Report By:

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

Report: TAB Report

Function: Test, Adjust, & Balance

Date: 03/04/2026

Completed By: National TAB

PROJECT

03-23-26 QT #0448 PHOENIX, AZ

9910 W CAMELBACK RD

PHOENIX, AZ

Client

QUIKTRIP

4705 SOUTH 129TH EAST AVENUE

TULSA, OK 74134

National TAB

Project: 03-23-26 QT #0448 PHOENIX, AZ

Table Of Contents

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

- EF-1 Restroom Belt Broken
- Kitchen Diffusers
- RTU-1 pulley won’t turn
- RTU-2 SGRD-11 is not on the GRD

03-23-26 QT #0448 PHOENIX, AZ

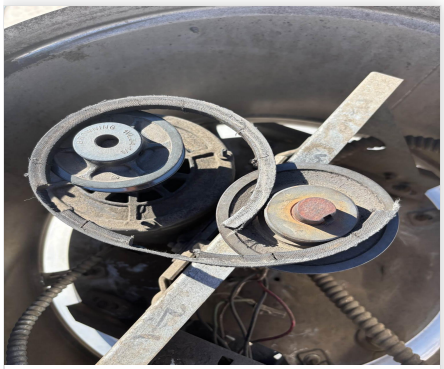
Project Issue Information

Issue Name : EF-1 Restroom Belt Broken

Description : The Belt for EF-1 is broken couldn't balance

Created By :	National TAB	**Assigned To :**	National TAB - Dan Hertenstein
Status :	Open		
Priority :	Urgent	**Asset Tag :**	EF-1
Originated Date :	03/24/2026 - Ethan Van Orden - National TAB		

Project Issue File Details



03/24/2026

03-23-26 QT #0448 PHOENIX, AZ

Project Issue Information

Issue Name : Kitchen Diffusers

Description : Kitchen diffusers installed are perforated diffusers not sure if those are the correct diffusers

Created By :	National TAB	**Assigned To :**	National TAB - Dan Hertenstein
Status :	Open		
Priority :	InfoOnly	**Asset Tag :**	RT-3
Originated Date :	03/24/2026 - Ethan Van Orden - National TAB		

Project Issue File Details

03/24/2026

03-23-26 QT #0448 PHOENIX, AZ

Project Issue Information

Issue Name : RTU-1 pulley won't turn

Description : Pulley needs to be broken free so it can be adjusted

Created By :	National TAB	**Assigned To :**	National TAB - Dan Hertenstein
Status :	Open		
Priority :	Medium	**Asset Tag :**	RT-1
Originated Date :	03/24/2026 - Ethan Van Orden - National TAB		

Project Issue File Details

03/24/2026

03-23-26 QT #0448 PHOENIX, AZ

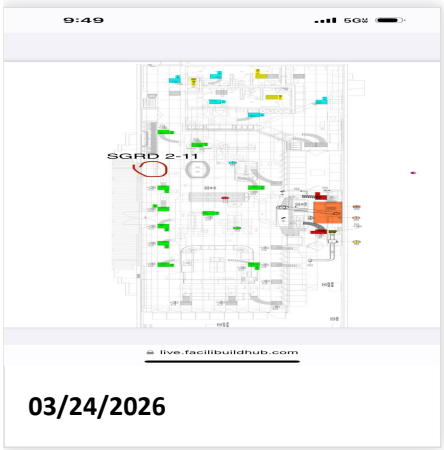
Project Issue Information

Issue Name : RTU-2 SGRD-11 is not on the GRD

Description : SGRD-11 is not on the GRD. The location is marked in the picture below. The unit was still balanced to scheduled design.

Created By :	National TAB	**Assigned To :**	National TAB - Dan Hertenstein
Status :	Open		
Priority :	InfoOnly	**Asset Tag :**	SGRD11
Originated Date :	03/24/2026 - Ethan Van Orden - National TAB		

Project Issue File Details



03/24/2026

NATIONAL TAB

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	400	434	400	434				
RTU-2	SALES	700	766	700	766				
RTU-3	BOH/KITCHEN	1350	1403	0	0				
EF-1	RESTROOMS					625	0	625	0
EF-2	HOOD					1350	1360	0	0
EF-3	COMBI OVEN					150	150	150	150
TOTALS		2450	2603	1100	1200	2125	1510	775	150

HOODS ON

NET AIRFLOW CALCULATION

TOTALS	DESIGN	ACTUAL
TOTAL OA	2450	2603
TOTAL EXHAUST	2125	1510
NET AIRFLOW	325	1093

DOOR TESTED	BUILDING PRESSURE MEASUREMENTS
FRONT	0.0144
SIDE	0.0107
REAR	
AVERAGE	**0.0126**

HOODS OFF

NET AIRFLOW CALCULATION

TOTALS	DESIGN	ACTUAL
TOTAL OA	1100	1200
TOTAL EXHAUST	775	150
NET AIRFLOW	325	1050

DOOR TESTED	BUILDING PRESSURE MEASUREMENTS
FRONT	0.0287
SIDE	0.0188
REAR	
AVERAGE	**0.0238**

NOTES:

