

Compressed Natural Gas Vent/Flare Adapter Kit

by: Responder Training Enterprises, LLC

HIGH PRESSURE GAUGE

Indicates fuel storage cylinder pressure, nominal 3600 psi

1/4-TURN MAIN SHUTOFF VALVE

Stops fuel flow to the engine. Normally OPEN. Turn OFF and depressurize before servicing.

DEFUEL RECEPTACLE

Used when removing fuel from the cylinder

LOW PRESSURE GAUGE

Indicates pressure exiting the regulator, nominal 125 psi

INSTALL DATA LABEL

Water volume, litres, install location and date, cylinder expiration date

FILL RECEPTACLE

Slow fill shown



RESPONDERTRAINING.COM

Version 3

Assembly & Operating Guide

Ronald D. Huffman

Responder Training Enterprises, LLC.

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Compressed Natural Gas Flaring/Vent Kit

The "Compressed Natural Gas Flare/Vent Kit" provides industry standard equipment to allow CNG cylinders to be vented or flared, PLUS components that allow CNG to be flared utilizing standard propane flaring equipment.

Kit Components

- Direct Vent Tip (1" pipe mount)
- Valve Assembly with Gauge
- CNG to LP adapter w/350 psi PRD
- Assorted Adapters
- 2 -25 foot CNG Hose with Couplers
- 1 - 4 foot CNG Hose with Couplers & Valve
- Wiring Harness w/Connections



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(765) 524-4848
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www.ResponderTraining.com

PROUDLY

Made in USA

WARNING

DO NOT utilize this assembly without a functioning high pressure control valve.

Connect to the RTE CNG kit supplied hose and gauge assembly. Designed to be only used on a vertical flare system with 4 legs/supports.

Thank you for purchasing our Compressed Natural Gas Vent/Flare Connector Kit. My intention in creating and producing this product was to provide response and service organizations with a quality tool that would exceed anything else currently on the market and last the owner for years to come.



As a career and a volunteer firefighter, I know how important it is to respond with the tools you need to get the job done quickly and safely.

If you have any questions, concerns or comments please contact me.

Be safe brothers and sisters

Ronald D. Huffman
Owner, Responder Training Enterprises, LLC
(765) 524-4848 Mobile

Designer, manufacturer and distributor of this and many other response tools.

*Call me anytime for response tools or our one-of-a-kind propane training course, “**Propane Response – 101 to Advanced Tactics**”*

*Photo of the “**Dragon**” looking down on me during a Propane Live Fire class taught in Greenfield IN.*



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Warranty: 12

Manufacturer Liability Limitation: 12

READ AND FOLLOW ALL SAFETY INFORMATION

IF YOU ARE UNSURE STOP!

RE-READ THE INSTRUCTIONS OR

CONTACT RESPONDER TRAINING ENTERPRISES

FOR ASSISTANCE

Specifications

Name: Compressed Natural Gas Vent/Flare Kit
SKU: CNG-2.0

Product: CNG / Natural Gas
Use with any other material voids all warranties expressed or implied.

Highlighted text: Indicates special attention should be applied to the information provided

IMPORTANT: Prior to operating the CNG to Propane Flare Kit and any of its accessories you must fully read, understand and follow the information in this document. IF YOU ARE UNSURE OF HOW TO CONDUCT ANY FUNCTION OR OPERATION "STOP", CONSULT THIS DOCUMENT OR CONTACT RESPONDER TRAINING ENTERPRISES, LLC. FOR CLARIFICATION.

FLARING OPERATIONS ARE INHERENTLY DANGEROUS. Failure to follow the appropriate safety measures could result in serious injury or death. In addition to this product literature all appropriate Local, State and Federal codes, regulations and guidelines must be identified and followed at all times.

Only personnel that have received proper training and understand the proper use of this product(s) and associated equipment should operate the Responder Flare and/or any of its accessories during training or incident response.

