



CHEMTANE[®]

The Cutting Fuel for Cutting Cost

Injection Cylinder Operating Manual



CHEMTANE ENERGY, LLC
"ENVIRONMENT FRIENDLY ADDITIVE SOLUTIONS"



The cutting fuel for cutting cost.

CE-Injection Cylinder Kit

- **Instruction Manual**
- **4.8 gallon DOT approved aluminum LPG cylinder**
- **Brass Unloading Adapter , Rego**
Part # 3119 A
- **3 ft. LPG hose**
(For equalizing pressure between Tank & Inj. Cylinder)
- **1 gallon Plastic Jug**
(For precise measuring and transferring C2 Concentrate from drum to Injection Cylinder)
- **Plastic funnel**
(For adding C2 Concentrate to Injection Cylinder)
- **3/4" Ball Valve**
(For C2 Concentrate drum)





The cutting fuel for cutting cost.

Chemtane 2 **Mixing Ratios**

Cylinder/ Size Nominal (Lbs.)	Propane (Gallons)	Concentrate fl oz	Concentrate Gallons
6	1.5	1	0.008
25	6	3.8	0.030
60	14	9	0.070
100	23	14.7	0.115
400	100	64 (1/2 Gal.)	0.5
800	200	128 (1 Gal)	1
2,000	500	320	2.5
4,000	1,000	640	5
12,000	3,000	1920.0	15
40,000	10,000	6400.0	50

For all Safety and Handling Procedures, please refer to Chemtane 2 concentrate MSDS. For chemical spill, leak, accident, or fire exposure notify Chemtrek (24hr. 800-424-9300). Please note that Chemtane 2 concentrate is a flammable liquid and should not be near open flames.

Chemtane 2 concentrate weighs 5.24 pounds per gallon.



The cutting fuel for cutting cost.

