ABBOTT ADD	INDEX TECHNICAL SERVICE BULLETIN

PRODUCT: **COMMANDER® FPC(TM) (76)**	DATE: **05-MAY-97**

TSB #	IMPLEMENTATION	SUBJECT	EFFECTIVITY DATE
76-013	N - BC 60001 & below	Automatic Bar Code Reader Prism Lens	05-MAY-97
76-012A	O - See TSB	CE Mark Certified FPC(TM), ABC, F-Link Instruments and Modifications	21-APR-97
76-011	I - ALL	COMMANDER® FPC(TM) Pipettor V 2.5 Software and TPC(TM) Hardware	15-JAN-96
76-010A	F - ALL	ABC Noise Modification	04-AUG-95
76-009A	I - ALL	Pipettor Firmware Version 2.1 and New Sample Nozzle Shaft	11-FEB-94
76-008		Never Released	CANCELLED
76-007		Never Released	CANCELLED
76-006	I - ALL	COMMANDER FPC Version 2.1 Software and Computer System	22-APR-93
76-005B	I - ALL	FPC Software Release Revision 2.0 with Version 2.01 Application Software	14-DEC-93
76-004	I - ALL	FPC Software Release Version 2.0 International	OBSOLETE

		Release Only	
76-003	AS REQURIED	FPC Software Release: Version 1.7	OBSOLETE
76-002	I - 10660 & Below	Version 3.3 EEPROM Upgrade	29-MAR-91
76-001A	N - ALL	New Location for TSB Sticker	04-OCT-91

PENDING - TSB index number has been reserved for a future TSB.
CANCELLED - TSB index number is cancelled.
INCORPORATED - TSB was incorporated into another document or manual.
OBSOLETE - TSB no longer applies.
COMPLETE - TSB implementation is complete.

END OF DOCUMENT

ABBOTT ADD	TECHNICAL SERVICE BULLETIN

SUBJECT:
Automatic Bar Code Reader Prism Lens

TSB#: **76-013**

ORIGINATOR: **Ruben Cortez**
APPROVED:

PRODUCT:
COMMANDER® FPC(TM) (76)

REF. ECN: **11854-000**

IMPLEMENTATION:	TSB Part/Kit #: **1-82243-01**	Upgrade Time: **30 min.**
○ **Immediate** ● **Next Service Call** ○ **Next Failure** ○ **Optional**	TSB Effectivity/ Part(s) Availability: **05-MAY-97**	Validation Time: **30 min.**
Instruments Requiring Modification: **BC 60001 & below**	**TSB Tracking by Serial # required (IMMEDIATE TSB's ONLY)** ○ YES ● NO	Total Mod. Time: **1.0 Hr.** ****NOTE** The instrument must be at TSB Level n/a prior to performing this TSB.**

I. DISTRIBUTION:

Worldwide

Potential Biohazard & Voltage Hazard. Observe Proper Safety Precautions.

II. PURPOSE:

To inform the field of the addition of a prism lens to the FPC ABC (Internal Bar Code Reader) reader window. The prism lens reduces the likelihood of bar code no-reads and misreads.

The prism lens mounts on the face of the Reader Head Assembly window and refracts the brightest portion of the reflected light at an angle away from the reader sensor. Glossy labels reflect light unevenly into the reader head and can momentarily “blind“ the reader. This “blinding” produces a no read or misread condition.

III. ADMINISTRATIVE NOTES:

1. USA: This is a Next Service Call TSB 76-013.
2. International: This is a Next Service Call TSB 76-013.

IV. SPECIAL TOOLS:

1. USA: FSRs should have a C/N 1-42718-01 Precision Screwdriver Set in their FPC Service Kit.
2. International: FSEs should have a C/N 1-42718-01 Precision Screwdriver Set in their FPC Service Kit.

V. PARTS:

US/International

All TSB 76-013 upgrade kits listed below must be forecast and ordered separately for all upgrades. Each Country is responsible for forecasting and ordering upgrade kits through normal channels.

C/N 1-82243-01

QTY	Description
1	Prism Lens
2	Flat Head 2.0 / .4 / .6 mm

Potential Biohazard & Voltage Hazard. Observe Proper Safety Precautions.

REPLACED PARTS:
N/A

COMPATIBILITY:
N/A

VI. PROCEDURE:

MODIFICATION STEPS:
Installing the Prism Lens

Perform the following steps:

1. Using a small Philips screwdriver, remove two screws that secure the reader window to the metal frame. (See Figure 2.)
2. Clean the window, as specified below, before installing the prism lens.
3. Place the prism lens onto the red, flat plastic window as shown in Figure 2 and align the two screws with the holes in the frame.
4. Reinstall the screws securing the prism lens onto the reader frame.

Cleaning the Prism Lens

1. Remove the accessory tube rack behind the reader box by lifting it vertically from the alignment pins.
2. Loosen (do not remove) the three flathead screws attaching the reader to the surface plate.

Potential Biohazard & Voltage Hazard. Observe Proper Safety Precautions.

3. When the reader box can be lifted free from the surface platform, raise it vertically while tilting the front end to contact the plate.
   This process frees the cable and connector beneath the reader box. Unscrew the “multi-pin”, black-plastic connector counterclockwise until the connector is free.

Note:
It may be necessary to retract some of the wire from the opening in the box to free the connector.

4. Remove the reader box from the ABC. Do not allow the prism lens to contact other surfaces.
5. Remove the two screws holding the prism lens in place. Be careful not to scratch the prism lens or touch the prism lens surface. See Figure 2.

Note:
The prism lens is made from polished acrylic plastic and is susceptible to scratching and physical damage if handled improperly. Please use caution when handling the lens.

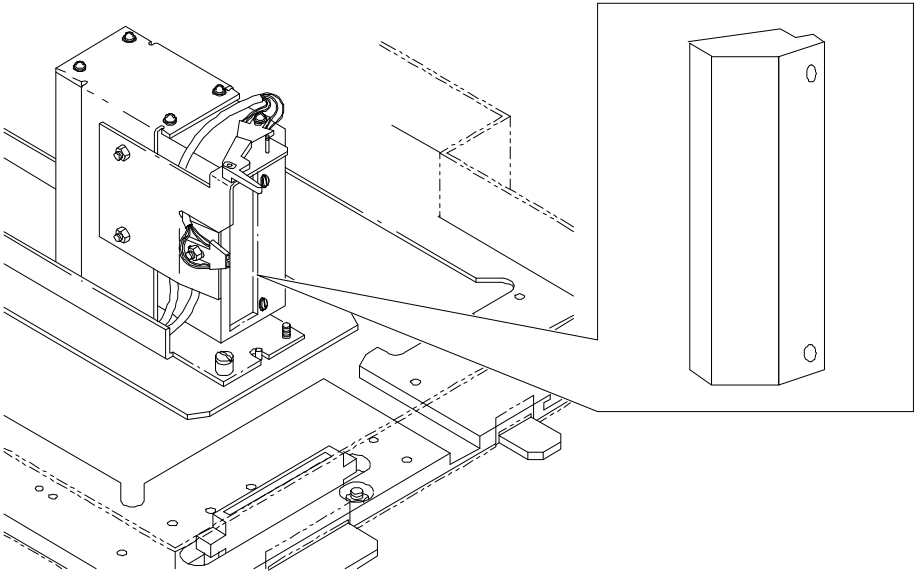


Figure 1. ABC Reader Prism lens Installation

6. Remove the prism lens for cleaning.
7. Remove any dirt or particulate matter from the prism lens surface by gently brushing with a lens brush or soft, lint-free cloth. Gently wipe with a lint-free cloth moistened with warm water or acrylic plastic cleaner. Do not scrub.

Potential Biohazard & Voltage Hazard. Observe Proper Safety Precautions.

8. Gently wipe with a dry, lint-free cloth to remove any residual droplets or moisture.
9. Re-inspect the prism lens and window surfaces. If foreign material is still present between the prism and the window, remove the prism lens as before. Repeat the cleaning procedure. Always inspect for dirt before and after installation of the prism lens.

Note:
For ABC alignment see the Automatic Bar Code Reader Service Manual, ABC Alignment Procedure.

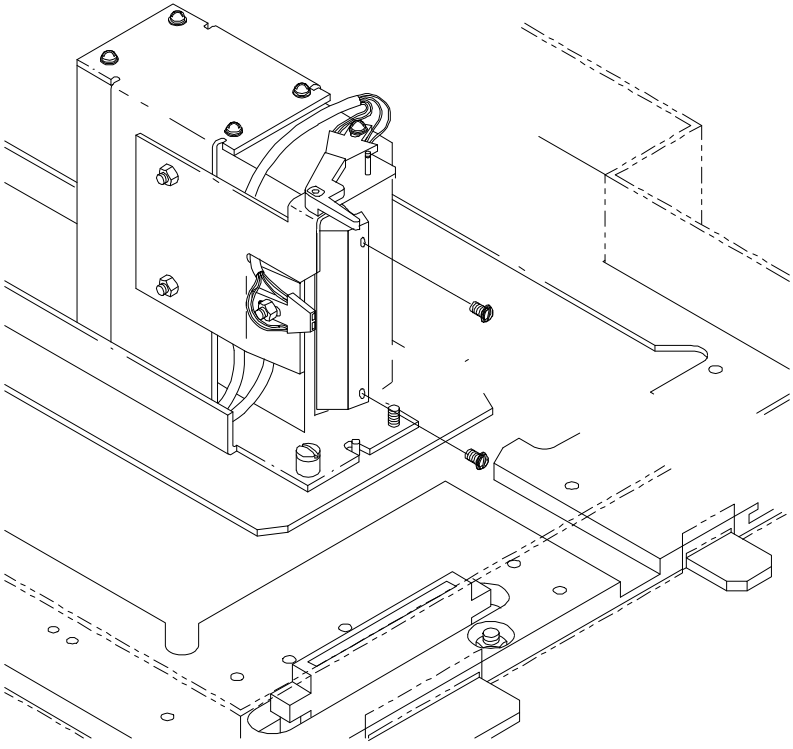


Figure 2. ABC Reader Prism lens Mounting

Potential Biohazard & Voltage Hazard. Observe Proper Safety Precautions.

Reinstallation of Internal Bar Code Reader:

1. Clean the surface plate and the bottom of the reader box if dirt or crystals are found.
2. Hold or rest the reader box on or above the rear tube carriers while positioning and reconnecting the “multi-pin” black-plastic connector. Several turns are required to securely attach the connector. Return the remaining excess cable into the reader box while holding the reader near the connector.
3. Realign the reader box over the rear and front alignment pins. Lower the box into position. Tighten the three captive screws while holding the reader box securely on the alignment pins. Replace the accessory tube rack.

CHECKOUT:

1. Refer to the FPC™ Service Manual, Section 3B - Diagnostics, ABC Diagnostics, ABC Internal bar Code Reader.
2. Perform a Total Service Call.

MODIFICATION CONTROL STICKER UPDATE:
Place an X through the number 13 on the modification control label.

DOCUMENTATION REQUIRED:
FPC Service Manual, Cat. No. 1-42834-05.

END OF DOCUMENT

ABBOTT
ADD

TECHNICAL SERVICE BULLETIN

SUBJECT:
CE Mark Certified FPC(TM), ABC, F-Link Instruments and Modifications

TSB#: **76-012A**

ORIGINATOR: **Tim Kitzmiller**
APPROVED: **Mark Slater 4/15/97**

PRODUCT:
COMMANDER® FPC(TM) (76)

REF. ECN: **11914-001**

Potential Biohazard & Voltage Hazard. Observe Proper Safety Precautions.

IMPLEMENTATION:	TSB Part/Kit #: **1-73781-01**	Upgrade Time: **1.0 Hrs.**
○ Immediate ○ Next Service Call ○ Next Failure ● Optional	TSB Effectivity/ Part(s) Availibility: **21-APR-97** **See Admin. Notes for Country Specific Effectivity and TSB Tracking requirements.**	Validation Time: **0.5 Hrs.** Total Mod. Time: **1.5 Hrs.**
Instruments Requiring Modification: **See Administrative Notes** **TSB Effectivity Status:**	**TSB Tracking by Serial # required (IMMEDIATE TSB's ONLY)** ○ YES ● NO	****NOTE** The instrument must be at TSB Level 11 prior to performing this TSB.**

I. DISTRIBUTION:

Worldwide

II. PURPOSE:

This Technical Service Bulletin (TSB) is to inform the Worldwide Service organizations of a change to the FPC™ CE Mark instrument configuration released on March 25, 1996. This change resulted from a design issue noted during CE Mark recertification testing in January of 1997. All FPC Instrument's with List numbers: 3A46-01 (FPC New Build) and 3A46-47 (FPC Remanufactured), shipped between January 1, 1996 and January 20, 1997 must be upgraded to the TSB 76-012A configuration. (**NOTE:** All FPC instruments shipped under the above mentioned LN's shall be routinely checked to insure they are up to the TSB 76-012A configuration.)

This change has no impact on the Automatic Barcode reader (ABC), F-Link, or FPC Computer/or

peripheral configurations released by TSB 76-012.

See the Administrative Notes section for details on individual country impact, upgrade effectivities, and TSB Tracking requirements.

The current FPC CE Mark configuration released by TSB 76-012, called for the addition of a single Ferrite (magnetic core) to the Tip Jam Sensor cable on the FPC Pump assembly. The revised design calls for removal/replacement of the single ferrite with two (2) larger ferrites (see figure 1), spaced evenly apart on the same cable.

GENERAL PURPOSE:

The “Communauté Européenne” (CE) Mark is a label placed on a product to indicate conformance to one of the European Community directives. In this case the CE Mark is related to the emissions of, or susceptibility to, electro-magnetic disturbances, specified in the Electro-Magnetic Compatibility (EMC) directive. The product may also conform to other directives necessary to insure that equipment placed in the European Community (EC) does not endanger the safety of persons, domestic animals, or property when installed, maintained and used in applications for which it was made.

All FPC instruments, and peripherals shipped from Dallas Manufacturing, to either CE or Non-CE Mark countries, will be the CE/UL Version only, under the following List Numbers:

FPC Instrument:

LN 3A46-01 (New Build) - **will be CE Marked by Serial Number from Manufacturing**
LN 3A46-47 (Remanufactured Version)

FPC Computer:

LN 6A97-86 - **New CE Marked FPC Computer System**:

- Intel 486 (6A97-10)

Potential Biohazard & Voltage Hazard. Observe Proper Safety Precautions.

- Keyboard
- Monitor
- Printer Cable

NOTE: When upgrading an FPC Computer to a CE Mark level, you must order the replacement CE Mark Computer under List Number 6A97-10.

PRINTER:

Current Hewlett-Packard Deskjet printers - LN's from the 500 Series and up, are already CE Certified. *Check for the CE Mark label on the bottom, or rear panel of the printer unit.*

F-LINK:

LN 6A97-87 - CE Mark F-Link Sensor Module

ABC:

No List Number change for CE Mark. No design changes were required for CE Mark Certification of the ABC instrument.

III. ADMINISTRATIVE NOTES:

TSB Effectivity Status:

OPTIONAL EFFECTIVITY:

CE and Non-CE Mark Countries:

TSB 76-012A remains Optional for FPC instruments shipped prior to January 1, 1996.

(See section titled “Instruments Requiring Modification,” for current Remanufacture/Repair guidelines).

NOTE: No Labor, Travel, or Parts expenses will be credited to the countries.

IMMEDIATE EFFECTIVITY:

CE Mark Countries:

FPC Instruments shipped between January 1, 1996 and January 20, 1997 under List Numbers: 3A46-01 (New Build) or 3A46-47 (Remanufactured) to CE Mark Countries must be upgraded to TSB 76-012A Immediately. (**NOTE:** All FPC instruments shipped under the above mentioned LN's shall be routinely checked to insure they are up to the TSB 76-012A configuration.)

NOTE 1: Credit will be issued for all Labor, Travel, and Parts expenses involved with performing this upgrade.

NOTE 2: This Immediate upgrade must be tracked by the key area/country contacts. A monthly status report must be provided by the 10th day of each month to the TD CSE Group until 100% completion. Minimum information required is:

FPC

Total # to be upgraded: _____
Complete: _____
Expected Completion Date: _____

Please send above information to the Dallas office at Fax number 972-518-7365.

NEXT SERVICE CALL EFFECTIVITY:

Non-CE Mark Countries:

FPC Instruments shipped between January 1, 1996 and January 20, 1997 under List Numbers: 3A46-01 (New Build) and 3A46-47 (Remanufactured) to non-CE Mark countries must be upgraded to TSB 76-012A status on the Next Service Call. (**NOTE:** All FPC instruments shipped under the above mentioned LN's shall be routinely checked to insure they are up to the TSB 76-012A configuration.)

NOTE: Credit will be issued for all Labor and Parts expenses involved with performing this upgrade.

CE Mark Definition:

Countries that are complying to European Community (EC) directives are specified as CE Mark countries in this document. Countries that are not complying with European Community directives are specified as non-CE Mark countries.

Instruments in customer accounts in CE Mark countries prior to January 1, 1996 will be modified at the Country Manager's discretion, or upon specific customer's request.

Service organizations in the EC will be responsible for forecasting/ordering CE Mark upgrade kits and CE Mark service spare parts through normal channels.

FPC instruments and peripherals built or modified to the CE Mark configuration MUST be serviced with CE Mark approved parts only.

