

Introduction

This manual provides installation instructions for the Automatic Temperature Compensation (ATC) Kits on Retail Atlas™ (8800K) units.

Note: Filters are required for installation but are not contained in the kits.

- M06875K001 for Single-Sided 8800K Unit
- M06875K002 for Two-Sided 8800K Unit

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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 Electrical Code
- Applicable Canadian, 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
- 1/2-inch socket wrench
- Flat blade screwdriver
- Phillips® screwdriver
- Allen® wrench set
- Sealant, SAF-T-LOK® polytetrafluoroethylene (Teflon®) Pipe Sealant (TPS), or equivalent

Abbreviations and Acronyms

The following are abbreviations and acronyms used in this document.

Abbreviation or Acronym	Expansion
ATC	Automatic Temperature Compensation (reference of 15° C = 59° F) (http://strategis.ic.gc.ca/epic/internet/inmc-mc.nsf/en/lm01094e.html)
ASC	Authorized Service Contractor
CFR	Code of Federal Regulations (http://www.gpoaccess.gov/cfr/index.html)
DIP	Dual Inline Package
ESD	Electrostatic Discharge
IC	Integrated Circuit
I.D.	Inside Diameter
IS	Intrinsic Safety
ISB	Intrinsic Safety Barrier
NEC	National Electrical Code (NFPA 70)
NFPA	National Fire Protection Association (http://www.nfpa.org/Home/index.asp)
OSHA	Occupational Safety & Health Administration (http://www.osha.gov/)
PCB	Printed Circuit Board
RTD	Resistance Temperature Detector
STP	Submerged Turbine Pump
TPS	Teflon Pipe Sealant
VAC	Volts Alternating Current

Parts Lists

M06875K001 - ATC Kit for 115 VAC Single-Sided Unit (Pulse Out)

Part Number	Description	Quantity
K81105-20	Wire Nut Connector, Length 18 mm, Blue	2
K94160-01	ATC Software Kit (includes Q11594-23 28-pin DIP IC)	1
M00414B001	M5 Metric Nut, Hex Serrated Flange	2
M04607B003	2-Stage Solenoid Valve and Filter Manifold, Low Voltage with ATC	1
MDE-4556	Gasboy ATC Kits M06875K00X Installation Manual (this document)	1
Q10068-09	O-Ring, 1.234" I.D.	2
Q10068-14	O-Ring, 1.609" I.D.	1
Q10178-03	Cable Tie	6

Part Number	Description	Quantity
Q13130-01	Thermowell, Meter Cover	1
Q13131-01	RTD Probe Assembly	1
Q13306-02	Meter Identification Decal Set (for probes 1 - 8)	1
R19457	High-Capacity Strainer Insert	1
R19527-G1	34-conductor Calibration Switch Cable Assembly (J204/P802/P204A)	1
R19667-G1	34-conductor Ribbon Cable Assembly (P204/P304 and P205/P405)	2
R19951-G1	10-conductor Ribbon Cable Assembly (J203/J901)	1
R20128-G1	Power Data Cable Assembly (J307)	1
R20146-G2	10-conductor Keypad Interface Cable Assembly (J203/J303)	1
T19405-G4	T-Meter Module Assembly This includes the following cables as well as other hardware: <ul style="list-style-type: none"> • R20148-G3, T-Meter Probe Cable Assemblies, quantity 2 • R20147-G1 T-Meter ISB Cable Assembly (J201/PS1), quantity 1 	1
T19428-G1	115 VAC ISB Assembly (J1S)	1
T20569-G1	ATC Controller Printed Circuit Assembly	1

M06875K002 - ATC Kit for 115 VAC Two-Sided Unit

Part Number	Description	Quantity
K81105-20	Wire Nut Connector, Length 18 mm, Blue	2
K94160-01	ATC Software Kit (includes Q11594-23 28-pin DIP IC)	1
M00414B001	M5 Metric Nut, Hex Serrated Flange	2
M04607B003	2-Stage Solenoid Valve and Filter Manifold, Low Voltage with ATC	2
MDE-4556	Gasboy ATC Kits M06875K00X Installation Manual (this document)	1
Q10068-09	O-Ring, 1.234" I.D.	4
Q10068-14	O-Ring, 1.609" I.D.	2
Q10178-03	Cable Tie	6
Q13130-01	Thermowell, Meter Cover	2
Q13131-01	RTD Probe Assembly	2
Q13306-02	Meter Identification Decal Set (for probes 1 - 8)	1
R19457	High-Capacity Strainer Insert	2
R19527-G1	34-conductor Calibration Switch Cable Assembly (J204/P802/P204A)	1
R19667-G1	34-conductor Ribbon Cable Assembly (P204/P304 and P205/P405)	2
R19951-G1	10-conductor Ribbon Cable Assembly (J203/J901)	1
R20128-G1	Power Data Cable Assembly (J307)	1
R20146-G2	10-conductor Keypad Interface Cable Assembly (J203/J303)	1
T19405-G4	T-Meter Module Assembly This includes the following cables as well as other hardware: <ul style="list-style-type: none"> • R20148-G3, T-Meter Probe Cable Assemblies, quantity 2 • R20147-G1 T-Meter ISB Cable Assembly (J201/PS1), quantity 1 	1
T19428-G1	115 VAC ISB Assembly (J1S)	1
T20569-G1	ATC Controller Printed Circuit Assembly	1

