Introduction

This manual provides installation instructions for the Gasboy Automatic Temperature Compensation (ATC) Kits:

- 039086 for Twin 9800 Unit
- 039087 for Single 9800 Unit

Contents

Required Reading

Before installing a kit, the installer must read, understand, and follow:

- This manual
- NFPA 30A, The Automotive and Marine Service Station Code
- NFPA 70, The National Electric Code
- Applicable federal, state and local codes and regulations

Failure to do so may adversely affect the safe use and operation of the equipment.

Note: This kit must be installed by a Gasboy Authorized Service Contractor (ASC) to ensure warranty.

Required Tools

The following tools are needed to install the ATC Kits:

- Open end wrench set
- Flat-tip screwdriver
- Cross-tip screwdriver
- Allen® wrench set

Abbreviations and Acronyms

The following are abbreviations and acronyms used in this document.

Abbreviation or Acronym	Expansion
ATC	Automatic Temperature Compensation
ASC	Authorized Service Contractor
AWG	American Wire Gauge
CFR	Code of Federal Regulations
CPU	Central Processing Unit
DIP	Dual Inline Package
ESD	Electrostatic Discharge
I.D.	Inside Diameter
IS	Intrinsic Safety
LCD	Liquid Crystal Display
LPM	Liters Per Minute
NEC	National Electrical Code
NFPA	National Fire Protection Association (http://www.nfpa.org/Home/index.asp)
NPT	National Pipe Thread
OSHA	Occupational Safety & Health Administration (http://www.osha.gov/)
PCB	Printed Circuit Board
STP	Submerged Turbine Pump
TPS	Teflon® Pipe Sealant

Parts Lists

039086 - ATC Kit for Twin Unit

Kraus Part Number	Description	Quantity
SK449C	PCB Assembly in LP-70 Polycase® Box and BC1379 Mounting Sponge	1
SK460	ATC Display Adapter Board (460A4 in Figure 1)	1
SK461	Pulser/Handle Adapter Board (461A2 in Figure 1)	1
218AY00	Dual Intrinsic Safety Barrier	1
-	5/16-inch Flat Washer (part of 218AY00)	2
-	5/16-inch Hex Nut (part of 218AY00)	1
212AY05	Dual Probe Connector Assembly	1
W172	3-Wire Harness for Intrinsic Safety Barrier	1
W199	Probe Assembly	2
BC407	Thermowell	2
235-C	Thermowell plug	2
122-B	1/8-inch NPT X 1-inch Coupling	2
BC546	120-B 1/8-inch NPT Adapters Drilled to 17/64-inch I.D.	2
103-B	1/8-inch NPT Couplings	2
W283	Display Adapter Harness	1
W284	Pulser/Handle Ribbon Cable	2
-	18-22 AWG Crimp Splices	10
DC256W	White “Volume Corrected to 15° C” Label	4
BC1380	Serialized AV-2322 Nameplate	1

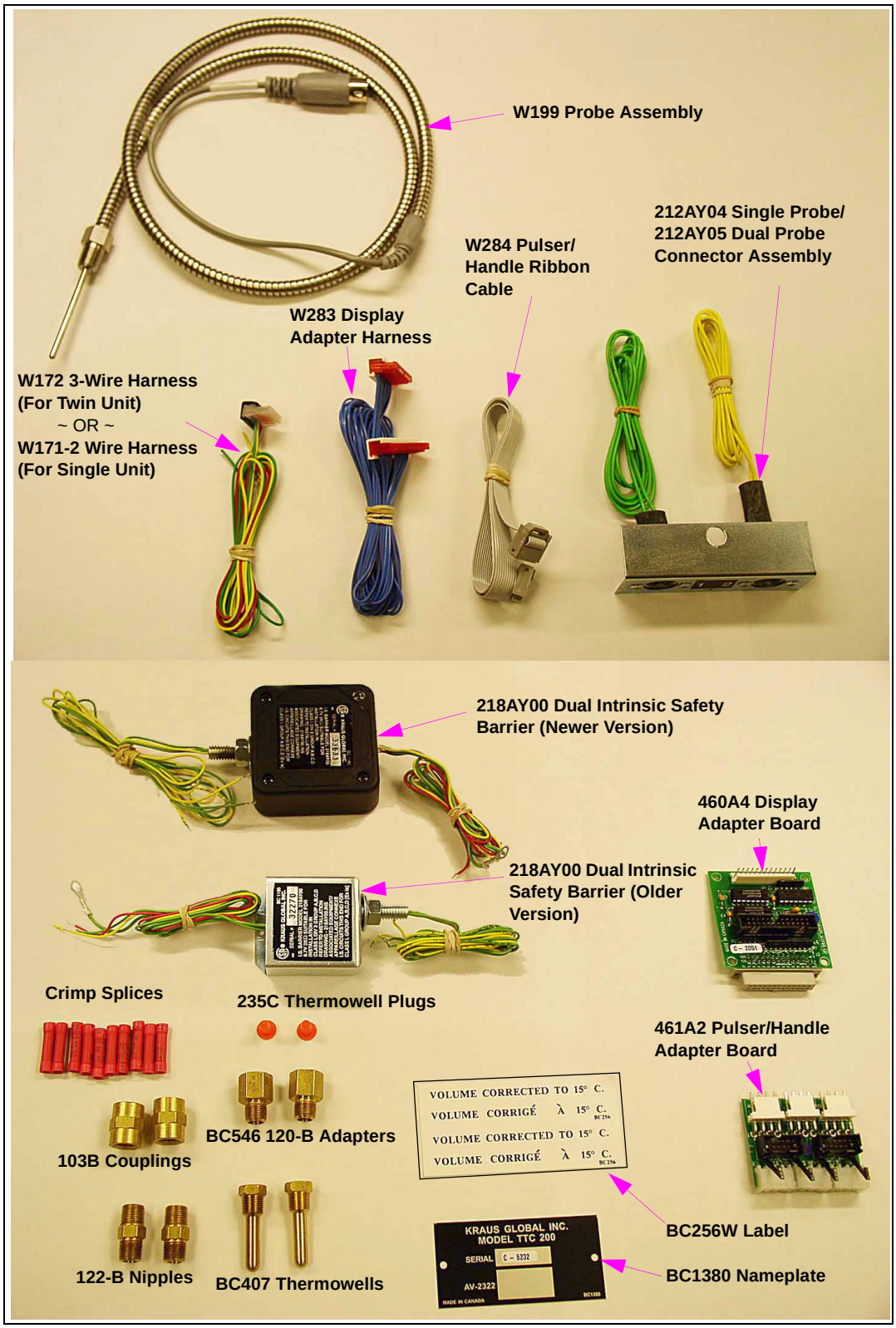
039087 - ATC Kit for Single Unit

Kraus Part Number	Description	Quantity
SK449C	PCB Assembly in LP-70 Polycase Box and BC1379 Mounting Sponge	1
SK460	ATC Display Adapter Board (460A4 in Figure 1)	1
SK461	Pulser/Handle Adapter Board (461A2 in Figure 1)	1
218AY00	Dual Intrinsic Safety Barrier	1
-	5/16-inch Flat Washer (part of 218AY00)	2
-	5/16-inch Hex Nut (part of 218AY00)	1
212AY04	Single Probe Connector Assembly	1
W171	2-Wire Harness for Intrinsic Safety Barrier	1
W199	Probe Assembly	1
BC407	Thermowell	1
235-C	Thermowell plug	1
122-B	1/8-inch NPT Coupling	1
BC546 120-B	1/8-inch NPT Adapters Drilled to 17/64-inch I.D.	1
103-B	1/8-inch NPT Couplings	1
W283	Display Adapter Harness	1
W284	Pulser/Handle Ribbon Cable	1
-	18-22 AWG Crimp Splices	10
DC256W	White “Volume Corrected to 15° C” Label	2
BC1380	Serialized AV-2322 Nameplate	1

