	VT-0011	0000	06/16	BBK
CHART®	Economizer Regulator Replacement Procedure			

Overview

The following Technical Service Bulletin gives the servicing technician detailed instructions to aid with replacing an economizer regulator on a Chart LNG vehicle fuel tank.

Troubleshooting

The economizer regulator is the heart of the fuel delivery system and controls the tanks operating pressure/fuel temperature. The economizer is preset to a customer specified pressure at the Chart factory when the tank is built. Potential issues with the economizer regulator should only be addressed by trained/qualified technicians following Chart recommended troubleshooting tools and procedures. A separate document is available which addresses specific troubleshooting methods. Refer to VT-0014.

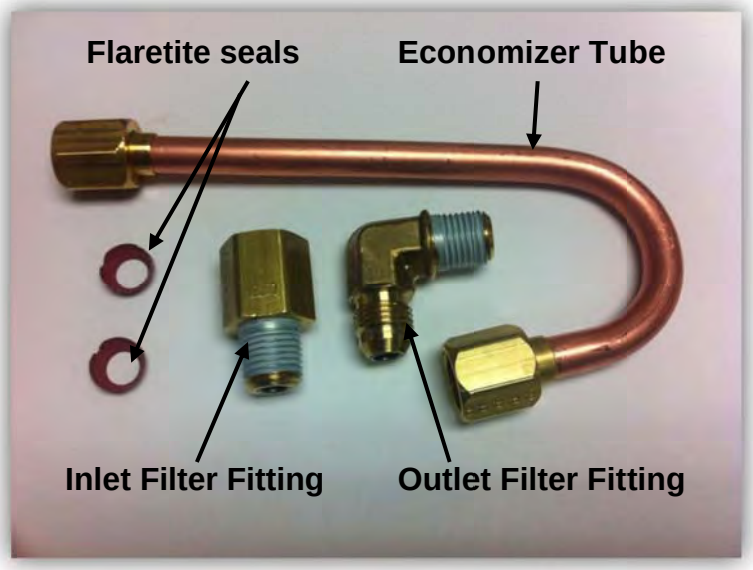
This procedure is to be used by trained mechanics with experience using LNG systems. Review all safety documents applicable to this procedure. Always ensure test instrumentation is in good working order before starting procedure. Refer to Bulletin Safety-0001.

Parts

The following part numbers may be used when replacing an economizer regulator.
14888856-XXX Adjustable economizer set to XXX (customer specified) psi
11055541-XXX Nonadjustable economizer set to XXX (customer specified) psi

Additional parts may be needed as desired by the installer. See photo below for further identification.

1. 20572275 Economizer inlet fitting/filter (1 per tank)
2. 20572276 Economizer outlet fitting/filter (1 per tank)
3. 20592550 Economizer tube (1 per tank)
4. 11751555 Flaretite seals (2 per tank)



Parts are available by calling Chart customer service at
1-800-838-0856 or visit or dedicated parts website at http://www.chartparts.com/

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Installation

The tank will need to be completely de-fueled and de-pressurized prior to removal or installation of any parts of the tank mentioned in this bulletin. If unfamiliar with the defueling procedure please see a copy of TSB VT-0017. Once the tank has been de-fueled and the pressure gauge reads 0 psi you can begin with the following steps

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1. Loosen both nuts on the economizer tube (do not remove completely) and break the tube loose from the flare fittings. Allow any residual pressure to escape. After all pressure has escaped remove the nuts completely and remove the tube assembly.

2. Remove the elbow that threads into the side port of the economizer.

3. Use an appropriately sized adjustable wrench to remove the economizer regulator (and filter fitting if installed) from the stainless nipple.

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4. Use an external wire brush to clean the male pipe threads on the stainless nipple and the elbow removed from the economizer.

5. Install nickel thread sealant tape on the male pipe threads of both filter fittings as well as the elbow previously removed from the knuckle coupling.
   Note: Do not install thread tape to any part of the flared end of a fitting; only use the thread sealant tape on pipe threads. Refer to Chart service bulletin VT-0030 for proper installation of thread sealant tape.

   Warning: Improper thread tape installation can result in thread tape contamination and possible economizer seat failure.

6. Mount the economizer in a vise via the flats in the housing body.

7. Install the inlet fitting (shown in photo above) into economizer, the straight filter fitting will install into the inlet (top) port of the economizer.


Inlet Filter Fitting Installed

8. Install nickel thread sealant tape onto male pipe threads on stainless nipple (as shown in photo).


Thread Tape on Stainless Nipple

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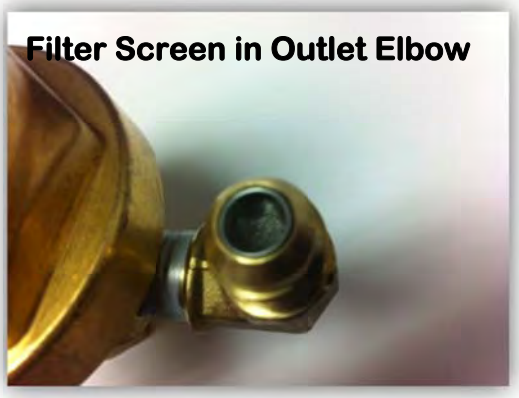
9. Install the economizer and inlet fitting assembly onto male pipe thread of stainless nipple. Tighten via a ¾" wrench on the fitting (Do not use a wrench on the flats on the economizer). The open economizer outlet port must face directly away from the tank.

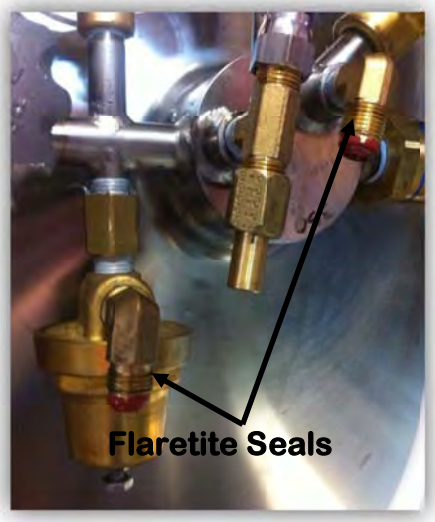
10. Install the filter elbow fitting into the open economizer outlet port. Ensure the elbow used has a filter screen inside the flared (port) end of the elbow.



11. The final stopping (tight) point should have the flared end of the elbow pointing directly downward.

12. Slide both flare nuts and sleeves away from the tube flare on the economizer U tube, set the tube up against the flared portion of both elbow fittings to check for proper fitting flare to tube flare alignment. Adjust the elbow positioning as necessary to achieve a proper flare to fitting alignment, however try not to turn the fittings in a counterclockwise (loosen) direction. Doing so could cause thread leaks.

13. Install (one per fitting) Flaretite seals on the flared portion of the flare fittings of both elbows as shown. The Flaretite seals will need to be installed evenly onto the flared portion of both fittings.



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14. Install the economizer tube onto the Flaretite seals, start both flare nuts on the flare elbows, and hand thread them on evenly until they are both hand tight. If you cannot start the nuts by hand the Flaretite seals or the flare elbow(s) may be misaligned with the tube flare or flare nut.

15. Finish tightening the flare nuts using an 11/16” open end wrench. The final assembly should look like the above photo.

16. The system should then be pressurized to maximum operating pressure (230 PSI) with nitrogen and leak tested using a bubble solution such as Snoop. If nitrogen is not available an alternative would be to put a couple of gallons of LNG in the tanks, and then leak test the economizer connections and tank plumbing.

17. Once the leak test has been successfully completed the vehicle can be refueled and returned to service.