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## INSTALLATION INSTRUCTIONS

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Original Issue Date: 7/03

Model: **ATS Demonstration Case**

Market: **ATS**

Subject: **ATS Demonstration Case Kits, GM29836-KP1 and GM29836-KP1S**

### Introduction

The ATS Demonstration Case kit allows demonstration of the operation of transfer switches equipped with the programmable controller. The kit allows demonstration of the following functions:

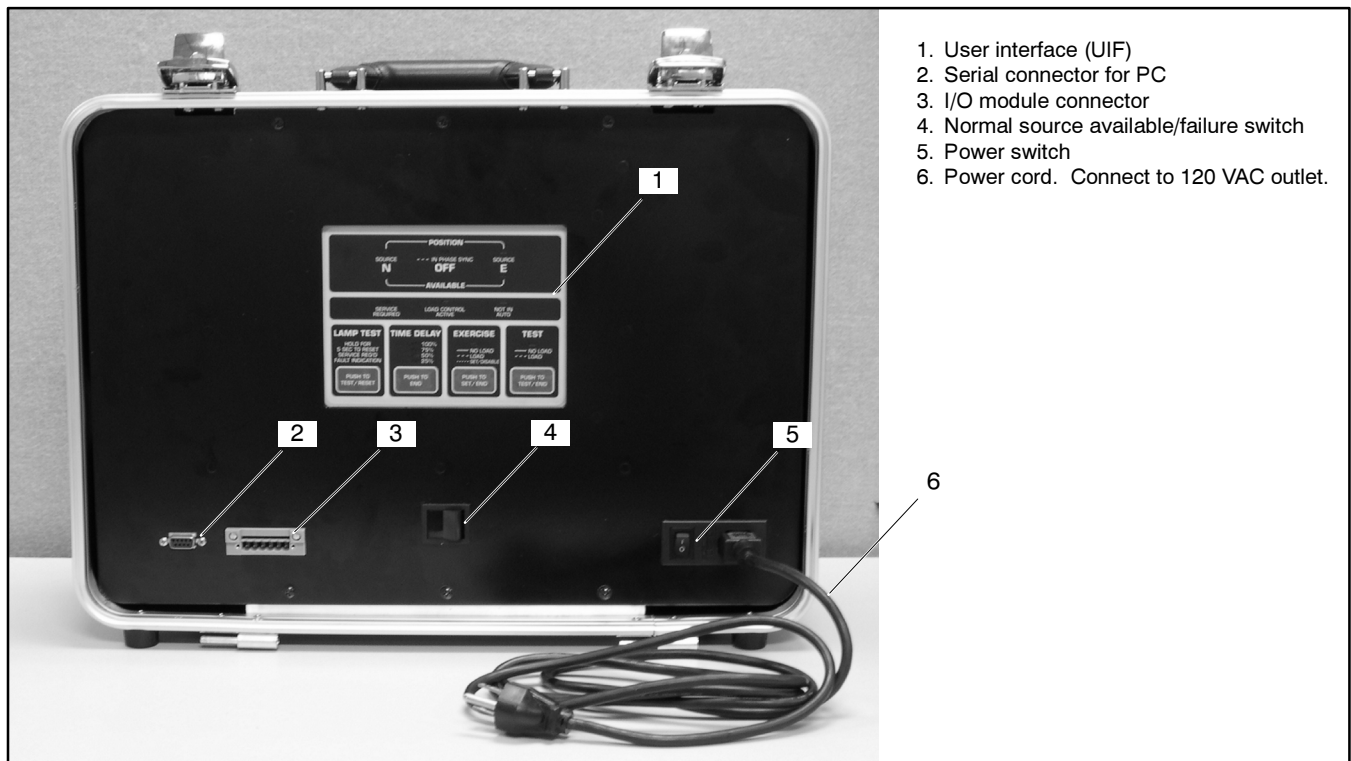
- Normal source available
- Normal source failure
- Start and stop a test cycle
- Start and stop an exercise cycle
- End time delay

- Setup Program operation
- Input/output module setup and operation

The demonstration unit is not designed to simulate a programmed-transition switch.

