PSTA HVAC Control Review, Assessment and Recommendations



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PSTA HVAC Control Review, Assessment and Recommendations

Summary

Hahn Engineering, Inc. has recently completed a review and assessment of the HVAC Control System for the Pinellas Suncoast Transit Authority Facility located at 3201 Scherer Drive, St. Petersburg, Florida. The purpose of this assessment was to:

- 1. Review the current operation of the HVAC System.
- 2. Gather information as to the items that are not being controlled properly, either within the current system configuration or due to damage.
- 3. Provide a base of data to be utilized to compare against final project completion to ensure any trouble areas have been addressed appropriately.
- 4. Determine the parameters for a control system remediation to be included in a RFP.

What we found was a control system that was non-functional and, in many cases, left in manual override. The current HVAC System is very complex and unable to function in a manner to achieve the desired intended space temperature and humidity requirements.

The main components of the HVAC System are Multi Zone chilled water air handling units that have been outfitted with a Variable Frequency Drive fans and serve Variable Air Volume boxes in the room spaces. These units also contain Energy Recovery Ventilators to precondition the outside ventilation air. A Multi Zone system or a Variable Air Volume System individually are excellent ways to control space temperature. However, when combined you run into an extremely difficult control situation even if all the controls are operating correctly and it is well maintained, and the system's set points and schedules have been fully vetted. A Multi Zone system is intended to be a constant air volume system that mixes air from either a hot deck or cold deck to control space temperature. A Variable Air Volume system varies airflow to the space to control the temperature. The mixture of these two base systems together does not function well.

The facility has extreme air pressure issues. These can be directly tied to the Energy Recovery Ventilator operation or lack thereof. The purpose of an Energy Recovery Ventilator is to take the exhaust airflow from the building, run it through an energy wheel and pretreat outside ventilation air into the building. However, in many of the cases this equipment was off, tagged off and in need of significant repair. With this equipment nonoperational you cannot provide the correct ventilation air to the facility and are either significantly over pressurizing or under pressurizing the building (which currently occurs).

Attached to this report is equipment test data and summary spreadsheets identifying the equipment; whether it was operational, what the set points (if any) are and if it is in manual



override. If you review this data in detail you can see that the HVAC Control System is non-reliable/nonfunctional.

However, this system can be repaired and made into a well performing/functioning HVAC system. Many of the components such as ductwork, grilles and VAV boxes, are in usable shape, as are the coils and the fans in the air handling units. If you properly address the system with significant control modifications and some adjustments to the HVAC system you can achieve a premium operating HVAC system.

Our recommendation is to eliminate the Multi Zone function of the air handling units and make each a true VAV type air handling unit system. In addition, due to all the issues with the maintenance and the lack of operation with the Energy Recovery Ventilators we propose that those be eliminated and chilled water coils be provided in place of those systems. In addition, due to the confusing nature of the base control system and the way the original HVAC program was set up, as well as the seemingly lack of scheduling and significant overrides throughout the system, we recommend that a new backbone control system be installed with new software and new programming. Many of the existing control panels, temperature sensors, valve controls, chiller controls and VAV box controls may be reutilized with this new system.

Specifically, we recommend the approach of the following to properly address the HVAC System and its control:

- 1. Close/lock off the hot deck of the Multi Zone units and force all of the air through the cold deck of the unit. This will make it a single path airflow unit.
- 2. Provide static pressure sensors in each of the supply zoned duct systems that would operate so that the worse case static pressure would be maintained in the high pressure duct part of the system. This will allow VAV boxes to receive adequate air and allow them to function.
- 3. Remove the Energy Recovery Ventilators from each air handling unit. Tie the exhaust ductwork directly to the system exhaust fans.
- 4. Provide a chilled water outside air coil in the outside air ventilation duct to the units.
- 5. Provide an OA modulating damper in the outside ventilation air with Demand Control Ventilation utilizing CO² sensors. This will ensure adequate ventilation air, building pressures maintained and save energy.
- 6. Provide a new backbone control system with software that allows scheduling and monitoring of the HVAC system. This will be tied into many of the existing functioning VAV box components, temperature sensors, etc.
- 7. When changing the chillers, reinstall them in a configuration of a parallel operation in lieu of a series configuration. This will allow the chiller to operate on a parallel path and reduce the overall pumping pressure and save energy.



8. Provide a complete Test and Balance of the system.

We remain confident that the HVAC Control System remediation, as well as the minor HVAC system fixes, along with the chiller change out portion of the project can successfully be completed within the RFP process and within the original budget as estimated.

Our recommendation moving forward is to begin preparing the required documents outlining the control system remediation requirements, the HVAC system remediation requirements, and the chiller change out requirements so that the RFP can be fully developed and put out for contractor proposals.



Appendix 1



AHU-2A Zone clumprs

- 21 - tested / will operate

- 22 - tested /

- 23 - initial test failed - no movement / No power indicated

- 24 - tested /

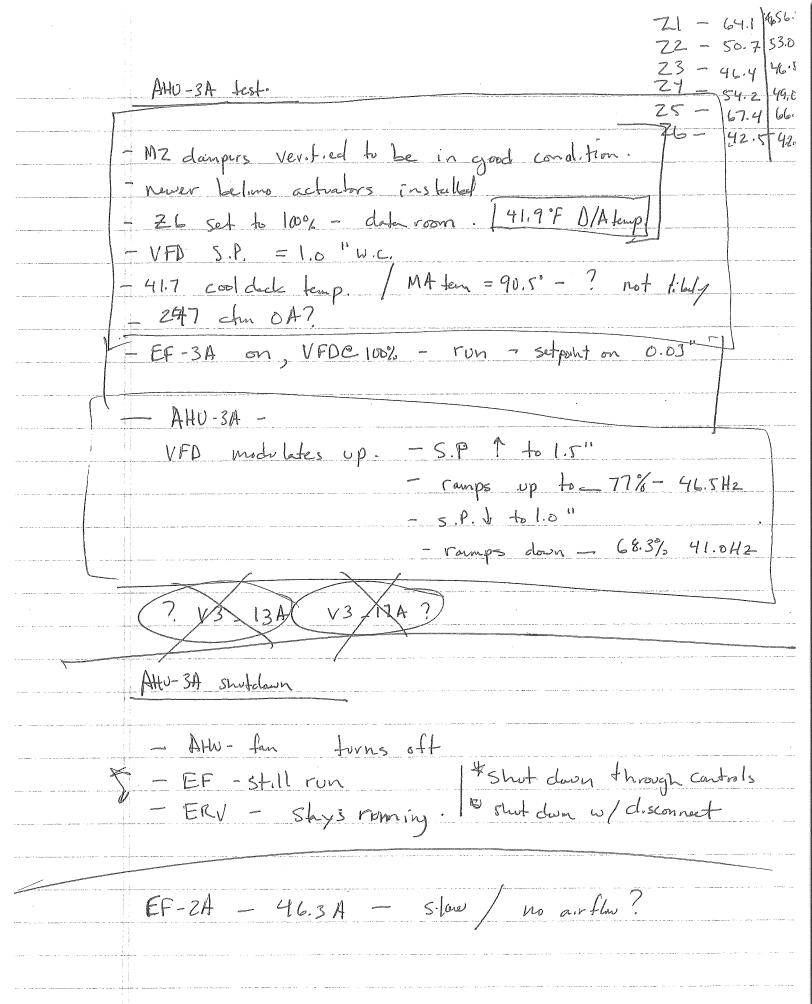
- 25 - tested /

AHU-2A - VFD is in hand set to 45Hz

- Max Cfin @ VAV boxes are not achievable.

- Elec. a will not engage intih min Heating Cfin
is uset.

- Retest boxes for heating / max cfin



VFD for AHD-fan: V SeP to 1.5" - VFD mads down to - 80.33% M S.P. to 3.0" - VFD mads to - 93.5%

EF-3A) on through sonvaga.

Tuisldald: EF-32M?

16/2016 343Am

OA: 570 F

	16 ans on the OH 2 for	
	AHU-2M	
	- VFD set in hand @ 60Hz [59.5 Hz - 2.28" w.	c.]
	AHU-2M - VFD set in hand @ 60Hz [59.5 Hz - 2.28" w. - ERU turned off @ disconned: / NO do - Compressed in O.O 50 solvint = 15" / in DOC	myer more > w/adj
	- command is on - S.P setpoint = 1.5" in DDC	
	- M/A temp = (-8.2°F	
	- Zone 5, 6 +7 Show 0°6 cold deck damper posts setpoints are not med./M Change in damper in DDC to 100%!	situm
	13 setpoints are not med. / M Change in danger	- pos. w/adj,
	in DDC to 100%!	21 = 60.2
	-> Schedules not indicated!	Zz= 65.5
	- NU VAV Z-30 on DDL controls.	Z3: 60.6
		24 = 60.1
- -		Z5 = 60.059.7
	# AHV-4M /5M & 6M are not adjustable	76 = 57-0
	through DDC.	27:56.7
	- AHV-4M only shows Sm. status!	Z8 = 60.5
	- no set points or Status shown in DDL for 5M or 6	,M
		,
	Boilers commad 10 off Pump 5 is an but borler is firmy PGM VFD failed / in	no HW.
	boiler is firmy PGM VFD failed/in	bypass mad/off
· · · · · · · · · · · · · · · · · · ·	EF-32M locked off at MCC / noise issue	
	Tail and Tail I I I I I I I I I I I I I I I I I I I	✓

ERU-2M - ERV wheel does not two w/ power on - EF & JAR SA for on - OA for belt is noisy. - for status appears M DDC.

AHU-3M	Variable air Volume / Canstart tomp.
SA & RA	for on VFD
Tenjs	Adu Fun S.P. = 1.8" wc.
RA = 68.3	Stp = 1.8" WC
0A = 64.9	· CHW Valve = 100%
MA = 67.6	Hw value = 0%
PA= 59.1	DA Stp = 45.0°

Appendix 2



Administration Building VAV Boxes

Variable Air Volume Terminal Units

Mark	Thermostat Location		Manufacturer	Model No.	Serial No.	Airflov	v Setpoints	(CFM)	Occ Tem	p Stpt (°F)
IVIGIR		Room #	Widifalactarel			Max.	Min.	Htg.	Htg.	Cool
VAV-1A-1	Conf. Rm.	A149	Trane	VCEF10000G0FM00C00000L5W0F0552100	R04H04768A	100	55	150	64	76
VAV-1A-2	Board Area	A148	Trane	VCEF08000G0FM00C00000L4W0D0402100	R04H04772A	800	10	200	60	71
VAV-1A-3	Audience	A147	Trane	VCEF08000G0FM00C00000L4W0D0102100	R04H04775A	700	10	100	60	71
VAV-1A-4	Audience	A147	Trane	VCEF08000G0FM00C00000L4W0D0102100		1000	10	350	60	74
VAV-1A-5	Vendor Bid	A144	Trane	VCEF08000G0FM00C00000L4W0D0102100	R04H04785A	320	50	250	67	74
VAV-1A-6	Elec. Rm.	A145	Trane	VCCF06000G0FM00C00000L4W000000000	R04H04788A	600	106			74
VAV-1A-7	Mech. Rm.	A146	Trane	VCEF06000G0FM00C00000L4W0D0102100	R04H04792A	165	30	70	64	74
VAV-1A-8	Archives	A243	Trane	VCEF10000G0FM00C00000L5W0D0102100		1500	200	900	67	74
VAV-1A-9	Classroom	A244	Trane	VCEF08000G0FM00C00000L4W0D0252100	R04H04783A	300	100	180	65	74
VAV-1A-10	Auditorium	A245	Trane	VCEF08000G0FM00C00000L4W0D0402100	R04H04770A	1000	200	375	67	74
VAV-1A-11	Auditorium	A245	Trane	VCEF08000G0FM00C00000L4W0D0402100	R04H04771A	1000	300	375	67	74
VAV-2A-1	Exec. Dir.	A127	Trane	VCEF08000G0FM00C00000L4W0D0302100	R04H04777A	550	200	150	70	74
VAV-2A-2	Exec. Assist.	A125	Trane	VCCF06000G0FM00C00000100		250	100	100	76	80
VAV-2A-3	Lunch Rm.	A123	Trane	VCEF10000G0FM00C00000L5W0F0552100	R04H04769A	2250	200	800	66	73
VAV-2A-4	Wm. Rr.	A129	Trane	VCEF08000G0FM00C00000L4W0D0252100	R04H04784A	100	50	175	68	78
VAV-2A-5	Sr. Tr. Plan.	A105	Trane	VCEF06000G0FM00C00000L4W0D0402100	R04H04810A	370	150	225	66	68
VAV-2A-6	Dir. Plan.	A101	Trane	VCEF05000G0FM00C00000L4W0D0252100	R04H04812A	550	450	250	66	72
VAV-2A-7	Conf. Rm.	A102	Trane	VCEF06000G0FM00C00000L4W0D0252100	R04H04814A	494	205	210	65	72
VAV-2A-8	Mech. Rm.	A122	Trane	VCEF06000G0FM00C00000L4W0D0102100	R04H04793A	119	20	75	66	74
VAV-2A-9	Open Off. 1	A104	Trane	VCCF08000G0FM00C00000L4W000000000	R04H04818A	1000	10			74
VAV-2A-10	Cust. Serv.	A110	Trane	VCCF04000G0FM00C00000L4W000000000	R04H04823A	500	225			74
VAV-2A-11	Lead Supv.	A111	Trane	VCEF05000G0FM00C00000L4W0D0102100	R04H04830A	155	35	100	67	76
VAV-2A-12	Dir. Mktg.	A112	Trane	VCEF06000G0FM00C00000L4W0D0202100	R04H04834A	225	50	178	66	74
VAV-2A-13	Conf. Rm.	A113	Trane	VCEF06000G0FM00C00000L4W0D0152100	R04H04802A	300	50	155	66	74
VAV-2A-14	Pr & Graph.	A115	Trane	VCEF06000G0FM00C00000L4W0D0252100		500	125	210	66	74
VAV-2A-15	Emp. Ben.	A138	Trane	VCCF04000G0FM00C00000L4W000000000	R04H04824A	100	50			
VAV-2A-16	Copy/Work	A117	Trane	VCCF04000G0FM00C00000L4W000000000	R04H04825A	500	25			74
VAV-2A-17	Open Off. 2	A118	Trane	VCCF08000G0FM00C00000L4W000000000	R04H04816A	300	214			74
VAV-2A-18	Corr. #1	A119	Trane			398	248	0	66	74
VAV-2A-19	Hr. Dir.	A139	Trane	VCEF08000G0FM00C00000L4W0D0102100	R04H04778A	600	250	214	66	70
VAV-2A-20	Open Off. 3	A137	Trane	VCCF05000G0FM00C00000L4W000000000	R04H04844A	270	25			74
VAV-2A-21	Waiting	A135	Trane	VCCF05000G0FM00C00000L4W000000000	R04H04848A	300	15			71
VAV-2A-22	Clerk/Mail	A132	Trane	VCCF04000G0FM00C00000L4W000000000	R04H04826A	180	0			
VAV-2A-23	Corr. #6	A242	Trane	VCEF12000G0FM00C00000L5W0F1202100	R04H04849A	1500	600	1050	66	74
VAV-2A-24	Ceiling Plen.	A242	Trane	VCEF16000G0FM00C00000L5W0F1402100	R04H04850A	1000	600	300	66	74
VAV-2A-25	Comm.	A120	Trane	VCCF08000G0FM00C00000L4W000000000	R04H04817A	200	50			
VAV-2A-26	Stair 2	A109	Trane	VCEF08000G0FM00C00000L4W0D0402100	R04H04773A	400	135	120	66	73

Monte	The was estat Legation		Manufacturar	MadalNa	Carial Na	Airflov	v Setpoints	(CFM)	Occ Temp	p Stpt (°F)
Mark	Thermostat Location	Room #	Manufacturer	Model No.	Serial No.	Max.	Min.	Htg.	Htg.	Cool
VAV-3A-1	Risk Man.	A207	Trane	VCEF06000G0FM00C00000L4W0D0252100	R04H04815A	200	100	180	70	72
VAV-3A-2	Dir. Fin.	A201	Trane	VCEF06000G0FM00C00000L4W0D0202100	R04H04838A	500	200	200	68	71
VAV-3A-3	Conf. Rm.	A202	Trane	VCEF08000G0FM00C00000L4W0D0202100	R04H04852A	350	150	150	66	76
VAV-3A-4	Open Off.	A208	Trane	VCCF08000G0FM00C00000L4W000000000	R04H04822A	400	150			72
VAV-3A-5	Mech. Rm.	A224	Trane	VCCF04000G0FM00C00000L4W000000000	R04H04828A	100	45	100	73	74
VAV-3A-6	Print Rm.	A211	Trane	VCCF04000G0FM00C00000L4W000000000	R04H04829A	161	50			76
VAV-3A-7	Audit Off.	A212	Trane	VCEF06000G0FM00C00000L4W0D0102100	R04H04800A	170	30	121	68	72
VAV-3A-8	Controller	A213	Trane	VCEF06000G0FM00C00000L4W0D0202100	R04H04840A	250	100	110	65	72
VAV-3A-9	Sen. Accnt.	A215	Trane	VCEF06000G0FM00C00000L4W0D0202100	R04H04841A	150	50	50	78	80
VAV-3A-10	Sen. Accnt.	A217	Trane	VCEF06000G0FM00C00000L4W0D0202100	R04H04798A	750	30	1500	65	72
VAV-3A-11	Copy Rm.	A219	Trane	VCCF04000G0FM00C00000L4W000000000	R04H04827A	214	50			76
VAV-3A-12	Open Off. 5	A220	Trane	VCCF08000G0FM00C00000L4W000000000	R04H04820A	650	200			76
VAV-3A-13	Not Used									
VAV-3A-14	Set-Up Fac.	A238	Trane	VCCF08000G0FM00C00000L4W000000000	R04H04821A	300	225			72
VAV-3A-15	System Man.	A235	Trane	VCEF06000G0FM00C00000L4W0D0102100	R04H04799A	285	40	120	72	76
VAV-3A-16	System Ana.	A233	Trane	VCEF06000G0FM00C00000L4W0D0202100	R04H04837A	350	106	180	72	74
VAV-3A-17	Not Used									
VAV-3A-18	Server Rm.	A236	Trane	VCCF10000G0FM00C00000L4W000000000	R04H04855A	850	400			72
VAV-3A-19	Server Rm.	A236	Trane	VCCF10000G0FM00C00000L4W000000000	R04H04856A	1300	700			70
VAV-3A-20	Purch. Man.	A240	Trane	VCEF06000G0FM00C00000L4W0D0152100	R04H04808A	450	200	150	70	75
VAV-3A-21	Open Off. 6	A241	Trane	VCEF06000G0FM00C00000L4W0D0152100	R04H04809A	250	100	100	74	78
VAV-3A-22	Open Off. 6	A241	Trane	VCCF05000G0FM00C00000L4W000000000	R04H04847A	1000	500			32
VAV-3A-23	Res. Cent.	A239	Trane	VCCF06000G0FM00C00000L4W000000000	R04H04791A	449	150			76
VAV-3A-24	Elec. Rm.	A223	Trane	VCCF05000G0FM00C00000L4W000000000	R04H04848A	350	350			72
VAV-3A-25	Mens Rm.	A228	Trane	VCEF06000G0FM00C00000L4W0D0202100	R04H04839A	350	350	200	68	72
VAV-3A-26	Lunch Rm.	A225	Trane	VCEF10000G0FM00C00000L4W0D0402100	R04H04859A	1040	200	400	71	76
VAV-3A-27	Lunch Rm.	A225	Trane	VCEF10000G0FM00C00000L4W0D0402100	R04H04860A	990	470	400	71	75
Maintenance Bui	lding VAV Boxes									
Variable Air Volui	me Terminal Units									
VAV-1M-1	Dir. Maint.	M150	Trane	VCEF05000G0FM00C00000L4W0D0252100	R04H04811A	328	170	218	71	71
VAV-1M-2	Maint. Supt.	M152	Trane	VCEF08000G0FM00C00000L4W0D0302100	R04H04776A	250	170	170	71	74
VAV-1M-3	'		R04H04842A	299	50			70		
VAV-1M-4	Vest #1	· ·		R04H04861A	690	210	300	71	74	
VAV-1M-5	Stair #1			R04H04862A	1229	500	850	71	74	
VAV-1M-6	Conf. Rm.			R04H04863A	150	50	150	71	74	
VAV-1M-7	Women Locker	M148	Trane	VCEF05000G0FM00C00000L4W0D0152100	R04H048A	300	400	301	71	74
VAV-1M-8	Men Locker	M144	Trane			500	400			74
VAV-1M-9	Lunch Rm.	M139	Trane	VCEF10000G0FM00C00000L4W0D0202100	R04H04869A	975	250	270	68	71
VAV-1M-10			VCEF10000G0FM00C00000L4W0D0202100	R04H04868A	500	125	150	71	74	

Manle	The ampostot Legation		Manufacturar	Madal Na	Carial Na	Airflov	v Setpoints	(CFM)	Occ Tem	p Stpt (°F)
Mark	Thermostat Location	Room #	Manufacturer	Model No.	Serial No.	Max.	Min.	Htg.	Htg.	Cool
VAV-1M-11	Data Entry Clerk	M127	Trane			300	50	50	65	74
VAV-1M-12	Elect. #1	M142	Trane			468	104	104	71	74
VAV-2M-1	Dir. Trans.	M202	Trane	VCEF06000G0FM00C00000L4W0D0152100	R04H04804A	300	89	250	65	68
VAV-2M-2	Transit Analyst	M205	Trane	VCEF08000G0FM00C00000L4W0D0402100	R04H04871A	600	220	265	72	74
VAV-2M-3	Break Rm.	M206	Trane	VCEF08000G0FM00C00000L4W0D0352100	R04H04874A	350	100	225	71	74
VAV-2M-4	Men Rm.	M209	Trane	VCEF06000G0FM00C00000L4W0D0152100	R04H04806A	100	50	0	65	71
VAV-2M-5	Daily Schedule	M211	Trane	VCEF06000G0FM00C00000L4W0D0202100	R04H04836A	100	50	200	75	78
VAV-2M-6	Trans. Mgr.	M212	Trane	VCEF06000G0FM00C00000L4W0D0152100	R04H04807A	400	144	148	70	74
VAV-2M-7	Dispatch	M213	Trane	VCEF08000G0FM00C00000L4W0D0302100	R04H04781A	200	100	200	68	75
VAV-2M-8	Dispatch	M213	Trane	VCEF12000G0FM00C00000L4W0D0302100	R04H04874A	350	100	200	68	73
VAV-2M-9	Lead Supervisor	M214	Trane	VCEF06000G0FM00C00000L4W0D0102100	R04H04797A	410	200	120	65	72
VAV-2M-10	Radio Dispatch	M215	Trane			330	100	100	68	73
VAV-2M-11	Road Supervisor	M217	Trane	VCEF06000G0FM00C00000L4W0D0102100	R04H04794A	75	25	100	78	85
VAV-2M-12	Comp. Bid Rm.	M232	Trane	VCEF05000G0FM00C00000L4W0D0152100	R04H04866A	301	265	248	70	74
VAV-2M-13	Consultation	M219	Trane	VCEF05000G0FM00C00000L4W0D0102100	R04H04831A					
VAV-2M-14	Open Office #1	M221	Trane	VCCF08000G0FM00C00000L4W000000000	R04H04819A	799	218			74
VAV-2M-15	Reference Center	M222	Trane	VCEF06000G0FM00C00000L4W0D0152100	R04H04805A	200	100	148	71	75
VAV-2M-16	Conference Rm.	M224	Trane	VCEF06000G0FM00C00000L4W0D0202100	R04H04835A	300	200	218	64	68
VAV-2M-17	Copy/Work Rm.	M225	Trane			394	155			74
VAV-2M-18	Demonstration Rm.	M229	Trane	VCEF08000G0FM00C00000L4W0D0302100	R04H04779A	828	695	350	71	74
VAV-2M-19	Class Rm. #1	M230	Trane	VCEF08000G0FM00C00000L4W0D0202100	R04H04851A	538	370	300	71	74
VAV-2M-20	Quiet Rm.	M231	Trane	VCEF04000G0FM00C00000L4W0D0102100	R04H04864A	330	150	100	69	74
VAV-2M-21	Drivers Rm.	M233	Trane	VCEF08000G0FM00C00000L4W0D0152100	R04H04787A	650	125	0	68	72
VAV-2M-22	Drivers Rm.	M233	Trane	VCEF10000G0FM00C00000L4W0D0452100		450	299	299	71	74
VAV-2M-23	Drivers Rm.	M233	Trane	VCEF10000G0FM00C00000L4W0D0202100	R04H04870A	1500	500	800	68	72
VAV-2M-24	Check In	M235	Trane	VCEF08000G0FM00C00000L4W0D0352100	R04H04872A	400	165	280	71	74
VAV-2M-25	Lockers	M237	Trane	VCEF06000G0FM00C00000L4W0D0352100	R04H04876A	69429	0			74
VAV-2M-26	Women Rm.	M240	Trane	VCEF05000G0FM00C00000L4W0D0102100	R04H04832A	75	50			74
VAV-2M-27	Union Office	M241	Trane	VCEF06000G0FM00C00000L4W0D0102100	R04H04796A	119	44	123	71	72
VAV-2M-28	Mens Rm.	M238	Trane	VCEF05000G0FM00C00000L4W0D0202100	R04H04827A	398	273			74
VAV-2M-29	Wellness Center	M224	Trane	VCEF14000G0FM00C00000L5W0F0652100	R04H04878A	998	220	449	65	68
VAV-2M-30	Not Used									
VAV-2M-31	Service Area	M255	Trane	ne VCCF06000G0FM00C00000L4W0D0252100 R04F		140	140			74
VAV-2M-32	Vending Kitchen	M252	Trane	VCEF08000G0FM00C00000L4W0D0352100 R04H048		410	165	269	71	74
VAV-2M-33	IT Rm.	M254	Trane	VCCF10000G0FM00C00000L4W000000000 R04H04853A		1365	200			74
VAV-2M-34	Elect. Rm. #4	M253	Trane	VCCF05000G0FM00C00000L4W00000000 R04H04845A		500	100			74
VAV-2M-35	Vest. #2	M129	Trane							
VAV-2M-36	Corr. #16	M246	Trane	VCEF08000G0FM00C00000L4W0D0302100	R04H04780A					
VAV-2M-37	Cond. Storage	M235	Trane							
VAV-2M-38	Main Elect. Rm.	M133	Trane			750	500			70

Mark	Thermostat Location		Manufacturer	Model No.	Serial No.	Airflov	v Setpoints	(CFM)	Occ Tem	p Stpt (°F)
IVIdIK	mermostat Location	Room #	Manufacturer	Widdel No.	Serial No.	Max.	Min.	Htg.	Htg.	Cool
VAV-3M-1	Comp. Rebuild	M159	Trane	VCCF10000G0FM00C00000L4W000000000	R04H04857A	924	200	0	69	68
VAV-3M-2	Comp. Rebuild	M159	Trane	VCCF10000G0FM00C00000L4W000000000	R04H04858A					
VAV-3M-3	Electrical Shop	M158	Trane	VCWF06000G0FM00C00002L4W00000000	R04H04881A	650	500			
VAV-3M-4	Mach. Shop	M160	Trane	VCWF08000G0FM00C00002L4W00000000	R04H04882A					
VAV-3M-5	Staging	M162	Trane	VCWF10000G0FM00C00002L4W00000000	R04H04883A	998	148			68
VAV-4M-1	Corridor	M185		DAMPER ONLY		64	64			64
VAV-4M-2	Training Room	M187		DAMPER ONLY		66	66			66
VAV-4M-3	Electrical	M180		DAMPER ONLY		66	66			66
VAV-4M-4	Custodian	M182		DAMPER ONLY						
VAV-4M-5	Body Office	M184		DAMPER ONLY		64	64			64
VAV-4M-6	Training Office M186 DAMPER ONLY			67	67			67		
VAV-4M-7	Training Storage	M188 DAMPER ONLY			0	0			0	
VAV-4M-8	Telcom Rm #2	M249A		DAMPER ONLY						
VAV-4M-9	Mech. Eqpt. Platform #2	Mech. Eqpt. Platform #2 M249 DAMPER ONLY								

Administration Building Air Handling Units

Mark	Unit Location	Room #	Manufacturer	Model No.	Serial No.
AHU-1A	Mechanical Room	A146	Trane/Thybar	TIBA015H43320FA	M03M00286
AHU-2A	Mechanical Room	A122	Trane/Thybar	TIBA025H41720FA	M03M00287
AHU-3A	Mechanical Room	A224	Trane/Thybar	TIBA025H41720FA	M03M00288
AHU-4A	Vendor Bid Room	A144	Trane	BHC024A2A0A1M01E000000B01000000000000	T04J56751
FCU-1A	Corridor	A119	Trane		

Maintenance Building Air Handling Units

Mark	Unit Location		Manufacturer	Model No.	Serial No.	
IVIAIK	Offic Location	Room #	Manufacturei	Wodel No.	Serial NO.	
AHU-1M	Mechanical Room	M143	Trane/Thybar	TIBA015H41720FA	M03M00289	
AHU-2M	Mechanical Room	M255	Trane	TIBA047H41720F0	M03M00290	
ERU-2M	Mechanical Room	M255	Thybar	TV6475	C004-7592-1	
RF-2M	Mechanical Room	M255	Greenheck	BSQ-420-100-X	4102215	
AHU-3M	Mechanical Room	M248	Trane	MCCB010UA0A0UA	K04D61819	
AHU-4M	Mech. Eqpt. Platform #2	M249	Trane	MCCB008UA0A0UB	K04D6840	
AHU-5M	Schedule Storage	M136	Trane	FC024		
AHU-6M	Component Rebuild	M159	Trane	FC024		
FCU-1M	Mech. Eqpt. Platform #1	M201	Trane	BCHB 036		
FCU-2M	Office	M192	Trane	BCHB 018		

Appendix 3



Administration Building VAV Boxes

Variable Air Volume Terminal Units

	Clg Test	Htg Test	Test Notes
Mark	Success (Y/N)	Success (Y/N)	
VAV-1A-1	Y	Y	Damper and electric heater are controlled at BAS.
VAV-1A-2	Y	N	Damper controlled but at 100% does not achieve max airflow. Htg shown on at BAS but no temp rise detected in DA.
VAV-1A-3	Y	Y	Damper and electric heater are controlled at BAS.
VAV-1A-4	Y	Υ	Damper and electric heater are controlled at BAS.
VAV-1A-5	Υ	Υ	Damper and electric heater are controlled at BAS. Damper at 100 % does not achieve max airflow.
VAV-1A-6	N	N	VAV Controller disabled. Not working.
VAV-1A-7	Υ	Υ	Damper and electric heater are controlled at BAS.
VAV-1A-8	Υ		Damper controlled but at 100% does not achieve max airflow.
VAV-1A-9	Υ	Y	Damper and electric heater are controlled at BAS.
VAV-1A-10	Υ	Υ	Damper and electric heater are controlled at BAS. Damper at 100 % does not achieve max airflow.
VAV-1A-11	Υ	Υ	Damper and electric heater are controlled at BAS. Damper at 100 % does not achieve max airflow.
1/11/12/14			
VAV-2A-1	N	N	Box not controlled . Setpoint changes not enabled.
VAV-2A-2	N	Y	Setpoint changes do not effect airflow or damper position.
VAV-2A-3	N	N	BAS list "0" cfm as setpoint. No adjustable setpoints available.
VAV-2A-4	Υ	Υ	Heat reacts very slow.
VAV-2A-5	Υ	N	Damper controlled but at 100% does not achieve max airflow. Htg shown on at BAS but unable to test due to low airflow.
VAV-2A-6	Υ	N	Damper controlled but at 100% does not achieve max airflow. Htg shown on at BAS but unable to test due to low airflow.
VAV-2A-7	Υ	N	Damper controlled but at 100% does not achieve max airflow. Htg shown on at BAS but unable to test due to low airflow.
VAV-2A-8	Υ	N	Damper controlled airflow not displayed at BAS. Htg shown on at BAS but unable to test due to low airflow.
VAV-2A-9	N		Damper position or cfm not displayed at BAS.
VAV-2A-10	N	N	Box not controlled . Setpoint changes not enabled.
VAV-2A-11	Υ	N	Damper controlled but at 100% does not achieve max airflow. Htg shown on at BAS but unable to test due to low airflow.
VAV-2A-12	Υ	N	Damper controlled but at 100% does not achieve max airflow. Htg shown on at BAS but unable to test due to low airflow.
VAV-2A-13	Υ	N	Damper controlled but at 100% does not achieve max airflow. Htg shown on at BAS but unable to test due to low airflow.
VAV-2A-14	Υ	N	Damper controlled but at 100% does not achieve max airflow. Htg shown on at BAS but unable to test due to low airflow.
VAV-2A-15	N	N	Box Setpoint changes not enabled. No control.
VAV-2A-16	N		Airflow does not change with damper position.
VAV-2A-17	Υ		Damper controlled at BAS and achieves cfm setpoint.
VAV-2A-18	Υ		Damper controlled at BAS and achieves cfm setpoint.
VAV-2A-19	Υ	Υ	Damper controlled but at 100% does not achieve max airflow.
VAV-2A-20	Υ		Damper controlled but at 100% does not achieve max airflow.
VAV-2A-21	Υ		Damper controlled but at 100% does not achieve max airflow.
VAV-2A-22	N	N	Box not controlled . Set to 0 cfm. No setpoint adjustments available.
VAV-2A-23	Υ	Υ	Damper controlled but at 100% does not achieve max airflow.
VAV-2A-24	Υ	N	Heating test unsuccessful. Heater turns off.
VAV-2A-25	N	N	Box not controlled . Setpoint changes not enabled.
VAV-2A-26	Υ	N	Damper controlled but at 100% does not achieve max airflow. Htg shown on at BAS but unable to test due to low airflow.
	1	1	i

VAV-3A-1	Υ	Υ	Damper and electric heater are controlled at BAS.
VAV-3A-2	Υ	Υ	Damper controlled but at 100% does not achieve max airflow. Airflow setpoint does not change in BAS graphic.
VAV-3A-3	Υ	Y	Damper and electric heater are controlled at BAS.
VAV-3A-4	Υ		Damper controlled at BAS.
VAV-3A-5	N	N	Box not controlled . Setpoint changes do not initiate reaction from box.
VAV-3A-6	Υ		Damper controlled but at 100% does not achieve max airflow. Slow reacting.
VAV-3A-7	Υ	Υ	Damper and Htg control very slow reacting.
VAV-3A-8	Υ	Υ	Damper controlled but at 100% does not achieve max airflow.
VAV-3A-9	N	N	Space temp setpoint is at 80 degrees. Damper and heater are controlled but airflow setpoints are too low.
VAV-3A-10	Υ	N	Airflow setpoints are too high. Unable to achieve with damper at 100%.
VAV-3A-11	Υ		Damper controlled but at 100% does not achieve max airflow.
VAV-3A-12	Υ		Damper controlled but at 100% does not achieve max airflow.
VAV-3A-13	Υ		Damper controlled but at 100% does not achieve max airflow.
VAV-3A-14	Υ		Damper controlled but at 100% does not achieve max airflow.
VAV-3A-15	N	N	Damper does not move with setpoint changes. Heater does not stay on.
VAV-3A-16	Υ	Υ	Damper and electric heater are controlled at BAS.
VAV-3A-17	Υ		Damper controlled but at 100% does not achieve max airflow.
VAV-3A-18	Υ		Damper controlled but at 100% does not achieve max airflow.
VAV-3A-19	Υ		Damper controlled but at 100% does not achieve max airflow.
VAV-3A-20	Υ	Υ	Damper controlled but at 100% does not achieve max airflow.
VAV-3A-21	Υ	N	Damper controlled but at 100% does not achieve max airflow. Htg shown on at BAS but unable to test due to low airflow.
VAV-3A-22	N	N	Box not controlled . Setpoint changes not enabled.
VAV-3A-23	N	N	Box not controlled . BAS list "0" cfm as setpoint. Setpoint changes not available.
VAV-3A-24	Υ	Υ	Damper controlled at BAS.
VAV-3A-25	Υ	Υ	Damper controlled but at 100% does not achieve max airflow. Htg slow reacting temp rise.
VAV-3A-26	Υ	Υ	Damper controlled but at 100% does not achieve max airflow.
VAV-3A-27	Υ	Υ	Damper controlled but at 100% does not achieve max airflow.
Maintenance B			
Variable Air Vol			
VAV-1M-1	Υ	Y	Damper and electric heater are controlled at BAS.
VAV-1M-2	Υ	Υ	Damper and electric heater are controlled at BAS.
VAV-1M-3	Υ		Damper controlled at BAS.
VAV-1M-4	Υ	Υ	Damper does not adjust to heating airflow setpoint. Remains at max cfm.
VAV-1M-5	Υ	Υ	Damper and electric heater are controlled at BAS.
VAV-1M-6	Υ	Υ	Damper and electric heater are controlled at BAS.
VAV-1M-7	Υ	N	Damper controlled. Electric heat shown on at BAS however not energized. No DA temp rise detected.
VAV-1M-8	Υ		Damper controlled at BAS.
VAV-1M-9	Υ	N	Htg does not remain on. No DA temp rise.
VAV-1M-10	Υ	Υ	Htg DA temp is low. 69.5 degrees w/ 2 stage electric heat on.
VAV-1M-11	Υ	N	Damper controlled but at 100% does not achieve max airflow. Electric heat on at BAS however not energized. No DA temp rise detected.
VAV-1M-12	N	N	Setpoints not displayed at BAS. No control.
VAV-2M-1	Υ	Υ	Damper and electric heater are controlled at BAS.

VAV-2M-2	Υ	Υ	Damper controlled but at 100% does not achieve max airflow. Htg slow reacting temp rise.
VAV-2M-3	Υ	Υ	Damper and electric heater are controlled at BAS.
VAV-2M-4	Υ	Υ	Heat airflow setpoint is "0" cfm? Airflow at 81 cfm during heating operation.
VAV-2M-5	Υ	N	Damper controlled at BAS. Electric heat does not initiate.
VAV-2M-6	Υ	Υ	Damper controlled but at 100% does not achieve max airflow. Htg shown off at BAS but DA temp rise detected.
VAV-2M-7	Υ	Υ	Damper and electric heater are controlled at BAS.
VAV-2M-8	Υ	Υ	Damper controlled. Htg shown off at BAS but DA temp rise detected.
VAV-2M-9	Υ	Υ	Damper controlled. Htg shown off at BAS but DA temp rise detected.
VAV-2M-10	Υ	N	Electric heat does not energize.
VAV-2M-11	Υ	Υ	Damper controlled. Htg shown off at BAS but DA temp rise detected.
VAV-2M-12	Υ	Υ	Damper and electric heater are controlled at BAS.
VAV-2M-13	N	N	No access through BAS.
VAV-2M-14	N	N	No damper or temp setpoints available for adjustement in BAS.
VAV-2M-15	Υ	Υ	Damper controlled. Htg shown off at BAS but DA temp rise detected.
VAV-2M-16	Υ	Υ	Damper and electric heater are controlled at BAS.
VAV-2M-17	N		Discharge airflow cfm not displayed at BAS. Damper control not available.
VAV-2M-18	Υ	Y	Damper controlled but at 100% does not achieve max airflow. Htg shown off at BAS but DA temp rise detected.
VAV-2M-19	Υ	Y	Damper and electric heater are controlled at BAS.
VAV-2M-20	Υ	N	Damper controlled. Htg does not energize.
VAV-2M-21	Υ	Y	Damper controlled. Htg airflow setpoint set to "0" cfm however BAS displays 250 cfm.
VAV-2M-22	Υ	Υ	Damper controlled. Htg setpoints not shown to change in BAS for heating mode
VAV-2M-23	Υ	N	Damper controlled. Htg does not energize.
VAV-2M-24	N	N	Setpoints do not change with cooling or heating box mode.
VAV-2M-25	N		Damper set to 100% and does not change. Setpoint changes not available.
VAV-2M-26	N		Damper set to 100% and does not change. Setpoint changes not available.
VAV-2M-27	Υ	Y	Damper and electric heater are controlled at BAS.
VAV-2M-28	N		Damper set to 100% and does not change. Setpoint changes not available.
VAV-2M-29	Υ	Y	Damper and electric heater are controlled at BAS. Box remains at max flow during heating.
VAV-2M-31	N		Damper set to 71% and does not change. Setpoint changes not available.
VAV-2M-32	Υ	Υ	Damper and electric heater are controlled at BAS.
VAV-2M-33	N		Damper set to 100% and does not change. Setpoint changes not available.
VAV-2M-34	N		Damper set to 100% and does not change. Setpoint changes not available.
VAV-2M-35	N	N	Box not controlled. No access through BAS.
VAV-2M-36	N	N	Box not controlled. No access through BAS.
VAV-2M-37	N	N	Box not controlled. No access through BAS.
VAV-2M-38	N		Damper set to 91% and does not change. Setpoint changes not available.
VAV-3M-1	N		Damper controlled but at 100% does not achieve max airflow. Htg setpoint available at BAS but box is cooling only.
VAV-3M-2	N	N	Box not controlled. No access through BAS.
VAV-3M-3	N		Damper set to 100% and does not change. Setpoint changes not available.
VAV-3M-4	N	N	Box not controlled. No access through BAS.
VAV-3M-5	N		Damper set to 100% and does not change. Setpoint changes not available.
VAV-4M-1	N	N	Damper only box not controlled. All setpoints set without available adjustment.

VAV-4M-2	N	N	Damper only box not controlled. All setpoints set without available adjustment.				
VAV-4M-3	N	N	Damper only box not controlled. All setpoints set without available adjustment.				
VAV-4M-4	N	N	ot listed in BAS.				
VAV-4M-5	N	N	Damper only box not controlled. All setpoints set without available adjustment.				
VAV-4M-6	N	N	Damper only box not controlled. All setpoints set without available adjustment.				
VAV-4M-7	N	N	Damper only box not controlled. All setpoints set without available adjustment.				
VAV-4M-8	N	N	Not listed in BAS.				
VAV-4M-9	N	N	Not listed in BAS.				

Administration Building Air Handling Units

Mark	Test Notes
AHU-1A	VFD adjusts to S.P setpoint. Low S.P. setpoint does not allow min/htg cfm at VAV boxes. AHU Multi-Zone dampers not operable. ERV wheel is off
AHU-2A	VFD set in hand to 45Hz. Min/htg cfm unachievable by most VAV zones. S.P. sensor is not working according to staff. ERV wheel on, does not shut down with AHU. EF-2A at very low cfm.
AHU-3A	VFD adjusts to S.P setpoint. ERV wheel on, does not shut down with AHU. EF-3A on at 100%, does not shut down with AHU.
AHU-4A	Fan coil unit running at 100% open without control from BAS. Controller exists in mechanical room A146 but is not integrated with system.
FCU-1A	Not available through BAS

Maintenance Building Air Handling Units

Mark	Test Notes
AHU-1M	VFD adjusts to S.P setpoint. OA temp not displayed at BAS. EF-3A turned off at BAS.
AHU-2M	VFD initially set to hand at 60Hz. Adjusts to S.P. setpoint if placed in auto. ERV turned off at disconnect, wheel does not energize when turned on.
ERU-2M	Turned off via disconnect. Fans energize when switched on, wheel does not. Noisy fan belt.
RF-2M	Unit on with no control hrough BAS. Status is indicated. Unit installed hanging from ceiling without any vibration isolators. This is shaking the whole room.
AHU-3M	Unit is running to maintain SA temp. VFD modulates to maintain S.P. setpoint. Boiler system off so no heat test was performed.
AHU-4M	Not available from BAS for control.
AHU-5M	Not available from BAS for control.
AHU-6M	Not available from BAS for control.
FCU-1M	Not available from BAS for control.
FCU-2M	Not available from BAS for control.

