

Carlin®

Combustion Technology

MODEL
702CRD
Oil Burner

Instruction Manual

WARNING Installer/servicer – Except where specifically stated otherwise, this manual must be used only by a qualified service technician. Failure to comply with this or other requirements in this manual could result in severe personal injury, death or substantial property damage.

WARNING User – The burner Instruction Manual is intended only for your service technician. The burner and heat exchanger must be inspected and started at least annually by your service technician.

NOTICE The National Oilheat Research Alliance (NORA) recommends single pipe oil systems and high-quality filtration for all fuel types. This should include at least a 10 micron Spin-on filter. Double filtration provides even greater assurance clean fuel will get to the pump. Contaminants in the tank that enter the fuel supply to the burner can cause pump sticking/seizing. These contaminants may increase in the early stages of transitioning to modern fuels (Ultra Low Sulfur and Bio Blends). High quality filtration adds protection against pump sticking.

Certification

702CRD burners are U.L. listed for the U.S. and Canada, certified to comply with ANSI/UL 296, for use with #1 or #2 heating oil as well as bio blends not exceeding B20 (U.S. Only) (per standard ASTM D396).

Burner labels list compliance, when required, with special local, state or provincial approvals.

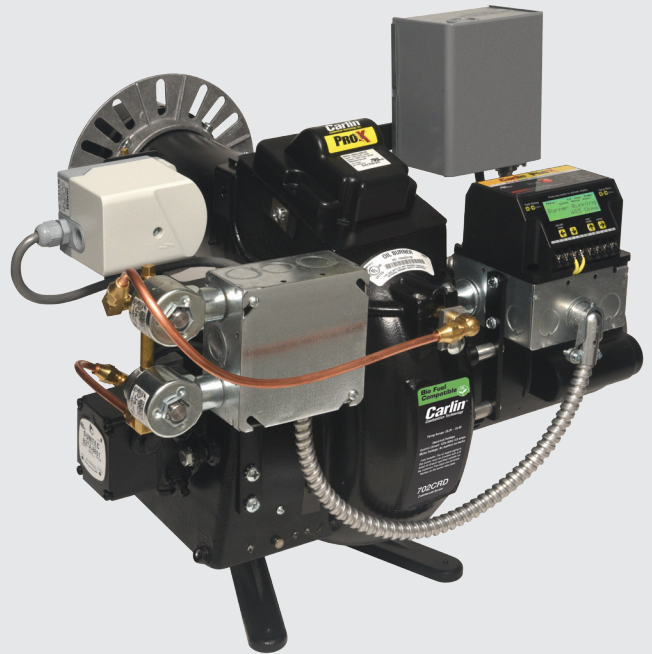
NOTICE Install this burner in accordance with all local codes and authorities having jurisdiction. Regulations of these authorities take precedence over the general instructions provided in this manual.

United States installations

Burner/appliance installations in the United States must comply with the latest editions of NFPA 31 (Standard for the Installation of Oil-Burning Equipment), ANSI/NFPA 70 (National Electrical Code), and all applicable local codes.

Canadian installations

Burner/appliance installations in Canada must comply with the latest editions of CSA B139 (Installation Code for Oil Burning Equipment), CSA standard C22, Part 1 (Canadian Electrical Code), and all applicable local codes.



Firing Range	6.00-13.00 GPH
Fuel Specification.....	No. 1 or No.2 Fuel Oil Including Bio Blends not exceeding B20 (U.S ONLY)
Electrical:	Motor: 1/2 hp, 3450 rpm, 115/208-230V, 60 Hz
Control:	Carlin Pro-X 70200, 120V, 60Hz
Ignitor:	Carlin Pro-X 45000 Solid State Ignitor, 19,000 volts
Blower Wheel Dia. x Width	6½" X 3¾"
2-stage, 2-step fuel unit.....	Low Fire: 100-150 psi / High Fire: 300 psi
Oil Valve Volts	120 V, 60 Hz



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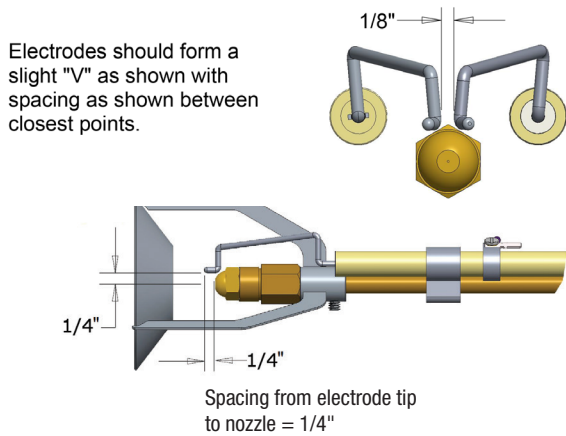
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1. Preparing/Installing the Burner

NOTICE If the burner is shipped in multiple cartons you will need to install the air tube on the burner housing

1. Remove the air tube and nozzle line assembly from the smaller carton.
2. Remove the burner housing from the larger carton.
3. Install the air tube into the burner housing, make sure the air tube is fully seated. Tighten air tube to chassis using the allen screws provided. NOTE: If using universal/adjustable flange, be sure to install flange on the air tube before securing tube to the housing.
4. Using the Carlin OEM guide (burner setup tables) for listed appliances, select and install the appropriate nozzle on the nozzle line assembly using two wrenches. Be careful not to move or damage the electrodes when doing this.
5. Verify and adjust the burner's electrode settings using Figure 1 below.

