Report By:

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

Report: TAB REPORT

Function: Test, Adjust, & Balance

Date: 05/07/2025

Completed By: National TAB

PROJECT

05-05-25 WHATABURGER #1561 HICKORY, NC

2060 US HIGHWAY 70 SE

HICKORY, NC 28602

Client

Whataburger Restaurants

300 Concord Plaza Dr

San Antonio, TX 78216

National TAB

Project: 05-05-25 WHATABURGER #1561 HICKORY, NC

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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) w/ Diffusers
Each of the RTU's were measured at their terminal devices or via traverse to establish a total flow for that unit. Each RTU was adjusted to within tolerance of the engineer's design flow. Each outlet was then adjusted to within tolerance of the design flow. Outside air was measured by reading the intake air opening with a velocity grid and multiplying by the free area. The outside air damper was adjusted until the airflow was within the design requirements. Any equipment that fell outside of that tolerance is noted throughout the report.

Kitchen Exhaust Hood & Associated Fans
Each 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. Any EF's that fell outside of this tolerance is noted throughout the report.

Exhaust Fans w/ Registers
The exhaust fan was measured at the grilles to measure the total flow. The fan was then adjusted to bring airflow within tolerance of the engineer's design flow. Each grille was then adjusted to within tolerance of design flow.

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

- EF1 / MISSING DAMPERS
- KEF1 & KEF2 / HINGE KIT
- MAU / CONTROL BOARD
- RTU1 / CAPTIVEAIRE CONTROLLER

05-05-25 WHATABURGER #1561 HICKORY, NC

Project Issue Information

Issue Name : EF1 / MISSING DAMPERS

Description : EF1 DAMPERS ARE NOT INSTALLED. UNABLE TO BALANCE EACH INDIVIDUAL GRILL TO DESIGN CFM. FAN TOTAL HAD TO BE SET DUE TO THIS ISSUE.

Created By : National TAB

Assigned To : National TAB - Brianna Biggs

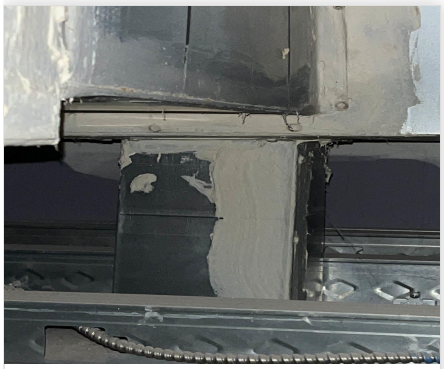
Status : Open

Priority : Medium

Asset Tag :

Originated Date : 05/07/2025 - Dale Wheeler - National TAB

Project Issue File Details



05/07/2025

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05-05-25 WHATABURGER #1561 HICKORY, NC

Project Issue Information

Issue Name : KEF1 & KEF2 / HINGE KIT
Description : KEF1 & KEF2 HINGE KITS ARE NOT INSTALLED

Created By : National TAB
Assigned To : National TAB - Brianna Biggs
Status : Open
Priority : Medium
Asset Tag :
Originated Date : 05/07/2025 - Dale Wheeler - National TAB

Project Issue File Details

05/07/2025

05/07/2025

05-05-25 WHATABURGER #1561 HICKORY, NC

Project Issue Information

Issue Name : MAU / CONTROL BOARD

Description : MAU CONTROL BOARD IS NOT WIRED / OPERATIONAL. MECHANICAL WAS UNABLE TO RESOLVE ISSUE WHILE ON SITE. HEATER WAS UNABLE TO BE TESTED DUE TO THIS ISSUE & MAU DAMPER HAD TO BE MANUALLY OPENED FOR BALANCE. MAU VFD WAS OPERATIONAL AND SUPPLY FAN WAS ABLE TO BE BALANCED TO DESIGN.

Created By : National TAB

Assigned To : National TAB - Brianna Biggs

Status : Open

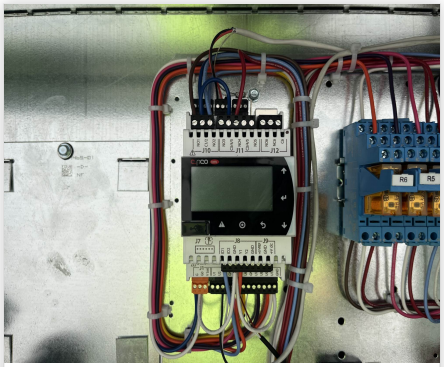
Priority : High

Asset Tag :

Originated Date : 05/07/2025 - Dale Wheeler - National TAB

Project Issue File Details

05/07/2025



05/07/2025

05-05-25 WHATABURGER #1561 HICKORY, NC

Project Issue Information

Issue Name : RTU1 / CAPTIVEAIRE CONTROLLER

Description : RTU1 CONTROLLER NEEDS TO BE PROGRAMMED BY CAS. UNIT IS RUNNING IN HEATING MODE THROUGHOUT THE DAY CAUSING THE DINING AREA TO BECOME VERY WARM.