Appendix 4



VAV BOX SET POINT COMPARISON

Administration Building VAV Boxes Variable Air Volume Terminal Units

Variable Air Volu									
Mark		ow Setpoints (C			sign Airflow (CF			point % from de	
	Max.	Min.	Htg.	Max.	Min.	Htg.	Max.	Min.	Htg.
VAV-1A-1	100	55	150	880	205	490	-88.6	-73.2	-69.4
VAV-1A-2	800	10	200	780	655	655	2.6	-98.5	-69.5
VAV-1A-3	700	10	100	640	605	605	9.4	-98.3	-83.5
VAV-1A-4	1000	10	350	600	580	580	66.7	-98.3	-39.7
VAV-1A-5	320	50	250	510	330	330	-37.3	-84.8	-24.2
VAV-1A-6	600	106		450	105		33.3	1.0	
VAV-1A-7	165	30	70	150	30	120	10.0	0.0	-41.7
VAV-1A-8	1500	200	900	630	375	630	138.1	-46.7	42.9
VAV-1A-9	300	100	180	680	630	630	-55.9	-84.1	-71.4
VAV-1A-10	1000	200	375	540	540	540	85.2	-63.0	-30.6
VAV-1A-11	1000	300	375	880	540	540	13.6	-44.4	-30.6
VAV-2A-1	550	200	150	320	90	225	71.9	122.2	-33.3
VAV-2A-2	250	100	100	215	65	150	16.3	53.8	-33.3
VAV-2A-3	2250	200	800	1080	430	450	108.3	-53.5	77.8
VAV-2A-4	100	50	175	530	530	530	-81.1	-90.6	-67.0
VAV-2A-5		150					0.0		
VAV-2A-5 VAV-2A-6	370 550	450	225 250	370 260	125 65	345 205	111.5	20.0 592.3	-34.8 22.0
VAV-2A-6 VAV-2A-7									
	494	205	210	495	205	210	-0.2	0.0	0.0
VAV-2A-8	119	20	75	120	50	120	-0.8	-60.0	-37.5
VAV-2A-9	1000	10		640	250		56.3	-96.0	
VAV-2A-10	500	225		220	185	425	127.3	21.6	20.0
VAV-2A-11	155	35	100	155	35	125	0.0	0.0	-20.0
VAV-2A-12	225	50	178	225	65	180	0.0	-23.1	-1.1
VAV-2A-13	300	50	155	330	155	155	-9.1	-67.7	0.0
VAV-2A-14	500	125	210	415	125	210	20.5	0.0	0.0
VAV-2A-15	100	50		125	65		-20.0	-23.1	
VAV-2A-16	500	25		175	65		185.7	-61.5	
VAV-2A-17	300	214		615	215		-51.2	-0.5	
VAV-2A-18	398	248	0	255	60		56.1	313.3	
VAV-2A-19	600	250	214	575	125	215	4.3	100.0	-0.5
VAV-2A-20	270	25		270	95		0.0	-73.7	
VAV-2A-21	300	15		340	265		-11.8	-94.3	
VAV-2A-22	180	0		180	65		0.0	-100.0	
VAV-2A-23	1500	600	1050	1865	470	965	-19.6	27.7	8.8
VAV-2A-24	1000	600	300	2925	850	1000	-65.8	-29.4	-70.0
VAV-2A-25	200	50		560	105		-64.3	-52.4	
VAV-2A-26	400	135	120	650	165	330	-38.5	-18.2	-63.6
VAV-3A-1	200	100	180	450	175	210	-55.6	-42.9	-14.3
VAV-3A-2	500	200	200	270	60	180	85.2	233.3	11.1
VAV-3A-3	350	150	150	525	260	260	-33.3	-42.3	-42.3
VAV-3A-4	400	150		760	295		-47.4	-49.2	
VAV-3A-5	100	45	100	100	45		0.0	0.0	
VAV-3A-6	161	50		160	55		0.6	-9.1	
VAV-3A-7	170	30	121	170	30	120	0.0	0.0	0.8
VAV-3A-7 VAV-3A-8	250	100	110	320	295	295	-21.9	-66.1	-62.7
VAV-3A-9	150	50	50	405	105	180	-63.0	-52.4	-72.2
VAV-3A-9 VAV-3A-10	750	30	1500	145	30	120	417.2	0.0	1150.0
	214	50	1500		75				
VAV-3A-11				215			-0.5	-33.3	
VAV-3A-12	650	200		610	195		6.6	2.6	
VAV-3A-13	0	0	0	0	0	0	0.0	0.0	0.0
VAV-3A-14	300	225		660	225		-54.5	0.0	
VAV-3A-15	285	40	120	285	40	120	0.0	0.0	0.0
VAV-3A-16	350	106	180	465	105	180	-24.7	1.0	0.0
VAV-3A-17	0	0	0	0	0	0	0.0	0.0	0.0
VAV-3A-18	850	400		1200	240		-29.2	66.7	
VAV-3A-19	1300	700		1200	240		8.3	191.7	
	450	200	150	265	120	150	69.8	66.7	0.0
VAV-3A-20	450	200							
VAV-3A-20 VAV-3A-21	250	100	100	200	30	150	25.0	233.3	-33.3

VAV BOX SET POINT COMPARISON

Mark	Airf	low Setpoints (0	CFM)	De	esign Airflow (Cl	FM)	Set	point % from de	sign
	Max.	Min.	Htg.	Max.	Min.	Htg.	Max.	Min.	Htg.
VAV-3A-23	449	150		450	450		-0.2	-66.7	
VAV-3A-24	350	350		350	60		0.0	483.3	
VAV-3A-25	350	350	200	350	350	350	0.0	0.0	-42.9
VAV-3A-26	1040	200	400	1040	490	490	0.0	-59.2	-18.4
VAV-3A-20 VAV-3A-27		470	400	990		1	0.0		
VAV-3A-27	990	470	400	990	480	480	0.0	-2.1	-16.7
ance Building VA\	V Boxes								
ir Volume Termir	nal Units								
VAV-1M-1	328	170	218	330	170	220	-0.6	0.0	-0.9
VAV-1M-2	250	170	170	830	245	245	-69.9	-30.6	-30.6
VAV-1M-3	299	50		300	220		-0.3	-77.3	
VAV-1M-4	690	210	300	690	210	510	0.0	0.0	-41.2
VAV-1M-5	1229	500	850	1230	370	900	-0.1	35.1	-5.6
VAV-1M-6	150	50	150	220	220	220	-31.8	-77.3	-31.8
VAV-1M-7	300	400	301	300	300	300	0.0	33.3	0.3
VAV-1M-8	500	400		750	750	750	-33.3	-46.7	
					645			-40.7	
VAV-1M-9	975	250	270	975		645	0.0		-58.1
VAV-1M-10	500	125	150	1125	645	645	-55.6	-80.6	-76.7
VAV-1M-11	300	50	50	320	100	180	-6.3	-50.0	-72.2
VAV-1M-12	468	104	104	470	105		-0.4	-1.0	
VAV-2M-1	300	89	250	250	90	150	20.0	-1.1	66.7
VAV-2M-2	600	220	265	600	220	265	0.0	0.0	0.0
VAV-2M-3	350	100	225	580	315	315	-39.7	-68.3	-28.6
VAV-2M-4	100	50	0	150	150	150	-33.3	-66.7	-100.0
VAV-2M-5	100	50	200	315	135	180	-68.3	-63.0	11.1
VAV-2M-6	400	144	148	155	45	150	158.1	220.0	-1.3
VAV-2IVI-0 VAV-2M-7									
	200	100	200	800	125	250	-75.0	-20.0	-20.0
VAV-2M-8	350	100	200	1450	240	470	-75.9	-58.3	-57.4
VAV-2M-9	410	200	120	390	105	120	5.1	90.5	0.0
VAV-2M-10	330	100	100	600	180	210	-45.0	-44.4	-52.4
VAV-2M-11	75	25	100	150	90	120	-50.0	-72.2	-16.7
VAV-2M-12	301	265	248	300	265	265	0.3	0.0	-6.4
VAV-2M-13				230	180	180			
VAV-2M-14	799	218		800	220		-0.1	-0.9	
VAV-2M-15	200	100	148	430	135	150	-53.5	-25.9	-1.3
VAV-2M-16	300	200	218	440	220	220	-31.8	-9.1	-0.9
VAV-2M-17	394	155		395	155	155	-0.3	0.0	
VAV-2M-18	828	695	350	830	695	695	-0.2	0.0	-49.6
VAV-2M-19	538	370	300	540	370	370	-0.4	0.0	-18.9
VAV-2M-20	330	150	100	225	220	220	46.7	-31.8	-54.5
VAV-2M-21	650	125	0	600	265	265	8.3	-52.8	-100.0
VAV-2M-22	450	299	299	1075	500	500	-58.1	-40.2	-40.2
VAV-2M-23	1500	500	800	1000	465	465	50.0	7.5	72.0
VAV-2M-24	400	165	280	705	165	280	-43.3	0.0	0.0
-		0		480				-100.0	
VAV-2M-25	69429	50			105	280	14364.4		
VAV-2M-26	75			275	275	275	-72.7	-81.8	2.5
VAV-2M-27	119	44	123	120	45	120	-0.8	-2.2	2.5
VAV-2M-28	398	273		275	275	275	44.7	-0.7	
VAV-2M-29	998	220	449	2400	485	640	-58.4	-54.6	-29.8
VAV-2M-31	140	140		460	140		-69.6	0.0	
VAV-2M-32	410	165	269	850	165	270	-51.8	0.0	-0.4
VAV-2M-33	1365	200		1365	240		0.0	-16.7	
VAV-2M-34	500	100		305	60		63.9	66.7	
VAV-2M-35				315	75	270			
VAV-2M-36				760	165	225			
VAV-2M-37				620	170	620			
VAV-2M-38	750	500		1020	165		-26.5	203.0	
VAV-3M-1	924	200	0	925	705		-0.1	-71.6	
VAV-3M-2				925	705				
		l .	l .			1	<u> </u>		<u> </u>

VAV BOX SET POINT COMPARISON

Mark	Airf	low Setpoints (C	CFM)	Design Airflow (CFM)			Setpoint % from design		
	Max.	Min.	Htg.	Max.	Min.	Htg.	Max.	Min.	Htg.
VAV-3M-4				845	495	495			
VAV-3M-5	998	148		1000	485	690	-0.2	-69.5	
VAV-4M-1	64	64		200	140		-68.0	-54.3	
VAV-4M-2	66	66		900	335		-92.7	-80.3	
VAV-4M-3	66	66		250	50		-73.6	32.0	
VAV-4M-4				200	50				
VAV-4M-5	64	64		200	100		-68.0	-36.0	
VAV-4M-6	67	67		690	300		-90.3	-77.7	
VAV-4M-7	0	0		210	200		-100.0	-100.0	
VAV-4M-8				460	105				
VAV-4M-9				2340	0				

Appendix 5



PSTA HVAC Equipment List

Notes	Var controller not working; control cover & wiring disconnected. Server Elec	Noise in fam / bearing. / A1443 Control lax exists on in Meh A146/	444 /			cover removed from unit.					
Est. Remaining Life	*	N				S					
Serial No.	RE 204464788A F MAG. 9/9/2004	TO4556751 Schooler, H3R495A	80 4 HO4785A	ROTHOUTALA SOTHSAUTAB	4 N 03M 00286	204404768A 50: H3R497AA	RO4#04772A SO H3R4474 B	RO44047184 F	Ro4Ho47¢3A So. H3R4 q7AD	RO4 HO4770 A SO: H3R497AB	Ro4 HOU771 A SO. HSQ 4974B
Model No.	Trave: VCCF06000G0 FMODC00000C4	Town : 184C024R2RORI MO 1E000000 BOI	Trave BLEFO 8000GOFM 00 CO0 000 LHW 0	Tranc VCEFD600000FM SOCSOOOLHWO D0102100	Trave TIBADISH43320FA	Trane VCEF1000060FM 0000000015WOF0662 100	Tranc VCE FO800060FM 0060600014W0D0 402100		Tane VEF 0800060FM 00200000LHWODO 252100	france VCEF 08 000 00 FM 00 00 0000 014 WODO 40 2100	Trane VCET-080060 FM 0060000 L4WODO 4 0200
Location	Al44- Vendor Bid Rm	A 144 Venda Bid	A 144 Vender Bil	AI46 Mechanial	A (46 Mechanital	A150	A147 Bardloom	A147 Boud Rom		4	Ą
Tag	JAI-VAV	A40-4A	VAV-1A.S	VAV-IR7	ABOC 14	VAV-ANI	VAV-1AZ	VAV-1A3	VAV-149	VAV- (Alo	VAV-1An

YAV 21-1A VI_IA

			/
Equipment Tag:	VAV-1-1 A	Completed By:	STM/JBD
Date:	12/2/2015	Company:	Halis
	, 0,	Equipment Type:	Terminal Unit

ltem		.1
No	Description Commer Setpoint Verification	IT .
1	Record the maximum airflow setpoint (CFM).	
2	Record the minimum airflow setpoint (CFM).	
3	Record the space heating setpoint (°F).	
4	Record the space cooling setpoint (°F).	
5	Record the deadband between minimum air valve position and activation of the reheat coil (°F).	
	Space Sensor Verification	
6	Is the space temperature sensor communicating with the terminal unit?	
7	Is the space temperature sensor communicating with the BAS?	
8	Is the space temperature sensor located such that it is out of the supply airflow?	
9	Is the space temperature sensor located such that it is away from external heat sources (coffee pot, monitor, etc)? Next to $\top \lor$	Computer
10	Record the space temperature as read by the BAS. 72.4	
11	Record the space temperature using a handheld thermometer. 73.0	
	Space Temperature Control	
	Cooling Mode	
12	Verify that the air handling unit serving this unit is in "Occupied" mode.	1
13	Record the discharge air temperature from the air handling unit.	
14	Lower the zone temperature setpoint to demand maximum cooling.	(7)
15	Does the supply air damper modulate to the maximum scheduled airflow?	
16	Record the damper position (% open).	
17	Record the discharge airflow achieved (CFM).	
18	Record the discharge air temperature as read by the BAS (°F).	
19	Record the discharge air temperature at the supply diffuser with an infrared thermometer.	
20	Is the discharge air temperature appropriate for cooling mode?	-
21	Gradually raise the space cooling setpoint.	
22	Does the supply air damper modulate to reduce supply airflow?	
	Heating Mode	
23	Increase the zone heating setpoint to be > current space temperature heating.	
24	Does the supply air damper maintain the minimum scheduled airflow?	
25	Record the airflow achieved (CFM).	
26	Does the electric heat initiate?	
27	Record the number of stages of electric heat energized.	
28	Record the discharge air temperature sensor reading (°F). 86.5	



4AV21-7 VI-2A

Equipment Tag:	VAV-1-1 _ 2 A	Completed By:	STM/JBD
Date:	12/8	Company:	,
		Equipment Type:	Terminal Unit

Item No	Description		Comment
	Setpoint Verification		
1.	Record the maximum airflow setpoint (CFM).		
2	Record the minimum airflow setpoint (CFM).		
3	Record the space heating setpoint (°F).		
4	Record the space cooling setpoint (°F).		
5	Record the deadband between minimum air valve position and activation of the	reheat coil	(°F). ?
	Space Sensor Verification		
6	Is the space temperature sensor communicating with the terminal unit?		
7	Is the space temperature sensor communicating with the BAS?		
8	Is the space temperature sensor located such that it is out of the supply airflow?	/	
9	Is the space temperature sensor located such that it is away from external heat smonitor, etc)?	sources (co	offee pot, Computer
10	Record the space temperature as read by the BAS. 69.3		•
11	Record the space temperature using a handheld thermometer.		
	Space Temperature Control		
	Cooling Mode		
12	Verify that the air handling unit serving this unit is in "Occupied" mode.		
13	Record the discharge air temperature from the air handling unit. 53.6	10.10	
14	Lower the zone temperature setpoint to demand maximum cooling.		
15	Does the supply air damper modulate to the maximum scheduled airflow?	10% open	only lists 200ch
16	Record the damper position (% open).		60
17	Record the discharge airflow achieved (CFM).		
18	Record the discharge air temperature as read by the BAS (°F).		May airtow
19	Record the discharge air temperature at the supply diffuser with an infrared them	nometer.	not rech
20	Is the discharge air temperature appropriate for cooling mode?		AHU S.P control
21	Gradually raise the space cooling setpoint.		requires verification
22	Does the supply air damper modulate to reduce supply airflow?		to forte, to the capet
	Heating Mode		
23	Increase the zone heating setpoint to be > current space temperature heating.		
24	Does the supply air damper maintain the minimum scheduled airflow?	Hedr	La hat Oue 1172
25	Record the airflow achieved (CFM).	4.1	on in BAS however
26	Does the electric heat initiate?	SA ter	1 5130
27	Record the number of stages of electric heat energized.	Ceman	•
28	Record the discharge air temperature sensor reading (°F).	1 vinay	LT CIL

VAV-1-1 VI-3A

Equipment Tag:	VAV-1-1 V 1-34	Completed By:	STM/JDB
Date:	12/8/2015	Company:	ē
	7 /	Equipment Type:	Terminal Unit

Item No	Description Comment			
	Setpoint Verification			
1.	Record the maximum airflow setpoint (CFM). つめ			
2	Record the minimum airflow setpoint (CFM).			
3	Record the space heating setpoint (°F).			
4	Record the space cooling setpoint (°F). Cly htg. 71° / 60°			
5	Record the deadband between minimum air valve position and activation of the reheat coil (°F).			
	Space Sensor Verification			
6	Is the space temperature sensor communicating with the terminal unit?			
7	Is the space temperature sensor communicating with the BAS?			
8	Is the space temperature sensor located such that it is out of the supply airflow?			
9	Is the space temperature sensor located such that it is away from external heat sources (coffee pot, Computer monitor, etc)?			
10	Record the space temperature as read by the BAS. 72-			
11	Record the space temperature using a handheld thermometer. フょう			
	Space Temperature Control			
	Cooling Mode			
12	Verify that the air handling unit serving this unit is in "Occupied" mode.			
13	Record the discharge air temperature from the air handling unit.			
14	Lower the zone temperature setpoint to demand maximum cooling.			
15	Does the supply air damper modulate to the maximum scheduled airflow?			
16	Record the damper position (% open).			
17	Record the discharge airflow achieved (CFM).			
18	Record the discharge air temperature as read by the BAS (°F).			
19	Record the discharge air temperature at the supply diffuser with an infrared thermometer.			
20	Is the discharge air temperature appropriate for cooling mode?			
21	Gradually raise the space cooling setpoint.			
22	Does the supply air damper modulate to reduce supply airflow?			
	Heating Mode			
23	Increase the zone heating setpoint to be > current space temperature heating.			
24	Does the supply air damper maintain the minimum scheduled airflow?			
25	Record the airflow achieved (CFM).			
26	Does the electric heat initiate?			
27	Record the number of stages of electric heat energized.			
28	Record the discharge air temperature sensor reading (°F).			

VAV - 1-1/14A

Equipment Tag:	VAV-1-TY1-4A	Completed By:	STM/TBD
Date:	12/8/215	Company:	,
	, , , , , , , , , , , , , , , , , , , ,	Equipment Type:	Terminal Unit

ltem No	Description Comment				
	Setpoint Verification				
1	Record the maximum airflow setpoint (CFM).				
2	Record the minimum airflow setpoint (CFM).				
3	Record the space heating setpoint (°F).				
4	Record the space cooling setpoint (°F).				
5	Record the deadband between minimum air valve position and activation of the reheat coil (°F).				
	Space Sensor Verification				
6	Is the space temperature sensor communicating with the terminal unit?				
7	Is the space temperature sensor communicating with the BAS?				
8	Is the space temperature sensor located such that it is out of the supply airflow?				
9	Is the space temperature sensor located such that it is away from external heat sources (coffee pot, Computer monitor, etc)?				
10	Record the space temperature as read by the BAS.				
11	Record the space temperature using a handheld thermometer.				
	Space Temperature Control				
	Cooling Mode				
12	Verify that the air handling unit serving this unit is in "Occupied" mode.				
13	Record the discharge air temperature from the air handling unit.				
14	Lower the zone temperature setpoint to demand maximum cooling.				
15	Does the supply air damper modulate to the maximum scheduled airflow?				
16	Record the damper position (% open).				
17	Record the discharge airflow achieved (CFM).				
18	Record the discharge air temperature as read by the BAS (°F).				
19	Record the discharge air temperature at the supply diffuser with an infrared thermometer.				
20	Is the discharge air temperature appropriate for cooling mode?				
21	Gradually raise the space cooling setpoint.				
22	Does the supply air damper modulate to reduce supply airflow?				
	Heating Mode				
23	Increase the zone heating setpoint to be > current space temperature heating.				
24	Does the supply air damper maintain the minimum scheduled airflow?				
25	Record the airflow achieved (CFM). 35%				
26	Does the electric heat initiate?				
27	Record the number of stages of electric heat energized.				
28	Record the discharge air temperature sensor reading (°F).				

VAV-1-1 VI. 5A

Equipment Tag:	VAV-1-1	Completed By:	STM
Date:		Company:	
		Equipment Type:	Terminal Unit

Item No					
INO	Description Comment Setpoint Verification				
1	Record the maximum airflow setpoint (CFM). 320				
2	Record the minimum airflow setpoint (CFM). 50 / 250				
3.	Record the space heating setpoint (°F).				
4	Record the space cooling setpoint (°F). 74				
5	Record the deadband between minimum air valve position and activation of the reheat coil (°F).				
	Space Sensor Verification				
6	Is the space temperature sensor communicating with the terminal unit?				
7	Is the space temperature sensor communicating with the BAS?				
8	Is the space temperature sensor located such that it is out of the supply airflow?				
9	Is the space temperature sensor located such that it is away from external heat sources (coffee pot, Computer monitor, etc)?				
10	Record the space temperature as read by the BAS.				
11	Record the space temperature using a handheld thermometer.				
	Space Temperature Control				
	Cooling Mode				
12	Verify that the air handling unit serving this unit is in "Occupied" mode.				
13	Record the discharge air temperature from the air handling unit.				
14	Lower the zone temperature setpoint to demand maximum cooling.				
15	Does the supply air damper modulate to the maximum scheduled airflow?				
16	Record the damper position (% open).				
17	Record the discharge airflow achieved (CFM).				
18	Record the discharge air temperature as read by the BAS (°F).				
19	Record the discharge air temperature at the supply diffuser with an infrared thermometer.				
20	Is the discharge air temperature appropriate for cooling mode?				
21	Gradually raise the space cooling setpoint.				
22	Does the supply air damper modulate to reduce supply airflow?				
	Heating Mode				
23	Increase the zone heating setpoint to be > current space temperature heating.				
24	Does the supply air damper maintain the minimum scheduled airflow?				
25	Record the airflow achieved (CFM).				
26	Does the electric heat initiate?				
27	Record the number of stages of electric heat energized.				
28	Record the discharge air temperature sensor reading (°F).				

VAV-1-1 VI_6A

Equipment Tag:	VAV-1-1	Completed By:	
Date:		Company:	
		Equipment Type:	Terminal Unit

Iten						
No	Description Comment Setpoint Verification					
1						
2	Record the minimum pirtlew cotroint (CEM)					
3	Record the space heating setpoint (°F).					
4						
5	Record the space cooling setpoint (°F). Record the deadband between minimum air valve position and activation of the reheat coil (°F).					
	Space Sensor Verification					
6	-					
7	Is the space temperature sensor communicating with the terminal unit?					
	Is the space temperature sensor communicating with the BAS?					
8	Is the space temperature sensor located such that it is out of the supply airflow?					
9	Is the space temperature sensor located such that it is away from external heat sources (coffee pot, Computer monitor, etc)?					
10	Record the space temperature as read by the BAS.					
11	Record the space temperature using a handheld thermometer.					
	Space Temperature Control					
	Cooling Mode					
12	, and the same same same same same same same sam					
13	Record the discharge air temperature from the air handling unit.					
14	Lower the zone temperature setpoint to demand maximum cooling.					
15	Does the supply air damper modulate to the maximum scheduled airflow?					
16	Record the damper position (% open).					
17	Record the discharge airflow achieved (CFM).					
18	Record the discharge air temperature as read by the BAS (°F).					
19	Record the discharge air temperature at the supply diffuser with an infrared thermometer.					
20	Is the discharge air temperature appropriate for cooling mode?					
21	Gradually raise the space cooling setpoint.					
22	Does the supply air damper modulate to reduce supply airflow?					
	Heating Mode					
23	Increase the zone heating setpoint to be > current space temperature heating.					
24	Does the supply air damper maintain the minimum scheduled airflow?					
25	Record the airflow achieved (CFM).					
26	Does the electric heat initiate?					
27	Record the number of stages of electric heat energized.					
:8	Record the discharge air temperature sensor reading (°F).					



Equipment Tag:	VAV-1-1	Completed By:	
Date:		Company:	
		Equipment Type:	Terminal Unit

Item No	Description Comment				
110	Setpoint Verification				
1	Record the maximum airflow setpoint (CFM).				
2	Record the minimum airflow setpoint (CFM).				
3	Record the space heating setpoint (°F).				
4	Record the space cooling setpoint (°F).				
5	Record the deadband between minimum air valve position and activation of the reheat coil (°F).				
	Space Sensor Verification				
6	Is the space temperature sensor communicating with the terminal unit?				
7	Is the space temperature sensor communicating with the BAS?				
8	Is the space temperature sensor located such that it is out of the supply airflow?				
9	Is the space temperature sensor located such that it is away from external heat sources (coffee pot, Computer monitor, etc)?				
10	Record the space temperature as read by the BAS.				
11	Record the space temperature using a handheld thermometer. 11°F @ Sensor				
	Space Temperature Control				
	Cooling Mode				
12	Verify that the air handling unit serving this unit is in "Occupied" mode.				
13	Record the discharge air temperature from the air handling unit.				
14	Lower the zone temperature setpoint to demand maximum cooling.				
15	Does the supply air damper modulate to the maximum scheduled airflow?				
16	Record the damper position (% open).				
17	Record the discharge airflow achieved (CFM).				
18	Record the discharge air temperature as read by the BAS (°F).				
19	Record the discharge air temperature at the supply diffuser with an infrared thermometer. 50.5				
20	Is the discharge air temperature appropriate for cooling mode?				
21	Gradually raise the space cooling setpoint.				
22	Does the supply air damper modulate to reduce supply airflow?				
	Heating Mode				
23	Increase the zone heating setpoint to be > current space temperature heating.				
24	Does the supply air damper maintain the minimum scheduled airflow?				
25	Record the airflow achieved (CFM). 72 cfw				
26	Does the electric heat initiate?				
27	Record the number of stages of electric heat energized.				
28	Record the discharge air temperature sensor reading (°F).				



VAV - 1-1 N_8A

Zone 2 / W/both Zone VAV logger open Zone 2 / max 900 cfm @ 100% damper

I	Equipment Tag:	VAV-1-TV 1-8A	Completed By:	
	Date:		Company:	
			Equipment Type:	Terminal Unit

Item	Description			
No_	Description Comment Setpoint Verification			
1	Record the maximum airflow setpoint (CFM).			
2	Record the minimum airflow setpoint (CFM).			
3	Record the space heating setpoint (°F).			
4	Record the space cooling setpoint (°F).			
5	Record the deadband between minimum air valve position and activation of the reheat coil (°F).			
	Space Sensor Verification			
6	Is the space temperature sensor communicating with the terminal unit?			
7	Is the space temperature sensor communicating with the BAS?			
8	Is the space temperature sensor located such that it is out of the supply airflow?			
9	Is the space temperature sensor located such that it is away from external heat sources (coffee pot, Computer monitor, etc)?			
10	Record the space temperature as read by the BAS.			
11 Record the space temperature using a handheld thermometer.				
	Space Temperature Control			
	Cooling Mode			
12	Verify that the air handling unit serving this unit is in "Occupied" mode.			
13	Record the discharge air temperature from the air handling unit. 52.1			
14	Lower the zone temperature setpoint to demand maximum cooling.			
15	Does the supply air damper modulate to the maximum scheduled airflow?			
16	Record the damper position (% open).			
17	Record the discharge airflow achieved (CFM).			
18	Record the discharge air temperature as read by the BAS (°F). 49.6			
19	Record the discharge air temperature at the supply diffuser with an infrared thermometer.			
20	Is the discharge air temperature appropriate for cooling mode?			
21	Gradually raise the space cooling setpoint.			
22	Does the supply air damper modulate to reduce supply airflow?			
	Heating Mode			
23	Increase the zone heating setpoint to be > current space temperature heating.			
24	Does the supply air damper maintain the minimum scheduled airflow? ✓			
25	Record the airflow achieved (CFM). 92Z			
26	Does the electric heat initiate?			
27	Record the number of stages of electric heat energized.			
28	Record the discharge air temperature sensor reading (°F). 96.8			

VAV-1-1 VI_9A Zone Z / de lay in an BAS
-5.P. does not adjust.

Γ	Equipment Tag:	VAV-1-T VI_9A	Completed By:	
	Date:	12/10	Company:	
Γ		,	Equipment Type:	Terminal Unit

Item	
No	Description Comment Setpoint Verification
1	Record the maximum airflow setpoint (CFM).
2	Record the minimum airflow setpoint (CFM). VOD 1160
3	Record the space heating setpoint (°F).
4	Record the space cooling setpoint (°F).
5	Record the deadband between minimum air valve position and activation of the reheat coil (°F)7
	Space Sensor Verification
6	Is the space temperature sensor communicating with the terminal unit?
7	Is the space temperature sensor communicating with the BAS?
8	Is the space temperature sensor located such that it is out of the supply airflow?
9	Is the space temperature sensor located such that it is away from external heat sources (coffee pot, Computer monitor, etc)?
10	Record the space temperature as read by the BAS. 10.1
11	Record the space temperature using a handheld thermometer. a
	Space Temperature Control
	Cooling Mode
12	Verify that the air handling unit serving this unit is in "Occupied" mode.
13	Record the discharge air temperature from the air handling unit.
14	Lower the zone temperature setpoint to demand maximum cooling. V 1,55°F
15	Does the supply air damper modulate to the maximum scheduled airflow?
16	Record the damper position (% open). 98% - 95% - ZFlow Setpoint BAS
17	Record the discharge airflow achieved (CFM). 320 317
18	Record the discharge air temperature as read by the BAS (°F).
19	Record the discharge air temperature at the supply diffuser with an infrared thermometer. 5 \(\tau^2 \)
20	Is the discharge air temperature appropriate for cooling mode?
21	Gradually raise the space cooling setpoint.
22	Does the supply air damper modulate to reduce supply airflow?
	Heating Mode
23	Increase the zone heating setpoint to be > current space temperature heating.
24	Does the supply air damper maintain the minimum scheduled airflow?
25	Record the airflow achieved (CFM). 174
26	Does the electric heat initiate?
27	Record the number of stages of electric heat energized. 2
28	Record the discharge air temperature sensor reading (°F).

Completed By: Company:

VAV-1-1 /1_10A

12/10

Equipment Tag: VAV-1-1 [_ I M Date:

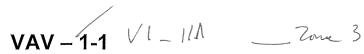
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Zone 3

Equipment Type: Terminal Unit

Item	Description
No	Description Comment Setpoint Verification
1	Record the maximum airflow setpoint (CFM).
2	Record the minimum airflow setpoint (CFM).
3	Record the space heating setpoint (°F). 67 /64
4	Record the space cooling setpoint (°F). (%F).
5	Record the deadband between minimum air valve position and activation of the reheat coil (°F).
	Space Sensor Verification
6	Is the space temperature sensor communicating with the terminal unit?
7	Is the space temperature sensor communicating with the BAS?
8	Is the space temperature sensor located such that it is out of the supply airflow?
9	Is the space temperature sensor located such that it is away from external heat sources (coffee pot, Computer monitor, etc)?
10	Record the space temperature as read by the BAS. 73.5
11	Record the space temperature using a handheld thermometer. 74.0
	Space Temperature Control
	Cooling Mode
12	Verify that the air handling unit serving this unit is in "Occupied" mode.
13	Record the discharge air temperature from the air handling unit. $4\iota_{\iota \iota}$
14	Lower the zone temperature setpoint to demand maximum cooling.
15	Does the supply air damper modulate to the maximum scheduled airflow? 🗸
16	Record the damper position (% open).
17	Record the discharge airflow achieved (CFM). 720
18	Record the discharge air temperature as read by the BAS (°F).
19	Record the discharge air temperature at the supply diffuser with an infrared thermometer. 5/2
20	Is the discharge air temperature appropriate for cooling mode?
21	Gradually raise the space cooling setpoint.
22	Does the supply air damper modulate to reduce supply airflow?
	Heating Mode
23	Increase the zone heating setpoint to be > current space temperature heating.
24	Does the supply air damper maintain the minimum scheduled airflow?
25	Record the airflow achieved (CFM). 3 44
26	Does the electric heat initiate?
27	Record the number of stages of electric heat energized.
28	Record the discharge air temperature sensor reading (°F).





Equipment Tag:	VAV-1-1 VI -11 A	Completed By:	
Date:	12/10	Company:	
		Equipment Type:	Terminal Unit

Item No	Description Comment
140	Setpoint Verification
1.	Record the maximum airflow setpoint (CFM).
2	Record the minimum airflow setpoint (CFM). 300 /375 k+
3	Record the space heating setpoint (°F).
4	Record the space cooling setpoint (°F).
5	Record the deadband between minimum air valve position and activation of the reheat coil (°F).
	Space Sensor Verification
6	Is the space temperature sensor communicating with the terminal unit?
7	Is the space temperature sensor communicating with the BAS?
8	Is the space temperature sensor located such that it is out of the supply airflow?
9	Is the space temperature sensor located such that it is away from external heat sources (coffee pot, Computer monitor, etc)?
10	Record the space temperature as read by the BAS.
11	Record the space temperature using a handheld thermometer.
	Space Temperature Control
	Cooling Mode
12	Verify that the air handling unit serving this unit is in "Occupied" mode.
13	Record the discharge air temperature from the air handling unit.
14	Lower the zone temperature setpoint to demand maximum cooling.
15	Does the supply air damper modulate to the maximum scheduled airflow?
16	Record the damper position (% open). 00°/, - w/both 1-10th 1-11th unable Record the discharge airflow achieved (CFM). 118 To achieve map cfm
17	Record the discharge airflow achieved (CFM).
18	Record the discharge air temperature as read by the BAS (°F). 44.2
19	Record the discharge air temperature at the supply diffuser with an infrared thermometer. 50.
20	Is the discharge air temperature appropriate for cooling mode?
21	Gradually raise the space cooling setpoint.
22	Does the supply air damper modulate to reduce supply airflow?
	Heating Mode
23	Increase the zone heating setpoint to be > current space temperature heating.
24	Does the supply air damper maintain the minimum scheduled airflow?
25	Record the airflow achieved (CFM).
26	Does the electric heat initiate?
27	Record the number of stages of electric heat energized.
28	Record the discharge air temperature sensor reading (°F). 99.6



Appendix 6



				rels "0",							
Notes	. Heat & not responding Shows except mode / no elechteren	AHU- for set to the 45 Hz CVFD	in homed mode: set to 45 42	No dumper or elec. Lt. everyized duling lest. Air flow sever on VAV box vacels""							
Est. Remaining Life											
Serial No.	804 404793A SO. H3R497AG	M53M 00287	4444	RO4404769A SO: H3R497AA		9, 4047774 50, 43R497AC	RO4404 784A 50: H3R497AD	ROYROUGILA So: H3R497AL	RO4404814A	ROYHO4818A 50: 173R497AN	RO4404810A 50:43R497AK
Model No.	Trunc: VCEF0600600 FM00C00000 L4W0 D010 2100	Trans: TIBAOSSHURS	Trunc: TR16022CT4C 20STR3DLF40A00 CD	Trave: VCEFIDDOOGOFM OOLOODOOLSWOFU 552100	Trune VCEF 0600000 FM 00 200 000	Tane VCEFO800060FM 000000004W0D0 302100	1/w/c VCEF 0400000 FM 00000 LY WO BOZS 2100	Tranz VCEFOSOSOGOFM OOLOOOOOLYWODO 252100	Trust VCEFOROOGOOFIN	Trave VCF 0 & DODGO FM 00000000 HWO 00000000	Tranc VLEFU6000COFM 6000000Lt WODO 402000
Location	A122 Meer Rm	12 12 INEGN	A122 Mecso Rm	A123 Bleat Rm	A125	A127	A 12.8 Mans RR				
Tag	VAV -2A-8 MELES	AH0-2A	AHU-CASF VFD	VAV-24.3	VAV-24-2 A125	VAV-ZA	VA 15-2A4 A 12-8 Mens RI	VAVZRE	ノネソストン	VAV 249	VAV ZA5

Notes		Not in layout indicated on closurings	Npt in location indicated on diacritics							into tag covered up	Into rag against well
Est. Remaining Life											
Serial No.	RO4 464823A	RO4H04830A 50: H3R4974Q	604404834A	RO4H34862A		RO4HO4824A	Cou 404825A 50: 43R497AP	20: 43R497AS	RO4 HO4816A 50 H3R497AN		R041+04778AF
Model No.	VCCF OHOOOGO FIN	VCEFOSO3060FM 0060 030660FM 0010 2100	UCEF 2600060 FM 00000080 L4 WODO	VCFF 06000 COFM 00C 00000 LY WODO 15100	VCEF06000COFM 0000000CHW0D0 252100	111F040006000000000000000000000000000000	V(CF 04000 60 FM 0000000 64 400	VULF 05000 GOFM 006,0000 OCH WOOD 000000	UCCF 08 2006 OFM 2000000 L4 W000		
Location	A118 Marketony	AI	A112	A113	A115	A114	19(18	A118	A118	4119	A(39
Tag	VAV-2A-10 Marketing	VAVZA-10	V/RV24-12	V#24-13	VAV24-14	VAV2A15 A114	VAVZAW	VAV2420 A118	VAUZAM AIIS	VA 82A18	UAV 2AR

Notes									
Est. Remaining Life									
Serial No.	50: H3R497AS	204404826A 50: H3R497AP	RO4404817A 50: 1+3R497AN	Rollfox 773A	Rothbyssok So: H3R497AU	604H04849A 50: H3R497A7			
Model No.	VCF08 200 GO FM 22C2C2CC # W 20 0	000000 COFM WOOD	VCF08000 COFM 55 C00000 CYW000	VCEF 08000 6000 0000 0000 0000 0000 00000 00000 0000	20000000000000000000000000000000000000	VLEF (700060FM 506000015WOFD			
Location	A137	Vin							
Tag	VAV2421	VAUZK22 A132	VAV2A25	VAJZAZ	VAVZAZY	UAV24-23			

VAV-1-1 V2-1A

Equipment Tag:	VAY-1-1 V2-18	Completed By:	STM / JBD
Date:	12/10	Company:	/
	•	Equipment Type:	Terminal Unit

Setpoint Verification 1. Record the maximum airflow setpoint (CFM). 550 2. Record the maximum airflow setpoint (CFM). 200 / 150 3. Record the space heating setpoint (°F). 70 4. Record the space cooling setpoint (°F). 74 5. Record the deadband between minimum air valve position and activation of the reheat coil (°F). ? Space Sensor Verification 6. Is the space temperature sensor communicating with the terminal unit? / Is the space temperature sensor located such that it is out of the supply airflow? 9. Is the space temperature sensor located such that it is away from external heat sources (coffee pot, Compmonitor, etc)? / 10. Record the space temperature as read by the BAS. 72.1 11. Record the space temperature as read by the BAS. 72.1 12. Record the space temperature using a handheld thermometer. 74.5 Space Temperature Control Cooling Mode 12. Verify that the air handling unit serving this unit is in "Occupied" mode. 13. Record the discharge air temperature from the air handling unit. 14. Lower the zone temperature setpoint to demand maximum cooling. 16. Record the discharge air temperature at the maximum scheduled airflow? 18. Record the discharge air temperature at the supply diffuser with an infrared thermometer. 20. Is the discharge air temperature at the supply diffuser with an infrared thermometer. 21. Gradually raise the space cooling setpoint. 22. Does the supply air damper modulate to reduce supply airflow? Heating Mode 23. Increase the zone heating setpoint to be > current space temperature heating. 24. Does the supply air damper maintain the minimum scheduled airflow? 25. Record the airflow achieved (CFM).	ltem	
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23 Increase the zone heating setpoint to be > current space temperature heating. 24 Does the supply air damper maintain the minimum scheduled airflow? 25 Record the airflow achieved (CFM). 26 Does the electric heat initiate?	22	Does the supply air damper modulate to reduce supply airflow?
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25 Record the airflow achieved (CFM). 26 Does the electric heat initiate?	23	Increase the zone heating setpoint to be > current space temperature heating.
26 Does the electric heat initiate?	24	Does the supply air damper maintain the minimum scheduled airflow?
	25	Record the airflow achieved (CFM).
	26	Does the electric heat initiate?
Record the number of stages of electric heat energized.	27	Record the number of stages of electric heat energized.
28 Record the discharge air temperature sensor reading (°F).	28	Record the discharge air temperature sensor reading (°F).

VAV - 1-1 V2 - 24

Also served by V2- \$A - A125 CEO assistates

Equipment Tag:	VAV-1-1 2-2A	Completed By:	SJM/JBD
Date:	12/10	Company:	•
		Equipment Type:	Terminal Unit

Space Sensor Verification 6 Is the space temperature sensor communicat 7 Is the space temperature sensor communicat 8 Is the space temperature sensor located such	ing with the BAS?
2 Record the minimum airflow setpoint (CFM). 3 Record the space heating setpoint (°F). 4 Record the space cooling setpoint (°F). 5 Record the deadband between minimum air variety Space Sensor Verification 6 Is the space temperature sensor communicated. 7 Is the space temperature sensor communicated. 8 Is the space temperature sensor located such monitor, etc)? 10 Record the space temperature as read by the	In / 100 12 76 You valve position and activation of the reheat coil (°F). NA ing with the terminal unit? ing with the BAS? In that it is out of the supply airflow?
3 Record the space heating setpoint (°F). 4 Record the space cooling setpoint (°F). 5 Record the deadband between minimum air v Space Sensor Verification 6 Is the space temperature sensor communicat 7 Is the space temperature sensor communicat 8 Is the space temperature sensor located such 9 Is the space temperature sensor located such monitor, etc)? 10 Record the space temperature as read by the	ralve position and activation of the reheat coil (°F). NA ing with the terminal unit? ing with the BAS? In that it is out of the supply airflow?
4 Record the space cooling setpoint (°F). 5 Record the deadband between minimum air v Space Sensor Verification 6 Is the space temperature sensor communicat 7 Is the space temperature sensor communicat 8 Is the space temperature sensor located such 9 Is the space temperature sensor located such monitor, etc)? 10 Record the space temperature as read by the	ralve position and activation of the reheat coil (°F). NA ing with the terminal unit? ing with the BAS? In that it is out of the supply airflow?
5 Record the deadband between minimum air v Space Sensor Verification 6 Is the space temperature sensor communicat 7 Is the space temperature sensor communicat 8 Is the space temperature sensor located such 9 Is the space temperature sensor located such monitor, etc)? 10 Record the space temperature as read by the	ralve position and activation of the reheat coil (°F). **\text{\infty}* ing with the terminal unit? **\text{ing with the BAS?}* in that it is out of the supply airflow? **\text{\infty}*
Space Sensor Verification 6 Is the space temperature sensor communicat 7 Is the space temperature sensor communicat 8 Is the space temperature sensor located such 9 Is the space temperature sensor located such monitor, etc)? 10 Record the space temperature as read by the	ing with the terminal unit? ing with the BAS? In that it is out of the supply airflow?
6 Is the space temperature sensor communicat 7 Is the space temperature sensor communicat 8 Is the space temperature sensor located such 9 Is the space temperature sensor located such monitor, etc)? 10 Record the space temperature as read by the	ing with the BAS? that it is out of the supply airflow?
7 Is the space temperature sensor communicat 8 Is the space temperature sensor located such 9 Is the space temperature sensor located such monitor, etc)? 10 Record the space temperature as read by the	ing with the BAS? that it is out of the supply airflow?
8 Is the space temperature sensor located such 9 Is the space temperature sensor located such monitor, etc)? 10 Record the space temperature as read by the	that it is out of the supply airflow?
9 Is the space temperature sensor located such monitor, etc)? 10 Record the space temperature as read by the	
monitor, etc)? 10 Record the space temperature as read by the	that it is away from external heat sources (coffee pot, Computer
11 Pecord the space temperature using a handh	BAS. 76.3
The the space temperature using a namun	eld thermometer. 78.
Space Temperature Control	
Cooling Mode	
12 Verify that the air handling unit serving this ur	it is in "Occupied" mode.
13 Record the discharge air temperature from the	e air handling unit.
14 Lower the zone temperature setpoint to dema	nd maximum cooling.
15 Does the supply air damper modulate to the n	naximum scheduled airflow? No . only 95 ch e 100%
16 Record the damper position (% open).	D°6
17 Record the discharge airflow achieved (CFM)	95
18 Record the discharge air temperature as read	by the BAS (°F). 58.2
19 Record the discharge air temperature at the s	upply diffuser with an infrared thermometer.
20 Is the discharge air temperature appropriate for	or cooling mode?
21 Gradually raise the space cooling setpoint.	V
22 Does the supply air damper modulate to reduce	ce supply airflow? ✓
Heating Mode	
23 Increase the zone heating setpoint to be > cur	rent space temperature heating.
24 Does the supply air damper maintain the mini	num scheduled airflow? No. does not change solvent
25 Record the airflow achieved (CFM). 93	377-113
26 Does the electric heat initiate?	
27 Record the number of stages of electric heat e	
28 Record the discharge air temperature sensor	nergized. Z



VAV - 1-1 V2 - 3A .

