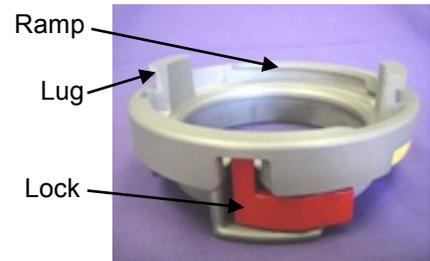




All-American Hose 4" and 5" Storz Coupling Service Manual

1. Storz Coupling Components

- a. **Storz Head** – The Storz head is the swivel connection on the Storz coupling. Its primary features are the lugs and ramps which allow couplings to connect together, and the locks which prevent couplings from coming apart inadvertently.
- b. **Tailpiece (shank)** – The tailpiece is the round, tubular part that fits inside the head, and slides inside the hose. It also contains the groove into which the gasket is installed.
- c. **Clamp Segments** – The clamp segments fit over the hose and tailpiece and secure the hose to the coupling tailpiece. There are 3 identical segments in each coupling.



- d. **Clamp Bolts** – The clamp bolts connect the 3 clamp segments together. There are 3 bolts in each clamp assembly.



- e. **Pressure Gasket** – The pressure gasket fits in the gasket groove in the tailpiece and forms the seal between mating couplings. The pressure gasket is black and has a flat mating surface.



Pressure gasket installed in tailpiece

2. Coupling Identification Guide

All-American Hose (AAH) coupling design has evolved over the years, resulting in the current design. This design has proven to be very user-friendly and robust. AAH recommends that older couplings be replaced with the current design rather than being rebuilt.

The following information is focused on the current Storz couplings. For information on older styles, please contact the factory.

The current generation (beginning in 2010), has a machined, anodized aluminum tailpiece, and a unique clamp design, as illustrated below.



5-inch: 3-3/8"
4-inch: 3-1/8"

3. Tools Required

- a. Mounting Plate (FMB40 = 4-inch; FMB50 = 5-inch)
- b. 1/2" drive ratchet/socket wrench
- c. 5/16" Allen socket (1/2" drive)
- d. Torque wrench 1/2" drive (foot pounds)
- e. Knife
- f. Screwdriver or Awl
- g. Grease (standard bearing grease or anti-seize)
- h. Soapy water

4. Coupling Removal

- a. Secure the coupling in the appropriate size mounting plate. Mounting plates are available through your AAH dealer. Or, the coupling can be connected to a solid Storz connection on a truck to hold it while being serviced. (**Note:** A vise may be used to hold the coupling by the lugs, but care must be taken not to damage the lugs.)
- b. Remove the coupling by cutting the hose off close to the coupling tailpiece. The hose may be cut using a sharp utility knife.



Mounting Plate



- c. If the coupling, or any part of the coupling, is to be re-used, the hose will need to be cut off of the tailpiece.
 - i. In order to do this, remove the bolts in the clamp segments and remove the segments.
 - ii. If possible pull the hose end off the tailpiece. Generally, the hose will be tightly adhered to the tailpiece. If so, carefully cut the hose end longitudinally and peel the hose off of the tailpiece. Be careful not to heavily scratch the tailpiece, as this could cause a leak.

- iii. To remove the Storz head, the snap-ring will need to be removed. Use a screwdriver or an awl to pop the ring out of its groove, and then slide it off of the tailpiece.
- iv. Slide the head off of the tailpiece.
- v. Clean any parts that are to be re-used with soapy water and a scrub brush.

5. Coupling Assembly Instructions

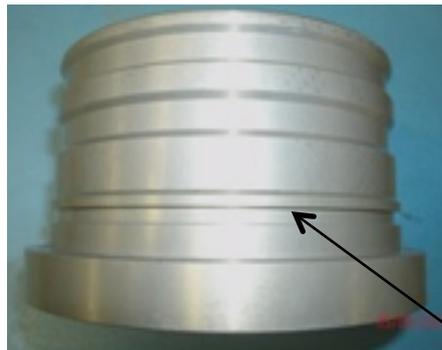
- a. Ensure the gasket is installed in the tailpiece. If not, install the gasket by 'rocking' it into the gasket groove. Soapy water may be used as lubrication.



- b. Slide the tailpiece into the Storz head from the lug end. If re-using components, ensure they are clean and free of corrosion.
- c. Secure the assembly in a mounting plate.
- d. Slide the snap-ring over the tailpiece until it snaps into the snap-ring groove located just above the shoulder in the Storz head.