Parts Identification

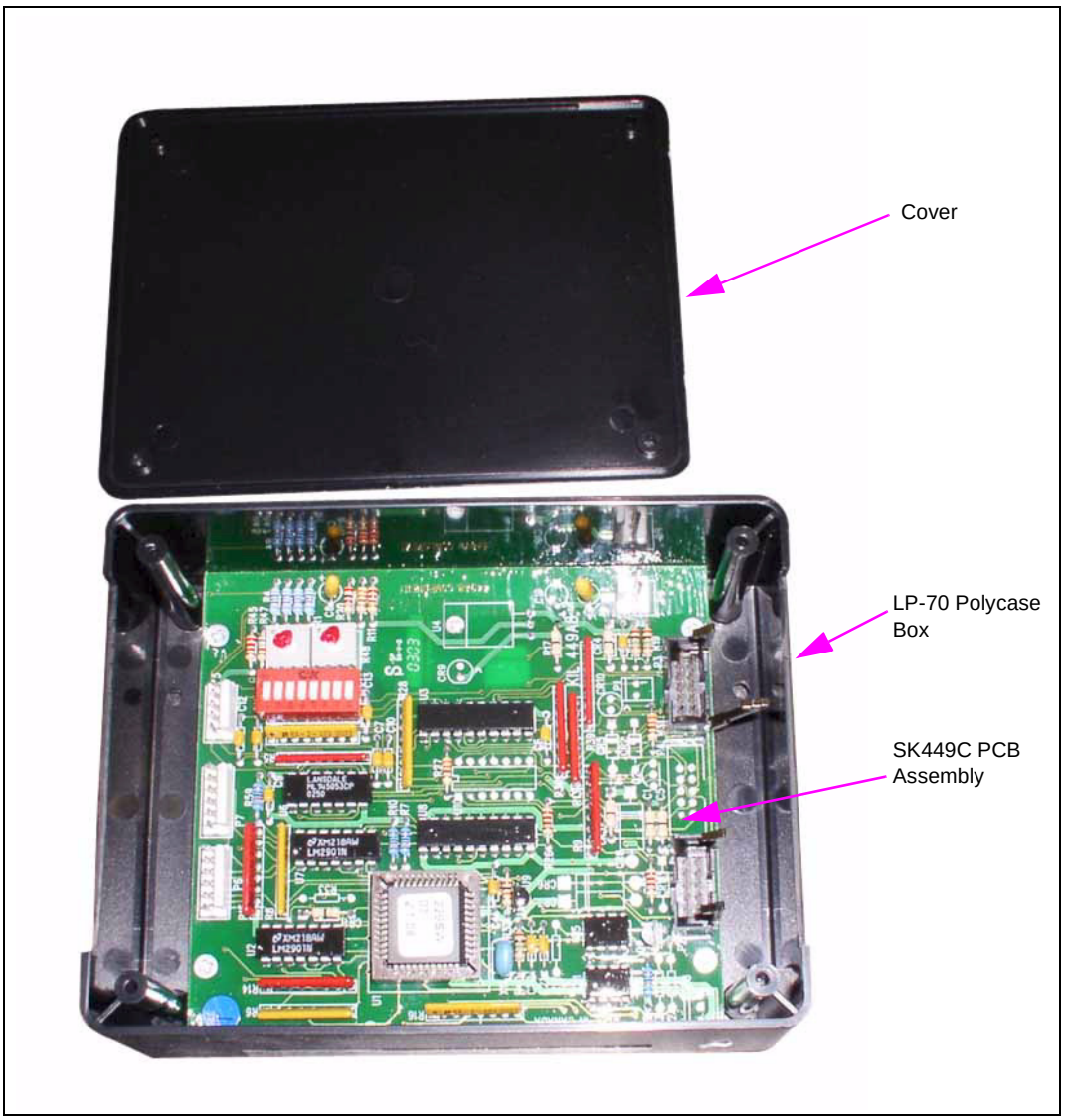
Figure 1 and Figure 2 provide an identification of the parts in the 039086 and 039087 kits.

Figure 1: The 039086 and 039087 Kits Parts Identification



Note: If your kit is for a single unit, you will have only one of some of these items.

Figure 2: SK449C LP-70 Polycase Box and Cover (Part of 039086 and 039087 Kits)



Important Safety Information

This section introduces the hazards and safety precautions associated with installing, inspecting, maintaining or servicing this product. Before performing any task on this product, read this safety information and the applicable sections in this manual, where additional hazards and safety precautions for your task will be found. Fire, explosion, electrical shock or pressure release could occur and cause death or serious injury if these safe service procedures are not followed.

Preliminary Precautions
You are working in a potentially dangerous environment of flammable fuels, vapors, and high voltage or pressures. Only trained or authorized individuals knowledgeable in the related procedures should install, inspect, maintain or service this equipment.

Emergency Total Electrical Shut-Off
The first and most important information you must know is how to stop all fuel flow to the pump and island. Locate the switch or circuit breakers that shut-off all power to all fueling equipment, dispensing devices, and submerged turbine pumps (STPs).

⚠ WARNING

The EMERGENCY STOP, ALL STOP, and PUMP STOP buttons at the cashier's station WILL NOT shut off electrical power to the pump/dispenser.

This means that even if you activate these stops, fuel may continue to flow uncontrolled.

You must use the TOTAL ELECTRICAL SHUT-OFF in the case of an emergency and not only these cashier station "stops."

Total Electrical Shut-Off Before Access
Any procedure requiring access to electrical components or the electronics of the dispenser requires total electrical shut-off of that unit. Know the function and location of this switch or circuit breaker before inspecting, installing, maintaining, or servicing Gasboy equipment.

Evacuation, Barricading and Shut-Off
Any procedures requiring accessing the pump/dispenser or STPs requires the following three actions:

- An evacuation of all unauthorized persons and vehicles using safety tape, cones or barricades to the effected units
- A total electrical shut-off of that unit

Read the Manual
Read, understand and follow this manual and any other labels or related materials supplied with this equipment. If you do not understand a procedure, call a Gasboy Authorized Service Contractor or call the Gasboy Service Center at 1-800-444-5529. It is imperative to your safety and the safety of others to understand the procedures before beginning work.

Follow the Regulations
There is applicable information in NFPA 30A; *Automotive and Marine Service Code*, NFPA 70; *National Electrical Code (NEC)*, OSHA regulations and federal, state, and local codes which must be followed. Failure to install, inspect, maintain or service this equipment in accordance with these codes, regulations and standards may lead to legal citations with penalties or affect the safe use and operation of the equipment.

Replacement Parts
Use only genuine Gasboy replacement parts and retrofit kits on your pump/dispenser. Using parts other than genuine Gasboy replacement parts could create a safety hazard and violate local regulations.

Safety Symbols and Warning Words

This section provides important information about warning symbols and boxes.

Alert Symbol

This safety alert symbol is used in this manual and on warning labels to alert you to a precaution which must be followed to prevent potential personal safety hazards. Obey safety directives that follow this symbol to avoid possible injury or death.

Signal Words
These signal words used in this manual and on warning labels tell you the seriousness of particular safety hazards. The precautions that follow must be followed to prevent death, injury or damage to the equipment

DANGER - This signal word is used to alert you to a hazard to unsafe practice which will result in death or serious injury

WARNING - This alerts you to a hazard or unsafe practice that could result in death or serious injury.

CAUTION with Alert symbol - This signal word designates a hazard or unsafe practice which may result in minor injury.

CAUTION without Alert symbol - When used by itself, CAUTION designates a hazard or unsafe practice which may result in property or equipment damage.

Working With Fuels and Electrical Energy

Prevent Explosions and Fires
Fuels and their vapors will become explosive if ignited. Spilled or leaking fuels cause vapors. Even filling customer tanks will cause explosive vapors in the vicinity of dispenser or island.

No Open Flames


Open flames from matches, lighters, welding torches or other sources can ignite fuels and their vapors.

No Sparks - No Smoking

Sparks from starting vehicles, starting or using power tools, burning cigarettes, cigars or pipes can also ignite fuels and their vapors. Static electricity, including an electrostatic charge on your body, can cause a spark sufficient to ignite fuels and their vapors. After getting out of a vehicle, touch the metal of your vehicle to discharge any electrostatic charge before you approach the dispenser island.

Working Alone

It is highly recommended that someone who is capable of rendering first aid be present during servicing. Be familiar with Cardiopulmonary Resuscitation (CPR) methods if you are working with or around high voltages. This information is available from the American Red Cross. Always advise the station personnel about where you will be working, and caution them not to activate power while you are working on the equipment. Use the OSHA tag out and lock out procedures. If you are not familiar with this requirement, refer to information in the service manual and OSHA documentation.

Working With Electricity Safely

Be sure to use safe and established practices in working with electrical devices. Poorly wired devices may cause a fire, explosion or electrical shock. Be sure grounding connections are properly made. Make sure that sealing devices and compounds are in place. Be sure not to pinch wires when replacing covers. Follow OSHA Lock-Out and Tag-Out requirements. Station employees and service contractors need to understand and comply with this program completely to ensure safety while the equipment is down.

Hazardous Materials

Some materials present inside electronic enclosures may present a health hazard if not handled correctly. Be sure to clean hands after handling equipment. Do not place any equipment in mouth.

⚠ WARNING

This area contains a chemical known to the State of California to cause cancer.

⚠ WARNING

This area contains a chemical known to the State of California to cause birth defects or other reproductive harm.

IMPORTANT: Oxygen may be needed at scene if gasoline has been ingested or inhaled. Seek medical advice immediately.

Emergency First Aid

Informing Emergency Personnel

Compile the following information for emergency personnel:
Location of accident (for example, address, front/back of building, and so on.)
Nature of accident (for example, possible heart attack, run over by car, burns, and so on.)
Age of victim (for example, baby, teenager, middle-age, elderly.)
Whether or not victim has received first aid (for example, stopped bleeding by pressure, and so on.)
Whether or not a victim has vomited (for example, if swallowed or inhaled something, and so on.)

⚠ WARNING


Gasoline ingested may cause unconsciousness and burns to internal organs.
Do not induce vomiting.
Keep airway open.
Oxygen may be needed at scene.
Seek medical advice immediately.

⚠ WARNING


Gasoline inhaled may cause unconsciousness and burns to lips, mouth and lungs.
Keep airway open.
Seek medical advice immediately.

⚠ WARNING


Gasoline spilled in eyes may cause burns to eye tissue.
Irrigate eyes with water for approximately 15 minutes.
Seek medical advice immediately

⚠ WARNING


Gasoline spilled on skin may cause burns.
Wash area thoroughly with clear/water.
Seek medical advice immediately.

IMPORTANT: Oxygen may be needed at scene if gasoline has been ingested or inhaled. Seek medical advice immediately.

Lockout/Tagout

Lockout/Tagout covers servicing and maintenance of machines and equipment in which the unexpected energization or start up of the machine(s) or equipment or release of stored energy could cause injury to employees or personnel. Lockout/Tagout applies to all mechanical, hydraulic, chemical or other energy, but does not cover electrical hazards. Reference Subpart S of 29 CFR Part 1910 - Electrical Hazards, 29 CFR Part 1910.333 contains specific Lockout/Tagout provision for electrical hazards.

