Report By:

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

Report: PRELIM REPORT

Function: Test, Adjust, & Balance

Date: 03/10/2024

PROJECT

03-11-24 CULVERS MISHAWAKA, IN

12571 Mckinkey Hwy

Mishawaka, IN 46545

Client

Captive-Aire Region #60

National TAB

Project: 03-11-24 CULVERS MISHAWAKA, IN

- Open BALANCE_SCHEDULE_LARGE_JOBS_27_.xlsx

CheckList List

- TECH 00- SITE PICTURES
- TECH 01 - INITIAL SITE WALKTHROUGH
- TECH 02 - UNIT DATA AND EVALUATION
- TECH 03 - TEST ADJUST AND BALANCE
- TECH 04 - FINAL TESTS

03-11-24 CULVERS MISHAWAKA, IN

CheckList Information

Name :	TECH 00- SITE PICTURES	**Status :**	Not Completed
Assigned Organization :	National TAB	**Asset :**	
Requesting Organization :	National TAB		
Created Date :	02/26/2024 - Ian Fuller - National TAB		

CheckList Item Details

STORE FRONT

Comment:

RTU-1

Comment:

RTU-2

Comment:

PRV-1

Comment:

PRV-2

Comment:

PRV-3

Comment:

PRV-4

Comment:

EF-1A

Comment:

HOOD 1

Comment:

HOOD 2

Comment:

HOOD 3

Comment:

PRODIGY BOARD WIRING

Comment:

03-11-24 CULVERS MISHAWAKA, IN

CheckList Information

Name :	TECH 01 - INITIAL SITE WALKTHROUGH	**Status :**	Not Completed
Assigned Organization :	National TAB	**Asset :**	
Requesting Organization :	National TAB		
Created Date :	02/26/2024 - Ian Fuller - National TAB		

CheckList Item Details

INITIAL SITE WALKTHROUGH

All diffusers and grilles are installed and match design?	Yes
Comment:	
Perforated diffusers are installed on the cook line? (4-ways will disrupt hood capture)	Yes
Comment:	
All hood filters installed and accounted for?	Yes
Comment:	
Hoods are wired and have power?	Yes
Comment:	
Thermostats have power?	No
Comment:	
On arrival, DOAS HMIs were not powered.	
Have trades/general contractor been notified about any issues and are they created on FaciliBuild?	
Comment:	
Yes	

03-11-24 CULVERS MISHAWAKA, IN

CheckList Information

Name :	TECH 02 - UNIT DATA AND EVALUATION	**Status :**	Not Completed
Assigned Organization :	National TAB	**Asset :**	
Requesting Organization :	National TAB		
Created Date :	02/26/2024 - Ian Fuller - National TAB		

CheckList Item Details

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

RTU's/AHU's

Economizers are assembled and functional?

Comment:

Thermostat wire run from OCP on the RTU to the Ec terminal at the thermostat? If no, jumper can be installed from R to OCP temporarily. (The economizers will not open without OCP being energized.)

Comment:

Motors are all operating below the FLA rating?

Comment:

Are belts tight?

Comment:

If direct drive unit is the speed controller working.

Comment:

Is gas piping installed and valves turned on?

Comment:

Unit free of noticeable noise and vibration

Comment:

EF's

Rotation is correct?	Yes

Comment:

Belts are tight?

Comment:

NA, fans are Direct Drive.

Grease cup installed on hood fan?	Yes

Comment:

Hinge kit installed installed on hood fan?	Yes

Comment:

Lean grease rated fans back. Is grease duct installation adequate and is duct ran all the way to the base of the fan?	Yes

Comment:

Flex conduit is long enough so that fan can be completely tilted back?	Yes

Comment:

There is no major leakage around base of fan?	Yes

Comment:

Is the motor operating below the motor FLA rating?	Yes

Comment:

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

Comment:

Unit free of noticeable noise and vibration?	Yes

Comment:

The hood exhaust fans are installed in correct positions and are not switched?	Yes

Comment:

HOODS

Kitchen equipment installed in proper places?	Yes

Comment:

Can kitchen equipment be turned on for final smoke test?	Yes

Comment:

Second stage Grease Grabber filters are installed on the griddle hood?	N/A

Comment:

Captive Aire Hoods Installed.