Injection Cylinder PARTS IDENTIFICATION

Injection Cylinder

ACME Check Connector

Rego Part # 7141F

3/4" Ball Valve

Unloading Adapter

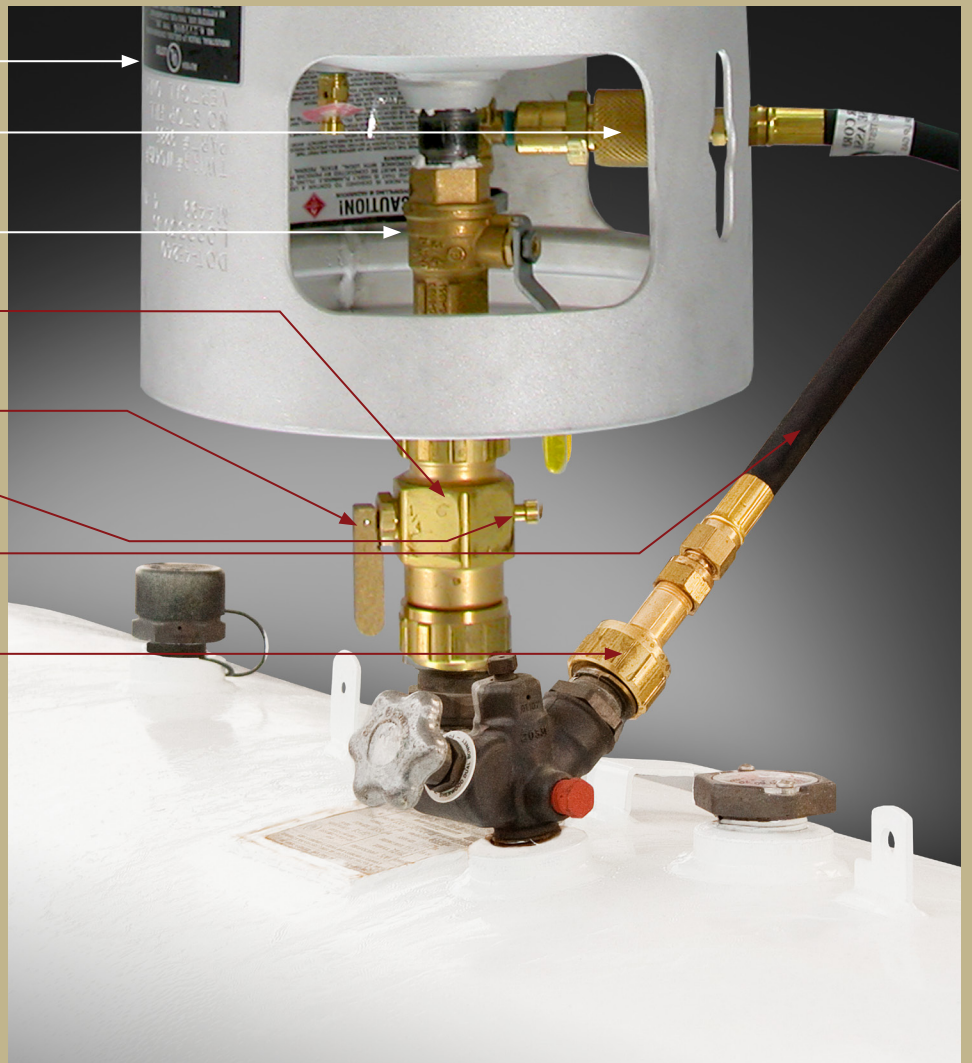
Part # 3119A

Unloading Adapter Handle

Unloading Adapter Bleeder

3/8" X 3 ft. LPG Vapor
Equalization Hose

This end of the Vapor
Equalization Hose can be
fitted with either, M. POL
(CGA 510) or 1-1/4" F. ACME
Rego Part # 3171-C





The cutting fuel for cutting cost.

Injection Cylinder

OPERATING INSTRUCTIONS

STEP 1

- With the Unloading Adapter removed from the Injection Cylinder, slowly open the ball valve on the Injection Cylinder. Then insert the hose end of the funnel completely into the ACME fitting above the ball valve (Note: the blue connection between the hose and the funnel itself needs to be in the open position by turning it in a counter clockwise direction.)
- Using the mixing ratio chart, add the necessary amount of C2 Concentrate to injection cylinder.
- After adding C2 Concentrate to Injection Cylinder, close ball valve.

STEP 2

- With the pin pointing down and the handle of the Unloading Adapter pointing upward, attach Unloading Adapter to the fill valve on top of the Bulk Tank to be injected. (hand tighten only)
- Using a flat head screw driver, through the top of the Unloading Adapter, screw pen clock wise (downward) until it touches the liquid fill valve and then back pen off counter clock wise ½ revolution.
- Invert Injection Cylinder and set the ACME fitting end on the Unloading Adapter by holding the Injection Cylinder with one hand and hand tightening the ACME fitting on Injection Cylinder with your other hand. (hand tighten only)
- Connect one end of Vapor Equalization Hose to the Injection Cylinder and the other end to the Bulk Tank. (Each end of the vapor equalization hose has the necessary connection to match the vapor valves on both the Injection Cylinder and bulk tank)

STEP 3

- Open the vapor valve on the Injection Cylinder SLOWLY. (pressure will equalize between the bulk tank and Injection Cylinder).
- Open the ball valve on the Injection Cylinder.
- Turn the handle on the Unloading Adapter to the down position (towards the ½ marking on the Unloading Adapter). With the pressure equalized between the Bulk Tank and Injection Cylinder, the C2 concentrate will gravity fill into the tank.
- The injection cylinder should empty within 5 minutes. To determine if the Injection Cylinder is empty of C2 Concentrate, open the bleeder valve on the Unloading Adapter SLOWLY. When Injection Cylinder is empty of all C2 Concentrate only vapor will come out of the bleeder valve.

