

Report By:

National TAB
1329 E. KEMPER ROAD
SUITE 4210
CINCINNATI, OH 45246



Report: TAB Report
Function: Test, Adjust, & Balance
Date: 01/06/2026
Completed By: National TAB

PROJECT
03-09-26 QT #1004 CHARLOTTE, NC

3025 WILKINSON BLVD

CHARLOTTE, NC

Client

QUIKTRIP
4705 SOUTH 129TH EAST AVENUE
TULSA, OK 74134

National TAB

Project: 03-09-26 QT #1004 CHARLOTTE, NC

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Project: 03-09-26 QT #1004 CHARLOTTE, NC
Function: Test, Adjust, & Balance

Project Summary

Project Summary

The summary below provides a quick understanding of our scope of work and general testing procedures. Enclosed in the report are further details about your building performance including recommendations, asset data, and pictures. Our focus is to work with the trades to remedy any issues or deficiencies during the actual field balancing and not after the balancing has occurred to achieve a positive environment and outcome. The level of success is determined by the availability of the trades, possible parts needed, or time constraints.

RTU's (Roof Top Units)

Each of the RTU's was measured with a flow hood to establish total flow. The total flow was then adjusted via the VFD so that airflow fell within design tolerances. All diffusers on the kitchen RTU were balanced to the engineer's design flow. The diffusers on the sales floor were only adjusted when there were noticeable issues present like drafting or dampers that were found completely closed. The Hoods On outside air rate was set by first establishing the typical QT set point at the Emerson controller and then making manually adjustments on the roof. The hoods off airflow setpoint was found by adjusting the damper position at the Emerson controller until the design airflow was achieved. Outside air was measured by reading the intake air opening with a velocity grid and multiplying by the free area. After completion of TAB all overrides were released.

Kitchen Exhaust Hood & Associated Fans

The kitchen exhaust fan was measured at the hood filter bay utilizing a velocity matrix and a manufacturer's correction factor. Each filter velocity is multiplied by the manufacturer's corrected area. The sum of these readings equals the total flow of the exhaust fans. The total flow of the exhaust was then adjusted to within tolerance of the design flow.

Restroom Exhaust Fans

The restroom exhaust fans were measured with a flow hood. The total flow was balanced for the fan with the exception of the new grille over the combi-oven, which was balanced to the listed design.

Final Building Tests

After completing the test and balance the final building pressure was measured. It was confirmed that the building pressure fell within acceptable tolerances and that the pressure measurement coincides with the actual and design net airflow. Any deviations from these standards are noted throughout the report. The hood capture was tested at the perimeter of the hood and the cook top level with the equipment heat on to ensure satisfactory hood capture and containment.

Issue List

- Damper inaccessible RTU 3
- EF 3 exhaust fan not operational
- No speed control for EF-2
- RTU 3 kitchen damper access.
- Specified diffusers not installed



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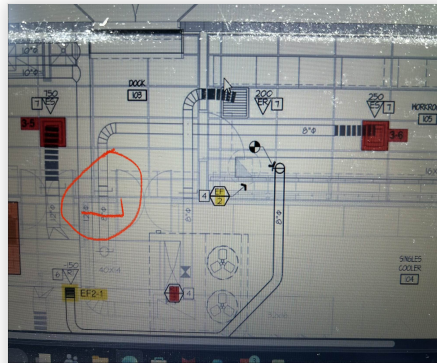
Project Issue Information

Issue Name : Damper inaccessible RTU 3
Description : Damper inaccessible for SGRD 3-6. Unable to balance diffuser and push the air to the front 4 diffusers.
Created By : National TAB **Assigned To :** National TAB - Dan Hertenstein
Status : Open
Priority : Medium **Asset Tag :** SGRD6
Originated Date : 03/04/2026 - Jearod Ferrette - National TAB

Project Issue File Details



03/04/2026



03/04/2026



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Project Issue Information

Issue Name : EF 3 exhaust fan not operational
Description : EF-3 not operational. Failed fire inspection. Fire alarm kept tripping. Per mechanical turn off at breaker number (9)
Created By : National TAB **Assigned To :** National TAB - Dan Hertenstein
Status : Open
Priority : Urgent **Asset Tag :** EF3
Originated Date : 03/04/2026 - Jearod Ferrette - National TAB