Created By : National TAB

Assigned To : National TAB - Brianna Biggs

Status : Open

Priority : Medium

Asset Tag :

Originated Date : 05/07/2025 - Dale Wheeler - National TAB

Project Issue File Details

05/07/2025

NATIONAL TAB

AIR BALANCE SCHEDULE

UNIT	AREA SERVED	HVAC SUPPLY		HVAC RETURN		HVAC OUTDOOR		OA %		HOOD MAKE-UP		HOOD EXHAUST		GENERAL EXH.	
		DESIGN	ACTUAL	DESIGN	ACTUAL	DESIGN	ACTUAL	DESIGN	ACTUAL	DESIGN	ACTUAL	DESIGN	ACTUAL	DESIGN	ACTUAL
RTU-1	DINING	5000	5368	3750	4046	1250	1322	25.0%	24.6%						
RTU-2	KITCHEN COOKLINE	3200	3237	3200	3237	0	0	0.0%	0.0%						
RTU-3	KITCHEN	2100	1711	1690	1270	410	441	19.5%	25.8%						
MAU-1	KITCHEN									2000	1888				
KEF-1	HOOD 1 - GRILL											1994	1897		
KEF-2	HOOD 2 - FRYER											1216	1288		
EF-1	RESTROOMS													300	290
EF-2	MECHANICAL													75	78
TOTALS		10300	10316	8640	8553	1660	1763			2000	1888	3210	3185	375	368

NET BUILDING AIRFLOW CALCULATION

TOTALS	DESIGN	ACTUAL
TOTAL OA	3660	3651
TOTAL EXHAUST	3585	3553
NET AIRFLOW	75	98

DOOR TESTED	BUILDING PRESSURE MEASUREMENTS (IN. H20)
FRONT	0.014
SIDE	0.01
REAR	0.014
AVERAGE	**0.0127**

FINAL CHECKS

ACTUAL NET AIRFLOW COINCIDES WITH DESIGN: ✓

MEASURED PRESSURES COINCIDES WITH ACTUAL NET AIRFLOW: ✓

NOTES:

CheckList List

- 01: RTU's
- 02: EF's
- 03: Hoods
- 04: Final Checks

05-05-25 WHATABURGER #1561 HICKORY, NC

CheckList Information

Name :	01: RTU's	**Status :**	Completed
Assigned Organization :	National TAB	**Asset :**	
Requesting Organization :	National TAB		
Created Date :	04/28/2025 - Nicole Seever - National TAB		
Completed Date :	05/07/2025 - Dale Wheeler - National TAB		

CheckList Item Details

RTU's/AHU's

Thermostats installed and have power?	Pass
Comment: BMS HAS NOT BEEN INSTALLED AT TIME OF BALANCE. TEMP. STATS ARE CURRENTLY INSTALLED AT THIS TIME	
All diffusers and grilles are installed and match design?	Pass
Comment:	
Motors are all operating below the FLA rating?	Pass
Comment:	
Is gas piping installed and valves turned on?	Pass
Comment:	
Unit free of noticeable noise and vibration	Pass
Comment:	
Final outside air damper position is set manually and marked with permanent marker?	Pass
Comment:	

Supply airflow is 0 to +10%?	Pass

Comment:

Outside airflow is 0 to +10%?	Pass

Comment:

Return balance dampers are confirmed to be 100% open (if installed)?	Pass

Comment:

RTU2 & RTU3 DAMPERS ARE NOT INSTALLED RTU1 RETURN DUCT IS LOCATED ABOVE HARD CEILING AND IS NOT ACCESSIBLE

Screenshot of the GRD marked up with supply and return traverse locations for RTU-1 (Add picture here)	N/A

Comment:

RTU1 - SUPPLY TRUNK LINE CANNOT BE TRAVERSED DUE TO NOT HAVING THE MINIMUM AMOUNT OF 4FT. OF STRAIGHT DUCT. RETURN DUCT CANNOT BE ACCESSED DUE TO BEING ABOVE HARD CEILING.

05/07/2025

05/07/2025

For each unit supply, is the flow hood reading within 10% of the final traverse reading? If not do you feel any major points of leakage	N/A

Comment:

RTU1 - SUPPLY TRUNK LINE CANNOT BE TRAVERSED DUE TO NOT HAVING THE MINIMUM AMOUNT OF 4FT. OF STRAIGHT DUCT. RETURN DUCT CANNOT BE ACCESSED DUE TO BEING ABOVE HARD CEILING.

