



# **Tulsa Gas Technologies, Inc.**

10117 E. 48<sup>th</sup> St. Tulsa, OK 74146

**PHONE: 918-665-2641**

**FAX: 918-665-2657**

Object of this manual is to convert a Kalmar 3500 lb fork lift that runs on Propane to run on Compressed Natural Gas.





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Picture 1



1. Make gauge clamp to support gauge to cover (Picture 1).
2. Re-tap all holes in mounting plate to clear powder coat from threads.



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Picture 3

3. Remove propane bottle mounting bracket. Keep the three bolts to mount the CNG Bottle (Picture 3).



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Picture 4

4. Mount the CNG Bottle mounting plate using three bolts and tapping new ½ course threads into counter weight (Picture 4).
5. Align tank bracket with ridge on counter weight, then align left side of bottle just inside the left roll cage.



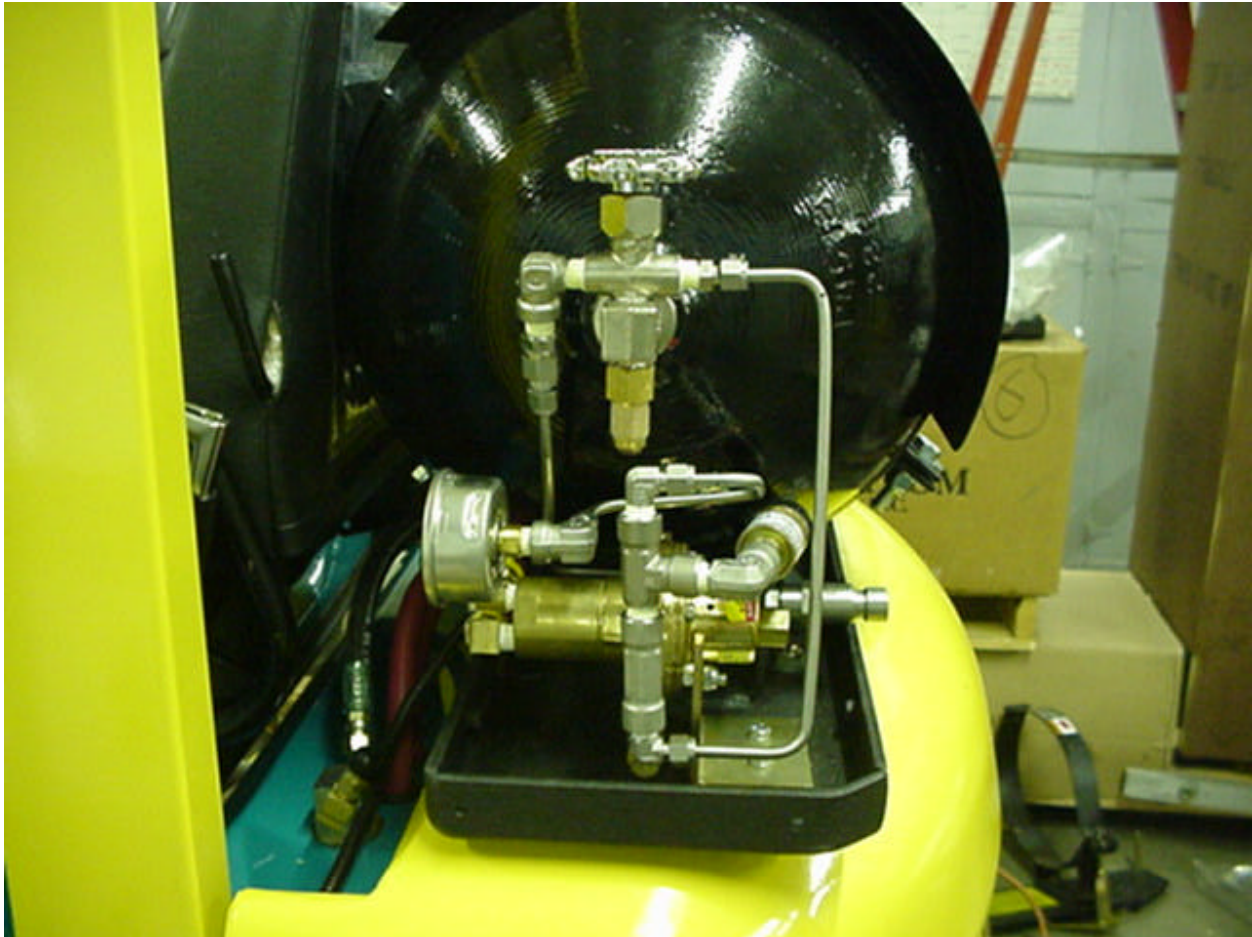


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Picture 5

6. Install first stage MECO regulator to mounting plate.
7. Tube gauge ¼ .035 316 stainless, add 90-degree female fitting to back of gauge.
8. Install auto select pressure switch; kick out towards back of lift to clear tank.