Project Issue File Details



03/04/2026



03/04/2026



03-09-26 QT #1004 CHARLOTTE, NC

Project Issue Information

Issue Name : No speed control for EF-2
Description : No speed control for EF-2 restroom/ combo-oven grille. Currently ready at 179% of design.
Created By : National TAB **Assigned To :** National TAB - Dan Hertenstein
Status : Open
Priority : Low **Asset Tag :** EF2
Originated Date : 03/04/2026 - Jearod Ferrette - National TAB

Project Issue File Details



03/04/2026



03/04/2026



03/04/2026



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Project Issue Information

Issue Name : RTU 3 kitchen damper access.
Description : Electrical conduit wired into ceiling pads, restriction access to damper for the kitchen diffusers.
Created By : National TAB **Assigned To :** National TAB - Dan Hertenstein
Status : Open
Priority : Low **Asset Tag :** RT-3
Originated Date : 03/04/2026 - Jearod Ferrette - National TAB

Project Issue File Details



03/04/2026



03/04/2026



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Project Issue Information

Issue Name : Specified diffusers not installed
Description : SGRD 3-1 to 3-4 diffusers not design per drawing
Created By : National TAB **Assigned To :** National TAB - Dan Hertenstein
Status : Open
Priority : **Medium** **Asset Tag :** RT-3
Originated Date : 03/04/2026 - Jearod Ferrette - National TAB

Project Issue File Details



03/04/2026

AIR BALANCE SCHEDULE

UNIT	AREA SERVED	HOOD ON OA		HOOD OFF OA		HOOD ON EXHAUST		HOOD OFF EXHAUST	
		DESIGN	ACTUAL	DESIGN	ACTUAL	DESIGN	ACTUAL	DESIGN	ACTUAL
RTU 1	SALES	800	827	350	375				
RTU-2	SALES	800	848	350	382				
RTU-3	BOH/KITCHEN	800	855	350	368				
EF-1	WOMEN'S RR					225	226	225	226
EF-2	MEN'S RR					525	944	525	944
EF-3	HOOD					1350	0	0	0
TOTALS		2400	2530	1050	1125	2100	1170	750	1170

HOODS ON

NET AIRFLOW CALCULATION

TOTALS	DESIGN	ACTUAL
TOTAL OA	2400	2530
TOTAL EXHAUST	2100	1170
NET AIRFLOW	300	1360

DOOR TESTED	BUILDING PRESSURE MEASUREMENTS
FRONT	0.
SIDE	0.
REAR	0.
AVERAGE	0.

HOODS OFF

NET AIRFLOW CALCULATION

TOTALS	DESIGN	ACTUAL
TOTAL OA	1050	1125
TOTAL EXHAUST	750	1170
NET AIRFLOW	300	-45

DOOR TESTED	BUILDING PRESSURE MEASUREMENTS
FRONT	0.
SIDE	0.
REAR	0.
AVERAGE	0.

NOTES:

HOOD FAN NOT OPERATIONAL, FAILED FIRE INSPECTION. UNABLE TO READ BUILDING PRESSURE.

CheckList List

- 01: RTU's/AHU's
- 02: Exhaust Fans
- 03: Hoods
- 04: Final Tests



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CheckList Information

Name : 01: RTU's/AHU's **Status :** Completed

Assigned Organization : National TAB **Asset :**

Requesting Organization : National TAB

Created Date : 01/06/2026 - Trinity Dodds - National TAB

Completed Date : 03/04/2026 - Jearod Ferrette - National TAB

CheckList Item Details

RTU's/AHU's

Evaporator coils are clean?	Pass
-----------------------------	------

Comment:

Condenser coils are clean?	Pass
----------------------------	------

Comment:

Gas piping is installed and valves are turned on?	N/A
---	-----

Comment:

Unit free of noticeable noise and vibration	Pass
---	------

Comment:



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CheckList Information

Name : 02: Exhaust Fans **Status :** Completed

Assigned Organization : National TAB **Asset :**

Requesting Organization : National TAB

Created Date : 01/06/2026 - Trinity Dodds - National TAB

Completed Date : 03/04/2026 - Jearod Ferrette - National TAB

CheckList Item Details

EF's

Hinge kit installed installed on hood fan?	Pass
--	------

Comment:

Flex conduit is long enough so that fan can be completely tilted back?	Pass
--	------

Comment:

No major leakage around the fan base	N/A
--------------------------------------	-----

Comment:

Hood exhaust fan not operational

Unit is free of noise and vibration	N/A
-------------------------------------	-----

Comment:

Hood exhaust fan not operational

Notes/Comments :

Hood exhaust fan not operational

Date :03/04/2026



03-09-26 QT #1004 CHARLOTTE, NC

CheckList Information

Name : 03: Hoods **Status :** Completed
Assigned Organization : National TAB **Asset :**
Requesting Organization : National TAB
Created Date : 01/06/2026 - Trinity Dodds - National TAB
Completed Date : 03/04/2026 - Jearod Ferrette - National TAB

CheckList Item Details

HOODS

Hood is free of alarms? Fail

Comment:

YES

Hood is free of damage? Pass

Comment:

End panels are installed per prototype? Pass

Comment:



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CheckList Information

Name : 04: Final Tests **Status :** Completed
Assigned Organization : National TAB **Asset :**
Requesting Organization : National TAB
Created Date : 01/06/2026 - Trinity Dodds - National TAB
Completed Date : 03/04/2026 - Jearod Ferrette - National TAB

CheckList Item Details

FINAL CHECKS

HOOD CAPTURE TEST

List kitchen equipment turned on for testing

Comment:

NA

List smoke candle type used

Comment:

SMOKE CANDLE

Smoke test capture % - Perimeter of hood

Comment:

Hood exhaust fan not operational

Smoke test capture % - Top of cooking surface

Comment:

Hood exhaust fan not operational

WITNESS

Date test was completed

N/A

Comment:

TAB tech name / Firm

Comment:

JEAROD FERRETTE/ NTAB

Site super name / Firm

Comment:

NA

Owner representative name / Firm (if Applicable)

Comment:

NA

BUILDING PRESSURE

Do actual net building airflow, design net building airflow, and pressure coincide? If not why? (All three should either be positive or negative)

Fail

Comment:

Hood exhaust fan not operational, failed fire inspection. Unable to read building pressure.



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Project: 03-09-26 QT #1004 CHARLOTTE, NC

System/Unit: AHU/RTU

Asset: RT-1

AREA:SALES FLOOR

Unit Data	
	Actual
MFG	AAON
Serial Num	201410-ANEK11237
Model Num	RN-013-8-0-EA0A-152
Num OA Filters 1	1
OA Filter Size 1	22.5X44.5
Num Final Filter 1	56X45

Motor Data	
	Actual
Horsepower	3
Motor Rpm	1760
Phase	3
Rated Voltage	208
Rated Amperage	10.6

Test Data		
	Design	Actual
SF CFM	4200	4251
SF RPM	-	DD/ 43 HZ
OA CFM (Hoods On)	800	827
OA CFM (Hoods Off)	350	375
RL Voltage	-	143.1 VFD
RL Amperage	-	8.5 VFD
VFD Max SetPt	-	43 HZ
OA Damper Position (Hoods On)	-	46%
OA Damper Position (Hoods Off)	-	26%

Performance Data	
	Actual
MA Plenum SP	-0.66"
Fan Suction SP	-0.91"
Fan Discharge SP	0.41"
Total ESP	1.07"
Fan Total SP	1.32"

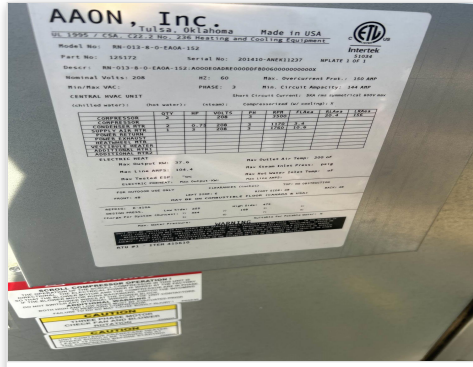
General	
	Actual
Fan Rotation Correct	YES
Unit Filters Clean	YES
Condensate Drain Installed	YES

