

**Report By:**

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



**Report: TAB Report**  
**Function: Test, Adjust, & Balance**  
**Date: 01/12/2026**  
**Completed By: National TAB**

**PROJECT**  
**03-23-26 QT #1412 PHOENIX, AZ**

1133 E NORTHERN AVE

PHOENIX, AZ 85020

**Client**

QUIKTRIP  
4705 SOUTH 129TH EAST AVENUE  
TULSA, OK 74134

# National TAB

Project: 03-23-26 QT #1412 PHOENIX, AZ

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# National TAB

Project: 03-23-26 QT #1412 PHOENIX, AZ  
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

- DIRTY FILTERS
- EF3 HINGE/GREASE CUP INCORRECT INSTALLATION
- HOOD DAMAGED ON OVEN SIDE - 5% LOSS
- RTU-3 SGRD7



**03-23-26 QT #1412 PHOENIX, AZ**

**Project Issue Information**

**Issue Name :** DIRTY FILTERS  
**Description :** Filters on all units are dirty, more so than picture shows.  
**Created By :** National TAB                      **Assigned To :** National TAB - Dan Hertenstein  
**Status :** Open  
**Priority :** InfoOnly                                      **Asset Tag :**  
**Originated Date :** 01/16/2026 - Christine Weale - National TAB

Project Issue File Details



01/16/2026

Project Issue Response Details

- **03/26/2026 National TAB - Ethan Van Orden**
  - On return trip on 3/26 unit filters still dirty recommend replacing them.



**03-23-26 QT #1412 PHOENIX, AZ**

**Project Issue Information**

**Issue Name :** EF3 HINGE/GREASE CUP INCORRECT INSTALLATION  
**Description :** Hinge should be installed opposite of the grease conduit/cup.  
**Created By :** National TAB                      **Assigned To :** National TAB - Dan Hertenstein  
**Status :** Open  
**Priority :** Low                                      **Asset Tag :** EF3  
**Originated Date :** 01/13/2026 - Christine Weale - National TAB

Project Issue File Details



01/13/2026

Project Issue Response Details

- **03/26/2026 National TAB - Ethan Van Orden**
  - On return trip on 3/26 hinge kit/grease cup still installed incorrectly. Issue not addressed.

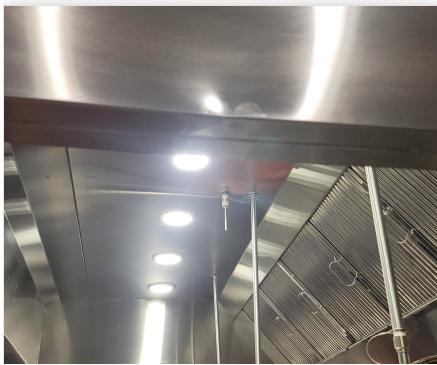


**03-23-26 QT #1412 PHOENIX, AZ**

**Project Issue Information**

**Issue Name :** HOOD DAMAGED ON OVEN SIDE - 5% LOSS  
**Description :** Large dent on right side of hood has caused right panel to be slightly angled (~174\* i/o 180\*). This also happens to be the same side ~5% smoke loss occurs. Smoke originates from oven surface. Not sure if there is a correlation.  
**Created By :** National TAB                      **Assigned To :** National TAB - Dan Hertenstein  
**Status :** Open  
**Priority :** Medium                                      **Asset Tag :** HD1  
**Originated Date :** 01/13/2026 - Christine Weale - National TAB

Project Issue File Details



01/13/2026



01/13/2026



01/13/2026

Project Issue Response Details

- **03/26/2026 National TAB - Ethan Van Orden**
  - On return trip on 3/26 hood still has damage on the right side. Issue not addressed.



