

Installation

Introduction

This manual provides installation instructions for the Gasboy Gear Train Upgrade Kit M04477K001.

Required Reading

Before installing the 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.

Note: This kit requires approximately 1 hour or less to complete.

Required Tools

The following tools are needed to install the Gasboy Gear Train Upgrade Kit:

- Combination Wrench Set
- #2 Phillips® Screw Driver
- Socket & Ratchet Set
- Punch to help align holes
- Two Boards (1 inch x 2 inch x 18 inches long or 1 inch x 4 inches x 18 inch long)

Parts List

M04477K001 - Gasboy 9140Q Gear Train Upgrade Kit

Part Number	Description	Quantity Per Unit
M04428A001	LINK, METER INTERFACE	2
M04433B001	SHAFT, DISPLAY DRIVE	1
057002	STANDOFF	4
042615	DRIV-LOC PIN 1/8 X 3/4	2

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.


The first and most important information you must know is how to stop all fuel flow to the pump and island.

Emergency Total Electrical Shut-Off

Locate the switch or circuit breakers that shut-off all power to all fueling equipment, dispensing devices, and submerged turbine pumps (STPs). These you must operate in the event of an emergency.

 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.

NFPA 30A, Section 4-1.2, published by the National Fire Protection Association, requires the installation of an easily accessible switch or circuit breaker to shut-off the power to all fueling equipment, dispensing devices and STPs in the event of an emergency. Know the function and location of this switch or circuit breaker before inspecting, installing, maintaining, or servicing Gilbarco 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 or cones as barricades to the effected units
-  A total electrical shut-off of that unit

Read this 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 Gilbarco Authorized Service Contractor or call the Gilbarco Call Center at 1-800-800-7498. 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.

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.

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.

Informing Emergency Personnel

Compile the following information for emergency personnel:

- Location of accident (e.g. address, front/back of building, etc.)
- Nature of accident (e.g. possible heart attack, run over by car, burns, etc.)
- Age of victim (e.g. baby, teenager, middle-age, elderly)
- Whether or not victim has received first aid (e.g. stopped bleeding by pressure, etc.)
- Whether or not victim has vomited (e.g. if swallowed or inhaled something, etc.)

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

Other Useful Safety Information

This subsection provides additional safety information.

OSHA Lock-Out and Tag-Out Requirements

OSHA Standard 29 CFR 1910-147 Control of Hazardous Energy Sources (Lock-Out/Tag-Out) covers ways to avoid personal injury because power was turned on or fuel pressure was applied **unexpectedly** while servicing equipment. The rule requires:


- (1) Turning off equipment power and fuel under pressure.
- (2) Use of a locking device (breaker, valve, etc.) or label device with a warning tag.

Station employees and service contractors need to understand and comply with this program completely to ensure safety while the equipment is down.

Use Electrostatic Discharge Precautions

Place yourself at a neutral static-free potential by doing the following:

- 1 Touch an unpainted metal surface.

