

Report By:

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



Report: TAB REPORT
Function: Test, Adjust, & Balance
Date: 09/06/2024

PROJECT

09-23-24 FIDELITY 305 INDIANAPOLIS IN

8480 Keystone Crossing

Indianapolis, IN 46240

Client

Comfort System USA

National TAB

Project: 09-23-24 FIDELITY 305 INDIANAPOLIS IN

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Issue List

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- Fpvav 10
- Remote dampers
- Rtu 2 Economizer
- Rtu duct static sensors not functional.
- Software maintenance
- Vav heat not functional



09-23-24 FIDELITY 305 INDIANAPOLIS IN

Project Issue Information

Issue Name : EF-1 and 2 belts
Description : Improper belts used for ef 1 and 2. Belt broken on EF-1 and needs to be replaced. EF-2 airflow is below design but incapable of being properly adjusted.
Created By : National TAB **Assigned To :** National TAB - Will Turnbough
Status : Open
Priority : High **Asset Tag :**
Originated Date : 09/06/2024 - Gabe Merk - National TAB



09-23-24 FIDELITY 305 INDIANAPOLIS IN

Project Issue Information

Issue Name : Fpvav 10
Description : Flex entering "Docs 10" area is torn and leaking air above ceiling. Temporary fix in place to get box calibrated but it needs to be permanently repaired.
Created By : National TAB **Assigned To :** National TAB - Will Turnbough
Status : Open
Priority : High **Asset Tag :** FPB10
Originated Date : 09/06/2024 - Gabe Merk - National TAB



09-23-24 FIDELITY 305 INDIANAPOLIS IN

Project Issue Information

Issue Name : Remote dampers
Description : Remote dampers not functional. Unable to distribute airflow for the diffusers with these installed.
Created By : National TAB **Assigned To :** National TAB - Will Turnbough
Status : Open
Priority : Medium **Asset Tag :**
Originated Date : 09/06/2024 - Gabe Merk - National TAB



09-23-24 FIDELITY 305 INDIANAPOLIS IN

Project Issue Information

Issue Name : Rtu 2 Economizer
Description : RTU 2 economizer not communicating with board. Unable to adjust outdoor air intake.
Created By : National TAB **Assigned To :** National TAB - Will Turnbough
Status : Open
Priority : Urgent **Asset Tag :**
Originated Date : 09/23/2024 - Gabe Merk - National TAB



09-23-24 FIDELITY 305 INDIANAPOLIS IN

Project Issue Information

Issue Name : Rtu duct static sensors not functional.
Description : RTU 1 and 2 duct static sensors not working. Units set for constant operation. These need to be properly set up.
Created By : National TAB **Assigned To :** National TAB - Will Turnbough
Status : Open
Priority : High **Asset Tag :**
Originated Date : 09/06/2024 - Gabe Merk - National TAB



09-23-24 FIDELITY 305 INDIANAPOLIS IN

Project Issue Information

Issue Name : Software maintenance
Description : Software maintenance runs out 35 days from 9/23/24. Will be unable to update software after maintenance runs out. Should not affect TAB.
Created By : National TAB **Assigned To :** National TAB - Will Turnbough
Status : Open
Priority : Low **Asset Tag :**
Originated Date : 09/23/2024 - Gabe Merk - National TAB



09-23-24 FIDELITY 305 INDIANAPOLIS IN

Project Issue Information

Issue Name : Vav heat not functional
Description : Vpavs 2-9 and 2-10 are not heating. Space temperatures are uncomfortable. Other boxes have been reset and heat has come back on but 9 and 10 remain an issue.
Created By : National TAB **Assigned To :** National TAB - Will Turnbough
Status : Open
Priority : Urgent **Asset Tag :**
Originated Date : 09/23/2024 - Gabe Merk - National TAB

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Project: 09-23-24 FIDELITY 305 INDIANAPOLIS IN