Instruments Requiring Modification: (within the CE Mark countries)

Instruments that receive complete reconditioning (complete disassembly and upgrading), defined as Level III Servicing, must be upgraded to the CE Mark configuration.

Definitions related to CE Mark Countries: (Effective 01/01/96)

New Equipment: Equipment not previously operated by an end user (customer) within the CE Mark countries as of 01/01/96.

2nd Hand Equipment: Equipment previously operated by an end user (customer) within the CE Mark countries as of 01/01/96 and has not been remanufactured.

Remanufactured Equipment: Instruments that receive complete reconditioning; like new condition (complete disassembly and upgrading), defined as Level III Servicing.

Repaired Equipment: Equipment that has been serviced by replacement of damaged/worn parts with equivalent parts; activity performed at a customer site or Abbott designated facility.

Repair includes:

1. Performing Mandatory TSB's
2. Cleaning and decontaminating operator accessible areas
3. Making repairs if needed
4. Confirming instrument operation
5. Checking or assessing physical appearance (i.e., condition of covers, etc...)

NOTE: Repair does not include remanufacturing (complete disassembly and upgrade).

New Placements: (CE Mark Countries)

Effective 01/01/96, FPC instruments and peripherals shipped from Remanufacturing to CE Mark countries will be of the CE Mark configuration under the LN's listed in Section II (Purpose) of the TSB. TSB 12 will be marked through on the modification control label for these instruments.

Servicing: activities as of 01/01/96

1. FPC instruments and peripherals installed after 01/01/96, and identified with the CE Mark label **MUST** be serviced with CE approved parts only.
2. Instruments modified to the CE Mark configuration **MUST** be serviced with CE Mark approved parts only. No deviations or exceptions are authorized when performing the modification. The following TSB must be installed prior to performing the CE mark modification.

   TSB 76-011 Commander® FPC V 2.5 Software and TPC™ Hardware

NOTE: Field update/modification may be performed at the customers request, or the country manager's discretion.

New Placements: (Non-CE Mark countries, i.e. USA, Canada, Japan, etc...)

All FPC instruments and peripherals shipped from Dallas Manufacturing, to either CE or Non-CE Mark countries will be the CE/UL Version only.

Servicing: No impact to current service practices.

Service CE Mark instruments with CE Mark approved parts only.

IV. SPECIAL TOOLS:

1-Fine Tip Permanent marking pen

V. PARTS:

DOMESTIC:

TSB 76-012A CE Mark Upgrade kits will be automatically shipped to affected FSR's in the U.S..

ROW:

Each country will be responsible for forecasting/ordering CE Mark Upgrade kits through normal channels.

CE MARK UPGRADE KIT:

Quantity	DESCRIPTION	PART NUMBER
1	CE MARK UPGRADE KIT	1-73781-01
Kit Includes:		
1	Conductive Cloth Tape (10” strip, 25.4 cm)	
2	Ferrite Bead	
1	Label, FPC List Number	
1	Label, F-Link Model Number	
3	Label, CE Mark (FPC instrument/F-Link/ABC	
2	Label, Warning	

Potential Biohazard & Voltage Hazard. Observe Proper Safety Precautions.

2	Mount, Cable Tie	

SERVICE KIT IMPACT:
No impact to FPC or ABC kits

DEPOT KIT IMPACT:

FPC Pump assembly part number has changed from 1-42623-01, to 1-42623-02.

U.S. - All FPC pumps located in Remote, or Dallas Depot inventory will be automatically recalled and reworked to the 1-42623-02 configuration.

ROW - All FPC pumps in Remote, or Country Depot locations must be reworked to the 1-42623-02 configuration using the 1-73781-01 CE Mark upgrade kit.

REPLACED PARTS:
FPC Pump Assembly 1-42623-01 has been deleted and replaced by the 1-42623-02 CE Mark configuration.

COMPATIBILITY:
CE Mark instruments **must be** repaired with CE Mark components only.

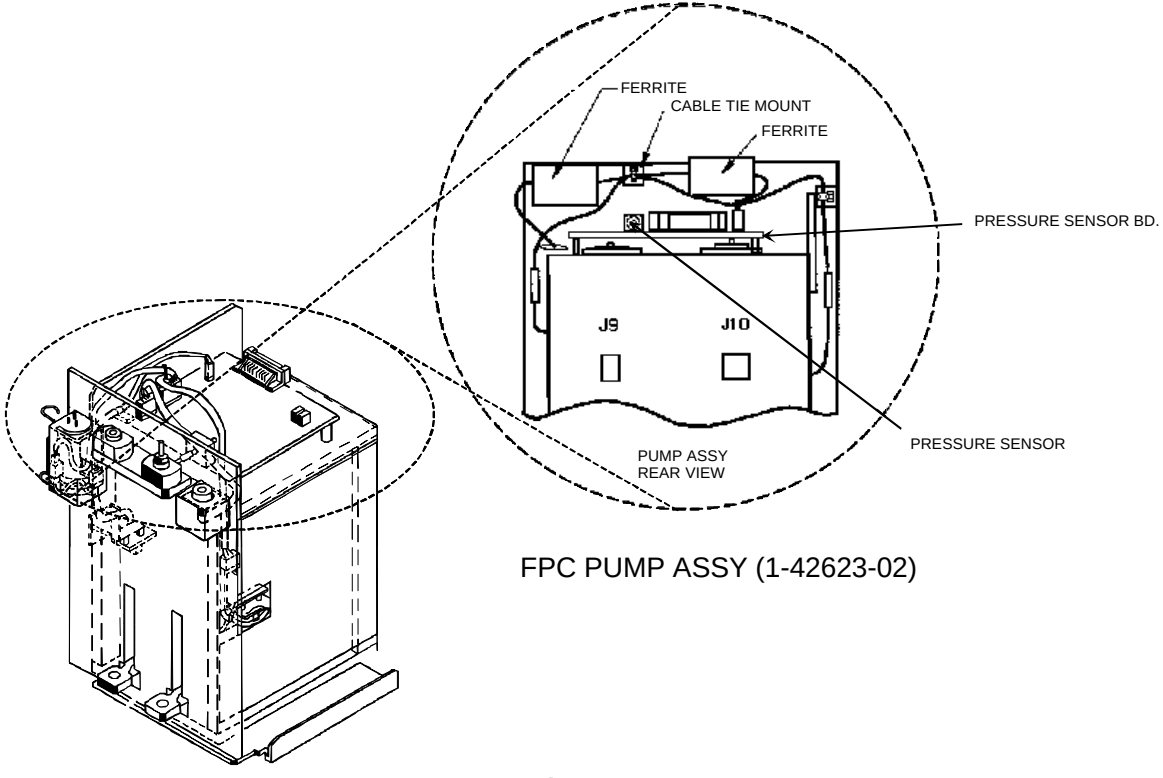
VI. PROCEDURE:
MODIFICATION STEPS:

SAFETY NOTE: **Prior to performing the CE Mark Upgrade, insure that you have decontaminated the FPC and F-Link instruments, using appropriate procedures outlined in section 3, in the FPC Service Manual.**

DOCUMENTATION NOTE: Removal and replacement procedures for the FPC Pump Assembly require the use of the FPC Service Manual. (See Section VII, Documentation Required.)

1. **Addition of two ferrite beads to Tip jam sensor cable assembly on FPC instrument:**

   a. Remove the FPC Pump assembly using the Pump Assembly removal and replacement procedure, in the FPC Service Manual.
   b. Referencing figure 1, locate the Tip Jam Sensor cable assembly that plugs into J4 on the Pressure Sense board.
   c. Remove the existing ferrite bead attached to the tip jam sensor cable (if TSB 76-012 has been installed).
   d. Compare location of the cable tie mount, to the location shown in figure 1. If the location is not as shown, remove the cable tie mount using a flat blade screwdriver.
   e. Replace the cable tie mount with one supplied in the CE Mark Upgrade kit; in the location shown in figure 1.
   f. Clamp the two ferrites supplied in the CE Mark Upgrade kit around the Tip Jam Sensor cable, in the locations shown in figure 1, then secure the cable tie in place. **NOTE: Insure the ferrite enclosure snaps firmly together.**
   g. Replace the FPC Pump assembly back into the FPC instrument, following procedures in the FPC Service manual. **NOTE: Leave the back cover off of the FPC instrument in the final step of reassembly.**



FPC PUMP ASSY (1-42623-02)

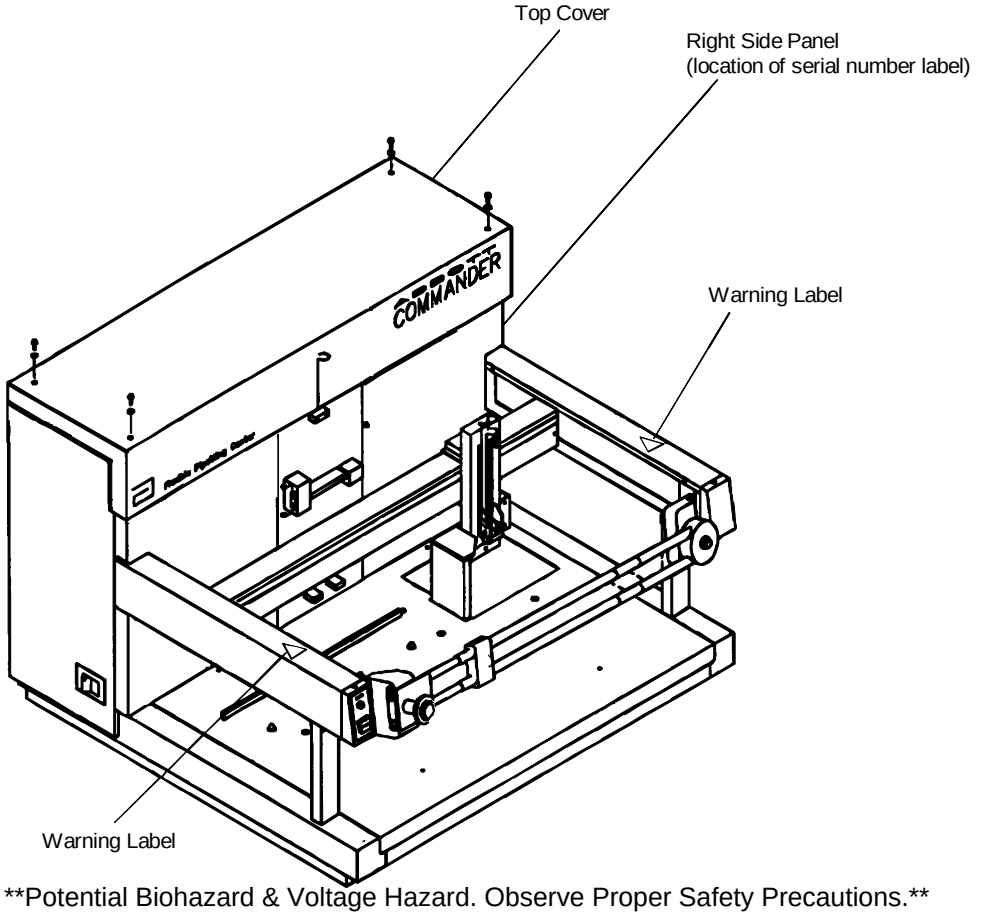
Figure 1

Potential Biohazard & Voltage Hazard. Observe Proper Safety Precautions.

NOTE: The following steps are only required if TSB 76-012 has not been installed.

2. Replacement of List Number Label, and addition of CE and Warning Labels to FPC™ instrument.

a. Referencing Figure 2, remove the List Number Label located on the FPC instrument right side panel, down near the base of the instrument. **Make a note of the FPC Serial number on the label before destroying**.
b. Replace the Label with the new List Number label, provided in the TSB upgrade kit.
c. Using a fine tip, permanent marking pen, write in the serial number noted in step a), in the open space just below S.N., in the upper right corner of the label.
d. Place a CE Mark label, on the FPC instrument right side panel, just to the right of the List Number Label.
e. Referencing Figure 2 again, place a Warning Label, on the top covers, over both the left and right side Y-Bar assemblies as shown.



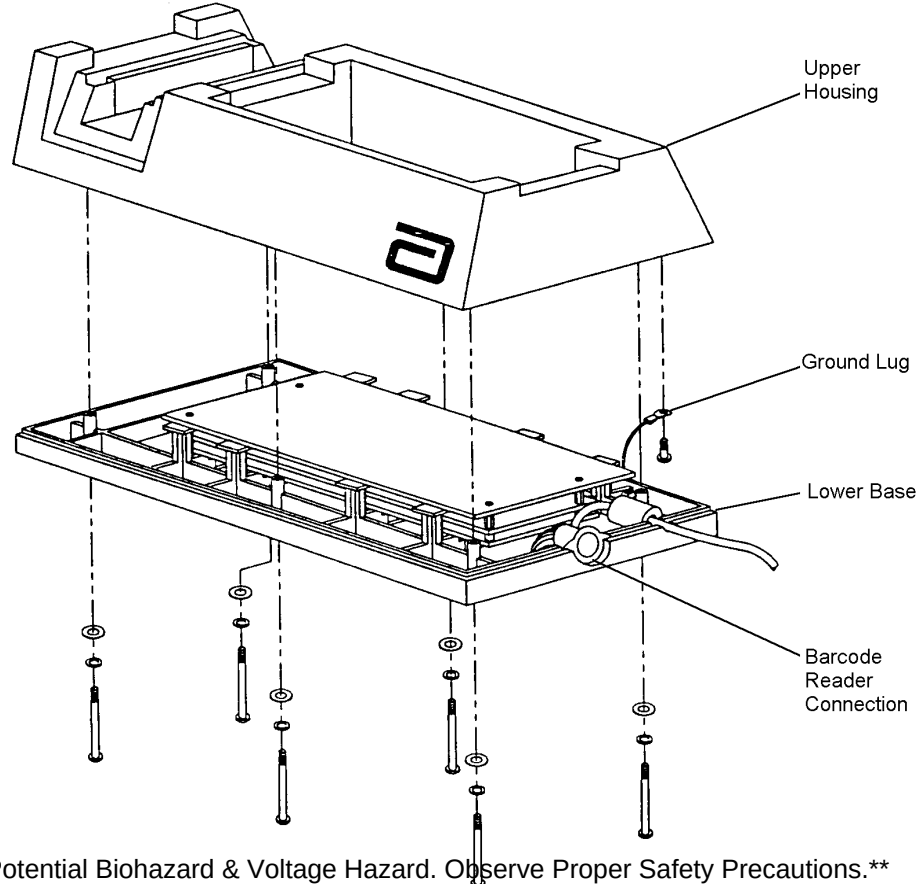
Potential Biohazard & Voltage Hazard. Observe Proper Safety Precautions.

Figure 2

Potential Biohazard & Voltage Hazard. Observe Proper Safety Precautions.

3. Addition of Conductive Cloth Tape to F-Link Assembly

a. Disassemble the F-Link upper housing, from the lower base as shown in figure 3. As you are separating the two pieces, make sure to remove the screw securing the ground lug to the upper housing so as not to damage the connection.



Potential Biohazard & Voltage Hazard. Observe Proper Safety Precautions.

Figure 3

b. Referencing figure 4, remove the screw securing the ground lug to the F-Link base.

c. Lift and separate the Sensor/Control bd. and barcode connector/cable assy. from the lower base.

d. Cut a 1 inch (2.54 cm) piece of Conductive Cloth Tape, from the 10 inch (25.4 cm) piece provided in the TSB upgrade kit.

e. Referencing Figure 4, and 4A, apply the 1 inch (2.54 cm) piece of Tape as shown, with one end between Edge A and B.

f. Form the other end of the tape around the rib on the lower base as shown.

g. Perform steps a) through c) in reverse order.

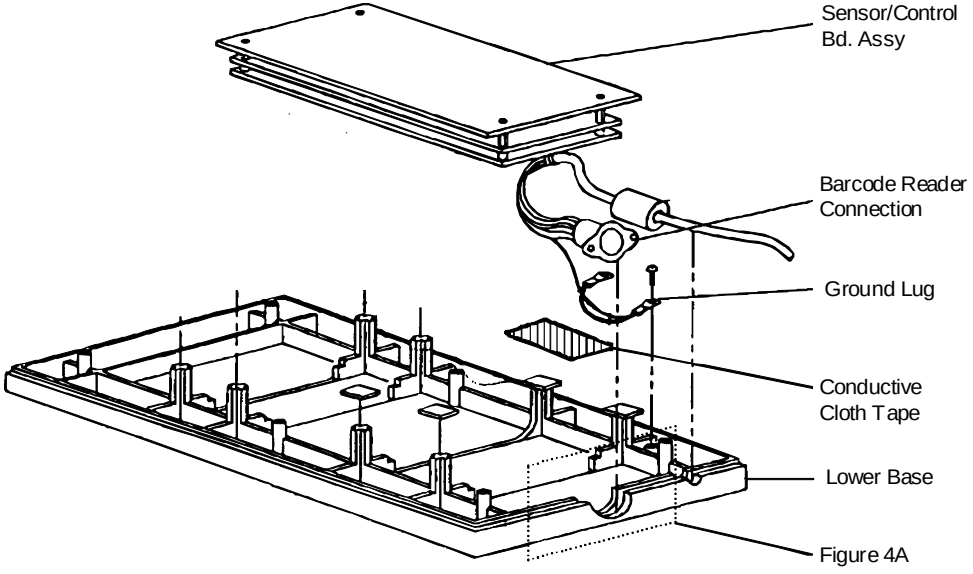


Figure 4

Potential Biohazard & Voltage Hazard. Observe Proper Safety Precautions.

