

Report By:

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



Report: TAB Report
Function: Test, Adjust, & Balance
Date: 03/13/2026
Completed By: National TAB

PROJECT
01-19-26 QT #1431 TOLLESON, AZ

9101 W MCDOWELL RD

TOLLESON, AZ

Client

QUIKTRIP
4705 SOUTH 129TH EAST AVENUE
TULSA, OK 74134

National TAB

Project: 01-19-26 QT #1431 TOLLESON, AZ

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Project: 01-19-26 QT #1431 TOLLESON, AZ
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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

- INACCESSIBLE KITCHEN DAMPERS
- OVEN FAN PUSHES SMOKE OUT OF HOOD
- RTU-2 DAMPER LEFT OPEN, UNUSED DUCT



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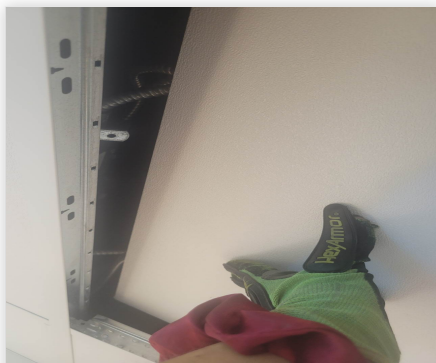
Project Issue Information

Issue Name : INACCESSIBLE KITCHEN DAMPERS
Description : Ceiling tiles can't be raised at all. Pics show 3 different tiles I tried to raise and how far I was able to move them. QT #0497 and plenty of others don't have this issue. Recommend either: light canisters need to be moved, duct plenum needs to be raised, or grille-facing dampers need to be used instead. MC should make sure dampers are accessible.
Created By : National TAB **Assigned To :** National TAB - Dan Hertenstein
Status : Open
Priority : High **Asset Tag :** RT-3
Originated Date : 01/20/2026 - Christine Weale - National TAB

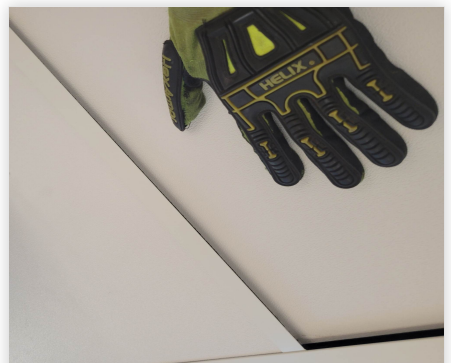
Project Issue File Details



01/21/2026



01/21/2026



01/21/2026



01-19-26 QT #1431 TOLLESON, AZ

Project Issue Information

Issue Name : OVEN FAN PUSHES SMOKE OUT OF HOOD
Description : Picture shows surface smoke air flow. About half is exhausted while the other half is swirled and pushed out of the hood. The fan on the side of the pizza oven is what is pushing it out. Quarter end panel needs to be installed
Created By : National TAB **Assigned To :** National TAB - Dan Hertenstein
Status : Open
Priority : Low **Asset Tag :** HD1
Originated Date : 02/14/2026 - Christine Weale - National TAB

Project Issue File Details





01-19-26 QT #1431 TOLLESON, AZ

Project Issue Information

Issue Name : RTU-2 DAMPER LEFT OPEN, UNUSED DUCT
Description : Duct open above ceiling. Recommend ensuring damper is closed before removing duct from use.
Created By : National TAB **Assigned To :** National TAB - Dan Hertenstein
Status : Open
Priority : High **Asset Tag :** SGRD5
Originated Date : 01/20/2026 - Christine Weale - 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	800	851	350	360				
RTU-2	SALES	800	853	350	364				
RTU-3	BOH/KITCHEN	800	853	350	362				
EF-1	RR/JANITOR					750	809	750	809
EF-3	HOOD					1350	1371	0	0
TOTALS		2400	2557	1050	1086	2100	2180	750	809

HOOD ON

NET AIRFLOW CALCULATION

TOTALS	DESIGN	ACTUAL
TOTAL OA	2400	2557
TOTAL EXHAUST	2100	2180
NET AIRFLOW	300	377

DOOR TESTED	BUILDING PRESSURE MEASUREMENTS
FRONT	0.003
SIDE	0.003
REAR	0.
AVERAGE	0.002

HOOD OFF

NET AIRFLOW CALCULATION

TOTALS	DESIGN	ACTUAL
TOTAL OA	1050	1086
TOTAL EXHAUST	750	809
NET AIRFLOW	300	277

DOOR TESTED	BUILDING PRESSURE MEASUREMENTS
FRONT	
SIDE	
REAR	
AVERAGE	

NOTES:

Due to Kitchen already being in use, could not turn hood off for 'Hood OFF' building pressure. Based on balance sheet, there shouldn't be any building issues w/ hood off.

