P10 from the Motherboard. Remove the Printer Tub from the Top Rear Cover.

**STEP 4.** Access the back of the instrument and remove the Rear Panel.

**STEP 5.** Remove the Top Rear Cover and the Left Hand Side Panel.

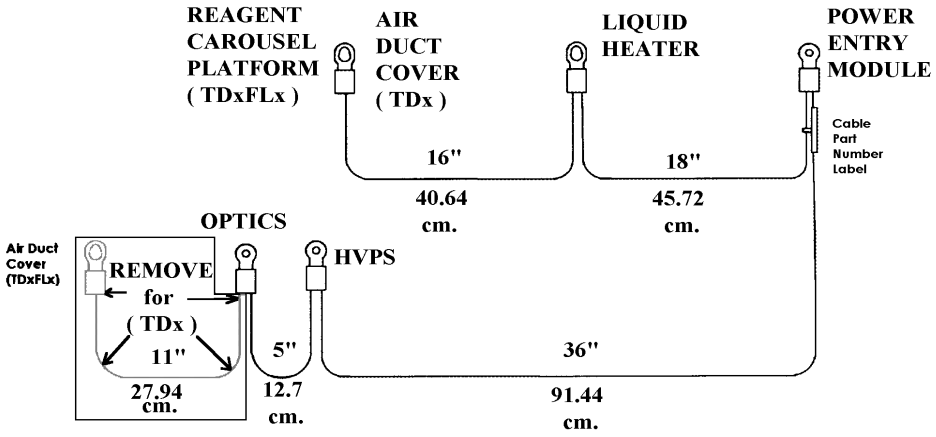
**This should allow access to all sub-assemblies inside the instrument.**

**STEP 6.** SKIP TO STEP 7

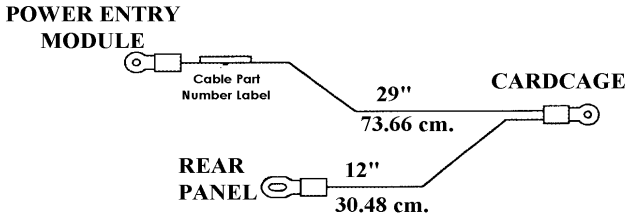
**STEP 6.** Remove the Optics and Boom assemblies from the instrument. Remove the Air Duct Cover from the instrument.

**BLANK**

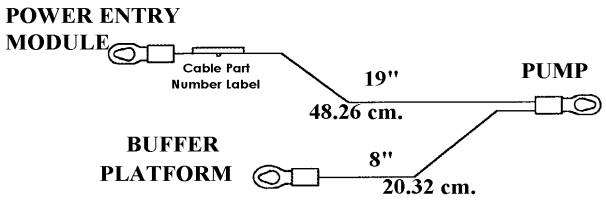
**STEP 7. HARNESS, GROUND STRAP #1 P/N 45205-102.** This harness is configured for the TDxFLx® System. To configure for TDx System; remove and discard the 11 inch (27.94 cm.) section. Identify and set aside the three ( 3 ) ground straps.




