Lever-On/Push-to-Start Conversion Kits K93708-XX and K93710-XX for The Advantage® Series May 2003

Purpose of this Manual

This manual provides installation instructions for Lever-On to Push-to-Start conversion kits and Push-to-Start to Lever-On conversion kits for The Advantage® Series. For kit selection information refer to MDE-2742 The Advantage Series Options Kit Selection Guide.

Kit Selection Information

To order the correct Lever-On to Push-to-Start or Push-to-Start to Lever-On Conversion Kit K93708-XX or K93710-XX, and any additional kits or materials needed for specific conversions, refer to MDE-2742 The Advantage Series Options Kit Selection Guide. Please note the following:

- Customer-specific graphics are a per order entry item.
- Price Per Unit (PPU) graphics are not part of the kits, and are a per order entry item.
- Instructional graphics, in addition to PPU graphics, must be changed with the conversion.

Kits K93708-01 and K93708-02

Lever-On to Push-to-Start Conversion Kits

This manual provides installation instructions for Lever-On to Push-to-Start conversions.
Note: Select all additional kits that apply. More than one additional kit type may be required

Using This Kit	And Additional Kit(s)	For These Advantage Series Units
K93708-01	K93710-03	Single-Level Pricing with or without CRIND® device
	K93710-05	Dual-Level Pricing with CRIND device
	K93710-11	The Advantage with Optimized Electronics Conversions
	K94417-01	Pre-Optimized The Advantage Conversions

Push-to-Start to Lever-On Conversion Kit

Using This Kit	For Conversions on
K93708-02	All The Advantage Series units

Required Reading

Before installing the equipment, 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.

Gilbarco recommends only trained Authorized Service Contractors (ASCs) install this equipment.

Related Documents

Refer to the following manuals for additional information:

- MDE-2530 Pump and Dispenser Installation Manual
- MDE-2531 Pump and Dispenser Start-Up/Service Manual
- MDE-2562 CRIND Service Manual
- MDE-2620 Graphics Panel Application Instruction for The Advantage Series
- MDE-2675 Grade Select Switch Conversion Kits K93710-XX for The Advantage
- MDE-2742 The Advantage Series Options Kit Selection Guide
- MDE-2965 CRIND Push-to-Start Retrofit Kit K94057-XX and K93708-01
- PT-1728 The Advantage Illustrated Parts Manual

Recommended Tools

- isopropyl alcohol
- pocket knife
- rags (lint free)
- razor scraper
- screwdrivers, standard and Phillips®
- WD-40®
- wrench set, Allen® hex

When Ordering Parts

Keep the following items in mind when ordering parts for each Kit.

1. Provide model number, date code and original options.

2. Provide part number, quantity of parts, description of part and other details (graphics, color) for order entry items. (Refer to “Kit Selection Information” on page 1.)

Parts List

Refer to MDE-2742 The Advantage Series Options Kit Selection Guide for additional kit selection and ordering information.

Lever-On to Push-to-Start Conversion Kits Parts Lists

Kit K93708-01

For all Dual- or Single-Level Pricing Units with or without CRIND Device

Use this kit with The Advantage 3 Grade & Six-Hose Blender, The Advantage 4 Grade, Dual, Quad, Single-Hose & Blender, and The Advantage Single-Hose + 1 & Blender.

Description	Part Number (Current)	Part Number (Previous)	Qty.
cable (auto-on) plug assembly	N23169-G1	-	1
nozzle boot assembly, plastic	W03879-G4	R19156-01	1
nozzle flap, push-to-start with magnet	R20713-G1	R19303-G1	1
screw, hex head	Q11657-287	Q11657-187	2
wire/jumper, push-to-start	N23737-G1	-	1
wire/terminal assembly	R15634-G79	-	1
screw, hex head	Q11824-285	-	2
nozzle cradle assembly	R19272-G1	-	1
connector, jumper	Q11011-01	-	1
lens	T17635-02	-	1
gasket	N23142-01	-	1

Push-to-Start to Lever-On Conversion Kit Parts List

Kit K93708-02

For all Single- and Dual-Level Pricing Units

Use this kit with The Advantage 3 Grade & Six-Hose Blender, The Advantage 4 Grade, Dual, Quad, Single-Hose & Blender, and The Advantage Single-Hose + 1 & Blender.

Description	Part Number (Current)	Part Number (Previous)	Qty.
filler plate	N23143	-	1
nozzle cradle base with magnet	W03879-G1	R19272-G1	1
nozzle lever bumper	K93661-02	-	1
screw, hex head	Q11657-285	-	4

Additional Kits for The Advantage Series Parts List

See “Lever-On to Push-to-Start Conversion Kits” on page 1

Kit K93710-03

Single Level Pricing with or without CRIND Device

Use this kit with The Advantage 3 Grade & Six-Hose Blender, The Advantage 4 Grade, Dual and Quad Models.