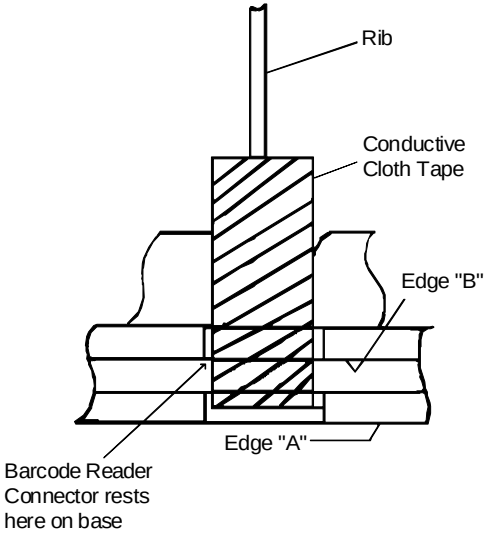


Figure 4A

4. Addition of Model Number, and CE Labels to F-Link Lower Base.

a. Turn the F-Link assembly bottom side up, and locate the current Model Number label.

b. **Note the Serial Number on the label, then remove and discard**.

c. Place the new Model Number label, in the same location.

d. Using a Fine Tip Permanent Marking pen, write in the F-Link Serial Number, (noted in step b), on the new Model Number label.

Potential Biohazard & Voltage Hazard. Observe Proper Safety Precautions.

e. Place a CE Mark label, adjacent to the Model Number label, and to the right.

5. **Addition of CE Mark label to Automatic Barcode reader (ABC), if in use.**

   a. From the rear of the ABC, locate the fan assembly adjacent and to the right of the RS-232 communication port.

   b. Place a CE Mark label, centered approximately 1/4 inch (.64 cm) above the fan.

6. **FPC™ Computer CE Mark Upgrade (6A97-10)** (Reference, Purpose Section, **FPC Computer.**)

CHECKOUT:
For final instrument checkout, perform the Total Call Procedures in the FPC and ABC Service Manuals (**if applicable**).

MODIFICATION CONTROL STICKER UPDATE:

1. Place an X through number 12 on the modification control label, located on the inside face of the lower left side panel (side the power on/off switch is on). If TSB number 12 is marked through, proceed to step 2.
2. Re-install the back cover.
3. Close the service call indicating TSB 76-012A is complete, and in the service documentation in the text of the call, enter the following statement:

   "This instrument has been modified to the CE Mark configuration (TSB 76-012A) as indicated by the List Number size code of the new Serial Number Label."

VII. DOCUMENTATION REQUIRED:

Potential Biohazard & Voltage Hazard. Observe Proper Safety Precautions.

- FPC Service Manual
- ABC Service Manual

END OF DOCUMENT

ABBOTT ADD	TECHNICAL SERVICE BULLETIN

SUBJECT:
CE Mark Certified FPC(TM), ABC, F-Link Instruments and Modifications

TSB#: **76-012**

ORIGINATOR: **Tim Kitzmiller**
APPROVED: **Bob Schabel 25-MAR-96**

PRODUCT:
COMMANDER® FPC(TM) (76)

REF. ECN: **10535-005**

IMPLEMENTATION:	TSB Part/Kit #: **N/A**	Upgrade Time: **1.0 Hrs.**
○ Immediate ○ Next Service Call ○ Next Failure ● Optional	TSB Effectivity/ Part(s) Availibility: **25-MAR-96**	Validation Time: **0.5 Hrs.**
Instruments Requiring Modification: **See Administrative Notes**	**TSB Tracking by Serial # required (IMMEDIATE TSB's ONLY)** ○ YES ● NO	Total Mod. Time: **1.5 Hrs.** ****NOTE** The instrument must be at TSB Level 11 prior to performing this TSB.**

Potential Biohazard & Voltage Hazard. Observe Proper Safety Precautions.

ABBOTT ADD	TECHNICAL SERVICE BULLETIN

SUBJECT:
COMMANDER® FPC(TM) Pipettor V 2.5 Software and TPC(TM) Hardware

TSB#: **76-011**

ORIGINATOR: **Ruben Dario Cortez**
APPROVED: **Mark Cooney 1/10/96**

PRODUCT:
COMMANDER® FPC (76)

REF. ECN: **10497-010**

IMPLEMENTATION:	TSB Part/Kit #:	Upgrade Time: **6.0 Hrs.**
● **Immediate** ○ **Next Service Call** ○ **Next Failure** ○ **Optional**	TSB Effectivity/ Part(s) Availibility: **15-JAN-96**	Validation Time: **1.0 Hr.**
Instruments Requiring Modification: **ALL**	**TSB Tracking by Serial # required (IMMEDIATE TSB's ONLY)** ● YES ○ NO	Total Mod. Time: **7.0 Hrs.** ****NOTE** The instrument must be at TSB Level n/a prior to performing this TSB.**

Potential Biohazard & Voltage Hazard. Observe Proper Safety Precautions.

I. DISTRIBUTION:

Worldwide

II. PURPOSE:

FPC pipettor Version 2.5 Retrofit is for upgrading the current FPC Pipettor Version 2.0 software and firmware in addition to Total Process Control™ (TPC™) features. The Base Kit will be a mandatory upgrade for customers. The two different kits options that are available for FPC pipettor Version 2.5 upgrades are the Base and TPC Kits.

FPC Pipettor Version 2.5 Kits:

1. Retrofit Version 2.5 - This version will include all Base and Plus features from version 2.0, software updates and non-TPC feature related FPC pipettor improvements. 2.0 Plus features are now incorporated in 2.5 Base.
2. TPC Features Version 2.5 - This version will include TPC features, in addition to all features in the Retrofit kit.

TPC on the Flexible Pipetting Center will be the starting point of the sample/reagent tracking for the TPC features concept. In addition to its current capabilities of pipetting and sample data management, the FPC pipettor will add a component library, where information on reagents can be managed. The operators can guide through the use of proper reagents, and also produce a summary report of all pertinent reagent data that is used on a particular tray or carousel.

The Aloka Firmware will have an enhancement that is designed to increase the pipettor's sensitivity to show improper aspiration and dispense of a medium. The pipettor firmware will include an automated leak test. The automated leak test is designed to be used as a diagnostic tool to test for sample delivery system leakage.

III. ADMINISTRATIVE NOTES:

U.S.A.: The TSB kits will be shipped to customer sites. The Service organization will install both the hardware and software in the U.S..
The installation of TSB 76-011 for FPC™ pipettor and TSB 50-033A for PPC™ analyzer must be performed for both instruments in order to communicate properly.

INTERNATIONAL: Retrofit kits should be ordered/forecasted via regular parts channels. Please reference TSB 76-011 on forecast requirements.

The installation of TSB 76-011 for FPC pipettor and TSB 50-033A for PPC analyzer must be performed for both instruments in order to communicate properly.

IV. SPECIAL TOOLS:

C/N	**1-73575-01**
Pre-Install Disk	(43794-103)
ABC Diagnostics Disk	(43739-103)
Digiboard™ Driver Disk	(81638-102) (8eVE)

V. PARTS:

DOMESTIC:

Retrofit Kit **LN 6A97-14**

List #	**Part**	**Description**
LN 6A97-14		Base Kit
	6A97-22	FPC Pipettor Operations Manual

Potential Biohazard & Voltage Hazard. Observe Proper Safety Precautions.

	42778-101	Software License Agmt.
	1-43766-03	Aloka Firmware (Version 2.5)
	43790-104	Software (Version 2.5)
		Application
		Database
		Interfacing Disks
		Customer Return Card
6A97-11	FPC Pipettor Maintenance Log	
43451-101	Return Mailer, Label	
43782-103	Sample Data Disk	
	6A97-30	Host Interface Specification
		Customer Letter

TPC (Carousel Adapter Kit) LN 6A97-18

List #	**Part**	**Description**
LN 6A97-18		TPC Kit (Carousel Option)
	73505-101	Platform Left Carousel
	73504-101	Platform Center Carousel
	73503-101	Platform Right Carousel
	42845-101	TDx® Analyzer Carousel Adapter
	Sleeve	
		C1-C3 Labels

TPC Kit (Optional upgrade) LN 6A97-19

List #	**Part**	**Description**
LN 6A97-19		TPC Kit (Optional Upgrade)+

Potential Biohazard & Voltage Hazard. Observe Proper Safety Precautions.

	System I/V Protocol
1-73502-02	Guard Bar Assembly
73506-101	Reagent Rack R1-R2
73508-101	D0 Rack Assembly
73501-101	Barcode Extension Cable (ABC only)
1-73668-01	Barcode Label set (P1, P2, P3, P4, S1, D1, D2)
83636-101	TPC™ Features Disk

INTERNATIONAL:
See DOMESTIC.

SERVICE KIT IMPACT:
U.S.:
N/A

International: **Firmware Version 2.5 C/N 1-43766-03**

	Version 2.1	Version 2.5
MPU Board	1-42633-04	1-42633-05
LSU Board	1-42634-03	1-42634-04

REPLACED PARTS:
N/A

COMPATIBILITY:
Version 2.5 software and firmware is **not** downward compatible with version 2.0 software and version 2.1 firmware.

VI. PROCEDURE:

MODIFICATION STEPS:

NOTE: On a new installation, the pre-install, data, and application software comes pre-loaded. Only the interface and assay update disks will need to be installed. Refer to Step 3 for instructions. If you are upgrading software, then follow the procedure in this TSB.

A. KIT BOARDS:

1. Before handling boards or components, take precautions for protecting static sensitive items. Use an anti-static pad, wrist strap, and grounding strap.

C/N 1-43766-03

PART NUMBER	EPROM VERSION
43760-103	Version 16.0
43761-103	Version 6.0
43762-103	Version 24.0

2. Locate the Main System EPROM in position E16 and the EEPROM in position E12 on the MPU Board (C/N 1-42633-04).
3. Remove the EEPROM from position E12 and insert updated EEPROM version 6.0 (refer to Figure 1).
4. Remove the EPROM from position E16 and insert updated EPROM version 16.0 (refer to Figure 1).
5. Change the MPU Board number 1-42663-04 to 1-42663-05 after installing the EPROMS.
6. Locate the LSU EPROM in position ROM 1 on the LSU Board (C/N 1-42634-03).
7. Remove the EPROM in position ROM 1 and insert updated EPROM version 24.0 (refer to Figure 2).
8. Change the LSU Board number 1-42634-03 to 1-42634-04 after installing the EPROMs.
9. Destroy the old firmware.

Potential Biohazard & Voltage Hazard. Observe Proper Safety Precautions.

B. PIPETTOR INSTRUMENT BOARDS:

1. Turn off all power to the FPC pipettor.
2. Using a small Phillips tip screwdriver, remove the pipettor back cover.
3. Before handling boards or components, take precautions for protecting static sensitive items. Use an anti-static pad, wrist strap, and grounding strap.
4. Release board holder and remove Master Processing Unit (MPU) Board from slot 1 on the Main Controller Assembly (card cage).
5. Locate the Main System EPROM in position E16 and the EEPROM in position E12 on the MPU Board.
6. Remove the EEPROM from position E12 and insert updated EEPROM version 6.0 (refer to Figure 1).

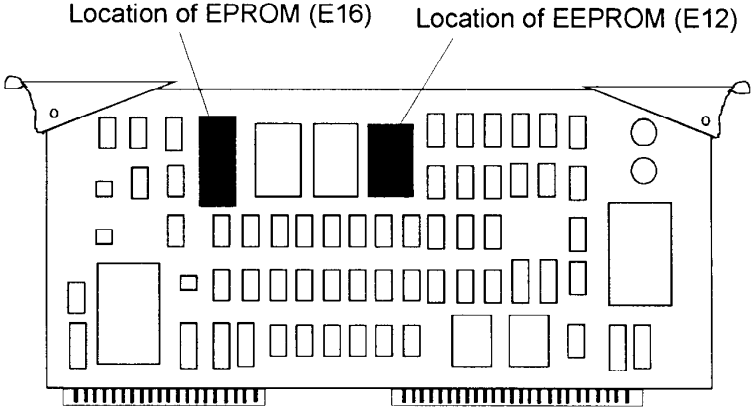


Figure 1

Potential Biohazard & Voltage Hazard. Observe Proper Safety Precautions.

7. Remove the Main EPROM from E16 and insert updated EPROM version 16.0 (refer to Figure 1).
8. Return the MPU Board to slot 1 of the Main Controller Assembly (card cage).
9. Locate and remove the Liquid Sensing Unit (LSU) board in slot 3 of the card cage.
10. Locate the LSU EPROM located in position ROM 1 on the LSU Board.
11. Remove the EPROM from position ROM 1 and insert updated EPROM version 24.0 (refer to Figure 2).

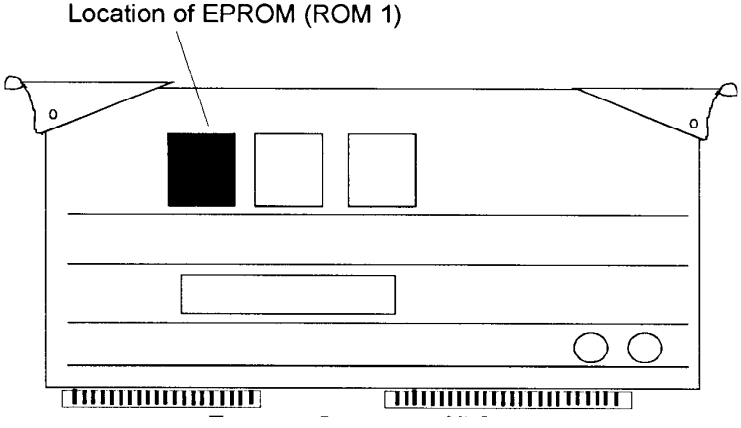


Figure 2

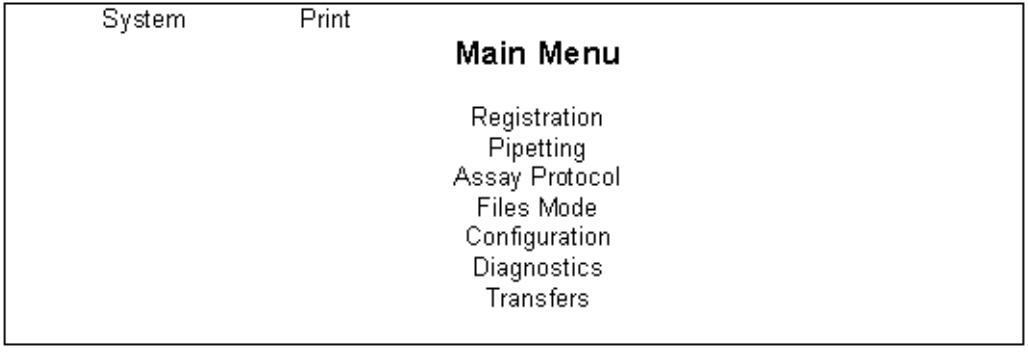
12. Return the LSU Board to slot 3 of the card cage.

Potential Biohazard & Voltage Hazard. Observe Proper Safety Precautions.

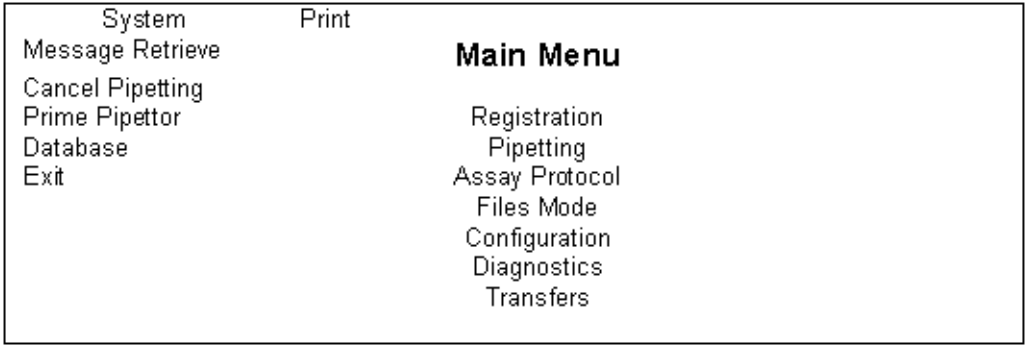
C. INSTALLING SOFTWARE:

NOTE: Before starting the upgrade, print all user created assay protocols. Print the RS232 Port Configuration.

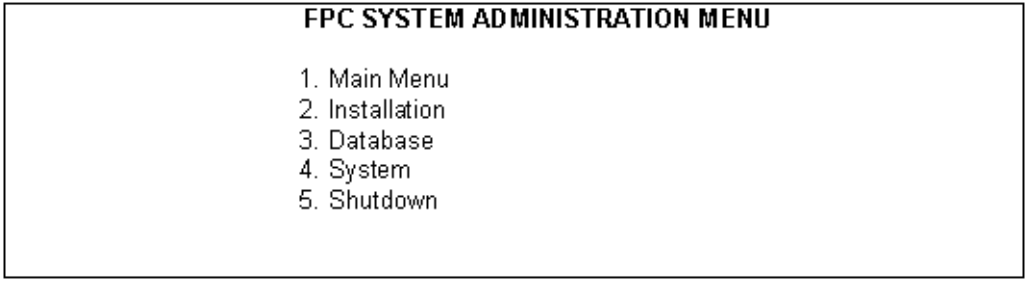
1. From the Main Menu screen, select <F1>, System key.