**HARNESS, GROUND STRAP # 1 P/N 45205-102**



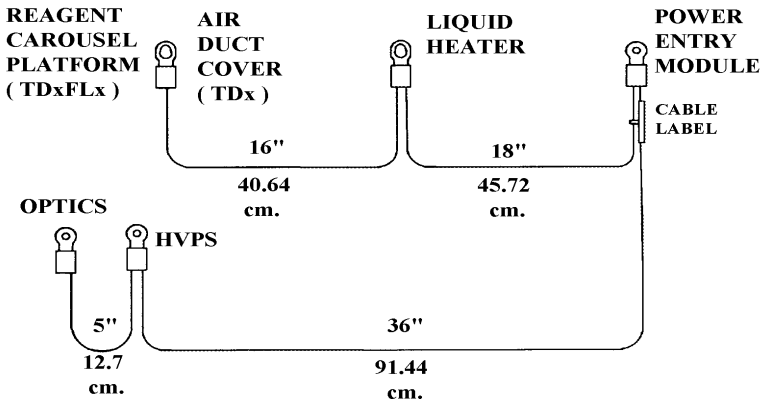

**HARNESS, GROUND STRAP #2 P/N 45206-102**




**HARNESS, GROUND STRAP # 3 P/N 45327-101**

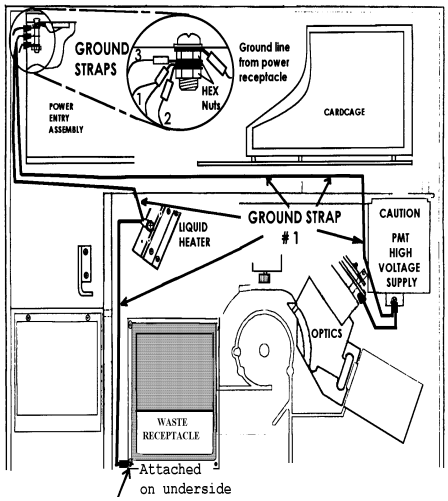
**STEP 8.** On the Power Entry Assembly, locate and remove the screw and nut that attaches the ground wire from the receptacle ground lug to the Power Entry Assembly. Install the screw from BAG A, attach the ground wire from the receptacle ground lug over the screw, and secure the ground wire using one of the nuts from BAG A.

**Tightly attach the three ( 3 ) ground harnesses, in order, to this grounding screw with the second nut from BAG A.**

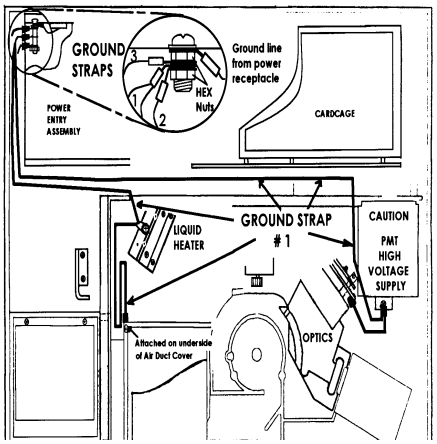



**HARNESS, GROUND STRAP # 1 P/N 45205-102**

**FIELD SERVICE**

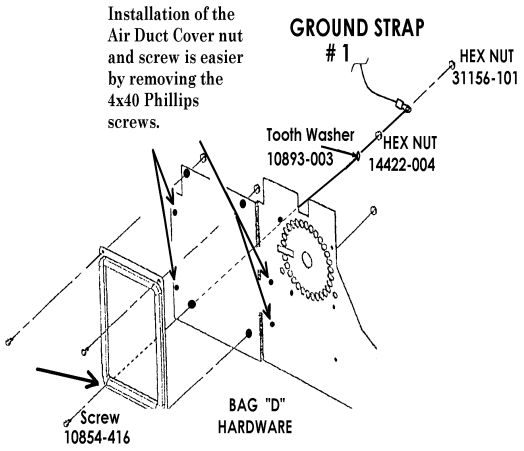



**MANUFACTURING**



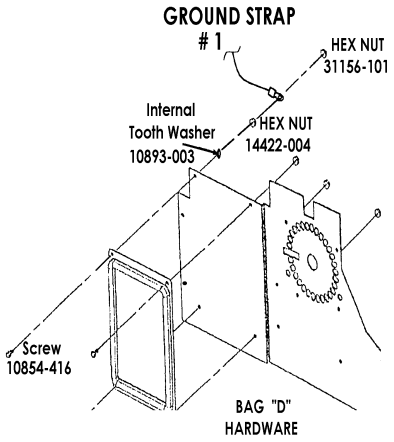
→ **FIELD SERVICE**

**STEP 10** (**NOTE:** Removing the 4x40 Phillips screws from the left side of the Air Duct Cover allows access without removing the Boom Assembly or the Optics Assembly.)
With the Air Duct Cover still installed in the instrument, remove the left front screw and nut that holds the Waste Receptacle to the Air Duct Cover. Install the screw from BAG D through the Air Duct Cover and attach the washer and the 14422-004 standard nut from BAG D on the underside of the Air Duct Cover. Tighten the nut so the washer "cuts" into the Air Duct Cover.
Attach the ground strap to the Air Duct Cover, as illustrated below, using the 31156-101 KEP Hex Nut from BAG D.



