

Report By:

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



Report: TAB Report
Function: Test, Adjust, & Balance
Date: 10/24/2025
Completed By: National TAB

PROJECT
11-03-25 QT #0754 ROSWELL, GA

4635 WOODSTOCK RD

ROSWELL, GA

Client

QUIKTRIP
4705 SOUTH 129TH EAST AVENUE
TULSA, OK 74134

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Project: 11-03-25 QT #0754 ROSWELL, GA

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Project: 11-03-25 QT #0754 ROSWELL, GA
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

- RTU 3: INCORRECT KITCHEN DIFFUSER STYLE



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Project Issue Information

Issue Name : RTU 3: INCORRECT KITCHEN DIFFUSER STYLE
Description : Kitchen diffusers 3-1, 3-2, 3-3, and 3-4 are substitutes until the correct Titus Diffusers can be installed.
Created By : National TAB **Assigned To :** National TAB - Dan Hertenstein
Status : Open
Priority : High **Asset Tag :**
Originated Date : 11/07/2025 - Sagar Patel - National TAB

Project Issue File Details



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	874	350	365				
RTU-2	SALES	800	812	350	351				
RTU-3	BOH/KITCHEN	800	791	350	344				
EF-1	WOMEN'S RR					225	219	225	219
EF-2	MEN'S RR					525	529	525	529
EF-3	HOOD					1350	1335	0	0
TOTALS		2400	2477	1050	1060	2100	2083	750	748

HOODS ON

NET AIRFLOW CALCULATION

TOTALS	DESIGN	ACTUAL
TOTAL OA	2400	2477
TOTAL EXHAUST	2100	2083
NET AIRFLOW	300	394

DOOR TESTED	BUILDING PRESSURE MEASUREMENTS
FRONT	0.0033
SIDE	0.0051
REAR	0.0024
AVERAGE	0.0036

HOODS OFF

NET AIRFLOW CALCULATION

TOTALS	DESIGN	ACTUAL
TOTAL OA	1050	1060
TOTAL EXHAUST	750	748
NET AIRFLOW	300	312

DOOR TESTED	BUILDING PRESSURE MEASUREMENTS
FRONT	0.0015
SIDE	0.0031
REAR	0.0041
AVERAGE	0.0029

NOTES:

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 : 10/24/2025 - Trinity Dodds - National TAB
Completed Date : 11/05/2025 - Sagar Patel - 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? Pass

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 : 10/24/2025 - Trinity Dodds - National TAB
Completed Date : 11/06/2025 - Sagar Patel - 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 Pass

Comment:

Unit is free of noise and vibration Pass

Comment:



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CheckList Information

Name : 03: Hoods **Status :** Completed
Assigned Organization : National TAB **Asset :**
Requesting Organization : National TAB
Created Date : 10/24/2025 - Trinity Dodds - National TAB
Completed Date : 11/07/2025 - Sagar Patel - National TAB

CheckList Item Details

HOODS

Hood is free of alarms? Pass

Comment:

Hood is free of damage? Pass

Comment:

End panels are installed per prototype? N/A

Comment:



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CheckList Information

Name : 04: Final Tests **Status :** Completed

Assigned Organization : National TAB **Asset :**

Requesting Organization : National TAB

Created Date : 10/24/2025 - Trinity Dodds - National TAB

Completed Date : 11/07/2025 - Sagar Patel - National TAB

CheckList Item Details

FINAL CHECKS

HOOD CAPTURE TEST

List kitchen equipment turned on for testing

Comment:

N/A

List smoke candle type used

Comment:

INSPECT USA 45 SECOND SMOKE EMITTER

Smoke test capture % - Perimeter of hood

Comment:

100%

Smoke test capture % - Top of cooking surface

Comment:

100%

WITNESS

Date test was completed

11/06/2025

Comment:

TAB tech name / Firm

Comment:

SAGAR PATEL / NATIONAL TAB INTELLIGENCE

Site super name / Firm

Comment:

JEFF MORRIS / POWERHOUSE

Owner representative name / Firm (if Applicable)

Comment:

N/A

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)

Pass

Comment:



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Project: 11-03-25 QT #0754 ROSWELL, GA

System/Unit: AHU/RTU

Asset: RT-1

AREA:SALES FLOOR

Unit Data		
	Design	Actual
MFG	NA	AAON
Serial Num	-	201610-ANEK14781
Model Num	NA	RN-013-8-0-EA0A-152
Num OA Filters 1	-	1
OA Filter Size 1	-	45X22
Num Final Filter 1	-	4
Final Filter Size 1	-	20X25X2

Motor Data		
	Design	Actual
Motor MFG	-	N/L
Frame	-	N/L
Horsepower	-	3
Motor Rpm	-	1760
Phase	-	3
Rated Voltage	-	208
Rated Amperage	-	10.6

