CNG Cylinder Repair Manual

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Introduction

About this Manual

This manual contains specific information pertaining to the repair of Type 4 cylinders designed and manufactured by Hexagon® Agility®.* It should not be applied to cylinders made by other manufacturers.

It is the responsibility of the vehicle OEM or third party installer to provide this manual to the appropriate personnel and to ensure its accessibility. Appropriate personnel includes, but is not limited to, those who are responsible for cylinder repair.

A thorough understanding of the information provided in this manual is required for the safe repair of the product. If further information is needed or questions arise, contact Hexagon Agility.

Hexagon Agility endeavors to maintain a comprehensive and accurate product and service information. We reserve the right to make changes at any time to manuals and other materials. Please contact Customer Care and Technical Services to ensure you have the latest version.

*Applies to cylinders labeled under Agility Fuel Solutions, Hexagon Lincoln, and Lincoln Composites

Procedure

Contact fuel system OEM for replacement parts, repair instructions, and specifications.

WARNING

Before repairing cylinder or cylinder mounting components, defuel the fuel system and verify the system is empty.

Repair Preparation

1. Open or remove any fuel system doors, access panels, or covers.
2. Clean the area of damage prior to performing any repair.

NOTICE

Hexagon Agility recommends washing cylinders by hand with water or a mixture of water and mild detergent. If using detergent, ensure cylinder and surrounding components are thoroughly rinsed with water.

Composite Damage

Cylinder composite repair is only allowed on Level 1 and 2a abrasion, lifted fiber (without unraveling), and minor weathering damage.

Tools and Supplies

Item	Description	Purpose
1	**hand tools**	remove / replace fuel system covers, mounts, plumbing
2	**sandpaper** (≥ 100 grit or higher)	smooth rough composite edges
3	**cleaning cloths or wipes**	clean cylinder surface
4	**isopropyl alcohol** (IPA)	remove oils from composite surface
5	**multi-purpose quick set two-part epoxy**	fill composite damage
6	*For painted cylinders:* **polyurethane paint**	reapply paint finish over repair

Composite Repair Procedures

Level 1 and 2a Abrasion Repair

1. Remove any loose fibers or rough edges in the damaged area by light hand sanding.
2. Clean affected area with IPA and allow time to dry.
3. Coat area with epoxy.
4. *For painted cylinders:* apply a coat of polyurethane paint to the reworked area after the epoxy has cured.

Lifted Fiber Repair

WARNING

Do not lift, cut, or remove fiber.

1. Clean affected area with IPA and allow time to dry.
2. Fill area with epoxy.
3. *For painted cylinders:* apply a coat of polyurethane paint to the reworked area after the epoxy has cured.

Minor Weathering Repair

1. Remove any loose fibers or rough edges in the damaged area by light hand sanding.
2. Clean affected area with IPA and allow time to dry.
3. Coat area with epoxy.
4. *For painted cylinders:* apply a coat of polyurethane paint to the reworked area after the epoxy has cured.

Resurfacing Sliding Boss Wear

Tools and Materials

Item	Description	Purpose
1	**hand tools**	remove / replace fuel system covers, mounts, plumbing
2	**lifting sling** w/ load rating exceeding cylinder weight	support cylinder sliding boss end
3	**cleaning cloths or wipes**	prepare boss surface for repair
4	**sliding boss repair kit** (contact Hexagon Agility®)	sleeve to compensate for boss wear
5	**sleeve installation tool,** p/n 240335	required to install repair sleeve
6	**Swagelok® Snoop® or similar leak detection fluid**	leak check repair

Repair Procedure

1. *If necessary: open or remove fuel system covers or shields.*
2. *If present:* remove all tube fittings from sliding boss end adapter, plug, or PRD.
3. Remove adapter, plug, and/or PRD from sliding boss end. *Refer to component OEM procedure.* **FIGURE 1**