System/Unit: AHU/RTU



Asset: RTU1

AREA:FPB 1 TO 6

Unit Data		
	Design	Actual
MFG	NA	TRANE
Serial Num	-	720101773D
Model Num	NA	YCD181C4HACA
Type	RTU	RTU
Configuration	VERTICAL	VERTICAL
Num OA Filters 1	-	1
OA Filter Size 1	-	18"x61"
Num Final Filter 1	-	4
Final Filter Size 1	-	20"x20"x2"
Num Final Filter 2	-	4
Final Filter Size 2	-	20"x25"x2"

Motor Data		
	Design	Actual
Horsepower	-	3
Phase	-	3
Rated Voltage	-	460
Rated Amperage	-	4.8

Drive Data	
	Actual
Motor Sheave Size	4-3/4"
Motor Bore Size	7/8"
Motor Sheave SetPt	NA
Fan Sheave Size	BK90
Fan Sheave Bore	1-1/8"
Num of Belts	1
Belt Size	BX64
Belt Alignment	FAIR

Test Data		
	Design	Actual
SF CFM	6600	6073
SF RPM	-	837
RA CFM	-	4833
OA CFM	274	1240
RL Voltage	-	508/508/508
RL Amperage	-	4.6/4.6/4.7
SF Rotation	-	CW
SF System SetPt	-	70hz
RA Damper Position	-	100%
Min OA Damper Position	-	0%
Min OA Damper Type	-	ECONOMIZER
OA Enthalpy Setpt	-	E

Performance Data		
	Design	Actual
MA Plenum SP	-	-0.31"
Fan Suction SP	-	-0.45"
Fan Discharge SP	-	1.38"
Total ESP	-	1.69"
Fan Total SP	-	1.83"

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

Completed By: Gabe Merk on 09/23/2024

Notes:
FULL FLOW TEST FOR 6073 CFM AT 70HZ

- 1: 1182 CFM @ 70%
- 2: 1176 CFM @ 66%
- 3: 724 CFM @ 83%
- 4: 1046 CFM @ 93%
- 5: 521 CFM @ 100%
- 6: 1031 CFM @ 100%

RAN UNIT AT FLA. BOXES 5 AND 6 UNABLE TO REACH AIRFLOW SETPOINT.

Written By: Gabe Merk on 09/23/2024

National TAB

Project:09-23-24 FIDELITY 305 INDIANAPOLIS IN
AHU/RTU



VAV-Fan Powered Box

RTU1/FPB 1 TO 6

Asset													
Asset Name	MFG	Model Num	Service	Type	Design Max Cool CFM	Max Cool CFM	Design Min Cool CFM	Min Cool CFM	Design Min Heat CFM	Min Heat CFM	Design Fan CFM (max cool)	Fan CFM (max cool)	Ak (max)
FPB1	ENVIRO-TEC	CFR1221	HALLWAY	FPVAV	1200	1243	300	305			900	938	2182
FPB2	ENVIRO-TEC	CFR		FPVAV	1200	1183	300	305			900	878	1840
FPB3	ENVIRO-TEC	CFR	COLLAB ROOM	FPVAV	760	719	190	296			570	423	1490
FPB4	ENVIRO-TEC	CFR	OFFICES	FPVAV	1040	1074	260	265			780	809	2706
FPB5	ENVIRO-TEC	CFR	OFFICES	FPVAV	1100	1118	275	280			825	838	1107
FPB6	ENVIRO-TEC	CFR	OFFICES	FPVAV	1300	1289	325	311			975	978	1681

Diffuser Supply (GRD)

FPB1/

Asset								
Asset Name	Location	Type	Size	DESIGN CFM	AK	CFM(1)	FINAL CFM	% to design
SGRD1	HALLWAY	SF	NA	200	1.72	203	218	109.0
SGRD2	HALLWAY	SF	NA	200	1.72	20	215	107.5
SGRD3	HALLWAY	SF	NA	200	1.72	289	220	110.0
SGRD4	HALLWAY	SF	NA	200	1.72	232	216	108.0
SGRD5	HALLWAY	SF	NA	200	1.72	132	183	91.5
SGRD6	HALLWAY	SF	NA	200	1.72	291	191	95.5
Total				1200		1167	1243	103.58%