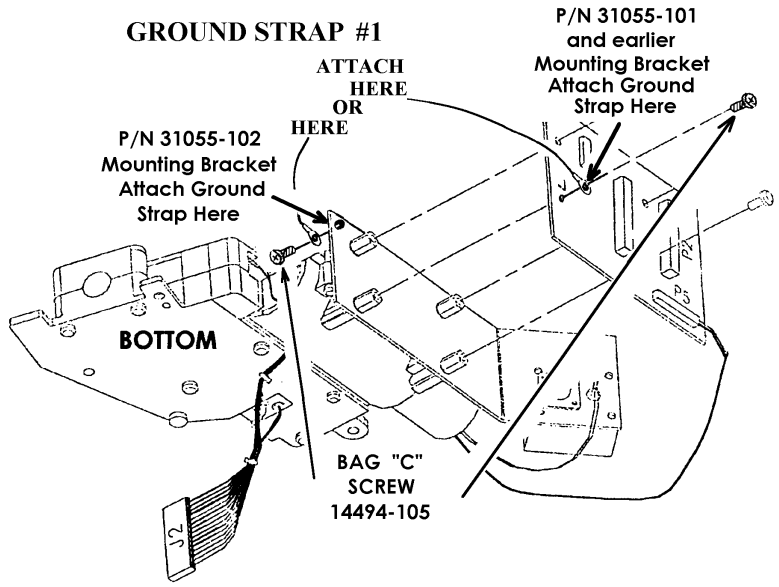

→ **MANUFACTURING**

**STEP 10** On the Air Duct Cover, remove the screw and nut located at the top left corner. This screw and nut are one of four that hold the Waste Tray Receptacle onto the Air Duct Cover. Install the screw from BAG D through the Air Duct Cover and attach the washer and the 14422-004 standard nut from BAG D on the underside of the Air Duct Cover. Tighten the nut so the washer "cuts" into the Air Duct Cover.
Attach the ground strap to the Air Duct Cover, as illustrated below, using the 31156-101 KEP Hex Nut from BAG D. Install the Air Duct Cover into the instrument.



**STEP 11** Referring to the illustration below, attach the ground strap, to the one (1) appropriate location on the Optics Assembly.

**STEP 11** Referring to the illustration below, attach the ground strap, to the one (1) appropriate location on the Optics Assembly. Install the Optics Assembly and the Boom Assembly into the instrument.




**STEP 12** **HARNESS GROUND STRAP #3.** Attach ground strap #3 to the back screw that secures the pump mounting bracket to the instrument base. Then route the ground strap under the Pump Assembly front cover and attach to the Buffer Platform.

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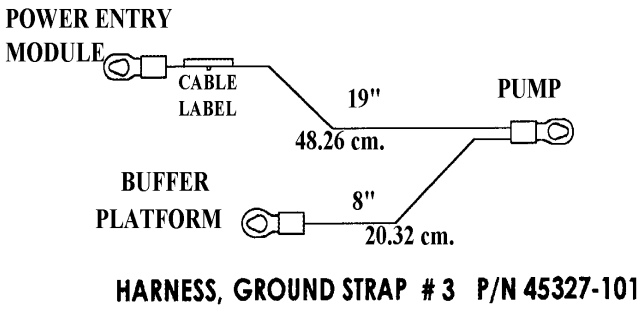


HARNESS, GROUND STRAP # 3 P/N 45327-101

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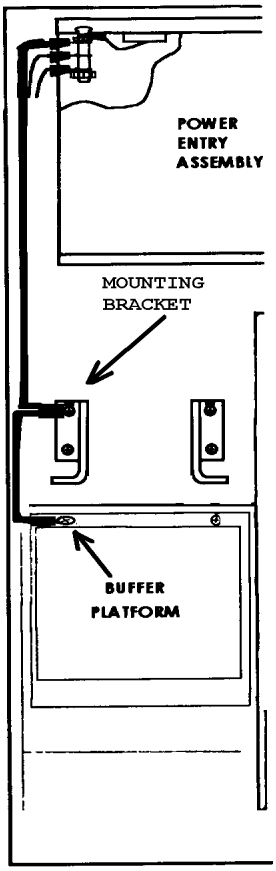
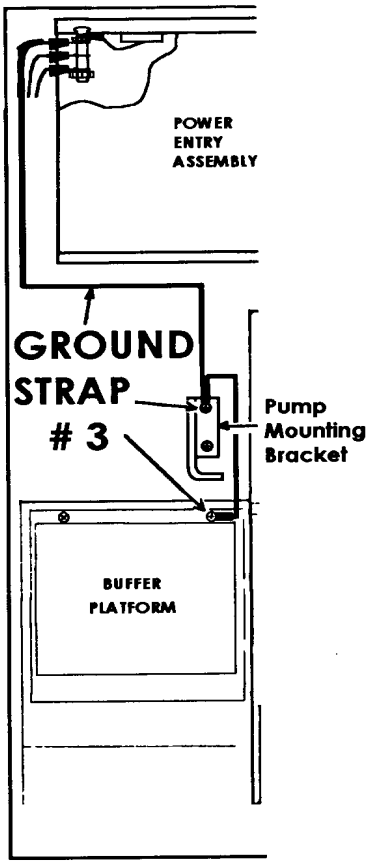
**FIELD SERVICE**




**MANUFACTURING**



**STEP 13** **HARNESS GROUND STRAP #2**. Remove the self-tapping screw from the top of the cardcage. Attach the ground strap #2 to the top of the cardcage using the self-tapping screw.