WEAR APPROVED PPE INCLUDING: GLOVES, BODY, HANDS, EYES and RESPIRATORY PROTECTION DURING SET-UP AND OPERATIONS.



A copy of this document should be kept with the CNG Kit at all times

Read before using the warranty, liability and additional special information found at the end of this document.

Set-Up and Assembly

1. Open the storage case and remove the equipment needed for the operation.
2. Based on local SOP/SOG's and incident needs, connect the hose to the system.
 - a. Make the connection to the vehicle using either the hose's quick connector or one of the kits included connectors.



ITEM#	Description
6	3/8" NPTF Male x 3/8" NPTF Male
7	3/8" Male Coupler x 3/8" NPTF Female Thread
8	RESERVED
9	1/4" SS Relief Valve 350 PSI
10	Hex Reducing Bushing, 1/2" NPTF Male x 3/8" NPTF Female
11	Brass Adapter 1-3/4 Male ACME X 1/2 Female NPT
12	SAE O-Ring Boss ORB Male x NPTF Male 90 degree Elbo
13	SAE O-Ring Boss ORB Male x NPTF Male 90 degree Elbo
14	3/8" ORB (9/16"-18 thread) Male x 1/4" Male Pipe
15	1/2" ORB (3/4"-16 thread) Male x 3/8" Male Pipe
16	3/8" NPTF Male x 1/4" NPTF Male
17	1/4" Tube Fitting x 3/8" Male NPT Connector - 316 Stainless
18	3/8" Tube Fitting x 3/8" Male NPT Connector - 316 Stainless
19	1/2" Tube Fitting x 3/8" Male NPT Connector - 316 Stainless
20	#8 SAE/ORB Hex Head Plug
21	#6 SAE/ORB Hex Head Plug
22	#4 SAE/ORB Hex Head Plug
23	3/8" NPTF Male x 1/4" NPTF Male
24	1/4" Female Coupler x 1/4" NPTF Female, Steel
25	1/2" Tube Ferrule Set - 316 Stainless
26	3/8" Tube Ferrule Set - 316 Stainless
27	1/4" Tube Ferrule Set - 316 Stainless
28	SLOK SWIVEL/MALE NPT
29	FS2404-06-06 3/8" ORFS Male x 3/8" NPTF Male
30	Solenoid Valve Troubleshooting Magnet Tool

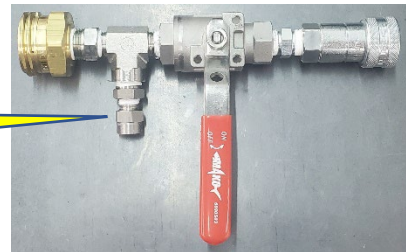
3. Connect the “Pressure Gauge/Valve Assembly” to the appropriate connector.

Pressure Gauge/Valve Assembly →



4. Select the desired attachment based on the desired discharge pressure.
 a. 350-psi Direct Vent Valve assembly

Caution
Pressure
Relief Device



WARNING
Keep away from the
Pressure Relief Discharge
 Wear approved Personal Protection
 Equipment including EYE, Face and
 Body Protection

WARNING
OPEN THE SOURCE VALVE SLOWLY
DO NOT EXCEED 350 psi!!!
 If the Pressure Relief Device has
 activated IMMEDIATELY reduce the
 pressure/flow.

- i. This device has been designed to allow discharge pressure to be managed using the valve to throttle discharge flow.
1. Operation – with the valve in the closed position (pictured) connect the assembly to the Pressure Gauge Assembly
 2. Connect a flare with a 4 – legged base. Do NOT discharge CNG at higher pressures (100 psi and higher) in any direction other than straight up.
 3. SLOWLY open the valve until the desired discharge pressure is reached or the pressure relief activates.
 - a. NOTE: The assembly contains a 350-psi relief valve that will provide an audible alert when the max pressure is reached.
 - b. **DANGER: DO NOT** place any body parts in front of the discharge port.

