

Report By:

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



Report: TAB Report
Function: Test, Adjust, & Balance
Date: 10/22/2025
Completed By: National TAB

PROJECT
01-12-26 QT #0585 OMAHA, NE

4720 HAMILTON STREET

OMAHA, NE

Client

QUIKTRIP
4705 SOUTH 129TH EAST AVENUE
TULSA, OK 74134

National TAB

Project: 01-12-26 QT #0585 OMAHA, NE

Table Of Contents

Section	Page #
Summary	3
Issue Data	4
Balance Schedule	12
Checklist	13
RTU-1	19
RTU-2	21
RTU-3	23
EF-1 - Exhaust	26
EF-2 - Hood Exhaust	28
Kitchen Hood Type I	30
EF-3 - Combi-Oven Exhaust	32
GRD Layout	34



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: Missing Belt
- EF-1: Motor Cover/Housing
- RT-1: GFI Outlet Cover
- RT-2: Low Airflow
- RT-2: OA Damper Actuator
- RT-2: Return Damper Blade
- RT-2: Whistling Sound



01-12-26 QT #0585 OMAHA, NE

Project Issue Information

Issue Name : EF-1: Missing Belt
Description : The drive belt for EF-1 is missing. No airflow.
Created By : National TAB **Assigned To :** National TAB - Dan Hertenstein
Status : Open
Priority : Urgent **Asset Tag :** EF1
Originated Date : 01/15/2026 - Kalen Kemp - National TAB

Project Issue File Details



01/15/2026



01-12-26 QT #0585 OMAHA, NE

Project Issue Information

Issue Name : EF-1: Motor Cover/Housing
Description : The motor cover/housing is not securely fastened to the base of the fan.
Created By : National TAB **Assigned To :** National TAB - Dan Hertenstein
Status : Open
Priority : Low **Asset Tag :** EF1
Originated Date : 01/15/2026 - Kalen Kemp - National TAB

Project Issue File Details



01/15/2026



01-12-26 QT #0585 OMAHA, NE

Project Issue Information

Issue Name : RT-1: GFI Outlet Cover
Description : The GFI outlet cover for RT-1 is not securely attached to the unit. Placed Cover over GFI outlet. Plastic tabs are broken and cover was found laying on the roof upon arrival.
Created By : National TAB **Assigned To :** National TAB - Dan Hertenstein
Status : Open
Priority : Low **Asset Tag :** RT-1
Originated Date : 01/15/2026 - Kalen Kemp - National TAB

Project Issue File Details



01/15/2026



01-12-26 QT #0585 OMAHA, NE

Project Issue Information

Issue Name : RT-2: Low Airflow
Description : RT-2 is low on airflow. Measured 3228 CFM. Design is 4,000 CFM. Adjusted motor sheave as far as possible. Set OA proportional to Supply airflow.
Created By : National TAB **Assigned To :** National TAB - Dan Hertenstein
Status : Open
Priority : High **Asset Tag :** RT-2
Originated Date : 01/15/2026 - Kalen Kemp - National TAB

Project Issue File Details



01/15/2026



01-12-26 QT #0585 OMAHA, NE

Project Issue Information

Issue Name : RT-2: OA Damper Actuator
Description : The OA damper actuator is not attached to the damper blades. OA damper position set manually.
Created By : National TAB **Assigned To :** National TAB - Dan Hertenstein
Status : Open
Priority : Medium **Asset Tag :** RT-2
Originated Date : 01/15/2026 - Kalen Kemp - National TAB

Project Issue File Details



01/15/2026



01-12-26 QT #0585 OMAHA, NE

Project Issue Information

Issue Name : RT-2: Return Damper Blade
Description : A return damper blade is broken. Blade is detached from side wall.
Created By : National TAB **Assigned To :** National TAB - Dan Hertenstein
Status : Open
Priority : Medium **Asset Tag :** RT-2
Originated Date : 01/15/2026 - Kalen Kemp - National TAB

Project Issue File Details



01/15/2026



01-12-26 QT #0585 OMAHA, NE

Project Issue Information

Issue Name : RT-2: Whistling Sound
Description : RT-2 has loud whistling sound coming from blower compartment door. Issue seems to be cause by bad seal.
Created By : National TAB **Assigned To :** National TAB - Dan Hertenstein
Status : Open
Priority : Low **Asset Tag :** RT-2
Originated Date : 01/15/2026 - Kalen Kemp - National TAB