Test Data		
	Design	Actual
SF CFM	4200	4183
SF RPM	-	1173
OA CFM (Hoods On)	800	874
OA CFM (Hoods Off)	350	365
RL Voltage	-	124 VFD
RL Amperage	-	8.91 VFD
VFD Max SetPt	-	40 HZ
VFD Min SetPt	-	24 HZ
OA Damper Position (Hoods On)	-	46%
OA Damper Position (Hoods Off)	-	28%

Performance Data		
	Design	Actual
MA Plenum SP	-	-0.58"
Fan Suction SP	-	-0.82"
Fan Discharge SP	-	0.49"
Total ESP	-	1.07"
Fan Total SP	-	1.31"

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

Completed By: Sagar Patel on 11/05/2025

Unit Data - PHOTO LOG



11/05/2025



11/05/2025



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Project: 11-03-25 QT #0754 ROSWELL, GA

System/Unit: AHU/RTU

Asset: RT-2

AREA:SALES FLOOR

Unit Data		
	Design	Actual
MFG	NA	AAON
Serial Num	-	201610-ANEK14782
Model Num	NA	RN-013-8-0-EA0A-152
Num OA Filters 1	-	1
OA Filter Size 1	-	45X22
Num Final Filter 1	-	4
Final Filter Size 1	-	20X25X2

Motor Data		
	Design	Actual
Motor MFG	-	N/L
Frame	-	N/L
Horsepower	-	3
Motor Rpm	-	1760
Phase	-	3
Rated Voltage	-	208
Rated Amperage	-	10.6

Test Data		
	Design	Actual
SF CFM	4200	4156
SF RPM	-	1173
OA CFM (Hoods On)	800	812
OA CFM (Hoods Off)	350	351
RL Voltage	-	124 VFD
RL Amperage	-	9.04 VFD
VFD Max SetPt	-	40 HZ
VFD Min SetPt	-	24 HZ
OA Damper Position (Hoods On)	-	46%
OA Damper Position (Hoods Off)	-	28%

Performance Data		
	Design	Actual
MA Plenum SP	-	-0.57"
Fan Suction SP	-	-0.75"
Fan Discharge SP	-	0.64"
Total ESP	-	1.21"
Fan Total SP	-	1.39"

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

Completed By: Sagar Patel on 11/05/2025

Unit Data - PHOTO LOG



11/05/2025



11/05/2025



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Project: 11-03-25 QT #0754 ROSWELL, GA

System/Unit: AHU/RTU

Asset: RT-3

AREA:BOH/KITCHEN

Unit Data		
	Design	Actual
MFG	NA	AAON
Serial Num	-	201610-ANEK14780
Model Num	NA	RN-013-8-0-EA0A-152
Num OA Filters 1	-	1
OA Filter Size 1	-	45X22
Num Final Filter 1	-	4
Final Filter Size 1	-	20X25X2

Motor Data		
	Design	Actual
Motor MFG	-	N/L
Frame	-	N/L
Horsepower	-	3
Motor Rpm	-	1760
Phase	-	3
Rated Voltage	-	208
Rated Amperage	-	10.6

Test Data		
	Design	Actual
SF CFM	4200	4297
SF RPM	-	1173
OA CFM (Hoods On)	800	791
OA CFM (Hoods Off)	350	344
RL Voltage	-	124 VFD
RL Amperage	-	8.91 VFD
VFD Max SetPt	-	40 HZ
VFD Min SetPt	-	24 HZ
OA Damper Position (Hoods On)	-	46%
OA Damper Position (Hoods Off)	-	26%

Performance Data		
	Design	Actual
MA Plenum SP	-	-0.49"
Fan Suction SP	-	-0.67"
Fan Discharge SP	-	0.63"
Total ESP	-	1.12"
Fan Total SP	-	1.30"

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

Completed By: Sagar Patel on 11/07/2025

Unit Data - PHOTO LOG



11/05/2025



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Project: 11-03-25 QT #0754 ROSWELL, GA

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	866	758	758	94.8
SGRD2	SUPPORT SERVICE	SI	12"	800	1	793	783	783	97.9
SGRD3	SUPPORT SERVICE	SI	12"	800	1	831	867	867	108.4
SGRD4	SUPPORT SERVICE	SI	12"	800	1	872	874	874	109.3
SGRD5	WORKROOM	ES	12"	750	1	731	786	786	104.8
SGRD6	WORKROOM	ES	8"	250	1	213	229	229	91.6
Total				4200		4306	4297	4297	102.31%

Completed By: Sagar Patel on 11/07/2025



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Project: 11-03-25 QT #0754 ROSWELL, GA

