AIA® Document G701™ – 2001

Change Order

PROJECT *(Name and address)*:	**CHANGE ORDER NUMBER:** 004	OWNER: ☒
Rio en Medio Meal Site Kitchen Re-model Chupadero, New Mexico 87506	**DATE:** January 3, 2012	ARCHITECT: ☒
		CONTRACTOR: ☒
TO CONTRACTOR *(Name and address)*:	**ARCHITECT'S PROJECT NUMBER:** 1031	FIELD: ☐
AIC General Contractor, Inc. 2703-G Broadbent Parkway NE Albuquerque NM 87107	**CONTRACT DATE:** July 19, 2011 **CONTRACT FOR:** General Construction	OTHER: ☐

THE CONTRACT IS CHANGED AS FOLLOWS:
(Include, where applicable, any undisputed amount attributable to previously executed Construction Change Directives)
Add electrical shunt breaker, range hood EPO (emergency off button), and range hood temperature interlock per request by the State of New Mexico Fire Marshall. Also, add an additional mechanical duct and grill to the kitchen per request by the County of Santa Fe. This Change Order does not include NMGRT which is to be added to the Application and Certificate for Payment.

The original Contract Sum was	$	68,000.00
The net change by previously authorized Change Orders	$	32,602.52
The Contract Sum prior to this Change Order was	$	100,602.52
The Contract Sum will be increased by this Change Order in the amount of	$	3,800.87
The new Contract Sum including this Change Order will be	$	104,403.39

The Contract Time will be increased by Three (3 from date of receipt of approved Change Order) days.
The date of Substantial Completion as of the date of this Change Order therefore is To Be Determined.

NOTE: This Change Order does not include changes in the Contract Sum, Contract Time or Guaranteed Maximum Price which have been authorized by Construction Change Directive until the cost and time have been agreed upon by both the Owner and Contractor, in which case a Change Order is executed to supersede the Construction Change Directive.

NOT VALID UNTIL SIGNED BY THE ARCHITECT, CONTRACTOR AND OWNER.

Studio Southwest Architects Inc. **ARCHITECT** *(Firm name)*	AIC General Contractor, Inc. **CONTRACTOR** *(Firm name)*	County of Santa Fe **OWNER** *(Firm name)*
2101 Mountain Road NW Albuquerque NM 87104 **ADDRESS**	2703-G Broadbent Parkway NE Albuquerque NM 87107 **ADDRESS**	102 Grant Avenue Santa Fe, NM 87504 **ADDRESS**
BY *(Signature)*	**BY** *(Signature)*	**BY** *(Signature)*
Jeffrey J. Seres, AIA *(Typed name)*	John Monteverdi *(Typed name)*	County Manager-Katherine Miller *(Typed name)*
January 3, 2012 **DATE**	1/9/12 **DATE**	2·22·12 **DATE**

Approved as to form
Santa Fe County Attorney
By:
Date: February 14, 2012

STUDIO SW ARCHITECTS

December 22, 2011

Ms. Agnes Lopez
Santa Fe County
Community Services Department
P.O. Box 276
Santa Fe, NM 87504

Re: Rio en Medio Meal Site Kitchen Remodel, Chupedero, N.M.
Change Order No. 004 to the Meal site Kitchen Remodel
Via: e-mail
alopez@co.santa-fe.nm.us

Dear Agnes,

The additional work proposed in Change Order No. 004, as requested by the State of New Mexico Fire Marshall, is for electrical shunt breaker, range hood EPO (emergency off button), and range hood temperature interlock.
Our opinion is that the cost is fair and reasonable.

Sincerely,

J. David Dekker, AIA

Studio Southwest Architects Inc.

Albuquerque
2101 Mountain Road NW
Albuquerque, NM 87104
T 505.843.9639
F 505.843.9683
mail@studioswarch.com

Santa Fe
130 Grant Avenue, Suite 102
Santa Fe, NM 87501
T 505.982.7191
F 505.992.0585
mail@studioswarch.com

www.studioswarch.com

AIC
GENERAL CONTRACTOR
2703 Broadbent Parkway Suite G
Albuquerque, NM 87107
Phone: 505-881-4242 Fax: 505-343-1491

CHANGE ORDER REQUEST # 004Rev. 02

PROJECT:	**Rio En Medio Meal Site**	**PROJECT # :**	**Y11C191**
Location:	**1 El Alto Road**	**DATE:**	12/20/011
City, State, Zip:	**Chupadero, NM 87506**	**PROJECT MANAGER:**	**John Monteverdi**
		SUPERINTENDENT:	**Paul Serda**
OWNER:	**Santa Fe County**	**ARCHITECT:**	**Studio SW**
Address:	**102 Grant Avenue**	**Address:**	**2101 Mountain Road NW**
City, State, Zip:	**Santa Fe, NM 87504**	**City, State, Zip:**	**Albuquerque, NM 87104**

QUANTITY	DESCRIPTION	AMOUNT
	Per Owners Request:	
	Additional work to provide shunt-trip breakers in the electrical panel for the fire	3,290.00
	protection and update to current code.	
	Add an additional mechanical duct and grill to kitchen.	300.00
	T&B has been excluded.	
	Please note that there will be additional GC costs @ $163.40/ day + O&P if the C.O.	
	is excuted after or near completion of the storage area.	
	Please add 3 days for additional work plus additional time for final inspection	

Sub Total		**3,590.00**
Overhead	3%	107.70
Profit	0.00%	0.00
Insuranc and Bond	2.700%	103.17
Sub Total		**3,800.87**
NMGRT	6.6250%	251.81
TOTAL CHANGE ORDER REQUESTED		**$4,052.67**

A.I.C. hereby requests an ☑ ADDITION ☐ DELETION to the Contract based upon the above information. This CHANGE ORDER form shall become part of the contract upon acceptance of this request.