Installation

Use electrostatic discharge (ESD) precautions to place yourself at a neutral static-free potential by touching an unpainted metal surface and by using a wrist strap connected to a grounded metal frame or chassis.

Preparation

1. Request permission from the manager/owner to remove power from the unit and then remove power using normal procedures. Observe the lockout/tagout safety procedures.

2. Make sure you have the proper kit for the model dispenser to be retrofitted.

3. Using the proper key for the unit, unlock and remove the doors from both sides of the unit. Place doors in a safe place to prevent damage or scratches.

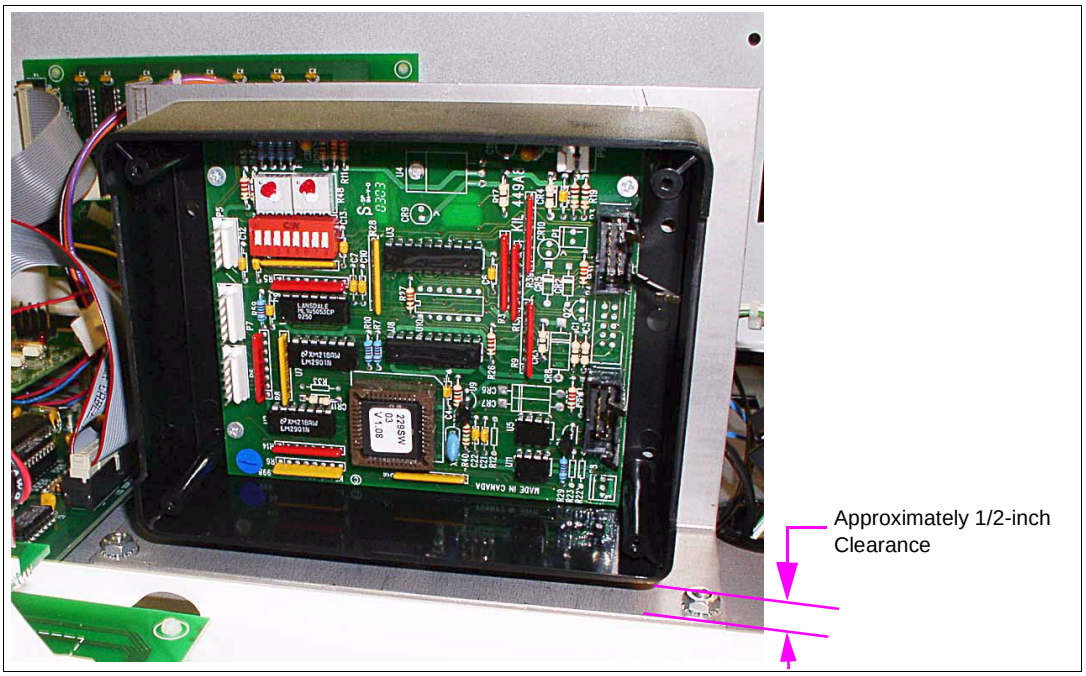
4. Using a cross-tip screwdriver, at side 1 of the unit, loosen the two screws (one on each side of the display cover), spring the screw holders and screws out from the display cover and pull the display cover forward. The cover will pivot down in a horizontal position allowing access to the electronics section of the unit.

Installing the 039086 ATC Kit in Single Unit

1. In the kit, locate the LP-70 Polycase box with SK449C PCB mounted inside. Remove the four mounting screws securing the cover and remove the cover from the box. Save screws and cover for reinstalling later.

2. Peel the protective cover from the mounting sponge (on the back of the polycase box) and mount the box as shown in Figure 3. Mount approximately 1/2-inch up from shelf (1/2-inch clearance underneath shelf).

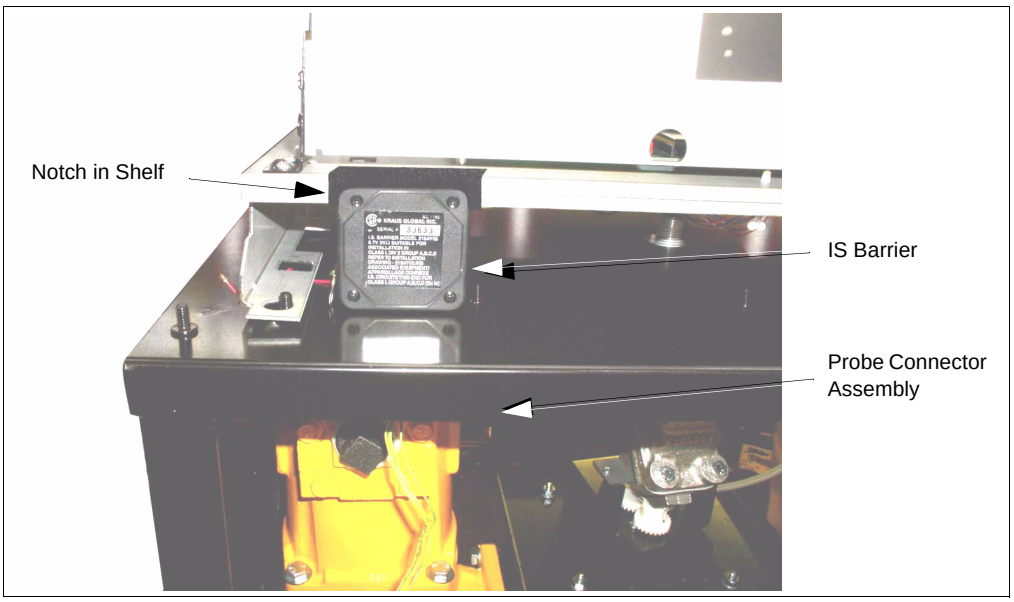
Figure 3: Mounting the LP-70 Polycase Box



3 In the kit, locate the 218AY00 single intrinsic safety (IS) barrier and 212AY04 single probe connector assembly. Remove the nut and washer from the mounting stud on the IS barrier and slide them off the wires. Save for reuse.

4 Feed the wires extending from the IS barrier mounting stud through the hole in the shelf as shown in Figure 4 and place the mounting stud through the hole.

Figure 4: Mounting the IS Barrier on the Shelf



5 Place the wires extending from the mounting stud through the mounting hole in the single probe connector assembly and place the connector assembly up on the stud (underneath the shelf).

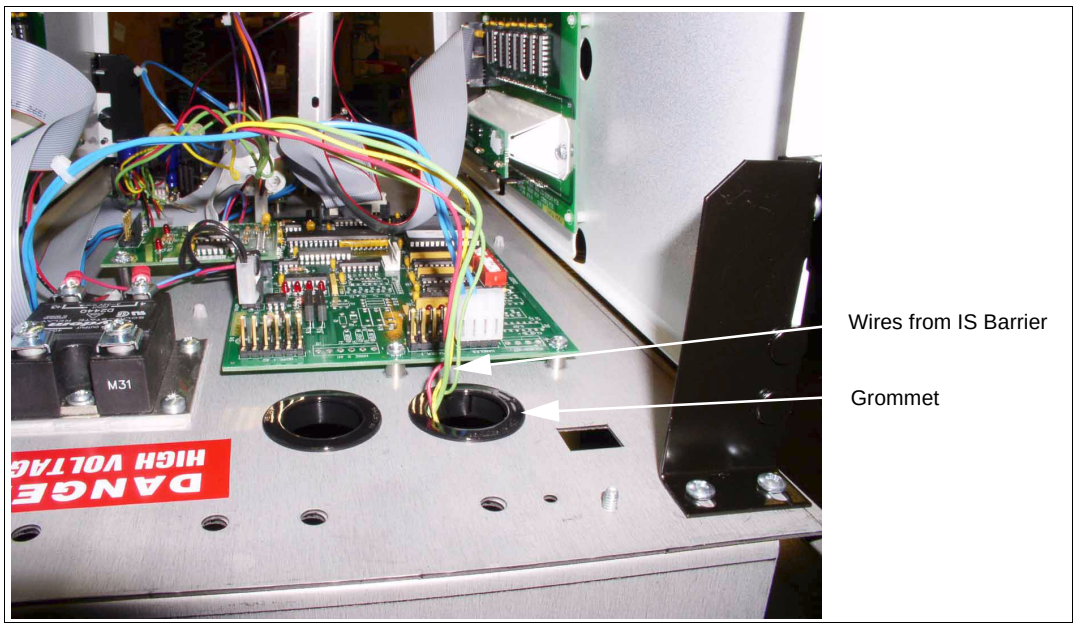
CAUTION

If your kit contains the newer version of the 218Y00 IS Barrier (see Figure 1 for identification) and your unit does **NOT** have the notch in the shelf (Figure 4), the IS barrier will not mount. **DO NOT** try to mount the IS barrier if the shelf does not have the notch.

6 Place the washer and nut over the wires and turn nut onto the stud securing the IS barrier and probe connector. Tighten snugly but do not overtighten.

7 Place the wires extending from the top of the IS barrier up through the grommet in the upper shelf as shown in Figure 5.
Note: Figure 5 shows two pairs of wires (for a twin unit installation). There is only one pair of wires in this single unit installation.

Figure 5: Wires from IS Barrier Extending Through Shelf



8 At the C06391 9800 CPU Printed Circuit Board Assembly (Figure 6 and Figure 7), disconnect the connectors connected to the **Pulser 1** and **Handles** jacks.

9 In the kit, locate the 461A2 Circuit Board Assembly (see Figure 1 for identity). Connect the assembly to the jacks labeled **Pulser 1**, **Handles**, and **Pulser 2** on the 9800 CPU PCB.

10 Reconnect the connector removed in Step 8 to the 461A2 Circuit Board Assembly (directly above the Pulser 1 and Handles connectors).