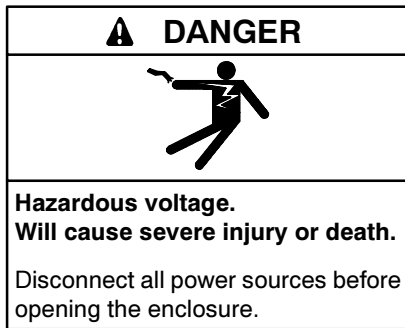
The kit includes the demonstration unit, power cord, Transfer Switch Operation and Installation Manual, Setup Program Operation Manual, and these instructions.

The demonstration unit is shown in Figure 1.



**Figure 1** ATS Demonstration Unit

## Safety Precaution



## Switches and Connectors

The demonstration unit includes a Normal Available/Normal Failure rocker switch, a power switch, a power cord connector, and two connectors for optional connections. See Figure 1 for connector and switch locations.

The rocker switch simulates Normal source available and Normal source failure conditions.

Connect the power cord provided with the unit to the connector in the lower right corner of the unit. Then plug the power cord into a 120 VAC outlet.

Use the power switch in the lower right corner to turn the unit on and off. The controller LEDs may remain lit for a short time after the power is turned off as the controller's capacitors discharge.

To demonstrate the Setup Program, use a null modem cable (not included) to connect a personal computer to the serial port at the lower left corner of the demo unit.

Use a standard I/O module harness to connect one or more I/O modules (part number GM21359-KP1) to the I/O module connector on the demo unit. The I/O modules (part number GM21359-KP1) and I/O module harness (part number GM21341-1) can be ordered separately. I/O modules must be configured using the Setup Program loaded onto a personal computer that is connected to the demonstration unit's serial port.

## Setup Program

Use the Setup Program to display and adjust controller settings, display active time delays, view the event log, and assign programmable inputs and outputs. The Setup Program software (part number GM23174-KP1) can be ordered separately.

Use a null modem cable to connect a personal computer equipped with the Setup Program software to the serial port at the lower left corner of the demo unit. Refer to the Setup Program Operation and Installation Manual (provided with the demonstration unit) for instructions to run the Setup Program.

**Note:** Changing some system settings can generate a fault condition. See the Fault Conditions section of these instructions.

## Function Demonstration

Plug the power cord into a 120 VAC outlet and move the power switch to the ON position. The following controller functions can be demonstrated:

### Lamp Test/Controller Reset

Press the Lamp Test button on the controller to illuminate all controller LEDs. Press and hold the Lamp Test button until the LEDs flash to reset the controller, clear fault conditions, and turn off the Service Required LED.

### Normal Source Failure

The rocker switch simulates normal source available and normal source failure conditions. With the switch in the Normal Available position, the controller LEDs indicate source N available and contactor in the source N position.

Move the switch to the Normal Failure position to simulate a loss of the normal source. The controller sends an engine start signal, indicates source E Available, and simulates a transfer to the source E position, executing all related time delays during the sequence.

Move the switch back to the Normal Available position to simulate the restoration of the source. The controller executes the applicable time delays and transfers back to the normal position. The source E available LED remains lit during the engine cooldown time delay if the delay is not set to zero.

### End Time Delay

Press the End Time Delay button on the ATS controller to end an active time delay. The End Time Delay button does not end an exercise run.

## Exercise

Press the Exercise button to start an exercise sequence. A loaded or unloaded exercise cycle, determined by the controller's DIP switch setting, will execute. (See the DIP Switches section later in these instructions.) Allow the exercise cycle to run for the programmed duration or press the Exercise button again to end the exercise.

## Test

Press the Test button to start a test sequence. The Time Delay, Source Available, and Position LEDs will illuminate in sequence as the test cycle runs. The type of test sequence, loaded or unloaded, is determined by the controller's DIP switch setting. Refer to the Transfer Switch Operation and Installation Manual, provided with the kit, for a description of the test sequence of operation.

Press the Test button again to end the test. All applicable time delays will execute.