Completed By: Jearod Ferrette on 03/04/2026

Unit Data - PHOTO LOG



03/04/2026



03/04/2026



National TAB

Project: 03-09-26 QT #1004 CHARLOTTE, NC

System/Unit: AHU/RTU

Asset: RT-2

AREA:SALES FLOOR

Unit Data	
	Actual
MFG	AAON
Serial Num	201410--ANEK11238
Model Num	RN-013-8-0-EA0A-152
Num OA Filters 1	1
OA Filter Size 1	22.5X44.5
Num Final Filter 1	2
Final Filter Size 1	56X45

Motor Data	
	Actual
Horsepower	3
Motor Rpm	1760
Phase	3
Rated Voltage	208
Rated Amperage	10.6

Test Data		
	Design	Actual
SF CFM	4200	4281
SF RPM	-	DD/ 43 HZ
OA CFM (Hoods On)	800	848
OA CFM (Hoods Off)	350	382
RL Voltage	-	143.4 VFD
RL Amperage	-	8.7 VFD
VFD Max SetPt	-	43 HZ
OA Damper Position (Hoods On)	-	46%
OA Damper Position (Hoods Off)	-	29%

Performance Data	
	Actual
MA Plenum SP	-0.60"
Fan Suction SP	-0.81"
Fan Discharge SP	0.91"
Total ESP	1.51"
Fan Total SP	1.72"

General	
	Actual
Fan Rotation Correct	YES
Unit Filters Clean	YES
Condensate Drain Installed	YES

Completed By: Jearod Ferrette on 03/04/2026



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Project: 03-09-26 QT #1004 CHARLOTTE, NC

System/Unit: AHU/RTU

Asset: RT-3

AREA:BOH/KITCHEN

Unit Data	
	Actual
MFG	AAON
Serial Num	201410-ANEK11239
Model Num	RN-013-8-0-EA0A-152
Num OA Filters 1	1
OA Filter Size 1	22.5X44.5
Num Final Filter 1	2
Final Filter Size 1	56X45

Motor Data	
	Actual
Horsepower	3
Motor Rpm	1760
Phase	3
Rated Voltage	208
Rated Amperage	10.6

Test Data		
	Design	Actual
SF CFM	4200	4262
SF RPM	-	DD/ 43 HZ
OA CFM (Hoods On)	800	855
OA CFM (Hoods Off)	350	368
RL Voltage	-	143.2 VFD
RL Amperage	-	8.6 VFD
VFD Max SetPt	-	43 HZ
OA Damper Position (Hoods On)	-	46%
OA Damper Position (Hoods Off)	-	26%

Performance Data	
	Actual
MA Plenum SP	-0.50"
Fan Suction SP	-0.71"
Fan Discharge SP	1.01"
Total ESP	1.51"
Fan Total SP	1.72"

General	
	Actual
Fan Rotation Correct	YES
Unit Filters Clean	YES
Condensate Drain Installed	YES

Completed By: Jearod Ferrette on 03/04/2026



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Project:03-09-26 QT #1004 CHARLOTTE, NC

AHU/RTU

Diffuser Supply (GRD)

RT-3/BOH/KITCHEN

Asset									
Asset Name	Location	Type	Size	DESIGN CFM	AK	CFM(1)	CFM(2)	FINAL CFM	% to design
SGRD1	SUPPORT SERVICE	SI	12"	800	1	662		738	92.3
SGRD2	SUPPORT SERVICE	SI	12"	800	1	690		741	92.6
SGRD3	SUPPORT SERVICE	SI	12"	800	1	824		879	109.9
SGRD4	SUPPORT SERVICE	SI	12"	800	1	729		772	96.5
SGRD5	DOCK	ES	12"	750	1	1073		732	97.6
SGRD6	WORKROOM	ES	8"	250	1	371		400	160.0
Total				4200		4349	0	4262	101.48%

Completed By: Jearod Ferrette on 03/04/2026

Asset	Notes	Date	Written By
SGRD6	Damper inaccessible	03/04/2026	Jearod Ferrette



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Project: 03-09-26 QT #1004 CHARLOTTE, NC

System/Unit: FAN - Exhaust

Asset: EF1

AREA:WOMEN'S RR

Unit Data	
	Actual
MFG	COOK
Model Num	90 ACE
Serial Num	410SF4202
Type	DOWNBLAST
Configuration	VERTICAL

