

Report By:

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



Report: TAB

Function: Test, Adjust, & Balance

Date: 10/28/2024

Completed By: National TAB

PROJECT

**10-28-24 KROGER #024-721 - LEXINGTON,
KY (WIW)**

4750 HARTLAND PKWY

LEXINGTON, KY 40515

Client

Kroger Division 024

National TAB

Project: 10-28-24 KROGER #024-721 - LEXINGTON, KY (WIW)

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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

The RTU's were first inspected to ensure that there are no defects or issues that may impact operation of the unit. Then each of the RTU's were measured at their terminal devices with a flow hood or by a total flow measurement via traverses. The sum of these readings is equal to the total flow for that particular unit. The total flow of each RTU was then adjusted within tolerance of the specified design. The outside airflow was measured by reading the intake filter with a velocity and multiplying by the free area. Adjustments were made to the damper until the airflow was within the required tolerances. Any equipment that fell outside of this design is noted throughout the report.

CheckList List

- RTU CHECKLIST
- SITE PICTURES

Unit free of noticeable noise and vibration

Comment:

Yes

Units are labeled and installed on proper curb

Comment:

Yes

Unit ductwork properly installed / sealed on curb

Comment:

Yes

Pulleys are properly aligned

Comment:

Yes

Condensate lines and P-Traps installed correctly

Comment:

Yes

Disconnect Switch Installed

Comment:

Yes

Outside air dampers/Economizers installed and functioning

Comment:

Yes with the exception of RTU-5 detailed in issues.

Additional Comments or recommendations:

Comment:

None

Documentation

If issues, have NTAB team and Brinco Management been notified ?

Comment:

NTAB yes - Brinco not by the TAB tech.

If any issues, have Facilibuild issues been created explaining in detail?

Comment:

Yes

Pictures

All Issues

Comment:

Rtu 5 duct leakage at drop down. Rtu 5 economizer controller potentiometers do not actuate economizer but economizer closes when fan off. Rtu-6 oa high above design even when economizer is fully closed.

Each Piece of equipment

Comment:



10/29/2024



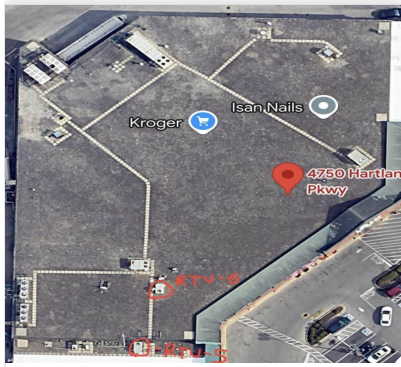
10/29/2024

Front of store

Comment:

Roof Top Layout

Comment:



12/09/2024



10/29/2024



10/29/2024



10/29/2024

Issue List

- RTU-5 Duct leakage above ceiling.
- RTU-5 Economizer controller does not actuate OA/Return damper.
- RTU-5 GRD
- RTU-5 Thermostat in mixed air compartment.
- RTU-5 Unable to meet design CFM.
- RTU-6 Has an additional diffuser.
- RTU-6 Unable to reduce OA.



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10-28-24 KROGER #024-721 - LEXINGTON, KY (WIW)

Project Issue Information

| | | | |
|--------------------------|--|----------------------|-------------------------------|
| Issue Name : | RTU-5 Duct leakage above ceiling. | | |
| Description : | RTU-5 Duct leakage above ceiling at drop down into space; airflow can be felt and heard above ceiling. | | |
| Created By : | National TAB | Assigned To : | National TAB - Will Turnbough |
| Status : | Open | | |
| Priority : | High | Asset Tag : | RTU5 |
| Originated Date : | 10/29/2024 - Cody Collett - National TAB | | |



10-28-24 KROGER #024-721 - LEXINGTON, KY (WIW)

Project Issue Information

Issue Name : RTU-5 Economizer controller does not actuate OA/Return damper.
Description : RTU-5 Economizer controller does not actuate OA/Return damper. OA damper does fully close when fan is no longer running. Changing economizer controller setpoint does not open or close OA damper. OA is always in an approximately 10% open position.

Created By : National TAB **Assigned To :** National TAB - Will Turnbough

Status : Open

Priority : High **Asset Tag :** RTU5

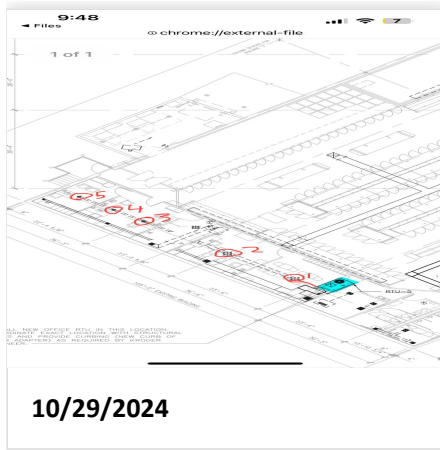
Originated Date : 10/29/2024 - Cody Collett - National TAB

