

**Report By:**

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



**Report: TAB Report**  
**Function: Test, Adjust, & Balance**  
**Date: 01/07/2026**  
**Completed By: National TAB**

**PROJECT**  
**02-02-26 QT #1031 HARRISBURG, NC**

5755 NORTH CAROLINA HWY 49 SOUTH

HARRISBURG, NC

**Client**

QUIKTRIP  
4705 SOUTH 129TH EAST AVENUE  
TULSA, OK 74134

# National TAB

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Project: 02-02-26 QT #1031 HARRISBURG, 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.

### 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	839	350	364				
RTU-2	SALES	800	857	350	357				
RTU-3	BOH/KITCHEN	800	867	350	371				
EF-1	WOMEN'S RR					225	222	225	222
EF-2	MEN'S RR					525	502	525	502
EF-3	HOOD					1350	1360	0	0
<b>TOTALS</b>		<b>2400</b>	<b>2563</b>	<b>1050</b>	<b>1092</b>	<b>2100</b>	<b>2084</b>	<b>750</b>	<b>724</b>

### HOODS ON

#### NET AIRFLOW CALCULATION

TOTALS	DESIGN	ACTUAL
TOTAL OA	2400	2563
TOTAL EXHAUST	2100	2084
<b>NET AIRFLOW</b>	<b>300</b>	<b>479</b>

DOOR TESTED	BUILDING PRESSURE MEASUREMENTS
FRONT	-0.0068
SIDE	-0.0053
REAR	-0.0028
<b>AVERAGE</b>	<b>-0.005</b>

### HOODS OFF

#### NET AIRFLOW CALCULATION

TOTALS	DESIGN	ACTUAL
TOTAL OA	1050	1092
TOTAL EXHAUST	750	724
<b>NET AIRFLOW</b>	<b>300</b>	<b>368</b>

DOOR TESTED	BUILDING PRESSURE MEASUREMENTS
FRONT	-0.027
SIDE	-0.026
REAR	-0.021
<b>AVERAGE</b>	<b>-0.0247</b>

**NOTES:**

The wind impacted with neutral pressure measured.

## 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 :** 01/07/2026 - Trinity Dodds - National TAB

**Completed Date :** 02/03/2026 - 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?	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 :** 01/07/2026 - Trinity Dodds - National TAB  
**Completed Date :** 02/03/2026 - 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 Pass

Comment:

---

Unit is free of noise and vibration Pass

Comment:



**02-02-26 QT #1031 HARRISBURG, NC**

**CheckList Information**

**Name :** 03: Hoods **Status :** Completed  
**Assigned Organization :** National TAB **Asset :**  
**Requesting Organization :** National TAB  
**Created Date :** 01/07/2026 - Trinity Dodds - National TAB  
**Completed Date :** 02/03/2026 - Jearod Ferrette - 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?** 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 :** 01/07/2026 - Trinity Dodds - National TAB

**Completed Date :** 02/11/2026 - Jearod Ferrette - National TAB

**CheckList Item Details**

**FINAL CHECKS**

**HOOD CAPTURE TEST**

**List kitchen equipment turned on for testing**

**Comment:**

FYER, PIZZA OVEN

**List smoke candle type used**

**Comment:**

STAFF IS CURRENTLY COOKING. SMOKE CAPTURE 100%

**Smoke test capture % - Perimeter of hood**

**Comment:**

100%

**Smoke test capture % - Top of cooking surface**

**Comment:**

100%

**WITNESS**

**Date test was completed**

02/03/2026

**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)**

Pass

**Comment:**

FRONT -0.0068", SIDE -0.0053, REAR -0.0023"

---

**Notes/Comments :**

The wind impacted with neutral pressure measured.

**Date :**02/11/2026



# National TAB

Project: 02-02-26 QT #1031 HARRISBURG, NC

## System/Unit: AHU/RTU

Asset: RT-1

AREA:SALES FLOOR

Unit Data	
	Actual
MFG	AAON
Serial Num	201204-ANEK06523
Model Num	RN-O13-8-0-EA0A-152
Num OA Filters 1	1
OA Filter Size 1	45X22

Motor Data	
	Actual
Motor MFG	NA
Frame	NA
Horsepower	NA
Motor Rpm	NA
Phase	3
Rated Voltage	208
Rated Amperage	NA

Test Data		
	Design	Actual
SF CFM	4200	4190
SF RPM	-	DD/ 37.2HZ
OA CFM (Hoods On)	800	839
OA CFM (Hoods Off)	350	364
RL Voltage	-	105 VFD
RL Amperage	-	7.8 VFD
VFD Max SetPt	-	37.2 HZ
OA Damper Position (Hoods On)	-	46%
OA Damper Position (Hoods Off)	-	26%