Equ	ipment Tag:	VAV-1-7 VZ-3A	Completed By:	STM/JBD	
	Date:	12/10	Company:		
			Equipment Type:	Terminal Unit	
			<u>`</u>		
Item No	Description				
	Setpoint V				Comment
1	Record the	maximum airflow set	point (CFM). 2250	<u> </u>	
		minimum airflow setp	-!t (OENA)		:
3		space heating setpoi	ot (°F)	/600	
4		space cooling setpoir	100		
5		•	1.5	ition and activation of the rel	peat coil (°E)
		sor Verification	miniman di vaive pos		ieat coii (1). X
6		e temperature sensor	communicating with t	the terminal unit?	
7		e temperature sensor			
				out of the supply airflow?	
9					
9	monitor, etc	c)? 🗸		away from external heat sou	urces (coffee pot, Computer
10	Record the	space temperature as	read by the BAS.	70.4	
11	Record the	space temperature us	ing a handheld therm	nometer. 73	
	Space Tem	perature Control	1.		
	Cooling Mo	ode			
12	Verify that t	he air handling unit se	rving this unit is in "O	occupied" mode.	
13	Record the	discharge air tempera	ture from the air hand	dling unit. 64.9	
14	Lower the z	one temperature setp	oint to demand maxin	num cooling.	
15	Does the su	ıpply air damper modu	late to the maximum	scheduled airflow?	
16	Record the	damper position (% or	oen). 100%		
17	Record the	discharge airflow achi		lists Octm	
18	Record the	discharge air tempera	ture as read by the B		
19	Record the	discharge air tempera	ture at the supply diff	user with an infrared thermo	meter. No charge
20	Is the discha	arge air temperature a	ppropriate for cooling	mode?	i-anab.
21	Gradually ra	aise the space cooling	setpoint.		- paratan
22	Does the su	pply air damper modu	late to reduce supply	airflow?	in BAS
	Heating Mo	de			
23	Increase the	e zone heating setpoin	t to be > current spac	ce temperature heating.	An in his discharge
24	Does the su	pply air damper maint	ain the minimum sch	eduled airflow?	tems.
25	Record the a	airflow achieved (CFM).		, ,
26	Does the ele	ectric heat initiate?	,		
27	Record the r	number of stages of el	ectric heat energized	•	
28		discharge air temperat	=		
		•		•	

VAV 1-1 12-4A

Equipment Tag:	YAV-1-1 V2_4A	Completed By:	STM/JDB
Date:	12/10	Company:	
		Equipment Type:	Terminal Unit

Item No	Description Setpoint Verification	Comment 7
1	Record the maximum airflow setpoint (CFM).	Mint may
2	Record the minimum airflow setpoint (CFM). 50 /175	copt to low
3	Record the space heating setpoint (°F).	Spri 100 to 1
4	Record the space cooling setpoint (°F).	
5	Record the deadband between minimum air valve position and activation of the reh	eat coil (°F). X
	Space Sensor Verification	
6	Is the space temperature sensor communicating with the terminal unit?	
7	Is the space temperature sensor communicating with the BAS?	
8	Is the space temperature sensor located such that it is out of the supply airflow?	/
9	Is the space temperature sensor located such that it is away from external heat sou monitor, etc)?	rces (coffee pot, Computer
10	Record the space temperature as read by the BAS. 72.5	
11	Record the space temperature using a handheld thermometer. 74. 5	
	Space Temperature Control	
	Cooling Mode	
12	Verify that the air handling unit serving this unit is in "Occupied" mode.	ı
13	Record the discharge air temperature from the air handling unit.	
14	Lower the zone temperature setpoint to demand maximum cooling.	
15	Does the supply air damper modulate to the maximum scheduled airflow? 1/25	roweve flow Setpoint
16	Record the damper position (% open).	
17	Record the discharge airflow achieved (CFM).	
18	Record the discharge air temperature as read by the BAS (°F). 57.7	
19	Record the discharge air temperature at the supply diffuser with an infrared thermor	neter. 70.
20	Is the discharge air temperature appropriate for cooling mode? Yes	
21	Gradually raise the space cooling setpoint.	
22	Does the supply air damper modulate to reduce supply airflow?	
	Heating Mode	
23	Increase the zone heating setpoint to be > current space temperature heating.	•
24	Does the supply air damper maintain the minimum scheduled airflow?	
25	Record the airflow achieved (CFM).	
26	Does the electric heat initiate? - takes a while.	
27	Record the number of stages of electric heat energized.	
28	Record the discharge air temperature sensor reading (°F).	

Completed By:

VAV - 1-1 V2-5A

Equipment Tag: VAV-1-1 /2

Zore 4

STMADB

	Date:	12/10	Company:	. /	
			Equipment Type:	Terminal Unit	
_,					
Item No	Description				Comment
140	Setpoint V				Odminon
1.	Record the	maximum airflow set	point (CFM). 37	10	
2	Record the	minimum airflow setp	point (CFM).	0 / 225	
3	Record the	space heating setpoi			
4	Record the	space cooling setpoi			
5	Record the	deadband between n	ninimum air valve pos	sition and activation of	the reheat coil (°F). X
	Space Ser	sor Verification			
6	Is the spac	e temperature sensor	communicating with	the terminal unit? 🗸	
7	Is the spac	e temperature sensor	communicating with	the BAS?	
8	Is the spac	e temperature sensor	located such that it is	out of the supply airfl	ow?
9	Is the spac monitor, etc		located such that it is	away from external h	eat sources (coffee pot, Computer
10	Record the	space temperature a	s read by the BAS.	74.1	
11	Record the	space temperature u	sing a handheld therr	nometer. 77,0	
	Space Ten	perature Control			
	Cooling M	ode	And the second s		
12	Verify that t	the air handling unit se	erving this unit is in "C	Occupied" mode. 🗸	
13	Record the	discharge air tempera	ature from the air han	dling unit. 64.9	
14	Lower the z	one temperature setp	oint to demand maxi	mum cooling.	
15	Does the si	upply air damper mod	ulate to the maximum	scheduled airflow?	Tow Sotomat X's however
16	Record the	damper position (% c	pen). Aicfl	on not achien	low Setpoint 8's however
17	Record the	discharge airflow ach	ieved (CFM). 106		
18	Record the	discharge air tempera	ature as read by the E	BAS (°F). 59.1	
19	Record the	discharge air tempera	ature at the supply dif	fuser with an infrared	thermometer. (5,5
20	Is the disch	arge air temperature	appropriate for coolin	g mode?	
21	Gradually ra	aise the space cooling	g setpoint.	V	& regetives more air
22	Does the su	upply air damper mod	ulate to reduce supply	y airflow? 🗻	V 1 - / W 10 - 11
	Heating Mo	ode		***************************************	
23	Increase th	e zone heating setpoi	nt to be > current spa	ce temperature heatin	g.
24	Does the su	ıpply air damper mair	tain the minimum sch	neduled airflow?	
25	Record the	airflow achieved (CFI	M).		
26	Does the el	ectric heat initiate?		PARCONAL CONTRACTOR	
27	Record the	number of stages of e	electric heat energize	d.	
28	Record the	discharge air tempera	ature sensor reading ((°F).	

VAV - 1-1 V2-6A

Zone 2

Equi	oment Tag:	VAV-1-1- V2-6	Completed By:	STM /JOB	
	Date:	12/10	Company:	7	
			Equipment Type:	Terminal Unit	
				· · · · · · · · · · · · · · · · · · ·	
Item	Dagarintian	_			Comment
No	Description Setpoint V				Comment
1	-	maximum airflow s	etpoint (CFM). 550	<u> </u>	
2		minimum airflow se	4	1 250	· · · · · · · · · · · · · · · · · · ·
3	4 (4.5)	space heating setp	· 1)U	1 250	
4		space cooling setp			
 5		•		sition and activation of t	the reheat coil (°F). ×
		nsor Verification			
6	=		or communicating with	the terminal unit?	
7	· · · · · · · · · · · · · · · · · · ·		or communicating with		
	•			s out of the supply airflo	NW?
8					
9	monitor, etc	c)?		s away irom external ne	eat sources (coffee pot, Computer
10			as read by the BAS.	74.5	
11	Record the	space temperature	using a handheld therr	nometer. 77.5	
	Space Ten	nperature Control			
	Cooling M	ode			
12	Verify that	the air handling unit	serving this unit is in "(Occupied" mode. 🕒 🕨	
13	Record the	discharge air tempe	erature from the air har	idling unit. (💪 .	L
14			tpoint to demand maxi		
15	Does the s	upply air damper mo	dulate to the maximun	n scheduled airflow? _S	tot D's hovever max
16	Record the	damper position (%	open). 100%		airflow mot achieven
17	Record the	discharge airflow a	chieved (CFM). 199		
18	Record the	discharge air tempe	erature as read by the l	BAS (°F). 65.7	
19	Record the	discharge air tempe	erature at the supply di	fuser with an infrared t	hermometer. 68.5
20	Is the disch	arge air temperatur	e appropriate for coolin	g mode?	
21	Gradually r	aise the space cooli	ng setpoint.		
22	Does the st	upply air damper mo	dulate to reduce suppl	y airflow?	
	Heating Mo	ode		***************************************	
23	Increase th	e zone heating setp	oint to be > current spa	ce temperature heating	g.
24	Does the su	upply air damper ma	intain the minimum scl	neduled airflow?	, , , , , , , , , , , , , , , , , , , ,
25	Record the	airflow achieved (C	FM).		
26	Does the el	lectric heat initiate?			
27	Record the	number of stages o	f electric heat energize	d.	
28	Record the	discharge air tempe	erature sensor reading	(°F).	



VAV-1-1 12-7A

27

28

Record the number of stages of electric heat energized.

Record the discharge air temperature sensor reading (°F).

Zone 2

Equi	pment Tag:	VAX-1-1	V2-7A	Completed By:	STM/IDB	
	Date:	12/10		Company:		
				Equipment Type:	Terminal Unit	
Item No	Description	า				Comment
NO		/erification	<u> </u>			Comment
1	Record the	maximum	airflow set	point (CFM). 494	<u> </u>	
2	Record the	minimum	airflow setp	point (CFM). 205	/210	
3	Record the	space hea	ting setpoi	Magazas.	i i i i i i i i i i i i i i i i i i i	•
4	Record the	space coc	ling setpoi	nt (°F). 72		
5	Record the	deadband	between n	-0350	sition and activation of	of the reheat coil (°F). χ
	Space Ser	nsor Verific	cation			
6	Is the space	e temperat	ure sensor	communicating with	the terminal unit?	
7	Is the space	e temperat	ure sensor	communicating with	the BAS?	
8	Is the space	e temperat	ure sensor	located such that it is	s out of the supply air	flow?
9	Is the spac monitor, et		ure sensor	located such that it is	s away from external	heat sources (coffee pot, Computer
10	Record the	space tem	perature a	s read by the BAS.	73.1	
11	Record the	space tem	perature u	sing a handheld therr	nometer. 77.0	
	Space Ten	nperature	Control		<u> </u>	
	Cooling M	ode				
12	Verify that	the air han	dling unit s	erving this unit is in "C	Occupied" mode. 🔽	
13	Record the	discharge	air temper	ature from the air han	dling unit. 60.2	
14	Lower the	zone tempe	erature set	oint to demand maxi		
15	Does the s	upply air da	amper mod	ulate to the maximum	scheduled airflow?	Airtla not met @ 100%
16	Record the	damper po	osition (% c	pen). Log°6		
17	Record the	discharge	airflow ach	ieved (CFM). 135		
18	Record the	discharge	air tempera	ature as read by the E	BAS (°F). 65.2	
19	Record the	discharge	air tempera	ature at the supply dit	fuser with an infrared	d thermometer. 69.5
20	Is the disch	narge air tei	mperature	appropriate for coolin	g mode?	
21	Gradually r	aise the sp	ace cooling	g setpoint.		
22	Does the s	upply air da	amper mod	ulate to reduce suppl	y airflow?	,
	Heating M	ode				
23	Increase th	e zone hea	ating setpoi	nt to be > current spa	ice temperature heat	ing.
24	Does the s	upply air da	amper mair	tain the minimum scl	neduled airflow?	
25	Record the	airflow ach	nieved (CFI	VI).		
26	Does the e	lectric heat	initiate?			



Verify zone sensor? 6 10 AT proor to VAV by

VAV - 1-1 V2 - 84

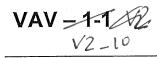
Equipment Tag:	VAV-1-TV2-8A	Completed By:	
Date:		Company:	
		Equipment Type:	Terminal Unit

Item No	Description Comment
NO	Setpoint Verification
1.	Record the maximum airflow setpoint (CFM).
2	Record the minimum airflow setpoint (CFM). 20 / 15
3	Record the space heating setpoint (°F).
4	Record the space cooling setpoint (°F).
5	Record the deadband between minimum air valve position and activation of the reheat coil (°F).
	Space Sensor Verification
6	Is the space temperature sensor communicating with the terminal unit?
7	Is the space temperature sensor communicating with the BAS?
8	Is the space temperature sensor located such that it is out of the supply airflow?
9	Is the space temperature sensor located such that it is away from external heat sources (coffee pot, Computer monitor, etc)?
10	Record the space temperature as read by the BAS.
11	Record the space temperature using a handheld thermometer. (§ 0.0
	Space Temperature Control
	Cooling Mode
12	Verify that the air handling unit serving this unit is in "Occupied" mode.
13	Record the discharge air temperature from the air handling unit.
14	Lower the zone temperature setpoint to demand maximum cooling.
15	Does the supply air damper modulate to the maximum scheduled airflow?
16	Record the damper position (% open).
17	Record the discharge airflow achieved (CFM). ? - does not display pictles
18	Record the discharge air temperature as read by the BAS (°F).
19	Record the discharge air temperature at the supply diffuser with an infrared thermometer. 53
20	Is the discharge air temperature appropriate for cooling mode?
21	Gradually raise the space cooling setpoint.
22	Does the supply air damper modulate to reduce supply airflow?
	Heating Mode
23	Increase the zone heating setpoint to be > current space temperature heating.
24	Does the supply air damper maintain the minimum scheduled airflow?
25	Record the airflow achieved (CFM).
26	Does the electric heat initiate?
27	Record the number of stages of electric heat energized.
28	Record the discharge air temperature sensor reading (°F).

VAV -1-1 V2-94

2 one 1

Equi	oment Tag:	VAV-1-1 VZ-29	Completed By:	stm/JDB	
	Date:	12/10	Company:	Terminal Unit	
			Equipment Type:	Terminal Onit	
Item	December				Comment
No	Description Setpoint V	rerification			Comment
1		maximum airflow set	point (CFM).		
		minimum airflow setp	100	v	
	<u> </u>	space heating setpoi			
3		•			<u> </u>
4		space cooling setpoi		itian and adjusting	of the reheat coil (°E)
5	1 1 1 1		ninimum air vaive pos	sition and activation (of the reheat coil (°F).
	-	nsor Verification			·
6		e temperature sensor			
7		e temperature sensor			4.3
8	Is the space	e temperature sensor	located such that it is	s out of the supply ai	rflow?
9	ls the spac monitor, et		located such that it is	away from external	heat sources (coffee pot, Computer
10	Record the	space temperature a	s read by the BAS.	74.0	
11	Record the	space temperature u	sing a handheld therr	nometer. 77.0	
	Space Ter	nperature Control		· · · · · · · · · · · · · · · · · · ·	
	Cooling M	ode			
12		the air handling unit s	erving this unit is in "(Occupied" mode.	
13	•	discharge air temper			46.0
14		zone temperature setp			/
15		upply air damper mod			N/A - does not show
16		damper position (% o			Up on BAS
17		discharge airflow ach			up on 18#3
18		discharge air temper		BAS (°F)	
		discharge air temper			d thermometer
19					d thermometer. 10/69
20		narge air temperature		- Joues	
21		raise the space cooling			
22		upply air damper mod	lulate to reduce suppl	y ai⊓iow? ⊬	
	Heating M				
23		ne zone heating setpo			ıting.
24	Does the s	upply air damper mair	ntain the minimum sc	heduled airflow?	
25	Record the	airflow achieved (CF	M).		1-1/12
26	Does the e	lectric heat initiate?			1 / W greats
27	Record the	number of stages of	electric heat energize	ed.	
28	Record the	discharge air temper	ature sensor reading	(°F).	



Equipment Tag:	YAV-T-1 V2 - LO	Completed By:	STM/	TDB
Date:	12/14	Company:		
		Equipment Type:	Terminal	Unit

ltem No	Description	Comment
	Setpoint Verification	
1.	Record the maximum airflow setpoint (CFM). 500	
2	Record the minimum airflow setpoint (CFM). 225	
3	Record the space heating setpoint (°F).	
4	Record the space cooling setpoint (°F). 74	
5	Record the deadband between minimum air valve position and activation of the reheat coil	(°F).N 4
	Space Sensor Verification	
6	Is the space temperature sensor communicating with the terminal unit?	
7	Is the space temperature sensor communicating with the BAS?	
8	Is the space temperature sensor located such that it is out of the supply airflow?	
9	Is the space temperature sensor located such that it is away from external heat sources (comonitor, etc)?	offee pot, Compute
10	Record the space temperature as read by the BAS. 76.9	
11	Record the space temperature using a handheld thermometer. 18.0	
	Space Temperature Control	
	Cooling Mode	
12	Verify that the air handling unit serving this unit is in "Occupied" mode.	
13	Record the discharge air temperature from the air handling unit.	
14	Lower the zone temperature setpoint to demand maximum cooling.	1
15	Does the supply air damper modulate to the maximum scheduled airflow?	in testin
16	Record the damper position (% open).	allowed -
17	Record the discharge airflow achieved (CFM).	
18	Record the discharge air temperature as read by the BAS (°F).	
19	Record the discharge air temperature at the supply diffuser with an infrared thermometer.	
20	Is the discharge air temperature appropriate for cooling mode?	and a second control of the second control o
21	Gradually raise the space cooling setpoint.	To the state of th
22	Does the supply air damper modulate to reduce supply airflow?	
	Heating Mode	
23	Increase the zone heating setpoint to be > current space temperature heating.	
24	Does the supply air damper maintain the minimum scheduled airflow?	
25	Record the airflow achieved (CFM).	
26	Does the electric heat initiate?	
27	Record the number of stages of electric heat energized.	
28	Record the discharge air temperature sensor reading (°F).	

VAV - 1-1 1/2-11

Equipment Tag:	VAV-1-1 V2_11	Completed By:	STM/JOB
Date:	12/14	Company:	
		Equipment Type:	Terminal Unit

Item No	Description Comment
	Setpoint Verification
1	Record the maximum airflow setpoint (CFM).
2	Record the minimum airflow setpoint (CFM). 35 / 100
3	Record the space heating setpoint (°F).
4	Record the space cooling setpoint (°F).
5	Record the deadband between minimum air valve position and activation of the reheat coil (°F).
	Space Sensor Verification
6	Is the space temperature sensor communicating with the terminal unit?
7	Is the space temperature sensor communicating with the BAS?
8	Is the space temperature sensor located such that it is out of the supply airflow?
9	Is the space temperature sensor located such that it is away from external heat sources (coffee pot, Computer monitor, etc)?
10	Record the space temperature as read by the BAS.
11	Record the space temperature using a handheld thermometer. 73.0
	Space Temperature Control
	Cooling Mode
12	Verify that the air handling unit serving this unit is in "Occupied" mode.
13	Record the discharge air temperature from the air handling unit.
14	Lower the zone temperature setpoint to demand maximum cooling.
15	Does the supply air damper modulate to the maximum scheduled airflow?
16	Record the damper position (% open).
17	Record the discharge airflow achieved (CFM).
18	Record the discharge air temperature as read by the BAS (°F). 67, 4
19	Record the discharge air temperature at the supply diffuser with an infrared thermometer. $\gamma c. \varsigma$
20	Is the discharge air temperature appropriate for cooling mode? ?
21	Gradually raise the space cooling setpoint.
22	Does the supply air damper modulate to reduce supply airflow?
	Heating Mode
23	Increase the zone heating setpoint to be > current space temperature heating. 🗸
24	Does the supply air damper maintain the minimum scheduled airflow?
25	Record the airflow achieved (CFM). 35 - to low
26	Does the electric heat initiate? N , L
27	Record the number of stages of electric heat energized.
28	Record the discharge air temperature sensor reading (°F).

VAV = 1-1 V2_12

Equipment Tag:	VAV-1-1 V2_12_	Completed By:	STM/JDB	
Date:	12/14	Company:		
	1	Equipment Type:	Terminal Unit	

Item No	Description Comment
	Setpoint Verification
1	Record the maximum airflow setpoint (CFM). 225
2	Record the minimum airflow setpoint (CFM). 50 / 179
3	Record the space heating setpoint (°F).
4	Record the space cooling setpoint (°F).
5	Record the deadband between minimum air valve position and activation of the reheat coil (°F). \times
-	Space Sensor Verification
6	Is the space temperature sensor communicating with the terminal unit?
7	Is the space temperature sensor communicating with the BAS?
8	Is the space temperature sensor located such that it is out of the supply airflow?
9	Is the space temperature sensor located such that it is away from external heat sources (coffee pot, Computer monitor, etc)?
10	Record the space temperature as read by the BAS. 74.9
11	Record the space temperature using a handheld thermometer. 76.5
	Space Temperature Control
	Cooling Mode
12	Verify that the air handling unit serving this unit is in "Occupied" mode.
13	Record the discharge air temperature from the air handling unit.
14	Lower the zone temperature setpoint to demand maximum cooling.
15	Does the supply air damper modulate to the maximum scheduled airflow?
16	Record the damper position (% open).
17	Record the discharge airflow achieved (CFM). 14474
18	Record the discharge air temperature as read by the BAS (°F).
19	Record the discharge air temperature at the supply diffuser with an infrared thermometer. 75.5
20	Is the discharge air temperature appropriate for cooling mode?
21	Gradually raise the space cooling setpoint.
22	Does the supply air damper modulate to reduce supply airflow?
	Heating Mode
23	Increase the zone heating setpoint to be > current space temperature heating.
24	Does the supply air damper maintain the minimum scheduled airflow? Stp. ム しんり
25	Record the airflow achieved (CFM). 142 @ 97; dunper pos.
26	Does the electric heat initiate? No - law flow
27	Record the number of stages of electric heat energized.
28	Record the discharge air temperature sensor reading (°F).

VAV - 1-1 /2-13

Equipment Tag:	VAV-T-1 V2_13	Completed By:	stm	/JDB
Date:	12/14	Company:	/	
		Equipment Type:	Terminal Unit	

ltem	
No	Description Comment Setpoint Verification
1	
-	D. LII. C. C. L. L. (ODA)
2	Record the minimum airflow setpoint (CFM). 50 /155
3	Record the space heating setpoint (°F).
4	Record the space cooling setpoint (°F).
5	Record the deadband between minimum air valve position and activation of the reheat coil (°F). X
	Space Sensor Verification
6	Is the space temperature sensor communicating with the terminal unit?
7	Is the space temperature sensor communicating with the BAS?
8	Is the space temperature sensor located such that it is out of the supply airflow?
9	Is the space temperature sensor located such that it is away from external heat sources (coffee pot, Computer monitor, etc)?
10	Record the space temperature as read by the BAS. 76.2
11	Record the space temperature using a handheld thermometer. 17.5
	Space Temperature Control
	Cooling Mode
12	Verify that the air handling unit serving this unit is in "Occupied" mode.
13	Record the discharge air temperature from the air handling unit.
14	Lower the zone temperature setpoint to demand maximum cooling.
15	Does the supply air damper modulate to the maximum scheduled airflow?
16	Record the damper position (% open). (The state of the damper position (% open).
17	Record the discharge airflow achieved (CFM).
18	Record the discharge air temperature as read by the BAS (°F).
19	Record the discharge air temperature at the supply diffuser with an infrared thermometer.
20	Is the discharge air temperature appropriate for cooling mode?
21	Gradually raise the space cooling setpoint.
22	Does the supply air damper modulate to reduce supply airflow?
	Heating Mode
23	Increase the zone heating setpoint to be > current space temperature heating.
24	Does the supply air damper maintain the minimum scheduled airflow? Y _ + too loo
25	Record the airflow achieved (CFM). 83 e 100%
26	Does the electric heat initiate? No - low flow
27	Record the number of stages of electric heat energized.
28	Record the discharge air temperature sensor reading (°F).



VAV-1-1 V2-14

Equipment Tag:	VAV-1-1- V2_14	Completed By:	STM	/30.B
Date:	12/14/2015	Company:		
		Equipment Type:	Termina	l Unit

Item No	Description Comment
INO	Description Comment Setpoint Verification
1	Record the maximum airflow setpoint (CFM). 500
2	Record the minimum airflow setpoint (CFM). 125 /210
3	Record the space heating setpoint (°F).
4	Record the space cooling setpoint (°F).
5	Record the deadband between minimum air valve position and activation of the reheat coil (°F). X
	Space Sensor Verification
6	Is the space temperature sensor communicating with the terminal unit?
7	Is the space temperature sensor communicating with the BAS?
8	Is the space temperature sensor located such that it is out of the supply airflow?
9	Is the space temperature sensor located such that it is away from external heat sources (coffee pot, Computer monitor, etc)?
10	Record the space temperature as read by the BAS. 74-9
11	Record the space temperature using a handheld thermometer. 77.5
	Space Temperature Control
	Cooling Mode
12	Verify that the air handling unit serving this unit is in "Occupied" mode.
13	Record the discharge air temperature from the air handling unit. 43.9
14	Lower the zone temperature setpoint to demand maximum cooling.
15	Does the supply air damper modulate to the maximum scheduled airflow? # No
16	Record the damper position (% open).
17	Record the discharge airflow achieved (CFM). 172
18	Record the discharge air temperature as read by the BAS (°F).
19	Record the discharge air temperature at the supply diffuser with an infrared thermometer. 67.0
20	Is the discharge air temperature appropriate for cooling mode?
21	Gradually raise the space cooling setpoint.
22	Does the supply air damper modulate to reduce supply airflow?
	Heating Mode
23	Increase the zone heating setpoint to be > current space temperature heating.
24	Does the supply air damper maintain the minimum scheduled airflow? Setyont Qcl but che does not
25	Record the airflow achieved (CFM). [(7 @ [60]
26	Does the electric heat initiate? $NO - low + low$
27	Record the number of stages of electric heat energized.
28	Record the discharge air temperature sensor reading (°F).

VAV-1-1 V2-15

Equ	ipment Tag:	VAV-1-1 V2-15	Completed By:	STM/JDB	
	Date:	12/14	Company:		
			Equipment Type:	Terminal Unit	
-					
ltem					
No	Description				Comment
	*	erification			
1		maximum airflow set	. , ,	D	
2	Record the	minimum airflow setp	oint (CFM). 50)	
3	Record the	space heating setpoir	nt (°F).	(no set	point, for called
4	Record the	space cooling setpoir	it (°F).	,	200 601.09
5	Record the	deadband between m	inimum air valve pos	ition and activation of	the reheat coil (°F). X
		sor Verification			· · · · · · · · · · · · · · · · · · ·
6	Is the space	e temperature sensor	communicating with t	he terminal unit?	7
7	Is the space temperature sensor communicating with the BAS?				
8	Is the space temperature sensor located such that it is out of the supply airflow?				
9					eat sources (coffee pot, Computer
Ü	monitor, etc	s)? ?	ocated such that it is	away Irom externarn	eat sources (conee pot, Computer
10	Record the	space temperature as	read by the BAS.	71,4	
11	Record the	space temperature us	ing a handheld therm		
	Space Temperature Control				
	Cooling Mo				V
12		he air handling unit se	rving this unit is in "O	ccunied" mode	
13	-	discharge air tempera		•	——————————————————————————————————————
14		·			- Land
		one temperature setpo		-	- Marie
15		pply air damper modu		scheduled airflow?	/ h, / p
16		damper position (% or			
17	Record the	discharge airflow achi	eved (CFM).		(·) 37 m

18 Record the discharge air temperature as read by the BAS (°F). 19 Record the discharge air temperature at the supply diffuser with an infrared thermometer. 20 Is the discharge air temperature appropriate for cooling mode? 21 Gradually raise the space cooling setpoint. 22 Does the supply air damper modulate to reduce supply airflow? **Heating Mode** 23 Increase the zone heating setpoint to be > current space temperature heating. Does the supply air damper maintain the minimum scheduled airflow? 24 25 Record the airflow achieved (CFM). 26 Does the electric heat initiate? 27 Record the number of stages of electric heat energized. 28 Record the discharge air temperature sensor reading (°F).

W/VFD @ 60HZ 1000 flw - V2-5A, V2-10A V2-26A

VAV - 1-1 V2_16

Eq	uipment Tag: VAV-1-1 V2_16 Completed By: S5M JDB	
	Date: 12/14 Company:	
	Equipment Type: Terminal Unit	
Item No		
1		
	Record the minimum airflow setnoint (CEM)	-
3	no total stpt.	
4	Record the space cooling setpoint (°F).	
5	Record the deadband between minimum air valve position and activation of the reheat coil (°F).	
	Space Sensor Verification	
6	Is the space temperature sensor communicating with the terminal unit?	
7	Is the space temperature sensor communicating with the BAS?	
8	Is the space temperature sensor located such that it is out of the supply airflow?	
9	Is the space temperature sensor located such that it is away from external heat sources (coffee pot, Compute	_
J	monitor, etc)?	r
10	Record the space temperature as read by the BAS. 72.3	
11	Record the space temperature using a handheld thermometer. 74.5	
	Space Temperature Control	0
	Cooling Mode	
12	Verify that the air handling unit serving this unit is in "Occupied" mode.	
13	Record the discharge air temperature from the air handling unit. 49.9	
14	Lower the zone temperature setpoint to demand maximum cooling.	
15	Does the supply air damper modulate to the maximum scheduled airflow?	<u>~</u> ~
16	Record the damper position (% open).	₹,
17	Record the discharge airflow achieved (CFM).	4- Per
18	Record the discharge air temperature as read by the BAS (°F).	Z.
19	Record the discharge air temperature at the supply diffuser with an infrared thermometer	
20	Is the discharge air temperature appropriate for cooling mode?	
21	Gradually raise the space cooling setpoint.	
22	Does the supply air damper modulate to reduce supply airflow?	
	Heating Mode	
23	Increase the zone heating setpoint to be > current space temperature heating.	Wilderson.
24	Does the supply air damper maintain the minimum scheduled airflow?	十
25	Record the airflow achieved (CFM).	`
26	Does the electric heat initiate?	he
27	Record the number of stages of electric heat energized.	
28	Record the discharge air temperature sensor reading (°F).	

VAV - 1-1 V2-17

Equipment Tag:	VAV-1-1 V2 - 17	Completed By:	STM /JDB
Date:	12/14	Company:	
		Equipment Type:	Terminal Unit

Item No	Description			
	Setpoint Verification			
1	Record the maximum airflow setpoint (CFM).			
2	Record the minimum airflow setpoint (CFM). 214 /Nohtg			
3	Record the space heating setpoint (°F). No htg stpt.			
4	Record the space cooling setpoint (°F).			
5	Record the deadband between minimum air valve position and activation of the reheat coil (°F). ✓			
	Space Sensor Verification			
6	Is the space temperature sensor communicating with the terminal unit?			
7	Is the space temperature sensor communicating with the BAS?			
8	Is the space temperature sensor located such that it is out of the supply airflow?			
9	Is the space temperature sensor located such that it is away from external heat sources (coffee pot, Compumonitor, etc)?	uter		
10	Record the space temperature as read by the BAS. 73.7			
11	Record the space temperature using a handheld thermometer. 75.5			
	Space Temperature Control			
	Cooling Mode			
12	Verify that the air handling unit serving this unit is in "Occupied" mode.			
13	Record the discharge air temperature from the air handling unit.			
14	Lower the zone temperature setpoint to demand maximum cooling.			
15	Does the supply air damper modulate to the maximum scheduled airflow?			
16	Record the damper position (% open).			
17	Record the discharge airflow achieved (CFM).			
18	Record the discharge air temperature as read by the BAS (°F) DA server reading.			
19	Record the discharge air temperature at the supply diffuser with an infrared thermometer.			
20	Is the discharge air temperature appropriate for cooling mode?			
21	Gradually raise the space cooling setpoint.			
22	Does the supply air damper modulate to reduce supply airflow?			
***************************************	Heating Mode			
23	Increase the zone heating setpoint to be > current space temperature heating.			
24	Does the supply air damper maintain the minimum scheduled airflow?	201		
25	Record the airflow achieved (CFM).			
26	Does the electric heat initiate?			
27	Record the number of stages of electric heat energized.			
28	Record the discharge air temperature sensor reading (°F).			

VAV = 1-1 / 2 _ 18

Equipment Tag:	VAV-1-1 V2-18	Completed By:	STM/TDB
Date:	12/14	Company:	9
		Equipment Type:	Terminal Unit

Item No	Description	Comment
	Setpoint Verification	
1	Record the maximum airflow setpoint (CFM). 39 %	
2	Record the minimum airflow setpoint (CFM). 249 / Ø ?	
3	Record the space heating setpoint (°F). 66	
4	Record the space cooling setpoint (°F).	
5	Record the deadband between minimum air valve position and activation of the re	heat coil (°F). 🗶
	Space Sensor Verification	
6	Is the space temperature sensor communicating with the terminal unit?	
7	Is the space temperature sensor communicating with the BAS?	
8	Is the space temperature sensor located such that it is out of the supply airflow?	
9	Is the space temperature sensor located such that it is away from external heat so monitor, etc)?	urces (coffee pot, Computer
10	Record the space temperature as read by the BAS. 72,7	
11	Record the space temperature using a handheld thermometer. 76.0	
	Space Temperature Control	
	Cooling Mode	
12	Verify that the air handling unit serving this unit is in "Occupied" mode.	
13	Record the discharge air temperature from the air handling unit.	
14	Lower the zone temperature setpoint to demand maximum cooling.	
15	Does the supply air damper modulate to the maximum scheduled airflow?	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
16	Record the damper position (% open).	
17	Record the discharge airflow achieved (CFM). 3 W	
18	Record the discharge air temperature as read by the BAS (°F). 67.5	
19	Record the discharge air temperature at the supply diffuser with an infrared thermo	meter.
20	Is the discharge air temperature appropriate for cooling mode?	
21	Gradually raise the space cooling setpoint.	
22	Does the supply air damper modulate to reduce supply airflow?	
	Heating Mode	
23	Increase the zone heating setpoint to be > current space temperature heating.	
24	Does the supply air damper maintain the minimum scheduled airflow?	h . 1 1
25	Record the airflow achieved (CFM).	10 heat
26	Does the electric heat initiate?	
27	Record the number of stages of electric heat energized.	
28	Record the discharge air temperature sensor reading (°F).	



VAV-1-TV2-19

Eq	uipment Tag:	WAV-T-1/2_19	Completed By:	STM/JOB	
	Date:	12/14	Company:		
			Equipment Type:	Terminal Unit	
Item No					Comment
1	Record the	maximum airflow sets	point (CFM). 600)	
2		minimum airflow setp	1 200		
3		space heating setpoir		/ /217	
4		space cooling setpoir			
5	Record the	deadband between m	inimum air valve posi	tion and activation of th	ne reheat coil (°F).
		sor Verification			
6	Is the space	e temperature sensor	communicating with the	ne terminal unit?	
7		e temperature sensor			
8	Is the space	e temperature sensor l	ocated such that it is	out of the supply airflov	v? ~
9	Is the space temperature sensor located such that it is away from external heat sources (coffee pot, Computer monitor, etc)?				
10		space temperature as		71.6	
11	Record the	space temperature us	ing a handheld therm	ometer. 78.0	
	Space Tem	perature Control			
	Cooling Mo	de			
12	Verify that th	ne air handling unit se	ving this unit is in "Od	ccupied" mode.	
13	Record the c	discharge air temperat	ure from the air hand	ling unit. 44.0	
14	Lower the zo	one temperature setpo	int to demand maxim		
15	Does the sup	pply air damper modu	late to the maximum s	scheduled airflow? No	
16	Record the d	damper position (% op	en). 100%		
17	Record the d	discharge airflow achie	eved (CFM). 424	·	
18	Record the d	lischarge air temperat	ure as read by the BA	NS (°F). 55.7	
19	Record the d	lischarge air temperat	ure at the supply diffu	ser with an infrared the	rmometer.
20	Is the dischar	rge air temperature ap	propriate for cooling	mode?	
21		se the space cooling	•		
22	Does the sup	oply air damper modul	ate to reduce supply a	airflow?	
	Heating Mod	de			
23				temperature heating.	
24	Does the sup	pply air damper mainta	in the minimum sche	duled airflow?	
25	Record the ai	irflow achieved (CFM)	. 212		
26	Does the elec	ctric heat initiate?	Z y		
27	Record the number of stages of electric heat energized.				

Record the discharge air temperature sensor reading (°F).



96 +

VAV-1-1 V2-20

Equipment Tag:	VAV-1-1 V2-20	Completed By:	STM/JOB
Date:	12/14	Company:	
		Equipment Type:	Terminal Unit

Item No	Description	Comment
	Setpoint Verification	
1	Record the maximum airflow setpoint (CFM). 276	
2	Record the minimum airflow setpoint (CFM). 25 / no fity setpoints	
3	Record the space heating setpoint (°F).	
4	Record the space cooling setpoint (°F).	
5 	Record the deadband between minimum air valve position and activation of the reheat coil (°F). _X
	Space Sensor Verification	
6	Is the space temperature sensor communicating with the terminal unit?	
7	Is the space temperature sensor communicating with the BAS?	
8	Is the space temperature sensor located such that it is out of the supply airflow?	
9	Is the space temperature sensor located such that it is away from external heat sources (commonitor, etc)?	fee pot, Computer
10	Record the space temperature as read by the BAS. 73.4	
11	Record the space temperature using a handheld thermometer. When 76.5	
	Space Temperature Control	
	Cooling Mode	
12	Verify that the air handling unit serving this unit is in "Occupied" mode.	
13	Record the discharge air temperature from the air handling unit.	
14	Lower the zone temperature setpoint to demand maximum cooling.	
15	Does the supply air damper modulate to the maximum scheduled airflow? $ \mathbb{N}_{arrho} $	
16	Record the damper position (% open). 9%	
17	Record the discharge airflow achieved (CFM). 117 - too low	
18	Record the discharge air temperature as read by the BAS (°F). NA - Kopuns (en	.[
19	Record the discharge air temperature at the supply diffuser with an infrared thermometer.	7/2/2
20	Is the discharge air temperature appropriate for cooling mode?	
21	Gradually raise the space cooling setpoint.	
22	Does the supply air damper modulate to reduce supply airflow?	
	Heating Mode	
23	Increase the zone heating setpoint to be > current space temperature heating.	
24	Does the supply air damper maintain the minimum scheduled airflow?	
25	Record the airflow achieved (CFM).	1 +
26	Does the electric heat initiate?	bent
27	Record the number of stages of electric heat energized.	y nl :
28	Record the discharge air temperature sensor reading (°F).	Typh. C

VAV-1-1 12-21

Equipment Tag:	VAV-1-1 V2-21	Completed By:	SJM / JDB
Date:	12/14	Company:	1
		Equipment Type:	Terminal Unit

Item No		nt		
1	Record the maximum airflow setpoint (CFM).			
2				
3				
4	Record the space cooling setpoint (°F).			
5	Record the deadband between minimum air valve position and activation of the reheat coil (°F).			
	Space Sensor Verification			
6	Is the space temperature sensor communicating with the terminal unit?			
7	Is the space temperature sensor communicating with the BAS?			
8	Is the space temperature sensor located such that it is out of the supply airflow?			
9	Is the space temperature sensor located such that it is away from external heat sources (coffee por monitor, etc)?	, Computer		
10	10. 1			
11	Record the space temperature using a handheld thermometer. $ $			
	Space Temperature Control			
	Cooling Mode			
12	Verify that the air handling unit serving this unit is in "Occupied" mode.			
13	Record the discharge air temperature from the air handling unit.			
14	Lower the zone temperature setpoint to demand maximum cooling.			
15	Does the supply air damper modulate to the maximum scheduled airflow? $\mathcal{N}_{_{\mathcal{O}}}$			
16	Record the damper position (% open). ໄໜ້,			
17	Record the discharge airflow achieved (CFM). 13%			
18	Record the discharge air temperature as read by the BAS (°F). № ♠	· · · · · · · · · · · · · · · · · · ·		
19	Record the discharge air temperature at the supply diffuser with an infrared thermometer. 73 .0			
20	Is the discharge air temperature appropriate for cooling mode?			
21	Gradually raise the space cooling setpoint.			
22	Does the supply air damper modulate to reduce supply airflow? 7			
	Heating Mode			
23	Increase the zone heating setpoint to be > current space temperature heating.			
24	Does the supply air damper maintain the minimum scheduled airflow?	***************************************		
25	Record the airflow achieved (CFM).	hust		
26	Does the electric heat initiate?			
27	Record the number of stages of electric heat energized.			
28	Record the discharge air temperature sensor reading (°F).			

VAV-1-1 V2-22

Equipment Tag:	YAV-1-1221222	Completed By:	55M J DB
Date:	12/14 12-22	Company:	
		Equipment Type:	Terminal Unit

Item No	Description	Comment		
	Setpoint Verification			
1	Record the maximum airflow setpoint (CFM). (40			
2	Record the minimum airflow setpoint (CFM). O / No hty and low	No control		
3	Record the space heating setpoint (°F). X - no set points	points in		
4	Record the space cooling setpoint (°F).			
5	Record the deadband between minimum air valve position and activation of the reheat coil	(°F).		
	Space Sensor Verification			
6	Is the space temperature sensor communicating with the terminal unit?			
7	Is the space temperature sensor communicating with the BAS?			
8	Is the space temperature sensor located such that it is out of the supply airflow?			
9	Is the space temperature sensor located such that it is away from external heat sources (comonitor, etc)?	offee pot, Computer		
10	Record the space temperature as read by the BAS. 75.2			
11	Record the space temperature using a handheld thermometer. 76.0			
	Space Temperature Control			
	Cooling Mode	5		
12	Verify that the air handling unit serving this unit is in "Occupied" mode.	75		
13	Record the discharge air temperature from the air handling unit.	10		
14	Lower the zone temperature setpoint to demand maximum cooling.	7		
15	Does the supply air damper modulate to the maximum scheduled airflow?	F		
16	Record the damper position (% open).	13		
17	Record the discharge airflow achieved (CFM).	1 0		
18	Record the discharge air temperature as read by the BAS (°F).	Contract of the contract of th		
19	Record the discharge air temperature at the supply diffuser with an infrared thermometer.	19		
20	Is the discharge air temperature appropriate for cooling mode?			
21	Gradually raise the space cooling setpoint.			
22	Does the supply air damper modulate to reduce supply airflow?			
	Heating Mode			
23	Increase the zone heating setpoint to be > current space temperature heating.			
24	Does the supply air damper maintain the minimum scheduled airflow?			
25	Record the airflow achieved (CFM).			
26	Does the electric heat initiate?	·		
27	Record the number of stages of electric heat energized.			
28	Record the discharge air temperature sensor reading (°F).			