Requested By:

John Monteverdi

Date: 12/20/011

Accepted By:

_____

Date: _____

CORDRAY ELECTRIC, INC.

PROPOSAL

#11390

7108 WASHINGTON ST. NE
ALBUQUERQUE, NM 87109
(505) 343-1168 FAX (505) 343-1169
www.cordrayelectric.com
LIC. # 84758

Date: 1/5/12

AIC
Attn: John Monteverdi
Re: Rio En Medio- Kitchen Remodel- Revision #4

Additional Work Request

We hereby propose to furnish the materials and perform the labor necessary for the completion of:

Scope-
Provide (1) 120 volt 20 amp single pole shunt-trip type breaker in the electrical panel to disconnect power to all electrical under the cooking hood when fire suppression system is engaged. We will also provide an EPO (emergency off button) switch for power disconnect. **Supply and install (1) Greenheck Temperature Interlock.** Price also includes normally open and normally closed contactors, conduit, and wire as required.

Labor- $1,619.00
Materials- $1,407.00
Markup- $264.00

Material Breakout

1- 120 volt 20 amp shunt breaker	$123.00
1- EPO switch and enclosure	$368.00
1- Temperature interlock	$454.00
1- 3-pole normally closed contactor	$146.00
40'- ½" EMT	$36.00
Miscellaneous EMT fittings and straps	$76.00
4- 4-square boxes and covers	$24.00
1- NEMA 1 enclosure	$93.00
120'- #12 THHN wire	$67.00
12- Wire nuts and tie wraps	$20.00

Total- $3,290.00

Price includes all necessary materials, labor expenses, and mark ups.

EXCLUSIONS: Additional devices or equipment required by the local Authority Having Jurisdiction (AHJ) but not shown on prints, fire alarm system work, fire alarm system monitoring, medical gas wiring or system installation, scale wages, painting, ceiling tiles, low voltage cabling including but not limited to Fire Alarm/Nurse Call/Intercom/Audio/Security/Card Access/CATV/Thermostat/Voice/Data or system installation, saw cutting, core drilling, concrete/asphalt/sheet rock removal/installation/patching, warranty on lamps, PNM or other local utility company fees, engineering fees, performance bond, existing code corrections that may be required by the AHJ but are not clearly shown on the plans, and any work not clearly specified above.

CLARIFICATIONS: This proposal is based upon all work performed during normal working hours. Cordray Electric is not responsible for errors and omissions on the part of the Designing Engineer relating to the design configuration of the electrical systems code compliance and/or compliance with The Americans with Disabilities Act, or any other AHJ. If the AHJ requires additional devices or equipment, they will be negotiated separately. In the event of contract cancellation by the purchaser, the purchaser agrees to be responsible for actual time lost and material re-stocking fees, but not less than 15% of the contract amount. The above scope of work is Cordray Electric's understanding of the work to be performed. Any additions or subtractions will be negotiated separately.

PAYMENT: Payments shall be invoiced and due in accordance with the terms and conditions set forth below. If applicable, tax will be assessed for the work performed. Work performed on a time and material basis shall be set at the then-prevailing Company rate for labor, material and related items, in effect at the time. Company shall invoice progress payments to one hundred percent (100%) based upon equipment delivered or stored, and services performed. Customers without satisfactorily established credit shall make payments of cash in advance, upon delivery or as otherwise specified by the Company. Where Customer establishes and maintains satisfactory credit, payments shall be due and payable thirty (30) days from date of invoice. Company reserves the right to revoke or modify Customer's credit at its sole discretion. If Customer fails to make any payment when due, in addition to any other rights and remedies available, Company shall have the right, at Company's discretion, to stop performing any services and/or withhold further deliveries of materials, until the account is current. In the event payment is not received when due, Company may, at its discretion, assess late fees at the rate of 1.5% per month, 18% per annum, or the maximum rate allowed by law. Customer agrees to pay all costs of collection, including without limitation costs, fees and attorney's fees. Customer's failure to make payment when due is a material breach of this Agreement until the account is current.

Submitted By:

Gary Cordray

This price is valid for 30 days.

Acceptance of Proposal

Date:_____ Signature:_____

PMC CONSTRUCTION

P.O. Box 40318
Albuquerque, New Mexico 87196
505-933-6562 Fax: 505-266-0231
GB-98 MM-98 EE-98 Lic# 355047

e-mail: pmcconstabq@yahoo.com

January 5, 2012
To: AIC General Contractors, Inc.

Attn: John M.

Dear John,
Re: Rio En Medio kitchen remodel

The add for the additional 10" register in the kitchen area is as follows:

$ 150.00 in materiel (NEW LAY IN REGISTER, TAP IN, 10' FLEXDUCT, ETC.)