Related Documentation

Document Number	Description	GOLD Library
MDE-4404	Atlas Technician Programming Quick Reference Card	Gasboy
PT-1949	Commercial and Retail Series Atlas Pump and Dispenser Illustrated Parts Manual	Commercial & Retail Pumps

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 Canadian, 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.

Important Safety Information

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 unexpected energizing 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

Preparing Site and Dispenser for ATC Option

- 1 Record all electronic and mechanical totals.
- 2 Isolate each unit to have ATC kit installed at distribution box.
- 3 Open door to hydraulics area.
- 4 Turn off (close) shear valve.
- 5 Test shear valve for proper closure by activating fueling position nozzle and verifying no flow occurs.
- 6 Turn OFF associated STP circuit breakers for the unit(s) being upgraded. This may require multiple STP disconnects.
- 7 Turn OFF all power to unit at system circuit breaker, including unit lights.
- 8 Disconnect power cable to the following boards:
 - M05200A001 Retail Pulse Out
 - T20011-G1 Pump Controller

CAUTION

Maintaining power to the boards during installation could result in board failures. Do not rely on the circuit breakers to disconnect power to the boards.

- 9 Turn off system battery by pressing **CLEAR** then **ENTER** on manager keypad.
- 10 Tag shear valve according to OSHA lock-out and tag-out requirements.

Installing Filter Manifold and Probe

The kit parts used in this section are:

- M04607B003 2-Stage Solenoid Valve and Filter Manifold with Probe Port
- Q10068-09 O-Ring, 1.234-inch I.D.
- Q10068-14 O-Ring, 1.609-inch I.D.
- Q13130-01 Thermowell, Meter Cover
- Q13131-01 RTD Probe Assembly
- R19457 High-Capacity Strainer Insert



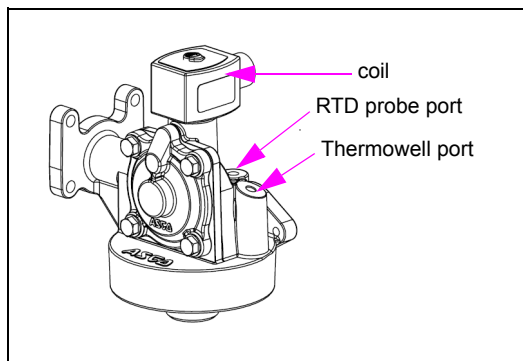
WARNING

Residual pressure may exist in the hydraulic system. **Wear eye protection.**

- 1 Remove filter from current M04607B001 Valve and Filter Manifold.

- 2 Unbolt and carefully remove current M04607B001 Valve and Filter Manifold.
- 3 Note orientation of check valve assembly located between manifold and meter.
- 4 Discard two O-rings located on each side of check valve assembly.
- 5 Clean meter surface where new M04607B003 Valve and Filter Manifold will be mounted.
- 6 Place new Q10068-09 O-Ring (1.234-inch I.D.) into meter opening.
- 7 Place new Q10068-14 O-Ring (1.609-inch I.D.) into opening of new M04607B003 Valve and Filter Manifold.
- 8 Properly orient the check valve between the meter body and new M04607B003 Valve and Filter Manifold and bolt the new manifold to the meter.
- 9 Carefully remove the plugs from the ATC ports ([Figure 1](#)).

Figure 1: M04607B003 Valve and Filter Manifold



- 10 Insert the Q13131-01 RTD Probe Assembly into the RTD probe port on the filter manifold.
Note: The connection to the probe assembly will be made in the [Installing Filter Manifold and Probe](#) section which follows.
- 11 Insert the new Q13130-01 Thermowell into the Thermowell port in the filter manifold.
- 12 Fully insert the new R19457 High-Capacity Strainer Insert into the filter cavity of the manifold with the pull tabs properly oriented.
- 13 Install a new filter onto the new filter manifold.
- 14 Replace the connection from the coil on the old manifold with the connection from the coil on the new manifold.
- 15 If installing the M06875K002 - ATC Kit for Two-Sided Unit, repeat steps 1 through 14 for the other side of the dispenser.