VAV - 1-1 4 V2-23

Equipment Tag:	VAV-1-1212V2_2	3 Completed By:	STM	BOTY
Date:	12/14	Company:	7	
		Equipment Type:	Terminal	Unit

Item	
No_	Description Comment Setpoint Verification
1	Record the maximum airflow setpoint (CFM). 1500
2	Record the minimum airflow setpoint (CFM). (650)
3	Record the space heating setpoint (°F).
4	Record the space cooling setpoint (°F). 74
5	Record the deadband between minimum air valve position and activation of the reheat coil (°F). ×
	Space Sensor Verification
6	Is the space temperature sensor communicating with the terminal unit?
7	Is the space temperature sensor communicating with the BAS?
8	Is the space temperature sensor located such that it is out of the supply airflow?
9	Is the space temperature sensor located such that it is away from external heat sources (coffee pot, Computer monitor, etc)?
10	Record the space temperature as read by the BAS. 76.2
11	Record the space temperature using a handheld thermometer. つる。
	Space Temperature Control
	Cooling Mode
12	Verify that the air handling unit serving this unit is in "Occupied" mode.
13	Record the discharge air temperature from the air handling unit.
14	Lower the zone temperature setpoint to demand maximum cooling.
15	Does the supply air damper modulate to the maximum scheduled airflow? does not reach the close
16	Record the damper position (% open). $\iota \circ v_{\wp}$
17	Record the discharge airflow achieved (CFM).
18	Record the discharge air temperature as read by the BAS (°F). \$4.2
19	Record the discharge air temperature at the supply diffuser with an infrared thermometer. 12.0
20	Is the discharge air temperature appropriate for cooling mode? \(\setminus \)
21	Gradually raise the space cooling setpoint.
22	Does the supply air damper modulate to reduce supply airflow?
	Heating Mode
23	Increase the zone heating setpoint to be > current space temperature heating.
24	Does the supply air damper maintain the minimum scheduled airflow?
25	Record the airflow achieved (CFM). 1070
26	Does the electric heat initiate?
27	Record the number of stages of electric heat energized.
28	Record the discharge air temperature sensor reading (°F). 99.7

VAV-1-1 V2-24

Equipment Tag:	VAV-1-1/2_24	Completed By:	STM /JDB
Date:	12/14	Company:	
		Equipment Type:	

	,			
Item No	Description Comment			
	Setpoint Verification			
1	Record the maximum airflow setpoint (CFM).			
2	Record the minimum airflow setpoint (CFM). 600 / 300			
3	Record the space heating setpoint (°F).			
4	Record the space cooling setpoint (°F).			
5	Record the deadband between minimum air valve position and activation of the reheat coil (°F). 🗴			
	Space Sensor Verification			
6	Is the space temperature sensor communicating with the terminal unit?			
7	Is the space temperature sensor communicating with the BAS?			
8	Is the space temperature sensor located such that it is out of the supply airflow?			
9	Is the space temperature sensor located such that it is away from external heat sources (coffee pot, Computer monitor, etc)?			
10	Record the space temperature as read by the BAS. 74.4			
11	Record the space temperature using a handheld thermometer. 78, o			
	Space Temperature Control			
	Cooling Mode			
12	Verify that the air handling unit serving this unit is in "Occupied" mode.			
13	Record the discharge air temperature from the air handling unit.			
14	Lower the zone temperature setpoint to demand maximum cooling.			
15	Does the supply air damper modulate to the maximum scheduled airflow?			
16	Record the damper position (% open).			
17	Record the discharge airflow achieved (CFM). 030			
18	Record the discharge air temperature as read by the BAS (°F). 56.3			
19	Record the discharge air temperature at the supply diffuser with an infrared thermometer. 72, o			
20	Is the discharge air temperature appropriate for cooling mode?			
21	Gradually raise the space cooling setpoint.			
22	Does the supply air damper modulate to reduce supply airflow?			
	Heating Mode			
23	Increase the zone heating setpoint to be > current space temperature heating.			
24	Does the supply air damper maintain the minimum scheduled airflow? ✓			
25	Record the airflow achieved (CFM). (600			
26	Does the electric heat initiate?			
27	Record the number of stages of electric heat energized.			
28	Record the discharge air temperature sensor reading (°F).			

VAV - 1-1 V2-25

Equipment Tag:	VAV-1-1 VZ_25	Completed By:	SJM/JDB
Date:	12/14	Company:	
	,	Equipment Type:	Terminal Unit

Item No	Description	Comment
	Setpoint Verification	Commone
1	Record the maximum airflow setpoint (CFM). Zur	rolled?
2	Record the minimum airflow setpoint (CFM). 50	
3	Record the space heating setpoint (°F).	
4	Record the space cooling setpoint (°F).	
5	Record the deadband between minimum air valve position and activation of the reheat coil	l (°F).
	Space Sensor Verification	
6	Is the space temperature sensor communicating with the terminal unit?	
7	Is the space temperature sensor communicating with the BAS?	
8	Is the space temperature sensor located such that it is out of the supply airflow?	
9	Is the space temperature sensor located such that it is away from external heat sources (c monitor, etc)?	offee pot, Computer
10	Record the space temperature as read by the BAS. しるこ	
11	Record the space temperature using a handheld thermometer. 72.5	
	Space Temperature Control	
	Cooling Mode	
12	Verify that the air handling unit serving this unit is in "Occupied" mode.	
13	Record the discharge air temperature from the air handling unit.	
14	Lower the zone temperature setpoint to demand maximum cooling.	
15	Does the supply air damper modulate to the maximum scheduled airflow?	2
16	Record the damper position (% open).	
17	Record the discharge airflow achieved (CFM).	3
18	Record the discharge air temperature as read by the BAS (°F).	2
19	Record the discharge air temperature at the supply diffuser with an infrared thermometer.	2
20	Is the discharge air temperature appropriate for cooling mode?	
21	Gradually raise the space cooling setpoint.	
22	Does the supply air damper modulate to reduce supply airflow?	
	Heating Mode	
23	Increase the zone heating setpoint to be > current space temperature heating.	
24	Does the supply air damper maintain the minimum scheduled airflow?	
25	Record the airflow achieved (CFM).	
26	Does the electric heat initiate?	
27	Record the number of stages of electric heat energized.	
28	Record the discharge air temperature sensor reading (°F).	

VAV = 1-1 /2 - 24

Equipment Tag:	YAV-1-7 V2-26	Completed By:	STM /T03
Date:	12/14	Company:	
		Equipment Type:	Terminal Unit

Item No	Description Comment
	Setpoint Verification
1	Record the maximum airflow setpoint (CFM). പ്ര
2	Record the minimum airflow setpoint (CFM). 135 / 120
3	Record the space heating setpoint (°F).
4	Record the space cooling setpoint (°F).
5	Record the deadband between minimum air valve position and activation of the reheat coil (°F). 🥱
	Space Sensor Verification
6	Is the space temperature sensor communicating with the terminal unit?
7	Is the space temperature sensor communicating with the BAS?
8	Is the space temperature sensor located such that it is out of the supply airflow?
9	Is the space temperature sensor located such that it is away from external heat sources (coffee pot, Compumonitor, etc)?
10	Record the space temperature as read by the BAS. 1123 76.7
11	Record the space temperature using a handheld thermometer. & 2 . 0
	Space Temperature Control
	Cooling Mode
12	Verify that the air handling unit serving this unit is in "Occupied" mode.
13	Record the discharge air temperature from the air handling unit.
14	Lower the zone temperature setpoint to demand maximum cooling.
15	Does the supply air damper modulate to the maximum scheduled airflow? $\mathcal{N}_{\mathcal{J}}$
16	Record the damper position (% open).
17	Record the discharge airflow achieved (CFM). 27 ¢
18	Record the discharge air temperature as read by the BAS (°F). 70.5
19	Record the discharge air temperature at the supply diffuser with an infrared thermometer.
20	Is the discharge air temperature appropriate for cooling mode?
21	Gradually raise the space cooling setpoint.
22	Does the supply air damper modulate to reduce supply airflow?
	Heating Mode
23	Increase the zone heating setpoint to be > current space temperature heating.
24	Does the supply air damper maintain the minimum scheduled airflow?
25	Record the airflow achieved (CFM). 120
26	Does the electric heat initiate?
27	Record the number of stages of electric heat energized.
28	Record the discharge air temperature sensor reading (°F).

Appendix 7



Tag	Location	Model No.	Serial No.	Est. Remaining	Notes
VAV 3AS		VLCF0400060FM 00C	RO4HO4828A 50; H3R497AP	Life	Disabled, damperation 100%
VAV3A1	Aron	VLEF 06000 60FM 60C000004 WODO 252100	RO4HO481SA 50: H3R497AM		
VAV3A2	A228	VCEF OLOSS GOFM SOCOSSOS LYMONDS 20210S	Roy 404838A 50- H3R4974R		
VAV3A3	Sert	VCEFOGOOOCOFM SOCOOOOCOLHWODO 202100	RO4 HO4852A 50: H3R497AV		
VAV3ALI	802t/	V2CF08000 FM0000 00000 4 4 4 600 000 00 0	Roy HO4822A		
VAV3A6	N-211	V (CF 040000 L4W000 0000000 L4W000 000000	ROYHOUS 29 A 60: HZR 497AP		
VAV347	A212	VLE F0600060 FM 0860000 L4W0DO. 102100	RO4 HO4800A		
URV3A9	1124	VCEF06000GOFM 00c0000L4W0D0 202100	ROHHOUSHIA		
VAV 3410 AZIT	4217	16 E F 06 200 G D FM 00 C 0000 0 L 9 W 0 D 0 102 W 0	Roy (+04798A	·	
VAVIAB	A243	VLEF10000 FM 03coooo0L6W0FO 70200	RO4 HO4 A		
VAV3A ((A219	UCCF 04 000000FM 005000014 W000 000000	R04404827A		NOT IN room designated on plans

Tag	Location	Model No.	Serial No.	Est. Remaining	Notes
VAV3AS	A213	VLEFO BOOD GOFM SOCOOD LYWODO 202100	RoyHoysyoA	Life	
VAVSAIZ	0227/	UCFO800060FM 0000000 LUWDOO 060000	Rotto4820A		
143A16 (4232	4232	VLEFOUDDOCOFM SOCOBOO BLYWODS 20 WO	ROYHO4837A		
VAV3A15	484	VCEF 06000 GO FW 00000000 LY WODO 10210 0	ROYHOGJUAR		
VAU3A19 A238	A238	11CF 1000000 14W000	RO4404856A		
VAV3418 A230	A230	VCC F10000 G0 FM 0000000 C4 W000	Ro4 404855A		
URUSHH A 230	A 230	VULF D& BOOGOFM BOOGOOLY WOOD	RO41+04821A		
VAV3A20 A220	A22A	VLFF 16200 COFM 00 CO2000 CL4 WODOIS 2(02	R041704808A		
VAU3A21 A241	A241	VCEF06000COFM 00C00000019W@DO W 152100	R.04404809A		
VAV3A22 A241	H241	1/2CF05000-617M 00000000-440000	ROYHOY847A		
VAV3A23 A239	123	VCCF 060060FM 00C00000C4W0000	ROVEO 4791A		

Notes			Not in together indicated on plans							
Est. Remaining Life										
Serial No.	RO4 HO4848A	ROUROUSSAR	ROGHOUSSAA	ROGHOASESA	04105032	04105083	04105083	?	Y14FG 13802	
Model No.	166505000 GO FM 006000004 WO 00 0000000	VCEIFO(000 60 FM)	VCEF 1000060FM 00 CD 0000 LYW 0D5 40 2100	VCEF10000 GO FM 00C0 000 0 CH WODO 402100	(JB-141-4-x	68-22049-30-x	6B-220HP-30-X	Dark - Arrea	Liebat PFHO96ACAL7	
Location	A210		A239		Roof	Roof	Coot	Roof/sulk	Roo flaing	
Tag	VAV3A24	VAVSARS ALZA	VAUSAZO AZBO	MARSKZ) AZZG	4	EF-2M	EF-3A	Ac0-14	Acco-18?	·

VAV = 1-1/3 - 1A 23

Eau	ıipment Tag:	VAV-1-1 V3-H	Completed By:	STN /JDB		
	Date:	12/17	Company:			
			Equipment Type:	Terminal Unit	_	
-		· · ·	and the second second			
Item					0	
No	Description Setpoint V				Comment	
1		maximum airflow set	point (CFM). 260			
		minimum airflow setp		/180		
3	Record the space heating setpoint (°F). 70					
4		space cooling setpoir	, , , ,			
5				ition and activation of th	ne reheat coil (°F)~	
		sor Verification				
6	-	e temperature sensor	communicating with t	he terminal unit?		
 7	·	e temperature sensor				
8				out of the supply airflov	`	
9	·	•			at sources (coffee pot, Computer	
J	monitor, etc		located such that it is	away nom external nea	at sources (conee pot, computer	
10	Record the	space temperature as	read by the BAS.	71.1		
11	Record the	space temperature us				
	Space Tem	perature Control				
·	Cooling Mo	ode			7 61 2 1	
12	Verify that the	ne air handling unit se	rving this unit is in "O	ccupied" mode.	Sty telec lut	
13	Record the	discharge air tempera	ture from the air hand	dling unit. 46.4) Shown as on	
14	Lower the zo	one temperature setpe	oint to demand maxin			
15	Does the su	pply air damper modu	late to the maximum		FILLL	
16	Record the	damper position (% op	oen). (7°/		Flow sedpoint does not	
17	Record the o	discharge airflow achie	eved (CFM).		godate ingraphics	
18	Record the o	discharge air temperat	ture as read by the B	AS (°F). 59.0		
19	Record the o	discharge air temperat	ture at the supply diffi	user with an infrared the	ermometer.	
20	Is the discha	arge air temperature a	ppropriate for cooling	mode?		
21	Gradually rai	ise the space cooling	setpoint.			
22	Does the sup	oply air damper modu	late to reduce supply	airflow?		
	Heating Mod	de		***************************************		
23	Increase the	zone heating setpoin	t to be > current spac	e temperature heating.	7 85	
24	Does the sup	oply air damper mainta	ain the minimum sche	eduled airflow?		
25	Record the a	irflow achieved (CFM)). 180			
26		ctric heat initiate?	/100			
27		umber of stages of ele	ectric heat energized.	. /		
28		ischarge air temperati		,		
		•				



21

Completed By:

VAV-1-1 V3_2A

Equipment Tag: VAV-1-1 √3_24

190	Date: 12 17 Company:						
	Equipment Type: Terminal Unit						
Item No	Description Comment						
110	Setpoint Verification						
1	Record the maximum airflow setpoint (CFM). 500						
2	Record the minimum airflow setpoint (CFM).						
3	Record the space heating setpoint (°F).						
4	Record the space cooling setpoint (°F).						
5	Record the deadband between minimum air valve position and activation of the reheat coil (°F). ×						
•	Space Sensor Verification						
6	Is the space temperature sensor communicating with the terminal unit?						
7	Is the space temperature sensor communicating with the BAS?						
8	Is the space temperature sensor located such that it is out of the supply airflow?						
9	Is the space temperature sensor located such that it is away from external heat sources (coffee pot, Computer monitor, etc)?						
10	Record the space temperature as read by the BAS. 73.2						
11	Record the space temperature using a handheld thermometer.						
	Space Temperature Control						
	Cooling Mode						
12	Verify that the air handling unit serving this unit is in "Occupied" mode.						
13	Nosora die aleenage all temperature nem tile all marianing ann.						
14	Lower the zone temperature setpoint to demand maximum cooling.						
15	Does the supply air damper modulate to the maximum scheduled airflow? Flow S.P. cloe and Dingraphic						
16	necord the damper position (1) open, 100% - may air flow not met!						
17	Record the discharge airflow achieved (CFM). 263						
18	Record the discharge air temperature as read by the BAS (°F).						
19	Record the discharge air temperature at the supply diffuser with an infrared thermometer.						
20	Is the discharge air temperature appropriate for cooling mode?						
21	Gradually raise the space cooling setpoint.						
22	Does the supply air damper modulate to reduce supply airflow?						
23	Heating Mode Increase the zone heating setpoint to be > current space temperature heating. A 3						
23 24	Does the supply air damper maintain the minimum scheduled airflow?						
25							
26	Does the electric heat initiate?						
27							
28							
	Record the discharge air temperature sensor reading (°F).						



VAV = 1-1 V3_3A

Equ	ipment Tag:	VAV-1-1 V3_3A	Completed By:	STM 170B	
-	Date:	12/17	Company:	7 11111	
			Equipment Type:	Terminal Unit	
tem No	Description				Comment
110	Setpoint V				Continent
1	Record the	maximum airflow set	point (CFM). 350		
2	Record the	minimum airflow setp	oint (CFM). 150	/150	
3	Record the	space heating setpoi	nt (°F).	,	
4	Record the	space cooling setpoir	nt (°F). 76		
5	Record the	deadband between n		ition and activation of	the reheat coil (°F).
	Space Sen	sor Verification			× ×
6	Is the space	e temperature sensor	communicating with t	he terminal unit?	
7	Is the space	e temperature sensor	communicating with t	he BAS? 7	
8	Is the space	temperature sensor	located such that it is	out of the supply airfl	ow? /
9	Is the space monitor, etc	e temperature sensor)?	located such that it is	away from external h	eat sources (coffee pot, Computer
10	Record the	space temperature as	read by the BAS.	72.7	
11	Record the	space temperature us	ing a handheld therm	nometer.	
	Space Tem	perature Control			
***	Cooling Mo	de			
12	Verify that the	ne air handling unit se	rving this unit is in "O	ccupied" mode.	
13	Record the	discharge air tempera	ture from the air hand	Iling unit. 64.	
14	Lower the zo	one temperature setpe	oint to demand maxin		
15	Does the su	pply air damper modu	late to the maximum	scheduled airflow?	
6	Record the o	damper position (% or	pen). 67%		Flow S. P not updated but Airthu closs ++
7	Record the o	lischarge airflow achi	eved (CFM). 357	3	1111 1010 2022
8	Record the o	lischarge air tempera	ture as read by the B	AS (°F). 65.0	
9	Record the c	lischarge air tempera	ture at the supply diffe	user with an infrared t	hermometer.
:0	Is the discha	rge air temperature a	ppropriate for cooling	mode?	
1	Gradually rai	se the space cooling	setpoint.		*
2	Does the sup	oply air damper modu	late to reduce supply	airflow?	
	Heating Mod	de		(
3	Increase the	zone heating setpoin	to be > current spac	e temperature heating	J. 185°
4	Does the sup	ply air damper mainta	ain the minimum sche	eduled airflow?	
5	Record the a	irflow achieved (CFM)	153		
3	Does the elec	ctric heat initiate?			
7	Record the n	umber of stages of ele	ectric heat energized.	dia.	
3	Record the di	scharge air temperati	ure sensor reading (°	F). 80.5	



VAV = 1-1 V3 - 4A Z4

Temperature	Equ	uipment Tag: \	VAV-1-T V3_4A	Completed By:	51m/JDB	
Item No		Date:	12/17			
No Description Setpoint Verification Record the maximum airflow setpoint (CFM). Yw Record the minimum airflow setpoint (CFM). If what Record the space heating setpoint ("F). WA Record the space cooling setpoint ("F). WA Record the space cooling setpoint ("F). WA Record the space cooling setpoint ("F). WA Record the space temperature sensor communicating with the terminal unit? Is the space temperature sensor communicating with the BAS? / ? Is the space temperature sensor located such that it is out of the supply airflow? Is the space temperature sensor located such that it is away from external heat sources (coffee pot, Computer monitor, etc)? Record the space temperature as read by the BAS. 73.5 Record the space temperature using a handheld thermometer. Space Temperature Control Cooling Mode Verify that the air handling unit serving this unit is in "Occupied" mode. Verify that the air handling unit serving this unit is in "Occupied" mode. Record the discharge air temperature setpoint to demand maximum cooling. Record the discharge air temperature setpoint to the maximum scheduled airflow? Record the discharge air temperature as read by the BAS ("F). NA Record the discharge air temperature as read by the BAS ("F). NA Record the discharge air temperature as read by the BAS ("F). NA Record the discharge air temperature as read by the BAS ("F). NA Record the discharge air temperature as read by the BAS ("F). NA Record the discharge air temperature as read by the BAS ("F). NA Record the discharge air temperature as read by the BAS ("F). NA Record the discharge air temperature as read by the BAS ("F). NA Record the discharge air temperature as the supply diffuser with an infrared thermometer. Is the discharge air temperature as the supply airdiver with an infrared thermometer. In the supply air damper modulate to reduce supply airdiver with an infrared thermometer. In the supply air damper modulate to reduce supply airdiver with an infrared thermometer.	L			⊏quipment Type:	Terminal Unit	
Record the maximum airflow setpoint (CFM). 150 Record the minimum airflow setpoint (°F). NA Record the space heating setpoint (°F). NA Record the space cooling setpoint (°F). NA Record the space cooling setpoint (°F). NA Record the space cooling setpoint (°F). NA Record the deadband between minimum air valve position and activation of the reheat coil (°F). X Space Sensor Verification Is the space temperature sensor communicating with the terminal unit? Is the space temperature sensor located such that it is out of the supply airflow? Is the space temperature sensor located such that it is away from external heat sources (coffee pot, Computer monitor, etc)? Record the space temperature as read by the BAS. 73. \$ Record the space temperature using a handheld thermometer. Space Temperature Control Cooling Mode Verify that the air handling unit serving this unit is in "Occupied" mode. Record the discharge air temperature from the air handling unit. \$4. 2. Lower the zone temperature setpoint to demand maximum cooling. Record the discharge air temperature of the maximum scheduled airflow? Record the discharge air temperature as read by the BAS (°F). NA Record the discharge air temperature at the supply diffuser with an infrared thermometer. Is the discharge air temperature at the supply diffuser with an infrared thermometer. Cradually raise the space cooling setpoint. Cradually raise the space cooling setpoint to be current space temperature heating. Loses the supply air damper modulate to reduce supply airflow? Heating Mode Increase the zone heating setpoint to be current space temperature heating.		Description	rification			Comment
Record the minimum airflow setpoint (CFM). 150 Record the space heating setpoint ("F). */A Record the space cooling setpoint ("F). */A Record the space cooling setpoint ("F). */A Record the deadband between minimum air valve position and activation of the reheat coil ("F). * Space Sensor Verification Is the space temperature sensor communicating with the terminal unit? Is the space temperature sensor located such that it is out of the supply airflow? Is the space temperature sensor located such that it is away from external heat sources (coffee pot, Computer monitor, etc)? Record the space temperature as read by the BAS. *73. \$ Record the space temperature using a handheld thermometer. Space Temperature Control Cooling Mode Verify that the air handling unit serving this unit is in "Occupied" mode. Record the discharge air temperature from the air handling unit. \$4. 2. Lower the zone temperature setpoint to demand maximum cooling. \$5 Does the supply air damper modulate to the maximum scheduled airflow? Record the discharge air temperature at the supply diffuser with an infrared thermometer. Record the discharge air temperature at the supply diffuser with an infrared thermometer. Record the discharge air temperature at the supply diffuser with an infrared thermometer. Record the discharge air temperature at the supply diffuser with an infrared thermometer. Record the discharge air temperature at the supply diffuser with an infrared thermometer. Record the discharge air temperature at the supply diffuser with an infrared thermometer. Record the discharge air temperature at the supply diffuser with an infrared thermometer. Record the discharge air temperature at the supply diffuser with an infrared thermometer. Record the discharge air temperature at the supply diffuser with an infrared thermometer. Record the discharge air temperature at the supply diffuser with an infrared thermometer. Record the discharge air temperature at the supply diffuser with an infrared thermometer. Record the	1			oint (CFM). Hw		
Record the space heating setpoint (°F). **/* Record the space cooling setpoint (°F). **/* Record the deadband between minimum air valve position and activation of the reheat coil (°F). ** Space Sensor Verification Is the space temperature sensor communicating with the terminal unit? Is the space temperature sensor communicating with the BAS? **/* Is the space temperature sensor located such that it is out of the supply airflow? ** Is the space temperature sensor located such that it is away from external heat sources (coffee pot, Computer monitor, etc)? Record the space temperature as read by the BAS. **/> Record the space temperature using a handheld thermometer. Space Temperature Control Cooling Mode Verify that the air handling unit serving this unit is in "Occupied" mode. Record the discharge air temperature from the air handling unit. **Sq. 2.* Lower the zone temperature setpoint to demand maximum cooling. **Locate Space S						
Record the space cooling setpoint (°F). 72 Record the deadband between minimum air valve position and activation of the reheat coil (°F). × Space Sensor Verification Is the space temperature sensor communicating with the terminal unit? Is the space temperature sensor communicating with the BAS? / ? Is the space temperature sensor located such that it is out of the supply airflow? / Is the space temperature sensor located such that it is away from external heat sources (coffee pot, Computer monitor, etc)? Record the space temperature as read by the BAS. 73. 5 Record the space temperature using a handheld thermometer. Space Temperature Control Cooling Mode Verify that the air handling unit serving this unit is in "Occupied" mode. Record the discharge air temperature from the air handling unit. \$4.2 Lower the zone temperature setpoint to demand maximum cooling. Does the supply air damper modulate to the maximum scheduled airflow? Record the discharge air temperature as read by the BAS (°F). N A Record the discharge air temperature as read by the BAS (°F). N A Record the discharge air temperature as read by the BAS (°F). N A Record the discharge air temperature as read by the BAS (°F). N A Record the discharge air temperature as read by the BAS (°F). N A Record the discharge air temperature as read by the BAS (°F). N A Record the discharge air temperature as read by the BAS (°F). N A Record the discharge air temperature as read by the BAS (°F). N A Record the discharge air temperature as read by the BAS (°F). N A Record the discharge air temperature as read by the BAS (°F). N A Record the discharge air temperature as read by the BAS (°F). N A Record the discharge air temperature as read by the BAS (°F). N A Record the discharge air temperature as read by the BAS (°F). N A Record the discharge air temperature as read by the BAS (°F). N A Record the discharge air temperature as read by the BAS (°F). N A Record the discharge air temperature as read by the BAS (°F). N A Record the dischar					1 no neot	
Space Sensor Verification Is the space temperature sensor communicating with the terminal unit? Is the space temperature sensor communicating with the BAS? Is the space temperature sensor communicating with the BAS? Is the space temperature sensor located such that it is out of the supply airflow? Is the space temperature sensor located such that it is away from external heat sources (coffee pot, Computer monitor, etc)? Record the space temperature as read by the BAS. 73.5 Record the space temperature using a handheld thermometer. Space Temperature Control Cooling Mode Verify that the air handling unit serving this unit is in "Occupied" mode. Record the discharge air temperature from the air handling unit. 54.2 Lower the zone temperature setpoint to demand maximum cooling. Space Temperature Setpoint to demand maximum cooling. Record the damper position (% open). 67% Record the discharge air temperature as read by the BAS (*F). N A Record the discharge air temperature as read by the BAS (*F). N A Record the discharge air temperature at the supply diffuser with an infrared thermometer. Is the discharge air temperature appropriate for cooling mode? Gradually raise the space cooling setpoint. Does the supply air damper modulate to reduce supply airflow? Heating Mode Increase the zone heating setpoint to be > current space temperature heating.			•	• •		
Space Sensor Verification 6 Is the space temperature sensor communicating with the terminal unit? 7 Is the space temperature sensor communicating with the BAS? 8 Is the space temperature sensor located such that it is out of the supply airflow? 9 Is the space temperature sensor located such that it is away from external heat sources (coffee pot, Computer monitor, etc)? 10 Record the space temperature as read by the BAS. 73.5 11 Record the space temperature using a handheld thermometer. Space Temperature Control Cooling Mode 12 Verify that the air handling unit serving this unit is in "Occupied" mode. 13 Record the discharge air temperature from the air handling unit. 54.2 14 Lower the zone temperature setpoint to demand maximum cooling. 15 Does the supply air damper modulate to the maximum scheduled airflow? 16 Record the discharge airflow achieved (CFM). 39. 17 Record the discharge air temperature as read by the BAS (°F). NA 18 Record the discharge air temperature at the supply diffuser with an infrared thermometer. 20 Is the discharge air temperature appropriate for cooling mode? 21 Gradually raise the space cooling setpoint. 22 Does the supply air damper modulate to reduce supply airflow? Heating Mode 18 Increase the zone heating setpoint to be > current space temperature heating. 24 Does the supply air damper maintain the minimum scheduled airflow?					ition and activation of th	ne reheat coil (°F)
Is the space temperature sensor communicating with the terminal unit? Is the space temperature sensor communicating with the BAS? Is the space temperature sensor located such that it is out of the supply airflow? Is the space temperature sensor located such that it is away from external heat sources (coffee pot, Computer monitor, etc)? Record the space temperature as read by the BAS. 73.5 Record the space temperature using a handheld thermometer. Space Temperature Control Cooling Mode Verify that the air handling unit serving this unit is in "Occupied" mode. Record the discharge air temperature from the air handling unit. Lower the zone temperature setpoint to demand maximum cooling. Lower the zone temperature setpoint to demand maximum scheduled airflow? Record the discharge airflow achieved (CFM). Record the discharge air temperature as read by the BAS ("F). NA Record the discharge air temperature at the supply diffuser with an infrared thermometer. Is the discharge air temperature at the supply diffuser with an infrared thermometer. Cradually raise the space cooling setpoint. Does the supply air damper modulate to reduce supply airflow? Heating Mode Increase the zone heating setpoint to be > current space temperature heating. Does the supply air damper maintain the minimum scheduled airflow?						
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Is the space temperature sensor located such that it is away from external heat sources (coffee pot, Computer monitor, etc)? Record the space temperature as read by the BAS. 73.5 Record the space temperature using a handheld thermometer. Space Temperature Control Cooling Mode Verify that the air handling unit serving this unit is in "Occupied" mode. Record the discharge air temperature from the air handling unit. \$9.2 Lower the zone temperature setpoint to demand maximum cooling. Does the supply air damper modulate to the maximum scheduled airflow? Record the damper position (% open). \$9.6 Record the discharge airflow achieved (CFM). \$9.6 Record the discharge air temperature as read by the BAS (*F). N A Record the discharge air temperature at the supply diffuser with an infrared thermometer. Is the discharge air temperature appropriate for cooling mode? ? Gradually raise the space cooling setpoint. Does the supply air damper modulate to reduce supply airflow? Heating Mode Increase the zone heating setpoint to be > current space temperature heating. Does the supply air damper maintain the minimum scheduled airflow?				=	* *	M2 /
monitor, etc)? 10 Record the space temperature as read by the BAS. 73.5 11 Record the space temperature using a handheld thermometer. Space Temperature Control Cooling Mode 12 Verify that the air handling unit serving this unit is in "Occupied" mode. 13 Record the discharge air temperature from the air handling unit. \$4.2 14 Lower the zone temperature setpoint to demand maximum cooling. 15 Does the supply air damper modulate to the maximum scheduled airflow? 16 Record the damper position (% open). 67% 17 Record the discharge air temperature as read by the BAS (°F). NA 18 Record the discharge air temperature at the supply diffuser with an infrared thermometer. 20 Is the discharge air temperature appropriate for cooling mode? 7 21 Gradually raise the space cooling setpoint. 22 Does the supply air damper modulate to reduce supply airflow? Heating Mode 23 Increase the zone heating setpoint to be > current space temperature heating. Does the supply air damper maintain the minimum scheduled airflow?						
Record the space temperature using a handheld thermometer. Space Temperature Control Cooling Mode 12 Verify that the air handling unit serving this unit is in "Occupied" mode. 13 Record the discharge air temperature from the air handling unit. 14 Lower the zone temperature setpoint to demand maximum cooling. 15 Does the supply air damper modulate to the maximum scheduled airflow? 16 Record the discharge airflow achieved (CFM). 17 Record the discharge air temperature as read by the BAS (°F). 18 Record the discharge air temperature at the supply diffuser with an infrared thermometer. 19 Record the discharge air temperature at the supply diffuser with an infrared thermometer. 20 Is the discharge air temperature appropriate for cooling mode? 21 Gradually raise the space cooling setpoint. 22 Does the supply air damper modulate to reduce supply airflow? Heating Mode 23 Increase the zone heating setpoint to be > current space temperature heating. 24 Does the supply air damper maintain the minimum scheduled airflow?		monitor, etc)?	?		array rem external free	at oddrood (donod pot, dompator
Space Temperature Control Cooling Mode 12 Verify that the air handling unit serving this unit is in "Occupied" mode. 13 Record the discharge air temperature from the air handling unit. 14 Lower the zone temperature setpoint to demand maximum cooling. 15 Does the supply air damper modulate to the maximum scheduled airflow? 16 Record the damper position (% open). 17 Record the discharge airflow achieved (CFM). 18 Record the discharge air temperature as read by the BAS (°F). 19 Record the discharge air temperature at the supply diffuser with an infrared thermometer. 20 Is the discharge air temperature appropriate for cooling mode? 21 Gradually raise the space cooling setpoint. 22 Does the supply air damper modulate to reduce supply airflow? Heating Mode 23 Increase the zone heating setpoint to be > current space temperature heating. 26 Peacerd the airflow achieved (CFM).	10	Record the sp	pace temperature as	read by the BAS. 7	3.3	
Cooling Mode 12 Verify that the air handling unit serving this unit is in "Occupied" mode. 13 Record the discharge air temperature from the air handling unit. 14 Lower the zone temperature setpoint to demand maximum cooling. 15 Does the supply air damper modulate to the maximum scheduled airflow? 16 Record the damper position (% open). 17 Record the discharge airflow achieved (CFM). 18 Record the discharge air temperature as read by the BAS (°F). 19 Record the discharge air temperature at the supply diffuser with an infrared thermometer. 20 Is the discharge air temperature appropriate for cooling mode? 21 Gradually raise the space cooling setpoint. 22 Does the supply air damper modulate to reduce supply airflow? Heating Mode 23 Increase the zone heating setpoint to be > current space temperature heating. 24 Does the supply air damper maintain the minimum scheduled airflow?	11	Record the sp	pace temperature usi	ng a handheld therm	ometer.	
Verify that the air handling unit serving this unit is in "Occupied" mode. 13 Record the discharge air temperature from the air handling unit. \$\frac{9}{2}\$ 14 Lower the zone temperature setpoint to demand maximum cooling. 15 Does the supply air damper modulate to the maximum scheduled airflow? 16 Record the damper position (% open). \$\frac{9}{6}\$ 17 Record the discharge airflow achieved (CFM). \$\frac{9}{6}\$ 18 Record the discharge air temperature as read by the BAS (°F). \$\frac{9}{6}\$ 19 Record the discharge air temperature at the supply diffuser with an infrared thermometer. 20 Is the discharge air temperature appropriate for cooling mode? \$\frac{9}{6}\$ 21 Gradually raise the space cooling setpoint. 22 Does the supply air damper modulate to reduce supply airflow? 4 Heating Mode 23 Increase the zone heating setpoint to be > current space temperature heating. 24 Does the supply air damper maintain the minimum scheduled airflow? \$\frac{1}{2}\$		Space Tempe	erature Control			
Record the discharge air temperature from the air handling unit. Lower the zone temperature setpoint to demand maximum cooling. Does the supply air damper modulate to the maximum scheduled airflow? Record the damper position (% open). Record the discharge airflow achieved (CFM). Record the discharge air temperature as read by the BAS (°F). Record the discharge air temperature at the supply diffuser with an infrared thermometer. Is the discharge air temperature appropriate for cooling mode? Gradually raise the space cooling setpoint. Does the supply air damper modulate to reduce supply airflow? Heating Mode Increase the zone heating setpoint to be > current space temperature heating. Does the supply air damper maintain the minimum scheduled airflow? Does the supply air damper maintain the minimum scheduled airflow?		Cooling Mode	e			
Lower the zone temperature setpoint to demand maximum cooling. Does the supply air damper modulate to the maximum scheduled airflow? Record the damper position (% open). 67% Record the discharge airflow achieved (CFM). 396 Record the discharge air temperature as read by the BAS (°F). NA Record the discharge air temperature at the supply diffuser with an infrared thermometer. Is the discharge air temperature appropriate for cooling mode? Gradually raise the space cooling setpoint. Does the supply air damper modulate to reduce supply airflow? Heating Mode Increase the zone heating setpoint to be > current space temperature heating.	12	Verify that the	air handling unit ser	ving this unit is in "O	ccupied" mode.	
Lower the zone temperature setpoint to demand maximum cooling. Does the supply air damper modulate to the maximum scheduled airflow? Record the damper position (% open). 67% Record the discharge airflow achieved (CFM). 396 Record the discharge air temperature as read by the BAS (°F). NA Record the discharge air temperature at the supply diffuser with an infrared thermometer. Is the discharge air temperature appropriate for cooling mode? Gradually raise the space cooling setpoint. Does the supply air damper modulate to reduce supply airflow? Heating Mode Increase the zone heating setpoint to be > current space temperature heating.	13	Record the dis	scharge air temperat	ure from the air hand	lling unit. 54.2	
Does the supply air damper modulate to the maximum scheduled airflow? Record the damper position (% open). 67% Record the discharge airflow achieved (CFM). 396 Record the discharge air temperature as read by the BAS (°F). NA Record the discharge air temperature at the supply diffuser with an infrared thermometer. Is the discharge air temperature appropriate for cooling mode? Gradually raise the space cooling setpoint. Does the supply air damper modulate to reduce supply airflow? Heating Mode Increase the zone heating setpoint to be > current space temperature heating. Does the supply air damper maintain the minimum scheduled airflow?	14	Lower the zon	ne temperature setpo	int to demand maxim		
Record the discharge air temperature as read by the BAS (°F). NA Record the discharge air temperature at the supply diffuser with an infrared thermometer. Is the discharge air temperature appropriate for cooling mode? Gradually raise the space cooling setpoint. Does the supply air damper modulate to reduce supply airflow? Heating Mode Increase the zone heating setpoint to be > current space temperature heating. Does the supply air damper maintain the minimum scheduled airflow?	15	Does the supp	oly air damper modul	ate to the maximum :	scheduled airflow?	/
Record the discharge air temperature as read by the BAS (°F). NA Record the discharge air temperature at the supply diffuser with an infrared thermometer. Is the discharge air temperature appropriate for cooling mode? Gradually raise the space cooling setpoint. Does the supply air damper modulate to reduce supply airflow? Heating Mode Increase the zone heating setpoint to be > current space temperature heating. Does the supply air damper maintain the minimum scheduled airflow?	16	Record the da	mper position (% op	en). 69%		
Record the discharge air temperature at the supply diffuser with an infrared thermometer. Is the discharge air temperature appropriate for cooling mode? Gradually raise the space cooling setpoint. Does the supply air damper modulate to reduce supply airflow? Heating Mode Increase the zone heating setpoint to be > current space temperature heating. Does the supply air damper maintain the minimum scheduled airflow? Poperd the sirflew peligiered (CEM)	17	Record the dis	scharge airflow achie	ved (CFM). 39	-	
20 Is the discharge air temperature appropriate for cooling mode? 21 Gradually raise the space cooling setpoint. 22 Does the supply air damper modulate to reduce supply airflow? Heating Mode 23 Increase the zone heating setpoint to be > current space temperature heating. 24 Does the supply air damper maintain the minimum scheduled airflow? 25 Pogerd the girflow pelicited (CEM)	18	Record the dis	scharge air temperatu	ire as read by the BA	AS (°F). NA	
21 Gradually raise the space cooling setpoint. 22 Does the supply air damper modulate to reduce supply airflow? Heating Mode 23 Increase the zone heating setpoint to be > current space temperature heating. 24 Does the supply air damper maintain the minimum scheduled airflow? 35 Pogerd the girflow peligical (CEM)	19	Record the dis	scharge air temperatu	ire at the supply diffu	iser with an infrared the	ermometer.
Does the supply air damper modulate to reduce supply airflow? Heating Mode Increase the zone heating setpoint to be > current space temperature heating. Does the supply air damper maintain the minimum scheduled airflow? Pagerd the girflow aphicured (CEM)	20	Is the discharg	je air temperature ap	propriate for cooling	mode? ?	
Heating Mode 23 Increase the zone heating setpoint to be > current space temperature heating. 24 Does the supply air damper maintain the minimum scheduled airflow? 25 Pagerd the girflow policy of (CEM)	21	Gradually raise	e the space cooling s	etpoint.	21	
23 Increase the zone heating setpoint to be > current space temperature heating. 24 Does the supply air damper maintain the minimum scheduled airflow?	22	Does the suppl	ly air damper modula	ate to reduce supply	airflow?	
24 Does the supply air damper maintain the minimum scheduled airflow? To min 25 Pagerd the girflow aphicured (CEM)		Heating Mode	2			
25 Pagerd the girflow aphicund (CEM)	23	Increase the zo	one heating setpoint	to be > current space	e temperature heating.	V
25 Record the airflow achieved (CFM). 14L @ 45 % desperas	24	Does the suppl	ly air damper mainta	n the minimum sche	duled airflow? ↓ ↓	o min
	25	Record the airfl	low achieved (CFM).	146 @ 4	5 6 day per ins	
26 Does the electric heat initiate? NA	26	Does the electr	ric heat initiate?		p 703:	
27 Record the number of stages of electric heat energized. NA	27	Record the num	nber of stages of ele	ctric heat energized.	NA	
28 Record the discharge air temperature sensor reading (°F).	28	Record the disc	charge air temperatu	re sensor reading (°F	F). NA	

VAV-1-1 V3_SA 25

Equ	ıipment Tag:	VAV-1-1 V3_5A	Completed By:	STM /JOB			
	Date:	12/17	Company:				
			Equipment Type:	Terminal Unit			
Item No	Descriptior Setpoint V				Comment		
1	Record the	maximum airflow setp	point (CFM). 100				
2	Record the minimum airflow setpoint (CFM). 45 /100						
3	Record the	space heating setpoir					
4	Record the	space cooling setpoin					
5	Record the	deadband between m		ition and activation of the	reheat coil (°F). ×		
		sor Verification					
6	Is the space	e temperature sensor	communicating with	the terminal unit? No			
7	Is the space	e temperature sensor	communicating with	the BAS?			
8	Is the space	e temperature sensor l	ocated such that it is	out of the supply airflow?			
9	Is the space monitor, etc	e temperature sensor l	ocated such that it is	away from external heat	sources (coffee pot, Computer		
10	Record the	space temperature as	read by the BAS.	72.6			
11	Record the	space temperature us	ing a handheld thern	nometer.			
	Space Tem	perature Control		•			
** * **********************************	Cooling Mo	ode					
12	Verify that the	ne air handling unit se	rving this unit is in "C	ccupied" mode.			
13	Record the	discharge air tempera	ture from the air hand	dling unit.	Box is disabl		
14	Lower the zo	one temperature setpo	oint to demand maxin	num cooling.	-==		
15	Does the su	pply air damper modu	late to the maximum	scheduled airflow?	- (50% Open		
16	Record the	damper position (% op	en).		- Controls do		
17	Record the	discharge airflow achie	eved (CFM).		not alla		
18	Record the o	discharge air temperat	ure as read by the B	AS (°F).	adjustment.		
19	Record the o	lischarge air temperat	ure at the supply diff	user with an infrared therr	nometer.		
20	Is the discha	rge air temperature ap	ppropriate for cooling	mode?			
21	Gradually rai	ise the space cooling	setpoint.				
22	Does the sup	oply air damper modul	ate to reduce supply	airflow?	No changes		
	Heating Mod	de			oceur dus		
23	Increase the	zone heating setpoint	to be > current space	e temperature heating.	to setipoint		
24	Does the sup	oply air damper mainta	in the minimum sch	eduled airflow?	adjustment		
25	Record the a	irflow achieved (CFM)			1000 1000		
26	Does the elec	ctric heat initiate?					
27	Record the n	umber of stages of ele	ectric heat energized				
:8	Record the di	ischarge air temperatu	ıre sensor reading (°	F).			