$ 150.00 LABOR

FOR A TOTAL OF $ 300.00

Sincerely,

Steve Montgomery

PMC CONSTRUCTION

P.O. Box 40318
Albuquerque, New Mexico 87196
505-933-6562 Fax: 505-266-0231
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Sincerely,

Steve Montgomery

John Monteverdi

From: Steve Montgomery [pmcconstabq@yahoo.com]
Sent: Tuesday, December 13, 2011 9:54 AM
To: John Monteverdi
Subject: Re: Rio en Medio

John, as per our conversation yesterday (12-12-2011) the add to install 1- 24X24 lay in register , served by a 10" flex duct, in the kitchen area, from the ductwork that serves the dining area would be $ 300.00.

Sincerely, steve montgomery

From: John Monteverdi <john@aic-gc.com>
To: 'Gary' <gary@cordrayelectric.com>; 'Steve Montgomery' <pmcconstabq@yahoo.com>
Sent: Tuesday, December 13, 2011 8:16 AM
Subject: FW: Rio en Medio

From: Jeff Seres [mailto:JSeres@studioswarch.com]
Sent: Monday, December 12, 2011 1:38 PM
To: John Monteverdi
Cc: rsandoval@co.santa-fe.nm.us
Subject: FW: Rio en Medio

John,
ched please find info and comments from M&E engineering regarding your questions below from Dec. 6,
.

Jeffrey J. Seres, AIA
Senior Architect

Studio Southwest Architects, Inc.
P.O. Box 9308
Santa Fe, New Mexico 87504
505-982-7191 phone
505-992-0585 fax
jseres@studioswarch.com
www.studioswarch.com

From: Kevin Patterson [mallto:kevin@mneengineering.com]
Sent: Monday, December 12, 2011 12:17 PM
To: Jeff Seres
Cc: John Baumgartel; Michel Fidel
Subject: Re: Rio en Medio

Jeff,

ached are 2 sketches regarding the shunt trip requirements for equipment under the hood in the Rio en Medio kitchen. Since there is no make-up air, there isn't a need to address a shut down for it.

John Monteverdi

From: Jeff Seres [JSeres@studioswarch.com]
Sent: Monday, December 19, 2011 1:37 PM
To: John Monteverdi
Subject: FW: Rio en Medio - Kitchen Exhaust Interlock
Attachments: Kevin Patterson.vcf; 471738TempInterlock_iom.pdf

John, See message below,
Attached info to go to the electrician for inclusion in the system. Revise the C.O. if required.
Thanks,

Jeffrey J. Seres, AIA
Senior Architect

Studio Southwest Architects, Inc.
P.O. Box 9308
Santa Fe, New Mexico 87504
505-982-7191 phone
505-992-0585 fax
jseres@studioswarch.com
www.studioswarch.com

From: Kevin Patterson [mailto:kevin@mneengineering.com]
Sent: Monday, December 19, 2011 1:04 PM
To: Jeff Seres
Cc: John Baumgartel
Subject: Rio en Medio - Kitchen Exhaust Interlock

Jeff,

I have attached the information for the Temperature Interlock. This is the "Greenheck" model but is identical to the "Accurex" temperature interlock I sent on December 12, 2011. On page 5 of the package is the wiring diagram showing the connections for the "Optional Fan On In Fire" connections. This will interface with the "Ansul" Fire System Microswitch to turn on the exhaust fan in the event of a discharge of the fire suppression system. The electrical contractor should be able to connect this into the fan controls on the hood with this information. The electrical contractor will need to coordinate with the "Ansul" installer and get the control box information from them.

The electrical contractor will need to provide all conduit, conductors, backboxes and connections necessary to make the connections from the "Fire System Micorswitch" to the fan starter.

Kevin Patterson
M&E Engineering, Inc.
1222 Luisa St., Suite B
Santa Fe, NM 87505

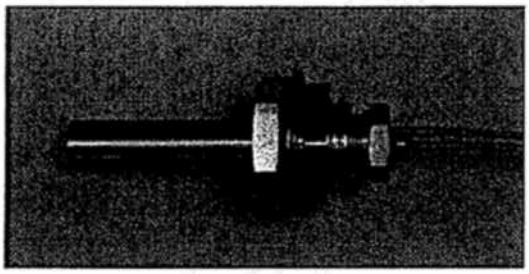
phone: (505) 983-2389
e-mail: kevin@mneengineering.com

GREENHECK
Building Value in Air.

Part #471738
Temperature Interlock

Installation, Operation and Maintenance Manual

Please read and save these Instructions. Read carefully before attempting to assemble, install, operate or maintain the product described. Protect yourself and others by observing all safety information. Failure to comply with instructions could result in personal injury and/or property damage! Retain instructions for future reference.



Product Specification

Temperature Interlock

International Mechanical Code (IMC) 2006 section 507.2.1.1 Compliant Electrical Package

Provide Greenheck temperature interlock electrical package as shown on plans and in accordance with the following specification:

The temperature interlock(s) consists of an adjustable thermostat, junction box, fire proof/leak proof threaded fitting (Evergreen Quik-Seal® and/or Evergreen Compression Seal), and shall be a self-contained unit or as part of another pre-engineered electrical control package.

The temperature interlock package shall close a relay powering the fans when the set temperature is reached at the thermostat. The interlock shall hold the circuit closed upon fan switch being turned off until the temperature at the sensor decreases below the set point at which point the timed relay will begin a countdown. Once the countdown has expired and as long as the temperature has remained below the set point, the fans shall shut down.