Description	Part Number (Current)	Part Number (Previous)	Qty.
switch, cash/credit membrane	T19370-12	T19370-02	1

Kit K93710-05

Dual-Level Pricing with CRIND Device

Use this kit for The Advantage 3 Grade & Six Hose Blender, The Advantage 4 Grade, Dual and Quad Models.

Description	Part Number (Current)	Part Number (Previous)	Qty.
switch, push-to-start membrane	T19370-11	T19370-01	1

Kit K93710-11

The Advantage with Optimized Electronics

Use this kit for all The Advantage with Optimized Conversions.

Description	Part Number (Current)	Part Number (Previous)	Qty.
membrane switch	T19370-13	-	1

Kit K94417-01

Pre-Optimized The Advantage Series

Use this kit for all Pre-Optimized The Advantage Conversions.

Description	Part Number (Current)	Part Number (Previous)	Qty.
board, 4 grade	T19800-G1	-	1
cable, grade select distribution	T19731-G1	-	2
cable, grade select distribution	T19731-G2	-	2
cable, grade select interface	R20311-G1	-	1
standoffs	Q10651-02	-	8
bracket	R19776-02	-	1

Safety Information

Alert Symbol

This is a standard alert symbol. When you see this symbol, along with the following hazard warnings and symbols, be alert to the potential for personal injury or damage to equipment.

Signal Words

These signal words alert you to important safety hazards.

DANGER	WARNING	CAUTION
The hazard or unsafe practice **will** result in **severe injury or death.**	The hazard or unsafe practice **may** result in **severe injury or death.**	The hazard or unsafe practice **could** result in **minor injury or damage to equipment**.

Safety Symbols

These symbols are used to alert you to personal safety hazards and precautions.

Electrocution Danger
Working on dispenser electronics without turning off power can lead to electrocution.

Know Location of Emergency Power Cutoff
NFPA-30A, Section 4-1.2, requires the installation of an easily accessible switch to shut off the power to all dispensing devices in the event of an emergency. Know the location of this switch before you begin work.

No Smoking
Sparks and embers from burning cigarettes or pipes can ignite fuels and their vapors.

No Open Flames
Open flames from matches, lighters, welding torches, etc. can ignite fuels and their vapors.

No Power Tools
Sparks from power tools (such as drills) can ignite fuels and their vapors.

No Vehicles In The Area
Moving vehicles in the area during service can create a potential for personal injury to you or others. Sparks from starting vehicles can ignite fuels and their vapors.

No People In The Area
Unauthorized people in the area during service can create a potential for personal injury.

Turn Power Off
Live power to a dispensing device creates a potential shock hazard. Always turn power off to the dispensing device and associated STPs when servicing the unit.

Use Safety Barricades
Unauthorized people or vehicles in the work area are dangerous. Always use safety cones or barricades, safety tape and your vehicle to block the work area.

Wear Eye Protection
Spraying fuel from residual pressure in the lines can cause serious eye injuries. Always wear eye protection.

Wear Protective Gloves
Sharp edges on sheet metal can cause serious cuts. Wear protective gloves.

Safety Instructions for all Kits

1 Observe all safety precautions
- Barricade area.
- Vehicles are not allowed in the service area.
- Unauthorized people are not allowed in the service area.
- No smoking is allowed in work area.
- No open flames are allowed in the service area.
- No power tools are allowed in the work area.

