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Economizer Regulator Filter Upgrade

Overview

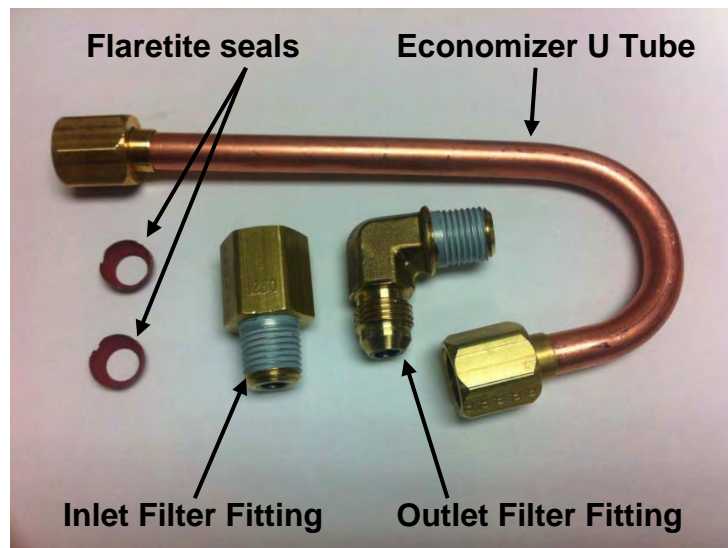
Chart LNG has released a new and improved economizer regulator, and filtering system. The new economizer filter system is designed to enhance reliability, and offer lower operating costs. In 2012 it was added as a new standard on most of the new production tanks. The filter system will include inlet and outlet filters built into the inlet and outlet adapter fittings on the economizer. The filters will prevent dirt, debris and ice from entering the economizer seating area, which can cause low pressure complaints and vehicle breakdowns.

Parts


To retrofit tanks already built and in operation, the economizer filter parts kit is available from Chart LNG. The kit part number is 20640027. The kit is available by calling Chart LNG customer service at 1-800-838-0856.

If re using the current economizer three parts will need to be replaced to upgrade to the filtered system. All parts below are included in parts kit PN 20640027. They are shown on the photo below.

1. Qty 1 Economizer inlet fitting/filter
2. Qty 1 Economizer outlet fitting/filter
3. Qty 1 Economizer U tube
4. Qty 2 Flaretite seals



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.

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An additional part may be needed if the decision is made to replace the economizer as well.

Available economizer part numbers (not included in kit PN 20640027 above).

11055541 Economizer with non adjustable pressure setting.

14888856 Economizer with adjustable pressure setting.

Installation

The tank will need to be completely de-fueled, de-pressurized and purged prior to removal or installation of any parts of the tank mentioned in this bulletin.

Once the tank has been de-fueled and the pressure gauge reads 0 psi you can begin with the following steps.



Pressure gauge at 0 PSI

1. Loosen both nuts on economizer U 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 U tube assembly.
2. Remove the elbows at both ends of the U tube, one will be on the economizer outlet, the other elbow will be on the tank knuckle.
3. Use an adjustable wrench to remove the economizer regulator from the stainless nipple.

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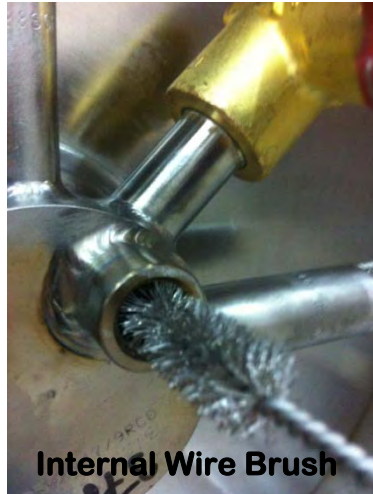
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4. Use an internal wire brush to clean the female pipe threads on the threaded knuckle coupling. Blow out all debris and any remaining thread sealant tape from the port.



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



6. Note: Skip this step if the economizer is being replaced with a new one. If the economizer is being re-used clean the female pipe threads of the inlet and outlet using an internal wire brush. Thoroughly blow out any remaining debris.

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7. 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.



Nickel Thread Tape

8. Mount the economizer in a vise via the flats in the housing body.
9. 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

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



11. Install the economizer and inlet fitting assembly onto male pipe thread of stainless nipple. Tighten via a $\frac{3}{4}$ " 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.

12. 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.



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



14. Reinstall the non filtered elbow into the knuckle port. The final stopping (tight) point should have the elbow outlet pointing in the 7 o clock position.

15. 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 elbow positioning as necessary to achieve proper flare to fitting alignment.



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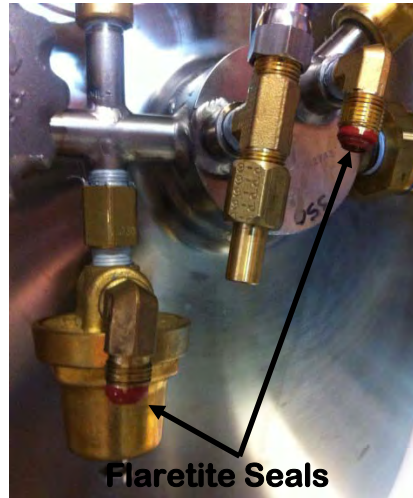
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16. Install (one per fitting) Flaretite seals on the flared portion of the flare fittings of both elbows as shown. The Flaretite seals will need to be installed evenly onto the flared portion of both fittings.



17. Install the economizer U 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 flare elbow(s) may be misaligned.



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18. Finish tightening the flare nuts using an 11/16" open end wrench. The final assembly should look like the above photo.
19. The system should then be pressurized to maximum operating pressure (230 PSI) with nitrogen and leak tested using a bubble solution.
20. Once the leak test has been successfully completed the vehicle can be refueled and returned to service.

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