11 At the 9800 CPU PCB Assembly (Figure 6 and Figure 7), disconnect the connector connected to the **LCD Display** jack.

12 In the kit, locate the 460A4 Circuit Board Assembly (see Figure 1 for identity). Connect the assembly to the jack labeled **LCD Display** on the 9800 CPU PCB.

13 Reconnect the connector removed in Step 11 to the 460A4 Circuit Board Assembly jack J1 (in center of board).

Figure 6: C06391 9800 CPU Printed Circuit Board (Photograph)

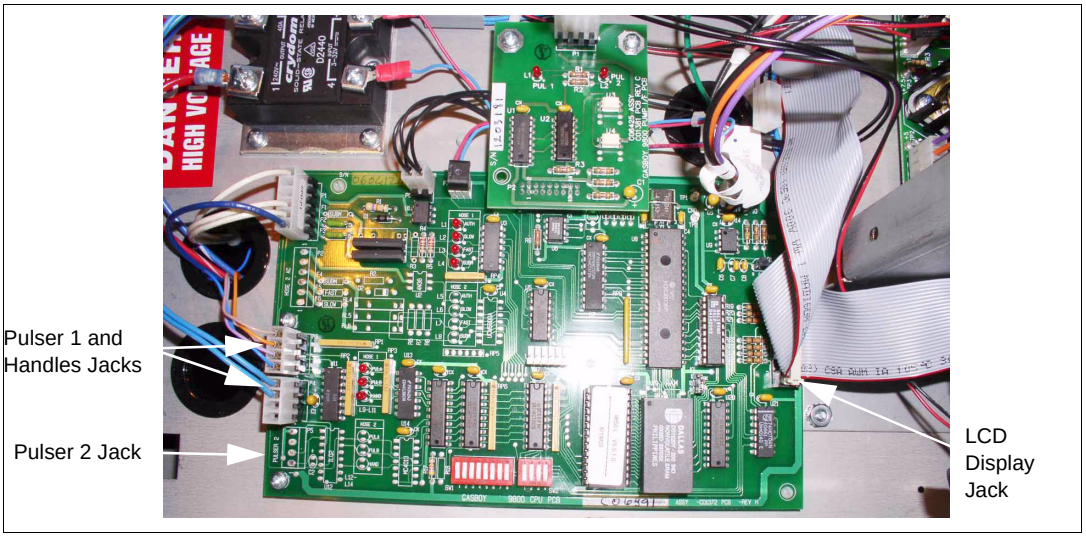
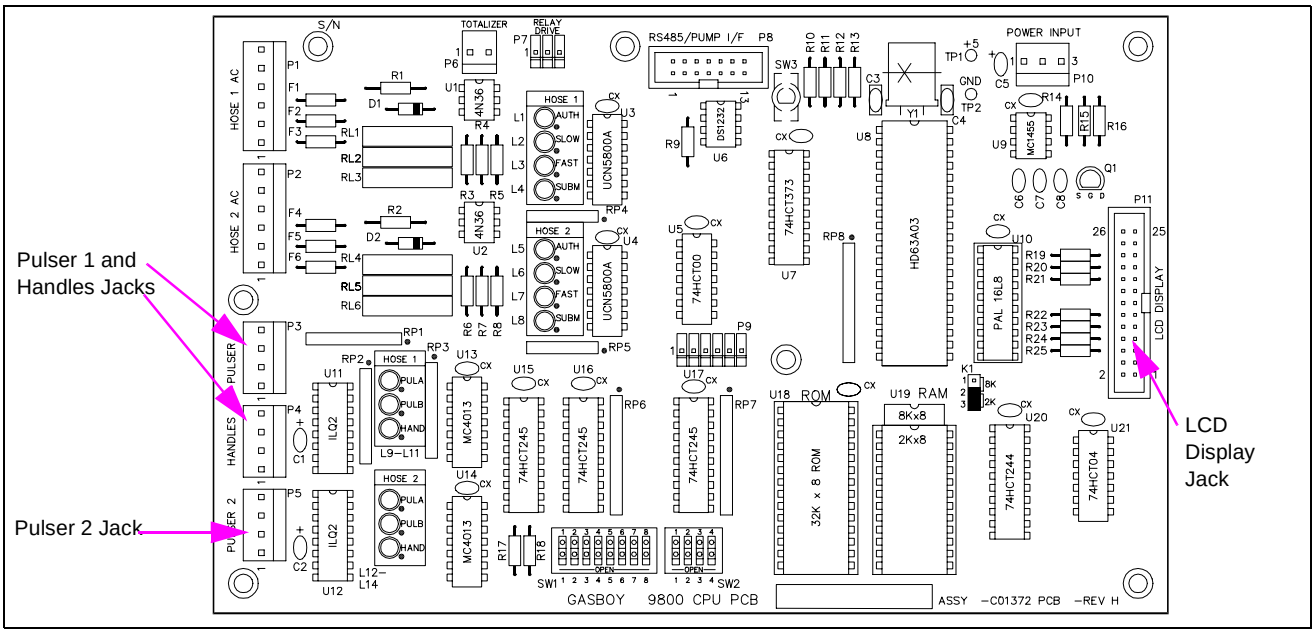


Figure 7: C06391 9800 CPU Printed Circuit Board (Drawing)



14 In the kit, locate the W284 Pulser/Handle Ribbon Cable (see Figure 1 for identity).

15 Connect one end of the W284 cable to P1 on the 461A2 board (Figure 8) and the other end to P2 in the LP-70 Polycase box (Figure 9).

16 Connect one end of the second W284 cable to P8 on the 461A2 board (Figure 8) and the other end to P3 in the LP-70 Polycase box (Figure 9).

Note: Be sure the cables are connected to the connectors as follows:
P1 of 461A2 to P2 of LP-70 Polycase box
P8 of 461A2 to P3 of LP-70 Polycase box

Figure 8: 461A2 Circuit Board in Place with Connections Made

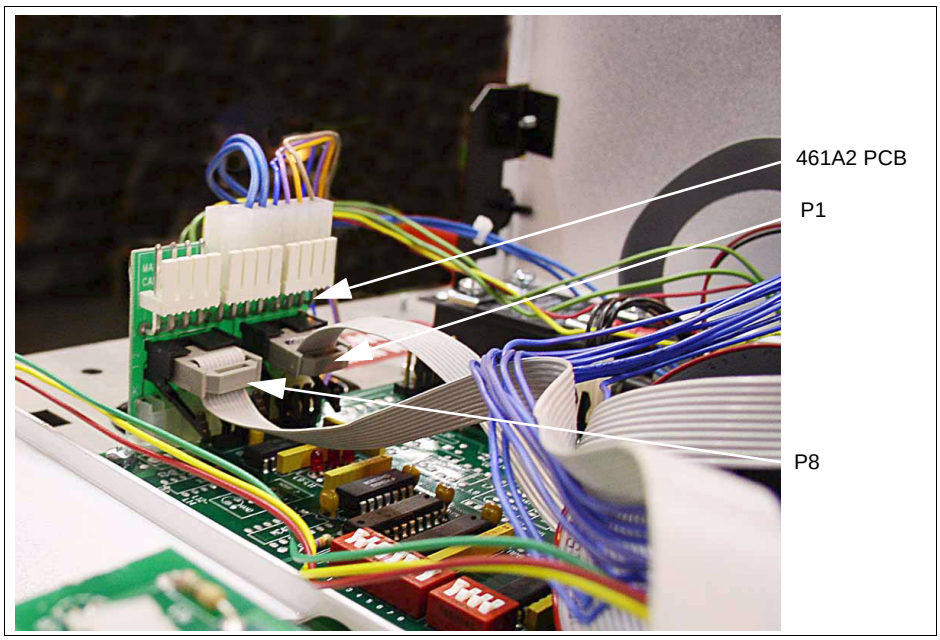
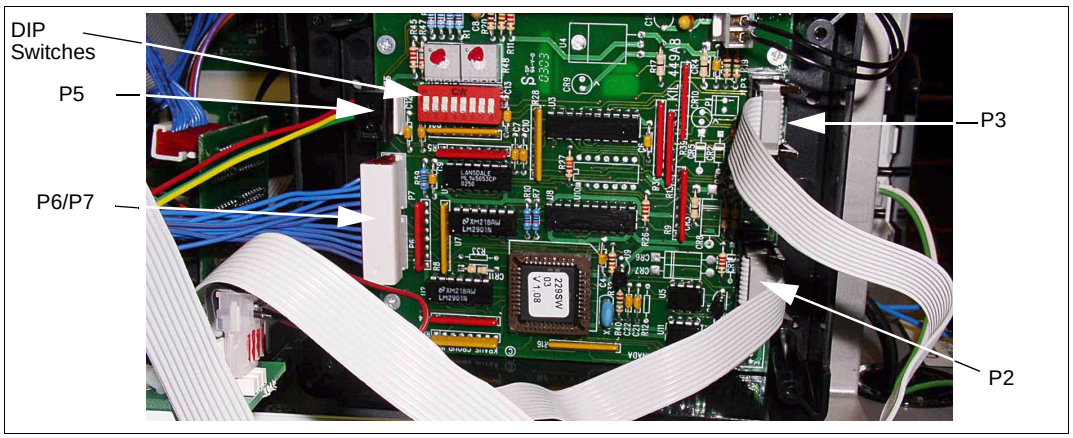