2 Turn off all power to unit and unit lights. Use system circuit breakers. Multiple disconnects may be required.

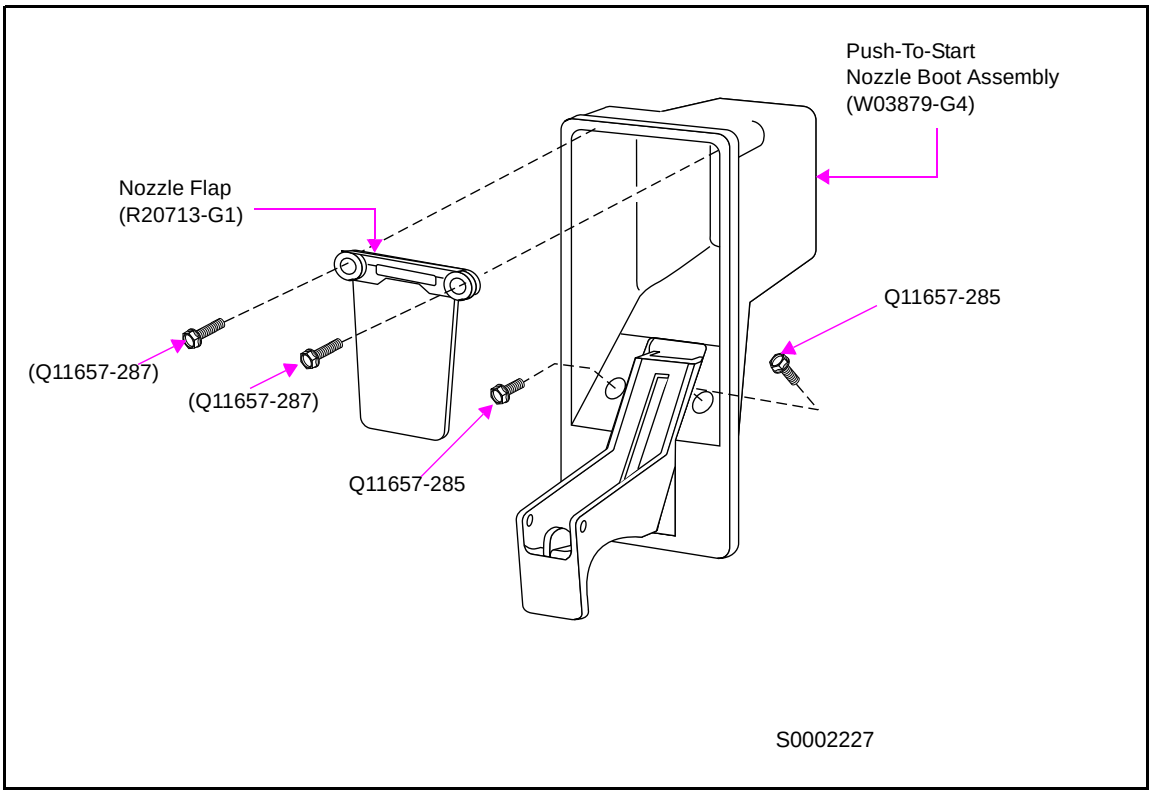
3 When system battery is present, press CLEAR and then ENTER on the dispenser keypad to turn off the system battery.
Note: Units built after December 1, 1994 do not have a system battery.

Installing Lever-On to Push-to-Start Conversion Kit K93708-01

Read "Safety Information" on page 5 before Removing and Installing nozzle boot.

Removing Nozzle Boot

Figure 1: Removing Nozzle Boot Assembly and Installing Flap



Remove lever-on nozzle boot the following way:

- Remove upper two screws (Q11657-287) from nozzle boot.
- Remove lower two screws (Q11657-285) from lower area of nozzle boot assembly.
- Remove boot from unit.

Installing Nozzle Boot

1. Position nozzle flap (R20713-G1) in push-to-start nozzle boot assembly to top mounting holes. (See Figure 1: Removing Nozzle Boot Assembly and Installing Flap.)

2. Assemble push-to-start nozzle boot assembly with the following screws:
   - (Q11657-287), 1/4-10 x 1-1/4 inch for top two holes, passing through the mounting holes on the nozzle flap.
   - (Q11657-285), 1/4-10 x 1 inch for lower two holes passing through the mounting holes on the nozzle boot assembly.

3. Open main access door. Refer to MDE-2531 Pump and Dispenser Start-Up and Service Manual for access instructions.

Installing Conversion Kits K93710-03 and K93710-05

For single-level models or models with cash and or credit, or both, and CRIND Card Reader in Dispensers, perform the following:

- Remove graphics from price per unit (PPU) lens by referring to instructions in MDE-2620 Graphics Panel Application Instruction for The Advantage Series.
- Remove filler plate from PPU display panel by prying it out from front with a pocket knife or screwdriver edge.
- If there is no filler plate only a solid lens, the lens must be replaced with new (T17635-02) lens included in K93708-01. (See "Kit K93708-01" on page 3.)
- Remove gasket, clean and replace.

Note: Make sure surface area is clean before replacing gasket.

- Remove adhesive backing from membrane switch (T19370-11 or T19370-12 or T19370-13).
- Insert switch cable through slot on right-hand side of PPU lens.
- Place switch into cutout from which filler plate was removed.
- Secure switch applying even pressure to adhere. Do not bend switch.

