

Report By:

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SUITE 4210
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Report: TAB Report
Function: Test, Adjust, & Balance
Date: 04/10/2025
Completed By: National TAB

PROJECT
04-07-25 DOLLAR TREE- MONEE, IL

WEST OF 5756 W. MONEE MANHATTAN RD

MONEE, IL 60449

Client

Oliphant Heating
208 WOLLARD BLVD

RICHMOND, MO

National TAB

Project: 04-07-25 DOLLAR TREE- MONEE, IL

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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 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.

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.

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	STORAGE	1650	1628	1500	1480	150	148	9.1%	9.1%						
RTU-2	WEST SALES	2800	2808	2150	2135	650	673	23.2%	24.0%						
RTU-3	EAST SALES	2800	2837	2150	2163	650	674	23.2%	23.8%						
RTU-4	SOUTH SALES	3500	3390	2725	2613	775	777	22.1%	22.9%						
EF-1	RESTROOM													75	75
EF-2	RESTROOM													75	76
TOTALS		10750	10663	8525	8391	2225	2272			0	0	0	0	150	151

NET BUILDING AIRFLOW CALCULATION

TOTALS	DESIGN	ACTUAL
TOTAL OA	2225	2272
TOTAL EXHAUST	150	151
NET AIRFLOW	2075	2121

DOOR TESTED	BUILDING PRESSURE MEASUREMENTS (IN. H2O)
FRONT	0.0104
SIDE	
REAR	0.0075
AVERAGE	0.009

FINAL CHECKS

ACTUAL NET AIRFLOW COINCIDES WITH DESIGN: ✓

MEASURED PRESSURES COINCIDES WITH ACTUAL NET AIRFLOW: ✓

PRESSURE FALLS WITHIN IMC TOLERANCE OF +/-0.02" W.C. ✓

NOTES:

CheckList List

- STEP 2: UNIT DATA AND EVAL
- STEP 3: TEST, ADJUST AND BALANCE
- STEP 1: INITIAL WALKTHRU
- STEP 4: FINAL TESTS



04-07-25 DOLLAR TREE- MONEE, IL

CheckList Information

Name : STEP 2: UNIT DATA AND EVAL **Status :** Completed
Assigned Organization : National TAB **Asset :**
Requesting Organization : National TAB
Created Date : 04/03/2025 - Tara Metcalf - National TAB
Completed Date : 04/09/2025 - Dylan Crisman - National TAB

CheckList Item Details

UNIT DATA AND EVALUATION WHILE GATHERING UNIT DATA CHECK THE FOLLOWING:

RTU's/AHU's

Comment:

Economizers are assembled and functional?

Comment:

Yes

DCV Max damper opening position is set to minimum?

Comment:

Yes

Free cooling enthalpy set point set for lowest setting (Typically "D")

Comment:

Carrier units, set to ES5.

Motors are all operating below the FLA rating?

Comment:

Yes

Are belts tight?

Comment:

NA/DD

If direct drive unit is the speed controller working.

Comment:

Yes

Is gas piping installed and valves turned on?

Comment:

Unit free of noticeable noise and vibration

Comment:

Yes

EF's

Rotation is correct?

Comment:

Yes

Belts are tight?

Comment:

NA/DD

There is no major leakage around base of fan?

Comment:

Yes

Is the motor operating below the motor FLA rating?

Comment:

Yes

For restroom fan(s) is the back draft damper installed and can it fully open?

Comment:

Yes

Unit free of noticeable noise and vibration?

Comment:

Yes

DOCUMENTATION

Have trades/general contractor been notified about any issues and are they created on FaciliBuild?

Comment:

Yes



04-07-25 DOLLAR TREE- MONEE, IL

CheckList Information

Name : STEP 3: TEST, ADJUST AND BALANCE **Status :** Completed
Assigned Organization : National TAB **Asset :**
Requesting Organization : National TAB
Created Date : 04/03/2025 - Tara Metcalf - National TAB
Completed Date : 04/09/2025 - Dylan Crisman - National TAB

CheckList Item Details

TEST, ADJUST, AND BALANCE ALL EQUIPMENT:

DURING TESTING MAKE NOTE OF THE FOLLOWING:

Is space free of drafting?