**03-23-26 QT #1412 PHOENIX, AZ**

**Project Issue Information**

**Issue Name :** RTU-3 SGRD7  
**Description :** RTU-3 has 7 diffusers. Diffuser 6 is slightly low to follow the total scheduled design.  
**Created By :** National TAB                      **Assigned To :** National TAB - Dan Hertenstein  
**Status :** Open  
**Priority :** InfoOnly                                      **Asset Tag :**  
**Originated Date :** 03/26/2026 - Ethan Van Orden - National TAB

Project Issue File Details



03/26/2026

## CheckList List

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



03-23-26 QT #1412 PHOENIX, AZ

CheckList Information

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

**Assigned Organization :** National TAB **Asset :**

**Requesting Organization :** National TAB

**Created Date :** 10/02/2025 - Trinity Dodds - National TAB

**Completed Date :** 01/13/2026 - Christine Weale - 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:



**03-23-26 QT #1412 PHOENIX, AZ**

**CheckList Information**

**Name :** 02: Exhaust Fans **Status :** Completed  
**Assigned Organization :** National TAB **Asset :**  
**Requesting Organization :** National TAB  
**Created Date :** 10/02/2025 - Trinity Dodds - National TAB  
**Completed Date :** 01/13/2026 - Christine Weale - National TAB

**CheckList Item Details**

EF's

---

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

**Comment:**

Yes, but it's backwards, installed on same side as grease cup/conduit.

---

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

**Comment:**

---

**No major leakage around the fan base** Pass

**Comment:**

---

**Unit is free of noise and vibration** Pass

**Comment:**



**03-23-26 QT #1412 PHOENIX, AZ**

**CheckList Information**

**Name :** 03: Hoods **Status :** Completed  
**Assigned Organization :** National TAB **Asset :**  
**Requesting Organization :** National TAB  
**Created Date :** 10/02/2025 - Trinity Dodds - National TAB  
**Completed Date :** 01/13/2026 - Christine Weale - National TAB

**CheckList Item Details**

**HOODS**

---

**Hood is free of alarms?** Pass

**Comment:**

---

**Hood is free of damage?** Fail

**Comment:**

See 'REMARKS'

---

**End panels are installed per prototype?** Pass

**Comment:**

---



03-23-26 QT #1412 PHOENIX, AZ

CheckList Information

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

**Assigned Organization :** National TAB **Asset :**

**Requesting Organization :** National TAB

**Created Date :** 10/02/2025 - Trinity Dodds - National TAB

**Completed Date :** 01/16/2026 - Christine Weale - National TAB

CheckList Item Details

**FINAL CHECKS**

**HOOD CAPTURE TEST**

**List kitchen equipment turned on for testing**

**Comment:**

All equipment on, but not in use.

**List smoke candle type used**

**Comment:**

45s, S102

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

**Comment:**

100

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

**Comment:**

95 - oven loss, see 'REMARKS'.

**WITNESS**

**Date test was completed**

01/12/2026

**Comment:**

---

**TAB tech name / Firm**

**Comment:**

Christine Weale, NTI

---

**Site super name / Firm**

**Comment:**

T-Built

---

**Owner representative name / Firm (if Applicable)**

**Comment:**

---

**BUILDING PRESSURE**

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**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:**

Building pressure average 0.003" with Hood



03-23-26 QT #1412 PHOENIX, AZ

CheckList Information

**Name :** 05: Smoke Detector **Status :** Completed

**Assigned Organization :** National TAB **Asset :**

**Requesting Organization :** National TAB

**Created Date :** 02/03/2026 - Trinity Dodds - National TAB

**Completed Date :** 03/26/2026 - Ethan Van Orden - National TAB

CheckList Item Details

**Smoke Detector Manufacturer:**

**Comment:**

SYSTEM SENSOR

**Smoke Detector Model:**

**Comment:**

AD4P120

**Accpetable Pressure Range Rating:**

**Comment:**

0.01-1.11

**Actual Measured Pressure Range:**

**Comment:**

RTU-1: 0.057" RTU-2: 0.038" RTU-3: 0.102"