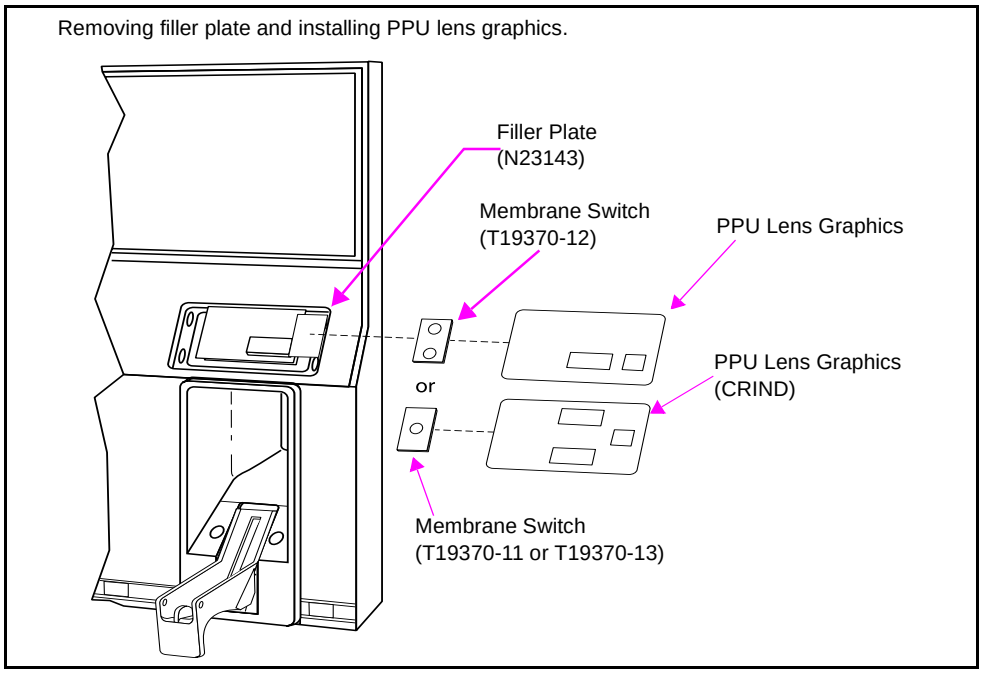
For Pre-Optimized electronics do the following:

- Plug the switch cable into J136 connector on grade select distribution cable (T19731-G1) (See "Figure 3: Installing Grade Select Board" on page 11.)

For Optimized electronics do the following:

- Plug the switch cable into GR1-GR3 on cable (W03715-G2).

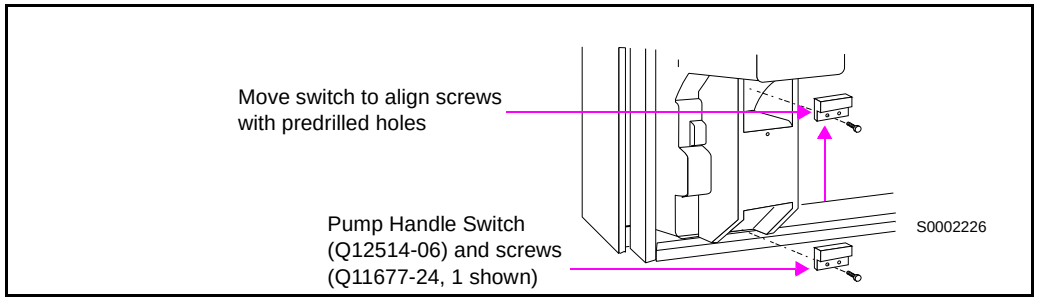
Note: Cable (W03715-G2) *is not illustrated.*



For blenders only, repositioning lever-on pump handle switch.

- Remove and save two screws (Q11677-24, 6-20 x 3/8 inch) from pump handle switch (Q12514-06). (See Figure 2: Relocating Pump Handle Switch.)
- Move switch up about 6 inches to upper switch position. Align switch with predrilled mounting holes and install screws (Q11677-24).
- Reinstall pump handle switch shield (N23182-G1).

Figure 2: Relocating Pump Handle Switch



Installing Conversion Kit K93708-01 Jumpers

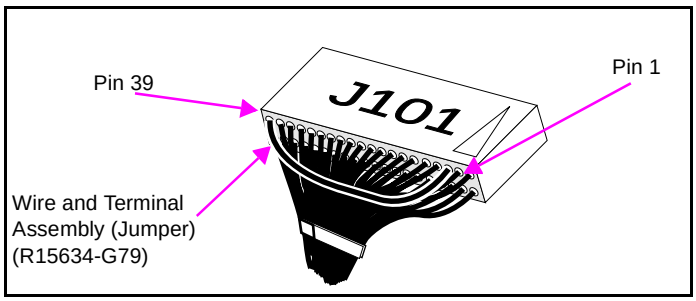
Install jumpers according to type of unit.
Note: The jumpers must be installed to meet UL® and NFPA requirements.

All The Advantage with Optimized Electronics manufactured April 1, 1999 thru present

Install Jumper (Q11011-01) on JP1 of Board Assembly (T20011).

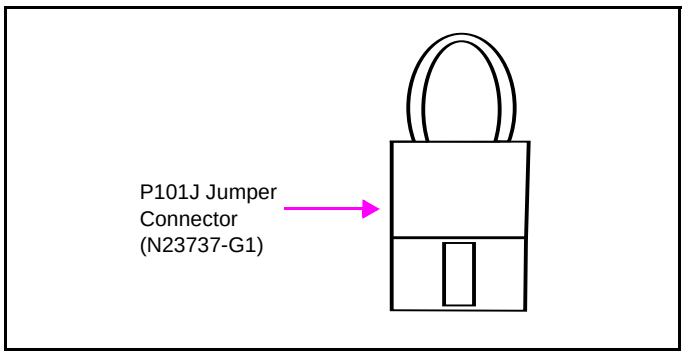
For non-blenders manufactured before August 1996

Install wire and terminal assembly (R15634-G79) by plugging the terminal labeled Pin 1 into position Number 5 of J101 on the DC main harness. Plug the other end of terminal (labeled Pin 39) into position Number 39 of J101.