The temperature interlock package shall be constructed by Greenheck in accordance with International Mechanical Code. The manufacturer shall provide, upon request, the necessary data that confirms compliance with the code listed above.

Due to continuous research, Greenheck reserves the right to change specifications without notice.

General Description

Description

The temperature interlock is designed to automatically start kitchen hood exhaust fans and keep them running while heat is being generated from the cooking appliances. Hood systems should always be manually started before equipment is turned on. If the fans are forgotten to be turned on, the interlock will turn the fans on once heat is detected. The interlock consists of an adjustable thermostat, junction box, Evergreen Quik-Seal threaded fitting, and is contained in a stand alone box or can be added to a pre-engineered fan control center.

Purpose

To meet IMC 2006 section 507.2.1.1, interlock between exhaust fans and cooking equipment. This system will utilize a temperature sensor in the exhaust duct collar or in capture area of hood to detect heat generated from cooking operations and automatically activate the exhaust fans if not already turned on. Field wiring may be required depending on location of components.

Product Application

The temperature interlock is designed to be used with Type I and Type II Hoods. It is not to be used in conjunction with exhaust fire dampers. Greenheck recommends using one interlock per hood system (activates all fans linked to system simultaneously).

Performance Goals

Automatically energize the exhaust fans when cooking equipment generates heat. Basic controls will be provided with a thermostat and will consist of an 8 x 8 electrical box with controls and a labeled terminal strip to hook-up incoming power and fan starters. An adjustable delay is used to keep the exhaust fans running when the thermostat initially closes to prevent the fan from cycling on and off at startup and shut down. Fans will shut down automatically 20 minutes after the thermostat opens its contact. The time delay can be adjusted from 1-100 minutes based on jobsite requirements.

Table of Contents

Receiving and Handling

Upon receiving the equipment, check for both obvious and hidden damage. If damage is found, record all necessary information on the bill of lading and file a claim with the final carrier. Check to be sure that all parts of the shipment, including accessories, are accounted for.

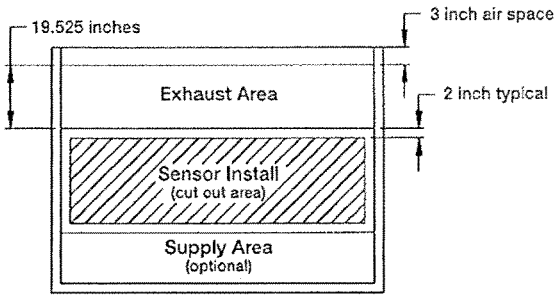
Storage

If a temperature interlock must be stored prior to installation it must be protected from dirt and moisture. Indoor storage is recommended. For outdoor storage, cover the hood with a tarp to keep it clean, dry, and protected from UV (ultraviolet) radiation damage.

Improper storage which results in damage to the unit will void the warranty.

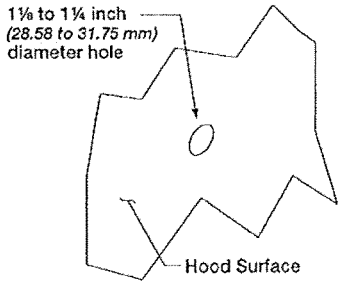
Installation – Hood Mounting

Recommended thermostat mounting location is in the flat interior of the hood and at least 8 inches (20.32 cm) from light fixture.

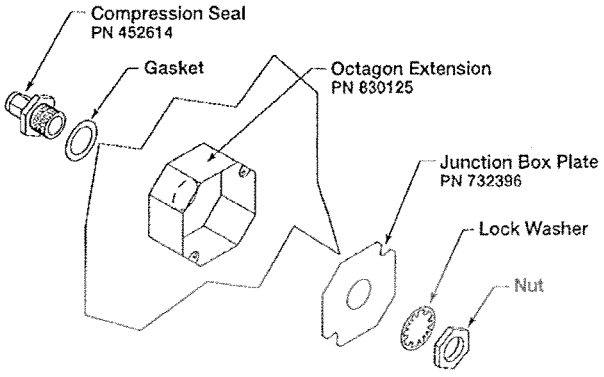


Hood Plan View

1. Locate the flat area(s) at the top interior of the hood in front of the filters, towards the front of the hood. A 1⅛ to 1¼ inch *(28.58 to 31.75 mm)* diameter hole must be cut into the top of the capture tank. Make sure the thermostat will not interfere with the fire system nozzles and is not within 8 inches *(20.32 cm)* of the light fixtures.



2. Insert the Evergreen Compression Seal fitting into the hole from the inside of the hood, making sure the gasket is placed on the fitting before inserting it into the hole. Install the lock washer and 1½ inch *(38 mm)* nut on the threaded portion of the compression seal fitting and tighten securely.