Screenshot of the GRD marked up with supply and return traverse locations for RTU-2 (Add picture here)	N/A

Comment:

RTU2 - SUPPLY & RETURN TRUNK LINES CANNOT BE TRAVERSED DUE TO NOT HAVING THE MINIMUM AMOUNT OF 4FT. OF STRAIGHT DUCT.

05/07/2025

05/07/2025

For each unit return, is the flow hood reading within 10% of the final traverse reading? If not do you feel any major points of leakage	N/A

Comment:

RTU2 - SUPPLY & RETURN TRUNK LINES CANNOT BE TRAVERSED DUE TO NOT HAVING THE MINIMUM AMOUNT OF 4FT. OF STRAIGHT DUCT.

Screenshot of the GRD marked up with supply and return traverse locations for RTU-3 (Add picture here)	N/A

Comment:

RTU3 - SUPPLY & RETURN TRUNK LINES CANNOT BE TRAVERSED DUE TO NOT HAVING THE MINIMUM AMOUNT OF 4FT. OF STRAIGHT DUCT.

05/07/2025

05/07/2025

For each unit supply, is the flow hood reading within 10% of the final traverse reading? If not do you feel any major points of leakage	N/A

Comment:

RTU3 - SUPPLY & RETURN TRUNK LINES CANNOT BE TRAVERSED DUE TO NOT HAVING THE MINIMUM AMOUNT OF 4FT. OF STRAIGHT DUCT.

Notes/Comments :

N/A

Date :05/07/2025

05-05-25 WHATABURGER #1561 HICKORY, NC

CheckList Information

Name :	02: EF's	**Status :**	Completed
Assigned Organization :	National TAB	**Asset :**	
Requesting Organization :	National TAB		
Created Date :	04/28/2025 - Nicole Seever - National TAB		
Completed Date :	05/06/2025 - Dale Wheeler - National TAB		

CheckList Item Details

EF's

Rotation is correct?	Pass
Comment:	
Belts are tight?	N/A
Comment:	
Hinge kit installed installed on hood fan?	Fail
Comment:	
Lean fan back. Is grease duct installation adequate and is duct ran all the way to the base of the fan?	Pass
Comment:	
Flex conduit is long enough so that fan can be completely tilted back?	Pass
Comment:	
There is no major leakage around base of fan?	Pass
Comment:	

Is the motor operating below the motor FLA rating?	Pass
Comment:	
For restroom fan(s) is the back draft damper installed and can it fully open?	Pass
Comment:	
Unit free of noticeable noise and vibration?	Pass
Comment:	
Exhaust airflow is 0 to +10%?	Pass
Comment:	

05-05-25 WHATABURGER #1561 HICKORY, NC

CheckList Information

Name :	03: Hoods	**Status :**	Completed
Assigned Organization :	National TAB	**Asset :**	
Requesting Organization :	National TAB		
Created Date :	04/28/2025 - Nicole Seever - National TAB		
Completed Date :	05/06/2025 - Dale Wheeler - National TAB		

CheckList Item Details

HOODS

All hood filters installed and accounted for?	Pass
Comment:	
Hoods are wired and have power?	Pass
Comment:	
Hood is free of alarms?	Pass
Comment:	
Hood is free of damage?	Pass
Comment:	
Quarter or full vertical end panels are installed if specified?	N/A
Comment:	

05-05-25 WHATABURGER #1561 HICKORY, NC

CheckList Information

Name :	04: Final Checks	**Status :**	Completed
Assigned Organization :	National TAB	**Asset :**	
Requesting Organization :	National TAB		
Created Date :	04/28/2025 - Nicole Seever - National TAB		
Completed Date :	05/07/2025 - Dale Wheeler - National TAB		

CheckList Item Details

FINAL CHECKS

Is space free of drafting?	Pass
Comment:	
Is space comfortable in all areas?	Fail
Comment:	

DINING ROOM IS HOT DUE TO RTU1 RUNING IN HEAT MODE. CAS WILL PROGRAM RTU1 ONCE BALANCE IS COMPLETED PER G.C.