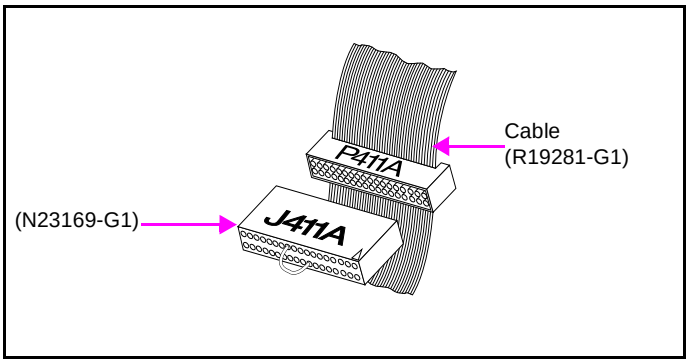
For non-blenders manufactured between August 1996 thru March 1999

Install wire and terminal assembly (Jumper) P101J (N23737-G1) to J101J on DC main harness W03601-G1 (W03601-G3 on 8-hose non-blenders).



For blenders manufactured before April 1, 1999

Install Cable Plug Assembly (N23169-G1) into P411A on interface cable (R19281-G1).

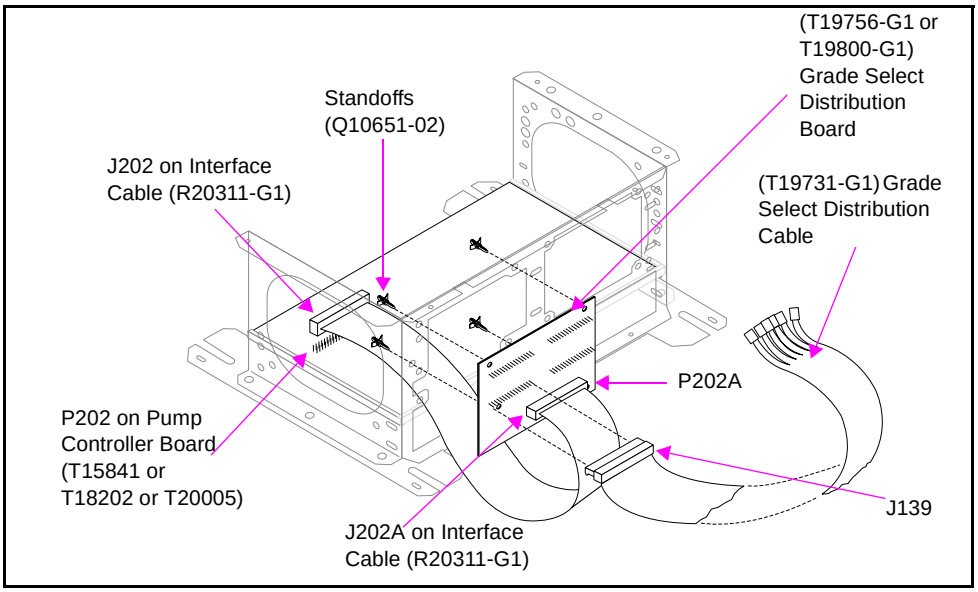


Installing Conversion Kit K94417-01 Grade Select Board

1. Install grade select board (T19756-G1 for duals, quads and six-hose models or T19800-G1 for 4-grade models) to back of modular card cage using standoffs (Q10651-02).

2. Make the following cable connections:
   - See *"Figure 3: Installing Grade Select Board" on page 11*
   - See *"Cable Connection Table" on page 12*
   - See *"Figure 4: Cable Block Diagram of a Three-Grade Model" on page 13*