STEP 4

- When Injection Cylinder is empty of C2 Concentrate, close ball valve and vapor valve on the Injection Cylinder.
- Turn the handle on the Unloading Adapter to the up position.
- Bleed off vapor pressure in the Unloading Adapter by opening the bleeder valve on the Unloading Adapter.
- Disconnect the Vapor Equalization Hose by first disconnection the end on the Injection Cylinder. Then disconnect the end on the bulk tank.
- While holding Injection Cylinder with one hand, unscrew the end of the unloading adapter that is connected to the fill valve on the bulk tank and remove Injection Cylinder.



The cutting fuel for cutting cost.

Step 1

- With the Unloading Adapter removed from the Injection Cylinder, slowly open the ball valve on the Injection Cylinder.
- Then insert the hose end of the funnel completely into the ACME fitting above the ball valve (Note: the blue connection between the hose and the funnel itself needs to be in the open position by turning it in a counter clockwise direction.)
- Using the mixing ratio chart, add the necessary amount of C2 Concentrate to injection cylinder.
- After adding C2 Concentrate to Injection Cylinder, close ball valve.

Photo A



Photo B



Photo C



Cylinder Size (Poundal Limit)	Propane Fuelflow	Concentrate # cc	Concentrate Gallons
5	1.5	1	0.008
10	3	2	0.016
20	6	4	0.032
30	9	6	0.048
40	12	8	0.064
50	15	10	0.080
60	18	12	0.096
70	21	14	0.112
80	24	16	0.128
90	27	18	0.144
100	30	20	0.160
150	45	30	0.240
200	60	40	0.320
250	75	50	0.400
300	90	60	0.480
350	105	70	0.560
400	120	80	0.640
450	135	90	0.720
500	150	100	0.800
550	165	110	0.880
600	180	120	0.960
650	195	130	1.040
700	210	140	1.120
750	225	150	1.200
800	240	160	1.280
850	255	170	1.360
900	270	180	1.440
950	285	190	1.520
1000	300	200	1.600

For all Safety and Handling Precautions, please refer to Chemtane 2 concentrate MSDS. For chemical spill kits, please refer to the appropriate Chemtane Chemical Spill Kit (CSK) MSDS. Please note that Chemtane 2 concentrate is a flammable liquid and should be stored in approved containers.
Chemtane 2 concentrate weighs 5.24 pounds per gallon.



The cutting fuel for cutting cost.

Step 2

- With the pin pointing down and the handle of the Unloading Adapter pointing upward, attach Unloading Adapter to the fill valve on top of the Bulk Tank to be injected. (hand tighten only)
- Using a flat head screw driver, through the top of the Unloading Adapter, screw pen clock wise (downward) until it touches the liquid fill valve and then back pen off counter clock wise ½ revolution.
- Invert Injection Cylinder and set the ACME fitting end on the Unloading Adapter by holding the Injection Cylinder with one hand and hand tightening the ACME fitting on Injection Cylinder with your other hand. (hand tighten only)
- Connect one end of Vapor Equalization Hose to the Injection Cylinder and the other end to the Bulk Tank. (Each end of the vapor equalization hose has the necessary connection to match the vapor valves on both the Injection Cylinder and bulk tank)