VENTING/FLARING

Best practice - vent up and away from an elevated position? Common sense tells us that venting or flaring a lighter than air ignitable gas any other direction is not as safe.

Direct Vent Tip

ii. The Direct Vent Tip allows full tank pressure to be released VERTICALLY to atmosphere. This tactical option is the safest option. Our unit is designed to be used with the 1-inch Responder Flare (aka The Dragon Slayer) as shown.

1. Connect the Direct Vent Tip to the end of the high-pressure hose supplied with in the kit.
2. Slide the CNG Direct Vent Tip onto the main pipe of the 1-inch Responder Flare above the Propane Pilot Burner.



Direct Vent Assembly

NOTE: All flares should be stabilized and secured when used.

CNG Defueling Auxiliary Wiring Kit

The Compressed Natural Gas Vent/Flare Kit includes a 12VDC wiring harness to activate tank solenoids. Extreme caution must be used when working with CNG tanks.



Electrical Connection options: The wiring kit includes several connection options. Power supply options include a 20' cable with cigarette, battery clip and off/on switch options. And the following

- 1 - OMB Female Pigtail
- 1 - Rotarex Solenoid Pigtail
- 1 - OMB Solenoid Pigtail
- 1 set - Small Alligator Clips
- 1 set - Battery Clips
- 2 - Blank ends
- 1 set - 1/8 round pin ends
- 1 spare fuse

Flaring Operations

Prior to starting a flaring operation ensure that a clear burn area capable of supporting the estimated radiant heat in all directions is available.

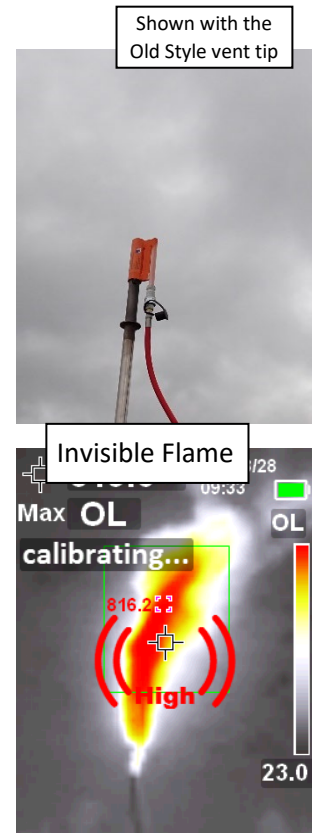
Final Inspection Before Ignition

1. Prior to igniting the flare ensure that all connections are tight/secure.
2. Ensure that all soft components are protected from sharp edges that may rub and cause damage.
3. Ensure that your flare is stable.
4. Ensure that all areas are clear of ignitable materials including items susceptible to radiant heat damage such as vinyl siding, painted items, plastics, glass, etc...
5. Verify that all personnel and others are in a safe area and are aware of operational tactics and hazards.

FLARING OPERATIONS MUST BE MONITORED CONTINUOUSLY.

NEVER LEAVE A FLARING OPERATION UNATTENDED.

FOLLOW ALL SAFETY RULES

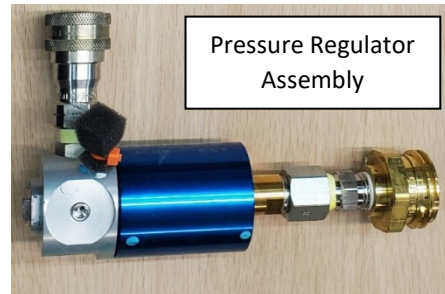


Before using this equipment, you must be trained in defueling operations for mounted and/or unmounted CNG tanks/cylinders. As you will see from the images below there are numerous configurations and designs from multiple manufacturers.