Comment:

Yes

Is space comfortable in all areas?

Comment:

Yes

Is the space free of ventilation noise?

Comment:

Yes

If deviations from design were necessary to resolve 1-3 what were they? Otherwise put "NA".

Comment:

NA



04-07-25 DOLLAR TREE- MONEE, IL

CheckList Information

Name : STEP 1: INITIAL WALKTHRU **Status :** Completed

Assigned Organization : National TAB **Asset :**

Requesting Organization : National TAB

Created Date : 04/03/2025 - Tara Metcalf - National TAB

Completed Date : 04/09/2025 - Dylan Crisman - National TAB

CheckList Item Details

INITIAL SITE WALKTHROUGH

Review Plan Review Checklist, has it been signed off and meets our standards to start balancing? If not contact processor to ensure job is ready.

Comment:

Yes

All diffusers and grilles are installed and match design?

Comment:

Yes

Thermostats have power?

Comment:

Yes

Have trades/general contractor been notified about any issues and are they created on FaciliBuild?

Comment:

Yes



04-07-25 DOLLAR TREE- MONEE, IL

CheckList Information

Name : STEP 4: FINAL TESTS **Status :** Completed
Assigned Organization : National TAB **Asset :**
Requesting Organization : National TAB
Created Date : 04/03/2025 - Tara Metcalf - National TAB
Completed Date : 04/09/2025 - Dylan Crisman - National TAB

CheckList Item Details

FINAL TESTS

ADDITIONAL

Thermostats are programmed?

Comment:

Yes

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Project: 04-07-25 DOLLAR TREE- MONEE, IL

System/Unit: AHU/RTU



Asset: RTU1

AREA:STORAGE

Unit Data		
	Design	Actual
MFG	CARRIER	CARRIER
Serial Num	-	3723C10434
Model Num	48GC3	48GC3
Type	RTU	RTU
Configuration	VERTICAL	VERTICAL
Num OA Filters 1	-	1
OA Filter Size 1	-	28.25x14
Num Final Filter 1	-	2
Final Filter Size 1	-	16x25x2

Motor Data		
	Design	Actual
Motor MFG	-	CARRIER
Phase	1	1
Rated Voltage	208	208
Rated Amperage	-	7.1

Test Data		
	Design	Actual
SF CFM	1650	1628
SF RPM	-	1866
RA CFM	1500	1480
OA CFM	150	148
RL Voltage	-	217/216/217
RL Amperage	-	4.4/4.6/4.3
SF Rotation	-	CW
SF System SetPt	-	8.8VDC
RA Damper Position	-	MECHANICAL LINKAGE
Min OA Damper Position	-	2.80V
Min OA Damper Type	-	ECONOMIZER
OA Enthalpy Setpt	-	ES5

Performance Data		
	Design	Actual
MA Plenum SP	-	-0.59"
Fan Suction SP	-	-0.81"
Fan Discharge SP	-	0.45"
Total ESP	1.00"	1.04"
Fan Total SP	-	1.26"

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

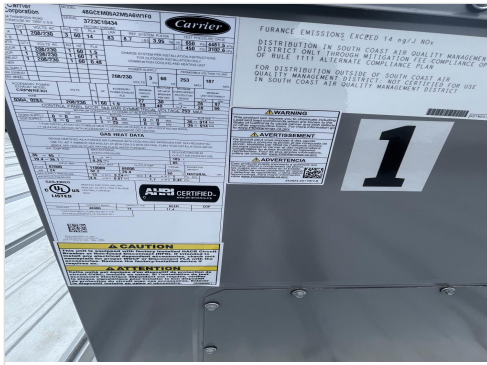
Completed By: Dylan Crisman on 04/10/2025

Notes:

- [1] Damper on diffuser 1-2/1-3 restroom diffusers fully closed and high on flow at: 1-2 66/50CFM 1-3 63/50CFM. Could not reduce further.
- [2] Diffuser 1-5 in storage room missing/not Installed. Proportionally balanced storage diffusers high to account for missing diffuser to achieve design airflow.