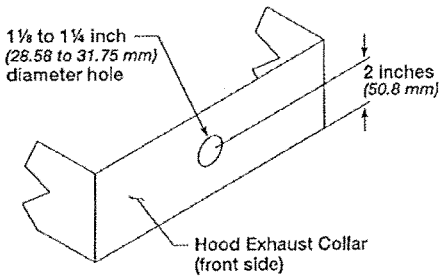


Exploded View (Components)

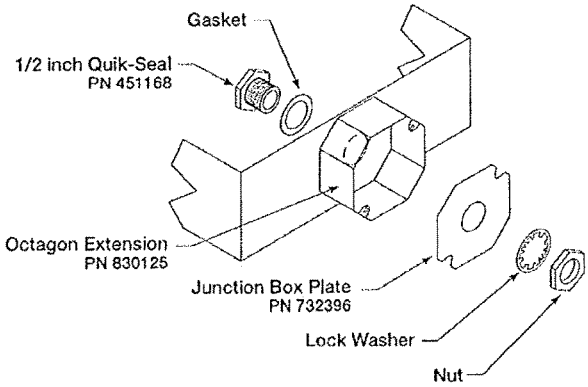
3. Place the junction box provided over the fitting on top of the hood, keeping the fitting centered in the box.
4. Thread the thermostat into the compression seal fitting and tighten to 35 ft-lbs. *(4.84 m-kgs).*

Duct Collar Mounting

1. Locate the exhaust duct on top of the hood. A 1⅛ to 1¼-inch *(28.58 to 31.75 mm) diameter* hole must be cut into the duct 2 inches *(50.8 mm)* above the hood top. Center the hole along the side of the duct. Make sure that the thermostat will not interfere with any fire system nozzles, or other items installed in the exhaust duct. If an exhaust fire damper is present the hood exhaust collar, it must be removed prior to thermostat installation.



2. Insert the Evergreen Quik-Seal fitting into the hole from the inside of the duct, making sure the gasket is placed on the fitting before inserting it into the hole. Install the lock washer and 1½ inch *(38.1 mm)* nut on the threaded portion of the Evergreen Quik-Seal fitting and tighten securely.



Exploded View (Components)

3. Place the junction box provided over the fitting and tack weld the junction box to the exhaust duct keeping the fitting centered in the box. (Welding optional).
4. Thread thermostat into Evergreen Quik-Seal fitting and tighten to 35 ft-lbs *(4.84 m-kgs).*

Electrical Connections

Thermostat Connections

1. Run two 14 awg, 90° minimum conductors, black, in conduit from each thermostat to the appropriate electrical circuit connections. (See Step 3 for connection options).
2. In junction box, connect leads on thermostat to the 14 awg conductors using appropriate size wire nuts.
   - Wires are interchangeable with one another.
   - Wire thermostats in parallel if there are multiple exhaust ducts.
3. Choose the final connection based on:
   - Terminals T1 & T2 in fan control center (KFCC).
   - Terminals 5 & 6 in control box on top of hood/ utility cabinet.

CAUTION

Do not connect thermostat in series with fan power. On/off cycling of the fans will result during start-up and shutdown periods. Use the thermostat for control wiring only.

Breaker Panel to Control Box or Fan Control Center

1. Connect a Single Pole Single Throw (SPST) switch to one of the following based on application:
   - Terminals 3 & 4 in the control box.
   - Terminals S1 & S1H in the fan control center.

Circuit Connections

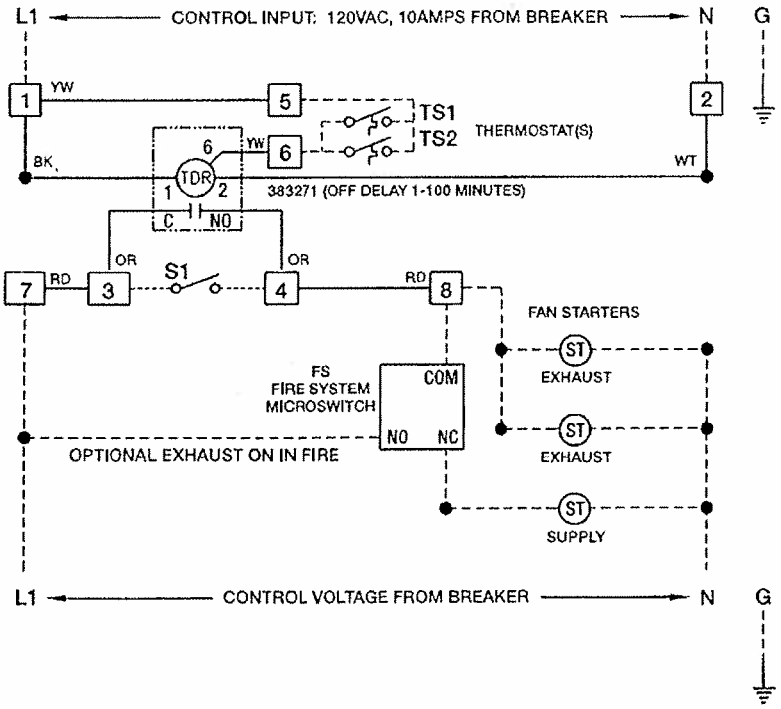
1. Standard Interlock Control
   - 120V, 10 or 15 amp circuit to terminals 1 & 2
   - Control voltage for fan starter activation
   - 120V, 24V or other control circuit *(drawing on page 8)*
   - Control circuit power to terminal 7
   - Terminal 8 to fan starter coils
   - 120V only control circuit *(drawing on page 9)*
   - Terminals 7 & 8 to fan starter coils
2. Fan Control Center Integration (KFCC)
   - Power to H1 & N1 in fan control center
   - No additional control circuits are required fan starters are factory wired

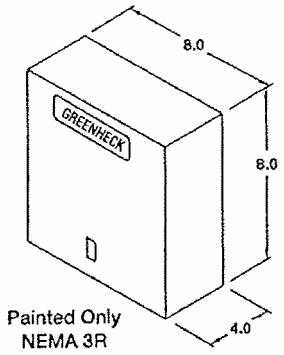
Calibration

Thermostat is preset by factory to 95°F and has a slow make and break contact. It will make contact on a temperature rise and break contact on temperature fall. The temperature set point may have to be adjusted slightly depending of both ambient and cooking conditions. The adjustment knob is located on the back of the thermostat. Use a small blade screwdriver to make the adjustments.

