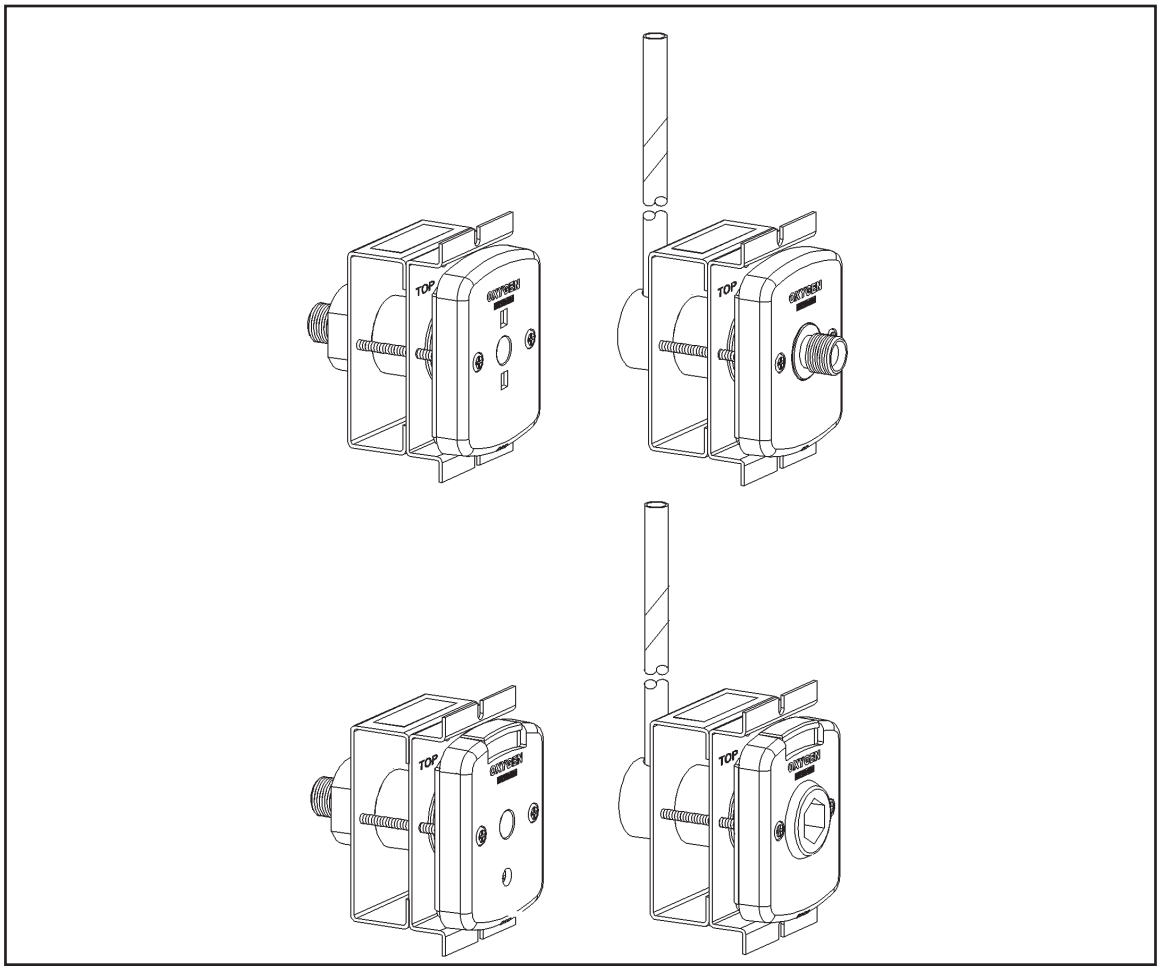
SERVICE MANUAL

BeaconMedæs™

DiamondCare ®Console Outlet



Product No. 6803

For Parts or Technical Assistance **MAN244 Rev. A**

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www.beaconmedaes.com

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Chapter 1
Introduction

Chapter Contents

Purpose

This manual provides requirements for the DiamondCare® Console Outlets normal operation and service. It also includes parts lists (chapter 5) for ordering replacement components.

Audience

This manual is intended for use by only facility-authorized personnel. Failure to observe this restriction can result in severe injury to people and serious damage to equipment.

Organization

This manual contains seven chapters.

Chapter 1: Introduction

Chapter 1 contains a brief description of this service manual, as well as a DiamondCare® Console Outlet product overview.

Chapter 2: Troubleshooting Procedures

Chapter 2 contains repair analysis procedures. Use these procedures to gather information, identify a repair need, and verify the effectiveness of the repair.

Chapter 3: Theory of Operation

Chapter 3 describes the application of the mechanical systems employed in this product.

Chapter 4: Removal, Replacement, and Adjustment Procedures

Chapter 4 contains the detailed repair procedures determined necessary in chapter 2.

Chapter 5: Parts List

Chapter 5 contains the warranty, part-ordering procedure, and illustrated parts lists for this product.

Chapter 6: General Procedures

Chapter 6 contains cleaning, service, and other general procedures.

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Typographical Conventions

This manual contains different typefaces and icons designed to improve readability and increase understanding of its content. Note the following examples:

- Standard text—used for regular information.
- **Boldface** text—emphasizes a word or phrase.
- NOTE:—sets apart special information or important instruction clarification.
- The symbol below highlights a WARNING or CAUTION:

Figure 1-1. Warning and Caution

  - A WARNING identifies situations or actions that may affect patient or user safety. Disregarding a warning could result in patient or user injury.
  - A CAUTION points out special procedures or precautions that personnel must follow to avoid equipment damage.

Terminology

Definitions

- Console outlet: Medical gas outlet intended for installation within an enclosure, such as furniture, ceiling columns, pendant, or headwall.
- Frontbody assembly: Sub-assembly of the outlet that connects to a patient care system. The frontbody consist of the primary check valve and a keying disc. The keying disc contains an adapter release button (for Latch Index Key and Geometric Key styles), and a gas specific keying system which prevents cross connection from the outlet to a patient care system and from the frontbody assembly to the backbody assembly.
- Rough-in assembly: Sub-assembly of the outlet that connects to the facility's piped medical gas/vacuum system and contains the secondary check (service) seal (for pressurized medical gases only).

Acronyms

- American National Standards Institute (**ANSI**)
- Compressed Gas Association (**CGA**)
- Canadian Standards Association (**CSA**)
- Diameter Index Safety System (**DISS**)
- International Electro-technical Commission (**IEC**)
- National Fire Protection Association (**NFPA**)
- Underwriters Laboratories (**UL**)
- Waste Anesthetic Gas Disposal (**WAGD**)
- Anesthetic Gas Scavenging System (**AGSS**)

Introduction

DiamondCare® Console Outlets provide medical gas/vacuum service for manufactured assemblies employing copper tubing and/or flexible hoses. These assemblies such as ceiling columns and console enclosures) can be manufactured by BeaconMedæs or other suppliers.

A final outlet assembly consists of a rough-in assembly plus a frontbody assembly. The frontbody and backbody assemblies are designed and manufactured with a gas specific keying system to prevent accidental cross-connection between gas services from the backbody assembly to the patient care system. (see table 1-2 on page 1–8).

Each gas specific rough-in assembly may be combined with any of the following frontbody assemblies of the same gas service. This allows a broad range of flexible solutions to the facilities medical gas needs while maintaining a the gas specific integrity of the medical gas delivery system.

- DISS Key Style
- DiamondCare® Quick-Connect Key Style
- Latch Index Key Quick-Connect Key Style
- Geometric Key Quick-Connect Key Style

All outlets are color-coded and labeled according to NFPA and CSA standards for safety. All outlets are listed by UL and CSA.

DiamondCare® outlets for all pressurized medical gases are rated for a maximum service pressure of 200 psig. They contain both a secondary check valve and a primary check valve. DiamondCare® vacuum inlets consist of a primary check valve only. The primary check seal prevents gas flow when an outlet adapter or patient treatment device is removed from the outlet. The secondary check seal (located in the rough-in assembly) prevents gas flow when the frontbody is removed from a pressure gas rough-in assembly for frontbody service or repair.

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Operating Precautions

WARNING:
Components of outlets for vacuum service must never be interchanged or used in outlets delivering pressurized gas service. Possibly injury or equipment damage could occur.

DiamondCare® Console Outlets will perform in conformity with the description contained in this service manual and accompanying labels and/or inserts, when installed, assembled, operated, and repaired in accordance with the instructions provided. Outlets must be checked periodically. Refer to CGA Pamphlet E-10 (1999 Edition), *Maintenance of Medical Gas and Vacuum Systems in Health Care Facilities*. If an outlet does not work, the outlet should not be used. Broken, missing, plainly worn, distorted, or contaminated parts should be replaced immediately. If repair or replacement becomes necessary, BeaconMedæs recommends that a phone call or written request for service advice be made to BeaconMedæs Customer Service. This product or any of its components should be repaired in accordance with written instructions provided by BeaconMedæs. It should not be altered without the prior written approval of BeaconMedæs. The user of this product shall have the sole responsibility for any malfunction that results from improper use, faulty installation, improper repair, damage, or alteration.

Specifications

Physical Description

The DiamondCare® Console Outlets consist of a rough-in assembly and a finishing assembly. An optional finish faceplate is available.

Rough-in Assembly

The rough-in assembly is available with a copper inlet tube (piped backbody) or a DISS male inlet fitting (DISS backbody). Both the piped and DISS rough-in assemblies consist of a steel backplate with a non-removable, positive, pin-keying arrangement for each specific service. The specific service is stamped into the front of the backplate and identified on a color-coded label located on the backbody.

A DISS rough-in assembly includes a male DISS backbody fitting for connection to a gas delivery line, which consist of a flexible hose fitted with a corresponding DISS nut and nipple. The piped rough-in assembly includes a 7" (17.8 cm) long, 3/8" (9.5 mm) OD for pressure services, or a 7" (17.8 cm) long, 1/2" (12.7 mm) OD for vacuum/WAGD services, Type K, copper, gas inlet tube with a plastic dust cap for brazing to the gas delivery line. This inlet tube rotates 360°, which allows the rough-in assembly to adapt to the location of the gas line. Both types of rough-in assemblies include a secondary check for pressurized gases. This prevents gas flow when the frontbody is removed for cleaning and service.

Frontbody Assembly

The console frontbody assembly consists of an inseparable keying disc assembly and a barrel assembly (available as a pre-assembled serviceable part), which houses the primary check seal. The keying disc assembly is gas-specific, color-coded, and labeled and keyed to the rough-in assembly with a non-removable, keying pin.

Regulations, Standards, and Codes

All DiamondCare® Console Outlets are designed and manufactured to applicable NFPA, CGA, and CSA standards.

- NFPA 99 (1999 edition) *Standard for Health Care Facilities*
- CSA standard Z305.1 *Non-Flammable Medical Gas/Vacuum System* Terminal Outlets
- CSA Z305.5, *Standard for Non-Flammable Medical Gas Piping Systems*
- CGA Pamphlet G-4.1, *Cleaning for Oxygen Service*
- CGA Pamphlet P-2, *Characteristics and Safe Handling of Medical Gases*
- CGA Pamphlet V-5, *Diameter-Index Safety System-Non-Interchangeable Low-Pressure Connections for Medical Gas Applications*
- CGA Pamphlet E-10 (1999 edition), *Maintenance of Medical Gas and Vacuum Systems in Health Care Facilities*

System Features

Rough-in assemblies accept any of four key style frontbodies (see figure 1-2 on page 1–7):

- Diamond® Quick-Connect
- DISS
- Latch Index Key Quick-Connect
- Geometric Key Quick-Connect

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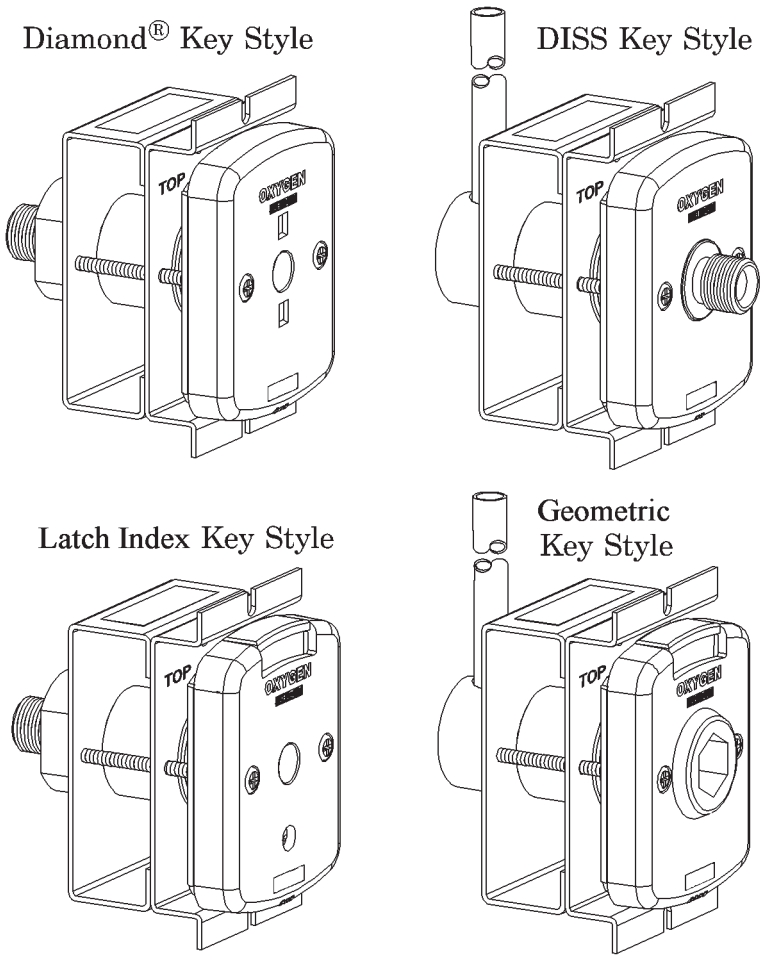
Figure 1-2. Four Key Style Frontbodies