## Fault Conditions

Fault conditions can be simulated by using the Setup Program to change the system parameters. For example, changing the source voltages in the Source Info window will cause the controller to sense a loss of the normal source and then generate a Failure to Acquire Standby fault. Use the Setup Program to correct the source parameters to clear the fault condition. After correcting the fault, press and hold the Lamp Test button to reset the controller if it does not reset automatically.

Factory settings for the demonstration unit are shown in Figure 2 for reference.

**Note:** Do not use the Reload Defaults button in the Setup Program to set the demonstration unit's settings. The ATS default settings are different from the system settings for the demonstration unit.

System Parameter	Factory Setting
Open or programmed transition	Open
Phases, N and E	1
Source voltage, N and E	120 VAC
Source frequency (50 or 60 Hz), N and E	60 Hz
Phase rotation	—
Commit to transfer (yes or no)	No
Rated current	225 Amps
Operating mode: Generator-to-Generator, Utility-to-Generator, or Utility-to-Utility	Utility-to-Generator
In-phase monitor	Disabled
In-phase monitor transfer angle	0
Transfer mode (automatic or non-automatic)	Auto
Extended Engine Start Time Delay	Disabled

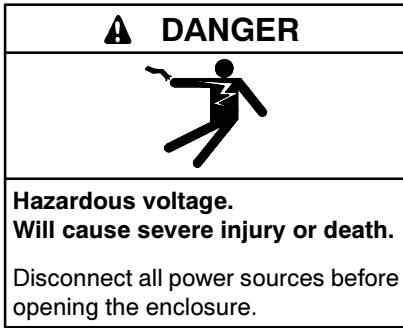
**Figure 2** Demonstration Unit Factory Settings

## Input/Output (I/O) Modules

Use a standard I/O module harness (part number GM21341-1) to connect one or more I/O modules to the demo unit. Refer to the Accessories section of the Transfer Switch Operation and Installation Manual for instructions to connect leads to the I/O module and set the DIP switches for the I/O module address. Use the Setup Program to configure the I/O module communications and assign inputs and outputs. Refer to the Setup Program Manual for instructions.

Example: Connect a switch or a pair of leads to one pair of input terminals on the I/O module. Use the Setup Program to define that input as Battery Low Fault. Close the switch or touch the leads together to simulate a low battery signal. The demonstration unit's Service Required LED illuminates to indicate the fault. Use the Setup Program to show that the fault is recorded in the Event Log. See the Setup Program Manual for a list of other inputs that can be assigned.

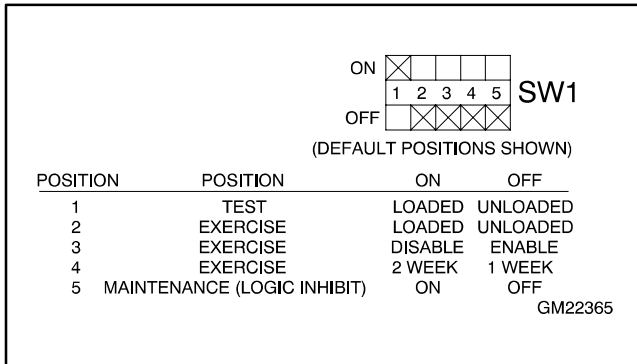
## DIP Switches



The controller DIP switch positions determine whether the test and exercise sequences are loaded or unloaded. The default DIP switch positions are shown in Figure 3.

DIP switch settings can be changed, if necessary. First turn off the unit and disconnect power by unplugging the power cord. Then use a Phillips screwdriver to remove the screws that secure the unit into the case. Refer to the ATS Operation and Installation Manual for more information about DIP switch settings.

Reinstall the unit into the case and replace the screws before reconnecting power.