Project Issue File Details



01/15/2026

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	RR/BOH	400	403	400	403				
RTU-2	SALES	700	567	700	567				
RTU-3	BOH/KITCHEN	1350	1337	0	0				
EF-1	RESTROOMS					600	0	600	0
EF-2	KITCHEN HD					1350	1348	0	0
EF-3	COMBI OVEN					150	143	150	143
TOTALS		2450	2307	1100	970	2100	1491	750	143

HOODS ON

NET AIRFLOW CALCULATION

TOTALS	DESIGN	ACTUAL
TOTAL OA	2450	2307
TOTAL EXHAUST	2100	1491
NET AIRFLOW	350	816

DOOR TESTED	BUILDING PRESSURE MEASUREMENTS
FRONT	0.023
SIDE	N/A
REAR	0.0169
AVERAGE	0.02

HOODS OFF

NET AIRFLOW CALCULATION

TOTALS	DESIGN	ACTUAL
TOTAL OA	1100	970
TOTAL EXHAUST	750	143
NET AIRFLOW	350	827

DOOR TESTED	BUILDING PRESSURE MEASUREMENTS
FRONT	0.0256
SIDE	N/A
REAR	0.0176
AVERAGE	0.0216

NOTES:

RT-2 LOW ON AIRFLOW . MEASURED AT 3228 CFM. SET OA PROPORTIONAL TO SUPPLY. EF-1 MISSING DRIVE BELT. NO AIRFLOW.

CheckList List

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



01-12-26 QT #0585 OMAHA, NE

CheckList Information

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

Assigned Organization : National TAB **Asset :**

Requesting Organization : National TAB

Created Date : 09/26/2025 - Trinity Dodds - National TAB

Completed Date : 01/15/2026 - Kalen Kemp - 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	Fail
---	------

Comment:

RT-2 HAS WHISTLING SOUND AT BLOWER COMPARTMENT DOOR.



01-12-26 QT #0585 OMAHA, NE

CheckList Information

Name : 02: Exhaust Fans **Status :** Completed
Assigned Organization : National TAB **Asset :**
Requesting Organization : National TAB
Created Date : 09/26/2025 - Trinity Dodds - National TAB
Completed Date : 01/15/2026 - Kalen Kemp - 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:



01-12-26 QT #0585 OMAHA, NE

CheckList Information

Name : 03: Hoods **Status :** Completed

Assigned Organization : National TAB **Asset :**

Requesting Organization : National TAB

Created Date : 09/26/2025 - Trinity Dodds - National TAB

Completed Date : 01/15/2026 - Kalen Kemp - 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:

END PANELS COULD NOT BE INSTALLED DUE TO LOCATIONS OF KITCHEN EQUIPMENT.



01-12-26 QT #0585 OMAHA, NE

CheckList Information

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

Assigned Organization : National TAB **Asset :**

Requesting Organization : National TAB

Created Date : 09/26/2025 - Trinity Dodds - National TAB

Completed Date : 01/16/2026 - Kalen Kemp - National TAB

CheckList Item Details

FINAL CHECKS

HOOD CAPTURE TEST

List kitchen equipment turned on for testing

Comment:

FRYERS, PIZZA OVENS

List smoke candle type used

Comment:

S102 (45 sec)

Smoke test capture % - Perimeter of hood

Comment:

100% SMOKE CAPTURE

Smoke test capture % - Top of cooking surface

Comment:

100% SMOKE CAPTURE

WITNESS

Date test was completed

01/15/2026

Comment:

TAB tech name / Firm

Comment:

KALEN KEMP / NATIONAL TAB

Site super name / Firm

Comment:

SAM SNYDER / SNYDER CONSTRUCTION KARI HEINRICH / QT PROJECTS

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:

Notes/Comments :

Building Pressure: There is only 2 doors. Double doors at the front of store. Single door at the back of store. Only 2 building pressure readings taken.