FPB2/

Asset								
Asset Name	Location	Type	Size	DESIGN CFM	AK	CFM(1)	FINAL CFM	% to design
SGRD1	HALLWAY	SF	NA	200	1.72	263	182	91.0
SGRD2	HALLWAY	SF	NA	200	1.72	192	218	109.0
SGRD3	HALLWAY	SF	NA	200	1.72	154	219	109.5
SGRD4	HALLWAY	SF	NA	200	1.72	112	184	92.0
SGRD5	HALLWAY	SF	NA	200	1.72	149	181	90.5
SGRD6	HALLWAY	SF	NA	200	1.72	212	199	99.5
Total				1200		1082	1183	98.58%

FPB3/

Asset								
Asset Name	Location	Type	Size	DESIGN CFM	AK	CFM(1)	FINAL CFM	% to design
SGRD1	COLLAB RM	SF	NA	190	1.72	96	194	102.1
SGRD2	COLLAB RM	SF	NA	190	1.72	121	171	90.0
SGRD3	COLLAB RM	SF	NA	190	1.72	88	174	91.6
SGRD4	COLLAB RM	SF	NA	190	1.72	79	180	94.7
Total				760		384	719	94.61%

FPB4/

Asset								
Asset Name	Location	Type	Size	DESIGN CFM	AK	CFM(1)	FINAL CFM	% to design
SGRD1	OFFICE	SD	NA	165	1.72	270	153	92.7
SGRD2	OFFICE	SD	NA	165	1.72	273	181	109.7
SGRD3	OFFICE	SD	NA	165	1.72	243	163	98.8
SGRD4	OFFICE	SD	NA	165	1.72	319	175	106.1
SGRD5	OFFICE	SD	NA	190	1.72	278	193	101.6
SGRD6	OFFICE	SD	NA	190	1.72	285	209	110.0
Total				1040		1668	1074	103.27%

FPB5/

Asset								
Asset Name	Location	Type	Size	DESIGN CFM	AK	CFM(1)	FINAL CFM	% to design
SGRD1	HALLWAY	SB	NA	200	1	200	184	92.0
SGRD2	OFFICE	SD	NA	150	1.72	201	162	108.0
SGRD3	OFFICE	SD	NA	150	1.72	217	156	104.0
SGRD4	OFFICE	SD	NA	150	1.72	263	148	98.7
SGRD5	OFFICE	SD	NA	150	1.72	256	159	106.0
SGRD6	OFFICE	SD	NA	150	1.72	201	160	106.7
SGRD7	OFFICE	SD	NA	150	1.72	366	149	99.3
Total				1100		1704	1118	101.64%

FPB6/

Asset								
Asset Name	Location	Type	Size	DESIGN CFM	AK	CFM(1)	FINAL CFM	% to design
SGRD1	PRINTER	SJ	NA	100	1	101	97	97.0
SGRD2	OFFICE	SB	NA	140	1	178	128	91.4
SGRD3	OFFICE	SB	NA	140	1	184	153	109.3
SGRD4	RR	SF	NA	150	1.72	127	139	92.7
SGRD5	PRINTER	SA	NA	100	1	81	105	105.0
SGRD6	RR	SF	NA	150	1.72	143	148	98.7
SGRD7	OFFICE	SB	NA	140	1	168	140	100.0
SGRD8	OFFICE	SB	NA	140	1	177	141	100.7
SGRD9	OFFICE	SB	NA	140	1	133	147	105.0
SGRD10	HALLWAY	SA	NA	100	1	81	91	91.0
Total				1300		1373	1289	99.15%

Asset	Notes	Date	Written By
FPB3	BOX DAMPER AT 0% FOR MIN COOL LEAKAGE AROUND DAMPER OUT OF DESIGN.	09/03/2024	Gabe Merk
FPB5	DAMPERS HAVE SCREWS THROUGH THEM.	09/04/2024	Gabe Merk