10-28-24 KROGER #024-721 - LEXINGTON, KY (WIW)

Project Issue Information

Issue Name : RTU-5 GRD
Description : RTU-5 GRD
Created By : National TAB **Assigned To :** National TAB - Will Turnbough
Status : Open
Priority : InfoOnly **Asset Tag :** RTU5
Originated Date : 10/29/2024 - Cody Collett - National TAB

Project Issue File Details





10-28-24 KROGER #024-721 - LEXINGTON, KY (WIW)

Project Issue Information

| | | | |
|--------------------------|---|----------------------|-------------------------------|
| Issue Name : | RTU-5 Thermostat in mixed air compartment. | | |
| Description : | RTU-5 Thermostat is in mixed air compartment. Unit is not measuring temperature in the space. | | |
| Created By : | National TAB | Assigned To : | National TAB - Will Turnbough |
| Status : | Open | | |
| Priority : | Medium | Asset Tag : | RTU5 |
| Originated Date : | 10/29/2024 - Cody Collett - National TAB | | |



10-28-24 KROGER #024-721 - LEXINGTON, KY (WIW)

Project Issue Information

| | | | |
|--------------------------|---|----------------------|-------------------------------|
| Issue Name : | RTU-5 Unable to meet design CFM. | | |
| Description : | RTU-5 Unable to meet design CFM at max fan speed. | | |
| Created By : | National TAB | Assigned To : | National TAB - Will Turnbough |
| Status : | Open | | |
| Priority : | High | Asset Tag : | RTU5 |
| Originated Date : | 10/29/2024 - Cody Collett - National TAB | | |

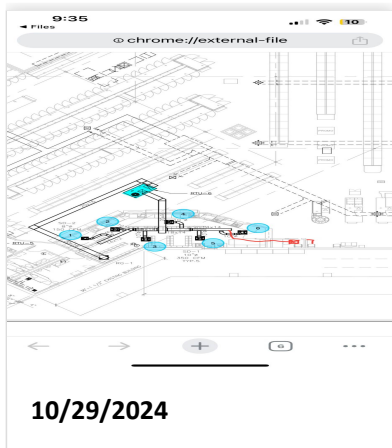
10-28-24 KROGER #024-721 - LEXINGTON, KY (WIW)

Project Issue Information

Issue Name : RTU-6 Has an additional diffuser.
Description : RTU-6 Has an additional diffuser that is not on the MSET. CFM set to 100 with guidance from westly.
Created By : National TAB **Assigned To :** National TAB - Will Turnbough
Status : Open
Priority : InfoOnly **Asset Tag :** RTU6
Originated Date : 10/29/2024 - Cody Collett - National TAB

Project Issue Response Details

- **10/29/2024 National TAB - Cody Collett**
 - PICTURE





10-28-24 KROGER #024-721 - LEXINGTON, KY (WIW)

Project Issue Information

| | | | |
|--------------------------|--|----------------------|-------------------------------|
| Issue Name : | RTU-6 Unable to reduce OA. | | |
| Description : | RTU-6 Unable to reduce OA; OA air damper fully closed. | | |
| Created By : | National TAB | Assigned To : | National TAB - Will Turnbough |
| Status : | Open | | |
| Priority : | High | Asset Tag : | RTU6 |
| Originated Date : | 10/29/2024 - Cody Collett - National TAB | | |



National TAB

Project: 10-28-24 KROGER #024-721 - LEXINGTON, KY (WIW)

System/Unit: AHU/RTU



Asset: RTU5

AREA:

| Unit Data | | |
|---------------------|--------|----------------------|
| | Design | Actual |
| MFG | NA | TRANE |
| Serial Num | - | 232211213I |
| Model Num | NA | YHC060F4RMA2CF0C1AB6 |
| Type | - | RTU |
| Configuration | - | VERTICAL |
| Num OA Filters 1 | - | 1 |
| OA Filter Size 1 | - | 15"x35.5" |
| Num Final Filter 1 | - | 4 |
| Final Filter Size 1 | - | 15.5"x 24.5" |

| Motor Data | | |
|----------------|--------|--------|
| | Design | Actual |
| Motor MFG | - | TRANE |
| Frame | - | NL |
| Horsepower | - | 1 |
| Motor Rpm | - | NL |
| Phase | - | 1 |
| Rated Voltage | - | 460 |
| Rated Amperage | - | 4.0 |

| 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 | 2000 | 1499 |
| SF RPM | - | NA |
| RA CFM | - | 1499 |
| OA CFM | 250 | 403 |
| RL Voltage | - | 481 |
| RL Amperage | - | 3.5 |
| SF Rotation | - | CW |
| SF System SetPt | - | 5/HIGHEST |
| RA Damper Position | - | 90% |
| Min OA Damper Position | - | 10% |
| Min OA Damper Type | - | Crossbar linked |
| OA Enthalpy Setpt | - | E |

| Performance Data | | |
|------------------|--------|--------|
| | Design | Actual |
| MA Plenum SP | - | -0.31" |
| Fan Suction SP | - | -0.52" |
| Fan Discharge SP | - | 0.81" |
| Total ESP | - | 1.12" |
| Fan Total SP | - | 1.33" |