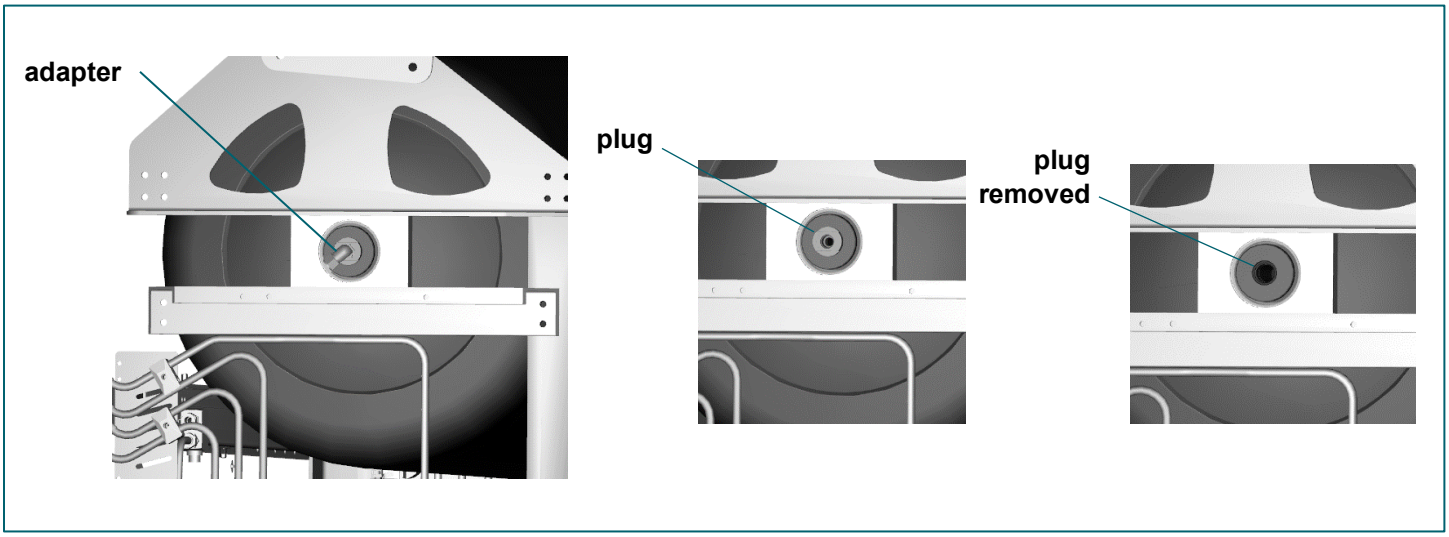


FIGURE 1. Cylinder sliding end with adapter and plug; plug removed

4. Support cylinder with a lifting sling placed near the sliding boss end. **FIGURE 2**

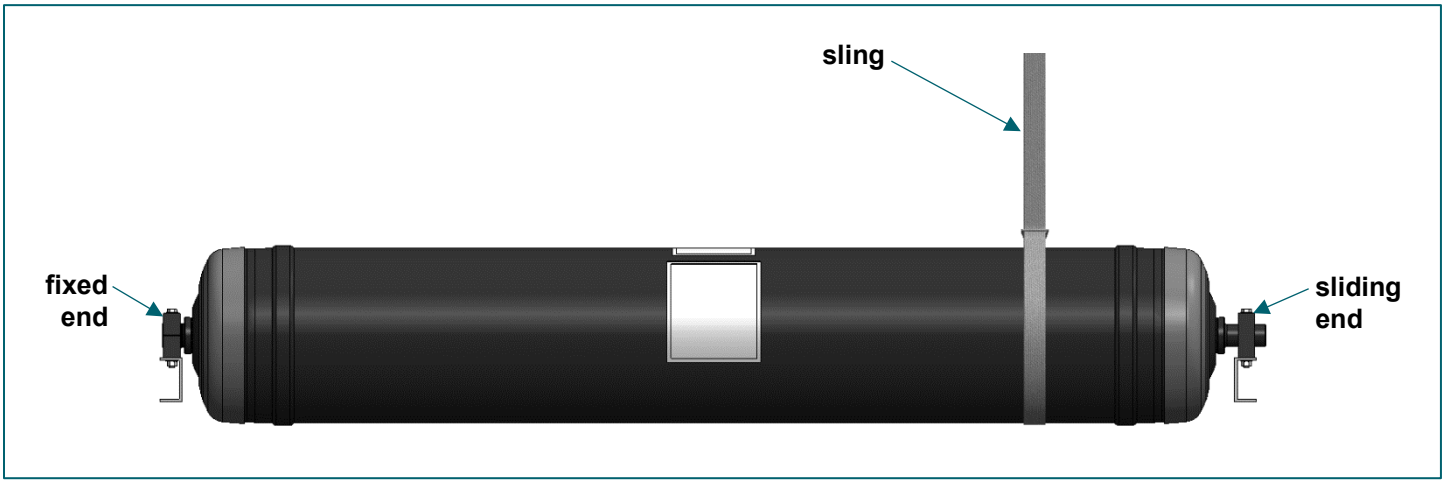


FIGURE 2. Cylinder supported with a sling for sliding end repair

5. Remove mount block assembly from the sliding boss. **FIGURE 2**
6. Clean boss with a soft cloth or disposable wipe and IPA. Wipe boss until cleaning cloths or wipes are clean after use.
7. Remove bushing from mount block assembly. **FIGURE 3**