DOCUMENTATION

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

Comment:

03-11-24 CULVERS MISHAWAKA, IN

CheckList Information

Name :	TECH 03 - TEST ADJUST AND BALANCE	**Status :**	Not Completed
Assigned Organization :	National TAB	**Asset :**	
Requesting Organization :	National TAB		
Created Date :	02/26/2024 - Ian Fuller - National TAB		

CheckList Item Details

TEST, ADJUST, AND BALANCE ALL EQUIPMENT:

DURING TESTING MAKE NOTE OF THE FOLLOWING:

Is space free of drafting?

Comment:

Is space comfortable in all areas?

Comment:

Is the space free of ventilation noise?

Comment:

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

Comment:

03-11-24 CULVERS MISHAWAKA, IN

CheckList Information

Name :	TECH 04 - FINAL TESTS	**Status :**	Not Completed
Assigned Organization :	National TAB	**Asset :**	
Requesting Organization :	National TAB		
Created Date :	02/26/2024 - Ian Fuller - National TAB		

CheckList Item Details

FINAL TESTS

HOOD CAPTURE TEST

List equipment turned on for testing

Comment:

List smoke candle type used

Comment:

Smoke test capture - Perimeter of hood

Comment:

Smoke test capture - Top of cooking surface

Comment:

WITNESS

Date test was completed

Comment:

TAB tech name / Firm

Comment:

Site super name / Firm

Comment:

Owner representative name / Firm (if Applicable)

Comment:

Building pressure at front & back doors (All Systems On)

Comment:

ADDITIONAL

Do actual net building airflow, design net building airflow, and pressure coincide? If not why? (All three should either be positive or negative)

Comment:

Thermostats are programmed?

Comment:

PRODIGY SETTINGS FOR RTU'S

Parameter 65 set to 0

Comment:

Parameter 78 set to 0

Comment:

Parameter 105 set to 6

Comment:

Parameter 156 set to 70 (Dining unit only)

Comment:

Parameter 156 set to 65 (Kitchen Unit Only)

Comment:

Parameter 170 set to 75 (Dining Unit Only)

Comment:

Parameter 170 set to 70 (Kitchen Unit Only)

Comment:

Parameter 131 set to the same % as OA minimum position?

Comment:

Parameter 117 set to the same % as OA minimum position?

Comment:

National TAB

Project: 03-11-24 CULVERS MISHAWAKA, IN

System/Unit: AHU/RTU

Asset: RTU1 AREA:

Unit Data		
	Design	**Actual**
MFG	LENNOX	CAPTIVE AIRE
Serial Num	-	6175285
Model Num	ENLIGHT LGT	CASRTU3-I.300-24-20T
Type	RTU	DOAS
Configuration	VERTICAL	VERTICAL
Num OA Filters 1	-	4
OA Filter Size 1	-	16X25
Num Final Filter 1	-	8
Final Filter Size 1	-	20X24X2

Motor Data		
	Design	**Actual**
Motor MFG	-	TECO WESTINGHOUSE
Frame	-	215T
Horsepower	-	10.0
Motor Rpm	-	1755
Phase	3	3
Rated Voltage	208	230
Rated Amperage	-	24.3

Drive Data		
	Design	**Actual**
Motor Sheave Size	-	DD
Motor Bore Size	-	DD
Motor Sheave SetPt	-	
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	6150	
SF RPM	-	
RA CFM	4400	
OA CFM	1750	
RL Voltage	-	
RL Amperage	-	
SF Rotation	-	
RA Damper Position	-	
Min OA Damper Position	-	
Min OA Damper Type	-	
OA Enthalpy Setpt	-	

Performance Data		
	Design	**Actual**
MA Plenum SP	-	
Fan Suction SP	-	
Fan Discharge SP	-	
Total ESP	0.75"	
Fan Total SP	-	

General		
	Design	**Actual**
Fan Rotation Correct	-	
Unit Filters Clean	-	
Condensate Drain Installed	-	

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Project:03-11-24 CULVERS MISHAWAKA, IN

AHU/RTU

Diffuser Supply (GRD)