2. From the Drop-down Menu select (highlight) Exit and press Enter.



3. Select 2 for Installation.



1. The password prompt appears. Type in lower case, **sezme**, and press ENTER. The installation menu appears on the screen with two choices.

NOTE: Installation option will allow the FSR/FSE to load all the software diskettes except the Assay diskette.

Potential Biohazard & Voltage Hazard. Observe Proper Safety Precautions.

NOTE: TPC™ Features can only be loaded on a 486 system.

Order for Loading Software

1) Pre-install
2) Application
3) Database
4) All Interfacing Disks (PPC™, QUANTUMATIC™, QUANTUM™, IMx®, Data Output Systems)
   NOTE: Only install interface diskettes for those readers that will be connected to the FPC computer.
5) Host Computer, TPC™ Features are optional

2. Select Load Software (Option 1) and press ENTER. Instructions appear for the first diskette to be inserted into Drive A. Please insert the first diskette into Drive A.
3. After each software diskette has been loaded onto the hard drive, a message prompt states that the installation of the software has completed successfully. It instructs the operator to **"Please hit ENTER to return to the FPC Installation Menu"**. Press ENTER.

D. RS-232 PORT CONFIGURATION

1. From the Main Menu, select Configuration.
2. Select RS-232 Port Configuration from the Configuration Menu.
3. Use the arrow keys to highlight the information you wish to change or the position you wish to address. Press the Space Bar to view a pop-up screen displaying choices.

NOTE: The Device List depends on the interface disks installed with each upgrade. For example: PPC™, IMx®, QUANTUM™, or Host.

Potential Biohazard & Voltage Hazard. Observe Proper Safety Precautions.

4. Configure the Printer.
5. Configure the following devices: Pipettor, **ABC or Sensor Module/Hand BCR**, PPC, QUANTUMATIC, QUANTUM, IMx, analyzers, Host computer, Data Output (DMS) as necessary.
6. When you have finished, select <F3>, Save, from the menu bar.
7. When adding or changing a device (for example, from PPC analyzer to IMx analyzer), the screen provides a warning and requests confirmation:

Confirm
WARNING: A Shutdown Must Be Performed
To Activate a Device Change.

If You Shutdown While Devices are
Running, DATA WILL BE LOST!!

Continue to Save and Shutdown?
Yes or No

8. Select **Yes**. The system automatically shuts down, returning to the System Administration Menu.
9. Press <1> for Main Menu, followed by ENTER.

E. UPDATING VERSION SCREEN

1. Select Configuration from Main Menu.
2. Select Version and press <ENTER>.
3. The version screen displays the current status of your system with the opportunity to update

new software version numbers for the firmware to the pipettor.

4. Use the Arrow Keys to highlight Pipettor and update the Software Version section. Enter in the following version numbers: 24.0, 16.0, 6.0. Also enter in the serial number for each pipettor. This is essential for proper reporting of the pipettor used on the Destination Map.

C/N 1-43766-03

PART NUMBER	**EPROM VERSION**
43760-103	Version 16.0
43761-103	Version 6.0
43762-103	Version 24.0

5. When you have finished, select <F3>, Save, from the menu bar.
6. Press the <ESC> key to return to the Main Menu.

F. INSTALLING ASSAY DISKETTE

1. Select Assay Protocol from the Main Menu.
2. Select <F6>, Disk, from the menu bar. A pull-down screen appears:

Back-Up
Install
Activate

NOTE: Only install the assays that the user wants installed. A TSS should do the initial assay install, with laboratory personnel performing subsequent installs. Do not install every assay on the diskette.

3. Highlight Install and press ENTER. A confirmatory pop-up screen appears:

Confirm

Insert Diskette in the Drive.
Yes No

4. Insert the diskette with the Assay(s) to be installed into the drive. Select Yes, followed by <ENTER> to install the assays present on the disk.

VII. TPC™ Features OPTION:

A. HARDWARE INSTALLATION

OVERVIEW

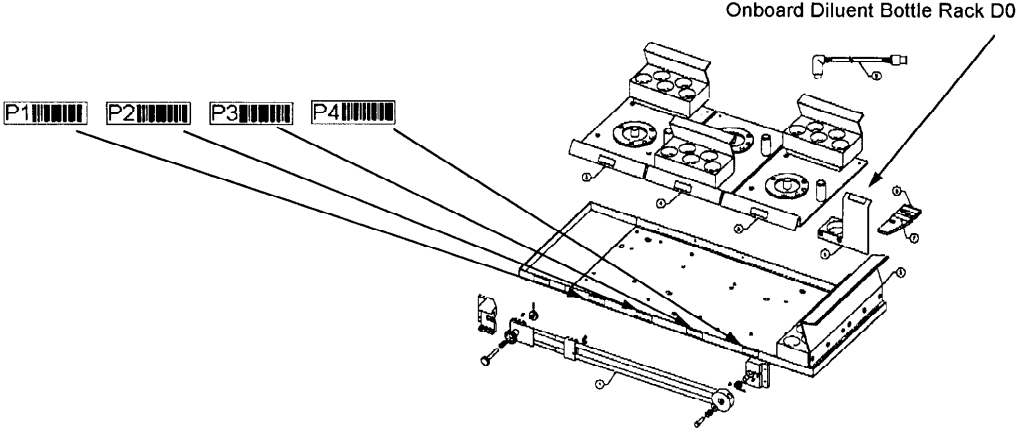


Figure 3

Potential Biohazard & Voltage Hazard. Observe Proper Safety Precautions.

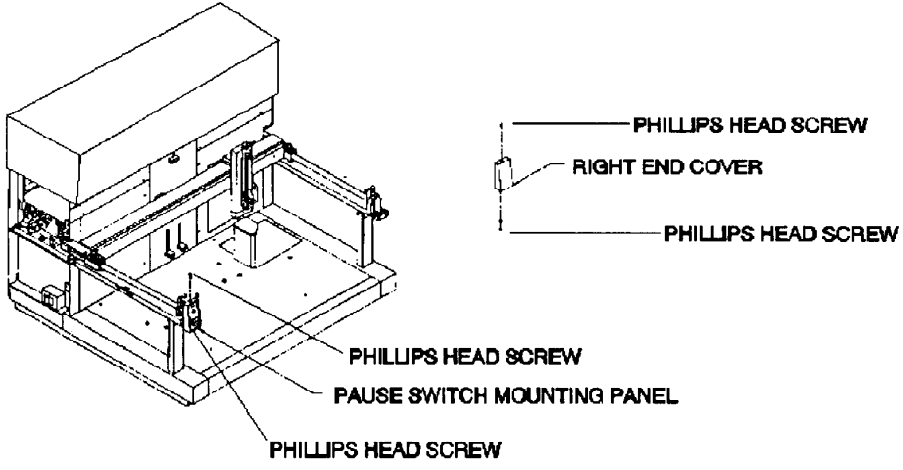
NOTE: To run TPC features software you must have a 486 computer.

GUARD BARS

The new guard bars are movable. They allow the operator access to read all barcode labels in the pipetting area.

REMOVAL OF GUARD BARS

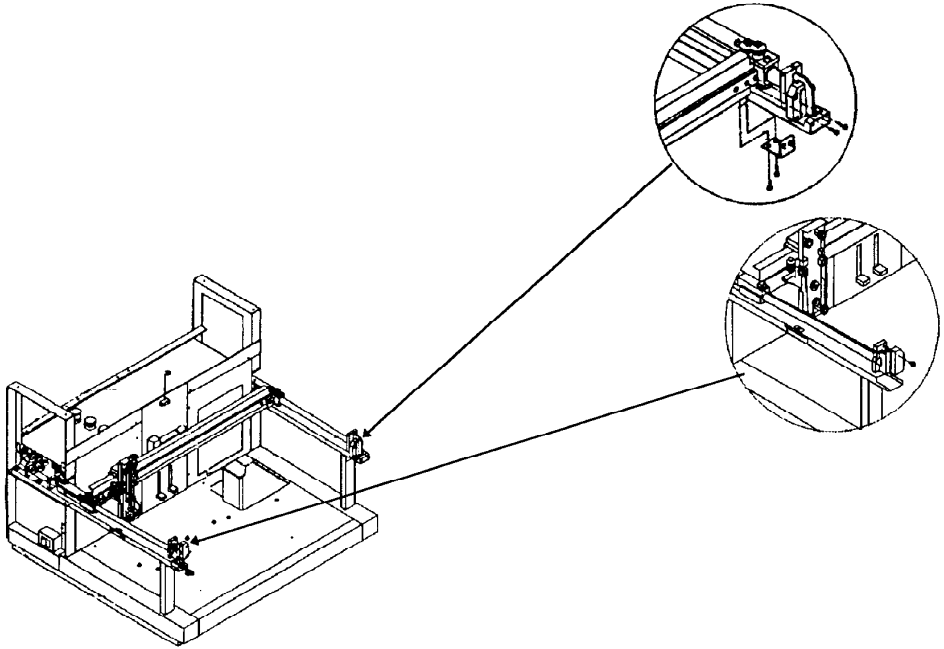
1. Power down the pipettor.
2. Remove 2 Phillips head screws from the Pause Switch Mounting Panel (left side of pipettor). Remove panel. Refer to Figure 4.



Potential Biohazard & Voltage Hazard. Observe Proper Safety Precautions.

Figure 4

3. Remove 2 Phillips head screws from the right end cover and remove cover. Refer to Figure 4.
4. Remove the old style guard bars and mounts by removing 2 Phillips head screws on each side. Refer to Figure 5.



Potential Biohazard & Voltage Hazard. Observe Proper Safety Precautions.

Figure 5

INSTALLATION OF NEW GUARD BARS

1. Install the left side mounting holder and 2 screws. Refer to Figure 6.
2. Install the right side mounting holder and guard bar assembly. Refer to Figure 6.

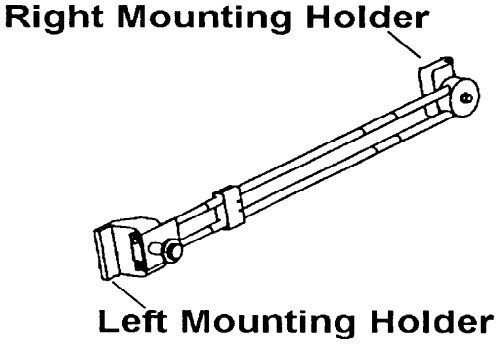


Figure 6

3. Swing the bar towards the pipettor to connect the bar to the left side enclosure. Insert the bar into the Left Mounting Holder until it snaps into place.
4. Reinstall the Left Side Pause Switch Panel and the Right Side Cover using the original hardware (refer to Figure 4).
5. Discard the old guard bars.

SYSTEM PREPARATION

1. The artwork on the pipetting platform provides a guide for the correct placement of each FPC

™ pipettor component. The designators on the artwork correspond to the designators on the barcode labels.

2. Refer to the platform designators when applying the barcode labels to the FPC pipettor (refer to Figure 7).

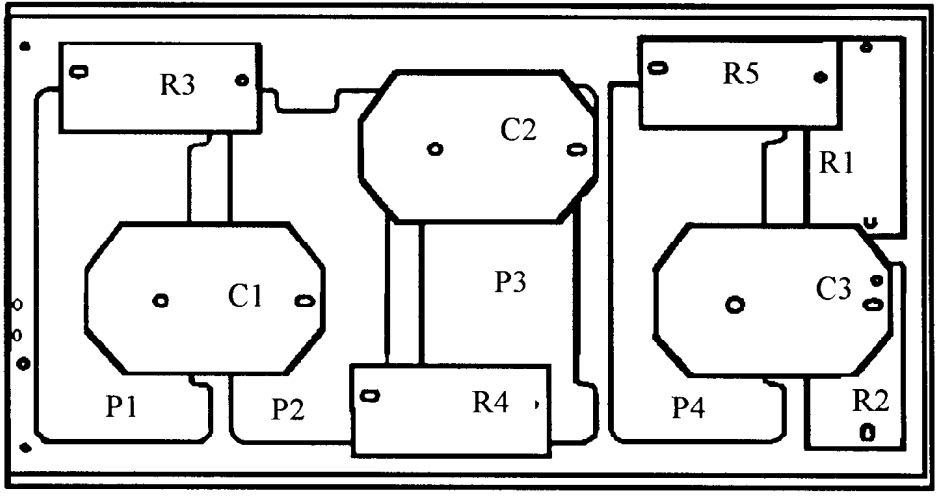


Figure 7

B. LABELS

BARCODE READER

The Hand-held Barcode Reader reads and transfers barcode label identifications from racks, sample

tubes, trays, and boxes to the computer controlling the COMMANDER® FPC™ system. The Hand-held Barcode Reader is connected to the F-Link (Sensor Module) or to the left side on the ABC by a cable. Data that has been read by the Barcode Reader is transferred to the system database for storage.

BARCODE ACCESSORIES
Barcode Label Set
Barcode Reader Extension Cable
Barcode Label Set

The Barcode Label Set identifies various locations in the equipment. It is used for tracking platform location data.

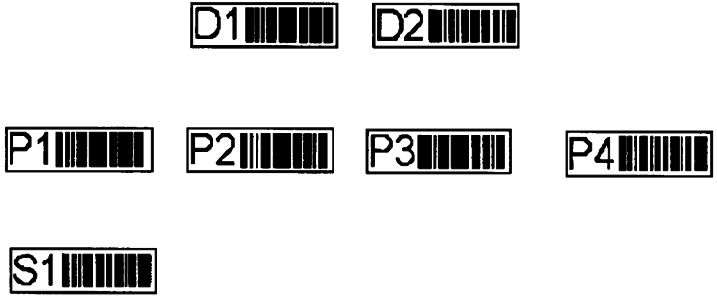


Figure 8

NOTE: The illustration is a representation of a Barcode Label Set. The barcodes depicted cannot be scanned. Sizes shown are not to scale.

APPLYING BARCODE LABELS TO THE PLATFORM

1. Locate the labels with the PX designator in the Barcode Label Set.
2. Refer to the pipetting platform to determine which label to use.
3. Remove the label from the adhesive backing.
4. Apply the label to the side of the platform as shown in Figure 3.

Potential Biohazard & Voltage Hazard. Observe Proper Safety Precautions.

APPLYING BARCODE LABELS TO THE TIP EJECTOR PLATE

1. Locate the labels with the DX designator in the Barcode Label Set.
2. Refer to the form to determine which labels to use.
3. Remove the labels from the adhesive backing.
4. Apply the D1 and D2 labels to top of Tip Ejector Plate as shown in Figure 9.

Figure 9

APPLYING BARCODE LABELS TO THE PLATEN EXTENSION ASSEMBLY

1. Locate the label with the S1 designator in the Barcode Label Set.

Potential Biohazard & Voltage Hazard. Observe Proper Safety Precautions.

2. Refer to the diagram below to determine which label to use.
3. Remove the label from the adhesive backing.
4. Apply the S1 label to the front of the Platen Extension Assembly as shown in Figure 10.

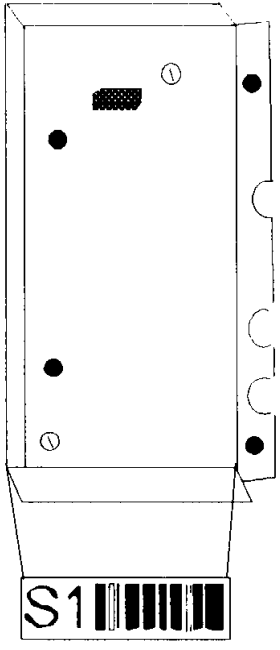


Figure 10

Potential Biohazard & Voltage Hazard. Observe Proper Safety Precautions.

Barcode Reader Extension Cable
The Barcode Reader Extension Cable allows the Hand-held Barcode Reader on the ABC to extend and read all barcode data.

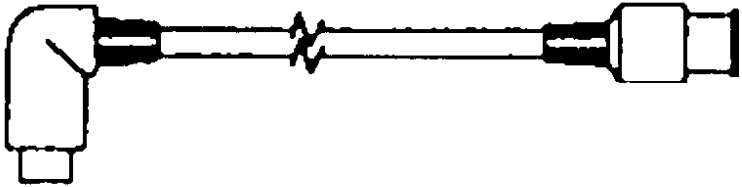


Figure 11

CHECKOUT:

1. XYZ Alignments (Refer to Service Manual)
2. Tip Threshold
3. Leak Test
4. Total Service Call

MODIFICATION CONTROL STICKER UPDATE:
The FSR/FSE will update the TSB Sticker by blacking out the number 11.