No rear Door Just front and side

CheckList List

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

03-23-26 QT #0448 PHOENIX, AZ

CheckList Information

Name :	01: RTU’s/AHU’s	**Status :**	Completed
Assigned Organization :	National TAB	**Asset :**	
Requesting Organization :	National TAB		
Created Date :	03/04/2026 - Trinity Dodds - National TAB		
Completed Date :	03/25/2026 - Ethan Van Orden - 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 #0448 PHOENIX, AZ

CheckList Information

Name :	02: Exhaust Fans	**Status :**	Completed
Assigned Organization :	National TAB	**Asset :**	
Requesting Organization :	National TAB		
Created Date :	03/04/2026 - Trinity Dodds - National TAB		
Completed Date :	03/25/2026 - Ethan Van Orden - 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:	

03-23-26 QT #0448 PHOENIX, AZ

CheckList Information

Name :	03: Hoods	**Status :**	Completed
Assigned Organization :	National TAB	**Asset :**	
Requesting Organization :	National TAB		
Created Date :	03/04/2026 - Trinity Dodds - National TAB		
Completed Date :	03/25/2026 - Ethan Van Orden - 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:	

03-23-26 QT #0448 PHOENIX, AZ

CheckList Information

Name :	04: Final Tests	**Status :**	Completed
Assigned Organization :	National TAB	**Asset :**	
Requesting Organization :	National TAB		
Created Date :	03/04/2026 - Trinity Dodds - National TAB		
Completed Date :	03/25/2026 - Ethan Van Orden - National TAB		

CheckList Item Details

FINAL CHECKS

HOOD CAPTURE TEST

List kitchen equipment turned on for testing

Comment:

FRYER

List smoke candle type used

Comment:

Smoke bomb

Smoke test capture % - Perimeter of hood

Comment:

100%

Smoke test capture % - Top of cooking surface

Comment:

100%

WITNESS

Date test was completed	03/24/2026

Comment:

TAB tech name / Firm

Comment:

Ethan V/NTI

Site super name / Firm

Comment:

Owner representative name / Firm (if Applicable)

Comment:

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:

03-23-26 QT #0448 PHOENIX, AZ

CheckList Information

Name :	05: Smoke Detector Checklist	**Status :**	Completed
Assigned Organization :	National TAB	**Asset :**	
Requesting Organization :	National TAB		
Created Date :	03/04/2026 - Trinity Dodds - National TAB		
Completed Date :	03/25/2026 - Ethan Van Orden - National TAB		

CheckList Item Details

Smoke Detector Manufacturer:

Comment:

SYSTEM SENSOR

Smoke Detector Model:

Comment:

DH100ACDCLP- RTU-1/2 AD4S - RTU-3

Accpetable Pressure Range Rating:

Comment:

0.0015-1.2

Actual Measured Pressure Range:

Comment:

RTU-1: 0.058” RTU-2: 0.286” RTU-3: 0.078”

Smoke Detector Shutdown? Pass

Comment:

ALL PASS

National TAB

Project: 03-23-26 QT #0448 PHOENIX, AZ

System/Unit: AHU/RTU

Asset: RT-1 AREA:RESTROOM

Unit Data	
	Actual
MFG	AAON
Serial Num	200309-AKEE11160
Model Num	RK-06-2-E0-1C2:0A0000G0J0000X
Num OA Filters 1	0
Num Final Filter 1	2
Final Filter Size 1	40X16

Motor Data	
	Actual
Motor MFG	A.O. SMITH
Frame	56HZ
Horsepower	2
Motor Rpm	1725
Phase	3
Rated Voltage	208
Rated Amperage	6.3

Test Data		
	Design	**Actual**
SF CFM	2000	1628
SF RPM	-	NA
OA CFM (Hoods On)	400	434
OA CFM (Hoods Off)	400	434
RL Voltage	-	211/213/215
RL Amperage	-	4.3/4.0/4.4
VFD Max SetPt	-	NA
VFD Min SetPt	-	NA
OA Damper Position (Hoods On)	-	NA
OA Damper Position (Hoods Off)	-	NA

Performance Data		
	Design	**Actual**
MA Plenum SP	-	-0.65”
Fan Suction SP	-	-0.85”
Fan Discharge SP	-	0.32”
Total ESP	-	0.97”
Fan Total SP	-	1.17”

