

INFORMATION ONLY
Bulletin No.: TSB-003

Date: March 29, 2013

Subject: Cylinder Bracket Installation and Strap Torque

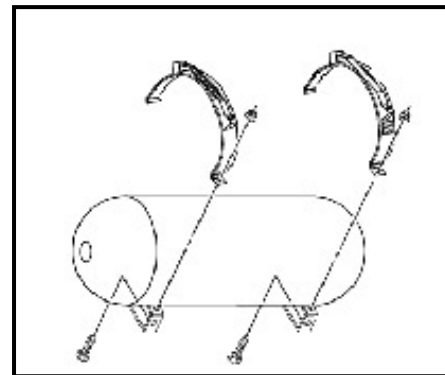
Models: All Quantum Type 4 Cylinders.

Background

A number of cylinder bracket assemblies are available from various manufacturers that can be used to secure the Quantum Type 4 gaseous fuel cylinders to a vehicle. These bracket assemblies must be properly assembled and installed.

Condition

If the cylinder bracket assemblies are improperly installed or the torque applied to the cylinder straps is incorrect, the cylinder bracket assembly can fail to properly retain the cylinder. If this occurs a fuel line may loosen or fatigue due to cylinder movement or the cylinder could be damaged. Either scenario could lead to a fuel leak creating a fire hazard.


Cause

Improper cylinder bracket alignment or torque application may result in uneven pressure being applied to the cylinder strap isolator. This uneven pressure may result in premature isolator failure, damage to the cylinder and or cylinder bracket assembly.

The torque applied to properly secure the cylinder in the brackets will vary depending on the cylinder manufacturer and or cylinder bracket manufacturer.

Correction

The installer is ultimately responsible for ensuring the proper alignment and installation processes for the cylinder and cylinder brackets being installed.

Currently Quantum only offers one cylinder bracket assembly for sale for the 21" diameter Quantum Type 4 cylinders.

The following specification is only valid for the Quantum cylinder bracket assembly (PN 114074) when used with any Quantum 21" diameter Type 4 cylinder.

Bracket Asm. Part Number	Cylinder Diameter	Recommended Strap Torque
114074	21" (Nominal)	26 lb ft (35 N.m)

Important: The torque specification shown in the table is for a Quantum Type 4 cylinder installed in the specified bracket using new cylinder isolators, new locking fasteners and with less than 500 psi (3447 kPa) of pressure in the cylinder.

Reuse of the cylinder isolators or strap hardware will affect the final assembly and may result in damage to the cylinder and or cylinder bracket assembly.

INFORMATION ONLY**Correction (Cont)**

When using a cylinder bracket assembly other than the one noted above, Quantum recommends the following precautions:

Installation:

- Use the cylinder bracket manufacturers recommended strap torque.
- Verify that the rubber isolator is properly seated on the cylinder brackets and straps.
- Verify the torque applied to the cylinder bracket strap has not altered the shape of the strap.
- Verify the cylinder will NOT move freely in the completed cylinder bracket assembly

The following recommendations should be followed when servicing any cylinder in any bracket assembly to ensure proper retention and service life.

Servicing:

- If a locking fastener is used, always replace the cylinder strap nuts and or bolts when they have been removed with equivalent replacement parts.
- Always replace the cylinder isolators when the cylinder strap has been loosened or removed.

Important: A Type 4 fuel cylinder will expand and contract as the internal pressure increases and decreases. In order to compensate for expansion and contraction the cylinder strap rubber isolator is designed to deform slightly. Always install new isolators in order to achieve accurate cylinder strap torque. Accurate cylinder strap torque can only be achieved at cylinder pressures below 500 psi (3447 kPa).

- Always torque cylinder straps when cylinder pressure is below 500 psi (3447 kPa).
- DO NOT check torque on a cylinder strap after it has been in service.

Important: Do not verify the cylinder strap torque on a fully pressurized cylinder. A Type 4 cylinder will expand and contract as the internal pressure increases and decreases. In order to compensate for expansion and contraction the cylinder strap rubber isolator is designed to deform slightly. The rubber isolators will eventually settle slightly causing cylinder strap nut torque to vary from the initially higher installation torque.

- Inspect the cylinder brackets, straps, mounting frame, and mounting hardware for cracks, corrosion, deformation, or other damage.

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Parts Information

None