Figure 1 Electrode settings



6. Open the ignitor cover plate and slide the nozzle line assembly into the air tube. The flame retention ring must be lifted and guided through the throttle ring (a reduced diameter) in the end of the air tube (see figure 2 below).
7. Install the adjusting screw in the back of the burner chassis and place the nozzle line yoke in the groove in the adjusting screw [see fig. 3 on this page]

Figure 2 Inserting combustion head assembly

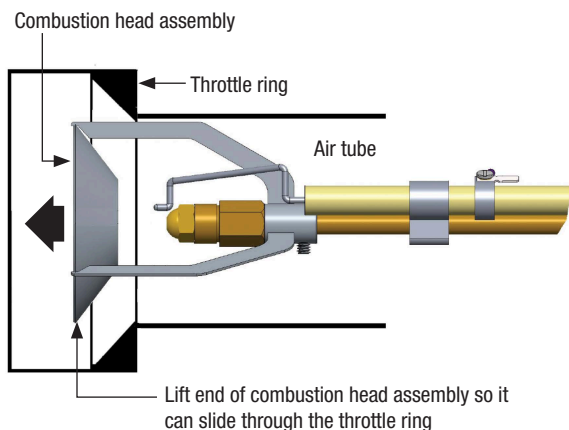
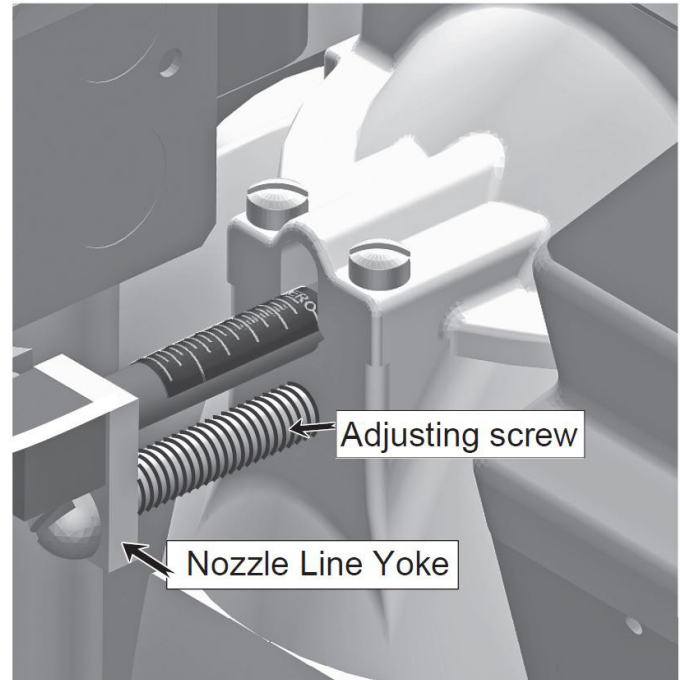


Figure 3 Installing adjusting screw



8. Connect the high-tension leads to the ignitor terminals. Make sure the wires don't get into the fan when closing ignitor cover plate.
9. Adjust the burner head to the preliminary head setting listed in the Carlin OEM Guide (Burner Set Up Tables) or using Table 1 below.
10. Close ignitor cover plate. Make sure wires from ignitor don't get into the motor fan when closing. Screw down the ignitor cover plate.
11. Using two wrenches, connect the flared fitting on the copper oil line to the nozzle assembly and tighten

TABLE 1
NOZZLE DATA AND COMBUSTION HEAD SETTINGS

Nozzle Size	Low Fire Pres.*	Low Fire Rate GPH	Heat Setting "A" (inch)	Low Fire "X" Air Open (inch)	Siemens Blue Cam Setting	High Fire Pres.**	High Fire Rate
3.50	100	3.50	0	3/8	25	300	5.95
3.75	100	3.75	1/16	3/8	25	300	6.38
4.00	100	4.00	1/8	3/8	25	300	6.80
4.50	100	4.50	3/16	3/8	25	300	7.65
5.00	100	5.00	1/4	3/8	25	300	8.50
5.50	100	5.50	5/16	3/8	25	300	9.35
6.00	100	6.00	7/16	7/16	27	300	10.20
6.50	100	6.50	5/8	7/16	27	300	11.05
7.00	100	7.00	7/8	1/2	30	300	11.90
7.50	100	7.50	1 1/4	1/2	30	300	12.75

*The "low-fire" pump pressures shown are recommended. If higher low-fire inputs are desired for a given situation, the low-fire pressure can be increased only up to 200 PSI. Higher low-fire pressures will require higher low-fire air openings.

**The "high-fire" pressure is set at the factory to 300 psi. This is the maximum UL rating for the fuel unit, so higher pressures are not recommended.

Flange Dimensions

Figure 4a Standard adjustable flange (universal flange)

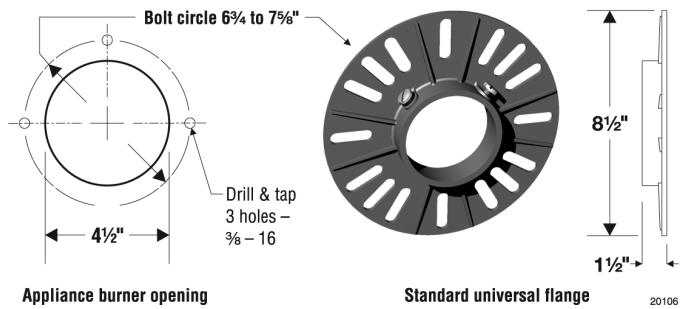
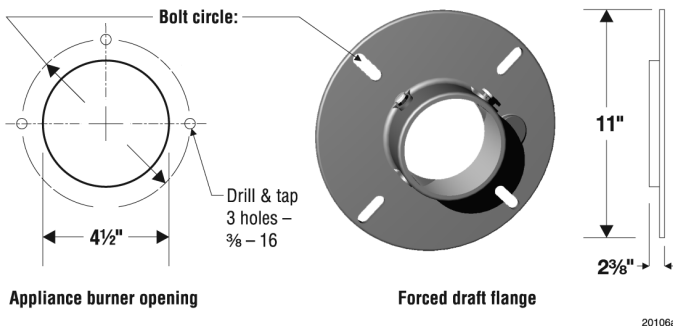


Figure 4b Adjustable forced draft flange



Wiring

Refer to the diagram shipped with the burner for all installation wiring.