END OF DOCUMENT

ABBOTT ADD

TECHNICAL SERVICE BULLETIN

SUBJECT:
ABC Noise Modification

TSB#: **76-010A**

ORIGINATOR: **Ruben Dario Cortez**
APPROVED: **John Buckland 4-AUG-95**

PRODUCT:
COMMANDER® FPC (76)

REF. ECN: **FP-10441-001**

IMPLEMENTATION: ○ **Immediate** ○ **Next Service Call** ● **Next Failure** ○ **Optional** Instruments Requiring Modification: **All Serial Numbers**	TSB Part/Kit #: **1-48509-03** TSB Effectivity/ Part(s) Availibility: **04-AUG-95** **TSB Tracking by Serial # required (IMMEDIATE TSB's ONLY)** ○ YES ● NO	Upgrade Time: **0.5 Hr.** Validation Time: **0.5 Hr.** Total Mod. Time: **1.0 Hr.** ****NOTE** The instrument must be at TSB Level n/a prior to performing this TSB.**

THIS TSB SUPERSEDES TSB 76-010. REMOVE TSB 76-010 AND REPLACE WITH THIS DOCUMENT.

Potential Biohazard & Voltage Hazard. Observe Proper Safety Precautions.

I. DISTRIBUTION:
Worldwide.

II. PURPOSE:
To eliminate a high pitch noise emanating from the ABC while it is in a standby mode.

The modification specifically changes the duty cycle of the motor driver circuit. The oscillating frequency of this circuit increases from approximately 25 KHz to 33 KHz and the on-off duty cycle changes from approximately 90% on 10% off to approximately 65% on and 35% off.

The result of these two changes is a reduction of the harmonic frequencies causing the noise. See Figure 1.

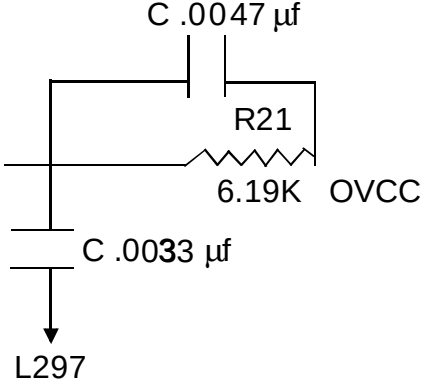


Figure 1. Motor Driver Circuit

Potential Biohazard & Voltage Hazard. Observe Proper Safety Precautions.

- Change R21 from 15k ohm resistor, to 6.19k ohm resistor
- Change C13 from .0033 µf capacitor to .001 µf capacitor
- Place a .0047 µf capacitor in parallel with R21, a 6.19K ohm resistor. See Figure 1.

III. ADMINISTRATIVE:
N/A

IV. SPECIAL TOOLS:
N/A

V. PARTS:
U.S. and International: All boards in field service stock will be reworked from 1-48509-02 to 1-48509-03. The boards can be ordered on an as-needed basis through normal parts planning channels. The ABC Controller Printed Circuit Board (PCB) will be labeled with PN 48509-103, and the outside of the box will have C/N 1-48509-03.

VI. PROCEDURE
Dis-Assembly:

1. Power down the FPC.
2. Remove the four screws holding the controller board cover panel.
3. Remove the controller board by pulling on the two board handles.

Re-Assembly

1. Place -103/ -03 controller board back in ABC by positioning the board in card guides and sliding forward until board connectors are seated.
2. Replace cover panel and four retaining screws.

Potential Biohazard & Voltage Hazard. Observe Proper Safety Precautions.

3. Power up the FPC.
4. Reset ABC via the diagnostics menu.
5. Cycle the ABC for about 10-15 minutes using diagnostics.

END OF DOCUMENT

ABBOTT ADD	TECHNICAL SERVICE BULLETIN

SUBJECT:
New Pipettor Firmware (version 2.1) and Sample Nozzle Shaft

TSB#: **76-009A**

ORIGINATOR:
Ruben Dario Cortez

PRODUCT:
COMMANDER® FPC (76)

APPROVED: **John Buckland 4/22/94 (signature on file)**

REF. ECN: **FP-340**

IMPLEMENTATION:	TSB Part/Kit #: **42922-101**	Upgrade Time: **1 hour**
☒ **Immediate** ☐ **Next Service Call** ☐ **Next Failure** ☐ **Optional**	TSB Effectivity/ Part(s) Availibility: **11-FEB-94**	Validation Time: **1.5 hour** Total Mod. Time: **2.5 hours**
Instruments Requiring Modification: **S/N ALL**		

****NOTE**** **The instrument must be at TSB Level 005 prior to performing this TSB.**

Potential Biohazard & Voltage Hazard. Observe Proper Safety Precautions.

I. DISTRIBUTION:
WORLDWIDE

II. PURPOSE:
The purpose of this TSB is to inform the field of new Flexible Pipetting Center (FPC) firmware and nozzle shaft.

Note: The Tip Threshold calibration must be performed before completion of the TSB.

III. ADMINISTRATIVE:
Account number for retrofit charges **DDMS348500**.
Before leaving the account, leave the letter (commodity number 66-1879/R1) included in the TSB kit (P/N 42922-101) with the customer.

U.S.A.- The TSB parts kit will be shipped per the Field Service Representatives (FSR) Instrument Responsibility List (IRL). Include the phrase "**Tip Threshold performed**" in the call text.

International- Retrofit kits should be ordered/forcasted via regular parts channel.

IV. PARTS:
TSB Kit Number 42922-101 (includes Firmware set version 2.1 P/N 43766-102 and nozzle shaft P/N 43848-101).

Service Kit Impact:

Potential Biohazard & Voltage Hazard. Observe Proper Safety Precautions.

TSB Kit P/N 42922-101 (used to upgrade kit Parts)
6 mm Reamer P/N 14207-119
Needle File P/N 14207-120
19mm wrench P/N 14207-122, Quantity 2
After firmware installation LSU board catalog number changes to 1-42634-03, and the MPU boards catalog number changes to 1-42633-04.
Sample Nozzle Head Assembly catalog number changes to 1-42650-02 after Nozzle Shaft upgrade.
International service locations should order/forecast via their regular parts channel.

Replaced Parts:
U.S.A.- Destroy all replaced Parts.
International- Return all replaced parts to your Country Office for disposal.

COMPATIBILITY:
The new nozzle shaft and firmware is compatible with all existing instrumentation having TSB 76-005 completed.

V. PROCEDURE:

Modification Steps:

A. INSTRUMENT BOARDS:

1. Turn off all power to the FPC.
2. Using a small phillips tip screwdriver, remove the pipettor back cover.
3. Before handling boards or its components, take precautions for protecting static sensitive items. Use an anti static pad , wrist strap, and grounding strap.
4. Release board holder and remove Master Processing Unit (MPU) board from slot 1 on the main controller assembly (card cage).

Potential Biohazard & Voltage Hazard. Observe Proper Safety Precautions.

5. Locate the Main System EPROM in position E16 and the EPROM in position E12 on the MPU board.
6. Remove the EEPROM from position E12 and insert updated EPROM version 5.2 (refer to figure 1).
7. Remove the EPROM from position E16 and insert updated EPROM version 15.3 (refer to figure 1).
8. Return the MPU board to slot 1 of the main controller assembly (card cage).
9. Locate and remove the Liquid Sensing Unit (LSU) board in slot 3 of the card cage.
10. Locate the LSU EPROM located in position ROM 1 on the LSU board.
11. Remove the EPROM from position ROM 1 and insert updated EPROM version 23.2 (refer to figure 2).
12. Return the LSU board to slot 3 of the card cage.

B. KIT BOARD

1. Before handing boards or its components, take precautions for protecting static sensitive items. Use an anti static pad, wrist strap, and grounding strap.
2. Locate the main system EPROM in position E16 and the EPROM in position E12 on the MPU board (C/N 1-42633-03).
3. Remove the EEPROM from position E12 and insert updated EPROM version 5.2 (refer to figure 1).
4. Remove the EPROM from position E16 and insert updated EPROM version 15.3 (refer to figure 1).
5. Change the MPU board number 1-42633-03 to 1-42633-04 after installing the EPROMS.
6. Locate the LSU EPROM in position ROM 1 on the LSU board (C/N 1-42634-02).
7. Remove the EPROM in position ROM 1 and insert updated EPROM version 23.2 (refer to figure 2).
8. Change the LSU board number 1-42634-02 to 1-42634-03 after installing the EPROMS.

Potential Biohazard & Voltage Hazard. Observe Proper Safety Precautions.

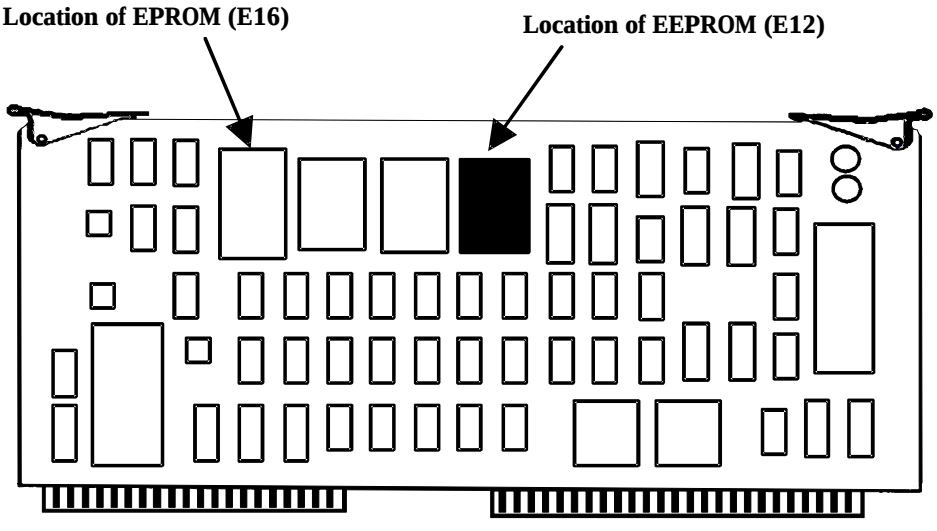


Figure 1

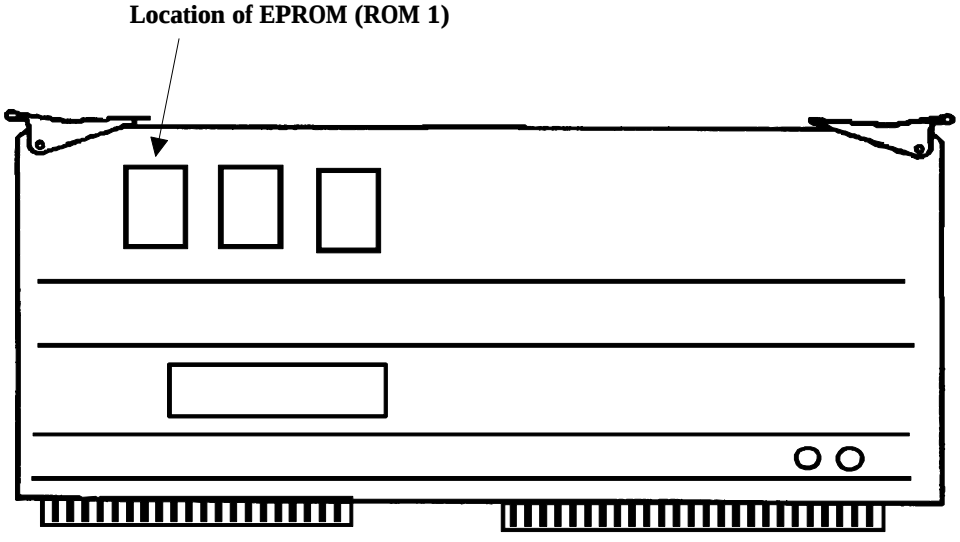


Figure 2

NOZZLE ASSEMBLY SHAFT REPLACEMENT AND INSTALLATION PROCEDURES:
TOOL REQUIRED:
3 mm allen wrench (C/N1-42719-01 Ball Driver Hex Tool set)
1.5 mm allen wrench (C/N1-42719-01 Ball Driver Hex Tool set)
19 mm open end wrench (two wrenches required P/N14207-122)
4 mm open end (5/32 inch) or crescent wrench (C/N 1-42720-01 Mini-Spanner Set)
Flat needle file (P/N 14207-120)
6 mm reamer (P/N 14207-119)
0.3 mm (0.012 inch) feeler gage (C/N1-43627-01 Feeler Gauge-Metric)
5mm wrench or Needle Nose Pliers (C/N 1-1-42718-01 Precision Screw Driver set)

C. DIS-ASSEMBLY:

1. Power down the instrument.
2. (refer to figure 3) Remove the three spiral tubing clamps, un-plug the tip jam sensor plug, pull the sample tubing out of the nozzle head assembly.

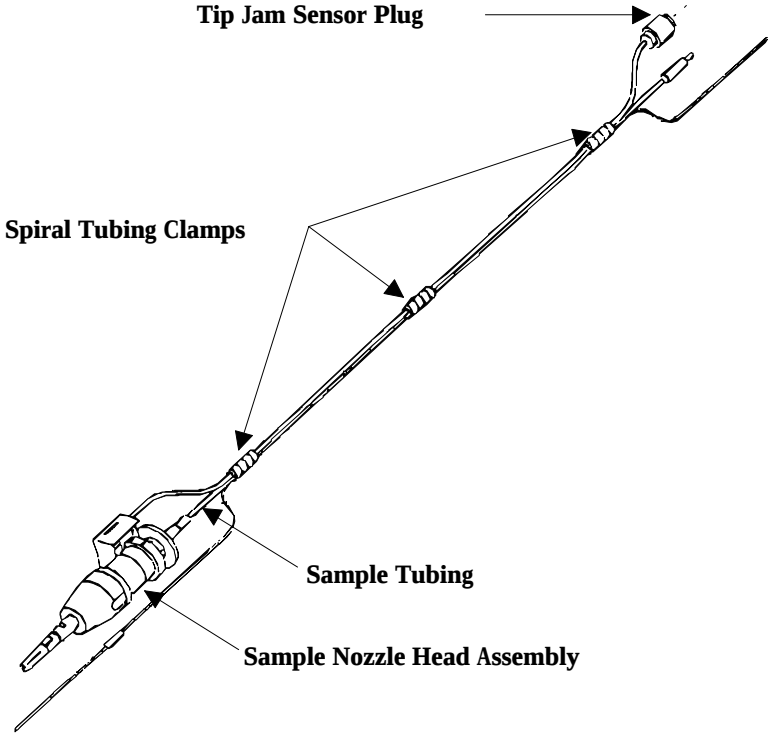


Figure 3

Potential Biohazard & Voltage Hazard. Observe Proper Safety Precautions.

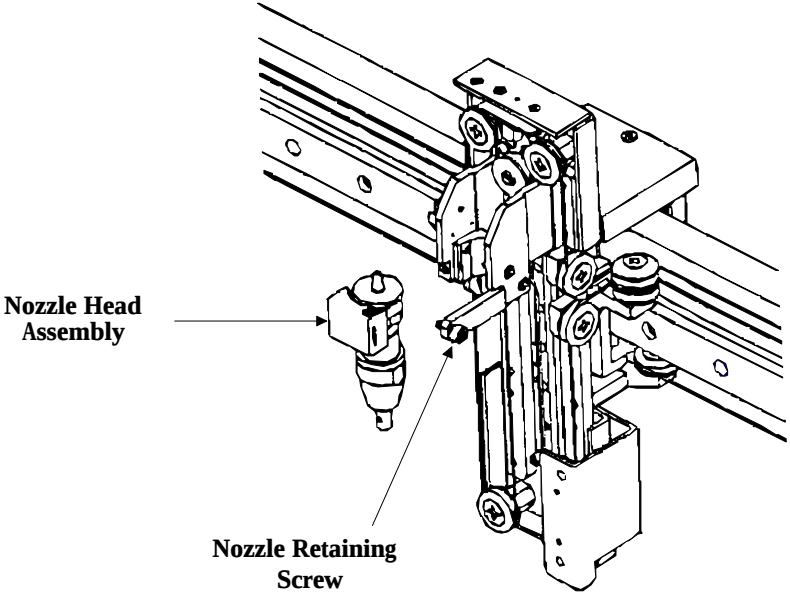


Figure 4

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3. (refer to figure 4) Remove the nozzle retaining screw using a 3mm allen wrench. Remove the nozzle head assembly from the pipettor.

   Potential Biohazard & Voltage Hazard. Observe Proper Safety Precautions.

4. (refer to figure 5) Loosen the two screws holding the jamming switch actuator using a 1.5mm allen wrench. Remove the jamming switch actuator.

