ATC-400 Retrofit Kit for 240/120 or 208/120 V Automatic Transfer Switch

Instruction Leaflet

WARNING

THIS INSTRUCTION IS NOT A COMPLETE SOURCE OF INFORMATION ON THE TRANSFER EQUIPMENT. INSTALLATION SHOULD NOT BE STARTED UNTIL THE ENTIRE INSTRUCTION BOOK HAS BEEN REVIEWED AND UNDERSTOOD. FAILURE TO FOLLOW INSTRUCTIONS CAN RESULT IN DEATH, SEVERE PERSONAL INJURY, OR PROPERTY DAMAGE.

THE RETROFIT KIT CONSISTS OF THE FOLLOWING:

1. **ATC-400 CONTOLLER**
2. **LOGIC WIRE HARNESS (90" IN LENGTH)**
3. **TERMINAL BLOCK WIRE HARNESS (24" IN LENGTH)**
4. **DEVICE PANEL (IF REQUIRED).**
5. **HEATER KIT (USE ONLY IF HEATER CURRENTLY INSTALLED).**
6. **MISCELLANEOUS HARDWARE AND INSTRUCTIONS.**

TOOLS REQUIRED:

- **Terminal Block Wire Insertion Tool (or Small Flat Head Screwdriver).**
- **T-15 Torx Head Screwdriver (Provided).**
- **Wire Cutters.**
- **Medium Flat Head Screwdriver (or ¼" Socket Screwdriver).**
- **1-3/8" Wrench.**
- **Volt Meter.**

Removal of ATC-200:

CAUTION

IF ERA AND NRA RELAYS ARE BEING UTILIZED CONTACT THE FACTORY.

Step 1: With power applied, check and record all Setpoints on the ATC-200 controller prior to removal (see Table 3 on Page 9). Enter the following Backdoor Password to access Setpoints. Initiate a Lamp Test. With "Lamp Test" Message on the Display, press and hold both the "MENU/SELECT" and "SAVE/EXIT" buttons until "ENTER PASSWORD" is displayed. At this point enter the password by pushing the buttons in the following sequence to access Setpoints: "DECREASE" – "INCREASE" – "MENU/SELECT" – "DECREASE", then press "INCREASE" to not change the Password. Use the "INCREASE" and/or "DECREASE" buttons to scroll through the Setpoints.

Note: Do not press "MENU/SELECT" once the Password is accepted, since this will put you in a mode to change Setpoints. If you accidentally press "MENU/SELECT" in this mode the display will flash. Press "SAVE" to exit this mode.

Step 2: Record the Setpoints in Table 3 on page 9. Note: Tables 1 & 2 contain cross-reference between ATC-200 and ATC-400 Setpoints. The ATC-200 Setpoints are not in correct sequence, but the ATC-400 Setpoints are in correct sequence.

Step 3: Set the ON/AUTO/OFF switch on your generator to the **OFF** position.

CAUTION

POWER MUST BE REMOVED FROM THE TRANSFER SWITCH PRIOR TO CONTINUING TO THE NEXT STEP TO AVOID ACCIDENTAL CONTACT WITH LIVE PARTS.

Step 4: Disconnect the Engine Start wires from the Red Terminals (Terminals 1 and 2).

Step 5: Disconnect any other customer connected wires from the Terminal Blocks (Option 26D, Option 41, etc.) If the switch has Option 41 remove the wires that connect the Thermostat and Heater to Terminal Block locations TB1-31 and TB1-32. Keep the jumper wire from the Heater to the Thermostat connected (See Figure 6)
.

Step 6: In this order, disconnect P3/S3, P1/S1, and P2/S2 connectors (located beside the Power Panel).

Step 7: Remove the four -(4) connectors from the back of the ATC-200 controller as shown in Figure 1 (P2, P3, P6 and P10).

Step 8: Remove four -(4) corner Torx screws from the front of the ATC-200 as shown in Figure 2. Remove the ANSI gray trim ring that's on the outside of the enclosure on the front of the ATC-200 controller as shown in Figure 3. **It will be reused.** Support the ATC-200 controller and remove just one of the center screws as shown in figure 4. Loosen the remaining screw and slide the unit from the door mount (Faceplate may stick to Enclosure Door).

Step 9: Unplug the wire harness connectors at the Terminal Blocks and completely remove the wire harness by cutting the wire ties that hold the harness to the mounts on the enclosure. The associated wire tie mounts will be reused.