Figure 3: Installing Grade Select Board

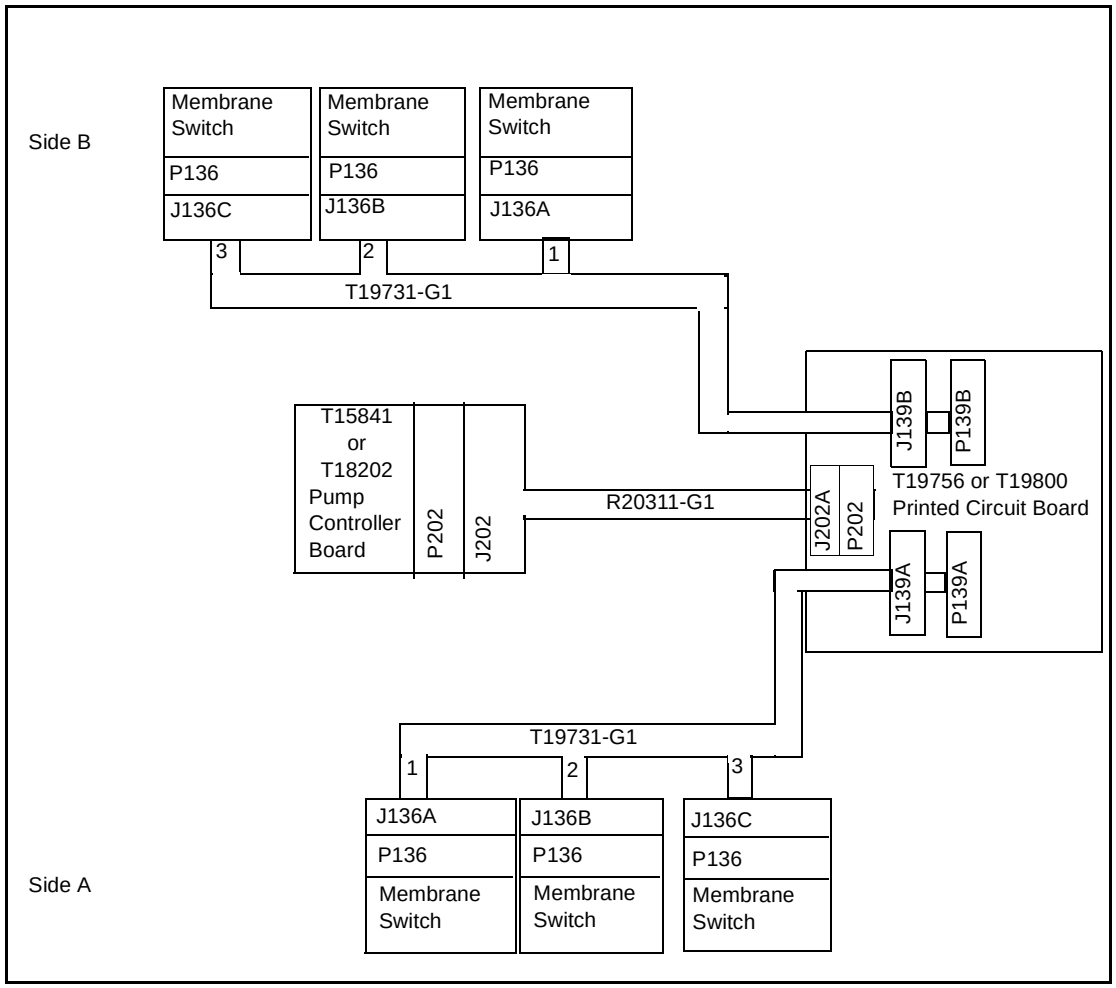


Cable Connection Table

This connector	of Cable	Route	To	On
J202	R20311-G1	routing cable through back of card cage. See Note 1	P202	Pump Controller Board T15841 or T18202 or T20005
J202A	R20311-G1	routing cable around bottom edge of T19756-G1 or T19800-G1 board. See Note 2	P202A	Grade Select Distribution Board T19756-G1 or T19800-G1
For A Side, J139	T19731-G1	routing cable to rear of card cage.	Use P139A (top connector) if not converting to a single-hose MPD. If converting to a single hose MPD use bottom connector.	Grade Select Distribution Board T19756-G1 or T19800-G1
For B Side, J139	T19731-G1	routing cable to back of card cage.	Use P139B (top connector) if not converting to a single-hose MPD. If converting to a single hose MPD use bottom connector.	Grade Select Distribution Board T19756-G1 or T19800-G1
For A Side, connectors 1-6	T19731-G1	routing cable from backside of card cage and underneath power supplies. Continue routing through cable clamps on left side of module (near hinge) and clamps on top side of nozzle boots.	P136	P136 of membrane switches

Notes:
1) Do not twist cable so that proper pin connection alignment is made.
2) Do not twist cable so that pin connectors maintain alignment to each other as shown in "Figure 3: Installing Grade Select Board" on page 11.

Figure 4: Cable Block Diagram of a Three-Grade Model



Note: Use connectors 1 through 3 or 4 of T19731-G1 when connecting to the switches.
Note: Do not twist interface cable R20311-G1 while routing or connecting. Install as shown above.

3 Close electronics cabinet and lock in place.

4 Close and secure the main access door. Refer to MDE-2531 Pump and Dispenser Start-Up/ Service Manual.

5 Restore all power to unit. If the units contain CRIND devices, coldstart the CRIND devices. Refer to MDE-2562 CRIND Service Manual.