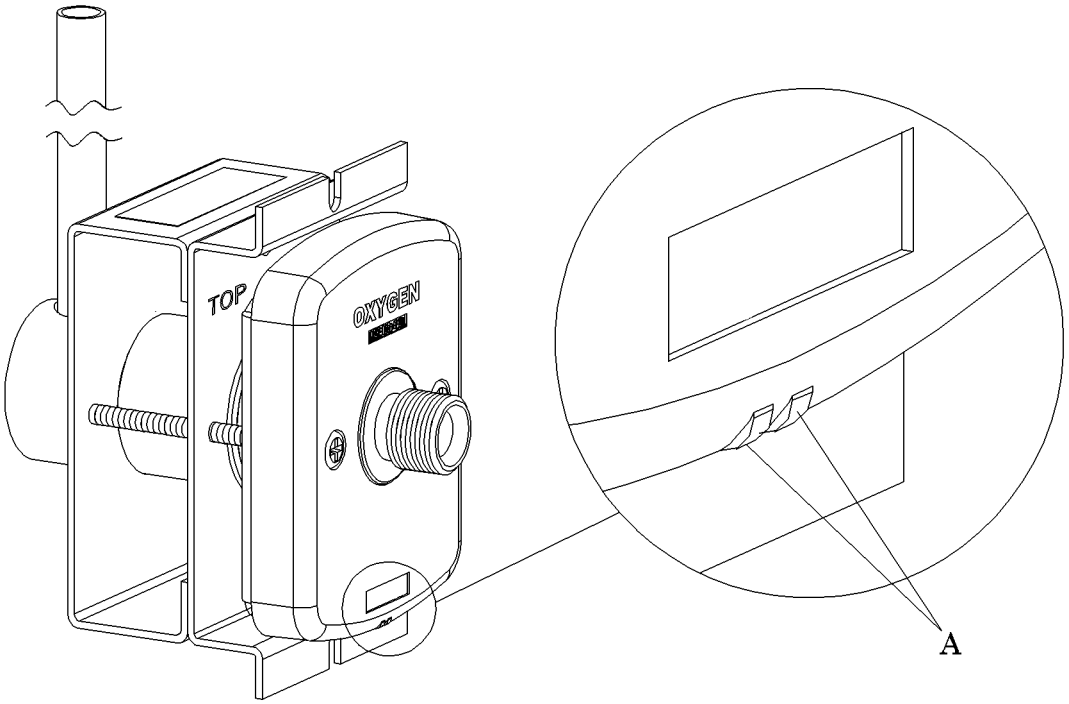
Key Style Identification

Key style identification dimples (A) are located on the face of the frontbody assembly at the bottom (see figure 1-3 on page 1–8). The pattern identifies the outlet key style. See table 1-1 on page 1-7 for DiamondCare® key style identification.

Table 1-1. Key Style Identification.

Dimple Pattern	Description
1	Diamond®
2	DISS
3	Latch Index
4	Geometric

Figure 1-3. Dimple Location



Other system features include the following:

- All console outlets have a color-coded and labeled keying disc to enable quick identification of all medical gas/vacuum services.
- Quick-Connect outlets frontbodies are serviceable with a factory-assembled barrel cartridges.
- All outlets are cleaned for oxygen service, leak-tested, flow-tested, and capped prior to shipment.

Gas Service Key Style Options

Table 1-2 on page 1-8 specifies the gas service options for all console outlet key styles.

Table 1-2. Gas Service Options

Console Outlet Key Style	Type of Medical Gas							
	O_2	N_2O	Vac	Air	WAGD◆	CO_2	N_2	O_2/CO_2
Diamond®	x	x	x	x	x	N/A	N/A	N/A
Latch Index	x	x	x	x	x	N/A	N/A	N/A
Geometric	x	x	x	x	x	N/A	N/A	N/A
DISS	x	x	x	x	x	x	x	x

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Assembly Identification

Console Outlet Rough-In Assemblies

DiamondCare® Console Outlet rough-in assemblies are available in two styles: A copper-piped backbody or a threaded DISS backbody fitting. Table 1-3 on page 1-9 identifies the DiamondCare® Console Outlet rough-in assemblies.

Table 1-3. Rough-in Assembly Identification

Gas Service (disc/label color)	Console Outlet Rough-In Assemblies	
	Piped Backbody	DISS Backbody
O_2—green/white	6803-8138-800	6803-8130-800
N_2O—blue/white	6803-8138-801	6803-8130-801
Vacuum—white/black	6803-8138-802	6803-8130-802
Air—yellow/black	6803-8138-803	6803-8130-803
CO_2—grey/black	6803-8138-804	6803-8130-804
N_2—black/white	6803-8138-805	6803-8130-805
WAGD◆—violet/white	6803-8138-806	6803-8130-806
O_2/CO_2—green/grey	6803-8138-807	6803-8130-807

◆WAGD-Waste Anesthetic Gas Disposal (formerly Evacuation).

Console Outlet Finish Assemblies

Table 1-4 on page 1-9 identifies the DiamondCare® Console Outlet finish assemblies.

Table 1-4. Assembly Identification

Gas Service (disc/label color)	Console Outlet Finish Assembly Key Style			
	DiamondCare®	DISS Key Style	Latch Index Key Style	Geometric Key Style
O_2	6803-8111-800	6803-8110-800	6803-8113-800	6803-8112-800
N_2O	6803-8111-801	6803-8110-801	6803-8113-801	6803-8112-801
Vac	6803-8111-802	6803-8110-802	6803-8113-802	6803-8112-802
Air	6803-8111-803	6803-8110-803	6803-8113-803	6803-8112-803
CO_2	N/A	6803-8110-804	N/A	N/A
N_2	N/A	6803-8110-805	N/A	N/A
WAGD◆	6803-8111-806	6803-8110-806	6803-8113-806	6803-8112-806
O_2/CO_2	N/A	6803-8110-807	N/A	N/A

◆WAGD-Waste Anesthetic Gas Disposal (formerly Evacuation).

Safety Tips

 WARNING:
Only facility-authorized personnel should troubleshoot DiamondCare® Console Outlets. Troubleshooting by unauthorized personnel could result in personal injury or equipment damage.

 WARNING:
Only facility-authorized personnel should perform service on DiamondCare® Console Outlets. Service performed by unauthorized personnel could result in personal injury or equipment damage.

 WARNING:
Adhere to the “Infection Control Policies and Procedures” outlined in the Safety Coordinator Reference Guide. Failure to do so could result in the spread of infection.

 WARNING:
Follow the product manufacturer’s instructions. Failure to do so could result in personal injury or equipment damage.

 WARNING:
Do not mix pressure (gas) and vacuum outlet components. Possible personal injury or equipment damage could occur.

 WARNING:
Before using an outlet after its installation, make sure that it has been connected to the correct gas/vacuum service. Test the piping system in accordance with applicable codes and standards. Failure to do so could result in death, personal injury or equipment damage.

 WARNING:
Shut off the gas/vacuum supply to the outlet before servicing the rough-in secondary check unit or seal bushing. Failure to do so could result in personal injury or equipment damage.

 WARNING:
Frequently inspect and service DiamondCare® outlets that are used in an air system supplied by a liquid ring air compressor using chlorinated water, and having galvanized piping or a galvanized air receiver. Chemical reactions occurring under those conditions may damage the pistons. Pistons that show evidence of deterioration should be replaced. Failure to maintain the air outlets could result in personal injury or equipment damage.

 WARNING:
Components of outlets for vacuum service must never be interchanged or used in outlets delivering pressurized gas service. Possibly injury or equipment damage could occur.

 CAUTION:
When testing an outlet for correct operation, do not allow the piston in the check valve to "snap" back into position. The shoulder on the piston can break, causing leakage.

 CAUTION:
Do not over-tighten a DISS adapter or connector to a DISS outlet. Equipment damage could occur.

 CAUTION:
No repair should ever be undertaken or attempted by anyone not meeting the qualifications of or complying with the BeaconMedæs repair policy and procedures. Doing so could result in equipment damage.

 CAUTION:
Do not use harsh cleaners, solvents, or detergents. Equipment damage could occur.

CAUTION:
Do not use oil or grease on or around the outlet. Possible equipment damage could occur. Use only lubricants approved for oxygen service, such as Krytox® 6PL205.

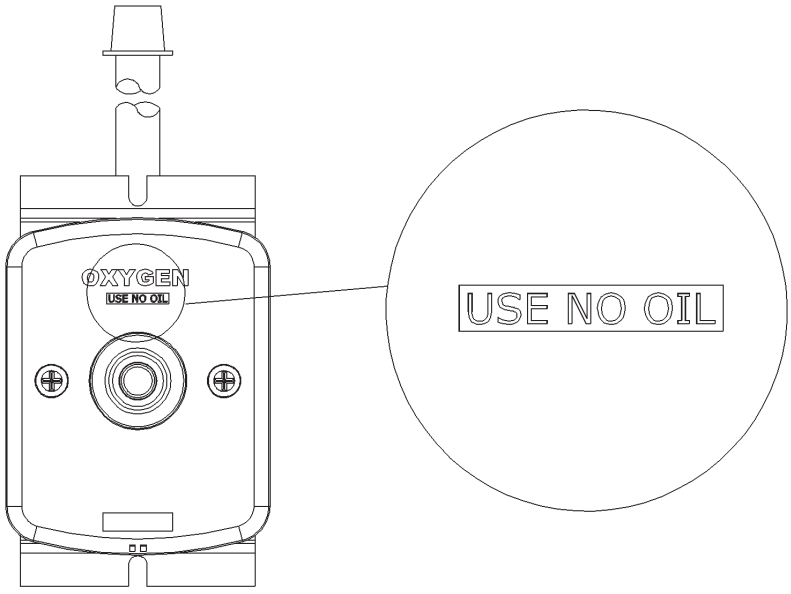
CAUTION:
Do not use silicone-based lubricants. Equipment damage could occur.

CAUTION:
Only qualified service personnel should use test equipment on the DiamondCare® Console Outlets. Equipment damage could occur if test equipment is used improperly.

CAUTION:
Only authorized and trained personnel should perform the service procedures. (The service procedures in Chapter 4 can be followed by individuals who have general knowledge and experience with devices of this nature.) No repairs or service should be attempted by anyone not having such qualifications.

Warning and Caution Labels

Figure 1-4. Warning and Caution Labels



Chapter 2
Troubleshooting Procedures

Chapter Contents

Getting Started

WARNING:
Only facility-authorized personnel should troubleshoot the DiamondCare® Console Outlets. Troubleshooting by unauthorized personnel could result in personal injury or equipment damage.

Begin each procedure in this chapter with step 1. Follow the sequence outlined (each step assumes the previous step has been completed). In each step, the normal operation of the product can be confirmed by answering **Yes** or **No** to the statement. Your response will lead to another step in the procedure, a repair analysis procedure, or a component replacement. If more than one component is listed, replace them in the given order.

Start with **Initial Actions** to begin gathering information about the problem.

Perform the **Function Checks** to isolate or identify a problem and to verify the repair after completing each corrective action (replacing or adjusting a part, seating a connector, etc.).

Perform the **Final Actions** after the Function Checks to verify the repair.

If troubleshooting procedures do not isolate the problem, call BeaconMedæs Technical Support at 1-(888) 4-MEDGAS (463-3427) for assistance.

Initial Actions

Use Initial Actions to gather information from operators concerning problems with the DiamondCare® Console Outlets. Note symptoms or other information concerning the problem that the operator describes. This information helps identify the probable cause.

1. Someone who can explain the problem is available.

   Yes ↓ **No** → Go to “Function Checks” on page 2-3.

2. Ask that person to demonstrate or explain the problem. The problem can be duplicated.

   Yes ↓ **No** → Go to “Function Checks” on page 2-3.

3. The problem is a result of improper operator action.

   Yes ↓ **No** → Go to “Function Checks” on page 2-3.

4. Perform the “Function Checks” on page 2-3 to ensure proper operation of the DiamondCare® Console Outlet.

Function Checks

1. Initial Actions have been performed.

   Yes ↓ **No** → Go to "Initial Actions" on page 2-2.

2. Attach a secondary piece of equipment onto the DISS key style gas outlet. The gas outlet does not leak and is properly sealed.

   Yes ↓ **No** → Go to procedure 2.1.

3. Attach a secondary piece of equipment onto the Diamond®, Latch Index Key, or Geometric Key Quick-Connect key style gas outlet. The gas outlet does not leak and is properly sealed.

   Yes ↓ **No** → Go to procedure 2.2.

4. The gas outlet does not leak and is properly sealed when no secondary piece of equipment is attached.

   Yes ↓ No → For DISS gas outlets, go to procedure 2.1. For Diamond®, Latch Index Key, or Geometric Key Quick-Connect, key style gas outlets, go to procedure 2.2.

5. Attach a secondary piece of equipment onto the DISS, Diamond®, Latch Index Key, or Geometric Key key style gas outlet. The secondary piece of equipment locks into place and is properly attached to the gas outlet.

   Yes ↓ **No** → Go to procedure 2.3.

6. For pressurized medical gases, remove the finish assembly from the rough-in assembly. The rough-in assembly does not leak when the finish assembly is removed.

   Yes ↓ **No** → Go to procedure 2.4.

7. For vacuum outlets, ensure the finish assembly is properly installed. The rough-in assembly does not leak, and is properly sealed when the finish assembly is installed.

   Yes ↓ **No** → Go to procedure 2.5.

8. Go to "Final Actions" on page 2-4.

Final Actions

1. Complete the required service and inspection procedures. Refer to CGA Pamphlet E-10 (1999 Edition), *Maintenance of Medical Gas and Vacuum Systems in Health Care Facilities.*

2. Complete all required administration tasks.

Test Equipment

CAUTION:
Only qualified service personnel should use test equipment on the DiamondCare® Console Outlets. Equipment damage could occur if test equipment is used improperly.

To complete the leakage test described, you will need fluid snoop in a bottle.

This test equipment will help service personnel pinpoint problems with the DiamondCare® Console Outlets. This chapter includes a list of functions and the technical information required to inspect the outlet for problems.

2.1 DISS Key Style Medical Gas Outlet Leakage

1. Attach a secondary piece of equipment onto the DISS key style gas outlet. The gas outlet does not leak and is properly sealed.

   Yes ↓

   No → Replace the frontbody O-ring supplied in the DISS repair kit (refer to procedure 4.5 in chapter 4). If this solves the problem, go to "Final Actions" on page 2-4. Otherwise, call BeaconMedæs Technical Support at (888) 4-MEDGAS (888-463-3427).