Is the space free of ventilation noise?	Pass
Comment:	

List kitchen equipment turned on for testing

Comment:

EQUIPMENT CANNOT BE TURNED ON FOR SMOKE TEST

List smoke candle type used

Comment:

SMOKE EMITTER

HOOD CAPTURE TEST

Smoke test capture % - Perimeter of hood

Comment:

100%

Smoke test capture % - Top of cooking surface

Comment:

100%

WITNESS

Date test was completed	05/06/2025

Comment:

TAB tech name / Firm

Comment:

DALE WHEELER / NTAB

Site super name / Firm

Comment:

TIM CROSS / W.H. BASS

Owner representative name / Firm (if Applicable)

Comment:

N/A

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:

Is the building pressure at least +0.02"? If not, do you see any obvious areas of external building that aren't sealed?	Pass

Comment:

BUILDING PRESSURE IS POSITIVE BUT IS NOT +0.02''

Notes/Comments :

N/A

Date :05/07/2025

National TAB

Project: 05-05-25 WHATABURGER #1561 HICKORY, NC

System/Unit: AHU/RTU

Asset: RTU1 AREA:DINING

Unit Data		
	Design	**Actual**
MFG	CARRIER	CAPTIVEAIRE
Serial Num	-	7280977
Model Num	48FCTN16	CAS-HVAC3-1.300-24-15T
Num OA Filters 1	-	4
OA Filter Size 1	-	16x25x2
Num Final Filter 1	-	4
Final Filter Size 1	-	20x25x2

Motor Data		
	Design	**Actual**
Motor MFG	-	NEMA
Frame	-	213T
Horsepower	-	7.5
Motor Rpm	-	1756
Phase	2	3
Rated Voltage	208	208
Rated Amperage	-	21.1

Drive Data	
	Actual
Motor Sheave Size	DD
Motor Bore Size	DD
Motor Sheave SetPt	DD
Fan Sheave Size	DD
Fan Sheave Bore	DD
Belt CL Distance	DD
Num of Belts	DD
Belt Size	DD
Belt Alignment	DD

Test Data		
	Design	**Actual**
SF CFM (Traverse)	-	[1]
SF CFM	5000	5368
SF RPM	-	DD / 1755
MOTOR RPM	-	DD / 1755
RA CFM (Traverse)	-	[1]
RA CFM	3750	4046
OA CFM	1250	1322
RL Voltage	-	153 AVG.
RL Amperage	-	16.4 AVG.
SF System SetPt	-	48 HZ.
RA Damper Position	-	4.5V
Min OA Damper Position	-	5.5V
Min OA Damper Type	-	ECON

Performance Data		
	Design	**Actual**
MA Plenum SP	-	-0.632”
Fan Suction SP	-	-1.14”
Fan Discharge SP	-	0.671”
Total ESP	0.85"	1.3"
Fan Total SP	-	1.811"

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

Completed By: Dale Wheeler on 05/06/2025

Notes:
[1] SUPPLY TRUNK LINE CANNOT BE TRAVERSED DUE TO NOT HAVING THE MINIMUM AMOUNT OF 4FT. OF STRAIGHT DUCT.
RETURN DUCT CANNOT BE ACCESSED DUE TO BEING ABOVE HARD CEILING.

Written By: Dale Wheeler on 05/06/2025

Unit Data - PHOTO LOG

05/06/2025

National TAB

Project:05-05-25 WHATABURGER #1561 HICKORY, NC

AHU/RTU

Diffuser Supply (GRD)

RTU1/DINING

Asset									
Asset Name	Location	Type	Size	DESIGN CFM	AK	CFM(1)	CFM(2)	FINAL CFM	% to design
SGRD1	RESTROOMS	EX	6"	110	1	68	94	114	103.6
SGRD2	RESTROOMS	EX	8X8"	55	1	87	62	54	98.2
SGRD3	RESTROOMS	EX	8X8"	55	1	58	612	58	105.5
SGRD4	DINING	EX	20"	230	1	369	301	251	109.1
SGRD5	DINING	EX	20"	230	1	412	218	248	107.8
SGRD6	DINING	EX	18"	230	1	522	241	252	109.6
SGRD7	DINING	EX	18"	230	1	311	219	245	106.5
SGRD8	DINING	EX	16"	230	1	299	247	234	101.7
SGRD9	DINING	EX	16"	230	1	247	135	240	104.3
SGRD10	DINING	EX	41"	230	1	212	199	249	108.3
SGRD11	DINING	EX	14"	230	1	101	248	252	109.6
SGRD12	DINING	EX	14"	180	1	131	167	197	109.4
SGRD13	DINING	EX	14"	180	1	151	196	193	107.2
SGRD14	DINING	EX	14"	180	1	169	196	196	108.9
SGRD15	DINING	EX	14"	180	1	178	177	189	105.0
SGRD16	DINING	EX	14"	180	1	106	213	191	106.1
SGRD17	DINING	EX	14"	125	1	145	219	137	109.6
SGRD18	DINING	EX	14"	125	1	123	174	135	108.0
SGRD19	DINING	EX	14"	180	1	286	141	194	107.8
SGRD20	DINING	EX	14"	230	1	241	191	249	108.3
SGRD21	DINING	EX	14"	230	1	231	187	251	109.1
SGRD22	DINING	EX	16"	230	1	114	197	249	108.3
SGRD23	DINING	EX	16"	230	1	101	163	246	107.0
SGRD24	DINING	EX	18"	230	1	118	147	248	107.8
SGRD25	DINING	EX	18"	230	1	117	189	249	108.3
SGRD26	DINING	EX	20"	230	1	112	142	247	107.4
Total				5000		5009	5275	5368	107.36%