RTU1/

Asset									
Asset Name	**Location**	**Type**	**Size**	**DESIGN CFM**	**AK**	**CFM(1)**	**CFM(2)**	**FINAL CFM**	**% to design**
RTU1-SGRD1	WOMEN'S RR	SD-4	8"	150					-
RTU1-SGRD2	MEN'S RR	SD-4	8"	150					-
RTU1-SGRD3	ENTRY	SD-4	8"	150					-
RTU1-SGRD4	DINING	SD-1	12"	450					-
RTU1-SGRD5	DINING	SD-1	8"	150					-
RTU1-SGRD6	DINING	SD-1	8"	150					-
RTU1-SGRD7	DINING	SD-1	8"	150					-
RTU1-SGRD8	DINING	SD-1	8"	150					-
RTU1-SGRD9	DINING	SD-1	8"	150					-
RTU1-SGRD10	DINING	SD-1	8"	150					-
RTU1-SGRD11	DINING	SD-1	8"	150					-
RTU1-SGRD12	DINING	SD-1	8"	150					-
RTU1-SGRD13	DINING	SD-1	8"	150					-
RTU1-SGRD14	DINING	SD-1	8"	150					-
RTU1-SGRD15	DINING	SD-1	8"	150					-
RTU1-SGRD16	DINING	SD-1	8"	150					-
RTU1-SGRD17	DINING	SD-1	8"	150					-
RTU1-SGRD18	DINING	SD-1	10"	300					-
RTU1-SGRD19	DINING	SD-1	8"	150					-
RTU1-SGRD20	DINING	SD-1	12"	450					-
RTU1-SGRD21	DINING	SD-1	8"	150					-
RTU1-SGRD22	SERVING	SD-1	10"	350					-
RTU1-SGRD23	SERVING	SD-1	10"	350					-
RTU1-SGRD24	SERVING	SD-1	10"	350					-
RTU1-SGRD25	SERVING	SD-1	10"	350					-
RTU1-SGRD26	DRIVE-THRU	SD-1	12"	500					-
RTU1-SGRD27	OFFICE	SD-1	8"	200					-
RTU1-SGRD28	DINING	SD-1	8'	150					-
Total				6150		0	0	0	0%

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Project: 03-11-24 CULVERS MISHAWAKA, IN

System/Unit: AHU/RTU

Asset: RTU2 AREA:

Unit Data		
	Design	**Actual**
MFG	LENNOX	CAPTIVE AIRE
Serial Num	-	6175285
Model Num	ENLIGHT LGT	CASRTU-3
Type	RTU	DOAS
Configuration	VERTICAL	VERTICAL
Num OA Filters 1	-	4
OA Filter Size 1	-	16X25
Num Final Filter 1	-	8
Final Filter Size 1	-	20X24X2

Motor Data		
	Design	**Actual**
Motor MFG	-	TECO WESTINGHOUSE
Frame	-	215T
Horsepower	-	10.0
Motor Rpm	-	1755
Phase	-	3
Rated Voltage	-	230
Rated Amperage	-	24.3

Drive Data		
	Design	**Actual**
Motor Sheave Size	-	DD
Motor Bore Size	-	DD
Motor Sheave SetPt	-	
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	6225	
SF RPM	-	
RA CFM	4525	
OA CFM	1700	
RL Voltage	-	
RL Amperage	-	
SF Rotation	-	
RA Damper Position	-	
Min OA Damper Position	-	
Min OA Damper Type	-	
OA Enthalpy Setpt	-	

Performance Data		
	Design	**Actual**
MA Plenum SP	-	
Fan Suction SP	-	
Fan Discharge SP	-	
Total ESP	0.75"	
Fan Total SP	-	

General		
	Design	**Actual**
Fan Rotation Correct	-	
Unit Filters Clean	-	
Condensate Drain Installed	-	

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Project:03-11-24 CULVERS MISHAWAKA, IN

AHU/RTU

Diffuser Supply (GRD)

RTU2/

Asset									
Asset Name	**Location**	**Type**	**Size**	**DESIGN CFM**	**AK**	**CFM(1)**	**CFM(2)**	**FINAL CFM**	**% to design**
RTU2-SGRD1	DRIVE-THRU	SD-1	12"	600					-
RTU2-SGRD2	DRIVE-THRU	SD-1	12"	600					-
RTU2-SGRD3	DINING	SD-5	10"	275					-
RTU2-SGRD4	DINING	SD-5	10"	250					-
RTU2-SGRD5	DINING	SD-5	12"	400					-
RTU2-SGRD6	DINING	SD-5	12"	400					-
RTU2-SGRD7	DINING	SD-5	12"	375					-
RTU2-SGRD8	DINING	SD-5	10"	200					-
RTU2-SGRD9	DINING	SD-5	12"	350					-
RTU2-SGRD10	DINING	SD-5	12"	350					-
RTU2-SGRD11	DINING	SD-5	12"	350					-
RTU2-SGRD12	DRY GOODS	SD-1	12"	600					-
RTU2-SGRD13	DRY GOODS	SD-1	10"	200					-
RTU2-SGRD14	RESTROOM	SD-4	6"	75					-
RTU2-SGRD15	DRY GOODS	SD-1	12"	600					-
RTU2-SGRD16	UTILITY ROOM	SD-1	12"	600					-
Total				6225		0	0	0	0%