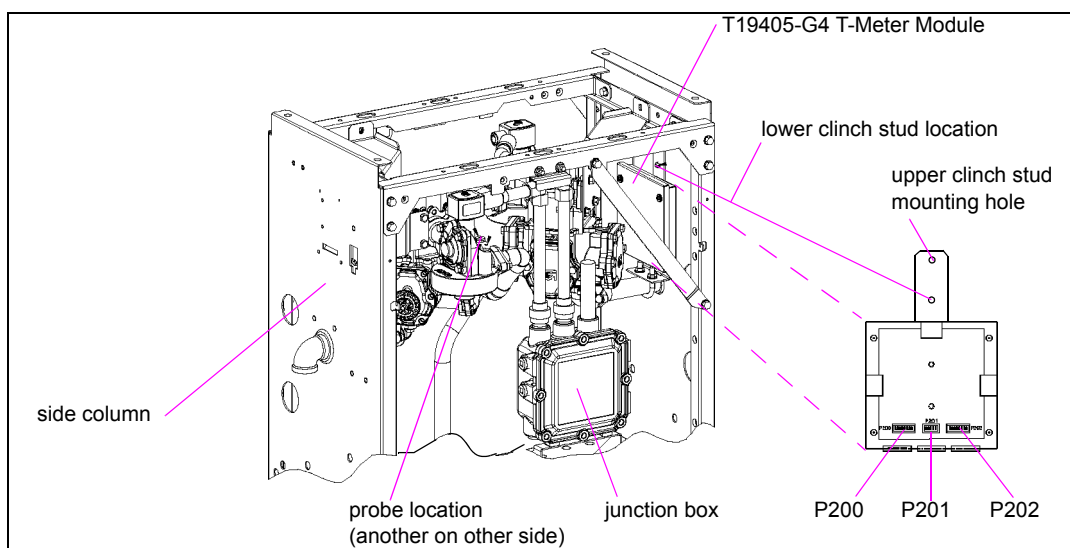
Installing the T-Meter Module and Cables

The cables used in this section are included with the T19405-G4 T-Meter module.

- 1 Install the T-Meter module onto two clinch studs located on the inside of the side column (Figure 2, install on either side).

Note: Locate T-Meter module so cables can reach appropriate probe connectors.

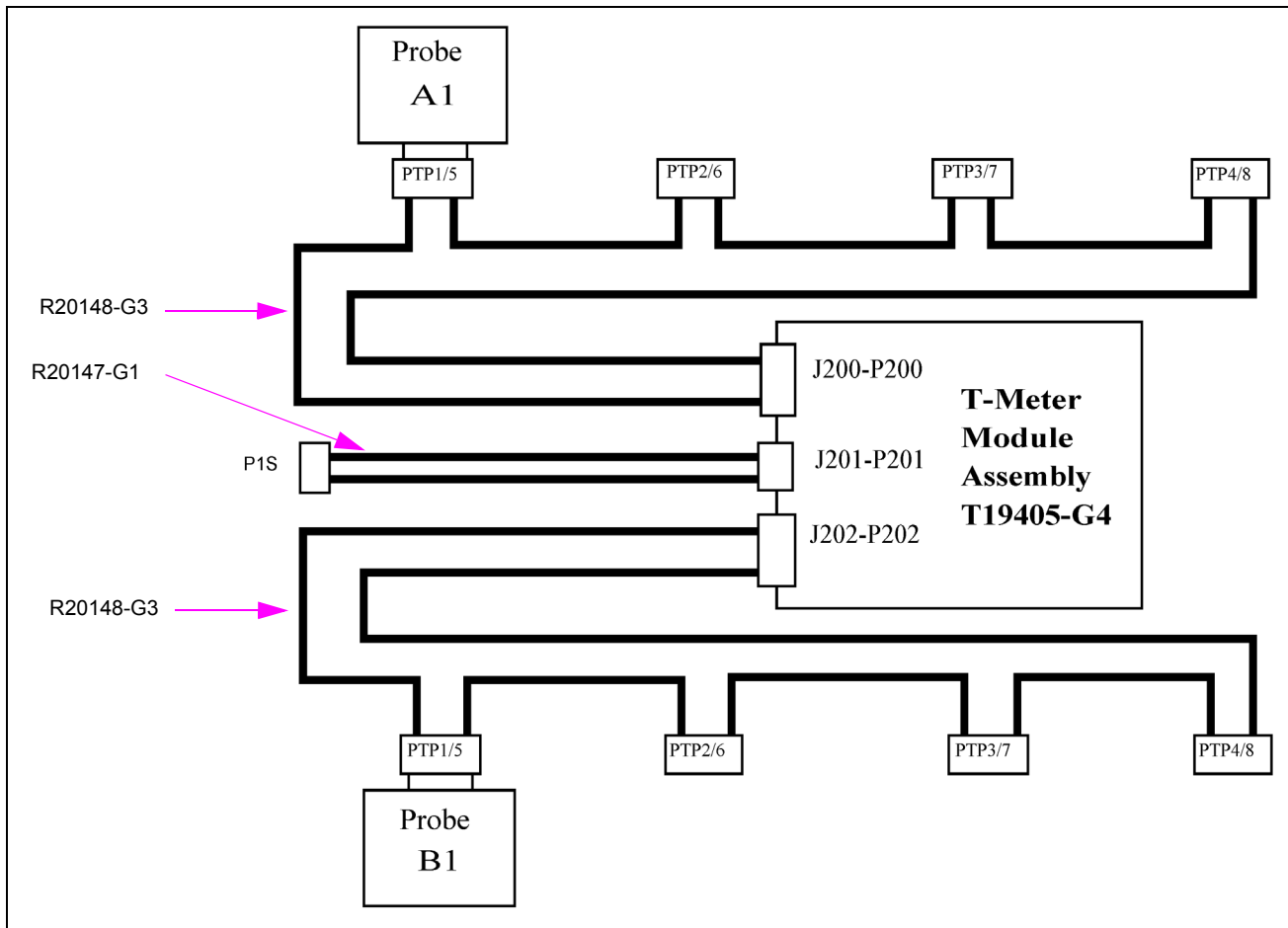
Figure 2: Example of Installed T-Meter Module