National TAB

Project: 05-05-25 WHATABURGER #1561 HICKORY, NC

System/Unit: AHU/RTU

Asset: RTU2 AREA:KITCHEN COOKLINE

Unit Data		
	Design	**Actual**
MFG	CARRIER	CARRIER
Serial Num	-	3123P35095
Model Num	48FCEM09	48FCEM09A2A5A0A0A0
Num Final Filter 1	-	4
Final Filter Size 1	-	20x20x4

Motor Data		
	Design	**Actual**
Motor MFG	-	N/L
Frame	-	N/L
Horsepower	-	N/L
Motor Rpm	-	N/L
Phase	3	3
Rated Voltage	208	208
Rated Amperage	-	6.4

Drive Data	
	Actual
Motor Sheave Size	DD
Motor Bore Size	DD
Motor Sheave SetPt	DD
Fan Sheave Size	DD
Fan Sheave Bore	DD
Belt CL Distance	DD
Num of Belts	DD
Belt Size	DD
Belt Alignment	DD

Test Data		
	Design	**Actual**
SF CFM (Traverse)	-	[1]
SF CFM	3200	3237
SF RPM	-	DD
MOTOR RPM	-	DD
RA CFM (Traverse)	-	[1]
RA CFM	3200	3237
OA CFM	0	0
RL Voltage	-	206/207/207
RL Amperage	-	6.3/6.2/6.0
SF System SetPt	-	HIGH SPEED
RA Damper Position	-	NO DAMPER INSTALLED
Min OA Damper Position	-	NO OA
Min OA Damper Type	-	NO OA

Performance Data		
	Design	**Actual**
MA Plenum SP	-	-0.637”
Fan Suction SP	-	-1.20”
Fan Discharge SP	-	0.732”
Total ESP	0.07"	1.369"
Fan Total SP	-	1.932"

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

Completed By: Dale Wheeler on 05/07/2025

Notes:
[1] SUPPLY & RETURN TRUNK LINES CANNOT BE TRAVERSED DUE TO NOT HAVING THE MINIMUM AMOUNT OF 4FT. OF STRAIGHT DUCT.

Written By: Dale Wheeler on 05/07/2025

Unit Data - PHOTO LOG

05/06/2025

Diffuser Supply (GRD)

RTU2/KITCHEN COOKLINE

Asset									
Asset Name	**Location**	**Type**	**Size**	**DESIGN CFM**	**AK**	**CFM(1)**	**CFM(2)**	**FINAL CFM**	**% to design**
SGRD1	KITCHEN COOKLINE	A4	16X16"	500	1	448	499	499	99.8
SGRD2	KITCHEN COOKLINE	A3	16X16"	400	1	658	361	386	96.5
SGRD3	KITCHEN COOKLINE	A4	16X16"	500	1	623	509	513	102.6
SGRD4	KITCHEN COOKLINE	A4	16X16"	500	1	267	486	528	105.6
SGRD5	KITCHEN COOKLINE	A4	24X18"	500	1	585	515	521	104.2
SGRD6	KITCHEN COOKLINE	A4	16X14"	500	1	205	483	484	96.8
SGRD7	KITCHEN COOKLINE	A3	10"	300	1	383	401	306	102.0
Total				3200		3169	3254	3237	101.16%

National TAB

Project: 05-05-25 WHATABURGER #1561 HICKORY, NC

System/Unit: AHU/RTU

Asset: RTU3 AREA:KITCHEN

Unit Data		
	Design	**Actual**
MFG	CARRIER	CARRIER
Serial Num	-	1723C08764
Model Num	48FCEM07	48FCEM07A2A5A0A0A0
Num OA Filters 1	-	1
OA Filter Size 1	-	23.5”x7”
Num Final Filter 1	-	4
Final Filter Size 1	-	16x16x2

Motor Data		
	Design	**Actual**
Motor MFG	-	N/L
Frame	-	N/L
Horsepower	-	N/L
Motor Rpm	-	N/L
Phase	3	3
Rated Voltage	208	208
Rated Amperage	-	5.5