2. Go to "Final Actions" on page 2-4.

2.2 Diamond®, Latch Index, or Geometric Key Style Medical Gas Console Outlet Leakage

1. Attach a secondary piece of equipment onto the Diamond®, Latch Index Key, or Geometric Key key style gas outlet. The gas outlet does not leak and is properly sealed.

   Yes ↓

   No → Replace the frontbody O-ring supplied in the repair kit (refer to procedure 4.6, procedure 4.7, or procedure 4.8 in chapter 4). If this solves the problem, go to "Final Actions" on page 2-4. Otherwise, go to step 2.

2. Replace the twist-lock, replaceable, barrel assembly (refer to procedure 4.2 in chapter 4). This solves the problem.

   Yes ↓ **No** → Call BeaconMedæs Technical Support at 1-(888) 4-MEDGAS (463-3427).

3. Go to "Final Actions" on page 2-4.

2.3 Attachment Malfunction

1. Attach a secondary piece of equipment onto the DISS, Diamond®, Latch Index Key or Geometric Key style gas outlet. The secondary piece of equipment locks into place and is properly attached to the gas outlet.

   Yes ↓ **No** → Ensure that the adapter on the secondary piece of equipment is the proper type and in good working order. If this solves the problem, go to "Final Actions" on page 2-4. Otherwise, go to step 2 (for Diamond® key style only), step 4 (for Latch Index Key style only), or step 6 (for Geometric Key style only).

2. For the Diamond® key style gas outlet, replace the adapter locking spring supplied in the frontbody repair kit (refer to procedure 4.6 in chapter 4). This solves the problem.

   Yes ↓ **No** → Call BeaconMedæs Technical Support at 1-(888) 4-MEDGAS (463-3427).

3. Go to "Final Actions" on page 2-4.

4. For the Latch Index Key style gas outlet, replace the keying disc assembly (refer to procedure 4.7 in chapter 4). This solves the problem.

   Yes ↓ **No** → Call BeaconMedæs Technical Support at 1-(888) 4-MEDGAS (463-3427).

5. Go to "Final Actions" on page 2-4.

6. For the Geometric Key style gas outlet, replace the keying disc assembly (refer to procedure 4.1 in chapter 4). This solves the problem.

   Yes ↓ **No** → Call BeaconMedæs Technical Support at 1-(888) 4-MEDGAS (463-3427).

7. Go to "Final Actions" on page 2-4.

2.4 Rough-In Assembly Leakage (Pressurized Medical Gases)

1. Remove the finish assembly from the rough-in assembly on the gas outlet. The rough-in assembly seals properly and does not leak.

   Yes ↓

   No → Replace the rubber bushing for all gas outlet types (refer to procedure 4.3 in chapter 4). If this solves the problem, go to "Final Actions" on page 2-4. Otherwise, call BeaconMedæs Technical Support at 1-(888) 4-MEDGAS (463-3427).

2. Go to "Final Actions" on page 2-4.

2.5 Rough-In Assembly Leakage (Vacuum Outlets Only)

1. Ensure the finish assembly is properly installed. The rough-in assembly does not leak, and is properly sealed when the finish assembly is installed.

   Yes ↓

   No → Replace the rubber bushing in the rough-in assembly (refer to procedure 4.4 in chapter 4). If this solves the problem, go to "Final Actions" on page 2-4. Otherwise, call BeaconMedæs Technical Support at 1-(888) 4-MEDGAS (463-3427).

2. Go to "Final Actions" on page 2-4.

Chapter 3
Theory of Operation

Chapter Contents

Theory Of Operation

Quick-Connect Key Style Outlets

This section describes the theory of operation for a Quick-Connect Key Style Console Outlet and identifies the corresponding parts.

> NOTE:
> In pressurized gas outlets, both the frontbody and rough-in assemblies contain primary and secondary check units. However, per NFPA 99, medical vacuum inlets (which also include WAGD and AGSS) may not contain secondary check units.

In the outlet rough-in assembly, a spring pushes the secondary check unit against a rubber bushing. This forms a gas-tight seal when a frontbody assembly is not attached to the rough-in assembly.

> NOTE:
> A secondary check unit is not present in VAC, WAGD or AGSS rough-in assemblies.

When a frontbody barrel is inserted into a rough-in assembly, the secondary check unit is forced open and permits gas flow through the secondary check unit. A rubber bushing seals the barrel, preventing external leaks.

The primary check unit in the frontbody assembly prevents gas flow out of the outlet until an appropriate gas-specific adapter is fully inserted and engages the frontbody assembly.

When an adapter is inserted into the frontbody keying disc, a locking spring or latching plate holds the adapter in place.

The adapter nose pushes the frontbody piston back. This breaks the seal between the frontbody barrel and the frontbody O-ring, which allows gas to flow.

The frontbody O-ring forms a gas-tight seal around the nose of the adapter, allowing gas to pass through the adapter without leaking.

DISS Key Style Outlets

This section describes the theory of operation for a DISS Key Style Console Outlet and identifies the corresponding parts.

> NOTE:
> In pressurized gas outlets, both the frontbody and rough-in assemblies contain check units, primary and secondary check units, respectively. However, per NFPA 99, medical vacuum inlets (which also include WAGD and AGSS) may not contain secondary check units.

In the outlet rough-in assembly, a spring pushes the secondary check unit against a rubber bushing. This forms a gas-tight seal when a frontbody assembly is not attached to the rough-in assembly.

When a frontbody barrel is inserted into a rough-in assembly, the secondary check unit is forced open, which permits gas flow through the secondary check unit. A rubber bushing seals the barrel, preventing external leaks.

The primary check unit in the frontbody assembly prevents gas flow out of the outlet until an appropriate, gas-specific adapter is fully inserted and engages in the frontbody assembly.

When you connect a DISS adapter onto the frontbody threaded DISS barrel, the nose of the DISS adapter pushes the frontbody piston back. This breaks the seal between the frontbody barrel and the frontbody O-ring, which allows gas to flow.

NOTES:

Chapter 4
Removal, Replacement, and Adjustment Procedures

Chapter Contents

4.1 Frontbody Assembly

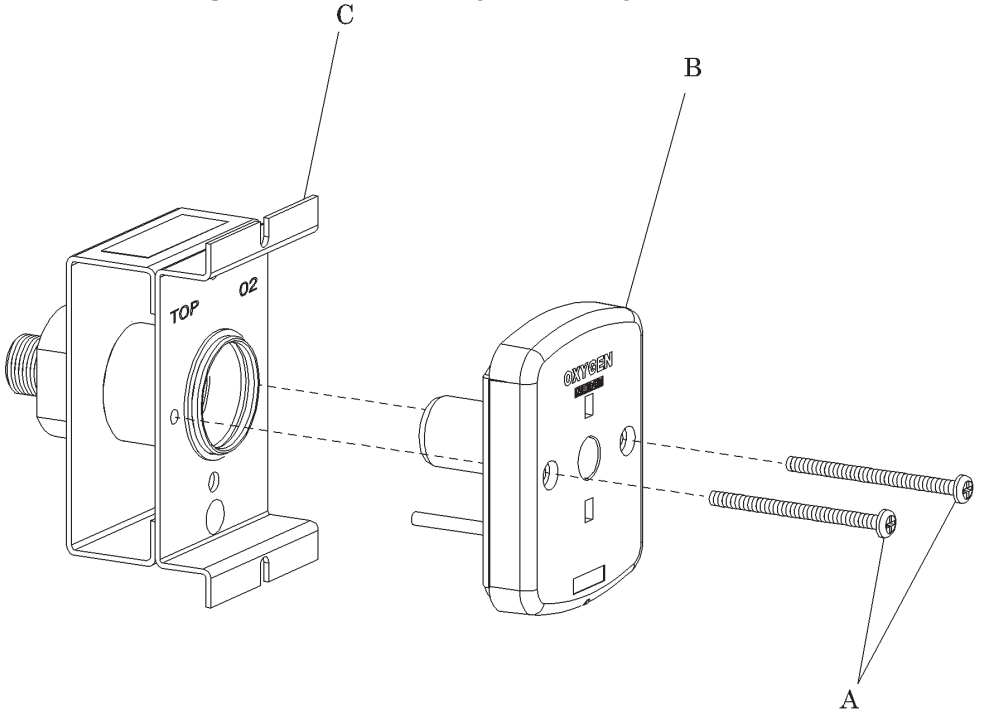
Tools required: #2 phillips head screwdriver

Removal

NOTE:
You do not have to turn off an outlet's pressurized gas service supply before removing and servicing the frontbody assembly. The secondary check valve in the rough-in assembly prevents gas flow from the gas service supply line. (Since medical vacuum, WAGD, and AGSS inlets do not have secondary checks, temporarily turn off the outlet's vacuum supply or install the pressure test cap.)

1. Using the #2 phillips head screwdriver, loosen the two screws (A) that secure the frontbody assembly (B) to the rough-in assembly (C) (see figure 4-1 on page 4–2).

Figure 4-1. Frontbody Assembly Removal



2. Carefully remove the frontbody assembly (B) from the rough-in assembly (C).

NOTE:
You may attach an adapter to the frontbody assembly to assist in the removal process.

Replacement

1. To install the replacement frontbody assembly, reverse the removal procedure.
2. To ensure proper operation, perform the "Function Checks" on page 2–3.

4.2 Twist-Lock, Replaceable, Barrel Assembly

Tools required: None

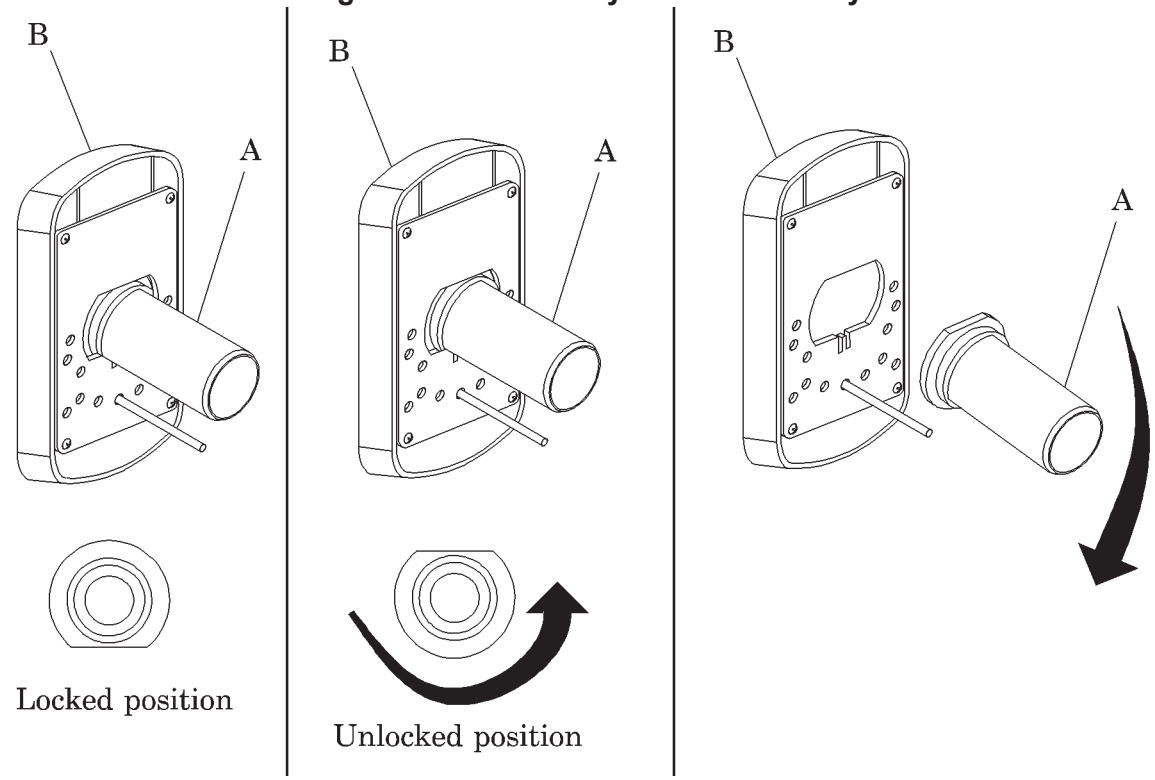
Parts required: (1) Repair kit
To select the proper twist-lock, replaceable, barrel assembly, refer to the section titled “Repair Kits” on page 5–16.

Removal

NOTE:
You do not have to turn off an outlet’s pressurized gas service supply before removing and servicing the twist-lock, replaceable, barrel assembly. The secondary check valve in the rough-in assembly prevents gas flow from the gas service supply line. (Since medical vacuum, WAGD and AGSS inlets do not have secondary checks, temporarily turn off the outlet’s gas service supply, or install the pressure test cap.)

1. Remove the frontbody assembly (refer to procedure 4.1).
2. Rotate the twist-lock, replaceable, barrel assembly (A) counterclockwise 180° until the flat portion of the barrel assembly is oriented in the 12:00 position (see figure 4-2 on page 4–3).

Figure 4-2. Frontbody Barrel Assembly



3. Tilt the twist-lock, replaceable, barrel assembly (A) downward and remove it from the keying disc assembly (B).

NOTE:
Hold the frontbody assembly with the twist out barrel pointing upwards to avoid loosing the washer and O-ring.

Replacement

1. Inspect the parts of the frontbody assembly for excessive wear or damage.
2. Replace worn or damaged parts as necessary.
3. To install a twist-lock, replaceable, barrel assembly (B), reverse the removal procedure.
4. Ensure that the retaining ring and/or the washer is in place on the frontbody assembly before installing the twist-lock, replaceable, barrel assembly.

NOTE:
Once the twist-lock, replaceable, barrel assembly is installed, the flat portion of the barrel assembly should be located in the bottom, 6:00 position.