- 2 Connect the T-Meter module cables as follows (Figure 3):
 - J200 connector on first R20148-G3 cable to P200 connector on T19405-G4 module
 - PTP1 connector on first R20148-G3 cable to RTD Probe A1 connector
 - J202 connector on second R20148-G3 cable to P202 connector on T19405-G4 module
 - PTP5 connector on second R20148-G3 cable to RTD Probe B1 connector
 - J201 connector on R20147-G1 cable to P201 connector on T19405-G4 module

Note: The P1S connector on the R20147-G1 cable is not connected at this time; it will be connected in the [Installing I.S. Barrier Assembly](#) section which follows.

Figure 3: Cable Block Diagram for T-Meter Module



- 3** Route the T-Meter module cables using the following considerations:
- Place cables along bottom of hydraulic support rail to prevent damage from screws.
 - Be careful to not damage cables when routing over brackets.
 - Foam blocks will help to keep cables from falling during routing.
 - Use Sealant, TPS or equivalent, to seal ends of any unused connectors to prevent damage by moisture.
 - Use up to four Q10178-03 cable ties to secure cables so connectors are located inside rail away from moisture and cables do not have excessive slack.
 - Adjust foam blocks into final position after cables and connectors are in place.
 - All cables should be clear of moving components.

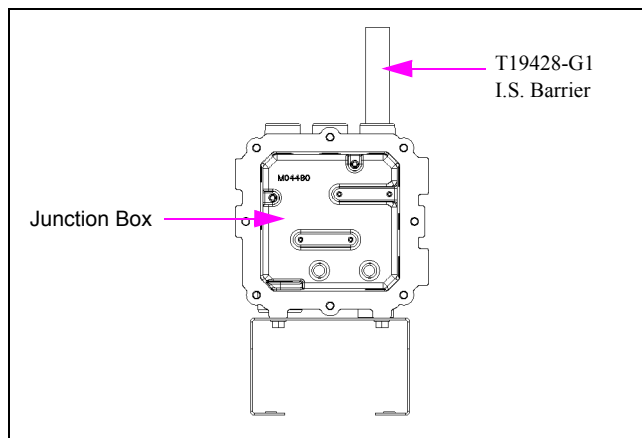
Installing I.S. Barrier Assembly

The kit parts used in this section are:

- K81105-20 Wire Nut Connector
- Two Q10178-03 Cable Ties
- T19428-G1 115 VAC ISB Assembly

- 1 Remove 3/4-inch plug from far right-hand opening on top of junction box.
- 2 Install ISB directly into junction box as shown in [Figure 4](#).

Figure 4: ISB Installation



- 3 Route ISB wires (with connector P1S) back onto ISB and secure with a Q10178-03 cable tie.
- 4 Run these wires up the junction box conduit and secure to conduit with Q10178-03 cable tie.
- 5 Connect P1S of the R20147-G1 cable ([Figure 3](#)) to J1S of the ISB cable ([Figure 7 on page 15](#)). Locate connector in rail away from moisture.

The green, orange, and grey wires from the ISB are not connected at this time; they will be connected later in [“Connecting ISB Wires and Cable” on page 15](#).

Installing ATC Controller Board

CAUTION

The printed circuit boards (PCBs) and integrated circuits (ICs) within the dispenser are sensitive to electrostatic discharge (ESD) caused by static electricity. ESD damages electronic parts.

Use the following guidelines when installing the K94160-01 software or handling sensitive parts.

- Touch an unpainted metal surface to discharge any static electricity buildup.
- Use a wrist strap connected to a grounded metal frame or chassis. Dispenser must be connected to an AC source with power OFF.