Drive Data	
	Actual
Motor Sheave Size	DD
Motor Bore Size	DD
Motor Sheave SetPt	DD
Fan Sheave Size	DD
Fan Sheave Bore	DD
Belt CL Distance	DD
Num of Belts	DD
Belt Size	DD
Belt Alignment	DD

Test Data		
	Design	**Actual**
SF CFM (Traverse)	-	[2]
SF CFM	2100	1711
SF RPM	-	DD
MOTOR RPM	-	DD
RA CFM (Traverse)	-	[2]
RA CFM	1690	1270
OA CFM	410	441
RL Voltage	-	207 / 208/ 208
RL Amperage	-	2.2/2.1/2.2
SF System SetPt	-	HIGH
RA Damper Position	-	NO DAMPER
Min OA Damper Position	-	2.0”
Min OA Damper Type	-	MANUAL

Performance Data		
	Design	**Actual**
MA Plenum SP	-	-0.303”
Fan Suction SP	-	-0.554”
Fan Discharge SP	-	0.626”
Total ESP	0.70"	0.929"
Fan Total SP	-	1.18"

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

Completed By: Dale Wheeler on 05/06/2025

Notes:
[1] RTU3 IS A 4 TON UNIT. UNIT IS NOT CAPIABLE OF REACHING 2100. UNIT IS RUNNING AT MAX SPEED WITH UNIT TOTAL SET TO ALLOW MAX AIR TO SPACE.
[2] SUPPLY & RETURN TRUNK LINES CANNOT BE TRAVERSED DUE TO NOT HAVING THE MINIMUM AMOUNT OF 4FT. OF STRAIGHT DUCT.

Written By: Dale Wheeler on 05/06/2025

Unit Data - PHOTO LOG

05/06/2025

Diffuser Supply (GRD)

RTU3/KITCHEN

Asset									
Asset Name	**Location**	**Type**	**Size**	**DESIGN CFM**	**AK**	**CFM(1)**	**CFM(2)**	**FINAL CFM**	**% to design**
SGRD1	KITCHEN	A4	12"	400	1	518	467	378	94.5
SGRD2	KITCHEN	A4	12X14"	400	1	416	358	362	90.5
SGRD3	KITCHEN	A3	16X14"	400	1	230	249	243	60.8
SGRD4	KITCHEN	A3	10"	400	1	260	275	285	71.3
SGRD5	KITCHEN	A2	8"	200	1	183	156	167	83.5
SGRD6	KITCHEN	A2	8"	200	1	201	174	186	93.0
SGRD7	KITCHEN	A1	6"	100	1	75	88	90	90.0
Total				2100		1883	1767	1711	81.48%

National TAB

Project: 05-05-25 WHATABURGER #1561 HICKORY, NC

System/Unit: FAN - Exhaust

Asset: EF1 AREA:RESTROOMS

Unit Data		
	Design	**Actual**
MFG	COOK	COOK
Model Num	90C15DH	90C15DH
Serial Num	-	410SE89102-00
Type	DOWNBLAST	DOWNBLAST
Configuration	VERTICAL	VERTICAL

Motor Data		
	Design	**Actual**
Motor MFG	-	US MOTORS
Frame	-	48Y
Horsepower	0.13	1/8
Motor Rpm	-	1600
Phase	1	1
Voltage (rated)	120	115
Amperage (rated)	-	1.7
Service Factor	-	N/L

Test Data		
	Design	**Actual**
CFM	300	290
Fan RPM	-	DD / 1600
Fan Rotation	-	CCW
Motor RPM	-	DD / 1600
System SetPt	-	MED - LOW
RL Voltage	-	[2]
RL Amperage	-	[2]
Total ESP	0.50"	0.215”
Fan Inlet SP	-	-0.215”
Fan Discharge SP	-	ATM

Completed By: Dale Wheeler on 05/06/2025

Notes:
[1] EF1 DAMPERS ARE NOT INSTALLED. UNABLE TO BALANCE EACH INDIVIDUAL GRILL TO DESIGN CFM. FAN TOTAL HAD TO BE SET DUE TO THIS ISSUE.
[2] LIGHT SWITCH STYLE DISCONNECT NO SAFE WAY TO TAKE VOLTS & AMP DRAW.