Snap-ring



Snap-ring groove

- e. Remove the assembly from the mounting plate and check for free operation of the head. The head should swivel easily on the tailpiece.

6. Coupling Installation

- a. Trim the hose to obtain a clean, square end.

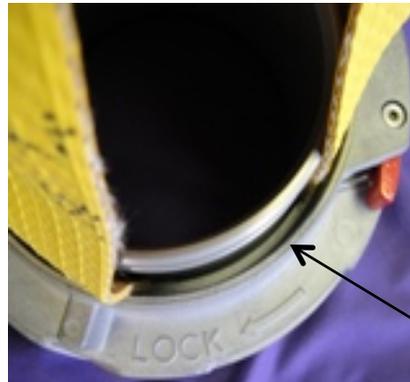
“Bad”



“Good”



- b. Secure the coupling in a mounting plate or to a Storz connection on a truck.
(**Note:** A vise may be used to hold the coupling by the lugs, but care must be taken not to damage the lugs.)
- c. Slide the hose over the tailpiece until it stops against the ledge inside the Storz head.



Ledge inside the Storz head

- d. Place the clamp segments around the hose. The square corner goes towards the Storz head and the rounded corner goes towards the hose.



- e. Lightly grease the bolt threads and under the head of the bolt.

- f. Install the bolts finger-tight. (**Note:** For ease of assembly it may be possible to pre-connect the three clamp segments with two bolts, wrap the segments around the hose, and then install the third bolt.)
- g. Tighten each bolt in sequence a few turns at a time maintaining an even gap between segments. Avoid pinching of the hose between the segments. A light solution of soapy water can be used as a lubricant between the hose and segments.
- h. Final torque is 25-30 ft-lbs for RUBBER hose. Final torque is 35-40 ft-lbs for DOUBLE-JACKET hose.
- i. Hose naturally takes a set resulting in a lower apparent torque on the bolts over time. AAH recommends re-torquing the bolts after service testing.

7. Service Testing

WARNING: In accordance with NFPA 1962, par. 7.2.11, all hose is to be service tested after couplings are serviced and/or replaced. Failure to do so can result in serious injury to personnel or damage to equipment.

WARNING: NFPA 1962, par. 6.2.12 requires that the bolts on Storz type couplings be re-torqued at least annually to the manufacturer's specified settings, and that any components that show signs of wear be replaced.

Consult NFPA 1962 for instructions on how to perform service testing. Service testing of hose can be dangerous if done improperly. If Fire Department personnel are not trained in how to perform service testing AAH recommends hiring a hose testing service to perform annual and repair service tests.

**A copy of NFPA 1962 can be purchased from NFPA at the following:
<http://www.nfpa.org/>.**

8. Maintenance Instructions

Storz couplings are simple, reliable devices that will operate safely and satisfactorily for many years with basic care and maintenance. NFPA 1962, section 6.2 contains excellent information regarding coupling care and maintenance. Following is additional information based on NFPA 1962 and direct experience.

- a. **Lubrication** - Lubricating Storz couplings is not recommended because of the possibility of picking up dirt and other contamination that can interfere with proper operation. A Storz coupling in good condition will connect properly without lubrication of any kind. Lubricating the gasket faces has minimal benefit since the gaskets do not slide against each other when couplings are connected.
- b. **Cleaning** - The couplings can be cleaned by simply spraying with water. The areas of concern are the lugs, ramps, locks, and the swivel. Ensure the lugs and ramps are free of dirt and debris. Check that the lock operates freely. Ensure that the swivel moves freely.

- c. **Gasket replacement** - The Storz gaskets are very durable and rarely need replaced. Should replacement be necessary, the old gasket can be pried out with a small screwdriver or awl, taking care not to damage the groove in the tailpiece. The new gasket is installed by 'rocking' it into the groove. Soapy water can be used as lubrication.
- d. **Lock** - The lock is a critical safety feature which prevents accidental separation of the couplings. It must operate freely and must securely lock the mating couplings together. Replace any parts which are damaged. A lock repair kit, part number STZLK, is available from your dealer.
- e. **Swivels** - The Storz head is designed to swivel easily on the tailpiece. Any coupling that does not swivel must be cleaned or repaired. Possible causes of not swiveling are: contamination; corrosion; broken or displaced snap-ring; damaged tailpiece or Storz head.
- f. **Bolt torque** - Bolted connections naturally lose bolt load over time. NFPA 1962 recommends that bolts be re-torqued prior to every service test.

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