Photo A

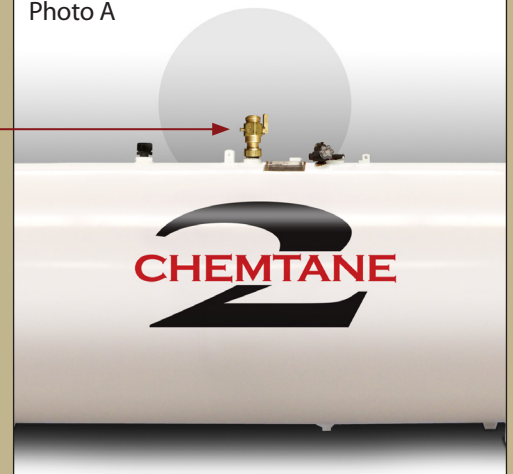


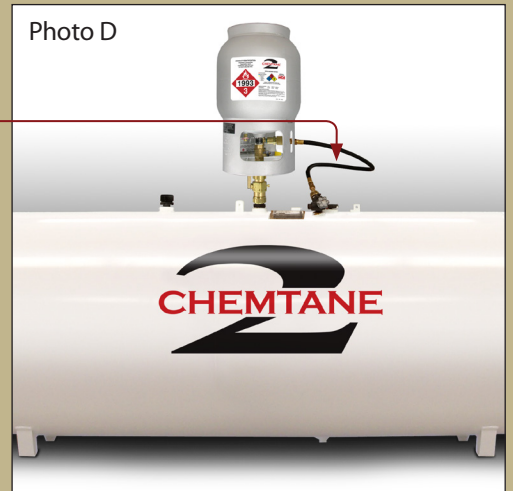
Photo B



Photo C



Photo D

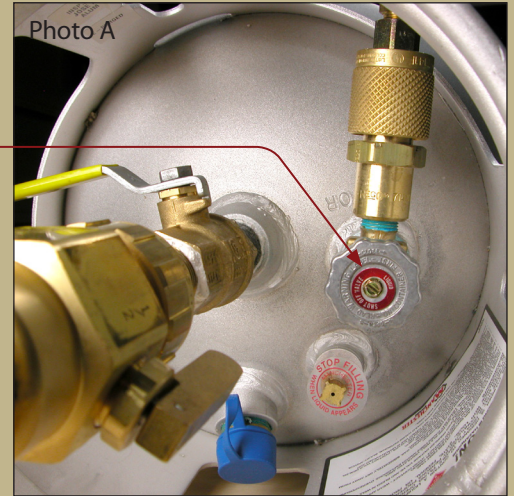




The cutting fuel for cutting cost.

Step 3

- Open the Vapor Valve on the Injection Cylinder SLOWLY. (pressure will equalize between the bulk tank and Injection Cylinder).
- Open the Ball Valve on the Injection Cylinder.
- Turn the handle on the Unloading Adapter to the down position (towards the ½ marking on the Unloading Adapter). With the pressure equalized between the Bulk Tank and Injection Cylinder, the C2 concentrate will gravity fill into the tank.
- The injection cylinder should empty within 5 minutes. To determine if the Injection Cylinder is empty of C2 Concentrate, open the bleeder valve on the Unloading Adapter SLOWLY. When Injection Cylinder is empty of all C2 Concentrate only vapor will come out of the bleeder valve.





The cutting fuel for cutting cost.

Step 4

- When Injection Cylinder is empty of C2 Concentrate, close ball valve and vapor valve on the Injection Cylinder.
- Turn the handle on the Unloading Adapter to the up position.
- Bleed off vapor pressure in the Unloading Adapter by opening the bleeder valve on the Unloading Adapter.
- Disconnect the Vapor Equalization Hose by first disconnecting the end on the Injection Cylinder. Then disconnect the end on the bulk tank.
- While holding Injection Cylinder with one hand, unscrew the end of the unloading adapter that is connected to the fill valve on the bulk tank and remove Injection Cylinder.



Photo A



Photo B

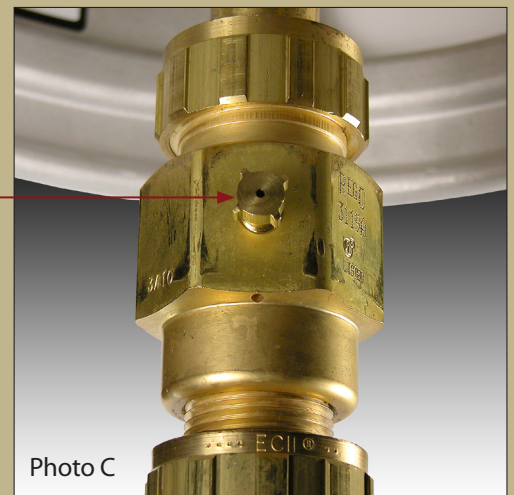


Photo C