System/Unit: FAN - Exhaust

Asset: EF1

AREA:WOMEN'S RR

Unit Data		
	Design	Actual
MFG	NA	LOREN COOK COMPANY
Model Num	NA	90 ACEH 90015DH
Serial Num	-	050SG54788- 00/0000701
Type	-	UPBLAST
Configuration	-	VERTICAL

Test Data		
	Design	Actual
CFM	225	219
Fan Rotation	-	CCW
System SetPt	-	LOW
RL Voltage	-	[1]
RL Amperage	-	[1]
Total ESP	-	0.28"
Fan Inlet SP	-	-0.28"
Fan Discharge SP	-	1 ATM

Motor Data		
	Design	Actual
Motor MFG	-	US MOTORS
Frame	-	48Y
Horsepower	-	0.125
Motor Rpm	-	1600
Phase	-	1
Voltage (rated)	-	115
Amperage (rated)	-	1.7
Service Factor	-	N/L

Completed By: Sagar Patel on 11/05/2025

Notes:

[1] UNABLE TO READ VOLTS AND AMPS SAFELY

Written By: Sagar Patel on 11/04/2025

Unit Data - PHOTO LOG



11/05/2025



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Project: 11-03-25 QT #0754 ROSWELL, GA

System/Unit: FAN - Exhaust

Asset: EF2

AREA: MEN'S RR

Unit Data		
	Design	Actual
MFG	NA	LOREN COOK COMPANY
Model Num	NA	120 ACE 120013D 33
Serial Num	-	050SG54788-00/0002101
Type	-	DOWBLAST
Configuration	-	VERTICAL

Test Data		
	Design	Actual
CFM	525	529
Fan Rotation	-	CCW
System SetPt	-	LOW
RL Voltage	-	[1]
RL Amperage	-	[1]
Total ESP	-	0.23"
Fan Inlet SP	-	-0.23"
Fan Discharge SP	-	1 ATM

Motor Data		
	Design	Actual
Motor MFG	-	FASCI
Frame	-	N/L
Horsepower	-	0.250
Motor Rpm	-	1300
Phase	-	1
Voltage (rated)	-	115
Amperage (rated)	-	3.2
Service Factor	-	N/L

Completed By: Sagar Patel on 11/06/2025

Notes:

[1] UNABLE TO READ VOLTS AND AMPS SAFELY

Written By: Sagar Patel on 11/04/2025

Unit Data - PHOTO LOG



11/06/2025



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Project:11-03-25 QT #0754 ROSWELL, GA

Diffuser Ret/Exh (GRD)

EF2/MEN'S RR

Asset									
Asset Name	Location	Type	Size	DESIGN CFM	AK	CFM(1)	CFM(2)	FINAL CFM	% to design
EGRD1	COMBI-OVEN GRILLE	RI	8"	150	1	141	141	141	94.0
Total				150		141	141	141	94%



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Project: 11-03-25 QT #0754 ROSWELL, GA

System/Unit: FAN - Exhaust

Asset: EF3

AREA:KITCHEN HD

Unit Data		
	Design	Actual
MFG	NA	CAPTIVEAIRE
Model Num	NA	DU50HFA
Serial Num	-	765723
Type	UPBLAST	UPBLAST
Configuration	VERTICAL	VERTICAL

Motor Data		
	Design	Actual
Motor MFG	-	HSSA
Frame	-	48
Horsepower	1/2	0.50
Motor Rpm	-	1800
Phase	-	1
Voltage (rated)	-	208
Amperage (rated)	-	3.6
Service Factor	-	N/L

Test Data		
	Design	Actual
CFM	1350	1335
Fan RPM	-	1172
Fan Rotation	-	CCW
Motor RPM	-	1172
System SetPt	-	51.8 HZ
RL Voltage	-	213
RL Amperage	-	1.7
Total ESP	-	0.37"
Fan Inlet SP	-	-0.37"
Fan Discharge SP	-	1 ATM

Completed By: Sagar Patel on 11/06/2025

Unit Data - PHOTO LOG



11/06/2025



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Project: 11-03-25 QT #0754 ROSWELL, GA

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	-	7657523
Type	-	TYPE 1 CANOPY
Hood length	-	108"
Hood Width	-	60"

Test Data Exhaust		
	Design	Actual
Filter Type	-	CAPTRATE
Filter Size 1	-	16X20
Filter Qty 1	-	6
Filter AK factor size 1	-	2.08
Filter Total AK Area	-	12.48
Filter1 FPM	-	104
Filter2 FPM	-	110
Filter3 FPM	-	112
Filter4 FPM	-	110
Filter5 FPM	-	103
Filter6 FPM	-	108
Filter Ave FPM(corr)	-	107
CFM	1350	1335

Cooking Equipment	
	Actual
Item 1	OVEN
Item 2	FRYER

Completed By: Sagar Patel on 11/06/2025

Unit Data - PHOTO LOG



11/05/2025