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Project: 03-11-24 CULVERS MISHAWAKA, IN

System/Unit: FAN - Exhaust

Asset: EFA1 AREA:

Unit Data		
	Design	**Actual**
MFG	ACCUREX	CAPTIVE AIRE
Model Num	XCR-B80	CFA 100 CA
Serial Num	-	6175285
Type	CEILING	CEILING
Configuration	VERTICAL	VERTICAL

Motor Data		
	Design	**Actual**
Horsepower	0.01	0.116
Motor Rpm	900	640
Phase	1	1
Voltage (rated)	115	115
Amperage (rated)	-	1.1

Test Data		
	Design	**Actual**
CFM	75	75
Fan RPM	885	DD
Fan Rotation	-	CCW, CORRECT
Motor RPM	-	DD
System SetPt	-	SINGLE SPEED
RL Voltage	-	124.5
RL Amperage	-	0.2

Completed By: Michael McDonnell on 03/11/2024

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Project: 03-11-24 CULVERS MISHAWAKA, IN

System/Unit: FAN - Exhaust

Asset: EFB1 AREA:

Unit Data		
	Design	**Actual**
MFG	ACCUREX	CAPTIVE AIRE
Model Num	XCR-B80	CFA 100 CA
Serial Num	-	6175285
Type	CEILING	CEILING
Configuration	VERTICAL	VERTICAL

Motor Data		
	Design	**Actual**
Horsepower	0.01	0.116
Motor Rpm	900	640
Phase	1	1
Voltage (rated)	115	115
Amperage (rated)	-	1.1

Test Data		
	Design	**Actual**
CFM	75	82
Fan RPM	885	DD
Fan Rotation	-	CCW,CORRECT
Motor RPM	-	DD
System SetPt	-	SINGLE SPEED
RL Voltage	-	125.1
RL Amperage	-	0.2

Completed By: Michael McDonnell on 03/11/2024

National TAB

Project: 03-11-24 CULVERS MISHAWAKA, IN

System/Unit: FAN - Exhaust

Asset: PRV1 AREA:

Unit Data		
	Design	**Actual**
MFG	ACCUREX	CAPTIVE AIRE
Model Num	XRED-090-VG	DR12HFA
Serial Num	-	6175285
Type	DOWNBLAST	DOWNBLAST
Configuration	VERTICAL	VERTICAL

Motor Data		
	Design	**Actual**
Motor MFG	-	TELCO GREEN
Horsepower	0.060	0.25
Motor Rpm	1725	1800
Phase	1	1
Voltage (rated)	115	115
Amperage (rated)	-	2.9

Test Data		
	Design	**Actual**
CFM	300	
Fan RPM	1465	
Fan Rotation	-	
Motor RPM	-	
System SetPt	-	
RL Voltage	-	
RL Amperage	-	
Total ESP	0.50"	
Fan Inlet SP	-	
Fan Discharge SP	-	

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Project:03-11-24 CULVERS MISHAWAKA, IN

FAN - Exhaust

Diffuser Ret/Exh (GRD)

PRV1/

Asset									
Asset Name	**Location**	**Type**	**Size**	**DESIGN CFM**	**AK**	**CFM(1)**	**CFM(2)**	**FINAL CFM**	**% to design**
PRV1-EGRD1	MENS RR	EG-1	10"	150	1.0				-
PRV1-EGRD2	WOMENS RR	EG-1	10"	150	1.0				-
Total				300		0	0	0	0%

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Project: 03-11-24 CULVERS MISHAWAKA, IN

System/Unit: FAN - Exhaust

Asset: PRV2 AREA:

Unit Data		
	Design	**Actual**
MFG	ACCUREX	CAPTIVE AIRE
Model Num	XCUE-140-VG	DU85HFA
Serial Num	-	6175285
Type	UPBLAST	UPBLAST
Configuration	VERTICAL	VERTICAL