6 Download prices to dispensers. Refer to MDE-2531 Pump and Dispenser Start-Up/Service Manual.

7 Check for proper operation of unit.

8 If applicable, install new PPU and put-down graphics. Refer to MDE-2620 Graphics Panel Application Instructions for The Advantage Series.

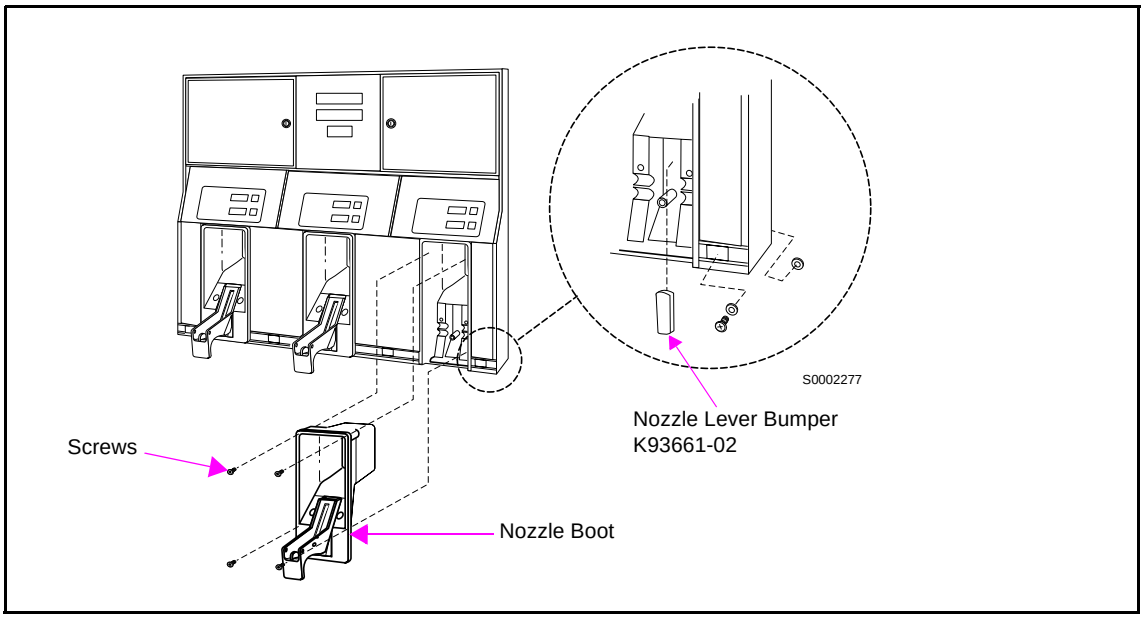
Installing Push-to-Start to Lever-On Conversion Kit K93708-02

Read “Safety Information” on page 5 before Removing and Installing nozzle boot.

Removing Nozzle Boot

1. Remove four screws from the nozzle boot assembly.
2. Remove push-to-start nozzle boot from unit.

Figure 5: Installing Nozzle Boot Screws and Bumper



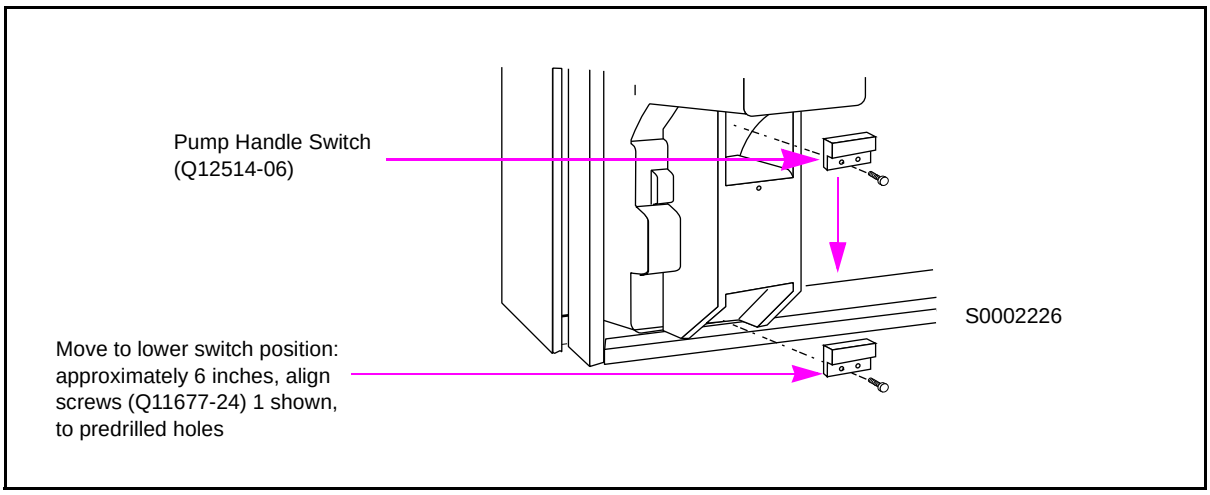
Installing Nozzle Boot

1. Install K93661-02 nozzle lever bumper. Clean surface of nozzle boot with isopropyl alcohol before applying bumper.
2. Install push-to-start nozzle boot into unit.