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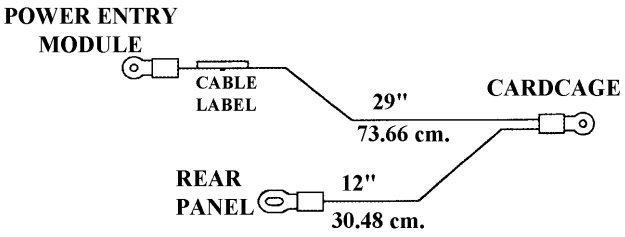
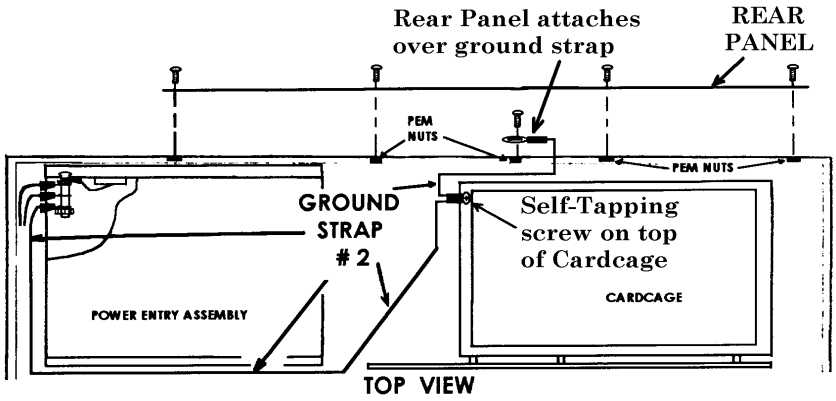
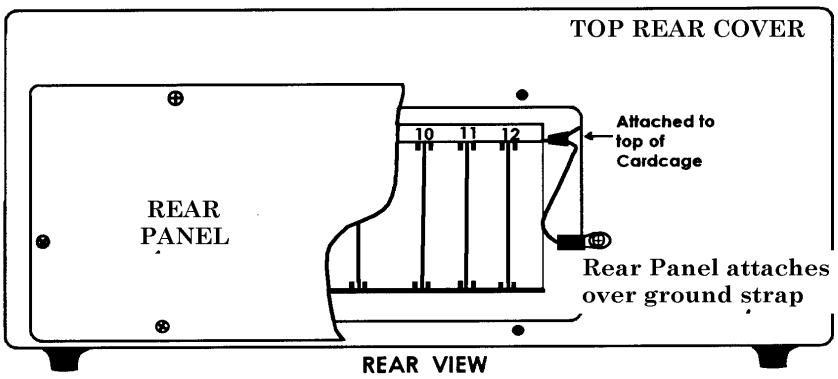



**HARNESS, GROUND STRAP #2 P/N 45206-102**

→



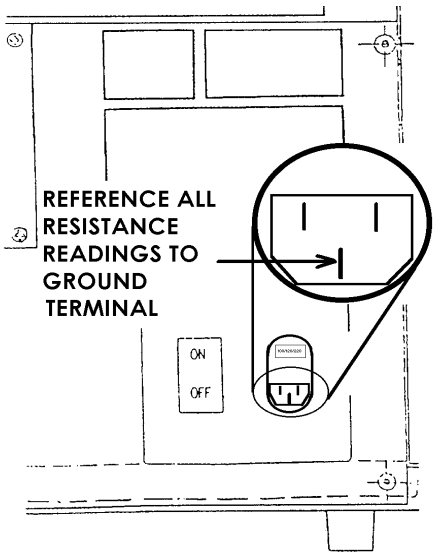
**STEP 14** Install the Left Side Panel and the Top Rear Cover. Plug P9 and P10 for the printer into their respective connectors on the Motherboard PCB.
Using the 14494-206 screw from BAG B attach Ground Strap #2 to the outside of the Top Rear Cover as shown.