5. To ensure proper operation, perform the “Function Checks” on page 2–3.

4.3 Rough-In Secondary Check Unit Assembly (Pressurized Outlets Only)

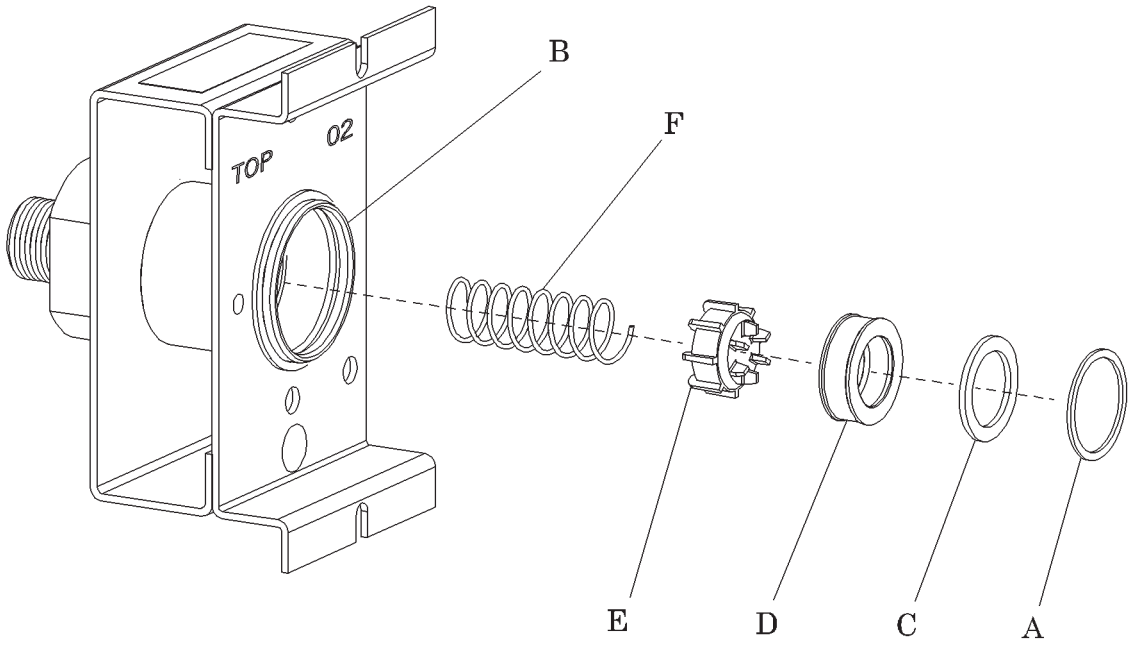
Tools required: Small screwdriver

Removal

WARNING:
Shut off the gas supply to the outlet before servicing the rough-in secondary check unit assembly. Failure to do so could result in personal injury or equipment damage.

1. Shut off the gas supply to the outlet.
2. Remove the frontbody assembly (refer to procedure 4.1).
3. Note the removal sequence of the internal parts in the rough-in secondary check unit assembly to ensure proper replacement during the installation procedure.
4. Using a small screwdriver, remove the retaining ring (A) from the rough-in assembly (B) (see figure 4-3 on page 4–5).

Figure 4-3. Rough-in Secondary Check Unit Assembly (Pressure Gas)



5. Remove the washer (C).
6. Using the small screwdriver, carefully remove the rubber bushing (D) from the rough-in assembly (B).
7. Remove the rough-in secondary check (E).

8. Remove the rough-in spring (F).

Replacement

1. Inspect the parts of the internal secondary check unit assembly for excessive wear or damage.
2. Replace all the parts included in the replacement kit.
3. To install the replacement secondary check unit assembly, reverse the removal procedure.
4. To ensure proper operation, perform the “Function Checks” on page 2–3.

4.4 Rough-In Assembly (Vacuum Outlets Only)

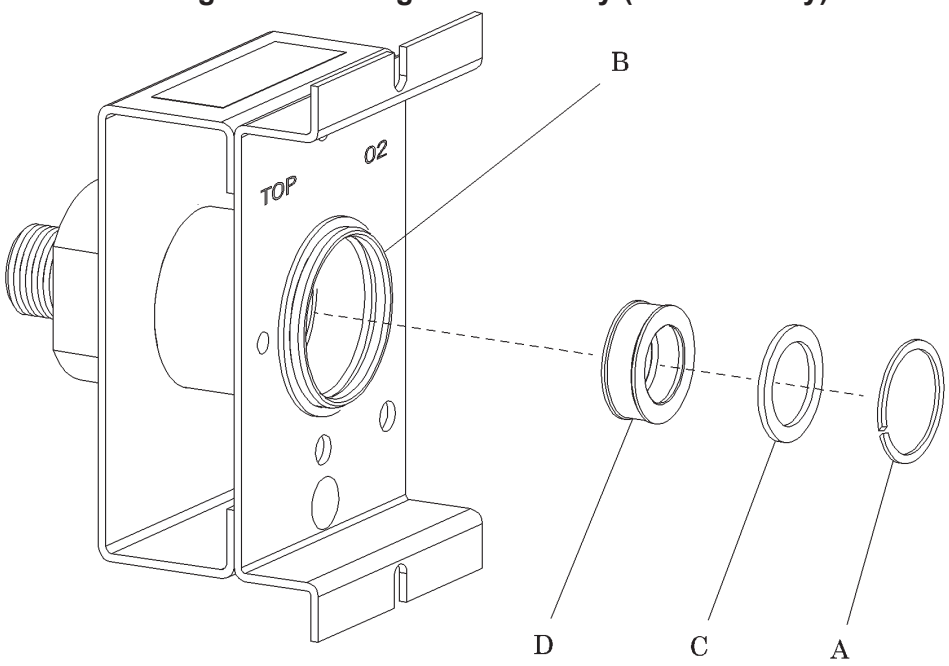
Tools required: Small screwdriver

Removal

WARNING:
Shut off the service supply to the outlet before servicing the vacuum outlet bushing. Failure to do so could result in personal injury or equipment damage.

1. Shut off the service supply to the outlet.
2. Remove the frontbody assembly (refer to procedure 4.1).
3. Note the removal sequence of the internal parts in the rough-in assembly to ensure proper replacement during the installation procedure.
4. Using a small screwdriver, remove the retaining ring (A) from the rough-in assembly (B) (see figure 4-4 on page 4–7).

Figure 4-4. Rough-in Assembly (Vacuum Only)



5. Remove the washer (C).
6. Using the small screwdriver, carefully remove the rubber bushing (D) from the rough-in assembly (B).

Replacement

1. Inspect the internal parts of the vacuum rough-in assembly for excessive wear or damage.
2. Replace all the parts included in the replacement kit.
3. To install the replacement vacuum outlet bushing, reverse the removal procedure.
4. To ensure proper operation, perform the “Function Checks” on page 2–3.

4.5 DISS, Key Style, Frontbody Assembly

Tools required: Retaining ring removal/installation tool (appropriate size/type)
Small screwdriver

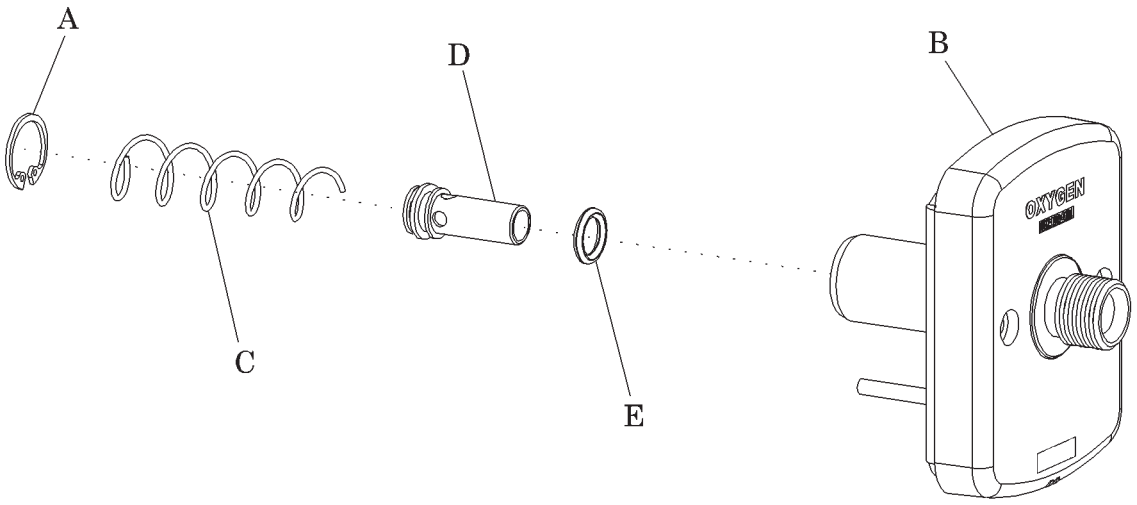
Removal

NOTE:
You do not have to turn off the outlet's pressurized gas service supply before removing and servicing the DISS, key style, frontbody assembly. The secondary check valve in the rough-in assembly prevents gas flow from the pressure gas service supply line, except in vacuum outlets.

NOTE:
Medical vacuum, WAGD, AGSS do not have secondary checks. The service supply must be turned off, or the pressure test cap should be installed in order to service their rough-in assemblies. Otherwise, the line will continue to maintain a draw (suction).

1. Remove the frontbody assembly (refer to procedure 4.1).
2. Note the removal sequence of the internal parts of the frontbody assembly to ensure proper replacement during the installation procedure.
3. Using the retaining ring removal/installation tool or a small screwdriver, remove the retaining ring (A) from the rear of the DISS frontbody assembly (B) (see figure 4-5 on page 4–9).

Figure 4-5. DISS, Key Style, Frontbody Assembly



4. Remove all of the internal parts from the DISS frontbody assembly (B) by performing the following steps:
   a. Carefully remove the DISS frontbody spring (C).

b. Remove the DISS piston (D).

c. Remove the frontbody piston O-ring (E) from the DISS piston (D).

Replacement

1. To install the replacement DISS frontbody assembly, reverse the removal procedure.
2. To ensure proper operation, perform the “Function Checks” on page 2–3.

4.6 Diamond®, Quick-Connect, Key Style, Frontbody Assembly

Tools required: Retaining ring removal/installation tool
Needle nose pliers

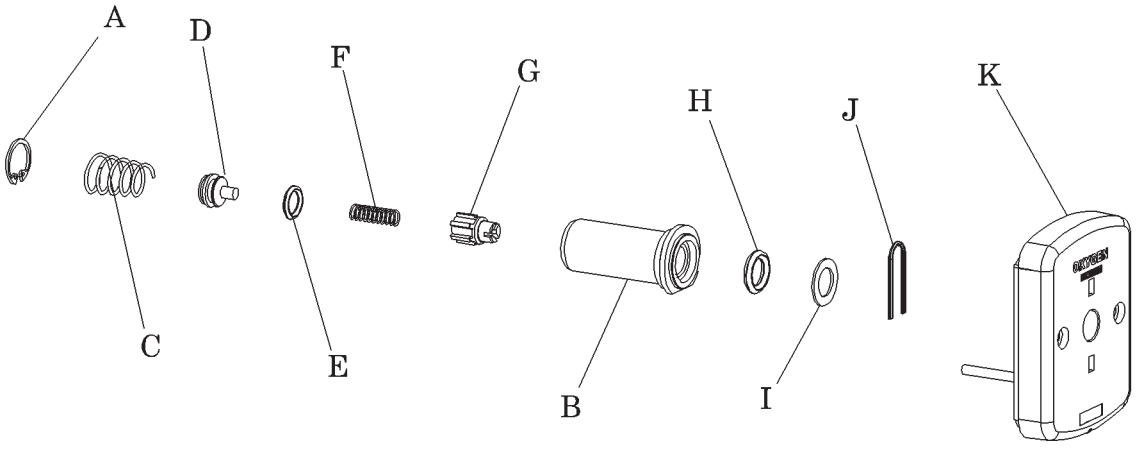
Removal

NOTE:
You do not have to turn off the outlet's pressurized gas service supply before removing and servicing the Diamond® Quick-Connect, key style, frontbody assembly. The secondary check valve in the rough-in assembly prevents gas flow from the pressure gas service supply line except in vacuum outlets.

NOTE:
Medical vacuum, WAGD, AGSS do not have secondary checks. The service supply must be turned off, or the pressure test cap should be installed in order to service their rough-in assemblies. Otherwise, the line will continue to maintain a draw (suction).

1. Remove the twist-lock, replaceable, barrel assembly (refer to procedure 4.2).
2. Note the removal sequence of the internal parts in the Diamond®, Quick-Connect, key style, frontbody assembly to ensure proper replacement during the installation procedure.
3. Using the retaining ring removal/installation tool, remove the retaining ring (A) from the rear of the twist-lock replaceable barrel assembly (B) (see figure 4-6 on page 4–11).

Figure 4-6. Diamond®, Quick-Connect, Key Style, Frontbody Assembly



4. Remove all of the internal parts from the twist-lock, replaceable, barrel assembly (B) by performing the following:
   a. Carefully remove the frontbody secondary piston spring (C).
   b. Remove the secondary piston (D).

c. Remove the frontbody piston O-ring (E) from the secondary piston (D).

d. Remove the spring (F).

e. Remove the frontbody piston (G).

5. Remove the following parts:
   a. Remove the O-ring (H) from the front of the twist-lock, replaceable, barrel assembly (B).

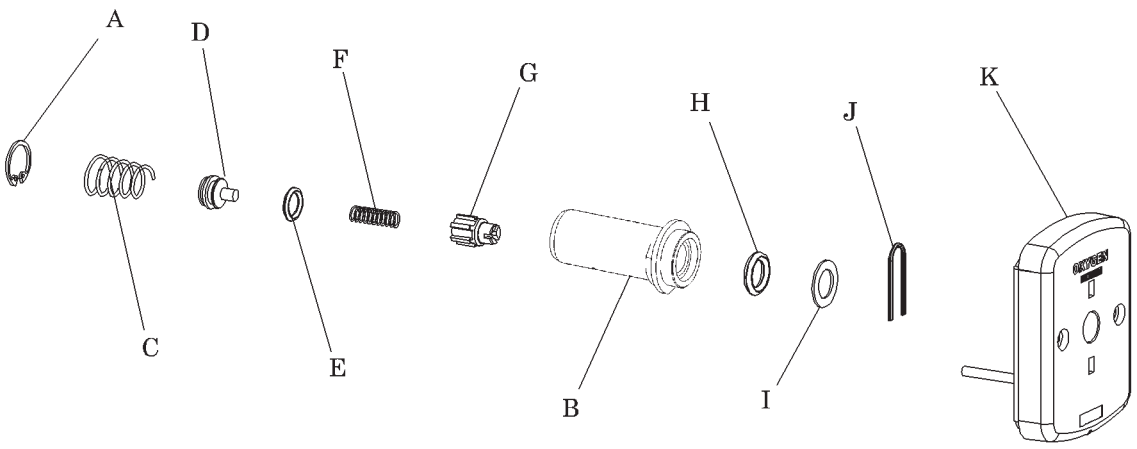
   b. Remove the frontbody washer (I) from the frontbody keying disc assembly (K).

   c. Using the needle nose pliers, remove the adapter locking spring clip (J) from the keying disc assembly (K) by accessing the adapter locking spring clip (J) through the opening from which you removed the barrel assembly (B).