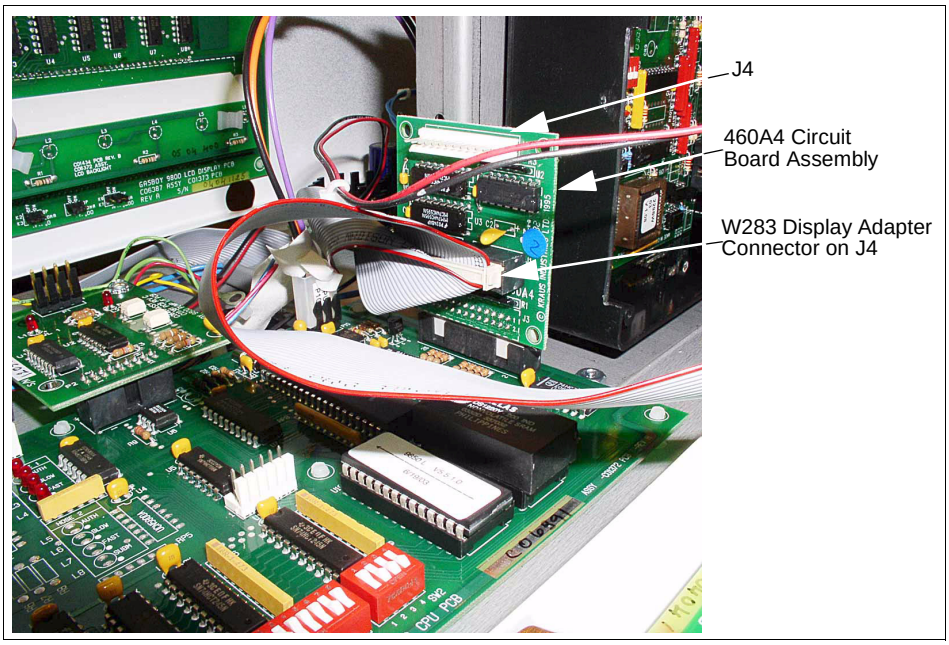
Figure 9: LP-70 Polycase Box Showing Connections



17 In the kit, locate the W283 Display Adapter Harness (see Figure 1 for identification).

18 Connect one connector on the harness (both are the same) to J4 on the 460A4 Circuit Board Assembly (Figure 10) and the other connector to P6/P7 in the LP-70 Polycase box (Figure 9).

Figure 10: 460A4 Circuit Board in Place with Connections Made



19 In the kit, locate the W171 2-wire harness for IS Barrier.

20 Place the connector on the harness on P5 of the LP-70 Polycase box (Figure 9).

21 Using two of the crimp splices, connect the wires of the harness to the wires extending from the top of the IS barrier. Match color codes.

22 Using an OM0205 cap or an appropriate size wire nut (OM0205 cap or wire nut is not part or the kit), cap the end of the green wire from the IS barrier.

23 Connect the ground wire (wire with eyelet connector) to the nearest true ground.

24 Disconnect cable going to P6 connector of the Pump CPU board.

25 Connect the cable that was disconnected in previous step to P9 connector in the LP-70 Polycase box.

26 If the user wants to be able to display electronic totals, a second cable (C06003) must be installed and connected to the P6 connector on the Pump CPU board.

27 In the LP-70 Polycase box, locate the DIP switches shown in Figure 9 and set the switches for the proper unit as shown in the following table:

DIP Switch Settings		
Switch Number	**Switch Function**	**Settings**
1	Product 1	ON for Diesel, OFF for Gasoline
2	Product 2	ON for Diesel, OFF for Gasoline
3	Not used	

DIP Switch Settings		
Switch Number	**Switch Function**	**Settings**
4	Not used	
5	Pulser Multiplier	ON for 9850, OFF for 9852/9853
6	Number of Probes	ON for two (2) probes, OFF for one (1) probe
7	Pulser Adder	ON for 9840
8	ATC	ON for ATC ON, OFF for ATC OFF

28 Remount the LP-70 Polycase box cover removed in step 1.

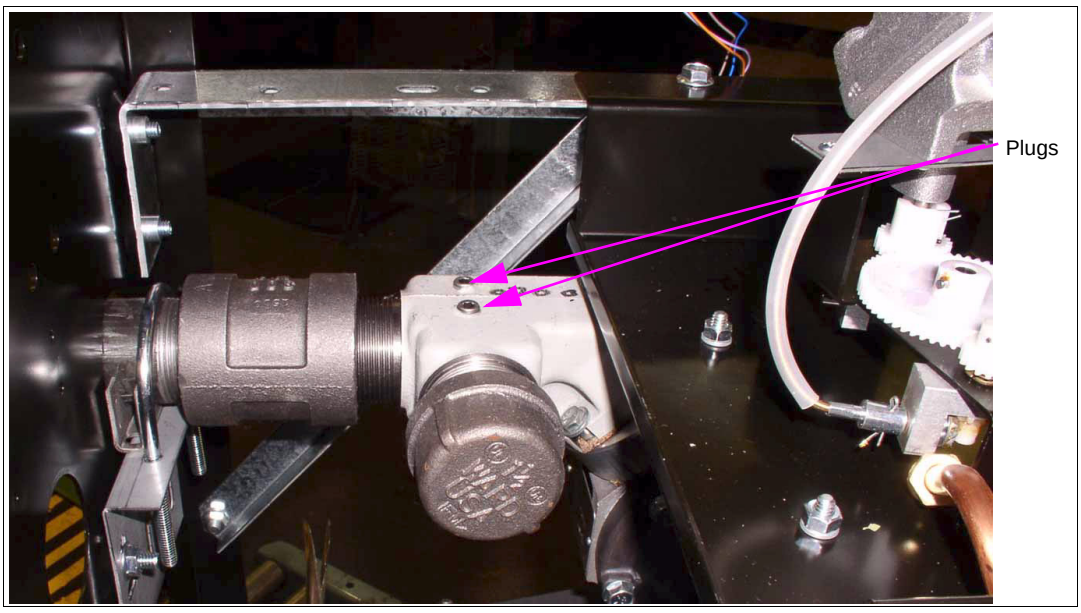
29 Using two of the crimp splices, connect the two yellow wires extending from the bottom of the IS barrier mounting stud to the two blue wires attached to the single probe connector assembly.

30 Using two OM0205 caps or suitable-size wire nuts (OM0205 caps or wire nuts are not part of the kit.), cap the end of the two green wires extending from the bottom of the IS barrier.

31 In the kit, locate the following: (See Figure 1 for parts identity)
- W199 probe assembly
- BC407 Thermowell
- 235-C Thermowell Plug
- BC546 Adapter

32 Underneath the shelf (where the IS barrier is mounted), locate the two plugs in the hydraulic coupling (Figure 11).

Figure 11: Probe Assembly Mounting Location



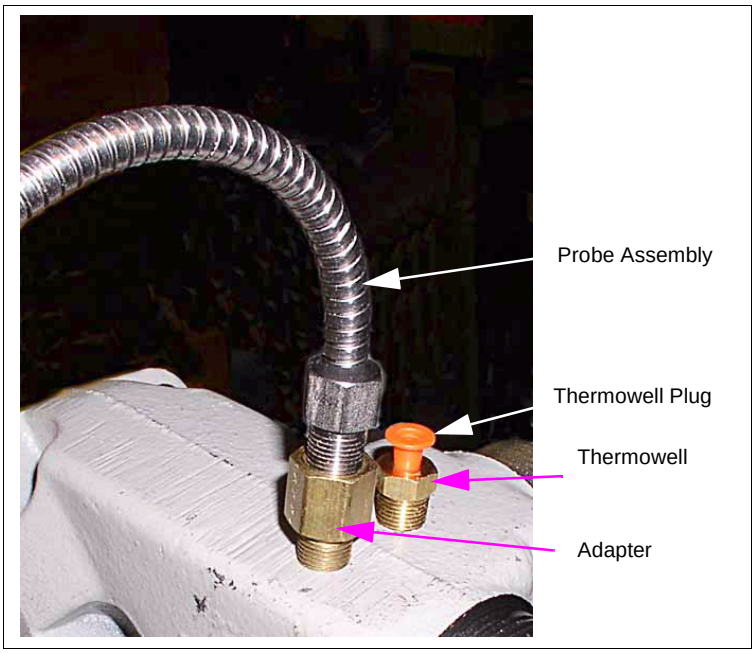
33 Using the appropriate size Allen wrench, remove the two plugs.

CAUTION

When applying SAF-T-LOK® TPS sealant on threads, leave the two threads that enter the hole first free of sealant to prevent the sealant from entering, and possibly damaging or inhibiting proper operation of, the unit.

34 Using SAF-T-LOK TPS sealant, coat the BC407 Thermowell threads and thread into one of the holes where the plugs were removed in the previous step (Figure 12).

Figure 12: Thermowell and Probe Assembly Connections



35 Using a proper size wrench, tighten the thermowell and place the 235-C Thermowell plug into the thermowell.

36 Coat the threads of the BC546 Adapter with SAF-T-LOK TPS sealant and turn it into the other hole where the plugs were removed in step 33 (see Figure 12).

37 Coat the threads of the W199 Probe Assembly with SAF-T-LOK TPS sealant and turn it into the BC546 adapter mounted in the previous step.

38 Using the proper size wrench, tighten both the adapter and probe.

CAUTION

Be sure the threads on the thermowell, adapter, and probe assembly are properly coated with the SAF-T-LOK TPS sealant and tightened properly to prevent leaks.

39 Connect the other end of the probe to Probe Connector Assembly in the connector labeled “1”. (See Figure 4 for Probe Connector Assembly location.)

