

Report By:

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Report: TAB REPORT
Function: Test, Adjust, & Balance
Date: 06/10/2024

PROJECT
06-10-24 WAWA #5443 YULEE, FL

50 DAYDREAM AVE

YULEE, FL 32097

Client

Wawa
260 West Baltimore Pike
Wawa, PA 19063

Project Summary

The summary below provides a quick understanding of our scope of work and general testing procedures. Enclosed in the report is further detail 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.

General Exhaust Fans w/ Grilles

The general exhaust fans were measured by reading each air device with a flow hood. The total airflow for each fan is equivalent to the sum of these readings. Fan speed was then adjusted so that the airflow was within tolerance of design. Each terminal device was balanced to within tolerance of the design volume using the installed volume dampers. Any equipment that fell outside of this tolerance is noted throughout the report.

Ceiling Exhaust Fans

The ceiling exhaust fans were measured using a flow hood. If speed adjustment was provided, the fan speed was adjusted to within design tolerance. Any equipment that fell outside of this tolerance is noted throughout the report.

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.

CheckList List

- TECH - SITE PICTURES
- TECH - STEP 1: RTU's/AHU's
- TECH - STEP 2: LENNOX SETUP PARAMETERS
- TECH - STEP 3: SENSOR WIRING (LENNOX)
- TECH - STEP 4: EF'S



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CheckList Information

Name : TECH - STEP 1: RTU's/AHU's **Status :** Not Completed
Assigned Organization : National TAB **Asset :**
Requesting Organization : National TAB
Created Date : 06/10/2024 - Brianna Biggs - National TAB

CheckList Item Details

RTU's/AHU's

All diffusers and grilles are installed and match design? Pass

Comment:

Clean filters installed? Pass

Comment:

Economizers are assembled and functional? Pass

Comment:

Motors are all operating below the FLA rating? Pass

Comment:

Are belts tight? N/A

Comment:

N/A - DIRECT DRIVE

If direct drive unit is the speed controller working? Pass

Comment:

Is gas piping installed and valves turned on? N/A

Comment:

N/A - ELECTRIC HEAT

Condensate drains are installed?

Pass

Comment:

Unit free of noticeable noise and vibration

Pass

Comment:

Final outside air damper position is marked with permanent marker?

Comment:

No alarms present?

Pass

Comment:

Any noticeable duct leakage?

Pass

Comment:

NO DUCT LEAKAGE FOUND

Total supply and OA flows are balanced within +/-5% and supply & return diffusers within +/-10%?

Pass

Comment:

IN TEST MODE, TEST THE FOLLOWING:

Cooling mode is operational? Record EAT/LAT for each unit:

Comment:

Heating mode is operational? Record EAT/LAT for each unit:

Comment:

Dehumidification mode is operational? (Feel dehumidification coil with your hand. Is it hot?)
Record EAT/LAT for each unit:

Comment:



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CheckList Information

Name : TECH - STEP 2: LENNOX SETUP PARAMETERS **Status :** Not Completed

Assigned Organization : National TAB **Asset :**

Requesting Organization : National TAB

Created Date : 06/10/2024 - Brianna Biggs - National TAB

CheckList Item Details

UNIT ID CONFIGURATIONS

BACNET CONFIGURATION: GO TO SETTINGS>GENERAL>CONFIGURATION ID1 POSITION 5 SET TO "N". Pass

Comment:

NETWORK CONFIGURATION: GO TO SETUP>NETWORK INTEGRATION, SET TO BACNET IP Pass

Comment:

CONTROL MODE: SET CONTROL MODE TO ROOM SENSOR: CO2, TEMP & HUMIDITY (PER UNIT, AS NEEDED). Pass

Comment:

INDIVIDUAL PARAMETER CONFIGURATIONS (MECHANICAL CONTRACTOR TO DEFINE / AS APPLICABLE):

PARAMETER 105 DEHUMID MODE: 7 NO CONDITIONS Pass

Comment:

PARAMETER 106 DEHUMID SETPOINT: 50, THIS IS A CENTERED SET POINT (+/-) Yes

Comment:

PARAMETER 107 DEHUMID DEADBAND: 3 (DEFAULT) THIS IS THE ACTUAL +/- VALUE Pass

Comment:

PARAMETER 117 CO2 DAMPER MAX OPEN: 50%

Pass

Comment:

PARAMETER 118 CO2 START OPEN PPM: 1500

Pass

Comment:

PARAMETER 119 CO2 MAX OPEN PPM: 1500

Pass

Comment:

PARAMETER 137 OCCHET SET POINT: 68 (BACK UP)

Pass

Comment:

PARAMETER 131 SET TO THE SAME % AS THE MINMIUM OA DAMPER SETPOINT

Comment:

PARAMETER 139 OCC COOLING SET POINT: 72 (BACK UP)

Pass

Comment:

PARAMETER 154 OCC BLOWER MODE: ON-CONTINUOUS 1

Pass

Comment:

CFM VALUES / MSAV FAN SPEEDS (AIR BALANCER TO DEFINE / IF APPLICABLE):

OA DAMPER SET TO SAME POSITION IN ALL FAN SPEEDS?