Written By: Dylan Crisman on 04/10/2025

Unit Data - PHOTO LOG



04/09/2025



04/09/2025

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 Project:04-07-25 DOLLAR TREE- MONEE, IL
AHU/RTU



Diffuser Supply (GRD)

RTU1/STORAGE

Asset									
Asset Name	Location	Type	Size	DESIGN CFM	AK	CFM(1)	CFM(2)	FINAL CFM	% to design
SGRD1	STORAGE	A	8"	50	1.0	200	200	53	106.0
SGRD2	STORAGE	C	8"	50	1.0	210	210	66	132.0
SGRD3	STORAGE	D	8"	50	1.0	104	104	63	126.0
SGRD4	STORAGE	D	14X6	300	0.59	420	420	370	123.3
SGRD5	STORAGE	D	14X6	300	0	0	0	0	0.0
SGRD6	STORAGE	D	14X6	300	0.59	177	177	318	106.0
SGRD7	STORAGE	D	14X6	300	0.59	326	326	378	126.0
SGRD8	STORAGE	D	14X6	300	0.59	367	367	380	126.7
Total				1650		1804	1804	1628	98.67%

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Project: 04-07-25 DOLLAR TREE- MONEE, IL

System/Unit: AHU/RTU



Asset: RTU2

AREA:WEST SALES

Unit Data		
	Design	Actual
MFG	CARRIER	CARRIER
Serial Num	-	3323P67978
Model Num	48FCE	48FCE
Type	RTU	RTU
Configuration	VERTICAL	VERTICAL
Num OA Filters 1	-	1
OA Filter Size 1	-	35X19.5
Num Final Filter 1	-	4
Final Filter Size 1	-	20X20X2

Motor Data		
	Design	Actual
Motor MFG	-	CARRIER
Phase	3	3
Rated Voltage	208	208
Rated Amperage	-	6.4

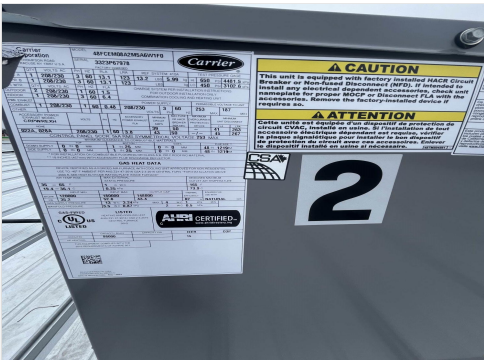
Test Data		
	Design	Actual
SF CFM	2800	2808
SF RPM	-	1368
RA CFM	2150	2135
OA CFM	650	673
RL Voltage	-	217/217/216
RL Amperage	-	1.9/2.0/1.9
SF Rotation	-	CW
SF System SetPt	-	6.2VDC
RA Damper Position	-	MECHANICAL LINKAGE
Min OA Damper Position	-	4.40V
Min OA Damper Type	-	ECONOMIZER
OA Enthalpy Setpt	-	ES5

Performance Data		
	Design	Actual
MA Plenum SP	-	-0.37"
Fan Suction SP	-	-0.57"
Fan Discharge SP	-	0.25"
Total ESP	1.00"	0.62"
Fan Total SP	-	0.82"

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

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Unit Data - PHOTO LOG



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 Project:04-07-25 DOLLAR TREE- MONEE, IL
AHU/RTU



Diffuser Supply (GRD)