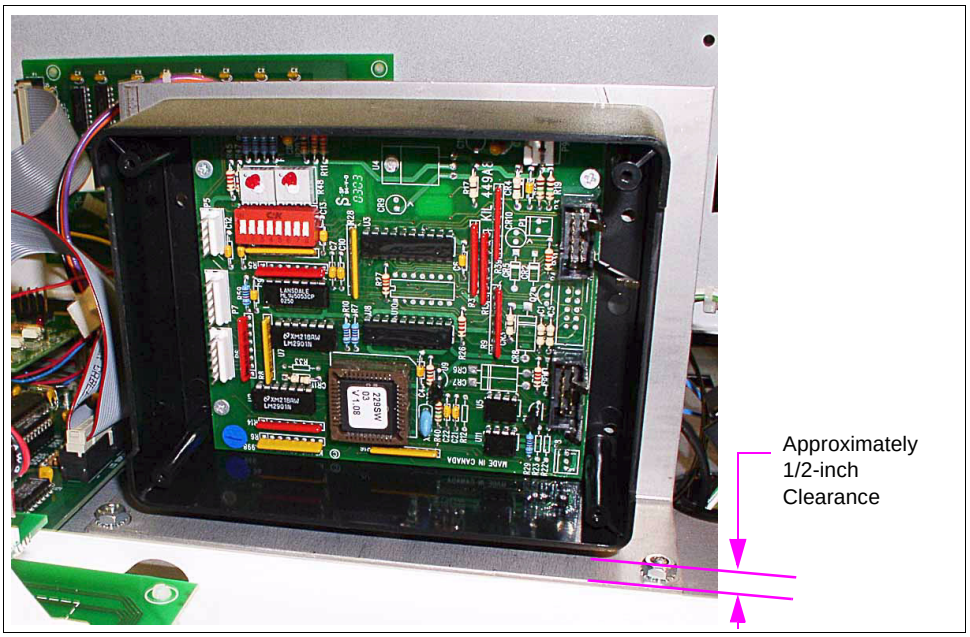
40 Go to “Completing Installation” on page 24 in this manual.

Installing the 039087 ATC Kit in Twin Unit

1 In the kit, locate the LP-70 Polycase box with SK449C PCB mounted inside. Remove the four mounting screws securing the cover and remove the cover from the box. Save screws and cover for reinstalling later.

2 Peel the protective cover from the mounting sponge (on the back of the polycase box) and mount the box as shown in Figure 13. Mount approximately 1/2-inch up from shelf.

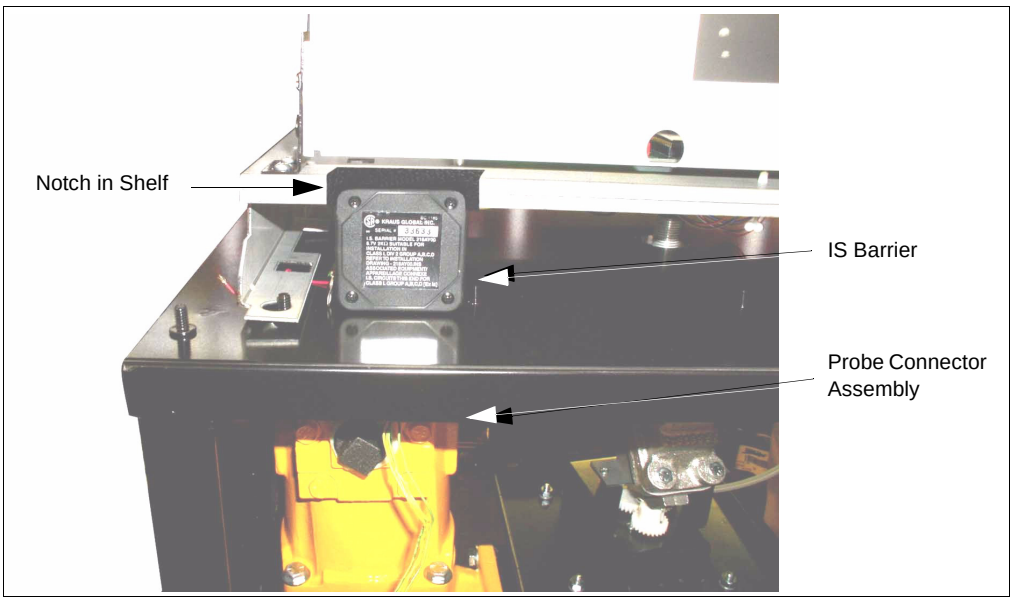
Figure 13: Mounting the LP-70 Polycase Box



3 In the kit, locate the 218AY00 single IS barrier and 212AY05 dual probe connector assembly. Remove the nut and washer from the mounting stud on the IS barrier and slide them off the wires. Save for reuse.

4 Feed the wires extending from the IS barrier mounting stud through the hole in the shelf as shown in Figure 14 and place the mounting stud through the hole.

Figure 14: Mounting the IS Barrier on the Shelf



5 Place the wires extending from the mounting stud through the mounting hole in the dual probe connector assembly and place the connector assembly up on the stud (underneath the shelf).

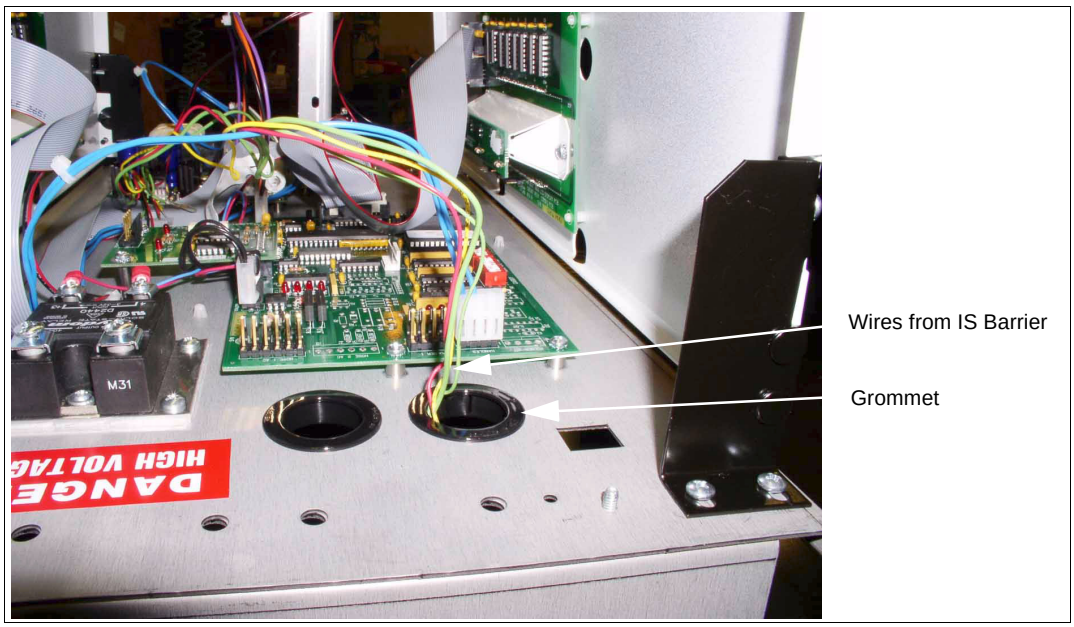
CAUTION

If your kit contains the newer version of the 218Y00 IS Barrier (see Figure 1 for identification) and your unit does **NOT** have the notch in the shelf (Figure 14), the IS barrier will not mount. **DO NOT** try to mount the IS barrier if the shelf does not have the notch.

6 Place the washer and nut over the wires and turn nut onto the stud securing the IS barrier and probe connector. Tighten snugly but do not overtighten.

7 Place the wires extending from the top of the IS barrier up through the grommet in the upper shelf as shown in Figure 15.

Figure 15: Wires from IS Barrier Extending Through Shelf



8 At the C06392 9800 CPU Printed Circuit Board Assembly (Figure 16 and Figure 17), disconnect the connector connected to the **Pulser 1, Handles,** and **Pulser 2** jacks.

9 In the kit, locate the 461A2 Circuit Board Assembly (see Figure 1 for identity). Connect the assembly to the jacks labeled **Pulser 1**, **Handles**, and **Pulser 2** on the 9800 CPU PCB.

10 Reconnect the connector removed in Step 8 to the 461A2 Circuit Board Assembly (directly above the Pulser 1, Handles and Pulser 2 connectors).

11 At the 9800 CPU PCB Assembly (Figure 16 and Figure 17), disconnect the connector connected to the **LCD Display** jack.

12 In the kit, locate the 460A4 Circuit Board Assembly (see Figure 1 for identity). Connect the assembly to the jack labeled **LCD Display** on the 9800 CPU PCB.