VAV-1-1 V3-6A

Equ	uipment Tag:	VAV-T-1 V3-6A	Completed By:	STM/JDB			
	Date:	12 [17	Company: Equipment Type:	Terminal Unit			
				Terminal Offic			
Item No	Description Setpoint V					Comment	
1	Record the	maximum airflow set	point (CFM).				
2	Record the	minimum airflow setp		/ NA	no hut	<u> </u>	
3	Record the space heating setpoint (°F).						
4	Record the	space cooling setpoir					
5	Record the	deadband between m	inimum air valve pos	ition and activation	on of the rehe	eat coil (°F).λ	
	Space Sen	sor Verification					
6	Is the space	e temperature sensor	communicating with t	the terminal unit?	? 7	5.P is 76 7 Min	
7	Is the space	e temperature sensor	communicating with t	he BAS?	?.	Space is 71.3 aufl	
8	Is the space	e temperature sensor l	ocated such that it is	out of the supply	airflow?	مرحو اع الناج	
9	Is the space monitor, etc	e temperature sensor l	ocated such that it is	away from extern	nal heat sour	ces (coffee pot, Computer	
10	Record the	space temperature as	read by the BAS.	71.3			
11	Record the	space temperature us	ing a handheld therm	nometer.			
	Space Tem	perature Control					
	Cooling Mo	ode					
12		he air handling unit se			/		
13		discharge air temperat		3 1	2		
14		one temperature setpo		V	55		
15		pply air damper modu		scheduled airflow	/?		
16		damper position (% op	, (0 0 0	1 top low	Monte	Slow reacting!	
17		discharge airflow achie			•	J	
18		discharge air temperat	-	• • •			
19		discharge air temperat			ed thermom	eter.	
20		arge air temperature ap		mode? ?			
21		ise the space cooling					
22		oply air damper modul	ate to reduce supply	airflow?			
	Heating Mod						
23		zone heating setpoint	•	•	ating.		
24		oply air damper mainta		eduled airflow?	redus	ies to min	
25		irflow achieved (CFM)		66% dun	per 005.		
26			NA				
27		umber of stages of ele		. / / /			
28	Record the di	ischarge air temperatu	ire sensor reading (°	F). NA			
				_			



VAV = 1-1 V3_7A

Equ	uipment Tag:	VAV-1-1 V3-7A	Completed By:	STM/JDB		
	Date:	12/17	Company: Equipment Type:	Terminal Unit		
			<u> </u>	Tommar Offic		
Item No	Description Setpoint Ve				C	Comment
1		maximum airflow setp	point (CFM). 170			
		minimum airflow setpo	-: (OEM)	/ 101		
		space heating setpoin	(00)	/ 121	:	
4		space cooling setpoin	60			
5			(September 1	ition and activation of th	e reheat coil (°	°F) /
		sor Verification			0 1011041 0011 (r). Not 1.sted
6		temperature sensor o	communicating with t	he terminal unit?		
7		temperature sensor c				
8		•	J	out of the supply airflow	<i>l?</i> /	
9		temperature sensor lo		away from external hea		ee pot, Computer
10	Record the s	space temperature as	read by the BAS.	71.7		
11	Record the s	space temperature usi	ng a handheld therm	ometer. (2)		
	Space Temp	perature Control				
	Cooling Mod	de				
12	Verify that the	e air handling unit ser	ving this unit is in "O	ccupied" mode.		
13	Record the d	lischarge air temperat	ure from the air hand	lling unit. 64.1		
14	Lower the zo	ne temperature setpo	int to demand maxim	num cooling. VS5		-
15	Does the sup	oply air damper modul	ate to the maximum	scheduled airflow? 🗸		1 1/20-161
16	Record the da	amper position (% ope	en).			Very Stow
17	Record the di	ischarge airflow achie	ved (CFM).			Peacting
18		ischarge air temperatu		455		danger
19				user with an infrared the	rmometer.	
20		rge air temperature ap		mode?		
21		se the space cooling s	•			
22		ply air damper modula	ate to reduce supply	airflow?		
	Heating Mod					
23				e temperature heating.	V	
24		ply air damper maintai				
25		rflow achieved (CFM).	119@ 219	le danger		
26		tric heat initiate?			slow ro	raching!
27		imber of stages of elec		1 6		J
28	Record the dis	scharge air temperatu	re sensor reading (°F	-). 86°		
				- A		



VAV - 1-1 V3_8A ZI

Equipment Lag:	VAV-1-1 V3-8A	Completed By:	STN/JDB
Date:	12/17	Company:	
		Equipment Type:	Terminal Unit
		Equipment Typo.	Tommar offic

ltem No	Description Comment
	Setpoint Verification
1	Record the maximum airflow setpoint (CFM). 1000 250
2	Record the minimum airflow setpoint (CFM). 750 100 110
3	Record the space heating setpoint (°F). 65
4	Record the space cooling setpoint (°F).
5	Record the deadband between minimum air valve position and activation of the reheat coil (°F).
•	Space Sensor Verification
6	Is the space temperature sensor communicating with the terminal unit? 🗸
7	Is the space temperature sensor communicating with the BAS?
8	Is the space temperature sensor located such that it is out of the supply airflow? —
9	Is the space temperature sensor located such that it is away from external heat sources (coffee pot, Computer monitor, etc)?
10	Record the space temperature as read by the BAS. 70.6
11	Record the space temperature using a handheld thermometer.
	Space Temperature Control
	Cooling Mode
12	Verify that the air handling unit serving this unit is in "Occupied" mode.
13	Record the discharge air temperature from the air handling unit.
14	Lower the zone temperature setpoint to demand maximum cooling.
15	Does the supply air damper modulate to the maximum scheduled airflow? 4005 to 100%
16	Record the damper position (% open).
17	Record the discharge airflow achieved (CFM). 65 - 100 S. P.Cess.
18	Record the discharge air temperature as read by the BAS (°F). 68-7
19	Record the discharge air temperature at the supply diffuser with an infrared thermometer.
20	Is the discharge air temperature appropriate for cooling mode?
21	Gradually raise the space cooling setpoint.
22	Does the supply air damper modulate to reduce supply airflow?
	Heating Mode
23	Increase the zone heating setpoint to be > current space temperature heating.
24	Does the supply air damper maintain the minimum scheduled airflow?
25	Record the airflow achieved (CFM).
26	Does the electric heat initiate?
27	Record the number of stages of electric heat energized.
28	Record the discharge air temperature sensor reading (°F). I in creaks but we I maked due



MECHANICAL & ELECTRICAL CONSULTING
CXA

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CCC

COMPANY

CYPTER

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COM

VAV = 1-1 V3-9A

22

- occs prefer hot!
- space heatrs also in use!
- Very warm /3 offices

Equipment Tag:	VAV-1-1 V3-9A	Completed By:	STM /JDB
Date:	12/17	Company:	
		Equipment Type:	Terminal Unit

Item No	Description Setpoint Verification	Comment
1		
	7.0	-
3	Record the minimum airliow setpoint (CFM). 50 /50 Record the space heating setpoint (°F). 78	· · · · · · · · · · · · · · · · · · ·
4	Record the space cooling setpoint (°F).	
5	Record the deadband between minimum air valve position and activation of the reheat coi	I (°F).
	Space Sensor Verification	
6	Is the space temperature sensor communicating with the terminal unit?	
7	Is the space temperature sensor communicating with the BAS?	
8	Is the space temperature sensor located such that it is out of the supply airflow? 🧖 🗸	
9	Is the space temperature sensor located such that it is away from external heat sources (c monitor, etc)?	offee pot, Computer
10	Record the space temperature as read by the BAS. 75.8	
11	Record the space temperature using a handheld thermometer.	No.
	Space Temperature Control	
	Cooling Mode	No. 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1
12	Verify that the air handling unit serving this unit is in "Occupied" mode.	1 Box aillow
13	Record the discharge air temperature from the air handling unit.	Setphin to are
14	Lower the zone temperature setpoint to demand maximum cooling.	too lisu:
15	Does the supply air damper modulate to the maximum scheduled airflow?	
16	Record the damper position (% open).	1 - Set to 90°F
17	Record the discharge airflow achieved (CFM).	1
18	Record the discharge air temperature as read by the BAS (°F).	to lawer +
19	Record the discharge air temperature at the supply diffuser with an infrared thermometer.	Flow setpoints
20	Is the discharge air temperature appropriate for cooling mode?	A with controls
21	Gradually raise the space cooling setpoint.	20001142
22	Does the supply air damper modulate to reduce supply airflow?	
	Heating Mode	
23	Increase the zone heating setpoint to be > current space temperature heating.	
24	Does the supply air damper maintain the minimum scheduled airflow?	
25	Record the airflow achieved (CFM).	
26	Does the electric heat initiate?	
27	Record the number of stages of electric heat energized.	
28	Record the discharge air temperature sensor reading (°F).	

Completed By: STM / SDB

VAV-1-1 V3-10A

Equipment Tag: VAV-1-1 V3_IDA

-40	Date: 12 17 Company:						
	Equipment Type: Terminal Unit						
Item No	Description Setpoint Verification	Comment					
	Depart the manipular circums circums of the transfer to the tr						
2	7,50						
3	738 / 1300 .						
 4							
 	Record the space cooling setpoint (°F). 72 Record the deadband between minimum air valve position and activation of the reheat coil (°F).						
	Space Sensor Verification	—————————————————————————————————————					
6	Is the space temperature sensor communicating with the terminal unit?						
	Is the space temperature sensor communicating with the BAS?						
8	Is the space temperature sensor located such that it is out of the supply airflow?						
9	Is the space temperature sensor located such that it is away from external heat so monitor, etc)?						
10	Record the space temperature as read by the BAS. 70.9						
11	Record the space temperature using a handheld thermometer.						
	Space Temperature Control	Setante to bush					
	Cooling Mode	Thinks 100 mg					
12	Verify that the air handling unit serving this unit is in "Occupied" mode.	Heat Howe 1800- he					
13	Record the discharge air temperature from the air handling unit.	11 2 300 200					
14	Lower the zone temperature setpoint to demand maximum cooling.						
15	Does the supply air damper modulate to the maximum scheduled airflow? No	Work .					
16	Record the damper position (% open).	,					
17	Record the discharge airflow achieved (CFM). 3 Z						
18	Record the discharge air temperature as read by the BAS (°F).						
19	Record the discharge air temperature at the supply diffuser with an infrared thermo	ometer.					
20	Is the discharge air temperature appropriate for cooling mode?						
21	Gradually raise the space cooling setpoint. γ						
22	Does the supply air damper modulate to reduce supply airflow?						
	Heating Mode						
23	Increase the zone heating setpoint to be > current space temperature heating. \checkmark						
24	Does the supply air damper maintain the minimum scheduled airflow? $$ $$ $$ $$	Stpt D but					
25	Record the airflow achieved (CFM).	- of danger @ 100%					
26	Does the electric heat initiate?	- air flow too low					
27	Record the number of stages of electric heat energized.	- Heat air flow S.p too han					
28	Record the discharge air temperature sensor reading (°F).	- 100 000					

VAV-1-1 V3_11A Z4

Equ	uipment Tag:	VAV-T-1 V3_11A	Completed By:	STM/JD8	
	Date:	12/17	Company:		
			Equipment Type:	Terminal Unit	
Item	1				
No	Description				Comment
	Setpoint V				
1		maximum airflow setp			
2		minimum airflow setp		/ X no	heat?
3		space heating setpoir		,	
4		space cooling setpoin			
5			inimum air valve pos	ition and activation of th	e reheat coil (°F). ĸ
	Space Sens	sor Verification			
6	Is the space	e temperature sensor o	communicating with t	he terminal unit?	
7	Is the space	temperature sensor o	communicating with t	he BAS?	
8	Is the space	temperature sensor l	ocated such that it is	out of the supply airflow	<i>γ</i> ?
9	Is the space monitor, etc)	temperature sensor l	ocated such that it is	away from external hea	t sources (coffee pot, Computer
10	Record the	space temperature as	read by the BAS.	71-1	
11	Record the s	space temperature usi	ng a handheld therm	ometer.	
	Space Tem	perature Control			
	Cooling Mo	de			1
12	Verify that th	e air handling unit ser	ving this unit is in "O	ccupied" mode.	
13	Record the c	lischarge air temperat	ure from the air hand	lling unit. 54,2	
14	Lower the zo	one temperature setpo	int to demand maxim	num cooling.	
15	Does the sup	oply air damper modul	ate to the maximum	scheduled airflow? 🚜	o los but airfle inte
16	Record the d	amper position (% op	en). (100		to the that he
17	Record the d	ischarge airflow achie	ved (CFM). (53		
18	Record the d	ischarge air temperatı	re as read by the BA	4S (°F). N/A	· · · · · · · · · · · · · · · · · · ·
19				ser with an infrared the	rmometer.
20	Is the dischar	rge air temperature ap	propriate for cooling	mode?	
21	Gradually rais	se the space cooling s	etpoint.	χ	
22	Does the sup	ply air damper modula	ate to reduce supply	airflow? 📐	
	Heating Mod	le		-	
23	Increase the	zone heating setpoint	to be > current space	e temperature heating.	V
24	Does the sup	ply air damper mainta	n the minimum sche	duled airflow?	
25	Record the ai	rflow achieved (CFM).	51e 3	7 "6	
26	Does the elec	tric heat initiate? 🧳	SA /7		
27	Record the nu	ımber of stages of ele	ctric heat energized.	χ	
28	Record the dis	scharge air temperatu	re sensor reading (°F	-). ×	



VAV-1-1 V3_12A

24

Eq	guipment Tag: VAV-1-1 V3 - 12A Completed By: STM /TDB	
	Date: 12/17 Company:	
	Equipment Type: Terminal Unit	
Item No	Description Comment	
	Setpoint Verification	
1	Record the maximum airflow setpoint (CFM). (50	
2	Record the minimum airflow setpoint (CFM). 200 / X - no heat?	
3	Record the space heating setpoint (°F).	
4	Record the space cooling setpoint (°F). 76	
5	Record the deadband between minimum air valve position and activation of the reheat coil (°F). $ imes$	-
	Space Sensor Verification	
6	Is the space temperature sensor communicating with the terminal unit?	
7	Is the space temperature sensor communicating with the BAS?	
8	Is the space temperature sensor located such that it is out of the supply airflow?	
9	Is the space temperature sensor located such that it is away from external heat sources (coffee pot, Computer monitor, etc)?	-
10	Record the space temperature as read by the BAS. 72.4	
11	Record the space temperature using a handheld thermometer.	
.,,,,,	Space Temperature Control	
	Cooling Mode	
12	Verify that the air handling unit serving this unit is in "Occupied" mode.	
13	Record the discharge air temperature from the air handling unit. 54.2	
14	Lower the zone temperature setpoint to demand maximum cooling.	
15	Does the supply air damper modulate to the maximum scheduled airflow? 100% but air flow not me	_
16	Record the damper position (% open).	<u>νΙ</u>
17	Record the discharge airflow achieved (CFM). 477	
18	Record the discharge air temperature as read by the BAS (°F).	_
19	Record the discharge air temperature at the supply diffuser with an infrared thermometer.	
20	Is the discharge air temperature appropriate for cooling mode?	_
21	Gradually raise the space cooling setpoint. $ imes$	_
22	Does the supply air damper modulate to reduce supply airflow? ×	
	Heating Mode	
23	Increase the zone heating setpoint to be > current space temperature heating.	-
24	Does the supply air damper maintain the minimum scheduled airflow?	_
25	Record the airflow achieved (CFM). 193 @ 65%	_
26	Does the electric heat initiate? $NA/?$	
27	Record the number of stages of electric heat energized.	
28	Record the discharge air temperature sensor reading (°F). ×	
	/	

Completed By: STM /JDB

VAV=1-1 V3_14A 24

Equipment Tag: VAV-1-1 V3_I4A

	Date: 12 7
L	Equipment Type: Terminal Unit
Item No	Description Comment Setpoint Verification
1	
	Record the maximum airflow setpoint (CFM).
2	Record the minimum airflow setpoint (CFM). 225 /x - no hisanny
3	Record the space heating setpoint (°F).
4	Record the space cooling setpoint (°F). 72
5	Record the deadband between minimum air valve position and activation of the reheat coil (°F).
	Space Sensor Verification
6	Is the space temperature sensor communicating with the terminal unit? ?
7	Is the space temperature sensor communicating with the BAS?
8	Is the space temperature sensor located such that it is out of the supply airflow? 7
9	Is the space temperature sensor located such that it is away from external heat sources (coffee pot, Computer monitor, etc)?
10	Record the space temperature as read by the BAS. 76.7
11	Record the space temperature using a handheld thermometer
	Space Temperature Control
	Cooling Mode
12	Verify that the air handling unit serving this unit is in "Occupied" mode.
13	Record the discharge air temperature from the air handling unit.
14	Lower the zone temperature setpoint to demand maximum cooling.
15	Does the supply air damper modulate to the maximum scheduled airflow? opens but does not no
16	Record the damper position (% open). 100% wax air fl
17	Record the discharge airflow achieved (CFM). 9
18	Record the discharge air temperature as read by the BAS (°F). NA
19	Record the discharge air temperature at the supply diffuser with an infrared thermometer.
20	Is the discharge air temperature appropriate for cooling mode?
21	Gradually raise the space cooling setpoint.
22	Does the supply air damper modulate to reduce supply airflow?
	Heating Mode
23	Increase the zone heating setpoint to be > current space temperature heating.
24	Does the supply air damper maintain the minimum scheduled airflow?
25	Record the airflow achieved (CFM). 195 @ 100%
	Does the electric heat initiate?
	Record the number of stages of electric heat energized.
27	



VAV - 1-1 V3_15A 2

Eq	quipment Tag: VAV-1-7 \/3 \f A Completed By: \STM \/JDB
	Date: 12117 Company:
L	Equipment Type: Terminal Unit
lten No	
1	
3	7/20
4) in
5	Record the space cooling setpoint (°F). Record the deadband between minimum air valve position and activation of the reheat coil (°F).
	Space Sensor Verification
6	Is the space temperature sensor communicating with the terminal unit?
 7	Is the space temperature sensor communicating with the BAS?
8	Is the space temperature sensor located such that it is out of the supply airflow?
9	Is the space temperature sensor located such that it is away from external heat sources (coffee pot, Computer
J	monitor, etc)?
10	Record the space temperature as read by the BAS. 73.1 62.8 DA Jemp.
11	Record the space temperature using a handheld thermometer.
	Space Temperature Control
	Cooling Mode
12	Verify that the air handling unit serving this unit is in "Occupied" mode.
13	Record the discharge air temperature from the air handling unit.
14	Lower the zone temperature setpoint to demand maximum cooling.
15	Does the supply air damper modulate to the maximum scheduled airflow?
16	Record the damper position (% open). 40%
17	Record the discharge airflow achieved (CFM). 95
18	Record the discharge air temperature as read by the BAS (°F).
19	Record the discharge air temperature at the supply diffuser with an infrared thermometer.
20	Is the discharge air temperature appropriate for cooling mode?
21	Gradually raise the space cooling setpoint.
22	Does the supply air damper modulate to reduce supply airflow?
	Heating Mode
23	Increase the zone heating setpoint to be > current space temperature heating.
24	Does the supply air damper maintain the minimum scheduled airflow?
25	Record the airflow achieved (CFM). 112 @ 39% does not update.
26	Does the electric heat initiate?
27	Record the number of stages of electric heat energized.
28	Record the discharge air temperature sensor reading (°F).
	Dry O.I.

VAV-1-1 V3_1LA

Equ	iipment Tag:	VAV-T-1 V3_164	Completed By:		
	Date:		Company:	T	
L			Equipment Type:	Terminal Unit	
Item No	Description	1			Comment
	Setpoint V				Commone
1	Record the	maximum airflow setp	point (CFM). 350		
2	Record the	minimum airflow setp	oint (CFM). 106	/180	
3	Record the	space heating setpoir		7 1800	
4	Record the	space cooling setpoin	t (°F). 74		
5	Record the	deadband between m	inimum air valve pos	ition and activation of the	reheat coil (°F). 🗶
	Space Sen	sor Verification			
6	Is the space	e temperature sensor	communicating with t	he terminal unit? 🗸	
7	Is the space	e temperature sensor	communicating with t	he BAS?	
8	Is the space	e temperature sensor l	ocated such that it is	out of the supply airflow?) /
9	Is the space monitor, etc		ocated such that it is	away from external heat	sources (coffee pot, Computer
10	Record the	space temperature as	read by the BAS.	75.5	
11	Record the	space temperature us	ing a handheld therm	ometer.	
•	Space Tem	perature Control			
	Cooling Mo	ode			
12	Verify that the	ne air handling unit se	ving this unit is in "O	ccupied" mode.	
13	Record the	discharge air temperat	ure from the air hand	lling unit. 50-7	
14		one temperature setpo		-	
15	Does the su	pply air damper modu	late to the maximum	scheduled airflow?	
16		damper position (% op	ی طا	,	
17	Record the	discharge airflow achie	eved (CFM). 322	-	
18	Record the	discharge air temperat	ure as read by the BA	AS (°F). 66.8	
19	Record the	lischarge air temperat	ure at the supply diffu	user with an infrared ther	mometer.
20	Is the discha	rge air temperature ap	ppropriate for cooling	mode? /	
21	Gradually ra	ise the space cooling	setpoint.		
22	Does the sup	oply air damper modul	ate to reduce supply	airflow?	
	Heating Mo	de			
23	Increase the	zone heating setpoint	to be > current space	e temperature heating.	
24	Does the sup	oply air damper mainta	in the minimum sche	duled airflow?	
25	Record the a	irflow achieved (CFM)	· 1820 719	6	
26	Does the ele	ctric heat initiate?	V		
27	Record the n	umber of stages of ele	ctric heat energized.	2	
28	Record the d	ischarge air temperatu	ıre sensor reading (°l	-). 89	
					_



VAV-1-1 V3_18A

Eq	uipment Tag: VAV-T-1 V3_18 A Completed By: STM / J DB
-	Date: 12 117 Company:
L	Equipment Type: Terminal Unit
Item No	Description Comment
	Setpoint Verification
1	Record the maximum airflow setpoint (CFM). 650
2	Record the minimum airflow setpoint (CFM). 400 / no heat?
3	Record the space heating setpoint (°F).
4	Record the space cooling setpoint (°F). 7 2
5	Record the deadband between minimum air valve position and activation of the reheat coil (°F).✓
	Space Sensor Verification
6	Is the space temperature sensor communicating with the terminal unit?
7	Is the space temperature sensor communicating with the BAS?
8	Is the space temperature sensor located such that it is out of the supply airflow?
9	Is the space temperature sensor located such that it is away from external heat sources (coffee pot, Computer monitor, etc)?
10	Record the space temperature as read by the BAS. 67, 2 44, 3 DAtemp.
11	Record the space temperature using a handheld thermometer.
	Space Temperature Control
	Cooling Mode
12	Verify that the air handling unit serving this unit is in "Occupied" mode.
13	Record the discharge air temperature from the air handling unit. 42.5
14	Lower the zone temperature setpoint to demand maximum cooling.
15	Does the supply air damper modulate to the maximum scheduled airflow? V - 100% airflow not not
16	Record the damper position (% open). \ \vartheta / \/
17	Record the discharge airflow achieved (CFM).
18	Record the discharge air temperature as read by the BAS (°F).
19	Record the discharge air temperature at the supply diffuser with an infrared thermometer.
20	Is the discharge air temperature appropriate for cooling mode?
21	Gradually raise the space cooling setpoint.
22	Does the supply air damper modulate to reduce supply airflow?
	Heating Mode
23	Increase the zone heating setpoint to be > current space temperature heating.
24	Does the supply air damper maintain the minimum scheduled airflow?
25	Record the airflow achieved (CFM). 394 @ 786
26	Does the electric heat initiate? \wedge \wedge
27	Record the number of stages of electric heat energized. ✓∧
28	Record the discharge air temperature sensor reading (°F).
	, A · L

VAV-1-1 V3-19A

Eq	uipment Tag:	VAV-1-1 V3_19A	Completed By:	STM/JDB		
-	Date:	12/17	Company:	Terminal Unit		
			Equipment Type:	rerminal Unit		
Item No					Comme	ent
1		maximum airflow set	point (CFM). 1300			
		minimum airflow setp		/ 885 / / 0		
3		space heating setpoir	, , , , ,	/ no heat?) X	
4		space cooling setpoin	↓ /º□\			
			10		C.11 1 4 11 (OPP)	
5 			ınımum air vaive posi	tion and activation of	f the reheat coil (°F). 🗴	-
	-	sor Verification				
6		temperature sensor				
7		temperature sensor	=			
8		temperature sensor l		• • •		
9	monitor, etc))?		away from external h	neat sources (coffee po	t, Computer
10	Record the s	space temperature as	read by the BAS	13.5 - N	ODA Jemp. / de	pes not reach
11	Record the s	space temperature us	ng a handheld therm	ometer.	Mark	()
	Space Temp	perature Control			FS	P ton la
	Cooling Mo	de				108 100
12	Verify that th	e air handling unit ser	ving this unit is in "Od	ccupied" mode.	/	
13	Record the c	lischarge air temperat	ure from the air hand	ling unit. 42.5		
14	Lower the zo	one temperature setpo	int to demand maxim			
15	Does the sup	oply air damper modul	ate to the maximum s	scheduled airflow?	100% airflar	<u> </u>
16	Record the d	lamper position (% op	en). \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \		coo con law 1	no I net
17	Record the d	ischarge airflow achie				
18	Record the d	ischarge air temperat		AS (°F). NA		
19	Record the d	ischarge air temperati	ure at the supply diffu		hermometer.	
20	Is the dischar	rge air temperature ap	propriate for cooling	mode?		
21	Gradually rais	se the space cooling s	etpoint.	$\overline{}$		
22	Does the sup	ply air damper modula	ate to reduce supply a	airflow?		
	Heating Mod	le				
23	Increase the	zone heating setpoint	to be > current space	temperature heating	g. V	1
24		ply air damper mainta		•		no head?
25		rflow achieved (CFM)		Z°,	mods to my	10000
26		. ,	NA	<i>L</i> 8		
27		ımber of stages of ele	*	~/		and the second s
28		scharge air temperatu		().		
		-	J (-	· /		
				55	,	

VAV-1-1 V3_20A

Eq	uipment Tag: VAV-T-1 V3_20A Completed By: STM / JDB
	Date: 2 2
	Equipment Type: Terminal Unit
Item No	
1	& Airt low S. P hot
	Record the minimum airflow cotraint (CEM)
3	December on the street of 1 1000 - 2 - Stages - only 16 di
	D. III.
 5	130
	Record the deadband between minimum air valve position and activation of the reheat coil (°F). × Space Sensor Verification
6	
$-\frac{3}{7}$	Is the space temperature sensor communicating with the terminal unit?
	Is the space temperature sensor communicating with the BAS?
8	Is the space temperature sensor located such that it is out of the supply airflow?
9	Is the space temperature sensor located such that it is away from external heat sources (coffee pot, Computer monitor, etc)?
10	Record the space temperature as read by the BAS. 72.7 / 76.4 DA temp
11	Record the space temperature using a handheld thermometer.
	Space Temperature Control
	Cooling Mode
12	Verify that the air handling unit serving this unit is in "Occupied" mode.
13	Record the discharge air temperature from the air handling unit.
14	Lower the zone temperature setpoint to demand maximum cooling.
15	Does the supply air damper modulate to the maximum scheduled airflow? 100% airflow not mut
16	Record the damper position (% open).
17	Record the discharge airflow achieved (CFM). 99
18	Record the discharge air temperature as read by the BAS (°F). 61.9
19	Record the discharge air temperature at the supply diffuser with an infrared thermometer.
20	Is the discharge air temperature appropriate for cooling mode?
21	Gradually raise the space cooling setpoint.
22	Does the supply air damper modulate to reduce supply airflow?
	Heating Mode
23	Increase the zone heating setpoint to be > current space temperature heating.
24	Does the supply air damper maintain the minimum scheduled airflow? mods to min / ht stpt, mod
25	Record the airflow achieved (CFM). 199 displayed Covine
26	Does the electric heat initiate?
27	Record the number of stages of electric heat energized. 2
28	Record the discharge air temperature sensor reading (°F). つる・サ



VAV-1-1 V3 - 21 A

23

Equ	uipment Tag: VAV-1-1 v3 _21A Completed By: SJM/JD8
	Date: 12117 Company:
	Equipment Type: Terminal Unit
Item No	Description Comment
	all the not met
1 2	- hut off
	Record the minimum airflow setpoint (CFM). 150 / 150
3	Record the space heating setpoint (°F). 74
4	Record the space cooling setpoint (°F). 75
5 	Record the deadband between minimum air valve position and activation of the reheat coil (°F). ~
	Space Sensor Verification
6 	Is the space temperature sensor communicating with the terminal unit?
7	Is the space temperature sensor communicating with the BAS? 71,8
8	Is the space temperature sensor located such that it is out of the supply airflow?
9	Is the space temperature sensor located such that it is away from external heat sources (coffee pot, Computer monitor, etc)?
10	Record the space temperature as read by the BAS. 71.9
11	Record the space temperature using a handheld thermometer.
	Space Temperature Control
	Cooling Mode
12	Verify that the air handling unit serving this unit is in "Occupied" mode.
13	Record the discharge air temperature from the air handling unit.
14	Lower the zone temperature setpoint to demand maximum cooling.
15	Does the supply air damper modulate to the maximum scheduled airflow? @ 100%, way as flow not no
16	Record the damper position (% open).
17	Record the discharge airflow achieved (CFM).
18	Record the discharge air temperature as read by the BAS (°F). 59.5
19	Record the discharge air temperature at the supply diffuser with an infrared thermometer.
20	Is the discharge air temperature appropriate for cooling mode?
21	Gradually raise the space cooling setpoint.
22	Does the supply air damper modulate to reduce supply airflow?
	Heating Mode
23	Increase the zone heating setpoint to be > current space temperature heating.
24	Does the supply air damper maintain the minimum scheduled airflow? No - @ 100 7 only 76 ctm
25	Record the airflow achieved (CFM). 760 100%
26	Does the electric heat initiate? Min cfm not met 50 F. H.
27	Record the number of stages of electric heat energized
28	Record the discharge air temperature sensor reading (°F).

VAV-1-1 V3-22A

Equ	uipment Tag:	VAV-1-1 V3_22A	Completed By:	SJM / JDB		
	Date:	12 117	Company:			
			Equipment Type:	Terminal Unit		
Item No	Description Setpoint V				\	Comment
1		maximum airflow setp	oint (CFM).	` .	-	1117
		minimum airflow setp	sint (CEM)		1 10	x disabled !
3		space heating setpoir	· ' 100	/no heat		
4		space cooling setpoin				
5				ition and activation of t	he reheat co	oil (°F).
•		sor Verification	·			
6	Is the space	e temperature sensor o	communicating with t	he terminal unit?	<i>.</i> 0	
7	Is the space	e temperature sensor o	communicating with the		~	
8	Is the space	temperature sensor l	ocated such that it is	out of the supply airflo	w? 🎸	
9	Is the space monitor, etc	e temperature sensor le)?	ocated such that it is	away from external he	at sources (coffee pot, Computer
10	Record the	space temperature as	read by the BAS.	NA S		
11	Record the	space temperature usi	ng a handheld therm	. / /		
	Space Tem	perature Control				
	Cooling Mo	de				
12	Verify that th	ne air handling unit ser	ving this unit is in "O	ccupied" mode.		7
13	Record the o	discharge air temperat	ure from the air hand	ling unit.		loox disabled
14	Lower the zo	one temperature setpo	int to demand maxim	um cooling.		1
15	Does the sup	pply air damper modul	ate to the maximum :	scheduled airflow?		the adjustment
16	Record the c	lamper position (% op	∍n).			available.
17		lischarge airflow achie	· ·			W. C.
18		lischarge air temperatu	•	` /		
19	Record the d	lischarge air temperatu	ire at the supply diffu	ser with an infrared th	ermometer.	
20	Is the discha	rge air temperature ap	propriate for cooling	mode?		
21		se the space cooling s	•		No. of the last of	,
22		pply air damper modula	ate to reduce supply a	airflow?		,
	Heating Mod					
23			* '	e temperature heating.		
24		ply air damper mainta	n the minimum sche	duled airflow?		
25		rflow achieved (CFM).				
26		ctric heat initiate?				
27		umber of stages of ele	•			
28	Record the di	scharge air temperatu	re sensor reading (°F	·).		

VAV-1-1 V3-23A 2

24

25 26

27 28

Equ	uipment Tag: VAV-T-1 V3_23A Completed By: STM / JDB	
	Date: 12 17 Company: Equipment Type: Terminal Unit	
	Equipment Type. Terminal Offic	
ltem	1	
No	Description	Comment
	Setpoint Verification	_ Dunper @ \$\$ 15°6
1	Record the maximum airflow setpoint (CFM). 449	- (x cfn)
2	Record the minimum airflow setpoint (CFM). 150 / no het?	1-1
3	Record the space heating setpoint (°F). NA	
4	Record the space cooling setpoint (°F).	
5	Record the deadband between minimum air valve position and activation of t	ne reheat coil (°F). _℃
	Space Sensor Verification	
6	Is the space temperature sensor communicating with the terminal unit?	-
7	Is the space temperature sensor communicating with the BAS?	•
8	Is the space temperature sensor located such that it is out of the supply airflo	w? _
9	Is the space temperature sensor located such that it is away from external he monitor, etc)?	at sources (coffee pot, Computer
10	Record the space temperature as read by the BAS. 70.2	no DA temp
11	Record the space temperature using a handheld thermometer.	
	Space Temperature Control	
	Cooling Mode	
12	Verify that the air handling unit serving this unit is in "Occupied" mode.	
13	Record the discharge air temperature from the air handling unit.	1 (A) ctu
14	Lower the zone temperature setpoint to demand maximum cooling.	
15	Does the supply air damper modulate to the maximum scheduled airflow?	Flow styt. gov
16	Record the damper position (% open).	1
17	Record the discharge airflow achieved (CFM).	to mire
18	Record the discharge air temperature as read by the BAS (°F).	
19	Record the discharge air temperature at the supply diffuser with an infrared the	ermometer.
20	Is the discharge air temperature appropriate for cooling mode?	No her
21	Gradually raise the space cooling setpoint.	
22	Does the supply air damper modulate to reduce supply airflow?	
	Heating Mode	
23	Increase the zone heating setpoint to be > current space temperature heating.	

Does the supply air damper maintain the minimum scheduled airflow?

Record the number of stages of electric heat energized.

Record the discharge air temperature sensor reading (°F).

Record the airflow achieved (CFM).

Does the electric heat initiate?

VAV-1-1 V3-24A Z4

Eqι	uipment Tag: VAV-1-1 V3 _ 24 A Completed By: STM /JDB	
	Date: 2 7 Company:	
	Equipment Type: Terminal Unit	
Item No		nment
-110	Setpoint Verification	IIIIIOIIE
1	Record the maximum airflow setpoint (CFM). 350	
2	Record the minimum airflow setpoint (CFM). 350 / No heat?	
3	Record the space heating setpoint (°F). χ	
4	Record the space cooling setpoint (°F). 72	
5	Record the deadband between minimum air valve position and activation of the reheat coil (°F,	· ×
	Space Sensor Verification	
6	Is the space temperature sensor communicating with the terminal unit?	
7	Is the space temperature sensor communicating with the BAS?	
8	Is the space temperature sensor located such that it is out of the supply airflow?	
9	Is the space temperature sensor located such that it is away from external heat sources (coffee monitor, etc)?	pot, Computer
10	Record the space temperature as read by the BAS. 73.7 - no DA Janp	
11	Record the space temperature using a handheld thermometer.	
	Space Temperature Control	
	Cooling Mode	
12	Verify that the air handling unit serving this unit is in "Occupied" mode.	10 A
13	Record the discharge air temperature from the air handling unit.	
14	Lower the zone temperature setpoint to demand maximum cooling.	
15	Does the supply air damper modulate to the maximum scheduled airflow?	6 -
16	Record the damper position (% open).	
17	Record the discharge airflow achieved (CFM). 356	
18	Record the discharge air temperature as read by the BAS (°F). NA	
19	Record the discharge air temperature at the supply diffuser with an infrared thermometer.	
20	Is the discharge air temperature appropriate for cooling mode?	
21	Gradually raise the space cooling setpoint.	
22	Does the supply air damper modulate to reduce supply airflow?	1001.1
	Heating Mode	y ~ v ~ ~
23	Increase the zone heating setpoint to be > current space temperature heating.	
24	Does the supply air damper maintain the minimum scheduled airflow?	
25	Record the airflow achieved (CFM). 354@ 75%	<u> </u>
26	Does the electric heat initiate? \sim \sim	
27	Record the number of stages of electric heat energized.	
28	Record the discharge air temperature sensor reading (°F).	
	· · · · · · · · · · · · · · · · · · ·	



VAV-1-1 V3 - 25A 24

Eq	uipment Tag: VAV-1-1 V3 _25 A Completed By: STM /JDB	
	Date: 12 / 17 Company:	
	Equipment Type: Terminal Unit	
Item No		
1	Record the maximum airflow setpoint (CFM). 350	
2	Depart the minimum difference traint (CEM)	
3	Populating appropriate (PE)	
4	Record the space cooling setpoint (°F). 72	
5	Record the deadband between minimum air valve position and activation of the reheat coil (°F).~	
	Space Sensor Verification	
6	Is the space temperature sensor communicating with the terminal unit?	
7	Is the space temperature sensor communicating with the BAS?	
8	Is the space temperature sensor located such that it is out of the supply airflow?	
9	Is the space temperature sensor located such that it is away from external heat sources (coffee pot, Computer monitor, etc)?	
10	Record the space temperature as read by the BAS. 71.3 / 64.8 DA Jemp	
11	Record the space temperature using a handheld thermometer.	
	Space Temperature Control	
	Cooling Mode	
12	Verify that the air handling unit serving this unit is in "Occupied" mode.	
13	Record the discharge air temperature from the air handling unit. 46.5	
14	Lower the zone temperature setpoint to demand maximum cooling.	
15	Does the supply air damper modulate to the maximum scheduled airflow?	1
16	Record the damper position (% open).	
17	Record the discharge airflow achieved (CFM). 273	
18	Record the discharge air temperature as read by the BAS (°F).	
19	Record the discharge air temperature at the supply diffuser with an infrared thermometer.	
20	Is the discharge air temperature appropriate for cooling mode? ✓	
21	Gradually raise the space cooling setpoint.	
22	Does the supply air damper modulate to reduce supply airflow?	
	Heating Mode	
23	Increase the zone heating setpoint to be > current space temperature heating.	_
24	Does the supply air damper maintain the minimum scheduled airflow?	7
25	Record the airflow achieved (CFM). 199 @ 90' — PAtern v = 70.8?	_
26	Does the electric heat initiate?	
27	Record the number of stages of electric heat energized. 2	
28	Record the discharge air temperature sensor reading (°F).	4
	A HAHN ENGINEERING INC	

HAHN ENGINEERING, INC.
MECHANICAL & ELECTRICAL CONSULTING

VAV-1-1 V3-26A 25

Eq	uipment Tag: VAV-T-1 V3_26A Completed By: STM/JDB
	Date: 12 17 Company:
	Equipment Type: Terminal Unit
Item No	
1	Describe of the Land OFM
	Date to the control of the control o
3	200 / 100
4	Record the space heating setpoint (°F). 71 Record the space cooling setpoint (°F). 7L
5	Record the deadhand between minimum air valve position and activation of the releast sail (°E)
	Space Sensor Verification
6	Is the space temperature sensor communicating with the terminal unit?
7	Is the space temperature sensor communicating with the BAS?
8	Is the space temperature sensor located such that it is out of the supply airflow?
9	Is the space temperature sensor located such that it is away from external heat sources (coffee pot, Computer
J	monitor, etc)?
10	Record the space temperature as read by the BAS. 73.8 / 67.7 DA temp
11	Record the space temperature using a handheld thermometer.
	Space Temperature Control
	Cooling Mode
12	Verify that the air handling unit serving this unit is in "Occupied" mode.
13	Record the discharge air temperature from the air handling unit. しし、ゴ
14	Lower the zone temperature setpoint to demand maximum cooling.
15	Does the supply air damper modulate to the maximum scheduled airflow?
16	Record the damper position (% open).
17	Record the discharge airflow achieved (CFM). 640
18	Record the discharge air temperature as read by the BAS (°F). 65.4
19	Record the discharge air temperature at the supply diffuser with an infrared thermometer.
20	Is the discharge air temperature appropriate for cooling mode?
21	Gradually raise the space cooling setpoint.
22	Does the supply air damper modulate to reduce supply airflow?
	Heating Mode
23	Increase the zone heating setpoint to be > current space temperature heating.
24	Does the supply air damper maintain the minimum scheduled airflow?
25	Record the airflow achieved (CFM). 394 @ 53%
26	Does the electric heat initiate?
27	Record the number of stages of electric heat energized.
28	Record the discharge air temperature sensor reading (°F).

VAV-1-1 V3_27A 75

Eq	uipment Tag: VAV-1-1 V3_21 A Completed By: STM / JDB
	Date: 12 17 Company:
	Equipment Type: Terminal Unit
lten	n
No	Description
	Setpoint Verification
1	Record the maximum airflow setpoint (CFM). 90
2	Record the minimum airflow setpoint (CFM). 470/400
3	Record the space heating setpoint (°F).
4	Record the space cooling setpoint (°F).
5	Record the deadband between minimum air valve position and activation of the reheat coil (°F). 🗶
	Space Sensor Verification
6	Is the space temperature sensor communicating with the terminal unit?
7	Is the space temperature sensor communicating with the BAS?
8	Is the space temperature sensor located such that it is out of the supply airflow?
9	Is the space temperature sensor located such that it is away from external heat sources (coffee pot, Computer monitor, etc)?
10	Record the space temperature as read by the BAS. 72-8 /67.7 DA temp
11	Record the space temperature using a handheld thermometer.
	Space Temperature Control
	Cooling Mode
12	Verify that the air handling unit serving this unit is in "Occupied" mode.
13	Record the discharge air temperature from the air handling unit.
14	Lower the zone temperature setpoint to demand maximum cooling.
15	Does the supply air damper modulate to the maximum scheduled airflow?
16	Record the damper position (% open).
17	Record the discharge airflow achieved (CFM). 500
18	Record the discharge air temperature as read by the BAS (°F). 68.4
19	Record the discharge air temperature at the supply diffuser with an infrared thermometer.
20	Is the discharge air temperature appropriate for cooling mode?
21	Gradually raise the space cooling setpoint.
22	Does the supply air damper modulate to reduce supply airflow?
	Heating Mode
23	Increase the zone heating setpoint to be > current space temperature heating.
24	Does the supply air damper maintain the minimum scheduled airflow?
25	Record the airflow achieved (CFM). +30 @ 73°
26	Does the electric heat initiate?
27	Record the number of stages of electric heat energized. 2
28	Record the discharge air temperature sensor reading (°F).