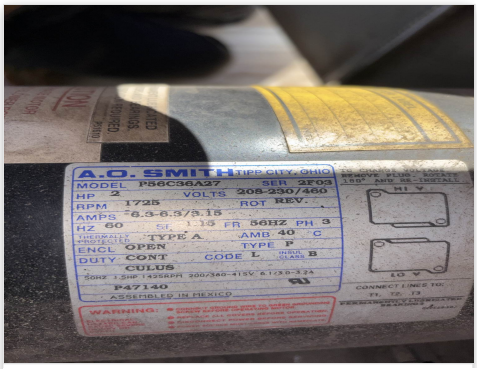
General	
	Actual
Fan Rotation Correct	YES
Unit Filters Clean	YES
Condensate Drain Installed	YES

Completed By: Ethan Van Orden on 03/25/2026

Unit Data - PHOTO LOG

03/24/2026

03/24/2026



03/24/2026

Test Data - PHOTO LOG

03/24/2026

National TAB

Project: 03-23-26 QT #0448 PHOENIX, AZ

System/Unit: AHU/RTU

Asset: RT-2 AREA:SALES

Unit Data	
	Actual
MFG	AAON
Serial Num	200310-AKEK11159
Model Num	RK-13-2-E0-1D2:000000G0J0000X
Num OA Filters 1	0
Num Final Filter 1	2
Final Filter Size 1	47X20

Motor Data	
	Actual
Motor MFG	A.O. SMITH
Frame	56HZ
Horsepower	3
Motor Rpm	1725
Phase	3
Rated Voltage	208
Rated Amperage	9.4

Test Data		
	Design	**Actual**
SF CFM	4000	4068
SF RPM	-	NA
OA CFM (Hoods On)	700	766
OA CFM (Hoods Off)	700	766
RL Voltage	-	211/213/214
RL Amperage	-	7.6/7.1/7.3
VFD Max SetPt	-	NA
VFD Min SetPt	-	NA
OA Damper Position (Hoods On)	-	NA
OA Damper Position (Hoods Off)	-	NA

Performance Data		
	Design	**Actual**
MA Plenum SP	-	-0.45”
Fan Suction SP	-	-0.96
Fan Discharge SP	-	0.43”
Total ESP	-	0.88”
Fan Total SP	-	1.39”

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

Completed By: Ethan Van Orden on 03/25/2026

Unit Data - PHOTO LOG

03/24/2026

03/24/2026

03/24/2026

National TAB

Project: 03-23-26 QT #0448 PHOENIX, AZ

System/Unit: AHU/RTU

Asset: RT-3 AREA:KITCHEN

Unit Data	
	Actual
MFG	AAON
Serial Num	201404-ANEJ10067
Model Num	RN-010-8-0-FB09-15A
Num OA Filters 1	1
OA Filter Size 1	35X19
Num Final Filter 1	2
Final Filter Size 1	40X16

Motor Data	
	Actual
Motor MFG	NL
Frame	NL
Horsepower	1
Motor Rpm	1760
Phase	3
Rated Voltage	208
Rated Amperage	4.6

Test Data		
	Design	**Actual**
SF CFM	1350	1403
SF RPM	-	1320
OA CFM (Hoods On)	1350	1403
OA CFM (Hoods Off)	0	0
RL Voltage	-	145@VFD
RL Amperage	-	1.9@VFD
VFD Max SetPt	-	45HZ
VFD Min SetPt	-	24HZ
OA Damper Position (Hoods On)	-	100%
OA Damper Position (Hoods Off)	-	0%

Performance Data		
	Design	**Actual**
MA Plenum SP	-	-0.11”
Fan Suction SP	-	-0.21”
Fan Discharge SP	-	0.25”
Total ESP	-	0.36”
Fan Total SP	-	0.46”

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

Completed By: Ethan Van Orden on 03/25/2026

Unit Data - PHOTO LOG

03/24/2026

03/24/2026

National TAB

Project:03-23-26 QT #0448 PHOENIX, AZ

AHU/RTU

Diffuser Supply (GRD)

RT-3/KITCHEN

Asset									
Asset Name	**Location**	**Type**	**Size**	**DESIGN CFM**	**AK**	**CFM(1)**	**CFM(2)**	**FINAL CFM**	**% to design**
SGRD1	SERVICE AREA	SI	16"	675	1	781	670	670	99.3
SGRD2	SERVICE AREA	SI	16"	675	1	903	733	733	108.6
Total				1350		1684	1403	1403	103.93%

Completed By: Ethan Van Orden on 03/25/2026

National TAB

Project: 03-23-26 QT #0448 PHOENIX, AZ

System/Unit: FAN - Exhaust

Asset: EF-1 AREA:RESTROOM

Unit Data		
	Design	**Actual**
MFG	NA	COOK
Model Num	NA	120 ACEB
Serial Num	-	100S7314280100018050403
Type	-	DOWNBLAST
Configuration	-	VERTICAL