## IV. Validation Procedure:

Tool Required: Calibrated multimeter or equivalent for measuring resistance.
Resistance readings of less than one ( 1 ) ohm is expected. **Resistance <1Ω**

**STEP 1.** Short the meter leads together and zero the meter or record the resistance of the meter's leads. This meter lead resistance is to be subtracted from each resistance reading measured on the instrument.

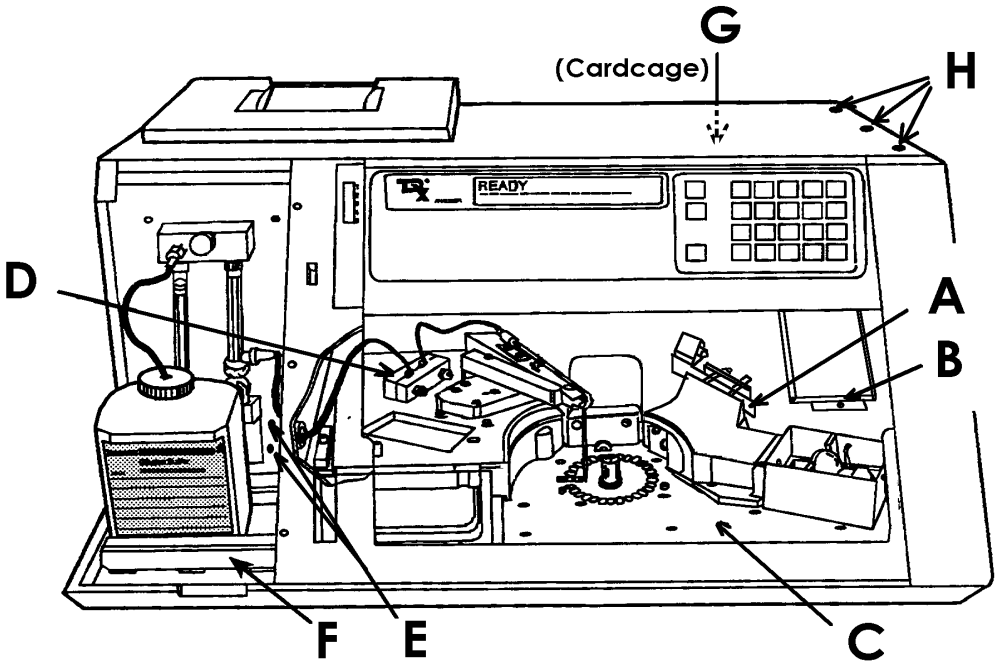
**STEP 2. All resistance readings are to be referenced to the ground terminal of the Power Entry Assembly.**




A resistance measurement greater than one ( 1 ) ohm requires the service representative to tighten the terminals on the ground strap and the Power Entry Assembly.

**STEP 3.** Measure the resistance between the ground terminal on the power receptacle and the following locations:

A Optics PCB mounting bracket....
B PMT High Voltage Supply retaining screw
C Air Duct Cover (**NOTE:** The Air Duct Cover has an anodized coating. Scratch through this anodized layer to make the resistance measurement.)
D Liquid Heater
E Pump Assembly mounting screw
F Buffer Platform
G Cardcage
H Instrument covers




→ **STEP 4.** Assemble the instrument, installing the Rear Panel over the ground strap attached to the Top Rear Cover. The Rear Panel will slightly flex outward over the terminal.

→ Perform a Total Service Call.

→ A rise in Photo Check intensities may occur. If intensities are out of specifications, a Photo Calibration may be required.

**MODIFICATION CONTROL STICKER UPDATE**

When the modification is completed, mark through box #38 on the Modification Control Sticker. The Service Order should be completed as "TSB 09-038A COMPLETED".