Appendix 8



PSTA HVAC Equipment List

	1			Fst		
Location		Model No.	Serial No.	Remaining Life	Notes	
M 143		TIBADISH41720FA	MØ3MØØ289		VFD MA: TRICOIL GTH CNISTRIBLFHUMOCCO	40060
MISY		VCEFOS 000 COFIN 00 CO0000 LYWODO 2 B 2 100	Ro4 404 811A			
M 154		VLEF 08000 CO FM 00C0 5000 L4W0D0 302100	R04H04776A			
M163		VCCF 05 000C0FM 00C0 00 00 UV W000 000000	R OY HOY842A			
M 154		VEF 1 0000 60FM 00,00000 LS 400 FOG 52100	RO4404861A			
M 154	7	VEEF 10000 60 FM 00000000 LS WOFI 102100	RoyHougeza			
Š		VCEFOY 000 CO FM 60/C0000 LY WODO TO 2(00	R24404863A			
MARKS 193	£0 ~	VCE FOSOOO GOFM Joldood Lywodd 162100	Кочноче			
M 130		VLEF 16000 COFM 20C60 600 L4W 200 202100	RoyH04899A			
VAUTATO MIS9		VLEF 10000 GOFM 00000000 L4W0DO 202100	Routo4868A			
2	~				Unit label maccessable	

PSTA HVAC Equipment List

Notes	Unit me label inaccessable	trut label inaccessable					
Est. Remaining Life							
Serial No.							
Model No.							
Location	921W	Muta					
Tag	WAVIN.	5/6/5/5/2/S					

VAV - 1-1 VH | - 1

Eq	uipment Tag: VAV-1-1 VHI_ Completed By: SIM/TDB
	Date: 12/22 Company:
L	Equipment Type: Terminal Unit
Iten No	Description
	Setpoint Verification
1	Record the maximum airflow setpoint (CFM). 32% - graphic does not slow up
2	Record the minimum airflow setpoint (CFM). 170 /218 - damper @ 19% - 300 ctm S.P.?
3	Record the space heating setpoint (°F).
4	Record the space cooling setpoint (°F).
5	Record the deadband between minimum air valve position and activation of the reheat coil (°F).
-	Space Sensor Verification
6	Is the space temperature sensor communicating with the terminal unit?
7	Is the space temperature sensor communicating with the BAS?
8	Is the space temperature sensor located such that it is out of the supply airflow?
9	Is the space temperature sensor located such that it is away from external heat sources (coffee pot, Computer monitor, etc)?
10	Record the space temperature as read by the BAS. 71,0
11	Record the space temperature using a handheld thermometer. (72)
	Space Temperature Control
	Cooling Mode
12	Verify that the air handling unit serving this unit is in "Occupied" mode.
13	Record the discharge air temperature from the air handling unit. 51.0
14	Lower the zone temperature setpoint to demand maximum cooling.
15	Does the supply air damper modulate to the maximum scheduled airflow?
16	Record the damper position (% open). 24%
17	Record the discharge airflow achieved (CFM). 335
18	Record the discharge air temperature as read by the BAS (°F).
19	Record the discharge air temperature at the supply diffuser with an infrared thermometer
20	Is the discharge air temperature appropriate for cooling mode?
21	Gradually raise the space cooling setpoint.
22	Does the supply air damper modulate to reduce supply airflow?
	Heating Mode
23	Increase the zone heating setpoint to be > current space temperature heating.
24	Does the supply air damper maintain the minimum scheduled airflow?
25	Record the airflow achieved (CFM). 231 ext 218e86
26	Does the electric heat initiate?
27	Record the number of stages of electric heat energized. 2
28	Record the discharge air temperature sensor reading (°F). 79.9



VAV=1-1 VH1-2

Ec	quipment Tag:	VAV-1-1 V41-2	Completed By:	STM/JDB		
	Date:	12/22	Company:			
L			Equipment Type:	Terminal Unit		
lter No				,		Comment
1		maximum airflow setp	point (CEM)			
$-\frac{1}{2}$		minimum airflow setp	: / (OEM)	/1-2		
3		space heating setpoir	1 (OF)	/176		4
4		space cooling setpoin		68°	th temp -	one style elec. L
5		deadband between m		ition and activation	£ 11 1	11 (05)
		sor Verification			or the reneat co	○II (°F). ※
6		e temperature sensor o	communicating with t	ho terminal unit?		
7		e temperature sensor of				
8		temperature sensor le	•		flour	
9		temperature sensor le				Cooffee not Committee
_	monitor, etc))?	יים או אמניון וויסנים סטטורים וויסנים	away irom external	neat sources (conee pot, Computer
10	Record the s	space temperature as	read by the BAS.	71.3		
11	Record the s	space temperature usi	ng a handheld therm	ometer. (73)		
	Space Temp	perature Control				
	Cooling Mo	de				
12	Verify that th	ne air handling unit ser	ving this unit is in "O	ccupied" mode.		
13	Record the d	lischarge air temperati	ure from the air hand	ling unit. 51,0		
14	Lower the zo	one temperature setpo	int to demand maxim	um cooling.		
15		oply air damper modul		scheduled airflow?	V	
16		lamper position (% ope	7			
17		ischarge airflow achie				
18		ischarge air temperatu		• •		
19	Record the di	ischarge air temperatu	re at the supply diffu	ser with an infrared	thermometer.	(4.1)
20	Is the dischar	rge air temperature ap	propriate for cooling	mode? ?		
21	Gradually rais	se the space cooling s	etpoint.	?.		
22	Does the sup	ply air damper modula	te to reduce supply a	airflow? 🗸		
	Heating Mod					
23		zone heating setpoint t			ig. V 85°	
24		ply air damper maintai	n the minimum sche	duled airflow? /		
25	Record the air	rflow achieved (CFM).	167 e 812			
26		tric heat initiate?				
27		mber of stages of elec	-			
28	Record the dis	scharge air temperatur	e sensor reading (°F).		

Company:

Completed By: STM / JOB

VAV - 1-1 /4 VI-3

	Equipment Type: Terminal Unit
Iten No	Description
	Setpoint Verification
1	Record the maximum airflow setpoint (CFM). 299 -dauger @ 51%
2	Record the minimum airflow setpoint (CFM). 50 - Fluser airflow
3	Record the space heating setpoint (°F). NA - no heat
4	Record the space cooling setpoint (°F).
5	Record the deadband between minimum air valve position and activation of the reheat coil (°F).
	Space Sensor Verification
6	Is the space temperature sensor communicating with the terminal unit?
7	Is the space temperature sensor communicating with the BAS?
8	Is the space temperature sensor located such that it is out of the supply airflow?
9	Is the space temperature sensor located such that it is away from external heat sources (coffee pot, Computer monitor, etc)?
10	Record the space temperature as read by the BAS. 72.4
11	Record the space temperature using a handheld thermometer.
	Space Temperature Control
	Cooling Mode
12	Verify that the air handling unit serving this unit is in "Occupied" mode.
13	Record the discharge air temperature from the air handling unit.
14	Lower the zone temperature setpoint to demand maximum cooling.
15	Does the supply air damper modulate to the maximum scheduled airflow?
16	Record the damper position (% open). 50%
17	Record the discharge airflow achieved (CFM). 240
18	Record the discharge air temperature as read by the BAS (°F). NA
19	Record the discharge air temperature at the supply diffuser with an infrared thermometer.
20	Is the discharge air temperature appropriate for cooling mode?
21	Gradually raise the space cooling setpoint.
22	Does the supply air damper modulate to reduce supply airflow?
	Heating Mode
23	Increase the zone heating setpoint to be > current space temperature heating. No head
24	Does the supply air damper maintain the minimum scheduled airflow? NA - durper pos No cliang
25	Record the airflow achieved (CFM).
26	Does the electric heat initiate?
27	Record the number of stages of electric heat energized.
28	Record the discharge air temperature sensor reading (°F). NA

Completed By:

Company:

VAV-1-1 VHI - 4

Equipment Tag: VAV-1-1 VWI - Y
Date: 12/22

2-3

STM/JDB

	Equipment Type: Terminal Unit
Item No	Description
	Setpoint Verification
1	Record the maximum airflow setpoint (CFM). 690 Box Male = Unroc.
2	Record the minimum airflow setpoint (CFM). 210 /300
3	Record the space heating setpoint (°F).
4	Record the space cooling setpoint (°F).
5	Record the deadband between minimum air valve position and activation of the reheat coil (°F). \times
	Space Sensor Verification
6	Is the space temperature sensor communicating with the terminal unit?
7	Is the space temperature sensor communicating with the BAS?
8	Is the space temperature sensor located such that it is out of the supply airflow?
9	Is the space temperature sensor located such that it is away from external heat sources (coffee pot, Computer monitor, etc)?
10	Record the space temperature as read by the BAS. 70.9
11	Record the space temperature using a handheld thermometer.
	Space Temperature Control
	Cooling Mode
12	Verify that the air handling unit serving this unit is in "Occupied" mode.
13	Record the discharge air temperature from the air handling unit.
14	Lower the zone temperature setpoint to demand maximum cooling.
15	Does the supply air damper modulate to the maximum scheduled airflow?
16	Record the damper position (% open). 98%
17	Record the discharge airflow achieved (CFM). 680
18	Record the discharge air temperature as read by the BAS (°F). 60. Z
19	Record the discharge air temperature at the supply diffuser with an infrared thermometer. (5)
20	Is the discharge air temperature appropriate for cooling mode?
21	Gradually raise the space cooling setpoint.
22	Does the supply air damper modulate to reduce supply airflow?
	Heating Mode
23	Increase the zone heating setpoint to be > current space temperature heating.
24	Does the supply air damper maintain the minimum scheduled airflow? No - maintains may hir flower.
25	Record the airflow achieved (CFM). 70% @ 97% (C690)
26	Does the electric heat initiate?
27	Record the number of stages of electric heat energized. 22 3
28	Record the discharge air temperature sensor reading (°F). 73.9



VAV-1-1 VHI-5

Z _3

Ec		1-1-1 VHI_5	Completed By:	STMIJOB			
-	Date:	2/22	Company:				
L			Equipment Type:	Terminal Unit			
Iter No	o Description						Comment
	Setpoint Verific						
1		mum airflow setp	11/0510	*	70.6	· DA w	2 Stups of heit on
2		num airflow setpo		1850			*
3				,			
4	, , , , , , , , , , , , , , , , , , ,	- •	• • •				
5			nimum air valve posi	tion and activation	on of the r	eheat coil	(°F) _×
	Space Sensor V						
6			communicating with the		V		
7			ommunicating with the				
8			ocated such that it is				
9	Is the space tempe monitor, etc)?	perature sensor lo	ocated such that it is	away from exter	nal heat s	ources (co	offee pot, Computer
10	Record the space	temperature as	read by the BAS	71.7			
11	Record the space	temperature usir	ng a handheld thermo	ometer.			
	Space Temperat	ure Control		(3)			
	Cooling Mode			·			
12	Verify that the air	handling unit sen	ving this unit is in "Oc	cupied" mode.	/		
13	Record the discha	rge air temperatu	ire from the air handl	ing unit. 51.1			
14	Lower the zone te	mperature setpoi	nt to demand maxim	um cooling.			
15	Does the supply a	ir damper modula	ate to the maximum s	cheduled airflow	!?		
16	Record the dampe	r position (% ope	en). 160 %			*,	
17	Record the discha	rge airflow achiev		-			
18	Record the discha	rge air temperatu	re as read by the BA	S(°F). 59.	1		
19	Record the dischar	ge air temperatu	re at the supply diffus	ser with an infrar	ed therm	ometer.	(3)
20	ls the discharge ai	temperature app	propriate for cooling r	node?			61)
21	Gradually raise the	space cooling se	etpoint.				
22	Does the supply ai	r damper modula	te to reduce supply a	irflow?			
	Heating Mode						
23	Increase the zone I	neating setpoint t	o be > current space	temperature he	ating.		
24	Does the supply air	damper maintair	n the minimum sched	luled airflow?	V		
25	Record the airflow a	achieved (CFM).	840 @ 48%				
26	Does the electric he	eat initiate?					
27	Record the number	of stages of elec	tric heat energized.	2			
28	Record the discharg	je air temperatur	e sensor reading (°F)	1. 71.2°			



VAV - 1-1 VHI - 6

Equipment Tag: VAV-1-1 V H I - 5
Date: 12/22

2-2

Completed By: SIM /JDB

-4	Date: 12/22 Company:	
	Equipment Type: Terminal Unit	
Item No	Description	Comment
	Setpoint Verification	
1	Record the maximum airflow setpoint (CFM). +229 150	- Stall both salls
2	Record the minimum airflow setpoint (CFM).	72:10 04 4
3	Record the space heating setpoint (°F).	5+g2-twined off in BDC
4	Record the space cooling setpoint (°F).	
5	Record the deadband between minimum air valve position and activation	n of the reheat coil (°F). χ
	Space Sensor Verification	
6	Is the space temperature sensor communicating with the terminal unit?	V
7	Is the space temperature sensor communicating with the BAS?	
8	Is the space temperature sensor located such that it is out of the supply	airflow?
9	Is the space temperature sensor located such that it is away from extern monitor, etc)?	al heat sources (coffee pot, Computer
10	Record the space temperature as read by the BAS. 12.3	
11	Record the space temperature using a handheld thermometer.	
	Space Temperature Control	
	Cooling Mode	
12	Verify that the air handling unit serving this unit is in "Occupied" mode.	/
13	Record the discharge air temperature from the air handling unit. 58.7	-
14	Lower the zone temperature setpoint to demand maximum cooling.	/
15	Does the supply air damper modulate to the maximum scheduled airflow	52%
16	Record the damper position (% open). イピ	
17	Record the discharge airflow achieved (CFM). 155	
18	Record the discharge air temperature as read by the BAS (°F). (60.3	
19	Record the discharge air temperature at the supply diffuser with an infrare	ed thermometer. (C7)
20	Is the discharge air temperature appropriate for cooling mode?	
21	Gradually raise the space cooling setpoint.	
22	Does the supply air damper modulate to reduce supply airflow?	
	Heating Mode	
23	Increase the zone heating setpoint to be > current space temperature hea	ting.
24	Does the supply air damper maintain the minimum scheduled airflow?	/
25	Record the airflow achieved (CFM).	
26	Does the electric heat initiate?	
	Record the number of stages of electric heat energized.	
.8	Record the discharge air temperature sensor reading (°F). \$3.3	



VAV-1-1 VHI-7

pormismatch.

Equipment Tag:	VAV=1-1VH1_7	Completed By:	STM/JAB
Date:	12/22	Company:	•
		Equipment Type:	Terminal Unit
l é a una			

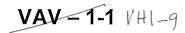
Item No							
1	Record the maximum airflow setpoint (CFM). 300						
2	DA 44M P - 31.7						
3	Record the minimum airflow setpoint (CFM). 460 /301 \\ Record the space heating setpoint (°F). 11						
4	Record the space cooling setpoint (°F).						
5	Record the deadband between minimum air valve position and activation of the reheat coil (°F).						
Space Sensor Verification							
6	Is the space temperature sensor communicating with the terminal unit?						
7	Is the space temperature sensor communicating with the BAS?						
8	Is the space temperature sensor located such that it is out of the supply airflow?						
9	Is the space temperature sensor located such that it is away from external heat sources (coffee pot, Computer monitor, etc)?						
10	Record the space temperature as read by the BAS. 69.5						
11	Record the space temperature using a handheld thermometer.						
	Space Temperature Control						
	Cooling Mode						
12	Verify that the air handling unit serving this unit is in "Occupied" mode.						
13	Record the discharge air temperature from the air handling unit.						
14	Lower the zone temperature setpoint to demand maximum cooling.						
15	Does the supply air damper modulate to the maximum scheduled airflow?						
16	Record the damper position (% open). 59						
17	Record the discharge airflow achieved (CFM). 355						
18	Record the discharge air temperature as read by the BAS (°F). (52.2)						
19	Record the discharge air temperature at the supply diffuser with an infrared thermometer						
20	Is the discharge air temperature appropriate for cooling mode?						
21	Gradually raise the space cooling setpoint.						
22	Does the supply air damper modulate to reduce supply airflow?						
	Heating Mode						
23	Increase the zone heating setpoint to be > current space temperature heating.						
24	Does the supply air damper maintain the minimum scheduled airflow?						
25	Record the airflow achieved (CFM). 303						
26	Does the electric heat initiate?						
27	Record the number of stages of electric heat energized. Z ?						
28	Record the discharge air temperature sensor reading (°F). 59.5 - No Least energized -						



VAV-1-1 VI-8

					1			
Equ	uipment Tag: Date:	VAV-1-1 VI_8	Completed By: Company:	SOC/ mts				
	Date.	16/22	Equipment Type:	Terminal Unit				
Item	l							
No	Description	omment						
	Setpoint V	- T- ro	airflu S.P. disple					
1	Record the	1-no	cfu displayed					
2	Record the	Euger @ 68%						
3	Record the space heating setpoint (°F). NA - Cool only no hat Set?							
4	Record the space cooling setpoint (°F).							
5	Record the deadband between minimum air valve position and activation of the reheat coil (°F).							
	Space Sensor Verification							
6	Is the space temperature sensor communicating with the terminal unit? \checkmark							
7	•	Is the space temperature sensor communicating with the BAS?						
8	Is the space temperature sensor located such that it is out of the supply airflow?							
9	Is the space temperature sensor located such that it is away from external heat sources (coffee pot, Computer monitor, etc)?							
10	Record the	Record the space temperature as read by the BAS.						
11	Record the space temperature using a handheld thermometer.							
	Space Tem	perature Control						
	Cooling Mo	ode				***************************************		
12	Verify that the air handling unit serving this unit is in "Occupied" mode.							
13	Record the discharge air temperature from the air handling unit.							
14	Lower the zone temperature setpoint to demand maximum cooling.							
15	Does the su	Does the supply air damper modulate to the maximum scheduled airflow?						
16	Record the	Record the damper position (% open). 79						
17	Record the	discharge airflow achi	eved (CFM). 506			no DA temo		
18	Record the	rend-n						
19	Record the	Record the discharge air temperature at the supply diffuser with an infrared thermometer.						
20	Is the discha	Is the discharge air temperature appropriate for cooling mode?						
21	Gradually ra	ise the space cooling	setpoint.					
22	Does the supply air damper modulate to reduce supply airflow?							
	Heating Mo	de						
23	Increase the	Increase the zone heating setpoint to be > current space temperature heating.						
24	Does the su	pply air damper maint	ain the minimum sche	eduled airflow? No	rax			
25	Record the a	Record the airflow achieved (CFM).						
26	Does the ele	Does the electric heat initiate?						
27	Record the number of stages of electric heat energized.							
28	Record the discharge air temperature sensor reading (°F).							

Completed By:



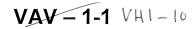
Equipment Tag: VAV-1-1 VHI-9

2-1

SIM JDB

Lyu	Date: 12/22 Company:							
	Equipment Type: Terminal Unit							
Item								
No	Description Comment Setpoint Verification							
	Describble to entire the single transfer of the single (ODA). Comme							
	D. III C. I. (OTI)							
3	the temp = 5 C.							
4								
5	Record the deadband between minimum air valve position and activation of the reheat coil (°F)x							
	Space Sensor Verification							
6	Is the space temperature sensor communicating with the terminal unit?							
7	Is the space temperature sensor communicating with the BAS?							
8	Is the space temperature sensor located such that it is out of the supply airflow?							
9	Is the space temperature sensor located such that it is away from external heat sources (coffee pot, Computer monitor, etc)?							
10	Record the space temperature as read by the BAS.							
11	Record the space temperature using a handheld thermometer. 74,5							
	Space Temperature Control							
	Cooling Mode							
12	Verify that the air handling unit serving this unit is in "Occupied" mode.							
13	Record the discharge air temperature from the air handling unit.							
14	Lower the zone temperature setpoint to demand maximum cooling.							
15	Does the supply air damper modulate to the maximum scheduled airflow?							
16	Record the damper position (% open). 97%							
17	Record the discharge airflow achieved (CFM). 9 41							
18	Record the discharge air temperature as read by the BAS (°F). 52.7							
19	Record the discharge air temperature at the supply diffuser with an infrared thermometer (6)							
20	Is the discharge air temperature appropriate for cooling mode?							
21	Gradually raise the space cooling setpoint.							
22	Does the supply air damper modulate to reduce supply airflow?							
	Heating Mode							
23	Increase the zone heating setpoint to be > current space temperature heating.							
24	Does the supply air damper maintain the minimum scheduled airflow?							
25	Record the airflow achieved (CFM) 42 265 @ 99 %							
26	Does the electric heat initiate?							
27	Record the number of stages of electric heat energized.							
28	Record the discharge air temperature sensor reading (°F).							





2-1

Equ	ipment Tag:	VAV-1-1 VHI_10	Completed By:	JTM/JDB					
	Date:	12/22	Company:	- · · · · · · · · · · · · · · · · · · ·					
			Equipment Type:	Terminal Unit					
Item No	Descriptior				Comment				
	Setpoint V	/erification			1-70.3 DA temp				
1	Record the	e maximum airflow setp	point (CFM). 500		•				
2		minimum airflow setp	(-)	150	* Un roc. node				
3		space heating setpoi							
4		space cooling setpoir	* * *						
5			inimum air valve pos	ition and activation	n of the reheat coil (°F). 🧡				
	Space Sen	nsor Verification							
6	Is the space temperature sensor communicating with the terminal unit?								
7	Is the space temperature sensor communicating with the BAS?								
8	Is the space	e temperature sensor	ocated such that it is	out of the supply	airflow?				
9	Is the space temperature sensor located such that it is away from external heat sources (coffee pot, Computer monitor, etc)?								
10	Record the space temperature as read by the BAS. 70.1								
11	Record the space temperature using a handheld thermometer. 73.5								
	Space Temperature Control								
	Cooling Mo	ode							
12	Verify that the air handling unit serving this unit is in "Occupied" mode.								
13	Record the	discharge air tempera	ture from the air han	dling unit. 61.					
14	Lower the z	one temperature setp	oint to demand maxir	num cooling.	V .				
15	Does the su	upply air damper modu	late to the maximum	scheduled airflow	? 🗸				
16	Record the	damper position (% oן	pen). 100						
17		discharge airflow achi							
18	Record the	discharge air tempera	ture as read by the B	AS (°F). 54.6					
19		discharge air tempera			ed thermometer.				
20	Is the discha	arge air temperature a	ppropriate for cooling	g mode?					
21	Gradually raise the space cooling setpoint.								
22	Does the supply air damper modulate to reduce supply airflow?								
	Heating Mode								
23	Increase the zone heating setpoint to be > current space temperature heating.								
24	Does the supply air damper maintain the minimum scheduled airflow?								
25	Record the	airflow achieved (CFM). 178 C 80%						
26	Does the ele	ectric heat initiate? 🗸							
27	Record the r	number of stages of el	ectric heat energized	. 2					
28	Record the	discharge air temperat	ure sensor reading (°F). 6836	9.3 - toolow!				
	Record the discharge air temperature sensor reading (°F). 69.3 - too low!								



Completed By:

Company:

VAV-1-1 V41-11

VAV-1-1 VHI_II

Equipment Tag:

Date:

2-1

STM /JDB

	Equipment Type: Terminal Unit								
Item No	Description Comment								
	Setpoint Verification - Box Mode = Unnoc								
1	Record the maximum airflow setpoint (CFM). 350 -55.3 OA 144.								
2	Record the minimum airflow setpoint (CFM). 50 /50 - Dunper @ 100% - 121 cfm								
3	Record the space heating setpoint (°F). 65 - * not met.								
4	Record the space cooling setpoint (°F).								
5	Record the deadband between minimum air valve position and activation of the reheat coil (°F).								
	Space Sensor Verification								
6	Is the space temperature sensor communicating with the terminal unit?								
7	Is the space temperature sensor communicating with the BAS?								
8	Is the space temperature sensor located such that it is out of the supply airflow?								
9	Is the space temperature sensor located such that it is away from external heat sources (coffee pot, Computer monitor, etc)?								
10	Record the space temperature as read by the BAS. 68.9								
11	Record the space temperature using a handheld thermometer. 73.5								
	Space Temperature Control								
	Cooling Mode								
12	Verify that the air handling unit serving this unit is in "Occupied" mode.								
13	Record the discharge air temperature from the air handling unit.								
14	Lower the zone temperature setpoint to demand maximum cooling.								
15	Does the supply air damper modulate to the maximum scheduled airflow? $e \omega - N0$								
16	Record the displayer clifform of (OEM)								
17	Record the discharge airflow achieved (CFM). 46								
18	Record the discharge air temperature as read by the BAS (°F).								
19	Record the discharge air temperature at the supply diffuser with an infrared thermometer.								
20	Is the discharge air temperature appropriate for cooling mode?								
21	Gradually raise the space cooling setpoint.								
22	Does the supply air damper modulate to reduce supply airflow?								
	Heating Mode								
23	Increase the zone heating setpoint to be > current space temperature heating.								
24	Does the supply air damper maintain the minimum scheduled airflow?								
25	Record the airflow achieved (CFM). 130 @ 100%								
26	Does the electric heat initiate? Shows up in BAS howers no temp to the								
27	Record the number of stages of electric heat energized.								
28	Record the discharge air temperature sensor reading (°F). 55.5								

Completed By:

Company:

SIM/JDB

VAV-1-1 VHI-12 /7. possible Z-1

Equipment Tag: VAV-1-1 VH | 12 | Date: | 12 | 22

	Equipment Type: Termina	l Unit
Item No	Description	Comment
	Setpoint Verification	- Box mode not shown
1	Record the maximum airflow setpoint (CFM). 468	- 0 % day our 1065.
2	Record the minimum airflow setpoint (CFM).	- airflownot nut - 324chu
3	Record the space heating setpoint (°F).	W/104 Setpt.
4	Record the space cooling setpoint (°F).	
5	Record the deadband between minimum air valve position and a	activation of the reheat coil (°F).×
	Space Sensor Verification	
6	Is the space temperature sensor communicating with the terminature	al unit?
7	Is the space temperature sensor communicating with the BAS?	
8	Is the space temperature sensor located such that it is out of the	supply airflow?
9	Is the space temperature sensor located such that it is away fror monitor, etc)?	n external heat sources (coffee pot, Computer
10	Record the space temperature as read by the BAS. 72.9	
11	Record the space temperature using a handheld thermometer.	()72.5
	Space Temperature Control	
	Cooling Mode	
12	Verify that the air handling unit serving this unit is in "Occupied"	mode. Spir flw and S.P. are
13	Record the discharge air temperature from the air handling unit.	61.1 / not displayed corre
14	Lower the zone temperature setpoint to demand maximum cooling	ng. an BA
15	Does the supply air damper modulate to the maximum scheduled	
16	Record the damper position (% open).	/
17	Record the discharge airflow achieved (CFM).	
18	Record the discharge air temperature as read by the BAS (°F).	74.5
19	Record the discharge air temperature at the supply diffuser with a	an infrared thermometer.
20	Is the discharge air temperature appropriate for cooling mode?	?
21	Gradually raise the space cooling setpoint.	
22	Does the supply air damper modulate to reduce supply airflow?	?
	Heating Mode	
23	Increase the zone heating setpoint to be > current space tempera	ature heating.
24	Does the supply air damper maintain the minimum scheduled air	flow? No goes to max?
25	Record the airflow achieved (CFM). 8 453@ 27%	0
26	Does the electric heat initiate?	The contract of the contract o
27	Record the number of stages of electric heat energized.	only 55 F VA
28	Record the discharge air temperature sensor reading (°F). 91.	10

Appendix 9



Notes	,								Unit by not consistable	unit tag not accessable	
Est. Remaining Life											·
Serial No.	Roytougoug	ROYHO4821A	Roulfouroga	RoyHousock	R0443684	Acosho44eA	y Bench nod	Ro 44048 74A	RO4HO4MMANAO	2 John Strangerstein and Strangerstein Stran	Roythagagaff
Model No.	VEF 00000 COFM30 C00000 LAW 0D015	VEF 05 000 COFM * 010 00 00 LHW 000 357.00	VEF 04 000 COFA 5000000 LYW 000 4.02 00	16 F 06000 GOFIN 0 0 CO0000 CHWO BO 15 2100	VCEFO6000CPM 00C00000CHW0D0 202100	VCEF06000 GOFM OCCBOSOCLFWODO	refrosoobam breecoopangoo Bolloo	VCEF # 120066FM 30C0000014W0D0 302100	VCEF 26000 60FM ODCO 0000 44 WODO		NEFOLOOOGOFM OOCOOOOOHWODO
Location	522 W	1502W	MZOJ	MZII	11211	Meiz	M23C	M 2.36	M235	MZiB	M217
Tag	VAV2 N11	CACINE.	VRV 2M3	VANZMY	VAVINS	UAVZMU INZIZ	VAVZM7	VAUZMS	VAUZNA	いかてがり	VAVZMI

Tag	Location	Model No.	Serial No.	Est. Remaining Life	Notes
VAVZAIL	M233	V(EF05000 #W60FM 0000000004W0D0 162100	Rothousica		
VAVZM(3	M2-33	WEF 05000 GOFM 0000 0000 LUNODO 192100	R on Hour SEIA		
الأسك لاسكار	M221	VLCF09000 GOFW 00000000 HW000 600000	RoytoasiyA		
VAVCINIS	M223	VLEFOUSSOGEN 00C0000014WOD0 152(00	ROYHOUSOSA		
3	WAVZMIP MOZLY	V(EFOLOOO COFM 00CO 0000 LYWOD 0 20210 0	Rou H04835A.		
WHV2M.TI	M223				Unithay against-wall
VAV 20/16	Mrza	VLEF 05000 COFM 50000000 L4WODO 302100	Ro411-04779A		
VAIrma	M 230	V LE F 68000 CO FM 0000000 L4 WODO 20200	Route 4851A		
VAVZM20	M233	VLEFO4000 GOPM 00c55000L4W0 Do 10210 0	ROURO4864A		
VANTARCI	W233	UCE FORDOO GOFM 00000000 C4 WODO 152100	Rothespark		
VAVZMZZ	N233	VCEF10000 COFM 00 CODOOLHWO DO 462100	We -		served # covered by

Tag	Location	Model No.	Serial No.	Est. Remaining Life	Notes
VAV 211/23	11233	VCEF 10000 GOFIN 0°C00000 L4 WODO 2°CLO0	Roy HO 4470A		,
nyrsm24	Mazan 235	VLEFOSODESPM 00200000 L4 WODO 352100	RO44604872A		
Medemist W237	- M237	VCEFOGOOOGOFIN OSCOOOO LHWODO 352100	RO4404876A		c
TWINTA	M 237	VIEFS 5 0 00 GB FM 500000004 W 0 DO 10 2 (00)	R 5 4 14 WBW 32 A		2
CZW2041		VLEF 6 6000 GO FM 0000000 0 LHWOD 0	BO4464796A		Door locked 3 c4.?
MAZ MY	M237	VLE F OS 566 G O FM. O 0 C 0 D 0 O 0 U 0 U 0 U 0 U 0 U 0 U 0 U 0 U 0 U	RO4464927A		Installed in WAV2 IN 26 location
WAYZMZY	MZM	VCE F 14000 60FM 00 CODOOOL SWOFO 652100	ROUGOUSTSA		
VAV2M30					
Wrzysi	M255	VICE OBSODESEN SOCCOSOS LAWSOS SOS SOS	Roy 404740A		
VAZ M 32	M252	VCEF6800060FM 20c0006014WQD0 352100	Routon 873A		
WAVEN33 M237	M237	VCCF19000C0FM 90C60000 L4W0 00 000000	Roy 404 553A		

Notes		unit tay covered		unithay covered	-unit tay covered			
Est. Remaining Life	,							·
Serial No.	Ro440484		RoyHoursoA					
Model No.	VCF 5500 60 FM 000000 L4W000		VCEFO8060 COFM 00.000000440000 8 0 2100					
Location	M252		022W					
Tag	VAV2M.39	VRV2m39	VAVZMSG	VAVENST	WH ZAN 38			

VAV - 1-1 VH2-1

Equi	ipment Tag:	VAV-T-1	Completed By:	STM						
	Date:	1/6	Company:		-					
			Equipment Type:	Terminal Unit						
			.2.							
Item No	Description		Di	5 BOX GRAPH	Comment					
	Setpoint V		· ·		Comment					
1	Record the	maximum airflow setp	point (CFM). 300							
2		minimum airflow setp	700	/250						
3	Record the	space heating setpoir		1230						
4	Record the	space cooling setpoin								
5	Record the	deadband between m		ition and activation of the	e reheat coil (°F). 🗴					
	Space Sen	sor Verification	· · · · · · · · · · · · · · · · · · ·							
6	Is the space temperature sensor communicating with the terminal unit?									
7	Is the space temperature sensor communicating with the BAS?									
8	Is the space	e temperature sensor	located such that it is	out of the supply airflow	?					
9	Is the space temperature sensor located such that it is away from external heat sources (coffee pot, Computer monitor, etc)?									
10	Record the	space temperature as	read by the BAS.	<u> </u>						
11	Record the	space temperature us	ing a handheld therm	nometer.						
	Space Terr	perature Control								
	Cooling Mo	ode								
12	Verify that t	he air handling unit se	rving this unit is in "C	ccupied" mode.						
13	Record the	discharge air tempera	ture from the air hand	dling unit. 60.5						
14	Lower the z	one temperature setpo	oint to demand maxin	num cooling.						
15				scheduled airflow?						
16		damper position (% or	010							
17		discharge airflow achi	211							
18	Record the discharge air temperature as read by the BAS (°F).									
19	Record the discharge air temperature at the supply diffuser with an infrared thermometer.									
20	Is the discharge air temperature appropriate for cooling mode? Gradually raise the space cooling setpoint.									
21		-	·							
22		ipply air damper modu	late to reduce supply	airflow?						
	Heating Mo									
23				ce temperature heating.	V					
24		pply air damper maint		7 1	-las Stpt closs he go to H					
25 		airflow achieved (CFM). 235 e 80	6						
26		ectric heat initiate?								
27 		number of stages of el								
28	Record the	discharge air temperat	ure sensor reading (°F).						

Completed By:

STM

23

VAV-1-1 VH2-2

Equipment Tag: VAV-1-1

	pinone rug. Vitt 1 1			-						
	Date: 1/6	Company: Equipment Type:		4						
	I	Ечиртот туро.	Tommar one							
Item										
No	Description	·		Comment						
	Setpoint Verification	<u> </u>	187							
1		airflow setpoint (CFM). 600)							
2		airflow setpoint (CFM). 220	/ 265							
3	Record the space hea		•							
4	Record the space coo									
5		between minimum air valve po	sition and activation of th	e reheat coil (°F). 📈						
	Space Sensor Verific	cation								
6	Is the space temperat	ure sensor communicating with	the terminal unit?							
7	Is the space temperature sensor communicating with the BAS?									
8	Is the space temperature sensor located such that it is out of the supply airflow?									
9	Is the space temperature sensor located such that it is away from external heat sources (coffee pot, Computer monitor, etc)?									
10	Record the space temperature as read by the BAS.									
11	Record the space temperature using a handheld thermometer.									
	Space Temperature (Control	• ,							
	Cooling Mode									
12	Verify that the air hand	dling unit serving this unit is in "	Occupied" mode.							
13	Record the discharge	air temperature from the air har	ndling unit. 58.0							
14	Lower the zone tempe	erature setpoint to demand max	imum cooling.							
15	Does the supply air da	amper modulate to the maximur	n scheduled airflow? N	D						
16	Record the damper po	osition (% open). 17%		is flow Stpt does not D to						
17	Record the discharge	airflow achieved (CFM). 45		, out 14						
18	Record the discharge air temperature as read by the BAS (°F).									
19	Record the discharge air temperature at the supply diffuser with an infrared thermometer.									
20	Is the discharge air temperature appropriate for cooling mode?									
21	Gradually raise the space cooling setpoint.									
22	Does the supply air damper modulate to reduce supply airflow?									
	Heating Mode									
23	Increase the zone hear	ting setpoint to be > current spa	ace temperature heating.							
24	Does the supply air da	mper maintain the minimum sc	heduled airflow?							
25	Record the airflow ach	ieved (CFM). 271 @	9%							
26	Does the electric heat		ğ - v							
27	Record the number of	stages of electric heat energize	ed.							



max

Completed By:

STM

Z 3

VAV -1-1 VH2-3

Equipment Tag: VAV-1-1

-чи	pinent rag. VAV-1-1 Completed by. 33 VV								
	Date: / (Company: Equipment Type: Terminal Unit								
ltem									
No	Description Comment								
	Setpoint Verification								
1	Record the maximum airflow setpoint (CFM). 350								
2	Record the minimum airflow setpoint (CFM). 100 /225								
3	Record the space heating setpoint (°F).								
4	Record the space cooling setpoint (°F). 74								
5	Record the deadband between minimum air valve position and activation of the reheat coil (°F). $ imes$								
	Space Sensor Verification								
6	Is the space temperature sensor communicating with the terminal unit?								
7	Is the space temperature sensor communicating with the BAS?								
8	Is the space temperature sensor located such that it is out of the supply airflow?								
9	Is the space temperature sensor located such that it is away from external heat sources (coffee pot, Computer monitor, etc)?								
10	Record the space temperature as read by the BAS.								
11	Record the space temperature using a handheld thermometer.								
	Space Temperature Control								
	Cooling Mode								
12	Verify that the air handling unit serving this unit is in "Occupied" mode.								
13	Record the discharge air temperature from the air handling unit.								
14	Lower the zone temperature setpoint to demand maximum cooling.								
15	Does the supply air damper modulate to the maximum scheduled airflow?								
16	Record the damper position (% open).								
17	Record the discharge airflow achieved (CFM). 343								
18	Record the discharge air temperature as read by the BAS (°F). 5% 9								
19	Record the discharge air temperature at the supply diffuser with an infrared thermometer.								
20	Is the discharge air temperature appropriate for cooling mode?								
21	Gradually raise the space cooling setpoint.								
22	Does the supply air damper modulate to reduce supply airflow?								
	Heating Mode								
23	Increase the zone heating setpoint to be > current space temperature heating.								
24	Does the supply air damper maintain the minimum scheduled airflow?								
25	Record the airflow achieved (CFM). 231 @ 85% - max flow /2 stax heat								
26	Does the electric heat initiate?								
27	Record the number of stages of electric heat energized. 2								
28	Record the discharge air temperature sensor reading (°F).								



VAV = 1-1 VH2 -4

Equ	ipment Tag:	VAV-1-1	Completed By:	STM						
	Date:	1/6	Company:							
			Equipment Type:	Terminal Unit	J					
Item										
No_	Description Setpoint V				Comment					
	-									
1		maximum airflow setp	100							
2		minimum airflow setp		/0						
3		space heating setpoir								
4		space cooling setpoir	. ,							
5	Record the	deadband between m	inimum air valve posi	tion and activation of the	e reheat coil (°F). χ					
	-	sor Verification								
6										
7										
8	Is the space temperature sensor located such that it is out of the supply airflow?									
9	Is the space temperature sensor located such that it is away from external heat sources (coffee pot, Computer monitor, etc)?									
10	Record the space temperature as read by the BAS.									
11										
	Space Temperature Control									
	Cooling Mode									
12	,									
13	60.6									
14										
15										
16										
17										
18	7									
19	Record the discharge air temperature at the supply diffuser with an infrared thermometer.									
20	Is the discharge air temperature appropriate for cooling mode?									
21	Gradually raise the space cooling setpoint.									
22	Does the su	pply air damper modu	late to reduce supply	airflow?						
	Heating Mo	de								
23	Increase the	zone heating setpoin	t to be > current spac	e temperature heating.	/					
24	Does the su	pply air damper maint	ain the minimum sche	eduled airflow? `\	ent flow Set to O					
25	Record the a	airflow achieved (CFM). 810 186							
26	Does the ele	ectric heat initiate?	✓ · · · · · · · · · · · · · · · · · · ·							
27	Record the r	number of stages of el	ectric heat energized.	. 2						
28	Record the o	discharge air temperat	ure sensor reading (°	F). 88.4°						
					A CONTRACTOR OF THE CONTRACTOR					



VAV - 1-1 VH2-5

Equi	pment Tag:	VAV-1-1	Completed By:	MLS	
	Date:	Ylo	Company:	Tamain al IIIait	
			Equipment Type:	Terminal Unit	
Item No	Description Setpoint Ve	erification			Comment
1	•		v setpoint (CFM).		
2	Record the r	minimum airflow		50 / Z00	
3	Record the s	space heating se		30 / 200	
4	Record the s	space cooling se			
5	Record the o	deadband betwe	en minimum air valve pos	ition and activation of th	e reheat coil (°F).
		sor Verification			
6	Is the space	temperature sei	nsor communicating with t	the terminal unit?	
7	Is the space	temperature sei	nsor communicating with t	the BAS?	
8	Is the space	temperature ser	nsor located such that it is	out of the supply airflow	v?
9	Is the space monitor, etc)		nsor located such that it is	away from external hea	at sources (coffee pot, Computer
10	Record the s	space temperatu	re as read by the BAS.		
11	Record the s	space temperatu	re using a handheld therm	nometer.	
	Space Temp	perature Contro	ol		
	Cooling Mo	de			
12	Verify that th	e air handling u	nit serving this unit is in "C	Occupied" mode.	
13	Record the d	lischarge air tem	perature from the air han	dling unit. 60.6	
14	Lower the zo	ne temperature	setpoint to demand maxir		
15	Does the sup	oply air damper i	modulate to the maximum	scheduled airflow?	*
16	Record the d	lamper position	(% open). 82°,		
17	Record the d	lischarge airflow	achieved (CFM). 100		
18	Record the d	lischarge air tem	perature as read by the B	BAS (°F). 61.8	4
19	Record the d	lischarge air tem	perature at the supply diff	fuser with an infrared the	ermometer.
20	Is the discha	rge air temperat	ure appropriate for cooling	g mode?	
21	Gradually rai	se the space co	oling setpoint.	<i></i>	
22	Does the sup	oply air damper r	modulate to reduce supply	/ airflow?	
	Heating Mod	de			
23	Increase the	zone heating se	tpoint to be > current space	ce temperature heating.	
24	Does the sup	oply air damper r	naintain the minimum sch	eduled airflow? 🗸 📈 🔾	
25	Record the a	irflow achieved ((CFM). 160@ 92'	6	
26	Does the elec	ctric heat initiate	? - No		
27	Record the n	umber of stages	of electric heat energized	1.	
28	Record the di	ischarge air tem	perature sensor reading (°F). 59.3	



VAV-1-1 VH2-6

Equi	ipment Tag:	VAV-1-1	Completed By:	22W	
	Date:	1/6	Company:	77 111. 3	
			Equipment Type:	Terminal Unit	
Item No	Description Setpoint V				Comment
1	•		v setpoint (CFM). 440		
		minimum airflow	to - i t (OENA)		
3		space heating se	-11-4 (05)	/148	
		space cooling se	((05)		
_		-	etpoint (°F). 74 een minimum air valve pos	ition and activation of the	reheat coil (°E)
		sor Verification			
6			nsor communicating with t	the terminal unit?	
 7	·	·	nsor communicating with t		
			nsor located such that it is)
9	· · · · · · · · · · · · · · · · · · ·				
ອ 	monitor, etc	e temperature se c)?	nsor located such that it is	away nom external near	sources (coffee pot, Computer
10		•	re as read by the BAS.		
11	Record the	space temperatu	re using a handheld therm	nometer.	
	Space Tem	perature Contro	ol		
	Cooling Mo				
12	Verify that the	he air handling u	nit serving this unit is in "C	occupied" mode.	
13			perature from the air hand	- 601 NB	
14			setpoint to demand maxir	=	
15			modulate to the maximum	scheduled airflow? No	
16	Record the	damper position	(% open). 100°,		
17	Record the	discharge airflow	achieved (CFM). 3/8		
18	Record the	discharge air tem	perature as read by the B	AS (°F). 58 3	
19	Record the	discharge air tem	perature at the supply diff	user with an infrared ther	mometer.
20	Is the discha	arge air temperat	ure appropriate for cooling	g mode?	
21	Gradually ra	aise the space co	oling setpoint.		
22	Does the su	pply air damper i	nodulate to reduce supply	airflow?	
	Heating Mo	de			
23	Increase the	zone heating se	tpoint to be > current space	ce temperature heating.	
24	Does the su	pply air damper r	naintain the minimum sch	eduled airflow?	
25	Record the a	airflow achieved	(CFM). 163@ 66°,		
26	Does the ele	ectric heat initiate			
27	Record the r	number of stages	of electric heat energized	. 2 - 1	at not on in graphic.
28	Record the c	discharge air tem	perature sensor reading (°	°F). 77, Z	<i>y</i> * -:



Completed By:

STM

VAV-1-1 VH2-7

Equipment Tag: VAV-1-1

21

	pinoni rag.		Comproted By:	33,43	
	Date:	1/6	Company:	T-main-111mit	
			Equipment Type:	Terminal Unit	
Item No	Description	1			Comment
	Setpoint V				
1	Record the	maximum airflow se	tpoint (CFM). 200)	
2	Record the	minimum airflow set	point (CFM).	1200	
3	Record the	space heating setpo	int (°F).		
4	Record the	space cooling setpo	int (°F). 68		
5	Record the	deadband between	minimum air valve pos	ition and activation of	the reheat coil (°F). 🗡
	Space Sen	sor Verification			
6	Is the space	e temperature senso	r communicating with	the terminal unit?	
7	Is the space	e temperature senso	r communicating with t	the BAS?	
8	Is the space	e temperature senso	r located such that it is	out of the supply airflo	ow?
9	Is the space monitor, etc		r located such that it is	away from external he	eat sources (coffee pot, Computer
10	Record the	space temperature a	as read by the BAS.		
11	Record the	space temperature ι	ısing a handheld thern	nometer.	
	Space Tem	perature Control		- '	
	Cooling Mo	ode			
12	Verify that t	he air handling unit s	erving this unit is in "C	Occupied" mode.	
13	Record the	discharge air temper	ature from the air han	dling unit. 60.2	
14	Lower the z	one temperature set	point to demand maxir	num cooling.	/
15	Does the su	ipply air damper mod	dulate to the maximum	scheduled airflow?	To yes / Stpts/spl. od wa
16	Record the	damper position (%	open). 98°		1 Copage
17	Record the	discharge airflow acl	nieved (CFM). 700		
18	Record the	discharge air temper	ature as read by the B	AS (°F). 62.2	
19	Record the	discharge air temper	ature at the supply diff	fuser with an infrared t	hermometer
20	Is the discha	arge air temperature	appropriate for cooling	g mode?	
21	Gradually ra	ise the space coolin	g setpoint.		
22	Does the su	pply air damper mod	lulate to reduce supply	airflow?	
	Heating Mo	de			
23	Increase the	zone heating setpo	int to be > current spac	ce temperature heating	g.
24	Does the su	pply air damper mair	ntain the minimum sch	eduled airflow?	
25	Record the	airflow achieved (CF	M). 1930 9	78,	
26	Does the ele	ectric heat initiate?		<u> </u>	
27	Record the r	number of stages of	electric heat energized	1.	
28	Record the	discharge air temper	atura sansor reading (°F). 88,2	



Completed By:

STM

21

VAV-1-1 VH2 -8

Equipment Tag: VAV-1-1

	Date: V/6 Company: Equipment Type: Terminal Unit
	Equipment Type. Terminal One
ltem	
No	Description Comment
	Setpoint Verification
1	Record the maximum airflow setpoint (CFM). 350
2	Record the minimum airflow setpoint (CFM). 100 / 200
3	Record the space heating setpoint (°F).
4	Record the space cooling setpoint (°F).
5	Record the deadband between minimum air valve position and activation of the reheat coil (°F).
	Space Sensor Verification
6	Is the space temperature sensor communicating with the terminal unit?
7	Is the space temperature sensor communicating with the BAS?
8	Is the space temperature sensor located such that it is out of the supply airflow?
9	Is the space temperature sensor located such that it is away from external heat sources (coffee pot, Computer monitor, etc)?
10	Record the space temperature as read by the BAS.
11	Record the space temperature using a handheld thermometer.
	Space Temperature Control
	Cooling Mode
12	Verify that the air handling unit serving this unit is in "Occupied" mode.
13	Record the discharge air temperature from the air handling unit.
14	Lower the zone temperature setpoint to demand maximum cooling.
15	Does the supply air damper modulate to the maximum scheduled airflow?
16	Record the damper position (% open).
17	Record the discharge airflow achieved (CFM). 337
18	Record the discharge air temperature as read by the BAS (°F). 64.2
19	Record the discharge air temperature at the supply diffuser with an infrared thermometer.
20	Is the discharge air temperature appropriate for cooling mode?
21	Gradually raise the space cooling setpoint.
22	Does the supply air damper modulate to reduce supply airflow?
	Heating Mode
23	Increase the zone heating setpoint to be > current space temperature heating.
24	Does the supply air damper maintain the minimum scheduled airflow? NO - may air to Ste.
25	Record the airflow achieved (CFM).
:6	Does the electric heat initiate? _ ? Status is yes but graphic heat
27	Record the number of stages of electric heat energized.
.8	Record the discharge air temperature sensor reading (°F). 77.2



VAV - 1-1 VH2 - 9

Equ	uipment Tag:	VAV-1-1	Completed By:	ST W	
	Date:	1/6	Company:		
			Equipment Type:	Terminal Unit	
•					
Item					
No	Description Setpoint V				Comment
1	-	maximum airflow setp	oint (CEM)		
		minimum airflow setp			
3		space heating setpoir	~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~	/120	
4		• •	. ,		
		space cooling setpoin			
5			inimum air valve pos	ition and activation of th	ne reheat coil (°F). 🗶
		sor Verification			
6	Is the space	e temperature sensor	communicating with t	he terminal unit?	
7	Is the space	e temperature sensor o	communicating with t	he BAS?	
8	Is the space	e temperature sensor l	ocated such that it is	out of the supply airflow	v?
9	Is the space monitor, etc	e temperature sensor l s)?	ocated such that it is	away from external hea	at sources (coffee pot, Computer
10	Record the	space temperature as	read by the BAS.		
11	Record the	space temperature us	ng a handheld therm	ometer.	
	Space Tem	perature Control		•	
	Cooling Mo	ode			
12	Verify that the	ne air handling unit sei	ving this unit is in "O	ccupied" mode.	
13	Record the	discharge air temperat	ure from the air hand	lling unit. L5.5	
14	Lower the zo	one temperature setpo	int to demand maxim	num cooling.	
15	Does the su	pply air damper modu	ate to the maximum	scheduled airflow? 🗸	- Stpt. Stys@htg 199
16	Record the	damper position (% op	en). 9 9 %	/*	1911 Jugs @ 1179 111
17	Record the	discharge airflow achie	. 64	2	
18	Record the o	discharge air temperat	ure as read by the BA	AS (°F). 61. Z	
19	Record the c	discharge air temperat	ure at the supply diffu	user with an infrared the	ermometer.
20	Is the discha	ırge air temperature ap	propriate for cooling	mode?	
21	Gradually rai	ise the space cooling s	setpoint.		
22	Does the sup	oply air damper modul	ate to reduce supply	airflow?	***************************************
	Heating Mod	de			
23	Increase the	zone heating setpoint	to be > current space	e temperature heating.	
24	Does the sup	oply air damper mainta	in the minimum sche	duled airflow?	miteston yes
25	Record the a	irflow achieved (CFM)	. 131		1000 7 100 / 2
26	Does the elec	ctric heat initiate?	7	hous off bout	Lease on Istane
27	Record the n	umber of stages of ele		nous - , wont	heater on 1stage
28		ischarge air temperatu		-)1.1.	
		- •	3 (74.1	



VAV-1-1 VH2-10

28

Record the discharge air temperature sensor reading (°F).