Date :01/16/2026



National TAB

Project: 01-12-26 QT #0585 OMAHA, NE

System/Unit: AHU/RTU

Asset: RT-1

AREA:BOH/SALES/RR

Unit Data	
	Actual
MFG	AAON
Serial Num	200509-AMGF19764
Model Num	RM-006-8-0-AA01- 222:A000D000BC000000AD0L00 00000000
Num OA Filters 1	1
OA Filter Size 1	11.5X35"
Num Final Filter 1	4
Final Filter Size 1	16X20X2"

Motor Data		
	Design	Actual
Motor MFG	-	A.O. SMITH
Frame	-	56HZ
Horsepower	-	1.0
Motor Rpm	-	1725
Phase	-	3
Rated Voltage	-	208-230/460
Rated Amperage	-	3.2-3.3/1.6
Service Factor	-	1.15

Drive Data	
	Actual
Motor Sheave Size	4.25"
Motor Bore Size	0.875"
Motor Sheave SetPt	2 TURNS OUT
Fan Sheave Size	5"
Fan Sheave Bore	1"
Belt CL Distance	16.5"
Num of Belts	1
Belt Size	B-45

Test Data		
	Design	Actual
SF CFM	-	1885
SF RPM	-	NA
RA CFM	-	1482
OA CFM	-	403
RL Voltage	-	211/213/213
RL Amperage	-	2.72/2.76/2.67
SF Rotation	-	CCW
SF System SetPt	-	2 TURNS OUT
RA Damper Position	-	3.25" OPEN
Min OA Damper Position	-	0.75" OPEN
Min OA Damper Type	-	MOTORIZED

Performance Data		
	Design	Actual
MA Plenum SP	-	-0.37"
Fan Suction SP	-	-0.52"
Fan Discharge SP	-	0.15"
Total ESP	-	0.52"
Fan Total SP	-	0.67"

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

Completed By: Kalen Kemp on 01/15/2026

Unit Data - PHOTO LOG



01/15/2026



01/15/2026



01/15/2026



National TAB

Project: 01-12-26 QT #0585 OMAHA, NE

System/Unit: AHU/RTU

Asset: RT-2

AREA:SALES FLOOR

Unit Data	
	Actual
MFG	AAON
Serial Num	200509-AMGK19756
Model Num	RM-013-8-0-AA02- 232:A000D000CE0000C0AD0L00 00000000
Num OA Filters 1	1
OA Filter Size 1	19X39"
Num Final Filter 1	6
Final Filter Size 1	16X20X2"

Motor Data		
	Design	Actual
Motor MFG	-	A.O. SMITH
Frame	-	56HZ
Horsepower	-	3.0
Motor Rpm	-	1725
Phase	-	3
Rated Voltage	-	208-230/460
Rated Amperage	-	9.4/4.7
Service Factor	-	1.15

Drive Data	
	Actual
Motor Sheave Size	4.25"
Motor Bore Size	0.875"
Motor Sheave SetPt	1 TURN OUT
Fan Sheave Size	5"
Fan Sheave Bore	1"
Belt CL Distance	24"
Num of Belts	1"
Belt Size	BX59

Test Data		
	Design	Actual
SF CFM	-	3228
SF RPM	-	NA
RA CFM	-	2661
OA CFM	-	567
RL Voltage	-	211/212/213
RL Amperage	-	7.56/7.48/6.69
SF Rotation	-	CCW
SF System SetPt	-	1 TURN OUT
RA Damper Position	-	2.25" OPEN
Min OA Damper Position	-	0.5" OPEN
Min OA Damper Type	-	MOTORIZED

Performance Data		
	Design	Actual
MA Plenum SP	-	-0.71"
Fan Suction SP	-	-1.26"
Fan Discharge SP	-	0.38"
Total ESP	-	1.09"
Fan Total SP	-	1.64"

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

Completed By: Kalen Kemp on 01/15/2026

Notes:

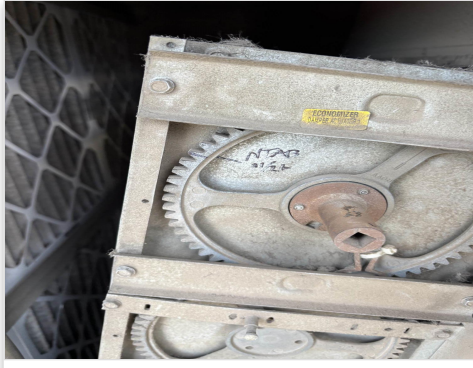
- UNIT IS LOW ON AIRFLOW. SET OA PROPORTIONAL TO SUPPLY.
- RETURN DAMPER BLADE BROKEN IN MA COMPARTMENT.
- ECONOMIZER ACTUATOR IS NOT ATTACHED TO DAMPER BLADES. DAMPER POSITION SET MANUALLY.