Ventilation

Boiler room areas of commercial buildings of normal construction generally do not allow for sufficient air infiltration. Provision must be made for an outside air supply to the boiler room area. This is required because combustion of oil consumes about 30 cfm of air per 1 GPH input. To ensure an adequate air supply, provision must be made for 30 cfm per 1 GPH plus 50% additional for draft regulator.

Example:

Burner is firing at 6.00 GPH. $6 \times 30 = 180$ cfm. Add 50% = 270 cfm. Install an opening of approximately 30 sq. in. free area per 1 gallon per hour input. When louvers are used, consider the free area half of the total.

Example:

Firing 6.00 GPH free area = $6 \times 30 = 180$ sq. in. A louvered opening would be $180 \times 2 = 360$ sq. in. gross. Fresh air louvers must be above ground level to prevent obstruction by leaves and snow.

Installing the Burner: Adjustable Flange Mounted

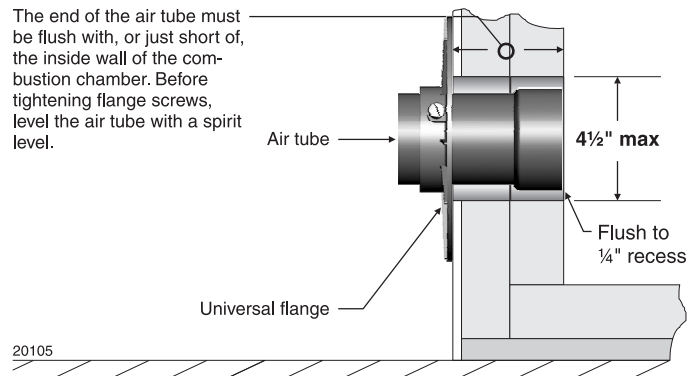
See flange dimension and measurements in Figures 4a and 4b, this page.

1. Measure, in the burner opening, the distance from the inside of the combustion chamber to the outside of the mounting plate to find the insertion length of air tube needed. Position flange (with sleeve inside, see Figure 5) on air tube at a point from end of burner corresponding to this measurement. Tighten set screws to anchor flange. The flange is now located so that the end of the burner will be flush, or almost flush, with the inside of the combustion chamber.
2. Slide the end of the air tube into the opening and secure the flange to the front plate.
3. From the outside of the unit, seal the space around the air tube and flange with high temp silicon or 1/4" fiberglass roping.

Installing the Burner: Pedestal Mounted

1. Adjust the pedestal so that the height of the air tube matches the location of the burner opening.
2. Slide the end of the air tube into the opening so that it is flush or nearly flush with the inside of the combustion chamber.
3. From the outside of the unit, seal the space around the air tube with furnace cement or equivalent.

Figure 5 Mark insertion depth on air tube when using universal flange mounting



Firing Boilers with Combustion Chambers

The 702CRD burner operates with superior efficiency and cleanliness in properly designed refractory-type combustion chambers (Figure 6a). Very wide tolerance to burner adjustments and other variables is found when these chambers are used.

Table 2 shows the recommended minimum inside dimensions for refractory brick, refractory pre-cast and pre-formed refractory fiber chambers. Due to their quick warm-up properties, the light, insulating-type materials are slightly preferable although these burners show less dependence upon refractory temperature than previous models. Refractory materials in boilers and furnaces should be capable of withstanding 2600°F (1427°C) or higher.

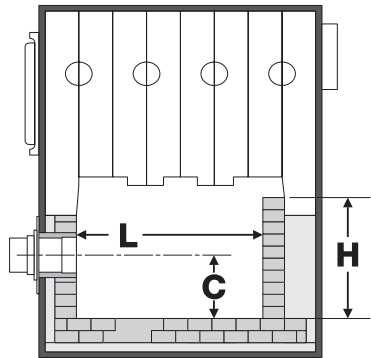
The note accompanying Table 2 provides further details relative to variations in dimensions and geometry.

TABLE 2
MINIMUM DIMENSIONS RECOMMENDED IN REFRACTORY COMBUSTION CHAMBERS (Inches)

High Fire Oil Delivery Rate GPH @ 300 PSI	Length "L"	Width "W"	Dim. "C"	Suggested Height "H"	Min. Dia. Vertical Cylinder
5.95	19	13.5	7.0	13	17
6.80	23	14.5	7.0	14	21
7.65	27	15.0	7.5	15	25
8.50	32	15.5	8.0	15	30
9.35	34	16.0	8.0	16	32
10.20	35	16.0	8.0	16	33
11.05	37	16.5	8.5	16	35
11.90	48	16.5	8.5	16	46
12.75	55	16.5	8.5	16	53

Note: These are minimum dimensions and each may be exceeded without much effect.

Figure 6a Refractory combustion chamber (side view)



Firing Boilers without Refractory Chambers

Depending upon the geometry of the combustion space, some units perform better than others without refractory (Figures 7a and 7b). When the back wall of the unit coincides approximately with the end of the flame, a target of refractory material is usually required.

Table 3 shows minimum dimensions required for good combustion without refractory. They may be exceeded without much effect.

TABLE 3
MINIMUM DIMENSIONS RECOMMENDED IN BOILERS FIRED WITHOUT COMBUSTION CHAMBERS (Inches)

High Fire Oil Delivery Rate GPH @ 300 PSI	"L" With Target	"L" Without Target	Width "W"	Dim. "C"	Dim. "D"
5.95	19	23	15.5	8.0	10.0
6.80	23	27	16.5	8.0	10.0
7.65	27	32	17.0	8.5	10.5
8.50	32	37	17.5	9.0	11.0
9.35	34	40	18.0	9.0	11.0
10.20	35	41	18.0	9.0	11.0
11.05	37	43	18.5	9.5	11.5
11.90	48	54	18.5	9.5	11.5
12.75	55	61	18.5	9.5	11.5

Figure 7a Wet leg boiler. No combustion chamber (side view).