Performance Data		
	Design	Actual
MA Plenum SP	-	-0.51"
Fan Suction SP	-	-0.65"
Fan Discharge SP	-	0.47"
Total ESP	-	0.98"
Fan Total SP	-	1.12'

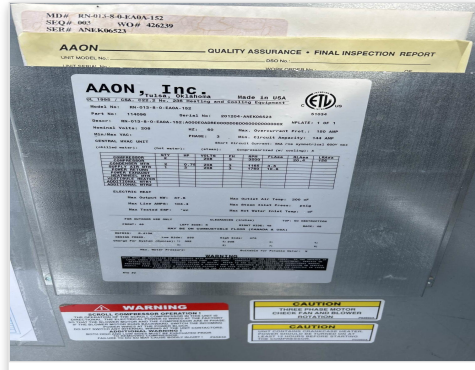
General	
	Actual
Fan Rotation Correct	YES
Unit Filters Clean	YES
Condensate Drain Installed	YES

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# Unit Data - PHOTO LOG



02/03/2026



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# National TAB

Project: 02-02-26 QT #1031 HARRISBURG, NC

## System/Unit: AHU/RTU

Asset: RT-2

AREA:SALES FLOOR

Unit Data	
	Actual
MFG	AAON
Serial Num	201204-ANEK06522
Model Num	RN-013-8-0-EA0A-152
Num OA Filters 1	1
OA Filter Size 1	45X22

Motor Data	
	Actual
Motor MFG	NA
Frame	NA
Horsepower	NA
Motor Rpm	NA
Phase	3
Rated Voltage	208
Rated Amperage	NA

Test Data		
	Design	Actual
SF CFM	4200	4283
SF RPM	-	DD/39.6HZ
OA CFM (Hoods On)	800	857
OA CFM (Hoods Off)	350	357
RL Voltage	-	121 VFD
RL Amperage	-	8.6 VFD
VFD Max SetPt	-	39.6HZ
OA Damper Position (Hoods On)	-	46%
OA Damper Position (Hoods Off)	-	26%

Performance Data		
	Design	Actual
MA Plenum SP	-	-0.46"
Fan Suction SP	-	-0.62
Fan Discharge SP	-	0.54"
Total ESP	-	1"
Fan Total SP	-	1.16"

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

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Project: 02-02-26 QT #1031 HARRISBURG, NC

## System/Unit: AHU/RTU

Asset: RT-3

AREA:BOH/KITCHEN

Unit Data	
	Actual
MFG	AAON
Serial Num	201204-ANEK06524
Model Num	RN-013-8-0EA0A-152
Num OA Filters 1	1
OA Filter Size 1	45X22

Motor Data	
	Actual
Motor MFG	NA
Frame	NA
Horsepower	NA
Motor Rpm	NA
Phase	3
Rated Voltage	208
Rated Amperage	NA

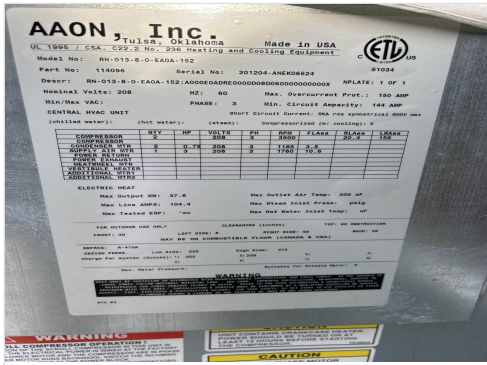
Test Data		
	Design	Actual
SF CFM	4200	4140
SF RPM	-	DD/39HZ
OA CFM (Hoods On)	800	867
OA CFM (Hoods Off)	350	371
RL Voltage	-	117 VFD
RL Amperage	-	8.5 VFD
VFD Max SetPt	-	39 HZ
OA Damper Position (Hoods On)	-	46%
OA Damper Position (Hoods Off)	-	26%

Performance Data		
	Design	Actual
MA Plenum SP	-	-0.51"
Fan Suction SP	-	-0.67"
Fan Discharge SP	-	0.44"
Total ESP	-	0.95"
Fan Total SP	-	1.11"