Motor Data		
	Design	**Actual**
Motor MFG	-	TELCO GREEN
Horsepower	1.0	1.0
Motor Rpm	1725	1800
Phase	1	1
Voltage (rated)	115	115
Amperage (rated)	-	11.6

Drive Data		
	Design	**Actual**
Motor Sheave Size	-	DD
Motor Bore Size	-	DD
Motor Sheave SetPt	-	61%
Fan Sheave Size	-	DD
Fan Sheave Bore	-	DD
Belt CL Distance	-	DD
Num of Belts	-	DD
Belt Size	-	DD

Test Data		
	Design	**Actual**
CFM	1500	1529
Fan RPM	1702	1225
Fan Rotation	-	CCW
Motor RPM	-	1225
RL Voltage	-	126.1
RL Amperage	-	3.0
Suction ESP	-	-0.76"
Discharge ESP	-	ATM
Total ESP	1.8"	0.76"

Completed By: Michael McDonnell on 03/11/2024

National TAB

Project: 03-11-24 CULVERS MISHAWAKA, IN

System/Unit: FAN - Exhaust

Asset: PRV3 AREA:

Unit Data		
	Design	**Actual**
MFG	ACCUREX	CAPTIVE AIRE
Model Num	XCUE-140-VG	DU85HFA
Serial Num	-	6175285
Type	UPBLAST	UPBLAST
Configuration	VERTICAL	VERTICAL

Motor Data		
	Design	**Actual**
Motor MFG	-	TELO GREEN
Horsepower	1.0	1.0
Motor Rpm	1725	1800
Phase	1	1
Voltage (rated)	115	115
Amperage (rated)	-	11.6

Drive Data		
	Design	**Actual**
Motor Sheave Size	-	DD
Motor Bore Size	-	DD
Motor Sheave SetPt	-	54%
Fan Sheave Size	-	DD
Fan Sheave Bore	-	DD
Belt CL Distance	-	DD
Num of Belts	-	DD
Belt Size	-	DD

Test Data		
	Design	**Actual**
CFM	1500	1580
Fan RPM	1349	1073
Fan Rotation	-	CCW
Motor RPM	-	1073
RL Voltage	-	125.8
RL Amperage	-	2.2
Suction ESP	-	-0.61"
Discharge ESP	-	ATM
Total ESP	1.0"	0.61"

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Project: 03-11-24 CULVERS MISHAWAKA, IN

System/Unit: Kitchen Hood Type I

Asset: HD1 AREA:

Unit Data		
	Design	**Actual**
MFG	ACCUREX	CAPTIVE AIRE
Model Num	XGEP-64-S	3347 BD-2
Job / Serial Num	-	6175285
Type	TYPE 1 LOW PROXIMITY	TYPE I
Hood length	83"	66"
Hood Width	23"	33"

Test Data Exhaust		
	Design	**Actual**
Filter Type	X-TRACTOR	CAPTRATE SOLO
Filter Size 1	16X16	16X16
Filter Qty 1	5	4
Filter AK factor size 1	1.53	1.62
Filter Total AK Area	7.65	6.48
Filter1 FPM	-	239
Filter2 FPM	-	232
Filter3 FPM	-	236
Filter4 FPM	-	238
Filter Ave FPM(corr)	-	236
CFM	1500	1529

Cooking Equipment		
	Design	**Actual**
Item 1	-	GRIDDLE

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Project: 03-11-24 CULVERS MISHAWAKA, IN

System/Unit: Kitchen Hood Type I

Asset: HD2 AREA:

Unit Data		
	Design	**Actual**
MFG	ACCUREX	CAPTIVE AIRE
Model Num	XGEP-64-S	3347 BD-2
Job / Serial Num	-	6175285
Type	TYPE 1 LOW PROXIMITY	TYPE I
Hood length	64"	84"
Hood Width	23"	33"

Test Data Exhaust		
	Design	**Actual**
Filter Type	GREASE GRABBER	CAPTRATE SOLO
Filter Size 1	16X16	16X16
Filter Qty 1	4	5
Filter AK factor size 1	1.53	1.62
Filter Total AK Area	6.12	8.1
Filter1 FPM	-	197
Filter2 FPM	-	196
Filter3 FPM	-	201
Filter4 FPM	-	196
Filter5 FPM	-	186
Filter Ave FPM(corr)	-	195
CFM	1500	1580

Cooking Equipment		
	Design	**Actual**
Item 1	-	FRYER

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