Report By:

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

Report: TAB Report

Function: Test, Adjust, & Balance

Date: 03/10/2026

Completed By: National TAB

PROJECT

03-23-26 QT #1036 CHARLOTTE, NC

4270 TRAILER DR.

CHARLOTTE, NC

Client

QUIKTRIP

4705 SOUTH 129TH EAST AVENUE

TULSA, OK 74134

National TAB

Project: 03-23-26 QT #1036 CHARLOTTE, NC

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 combo-oven grille/ no access
- RTU 3 no access to dampers

03-23-26 QT #1036 CHARLOTTE, NC

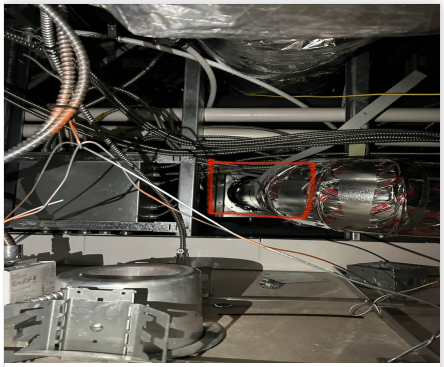
Project Issue Information

Issue Name : EF-1 combo-oven grille/ no access

Description : EF-1 does not serve the combo-oven grille as planned. New asset was installed with an inline fan EF-4. Unable to access motor assembly.

Created By :	National TAB	**Assigned To :**	National TAB - Dan Hertenstein
Status :	Open		
Priority :	Medium	**Asset Tag :**	EF4
Originated Date :	03/25/2026 - Jearod Ferrette - National TAB		

Project Issue File Details



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03-23-26 QT #1036 CHARLOTTE, NC

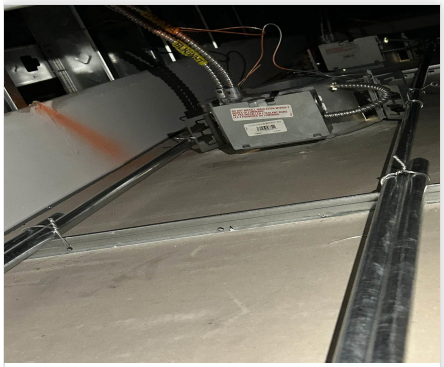
Project Issue Information

Issue Name : RTU 3 no access to dampers

Description : Unable to access kitchen dampers, electrical conduit wired to ceiling pads.

Created By :	National TAB	**Assigned To :**	National TAB - Dan Hertenstein
Status :	Open		
Priority :	Medium	**Asset Tag :**	RT-3
Originated Date :	03/25/2026 - Jearod Ferrette - National TAB		

Project Issue File Details



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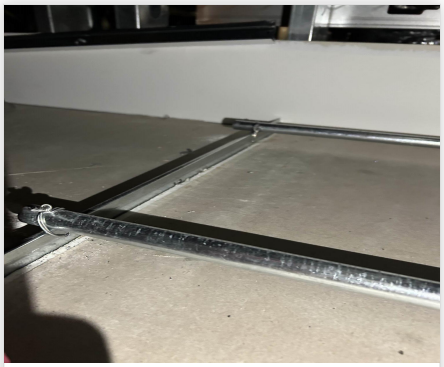


03/25/2026

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	865	878	415	421				
RTU-2	SALES	865	892	415	442				
RTU-3	SALES/KITCHEN	865	892	415	435				
RTU-4	BOH	160	170	160	170				
EF-1	MEN'S RR/COMBI					650	679	650	679
EF-2	WOMEN'S RR					350	361	350	361
EF-3	HOOD					1350	1347	0	0
TOTALS		2755	2832	1405	1468	2350	2387	1000	1040

HOODS ON

NET AIRFLOW CALCULATION

TOTALS	DESIGN	ACTUAL
TOTAL OA	2755	2832
TOTAL EXHAUST	2350	2387
NET AIRFLOW	405	445

DOOR TESTED	BUILDING PRESSURE MEASUREMENTS
FRONT	0.009
SIDE	0.007
REAR	0.01
AVERAGE	**0.0087**

HOODS OFF

NET AIRFLOW CALCULATION

TOTALS	DESIGN	ACTUAL
TOTAL OA	1405	1468
TOTAL EXHAUST	1000	1040
NET AIRFLOW	405	428

DOOR TESTED	BUILDING PRESSURE MEASUREMENTS
FRONT	0.006
SIDE	0.007
REAR	0.008
AVERAGE	**0.007**

NOTES:

CheckList List

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

03-23-26 QT #1036 CHARLOTTE, NC

CheckList Information

Name :	01: RTU’s/AHU’s	**Status :**	Completed
Assigned Organization :	National TAB	**Asset :**	
Requesting Organization :	National TAB		
Created Date :	03/10/2026 - Trinity Dodds - National TAB		
Completed Date :	03/25/2026 - 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?	N/A
Comment:	
Unit free of noticeable noise and vibration	Pass
Comment:	

03-23-26 QT #1036 CHARLOTTE, NC

CheckList Information

Name :	02: Exhaust Fans	**Status :**	Completed
Assigned Organization :	National TAB	**Asset :**	
Requesting Organization :	National TAB		
Created Date :	03/10/2026 - Trinity Dodds - National TAB		
Completed Date :	03/25/2026 - 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:	

03-23-26 QT #1036 CHARLOTTE, NC

CheckList Information

Name :	03: Hoods	**Status :**	Completed
Assigned Organization :	National TAB	**Asset :**	
Requesting Organization :	National TAB		
Created Date :	03/10/2026 - Trinity Dodds - National TAB		
Completed Date :	03/25/2026 - 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:	

03-23-26 QT #1036 CHARLOTTE, NC

CheckList Information

Name :	04: Final Tests	**Status :**	Completed
Assigned Organization :	National TAB	**Asset :**	
Requesting Organization :	National TAB		
Created Date :	03/10/2026 - Trinity Dodds - National TAB		
Completed Date :	03/25/2026 - Jearod Ferrette - National TAB		

CheckList Item Details

FINAL CHECKS

HOOD CAPTURE TEST

List kitchen equipment turned on for testing

Comment:

FRYER, PIZZA OVEN

List smoke candle type used

Comment:

STAFF TRAINING IN KITCHEN, 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	03/25/2026

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 0.009, SIDE 0.007, REAR 0.010

National TAB

Project: 03-23-26 QT #1036 CHARLOTTE, NC

System/Unit: AHU/RTU

Asset: RT-1 AREA:SALES FLOOR

Unit Data	
	Actual
MFG	AAON
Serial Num	102107-ANEL22814
Model Num	RN-015-8-0-EA0A-152
Num OA Filters 1	1
OA Filter Size 1	22.5X45
Num Final Filter 1	2
Final Filter Size 1	56X45

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

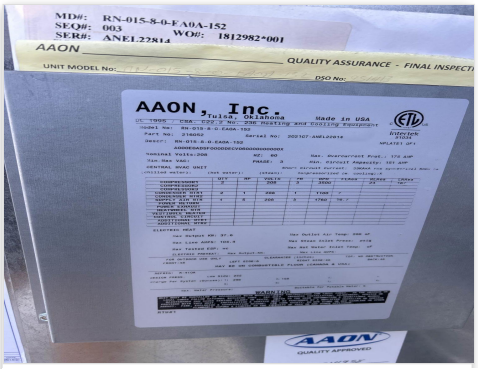
Test Data		
	Design	**Actual**
SF CFM	4700	4685
SF RPM	-	DD/ 54 HZ
OA CFM (Hoods On)	865	878
OA CFM (Hoods Off)	415	421
RL Voltage	-	200 VFD
RL Amperage	-	11.6 VFD
VFD Max SetPt	-	54 HZ
OA Damper Position (Hoods On)	-	46%
OA Damper Position (Hoods Off)	-	23%

Performance Data		
	Design	**Actual**
MA Plenum SP	-	-0.67"
Fan Suction SP	-	-1.00"
Fan Discharge SP	-	0.97"
Total ESP	-	1.64"
Fan Total SP	-	1.97"

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

Completed By: Jearod Ferrette on 03/25/2026

Unit Data - PHOTO LOG



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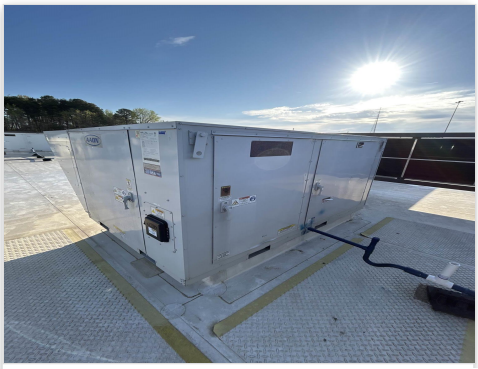

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National TAB

Project: 03-23-26 QT #1036 CHARLOTTE, NC

System/Unit: AHU/RTU

Asset: RT-2 AREA:SALES FLOOR

Unit Data	
	Actual
MFG	AAON
Serial Num	202107-ANEL22815
Model Num	RN-015-8-0-EA0A-152
Num OA Filters 1	1
OA Filter Size 1	22.5X45
Num Final Filter 1	2
Final Filter Size 1	56X45