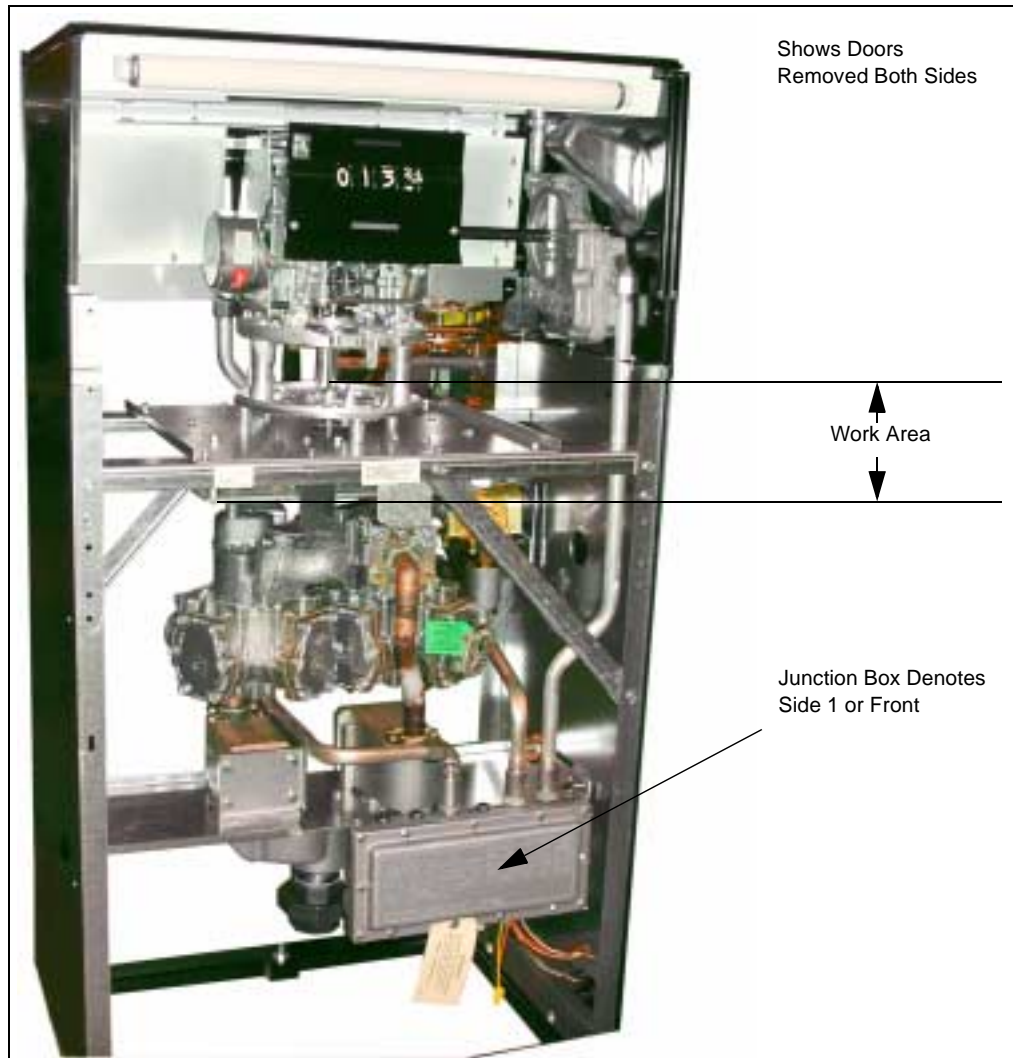
- 2  Use a wrist strap connected to a grounded metal frame or chassis.

Installing the Gear Train Upgrade Kit

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 Using the proper key for the unit, unlock and remove the lower and upper doors from both sides of the unit. Place doors in a safe place to prevent damage or scratches. (See Figure 1)

Figure 1: GasBoy Cover Removal



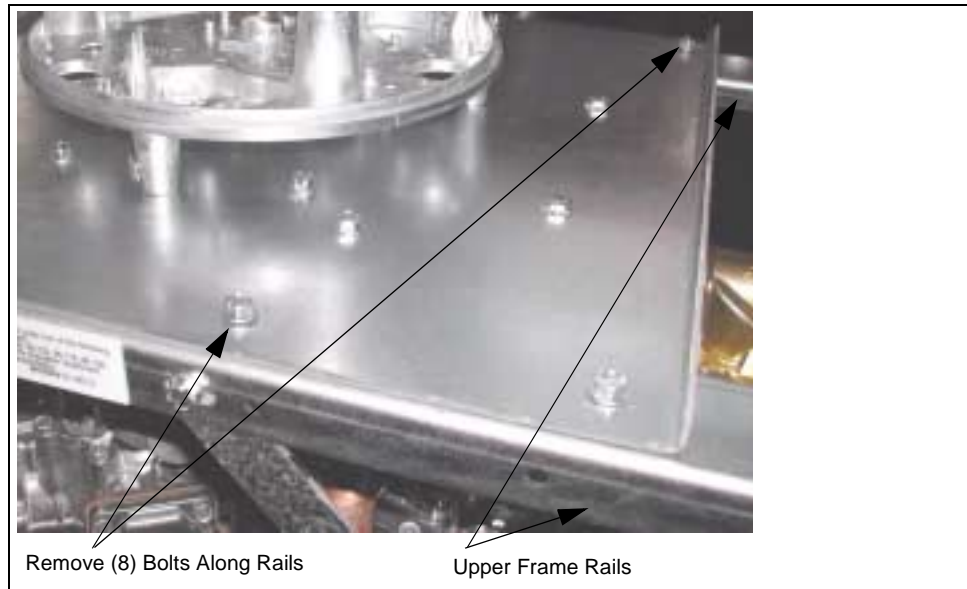
- 3 Make sure you have the proper kit for the model dispenser to be retrofitted.