Replacement

1. Inspect the parts of the frontbody assembly for excessive wear or damage.
2. Replace defective parts as necessary.
3. To install the replacement Diamond® frontbody assembly, reverse the removal procedure.
4. During the replacement procedure, ensure that the secondary spring (C) is seated properly onto the secondary piston (D) groove (see figure 4-7 on page 4–13).

Figure 4-7. Secondary Piston Assembly Replacement



5. Ensure that the O-ring (E) is seated properly onto the secondary piston (D) groove.

6. To ensure proper operation, perform the ““Function Checks” on page 2-3.

4.7 Latch Index, Quick-Connect, Key Style, Frontbody Assembly

Tools required: Retaining ring removal/installation tool

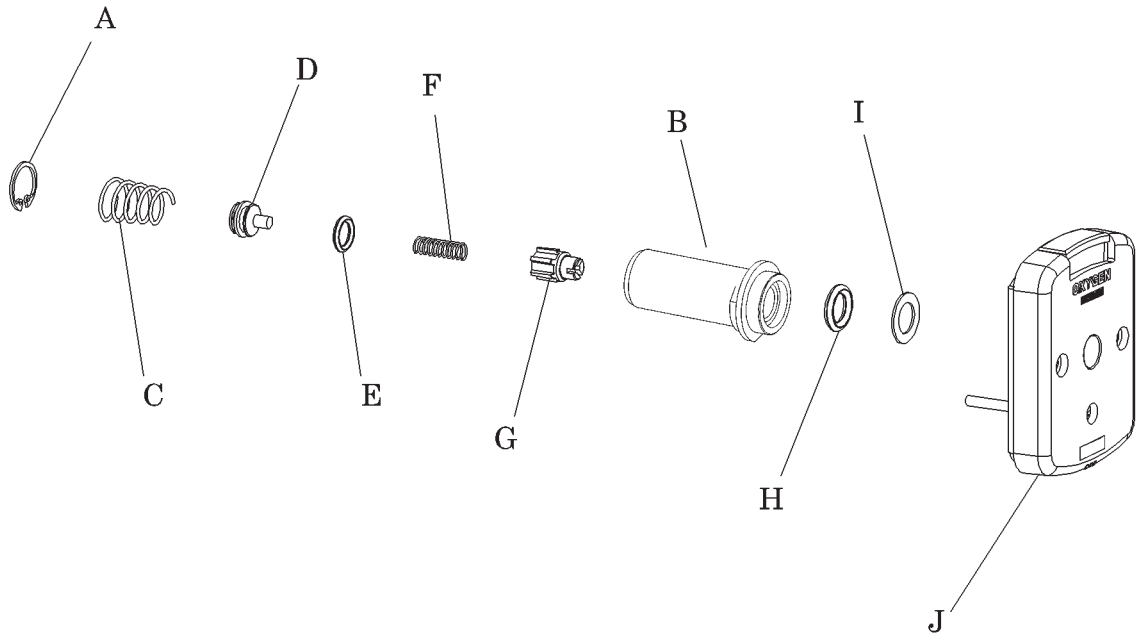
Removal

NOTE:
You do not have to turn off an outlet's gas service supply before removing and servicing the Latch Index Key, Quick-Connect, key style, frontbody assembly pressurized gas services. The secondary check valve in the rough-in assembly prevent gas flow from the gas service supply line except in vacuum outlets.

NOTE:
Medical vacuum, WAGD, and AGSS do not have secondary checks. The service supply must be turned off, or the pressure test cap should be installed in order to service their rough-in assemblies. Otherwise, the line will continue to maintain a draw (suction).

1. Remove the twist-lock, replaceable barrel, assembly (refer to procedure 4.2).
2. Note the removal sequence of the internal parts in the Latch Index Key frontbody assembly to ensure proper replacement during the installation procedure.
3. Using the retaining ring removal/installation tool, remove the retaining ring (A) from the rear of the twist-lock, replaceable, barrel assembly (B) (see figure 4-8 on page 4–14).

Figure 4-8. Latch Index, Quick-Connect, Key Style ,Frontbody Assembly



4. Remove all of the internal parts from the twist-lock, replaceable, barrel assembly (B) by performing the following steps:
   a. Carefully remove the frontbody secondary piston spring (C).
   b. Remove the secondary piston (D).
   c. Remove the frontbody piston O-ring (E) from the secondary piston (D).
   d. Remove the spring (F).
   e. Remove the frontbody piston (G).
   f. Remove the O-ring (H) from the front of the twist-lock, replaceable, barrel assembly (B).
   g. Remove the frontbody washer (I) from the frontbody keying disc assembly (J).

Replacement

1. To install the replacement Latch Index Key frontbody assembly, reverse the removal procedure.
2. To ensure proper operation, perform the ““Function Checks” on page 2-3.

4.8 Geometric Key, Quick-Connect, Key Style, Frontbody Assembly

Tools required: Retaining ring removal/installation tool

Removal

NOTE:
You do not have to turn off the outlet's pressurized gas service supply before removing and servicing the Geometric Key, Quick-Connect, key style, frontbody assembly for pressure gas services. The secondary check valve in the rough-in assembly prevents gas flow from the pressure gas service supply line except in vacuum outlets.

NOTE:
Medical vacuum, WAGD, AGSS do not have secondary checks. The service supply must be turned off, or the pressure test cap should be installed in order to service their rough-in assemblies. Otherwise, the line will continue to maintain a draw (suction).

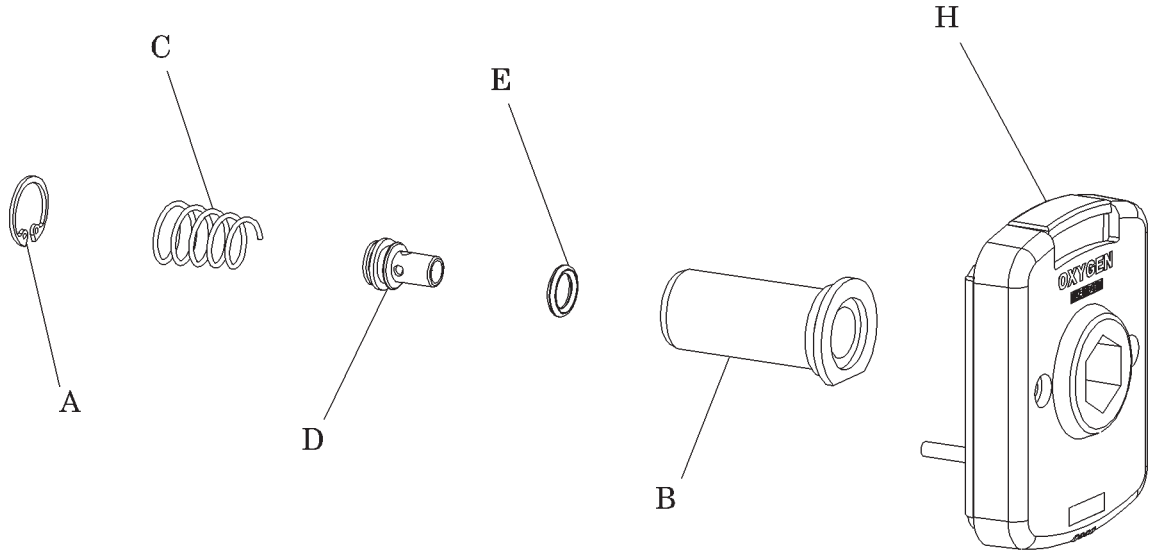
1. Remove the twist-lock, replaceable, barrel assembly (refer to procedure 4.2).

NOTE:
When replacing the frontbody assembly on a Waste Anesthetic Gas Disposal (WAGD) outlet, you cannot remove the barrel assembly because it is permanently attached to the frontbody keying disc assembly.

2. Note the removal sequence of the internal parts in the Geometric Key frontbody assembly to ensure proper replacement during the installation procedure.

3. Using the retaining ring removal/installation tool, remove the retaining ring (A) from the rear of the twist-lock, replaceable, barrel assembly (B) (see figure 4-9 on page 4–16).

Figure 4-9. Geometric, Quick-Connect, Key Style, Frontbody Assembly



4. Remove all of the internal parts from the twist-lock replaceable barrel assembly (B) by performing the following steps:
   a. Carefully remove the frontbody secondary piston spring (C).
   b. Remove the frontbody piston (D).
   c. Remove the frontbody piston O-ring (E) from the frontbody piston (D).

Replacement

1. To install the replacement Geometric Key frontbody assembly, reverse the removal procedure.
2. To ensure proper operation, perform the ““Function Checks” on page 2-3.

NOTES:

Chapter 5
Parts List

Chapter Contents

Warranty

BeaconMedæs warrants the DiamondCare® Console Outlets to be free of defects in materials or workmanship when installed and operated in accordance with instructions. The warranty period is 30 months from shipment date or 24 months from startup, whichever period terminates earlier.

This warranty covers all necessary parts and labor required for correction of the defect whether by any or all of repair, replacement, or credit, which election shall be made by BeaconMedæs at it's sole discretion.

This warranty requires the owner to ensure that the equipment is 1) started up or placed in service by an authorized representative of BeaconMedæs, 2) certified in accordance with NFPA 99, most recent edition, by a properly qualified certification agency, and 3) maintained in strict accordance with Operation and Maintenance Instructions provided with the product.

Warranty claims will be honored only after examination by BeaconMedæs and only when such examination shall disclose to BeaconMedæs's reasonable satisfaction that such equipment has not been damaged in shipment or installation, improperly installed, operated outside of any published operating limits (including but not limited to temperature, pressure, humidity, or ventilation), improperly or inadequately maintained, field modified in any way, improperly repaired, or in any other way improperly applied or used.

All claims against this warranty require prompt notification, within the warranty period, of any seeming defect. Failure to promptly notify BeaconMedæs of the seeming defect will invalidate all warranties.

This warranty excludes damage or defect caused by shipping, acts of God, fire, war, labor difficulties, action of government, or other cause beyond the reasonable control of BeaconMedæs.

This warranty is given in lieu of all other warranties, expressed or implied, including implied warranties of fitness for a particular purpose and merchantability. In no event shall BeaconMedæs be liable for damages in excess of the value of the defective product, nor shall BeaconMedæs be liable for any direct, special or consequential damages, loss of profit of any kind, or for loss of use of the products.

Service Parts Ordering

Use the part numbers listed in this section of the manual to identify service parts to be ordered. To order parts, call BeaconMedæs at 1-(888) 4-MEDGAS (463-3427).

Recommended Spare Parts

See the table below for the recommended spare parts for the DiamondCare® series of Medical Gas Console Outlets.

Table 5-1. Recommended Spare Parts List

Quantity	Description
1 per 10 outlets per key style	Twist-lock barrel assembly
1 per 25 outlets	Frontbody keying disc assembly
3 per 100 outlets	Rough-in repair kits (pressurized or vacuum)
3 per 100 outlets	Finish repair kits
1 per 20 outlets	Faceplate—outlet (powder-coated)
1 per 25 outlets	Complete finish assembly