OPTIONAL Equipment

Pressure Regulator Assembly (Optional)

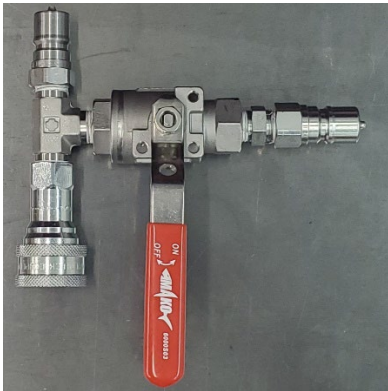
- i. Connect the Regulator Assembly to the Pressure Gauge Assembly
- ii. Connect your propane flare.
- iii. Slowly open the control valve on the Gauge Assembly. (full open provides 135 psi discharge pressure)



Additional lengths of CNG hose with Quick Connectors



2-port Manifold with Quick Connectors for dual flare operations



HIGH PRESSURE GAUGE
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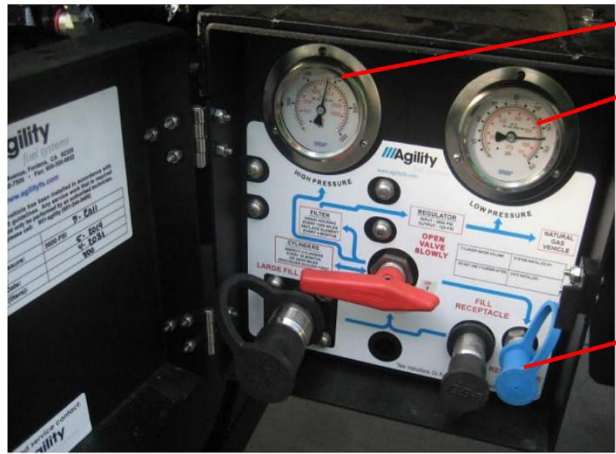
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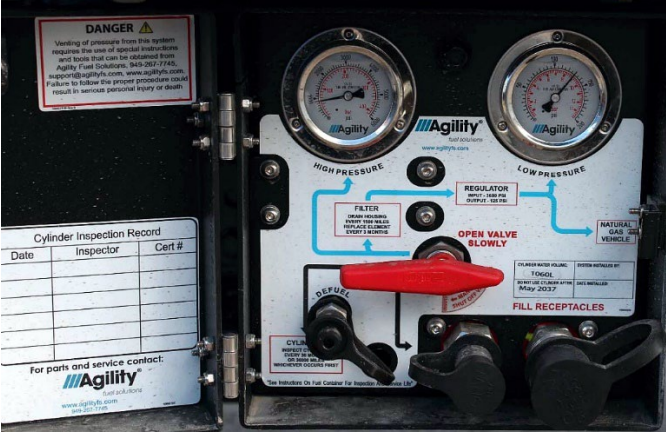
FILL RECEPTACLE
Slow fill shown