1. Turn counterclockwise to increase the temperature set point, turn clockwise to decrease the temperature set point.
2. Quarter revolution in either direction corresponds to a 22.5°F adjustment. Be sure to make small adjustments, about 1/16 of a turn (≈6°F) or less at one time.
3. Do not exceed more than one-half revolution in either direction.
4. Check system operation before making additional adjustments.

Control Circuit Diagram (Standard Control)





UL LISTED	UNDER SUBJECT 891 FILE #E200616
TORQUE: GROUNDING BAR = 20 IN/LB.	FIELD WIRING: use minimum 60° Copper Wire

LABEL	DESCRIPTION
EF	Exhaust Fan
SF	Supply Fan
ST	Starter
OL	OverLoad
C	Contactor
G	Ground
S	Switch
LT	Light
FS	Fire Switch
R	Relay
AF	Air Flow Switch
SV	Gas Solenoid
STB	Shunt Trip Breaker
D	Damper
PB	PushButton
N	Neutral
TS	Thermostat
TDR	Time Delay Relay
FS	Fire System Microswitch

FACTORY WIRING
HOOD WIRING
FIELD WIRING

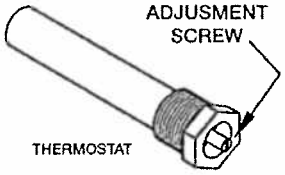
ALL WIRING 90°C 14 GA. UNLESS SPECIFIED

WIRE COLOR

BK	black
BL	blue
BR	brown
OR	orange
PR	purple
RD	red
YW	yellow
WT	white

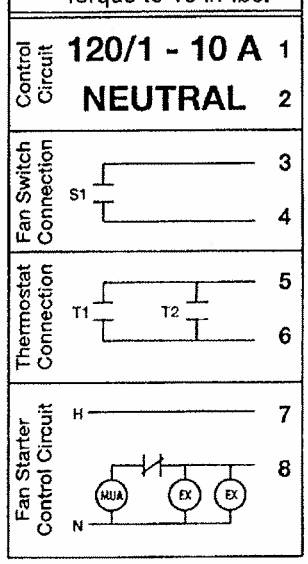
Thermostat factory set at 95°F (35°C)

- Do not turn adjustment screw more than 1/2 revolution in either direction.
- 1/8 turn equals 12°F (6.7°C)
- Counterclockwise = increase temperature setting
- Clockwise = decrease temperature setting