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Picture 8

9. Install second stage regulator (Picture 8).
10. Modify tube between lock off and second stage regulator.
11. Re-route hot water line to MECO first stage regulator.

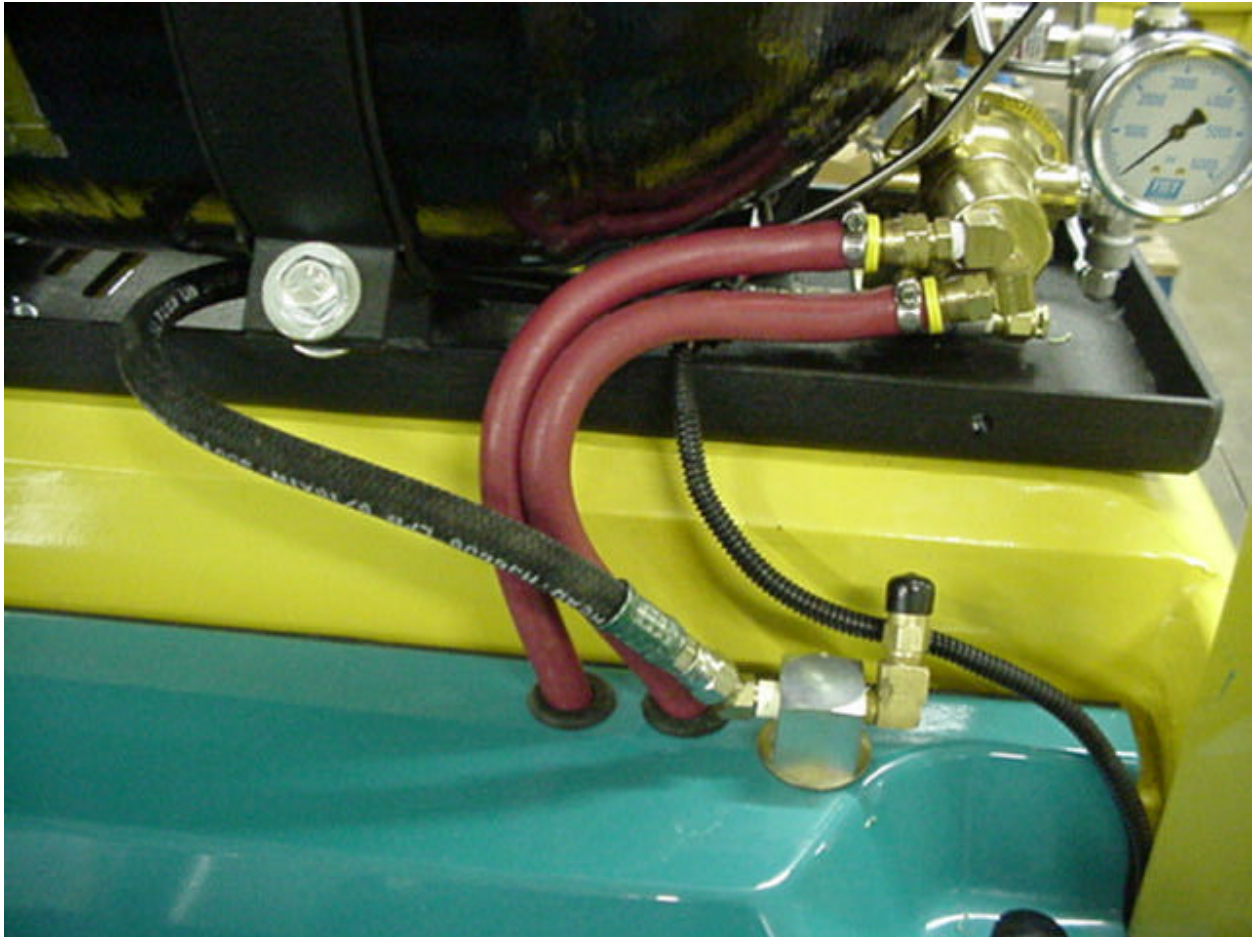


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Picture 11