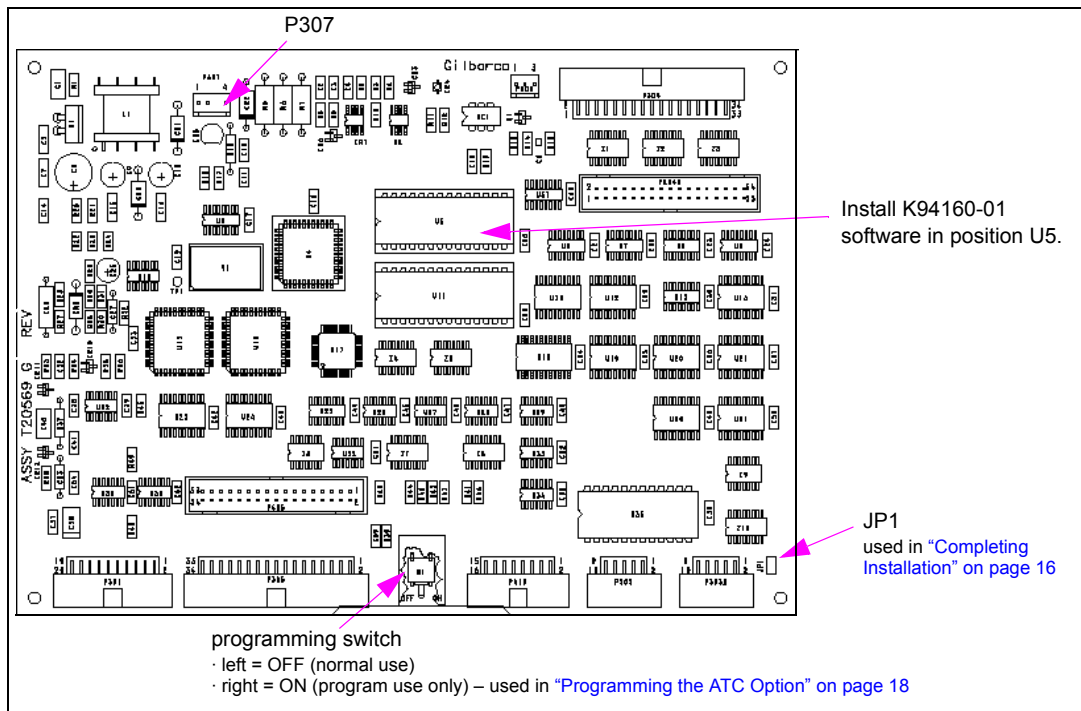
- Place removed PCBs or ICs, if any, on a grounded antistatic mat or in an antistatic bag.

The kit parts used in this section are:

- K94160-01 ATC Software Kit
- R19527-G1 34-conductor Calibration Switch Cable Assembly
- R19667-G1 34-conductor Ribbon Cable Assembly
- R20146-G2 10-conductor Keypad Interface Cable Assembly
- T20569-G1 ATC Controller Board

- 1 Insert K94160-01 software from kit into position U5 on the T20569-G1 ATC Controller board (Figure 5).

Figure 5: T20569-G1 ATC Controller Board



- 2** Insert ATC Controller board into top slot of card cage.
If necessary, rearrange boards in the following order, top to bottom:
 - T20569-G1 ATC Controller
 - M05200A001 Retail Pulse Out
 - T20011-G1 Pump Controller
- 3** Connect existing R17995-G7 cable to the following connectors ([Figure 6 on page 14](#)):
 - P301 on T20569-G1 ATC Controller board
 - P101 on M05200A001 Retail Pulse Out board
 - P201 on T20011-G1 Pump Controller board
- 4** Unplug existing R19667-G1 cable from connector P205 of T20011-G1 Pump Controller board (leaving other end connected to connector P105 of M05200A001 Retail Pulse Out board) and connect loose end to connector P305 on T20569-G1 ATC Controller board ([Figure 6](#)).
- 5** Connect new R19667-G1 cable from kit to the following connectors ([Figure 6](#)):
 - P405 on T20569-G1 ATC Controller board
 - P205 on T20011-G1 Pump Controller board
- 6** Unplug existing R19951-G1 keypad cable from connector P203 of T20011-G1 Pump Controller board and connect it to connector P303A on T20569-G1 ATC Controller board ([Figure 6](#)).
- 7** Connect new R20146-G2 cable from kit to the following connectors ([Figure 6](#)):
 - P303 on T20569-G1 ATC Controller board
 - P203 on T20011-G1 Pump Controller board
- 8** Unplug existing T17768-G1 display cable from connector P204 on T20011-G1 Pump Controller board and connect it to new R19527-G1 calibration switch cable from the kit ([Figure 6](#)); connect the other end of the new R19527-G1 calibration switch cable to the P204A connector on T20569-G1 ATC Controller board ([Figure 6](#)).
- 9** Connect other new R19667-G1 cable from kit to the following connectors ([Figure 6](#)):
 - P304 on T20569-G1 ATC Controller board
 - P204 on T20011-G1 Pump Controller board
- 10** Connect the existing R20128-G1 cable from the conduit to connector P307 on T20569-G1 ATC Controller board ([Figure 6](#)).