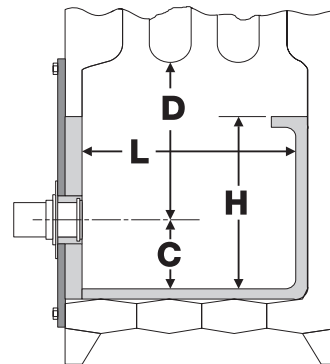
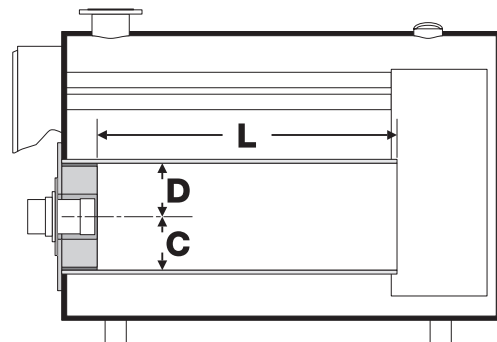


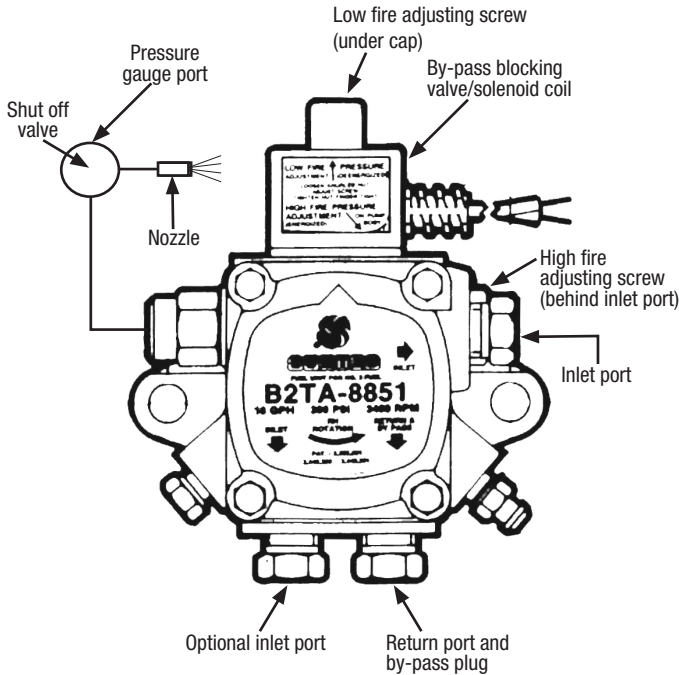
Figure 7b Scotch Marine boiler. No combustion chamber.



Fuel Unit and Oil Lines

The 702CRD burner is provided with a two-stage dual pressure fuel unit. *Low-fire* operating pressure is factory set at 100 PSI and can be adjusted by turning the slotted screw located on top of the solenoid coil on the pump (See Figure 8). The *high-fire* operating pressure is 300 psi. The high pressure is adjusted by the screw opposite the nozzle port on the pump while the burner is in the *high-fire* mode.

Figure 8 Two-stage Dual Pressure Fuel Unit



A single-pipe system is recommended whenever the bottom of the fuel tank is above the burner or is at the same level as the burner. This includes outdoor fuel tanks that are at such levels. The length of run should not exceed 100 ft. and the vacuum should not exceed 12" mercury. Be sure the by-pass plug has been removed for single-pipe systems.

A two-pipe system is recommended when the fuel tank is below the level of the burner, and the fuel unit must pull (lift) the fuel up to the burner. The vacuum reading should not exceed 12" mercury. For two-pipe installations the by-pass plug must be installed.

Table 4 shows, for the standard two-stage fuel unit, the allowable lift and lengths of 3/8" and 1/2" OD tubing for both suction and return lines in two-pipe systems.

TABLE 4
TWO-PIPE SYSTEMS

Lift (Feet)	Length of Tubing (Feet)	
	3/8" OD	1/2" OD
0	41	100
2	37	100
4	32	100
6	28	100
8	24	96
10	20	80
12	16	64
14	—	48
16	—	32

Be sure that all oil line connections are absolutely airtight. Check all connections and joints. Flared fittings are recommended. Do not use compression fittings.

Open the air-bleed valve and start the burner. For clean bleed, slip a 3/16" ID hose over the end of the bleed valve and bleed into a container. Continue to bleed for 15 seconds after oil is free of air bubbles. Stop the burner and close the bleed valve.

2. Burner Operation

OPERATION: LOW-HIGH-OFF

(No optional Aquastat or Pressuretrol, supplied by others)

WARNING The 702CRD is supplied with a 70200 oil primary control pre-programmed from the factory with a 30 second valve delay ON (pre-purge) and a 30 second Motor Delay Off (Post Purge). A constant 120 volts should be supplied to the “line in” on the 70200 primary.

Do NOT use any control that has less than a 10 second valve delay ON (pre purge). 10 second pre purge ensures the damper returns to the low fire air position before start up in a case where the control has no motor delay off (post purge) and/ or there is not 120 volts supplied to the “line in” on the control

NOTICE It is important that the installation of the oil burner, piping and fittings, safety devices, controls, electrical wiring and equipment be done in accordance with national and/or local regulations of the authorities having jurisdiction over such installation.

1. Upon a call for heat, the 70200 primary control will indicate pre-ignition and turn on the ignitor for 3 seconds before energizing the motor.
2. The 70200 will then energize the orange lead and pull in the motor contactor, indicating valve delay ON (pre-purge) for 30 seconds. At the end of the 30 second pre-purge, the low fire oil and redundant safety valves (located on the left side of the junction box) will open and supply oil to the nozzle with pressure between 100 PSI and 150 PSI
3. After ignition and a 15 second delay, the burner will drive to high fire (as long as the low fire hold switch is in the up position).

As the damper motor drives to high fire and begins to open the air shutter the damper motor end switch will energize the high fire blocking valve located on the pump, and will increase the pump pressure at the nozzle up to 300 PSI. The air shutter will continue to open until it is fully open (see Siemens Damper motor instructions, page 9, for low/high end switch transition adjustments, if needed).

When the call for heat is satisfied, the burner will shut off.