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

Test Data		
	Design	**Actual**
SF CFM	5000	5108
SF RPM	-	DD/ 56.8 HZ
OA CFM (Hoods On)	865	892
OA CFM (Hoods Off)	415	442
RL Voltage	-	212.3 VFD
RL Amperage	-	12.1 VFD
VFD Max SetPt	-	56.8 HZ
OA Damper Position (Hoods On)	-	46%
OA Damper Position (Hoods Off)	-	26%

Performance Data		
	Design	**Actual**
MA Plenum SP	-	-0.64"
Fan Suction SP	-	-0.98"
Fan Discharge SP	-	0.90"
Total ESP	-	1.54"
Fan Total SP	-	1.88"

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

Completed By: Jearod Ferrette on 03/25/2026

Unit Data - PHOTO LOG

03/25/2026

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National TAB

Project: 03-23-26 QT #1036 CHARLOTTE, NC

System/Unit: AHU/RTU

Asset: RT-3 AREA:BOH/KITCHEN

Unit Data	
	Actual
MFG	AAON
Serial Num	202107-ANEK22233
Model Num	RN-015-8-0-EA0A-152
Num OA Filters 1	1
OA Filter Size 1	22.5X45
Num Final Filter 1	2
Final Filter Size 1	56X45

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

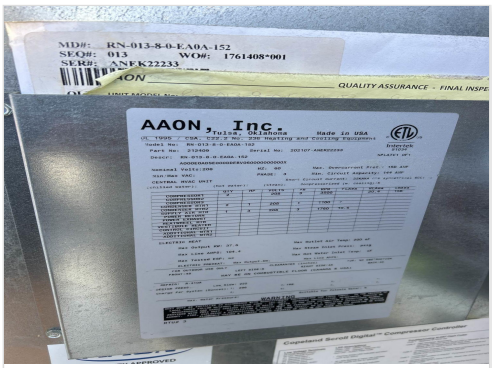
Test Data		
	Design	**Actual**
SF CFM	4200	4337
SF RPM	-	DD/ 43.2 HZ
OA CFM (Hoods On)	865	892
OA CFM (Hoods Off)	415	435
RL Voltage	-	139.3 VFD
RL Amperage	-	6.7 VFD
VFD Max SetPt	-	52 HZ
OA Damper Position (Hoods On)	-	46%
OA Damper Position (Hoods Off)	-	23%

Performance Data		
	Design	**Actual**
MA Plenum SP	-	-0.36"
Fan Suction SP	-	-0.52"
Fan Discharge SP	-	0.30"
Total ESP	-	0.66"
Fan Total SP	-	0.82"

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

Completed By: Jearod Ferrette on 03/25/2026

Unit Data - PHOTO LOG



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National TAB

Project:03-23-26 QT #1036 CHARLOTTE, 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	SALES FLOOR	SI	12"	700	1	616		579	82.7
SGRD2	SUPPORT SERVICE	SI	14"	875	1	591		556	63.5
SGRD3	SUPPORT SERVICE	SI	14"	875	1	950		893	102.1
SGRD4	SUPPORT SERVICE	SI	14"	875	1	1343		1246	142.4
SGRD5	SUPPORT SERVICESUPPORT SERVICE	ES	14"	875	1	1133		1063	121.5
Total				4200		4633	0	4337	103.26%

National TAB

Project: 03-23-26 QT #1036 CHARLOTTE, NC

System/Unit: AHU/RTU

Asset: RT-4 AREA:BOH

Unit Data	
	Actual
MFG	AAON
Serial Num	202107-AYEF04895
Model Num	RQ-006-8-V-EA09-132
Num OA Filters 1	1
OA Filter Size 1	17X12
Num Final Filter 1	1
Final Filter Size 1	36X20

Motor Data	
	Actual
Motor MFG	NA
Frame	NA
Horsepower	1/3
Motor Rpm	1100
Phase	1
Rated Voltage	208
Rated Amperage	2.8

Test Data		
	Design	**Actual**
SF CFM	1800	1810
SF RPM	-	DD/ 52 HZ
OA CFM (Hoods On)	160	170
OA CFM (Hoods Off)	160	170
RL Voltage	-	191.2 VFD
RL Amperage	-	3.1 VFD
VFD Max SetPt	-	52 HZ
OA Damper Position (Hoods On)	-	35%
OA Damper Position (Hoods Off)	-	35%

Performance Data		
	Design	**Actual**
MA Plenum SP	-	-0.59"
Fan Suction SP	-	-1.02"
Fan Discharge SP	-	0.53"
Total ESP	-	1.12"
Fan Total SP	-	1.55"