Figure 6: Cable Connections Between Boards for ATC

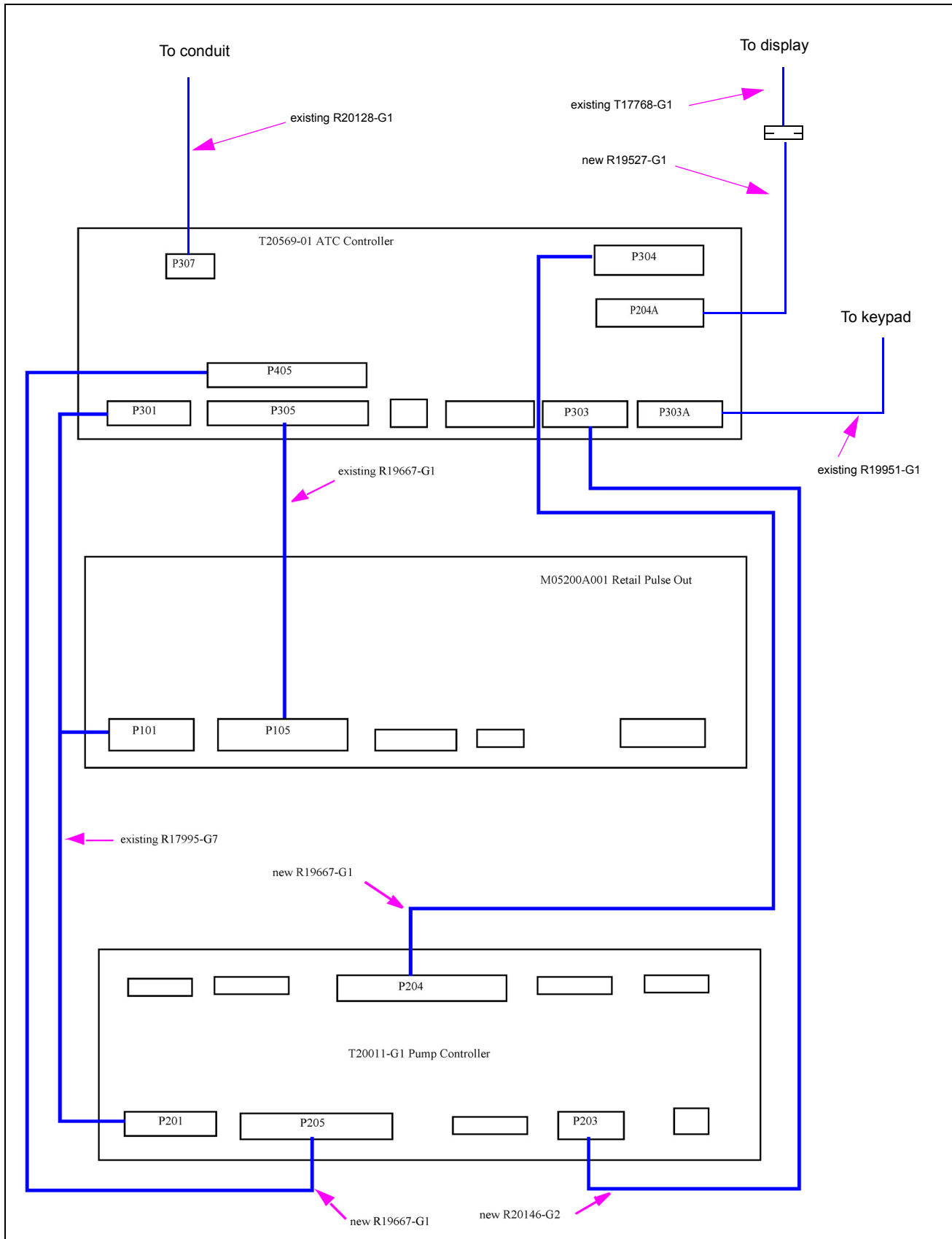
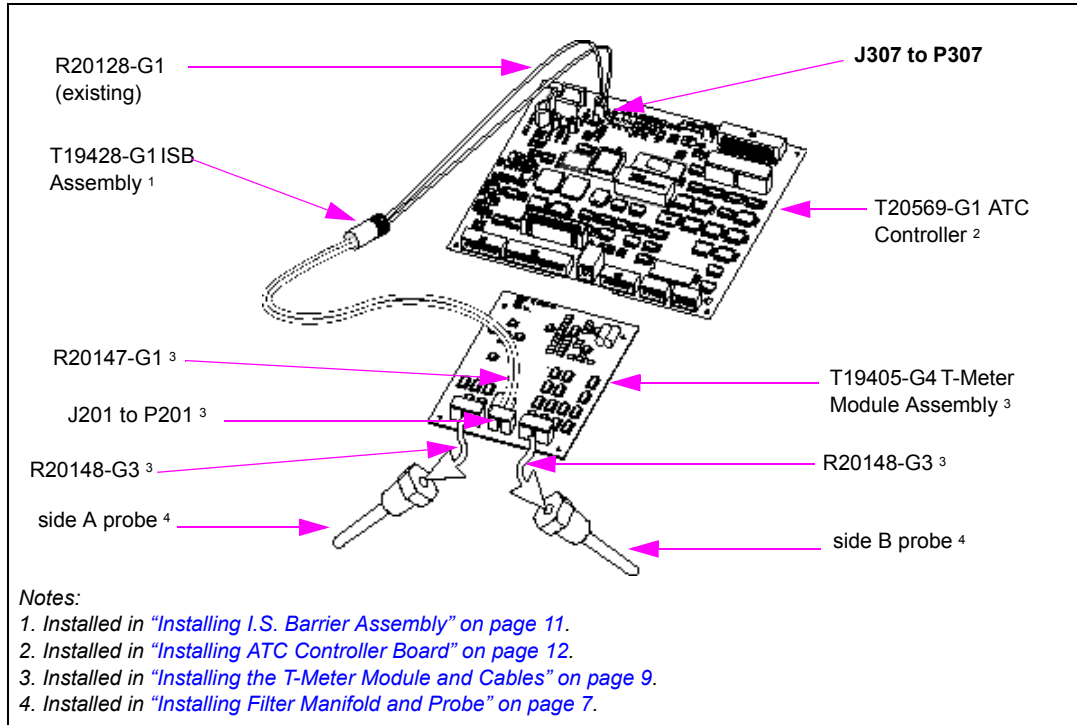