RTU2/WEST SALES

Asset									
Asset Name	Location	Type	Size	DESIGN CFM	AK	CFM(1)	CFM(2)	FINAL CFM	% to design
SGRD1	WEST SALES	B	12"	350	1.0	179	371	334	95.4
SGRD2	WEST SALES	B	12"	350	1.0	157	381	325	92.9
SGRD3	WEST SALES	B	12"	350	1.0	190	442	365	104.3
SGRD4	WEST SALES	B	12"	350	1.0	193	429	366	104.6
SGRD5	WEST SALES	B	12"	350	1.0	194	444	368	105.1
SGRD6	WEST SALES	B	12"	350	1.0	188	437	373	106.6
SGRD7	WEST SALES	B	12"	350	1.0	193	350	331	94.6
SGRD8	WEST SALES	B	12"	350	1.0	43	346	346	98.9
Total				2800		1337	3200	2808	100.29%

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Project: 04-07-25 DOLLAR TREE- MONEE, IL

System/Unit: AHU/RTU



Asset: RTU3

AREA:EAST SALES

Unit Data		
	Design	Actual
MFG	CARRIER	CARRIER
Serial Num	-	3323P67977
Model Num	48FCE	48FCE
Type	RTU	RTU
Configuration	VERTICAL	VERTICAL
Num OA Filters 1	-	1
OA Filter Size 1	-	35X19.5
Num Final Filter 1	-	4
Final Filter Size 1	-	20X20X2

Motor Data		
	Design	Actual
Motor MFG	-	CARRIER
Phase	3	3
Rated Voltage	208	208
Rated Amperage	-	6.4

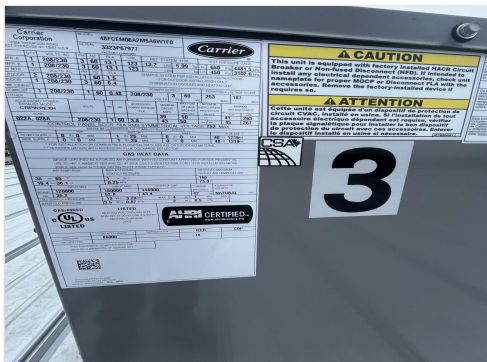
Test Data		
	Design	Actual
SF CFM	2800	2837
SF RPM	-	1312
RA CFM	2150	2163
OA CFM	650	674
RL Voltage	-	216
RL Amperage	-	2.4/2.6/2.3
SF Rotation	-	CW
SF System SetPt	-	6.4VDC
RA Damper Position	-	MECHANICAL LINKAGE
Min OA Damper Position	-	4.40V
Min OA Damper Type	-	ECONOMIZER
OA Enthalpy Setpt	-	ES5

Performance Data		
	Design	Actual
MA Plenum SP	-	-0.41"
Fan Suction SP	-	-0.64"
Fan Discharge SP	-	0.31"
Total ESP	1.00"	0.72"
Fan Total SP	-	0.95"

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

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Unit Data - PHOTO LOG



04/09/2025



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National TAB

Project:04-07-25 DOLLAR TREE- MONEE, IL

AHU/RTU



Diffuser Supply (GRD)

RTU3/EAST SALES

Asset									
Asset Name	Location	Type	Size	DESIGN CFM	AK	CFM(1)	CFM(2)	FINAL CFM	% to design
SGRD1	EAST SALES	B	12"	350	1.0	474	429	352	100.6
SGRD2	EAST SALES	B	12"	350	1.0	429	390	340	97.1
SGRD3	EAST SALES	B	12"	350	1.0	480	474	368	105.1
SGRD4	EAST SALES	B	12"	350	1.0	480	456	374	106.9
SGRD5	EAST SALES	B	12"	350	1.0	462	445	365	104.3
SGRD6	EAST SALES	B	12"	350	1.0	501	454	372	106.3
SGRD7	EAST SALES	B	12"	350	1.0	452	396	325	92.9
SGRD8	EAST SALES	B	12"	350	1.0	416	416	341	97.4
Total				2800		3694	3460	2837	101.32%

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Project: 04-07-25 DOLLAR TREE- MONEE, IL