CheckList List

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



01-19-26 QT #1431 TOLLESON, 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 : 01/21/2026 - 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:



01-19-26 QT #1431 TOLLESON, 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 : 01/21/2026 - Christine Weale - 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:



01-19-26 QT #1431 TOLLESON, 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 : 02/12/2026 - Christine Weale - 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? Fail

Comment:

Quarter panel not installed.



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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 : 03/31/2026 - Christine Weale - National TAB

CheckList Item Details

FINAL CHECKS

HOOD CAPTURE TEST

List kitchen equipment turned on for testing

Comment:

All on at testing time.

List smoke candle type used

Comment:

45s, S102

Smoke test capture % - Perimeter of hood

Comment:

100

Smoke test capture % - Top of cooking surface

Comment:

100 - unless dual-oven on, fan blows smoke out, then 90

WITNESS

Date test was completed

01/20/2026

Comment:

TAB tech name / Firm

Comment:

Christine Weale, 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:



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Project: 01-19-26 QT #1431 TOLLESON, AZ

System/Unit: AHU/RTU

Asset: RT-1

AREA:SALES FLOOR

Unit Data	
	Actual
MFG	AAON
Serial Num	202210-ANEK25481
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	4267
SF RPM	-	46.8 HZ
OA CFM (Hoods On)	800	851
OA CFM (Hoods Off)	350	360
RL Voltage	-	143.8
RL Amperage	-	7.17
VFD Max SetPt	-	78
VFD Min SetPt	-	24
OA Damper Position (Hoods On)	-	0.5"
OA Damper Position (Hoods Off)	-	0 - GAP @BOTTOM

Performance Data		
	Design	Actual
MA Plenum SP	-	-0.47"
Fan Suction SP	-	-0.79"
Fan Discharge SP	-	0.37"
Total ESP	-	0.84"
Fan Total SP	-	1.16"

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

Completed By: Christine Weale on 01/20/2026

Unit Data - PHOTO LOG



01/20/2026



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Project: 01-19-26 QT #1431 TOLLESON, AZ

System/Unit: AHU/RTU

Asset: RT-2

AREA:SALES FLOOR

Unit Data	
	Actual
MFG	AAON
Serial Num	202210-ANEK25480
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	4524
SF RPM	-	47.4 HZ
OA CFM (Hoods On)	800	853
OA CFM (Hoods Off)	350	364
RL Voltage	-	166.5
RL Amperage	-	7.98
VFD Max SetPt	-	79
VFD Min SetPt	-	24
OA Damper Position (Hoods On)	-	0.5"
OA Damper Position (Hoods Off)	-	0 - GAP @BOTTOM

Performance Data		
	Design	Actual
MA Plenum SP	-	-0.48"
Fan Suction SP	-	-0.83"
Fan Discharge SP	-	0.45"
Total ESP	-	0.93"
Fan Total SP	-	1.28"

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

Completed By: Christine Weale on 01/20/2026

Unit Data - PHOTO LOG



01/20/2026



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Project: 01-19-26 QT #1431 TOLLESON, AZ

System/Unit: AHU/RTU

Asset: RT-3

AREA:BOH/KITCHEN

Unit Data	
	Actual
MFG	AAON
Serial Num	202210-ANEK25482
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	3839
SF RPM	-	45 HZ
OA CFM (Hoods On)	800	853
OA CFM (Hoods Off)	350	362
RL Voltage	-	151.6
RL Amperage	-	7.55
VFD Max SetPt	-	75
VFD Min SetPt	-	24
OA Damper Position (Hoods On)	-	0.5"
OA Damper Position (Hoods Off)	-	0 - SLIGHT GAP @BOTTOM

Performance Data		
	Design	Actual
MA Plenum SP	-	-0.44"
Fan Suction SP	-	-0.80"
Fan Discharge SP	-	0.42"
Total ESP	-	0.86"
Fan Total SP	-	1.22"

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

Completed By: Christine Weale on 01/20/2026

Notes:

DAMPERS COMPLETELY INACCESSIBLE, SEE 'REMARKS'. LEFT UNIT ON LOW SIDE SINCE SGRD1 & 2 ARE ALREADY SO HIGH.