Written By: Dale Wheeler on 05/07/2025

Unit Data - PHOTO LOG

05/06/2025

National TAB

Project:05-05-25 WHATABURGER #1561 HICKORY, NC

FAN - Exhaust

Diffuser Ret/Exh (GRD)

EF1/RESTROOMS

Asset									
Asset Name	**Location**	**Type**	**Size**	**DESIGN CFM**	**AK**	**CFM(1)**	**CFM(2)**	**FINAL CFM**	**% to design**
EGRD1	MENS RESTROOM	EX	6X6"	75	1	82	65	45	60.0
EGRD2	MENS RESTROOM	EX	6X6"	75	1	108	83	75	100.0
EGRD3	WOMENS RESTROOM	EX	6X6"	75	1	99	98	108	144.0
EGRD4	WOMENS RESTROOM	EX	6X6"	75	1	64	60	62	82.7
Total				300		353	306	290	96.67%

National TAB

Project: 05-05-25 WHATABURGER #1561 HICKORY, NC

System/Unit: FAN - Exhaust

Asset: EF2 AREA:

Unit Data		
	Design	**Actual**
MFG	N/A	COOK
Model Num	N/A	GEMINI 120
Serial Num	-	N/L
Type	-	CEILING MOUNTED
Configuration	-	HORIZONTAL

Motor Data		
	Design	**Actual**
Motor MFG	-	FASCO
Frame	-	N/L
Horsepower	-	N/L
Motor Rpm	-	1550
Phase	-	1
Voltage (rated)	-	115
Amperage (rated)	-	0.8
Service Factor	-	N/L

Test Data		
	Design	**Actual**
CFM	75	78
Fan RPM	-	DD / 900
Fan Rotation	-	CCW
Motor RPM	-	DD / 900
System SetPt	-	LOW
RL Voltage	-	121
RL Amperage	-	0.6
Total ESP	-	N/R
Fan Inlet SP	-	N/R
Fan Discharge SP	-	ATM

Completed By: Dale Wheeler on 05/06/2025

Unit Data - PHOTO LOG

05/07/2025

National TAB

Project: 05-05-25 WHATABURGER #1561 HICKORY, NC

System/Unit: FAN - Exhaust

Asset: KEF1 AREA:GRILL

Unit Data		
	Design	**Actual**
MFG	GREENHECK	GREENHECK
Model Num	CUE-140-VG	CUE-140-10-VG
Serial Num	-	25951835 25A
Type	UPBLAST	UPBLAST
Configuration	VERTICAL	VERTICAL

Motor Data		
	Design	**Actual**
Motor MFG	-	VARI-GREEN
Frame	-	N/L
Horsepower	1	1.0
Motor Rpm	-	1750
Phase	1	1
Voltage (rated)	208	208
Amperage (rated)	-	7.0
Service Factor	-	N/L

Test Data		
	Design	**Actual**
CFM	1994	1897
Fan RPM	-	DD/ 1750
Fan Rotation	-	CW
Motor RPM	-	DD / 1750
System SetPt	-	SP=6
RL Voltage	-	209
RL Amperage	-	1.7
Total ESP	1"	0.237”
Fan Inlet SP	-	-0.237”
Fan Discharge SP	-	ATM

Completed By: Dale Wheeler on 05/06/2025

Unit Data - PHOTO LOG

05/06/2025

National TAB

Project: 05-05-25 WHATABURGER #1561 HICKORY, NC

System/Unit: FAN - Exhaust

Asset: KEF2 AREA:FRYER

Unit Data		
	Design	**Actual**
MFG	GREENHECK	GREENHECK
Model Num	CUE-120-VG	CUE-120-5-VG
Serial Num	-	25951836 25A
Type	UPBLAST	UPBLAST
Configuration	VERTICAL	VERTICAL

Motor Data		
	Design	**Actual**
Motor MFG	-	VARIGREEN
Frame	-	N/L
Horsepower	0.50	0.50
Motor Rpm	-	1750
Phase	1	1
Voltage (rated)	208	115
Amperage (rated)	-	6.4
Service Factor	-	1.0

Test Data		
	Design	**Actual**
CFM	1216	1288
Fan RPM	-	DD / 1750
Fan Rotation	-	CW
Motor RPM	-	DD / 1750
System SetPt	-	SP=7
RL Voltage	-	210
RL Amperage	-	1.6
Total ESP	1"	0.483”
Fan Inlet SP	-	-0.483”
Fan Discharge SP	-	ATM

Completed By: Dale Wheeler on 05/06/2025

Unit Data - PHOTO LOG

05/06/2025

National TAB

Project: 05-05-25 WHATABURGER #1561 HICKORY, NC

System/Unit: FAN - Supply

Asset: MAU1 AREA:KITCHEN

Unit Data		
	Design	**Actual**
MFG	GREENHECK	ACCUREX
Model Num	DGX-P112-H12-MF	XDGX-P116-H12-D1-8
Serial Num	-	26271614
Type	MAU	MAU
Configuration	HORIZONTAL	VERTICAL

Motor Data		
	Design	**Actual**
Motor MFG	-	BALDOR
Frame	-	145T
Horsepower	-	1.5
Motor Rpm	-	1755
Phase	3	3
Voltage (rated)	208	208
Amperage (rated)	-	4.6
Service Factor	-	1.15