12. Drill holes on back of body for hot water line to come through (Picture 11).

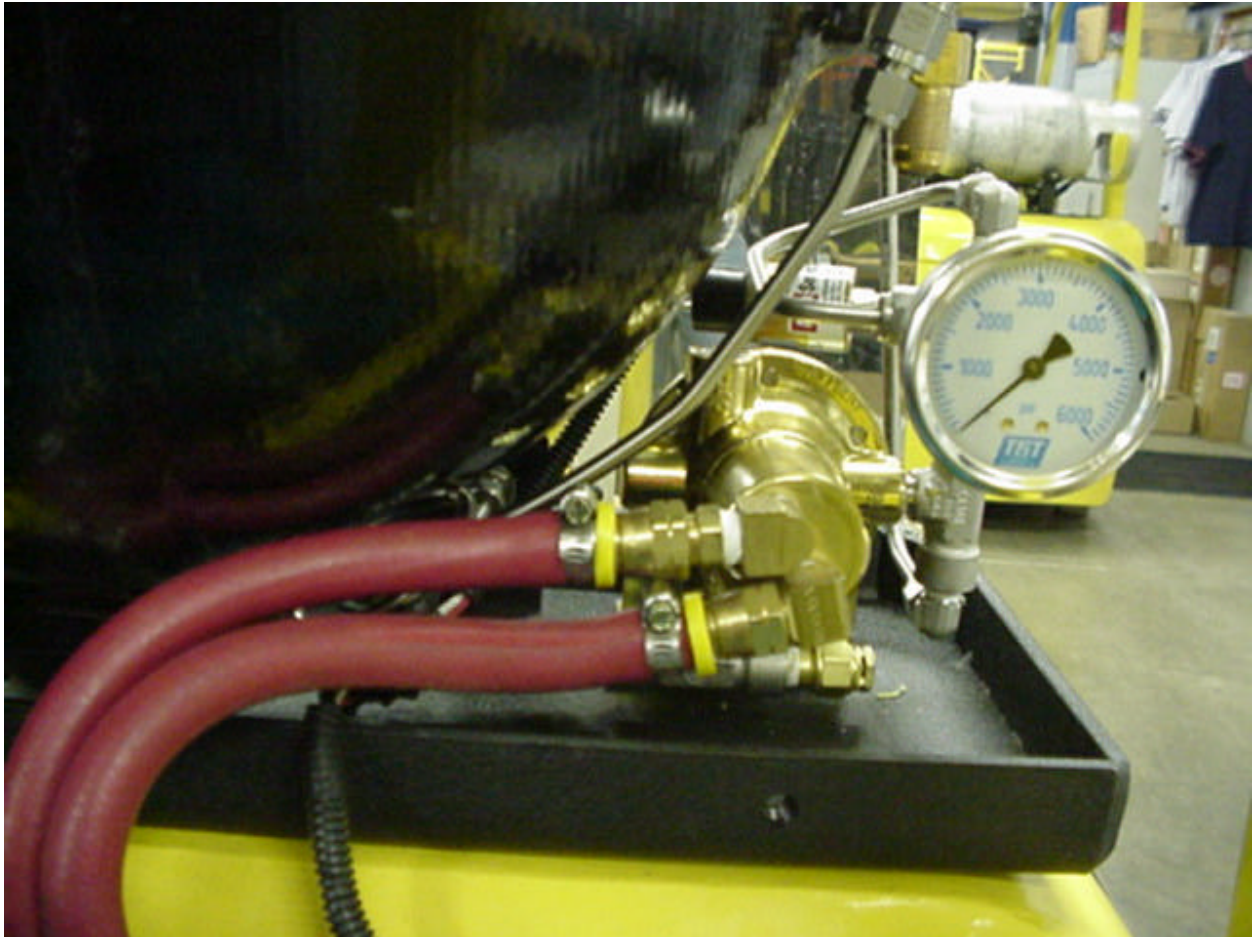


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Picture 12

13. Connect hot water line to back of first stage regulator (Picture 12).



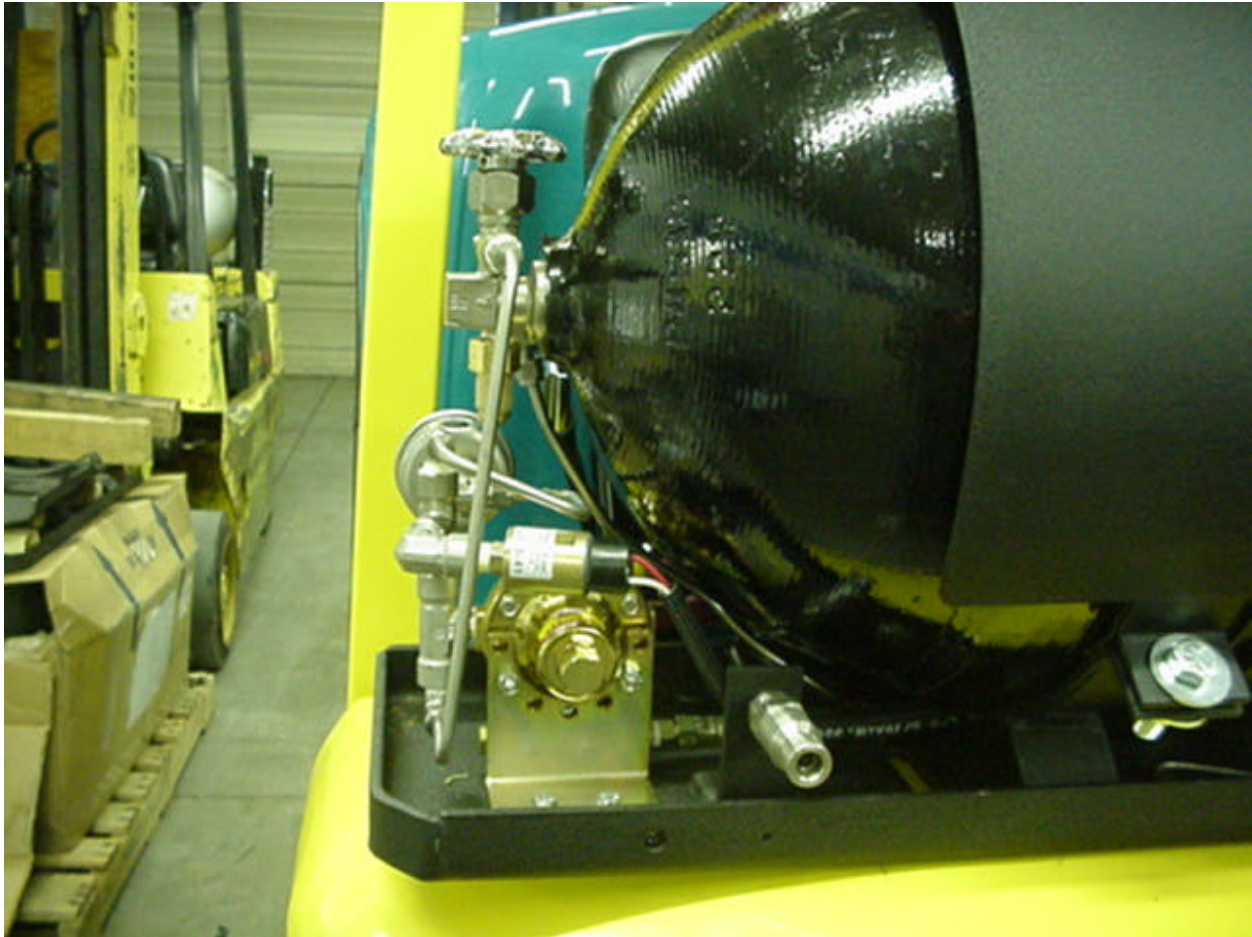


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Picture 13

14. Install CNG Bottle; DO NOT MOUNT SOLID YET. You will need to move CNG Bottle to finish tubing (Picture 13).
15. Tube from NGV1 fill connector to tank valve with ¼" tubing.
16. Tube from CNG Bottle valve to MECO regulator with ¼" tubing.
17. Tighten tank brackets.
18. Route cable from Auto Select pressure switch (Part # EK109) across motor to dash. Extend wires if needed.