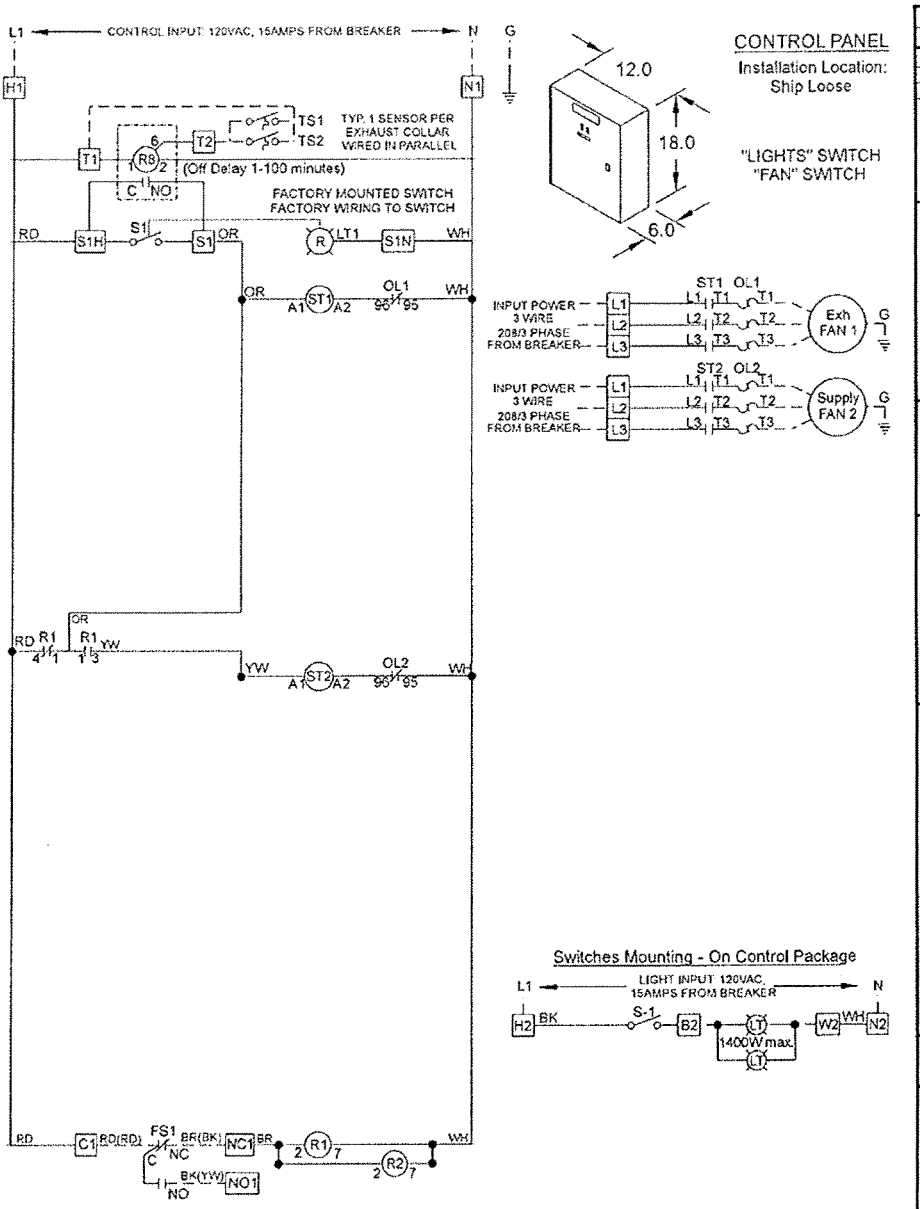
FIELD CONNECTIONS

Torque to 18 in-lbs.



Part #471503

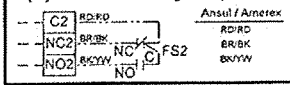
Control Circuit Diagram (Fan Control Center)



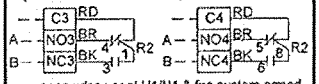
Panel Mark:	Mark 1						
Hood Mark(s):							
Motor	Fan Mark	HP	Volt	PH	FLA	Wire	Breaker
F1-E	EF-1	1.5	208	3	5.7	14 ga	15 amp
F2-S	SF-1	1	208	3	4.6	14 ga	15 amp

1	Qty. Fan Switches (0-3)	X	Exhaust In Fire
1	Qty. Light Switches (0-3)		MUA Interface
0	Qty. Temp. Switches (0-1)		Lights Out In Fire
	One Switch for L & F	X	Fire Relay (#1)
X	Temperature Interlock		Extra Fire Relay (#2)
0	Mounted Sensors - Factory		Extra Fire Relay (#3)
1	Mounted Sensors - Field		DPDT Relay w/SF
	Heat Switch		DPDT Relay w/EF
	Cool Switch	Tempering SW	Off Delay Relay
	AD Switch		SF Failure Light
	Remote Switches		EF Failure Light
	Audible Alarm		Fan Failure Light (Appl.)
	Gas Reset	Gas Off w/Fans	Damper
	Power for Gas Solenoid		Aux. Supply Contact
	Power for Shunt Trip		Tie In WWCP

Spare Fire Switch Contact
(dry contacts for building alarm)



Spare Relay Contacts (activated by FS1)
(can be used for shunt trip, alarms, etc.)



A < open w/power at H1/N1 & fire system armed
closed on fire or no power

B < closed w/power at H1/N1 & fire system armed
open on fire or no power

TORQUE:
TERMINAL STRIPS = 15 IN/LB.
GROUNDING BAR = 20 IN/LB.

FIELD WIRING:
USE MINIMUM
60° Copper Wire

LABEL DESCRIPTION

EF	Exhaust Fan
SF	Supply Fan
ST	Starter
OL	OverLoad
C	Contactor
G	Ground
S	Switch
LT	Light
FS	Fire Switch
R	Relay
AF	Air Flow Switch
SV	Gas Solenoid
STB	Shunt Trip Breaker
D	Damper
PB	PushButton
EC	Evap Cooler

FACTORY WIRING
FIELD WIRING

ALL WIRING 90°C 14 GA
UNLESS SPECIFIED

WIRE COLOR

BK - black
BL - blue
BR - brown
OR - orange
PR - purple
RD - red
YW - yellow
WT - white

THERMOSTAT CALIBRATION

FACTORY SETTING AT 95°F (35°C)
DO NOT TURN ADJUSTMENT SCREW MORE THAN
1/2 REVOLUTION IN EITHER DIRECTION
1/8 TURN = 12°F (6.7°C)
INCREASE TEMPERATURE = COUNTERCLOCKWISE
DECREASE TEMPERATURE = CLOCKWISE

NOTES:
Drawing shown de-energized at L1 (term. #H1), w/ Fire System armed (non-fire mode). (normal operation, R1 & R2 are energized) If wall mounted prewire, or field installed fire system, the fire system microswitches must be field wired.

UL LISTED — UNDER SUBJECT 891 FILE #E200616

Wiring Diagram #
T110-2-311

Testing

1. Turn fan switch on, then off to ensure proper fan operation before cooking equipment is started. Once this is verified, testing can proceed.
2. For testing only, locate the time delay relay. Turn the time adjustment knob counterclockwise to the first mark in order to expedite the testing process. Make a note as to where the timer was originally set.
3. Heat up cooking equipment with fans off. Once the duct temperature reaches the set point of the thermostat the fans will start, preferably within 5 minutes. If the fans take more than 5 minutes to start, decrease the temperature set point by turning the adjustment screw 1/16 turn clockwise. Do not apply direct flame to the thermostat
4. If an adjustment was made in Step 3, repeat now.
5. After verification of fan start-up, shut down cooking equipment. The fan switch should still be in the off position. Once cooking equipment has cooled, the thermostat will open triggering the timer to begin. Once time has expired, the fans will shut down. Thermostat operation can be verified by checking voltage (120V) between T2 and neutral on either the control box or KFCC. 120V will be present when the thermostat senses heat.
6. Once proper operation has been verified, set the dial on the timer relay to its original setting (approximately 20 minute delay).