For single level units and all CRIND units, perform the following:

- Remove graphics from PPU lenses by carefully peeling off decals. Completely remove any glue residue by wetting the area with WD-40 and carefully scraping the glue with a razor scraper. Clean area with isopropyl alcohol once glue is removed.
- Unplug Push-to-Start membrane switch cable from connector J136.
- Peel off membrane switch. Place the (N23143) filler plate in the switch cutout. Reposition lever-on pump handle switch.
- Remove two screws (Q11677-24 6-20 x 3/8 inch) from pump handle switch (Q12514-06).
- Move the switch down approximately 6 inches to the lower switch position. Align switch with the predrilled mounting holes and reinstall screws (Q11677-24).

Figure 6: Relocating Pump Handle Switch



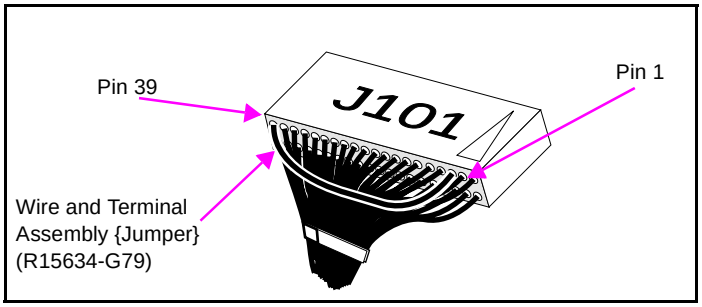
Removing Jumpers

All The Advantage series with Optimized Electronics manufactured April 1, 1999 thru present

Remove Jumper (Q11011-01) from JP1 of Board Assembly (T20011).

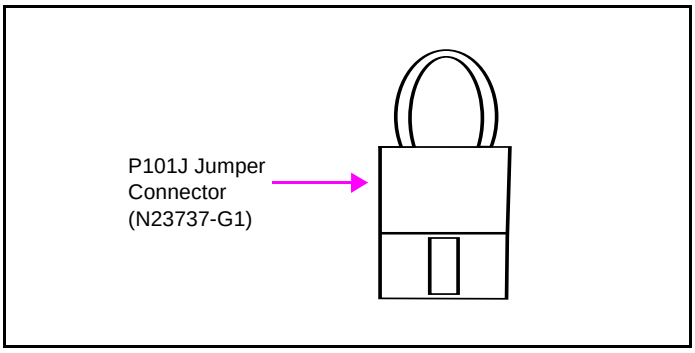
For non-blenders manufactured before August, 1996

Remove wire and terminal assembly (R15634-G79) by unplugging the terminals from the Number 5 and Number 39 positions of J101.



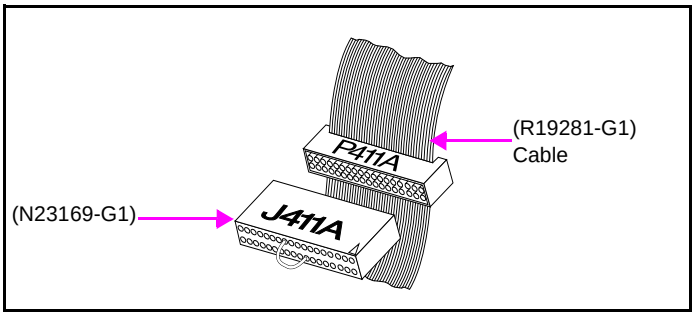
For non-blenders manufactured between August, 1996 thru March 31, 1999

Remove wire and terminal assembly (jumper) P101J (N23737-G1) from J101J on DC main harness (W03601) on bottom board in card cage.



For blenders manufactured before April 1, 1999

Remove wire and terminal assembly (Jumper) J411A (N23169-G1) from connector P411A on (R19281-G1) cable.



For All Push-to-Start to Lever-On Conversions

1. Close bezel.
2. Restore all power to unit.
3. Perform a master reset. Refer to MDE-2531 Pump and Dispenser Start-Up/Service Manual.
4. Reprogram unit as required, and reload system totals.
5. Check for correct operation of unit.
6. If applicable, install new PPU and put-down graphics. Refer to MDE-2620 Graphics Panel Applications Instructions for The Advantage Series.

7300 West Friendly Avenue • Post Office Box 22087
Greensboro, North Carolina 27420
Phone (336) 547-5000 • http://www.gilbarco.com • Printed in the U.S.A.
MDE-2634G Lever-On/Push-to-Start Conversion Kits K93708-XX and K93710-XX for The Advantage® Series • May 2003