Assembly Removal

Before any parts can be installed, the gear train must be removed.

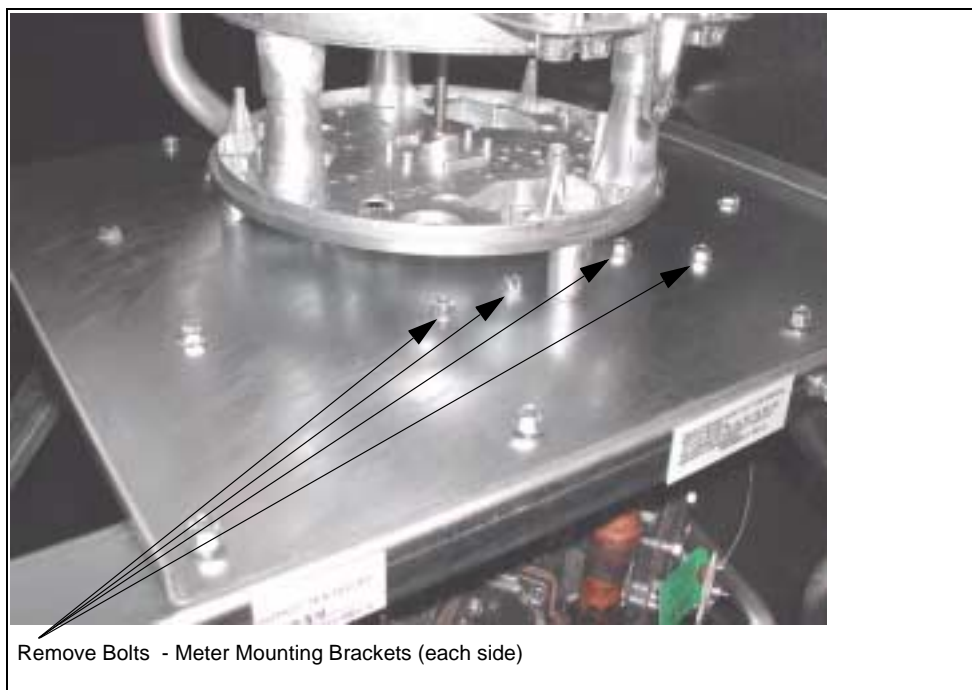
- 1 Remove the eight bolts that mount the register platform to the upper frame rails and retain the bolts. (See Figure 2.)