Figure 8: ISB to ATC Controller and T-Module Assembly Connections

Note: For simplification, the JIS-to-PIS and junction box connections are not shown.



Completing Installation

	WARNING
	Spilled or leaking fuels in the vicinity of electrical junction boxes can be hazardous if boxes are not properly closed.
	Serious fire/explosion and injury/death could result.
	Replace all bolts and tighten junction box cover before turning on unit AC power. Do not use gaskets on junction box covers.

- 1 Place conversion labels, nameplates, any extra cable ties, and additional hardware on upper shelf.
- 2 Securely attach junction box cover with all bolts using the 1/2-inch socket wrench.
- 3 Turn power ON (including lights) as follows:
 - Reconnect multiple disconnects.
 - Turn system circuit breakers on.
 - Turn on associated STP power.
 - Turn on power to all pumps/dispensers on same isolation relay, if used.
 - Turn on system battery.
 - Remove OSHA lock-outs and tag-outs.
 - Turn on shear valve.

- 4 Do an ATC master reset on T20569-G1 ATC Controller board by installing a jump jack on JP1 (Figure 5 on page 12) and powering the unit up. Wait for the ATC to completely come up and display error code 110; then remove the jump jack from JP1.
- 5 Do a pump master reset on the appropriate display board.
- 6 Reprogram the unit.
- 7 Test unit for correct operation.
- 8 Check for leaks around M04607B003 Filter Manifold and probe/thermowell.
- 9 Close hydraulics area door.
- 10 Close electronics area door.

Programming the ATC Option

Switch **ON** the programming switch located on ATC Controller board ([Figure 5 on page 12](#)).

At power up:

- Programmed units will flash “104” and then, normal information.
- Non-programmed units will flash “100” which indicates the units must be programmed per [How To Program Each Fueling Position](#) below.

How To Program Each Fueling Position

Note: If programming switch is set to OFF, this procedure will not work.

1 Press **1 0 0**.

2 Press **ENTER**.

Money Position will display “1”.

Money Position shows which meter is selected.

(Meter: 1 through 8)

Volume Position will display “1”.

Volume Position shows which fuel type has been selected.

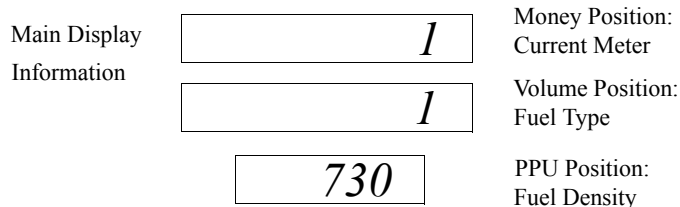
(Fuel Type: 1-gasoline, 2-diesel)

PPU Position will display “730”.

PPU Position shows which fuel density has been selected for the corresponding meter.

[Fuel Density (kg/m³): gasoline-730, diesel-840]

Note: The Fuel Density default is 730.



The software will sequence through each meter position for you to assign the fuel type desired.