13 Reconnect the connector removed in Step 11 to the 460A4 Circuit Board Assembly jack J1 (in center of board).

Figure 16: C06392 9800 CPU Printed Circuit Board (Photograph)

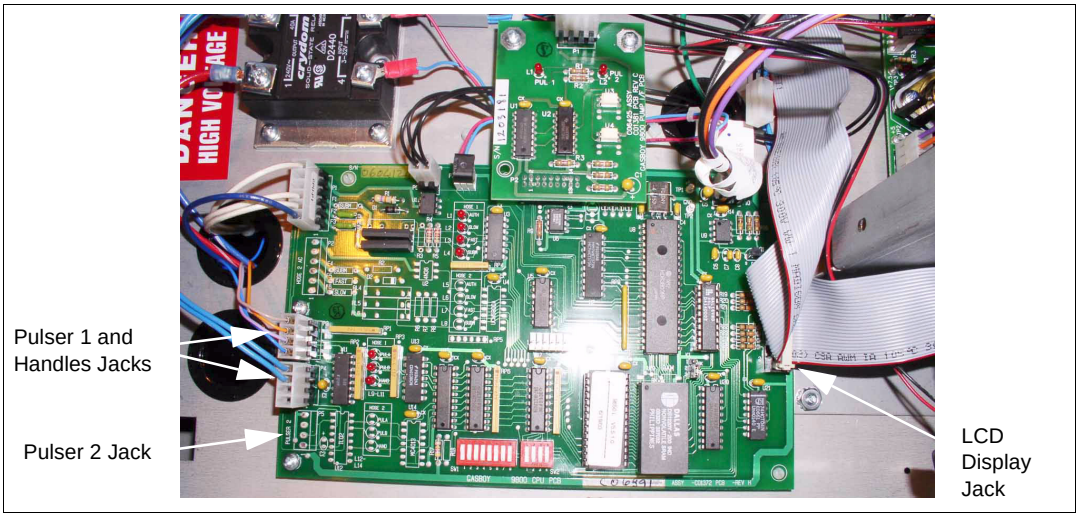
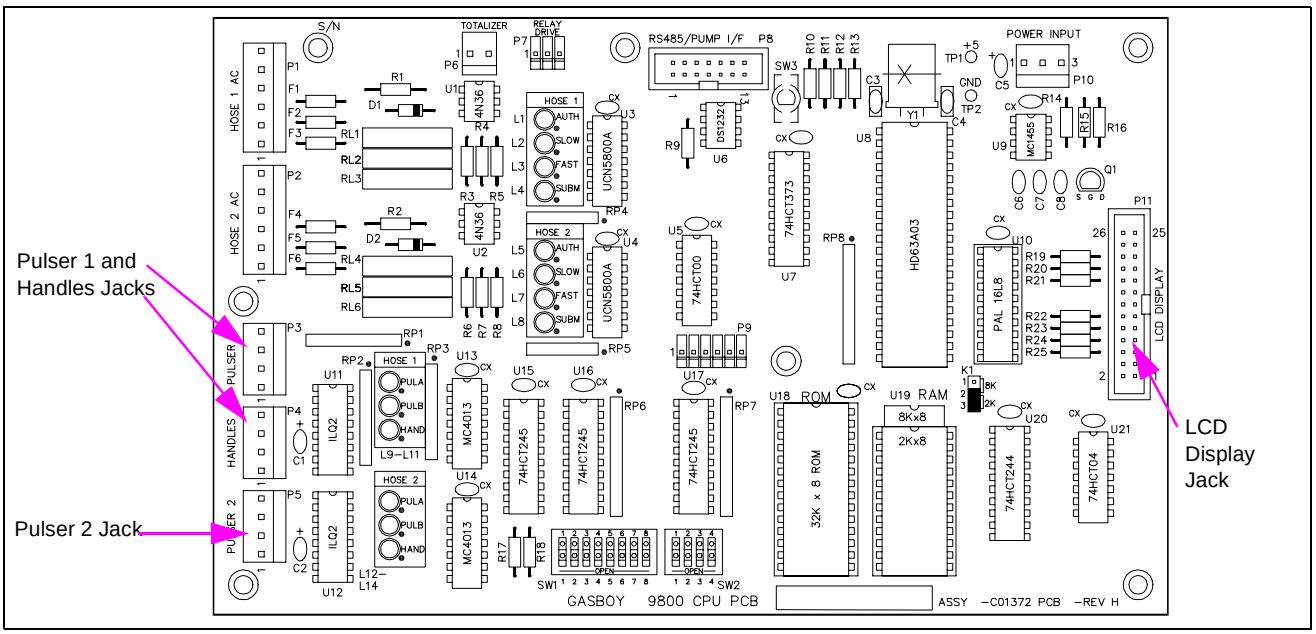


Figure 17: C06392 9800 CPU Printed Circuit Board (Drawing)



14 In the kit, locate the two W284 Pulser/Handle Ribbon Cables (see Figure 1 for identity).

15 Connect one end of one W284 cable to P1 on the 461A2 board (Figure 18) and the other end to P2 in the LP-70 Polycase box (Figure 19).

16 Connect one end of the second W284 cable to P8 on the 461A2 board (Figure 18) and the other end to P3 in the LP-70 Polycase box (Figure 19).

Note: Be sure the cables are connected to the connectors as follows:
P1 of 461A2 to P2 of LP-70 Polycase box
P8 of 461A2 to P3 of LP-70 Polycase box

Figure 18: 461A2 Circuit Board in Place with Connections Made

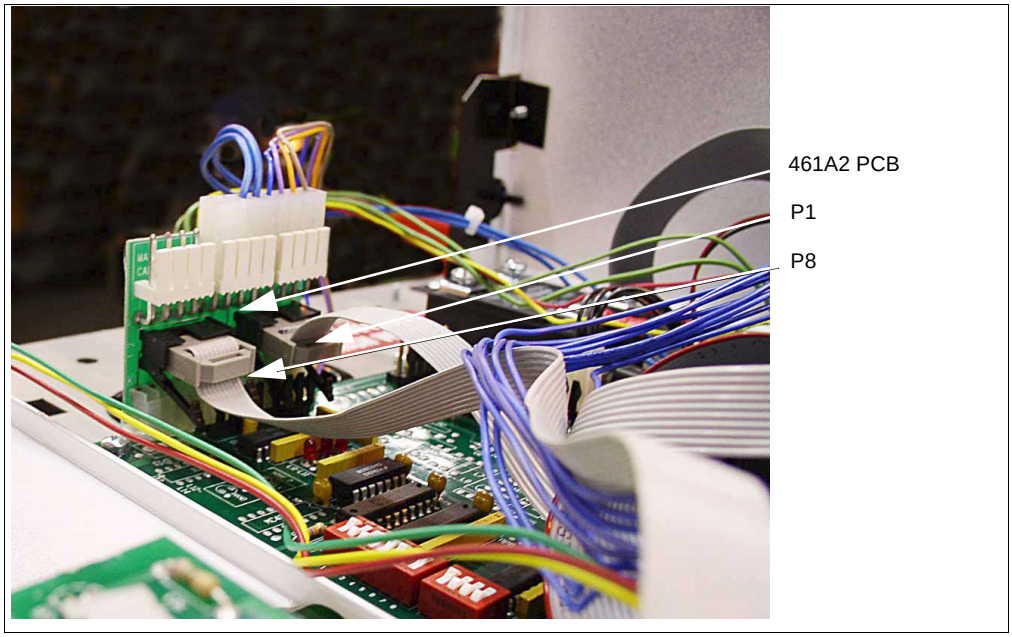
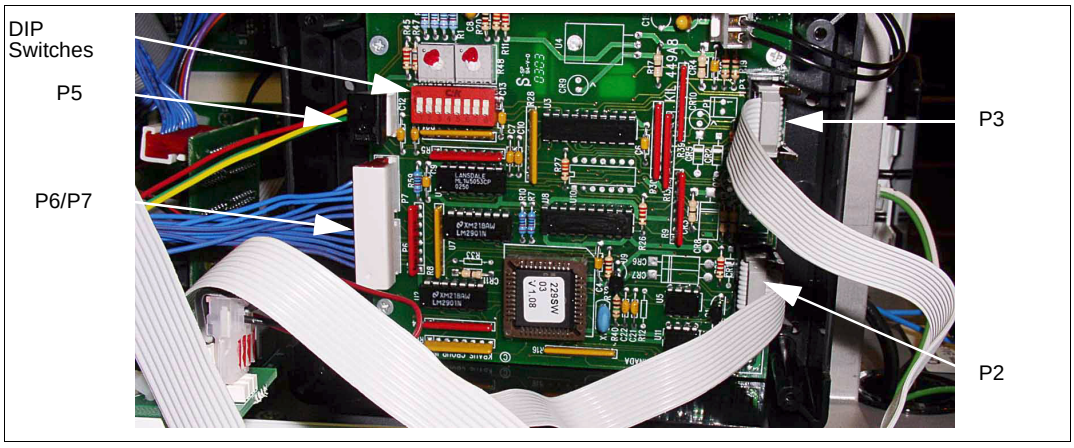


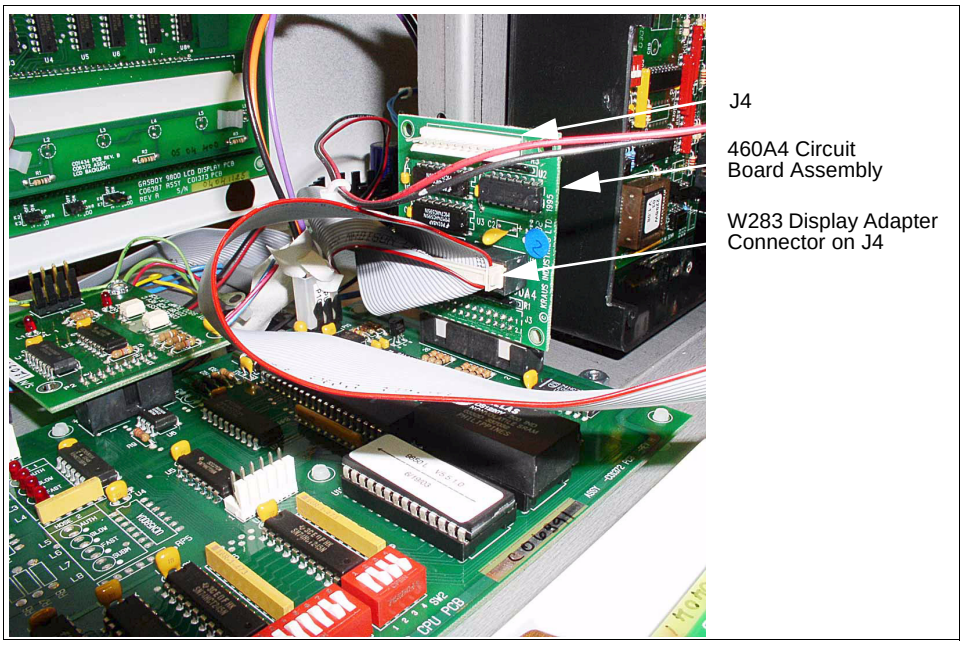
Figure 19: LP-70 Polycase Box Showing Connections



17 In the kit, locate the W283 Display Adapter harness (see Figure 1 for identification).

18 Connect one connector on the harness (both are the same) to J4 on the 460A4 Circuit Board Assembly (Figure 20) and the other connector to P6/P7 in the LP-70 Polycase box (Figure 19).