Motor Data	
	Actual
Motor MFG	US MOTOR
Frame	48Y
Horsepower	1/8
Motor Rpm	1600
Phase	1
Voltage (rated)	115
Amperage (rated)	1.7
Service Factor	1

Test Data		
	Design	Actual
CFM	225	226
Fan RPM	-	DD
Fan Rotation	-	CCW
Motor RPM	-	DD
System SetPt	-	50%
Total ESP	-	0.15"
Fan Inlet SP	-	-0.15"
Fan Discharge SP	-	ATMO

Completed By: Jearod Ferrette on 03/04/2026

Unit Data - PHOTO LOG



03/04/2026



National TAB

Project: 03-09-26 QT #1004 CHARLOTTE, NC

System/Unit: FAN - Exhaust

Asset: EF2

AREA: MEN'S RR/COMBI

Unit Data	
	Actual
MFG	COOK
Model Num	120 ACEH
Serial Num	410SF4202
Type	DOWNBLAST
Configuration	VERTICAL

Motor Data	
	Actual
Motor MFG	MAVRIK
Frame	48Y
Horsepower	1/4
Motor Rpm	1550
Phase	1
Voltage (rated)	115
Amperage (rated)	3.3
Service Factor	1

Test Data		
	Design	Actual
CFM	525	944
Fan RPM	-	DD
Fan Rotation	-	CCW
Motor RPM	-	DD
System SetPt	-	100%
Total ESP	-	0.19"
Fan Inlet SP	-	0.19"
Fan Discharge SP	-	ATMO

Completed By: Jearod Ferrette on 03/04/2026

Notes:
NO SPEED CONTROL

Written By: Jearod Ferrette on 03/04/2026

Unit Data - PHOTO LOG



03/04/2026



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Project:03-09-26 QT #1004 CHARLOTTE, NC

Diffuser Ret/Exh (GRD)

EF2/MEN'S RR/COMBI

Asset									
Asset Name	Location	Type	Size	DESIGN CFM	AK	CFM(1)	CFM(2)	FINAL CFM	% to design
EGRD1	SUPPORT SERVICE	RI	8"	150		314		314	209.3
Total				150		314	0	314	209.33%



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Project: 03-09-26 QT #1004 CHARLOTTE, NC

System/Unit: FAN - Exhaust

Asset: EF3

AREA:KITCHEN HD

Unit Data

	Design	Actual
MFG	COOK	CAPTIVEAIRE
Model Num	120 ACEH	DU50HFA
Serial Num	-	8456536
Type	UPBLAST	UPBLAST
Configuration	VERTICAL	VERTICAL

Test Data

	Design	Actual
CFM	1350	0
Fan Rotation	-	CCW
Fan Discharge SP	-	ATMO

Motor Data

	Design	Actual
Motor MFG	-	TELCO GREEN
Horsepower	1/2	1/2
Motor Rpm	-	1800
Voltage (rated)	-	208
Service Factor	-	1

Completed By: Jearod Ferrette on 03/04/2026

Unit Data - PHOTO LOG



03/04/2026



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National TAB

Project: 03-09-26 QT #1004 CHARLOTTE, NC

System/Unit: Kitchen Hood Type I

Asset: HD1

AREA:GRIDDLE

Unit Data

	Design	Actual
MFG	CAPTIVEAIRE	CAPTIVEAIRE
Model Num	6030ND-2-F	6030ND-2-F
Job / Serial Num	-	8456536
Type	TYPE I CANOPY	TYPE I CANOPY
Hood length	108"	108"
Hood Width	60"	60"

Test Data Exhaust

	Design	Actual
Filter Type	CAPTRATE SOLO FILTER	CAPTRATE SOLO FILTER
Filter Size 1	20X16	20X16
Filter Qty 1	6	6
Filter AK factor size 1	2.08	2.08
Filter Total AK Area	12.48	12.48
Filter Ave FPM(corr)	-	0
CFM	1350	0

Cooking Equipment

	Actual
Item 1	FRYER
Item 2	PIZZA OVEN

Completed By: Jearod Ferrette on 03/04/2026

Unit Data - PHOTO LOG



03/04/2026