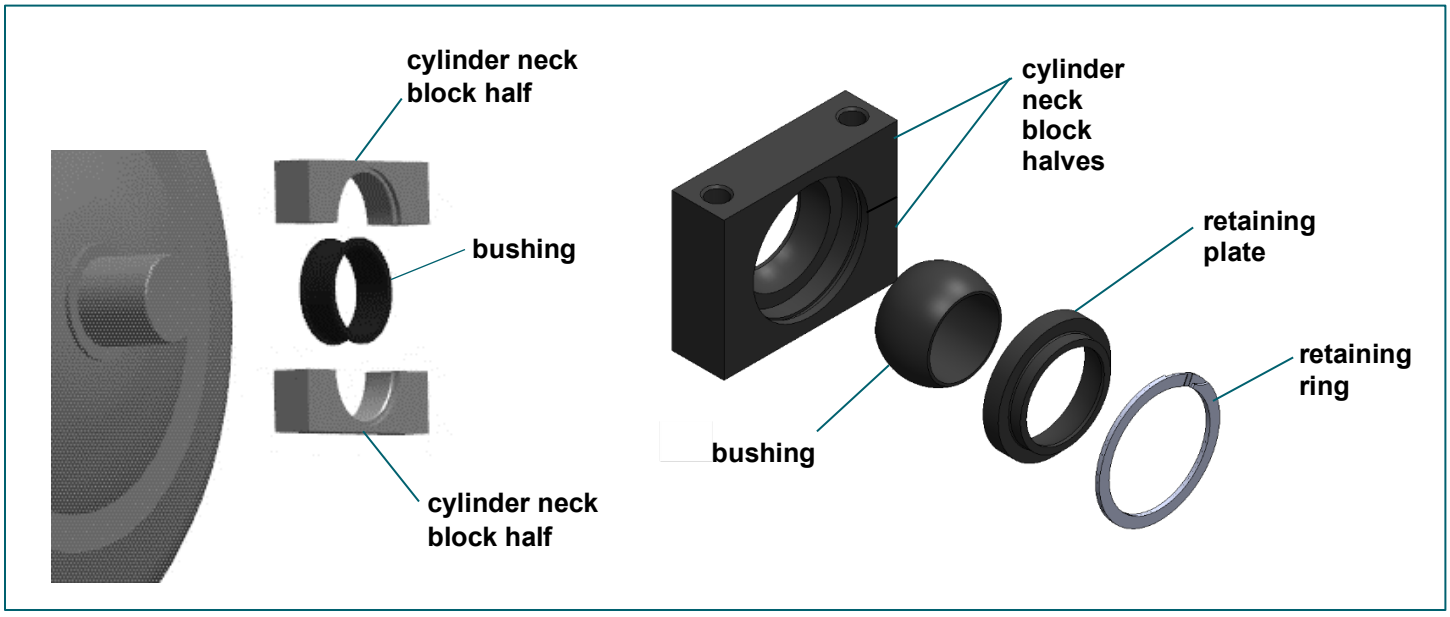


FIGURE 3. Examples of cylinder neck mount sliding end components

8. Reassemble mount block assembly with new bushing from the repair kit. **FIGURE 3**
9. Slide repair sleeve over the boss by hand; **approximately 3/8-in (9.5 mm) of sleeve will overhang the boss.**
10. Insert sleeve installation tool into boss port and thread it on. **FIGURE 4**

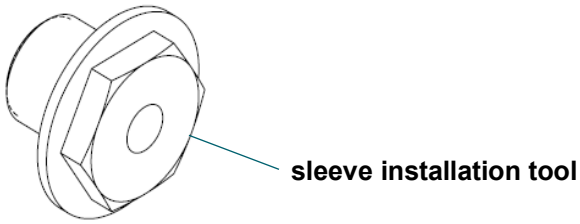


FIGURE 4. Sleeve installation tool

11. Use a wrench to continue to thread the installation tool until the sleeve is flush with the face of the boss.
12. Remove sleeve installation tool. **FIGURE 4**
13. Reinstall mount block assembly.
14. Remove lifting sling. **FIGURE 2**
15. Reinstall adapter, plug, or PRD. *Refer to OEM procedure.*
16. *If required:* reinstall tube fittings
17. Fill cylinder and leak check connections at any new or reinstalled fittings and components.