OPERATION: LOW-HIGH-LOW-OFF

NOTICE Using low-high-low-off operation typically saves 20% on fuel usage.

Using either an additional aquastat for a water boiler or a pressure control for a steam boiler, wire your control to break the (low-high operation) of the damper motor by identifying a tagged wire nut in the oil valve junction box. The burner will now operate Low-High-Low-Off. (See wiring diagram for details.)

1. On a cold start call for heat, the burner will drive to high fire.
2. As the temperature or steam pressure begins to reach the operating limit the L-H-L controller (set below operating high limit) will drive the burner to Low Fire.
3. If the temperature or pressure drops below the differential of the L-H-L controller it will drive the burner back into high fire.
4. If low fire can reach the operating limit demand, the burner will shut off and remain in stand by until the next call for heat.

NOZZLE SPECIFICATIONS

- Always use the Carlin OEM Burner Setup Tables for nozzle specifications when the appliance is listed, Many nozzles are available through your wholesaler or Carlin Combustion.
- If your appliance is not listed in the OEM Burner Setup Tables, you may use Table 1 on page 2. The 60B Hago nozzle is the standard nozzle for this burner and usually provides the best combustion results. Other makes of nozzles may or may not provide satisfactory combustion results.

FORCED DRAFT FIRING

Due to the back pressure in forced draft units, the maximum firing rate of a burner is reduced. The greater the pressure, the lower the maximum GPH capability becomes. Table 1 (page 2) shows this. Note that the Table stops at 0.70 inches W.C., the maximum recommended back pressure for the 702CRD burner.

The combustion head settings for forced draft firing would be somewhat greater than those shown in Table 1 (page 2) which is for zero pressure or natural draft.

3. Burner Adjustments

LIGHT-OFF AND ADJUSTMENT

It is recommended, once preliminary high and low for settings are made, to drive the burner to high fire.

Set high fire air to achieve $11\frac{1}{2}$ - $12\frac{1}{2}$ % CO_2 with a zero smoke.

If a breech damper exists on the site, use a draft gauge or manometer to set the breech draft to manufacturers recommendation (typically $+.10$ or less).

After draft is set, re-check high fire setting and adjust if necessary

Drive the burner to low fire using the low fire hold switch located behind the junction box.

If necessary, make adjustments to the low fire setting to achieve $10\frac{1}{2}$ to $11\frac{1}{2}$ % CO_2 with a light trace or zero smoke.

HOW TO ADJUST THE COMBUSTION HEAD

The retention ring position ahead of the throttle ring is adjustable from zero (flush) to $1\frac{1}{4}$ inches (Dimension A, Figure 9). Turning the adjusting screw (clockwise) increases the distance "A" ahead (see Figure 10). This distance is indicated by lifting the housing cover and reading the scale on the nozzle line across the corners on sides of the channel guiding the nozzle line. Each division is $\frac{1}{16}$ -inch.

1. Turn adjusting screw counter clockwise until zero on scale is aligned with rear of housing. ("A" equals zero, see Figure 10.)
2. Now turn adjusting screw clockwise until the $\frac{1}{8}$ -inch graduation on the scale coincides with rear of housing. Each mark (or line) is $\frac{1}{16}$ -inch. (See Figure 10.)
3. The retention ring will now be $\frac{1}{8}$ -inch ahead of the throttle ring. (See "A" dimension, Figure 10.)

CAUTION: Housing cover should be raised slightly when attempting to change retention ring setting ("A" dimension) otherwise scale will be torn or distorted. This can be done by backing out the two hold-down screws 2 to 3 turns, and then lifting cover slightly while adjusting. Be sure to tighten screws after adjusting.

Figure 9 Dimension "A"

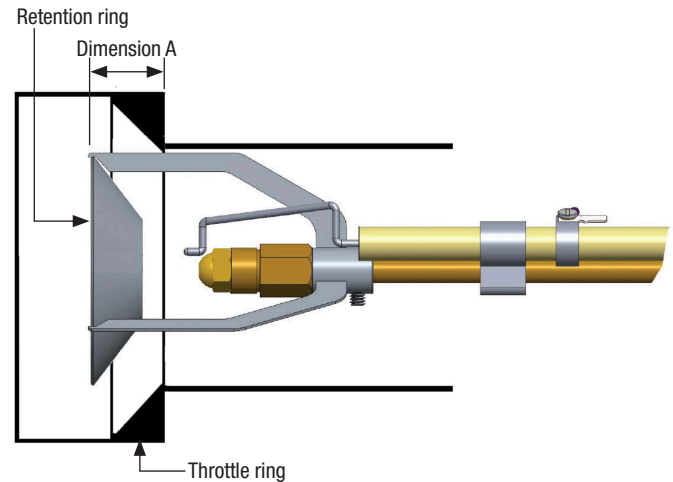
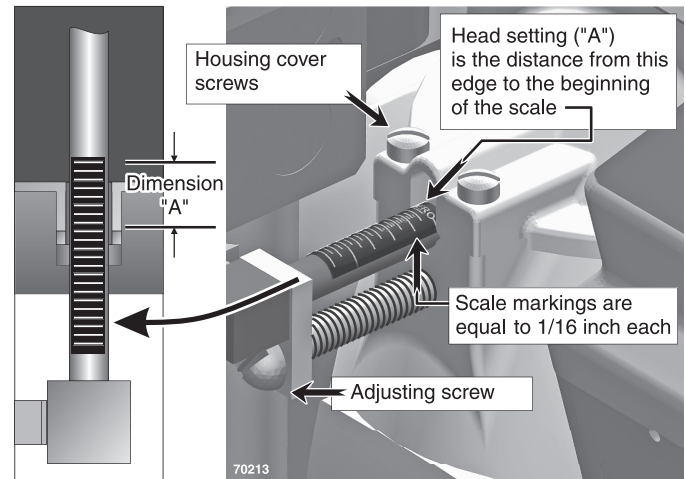


Figure 10 Set initial combustion head position



HIGH FIRE AIR ADJUSTMENT

NOTICE Only adjust the combustion head while in high fire

The high fire air adjustment is made by moving the firing assembly forward or back using the adjustment screw (Figure 10). As the firing assembly is moved forward this increases the tertiary air around the retention head and the throttle ring increasing the high fire air. Moving the firing assembly back will reduce the high fire air.