Step 10: Remove, and save, any utilized Device Panels (if required). These panels generally contain options such as Service Disconnect, Bypass Push Button, etc.

Step 11: Remove, and save, two- (2) screws from each of the NRA and ERA relay bases and remove relays (Figure 5). Call the factory if these relays are being utilized.

Step 12: Loosen and remove the Terminal Block locking End Plates (Figure 5). At this point there should be no wires attached to the Terminal Block.

Step 13: Move the Terminal Blocks to one side and remove the Din Rail mounting screws (located under the Terminal Blocks, Figure 5), and remove the Terminal Block Assembly. At this point there should be nothing mounted on the door or customer connection panels

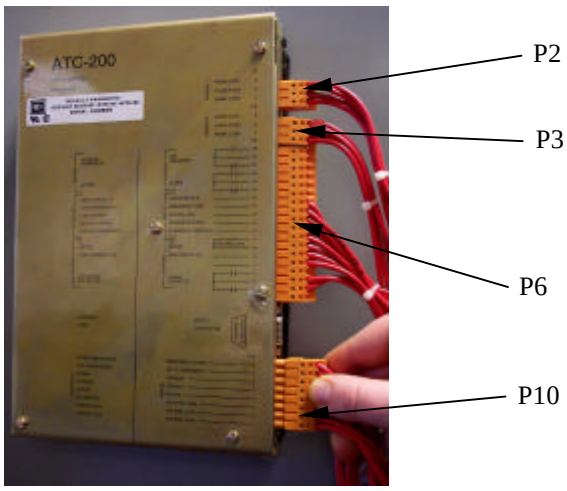

Figure 1,Disconnecting Connectors on ATC-200

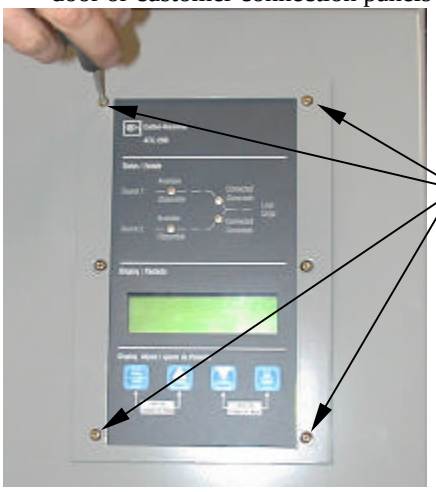

Figure 2,Removing Torx Screws

Figure 3, Removing the Trim Ring

Figure 4, Remove One Center Torx Screw

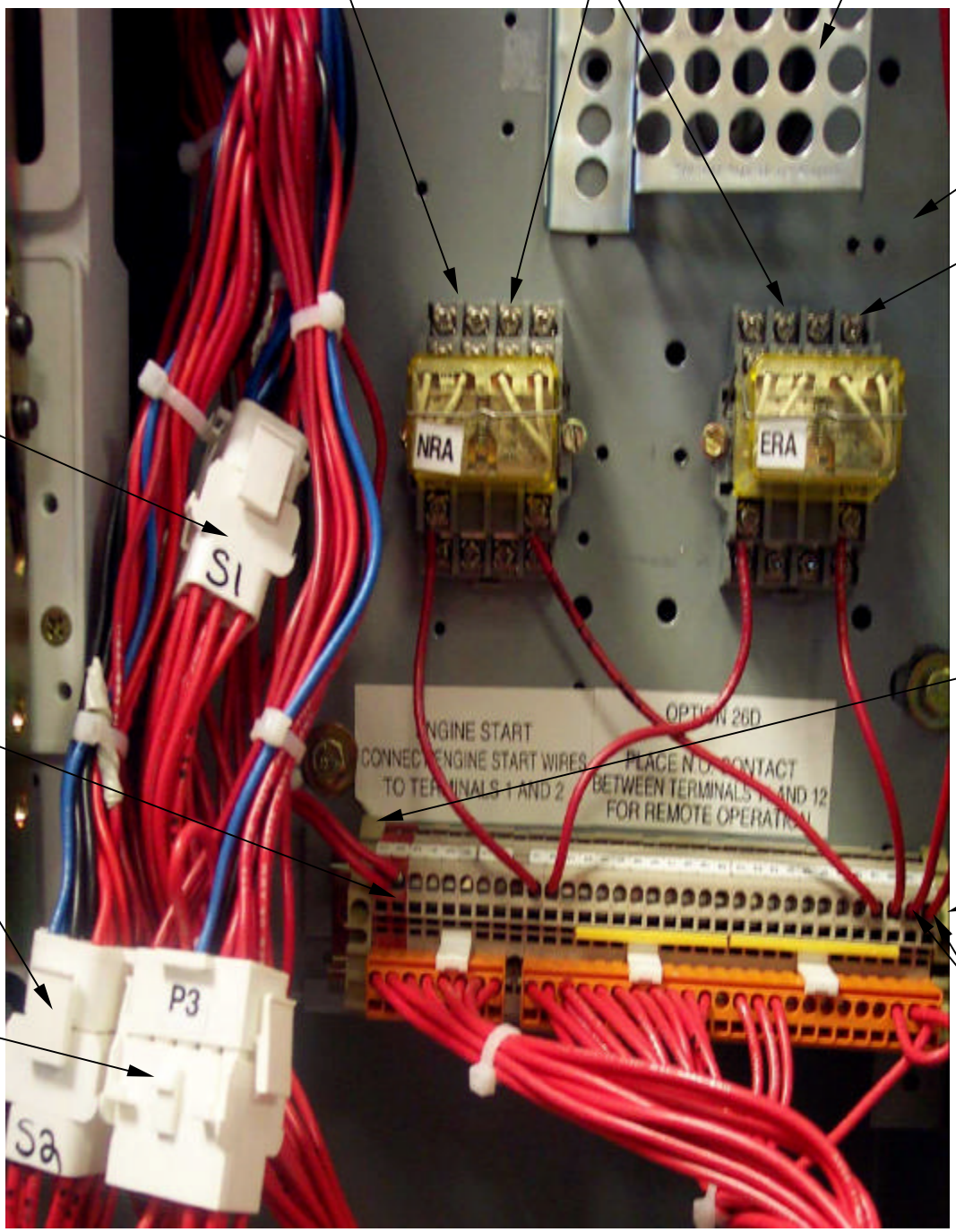

Figure 5, Removal of ATC-200

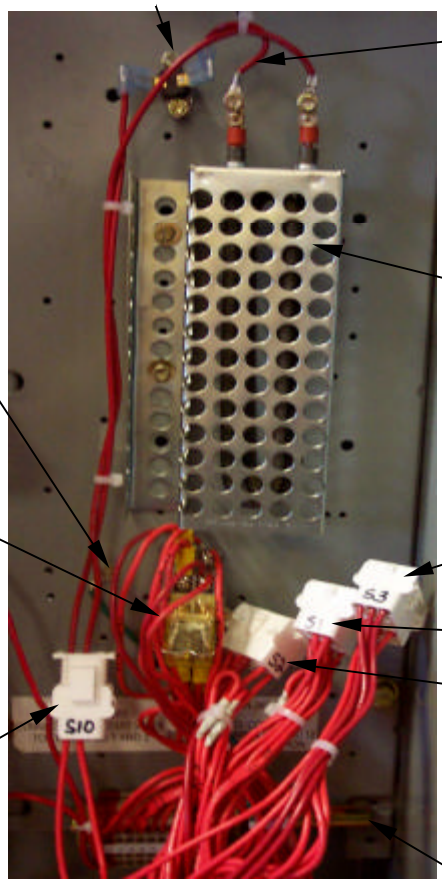

Figure 6, Installation of ATC-400

Installation of ATC-400:

Step 1: Mount the ATC-400 with the six -(6) supplied Torx screws in the cutout in reverse order of removing the ATC-200, Step 8 and Figures 1 through 4. Note that the ATC-400 mounts from inside of the front door as the ATC-200 did. Reuse the Trim Ring when installing.

Step 2: Mount the new Device Panel (if required), with the original hardware, in the cutout that contained the old Device Panel. Make sure that the Gasket is between the Device Panel and the door when mounting. The ATC-400 Display will be visible with door closed.

Step 3: Mount the Terminal Block wire harness (Figure 6). Three -(3) one-half inch (for Din Rail and ground wire) and two -(2) one inch (for 2 pole Relay base) self-tapping 8-32 screws are provided. Use existing holes located on the Connection Panel that contained the old Terminal Blocks. The new Terminal Blocks may have to be loosened and repositioned to mount.

Step 4: If the switch has option 8C/8D (TDNE/TDEN Bypass pushbutton), then the old pushbutton will no longer be used. That function is replaced by buttons on the ATC-400 faceplate.