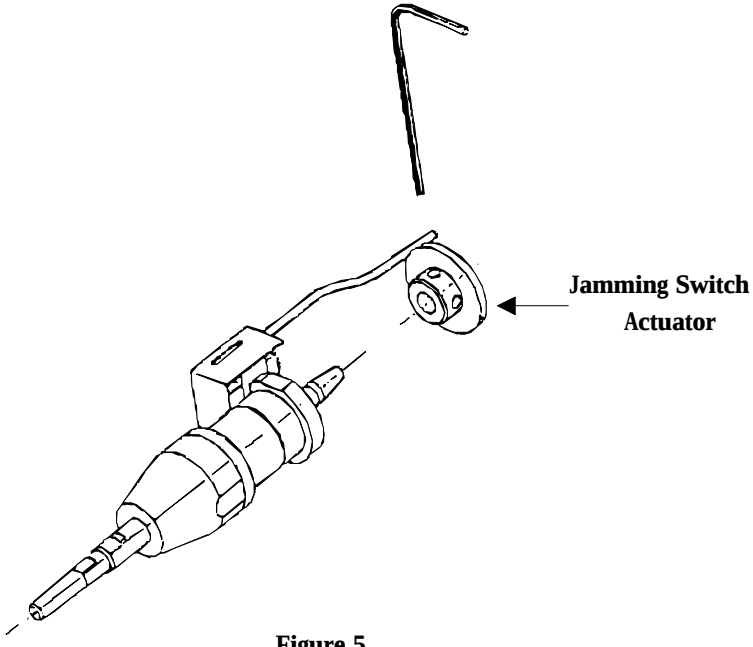


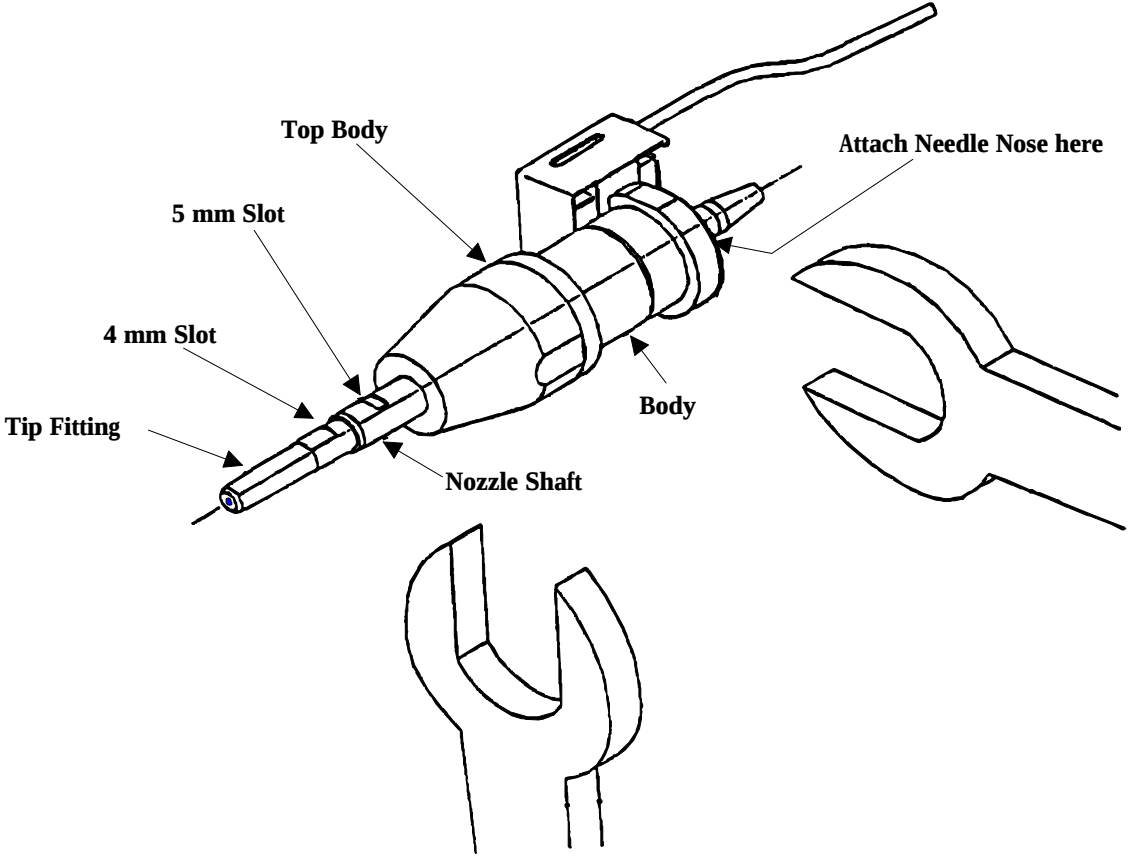
Figure 5

---

5. (refer to figure 6) Remove the tip fitting from the nozzle shaft using a 4mm and 5mm wrench (use needle nose pliers if 5mm wrench is not available). Be careful not to scratch the shaft.
6. Inspect the 5mm wrench slot on the nozzle shaft for burrs. Carefully remove any burrs with a needle file.

Potential Biohazard & Voltage Hazard. Observe Proper Safety Precautions.

7. (refer to figure 6) Remove the top body using two 19 mm open end wrenches.



Potential Biohazard & Voltage Hazard. Observe Proper Safety Precautions.

Figure 6

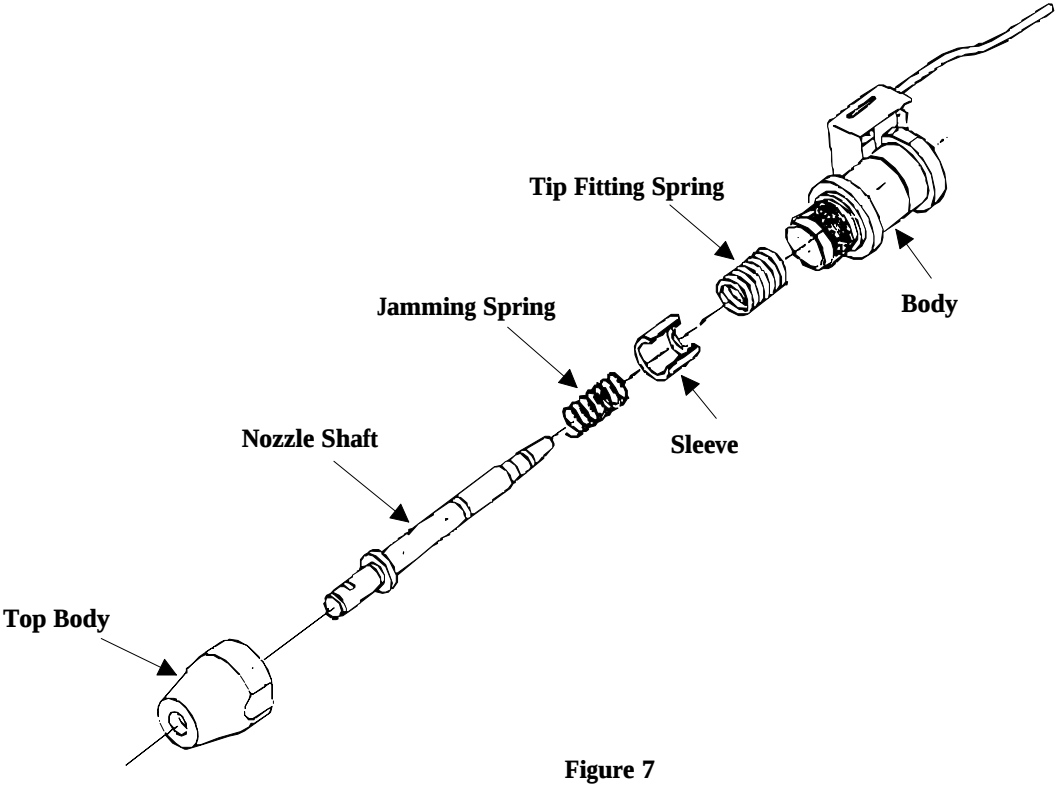


Figure 7

Potential Biohazard & Voltage Hazard. Observe Proper Safety Precautions.

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8. (refer to figure 7) Remove the nozzle shaft, jamming spring, sleeve, and tip fitting spring. The nozzle shaft should slide freely through the top body.

NOTE: If the nozzle shaft does not move freely through the top body, STOP , burrs on the nozzle shaft will damage a bearing surface in the top body. Use the needle file to remove all burrs from the nozzle shaft so the top body is not damaged.

D. RE-ASSEMBLY

NOTE: Extreme care should be taken to ensure that the pipette tip sealing surfaces of the new one -piece nozzle shaft are not damaged during installation.

1. Replace the nozzle shaft with the new one-piece nozzle shaft.
2. (refer to figure 7) Re-install the tip fitting spring **(heavy spring),** (**Extremely important that the jamming spring fits inside of the sleeve**) sleeve, jamming spring (light **spring**), one-piece nozzle shaft, and top body.

NOTE:
EXTREMELY IMPORTANT THAT THE JAMMING SPRING FITS INSIDE OF THE SLEEVE. IF THE SLEEVE IS INSTALLED BACKWARD, THE Z-HEIGHT ALIGNMENT WILL BE AFFECTED.

3. Lightly push the pipette tip sealing end of the nozzle shaft into the nozzle head assembly to check for binding. A light resistance from the jamming spring will be felt for approximately

1/16 inch, after this the tip fitting spring supplies greater resistance. The jamming spring should be able to return the nozzle shaft to it's rest position with no sign of binding. If binding occurs the bearing surface in the top body has been damaged and must be reamed.

If the bearing surface that the nozzle shaft rides on is damaged during the nozzle replacement procedure, the nozzle shaft may bind causing tip jam errors. Burrs on the bearing surface in the top body may be repaired with a 6mm reamer. The reamer is held with a wrench and the bearing surface of the top body is carefully rotated on the reamer until all burrs have been removed from the bearing surface.

4. (refer to figure 8A) Remove the jamming switch cover.

5. (refer to figures 8B, C, and D) Place a 0.3mm feeler gage on the micro switch operating button. Slide the jamming switch actuator onto the nozzle shaft. **Push the jamming switch actuator toward the nozzle body trapping the feeler gage between the shoulder of the actuator and the body of the micro switch.** The **micro switch will be actuated** while completing the measurement. **This measurement will ensure that the Jamming Switch Actuator does not hit against the Jamming Switch body.** Tighten both set screws on the jamming switch actuator using the 1.5mm allen wrench. This will set a gap of 0.3mm (0.012inch) between the shoulder of the actuator and the body of the micro switch.
6. Lightly push the pipette tip sealing end of the nozzle shaft into the nozzle head assembly to check for actuation of the micro switch. Actuation of the micro switch may be checked by listening to the switch toggle, or by checking resistance across the two outside terminals of the switch.
7. Install the jamming switch cover.

Potential Biohazard & Voltage Hazard. Observe Proper Safety Precautions.

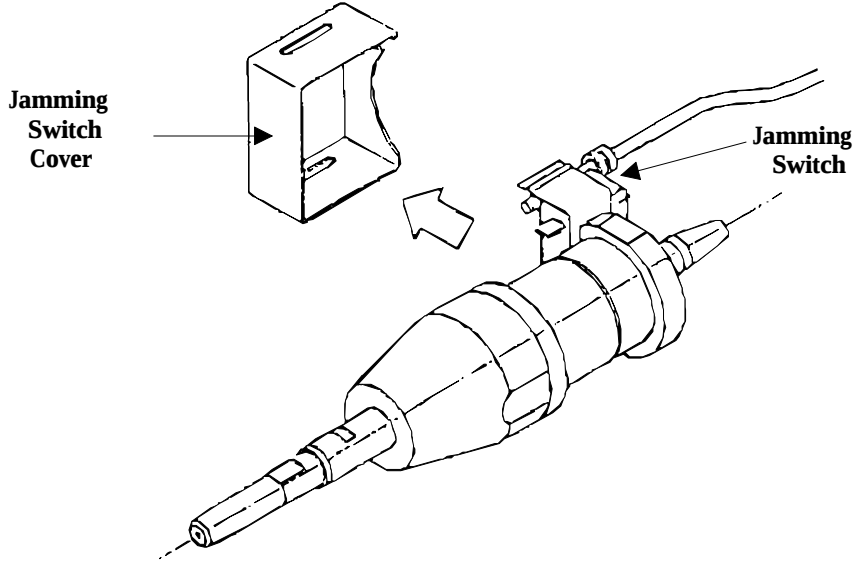

Figure 8A

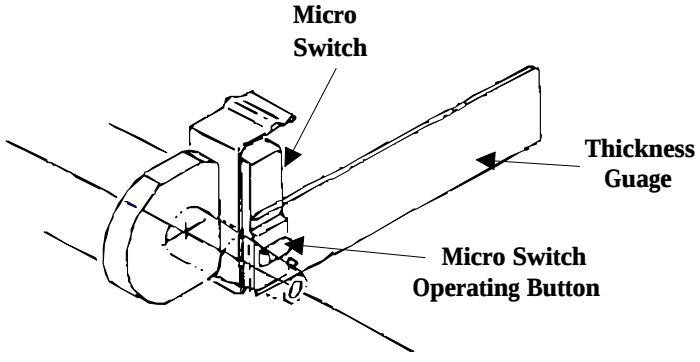
Micro
Switch
Thickness
Guage
Micro Switch
Operating Button

Figure 8B

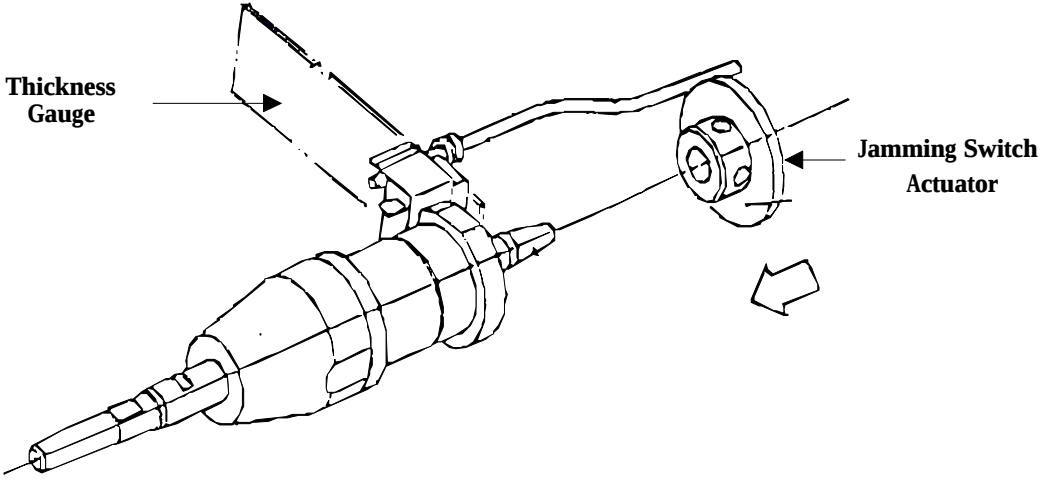

Figure 8C

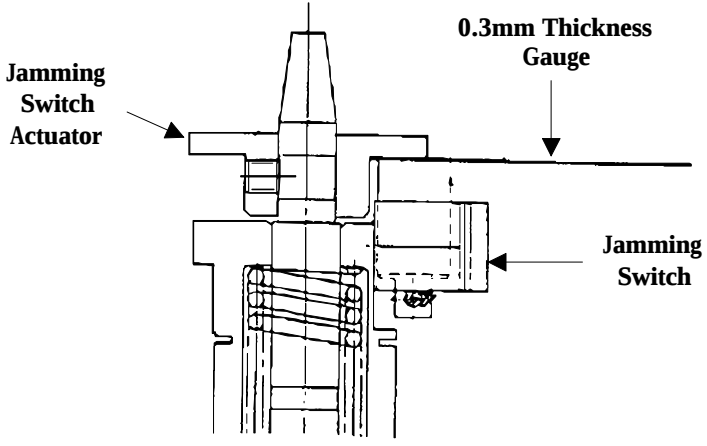
0.3mm Thickness
Gauge
Jamming
Switch
Actuator
Jamming
Switch

Figure 8D

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8. (refer to figure 9) There should be approximately 2 1/4 inch from the end of the sample tubing to the end of the silicone tube. The silicone tube may be moved on the sample tubing to get this dimension.
9. (refer to figure 3) Install the sample tubing into the end of the nozzle shaft. The silicone tubing is stretched over the tapered end of the nozzle shaft and pushed down until it touches the jamming switch actuator. This provides an air-tight seal for the pipetting system.
10. Install the nozzle head assembly on the pipettor.

11. (refer to figure #1) Plug in the tip jam sensor plug. Install the three spiral tubing clamps.
12. Replace the nozzle assembly shaft in the nozzle of found in your kit (P/N 1-42650-01) and **change the P/N to 1-42650-02.**

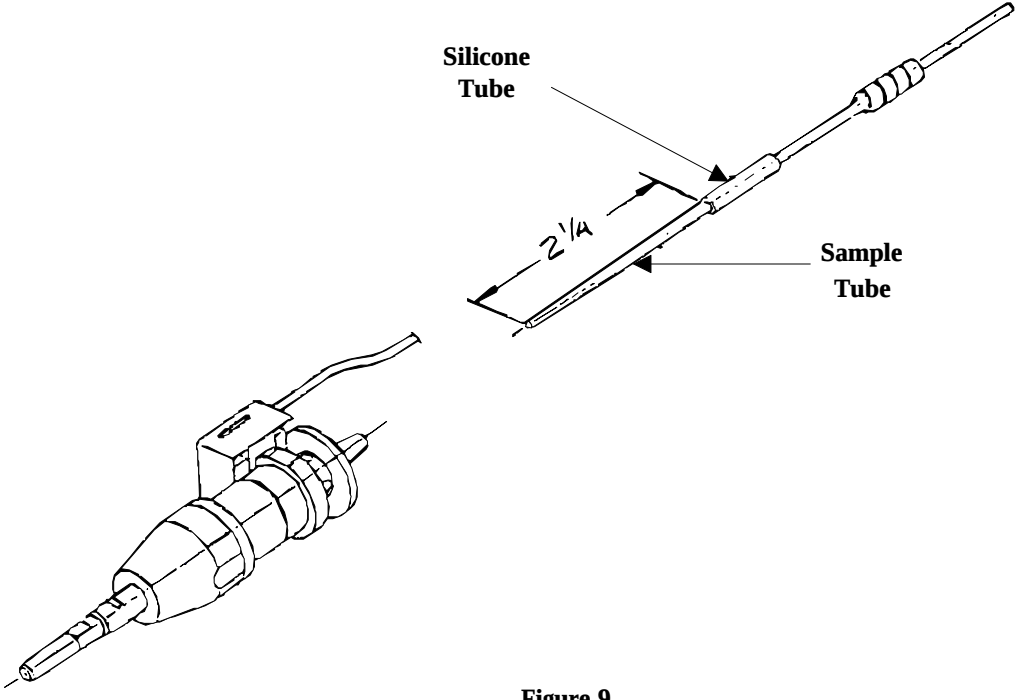

Figure 9

VI. VERIFICATION STEPS:

Perform the following

Potential Biohazard & Voltage Hazard. Observe Proper Safety Precautions.