National TAB

Project: 09-23-24 FIDELITY 305 INDIANAPOLIS IN

System/Unit: AHU/RTU



Asset: RTU2

AREA:FPB 7 TO 13

Unit Data		
	Design	Actual
MFG	NA	TRANE
Serial Num	-	720101799D
Model Num	NA	YCD181C4HACA
Type	RTU	RTU
Configuration	VERTICAL	VERTICAL
Num OA Filters 1	-	1
OA Filter Size 1	-	18"x61"
Num Final Filter 1	-	4
Final Filter Size 1	-	20"x20"x2"
Num Final Filter 2	-	4
Final Filter Size 2	-	20"x25"x2"

Motor Data		
	Design	Actual
Horsepower	-	3
Phase	-	3
Rated Voltage	-	460
Rated Amperage	-	4.8

Drive Data	
	Actual
Motor Sheave Size	4-3/4"
Motor Bore Size	7/8"
Motor Sheave SetPt	N/A
Fan Sheave Size	BK90
Fan Sheave Bore	1-1/8"
Num of Belts	1
Belt Size	BX64
Belt Alignment	FAIR

Test Data		
	Design	Actual
SF CFM	6595	5712
SF RPM	-	812
RA CFM	-	4409
OA CFM	412	1303
RL Voltage	-	513/514/519
RL Amperage	-	4.7 VFD
SF Rotation	-	CW
SF System SetPt	-	65HZ
RA Damper Position	-	100%
Min OA Damper Position	-	0%
Min OA Damper Type	-	ECONOMIZER
OA Enthalpy Setpt	-	E

Performance Data		
	Design	Actual
MA Plenum SP	-	-0.35"
Fan Suction SP	-	-0.54"
Fan Discharge SP	-	1.26"
Total ESP	-	1.61"
Fan Total SP	-	1.80"

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

Completed By: Gabe Merk on 09/23/2024

Notes:
 FULL FLOW TEST FOR 5735 CFM AT 62HZ
 7: 994 CFM @ 89%
 8: 766 CFM @ 65%
 9: 1298 CFM @80%
 10: 1142 CFM @ 70%
 11: 687* CFM @ 100%
 12: 294* CFM @ 100%
 13: 554 CFM @ 65%

ECONOMIZER MODULE NOT COMMUNICATING WITH BOARD.

Written By: Gabe Merk on 09/23/2024

National TAB

Project:09-23-24 FIDELITY 305 INDIANAPOLIS IN
AHU/RTU



VAV-Fan Powered Box

RTU2/FPB 7 TO 13

Asset													
Asset Name	MFG	Model Num	Service	Type	Design Max Cool CFM	Max Cool CFM	Design Min Cool CFM	Min Cool CFM	Design Min Heat CFM	Min Heat CFM	Design Fan CFM (max cool)	Fan CFM (max cool)	Ak (max)
FPB7	ENVIRO-TEC	CFPR	LOBBY	FPVAV	1000	1065	250	243			750	822	1442
FPB8	ENVIRO-TEC	CFPR	MEETING ROOM	FPVAV	775	823	195	196			580	627	1489
FPB9	ENVIRO-TEC	CFR	LOBBY	FPVAV	1290	1268	325	322			965	946	1847
FPB10	ENVIRO-TEC	CFR	OFFICES	FPVAV	1150	1224	290	305			860	919	2957
FPB11	ENVIRO-TEC	CFR	OFFICES	FPVAV	1420	1684	355	361			1065	1323	2152
FPB12	ENVIRO-TEC	CFR	OFFICES	FPVAV	400	375	100	99			300	276	474
FPB13	ENVIRO-TEC	CFR	HALLWAY	FPVAV	560	607	140	134			420	473	1340

Diffuser Supply (GRD)

FPB7/

Asset								
Asset Name	Location	Type	Size	DESIGN CFM	AK	CFM(1)	FINAL CFM	% to design
SGRD1	-HALLWAY	SF	NA	200	1.72	349	209	104.5
SGRD2	LOBBY	TRAVERSE	NA	800	1.72	793	856	107.0
Total				1000		1142	1065	106.5%