Written By: Christine Weale on 01/20/2026

Unit Data - PHOTO LOG



01/20/2026



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Project:01-19-26 QT #1431 TOLLESON, AZ

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	975	975	975	121.9
SGRD2	SUPPORT SERVICE	SI	12"	800	1	927	927	927	115.9
SGRD3	SUPPORT SERVICE	SI	12"	800	1	759	759	759	94.9
SGRD4	SUPPORT SERVICE	SI	12"	800	1	745	745	745	93.1
SGRD5	WORKROOM	ES	10"	500	1	82	82	82	16.4
SGRD6	WORKROOM	ES	10"	500	1	351	351	351	70.2
Total				4200		3839	3839	3839	91.4%



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Project: 01-19-26 QT #1431 TOLLESON, AZ

System/Unit: FAN - Exhaust

Asset: EF1

AREA:RR/JANITOR

Unit Data		
	Design	Actual
MFG	NA	CAPTIVEAIRE
Model Num	NA	DR50HFA
Serial Num	-	6335669
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	750	809
Fan RPM	-	N/A
Fan Rotation	-	CCW
Motor RPM	-	N/A
System SetPt	-	LOW
RL Voltage	-	64.0
RL Amperage	-	7.35
Total ESP	-	0.21"
Fan Inlet SP	-	-0.21"
Fan Discharge SP	-	ATMS

Completed By: Christine Weale on 01/20/2026

Unit Data - PHOTO LOG



01/20/2026



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Project:01-19-26 QT #1431 TOLLESON, AZ

Diffuser Ret/Exh (GRD)

EF1/RR/JANITOR

Asset									
Asset Name	Location	Type	Size	DESIGN CFM	AK	CFM(1)	CFM(2)	FINAL CFM	% to design
EGRD4	SUPPORT SERVICE	RI	8"	150	1	352	207	173	115.3
Total				150		352	207	173	115.33%



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Project: 01-19-26 QT #1431 TOLLESON, AZ

System/Unit: FAN - Exhaust

Asset: EF3

AREA:KITCHEN HD

Unit Data		
	Design	Actual
MFG	NA	CAPTIVEAIRE
Model Num	NA	DU50HFA
Serial Num	-	8257444
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	1371
Fan RPM	-	1230
Fan Rotation	-	CCW
Motor RPM	-	1230
System SetPt	-	52.6 HZ - 65%
RL Voltage	-	217.5
RL Amperage	-	1.83
Total ESP	-	0.65"
Fan Inlet SP	-	-0.65"
Fan Discharge SP	-	ATMS

Completed By: Christine Weale on 01/20/2026

Unit Data - PHOTO LOG



01/20/2026



National TAB

Project: 01-19-26 QT #1431 TOLLESON, 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	-	8257444
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	-	105
Filter2 FPM	-	115
Filter3 FPM	-	112
Filter4 FPM	-	105
Filter5 FPM	-	104
Filter6 FPM	-	118
Filter Ave FPM(corr)	-	109.83
CFM	1350	1371

Cooking Equipment	
	Actual
Item 1	FRYERS
Item 2	DUAL-OVEN

Completed By: Christine Weale on 01/20/2026

Notes:

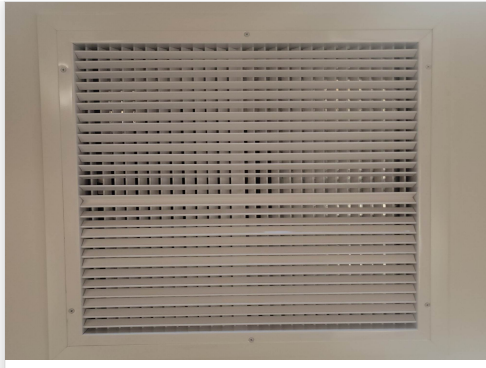
PICS OF GRILLE SHOW BEFORE AND AFTER. WHEN SET TO MSET DEPICTION, SMOKE LOSS WAS EXTREMELY HIGH MID-HOOD. HAD TO SET GRILLES ALMOST COMPLETELY OPPOSED TO HOOD TO OBTAIN 98% CAPTURE.

Written By: Christine Weale on 01/20/2026

Unit Data - PHOTO LOG



01/20/2026



01/20/2026



01/20/2026