LOW FIRE AIR ADJUSTMENT

Adjusting while burner is off

- Using a small flat head screw driver adjust the blue cam on the Siemens damper motor to the appropriate setting listed on Table 6 on this page.
- Disengage the damper motor by pressing in the white pin (reference ① on Figure 12a, page 9).
- Rotate the motor beyond the desired setting using the scale behind the red cam (reference ④, Figure 12b, page 9).
- Re engage the motor using the white pin (reference ①, on Figure 12a, page 9).
- When the burner is started, the damper will move to the adjusted position during valve delay (pre-purge).

Adjusting while burner is running

- With the burner running, set the blue cam to the number that matches the desired low fire air setting (damper opening setting, Figure 12).
- Drive the burner to high-fire (15 sec delay) then back to low fire. When the damper motor drives back to low fire the arm will stop at the desired setting. Use the scale behind the red cam (reference ④, Figure 12B, page 9) to view your new setting.

Figure 11 Set initial low fire air damper setting

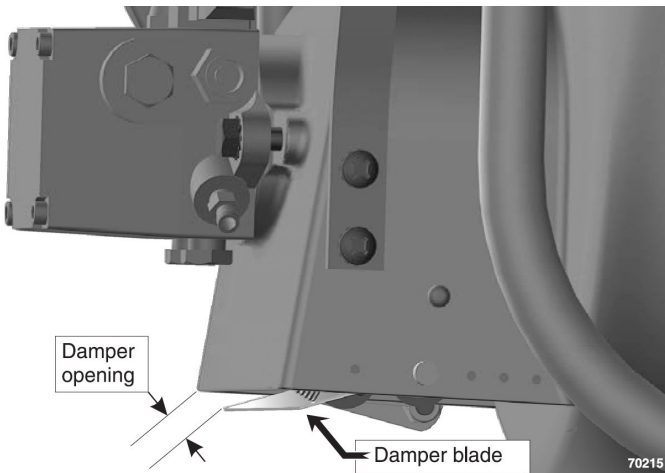


TABLE 5
NOZZLE DATA AND PRELIMINARY
COMBUSTION HEAD SETTINGS

Nozzle Size	Low Fire Pres.*	Low Fire Rate GPH	Heat Setting "A" (inch)	Low Fire "X" Air Open (inch)	Siemens Blue Cam Setting	High Fire Pres.**	High Fire Rate
3.50	100	3.50	0	3/8	25	300	5.95
3.75	100	3.75	1/16	3/8	25	300	6.38
4.00	100	4.00	1/8	3/8	25	300	6.80
4.50	100	4.50	3/16	3/8	25	300	7.65
5.00	100	5.00	1/4	3/8	25	300	8.50
5.50	100	5.50	5/16	3/8	25	300	9.35
6.00	100	6.00	7/16	7/16	27	300	10.20
6.50	100	6.50	5/8	7/16	27	300	11.05
7.00	100	7.00	7/8	1/2	30	300	11.90
7.50	100	7.50	1 1/4	1/2	30	300	12.75

*The "low-fire" pump pressures shown are recommended. If higher low-fire inputs are desired for a given situation, the low-fire pressure can be increased only up to 200 PSI. Higher low-fire pressures will require higher low-fire air openings.

**The "high-fire" pressure is set at the factory to 300 psi. This is the maximum UL rating for the fuel unit, so higher pressures are not recommended.

TABLE 6
SIEMENS BLUE CAM SETTINGS

Low Fire Air Setting	Siemens Blue Cam Setting
1/16"	7
1/8"	10
3/16"	12
1/4"	15
5/16"	20
3/8"	25
7/16"	27
1/2"	30
8/16"	35
5/8"	37
11/16"	39
3/4"	40

SQN71 Reference Guide

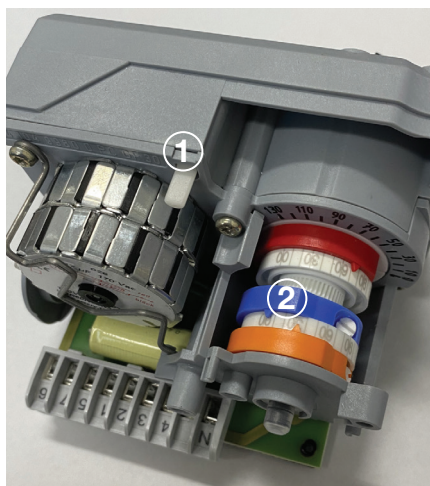


Figure 12a

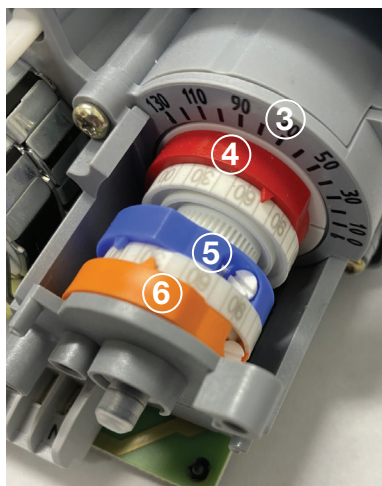


Figure 12b

Reference Number	Description
1	Disengaging Pin (In the engaged position)
2	Cam Stack
3	Damper Position Scale (Damper position indicated by slit in the white ring)
4	Red Cam (High-Fire)
5	Blue Cam (Low-Fire)
6	Transition Cam (Shares adjustment scale with Blue Cam)

NOTE: Before setting your cams, make sure the disengaging pin is pushed in (only if using wrench).

The 702CRD burner with the SQN71 damper motor will come from the factory set with the preliminary settings shown in Table 7 on this page.