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Picture 17

19. Using cable from Auto Select pressure switch (Part # EK 109) solder red wire to the # 3 pin on cable harness on right side of dash panel (Picture 17).
20. Ground the other wire out of the cable. Low-pressure switch closes when tank pressure is below 500 PSI.

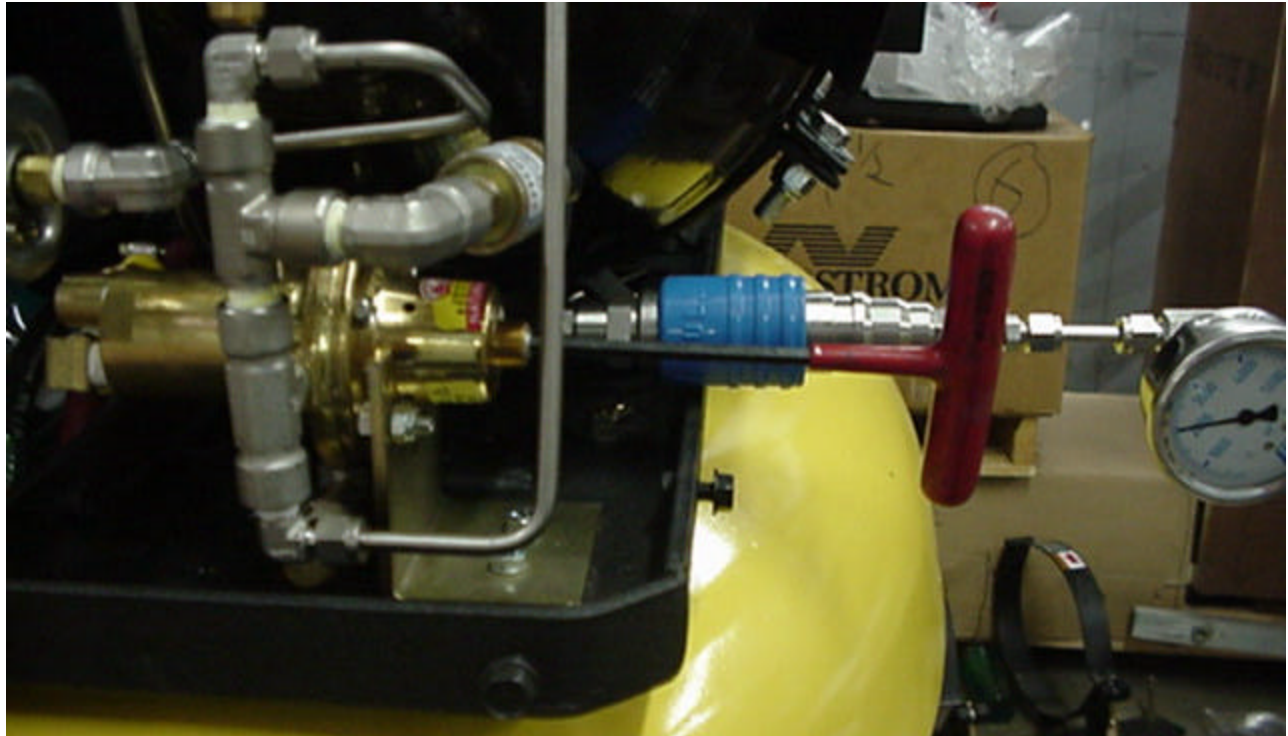


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21. Set first stage MECO regulator to 60 PSI. Check Pressure at Schrader valve on bulkhead.  
(Pictures 19A and 19B)





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Picture 20

22. Fill lines with tank valve closed and check for leaks.
23. Fill tank.
24. Start motor and adjust first stage for smooth idle. Also, adjust idle mixture for smooth idle.
25. Check power setting on carburetor while engine is running.
26. Adjust timing advance as needed, a little increase is usually all it needs.



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Picture 24

27. Start fork lift then close tank valve and check for low CNG light, this light should come on around 500 psi and below. (Picture 24).



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Picture 25

28. Replace tank valve cover, tighten gauge clamp, this clamp will fork around the gauge stem and pull it up firmly to the cover (Picture 25)



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Picture 26

29. Mount tank solid with 1/2" bolts and lock nuts, recheck all nuts for tight
30. Install dust cover on NGV-1 connector.



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Picture 27

31. Install decals to tank valve, CNG Only on tank and Blue CNG diamond on back of tank valve cover.