Figure 2: Register Platform Bolt Removal



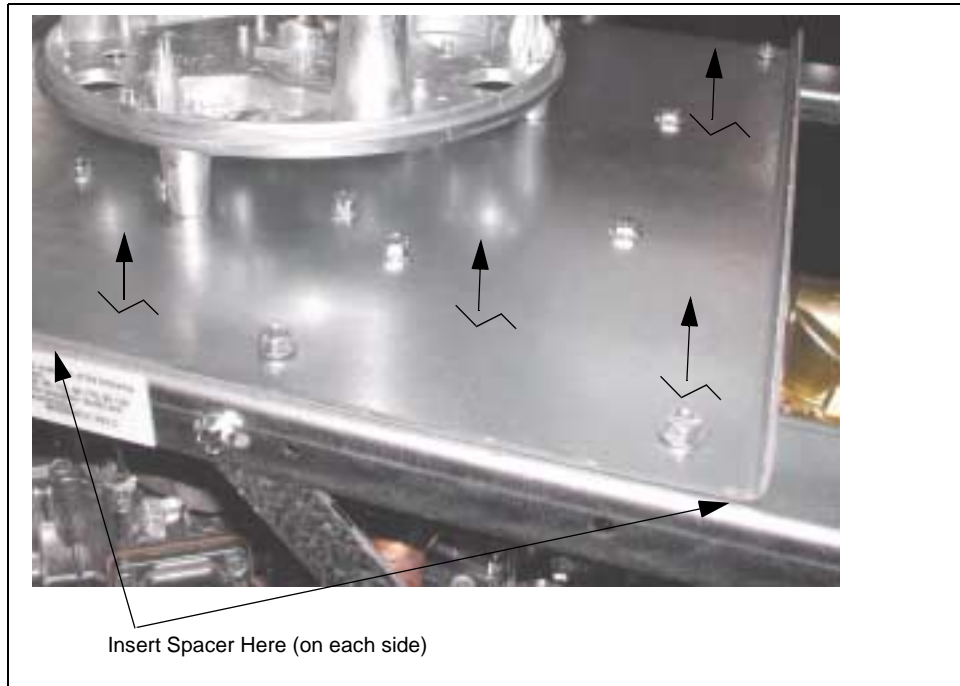
- 2 Remove eight bolts securing the meters to the meter mounting brackets and retain the bolts. (See Figure 3.)

Figure 3: Meter Mounting Bracket Bolts



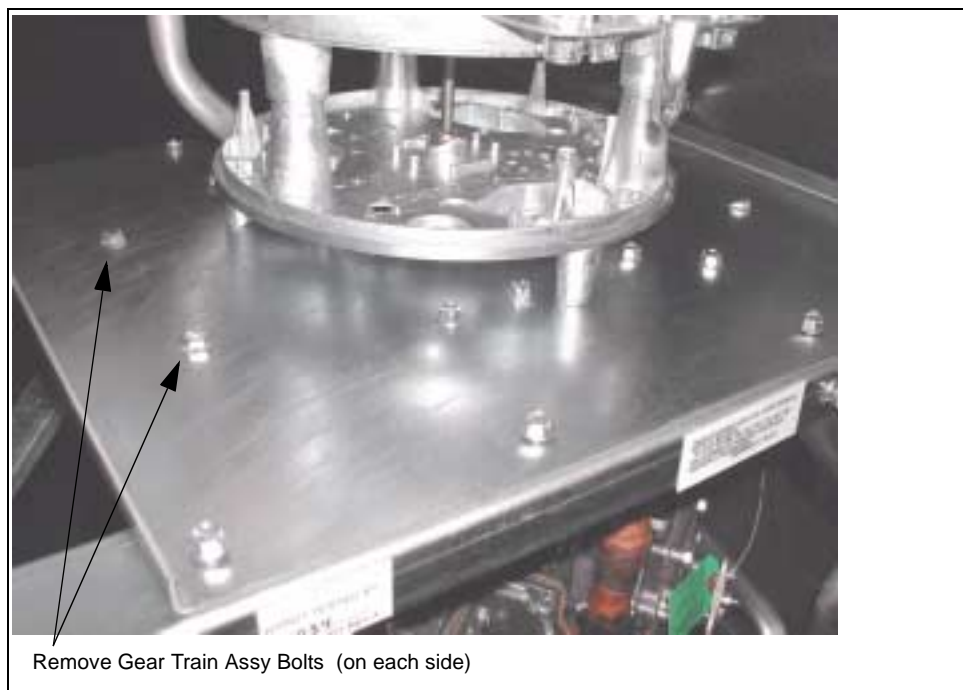
- Using the two 18 inch 1x4s as spacers, lift the register platform and slide the spacers in between the platform and the upper frame rails. (See Figure 4.)