NOTE

During testing, if fans do not start automatically in the first 10 minutes of cooking equipment activation, manually start fans to avoid accidental fire system dump due to heat build-up.

Operation

1. Turn fans on and off using the fan switch. It is normal for the fans to remain running after the switch is turned off. The exhaust duct thermostat will open after heat is no longer present under the hood which will activate the timer to begin its countdown. Once time has expired, fans will shut down. The timer is adjustable from 1-100 minutes. The recommended time delay setting is approximately 20 minutes.
2. In the event that the cooking equipment is started without turning the fans on manually, the fans will turn on automatically and remain running with the presence of heat under the hood. The exhaust duct thermostat will open after heat is no longer present under the hood which will activate the timer to begin its countdown. Once time has expired, fans will shut down.

Troubleshooting

Fans do not turn on automatically upon cooking equipment activation.

- Check wiring to control panel or relay box, thermostats must be wired in parallel
- Temperature set point to high, decrease set point
- No power to fans, check breakers/starters/relays

Fans do not shut off.

- Switch must be in the off position
- Cooking equipment hot, wait for it to cool
- Temperature set point too low, increase set point
- Ensure wires connected to appropriate control circuit
- Time delay too great, turn down timer

Fans cycle off to on when turned off.

- Cooking equipment not cooled enough, retry in 5 minutes

Fans do not turn on quick enough.

- Decrease temperature set point

Maintenance

Daily

Clean thermostat with cloth and degreaser. Keep clean for best performance. (Can clean weekly depending upon grease accumulation).

Weekly

Dependant on grease production and grease filter type, clean thermostat.

Seasonal

May have to change temperature setting on back of thermostat if ambient kitchen temperatures fluctuate between summer and winter seasons.

Whom to call

Contact your local Greenheck representative.

What to have ready for the call

Sales order, serial number and description of product.

Sales Order Number _____

Serial Number _____

Frequently Asked Questions

What temperature is the thermostat set from the factory?

95° Fahrenheit.

Will the temperature interlock automatically start/stop the fans?

When connected properly to fan starters the temperature interlock will automatically control the fans without input from the user. However intended, use as a back-up to manual control.

May I connect the power going to my fan directly through the control box?

No, the control box should only use control voltage only (24-120V), and a separate 120V power source is required to run the temperature interlock controls. Greenheck recommends the use of starters sized for each fan.

What is the purpose of the timer in the control box?

The timer is used to delay the shut down of the fans to prevent fan on/off cycling while the temperature in the exhaust duct can reach steady state. Without the delay, cycling could occur both on startup or shutdown of cooking equipment. The delay is typically set at 20 minutes.

Can I use one control box for multiple hood systems?

This can be done, however, it is not recommended. Any one of the thermostats would turn on all hoods running on that control box. It is better to have one hood/fan per control box, plus a significant energy savings can be obtained if one or more of the hoods is not in operation.

Can I still turn my fan on and off?

Yes, the temperature interlock is designed to be operated with a typical on/off switch. The fan may not turn off directly after turning the fan switch off, it will sense when the cooking operations have cooled and then turn off.

Replacement Parts

Quantity	Part Number	Description
1	383923	Thermostat, Vulcan 1C2B9 5/8-inch Type C
1	451168	Evergreen Quik-Seal, 1/2-inch #171 (1-1/8 inch hole size)
1	830125	Ext, Octagon (drilled) SC55151-1/2 (380928)
1	380926	Cover, Octagon Box SC#54-C-1RACO 722
1	381460	Encl, 8X8X4 NEMA3R ELMATE RC-884-SC3R
3	382859	Terminal Block, 3 pole, DIN-RAIL MT, BUS NDN3-WH
2	382858	Jumper, DIN-RAIL Terminal Block #JNDN3
1	383271	Timer SSAC #KRDB424 SPST 1-100 min.
1	452614	Evergreen Compression Seal, 5/8-inch, #302

Codes and Standards Compliance

- UL 710
- National Fire Protection Association (NFPA 96)
- International Mechanical Code (IMC) 2006 Section 507.2.1.1

Warranty

Greenheck warrants this equipment to be free from defects in material and workmanship for a period of one year from the shipment date. Any units or parts which prove defective during the warranty period will be replaced at our option when returned to our factory, transportation prepaid. Motors are warranted by the motor manufacturer for a period of one year. Should motors furnished by Greenheck prove defective during this period, they should be returned to the nearest authorized motor service station. Greenheck will not be responsible for any removal or installation costs.

As a result of our commitment to continuous improvement, Greenheck reserves the right to change specifications without notice.

AMCA Publication 410-96, Safety Practices for Users and Installers of Industrial and Commercial Fans, provides additional safety information. This publication can be obtained from AMCA International, Inc. at: www.amca.org.

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Building Value in Air.

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