

Report By:

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



Report: pre
Function: Test, Adjust, & Balance
Date: 09/23/2024

PROJECT
Tape Products (Cincinnati, OH)

11630 Deerfield Road

Cincinnati, OH 45242

Client

Mechanical Optimizers

2145 Patterson Street

Cincinnati, OH 45214

National TAB

Project: Tape Products (Cincinnati, OH)

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National TAB

Project: Tape Products (Cincinnati, OH)
System/Unit: AHU/RTU



Asset: RTU-1

AREA:105

Unit Data		
	Design	Actual
MFG	NA	CARRIER
Serial Num	-	
Model Num	NA	48GCDM08A2M5-6W0A0
Configuration	VERTICAL	
Num OA Filters 1	-	
OA Filter Size 1	-	
Num PreFilter 1	-	4
PreFilter Size 1	-	20X20X2

Motor Data		
	Design	Actual
Motor MFG	-	
Frame	-	
Horsepower	-	
Motor Rpm	-	
Phase	3	208
Rated Voltage	208	
Rated Amperage	6.4	
Service Factor	-	

Test Data		
	Design	Actual
SF CFM	3000	
RA CFM	2520	
OA CFM	480	
RL Voltage	208	
RL Amperage	6.4	
OA Damper Position	-	
Brake Horse Power	1.10	

Performance Data		
	Design	Actual
MA Plenum SP	-	
Fan Suction SP	-	
Fan Discharge SP	-	
Total ESP	0.60	
Fan Total SP	-	

National TAB

Project: Tape Products (Cincinnati, OH)

AHU/RTU



Diffuser Supply (GRD)

RTU-1/105

Asset							
Asset Name	Location	Type	Size	DESIGN CFM	CFM(1)	FINAL CFM	% to design
1-1	105	SG	12X8	350			-
1-2	105	SG	12X8	350			-
1-3	105	SG	12X8	400			-
1-4	105	SG	12X8	400			-
1-5	105	SG	12X8	400			-
1-6	105	SG	12X8	350			-
1-7	105	SG	12X8	400			-
1-8	105	SG	12X8	350			-
Total				3000	0	0	0%

National TAB

Project: Tape Products (Cincinnati, OH)
System/Unit: AHU/RTU



Asset: RTU-2

AREA:105

Unit Data		
	Design	Actual
MFG	NA	CARRIER
Serial Num	-	
Model Num	NA	48GCDM08A2M5-6W0A0
Configuration	VERTICAL	
Num OA Filters 1	-	
OA Filter Size 1	-	
Num PreFilter 1	-	4
PreFilter Size 1	-	20X20X2

Motor Data		
	Design	Actual
Motor MFG	-	
Frame	-	
Horsepower	-	
Motor Rpm	-	
Phase	3	208
Rated Voltage	208	
Rated Amperage	6.4	
Service Factor	-	

Test Data		
	Design	Actual
SF CFM	3000	
RA CFM	2520	
OA CFM	480	
RL Voltage	208	
RL Amperage	6.4	
OA Damper Position	-	
Brake Horse Power	1.10	

Performance Data		
	Design	Actual
MA Plenum SP	-	
Fan Suction SP	-	
Fan Discharge SP	-	
Total ESP	0.60	
Fan Total SP	-	

National TAB

Project: Tape Products (Cincinnati, OH)

AHU/RTU



Diffuser Supply (GRD)

RTU-2/105

Asset							
Asset Name	Location	Type	Size	DESIGN CFM	CFM(1)	FINAL CFM	% to design
2-1	105	SG	12X8	375			-
2-2	105	SG	12X8	375			-
2-3	105	SG	12X8	375			-
2-4	105	SG	12X8	375			-
2-5	105	SG	12X8	375			-
2-6	105	SG	12X8	375			-
2-7	105	SG	12X8	375			-
2-8	105	SG	12X8	375			-
Total				3000	0	0	0%