Written By: Kalen Kemp on 01/15/2026

Unit Data - PHOTO LOG



01/15/2026



01/15/2026



01/15/2026



National TAB

Project: 01-12-26 QT #0585 OMAHA, NE

System/Unit: AHU/RTU

Asset: RT-3

AREA:BOH/KITCHEN

Unit Data	
	Actual
MFG	AAON
Serial Num	201403-ANGJ49345
Model Num	RN-010-8-0-FB09-3L9
Num OA Filters 1	1
OA Filter Size 1	18X27"
Num Final Filter 1	4
Final Filter Size 1	16X20X2"

Motor Data		
	Design	Actual
Motor MFG	-	NA
Frame	-	NA
Horsepower	-	1
Motor Rpm	-	1760
Phase	-	3
Rated Voltage	-	208
Rated Amperage	-	4.6
Service Factor	-	1.15

Test Data		
	Design	Actual
SF CFM	1350	1337
SF RPM	-	NA
OA CFM	1350	1337
RL Voltage	-	212/212/211
RL Amperage	-	1.34/1.34/1.38
SF Rotation	-	CORRECT
VFD Max SetPt	-	34.2 Hz
VFD Min SetPt	-	34.2 Hz
Min OA Damper Position	-	100%
Min OA Damper Type	-	ECON

Performance Data		
	Design	Actual
MA Plenum SP	-	-0.08"
Fan Suction SP	-	-0.15"
Fan Discharge SP	-	0.17"
Total ESP	-	0.25"
Fan Total SP	-	0.32"

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

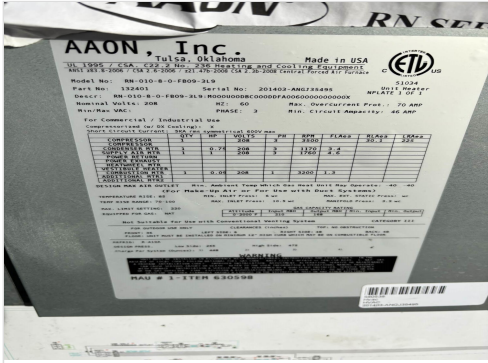
Completed By: Kalen Kemp on 01/15/2026

Notes:

- SYSTEM IS DESIGNED FOR 100% OA AND RUN AT A SINGLE SPEED.
- TIED INTO EF-2/KITCHEN HOOD.

Written By: Kalen Kemp on 01/15/2026

Unit Data - PHOTO LOG



01/15/2026



01/15/2026



01/15/2026



National TAB

Project:01-12-26 QT #0585 OMAHA, NE

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	SERVICE AREA	ES	16"	675	1.0	773	451	631	93.5
SGRD2	SERVICE AREA	ES	16"	675	1.0	1445	915	706	104.6
Total				1350		2218	1366	1337	99.04%

Completed By: Kalen Kemp on 01/15/2026



National TAB

Project: 01-12-26 QT #0585 OMAHA, NE

System/Unit: FAN - Exhaust

Asset: EF1

AREA:RESTROOMS

Unit Data		
	Design	Actual
MFG	CAPTIVEAIRE	COOK
Model Num	NA	120 ACE 120C2B
Serial Num	-	009S850693- 00/0000701
Type	-	DOWNBLAST
Configuration	-	VERTICAL

Test Data		
	Design	Actual
CFM	600	0

Motor Data		
	Design	Actual
Motor MFG	-	MARATHON
Frame	-	48Z
Horsepower	-	0.167
Motor Rpm	-	1725
Phase	-	1
Voltage (rated)	-	115
Amperage (rated)	-	4.2
Service Factor	-	1.15

Drive Data	
	Actual
Motor Sheave Size	3.125"
Motor Bore Size	0.5"
Motor Sheave SetPt	3 TURNS OUT
Fan Sheave Size	3.75"
Fan Sheave Bore	0.75"
Belt CL Distance	5.5"
Num of Belts	1
Belt Size	4L210

Completed By: Kalen Kemp on 01/15/2026

Notes:

- FAN IS MISSING BELT. NO AIRFLOW.
- MOTOR COVER NOT SECURELY FASTENED.