TABLE 7

CAM INDICATION - 702CRD			
Cam #	Color	Position	Settings
I	Red	High-Fire	90
II	Blue	Low-Fire	10
III	Orange	Transition	50

Figure 12c

Setting the Cams
All three cams are set using a screwdriver.

NOTE: The orange Transition cam should be set half way between High Fire and Low Fire to start. Adjust if necessary.

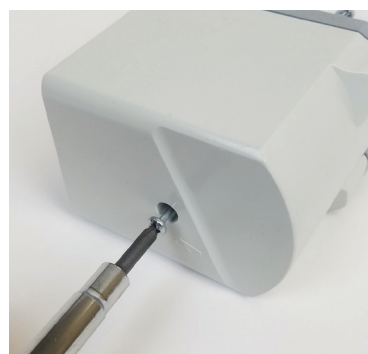
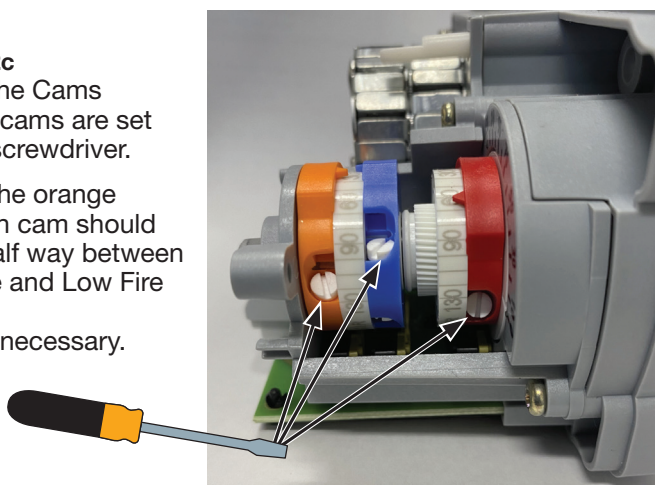


Figure 12d

Replacing Cover

Before putting on the actuator cover, be sure the disengaging pin has been engaged.

ADJUSTING THE TRANSITION BETWEEN LOW FIRE AND HIGH FIRE

The Orange Cam on the Siemens Modulating motor adjusts the transition point from low fire to high fire and vice versa. The transition point will either energize or de-energize the high fire solenoid located in the oil pump.

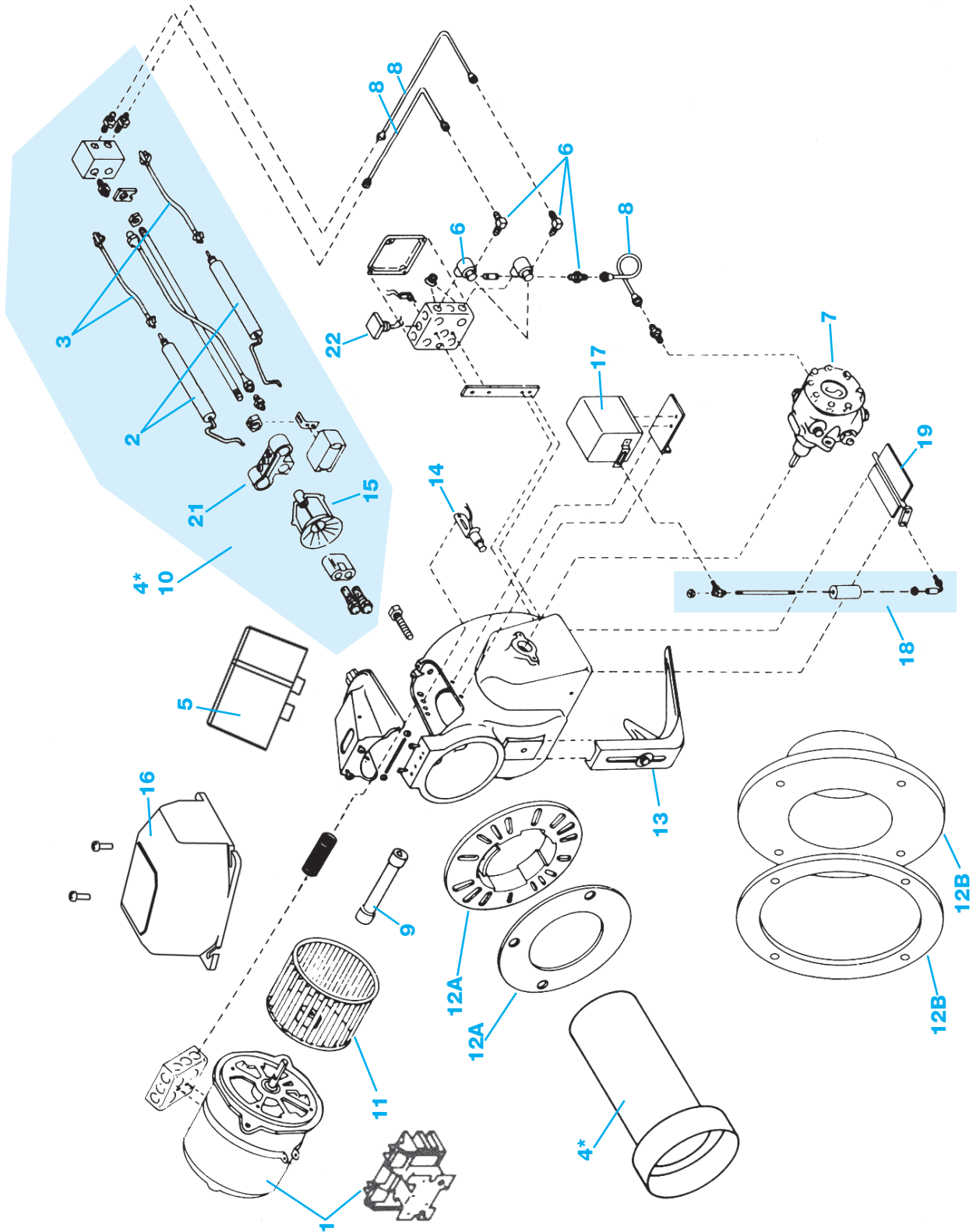
If the transition between low fire and high fire is too rich (energizes solenoid too soon) causing a smokey transition or, if it is too lean (energizing solenoid too late) causing a loss of flame, the Orange Cam can be adjusted using a small screwdriver.