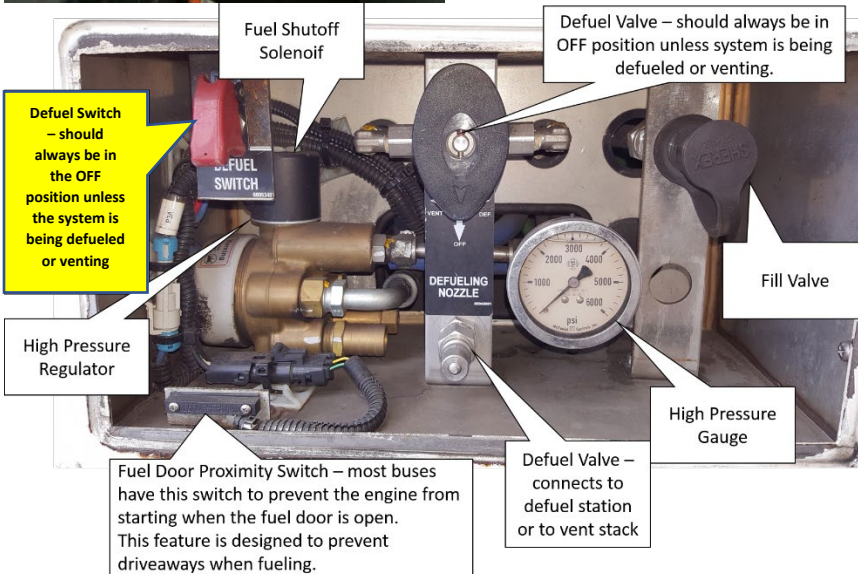
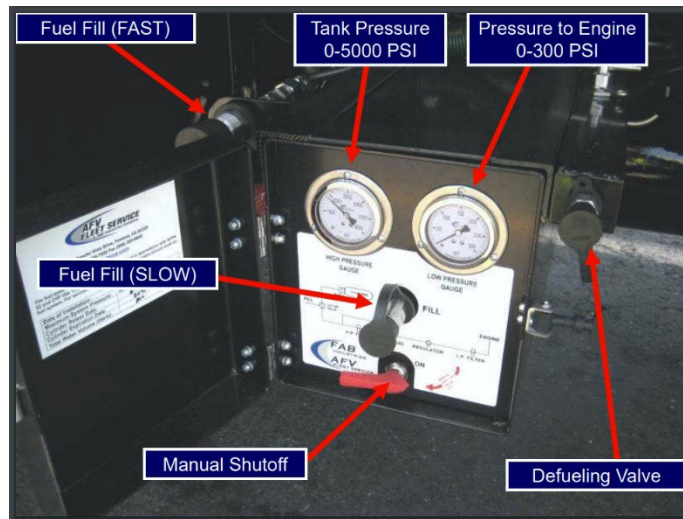