DISS, Key Style, Frontbody

Figure 5-1. DISS, Key Style, Frontbody

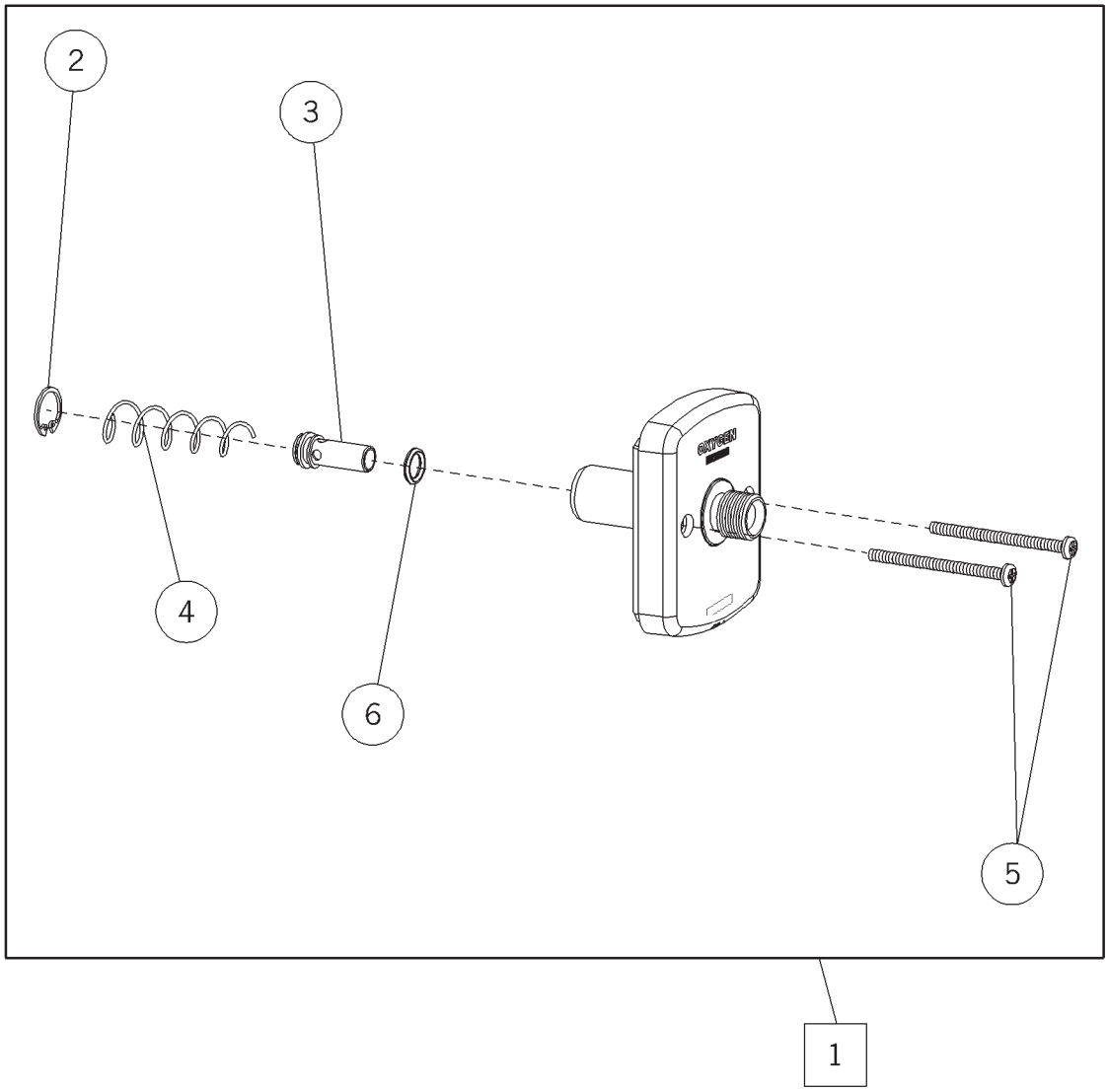


Table 5-2. DISS, Key Style, Frontbody

Item Number	Part Number	Quantity	Description
1	6803-8110-800 or 6803-8110-801 or 6803-8110-802 or 6803-8110-803 or 6803-8110-804 or 6803-8110-805 or 6803-8110-806 or 6803-8110-807 or 6803-8110-808 or 6803-8110-809 or 6803-8110-810 or 6803-8110-811	1	O_2 finish assembly—green/white N_2O finish assembly—blue/white Vac finish assembly—white/black Air finish assembly—yellow/black CO_2 finish assembly—grey/black N_2 finish assembly—black/white WAGD finish assembly—violet/white O_2/CO_2 finish assembly—green/grey O_2 ISO finish assembly—white/green Air-ISO finish assembly—white/black Vac-ISO finish assembly—yellow/black AGSS finish assembly—violet/white
2	6812-2001-007◆	1	Retaining ring
3	6803-2000-188 or 6803-2000-187	1	Piston—for O_2, Vac, WAGD, O_2 -ISO, Vac-ISO and AGSS Piston—for N2O, Air, CO_2, N_2, O_2 /CO_2 and Air-ISO
4	6812-2001-008◆	1	Spring
5	6812-2001-003	2	Screw—Pan PH SST 6-32 x 1-7/8
6	0210-0601-300◆	1	O-ring

◆ Included within the frontbody repair kit. See “Repair Kits” on page 5-16. for details.

Diamond®, Quick-Connect, Key Style, Frontbody

Figure 5-2. Diamond®, Quick-Connect, Key Style, Frontbody

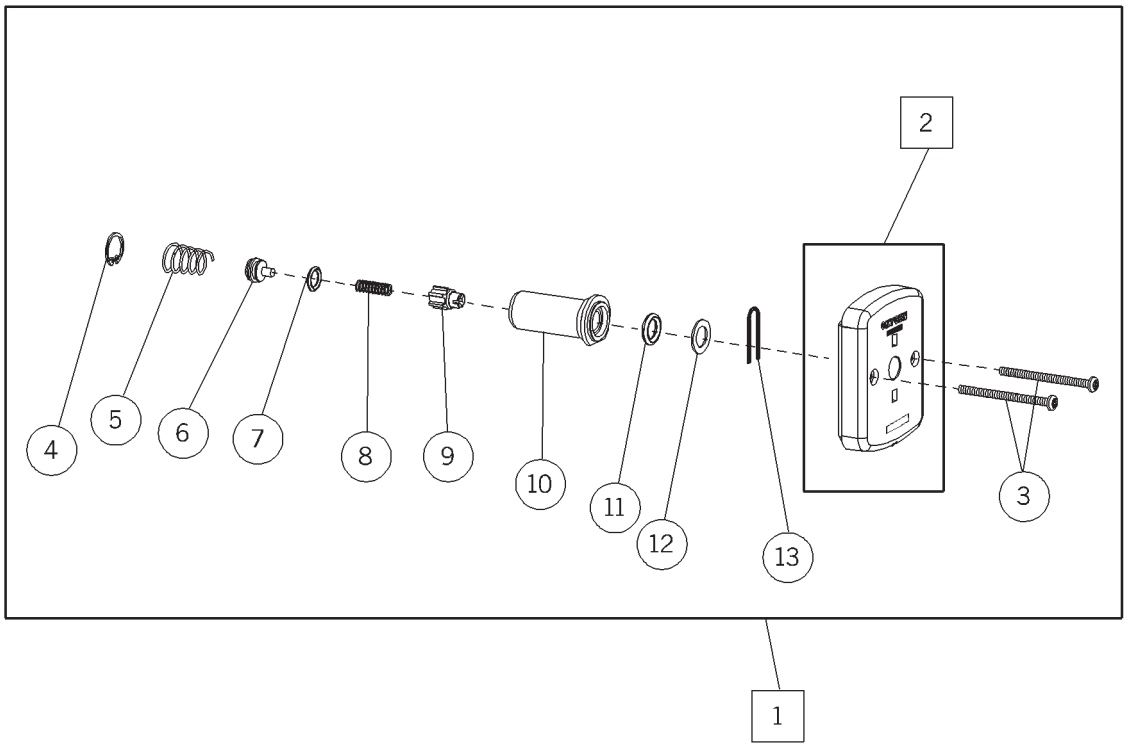


Table 5-3. Diamond®, Quick-Connect, Key Style, Frontbody

Item Number	Part Number	Quantity	Description
1	6803-8111-800		O_2 finish assembly—green/white
	or		
	6803-8111-801		N_2O finish assembly—blue/white
	or		
	6803-8111-802		VAC finish assembly—white/black
	or		
	6803-8111-803		Air finish assembly—yellow/black
	or		
	6803-8111-806		WAGD finish assembly—violet/white
	or		
	6803-8111-808		O_2-ISO finish assembly—white/green
	or		
	6803-8111-809		Air-ISO finish assembly—white/black
	or		
	6803-8111-810		Vac-ISO finish assembly—yellow/black
	or		
	6803-8111-811		AGSS finish assembly—violet/white

Item Number	Part Number	Quantity	Description
2	6803-8111-900 or 6803-8111-901 or 6803-8111-902 or 6803-8111-903 or 6803-8111-906 or 6803-8111-908 or 6803-8111-909 or 6803-8111-910 or 6803-8111-911	1	Frontbody, keying disc assembly—O_2 Frontbody, keying disc assembly—N_2O Frontbody, keying disc assembly—VAC Frontbody, keying disc assembly—Air outlet Frontbody, keying disc assembly —WAGD Frontbody, keying disc assembly—O_2-ISO Frontbody, keying disc assembly —Air-ISO Frontbody, keying disc assembly—Vac-ISO Frontbody, keying disc assembly—AGSS
3	6812-2001-003	2	Screw—Pan PH SST 6-32 x 1-7/8
4	6812-2001-007◆+	1	Retaining Ring—Truarc
5	6812-2001-009◆+	1	Spring—Frontbody Secondary Piston
6	6803-2000-174+	1	Secondary Piston—Diamond® frontbody
7	0210-0601-300◆+	1	O-Ring—frontbody Piston
8	6812-2000-995◆+	1	Spring—Lee #LC-022BC-6
9	6803-2000-200◆+	1	Piston—frontbody Diamond®
10	6803-2000-178+	1	Barrel—frontbody Diamond®
11	0210-0664-300◆	1	O-Ring—Diamond®
12	0402-1130-300◆	1	Washer—frontbody Diamond®
13	0203-5069-300◆	1	Spring Clip—Diamond® frontbody

◆ Included within the frontbody repair kit. See “Repair Kits” on page 5-16. for details.

\+ Included within the replacement twist-lock barrel assembly. See “Repair Kits” on page 5–16 for details.

Latch Index, Quick-Connect, Key Style, Frontbody

Figure 5-3. Latch Index, Quick-Connect, Key Style, Frontbody

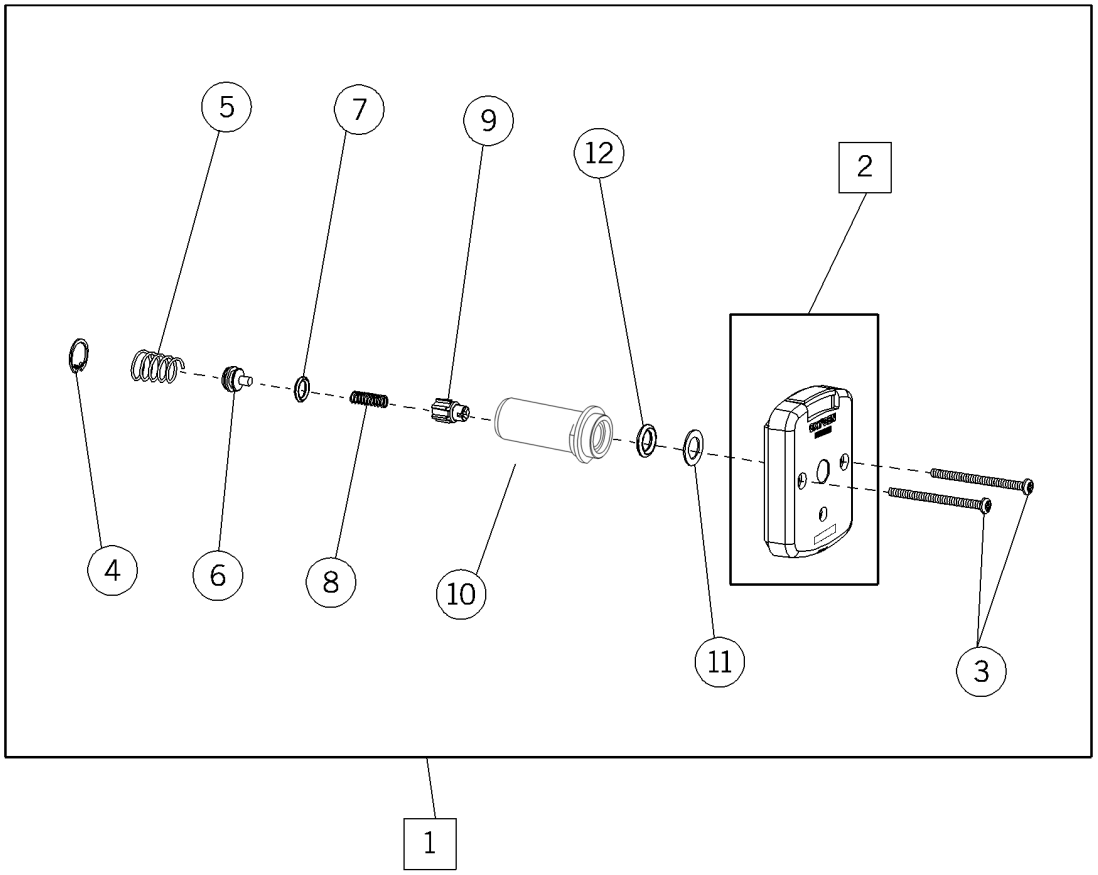


Table 5-4. Latch Index, Quick-Connect, Key Style, Frontbody

Item Number	Part Number	Quantity	Description
	6803-8113-800		O_2 finish assembly—green/white
	or		
	6803-8113-801		N_2O finish assembly—blue/white
	or		
	6803-8113-802		VAC finish assembly—white/black
	or		
	6803-8113-803		Air finish assembly—yellow/black
	or		
1	6803-8113-806	1	WAGD finish assembly—violet/white
	or		
	6803-8113-808		O_2-ISO finish assembly—white/green
	or		
	6803-8113-809		Air-ISO finish assembly—white/black
	or		
	6803-8113-810		Vac-ISO finish assembly—yellow/black
	or		
	6803-8113-811		AGSS finish assembly—violet/white

Item Number	Part Number	Quantity	Description
2	6803-8114-900 or 6803-8114-901 or 6803-8114-902 or 6803-8114-903 or 6803-8114-906 or 6803-8114-908 or 6803-8114-909 or 6803-8114-910 or 6803-8114-911	1	Frontbody, keying disc assembly—O_2 Frontbody, keying disc assembly—N_2O Frontbody, keying disc assembly—VAC Frontbody, keying disc assembly—Air outlet Frontbody, keying disc assembly—WAGD Frontbody, keying disc assembly—O_2-ISO Frontbody, keying disc assembly—Air-ISO Frontbody, keying disc assembly—Vac-ISO Frontbody, keying disc assembly—AGSS
3	6812-2001-003	2	Screw
4	6815-2001-007◆+	1	Retaining ring
5	6812-2001-009◆+	1	Spring—frontbody secondary piston
6	6803-2000-174+	1	Secondary piston—Latch Index Keyfrontbody
7	0210-0601-300◆+	1	O-ring frontbody piston
8	6812-2000-995◆+	1	Spring
9	6803-2000-200◆+	1	Piston—Latch Index Key frontbody
10	525229-00+	1	Barrel—Latch Index Key frontbody
11	0402-1130-300◆+	1	Washer
12	0210-0664-300◆+	1	O-ring, Latch Index Key

◆ Included within the frontbody repair kit. See “Repair Kits” on page 5-16 for details.

\+ Included within the replacement twist-lock, barrel assembly. See “Repair Kits” on page 5–16 for details.