**Smoke Detector Shutdown?**

Pass

**Comment:**



# National TAB

Project: 03-23-26 QT #1412 PHOENIX, AZ

System/Unit: AHU/RTU

Asset: RT-1

AREA: SALES FLOOR

Unit Data	
	Actual
MFG	AAON
Serial Num	202010-ANEK21262
Model Num	RN-013-8-0-EA0A-152
Num OA Filters 1	1
OA Filter Size 1	45X22
Num Final Filter 1	2
Final Filter Size 1	46X19.5

Motor Data	
	Actual
Motor MFG	NL
Frame	NL
Horsepower	3.0
Motor Rpm	1760
Phase	3
Rated Voltage	208
Rated Amperage	10.6

Test Data		
	Design	Actual
SF CFM	4200	4599
SF RPM	-	45.0 HZ
OA CFM (Hoods On)	800	853
OA CFM (Hoods Off)	350	371
RL Voltage	-	150.6
RL Amperage	-	7.23
VFD Max SetPt	-	75.0
VFD Min SetPt	-	24.0
OA Damper Position (Hoods On)	-	46.0
OA Damper Position (Hoods Off)	-	0.0

Performance Data		
	Design	Actual
MA Plenum SP	-	-0.47"
Fan Suction SP	-	-0.72"
Fan Discharge SP	-	0.24"
Total ESP	-	0.71"
Fan Total SP	-	0.96"

General	
	Actual
Fan Rotation Correct	YES
Unit Filters Clean	NO
Condensate Drain Installed	YES

Completed By: Christine Weale on 01/15/2026

## Unit Data - PHOTO LOG



01/15/2026



01/15/2026



# National TAB

Project: 03-23-26 QT #1412 PHOENIX, AZ

System/Unit: AHU/RTU

Asset: RT-2

AREA:SALES FLOOR

Unit Data	
	Actual
MFG	AAON
Serial Num	202010-ANEK21263
Model Num	RN-013-8-0-EA0A-152
Num OA Filters 1	1
OA Filter Size 1	45X22
Num Final Filter 1	2
Final Filter Size 1	46X19.5

Motor Data	
	Actual
Motor MFG	NL
Frame	NL
Horsepower	3.0
Motor Rpm	1760
Phase	3
Rated Voltage	208
Rated Amperage	10.6

Test Data		
	Design	Actual
SF CFM	4200	4271
SF RPM	-	45.0 HZ
OA CFM (Hoods On)	800	843
OA CFM (Hoods Off)	350	364
RL Voltage	-	150.8
RL Amperage	-	7.37
VFD Max SetPt	-	75.0
VFD Min SetPt	-	24.0
OA Damper Position (Hoods On)	-	46.0
OA Damper Position (Hoods Off)	-	0.0

Performance Data		
	Design	Actual
MA Plenum SP	-	-0.44"
Fan Suction SP	-	-0.68"
Fan Discharge SP	-	0.36"
Total ESP	-	1.12"
Fan Total SP	-	1.04"

General	
	Actual
Fan Rotation Correct	YES
Unit Filters Clean	NO
Condensate Drain Installed	YES

Completed By: Christine Weale on 01/15/2026

**Unit Data - PHOTO LOG**



**01/15/2026**



**01/15/2026**



# National TAB

Project: 03-23-26 QT #1412 PHOENIX, AZ

System/Unit: AHU/RTU

Asset: RT-3

AREA:BOH/KITCHEN

Unit Data	
	Actual
MFG	AAON
Serial Num	202010-ANEK21261
Model Num	RN-013-8-0-EA0A-152
Num OA Filters 1	1
OA Filter Size 1	45X22
Num Final Filter 1	2
Final Filter Size 1	46X19.5

Motor Data	
	Actual
Motor MFG	NL
Frame	NL
Horsepower	3.0
Motor Rpm	1760
Phase	3
Rated Voltage	208
Rated Amperage	10.6