National TAB

Project: Tape Products (Cincinnati, OH)
System/Unit: AHU/RTU



Asset: RTU-12

AREA:101

Unit Data		
	Design	Actual
MFG	NA	EXISTING
Serial Num	-	
Model Num	NA	EXISTING
Configuration	VERTICAL	
Num OA Filters 1	-	
OA Filter Size 1	-	
Num PreFilter 1	-	
PreFilter Size 1	-	

Test Data		
	Design	Actual
SF CFM	1200	
SF RPM	-	
RA CFM	1140	
OA CFM	60	
RL Voltage	-	
RL Amperage	-	
OA Damper Position	-	
Brake Horse Power	-	

Motor Data		
	Design	Actual
Motor MFG	-	
Frame	-	
Horsepower	-	
Motor Rpm	-	
Phase	-	
Rated Voltage	-	
Rated Amperage	-	
Service Factor	-	

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

Drive Data	
	Actual
Motor Sheave Size	
Motor Bore Size	
Motor Sheave SetPt	
Fan Sheave Size	
Fan Sheave Bore	
Belt CL Distance	
Num of Belts	
Belt Size	

National TAB

Project: Tape Products (Cincinnati, OH)

AHU/RTU



Diffuser Supply (GRD)

RTU-12/101

Asset							
Asset Name	Location	Type	Size	DESIGN CFM	CFM(1)	FINAL CFM	% to design
12-1	103	CD	10	300			-
12-2	103	CD	10	300			-
12-3	103	CD	10	350			-
12-4	101	CD	10	250			-
Total				1200	0	0	0%

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Project: Tape Products (Cincinnati, OH)
System/Unit: FAN - Exhaust



Asset: EF-1

AREA:115

Unit Data		
	Design	Actual
MFG	NA	GREENHECK
Model Num	NA	SP-A250
Serial Num	-	24012092
Type	CEILING	CEILING

Test Data		
	Design	Actual
CFM	243	232

Motor Data		
	Design	Actual
Motor MFG	-	GREENHECK
Phase	1	1
Voltage (rated)	115	115
Amperage (rated)	-	0.56

Completed By: Gabe Merk on 06/21/2024

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Project: Tape Products (Cincinnati, OH)
System/Unit: FAN - Exhaust



Asset: EF-2

AREA:116

Unit Data		
	Design	Actual
MFG	NA	GREENHECK
Model Num	NA	SP-A200
Serial Num	-	24032930
Type	CEILING	CEILING

Test Data		
	Design	Actual
CFM	190	208

Motor Data		
	Design	Actual
Motor MFG	-	GREENHECK
Phase	1	1
Voltage (rated)	115	115
Amperage (rated)	-	0.46

Completed By: Gabe Merk on 06/21/2024

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Project: Tape Products (Cincinnati, OH)
System/Unit: FAN - Exhaust



Asset: EF-3

AREA:121

Unit Data		
	Design	Actual
MFG	NA	GREENHECK
Model Num	NA	SP-A200
Serial Num	-	24032947
Type	CEILING	CEILING

Test Data		
	Design	Actual
CFM	190	173

Motor Data		
	Design	Actual
Motor MFG	-	GREENHECK
Phase	1	1
Voltage (rated)	115	115
Amperage (rated)	-	0.46

Completed By: Gabe Merk on 06/21/2024

Notes:
SOME NOTABLE VIBRATION

Written By: Gabe Merk on 06/21/2024

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Project: Tape Products (Cincinnati, OH)
System/Unit: FAN - Exhaust



Asset: EF-4

AREA:133

Unit Data		
	Design	Actual
MFG	NA	GREENHECK
Model Num	NA	SP-A200
Serial Num	-	24032935
Type	CEILING	CEILING

Test Data		
	Design	Actual
CFM	190	230

Motor Data		
	Design	Actual
Motor MFG	-	GREENHECK
Phase	1	1
Voltage (rated)	115	115
Amperage (rated)	-	0.46

Completed By: Gabe Merk on 06/21/2024

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Project: Tape Products (Cincinnati, OH)
 System/Unit: FAN - Exhaust



Asset: EF-5

AREA:132

Unit Data		
	Design	Actual
MFG	NA	GREENHECK
Model Num	NA	SP-A110
Serial Num	-	23936855
Type	CEILING	CEILING

Test Data		
	Design	Actual
CFM	80	77

Motor Data		
	Design	Actual
Motor MFG	-	GREENHECK
Phase	1	1
Voltage (rated)	115	115
Amperage (rated)	-	0.19

Completed By: Nick Payne on 09/03/2024

Notes:
 No ceiling or face installed. Read as-is.