System/Unit: AHU/RTU



Asset: RTU4

AREA:SOUTH SALES

Unit Data		
	Design	Actual
MFG	CARRIER	CARRIER
Serial Num	-	3323P68504
Model Num	488FCE	488FCE
Type	RTU	RTU
Configuration	VERTICAL	VERTICAL
Num OA Filters 1	-	1
OA Filter Size 1	-	35x19.25
Num Final Filter 1	-	4
Final Filter Size 1	-	20x20x2

Motor Data		
	Design	Actual
Motor MFG	-	CARRIER
Phase	3	3
Rated Voltage	208	208
Rated Amperage	-	6.4

Test Data		
	Design	Actual
SF CFM	3500	3390
SF RPM	-	1999
RA CFM	2725	2613
OA CFM	775	777
RL Voltage	-	216
RL Amperage	-	3.2/3.0/3.2
SF Rotation	-	CW
SF System SetPt	-	7.2VDC
RA Damper Position	-	MECHANICAL LINKAGE
Min OA Damper Position	-	5.0V
Min OA Damper Type	-	ECONOMIZER
OA Enthalpy Setpt	-	ES5

Performance Data		
	Design	Actual
MA Plenum SP	-	-0.55"
Fan Suction SP	-	-0.73"
Fan Discharge SP	-	0.20"
Total ESP	1.00"	0.75"
Fan Total SP	-	0.93"

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

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Unit Data - PHOTO LOG



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Project:04-07-25 DOLLAR TREE- MONEE, IL

AHU/RTU



Diffuser Supply (GRD)

RTU4/SOUTH SALES

Asset									
Asset Name	Location	Type	Size	DESIGN CFM	AK	CFM(1)	CFM(2)	FINAL CFM	% to design
SGRD1	SOUTH SALES	B	12"	440	1.0	432	395	414	94.1
SGRD2	SOUTH SALES	B	12"	435	1.0	574	502	456	104.8
SGRD3	SOUTH SALES	B	12"	435	1.0	593	542	419	96.3
SGRD4	SOUTH SALES	B	12"	440	1.0	424	395	426	96.8
SGRD5	SOUTH SALES	B	12"	440	1.0	413	378	405	92.0
SGRD6	SOUTH SALES	B	12"	435	1.0	515	484	427	98.2
SGRD7	SOUTH SALES	B	12"	435	1.0	542	470	433	99.5
SGRD8	SOUTH SALES	B	12"	440	1.0	445	383	410	93.2
Total				3500		3938	3549	3390	96.86%

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Project: 04-07-25 DOLLAR TREE- MONEE, IL

System/Unit: FAN - Exhaust



Asset: EF1

AREA:RESTROOM

Unit Data		
	Design	Actual
MFG	GREENHECK	GREENHECK
Model Num	SPP-B110	SPP-B110
Serial Num	-	42H14T
Type	CEILING	CEILING
Configuration	VERTICAL	VERTICAL

Test Data		
	Design	Actual
CFM	75	75
Fan Rotation	-	CCW
System SetPt	-	HIGH SPEED
Fan Discharge SP	-	ATM

Motor Data		
	Design	Actual
Motor MFG	-	BROAN
Phase	1	1
Voltage (rated)	120	120
Amperage (rated)	-	0.3

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Unit Data - PHOTO LOG



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Project: 04-07-25 DOLLAR TREE- MONEE, IL

System/Unit: FAN - Exhaust



Asset: EF2

AREA:RESTROOMS

Unit Data		
	Design	Actual
MFG	GREENHECK	GREENHECK
Model Num	SP-B110	SP-B110
Serial Num	-	42H15T
Type	CEILING	CEILING
Configuration	VERTICAL	VERTICAL

Test Data		
	Design	Actual
CFM	75	76
Fan Rotation	-	CCW
System SetPt	-	HIGH SPEED
Fan Discharge SP	-	ATM

Motor Data		
	Design	Actual
Motor MFG	-	BROAN
Phase	1	1
Voltage (rated)	120	120
Amperage (rated)	-	0.3

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Unit Data - PHOTO LOG



04/09/2025