Figure 4: Lifting the Register Platform



- Remove the four bolts that mount the gear train assembly to the register platform and retain the bolts. (See Figure 5.)

Figure 5: Gear Train Bolt Removal



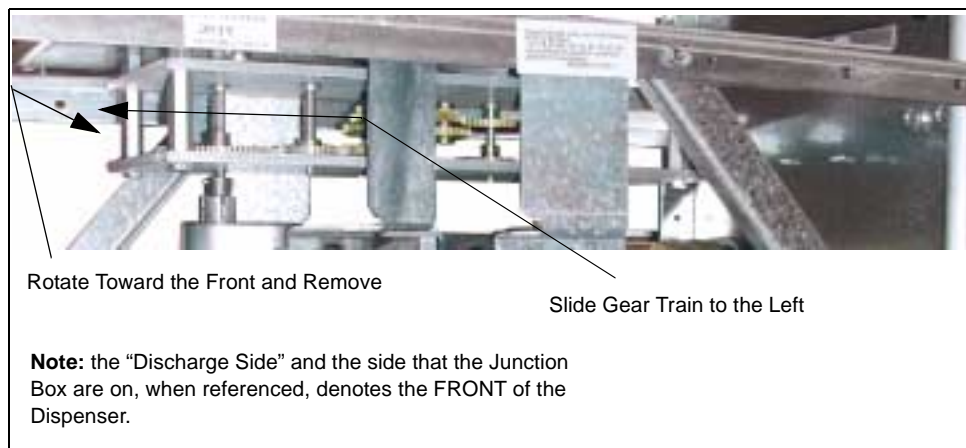
- 5 Remove the display drive shaft (054039) from between the gear train and the register and discard the shaft.

Figure 6: Drive Train Shaft Removal



- 6 Lift the gear train up and away from the meters and slide it to the left away from the discharge side of the dispenser. (See Figure 5.)

Figure 7: Removing the Gear Train



- 7 Rotate the gear train toward the front of the dispenser in such a manner that it can be removed.

Assembly Part Replacement

The following process explains how to replace the indicated parts in the table below.

Gasboy Old Part Replacement List

Old Part No	New Part No	Description
054039	M04433B001	SHAFT, DISPLAY DRIVE
N/A	M04428A001	LINK, METER INTERFACE
056012	057002	STANDOFF
042615	N/A	*DRIV-LOC PIN 1/8 X 3/4

*Note: *The Driv-Loc Pins are supplied to replace damaged or worn Driv-Loc Pins in the Gear Train Assembly.*

- 1 Exchange the four top standoffs (056012) on the gear train with the four shorter standoffs (057002) and discard the longer standoffs.
- 2 Install the meter interface link (M04428A001) in the top of each meter in a manner that the guide pins (see Figure 8 and Figure 9) are in the “longer slots” in the output shaft cups.