Test Data		
	Design	Actual
SF CFM	4200	4121
SF RPM	-	49.8 HZ
OA CFM (Hoods On)	800	866
OA CFM (Hoods Off)	350	367
RL Voltage	-	181.8
RL Amperage	-	8.74
VFD Max SetPt	-	83.0
VFD Min SetPt	-	24.0
OA Damper Position (Hoods On)	-	46.0
OA Damper Position (Hoods Off)	-	0.0

Performance Data		
	Design	Actual
MA Plenum SP	-	-0.72"
Fan Suction SP	-	-0.98"
Fan Discharge SP	-	0.52"
Total ESP	-	1.24"
Fan Total SP	-	1.50"

General	
	Actual
Fan Rotation Correct	YES
Unit Filters Clean	NO
Condensate Drain Installed	YES

Completed By: Christine Weale on 01/15/2026

Notes:  
UNIT LEFT ON LOW-SIDE SO KITCHEN AIR FLOW WOULD NOT BE TOO HIGH. REQUIRED DAMPERS INACCESSIBLE.

Written By: Christine Weale on 01/15/2026

**Unit Data - PHOTO LOG**



**01/15/2026**



**01/15/2026**



**National TAB**  
 Project:03-23-26 QT #1412 PHOENIX, AZ  
**AHU/RTU**

**Diffuser Supply (GRD)**

**RT-3/BOH/KITCHEN**

<b>Asset</b>									
<b>Asset Name</b>	<b>Location</b>	<b>Type</b>	<b>Size</b>	<b>DESIGN CFM</b>	<b>AK</b>	<b>CFM(1)</b>	<b>CFM(2)</b>	<b>FINAL CFM</b>	<b>% to design</b>
SGRD1	SUPPORT SERVICE	SI	12"	800	1	959	959	867	108.4
SGRD2	SUPPORT SERVICE	SI	12"	800	1	901	901	797	99.6
SGRD3	SUPPORT SERVICE	SI	12"	800	1	569	569	726	90.8
SGRD4	SUPPORT SERVICE	SI	12"	800	1	855	855	770	96.3
SGRD5	WORKROOM	ES	10"	500	1	535	535	458	91.6
SGRD6	WORKROOM	ES	10"	500	1	280	280	257	51.4
SGRD7								246	-
<b>Total</b>				4200		4099	4099	4121	98.12%



# National TAB

Project: 03-23-26 QT #1412 PHOENIX, AZ

## System/Unit: FAN - Exhaust

Asset: EF1

AREA:RR/JANITOR

Unit Data		
	Design	Actual
MFG	NA	CAPTIVEAIRE
Model Num	NA	DR50HFA
Serial Num	-	4603547
Type	-	DOWNBLAST
Configuration	-	VERTICAL

Motor Data		
	Design	Actual
Motor MFG	-	HSSA
Frame	-	48Y
Horsepower	-	0.75
Motor Rpm	-	1625
Phase	-	1
Voltage (rated)	-	115
Amperage (rated)	-	8.4
Service Factor	-	1.0

Test Data		
	Design	Actual
CFM	600	654
Fan RPM	-	N/A
Fan Rotation	-	CCW
Motor RPM	-	N/A
System SetPt	-	LOW-MED
RL Voltage	-	69.1
RL Amperage	-	7.36
Total ESP	-	0.16"
Fan Inlet SP	-	-0.16"
Fan Discharge SP	-	ATMS

Completed By: Christine Weale on 01/15/2026



# National TAB

Project: 03-23-26 QT #1412 PHOENIX, AZ

## System/Unit: FAN - Exhaust

Asset: EF4

AREA:COMBI-OVEN

Unit Data	
	Actual
MFG	CAPTIVEAIRE
Model Num	SIF10DD-SS
Serial Num	8364061

Test Data		
	Design	Actual
CFM	150	143
RL Voltage	-	N/A
RL Amperage	-	N/A

Motor Data		
	Design	Actual
Motor MFG	-	N/A
Horsepower	-	0.250
Motor Rpm	-	1800
Phase	-	1
Voltage (rated)	-	115
Amperage (rated)	-	2.9