Figure 20: 460A4 Circuit Board in Place with Connections Made



19 In the kit, locate the W172 3-wire harness for IS Barrier.

20 Place the connector on the harness on P5 of the LP-70 Polycase box (Figure 19).

21 Using three of the crimp splices, connect the wires of the harness to the wires extending from the top of the IS barrier. Match color codes.

22 Connect the ground wire (wire with eyelet connector) to the nearest true ground.

23 Disconnect cable going to P6 connector of the Pump CPU board.

24 Connect the cable that was disconnected in previous step to P9 connector in the LP-70 Polycase box.

25 If the user wants to be able to display electronic totals, a second cable (C06003) must be installed and connected to the P6 connector on the Pump CPU board.

26 In the LP-70 Polycase box, locate the DIP switches shown in Figure 19 and set the switches for the proper unit as shown in the following table:

DIP Switch Settings		
Switch Number	**Switch Function**	**Settings**
1	Product 1	ON for Diesel, OFF for Gasoline
2	Product 2	ON for Diesel, OFF for Gasoline
3	Not used	N/A
4	Not used	N/A
5	Pulser Multiplier	ON for 9850, OFF for 9852/9853
6	Number of Probes	ON for two (2) probes, OFF for one (1) probe

DIP Switch Settings		
Switch Number	**Switch Function**	**Settings**
7	Pulser Adder	ON for 9840
8	ATC	ON for ATC ON, OFF for ATC OFF

27 Remount the LP-70 Polycase box cover removed in step 1.

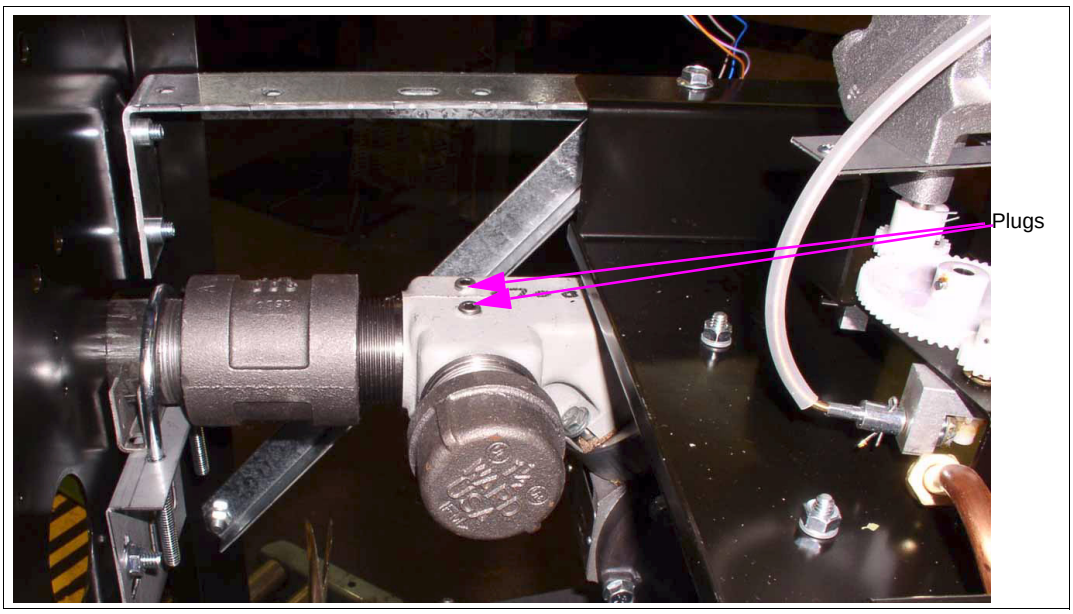
28 Using two of the crimp splices, connect the two green wires extending from the bottom of the IS barrier mounting stud to the two green wires attached to the dual probe connector assembly.

29 Using two of the crimp splices, connect the two yellow wires extending from the bottom of the IS barrier mounting stud to the two yellow wires attached to the dual probe connector assembly.

30 In the kit, locate the following: (See Figure 1 for parts identity)
- W199 probe assemblies (2)
- BC407 Thermowells (2)
- 235-C Thermowell Plugs (2)
- BC546 Adapters (2)

31 Underneath the shelf (where the IS barrier is mounted), locate the two plugs in the hydraulic coupling toward the right side of the unit (Figure 21).

Figure 21: Probe Assembly Mounting Location



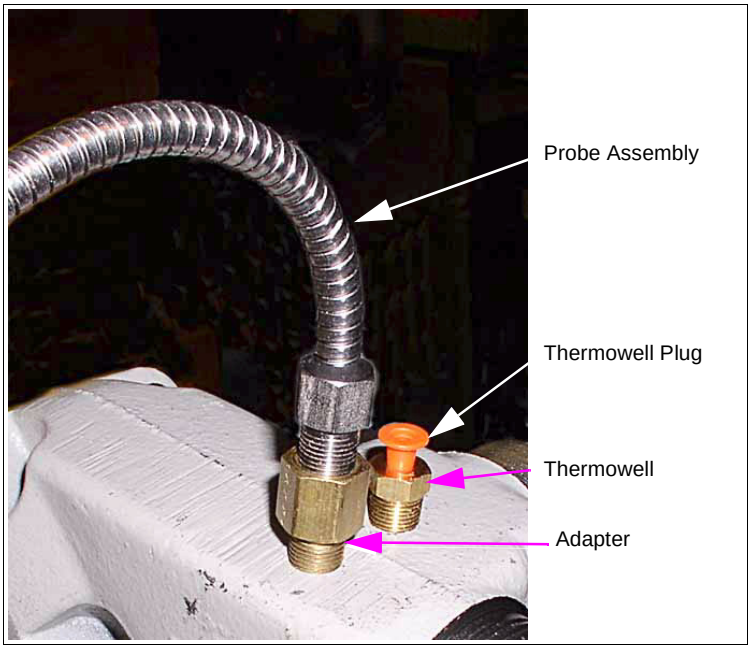
32 Using the appropriate size Allen wrench, remove the two plugs.

CAUTION

When applying SAF-T-LOK TPS sealant on threads, leave the two threads that enter the hole first free of sealant to prevent the sealant from entering, and possibly damaging or inhibiting proper operation of, the unit.

33 Using SAF-T-LOK TPS sealant, coat the BC407 Thermowell threads and thread into one of the holes where the plugs were removed in the previous step (Figure 22).

Figure 22: Thermowell and Probe Assembly Connections



34 Using a proper size wrench, tighten the thermowell and place the 235-C Thermowell plug into the thermowell.

35 Coat the threads of the BC546 Adapter with SAF-T-LOK TPS sealant and turn it into the other hole where the plugs were removed in step 32 (see Figure 22).

36 Coat the threads of the W199 Probe Assembly with SAF-T-LOK TPS sealant and turn it into the BC546 adapter mounted in the previous step.

37 Using the proper size wrench, tighten both the adapter and probe.

CAUTION

Be sure the threads on the thermowell, adapter, and probe assembly are properly coated with the SAF-T-LOK TPS sealant and tightened properly to prevent leaks.

38 Connect the other end (connector) of the probe to probe connector assembly in the connector labeled “1”.

39 Locate the other two plugs in the hydraulic coupling toward the left side of the unit (Figure 21).

40 Repeat Steps 29 through 34 to mount the second probe assembly.

41 Connect the connector end of the second probe to probe connector assembly in the connector labeled “2”.

42 Go to “Completing Installation” on page 24 in this manual.

Completing Installation

1 Dress the cabling by placing them in existing cable ties. Be sure the cables do not create any obstruction to operation, access or servicing.

2 Test the ATCs to determine that they are functioning properly.
This will involve running transactions and using the totalizer display (see Appendix: Totalizer Display Information).

3 After determining that the ATCs are functioning properly, remount the doors on both sides of the unit and secure with the keylocks.

4 Inform the manager/owner that the unit can be returned to service.

Appendix: Totalizer Display Information

By activating the magnet located at the opposite side of the totalizer, various information will appear on the display as follows:

Information Type	Definition	Example of Display
Volume	Displays uncompensated volume	0023.43
Probe Temperature	Displays probe temperature (in Celsius only)	0 23.2
Flow Rate	Displays flow rate (in LPM only)	189.2
Software Version	Displays software version number	1.30
ATC Status	Displays ATC status	842 .2

Leftmost digits (842) are error indicators which are blank when the corresponding error condition is not active.
- **8** = temperature probe fault detected
- **4** = pulser error occured
- **2** = exceptional reset detected

Rightmost digit (2) indicates whether temperature compensation is enabled, and if so, what product is being dispensed.
- **0** = temperature compensation disabled
- **1** = product is gasoline and compensation enabled
- **2** = product is diesel and compensation enabled

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