**UNITED STATES:** Close the service call in Fieldwatch accordingly;

**Service Code ( 03 )**
**Trouble Code ( 38 )**
**Repair Code ( 93 )**

**INTERNATIONAL:** Close the call according to your country's procedure.

END OF DOCUMENT

| ABBOTT ADD | **TECHNICAL SERVICE BULLETIN** |
|---|---|

SUBJECT:
**Lamp Socket Assembly**

TSB#: **09-037B**

ORIGINATOR:
**Ron Elston**

PRODUCT:
**TDx® (09)**

APPROVED: **Bob Schabel 8/3/93**

REF. ECN: **TDx-6835**

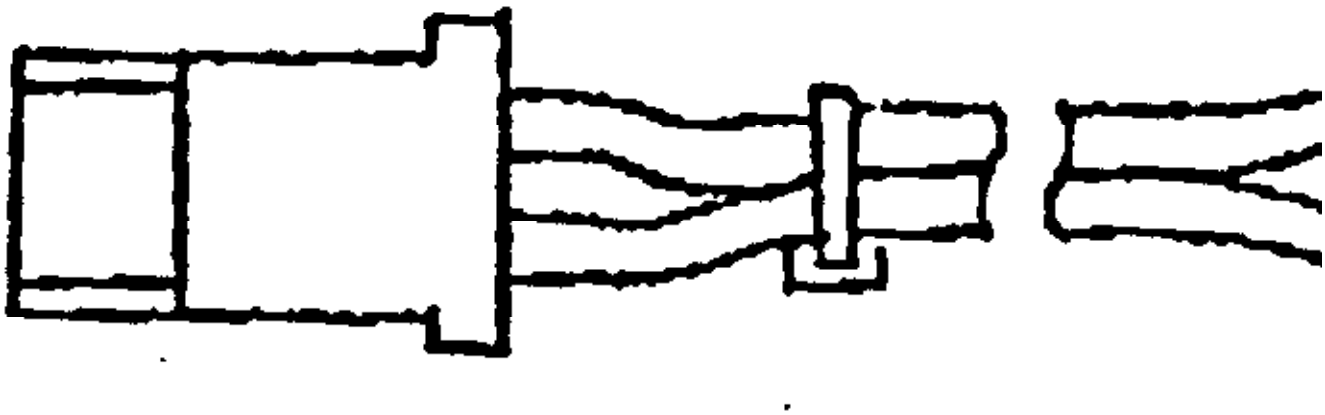
| IMPLEMENTATION: | TSB Part/Kit #: **3-31053-01** | Upgrade Time: **8 Min.** |
|---|---|---|
| ☐ **Immediate**<br>☒ **Next Service Call**<br>☐ **Next Failure**<br>☐ **Optional** | TSB Effectivity/<br>Part(s) Availibility: **01-FEB-93** | Validation Time: **8 Min.**<br>Total Mod. Time: **16 Min.** |
| Instruments Requiring Modification:<br>**S/N 18472 & below** | | |

****NOTE**** **The instrument must be at TSB Level n/a prior to performing this TSB.**



## I. DISTRIBUTION:
Worldwide

## II. GENERAL
### A. PURPOSE:
A wire retainer was added to the Lamp Socket to relieve stress on the wires during lamp replacement. This improvement is made to reduce LAMP OUT errors.



➔ This TSB supersedes TSB 09-037A. The revision contains additional information under Section B. ADMINISTRATIVE NOTES.

**B. ADMINISTRATIVE NOTES:**

USA FSEs ONLY:

When the modification is completed, the call should be closed out in FieldWatch as follows:

Service Code (03)

➔ Trouble Code (37)

Repair Code (93)

**C. TIME REQUIRED:**

16 minutes

Modification: 8 minutes
Validation: 8 minutes

**D. TOOLS REQUIRED:**

Standard FSE Tool Kit

**E. PARTS:**

1. U.S.A.: FSEs will receive six Lamp Sockets C/N 3-31053-01 to upgrade FSE-KIT-9X (TDx® Common Kit). FSE should ensure that all lamp sockets in parts kit contain a wire retainer.
2. INTERNATIONAL: The International Service Manager should send forecast requirements to their responsible logistics organization. Please reference TSB 09-037B on forecast requirements.

**VI. PROCEDURE:**

1. Print system parameters 2, 3, 6, 7, and 8.
2. Turn the TDx® analyzer off and unplug the instrument from the wall outlet.
3. Remove the buffer cover.
4. Remove the front panel.
5. Disconnect grounding cable and remove door assembly.
6. Remove the splash guard.

**Potential Biohazard & Voltage Hazard. Observe Proper Safety Precautions.**

7. Remove the lamp housing cover.
8. Remove lamp from lamp housing and disconnect lamp from lamp socket assembly.
9. Disconnect lamp socket assembly from the power cable.
10. Connect lamp socket assembly with wire retainer to power cable.
11. Connect lamp to lamp socket assembly.
12. Install lamp into lamp housing.
13. Install lamp housing cover.
14. Install splash guard.
15. Install door assembly and connect grounding cable.
16. Install front cover.
17. Install buffer cover.
18. Plug instrument into wall outlet and turn TDx® analyzer on.
19. Run the following tests:
    a. Lamp operation with Test 4.2 RUN PRIME.
    b. Photo Check
20. Update the modification control label by crossing off block #37.

END OF DOCUMENT