Gas Heat		
	Design	**Actual**
Heater Operates (y/n)	-	[1]
Flame Status (pass/fail)	-	[1]
Inlet Air Temp SetPt	55	[1]
Discharge Air Temp SetPt	60	[1]
Air Flow Switch SP Actual	-	0.705"

Test Data		
	Design	**Actual**
CFM	2000	1888
SF RPM	-	DD / 1755
Motor RPM	-	DD / 1755
SF System SetPt	-	49.6 HZ.
RL Voltage	-	159/159/158
RL Amperage	-	2.9/3.0/2.9
Total ESP	-	N/R
Fan Discharge SP	-	N/R

General	
	Actual
Fan Rotation Correct	YES

Completed By: Dale Wheeler on 05/07/2025

Notes:
[1] MAU CONTROL BOARD IS NOT WIRED / OPERATIONAL. MECHANICAL WAS UNABLE TO RESOLVE ISSUE WHILE ON SITE. HEATER WAS UNABLE TO BE TESTED DUE TO THIS ISSUE & MAU DAMPER HAD TO BE MANUALLY OPENED FOR BALANCE. MAU VFD WAS OPERATIONAL AND SUPPLY FAN WAS ABLE TO BE BALANCED TO DESIGN.

Written By: Dale Wheeler on 05/07/2025

Unit Data - PHOTO LOG

05/06/2025

National TAB

Project:05-05-25 WHATABURGER #1561 HICKORY, NC

FAN - Supply

Diffuser Supply (GRD)

MAU1/KITCHEN

Asset									
Asset Name	**Location**	**Type**	**Size**	**DESIGN CFM**	**AK**	**CFM(1)**	**CFM(2)**	**FINAL CFM**	**% to design**
SGRD1	KITCHEN	A4	12"	500	1	331	423	521	104.2
SGRD2	KITCHEN	A4	12"	500	1	294	401	457	91.4
SGRD3	KITCHEN	A4	14X14"	500	1	284	395	459	91.8
SGRD4	KITCHEN	A4	14X14"	500	1	304	396	451	90.2
Total				2000		1213	1615	1888	94.4%

National TAB

Project: 05-05-25 WHATABURGER #1561 HICKORY, NC

System/Unit: Kitchen Hood Type I

Asset: HD1 AREA:

Unit Data		
	Design	**Actual**
MFG	NA	H&K INTERNATIONAL
Model Num	NA	HKD027
Job / Serial Num	-	8153777-001
Type	-	TYPE I CANOPY
Hood length	-	87"
Hood Width	-	56"

Test Data Exhaust		
	Design	**Actual**
Filter Type	-	BAFFLE
Filter Size 1	-	19.5"X11.5"
Filter Qty 1	-	8
Filter AK factor size 1	-	1.55"
Filter Total AK Area	-	12.4
Filter1 FPM	-	156
Filter2 FPM	-	171
Filter3 FPM	-	168
Filter4 FPM	-	136
Filter5 FPM	-	137
Filter6 FPM	-	152
Filter7 FPM	-	161
Filter8 FPM	-	143
Filter Ave FPM(corr)	-	153
CFM	1994	1897

Cooking Equipment	
	Actual
Item 1	GRIDDLE
Item 2	GRIDDLE

Completed By: Dale Wheeler on 05/05/2025

Unit Data - PHOTO LOG

05/06/2025

National TAB

Project: 05-05-25 WHATABURGER #1561 HICKORY, NC

System/Unit: Kitchen Hood Type I

Asset: HD2 AREA:

Unit Data		
	Design	**Actual**
MFG	NA	H&K INTERNATIONAL
Model Num	NA	WTB1560X
Job / Serial Num	-	8155133-001
Type	-	TYPE I CANOPY
Hood length	-	73"
Hood Width	-	26"

Test Data Exhaust		
	Design	**Actual**
Filter Type	-	BAFFLE
Filter Size 1	-	19.5"X11.5"
Filter Size 2	-	15.75"X11.5"
Filter Qty 1	-	1
Filter Qty 2	-	3
Filter AK factor size 1	-	1.59
Filters AK factor size 2	-	1.23
Filter Total AK Area	-	5.28
Filter1 FPM	-	228
Filter2 FPM	-	258
Filter3 FPM	-	253
Filter4 FPM	-	237
Filter Ave FPM(corr)	-	244
CFM	1216	1288

Cooking Equipment	
	Actual
Item 1	FRYER
Item 2	FRYER

Completed By: Dale Wheeler on 05/05/2025

Unit Data - PHOTO LOG

05/06/2025