Written By: Nick Payne on 09/23/2024

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Project: Tape Products (Cincinnati, OH)
System/Unit: FAN - Exhaust



Asset: EF-6

AREA:143

Unit Data		
	Design	Actual
MFG	NA	GREENHECK
Model Num	NA	G-120-VG

Motor Data		
	Design	Actual
Horsepower	0.5	0.5
Motor Rpm	1725	1725
Phase	1	1
Voltage (rated)	208	208
Amperage (rated)	-	3.8

Test Data		
	Design	Actual
CFM	1984	
RL Voltage	-	
RL Amperage	-	
Total ESP	0.246	

Notes:
SOME NOTABLE VIBRATION

Written By: Gabe Merk on 06/21/2024

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Project: Tape Products (Cincinnati, OH)

System/Unit: Split Sys Furnace



Asset: F-1

AREA:131

Unit Data		
	Design	Actual
MFG	NA	CARRIER
Model Num	NA	59TP6C080V211120
Serial Num	-	4423A43738
Configuration	-	HORIZONTAL
Filter Size Size 1	-	20"X19"X1"

Test Data		
	Design	Actual
SF CFM	1300	1304
Motor Speed SetPt	-	12
RL Voltage	-	120
RL Amperage	-	5.1
RA CFM	1170	1101
OA CFM	130	203

Motor Data		
	Design	Actual
Motor MFG	-	INACCESSIBLE
Frame	-	INACCESSIBLE
Horsepower	-	1
Motor Rpm	-	INACCESSIBLE
Phase	1	1
Voltage	115	115
Amperage	-	13.1(UNIT)

Performance Data		
	Design	Actual
Suction ESP	-	-0.45"
Discharge ESP	-	0.15"
Total ESP	0.60	0.60"

Completed By: Gabe Merk on 06/21/2024

Notes:
OA DAMPER TO BE INSTALLED LATER DATE

Written By: Gabe Merk on 06/21/2024

National TAB

Project: Tape Products (Cincinnati, OH)

Split Sys Furnace



Diffuser Supply (GRD)

F-1/131

Asset							
Asset Name	Location	Type	Size	DESIGN CFM	CFM(1)	FINAL CFM	% to design
F1-1	120	CD	6	50	173	48	96.0
F1-2	121	CD	6	50	117	51	102.0
F1-3	113	CD	12	500	41	504	100.8
F1-4	113	CD	12	500	744	495	99.0
F1-5	133	CD	6	50	174	45	90.0
F1-6	131	CD	8	150	339	161	107.3
Total				1300	1588	1304	100.31%

National TAB

Project: Tape Products (Cincinnati, OH)

System/Unit: Split Sys Furnace



Asset: F-2

AREA:142

Unit Data		
	Design	Actual
MFG	NA	CARRIER
Model Num	NA	59TP6C080V211120
Serial Num	-	4423A43722
Configuration	-	HORIZONTAL
Filter Size Size 1	-	20"X20"X1"

Motor Data		
	Design	Actual
Motor MFG	-	INACCESSIBLE
Frame	-	INACCESSIBLE
Horsepower	-	1
Motor Rpm	-	INACCESSIBLE
Phase	1	1
Voltage	115	115
Amperage	-	13.1(UNIT)

Test Data		
	Design	Actual
SF CFM	1500	1589
Motor Speed SetPt	-	16
RL Voltage	-	119
RL Amperage	-	7.0
RA CFM	1290	1449
OA CFM	210	140

Performance Data		
	Design	Actual
Suction ESP	-	-0.61"
Discharge ESP	-	0.11"
Total ESP	0.60	0.72"

Completed By: Gabe Merk on 06/20/2024

Notes:
NO DAMPER ON RETURN TO INCREASE OA.