Step 5: If the switch has Option 37 (Service Entrance), then remove the Contact Block and the Keyed Selector Switch from the old Device Panel (Figure 7). Remove the Contact Blocks by loosening the two screws. Remove the Keyed Selector Switch by loosening the black nut around the Keyed Selector Switch on the front of the Device Panel, see Figure 8. Discard the old Contact Block, then mount the Keyed Selector Switch to the new Contact Block already wired into the harness. Mount the assembly into the hole of the new Device Panel. Discard the old amber light, this function has been replaced by the Mimic Bus on the Controller. Remove the old Service Entrance Label from the door (Figure 8). Install the new labels (shown in Figures 9a and 9b) below the Keyed Selector Switch on the

front of the door. If the old Label is not removable, completely cover the old Label with the new Label (all new Labels and the Keyed Selector Switch must be visible with the door closed).

Step 6: If the switch has Option 41 (Heater), then take the supplied plug P10 with the 2 wires (3' leads), cut to required length and crimp the Ring Terminal to one wire and the flag to the other wire. Install the ring terminal to the Heater and the Flag Terminal to the Thermostat. Connect to S10 plug in the new harness.

Step 7: If the Switch has Option 6H, the Retrofit Kit will have the switch connected.

Step 8: Mount the Logic Wire Harness to the ATC-400 Controller. Install J4 and J5 first then J1 and J2. See Figure 10 for connector locations.

CAUTION

DO NOT PLUG IN J7 UNTIL STEP 14 IS COMPLETE.

Step 9: Use supplied wire ties to support the Logic Wire Harness to the existing wire tie mounts. Reform the Wire Harness if required.

Step 10: Plug in P4/S4, P5/S5, and P6/S6. This will mate the Logic Wire Harness to the Terminal Block Wire Harness.

Step 11: Install the Engine Start wires into the Red Terminal Blocks (TB1 and 2) See Figure 6.

Step 12: Install any other customer connected wires (Option 26D TB-11 and TB-12, etc. see Wiring Diagram 5724B66).

Step 13: In this order, connect P2/S2, and P1/S1 connectors. Connectors should be clearly marked. If you are not sure which connectors are which, take the time to read the Wire Number on each wire. Continuous Marking is present on every wire, stating where it goes (I.E. P3-1 to P5-4).

CAUTION

DO NOT CONNECT P3/S3 UNTIL STEPS 18-19 ARE COMPLETE.

Step 14: Reapply Power to the Transfer Switch.

Step 15: Check for 120 VAC at Pins 1 and 2 on Plug J7 on the Logic Wire Harness (Control Power for the ATC-400). Put the Generator into the "Run" position. Check for 120 VAC at Pins 3 and 4 on Plug J7 on the Logic Wiring Harness. See Figure 10.

Step 16: A. If 120 VAC is available then put the Generator into the "off" position and connect Plug J7 to the ATC-400. Proceed to Step 17.

Step 16: B. If 120 VAC is **NOT** available, refer to the included Instruction Manual and Wiring Diagram (#5724B66). Trace all circuits in the new wiring to find the problem. Adjust and tighten any wires that are causing the problem. If necessary, call the Cutler-Hammer Warranty Department at 1-800-354-2070 for assistance. When you call, have the G.O. number, Catalog number (both can be found on the Nameplate on the Transfer Switch) and the Style number of the replacement kit handy, you will be asked for this information first.

Step 17: If the Transfer Switch has Option 16 and/or 37, the "LOCKOUT" Reset Label must be applied to the front door as shown in Figure 9b. Ignore the "LOCKOUT" message displayed on the ATC-400.

Step 18: Use the "STEP" button to scroll through the Setpoints until the "HOURS", "MINUTES", "WEEKDAY", "MONTH", "DAY", and "YEAR" are displayed. Use the "INCREASE" and /or "DECREASE" buttons to change the values if required.
Note: You do not need the Password or Program Switch to change these Setpoints.

Step 19: Program the ATC-400 with the Setpoints that were recorded from the ATC-200 in **Step 1** under the **"Removal of ATC-200"** section, see Page 9, Table 3. Programming the ATC-400 can be done two ways:

1. Using the Run/Program switch.
2. Using the Password.

Programming the ATC-400 using the "Run/Program" switch:
Press the "Step" button until the desired Setpoint is found. Place the "Run/Program" switch on the back of the controller to the "Program" position (See Figure 10). Use the "Increase" and/or "Decrease" buttons to change the value of the desired Setpoint. Continue Programming all the Setpoints while the Switch is in the "Program" position. Use the "STEP" Button to move from one Setpoint to the next (see Tables 1 & 2). When finished changing Setpoints, move the Switch to the "RUN" position. The Controller will then save your new settings.