Pass

Comment:

ALL FAN SPEEDS SET TO THE SAME CFM VALUE (ENTER SETPOINTS BELOW)

Pass

Comment:

RTU 1 - 72% / RTU 2 - 85%

HEAT CFM VALUE: PER THE HVAC SCHEDULE

Pass

Comment:

HIGH COOL CFM VALUE: THE HIGH COOL CFM VALUE

Pass

Comment:

LOW COOL CFM VALUE: MATCH THE HIGH COOL CFM VALUE

Pass

Comment:

VENTILATION CFM VALUE: MATCH THE HIGH COOL CFM VALUE

Pass

Comment:



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CheckList Information

Name : TECH - STEP 3: SENSOR WIRING (LENNOX) **Status :** Not Completed
Assigned Organization : National TAB **Asset :**
Requesting Organization : National TAB
Created Date : 06/10/2024 - Brianna Biggs - National TAB

CheckList Item Details

COMBINATION TEMPERATURE/HUMIDITY SENSOR

Sensors are installed where shown on the drawing? Pass

Comment:

2 conductor shielded cable has one wire landed to Vin, one to GND, and the shield wire is not connected. Fail

Comment:

For second shielded cable, one wire is landed to Vout and the shield wire is not connected. Fail

Comment:

Verify that the CORE or Prodigy controller is sensing a relative humidity (record the reading)

Comment:

RTU 1 - YES / RTU 2 - YES

Notes/Comments :

RTU 1 - NOT READING ZONE TEMPERATURE. RTU 2 ONLY READING CO2 AT 1PPM.

Date :06/12/2024



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CheckList Information

Name : TECH - STEP 4: EF'S **Status :** Not Completed
Assigned Organization : National TAB **Asset :**
Requesting Organization : National TAB
Created Date : 06/10/2024 - Brianna Biggs - National TAB

CheckList Item Details

EF's

Rotation is correct? Pass

Comment:

Belts are tight (if applicable)? N/A

Comment:

N/A - DIRECT DRIVE

Speed controller installed and functional (if applicable)? Fail

Comment:

NO SPEED CONTROLLER INSTALLED ON EF-2

There is no major leakage around base of fan? Pass

Comment:

NO LEAKAGE FOUND

Is the motor operating below the motor FLA rating? Pass

Comment:

Back draft damper installed and can it fully open? Fail

Comment:

NO BACKDRAFT DAMPER LOCATED ON EF-2

Unit free of noticeable noise and vibration?

Pass

Comment:

Total exhaust flow balanced within +/-5% and grilles are within +/-10%?

Fail

Comment:

EF-2 NO SPEED CONTROLLER. CURRENTLY AT 110% USING MANUAL DAMPER (NOT CORRECT METHOD OF BALANCING, SEE ISSUES).

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System/Unit: AHU/RTU



Asset: RTU1

AREA:RETAIL

Unit Data		
	Design	Actual
MFG	LENNOX ENLIGHT	LENNOX
Serial Num	-	5623L01916
Model Num	LCT102H4E	LCT102H4EG1Y
Type	RTU	RTU
Configuration	VERTICAL	VERTICAL
Num OA Filters 1	-	1
OA Filter Size 1	-	23X14
Num Final Filter 1	-	4
Final Filter Size 1	-	20X25X2

Test Data		
	Design	Actual
SF CFM	3400	4058
RA CFM	2790	2.24
OA CFM	610	586
RL Voltage	-	211/212/211
RL Amperage	-	3.8/3.8/3.8
SF System SetPt	-	72%
RA Damper Position	-	OPEN
RA Damper Type	-	NONE
OA Damper Position	-	31%
OA Damper Type	-	SINGLE BLADE

Motor Data		
	Design	Actual
Motor MFG	-	EBMPABST
Frame	-	NL
Horsepower	3.75	3.8
Motor Rpm	-	NL
Phase	3	3
Rated Voltage	208	208/230
Rated Amperage	-	8.8
Service Factor	-	NL