Written By: Kalen Kemp on 01/15/2026

Unit Data - PHOTO LOG



01/15/2026



01/15/2026



01/15/2026



National TAB

Project: 01-12-26 QT #0585 OMAHA, NE

System/Unit: FAN - Exhaust

Asset: EF2

AREA:KITCHEN HD

Unit Data		
	Design	Actual
MFG	CAPTIVEAIRE	CAPTIVEAIRE
Model Num	NA	DU50HFA
Serial Num	-	7662070
Type	UPBLAST	UPBLAST
Configuration	VERTICAL	VERTICAL

Motor Data		
	Design	Actual
Motor MFG	-	TELCO GREEN
Frame	-	NL
Horsepower	1/2	0.50
Motor Rpm	-	1800
Phase	-	1
Voltage (rated)	-	208
Amperage (rated)	-	3.8
Service Factor	-	NL

Test Data		
	Design	Actual
CFM	1350	1348
Fan RPM	-	1297
Fan Rotation	-	CCW
Motor RPM	-	1297
Motor Frequency	-	57.8 Hz
System SetPt	-	57.8 Hz
RL Voltage	-	212/212
RL Amperage	-	2.81/2.84
Suction ESP	-	-0.83"
Discharge ESP	-	ATM
Total ESP	-	0.83"

Completed By: Kalen Kemp on 01/15/2026

Unit Data - PHOTO LOG



01/15/2026



01/15/2026



01/15/2026



National TAB

Project: 01-12-26 QT #0585 OMAHA, NE

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	-	7662070
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	-	109
Filter2 FPM	-	107
Filter3 FPM	-	113
Filter4 FPM	-	112
Filter5 FPM	-	107
Filter6 FPM	-	101
Filter Ave FPM(corr)	-	108
CFM	1350	1348

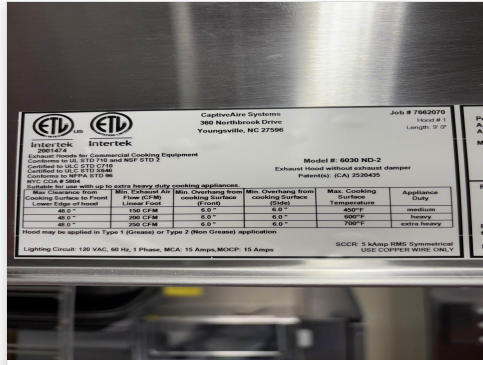
Cooking Equipment	
	Actual
Item 1	FRYER (2)
Item 2	PIZZA OVEN (2)

Completed By: Kalen Kemp on 01/15/2026

Unit Data - PHOTO LOG



01/15/2026



01/15/2026



National TAB

Project: 01-12-26 QT #0585 OMAHA, NE

System/Unit: FAN - Exhaust

Asset: EF3

AREA:OVEN

Unit Data		
	Design	Actual
MFG	CAPTIVEAIRE	CAPTIVEAIRE
Model Num	NA	SIFIODD-SS
Serial Num	-	7662070
Type	INLINE	INLINE
Configuration	VERTICAL	HORIZONTAL

Motor Data		
	Design	Actual
Motor MFG	-	NA
Frame	-	NA
Horsepower	0.3	0.250
Motor Rpm	-	1800
Phase	1	1
Voltage (rated)	120	115
Amperage (rated)	-	2.9
Service Factor	-	NA
Efficiency	-	N/A
Power Factor	-	N/A

Test Data		
	Design	Actual
CFM	150	143
Fan RPM	-	320
Fan Rotation	-	CORRECT
Motor RPM	-	320
System SetPt	-	22%
RL Voltage	-	NA
RL Amperage	-	0.09
Total ESP	-	0.04"
Fan Inlet SP	-	-0.03"
Fan Discharge SP	-	0.01"

Completed By: Kalen Kemp on 01/15/2026

Notes:

- MOTOR DATA RETRIEVED FROM UNIT TAG.
- COULD NOT SAFELY ACCESS VOLTAGE READING.

Written By: Kalen Kemp on 01/15/2026

Unit Data - PHOTO LOG



01/15/2026

