

Report By:

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

NATIONAL

TAB

Comfort. Under control.

**Report: Final TAB Report
Function: Test, Adjust, & Balance
Date: 11/09/2022**

PROJECT

11-07 FAMILY DOLLAR - CHARLESTON, MO

351 EAST MARSHALL ST

CHARLESTON, MO 63834

Client

Oliphant Heating
208 WOLLARD BLVD

RICHMOND, MO

National TAB

Project: 11-07 FAMILY DOLLAR - CHARLESTON, MO

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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 of $-0.02''$ wc to $+0.02''$ wc 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.

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	1400	1412	1250	1251	150	161	10.7%	11.4%						
RTU-2	WEST SALES	2800	2761	2150	2105	650	656	23.2%	23.8%						
RTU-3	EAST SALES	2800	2721	2150	2106	650	615	23.2%	22.6%						
RTU-4	SOUTH SALES	3500	3544	2725	2756	775	788	22.1%	22.2%						
EF-1	RESTROOM													75	101
EF-2	RESTROOM													75	99
TOTALS		10500	10438	8275	8218	2225	2220			0	0	0	0	150	200

NET BUILDING AIRFLOW CALCULATION

TOTALS	DESIGN	ACTUAL
TOTAL OA	2225	2220
TOTAL EXHAUST	150	200
NET AIRFLOW	2075	2020

DOOR TESTED	BUILDING PRESSURE MEASUREMENTS (IN. H2O)
FRONT	0.016
SIDE	
REAR	0.016
AVERAGE	0.016

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:



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11-07 FAMILY DOLLAR - CHARLESTON, MO

CheckList Information

Name : SITE PICTURES **Status :** NotSubmitted
Assigned Organization : National TAB **Asset :**
Requesting Organization : National TAB

CheckList Item Details

RTU-1



RTU1.jpg

RTU-2



FuseIT4c13909ef62d49....

RTU-3



FuseIT0d003bb46c1a47....

RTU-4



FuseIT60bc087f5a0645....

EF-1



FuseIT4f8a2c54698546....

EF-2



FuseITc4c3e00f9d1b43....

Notes/Comments :



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CheckList Information

Name : TECH - STEP 1: INITIAL WALKTHROUGH **Status :** Submitted

Assigned Organization : National TAB **Asset :**

Requesting Organization : 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.	YES
All diffusers and grilles are installed and match design?	YES
Thermostats have power?	YES
Have trades/general contractor been notified about any issues and are they created on FaciliBuild?	YES

Notes/Comments :



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11-07 FAMILY DOLLAR - CHARLESTON, MO

CheckList Information

Name : TECH - STEP 2: UNIT DATA AND EVAL **Status :** Submitted

Assigned Organization : National TAB **Asset :**

Requesting Organization : National TAB

CheckList Item Details

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

RTU's/AHU's	YES
Economizers are assembled and functional?	YES
DCV Max damper opening position is set to minimum?	YES
Free cooling enthalpy set point set for lowest setting (Typically "D")	YES
Motors are all operating below the FLA rating?	YES
Are belts tight?	YES
If direct drive unit is the speed controller working.	YES
Is gas piping installed and valves turned on?	YES
Unit free of noticeable noise and vibration	YES
EF's	
Rotation is correct?	YES
Belts are tight?	DD
There is no major leakage around base of fan?	YES
Is the motor operating below the motor FLA rating?	YES
For restroom fan(s) is the back draft damper installed and can it fully open?	YES
Unit free of noticeable noise and vibration?	YES

DOCUMENTATION

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

Notes/Comments :



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11-07 FAMILY DOLLAR - CHARLESTON, MO

CheckList Information

Name : TECH - STEP 3: TEST, ADJUST AND BALANCE **Status :** Submitted

Assigned Organization : National TAB **Asset :**

Requesting Organization : National TAB

CheckList Item Details

TEST, ADJUST, AND BALANCE ALL EQUIPMENT:

DURING TESTING MAKE NOTE OF THE FOLLOWING:

Is space free of drafting?	YES
Is space comfortable in all areas?	YES
Is the space free of ventilation noise?	YES
If deviations from design were necessary to resolve 1-3 what were they? Otherwise put "NA".	NA

Notes/Comments :



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11-07 FAMILY DOLLAR - CHARLESTON, MO

CheckList Information

Name : TECH - STEP 4: FINAL TESTS **Status :** Submitted

Assigned Organization : National TAB **Asset :**

Requesting Organization : National TAB

CheckList Item Details

FINAL TESTS

ADDITIONAL

Thermostats are programmed?

PROGRAMMED BY FAMILY DOLLAR

Notes/Comments :