A lower number on the scale will energize the valve sooner. Higher number will transition later.

Typically, the Orange Cam would be set half way between the low fire (Blue Cam) setting and high fire (Red Cam) setting. This may need to change depending on the appliance the burner firing in and the firing rate.

NOTICE If the low fire air setting is changed using the Blue Cam. It may be necessary to adjust the Orange Transition Cam.

Replacement Parts – 702CRD

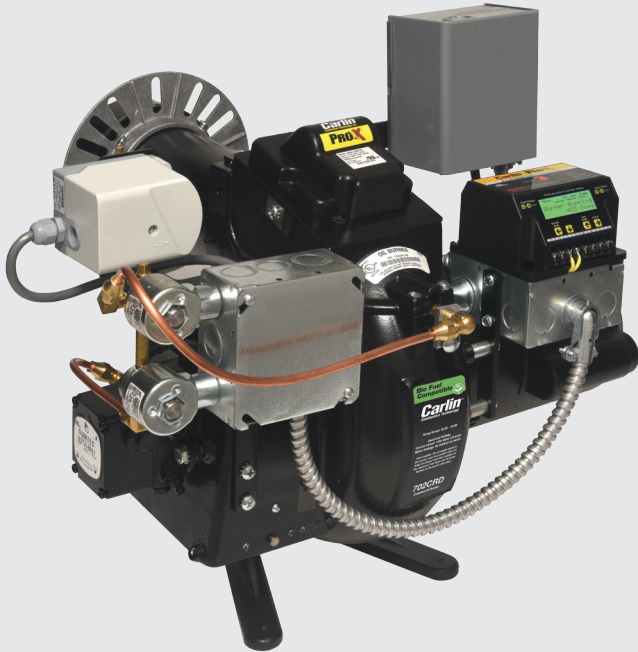


ITEM	PART NO.	DESCRIPTION
1	27706S	1/2 hp, 115/230V, 60HZ, 1 Phase, 3450 rpm Motor
	35824S	Motor Contactor 20 AMP R4242B1005
2	98507S	Electrode Set (2), Approx. 9-1/4" OAL
3	56085S	Ignition Wire 8-3/8" OAL, for Nominal 10" Air Tube (2 req'd)
4	68650S	702CRD 10" Standard Air Tube/Combustion Head Assy
5	41000S	110V Ignitor
	41000S0LC	110V Ignitor on Baseplate
6	40857S	Instant Oil Valve 32Z0071TSCV
	41004S	Instant Oil Valve 32Z0078TSCV 3 Way
	61150KITS	Oil Valve Fitting Kit (44560, 29678, 44461, 29728, 44545)
7	23556S	Fuel Unit, 2 Stage, B2TA-8851
	74476S	Fuel Unit, 2 Stage, NYC, B2TA-8851 100/300PSI
8	75291S	Oil line kit
9	98856S	Coupling 1/2" ID x 5/16" ID x 6 13/16" L, B Pump
10	57737S	10" Nominal 20-3/4" OAL Combustion Head Assy
11	98857S	Blower Wheel Only, 6 1/2" OD x 3 3/4" W, 1/2" Bore
	98857KITS	Blower Wheel, Coupling, Augmentor, 6-1/2" OD x 3-3/4" W, 1/2" Bore

ITEM	PART NO.	DESCRIPTION
12A	23259S	4" Universal Flange & Gasket
12B	23184S	4" Pressure Flange & Gasket
12C	59444UNS	4" Pressure Flange & Gasket – Ultra Violet (not shown)
13	23382S	Pedestal w/ hardware
14	1440750ES	CAD Cell Kit
15	56747S	Retention Ring Assy 702CRD
16	70200S	Universal Primary w/ Display 70200
	4020002S	Model 40200 Primary 30/15/30
	5020002S	Model 50200 Primary 30/15/30
	6020002S	Model 60200 Primary 15/15/15
17	35808S	Damper Motor – M436A
	51317S	Damper Motor SQN71
	51527S	Damper Motor Bracket SQN7
	51512S	Damper Motor Relay SPDT-NO
18	22871S	Damper Motor Linkage Kit - Honeywell
	51542S	Damper Motor Linkage Arm w/swivel - Siemens
19	48108S	Air Shutter Assembly
20	6702KITS	Hardware Kit (54916, 29694, 47167, 29892, 29728)
21	59881S	Electrode Bracket
22	35741S	4 Second Time Delay
	51543S	Time Delay set @ 10 Seconds

Carlin®

Combustion Technology



WARNING The burner must be cleaned, tested and adjusted annually by a qualified oil burner service technician.

WARNING **Should overheating occur:**

1. Shut off the oil supply to the burner.
2. **DO NOT** shut off the control switch to the circulator or blower.
3. Contact your oil dealer or service technician and the fire department (if needed).

702CRD Burner User Care and Maintenance

WARNING Refer only to the information on this page, intended for your use. The remainder of this manual is intended only for your service technician. Failure to comply could result in severe personal injury, death or substantial property damage.

For other than routine maintenance, contact a qualified service company. Perform the following as needed.

- Keep the area around the burner clear and free from combustible vapors and liquids.
- Do not obstruct the flow of combustion and ventilating air.
- Most motors currently used on commercial type burners use permanently-lubricated bearings, and do not require field lubrication. Read the label on the motor to determine oiling needs, if any. Do not over-lubricate. This can cause as much trouble as not lubricating at all.

WARNING Never attempt to use gasoline as a fuel for this burner, as it is more combustible and could result in a serious explosion. Never attempt to burn refuse or use any fuel other than #1 or #2 heating oil or bio blends not exceeding B20 (U.S. Only) (ASTM D396).