Programming the ATC-400 using the Password:
Use the "Step" button to scroll through the Setpoints until you get to the screen that says "Change Setpoints?" Use the "Increase" and/or "Decrease" buttons to select "Yes", then hit the "Step" button to move the next screen. Enter the password "0400" by using the "Increase" and/or "Decrease" buttons to change the value of the

numbers and the "Step" button to move from one number to the next. When prompted to change the password select "No" and use the "Step" button to move to the next screen. Now you will be able to change the Setpoints by using the "Increase" and/or "Decrease" buttons to change the value and the "Step" button to move to the next Setpoint (See Tables 1 & 2). You will not be able to scroll backwards in the Setpoints. When you get to the end of all of the Setpoints you will be asked to "Save Setpoints?". Select "Yes". If you missed a Setpoint or need to make any more changes, then you will have to reenter the Password.

Step 20: Turn the ON/AUTO/OFF switch on your Generator to the AUTO position.

Step 21: Connect the P3/S3 plug.
Note: If Option 16 and/or 37A are present, "LOCKOUT" will be displayed on the controller. Follow the Steps on the "Lockout Reset Label" for reset of the Controller, located next to the Controller display.

Step 22: Perform the Engine Test per the Instruction Book.

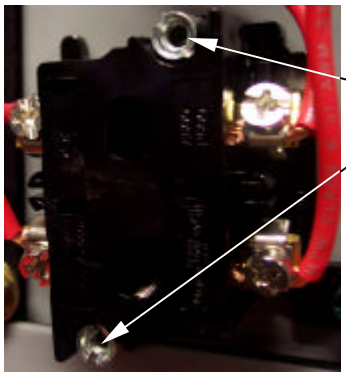

Figure 7, Removal of Contact Block

Figure 8, Removal of Keyed Selector Switch and Label

Figure 9a, Installation and Location of the New Service Entrance Label

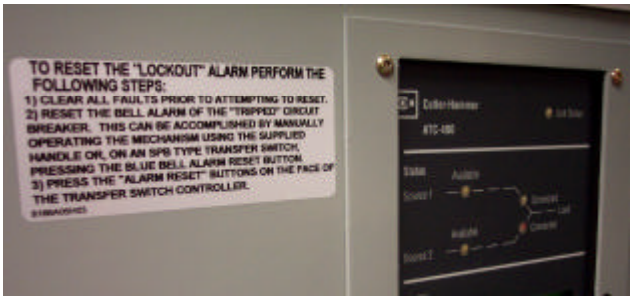

Figure 9b, Installation and Location of the "LOCKOUT" Label

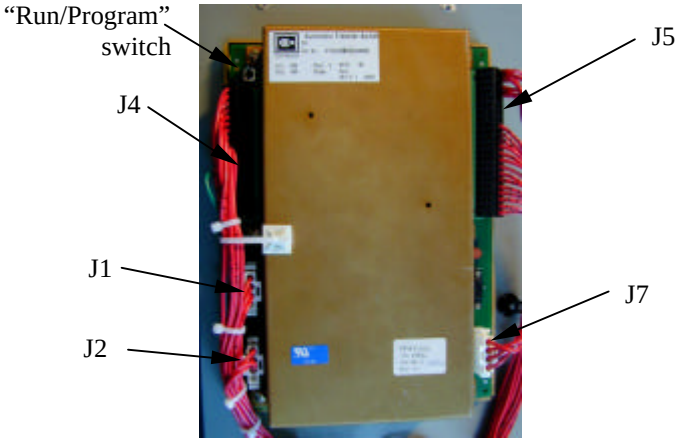

Figure 10, Connector Locations (back of ATC-400).