FPB8/

Asset								
Asset Name	Location	Type	Size	DESIGN CFM	AK	CFM(1)	FINAL CFM	% to design
SGRD1	MEETING RM	SC	NA	275	1	235	292	106.2
SGRD2	MEETING RM	SC	NA	250	1	204	259	103.6
SGRD3	MEETING RM	SC	NA	250	1	239	272	108.8
Total				775		678	823	106.19%

FPB9/

Asset								
Asset Name	Location	Type	Size	DESIGN CFM	AK	CFM(1)	FINAL CFM	% to design
SGRD1		TRAVERSE		1290		1188	1268	98.3
Total				1290		1188	1268	98.29%

FPB10/

Asset								
Asset Name	Location	Type	Size	DESIGN CFM	AK	CFM(1)	FINAL CFM	% to design
SGRD1	OFFICE	SD	NA	150	1.72	78	150	100.0
SGRD2	OFFICE	SD	NA	150	1.72	82	140	93.3
SGRD3	OFFICE	SD	NA	150	1.72	183	161	107.3
SGRD4	OFFICE	SD	NA	150	1.72	193	164	109.3
SGRD5	OFFICE	SD	NA	150	1.72	202	163	108.7
SGRD6	OFFICE	SD	NA	150	1.72	190	143	95.3
SGRD7	OFFICE	SD	NA	150	1.72	89	165	110.0
SGRD8	OFFICE	SD	NA	150	1.72	113	138	92.0
Total				1200		1130	1224	102%

FPB11/

Asset								
Asset Name	Location	Type	Size	DESIGN CFM	AK	CFM(1)	FINAL CFM	% to design
SGRD1	STORAGE	FB	NA	100	1	97	92	92.0
SGRD2	STORAGE	SB	NA	140	1	134	142	101.4
SGRD3	STORAGE	SB	NA	140	1	229	150	107.1
SGRD4	STORAGE	SB	NA	140	1	214	153	109.3
SGRD5	STORAGE	SC	NA	350	1	353	370	105.7
SGRD6	STORAGE	SD	NA	120	1.72	163	132	110.0
SGRD7	STORAGE	SD	NA	140	1.72	250	278	198.6
SGRD8	STORAGE	SD	NA	140	1.72	225	223	159.3
SGRD9	T OFFICE	SB	NA	150	1	135	144	96.0
Total				1420		1800	1684	118.59%

FPB12/

Asset								
Asset Name	Location	Type	Size	DESIGN CFM	AK	CFM(1)	FINAL CFM	% to design
SGRD1	OFFICE	SD	NA	200	1.72	135	186	93.0
SGRD2	OFFICE	SD	NA	200	1.72	137	189	94.5
Total				400		272	375	93.75%

FPB13/

Asset								
Asset Name	Location	Type	Size	DESIGN CFM	AK	CFM(1)	FINAL CFM	% to design
SGRD1	T OFFICE	SA	NA	100	1	103	103	103.0
SGRD2	T OFFICE	SD	NA	130	1.72	125	125	96.2
SGRD3	T OFFICE	SD	NA	130	1.72	132	132	101.5
SGRD4	T OFFICE	SE	NA	100	1.72	103	103	103.0
SGRD5	T OFFICE	SE	NA	100	1.72	144	144	144.0
Total				560		607	607	108.39%

Asset	Notes	Date	Written By
FPB7	DIFFUSERS 2-5 INACCESSIBLE AND ALL DAMPERS BUT 1 ARE INACCESSIBLE VIA DROP CEILING. BOX TOTAL AND FANSPEED SET VIA TRAVERSE. FOR DIFFUSER BALANCE I LISTED THE TOTAL AIR TO THE REMAINING DIFFUSERS BENEATH DIFFUSER 1.	09/04/2024	Gabe Merk
FPB9	BOX CALIBRATION SET VIA TRAVERSE. FAN TOTAL SET VIA TRAVERSE AFTER BOX SINCE DIFFUSERS ARE INACCESSIBLE.	09/04/2024	Gabe Merk
FPB11	BOX ONLY MAKING ~1000CFM AT MAX COOL SETPOINT AFTER RTU SPEED INCREASED TO 65HZ. ALL DAMPERS OPEN 100% AND NO NOTABLE OBSTRUCTIONS. DAMPERS 6-8 ARE INACCESSIBLE VIA CEILING TILES ADJUSTED FAN AS CLOSE AS POSSIBLE.	09/05/2024	Gabe Merk
FPB13	CEILING NOT REMOVABLE AND PER KEYNOTE 1 REMOTELY ADJUSTABLE DAMPERS WERE TO BE INSTALLED. WIRES WERE NEVER TERMINATED TO REMOTE ADJUSTMENT PORTS. UNABLE TO ADJUST AIRFLOW.	09/04/2024	Gabe Merk