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

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# Unit Data - PHOTO LOG



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# National TAB

Project:02-02-26 QT #1031 HARRISBURG, 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	1111	1009	739	92.4
SGRD2	SUPPORT SERVICE	SI	12"	800	1	944	845	782	97.8
SGRD3	SUPPORT SERVICE	SI	12"	800	1	884	803	792	99.0
SGRD4	SUPPORT SERVICE	SI	12"	800	1	544	385	741	92.6
SGRD5	DOCK	ES	12"	750	1	902	790	815	108.7
SGRD6	WORKROOM	ES	8"	250	1	324	292	271	108.4
Total				4200		4709	4124	4140	98.57%



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Project: 02-02-26 QT #1031 HARRISBURG, NC

## System/Unit: FAN - Exhaust

Asset: EF1

AREA:WOMEN'S RR

Unit Data		
	Design	Actual
MFG	NA	NA
Model Num	NA	NA
Serial Num	-	4100SE15342
Type	-	UPBLAST
Configuration	-	VERTICAL

Motor Data		
	Design	Actual
Motor MFG	-	QUEACE
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	222
Fan RPM	-	DD
Fan Rotation	-	CCW
Motor RPM	-	DD
System SetPt	-	MAX
RL Voltage	-	NA
RL Amperage	-	NA
Total ESP	-	0.26"
Fan Inlet SP	-	-0.26"
Fan Discharge SP	-	ATMO

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**Unit Data - PHOTO LOG**



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# National TAB

Project: 02-02-26 QT #1031 HARRISBURG, NC

## System/Unit: FAN - Exhaust

Asset: EF2

AREA: MEN'S RR/COMBI

Unit Data		
	Design	Actual
MFG	NA	NA
Model Num	NA	NA
Serial Num	-	410SE15342
Type	-	UPBLAST
Configuration	-	VERTICAL

Motor Data		
	Design	Actual
Motor MFG	-	FASCO
Frame	-	NA
Horsepower	-	1/4
Motor Rpm	-	1550
Phase	-	1
Voltage (rated)	-	115
Amperage (rated)	-	3.2
Service Factor	-	1

Test Data		
	Design	Actual
CFM	525	502
Fan RPM	-	DD
Fan Rotation	-	CCW
Motor RPM	-	DD
System SetPt	-	MAX
RL Voltage	-	NA
RL Amperage	-	NA
Total ESP	-	0.19"
Fan Inlet SP	-	-0.19"
Fan Discharge SP	-	ATMO

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**Unit Data - PHOTO LOG**



**02/03/2026**



# National TAB

Project:02-02-26 QT #1031 HARRISBURG, 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	1	139	139	139	92.7
Total				150		139	139	139	92.67%



# National TAB

Project: 02-02-26 QT #1031 HARRISBURG, NC

## System/Unit: FAN - Exhaust

Asset: EF3

AREA: KITCHEN HD

Unit Data		
	Design	Actual
MFG	NA	CAPTIVEAIRE
Model Num	NA	DU50HFA
Serial Num	-	8262100
Type	UPBLAST	UPBLAST
Configuration	VERTICAL	VERTICAL

Motor Data		
	Design	Actual
Motor MFG	-	TELCO GREEN
Frame	-	NA
Horsepower	1/2	1/2
Motor Rpm	-	1800
Phase	-	1
Voltage (rated)	-	115
Amperage (rated)	-	NA
Service Factor	-	1

Test Data		
	Design	Actual
CFM	1350	1360
Fan RPM	-	1227/ 54.8 HZ
Fan Rotation	-	CCW
Motor RPM	-	1227/ 54.8
System SetPt	-	54.8HZ
RL Voltage	-	NA
RL Amperage	-	NA
Total ESP	-	0.29"
Fan Inlet SP	-	-0.29"
Fan Discharge SP	-	ATMO

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## Unit Data - PHOTO LOG



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# National TAB

Project: 02-02-26 QT #1031 HARRISBURG, 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	-	8262100
Type	TYPE I CANOPY	TYPE I CANOPY
Hood length	108"	108"
Hood Width	60"	60"

Test Data Exhaust		
	Design	Actual
Filter Type	-	BAFFLED FILTERS
Filter Size 1	-	16X20
Filter Qty 1	-	6
Filter AK factor size 1	-	2.08
Filter Total AK Area	-	12.48
Filter1 FPM	-	101
Filter2 FPM	-	106
Filter3 FPM	-	113
Filter4 FPM	-	120
Filter5 FPM	-	117
Filter6 FPM	-	99
Filter Ave FPM(corr)	-	109
CFM	1350	1360

Cooking Equipment	
	Actual
Item 1	FRYER
Item 2	PIZZA OVEN

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**Unit Data - PHOTO LOG**



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