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

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Project: 10-28-24 KROGER #024-721 - LEXINGTON, KY (WIW)

AHU/RTU



Diffuser Supply (GRD)

RTU5/

| Asset | | | | | | | | | |
|------------|----------|------|------|------------|----|--------|--------|-----------|-------------|
| Asset Name | Location | Type | Size | DESIGN CFM | AK | CFM(1) | CFM(2) | FINAL CFM | % to design |
| RTU5-SGRD1 | | | | 650 | 1 | 780 | 800 | 682 | 104.9 |
| RTU5-SGRD2 | | | | 250 | 1 | 191 | 191 | 211 | 84.4 |
| RTU5-SGRD3 | | | | 250 | 1 | 183 | 198 | 216 | 86.4 |
| RTU5-SGRD4 | | | | 250 | 1 | 190 | 196 | 218 | 87.2 |
| RTU5-SGRD5 | | | | 200 | 1 | 157 | 164 | 172 | 86.0 |
| Total | | | | 1600 | | 1501 | 1549 | 1499 | 93.69% |

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National TAB

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System/Unit: AHU/RTU



Asset: RTU6

AREA:

| Unit Data | | |
|---------------------|--------|------------------------|
| | Design | Actual |
| MFG | NA | TRANE |
| Serial Num | - | 2327113971 |
| Model Num | NA | YHC060E4RMA2EF0C1A1B6B |
| Type | - | RTU |
| Configuration | - | VERTICAL |
| Num OA Filters 1 | - | 1 |
| OA Filter Size 1 | - | 15"x35.5" |
| Num Final Filter 1 | - | 4 |
| Final Filter Size 1 | - | 15.5"x 24.5" |

| Motor Data | | |
|----------------|--------|-------------|
| | Design | Actual |
| Motor MFG | - | MARATHON |
| Frame | - | NL |
| Horsepower | - | 1.0 |
| Motor Rpm | - | 1725 |
| Phase | - | 3 |
| Rated Voltage | - | 200-230/460 |
| Rated Amperage | - | 3.4-3.3/1.6 |

| Drive Data | |
|--------------------|--------|
| | Actual |
| Motor Sheave Size | NA |
| Motor Bore Size | NA |
| Motor Sheave SetPt | NA |
| Fan Sheave Size | 4-3/4" |
| Fan Sheave Bore | 3/4" |
| Belt CL Distance | 10" |
| Num of Belts | 1 |
| Belt Size | AX29 |

| Test Data | | |
|------------------------|--------|-----------------|
| | Design | Actual |
| SF CFM | 2000 | 2084 |
| SF RPM | - | 942 |
| RA CFM | - | 1607 |
| OA CFM | 250 | 477 |
| RL Voltage | - | 482/488/486 |
| RL Amperage | - | 1.5/1.3/1.4 |
| SF Rotation | - | CW |
| SF System SetPt | - | 50% |
| RA Damper Position | - | 100% |
| Min OA Damper Position | - | 0% |
| Min OA Damper Type | - | Crossbar linked |
| OA Enthalpy Setpt | - | E |

| Performance Data | | |
|------------------|--------|--------|
| | Design | Actual |
| MA Plenum SP | - | -0.33" |
| Fan Suction SP | - | -0.54" |
| Fan Discharge SP | - | 0.37" |
| Total ESP | - | 0.70" |
| Fan Total SP | - | 0.91" |

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

Completed By: Cody Collett on 10/28/2024



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Project: 10-28-24 KROGER #024-721 - LEXINGTON, KY (WIW)

AHU/RTU



Diffuser Supply (GRD)

RTU6/

| Asset | | | | | | | | | |
|------------|----------|------|------|------------|----|--------|--------|-----------|-------------|
| Asset Name | Location | Type | Size | DESIGN CFM | AK | CFM(1) | CFM(2) | FINAL CFM | % to design |
| RTU6-SGRD8 | | | | | | | | | |
| SGRD1 | NA | SD2 | 8" | 150 | 1 | 455 | 455 | 157 | 104.7 |
| SGRD2 | NA | SD1 | 10" | 350 | 1 | 521 | 521 | 340 | 97.1 |
| SGRD3 | NA | SD1 | 10" | 350 | 1 | 29 | 29 | 382 | 109.1 |
| SGRD4 | NA | SD1 | 10" | 350 | 1 | 56 | 56 | 379 | 108.3 |
| SGRD5 | NA | SD1 | 10" | 350 | 1 | 510 | 510 | 384 | 109.7 |
| SGRD6 | NA | SD1 | 10" | 350 | 1 | 334 | 334 | 346 | 98.9 |
| SGRD7 | | | | 100 | 1 | 265 | 265 | 96 | 96.0 |
| Total | | | | 2000 | | 2170 | 2170 | 2084 | 104.2% |

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