National TAB

Project: 09-23-24 FIDELITY 305 INDIANAPOLIS IN

System/Unit: FAN - Exhaust



Asset: EF1

AREA:

Unit Data		
	Design	Actual
MFG	NA	GREENHECK
Model Num	NA	6B-081-6
Serial Num	-	110674780711
Type	-	DOWNBLAST
Configuration	-	VERTICAL

Test Data		
	Design	Actual
RL Amperage	-	INACCESSIBLE
Fan Discharge SP	-	ATM

Motor Data		
	Design	Actual
Motor MFG	-	FASCO
Frame	-	NL
Horsepower	-	1/4
Motor Rpm	-	1725
Phase	-	1
Voltage (rated)	-	115
Amperage (rated)	-	4.1
Service Factor	-	NL

Notes:
BROKEN BELT. FAN SWITCHED OFF

Written By: Gabe Merk on 09/05/2024

National TAB

Project: 09-23-24 FIDELITY 305 INDIANAPOLIS IN

System/Unit: FAN - Exhaust



Asset: EF2

AREA:

Unit Data		
	Design	Actual
MFG	NA	GREENHECK
Model Num	NA	6B-101-4
Serial Num	-	110674790711
Type	-	DOWNBLAST
Configuration	-	VERTICAL

Test Data		
	Design	Actual
CFM	615	375
Fan RPM	-	1090
Fan Rotation	-	CW
RL Voltage	-	INACCESSIBLE
RL Amperage	-	INACCESSIBLE

Motor Data		
	Design	Actual
Motor MFG	-	MARATHON
Horsepower	-	1/6
Motor Rpm	-	1725
Phase	-	1
Voltage (rated)	-	115
Amperage (rated)	-	3.6

National TAB

Project:09-23-24 FIDELITY 305 INDIANAPOLIS IN

FAN - Exhaust



Diffuser Ret/Exh (GRD)

EF2/

Asset							
Asset Name	Type	Size	DESIGN CFM	AK	CFM(1)	FINAL CFM	% to design
EF2-EGRD1			190	1	106		-
EF2-EGRD2			190	1	97		-
EF2-EGRD3			50	1	25		-
EF2-EGRD4			225	1	147		-
Total			655		375	0	0%

National TAB

Project: 09-23-24 FIDELITY 305 INDIANAPOLIS IN

System/Unit: FAN - Exhaust



Asset: EF3

AREA:

Unit Data		
	Design	Actual
MFG	NA	GREENHECK
Model Num	NA	SQ-100-VG-4-X
Serial Num	-	16114373
Type	INLINE	INLINE
Configuration	VERTICAL	VERTICAL

Motor Data		
	Design	Actual
Motor MFG	-	INACCESSIBLE
Horsepower	-	INACCESSIBLE
Motor Rpm	-	INACCESSIBLE
Phase	1	INACCESSIBLE
Voltage (rated)	120	INACCESSIBLE
Amperage (rated)	-	INACCESSIBLE

Test Data		
	Design	Actual
CFM	700	717
RL Voltage	-	INACCESSIBLE
RL Amperage	-	3.7
Total ESP	0.25	0.33"
Fan Inlet SP	-	-0.33"
Fan Discharge SP	-	INACCESSIBLE

Completed By: Gabe Merk on 09/05/2024