Written By: Gabe Merk on 06/20/2024

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Project: Tape Products (Cincinnati, OH)

Split Sys Furnace



Diffuser Supply (GRD)

F-2/142

Asset							
Asset Name	Location	Type	Size	DESIGN CFM	CFM(1)	FINAL CFM	% to design
F2-1	142	CD	8	150	379	154	102.7
F2-2	142	CD	8	250	391	258	103.2
F2-3	142	CD	8	150	65	161	107.3
F2-4	142	CD	8	150	378	159	106.0
F2-5	142	CD	8	250	75	272	108.8
F2-6	142	CD	8	250	64	259	103.6
F2-7	142	CD	8	150	61	164	109.3
F2-8	142	CD	8	150	61	162	108.0
Total				1500	1474	1589	105.93%

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Project: Tape Products (Cincinnati, OH)

System/Unit: Split Sys Furnace



Asset: F-3

AREA:129

Unit Data		
	Design	Actual
MFG	NA	CARRIER
Model Num	NA	59TP6C060V171116
Serial Num	-	0424A44491
Configuration	-	HORIZONTAL
Filter Size Size 1	-	16"X20"X1"

Motor Data		
	Design	Actual
Motor MFG	-	INACCESSIBLE
Frame	-	INACCESSIBLE
Horsepower	-	0.75
Motor Rpm	-	INACCESSIBLE
Phase	1	1
Voltage	115	115
Amperage	-	10.1(UNIT)

Test Data		
	Design	Actual
SF CFM	1200	1243
Motor Speed SetPt	-	16
RL Voltage	-	123
RL Amperage	-	5.6
RA CFM	984	1048
OA CFM	216	195

Performance Data		
	Design	Actual
Suction ESP	-	-0.49"
Discharge ESP	-	0.08"
Total ESP	0.60	0.57"

Completed By: Gabe Merk on 06/20/2024

National TAB

Project: Tape Products (Cincinnati, OH)

Split Sys Furnace



Diffuser Supply (GRD)

F-3/129

Asset							
Asset Name	Location	Type	Size	DESIGN CFM	CFM(1)	FINAL CFM	% to design
F3-1	140	CD	6	100	82	105	105.0
F3-2	141	CD	8	150	130	163	108.7
F3-3	139	CD	6	100	69	92	92.0
F3-4	128	CD	6	100	79	105	105.0
F3-5	130	CD	8	125	157	137	109.6
F3-6	130	CD	8	150	169	159	106.0
F3-7	130	CD	8	125	143	133	106.4
F3-8	130	CD	8	150	185	158	105.3
F3-9	129	CD	8	200	177	191	95.5
Total				1200	1191	1243	103.58%

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Project: Tape Products (Cincinnati, OH)

System/Unit: Split Sys Furnace



Asset: F-5 AREA:112

Unit Data		
	Design	Actual
MFG	NA	BRYANT
Model Num	NA	925TA48080E17
Serial Num	-	2812A50419
Configuration	-	VERTICAL
Filter Size Size 1	-	16"X25"X1"

Motor Data		
	Design	Actual
Motor MFG	-	INACCESSIBLE
Frame	-	INACCESSIBLE
Horsepower	-	0.75
Motor Rpm	-	INACCESSIBLE
Phase	1	1
Voltage	115	115
Amperage	-	9.8(UNIT)

Test Data		
	Design	Actual
SF CFM	1500	1415
Motor Speed SetPt	-	BLUE
RL Voltage	-	119
RL Amperage	-	7.7
RA CFM	1290	1328
OA CFM	210	87

Performance Data		
	Design	Actual
Suction ESP	-	-0.58"
Discharge ESP	-	0.20"
Total ESP	0.60	0.78"

Completed By: Gabe Merk on 06/21/2024

Notes:
 VERIFIED F5-6 DAMPER FULLY OPEN NO OBSTRUCTIONS FOUND.
 NO RETURN DAMPERS TO INCREASE OA

Written By: Gabe Merk on 06/21/2024

National TAB

Project: Tape Products (Cincinnati, OH)