1. XYZ Alignments (refer to ISA 76-020A)
2. **Tip Threshold (This calibration must be performed or sample mis-pipetting may occur).**

   Note: The Tip Threshold calibration has changed. A bottle containing 100 mL of distilled water must be placed in the D1 location. This test may use up to 45 tips. Refer to description of changes for more details.

3. Leak Test

4. Dilution Verification (D1, Dilutor position)
5. **VERSION SOFTWARE UPDATE:**
6. **From the Main Menu select Configuration.**
7. **From the Configuration Menu select Version**
8. **At the Version screen cursor down to Pipettor and update the three SW Ver (SoftWare Version) columns with the EPROM revisions. (rev 15.3, rev 5.2 and rev 23.2)**
9. Total Service Call

Modification Control Sticker Update:

U.S.A.- The FSR will be updating the TSB Sticker by blacking out the number 9.
International- Modification Control Sticker Update is up to the discretion of the country.

DESCRIPTION OF CHANGES

The firmware will include enhancements which are designed to increase the pipettor's sensitivity to flag improper aspiration and dispense.

A new clot detection algorithm is added to this firmware version. The new algorithm targets a combination of a leaky tip seal with clot encountered (sometimes undetected with version 2.0). This condition will result in an error code. A new algorithm has also been added to increase sensitivity to the aspiration of air.

Dispense checks have been added to increase sensitivity for the detection of foam/bubbles, clots or the dispense of air followed by liquid. Other improvements include increased sensitivity to the dispense of air during the dispense cycle and the detection of short dispensed liquids due to an air leak.

Revised Tip Threshold:
The pipettor will aspirate and dispense liquid from the D1 position during the last five tips of the sequence. The aspirated pressure levels of the five tips must be within five units of each other or the pipettor will continue the sequence until there are five consecutive readings within five of each other. The maximum number of tips allowable for the tip threshold sequence is 45.

The operator will be required to place a 100 mL bottle of distilled water into the D1 location prior to initiation of Tip Threshold, otherwise the operator interface remains unchanged.

The sample nozzle shaft assembly has been altered. The alterations include one piece design and a change in shape to the tip end of the shaft. The change in shape of the shaft will decrease the surface area of the shaft that comes into contact with the tip. Decreasing the surface area increases the pressure at the contact points there by increasing the likelihood of obtaining a good tip nozzle seal.

END OF DOCUMENT

ABBOTT ADD	TECHNICAL SERVICE BULLETIN

SUBJECT:
COMMANDER® FPC VERSION 2.1
SOFTWARE AND COMPUTER SYSTEM

TSB#: **76-006**

ORIGINATOR:
KIMBERLI I. MARTIN

PRODUCT:
COMMANDER® FPC (76)

APPROVED: **John Buckland 4/22/93 (signature on file)**

REF. ECN: **FP-284, FP-286**

IMPLEMENTATION:	TSB Part/Kit #: **n/a**	Upgrade Time: **2.0 Hrs.**
☒ **Immediate** ☐ **Next Service Call** ☐ **Next Failure** ☐ **Optional**	TSB Effectivity/ Part(s) Availibility: **22-APR-93**	Validation Time: **2.0 Hrs.** Total Mod. Time: **4.0 Hrs.**
Instruments Requiring Modification: **ALL**		

****NOTE**** **The instrument must be at TSB Level 005 prior to performing this TSB.**

Potential Biohazard & Voltage Hazard. Observe Proper Safety Precautions.

DISTRIBUTION:

Japan only

PURPOSE :

Commander Flexible Pipetting Center (FPC) Version 2.1 will allow the display of Japanese characters (Kanji) on the screen of FPC Version 2.0. All features and functionality will remain the same as FPC Version 2.0, with the additional ability to print in Kanji using a localized printer.

PRODUCT FUNCTIONS:

To allow the Japanese language to be installed in the field in the same manner as languages currently supported by FPC Version 2.0.

To allow the Japanese language to be selected from the FPC Version 2.0 System Configuration Menu.

When Japanese language is selected, all FPC Version 2.0 screens will appear with all appropriate output strings displayed in Japanese.

To allow configuration of the printer that supports Japanese output, and allow printing of all existing FPC Version 2.0 printouts in Japanese.

ADMINISTRATIVE:

Potential Biohazard & Voltage Hazard. Observe Proper Safety Precautions.

The Japanese printer (HP DeskJet 500J or equivalent) is sourced by Dainabot. No printer will be sent from Dallas. Dainabot is responsible for assuring the compatibility of an equivalent printer.

No Kanji keyboard entry is supported.

Dainabot will translate, verify, and source the FPC Version 2.0 Operator's Manual, Installation/Validation Protocol, and Technical Update. Dainabot will also review the English to Japanese translation of FPC Version 2.0 to verify the intended meaning of the English string.

Dainabot will order the computer system, Flexible Pipetting Center, accessory or retrofit kit, and FPC Version 2.1 software from Dallas. These will be consolidated with the printer, Operator's Manual, and Installation/Validation Protocol at Dainabot for shipment to the final customer.

Dainabot will directly manage the product launch in Japan.

PARTS:

INTERNATIONAL: Japan only.

LN 3A46-71 Computer System (monitor, CPU with power cord, keyboard and keyboard cable)

LN 6A97-01 Replacement CPU only

LN 6A97-03 FPC V2.1 Japanese Language Software Package

****NOTE:** Any Japanese customers who still want FPC Version 2.0 will have to order LN 3A46-70 and will have to source a power cord locally.

KIT IMPACT:

Potential Biohazard & Voltage Hazard. Observe Proper Safety Precautions.

Refer to TSB 76-005 for FPC Version 2.0 service kit additions, retrofit kits, and accessory kits. The FPC Version 2.1 software will be shipped in a separate kit from the existing FPC Version 2.0 kits.

****NOTE:** Dainabot will source the Kanji Printer, Operator's Manual, Installation/Validation Protocol, and the Technical Update for FPC Version 2.1 software.

REPLACED PARTS:

Return all replaced parts to your Country Office for disposal.

COMPATIBILITY:

The FPC Version 2.1 computer system and software are compatible with all existing FPC hardware. All currently available FPC Version 2.0 add-on products are installable on a FPC Version 2.1 system.

****NOTE:** LN 3A46-90 (Local Language Software) is not required to function properly when running Version 2.1 software. French, German, Italian, and Spanish will no work on the Japanese Version 2.1 system.

****NOTE:** LN 3A46-69 (FPC V2.0 replacement computer) cannot be ordered when using FPC Version 2.1 software.

PROCEDURE:

MODIFICATION STEPS:

****NOTE:** The SRI 2.2J Version of Interactive's 3.2.2 UNIX® operating system software, the Pre-Install Diskette Version 2.0, the FPC Version 2.01 Applications Software, the FPC Version 2.0 Database Software, and the Japanese language diskette will be installed on the computer system before being shipped to Japan.

Potential Biohazard & Voltage Hazard. Observe Proper Safety Precautions.

****NOTE:** The Field Service Engineer will receive the Pre-Install Diskette in the FPC Version 2.0 Service Kit addition. The customer will receive the applications and database software in their FPC Version 2.0 accessory or retrofit kits. The UNIX operating system can be ordered by the Abbott Part Number 14150-185.

Upon arrival, "Japanese" will be the default language of choice, and "Kanji- Printer" will be the default/active system printer.

Add-on diskettes which are contained in the customer's accessory or retrofit kits can be installed as described in FPC Version 2.0.

CHECKOUT:

The Technical Marketing Representative will validate the FPC Version 2.1 instrument.

MODIFICATION CONTROL STICKER UPDATE:

TSB-006 will be marked through by the Field Service Engineer.

END OF DOCUMENT

ABBOTT ADD	TECHNICAL SERVICE BULLETIN

SUBJECT:
Flexible Pipetting Center Software Release
(Rev 2.0 with 2.01 application software)

TSB#: **76-005B**

ORIGINATOR:
Patrick Wood

PRODUCT:
COMMANDER® FPC (76)

APPROVED: **John Buckland 12/14/93 (signature on file)**

REF. ECN: **FP-266**

IMPLEMENTATION:	TSB Part/Kit #: **n/a**	Upgrade Time: **6 Hrs.**
☒ **Immediate** ☐ **Next Service Call** ☐ **Next Failure** ☐ **Optional**	TSB Effectivity/ Part(s) Availibility: **08-DEC-93**	Validation Time: **n/a** Total Mod. Time: **6 Hrs.**
Instruments Requiring Modification: **S/N ALL**		

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

Potential Biohazard & Voltage Hazard. Observe Proper Safety Precautions.

DISTRIBUTION:

Worldwide

PURPOSE:

To inform the field of COMMANDER® Flexible Pipetting Center (FPC) Application 2.01 version software release for the US and International. This document will also release revision 2.0 Base software to the US.

Note: This revision of TSB76-OO5A changes the instructions contained in the Modification Steps section of this TSB

ADMINISTRATIVE:

Account number for retrofit charges DDMS348660

U.S.A. - Although this modification is mandatory, implementation controlled by marketing and is due to be completed by the end of April. The account Sales Representative will contact the local District Service Manager and Sales Office to coordinate the arrival of the FSE and TMR. A call will be opened in Field Watch at this time. The FSE's will be installing the TSB and the TMR's will be validating the software. The retro kits will be distributed through order entry RZZ.

INTERNATIONAL - Retrofit kits should be ordered / forecasted through via local Order Entry.

SPECIAL TOOLS:

Potential Biohazard & Voltage Hazard. Observe Proper Safety Precautions.

FPC Alignment Tool 1-43841-01
FPC Homing Fixture C/N 1-43729-01
Pre-Install Disk C/N 1-43794-01
Automatic Bar Code Reader(ABC) Test Disk C/N 1-43739-01
Encoder Wheel Alignment Tool C/N 1-48600-01
Push-up Flag Alignment Tool C/N 1-48602-01
International service locations should order/forecast via their regular parts channels.

PARTS:
U.S.A:

LN 3A46-82 COMMANDER®FPC VERSION 2.0 BASE SOFTWARE PACKAGE (Package includes the FPC Application Software Version 2.01). This package is included in the Retrofit Base Kit L/N 3A46-83.

LN 3A46-45 ASSAY UPDATE KIT
LN 3A46-28 ABC (110 VAC, 60HZ)
FPC FIELD SERVICE MANUAL C/N 1-42834-02

RETROFIT KIT's:
LN 3A46-83 BASE KIT
LN 3A46-84 PLUS KIT
LN 3A46-85 PLUS/ABC KIT

NEW FPC INSTALLATIONS:
L/N 3A46-86 PLUS KIT
L/N 3A46-87 PLUS/ABC KIT

Potential Biohazard & Voltage Hazard. Observe Proper Safety Precautions.

INTERNATIONAL:

LN 3A46-82 FPC VERSION 2.0 BASE SOFTWARE PACKAGE (Package includes the FPC Application Software Version 2.01). This package is included in the Retrofit Base Kit L/N 3A46-83.

LN 3A46-46 ASSAY UPDATE DISK
LN 3A46-24 ABC (220 VAC, 50Hz)
LN 3A46-28 ABC (110 VAC, 60 Hz)
FPC FIELD SERVICE MANUAL C/N 1-42834-02

RETROFIT KIT's:

LN 3A46-83 BASE KIT
LN 3A46-84 PLUS KIT
LN 3A46-85 PLUS/ABC KIT

NEW FPC INSTALLATIONS:

L/N 3A46-86 PLUS KIT
L/N 3A46-87 PLUS/ABC KIT

List number items should be ordered/forecasted via local Order Entry.

SERVICE KIT IMPACT:

The following have been added to Field Service Kit P/N FSE-KIT-76:
FPC Homing Fixture C/N 1-43729-01
Pre-Install Disk C/N 1-43794-01

The following has been added to Field Service Kit P/N FSE-KIT-76A:

ABC Test Disk C/N 1-43739-01

After firmware installation the LSU board Catalog Number changes to 1-42634-02, and the MPU boards catalog number changes to 1-42633-03.

INTERNATIONAL - The COMMANDER® FPC Homing Fixture, Pre-Install Disk and ABC Test Disk have been added to the FPC Service Kit. International service locations should order/forecast via their regular parts channels.

REPLACED PARTS:
Destroy all replaced parts.

INTERNATIONAL - Return all replaced parts to your Country Office for disposal.

COMPATIBILITY:
The new software is compatible with all existing instrumentation.

INSTALLATION PROCEDURE:

Refer to the installation section of the FPC Field Service Manual C/N 1-42834-02. Modification time is dependent on what software configuration is installed. Modification time is as follows:

Base package 4 hours
Base and Plus packages 5 hours
Base, Plus and ABC packages 6 hours

MODIFICATION STEPS:

As of 6/30/93 FPC Rev. 1.10 will no longer be supported. If the FPC computer system you are installing boots up to the "FPC login:" it will not be necessary to load the Pre-install disk onto the FPC computer system. If the computer system boots up to "Service login:" you must use the Pre install disk.

Also upgrade the eproms (P/N 43766-101) on the LSU and MPU boards in your Field Service kit as described in the installation section of the ABC Service Manual page 3-38. After upgrading the Boards the LSU board will change to C/N 1-42634-02 and the MPU board will change to C/N 1-42633-03.

It will not be necessary to upgrade the eproms on the Commander® FPC instruments with a serial number of FP11061 and higher.

Installation/Modification steps with Manual and Page numbers are as follows:

Task	**Manual and Page Number**
Install Firmware - FPC MPU and LSU Bd.	ABC Service Manual - 3-38
Install Hardware - ABC, Base Platform and Cables	ABC Service Manual - 3-39 FPC Service Manual - 3D-10 FPC Service Manual - 3D-34
Configure RS-232 Ports	FPC Operators Manual - 8-12 FPC Operators Manual - 13-l
Perform Alignments ABC and FPC	ABC Service Manual - 5-1 FPC Service Manual - 5-1

Potential Biohazard & Voltage Hazard. Observe Proper Safety Precautions.

Perform Total Service Call	ABC Service Manual - 3-6 FPC Service Manual - 3A-I
Run Dummy Assay	FPC Operators Manual Sections 4 and 5

Note: **The Firmware and platform must be installed on all upgrades.**

U.S.A - The Field Service Engineer will perform the modification as described in the Installation sections of the FPC Field Service Manual C/N 1-42834-02 and the Commander® Automatic Bar Code Reader (ABC) Field Service Manual C/N 1-43752-01.

INTERNATIONAL - Installation is up to the discretion of the country. For accounts with Version 2.00 application software presently installed, only L/N 3A46-82 will need to be ordered and installed.

MODIFICATION CONTROL STICKER UPDATE:

U.S.A - The Field Service Engineer will be updating the TSB Sticker by blacking out the number 5 (76-005).

INTERNATIONAL - Modification Control Sticker Update is up to the discretion of the country.

CHECK-OUT:

U.S.A. - The TMR will validate the software. The Field Service Engineer will perform the FPC Check-Out procedure as described in the FPC Field Service Manual on page 3D-48, complete the Installation Check List on page 3D-49 of the FPC Field Service Manual, and perform a Total Call as described on page 3A-01 of the FPC Field Service Manual.

Potential Biohazard & Voltage Hazard. Observe Proper Safety Precautions.

INTERNATIONAL - Instrument and software validation is up to the discretion of the individual country.

DESCRIPTION OF CHANGES

Refer to the FPC Field Service Manual C/N 1-42834-02 and the Commander® FPC Operators Manual L/N 3A46-48 for a description of changes from the original FPC software.

FPC version 2.0 Base software L/N 3A46-82 will consist of the following diskettes:

a) Application V2.0	2 disks
b) Database	2 disks
c) Data Output Interface	1 disk
d) PPC Interface	1 disk
e) Quantum Interface	1 disk
f) Quantumatic Interface	1 disk

The two **Application diskettes have changed to Revision 2.01** from revision 2.00 to correct the following two problems:

When being read by the 2.00 version product, a certain subset of bar codes produce "Invalid Checksum Error" messages and are unable to be read. A new algorithm has been incorporated in the 2.01 version software allowing all bar codes to be read.

While using 2.00 version software on a non-ABC system, problems arise under certain circumstances that affect patient identification integrity. This typically occurs on 2.00 systems that are using a sensor module, registering and pipetting simultaneously and answer a message to swap trays, all at the same time. FPC 2.01 version software has been modified so that patient identification corruption can not

occur under these or similar circumstances.