Test Data		
	Design	**Actual**
CFM	625	0

Motor Data		
	Design	**Actual**
Motor MFG	-	DAYTON
Frame	-	48
Horsepower	-	1/3
Motor Rpm	-	1425
Phase	-	1
Voltage (rated)	-	110
Amperage (rated)	-	6.1
Service Factor	-	1.00

Completed By: Ethan Van Orden on 03/25/2026

Unit Data - PHOTO LOG

03/24/2026

03/24/2026

03/24/2026

National TAB

Project: 03-23-26 QT #0448 PHOENIX, AZ

System/Unit: FAN - Exhaust

Asset: EF-2 AREA:KITCHEN HOOD

Unit Data		
	Design	**Actual**
MFG	NA	CAPTIVEAIRE
Model Num	NA	DU50HFA
Serial Num	-	8469495
Type	UPBLAST	UPBLAST
Configuration	VERTICAL	VERTICAL

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

Test Data		
	Design	**Actual**
CFM	1350	1360
Fan RPM	-	1314
Fan Rotation	-	CCW
Motor RPM	-	1314
System SetPt	-	58.8HZ/73%
RL Voltage	-	214
RL Amperage	-	2.7
Total ESP	0.75"	0.65”
Fan Inlet SP	-	-0.65”
Fan Discharge SP	-	ATMS

Completed By: Ethan Van Orden on 03/25/2026

Unit Data - PHOTO LOG

03/24/2026

03/24/2026

National TAB

Project: 03-23-26 QT #0448 PHOENIX, AZ

System/Unit: Kitchen Hood Type I

Asset: HD-1 AREA:GRIDDLE

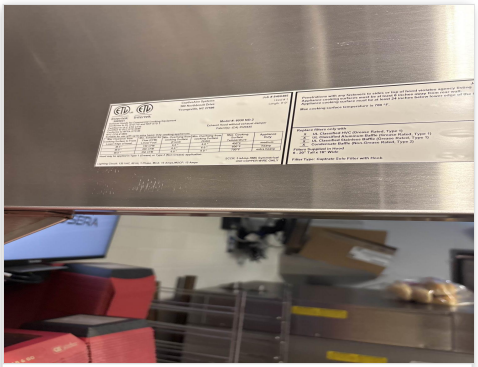
Unit Data		
	Design	**Actual**
MFG	CAPTIVEAIRE	CAPTIVEAIRE
Model Num	6030ND-2-F	6030ND-2-F
Job / Serial Num	-	8469495
Type	TYPE I CANOPY	TYPE I CANOPY
Hood length	108"	108”
Hood Width	60"	60”

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
Filter1 FPM	-	102
Filter2 FPM	-	108
Filter3 FPM	-	108
Filter4 FPM	-	110
Filter5 FPM	-	112
Filter6 FPM	-	114
Filter7 FPM	-	102
Filter Ave FPM(corr)	-	109
CFM	1350	1360

Cooking Equipment	
	Actual
Item 1	FRYER
Item 2	OVEN

Completed By: Ethan Van Orden on 03/25/2026

Unit Data - PHOTO LOG



03/24/2026

03/24/2026

National TAB

Project: 03-23-26 QT #0448 PHOENIX, AZ

System/Unit: FAN - Exhaust

Asset: EF-3 AREA:COMBI-OVEN GRILLE

Unit Data		
	Design	**Actual**
MFG	NA	CAPTIVEAIRE
Model Num	NA	SIFIODD-SS
Serial Num	-	8425962
Type	INLINE	INLINE
Configuration	VERTICAL	HORIZONTAL

Motor Data		
	Design	**Actual**
Motor MFG	-	NL
Frame	-	NL
Horsepower	0.3	0.250
Motor Rpm	-	1800
Phase	1	1
Voltage (rated)	120	115
Amperage (rated)	-	2.9
Service Factor	-	NL

Test Data		
	Design	**Actual**
CFM	150	150
Fan RPM	-	758
Fan Rotation	-	CCW
Motor RPM	-	758
System SetPt	-	42%
RL Voltage	-	NA
RL Amperage	-	NA
Total ESP	-	NA
Fan Inlet SP	-	NA
Fan Discharge SP	-	ATMS

Completed By: Ethan Van Orden on 03/25/2026

Unit Data - PHOTO LOG

03/24/2026

03/24/2026


EF1-3
1-5
1-4
EF1-2
EF1-1
1-1
1-3
1-2
2-8
2-9
2-10
2-7
2-6
2-5
2-4
2-3
2-2
2-1
3-2
3-1
SALES AREA
SERVICE AREA
TRACK HOME COOLER #2
FREEZER