Εqι	ıipment Tag:	VAV-1-1	Completed By:	STM	
	Date:	1/6	Company: Equipment Type:	T	
			Едиірінені туре:	Terminal Unit	
Item No	Description Setpoint V				Comment
1		maximum airflow setp	point (CEM)		
		minimum airflow setp			·
3		space heating setpoir	100	/100	
 4		space cooling setpoin			
 5			` ' ' '	ition and activation of t	he reheat coil (°F). 🗡
		sor Verification	minum an vaive pos	ilion and activation of t	ne reneat coll (*F). ~
				h a tamai a al '10	
6 7		e temperature sensor o	_		
		e temperature sensor o			
8 9				out of the supply airflo	
Э	monitor, etc		ocated such that it is	away irom external ne	at sources (coffee pot, Computer
10	Record the	space temperature as	read by the BAS.		
11	Record the	space temperature us	ing a handheld therm	ometer.	
	Space Tem	perature Control		•	
	Cooling Mo	ode			
12	Verify that the	he air handling unit sei	ving this unit is in "O	ccupied" mode. 🕜	
13	Record the	discharge air temperat	ure from the air hand	lling unit. 65.5	
14	Lower the zo	one temperature setpo	int to demand maxin	num cooling.	
15	Does the su	pply air damper modu	late to the maximum	scheduled airflow?)_
16		damper position (% op	10/6		
17	Record the o	discharge airflow achie	eved (CFM). 29	5	
18		discharge air temperat		W 2 0	
19	Record the o	discharge air temperat	ure at the supply diffu	user with an infrared th	ermometer.
20	Is the discha	arge air temperature ap	propriate for cooling	mode?	
21	Gradually ra	ise the space cooling s	setpoint.		
22	•	oply air damper modul	ate to reduce supply	airflow?	
	Heating Mod	de			
23		= -	•	e temperature heating.	
24		oply air damper mainta		duled airflow? 1/-	
25	Record the a	irflow achieved (CFM)	. 95e 67°		
26	Does the ele	ctric heat initiate?	NO		
27	Record the n	umber of stages of ele	ctric heat energized.	Ø	



64-5

Completed By:

VAV-1-1 VH2-11

Equipment Tag: VAV-1-1

Date: 1 6 Company: Equipment Type: Terminal Unit
Description
Setpoint Verification
Record the maximum airflow setpoint (CFM).
Record the minimum airflow setpoint (CFM).
Record the space heating setpoint (°F).
Record the space cooling setpoint (°F).
Record the deadband between minimum air valve position and activation of the reheat coil (°F). χ
Space Sensor Verification
Is the space temperature sensor communicating with the terminal unit?
Is the space temperature sensor communicating with the BAS?
Is the space temperature sensor located such that it is out of the supply airflow?
Is the space temperature sensor located such that it is away from external heat sources (coffee pot, Computer monitor, etc)?
Record the space temperature as read by the BAS.
Record the space temperature using a handheld thermometer.
Space Temperature Control
Cooling Mode
Verify that the air handling unit serving this unit is in "Occupied" mode.
Record the discharge air temperature from the air handling unit. 60.1
Lower the zone temperature setpoint to demand maximum cooling.
Does the supply air damper modulate to the maximum scheduled airflow?
Record the damper position (% open).
Record the discharge airflow achieved (CFM).
Record the discharge air temperature as read by the BAS (°F).
Record the discharge air temperature at the supply diffuser with an infrared thermometer.
Is the discharge air temperature appropriate for cooling mode?
Gradually raise the space cooling setpoint.
Does the supply air damper modulate to reduce supply airflow?
Heating Mode
Increase the zone heating setpoint to be > current space temperature heating.
Does the supply air damper maintain the minimum scheduled airflow?
Record the airflow achieved (CFM). 95@143
Does the electric heat initiate?
Record the number of stages of electric heat energized both shown off but graph.c or
DON Shown Off but graphic or
_



VAV-1-1 VH2_12

Equ	uipment Tag: VA	AV-1-T	Completed By:	SIM	
	Date:	1/6	Company:		
			Equipment Type:	Terminal Unit	
Item No	Description Setpoint Verifi	ication		·	Comment
1	Record the max	ximum airflow set	point (CFM). 301	vi	
	Record the min	nimum airflow setp			
3	Record the spa	ace heating setpoir		7010	·
4	Record the space	ace cooling setpoin			
5	Record the dea	adband between m	989	ition and activation of	the reheat coil (°F). 🛽 🛪
	Space Sensor				· · · · · · · · · · · · · · · · · · ·
6	Is the space ten	mperature sensor	communicating with t	he terminal unit?	
7	Is the space ten	nperature sensor	communicating with t	he BAS?	
8	Is the space ten	mperature sensor l	ocated such that it is	out of the supply airf	low?
9	Is the space tem monitor, etc)?	mperature sensor l	ocated such that it is	away from external h	eat sources (coffee pot, Computer
10	Record the space	ce temperature as	read by the BAS.		
11	Record the space	ce temperature us	ing a handheld therm	ometer.	
	Space Tempera	ature Control		•	
	Cooling Mode				
12	Verify that the ai	ir handling unit se	ving this unit is in "O	ccupied" mode.	,
13	Record the disch	harge air tempera	ure from the air hand	Iling unit. 60.1	
14	Lower the zone t	temperature setpo	int to demand maxim	num cooling.	
15	Does the supply	vair damper modu	late to the maximum	scheduled airflow?	
16	Record the damp	per position (% op	en). 🧎 89%	-	
17	Record the disch	harge airflow achie	eved (CFM). 290	ı	
18	Record the disch	harge air temperat	ure as read by the B	AS (°F). 57.0	
19	Record the disch	harge air temperat	ure at the supply diffu	user with an infrared t	hermometer.
20	Is the discharge	air temperature ap	propriate for cooling	mode? -	
21	Gradually raise th	the space cooling	setpoint.		
22		air damper modul	ate to reduce supply	airflow?	
	Heating Mode				
23	Increase the zone	e heating setpoint	to be > current space	e temperature heatin	g. —
24			in the minimum sche	eduled airflow? 🗸	
25		w achieved (CFM)	. 252@ 86:		
26	Does the electric	heat initiate?			4
27		_	ctric heat energized.	P	
28	Record the discha	arge air temperatu	re sensor reading (°l	-). 70.0	



VAV - 1-1 VH2-13

ompany:			
nt Type: Terminal U	Unit		
		g, (Sto.

lter No			Comment
	Setpoint Verification		Comment
1	Record the maximum airflow setpoint (CFM).	cest throw	nh
2	Record the minimum airflow setpoint (CFM).	lest throw front and)
3	Record the space heating setpoint (°F).	Transfer Bright	
4	Record the space cooling setpoint (°F).		
5	Record the deadband between minimum air valve position and activation	on of the reheat c	oil (°F).
	Space Sensor Verification		
6	Is the space temperature sensor communicating with the terminal unit?		
7	Is the space temperature sensor communicating with the BAS?		
8	Is the space temperature sensor located such that it is out of the supply	airflow?	
9	Is the space temperature sensor located such that it is away from exter monitor, etc)?	nal heat sources	(coffee pot, Computer
10	Record the space temperature as read by the BAS.		
11	Record the space temperature using a handheld thermometer.		
	Space Temperature Control		
	Cooling Mode		
12	Verify that the air handling unit serving this unit is in "Occupied" mode.		
13	Record the discharge air temperature from the air handling unit.		
14	Lower the zone temperature setpoint to demand maximum cooling.		
15	Does the supply air damper modulate to the maximum scheduled airflow	v? ·	
16	Record the damper position (% open).		1004 11
17	Record the discharge airflow achieved (CFM).		Warla)
18	Record the discharge air temperature as read by the BAS (°F).		2 000
19	Record the discharge air temperature at the supply diffuser with an infra	red thermometer.	In ble
20	Is the discharge air temperature appropriate for cooling mode?		
21	Gradually raise the space cooling setpoint.		
22	Does the supply air damper modulate to reduce supply airflow?		
	Heating Mode		
23	Increase the zone heating setpoint to be > current space temperature he	ating.	
24	Does the supply air damper maintain the minimum scheduled airflow?		
25	Record the airflow achieved (CFM).	от о	
26	Does the electric heat initiate?		
27	Record the number of stages of electric heat energized.		
28	Record the discharge air temperature sensor reading (°F).		

VAV -1-1 V2-14

Equipment Tag:	VAV-1-1	Completed By:	SJM
Date:	1/6	Company:	
·		Equipment Type:	Terminal Unit

Item No	Description NO BOX GRAPHIC, Com	tpants Slow
INO	Setpoint Verification	ıment
1	Record the maximum airflow setpoint (CFM). 199	
2	Record the minimum airflow setnoint (CEM)	
3	Record the space heating setpoint (°F).	
4	Record the space cooling setpoint (°F).	
5	Record the deadband between minimum air valve position and activation of the reheat coil (°F).	· V
	Space Sensor Verification	<u> </u>
6	Is the space temperature sensor communicating with the terminal unit?	
7	Is the space temperature sensor communicating with the BAS?	
8	Is the space temperature sensor located such that it is out of the supply airflow?	
9	Is the space temperature sensor located such that it is away from external heat sources (coffee monitor, etc)?	pot, Computer
10	Record the space temperature as read by the BAS.	
11	Record the space temperature using a handheld thermometer.	
	Space Temperature Control	
	Cooling Mode	
12	Verify that the air handling unit serving this unit is in "Occupied" mode.	
13	Record the discharge air temperature from the air handling unit.	
14	Lower the zone temperature setpoint to demand maximum cooling.	Damer no
15	Does the supply air damper modulate to the maximum scheduled airflow? No dung	initiated
16	Record the damper position (% open).	
17	Record the discharge airflow achieved (CFM).	no flow !.
18	Record the discharge air temperature as read by the BAS (°F).	
19	Record the discharge air temperature at the supply diffuser with an infrared thermometer.	The second state of the se
20	Is the discharge air temperature appropriate for cooling mode?	
21	Gradually raise the space cooling setpoint.	
22	Does the supply air damper modulate to reduce supply airflow?	of the state of th
	Heating Mode	The state of the s
23	Increase the zone heating setpoint to be > current space temperature heating.	On the contract of the contrac
24	Does the supply air damper maintain the minimum scheduled airflow?	er en
25	Record the airflow achieved (CFM).	
:6	Does the electric heat initiate?	
7	Record the number of stages of electric heat energized.	
8	Record the discharge air temperature sensor reading (°F).	900



HAHN ENGINEERING, INC.
MECHANICAL & ELECTRICAL CONSULTING

VAV=1-1 VH2_15

Equ	uipment Tag:	VAV-T-1	Completed By:	57 M	
	Date:	1/6	Company:		
			Equipment Type:	Terminal Unit	
Item No	Description Setpoint V			NO GRAPHIC! Setpoints of Comment	
1		maximum airflow se	etpoint (CEM)		
		minimum airflow se	1. (0514)	1	
3		space heating setpo		/148	
4					
5	Record the space cooling setpoint (°F). Record the deadband between minimum air valve position and activation of the reheat coil (°F).				
				ilion and activation of the reneat coil (°F).	
		sor Verification	· · · · · · · · · · · · · · · · · · ·		
6	.	•	r communicating with t		
7		-	r communicating with t		
8				out of the supply airflow?	
9	Is the space temperature sensor located such that it is away from external heat sources (coffee pot, Computer monitor, etc)?				
10	Record the	space temperature a	as read by the BAS.		
11	Record the	space temperature ι	ısing a handheld therm	ometer.	
	Space Tem	perature Control			
	Cooling Mo	ode			
12	Verify that the	ne air handling unit s	erving this unit is in "O	ccupied" mode.	
13	Record the	discharge air temper	ature from the air hand	lling unit. 60.5	
14	Lower the zo	one temperature set	point to demand maxim	num cooling.	
15	Does the su	pply air damper mod	lulate to the maximum	scheduled airflow?	
16	Record the o	damper position (% o	open). 99:		
17	Record the o	discharge airflow ach	nieved (CFM). 193	. 4	
18	Record the o	discharge air temper	ature as read by the B	4S (°F). 62.7	
19	Record the c	lischarge air temper	ature at the supply diffu	user with an infrared thermometer.	
20	Is the discha	rge air temperature	appropriate for cooling	mode?	
21	Gradually rai	ise the space cooling	g setpoint.		
22	Does the sup	oply air damper mod	ulate to reduce supply	airflow?	
	Heating Mod	de			
23	Increase the	zone heating setpoi	nt to be > current spac	e temperature heating.	
24	Does the sup	pply air damper main	tain the minimum sche	eduled airflow?	
25	Record the a	irflow achieved (CFN	M). 199 @ 100'6	100	
26		ctric heat initiate?	1/		
27	Record the n	umber of stages of e	electric heat energized.	? both slown off but graphic on	
28	Record the di	ischarge air tempera	ture sensor reading (°I		
				00.0	

VAV-1-7 VH2-16

Equ	uipment Tag:	VAV-1-1	Completed By:	STM		
	Date:	1/6	Company:			
L			Equipment Type:	Terminal Unit		
-					A 1	
Item No	Description	,	$\leq \Lambda$	D GRAHIE!	> () (Comment	
		/erification			Comment	
1	Record the	maximum airflow set	point (CFM). 300) '		
2		minimum airflow setp				
3	Record the space heating setpoint (°F).					
4	Record the space cooling setpoint (°F).					
5	Record the	deadband between m		ition and activation of the	reheat coil (°F).	
		sor Verification	•			
6	Is the space	e temperature sensor	communicating with t	he terminal unit?		
7	Is the space	e temperature sensor	communicating with t	he BAS?		
8	Is the space	e temperature sensor	located such that it is	out of the supply airflow	?	
9	Is the space monitor, etc		located such that it is	away from external heat	sources (coffee pot, Computer	
10	Record the	space temperature as	read by the BAS.			
11	Record the	space temperature us	ing a handheld therm	ometer.		
	Space Tem	perature Control		•	7/2	
	Cooling Mo	ode				
12	Verify that the	he air handling unit se	rving this unit is in "O	ccupied" mode.		
13	Record the	discharge air tempera	ture from the air hand	lling unit. 60.5		
14	Lower the ze	one temperature setpe	oint to demand maxim	num cooling.		
15	Does the su	pply air damper modu	late to the maximum	scheduled airflow?	,)	
16	Record the	damper position (% or	pen). 100%			
17	Record the	discharge airflow achi		269		
18	Record the o	discharge air tempera	ture as read by the BA	AS (°F). 62.4		
19	Record the o	discharge air temperat	ure at the supply diffu	user with an infrared ther	mometer.	
20	Is the discha	arge air temperature a	ppropriate for cooling	mode?		
21	Gradually ra	ise the space cooling	setpoint.			
22	Does the sup	pply air damper modu	ate to reduce supply	airflow?		
	Heating Mod	de				
23	Increase the	zone heating setpoint	to be > current space	e temperature heating.		
24	Does the sup	oply air damper mainta	ain the minimum sche	duled airflow? No	M"	
25	Record the a	irflow achieved (CFM)	1. 267 @ 10i	6	;	
26	Does the ele	ctric heat initiate?				
27	Record the n	umber of stages of ele	ectric heat energized.	7.2	,	
28	Record the d	ischarge air temperati	ure sensor reading (°F	7). 77.5		

VAV = 1-1 V2 - 17

Equ	uipment Tag:	VAV-1-1	Completed By:	STM		
-	Date:	1/6	Company:			
			Equipment Type:	Terminal Unit		
			A A			
Item No	ı Description			DEX CAUTE !	6)11	
	Setpoint V		- Mapadapana	TO THE .	Comment	
1	Record the	maximum airflow set	point (CFM). 39	U		
2		minimum airflow setp		*		
3	Record the space heating setpoint (°F).					
4		space cooling setpoin	1011			
5				tion and activation of the	reheat coil (°F)	
		sor Verification	P		10.100.100.1(1).1	
6		e temperature sensor	communicating with th	ne terminal unit?		
7		e temperature sensor o				
8			_	out of the supply airflow?)	
9		temperature sensor l			sources (coffee pot, Computer	
10		space temperature as	read by the BAS			
11		space temperature us		ometer		
		perature Control				
	Cooling Mo	-				
12	_	ne air handling unit sei	ving this unit is in "Oc	cupied" mode.		
13		discharge air temperat				
14	Lower the zo	one temperature setpo	int to demand maxim	um cooling. 54.	7	
15	Does the su	pply air damper modu	ate to the maximum s		/	
16	Record the o	damper position (% op	en). 99%			
17	Record the c	lischarge airflow achie		not shown		
18	Record the c	lischarge air temperat	ure as read by the BA			
19	Record the d	lischarge air temperat	ure at the supply diffus	ser with an infrared therr	mometer.	
20	Is the discha	rge air temperature ap	propriate for cooling r	mode?		
21	Gradually rai	se the space cooling s	etpoint.			
22	Does the sup	pply air damper modul	ate to reduce supply a	airflow?		
	Heating Mod	de				
23	Increase the	zone heating setpoint	to be > current space	temperature heating.	7	
24	Does the sup	ply air damper mainta	in the minimum sched	duled airflow?	1 1 heat	
25	Record the a	irflow achieved (CFM)			1 14	
26	Does the elec	ctric heat initiate?				
27	Record the nu	umber of stages of ele	ctric heat energized.	NA		
28	Record the di	scharge air temperatu	re sensor reading (°F)			

VAV-1-1 VH2-16

Equipment Tag:	VAV-1-1	Completed By:	Stm
Date:	1/6	Company:	
•		Equipment Type:	Terminal Unit

Item						
No	Description Comment Setpoint Verification					
1	Record the maximum airflow setpoint (CFM). 82%					
2	D III : III III III III III III III III					
3	Record the minimum airliow setpoint (CFM). 695 /350 Record the space heating setpoint (°F). 71					
4	Record the space cooling setpoint (°F).					
5	Record the deadband between minimum air valve position and activation of the reheat coil (°F).					
	Space Sensor Verification					
6	Is the space temperature sensor communicating with the terminal unit?					
7	Is the space temperature sensor communicating with the BAS?					
8	Is the space temperature sensor located such that it is out of the supply airflow?					
9	Is the space temperature sensor located such that it is away from external heat sources (coffee pot, Computer monitor, etc)?					
10	Record the space temperature as read by the BAS.					
11	Record the space temperature using a handheld thermometer.					
	Space Temperature Control					
	Cooling Mode					
12	Verify that the air handling unit serving this unit is in "Occupied" mode.					
13	Record the discharge air temperature from the air handling unit.					
14	Lower the zone temperature setpoint to demand maximum cooling.					
15	Does the supply air damper modulate to the maximum scheduled airflow? $ \wp_{ ar{\nu}} $					
16	Record the damper position (% open).					
17	Record the discharge airflow achieved (CFM). 3 90					
18	Record the discharge air temperature as read by the BAS (°F). 56.6					
19	Record the discharge air temperature at the supply diffuser with an infrared thermometer. $ igcup $					
20	Is the discharge air temperature appropriate for cooling mode?					
21	Gradually raise the space cooling setpoint.					
22	Does the supply air damper modulate to reduce supply airflow?					
	Heating Mode					
23	Increase the zone heating setpoint to be > current space temperature heating.					
24	Does the supply air damper maintain the minimum scheduled airflow?					
25	Record the airflow achieved (CFM). 246 @ 89%					
26	Does the electric heat initiate? >					
27	Record the number of stages of electric heat energized.					
28	Record the discharge air temperature sensor reading (°F).					



VAV - 1-1 VH2 - 19

Equ	uipment Tag:	VAV-1-1	Completed By:	21M	
	Date:	1/6	Company:		
			Equipment Type:	Terminal Unit	
Item No	n Description Setpoint Ver	rification	No	BOX GRADIC!	Comment
1		naximum airflow setp	oint (CFM). 534		
		ninimum airflow setpo	300	. /300.	
3	Record the s	pace heating setpoin	-	, 1500	
4		pace cooling setpoin	1000		
5			Agent and	ition and activation of the r	eheat coil (°F)
		or Verification			
6			communicating with the	he terminal unit?	
7			communicating with the		
8				out of the supply airflow?	
9		emperature sensor l		• • •	purces (coffee pot, Computer
10	Record the sp	ace temperature as	read by the BAS.		
11	Record the sp	ace temperature usi	ng a handheld therm	ometer.	
	Space Tempe	erature Control		•	
	Cooling Mode	9			
12	Verify that the	air handling unit ser	ving this unit is in "Od	ccupied" mode.	
13	Record the dis	scharge air temperat	ure from the air hand	ling unit. 56.7	
14	Lower the zon	e temperature setpo	int to demand maxim		
15	Does the supp	ly air damper modul	ate to the maximum s	scheduled airflow?	
16	Record the da	mper position (% op	en). / OD 6		
17	Record the dis	charge airflow achie	ved (CFM). 534		
18	Record the dis	charge air temperatı	ire as read by the BA	15 (°F). 64 56.L	
19	Record the dis	charge air temperatu	ire at the supply diffu	ser with an infrared thermo	ometer.
20	ls the discharg	e air temperature ap	propriate for cooling	mode?	
21	Gradually raise	the space cooling s	etpoint.		
22	Does the suppl	ly air damper modula	ate to reduce supply a	airflow?	
	Heating Mode				•
23	Increase the zo	one heating setpoint	to be > current space	e temperature heating.	
24	Does the suppl	y air damper mainta	n the minimum sche	duled airflow?	
25	Record the airfl	ow achieved (CFM).	303 € 83	Đ	
26	Does the electr	ic heat initiate?	-	0	
27	Record the num	nber of stages of ele	ctric heat energized.	22	
28	Record the disc	harge air temperatu	re sensor reading (°F). 68.L	
				V V. Y	



VAV-1-11142-20

Equ	uipment Tag:	VAV-1-7	Completed By:	STM			
	Date:	1/6	Company:				
			Equipment Type:	Terminal Unit			
Item No	Description Setpoint V		N	O GRAPHIC!	Comment		
1	-	maximum airflow se	tpoint (CFM),				
2		minimum airflow set	naint (CEM)				
3		space heating setpo		7 100			
4	Record the	space cooling setpoi	nt (°F).				
5	Record the	deadband between r	• •	ition and activation of the	reheat coil (°F). 🗶		
	Space Sensor Verification						
6	Is the space	e temperature sensor	communicating with t	he terminal unit?			
7	Is the space	e temperature sensor	communicating with t	he BAS?			
8	Is the space	e temperature sensor	located such that it is	out of the supply airflow	?		
9	Is the space monitor, etc		located such that it is	away from external heat	sources (coffee pot, Computer		
10	Record the	space temperature a	s read by the BAS.				
11	Record the	space temperature u	sing a handheld therm	nometer.			
	Space Tem	perature Control		•			
	Cooling Mo	ode					
12	Verify that the	he air handling unit se	erving this unit is in "O	ccupied" mode.			
13	Record the	discharge air tempera	ature from the air hand	dling unit. 60.1			
14	Lower the zo	one temperature setp	oint to demand maxin	num cooling.			
15	Does the su	pply air damper mod	ulate to the maximum	scheduled airflow?			
16	Record the	damper position (% o	pen). 68%				
17	Record the	discharge airflow ach	ieved (CFM). 329	1			
18	Record the o	discharge air tempera	ture as read by the B	AS (°F).56.8			
19	Record the o	discharge air tempera	ture at the supply diff	user with an infrared ther	mometer. υ		
20	Is the discha	arge air temperature a	appropriate for cooling	mode?			
21	Gradually ra	ise the space cooling	setpoint.	/			
22	Does the sup	oply air damper modu	ılate to reduce supply	airflow?			
	Heating Mod	de					
23	Increase the	zone heating setpoir	nt to be > current spac	e temperature heating.			
24	Does the sup	oply air damper maint	ain the minimum sche	eduled airflow?			
25	Record the a	irflow achieved (CFM	1).				
26	Does the ele	ctric heat initiate?			· · · · · · · · · · · · · · · · · · ·		
27	Record the n	umber of stages of e	lectric heat energized.	2			
28	Record the d	ischarge air tempera	ture sensor reading (°	F). 757.4 -	no het?		



VAV = 1-1 VH2 - 21

Equipment Tag:	VAV-1-1	Completed By:	STM
Date:	1/6	Company:	
•		Equipment Type:	Terminal Unit

Item						
No	Description Comment Setpoint Verification					
1	Davidh					
2	Record the minimum airflow setpoint (CFM). 650 Record the minimum airflow setpoint (CFM). 125					
3	Record the space heating setpoint (°F).					
4	Record the space cooling setpoint (°F). 72					
5	Record the deadband between minimum air valve position and activation of the reheat coil (°F).					
	Space Sensor Verification					
6	Is the space temperature sensor communicating with the terminal unit?					
7	Is the space temperature sensor communicating with the BAS?					
8	Is the space temperature sensor located such that it is out of the supply airflow?					
9	Is the space temperature sensor located such that it is away from external heat sources (coffee pot, Computer monitor, etc)?					
10	Record the space temperature as read by the BAS.					
11	Record the space temperature using a handheld thermometer.					
	Space Temperature Control					
	Cooling Mode					
12	Verify that the air handling unit serving this unit is in "Occupied" mode.					
13	Record the discharge air temperature from the air handling unit.					
14	Lower the zone temperature setpoint to demand maximum cooling.					
15	Does the supply air damper modulate to the maximum scheduled airflow?					
16	Record the damper position (% open).					
17	Record the discharge airflow achieved (CFM). 631					
18	Record the discharge air temperature as read by the BAS (°F). 56.%					
19	Record the discharge air temperature at the supply diffuser with an infrared thermometer					
20	Is the discharge air temperature appropriate for cooling mode?					
21	Gradually raise the space cooling setpoint.					
22	Does the supply air damper modulate to reduce supply airflow?					
	Heating Mode					
23	Increase the zone heating setpoint to be > current space temperature heating.					
24	Does the supply air damper maintain the minimum scheduled airflow? heat flow S. P. C. Ø / Steet					
25	Record the airflow achieved (CFM). 254 @ 80.					
26	17(15)					
.7	Record the number of stages of electric heat energized.					
8	Record the discharge air temperature sensor reading (°F). 71-8					

VAV = 1-1 VH2-22

Eq	uipment Tag:	VAV-1-1	Completed By:	SJM			
	Date:	V6	Company:	T			
			Equipment Type:	Terminal Unit			
Item No	n Description Setpoint V		No	GRAPHIC!	Comment		
1		Decord the maximum circlesus extraint (CTM)					
		minimum airflow set	acint (CEM)	/			
3		space heating setpo	01	1 / 299			
		- '			•		
4		Record the space cooling setpoint (°F).					
5		Record the deadband between minimum air valve position and activation of the reheat coil (°F). χ					
		sor Verification					
6			communicating with t				
7		Is the space temperature sensor communicating with the BAS?					
8				out of the supply airflow?			
9	Is the space temperature sensor located such that it is away from external heat sources (coffee pot, Computer monitor, etc)?						
10	Record the space temperature as read by the BAS.						
11	Record the	space temperature u	sing a handheld therm	ometer.			
	Space Tem	perature Control					
	Cooling Mo	de					
12	Verify that th	ne air handling unit se	erving this unit is in "O	ccupied" mode.			
13	Record the o	discharge air tempera	ture from the air hand	lling unit. 65.5			
14	Lower the zo	one temperature setp	oint to demand maxin	num cooling.			
15	Does the sup	pply air damper modu	ulate to the maximum	scheduled airflow?			
16	Record the c	damper position (% o	pen). 94				
17	Record the d	lischarge airflow achi	eved (CFM). 43				
18	Record the d	lischarge air tempera	ture as read by the B	AS (°F). (66.8			
19	Record the d	lischarge air tempera	ture at the supply diffu	user with an infrared therr	nometer.		
20			ppropriate for cooling				
21	Gradually rai	se the space cooling	setpoint.				
22	Does the sup	pply air damper modu	late to reduce supply	airflow?			
	Heating Mod						
23	Increase the	zone heating setpoin	t to be > current spac	e temperature heating.			
24	Does the sup	ply air damper maint	ain the minimum sche	eduled airflow? No	Stpt of		
25	Record the ai	irflow achieved (CFM). 441 e 92%	100	dlanger does not		
26	Does the elec	ctric heat initiate?	111616		warje.		
27	Record the nu	umber of stages of el	ectric heat energized.	2			
28		=	ure sensor reading (°I				
		-	3 (16.1			



VAV-1-1 VH2-23

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Equ	uipment Tag:	VAV-1-1	Completed By:	STM		
	Date:	1/6	Company:			
L			Equipment Type:	Terminal Unit	i	
Item No	Description Setpoint V		N	JO GRAPHIC!	Comment	
1	-	maximum airflow set	noint (CEM)			
		minimum airflow set				
3			(/0=)	0 / 900		
		space heating setpoi	60			
4	Record the space cooling setpoint (°F). 72 Record the deadband between minimum air valve position and activation of the reheat coil (°F). ×					
5			ninimum air valve pos	ition and activation of the re	eheat coil (°F). 🗙	
		sor Verification				
6		e temperature sensor				
7		e temperature sensor				
8				out of the supply airflow?		
9	Is the space monitor, etc	e temperature sensor s)?	located such that it is	away from external heat so	ources (coffee pot, Computer	
10	Record the	space temperature as	read by the BAS.			
11	Record the	space temperature us	ing a handheld therm	ometer.		
	Space Tem	perature Control		•		
	Cooling Mo	ode				
12	Verify that th	ne air handling unit se	rving this unit is in "O	ccupied" mode.		
13	Record the c	discharge air tempera	ture from the air hand	lling unit. 65.5		
14	Lower the zo	one temperature setp	oint to demand maxim			
15	Does the sup	pply air damper modu	late to the maximum	scheduled airflow? 🗸		
16	Record the d	damper position (% or	oen). 100			
17	Record the d	discharge airflow achi		9		
18	Record the d	discharge air tempera	ture as read by the B	AS (°F). 64.5		
19	Record the d	lischarge air tempera	ture at the supply diffu	user with an infrared thermo	meter.	
20	Is the dischar	rge air temperature a	ppropriate for cooling	mode?		
21	Gradually rais	ise the space cooling	setpoint.	/		
22	Does the sup	oply air damper modu	late to reduce supply	airflow?		
	Heating Mod	de				
23	Increase the	zone heating setpoin	t to be > current spac	e temperature heating.		
24	Does the sup	pply air damper mainta	ain the minimum sche	duled airflow?		
25	Record the ai	irflow achieved (CFM)	1. 780 @ 85%			
26	Does the elec	ctric heat initiate?				
27	Record the nu	umber of stages of ele	ectric heat energized.	2,		
28	Record the di	ischarge air temperati	re sensor reading (°I		hant	
				W 1.3		



HAHN ENGINEERING, INC.
MECHANICAL & ELECTRICAL CONSULTING

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VAV-1-1 VH2-24

Eq	uipment Tag:	VAV-1-1	Completed By:	STM				
	Date:	1/5	Company: Equipment Type:	Terminal Unit	_			
			Equipment Type.	Tomina om				
Item No				1	Comment			
1		maximum airflow s	ectnaint (CEM)					
			7 900					
$\frac{2}{3}$		minimum airflow s		1280				
		space heating set			•			
4		Record the space cooling setpoint (°F). Record the deadband between minimum air valve position and activation of the reheat coil (°F).						
5 			n minimum air valve pos	ition and activation of th	ne reheat coil (°F). 🏏			
		sor Verification						
6			or communicating with t					
7	Is the space temperature sensor communicating with the BAS?							
8			or located such that it is					
9	monitor, etc)?		away from external hea	at sources (coffee pot, Computer			
10	Record the	space temperature	as read by the BAS.					
11	Record the	space temperature	using a handheld therm	ometer.				
	Space Tem	perature Control		•				
	Cooling Mo	de						
12	Verify that the	ne air handling unit	serving this unit is in "O	ccupied" mode.				
13	Record the o	discharge air tempe	erature from the air hand	lling unit. 60.2				
14	Lower the zo	one temperature se	tpoint to demand maxim	num cooling.	Tselpunt does not			
15	Does the su	pply air damper mo	dulate to the maximum	scheduled airflow?	122-1-1-			
16	Record the c	damper position (%	open).	-	Specific War			
17	Record the c	lischarge airflow ac	chieved (CFM).		Changes.			
18	Record the d	lischarge air tempe	rature as read by the BA	AS (°F).	ranging & min			
19	Record the d	ischarge air tempe	rature at the supply diffu	user with an infrared the	rmometer.			
20	Is the discha	rge air temperature	appropriate for cooling	mode?				
21	Gradually rai	se the space coolir	ng setpoint.					
22	Does the sup	pply air damper mo	dulate to reduce supply	airflow?				
	Heating Mod	le						
23	Increase the	zone heating setpo	int to be > current space	e temperature heating.	7 Temp			
24			ntain the minimum sche		Stat down to			
25		irflow achieved (CF			sign ases hat			
26	Does the elec	ctric heat initiate?			chang.			
27	Record the nu	umber of stages of	electric heat energized.		· ·			
28	Record the di	scharge air temper	ature sensor reading (°F). (-2 a				
		•	J (0. 62.0	1			

VAV-1-1 V2-25

Eq	uipment Tag:	VAV-1-1	Completed By:	SJM	•			
	Date:	1/6	Company:	T				
			Equipment Type:	Terminal Unit				
Item No	Description			WOLGRAPHIO	Comment			
1	Setpoint Verification Record the maximum airflow setpoint (CFM). (29479)							
	, , , , , , ,							
-3	\$0 -							
4	6.··							
5		Record the space cooling setpoint (°F).						
	Record the deadband between minimum air valve position and activation of the reheat coil (°F).							
6		Space Sensor Verification						
7		Is the space temperature sensor communicating with the terminal unit?						
8		Is the space temperature sensor communicating with the BAS?						
9		Is the space temperature sensor located such that it is out of the supply airflow?						
9	Is the space temperature sensor located such that it is away from external heat sources (coffee pot, Computer monitor, etc)?							
10	Record the space temperature as read by the BAS.							
11	Record the s	space temperature ι	sing a handheld therm	ometer.				
	Space Temperature Control							
	Cooling Mo	de		,				
12	Verify that th	Verify that the air handling unit serving this unit is in "Occupied" mode.						
13	Record the d	Record the discharge air temperature from the air handling unit.						
14	Lower the zo	ne temperature set	point to demand maxim	num cooling.				
15		Does the supply air damper modulate to the maximum scheduled airflow?						
16	Record the d	Record the damper position (% open).						
17	Record the d	ischarge airflow ach	ieved (CFM). No	+ Shown				
18	Record the d	Record the discharge air temperature as read by the BAS (°F). ~A						
19	Record the di	ischarge air tempera	ature at the supply diffu	user with an infrared therm	nometer.			
20	Is the dischar	Is the discharge air temperature appropriate for cooling mode?						
21	Gradually rais	Gradually raise the space cooling setpoint.						
22	Does the supply air damper modulate to reduce supply airflow?							
	Heating Mod	e						
23	Increase the z	zone heating setpoir	nt to be > current space	e temperature heating.				
24	Does the supp	ply air damper main	tain the minimum sche	duled airflow?	1 1 +			
25	Record the air	rflow achieved (CFN	1).		no her			
26	Does the electric heat initiate?							
27	Record the number of stages of electric heat energized.							
28	Record the dis	scharge air tempera	ture sensor reading (°F	=).)			