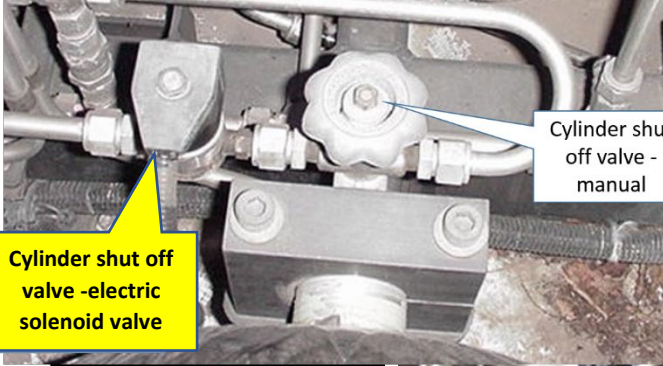
High pressure gauge

Low pressure gauge

Defueling connection



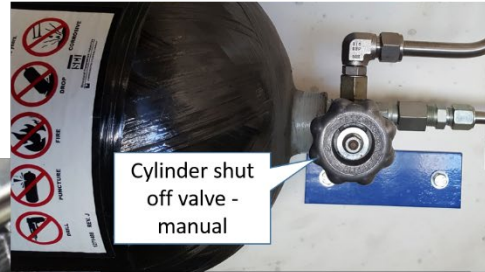




Cylinder shut off valve -electric solenoid valve

Cylinder shut off valve - manual

Cylinder with two shut off valves



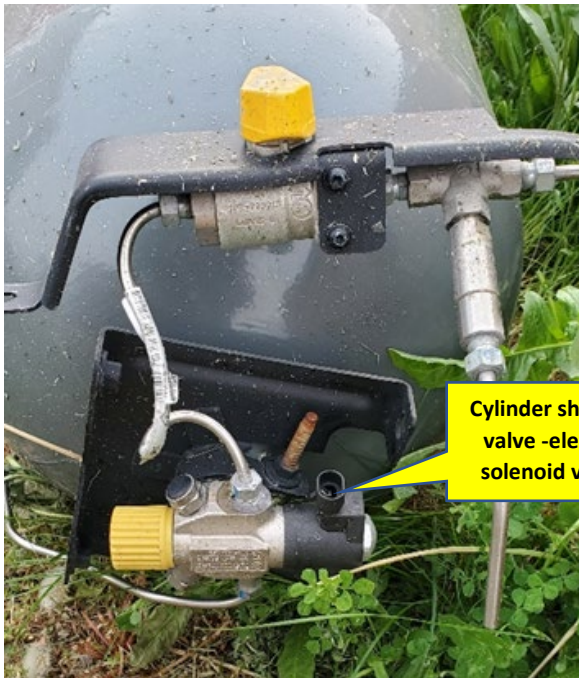
Cylinder shut off valve - manual

Cylinder with manual shut off valves

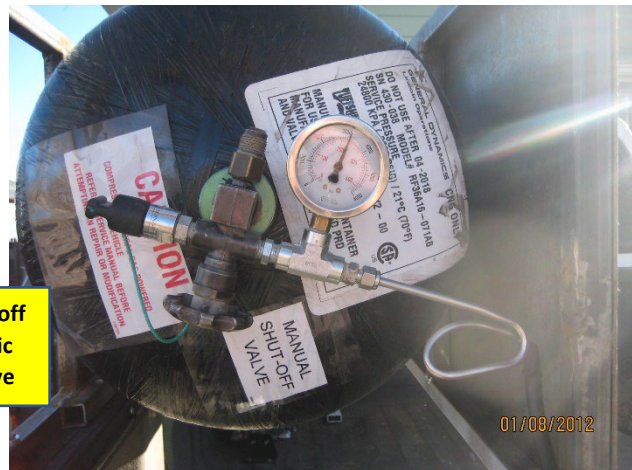


Cylinder shut off valve -electric solenoid valve

Cylinder with electric shut off valves



Cylinder shut off valve -electric solenoid valve



Use of any Responder Training Enterprises, LLC provided, manufactured equipment constitutes acceptance of the terms and conditions listed in this document.

Warranty: This warranty and use of the product(s) applies to the original purchaser. The manufacturer guarantees all components against failures in materials and/or workmanship for a period of **1 year** from the date of purchase. If any part of the purchased system fails due to materials and/or workmanship the purchaser must contact Responder Training Enterprises, LLC (RTE) for repairs, replacement, or refund of the original purchase price of the defective component at the discretion of RTE. RTE may require that the defective component be returned for inspection and repairs. The purchaser must contact Responder Training Enterprises to obtain a Return Goods Authorization number (RGA) prior to returning any component of the system. If the damaged item is deemed to be the result of improper use or neglect, RTE reserves the right to charge for service and/or repairs including shipping to and from RTE.

Do not ship items to anyone other than Responder Training Enterprises.

This warranty does not cover consequential damages resulting from the use of the product, including damage caused by flames or heat created during operations, loss of service availability and/or time involved due to warranty issues.

Manufacturer Liability Limitation: Failure to use this product in any manner or purpose other than intended by the manufacturer and/or for products other than identified or described and/or servicing the equipment by anyone other than Responder Training Enterprises, LLC employees or persons trained by Responder Trainings Enterprises, LLC to conduct service on the equipment and/or applying or installing unapproved alterations to any part of the system voids the warranty and releases the manufacturer from any and all liabilities including damages to equipment, property, injuries and/or death caused by the use of the product and any of its accessories.

NOTE: Retailers are not responsible for this product in any way other than supplying the product(s) as promised. Retailers, persons, agencies, companies and/or corporations providing advertising may not be held liable for manufacturer defects in materials and/or workmanship, improper training unless the training was provided by the aforementioned and/or use of the equipment by the end user for statements and/or advertising made available by Responder Training Enterprises, LLC in any way.

If for any reason the equipment fails to function as intended, please contact Responder Training Enterprises, LLC immediately so that we can help you.

Thank you for purchasing this quality product.

Ronald D. Huffman

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TRAINING and EQUIPMENT
FOR RESPONDERS
BY
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