END OF DOCUMENT

ABBOTT ADD	TECHNICAL SERVICE BULLETIN

SUBJECT:
FLEXIBLE PIPETTING CENTER SOFTWARE RELEASE (REVISION 2.0)

TSB#: **76-004**

ORIGINATOR:
Patrick Wood

PRODUCT:
COMMANDER® FPC (76)

APPROVED: **Ruben D. Cortez (signature on file)**

REF. ECN: **FP-241**

IMPLEMENTATION:	TSB Part/Kit #: **n/a**	Upgrade Time: **6 hours**
☒ **Immediate** ☐ **Next Service Call** ☐ **Next Failure** ☐ **Optional**	TSB Effectivity/ Part(s) Availibility: **21-DEC-92**	Validation Time: **5 hours** Total Mod. Time: **11 hours**
Instruments Requiring Modification: **S/N ALL**		

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

Potential Biohazard & Voltage Hazard. Observe Proper Safety Precautions.

DISTRIBUTION:

International

PURPOSE:

To inform the field of FPC 2.0 version software release for International accounts only. Although this modification is mandatory, implementation will be controlled by marketing.

ADMINISTRATIVE:

Account number for retrofit charges DDMS348660.
Installation is up to the discretion of the country. The parts can be ordered through North Chicago RZZ.

SPECIAL TOOLS:

FPC Homing Fixture C/N 1-43729-01
Pre-Install Disk C/N 1-43794-01
ABC Test Disk C/N 1-43739-01
Encoder Wheel Alignment Tool C/N 1-48600-01
Push-up Flag Alignment Tool C/N 1-48602-01

International service locations should order/forecast via their regular parts channels.

PARTS -

US - N/A

INTERNATIONAL:
LN 3A46-46 ASSAY UPDATE DISK
LN 3A46-24 ABC (220 VAC, 50 Hz)
LN 3A46-28 ABC (110 VAC, 60 Hz)

RETROFIT KIT's:
LN 3A46-83 BASE KIT
LN 3A46-84 PLUS KIT
LN 3A46-85 PLUS/ABC KIT

NEW FPC INSTALLATIONS:
L/N 3A46-86 PLUS KIT
L/N 3A47-87 PLUS/ABC KIT

List number items should be ordered/forecasted via local Order entry.

SERVICE KIT IMPACT:
The following have been added to field service kit P/N FSE-KIT-76:
FPC Homing Fixture C/N 1-43729-01
Pre-Install Disk C/N 1-43794-01

The following have been added to field service kit P/N FSE-KIT-76A
ARC Test Disk C/N 1-43729-01

Potential Biohazard & Voltage Hazard. Observe Proper Safety Precautions.

INTERNATIONAL - The FPC Homing Fixture, Pre-Install Disk and ABC Test Disk have been added to the FPC Service Kit. International service locations should order/forecast via their regular parts channels.

REPLACED PARTS:
Destroy all replaced parts.
INTERNATIONAL - Return all replaced parts to your Country Office for disposal.

COMPATIBILITY:
The new software is compatible with all existing instrumentation.

INSTALLATION PROCEDURE:
Refer to FPC Field Service Manual C/N 1-42834-02 and ABC Field Service Manual C/N 1-43752-01

MODIFICATION STEPS:
US - N/A
INTERNATIONAL - Installation Protocol is up to the discretion of the country.

MODIFICATION CONTROL STICKER UPDATE:
US - N/A

INTERNATIONAL - Modification Control Sticker Update is up to the discretion of the country.

CHECK-OUT:
US - N/A

INTERNATIONAL - Instrument and software validation is up to the discretion of the individual country.

DESCRIPTION OF CHANGES:

Refer to FPC Field Service Manual C/N 1-42834-02 and the Commander® FPC Operators Manual L/N 3A46-48.

END OF DOCUMENT

ABBOTT
ADD

TECHNICAL SERVICE BULLETIN

SUBJECT:
FPC Software Release: Version 1.7

TSB#: **76-003**

ORIGINATOR:
Emile A. Diou

PRODUCT:
COMMANDER® FPC (76)

APPROVED: **Ruben D. Cortez 5-5-92 (signature on file)**

REF. ECN: **FP-203**

IMPLEMENTATION: ☒ **Immediate** ☐ **Next Service Call** ☐ **Next Failure** ☐ **Optional** Instruments Requiring Modification: **S/N See List**	TSB Part/Kit #: **n/a** TSB Effectivity/ Part(s) Availibility: **02-APR-92**	Upgrade Time: **n/a** Validation Time: **n/a** Total Mod. Time: **n/a**

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

Potential Biohazard & Voltage Hazard. Observe Proper Safety Precautions.

DISTRIBUTION:

U.S only. This is a one time distribution through the U.S TMR,s / sales personnel organization. There will be no parts shipped through the Field Service Organization.

PURPOSE:

To inform the field of FPC 1.7 version software release, FSE responsibility and billing procedures.

1.7 version software allows the customer to use the FPC to pipette Ortho's HCV 2.0 assay to microtiter plates. The software receives data from the SLT reader, merges sample ID's with results, and transmits the data to the DMS.

The SLT instruments used for the Ortho HCV 2.0 assay consist of the following:

SLT 400 ATC Reader	LN3A46-17
SLT 812 SW2 Washer	LN 3A46-18
Citizen 200 GX Printer	LN3A46-49

The SLT instruments will be a swap-out unit.

The replacement of SLT instruments will be handled by U.S CSC group.

ADMINISTRATIVE:

1. U.S TMR's will install SLT readers, washers, and printers.

2. U.S TMR's will install software and contact FSE to perform Prealignment / alignment.

3. U.S FSE will perform the FPC Prealignment checks and the XYZ alignments as required.

4. U.S FSE will bill all charges associated with 1.7 software installation to ABBOTT Department 2LC.

Per U.S. Marketing Blood Bank product Manager, there are a total of 29 accounts targeted to receive the SLT equipment. 15 out of 29 accounts are listed below that will be getting FPC 1.7 software.

Michigan Community	Champaign Country
Aultman Hospital	LDS Hospital
UMDNJ	Loraine Country MC
Ochsner	Barnes Hospital
Coffee Memorial	FT. Knox
Mayo Clinic	Mass General
Blood Assurance	Kiesler AFB
Central Texas	

SPECIAL TOOLS:

NONE

Potential Biohazard & Voltage Hazard. Observe Proper Safety Precautions.

PARTS:

RETROFIT KIT:

LN 3A46-96 FPC ASSAY VERSION 1.7

INSTALLATION:

U.S TMR's / Sales Personnel will be installing the software and marking off 03 on the instrument modification TSB sticker, after the validation protocol is complete.

END OF DOCUMENT

ABBOTT
ADD

TECHNICAL SERVICE BULLETIN

SUBJECT:
VERSION 3.3 EEPROM UPGRADE

TSB#: **76-002**

ORIGINATOR:
RUBEN D. CORTEZ

PRODUCT:
COMMANDER® FPC (76)

APPROVED: **John Buckland 03-29-91 (signature on file)**

REF. ECN: **FP-133**

IMPLEMENTATION: ☒ **Immediate** ☐ **Next Service Call** ☐ **Next Failure** ☐ **Optional** Instruments Requiring Modification: **S/N 76FP10660 & BELOW**	TSB Part/Kit #: **n/a** TSB Effectivity/ Part(s) Availibility: **29-MAR-91**	Upgrade Time: **n/a** Validation Time: **n/a** Total Mod. Time: **n/a**

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

PURPOSE:

To improve the FPC's ability to detect good dilutor tray aspirations from bad aspirations when running the HIV assay. This change should reduce the occurrence of dillutor tray sampling errors.

DISTRIBUTION:

Worldwide

TIME REQUIRED:

Less than 90 minutes.

SPECIAL TOOLS REQUIRED:

Standard FSE Tool Kit
FPC kit

PARTS REQUIRED:

THE 42838-101 TSB 76-002 KIT INCLUDES:

One FPC EEPROM (Version 3.3)	42787-104	
Five TSB STICKERS	31535-102	(Extras Stickers for FPC's having new EEPROM done by Aloka)

PARTS DISTRIBUTION:

INTERNATIONAL:

Forecast for the FPC EEPROM kits will need to be addressed with the Service Planning Group in Dallas.

DOMESTIC:

The 42838-101 TSB 76-002 Kit will be shipped as per the IRL to be installed on the existing

instrument base and also a 42838-101 TSB 76-002 Kit will be send to upgrade the board for Product Code (76) FPC Service Kit.

PROCEDURE:

Instrument Modification

To modify your Kit board, you should only perform steps 7 thru 12.

1. Turn off power to the FPC.

2. Disconnect the A.C. Power Cord, F-Link Power Cable, RS-232 Conversion Cable from the back of the Pipettor.

3. To remove the Rear Cover of the FPC, remove its middle and lower 3 screws. It is not necessary to completely remove the upper right and left screws, only loosen them enough so the rear cover may be lifted up and over them.

4. Remove the Upper and Lower Holder Assemblies for PCB's.

5. Remove the MPU PCB from slot 1 (Refer to Figure 2-11, Section 2, Page 2-26 of FPC Service Manual).

6. Check to see if EEPROM E-12 is marked V3.2 or V3.3. If V3.2, go to next step. If V3.3 check to see if TSB 76-001 is done, if not, do it and stop.

7. Place the MPU PCB on your anti-static mat.

8. Before removing EEPROM chip from the MPU PCB, be sure to have your wrist grounding strap on.

   Potential Biohazard & Voltage Hazard. Observe Proper Safety Precautions.

PROCEDURE: (con't)

9. Remove the old EEPROM (Version 3.2, P/N 42787-103) from location E12 (see Figure 1 for location) by gently prying up on the EEPROM chip between the socket and EEPROM chip with a small flat head screw driver. Note the orientation of the chip before you remove it.

10. Take the new EEPROM (Version 3.3, P/N 42787-104) from TSB Kit and replace it in the socket that you just removed the old EEPROM from. When inserting the new EEPROM be sure to orient it the same as the old EEPROM (If you did not note the orientation in the previous step, look at the chip E13 for proper orientation).

11. Change the M.P.U. Board number 1-42633-01 to 1-42633-02 after installing version 3.3 EEPROM.

12. Cut or break off at least 3 pins of the old EEPROM to make it unusable and then discard it.

13. Mark out the number 2 on the TSB sticker to show that TSB 76-002 is completed. If there is not a TSB sticker on this instrument you will need to do TSB 76-001.

14. Put the instrument back together by doing steps 5 thru 1 in reverse.

Modification Checkout

1. Perform the XYZ Software Positions Alignment as described in Section 5 in the Service Manual and ISA 76-004 for Starting Dispense Height Alignment.

2. Perform the Tip Threshold Procedure as described in the Operators Manual, Section 2.

Potential Biohazard & Voltage Hazard. Observe Proper Safety Precautions.

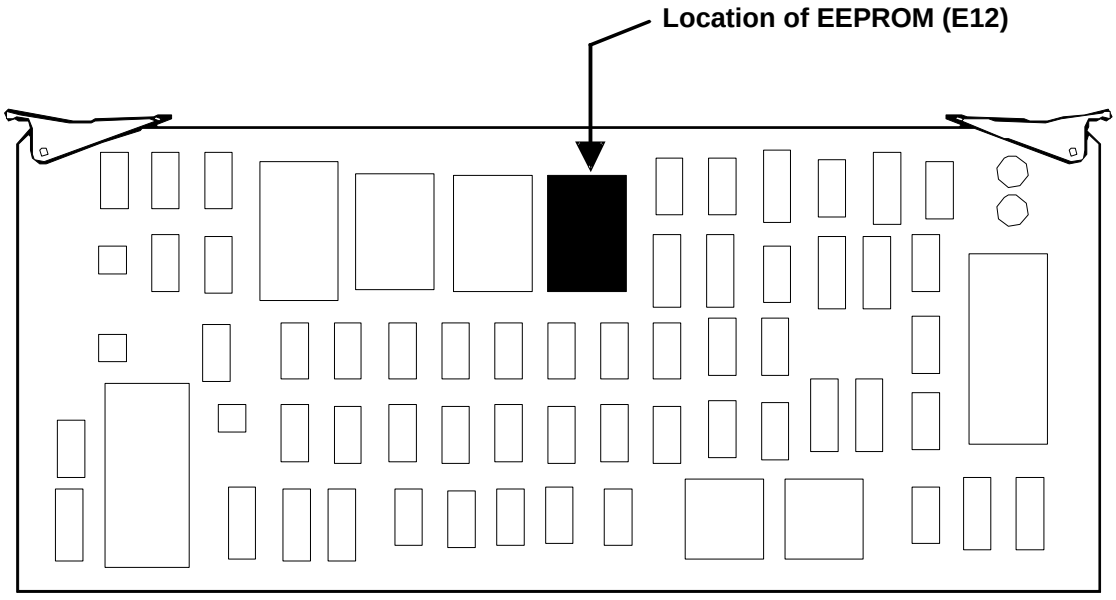

Figure 1: Location of EEPROM (E12) on MPU (UN101)

END OF DOCUMENT

Potential Biohazard & Voltage Hazard. Observe Proper Safety Precautions.

ABBOTT ADD

TECHNICAL SERVICE BULLETIN

SUBJECT:
NEW LOCATION FOR TSB STICKER

TSB#: **76-001A**

ORIGINATOR:
RUBEN CORTEZ

PRODUCT:
COMMANDER® FPC (76)

APPROVED: **John Buckland 10/04/91 (signature on file)**

REF. ECN: **FP-133**

IMPLEMENTATION: ☐ **Immediate** ☒ **Next Service Call** ☐ **Next Failure** ☐ **Optional** Instruments Requiring Modification: **S/N ALL INSTRUMENTS**	TSB Part/Kit #: **31535-102** TSB Effectivity/ Part(s) Availibility: **04-OCT-91**	Upgrade Time: **.50 Hr.** Validation Time: **.50 Hr.** Total Mod. Time: **1 Hr.**

****NOTE** The instrument must be at TSB Level N/A prior to performing this TSB.**

Potential Biohazard & Voltage Hazard. Observe Proper Safety Precautions.

DISTRIBUTION:
Worldwide

PURPOSE:
To change the location of the TSB Sticker (Refer to Figure 1 for new location).

ADMINISTRATIVE NOTES:
None.

SPECIAL TOOLS REQUIRED:
Standard FSE Tool Kit

PARTS:
TSB Sticker 31535-102

Domestic:
TSB Sticker is available through Field Service Parts.

International:
Forecast for the FPC TSB Sticker will need to be handled through the Service Planning Group in Dallas.

Service Kit Impact:
None.

PARTS (Continued):

Replaced Parts:

When adding the TSB Sticker to the new location, marked through the old TSB Sticker (refer to 76-001 for old TSB Sticker location).

Capability:

N/A

PROCEDURE:

Modification Steps:

1. Turn off power to the FPC.

2. Disconnect the A.C. Power Cord, F-Link Power Cable, RS-232 Conversion Cable from the back of the Pipettor.

3. Remove the Left Side Cover of the FPC, (see Figure 1) by removing the four mounting screws.

4. Mark out the number 1 on the TSB sticker to show that TSB 001 is completed. (Be sure to transfer all information from the old TSB Sticker to the new sticker.)

5. Place the TSB Sticker on the inside of the Left Side Frame (see Figure 1), approximately one inch from the bottom and one inch from the Power Switch Bracket.

6. Reassemble the instrument using steps 3 through 1 in reverse.

Checkout:

Potential Biohazard & Voltage Hazard. Observe Proper Safety Precautions.

Run an assay, set up with a minimum of 10 tubes.

Modification Control Sticker Update:

The modification control sticker will be marked during the modification steps.

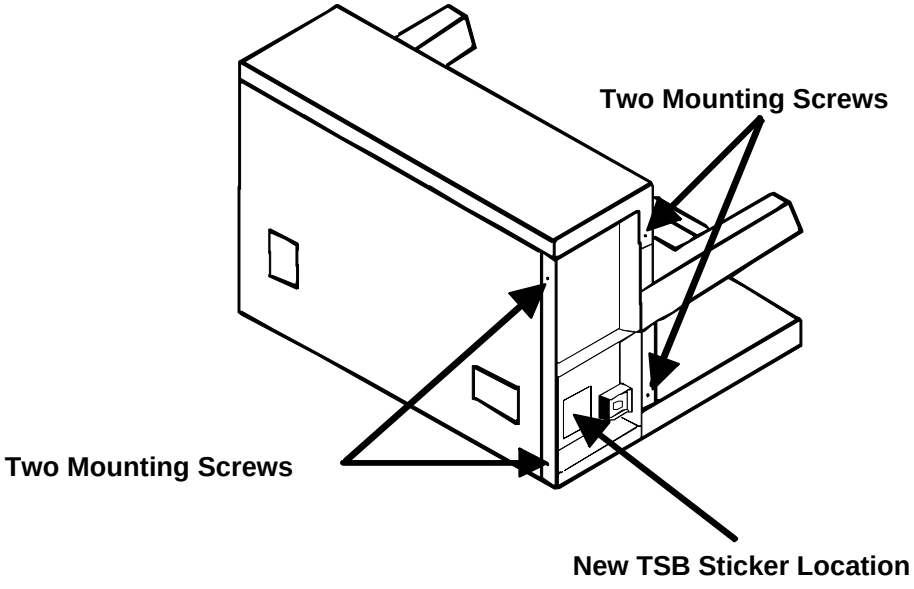

Figure 1: TSB Sticker Location

END OF DOCUMENT

Potential Biohazard & Voltage Hazard. Observe Proper Safety Precautions.