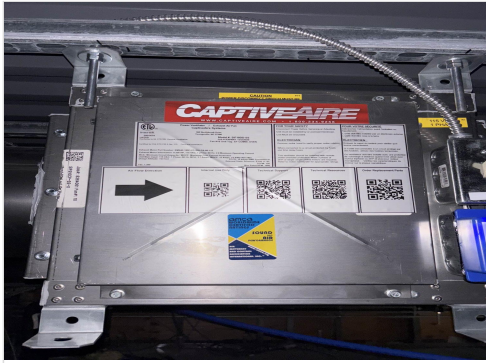
Completed By: Ethan Van Orden on 03/26/2026

Notes:

EF is above the fridge set point is 52% and RPMS is 941

Written By: Ethan Van Orden on 03/26/2026

# Unit Data - PHOTO LOG



03/26/2026



03/26/2026



03/26/2026



# National TAB

Project: 03-23-26 QT #1412 PHOENIX, AZ

## System/Unit: FAN - Exhaust

Asset: EF3

AREA:KITCHEN HD

Unit Data		
	Design	Actual
MFG	NA	CAPTIVEAIRE
Model Num	NA	DU50HFA
Serial Num	-	8257605
Type	UPBLAST	UPBLAST
Configuration	VERTICAL	VERTICAL

Motor Data		
	Design	Actual
Motor MFG	-	NEMA
Frame	-	NL
Horsepower	1/2	0.5
Motor Rpm	-	1800
Phase	-	1
Voltage (rated)	-	208
Amperage (rated)	-	3.8
Service Factor	-	NL

Test Data		
	Design	Actual
CFM	1350	1410
Fan RPM	-	1186
Fan Rotation	-	CCW
Motor RPM	-	1186
System SetPt	-	50.8 HZ - 63%
RL Voltage	-	215.6
RL Amperage	-	N/A
Total ESP	-	0.51"
Fan Inlet SP	-	-0.51"
Fan Discharge SP	-	ATMS

Completed By: Christine Weale on 01/15/2026

## Unit Data - PHOTO LOG



01/15/2026



# National TAB

Project: 03-23-26 QT #1412 PHOENIX, AZ

## 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	-	8257605
Type	-	TYPE I CANOPY
Hood length	-	108"
Hood Width	-	60"

Test Data Exhaust		
	Design	Actual
Filter Type	-	CAPTRATE SOLO
Filter Size 1	-	16X20
Filter Qty 1	-	6
Filter AK factor size 1	-	2.08
Filter Total AK Area	-	12.48
Filter1 FPM	-	111
Filter2 FPM	-	122
Filter3 FPM	-	109
Filter4 FPM	-	113
Filter5 FPM	-	110
Filter6 FPM	-	113
Filter Ave FPM(corr)	-	113
CFM	1350	1410

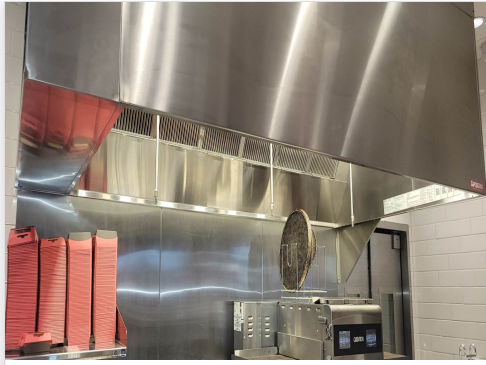
Cooking Equipment	
	Actual
Item 1	FRYERS
Item 2	DUAL-OVEN

Completed By: Christine Weale on 01/15/2026

**Unit Data - PHOTO LOG**



**01/15/2026**



**01/15/2026**