AG SWITCH ATC-200 TO ATC-400 SETPOINT REFERENCE TABLE								
ATC-400					ATC-200			
Description	Display	Setpoint Units	Range	Factory Default	Display	Setpoint Units	Range	Factory Default
Time Delay Engine Start	TDES	Minutes:Seconds	0 to 2:00 min.	0	TDES	Seconds	0 sec. to 120 sec.	3 sec
Time Delay Normal to Emergency	TDNE	Minutes:Seconds	0 to 30:00 min.	0	TDNE	Seconds	0 sec. to 1800 sec.	0 sec.
Time Delay Emergency to Normal	TDEN	Minutes:Seconds	0 to 30:00 min.	0	TDEN	Seconds	0 sec. to 1800 sec.	600 sec.
Time Delay Engine Cooloff	TDEC	Minutes:Seconds	0 to 30:00 min.	0	TDEC	Seconds	0 sec. to 1800 sec.	300 sec
Nominal Frequency	NOM FREQ	Hertz	50 or 60 Hz	As ordered	Nom Freq	Hertz	50Hz or 60Hz.	60Hz
Nominal Voltage	NOM VOLTS	Volts	120 to 600 volts	As ordered	Nom Volt	Volts	110 VAC – 240 VAC	240 VAC
Source 1 Undervoltage Dropout	S1 UV DROP	Volts	97% to 50% of NOMV	80% of NOMV in volts	N-UV-DO	Volts	50% to 99% of nominal	80%
Source 2 Undervoltage Dropout	S2 UV DROP	Volts	97% to 50% of NOMV	80% of NOMV in volts	E-UV-DO	Volts	50% to 99% of nominal	80%
Source 1 Undervoltage Pickup	S1 UV PICK	Volts	99% to (1UVD +2%)	90% of NOMV in volts	N-UV-PU	Volts	(dropout +2%) to 99%	90%
Source 2 Undervoltage Pickup	S2 UV PICK	Volts	99% to (2UVD +2%)	90% of NOMV in volts	E-UV-PU	Volts	(dropout +2%) to 99%	90%
Source 2 Underfrequency Dropout	S2 UF DROP	Hertz	90% to 97% of NOMF	97% of NOMF in hertz	E-UF-DO	Hertz	90% to 99% of nominal	56Hz
Source 2 Underfrequency Pickup	S2 UF PICK	Hertz	(2UFD + 1Hz) to 99%	99% of NOMF in hertz	E-UF-PU	Hertz	(dropout +1Hz) to 99%	58Hz
Time Delay Neutral	TDN	Minutes:Seconds	0 to 2:00 min.	0	TDN	Seconds	0 to 120 sec.	5 sec
Plant Exerciser Programming	PLANT EXER	Days	OFF, DAILY, 7-DAY, 14-DAY, or 28 DAY	OFF	Plant Exerciser		Y or N	N
Plant Exerciser Load Transfer	PE LOAD XFR		0 or 1 (1 = yes)	0	PE Load Transf		Y or N	N
Plant Exerciser Day of the Week	PE DAY	Days	SUN, MON, TUE, WED, THU, FRI, or SAT		Test Day	Days	--- ,or Mon-Sun	
Plant Exerciser Hour	PE HOUR	Hours	0 to 23		Test Hour	Hours	0-23	
Plant Exerciser Minute	PE MINUTE	Minutes	0 to 59		Test Min	Minutes	0-60	
Commit to transfer in TDNE	COMMIT TDNE		0 or 1 (1 = committed)	0	N/A	N/A	N/A	N/A
Test Mode	TEST MODE		0, 1, or 2 (0 = engine start only, 1 = load transfer, 2 = disable)	1	N/A	N/A	N/A	N/A
Engine run test time	TER	Hours:Minutes	1 to 10:00 hours	0	Engine Run	Minutes	1 – 600min.	20 min.
Number of generators	NUM OF GENS		0 or 1	1	N/A	N/A	N/A	N/A
Three phase or single phase	PHASES		1 or 3		Phases		1 or 3	1
Time Delay Emergency Fail Timer	TDEF	Seconds	0 to 6 seconds	6	TDEF	Seconds	0 to 6 sec.	1 sec.
Language	N/A	N/A	N/A	N/A	Lang		English/Spanish	English
Current Day	Weekday	Days	Mon-Sun		Current Day	Days	Mon-Sun	
Current Hour (24 Hour Time)	Hours	Hours	0-23		Current Hour	Hours	0-23	
Current Minute	Minutes	Minutes	0-60		Current Min	Minutes	0-60	
Pretransfer delay timer	N/A	N/A	N/A	N/A	TPRE	Seconds	0 to 120 sec	0 sec.