Performance Data		
	Design	Actual
MA Plenum SP	-	-0.44"
Fan Suction SP	-	-0.82"
Fan Discharge SP	-	0.45"
Total ESP	0.5"	
Fan Total SP	-	

Drive Data		
	Design	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

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AHU/RTU



Diffuser Supply (GRD)

RTU1/RETAIL

Asset									
Asset Name	Location	Type	Size	DESIGN CFM	AK	CFM(1)	CFM(2)	FINAL CFM	% to design
SGRD1	RETAIL	LD1	10"	300	1				-
SGRD2	RETAIL	LD1	10"	300	1				-
SGRD3	RETAIL	LD1	10"	300	1				-
SGRD4	ASOCIATES	LD1	8"	150	1				-
SGRD5	OFFICE	LD1	8"	150	1				-
SGRD6	RETAIL	LD1	10"	325	1				-
SGRD7	RETAIL	LD1	10"	310	1				-
SGRD8	RETAIL	LD1	10"	310	1				-
SGRD9	RETAIL	LD1	10"	280	1				-
SGRD10	DELIVERY VESTIBULE	CD1	8"	200	1				-
SGRD11	RETAIL	LD1	10"	275	1				-
SGRD12	RETAIL	LD1	10"	275	1				-
SGRD13	WOMENS RR	CD3	6"	50	1				-
SGRD14	MENS RR	CD3	6"	75	1				-
SGRD15	REAR VESTIBULE	CD3	6"	100	1				-
Total				3400		0	0	0	0%

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Project: 06-10-24 WAWA #5443 YULEE, FL

System/Unit: AHU/RTU



Asset: RTU2

AREA:FOOD SERVICE

Unit Data		
	Design	Actual
MFG	LENNOX ENLIGHT	LENNOX
Serial Num	-	5623M03510
Model Num	LCT120H4E	LCT120H4EN1Y
Type	RTU	RTU
Configuration	VERTICAL	VERTICAL
Num OA Filters 1	-	1
OA Filter Size 1	-	23X14
Num Final Filter 1	-	4
Final Filter Size 1	-	20X25X2

Test Data		
	Design	Actual
SF CFM	4000	3979
RA CFM	3350	
OA CFM	650	638
RL Voltage	-	210/210/211
RL Amperage	-	6.2/6.2/6.2
SF System SetPt	-	85%
RA Damper Position	-	OPEN
RA Damper Type	-	NONE
OA Damper Position	-	45%
OA Damper Type	-	SINGLE BLADE

Motor Data		
	Design	Actual
Motor MFG	-	EBMPABST
Frame	-	NL
Horsepower	3.75	3.8
Motor Rpm	-	NL
Phase	3	3
Rated Voltage	208	208/230
Rated Amperage	-	8.8
Service Factor	-	NL

Performance Data		
	Design	Actual
MA Plenum SP	-	-0.34"
Fan Suction SP	-	-0.86"
Fan Discharge SP	-	0.90"
Total ESP	0.5"	
Fan Total SP	-	

Drive Data		
	Design	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

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AHU/RTU



Diffuser Supply (GRD)

RTU2/FOOD SERVICE

Asset									
Asset Name	Location	Type	Size	DESIGN CFM	AK	CFM(1)	CFM(2)	FINAL CFM	% to design
SGRD1	FOOD SERVICE 1	LD1	12"	400	1				-
SGRD2	FOOD SERVICE 1	LD1	12"	400	1				-
SGRD3	FOOD SERVICE 1	LD1	10"	400	1				-
SGRD4	FOOD SERVICE 2	LD1	12"	500	1				-
SGRD5	FOOD SERVICE 2	LD1	12"	500	1				-
SGRD6	FOOD SERVICE 2	LD1	12"	500	1				-
SGRD7	FOOD SERVICE 2	CD1	10"	300	1				-
SGRD8	WASH ROOM	LD1	10"	400	1				-
SGRD9	STAGING	CD1	6"	100	1				-
SGRD10	ELECTRIAL RM	CD1	12"	550	1				-
Total				4050		0	0	0	0%

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Project: 06-10-24 WAWA #5443 YULEE, FL

System/Unit: AHU/RTU



Asset: RTU3

AREA:RETAIL

Unit Data		
	Design	Actual
MFG	LENNOX ENLIGHT	LENNOX
Serial Num	-	5623K05327
Model Num	LCT092H4E	LCT092H4EG1Y
Type	RTU	RTU
Configuration	VERTICAL	VERTICAL
Num OA Filters 1	-	1
OA Filter Size 1	-	23X14
Num Final Filter 1	-	4
Final Filter Size 1	-	20X25X2