Split Sys Furnace



Diffuser Supply (GRD)

F-5/112

Asset							
Asset Name	Location	Type	Size	DESIGN CFM	CFM(1)	FINAL CFM	% to design
F5-1	112	CD	6	75	20	80	106.7
F5-2	116	CD	6	75	67	77	102.7
F5-3	115	CD	6	75	76	68	90.7
F5-4	114	CD	6	100	65	109	109.0
F5-5	102	CD	10	300	193	315	105.0
F5-6	117	CD	10	300	200	212	70.7
F5-7	118	CD	8	200	173	185	92.5
F5-8	118	CD	8	200	190	195	97.5
F5-9	119	CD	6	100	102	105	105.0
F5-10	112	CD	6	75	91	69	92.0
Total				1500	1177	1415	94.33%

National TAB

Project: Tape Products (Cincinnati, OH)

System/Unit: Split Sys Furnace



Asset: F-6

AREA:111

Unit Data		
	Design	Actual
MFG	NA	BRYANT
Model Num	NA	925TA48080E17
Serial Num	-	0612A47910
Configuration	-	VERTICAL
Filter Size Size 1	-	14"X22"X1"

Motor Data		
	Design	Actual
Motor MFG	-	INACCESSIBLE
Frame	-	INACCESSIBLE
Horsepower	-	0.75
Motor Rpm	-	INACCESSIBLE
Phase	1	1
Voltage	115	115
Amperage	-	9.8(UNIT)

Test Data		
	Design	Actual
SF CFM	1550	1394
Motor Speed SetPt	-	BLUE
RL Voltage	-	117
RL Amperage	-	7.7
RA CFM	1395	1379
OA CFM	155	15

Performance Data		
	Design	Actual
Suction ESP	-	-0.55"
Discharge ESP	-	0.16"
Total ESP	0.60	0.71"

Completed By: Gabe Merk on 06/21/2024

Notes:
UNIT IN MAX SPEED PROPORTIONALLY BALANCED TO 90%

Written By: Gabe Merk on 06/21/2024

National TAB

Project: Tape Products (Cincinnati, OH)

Split Sys Furnace



Diffuser Supply (GRD)

F-6/111

Asset							
Asset Name	Location	Type	Size	DESIGN CFM	CFM(1)	FINAL CFM	% to design
F6-1	108	CD	10	350	320	309	88.3
F6-2	107	CD	10	250	34	233	93.2
F6-3	109	CD	10	350	178	304	86.9
F6-4	110	CD	10	350	311	325	92.9
F6-5	111	CD	10	250	61	223	89.2
Total				1550	904	1394	89.94%

National TAB

Project: Tape Products (Cincinnati, OH)

System/Unit: Split Sys Furnace



Asset: F-7

AREA:104

Unit Data		
	Design	Actual
MFG	NA	CARRIER
Model Num	NA	59TP6C040V171112
Serial Num	-	4523A61687
Configuration	-	HORIZONTAL
Filter Size Size 1	-	16"X20"X"1"

Motor Data		
	Design	Actual
Motor MFG	-	INACCESSIBLE
Frame	-	INACCESSIBLE
Horsepower	-	0.5
Motor Rpm	-	INACCESSIBLE
Phase	1	1
Voltage	115	115
Amperage	-	7.4(UNIT)

Test Data		
	Design	Actual
SF CFM	700	748
Motor Speed SetPt	-	HIGH COOL
RL Voltage	-	119
RL Amperage	-	5.6
RA CFM	560	598
OA CFM	140	150

Performance Data		
	Design	Actual
Suction ESP	-	-0.41
Discharge ESP	-	0.25
Total ESP	0.60	0.66

Completed By: Nick Payne on 09/03/2024

National TAB

Project: Tape Products (Cincinnati, OH)

Split Sys Furnace



Diffuser Supply (GRD)

F-7/104

Asset							
Asset Name	Location	Type	Size	DESIGN CFM	CFM(1)	FINAL CFM	% to design
F7-1	104	CD	8	175	202	184	105.1
F7-2	104	CD	8	175	178	191	109.1
F7-3	104	CD	8	175	218	188	107.4
F7-4	104	CD	8	175	169	185	105.7
Total				700	767	748	106.86%