Table 1, Ag switch ATC-200 to ATC-400 Reference Table

ATH2/ATV2 ATC-200 TO ATC-400 SETPOINT REFERENCE TABLE (Continued on next Page)								
ATC-400					ATC-200			
Description	Display	Setpoint Units	Range	Factory Default	Display	Setpoint Units	Range	Factory Default
Time Delay Engine Start	TDES	Minutes:Seconds	0 to 2:00 min.	0	TDES	Seconds	0 sec. to 120 sec.	3 sec
Time Delay Normal to Emergency	TDNE	Minutes:Seconds	0 to 30:00 min.	0	TDNE	Seconds	0 sec. to 1800 sec.	0 sec.
Time Delay Emergency to Normal	TDEN	Minutes:Seconds	0 to 30:00 min.	0	TDEN	Seconds	0 sec. to 1800 sec.	600 sec.
Time Delay Engine Cooloff	TDEC	Minutes:Seconds	0 to 30:00 min.	0	TDEC	Seconds	0 sec. to 1800 sec.	300 sec
Nominal Frequency	NOM FREQ	Hertz	50 or 60 Hz	As ordered	Nom Freq	Hertz	50Hz or 60Hz.	60Hz
Nominal Voltage	NOM VOLTS	Volts	120 to 600 volts	As ordered	Nom Volt	Volts	110 VAC – 240 VAC	240 VAC
Source 1 Undervoltage Dropout	S1 UV DROP	Volts	97% to 50% of NOMV	80% of NOMV in volts	N-UV-DO	Volts	50% to 99% of nominal	80%
Source 2 Undervoltage Dropout	S2 UV DROP	Volts	97% to 50% of NOMV	80% of NOMV in volts	E-UV-DO	Volts	50% to 99% of nominal	80%
Source 1 Undervoltage Pickup	S1 UV PICK	Volts	99% to (1UVD +2%)	90% of NOMV in volts	N-UV-PU	Volts	(dropout +2%) to 99%	90%
Source 2 Undervoltage Pickup	S2 UV PICK	Volts	99% to (2UVD +2%)	90% of NOMV in volts	E-UV-PU	Volts	(dropout +2%) to 99%	90%
Source 1 Overvoltage Dropout	S1 OV DROP	Volts	105% to 120%	115% of NOMV in volts	N-OV-DO	Volts	105% to 120%	115%
Source 2 Overvoltage Dropout	S2 OV DROP	Volts	105% to 120%	115% of NOMV in volts	E-OV-DO	Volts	105% to 120%	115%
Source 1 Overvoltage Pickup	S1 OV PICK	Volts	(1OVD –2%) to 103%	110% of NOMV in volts	N-OV-PU	Volts	(dropout -2%) to 120%	110%
Source 2 Overvoltage Pickup	S2 OV PICK	Volts	(2OVD – 2%) to 103%	110% of NOMV in volts	E-OV-PU	Volts	(dropout -2%) to 120%	110%
Source 1 Underfrequency Dropout	S1 UF DROP	Hertz	90% to 97% of NOMF	97% of NOMF in hertz	N-UF-DO	Hertz	90% to 99% of nominal	56Hz
Source 2 Underfrequency Dropout	S2 UF DROP	Hertz	90% to 97% of NOMF	97% of NOMF in hertz	E-UF-DO	Hertz	90% to 99% of nominal	56Hz
Source 1 Underfrequency Pickup	S1 UF PICK	Hertz	(1UFD + 1Hz) to 99%	99% of NOMF in hertz	N-UF-PU	Hertz	(dropout +1Hz) to 99%	58Hz
Source 2 Underfrequency Pickup	S2 UF PICK	Hertz	(2UFD + 1Hz) to 99%	99% of NOMF in hertz	E-UF-PU	Hertz	(dropout +1Hz) to 99%	58Hz
Source 1 Overfrequency Dropout	S1 OF DROP	Hertz	103% to 110% of NOMF	103% of NOMF in hertz	N-OF-DO	Hertz	103% to 110%	62Hz
Source 2 Overfrequency Dropout	S2 OF DROP	Hertz	103% to 110% of NOMF	103% of NOMF in hertz	E-OF-DO	Hertz	103% to 110%	62Hz
Source 1 Overfrequency Pickup	S1 OF PICK	Hertz	(1OFD – 1Hz) to 101%	101% of NOMF in hertz	N-OF-PU	Hertz	(dropout –1Hz) to 110%	61Hz
Source 2 Overfrequency Pickup	S2 OF PICK	Hertz	(2OFD –1Hz) to 101%	101% of NOMF in hertz	E-OF-PU	Hertz	(dropout –1Hz) to 110%	61Hz
Time Delay Neutral	TDN	Minutes:Seconds	0 to 2:00 min.	0	TDN	Seconds	0 to 120 sec.	5 sec
Plant Exerciser Programming	PLANT EXER	Days	OFF, DAILY, 7-DAY, 14-DAY, or 28 DAY	OFF	Plant Exerciser		Y or N	N
Plant Exerciser Load Transfer	PE LOAD XFR		0 or 1 (1 = yes)	0	PE Load Transf		Y or N	N
Plant Exerciser Day of the Week	PE DAY	Days	SUN, MON, TUE, WED, THU, FRI, or SAT		Test Day	Days	--- ,or Mon-Sun	
Plant Exerciser Hour	PE HOUR	Hours	0 to 23		Test Hour	Hours	0-23	
Plant Exerciser Minute	PE MINUTE	Minutes	0 to 59		Test Min	Minutes	0-60	
Commit to transfer in TDNE	COMMIT TDNE		0 or 1 (1 = committed)	0	N/A	N/A	N/A	N/A
Test Mode	TEST MODE		0, 1, or 2 (0 = engine start only, 1 = load transfer, 2 = disable)	1	N/A	N/A	N/A	N/A
Engine run test time	TER	Hours:Minutes	1 to 10:00 hours	0	Engine Run	Minutes	1 – 600min.	20 min.