VAV-1-1 12-26

Z4

Equ	uipment Tag:	VAV-1-1	Completed By:	STM				
	Date:	116	Company: Equipment Type:	Terminal Unit				
			циринент туре.					
Item No	Description			Wolgentie!	Comment			
	Setpoint V							
1	Record the maximum airflow setpoint (CFM). 75							
2	Record the minimum airflow setpoint (CFM). 50							
3	Record the space heating setpoint (°F).							
4	Record the space cooling setpoint (°F).							
5	Record the deadband between minimum air valve position and activation of the reheat coil (°F).							
	Space Sensor Verification							
6	Is the space temperature sensor communicating with the terminal unit?							
7	Is the space temperature sensor communicating with the BAS?							
8				out of the supply airflow?				
9	Is the space temperature sensor located such that it is away from external heat sources (coffee pot, Computer monitor, etc)?							
10	Record the space temperature as read by the BAS.							
11	Record the s	space temperature u	sing a handheld therm	ometer.				
	Space Temp	perature Control		•				
	Cooling Mo	de						
12	Verify that th	ne air handling unit se	erving this unit is in "O	ccupied" mode.				
13	Record the discharge air temperature from the air handling unit.							
14	Lower the zo	Lower the zone temperature setpoint to demand maximum cooling.						
15	Does the sup	Does the supply air damper modulate to the maximum scheduled airflow?						
16	Record the d	damper position (% o	pen). 100°4		doesnut			
17	Record the d	lischarge airflow achi	eved (CFM).	not listed	nove.			
18	Record the d	lischarge air tempera	ture as read by the B	AS (°F). N. /\				
19				user with an infrared therm	ometer.			
20	Is the discharge air temperature appropriate for cooling mode?							
21	Gradually raise the space cooling setpoint.							
22	Does the supply air damper modulate to reduce supply airflow?							
	Heating Mod	le						
23	Increase the	zone heating setpoin	t to be > current spac	e temperature heating.				
24	Does the sup	Does the supply air damper maintain the minimum scheduled airflow?						
25	Record the airflow achieved (CFM).							
26	Does the electric heat initiate?							
27	Record the number of stages of electric heat energized.							
28	Record the dis	scharge air temperat	ure sensor reading (°I	=).	<u> </u>			
					7			



VAV-1-1 VH2-27

Equ	uipment Tag:	VAV-1-1	Completed By:	STM					
	Date:	1/6	Company:	T 111 1					
L			Equipment Type:	Terminal Unit					
Item No	Description Setpoint V		NO	GRAPHIL!	Comment				
1	Record the maximum airflow setpoint (CFM). \\9								
	Depart the printegraph circles and CCDA								
3	Record the space heating setpoint (°F).								
4	Record the space cooling setpoint (°F). 72								
5	Record the deadband between minimum air valve position and activation of the reheat coil (°F).								
	Space Sensor Verification								
6	Is the space	Is the space temperature sensor communicating with the terminal unit?							
7		Is the space temperature sensor communicating with the BAS?							
8	Is the space	Is the space temperature sensor located such that it is out of the supply airflow?							
9	Is the space temperature sensor located such that it is away from external heat sources (coffee pot, Computer monitor, etc)?								
10	Record the space temperature as read by the BAS.								
11	Record the	space temperature	using a handheld therm	ometer.					
	Space Temperature Control								
	Cooling Mode								
12	Verify that th	Verify that the air handling unit serving this unit is in "Occupied" mode.							
13	Record the o	Record the discharge air temperature from the air handling unit.							
14	Lower the zo	one temperature s	etpoint to demand maxim	um cooling.					
15	Does the sup	pply air damper m	odulate to the maximum s	scheduled airflow?					
16	Record the c	Record the damper position (% open).							
17	Record the d	lischarge airflow a		>					
18	Record the d	lischarge air tempe	erature as read by the BA	AS (°F). 66.1					
19	Record the d	Record the discharge air temperature at the supply diffuser with an infrared thermometer.							
20	Is the discharge air temperature appropriate for cooling mode?								
21	Gradually rai	Gradually raise the space cooling setpoint.							
22	Does the supply air damper modulate to reduce supply airflow?								
	Heating Mode								
23	Increase the zone heating setpoint to be > current space temperature heating.								
24	Does the supply air damper maintain the minimum scheduled airflow?								
25	Record the airflow achieved (CFM). 121								
26	Does the electric heat initiate?								
27	Record the number of stages of electric heat energized.								
28	Record the discharge air temperature sensor reading (°F). 70.7								



VAV-1-1 12-28

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F	tin man and T	1100/11	0 1// /=				
Equ	uipment Tag: Date:	VAV-1-1	Completed By: Company:	STM			
	· Buto.	1/2	Equipment Type:	Terminal Unit			
Item							
No	Description			ì.	Comment		
	Setpoint V		L. L. (OPEN)				
1		maximum airflow se					
2		minimum airflow set		,			
3		space heating setpo			•		
4		space cooling setpo	(A.7) (B)				
5 			minimum air valve pos	ition and activation of the re	eheat coil (°F). 🗶		
		sor Verification					
6	Is the space	e temperature sensoi	communicating with t	he terminal unit?			
7	Is the space	e temperature sensor	communicating with t	he BAS?			
8	Is the space	e temperature sensor	located such that it is	out of the supply airflow?			
9	Is the space temperature sensor located such that it is away from external heat sources (coffee pot, Computer monitor, etc)?						
10	Record the space temperature as read by the BAS.						
11	Record the	space temperature u	sing a handheld therm	ometer.			
	Space Tem	perature Control		•			
	Cooling Mo	de		,			
12	Verify that th	ne air handling unit se	erving this unit is in "O	ccupied" mode.			
13	Record the o	discharge air tempera	ature from the air hand	lling unit. 60.5			
14	Lower the zo	one temperature setp	oint to demand maxim		1 1 -		
15	Does the sup	pply air damper mod	ulate to the maximum	scheduled airflow? No	dunper does		
16	Record the d	damper position (% o	pen). 100		not nove		
17	Record the d	discharge airflow ach		ot listed			
18	Record the d	lischarge air tempera	ture as read by the B	109			
19	Record the d	ischarge air tempera	ture at the supply diffu	user with an infrared thermo	ometer.		
20			appropriate for cooling				
21	Gradually rais	se the space cooling	setpoint.				
22	Does the sup	oply air damper modu	late to reduce supply	airflow?			
	Heating Mod	de			· · · · · · · · · · · · · · · · · · ·		
23	Increase the	zone heating setpoir	t to be > current space	e temperature heating.	7		
24			ain the minimum sche				
25		irflow achieved (CFM			10.10		
26	Does the elec	ctric heat initiate?			T-1400		
27	Record the nu	umber of stages of el	ectric heat energized.		heat		
28			ure sensor reading (°F	Ξ).			
				- Annual	J		

28

VAV-1-1VH2-29

Eq	uipment Tag:	VAV-1-1	Completed By:	STM			
	Date:	1/6	Company:				
L			Equipment Type:	Terminal Unit			
Item No	Description Setpoint V			ı	Comment		
1		maximum airflow	setpoint (CFM) aga				
		minimum airflow s	7 110	,			
-3		space heating set		/449			
4		space cooling sets					
5		, .		ition and activation o	f the reheat coil (°F).		
		sor Verification	Trillinindiri ali valve pos	and activation of	in the refleat coll (F). 📡		
6			or communicating with t	ho torminal unit?			
 7			or communicating with t				
 8		-	or located such that it is		¶Ω		
9		•					
9	monitor, etc	s)? 	or located such that it is	away from external l	heat sources (coffee pot, Computer		
10	Record the space temperature as read by the BAS.						
11			using a handheld therm	ometer.			
	Space Tem	perature Control		•			
	Cooling Mo	ode					
12			serving this unit is in "O	•			
13	Record the o	discharge air tempe	erature from the air hand	lling unit. 60.5			
14	Lower the zo	one temperature se	etpoint to demand maxim	num cooling.			
15	Does the su	pply air damper mo	odulate to the maximum	scheduled airflow?	Yes		
16		damper position (%	1 1/2				
17	Record the c	discharge airflow a	chieved (CFM).	23			
18	Record the c	discharge air tempe	erature as read by the BA	AS (°F). 61.0			
19	Record the d	lischarge air tempe	erature at the supply diffu	ıser with an infrared	thermometer.		
20	Is the discha	rge air temperature	e appropriate for cooling	mode?			
21	Gradually rai	ise the space cooli	ng setpoint.				
22	Does the sup	oply air damper mo	dulate to reduce supply	airflow?			
	Heating Mod	de					
23	Increase the	zone heating setpo	oint to be > current space	e temperature heatin	g. V		
24	-		intain the minimum sche	/1	00 - max stort us		
25	Record the ai	irflow achieved (CF	M). 1038 @ 5	L',	- / 01/11 036		
26	Does the elec	ctric heat initiate?	V	•			
27	Record the nu	umber of stages of	electric heat energized.				
28	Record the di	ischarge air temper	rature sensor reading (°F	1. 2827 87 1			
				- 7 7			



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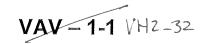
VAV-1-1 /2.31

28

Record the discharge air temperature sensor reading (°F).

Eq	uipment Tag:	VAV-1-1	Completed By:	STM				
	Date:	116	Company:	77				
			Equipment Type:	Terminal Unit				
Item No	Description Setpoint V				Comment			
1		maximum airflow setp	oint (CEM)					
		minimum airflow setp	1.(0=1.0					
3		•	, 110					
	Record the space heating setpoint (°F).							
4	Record the space cooling setpoint (°F). 74							
5	Record the deadband between minimum air valve position and activation of the reheat coil (°F).							
		sor Verification						
6		e temperature sensor o						
7		e temperature sensor o						
8				out of the supply airflo				
9	Is the space monitor, etc	e temperature sensor l)?	ocated such that it is	away from external he	eat sources (coffee pot, Computer			
10	Record the	space temperature as	read by the BAS.					
11	Record the	space temperature us	ing a handheld therm	ometer.				
	Space Tem	perature Control		•				
	Cooling Mo	de		,				
12	Verify that the	ne air handling unit sei	ving this unit is in "O	ccupied" mode.				
13	Record the	discharge air temperat	ure from the air hand	dling unit. 60.5				
14	Lower the zo	one temperature setpo	int to demand maxin	num cooling.				
15	Does the su	pply air damper modu	late to the maximum	scheduled airflow?	No setpant Isla			
16	Record the o	damper position (% op	en). 11%		302			
17	Record the o	discharge airflow achie	eved (CFM). Not	1.steel				
18	Record the c	lischarge air temperat		AS (°F). NA				
19	Record the c	lischarge air temperat	ure at the supply diffu	user with an infrared th	nermometer.			
20	Is the discha	rge air temperature ap	propriate for cooling	mode?				
21	Gradually rai	se the space cooling s	setpoint.					
22	Does the sup	oply air damper modul	ate to reduce supply	airflow?				
	Heating Mod	de						
23	Increase the	zone heating setpoint	to be > current space	e temperature heating				
24	Does the sup	pply air damper mainta	in the minimum sche	eduled airflow?				
25	Record the a	irflow achieved (CFM)			notat			
26	Does the elec	ctric heat initiate?						
27	Record the n	umber of stages of ele	ctric heat energized.					





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Item No 1 2 3	Description Setpoint Verificatio	Company: Equipment Type: Terminal Unit					
1 2 3	Setpoint Verificatio	Equipment Type: Terminal Unit					
1 2 3	Setpoint Verificatio						
1 2 3	Setpoint Verificatio		Comment				
2	Poserd the maximum	n ·	Collinion				
3	Record the maximum	airflow setpoint (CFM). 4w					
	Record the minimum	airflow setpoint (CFM). 165 / 269					
	Record the space he		•				
4	Record the space co	oling setpoint (°F). 74					
5	Record the deadband	between minimum air valve position and activation of the reh	eat coil (°F).				
	Space Sensor Verifi	cation	•				
6	Is the space tempera	ure sensor communicating with the terminal unit?					
7	Is the space tempera	ure sensor communicating with the BAS?					
8	Is the space tempera	ure sensor located such that it is out of the supply airflow?					
9	Is the space temperature sensor located such that it is away from external heat sources (coffee pot, Computer monitor, etc)?						
10	Record the space temperature as read by the BAS.						
11	Record the space ten	perature using a handheld thermometer.					
	Space Temperature	Control					
	Cooling Mode						
12	Verify that the air han	lling unit serving this unit is in "Occupied" mode.					
13	Record the discharge	air temperature from the air handling unit.					
14	Lower the zone temper	rature setpoint to demand maximum cooling.					
15	Does the supply air da	mper modulate to the maximum scheduled airflow?	Flow stot @ 550				
16	Record the damper po	sition (% open).	, , , , , , , , , , , , , , , , , , ,				
17	Record the discharge	airflow achieved (CFM). 549					
18	Record the discharge	air temperature as read by the BAS (°F). 59.9					
19	Record the discharge	air temperature at the supply diffuser with an infrared thermom	neter.				
20	Is the discharge air ter	perature appropriate for cooling mode?					
21	Gradually raise the spa	ce cooling setpoint.					
22	Does the supply air da	mper modulate to reduce supply airflow?					
	Heating Mode						
23	Increase the zone hear	ing setpoint to be > current space temperature heating.					
24	Does the supply air da	nper maintain the minimum scheduled airflow?					
25	Record the airflow ach	-					
26	Does the electric heat i		, ,				
27	Record the number of	tages of electric heat energized. (
28	Record the discharge a	r temperature sensor reading (°F). 73.6					



Z2

VAV-1-1 V2-33

Equ	uipment Tag:	VAV-1-1	Completed By:	21M			
	Date:	1/6	Company:	T			
			Equipment Type:	Terminal Unit			
Item No	Description Setpoint V				Comment		
1	Record the	maximum airflow set	point (CFM). 1365				
2	Record the	minimum airflow setp		,			
3	Record the	space heating setpoi					
4		space cooling setpoir					
5	Record the	deadband between m	ninimum air valve pos	ition and activation of	the reheat coil (°F). χ		
	Space Sen	sor Verification			,,		
6	Is the space	e temperature sensor	communicating with t	he terminal unit?			
7	Is the space	e temperature sensor	communicating with t	he BAS?			
8	Is the space	e temperature sensor	located such that it is	out of the supply airflo	ow?		
9	Is the space temperature sensor located such that it is away from external heat sources (coffee pot, Computer monitor, etc)?						
10	Record the space temperature as read by the BAS.						
11	Record the	space temperature us	ing a handheld therm	ometer.			
	Space Tem	perature Control					
	Cooling Mo	ode					
12	Verify that th	ne air handling unit se	rving this unit is in "O	ccupied" mode.			
13	Record the	discharge air tempera	ture from the air hand	Iling unit. 65.5	and the second s		
14	Lower the zo	one temperature setp	oint to demand maxin	num cooling.			
15	Does the su	pply air damper modu	late to the maximum	scheduled airflow?	No - 100%		
16		damper position (% op	, , , , , , , , , , , , , , , , , , , ,		74		
17	Record the o	discharge airflow achi	eved (CFM). No+	115 Jan			
18		discharge air tempera					
19	Record the c	discharge air temperat	ture at the supply diffu	user with an infrared th	nermometer.		
20	Is the discha	irge air temperature a	ppropriate for cooling	mode?			
21	Gradually rai	ise the space cooling	setpoint.	/			
22	Does the sup	oply air damper modu	late to reduce supply	airflow?			
	Heating Mod	de					
23			·	e temperature heating	. 7		
24	-	oply air damper mainta		duled airflow?	, ,		
25		irflow achieved (CFM)).		1 no hant		
26	Does the elec	ctric heat initiate?					
27	Record the n	umber of stages of ele	ectric heat energized.				
28	Record the di	ischarge air temperatı	ure sensor reading (°I	=).			



VAV - 1-1 V2-34

Eq	uipment Tag: VAV-1-1 Completed By: ST M
	Date: /6 Company:
	Equipment Type: Terminal Unit
Item No	
1	Record the maximum airflow setpoint (CFM).
	Record the minimum airflow setpoint (CFM).
3	
	Record the space cooling setpoint (°F).
5	Record the deadband between minimum air valve position and activation of the reheat coil (°F).
	Space Sensor Verification
6	Is the space temperature sensor communicating with the terminal unit?
7	Is the space temperature sensor communicating with the BAS?
8	Is the space temperature sensor located such that it is out of the supply airflow?
9	Is the space temperature sensor located such that it is away from external heat sources (coffee pot, Compute monitor, etc)?
10	Record the space temperature as read by the BAS.
11	Record the space temperature using a handheld thermometer.
	Space Temperature Control
	Cooling Mode
12	Verify that the air handling unit serving this unit is in "Occupied" mode.
13	Record the discharge air temperature from the air handling unit.
14	Lower the zone temperature setpoint to demand maximum cooling.
15	Does the supply air damper modulate to the maximum scheduled airflow? No - 100°/2 Set.
16	Record the damper position (% open).
17	Record the discharge airflow achieved (CFM).
18	Record the discharge air temperature as read by the BAS (°F).
19	Record the discharge air temperature at the supply diffuser with an infrared thermometer.
20	Is the discharge air temperature appropriate for cooling mode?
21	Gradually raise the space cooling setpoint.
22	Does the supply air damper modulate to reduce supply airflow?
	Heating Mode
23	Increase the zone heating setpoint to be > current space temperature heating.
24	Does the supply air damper maintain the minimum scheduled airflow?
25	Record the airflow achieved (CFM).
26	Does the electric heat initiate?
27	Record the number of stages of electric heat energized.
28	Record the discharge air temperature sensor reading (°F).



VAV - 1-1 VH2-35 /36/37 all the same condition.

Equ	ipment Tag:	VAV-1-1	Completed By:	21M	
	Date:	1/6	Company:		
			Equipment Type:	Terminal Unit	
Item No	Description	1	Cliching on	n Box Tag tales	you to an empty points !
	Setpoint V	erification		_	
1	Record the	maximum airflow	setpoint (CFM).	Not accessi	ble Thragb
2	Record the	minimum airflow s	etpoint (CFM).	NO FACES	6 : 11
3	Record the	space heating set	point (°F).	DPC	from end.
4	Record the	space cooling set	point (°F).		
5	Record the	deadband betwee	n minimum air valve pos	sition and activation of t	he reheat coil (°F).
	Space Sen	sor Verification			\
6	Is the space	e temperature sens	sor communicating with t	the terminal unit?	
7	Is the space	e temperature sens	sor communicating with t	the BAS?	
8	Is the space	e temperature sens	or located such that it is	out of the supply airflo	w?
9	Is the space monitor, etc		or located such that it is	away from external he	at sources (coffee pot, Computer
10	Record the	space temperature	e as read by the BAS.		
11	Record the	space temperature	using a handheld therm	nometer.	
	Space Tem	perature Control		•	
	Cooling Mo	ode		No.	
12	Verify that the	he air handling unit	serving this unit is in "C	ccupied" mode.	
13	Record the	discharge air temp	erature from the air hand	dling unit.	
14	Lower the z	one temperature se	etpoint to demand maxin	num cooling.	
15	Does the su	pply air damper m	odulate to the maximum	scheduled airflow?	
16	Record the	damper position (%	open).		
17	Record the	discharge airflow a	chieved (CFM).		no testing
18	Record the	discharge air tempe	erature as read by the B.	AS (°F).	
19	Record the o	discharge air tempe	erature at the supply diff	user with an infrared th	ermometer.
20	Is the discha	arge air temperatur	e appropriate for cooling	mode?	available.
21	Gradually ra	ise the space cooli	ng setpoint.		2000
22	Does the sup	oply air damper mo	dulate to reduce supply	airflow?	
	Heating Mo	de			
23	Increase the	zone heating setp	oint to be > current spac	e temperature heating.	
24	Does the sup	oply air damper ma	intain the minimum sche	eduled airflow?	
25	Record the a	irflow achieved (C	=M).		
26	Does the ele	ctric heat initiate?			
27	Record the n	umber of stages of	f electric heat energized.	•	
28	Record the d	ischarge air tempe	rature sensor reading (°	F).	

VAV=1-1 V2-38

-					
Equ	uipment Tag:	VAV-1-1	Completed By:	SIM	
	Date:	1/6	Company:		
		/	Equipment Type:	Terminal Unit	
Item No	ı Description	.			Commont
		rerification			Comment
1	Record the	maximum airflow se	tpoint (CFM). 750		
2		minimum airflow set		,	
3	Record the	space heating setpo			
4	Record the	space cooling setpo			
5	Record the	deadband between i	ninimum air valve pos	ition and activation of th	ne reheat coil (°F).
-		sor Verification			
6	Is the space	e temperature sensor	communicating with t	he terminal unit?	
7	Is the space	e temperature sensor	communicating with t	he BAS?	
8	Is the space	e temperature sensor	located such that it is	out of the supply airflov	w?
9	Is the space monitor, etc	e temperature sensor s)?	located such that it is	away from external hea	at sources (coffee pot, Computer
10	Record the	space temperature a	s read by the BAS.	•	
11	Record the	space temperature u	sing a handheld therm	nometer.	
	Space Tem	perature Control		•	
	Cooling Mo	ode			
12	Verify that the	ne air handling unit se	erving this unit is in "O	ccupied" mode.	
13	Record the	discharge air tempera	ature from the air hand	dling unit.	
14	Lower the zo	one temperature setp	oint to demand maxin	num cooling.	
15	Does the su	pply air damper mod	ulate to the maximum	scheduled airflow?	U- Set @912
16	Record the o	damper position (% o	pen). 71		6
17	Record the o	discharge airflow ach	- 1	1.1-1	
18	Record the c	discharge air tempera	ture as read by the B		
19	Record the c	discharge air tempera	ture at the supply diff	user with an infrared the	ermometer.
20	Is the discha	rge air temperature a	ppropriate for cooling	mode?	
21	Gradually rai	ise the space cooling	setpoint.		
22	Does the sup	oply air damper modu	late to reduce supply	airflow?	
	Heating Mod	de			
23	Increase the	zone heating setpoir	t to be > current spac	e temperature heating.	
24	Does the sup	pply air damper maint	ain the minimum sche	eduled airflow?	
25	Record the a	irflow achieved (CFM).		1,2,1 +
26	Does the elec	ctric heat initiate?			1 Vio heal
27	Record the n	umber of stages of e	ectric heat energized.		
28	Record the di	ischarge air temperat	ure sensor reading (°l	F).	

Appendix 10



PSTA HVAC Equipment List

Notes								
Est. Remaining Life								
Serial No.	Routoussan		RO41+04 881A	Ro4 1704882A	Roy Ho4883A			
Model No.	VCCF 10005G0FM 00000004W0000	ULLF 10300 COLFM 0000000 LYWOOO	VLW F06000 CO FIN 0 6 CO 0 0 0 (L4W 000) 0000000	VCWF08000COFM 00C0000 2LHWOOD 000000	VLW F10000 60 FM 0 0 600000 5 L4 120000			
Location								
Tag	VAVZMIC	MENSWZ	WHUSMS	VAUSMY	VAVSING			

VAV-1-1 V3-1

Equ	uipment Tag:	VAV-1-1	Completed By:	STM		
	Date:	1/6	Company:	T		
L			Equipment Type:	Terminal Unit		
Item No	Description Setpoint V		Graphic	is zeomi out?	Comment	
1		maximum airflow set	point (CFM). 92	1		
2		minimum airflow set	noint (CEM)			
3		space heating setpo	100	/		
4		space cooling setpoi		69		
5	Record the	deadband between r	ninimum air valve pos	ition and activation o	f the reheat coil (°F).	
		sor Verification			(,)	
6			communicating with t	he terminal unit?		
7	Is the space	e temperature sensor	communicating with t	he BAS?		
8	Is the space	e temperature sensor	located such that it is	out of the supply airf	low?	
9	Is the space temperature sensor located such that it is away from external heat sources (coffee pot, Computer monitor, etc)?					
10	Record the	space temperature a	s read by the BAS.	•		
11	Record the	space temperature u	sing a handheld therm	ometer.		
	Space Tem	perature Control		•		
	Cooling Mo	ode		-	_	
12	Verify that the	ne air handling unit se	erving this unit is in "O	ccupied" mode.		
13	Record the	discharge air tempera	ature from the air hand	lling unit. 62.1		
14	Lower the zo	one temperature setp	oint to demand maxim	num cooling.		
15	Does the su	pply air damper modu	ulate to the maximum	scheduled airflow?	ND	
16	Record the o	damper position (% o	pen). 99			
17	Record the o	discharge airflow achi	eved (CFM). 449			
18	Record the o	discharge air tempera	ture as read by the B	AS (°F). Not que	ulaa.	
19	Record the o	discharge air tempera	ture at the supply diffu	user with an infrared	thermometer.	
20	Is the discha	irge air temperature a	ppropriate for cooling	mode?		
21	Gradually rai	ise the space cooling	setpoint.			
22	Does the sup	oply air damper modu	late to reduce supply	airflow?		
	Heating Mod	de				
23	Increase the	zone heating setpoin	t to be > current spac	e temperature heatin	g.	
24	Does the sup	oply air damper maint	ain the minimum sche	duled airflow? No		
25	Record the a	irflow achieved (CFM). ZI6			
26	Does the elec	ctric heat initiate?	82°6		,	
27			ectric heat energized.			
28	Record the di	ischarge air temperat	uro concor roading (°)	F). NH		



VAV - 1-1 V3 - 2

Equipment Tag:	VAV-1-1	Completed By:	SJM	
Date:	1/6	Company:		
		Equipment Type:	Terminal Unit	

Item No			Commont
INO	Setpoint Verification		Comment
1	Record the maximum airflow setpoint (CFM).)nc
2	Record the minimum airflow setpoint (CFM).	Maccess from f	li il
3	Record the space heating setpoint (°F).	front and.	emptly points list
4	Record the space cooling setpoint (°F).		
5	Record the deadband between minimum air valve posit	ion and activation of the re	eheat coil (°F).
	Space Sensor Verification		
6	Is the space temperature sensor communicating with th	e terminal unit?	
7	Is the space temperature sensor communicating with th	e BAS?	
8	Is the space temperature sensor located such that it is o	out of the supply airflow?	
9	Is the space temperature sensor located such that it is a monitor, etc)?	away from external heat so	ources (coffee pot, Computer
10	Record the space temperature as read by the BAS.		
11	Record the space temperature using a handheld thermo	meter.	
	Space Temperature Control	•	
	Cooling Mode		
12	Verify that the air handling unit serving this unit is in "Oc	cupied" mode.	
13	Record the discharge air temperature from the air handl	ing unit. 62-1	
14	Lower the zone temperature setpoint to demand maximu		
15	Does the supply air damper modulate to the maximum s	cheduled airflow? No	
16	Record the damper position (% open).		ampty
17	Record the discharge airflow achieved (CFM).		noite
18	Record the discharge air temperature as read by the BA	S (°F). NA	Joins)
19	Record the discharge air temperature at the supply diffus	ser with an infrared thermo	ometer.
20	Is the discharge air temperature appropriate for cooling r	node?	
21	Gradually raise the space cooling setpoint.		
22	Does the supply air damper modulate to reduce supply a	irflow?	
	Heating Mode		
23	Increase the zone heating setpoint to be > current space	temperature heating.	*
24	Does the supply air damper maintain the minimum sched	luled airflow?	
25	Record the airflow achieved (CFM).		
26	Does the electric heat initiate?		
27	Record the number of stages of electric heat energized.		
28	Record the discharge air temperature sensor reading (°F).	

VAV = 1-1 V3 _3

25

26

27

28

Record the airflow achieved (CFM).

Record the number of stages of electric heat energized.

Record the discharge air temperature sensor reading (°F).

Does the electric heat initiate?

Εqι	uipment Tag: .	VAV-1-1	Completed By:	STM				
	Date:	1/6	Company:					
			Equipment Type:	Terminal Unit				
Item No	Description	1		1	Comment			
		erification	,		Comment			
1	Record the maximum airflow setpoint (CFM). (50							
2	Record the minimum airflow setpoint (CFM).							
3	Record the	space heating set						
4	Record the	space cooling set						
5	Record the	deadband betwee	n minimum air valve pos	ition and activation o	f the reheat coil (°F).			
	Space Sen	sor Verification						
6	Is the space	e temperature sens	sor communicating with t	he terminal unit?				
7	Is the space	e temperature sens	sor communicating with t	he BAS?				
8	Is the space	e temperature sens	or located such that it is	out of the supply air	flow?			
9	Is the space temperature sensor located such that it is away from external heat sources (coffee pot, Computer monitor, etc)?							
10	Record the space temperature as read by the BAS.							
11	Record the space temperature using a handheld thermometer.							
	Space Temperature Control							
	Cooling Mo	ode						
12	Verify that the air handling unit serving this unit is in "Occupied" mode.							
13	Record the discharge air temperature from the air handling unit.							
14	Lower the zone temperature setpoint to demand maximum cooling.							
15	Does the supply air damper modulate to the maximum scheduled airflow?							
16	Record the damper position (% open).							
17	Record the discharge airflow achieved (CFM). 495							
18	Record the discharge air temperature as read by the BAS (°F). NA							
19	Record the discharge air temperature at the supply diffuser with an infrared thermometer.							
20	Is the discharge air temperature appropriate for cooling mode?							
21	Gradually ra	ise the space cooli	ng setpoint.					
22	Does the sup	oply air damper mo	dulate to reduce supply	airflow?				
	Heating Mod	de						
23	Increase the	zone heating setp	oint to be > current space	e temperature heatin	g.			
24	Does the sup	oply air damper ma	intain the minimum sche	duled airflow?				

VAV-1-1 /3-4

Equi	pment Tag:	_VAV-1-1	Complete	ed By:	STW	1	
	Date:	1/6	Com	npany:			
			Equipment	Type:	Terminal U	Jnit	
ltem							
No	Description	1				1	Comment
	Setpoint V	erification		¬			
1	Record the	maximum airflow se	etpoint (CFM).	1			
2	Record the minimum airflow setpoint (CFM).		tpoint (CFM).	no	access	fram DDC	frontend/
3	Record the space heating setpoint (°F).			E.	1 mintes	list.	
4	Record the	space cooling setpo	oint (°F).		Imp	th Lawis	(13)

Record the deadband between minimum air valve position and activation of the reheat coil (°F). 5 Space Sensor Verification

- 6 Is the space temperature sensor communicating with the terminal unit? 7 Is the space temperature sensor communicating with the BAS?
- 8 Is the space temperature sensor located such that it is out of the supply airflow?
- 9 Is the space temperature sensor located such that it is away from external heat sources (coffee pot, Computer monitor, etc)?
- 10 Record the space temperature as read by the BAS.
- 11 Record the space temperature using a handheld thermometer.

Space Temperature Control

Cooling Mode

- 12 Verify that the air handling unit serving this unit is in "Occupied" mode.
- 13 Record the discharge air temperature from the air handling unit.
- 14 Lower the zone temperature setpoint to demand maximum cooling.
- 15 Does the supply air damper modulate to the maximum scheduled airflow?
- 16 Record the damper position (% open).
- 17 Record the discharge airflow achieved (CFM).
- 18 Record the discharge air temperature as read by the BAS (°F). NA
- 19 Record the discharge air temperature at the supply diffuser with an infrared thermometer. U
- 20 Is the discharge air temperature appropriate for cooling mode?
- 21 Gradually raise the space cooling setpoint.
- 22 Does the supply air damper modulate to reduce supply airflow?

Heating Mode

- 23 Increase the zone heating setpoint to be > current space temperature heating.
- 24 Does the supply air damper maintain the minimum scheduled airflow?
- 25 Record the airflow achieved (CFM).
- 26 Does the electric heat initiate?
- 27 Record the number of stages of electric heat energized.
- 28 Record the discharge air temperature sensor reading (°F).

VAV-1-1 13-5

Eq	uipment Tag:	VAV-1-1	Completed By:	STM			
	Date:	1/6	Company:				
			Equipment Type:	Terminal Unit			
Iten	1						
No				1	Comment		
	Setpoint V						
1			setpoint (CFM). 99%				
2		minimum airflow	1 (0	,			
3	Record the space heating setpoint (°F).						
4	Record the space cooling setpoint (°F).						
5			en minimum air valve pos	ition and activation of the	reheat coil (°F). X		
		sor Verification					
6			sor communicating with t				
7 ———			sor communicating with t				
8				out of the supply airflow?			
9	Is the space monitor, etc	e temperature sen)?	sor located such that it is	away from external heat	sources (coffee pot, Computer		
10	Record the	space temperatur	e as read by the BAS.				
11	Record the	space temperatur	e using a handheld therm	ometer.			
	Space Tem	perature Control		•			
	Cooling Mo	de					
12	Verify that th	ne air handling uni	t serving this unit is in "O	ccupied" mode.			
13	Record the o	discharge air temp	erature from the air hand	Iling unit. 62.1			
14	Lower the zone temperature setpoint to demand maximum cooling.						
15	Does the supply air damper modulate to the maximum scheduled airflow?						
16	Record the d	lamper position (%	6 open). (OD:				
17	Record the d	lischarge airflow a	chieved (CFM). n	ot liskel			
18	Record the d	ischarge air temp	erature as read by the BA	AS (°F). NA			
19	Record the d	ischarge air temp	erature at the supply diffu	user with an infrared thern	nometer.		
20	Is the dischar	rge air temperatur	e appropriate for cooling	mode?			
21	Gradually rais	se the space cool	ing setpoint.				
22	Does the sup	ply air damper mo	odulate to reduce supply	airflow?			
	Heating Mod	le					
23	Increase the	zone heating setp	oint to be > current space	e temperature heating.			
24	Does the sup	ply air damper ma	aintain the minimum sche	duled airflow?			
25	Record the ai	rflow achieved (C	FM).				
26	Does the elec	tric heat initiate?					
27	Record the nu	ımber of stages o	f electric heat energized.				
28	Record the dis	scharge air tempe	rature sensor reading (°F	-).	·		



Appendix 11

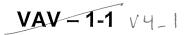


PSTA HVAC Equipment List

				· ***	
Location	٦	Model No.	Serial No.	Est. Remaining Life	Notes
M255	*	Thycoch mn. TV6475 mfg 7/19/04	1-7651-400		Thined off
	M2SS	TIBAOY7H41720FO	M 03M 0 0290		
M255		Motar: Buldon Superfe 15hp./EM2513T 2547 foure			No VFID Whaten in April to HHU-2M
	MZSS	t-d1)			No VFD Jacoh.
	M2SS	Gstenhudt 850-420-100-x	51220140		No VFO - unit is studing bilds.
	M 246	1 com MCB010UROROUA	prejadyox		
. ~ 1	M24a	Trank MCBOBOH BARUB	VO406840		No condrol! (all 19ty Zones
MOM		Damper andy Ningyr	LX-MUSF-(
	TSIM	Daumpacs / Beline Ad.	₹~		
1	1291 W	Doumper / Balino Act.	NA		
13	M157 M194 M187			·	
_ Zg-2	W.195				

HWY MISS

Rachaut head pavels are in training office M19



Equipment Tag:	VAV-1-1	Completed By:	STM
Date:	1/6	Company:	
·	/	Equipment Type:	Terminal Unit

Item No	Description Comment
110	Setpoint Verification
1	Record the maximum airflow setpoint (CFM).
2	Record the minimum airflow setpoint (CFM).
3	Record the space heating setpoint (°F).
4	Record the space cooling setpoint (°F).
5	Record the deadband between minimum air valve position and activation of the reheat coil (°F).
	Space Sensor Verification
6	Is the space temperature sensor communicating with the terminal unit?
7	Is the space temperature sensor communicating with the BAS?
8	Is the space temperature sensor located such that it is out of the supply airflow?
9	Is the space temperature sensor located such that it is away from external heat sources (coffee pot, Computer monitor, etc)?
10	Record the space temperature as read by the BAS.
11	Record the space temperature using a handheld thermometer.
	Space Temperature Control
	Cooling Mode
12	Verify that the air handling unit serving this unit is in "Occupied" mode.
13	Record the discharge air temperature from the air handling unit.
14	Lower the zone temperature setpoint to demand maximum cooling.
15	Does the supply air damper modulate to the maximum scheduled airflow?
16	Record the damper position (% open).
17	Record the discharge airflow achieved (CFM).
18	Record the discharge air temperature as read by the BAS (°F).
19	Record the discharge air temperature at the supply diffuser with an infrared thermometer.
20	Is the discharge air temperature appropriate for cooling mode?
21	Gradually raise the space cooling setpoint.
22	Does the supply air damper modulate to reduce supply airflow?
	Heating Mode
23	Increase the zone heating setpoint to be > current space temperature heating.
24	Does the supply air damper maintain the minimum scheduled airflow?
25	Record the airflow achieved (CFM).
26	Does the electric heat initiate?
27	Record the number of stages of electric heat energized.
28	Record the discharge air temperature sensor reading (°F).

VAV-1-1 14-2

Equipment Tag:	VAV-1-1	Completed By:	STM
Date:	1/6	Company:	
		Equipment Type:	Terminal Unit

ltem	1					
No	Description Comment					
	Setpoint Verification					
1	Record the maximum airflow setpoint (CFM). 66					
2	Record the minimum airflow setpoint (CFM).					
3	Record the space heating setpoint (°F).					
4	Record the space cooling setpoint (°F). 66					
5	Record the deadband between minimum air valve position and activation of the reheat coil (°F). $$					
	Space Sensor Verification					
6	Is the space temperature sensor communicating with the terminal unit?					
7	Is the space temperature sensor communicating with the BAS?					
8	Is the space temperature sensor located such that it is out of the supply airflow?					
9	Is the space temperature sensor located such that it is away from external heat sources (coffee pot, Computer monitor, etc)?					
10	Record the space temperature as read by the BAS.					
11	Record the space temperature using a handheld thermometer.					
	Space Temperature Control					
	Cooling Mode					
12	Verify that the air handling unit serving this unit is in "Occupied" mode.					
13	Record the discharge air temperature from the air handling unit.					
14	Lower the zone temperature setpoint to demand maximum cooling.					
15	Does the supply air damper modulate to the maximum scheduled airflow?					
16	Record the damper position (% open).					
17	Record the discharge airflow achieved (CFM).					
18	Record the discharge air temperature as read by the BAS (°F).					
19	Record the discharge air temperature at the supply diffuser with an infrared thermometer.					
20	Is the discharge air temperature appropriate for cooling mode?					
21	Gradually raise the space cooling setpoint.					
22	Does the supply air damper modulate to reduce supply airflow?					
	Heating Mode					
23	Increase the zone heating setpoint to be > current space temperature heating.					
24	Does the supply air damper maintain the minimum scheduled airflow?					
25	Record the airflow achieved (CFM).					
26	Does the electric heat initiate?					
27	Record the number of stages of electric heat energized.					
28	Record the discharge air temperature sensor reading (°F).					

VAV-1-1 V4_3

Equipment Tag:	YAV-1-1	Completed By:	STM
Date:	1/6	Company:	
·		Equipment Type:	Terminal Unit

Item No	Description Comment				
	Setpoint Verification				
1	Record the maximum airflow setpoint (CFM).				
2	Record the minimum airflow setpoint (CFM).				
3	Record the space heating setpoint (°F).				
4	Record the space cooling setpoint (°F).				
5	Record the deadband between minimum air valve position and activation of the reheat coil (°F). χ				
	Space Sensor Verification				
6	Is the space temperature sensor communicating with the terminal unit?				
7	Is the space temperature sensor communicating with the BAS?				
8	Is the space temperature sensor located such that it is out of the supply airflow?				
9	Is the space temperature sensor located such that it is away from external heat sources (coffee pot, Computer monitor, etc)?				
10	Record the space temperature as read by the BAS.				
11	Record the space temperature using a handheld thermometer.				
	Space Temperature Control				
	Cooling Mode				
12	Verify that the air handling unit serving this unit is in "Occupied" mode.				
13	Record the discharge air temperature from the air handling unit.				
14	Lower the zone temperature setpoint to demand maximum cooling.				
15	Does the supply air damper modulate to the maximum scheduled airflow?				
16	Record the damper position (% open).				
17	Record the discharge airflow achieved (CFM).				
18	Record the discharge air temperature as read by the BAS (°F).				
19	Record the discharge air temperature at the supply diffuser with an infrared thermometer.				
20	Is the discharge air temperature appropriate for cooling mode?				
21	Gradually raise the space cooling setpoint.				
22	Does the supply air damper modulate to reduce supply airflow?				
	Heating Mode				
23	Increase the zone heating setpoint to be > current space temperature heating.				
24	Does the supply air damper maintain the minimum scheduled airflow?				
25	Record the airflow achieved (CFM).				
26	Does the electric heat initiate?				
27	Record the number of stages of electric heat energized.				
28	Record the discharge air temperature sensor reading (°F).				

VAV-1-1 V4_4

Equipment Tag:	VAV-1-1	Completed By:	STM
Date:	1/6	Company:	
•	/	Equipment Type:	Terminal Unit

Item					
No	Description Comment Setpoint Verification				
1	Record the maximum airflow setpoint (CFM).				
2	Record the minimum airflow setpoint (CFM). \\ \\ \) \\ \\ \\ \\ \\ \\ \\ \\ \\ \\				
3	Record the space heating setpoint (°F).				
4	Record the space cooling setpoint (°F).				
5	Record the deadband between minimum air valve position and activation of the reheat coil (°F).				
	Space Sensor Verification				
6	Is the space temperature sensor communicating with the terminal unit?				
7	Is the space temperature sensor communicating with the BAS?				
8	Is the space temperature sensor located such that it is out of the supply airflow?				
9	Is the space temperature sensor located such that it is away from external heat sources (coffee pot, Computer monitor, etc)?				
10	Record the space temperature as read by the BAS.				
11	Record the space temperature using a handheld thermometer.				
	Space Temperature Control				
	Cooling Mode				
12	Verify that the air handling unit serving this unit is in "Occupied" mode.				
13	Record the discharge air temperature from the air handling unit.				
14	Lower the zone temperature setpoint to demand maximum cooling.				
15	Does the supply air damper modulate to the maximum scheduled airflow?				
16	Record the damper position (% open).				
17	Record the discharge airflow achieved (CFM).				
18	Record the discharge air temperature as read by the BAS (°F).				
19	Record the discharge air temperature at the supply diffuser with an infrared thermometer.				
20	Is the discharge air temperature appropriate for cooling mode?				
21	Gradually raise the space cooling setpoint.				
22	Does the supply air damper modulate to reduce supply airflow?				
	Heating Mode				
23	Increase the zone heating setpoint to be > current space temperature heating.				
24	Does the supply air damper maintain the minimum scheduled airflow?				
25	Record the airflow achieved (CFM).				
26	Does the electric heat initiate?				
27	Record the number of stages of electric heat energized.				
28	Record the discharge air temperature sensor reading (°F).				
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VAV -1-1 V4-5

Equipment Tag:	VAV-1-1	Completed By:	STM
Date:	18 1/6	Company:	
·		Equipment Type:	Terminal Unit

Item No	Description Comment Setpoint Verification				
1	Record the maximum airflow setpoint (CFM).				
2	Record the minimum airflow setpoint (CFM).				
3	Record the space heating setpoint (°F).				
4	Record the space cooling setpoint (°F).				
5	Record the deadband between minimum air valve position and activation of the reheat coil (°F). ×				
	Space Sensor Verification				
6	Is the space temperature sensor communicating with the terminal unit?				
7	Is the space temperature sensor communicating with the BAS?				
8	Is the space temperature sensor located such that it is out of the supply airflow?				
9	Is the space temperature sensor located such that it is away from external heat sources (coffee pot, Computer monitor, etc)?				
10	Record the space temperature as read by the BAS.				
11	Record the space temperature using a handheld thermometer.				
	Space Temperature Control				
	Cooling Mode				
12	Verify that the air handling unit serving this unit is in "Occupied" mode.				
13	Record the discharge air temperature from the air handling unit.				
14	Lower the zone temperature setpoint to demand maximum cooling.				
15	Does the supply air damper modulate to the maximum scheduled airflow?				
16	Record the damper position (% open).				
17	Record the discharge airflow achieved (CFM).				
18	Record the discharge air temperature as read by the BAS (°F).				
19	Record the discharge air temperature at the supply diffuser with an infrared thermometer.				
20	Is the discharge air temperature appropriate for cooling mode?				
21	Gradually raise the space cooling setpoint.				
22	Does the supply air damper modulate to reduce supply airflow?				
	Heating Mode				
23	Increase the zone heating setpoint to be > current space temperature heating.				
24	Does the supply air damper maintain the minimum scheduled airflow?				
25	Record the airflow achieved (CFM).				
26	Does the electric heat initiate?				
27	Record the number of stages of electric heat energized.				
28	Record the discharge air temperature sensor reading (°F).				

VAV-1-1 14-6

Equipment Tag:	VAV-1-7	Completed By:	5JM
Date:	1/6	Company:	
•		Equipment Type:	Terminal Unit

Item No	Description Comment
140	Setpoint Verification
1	Record the maximum airflow setpoint (CFM).
2	Record the minimum airflow setpoint (CFM). 6 7
3	Record the space heating setpoint (°F).
4	Record the space cooling setpoint (°F). 67
5	Record the deadband between minimum air valve position and activation of the reheat coil (°F).
	Space Sensor Verification
6	Is the space temperature sensor communicating with the terminal unit?
7	Is the space temperature sensor communicating with the BAS?
8	Is the space temperature sensor located such that it is out of the supply airflow?
9	Is the space temperature sensor located such that it is away from external heat sources (coffee pot, Computer monitor, etc)?
10	Record the space temperature as read by the BAS.
11	Record the space temperature using a handheld thermometer.
	Space Temperature Control
	Cooling Mode
12	Verify that the air handling unit serving this unit is in "Occupied" mode.
13	Record the discharge air temperature from the air handling unit.
14	Lower the zone temperature setpoint to demand maximum cooling.
15	Does the supply air damper modulate to the maximum scheduled airflow?
16	Record the damper position (% open).
17	Record the discharge airflow achieved (CFM).
18	Record the discharge air temperature as read by the BAS (°F).
19	Record the discharge air temperature at the supply diffuser with an infrared thermometer.
20	Is the discharge air temperature appropriate for cooling mode?
21	Gradually raise the space cooling setpoint.
22	Does the supply air damper modulate to reduce supply airflow?
	Heating Mode
23	Increase the zone heating setpoint to be > current space temperature heating.
24	Does the supply air damper maintain the minimum scheduled airflow?
25	Record the airflow achieved (CFM).
26	Does the electric heat initiate?
27	Record the number of stages of electric heat energized.
28	Record the discharge air temperature sensor reading (°F).



Equipment Tag:	VAV-1-1	Completed By:	STW
Date:	1/6	Company:	
•	/	Equipment Type:	Terminal Unit

Item No			
110	Setpoint Verification Comment		
1	Record the maximum airflow setpoint (CFM).		
2	Record the minimum airflow setpoint (CFM).		
3	Record the space heating setpoint (°F).		
4	Record the space cooling setpoint (°F).		
5	Record the deadband between minimum air valve position and activation of the reheat coil (°F).		
	Space Sensor Verification		
6	Is the space temperature sensor communicating with the terminal unit?		
7	Is the space temperature sensor communicating with the BAS?		
8	Is the space temperature sensor located such that it is out of the supply airflow?		
9	Is the space temperature sensor located such that it is away from external heat sources (coffee pot, Computer monitor, etc)?		
10	Record the space temperature as read by the BAS.		
11	Record the space temperature using a handheld thermometer.		
	Space Temperature Control		
	Cooling Mode		
12	Verify that the air handling unit serving this unit is in "Occupied" mode.		
13	Record the discharge air temperature from the air handling unit.		
14	Lower the zone temperature setpoint to demand maximum cooling.		
15	Does the supply air damper modulate to the maximum scheduled airflow?		
16	Record the damper position (% open).		
17	Record the discharge airflow achieved (CFM).		
18	Record the discharge air temperature as read by the BAS (°F).		
19	Record the discharge air temperature at the supply diffuser with an infrared thermometer.		
20	Is the discharge air temperature appropriate for cooling mode?		
21	Gradually raise the space cooling setpoint.		
22	Does the supply air damper modulate to reduce supply airflow?		
	Heating Mode		
23	Increase the zone heating setpoint to be > current space temperature heating.		
24	Does the supply air damper maintain the minimum scheduled airflow?		
25	Record the airflow achieved (CFM).		
26	Does the electric heat initiate?		
27	Record the number of stages of electric heat energized.		
28	Record the discharge air temperature sensor reading (°F).		