Figure 8: Meter Interface Link Guide Pins

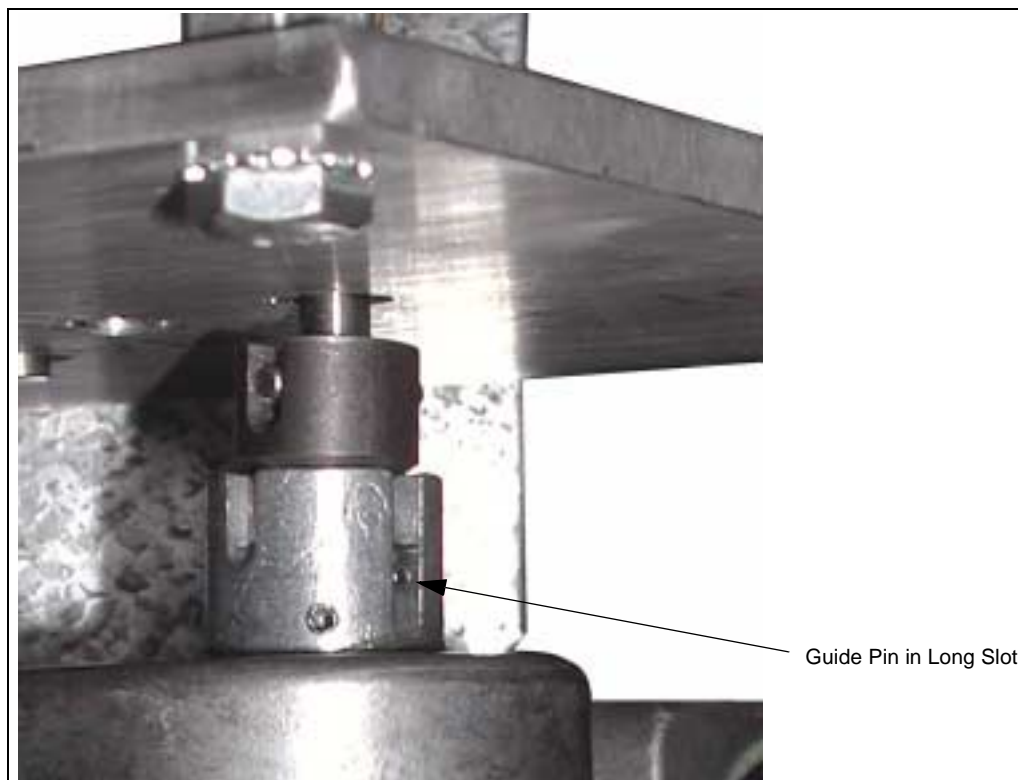
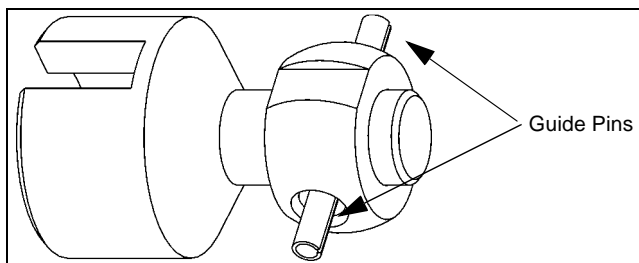
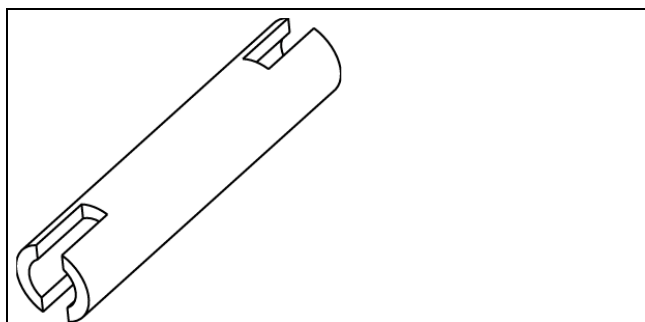


Figure 9: Meter Interface Link

- 3 Reversing the removal process, position the gear train back in between the meter mounting brackets and the meters as before.
- 4 Install the shorter display drive shaft (M04433B001) (see Figure 10) between the gear train and the register.

Figure 10: Display Drive Shaft

- 5 Remove the two 1X4s and set the register platform back down on the frame rails while trying to align the meter interface links and the four meter-mounting-brackets to the meters.
- 6 Insert and loosely thread the four bolts that mount the gear train assembly to the register platform. (Do not tighten until all bolts are threaded into their respective locations.)
- 7 Insert and thread the eight bolts securing the meters and the eight bolts that mount the register platform to the frame, so that they are still loose - not tightened. (This is required so as to enable the alignment of all the bolts into their respective holes.)
- 8 Once all the bolts are inserted and threaded in loosely, tighten all twenty bolts.

Testing/Checking Operation

- 1 Restore power to the unit.
- 2 Slowly dispense fuel and observe that the digits turn smoothly and that no binding is occurring.

Completing Installation

- 1 After determining that the system is functioning properly, replace the upper and lower panels on both sides of the dispenser and secure with the keylocks.
- 2 Inform the manager/owner that the unit can be returned back to service.

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