ATH2/ATV2 ATC-200 TO ATC-400 SETPOINT REFERENCE TABLE CONTINUED								
ATC-400					ATC-200			
Description	Display	Setpoint Units	Range	Factory Default	Display	Setpoint Units	Range	Factory Default
Number of generators	NUM OF GENS		0 or 1	1	N/A	N/A	N/A	N/A
Three phase or single phase	PHASES		1 or 3		Phases		1 or 3	1
Time Delay Emergency Fail Timer	TDEF	Seconds	0 to 6 seconds	6	TDEF	Seconds	0 to 6 sec.	1 sec.
Language	N/A	N/A	N/A	N/A	Lang		English/Spanish	English
Current Day	Weekday	Days	Mon-Sun		Current Day	Days	Mon-Sun	
Current Hour (24 Hour Time)	Hours	Hours	0-23		Current Hour	Hours	0-23	
Current Minute	Minutes	Minutes	0-60		Current Min	Minutes	0-60	
Pretransfer delay timer	N/A	N/A	N/A	N/A	TPRE	Seconds	0 to 120 sec	0 sec.

Table 2, ATH2/ATV2 ATC-200 to ATC-400 Setpoint Reference Table

***NOTE**: Highlighted Options are available but not required.*

Description	Current ATC-200 Setpoint	Default ATC-400 Setpoint	Final ATC-400 Setpoint
Time Delay Engine Start		0	
Time Delay Normal to Emergency		0	
Time Delay Emergency to Normal		0	
Time Delay Engine Cooloff		0	
Nominal Frequency		As ordered	
Nominal Voltage		As ordered	
Source 1 Undervoltage Dropout		80% of NOMV in volts	
Source 2 Undervoltage Dropout		80% of NOMV in volts	
Source 1 Undervoltage Pickup		90% of NOMV in volts	
Source 2 Undervoltage Pickup		90% of NOMV in volts	
Source 1 Overvoltage Dropout		115% of NOMV in volts	
Source 2 Overvoltage Dropout		115% of NOMV in volts	
Source 1 Overvoltage Pickup		110% of NOMV in volts	
Source 2 Overvoltage Pickup		110% of NOMV in volts	
Source 1 Underfrequency Dropout		97% of NOMF in hertz	
Source 2 Underfrequency Dropout		97% of NOMF in hertz	
Source 1 Underfrequency Pickup		99% of NOMF in hertz	
Source 2 Underfrequency Pickup		99% of NOMF in hertz	
Source 1 Overfrequency Dropout		103% of NOMF in hertz	
Source 2 Overfrequency Dropout		103% of NOMF in hertz	
Source 1 Overfrequency Pickup		101% of NOMF in hertz	
Source 2 Overfrequency Pickup		101% of NOMF in hertz	
Time Delay Neutral		0	
Plant Exerciser Programming		OFF	
Plant Exerciser Load Transfer		0	
Plant Exerciser Day of the Week			
Plant Exerciser Hour			
Plant Exerciser Minute			
Commit to transfer in TDNE		0	
Test Mode		1	
Engine run test time		0	
Number of generators		1	
Three phase or single phase			
Time Delay Emergency Fail Timer		6	
Language		N/A	
Current Day			
Current Hour (24 Hour Time)			
Current Minute			
Pretransfer delay timer		N/A	

Table 3, Setpoint Recording Table