Geometric, Quick-Connect, Key, Style, Frontbody

Figure 5-4. Geometric, Quick-Connect, Key Style, Frontbody

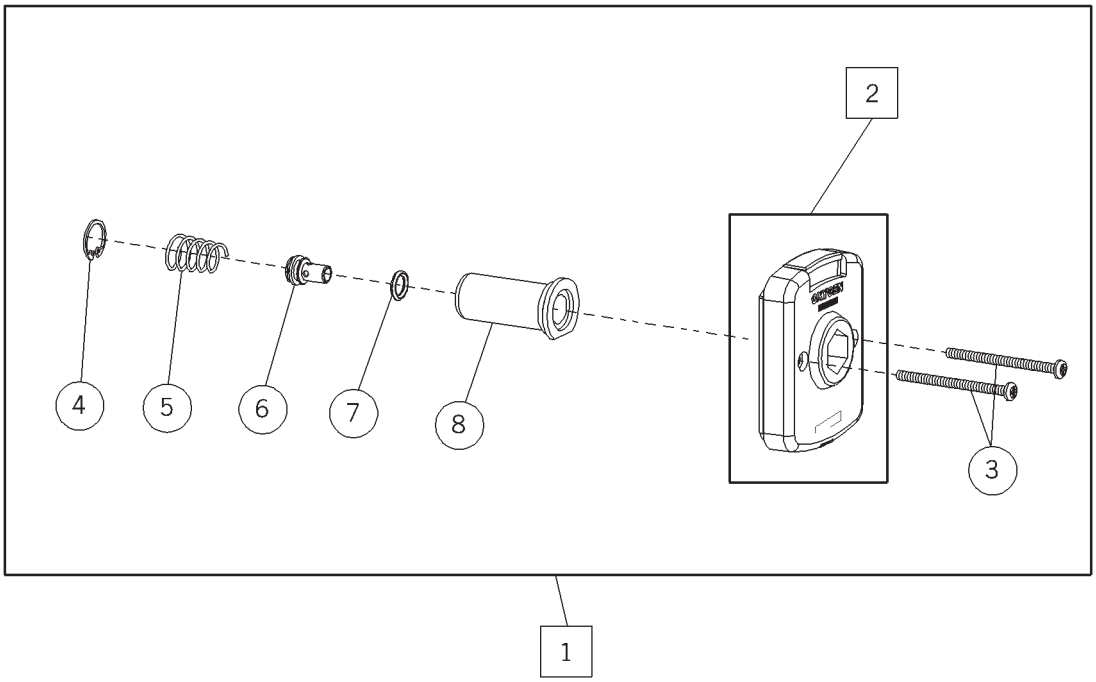


Table 5-5. Geometric, Quick-Connect, Key Style, Frontbody

Item Number	Part Number	Quantity	Description
1	6803-8112-800 or 6803-8112-801 or 6803-8112-802 or 6803-8112-803 or 6803-8112-806 or 6803-8112-808 or 6803-8112-809 or 6803-8112-810 or 6803-8112-811	1	O_2 finish assembly—green/white N_2O finish assembly—blue/white VAC finish assembly—white/black Air finish assembly—yellow/black WAGD finish assembly—violet/white O_2-ISO finish assembly—white/green Air-ISO finish assembly—white/black Vac-ISO finish assembly—yellow/black AGSS finish assembly—violet/white

Item Number	Part Number	Quantity	Description
2	6803-8112-900 or 6803-8112-901 or 6803-8112-902 or 6803-8112-903 or 6803-8112-908 or 6803-8112-909 or 6803-8112-910	1	Frontbody, keying disc assembly—O_2 Frontbody, keying disc assembly—N_2O Frontbody, keying disc assembly—VAC Frontbody, keying disc assembly—Air outlet Frontbody, keying disc assembly—O_2-ISO Frontbody, keying disc assembly—Air-ISO Frontbody, keying disc assembly—Vac-ISO
3	6812-2001-003	2	Screw—Pan PH SST 6-32 x 1-7/8
4	6812-2001-007◆+	1	Retaining ring Truarc
5	6812-2001-009◆+	1	Spring—Frontbody secondary piston
6	6803-2000-194+	1	Piston—Frontbody Geometric
7	0210-0601-300◆+	1	O-Ring—Frontbody piston
8	Non-orderable+	1	Barrel—Frontbody Geometric
4	6812-2001-007◆+	1	Retaining ring Truarc

◆ Included within the frontbody repair kit. See “Repair Kits” on page 5-16. for details.

\+ Included within the replacement twist-lock barrel assembly (not available for WAGD/AGSS). See “Repair Kits” on page 5-16. for details.

Copper-Piped Backbody

Figure 5-5. Copper-Piped Backbody

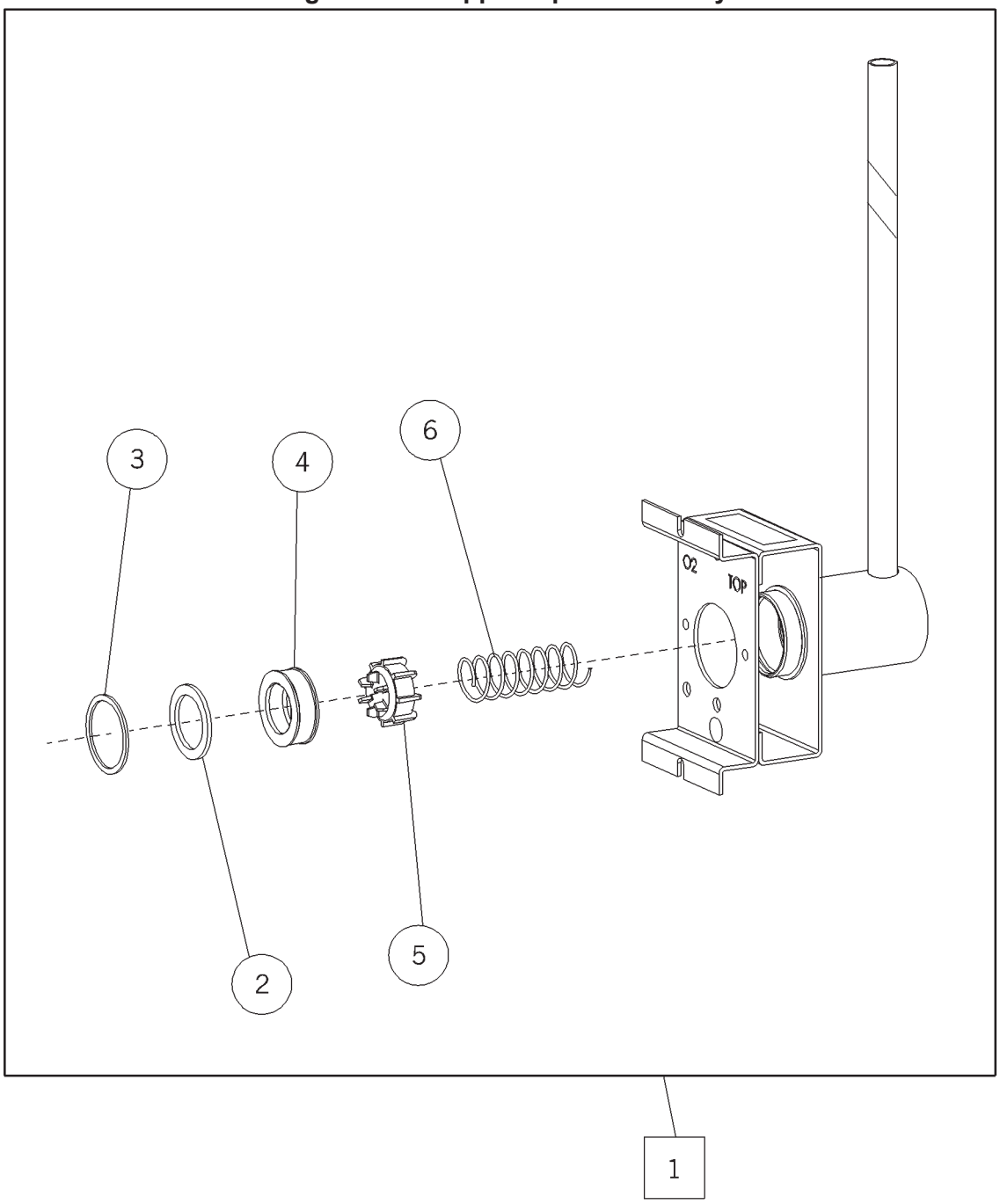


Table 5-6. Copper-Piped Backbody

Item Number	Part Number	Quantity	Description
1	6803-8138-800 or 6803-8138-801 or 6803-8138-802 or 6803-8138-803 or 6803-8138-804 or 6803-8138-805 or 6803-8138-806 or 6803-8138-807	1	O_2 outlet assembly N_2O outlet assembly VAC outlet assembly Air outlet assembly CO_2 outlet assembly N_2 outlet assembly WAGD outlet assembly O_2/CO_2 outlet assembly
2	6812-2000-851◆	1	Washer
3	6812-2001-004◆	1	Retaining ring
4	6812-2001-037◆	1	Bushing
5	6803-2000-199+◆	1	Secondary check
6	0203-3508-300+◆	1	Spring
7	6812-2160-008‡	As required	Lubricant, Krytox®

+ Not used in VAC and WAGD.

◆ Included within the rough-in repair kit. See “Repair Kits” on page 5-16. for details.

‡ Item 7 is not shown in figure 5-5 on page 5-12.

DISS Backbody

Figure 5-6. DISS Backbody

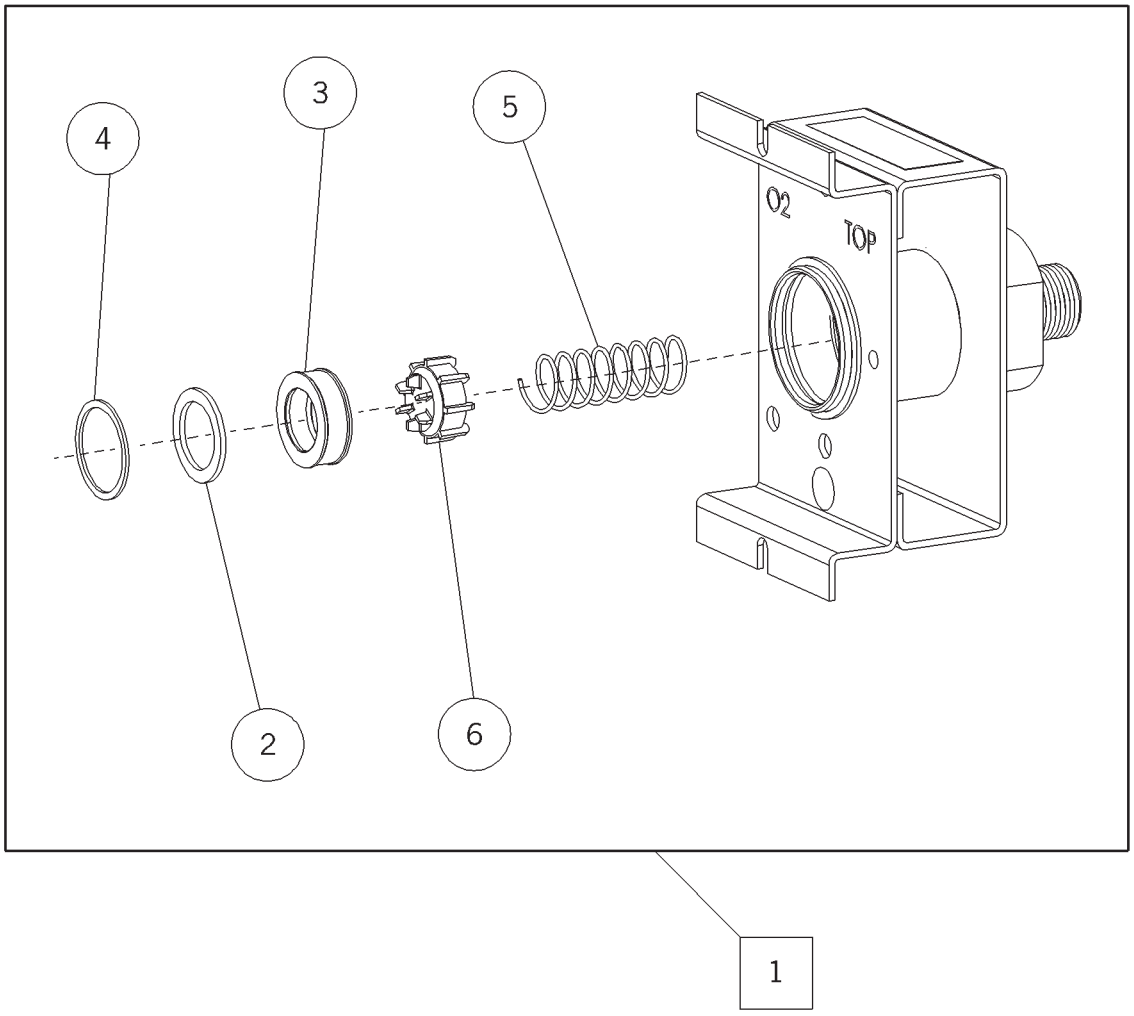


Table 5-7. DISS Backbody

Item Number	Part Number	Quantity	Description
1	6803-8130-800 or 6803-8130-801 or 6803-8130-802 or 6803-8130-803 or 6803-8130-804 or 6803-8130-805 or 6803-8130-806 or 6803-8130-807	1	O_2 outlet assembly N_2O outlet assembly VAC outlet assembly Air outlet assembly CO_2 outlet assembly N_2 outlet assembly WAGD outlet assembly O_2/CO_2 outlet assembly
2	6812-2001-851◆	1	Washer
3	6812-2001-037◆	1	Bushing
4	6812-2001-004◆	1	Retaining ring
5	0203-3508-300+◆	1	Spring
6	6803-2000-199+◆	1	Secondary check
7	6812-2160-008‡	As required	Lubricant, Krytox®

‡ Item 7 is not shown in figure 5-6 on page 5–14.

\+ Not used in VAC and WAGD.

◆ Included within the rough-in repair kit. See “Repair Kits” on page 5-16. for details.