3 Select fuel type and press **ENTER**.

4 Sequence through each meter position and verify desired fuel type by pressing **ENTER**.

5 Switch **OFF** the programming switch on ATC controller board ([Figure 5 on page 12](#)).

6 Press **F2** to exit ATC programming mode.

7 Weights and Measures auditor will put a seal on the programming switch ([Figure 5](#)).

8 Close electronics door.

How To Access ATC Mode Information

Example of How To View Last Transaction

- 1 Enter 3-digit keypad code for information type desired (see [Definition/Function of ATC Codes](#) below).
- 2 Press **ENTER**.
- 3 Press **1** for Meter Position One information.
- 4 Press **ENTER**.
- 5 Record the information.
- 6 Continue to press each position number for corresponding position information.
- 7 Press **ENTER**.
- 8 Press **F2** to exit ATC Mode.
(Wait for 1-minute timeout if F2 is nonfunctional.)

Definition/Function of ATC Codes

100 Programming Code

Instructions for programming ATC option are given in [“How To Program Each Fueling Position” on page 18](#).

200 Inspection Mode

Access this mode to obtain a precise reading of ATC system operation during an actual transaction. This is the most accurate means of checking ATC system accuracy because temperature readings are displayed during transaction.

Pure product only: Program a blender for 100%, otherwise the PPU display shows error code 105-product error.

- Money display-shows uncompensated volume
- Volume display-shows compensated volume
- PPU display-shows real-time temperature (in degrees Celsius).

300 View Last Transaction

Access this mode after a transaction. This mode can be used as a basic check to make sure ATC system is operating properly. Temperature displayed in this mode is an average during the last transaction. Do not use this mode to verify the accuracy of ATC system.

There are no blender restrictions.

- Money display-shows uncompensated volume.
- Volume display-shows compensated volume.
- PPU display-shows average temperature (in degrees Celsius).

301 Display Volume Correction Factor (VCF)

- Money display-shows product number.
- PPU display- shows volume correction factor.

302 Display Density

PPU display-shows programmed density information for selected meter.

303 Display Temperature

PPU display-shows current product temperature for selected meter.

304 Display Gross Volume Totals

Volume and PPU displays-shows a 10-digit number representing the cumulative uncompensated volume total of the selected meter for a pure product.

500 Software Version

Main display-shows software version number.

600 Troubleshoot Probe

Access this mode to troubleshoot probes. There should be a small change in readings every second if T-Meter and controller board are working properly. Each probe can be checked by entering meter number.

- Money display-pulse width in terms of counts
- Volume display-probe resistance in ohms
- PPU display-shows the temperature of probe (in degrees Celsius)

601 Probe History

Use this mode to display probe history since ATC was installed. This is useful for troubleshooting intermittent probes or probe connections. Access each probe by entering meter number.

- Money display-shows probe number entered
- Volume display-shows total number of probe range errors logged
- PPU display-shows total number of missing probe pulse errors

ATC Error Codes

The following list describes ATC error codes that you may observe. These codes are useful when troubleshooting a problem.

Error Code	Error Displayed	Description
00	NO ERROR	No errors - no code displayed
100	PROGRAMMING ERROR	All fuel types not programmed
101	ROM CHECKSUM	Controller ROM checksum error
102	RAM ERROR	Controller RAM write/read error
103	T-METER DEAD	Not receiving any T-meter pulses
104	T-METER SYNC	Receiving T-meter pulses, but with errors
105	PRODUCT ERROR	Multiple product selected
106	RAMP RANGE ERROR	Gasboy use only
107	RANGE ERROR FOR PROBE	Probe out of range
108	MISSING ERROR	Probe information missing
109	PULSER ERROR	Pulser fail
110	RESET JJ ERROR	Reset jump jack is installed
111	RAM CORRUPTED	RAM data corrupted
112	NO INPUT TIMER	No timer A interrupts occurring
113	NO OUTPUT TIMER	No timer B interrupts occurring
114	POWER FAIL ERROR	Power fail signal stuck
115	RECURSION ERROR	Read T-meter interrupt recursion

Pump Error Codes

The following list describes pump error codes that you may observe. These codes are useful when troubleshooting a problem.

Error Code	Description
22	Not Used
23	Grade Assignment Changed
24	Conversion Factor Changed/ Not Programmed
25	Two-Wire/Stand- Mode Changed
26	No Conversion Factor Table
27	Side A* Two-Wire ID Changed
28	Side B* Two-Wire ID Changed
29	Pump Timeout Error
30	Not Used
31	Totals Data Error
32	Pulser Count Error
34	Not Used
35	Configuration Data Error
36	Unit Type Configuration Code Changed
37	PIN Code 1 Changed
38	PIN Code 2 Changed
39	Cast/Credit Option Changed
41	Side Exists Option Changed
42	PPU Options Changed
43	Not Used
44	Pump Handle Up at Power Up

* Side A is the Junction box opening side; side B is the opposite side.

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