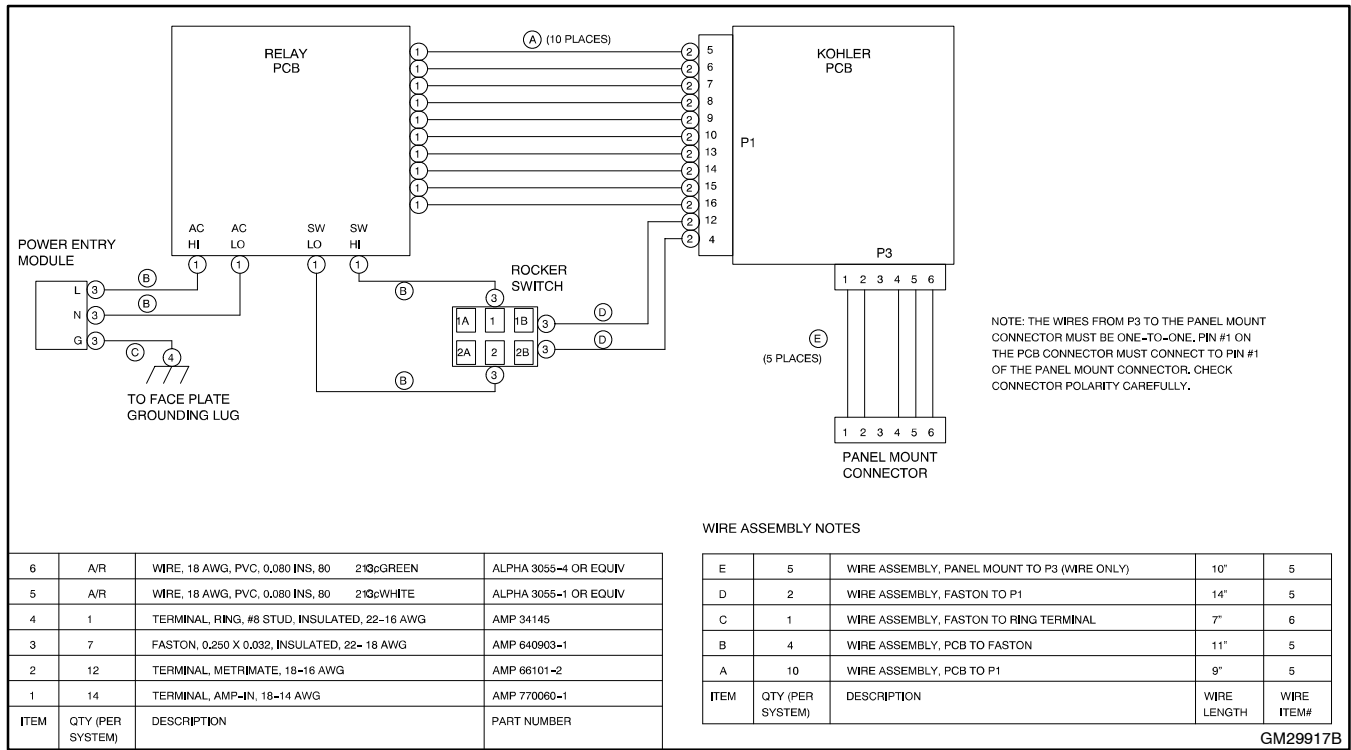
**Figure 3** DIP Switches

## Troubleshooting

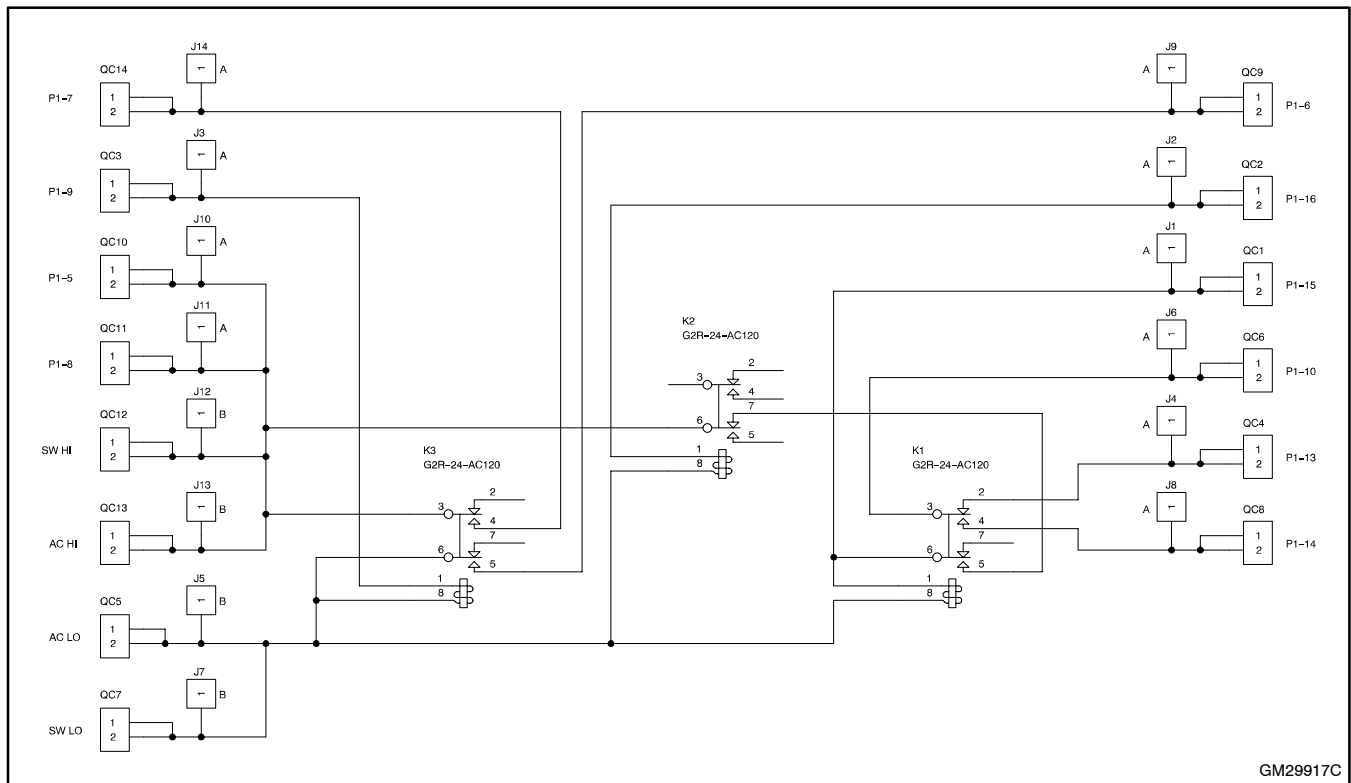
If the demonstration unit does not operate as expected, troubleshoot and correct the source of the problem.

- Check the power connection and verify that the power switch is in the ON position.
- Press the Lamp Test button and verify that all LEDs illuminate.
- If no LEDs illuminate, disconnect power and check the fuse. The unit uses a 5 amp, 250 V, slo-blo, 5 x 20 mm fuse.
- Press and hold the Lamp Test button until the LEDs flash to reset the controller.
- Use the Setup Program to check that the source parameters match the factory settings shown in Figure 2. Check other settings including time delays and voltage pickup and dropout settings. Check the event history for a list of the most recent controller events.
- Disconnect power and check the ATS DIP switch settings. Verify that the Maintenance DIP switch is OFF and the other DIP switches are set to the appropriate positions for your demonstration.
- Disconnect power and check the connections. Refer to the wiring diagrams in the following section.

# Wiring Diagrams



**Figure 4** Wiring Diagram



**Figure 5** Schematic

# Parts List

## ATS Demonstration Case Kit

Kits: GM29836-KP1 and GM29836-KP1S				
Qty.	Description	Common Parts	Unique Parts	
			GM29836-KP1	GM29836-KP1S
1	Harness, 9-Pin Ribbon	GM10945		
1	Decal, Membrane Switch	GM21107		
1	PCB, Logic Board	GM22516-A		
1	Switch, Transfer Demo	GM29837		
1	Decal		GM29838	GM29840
1	Decal, Normal Available/Normal Failur	GM29839		
1	MPAC Demo Unit Assembly	GM29917		
1	O/I/M ATS		TP-6126	MP-6126
1	O/I/M Setup Program, ATS		TP-6135	MP-6135
1	ATS Demonstration Unit	TT-1352		