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Repair Kits

Figure 5-7. Replacement Twist-Lock Barrel Assembly

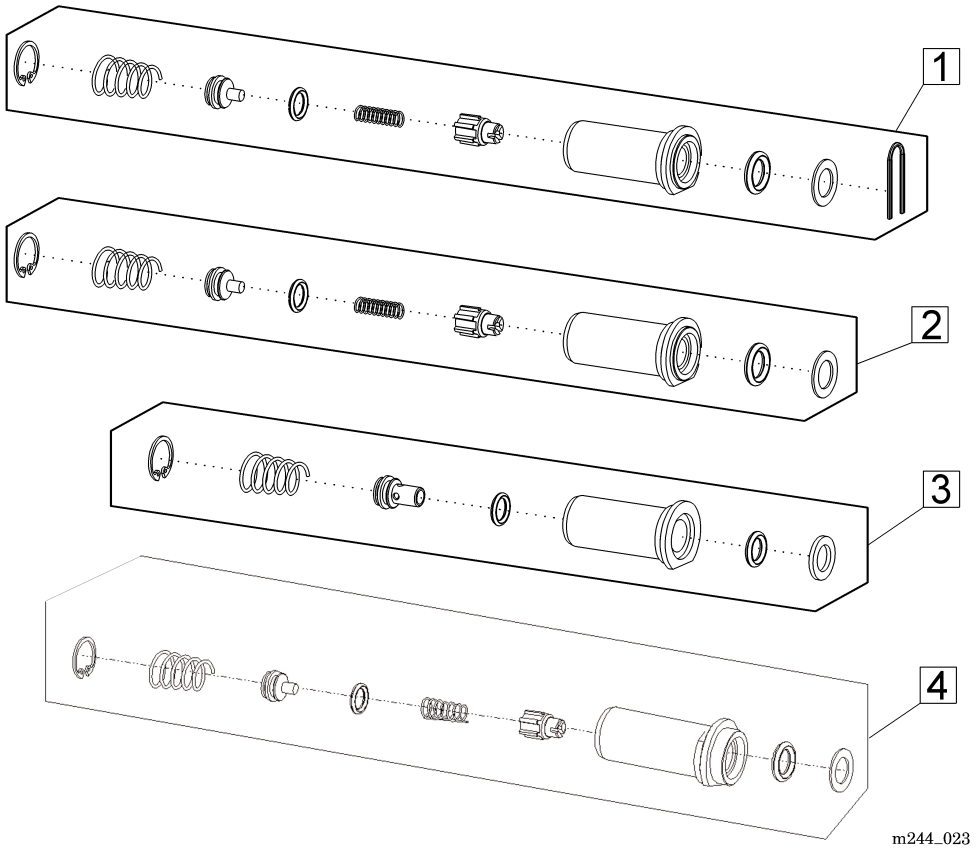

Table 5-8. Replacement Twist-Lock Barrel Assembly

Item Number	Part Number	Quantity	Description
1	6803-7030-121	1	Loaded barrel—Diamond® key style
2	6803-7030-122	1	Loaded barrel—Latch index key style, with Hill-Rom logo
3	6803-7030-123	1	Loaded barrel—Geometric key style (excluding WAGD)
4	6803-7030-130	1	Loaded barrel—Latch index key style, without company logo

Figure 5-8. Frontbody Repair Parts Kit

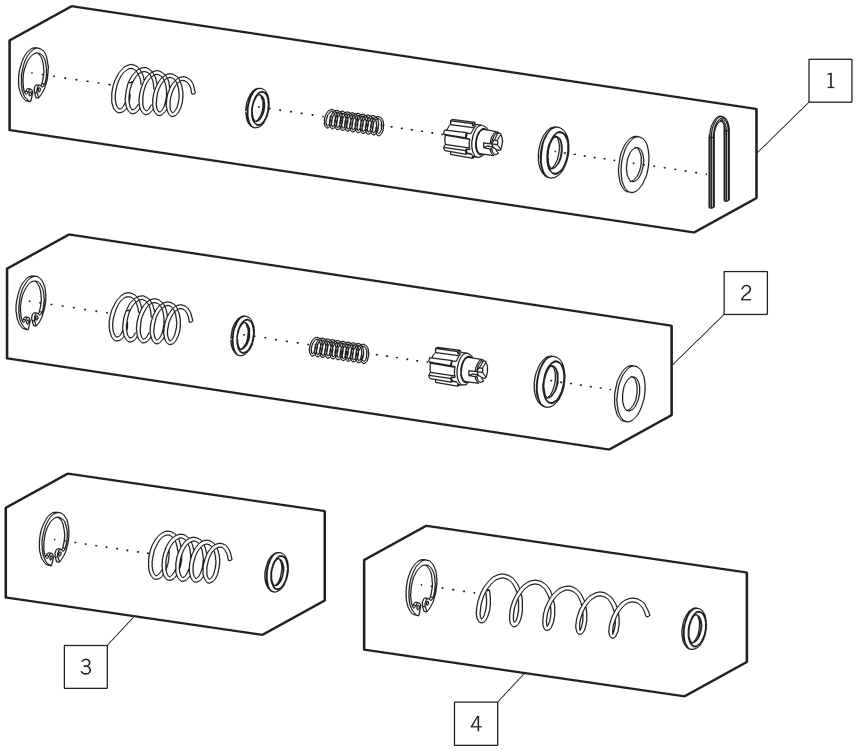

Table 5-9. Frontbody Repair Parts Kit

Item Number	Part Number	Quantity	Description
1	6803-7030-117	1 pkg. for 10 outlets	Repair kit, frontbody—Diamond® key style
2	6803-7030-118	1 pkg. for 10 outlets	Repair kit, frontbody—Latch index key style
3	6803-7030-119	1 pkg. for 10 outlets	Repair kit, frontbody—Geomoetric key style
4	6803-7030-116	1 pkg. for 10 outlets	Repair kit, frontbody—DISS key style

FIgure 5-9. Rough-in Repair Parts Kit

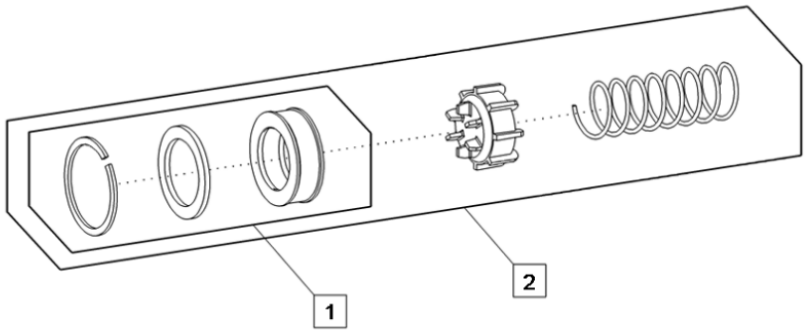

Table 5-10. Rough-in Repair Parts Kit

Item Number	Part Number	Quantity	Description
1	6803-7030-125	1 pkg. for 10 outlets	Repair kit, rough-in—Vac/WAGD/AGSS (all key styles)
2	6803-7030-124	1 pkg. for 10 outlets	Repair kit, rough-in—Pressure gases (all key styles)

Figure 5-10. DiamondCare® Conversion Kit

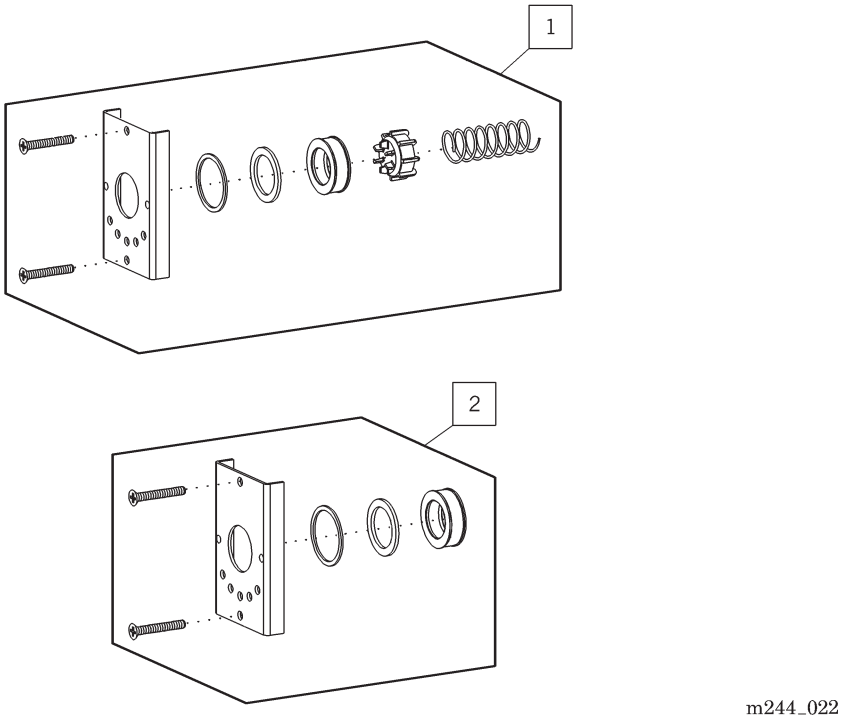

Table 5-11. DiamondCare® Conversion Kit

Item Number	Part Number	Quantity	Description
1	6803-7030-127◆	1	Kit, retro—Diamond®/DISS II and III **console pressure** rough-in assemblies
2	6803-7030-129◆	1	Kit, retro—Diamond®/DISS II and III **console vacuum** rough-in assemblies

◆ Rough-in conversion only. New DiamondCare®, Diamond® or DISS frontbody finish assemblies must be ordered separately.

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NOTES:

Chapter 6
General Procedures

Chapter Contents

Cleaning and Care

 WARNING:
Follow the product manufacturer's instructions. Failure to do so could result in personal injury or equipment damage.

 CAUTION:
Do not use harsh cleaners, solvents, or detergents. Equipment damage could occur.

 CAUTION:
Do not use oil or grease on or around the outlet. Possible equipment damage could occur. Use only lubricants approved for oxygen service, such as Krytox® 6PL205.

General Cleaning

Exposed parts should be kept clean. The epoxy coated plates may be cleaned with a high quality cleaner.

The plastic portion of the outlet may be cleaned with warm water and mild soap solution.

Clean the unit with a lightly dampened cloth and ordinary disinfectants. Do not use excessive liquid.

Steam Cleaning

Do not use any steam cleaning device on the DiamondCare® console outlets. Excessive moisture can damage mechanisms in this unit.

Hard to Clean Spots

To remove difficult spots or stains, use standard household cleaners and a soft bristle brush. To loosen heavy, dried-on soil or excreta, you may first need to saturate the spot.

Disinfection

Dilute disinfectants and germicides as specified on the manufacturer's label.

Component Handling

WARNING:
Frequently inspect and service DiamondCare® outlets are used in an air system supplied by a liquid ring air compressor using chlorinated water, and having galvanized piping or a galvanized air receiver. Chemical reactions occurring under those conditions may damage the pistons. Pistons that show evidence of deterioration should be replaced. Failure to maintain the air outlets could result in personal injury or equipment damage.

CAUTION:
When testing an outlet for correct operation, do not allow the piston in the check valve to "snap" back into position. The shoulder on the piston can break, causing leakage.

Lubrication Requirements

WARNING:
Follow the product manufacturer's instructions. Failure to do so could result in personal injury or equipment damage.

CAUTION:
Do not use silicone-based lubricants. Equipment damage could occur.

Service

WARNING:
Only facility-authorized personnel should perform service on the DiamondCare® Console Outlets. Service performed by unauthorized personnel could result in personal injury or equipment damage.

Refer to the CGA Pamphlet E-10, *Maintenance of Medical Gas and Vacuum Systems in Health Care Facilities*, for user responsibility regarding inspection and servicing of the gas outlets.

Overall appearance

Include and complete the following checklist when servicing the DiamondCare® Console Outlets:

- Inspect the finish faceplate and replace if necessary.
- Inspect all labels and replace if necessary.
- Check the general aesthetics of the DiamondCare® Console Outlets.

Repair Policy and Procedure

 CAUTION:

No repair should ever be undertaken or attempted by anyone not meeting the qualifications of or complying with the BeaconMedæs repair policy and procedures. Doing so could result in equipment damage.

- Do not use malfunctioning equipment.
- To ensure full reliability, have all repairs and service done by an authorized BeaconMedæs service representative. If this cannot be done, replacement and service of those parts listed in this manual can be done by a competent, trained individual having experience in the repair of devices of this nature.
- After any repair, test the equipment to ensure that it is functioning properly and in accordance with the manufacturer's published specifications.
- Replace damaged parts with components manufactured or sold by BeaconMedæs. Then test the unit to make sure that it complies with the manufacturer's published specifications.
- Contact the BeaconMedæs Technical Support at (888) 4-MEDGAS (888-463-3427) for assistance.
- If you send a damaged assembly to a BeaconMedæs service center, package it securely in the original shipping container, if possible, and ship it prepaid. Enclose a letter with the assembly describing the problem and the repairs felt necessary.
- In cases not covered by the Warranty, repairs will be made according to the BeaconMedæs current list price for the replacement part(s), plus a reasonable labor charge.

Repair Kits

BeaconMedæs provides separate repair kits for these DiamondCare® frontbody and rough-in assemblies:

- Replacement Twist-Lock Barrel Assembly
  - Diamond® Key Style
  - Latch Index Key Style
  - Geometric Key style (excluding WAGD)
- Frontbody Repair Parts Kit
  - Diamond® Key Style
  - Latch Index Key Style
  - Geometric Key Style
  - DISS Key Style
- Rough-in Repair Parts Kit
  - Pressurized gases (all key styles)
  - Vacuum, WAGD, and AGSS (all key styles)
- DiamondCare® Conversion Kit
  - Diamond®/DISS II and III console rough-in assemblies◆
    - Pressurized gases
    - Vacuum, WAGD, and AGSS

◆ Rough-in assembly conversion only. A new DiamondCare®, Diamond®, or DISS frontbody finish assembly must be separately ordered.

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6.1 General Service Procedures

 CAUTION:
Only authorized and trained personnel should perform the service procedures. (The service procedures in Chapter 4 can be followed by individuals who have general knowledge and experience with devices of this nature.) No repairs or service should be attempted by anyone not having such qualifications.

 WARNING:
Frequently inspect and service DiamondCare® outlets are used in an air system supplied by a liquid ring air compressor using chlorinated water, and having galvanized piping or a galvanized air receiver. Chemical reactions occurring under those conditions may damage the pistons. Pistons that show evidence of deterioration should be replaced. Failure to maintain the air outlets could result in personal injury or equipment damage.

1. Examine air outlets at least annually, and replace pistons that show evidence of deterioration. If deterioration is noted, examine the outlets quarterly.
2. Use only genuine replacement parts manufactured or sold by BeaconMedæs for all outlet repairs.
3. Read completely through each procedure before starting the procedure. Any exceptions may result in failure to properly and safely complete the procedure attempted.

 CAUTION:
When testing an outlet for correct operation, do not allow the piston in the check valve to "snap" back into position. The shoulder on the piston can break, causing leakage.

Tool and Supply Requirements

The following tools are required to service the DiamondCare® Console Outlets:

- Retaining ring removal/installation tool (appropriate type/size)
- #2 phillips head screwdriver
- Screwdriver
- Small screwdriver
- Needle nose pliers

NOTES:

Part No. MAN244 Rev. A

BEACONMEDÆS™

Corporate Headquarters:

BeaconMedæs
PO Box 7064
13325A Carowinds Boulevard
Charlotte, NC 28241
Phone (704) 588-0854
Fax (704) 588-4949

For technical support or to place an order call:
1 888 4 MEDGAS
(1 888 463 3427)
Fax (866) 635 3296
www.beaconmedaes.com