National TAB

Project: Tape Products (Cincinnati, OH)

System/Unit: Split Sys Furnace



Asset: F-4A 1

AREA:137

Unit Data		
	Design	Actual
MFG	NA	CARRIER
Model Num	NA	59TP6C060V171116
Serial Num	-	0424A44488
Configuration	-	HORIZONTAL
Filter Size Size 1	-	16"X20"X1"

Motor Data		
	Design	Actual
Motor MFG	-	INACCESSIBLE
Frame	-	INACCESSIBLE
Horsepower	-	0.75"
Motor Rpm	-	INACCESSIBLE
Phase	1	1
Voltage	115	115
Amperage	-	10.1(UNIT)

Test Data		
	Design	Actual
SF CFM	1200	1208
Motor Speed SetPt	-	15
RL Voltage	-	123
RL Amperage	-	5.4
RA CFM	984	971
OA CFM	216	237

Performance Data		
	Design	Actual
Suction ESP	-	-0.49
Discharge ESP	-	0.08"
Total ESP	0.60	0.57"

Completed By: Gabe Merk on 06/20/2024

National TAB

Project: Tape Products (Cincinnati, OH)

Split Sys Furnace



Diffuser Supply (GRD)

F-4A 1/137

Asset							
Asset Name	Location	Type	Size	DESIGN CFM	CFM(1)	FINAL CFM	% to design
F4A-1	137	CD	8	175	224	173	98.9
F4A-2	137	CD	8	175	198	170	97.1
F4A-3	137	CD	8	175	172	178	101.7
F4A-4	137	CD	8	175	231	183	104.6
F4A-5	137	CD	8	150	214	158	105.3
F4A-6	137	CD	8	175	209	172	98.3
F4A-7	137	CD	8	175	179	174	99.4
Total				1200	1427	1208	100.67%

National TAB

Project: Tape Products (Cincinnati, OH)

System/Unit: Split Sys Furnace



Asset: F-4B 1

AREA:126

Unit Data		
	Design	Actual
MFG	NA	CARRIER
Model Num	NA	59TP6C060V171116
Serial Num	-	0424A44493
Configuration	-	HORIZONTAL
Filter Size Size 1	-	16"X25"X1"

Motor Data		
	Design	Actual
Motor MFG	-	INACCESSIBLE
Frame	-	INACCESSIBLE
Horsepower	-	0.75
Motor Rpm	-	INACCESSIBLE
Phase	1	1
Voltage	115	115
Amperage	-	10.1(UNIT)

Test Data		
	Design	Actual
SF CFM	1125	1149
Motor Speed SetPt	-	14
RL Voltage	-	212
RL Amperage	-	5.0
RA CFM	909	947
OA CFM	216	202

Performance Data		
	Design	Actual
Suction ESP	-	-0.39"
Discharge ESP	-	0.21"
Total ESP	0.60	0.60"

Completed By: Gabe Merk on 06/20/2024

National TAB

Project: Tape Products (Cincinnati, OH)

Split Sys Furnace



Diffuser Supply (GRD)

F-4B 1/126

Asset							
Asset Name	Location	Type	Size	DESIGN CFM	CFM(1)	FINAL CFM	% to design
F4B-1	136	CD	6	100	103	91	91.0
F4B-2	134	CD	6	100	113	92	92.0
F4B-3	123	CD	8	125	133	129	103.2
F4B-4	122	CD	6	100	53	97	97.0
F4B-5	124	CD	6	75	74	82	109.3
F4B-6	135	CD	8	125	233	113	90.4
F4B-7	125	CD	6	50	107	53	106.0
F4B-8	126	CD	6	100	98	109	109.0
F4B-9	126	CD	6	100	104	110	110.0
F4B-10	126	CD	8	125	177	137	109.6
F4B-11	126	CD	8	125	184	136	108.8
Total				1125	1379	1149	102.13%

Completed By: Gabe Merk on 06/20/2024