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

Completed By: Jearod Ferrette on 03/25/2026

Unit Data - PHOTO LOG

03/25/2026

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National TAB

Project: 03-23-26 QT #1036 CHARLOTTE, NC

System/Unit: FAN - Exhaust

Asset: EF1 AREA:MEN'S RR/COMBI

Unit Data		
	Design	**Actual**
MFG	NA	CAPTIVEAIRE
Model Num	NA	DR33HFA
Serial Num	-	4897469
Type	-	DOWNBLAST
Configuration	-	VERTICAL

Motor Data		
	Design	**Actual**
Motor MFG	-	TELCO GREEN
Frame	-	NA
Horsepower	-	1/3
Motor Rpm	-	1800
Phase	-	1
Voltage (rated)	-	115
Amperage (rated)	-	NA
Service Factor	-	1

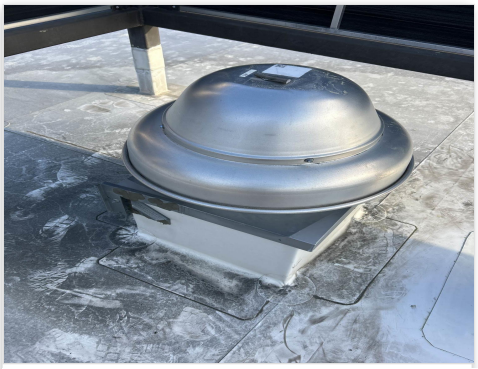
Test Data		
	Design	**Actual**
CFM	500	482
Fan RPM	-	1068
Fan Rotation	-	CCW
Motor RPM	-	1068
System SetPt	-	57P
RL Voltage	-	NA
RL Amperage	-	NA
Total ESP	-	0.23”
Fan Inlet SP	-	-0.23”
Fan Discharge SP	-	ATMO

Completed By: Jearod Ferrette on 03/25/2026

Notes:
SEE ISSUE

Written By: Jearod Ferrette on 03/25/2026

Unit Data - PHOTO LOG



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National TAB

Project: 03-23-26 QT #1036 CHARLOTTE, NC

System/Unit: FAN - Exhaust

Asset: EF2 AREA:WOMEN'S RR

Unit Data		
	Design	**Actual**
MFG	NA	CAPTIVEAIRE
Model Num	NA	DR12HFA
Serial Num	-	4897469
Type	-	DOWNBLAST
Configuration	-	VERTICAL

Motor Data		
	Design	**Actual**
Motor MFG	-	TELCO GREEN
Frame	-	NA
Horsepower	-	1/4
Motor Rpm	-	1800
Phase	-	1
Voltage (rated)	-	115
Amperage (rated)	-	NA
Service Factor	-	1

Test Data		
	Design	**Actual**
CFM	350	361
Fan RPM	-	1380
Fan Rotation	-	CCW
Motor RPM	-	1380
System SetPt	-	72P
RL Voltage	-	NA
RL Amperage	-	NA
Total ESP	-	0.17”
Fan Inlet SP	-	-0.17”
Fan Discharge SP	-	ATMO

Completed By: Jearod Ferrette on 03/25/2026

Unit Data - PHOTO LOG

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National TAB

Project: 03-23-26 QT #1036 CHARLOTTE, NC

System/Unit: FAN - Exhaust

Asset: EF3 AREA:KITCHEN HD

Unit Data		
	Design	**Actual**
MFG	NA	CAPTIVEAIRE
Model Num	NA	DU50HFA
Serial Num	-	8318566
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)	-	208
Amperage (rated)	-	NA
Service Factor	-	1

Test Data		
	Design	**Actual**
CFM	1350	1347
Fan RPM	-	1195
Fan Rotation	-	CCW
Motor RPM	-	1195
System SetPt	-	52.8
RL Voltage	-	NA
RL Amperage	-	NA
Total ESP	-	0.30"
Fan Inlet SP	-	-0.30"
Fan Discharge SP	-	ATMO

Completed By: Jearod Ferrette on 03/25/2026

Unit Data - PHOTO LOG

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National TAB

Project: 03-23-26 QT #1036 CHARLOTTE, 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	-	8318566
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	-	106
Filter2 FPM	-	113
Filter3 FPM	-	114
Filter4 FPM	-	115
Filter5 FPM	-	101
Filter6 FPM	-	104
Filter Ave FPM(corr)	-	108
CFM	1350	1347

Cooking Equipment	
	Actual
Item 1	FRYER
Item 2	PIZZA OVEN

Completed By: Jearod Ferrette on 03/25/2026

Unit Data - PHOTO LOG

03/25/2026