Test Data		
	Design	Actual
SF CFM	3000	3759
RA CFM	2610	
OA CFM	390	381
RL Voltage	-	212/211/211
RL Amperage	-	
SF System SetPt	-	70%
RA Damper Position	-	OPEN
RA Damper Type	-	NONE
OA Damper Position	-	30%
OA Damper Type	-	SINGLE BLADE

Motor Data		
	Design	Actual
Motor MFG	-	EBMPABST
Frame	-	NL
Horsepower	3.75	3.8
Motor Rpm	-	NL
Phase	3	3
Rated Voltage	208	208/230
Rated Amperage	-	8.8
Service Factor	-	NL

Performance Data		
	Design	Actual
MA Plenum SP	-	-0.53"
Fan Suction SP	-	-0.87"
Fan Discharge SP	-	
Total ESP	0.5"	
Fan Total SP	-	

Drive Data		
	Design	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

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AHU/RTU



Diffuser Supply (GRD)

RTU3/RETAIL

Asset									
Asset Name	Location	Type	Size	DESIGN CFM	AK	CFM(1)	CFM(2)	FINAL CFM	% to design
SGRD1	FRONT VESTIBULE	CD2	12"	590					-
SGRD2	RETAIL	LD1	10"	310					-
SGRD3	RETAIL	LD1	10"	300					-
SGRD4	RETAIL	LD1	16X16	300					-
SGRD5	COFFEE	LD1	10"	300					-
SGRD6	COFFEE	LD1	10"	300					-
SGRD7	COFFEE	LD1	10"	300					-
SGRD8	RETAIL	LD1	10"	300					-
SGRD9	RETAIL	LD1	10"	300					-
Total				3000		0	0	0	0%

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Project: 06-10-24 WAWA #5443 YULEE, FL

System/Unit: FAN - Exhaust



Asset: EF1

AREA:FOOD SERVICE/RR

Unit Data		
	Design	Actual
MFG	GREENHECK	GREENHECK
Model Num	G-140	G-140-B3122XQD
Serial Num	-	23860395 24A
Type	DOWNBLAST	CENTRIFUGAL
Configuration	VERTICAL	DOWNBLAST

Motor Data		
	Design	Actual
Motor MFG	-	US MOTORS
Frame	-	NL
Horsepower	1/4	1/3
Motor Rpm	-	1075
Phase	1	1
Voltage (rated)	120	115
Amperage (rated)	-	4.9
Service Factor	-	1.0

Test Data		
	Design	Actual
CFM	1150	
Fan RPM	818	DD
Fan Rotation	-	CW
Motor RPM	-	DD
System SetPt	-	WIRED DIRECT
RL Voltage	-	122
RL Amperage	-	4.1
Total ESP	0.250"	
Fan Inlet SP	-	
Fan Discharge SP	-	ATM

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FAN - Exhaust



Diffuser Ret/Exh (GRD)

EF1/FOOD SERVICE/RR

Asset									
Asset Name	Location	Type	Size	DESIGN CFM	AK	CFM(1)	CFM(2)	FINAL CFM	% to design
EGRD1	FOOD SERVICE 2	G1	12"	500					-
EGRD2	FOOD SERVICE 2	G1	10"	300					-
EGRD3	STAGING	G1	6"	100					-
EGRD4	WOMENS RR	G3	6"	100					-
EGRD5	MENS RR	G3	6"	50					-
EGRD6	MENS RR	G3	6"	100					-
Total				1150		0	0	0	0%

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Project: 06-10-24 WAWA #5443 YULEE, FL

System/Unit: FAN - Exhaust



Asset: EF2

AREA:WATER SERVICE ROOM

Unit Data		
	Design	Actual
MFG	GREENHECK	SUPROCKY
Model Num	CSP-B110	VF120
Serial Num	-	10012023
Type	INLINE	INLINE
Configuration	HORIZONTAL	HORIZONTAL

Test Data		
	Design	Actual
CFM	60	66
System SetPt	-	[1]

Motor Data		
	Design	Actual
Horsepower	21W	NOT ACCESSIBLE
Motor Rpm	-	-
Phase	1	-
Voltage (rated)	120	-
Amperage (rated)	-	-

Completed By: Stephen Tassinaro on 06/12/2024

Notes:

[1] NO SPEED CONTROLLER LOCATED. MANUAL DAMPER INSTALLED ON FAN INLET. RECOMMEND REMOVING DAMPER AND INSTALLING SPEED CONTROLLER.

Written By: Stephen Tassinaro on 06/11/2024

1 HVAC FLOOR PLAN
 M.S.D. 1/8" = 1'-0"

