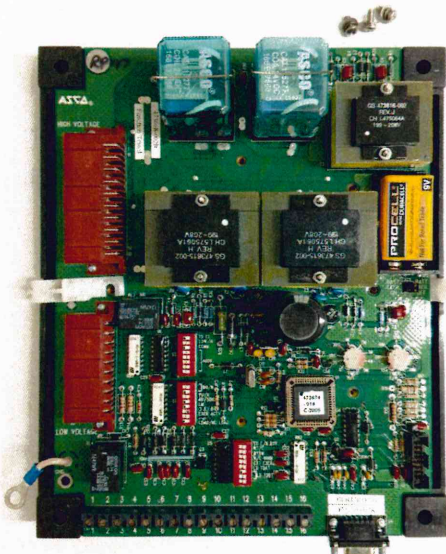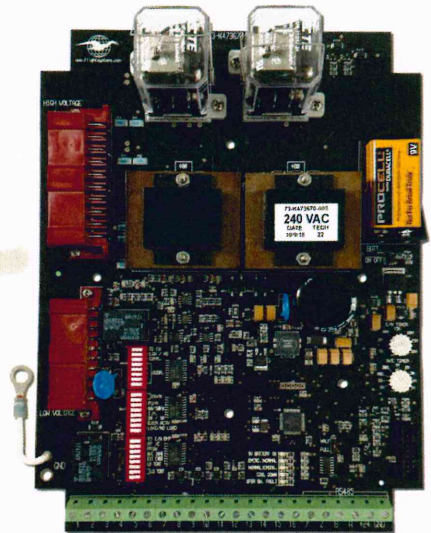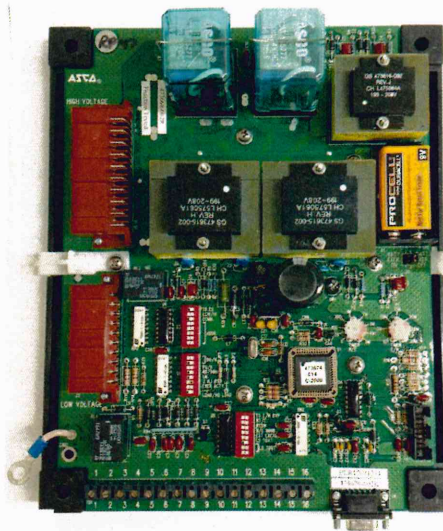# INSTALLATION INSTRUCTIONS 73-K473670-XXX

Remove entire assembly from transfer switch. Note the position of dip switches SW1-SW3. Match the position of the dip switch settings on your existing cntroller before removing.
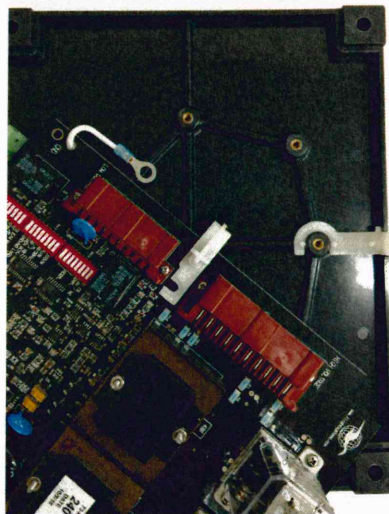
Remove the 6 mounting screws, lock washers, flat washers and plastic clip to secure cover. Install plastic clip on replacement board before installing in mounting tray.

Secure the replacement board with the 6 mounting screws and washers. Reinstall assembly in the transfer switch. A few features have been added to the 73-K473670-XXX. Please review the list of changes on the following page; Most importantly, the function of SW3-3 that was an unused function on the original control board and could be in an unknown state if copied from the original.
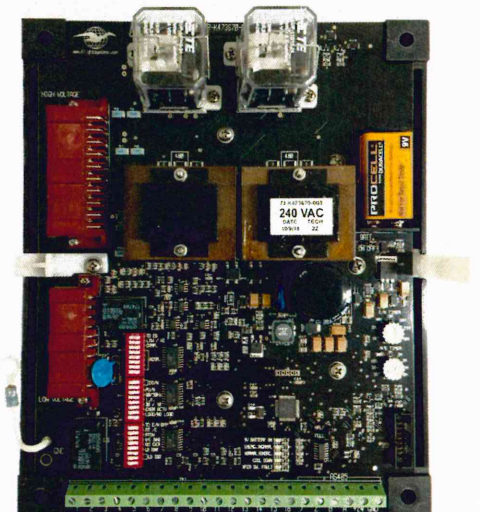
New Features

Communications

The standard DB9 connector has been replaced with terminals Y, Z, B, A, 24, and GND. This is a direct connection for full duplex RS485 communications. The 72A communications module is not required for use with ASCOBUSII.

In addition to eliminating the need for the 72A communications module the option for half duplex RS485 communication has been added by moving jumper J4 to the HALF position. This allows standard Modbus communications with the Flight Systems M327V2 modem. The M327V2 modem provides the connection necessary to access your new controller remotely via our online interface as well as send notifications via text and email.

Switch Protection

An optional pulsed / protection feature has been added by setting SW3 - 3 (COMM.) to closed. During transfer K1 or K2 will activate for a period of 500ms while monitoring switch position and determining if a transfer was successful. To prevent damage to the in the event of switch failure the controller will rest for a period of 1 second before retrying. The controller will retry 3 times before going into a fault condition.

Diagnostic Indicators

Diagnostic indicators have been added to aid in troubleshooting. Note that a fault condition will not lock out the controller from normal operation in any way. If a fault condition is recorded it will display the nature of the fault until the next successful transfer. For example, if the controller detects a failure to aquire emergency power, the fault will be displayed until the next time the generator produces a valid voltage and frequency. It is recommended that you run a transfer test to clear a fault condition. It you need to clear a fault condition and are unable to run a transfer test you can remove the battery jumper (J6) momentarily. A fault condition will also display an additional indicator to indicate the cause.

|	
9V BATTERY OK	**SOLID** - Battery jumper installed and battery voltage is good.
EMERG.>NORMAL	**SOLID** - Normal source available.
	FLASHING - Time delay before retransfer active.
NORMAL>EMERG.	**SOLID** - Emergency source available.
	FLASHING - Time delay before transfer active.
COOL DOWN	**SOLID** - Cool down cycle is active.
FAULT	**SOLID** - A fault condition was detected.
	FLASHING (1s) EMERG.>NORMAL - Failure to transfer to normal.
	FLASHING (1s) NORMAL>EMERG. - Failure to transfer to emergency.
	FLASHING (.5s) NORMAL>EMERG. - Failure to aquire emergency.

Firmware Updates

Updates can be done in the field by downloading the most recent firmware for your controller. To update the firmware go to www.flightsystems.com and download the update utility. Instruction as well as release notes are included. You will need a USB to RS485 converter to load the firmware update.

Flight Systems Replacement for the ASCO 300 Series Control Board
Factory Default Dip Switch Settings

Tech Note: For our aftermarket board to act as a drop-in replacement, you must copy the dip switch settings from the old board that you are replacing.
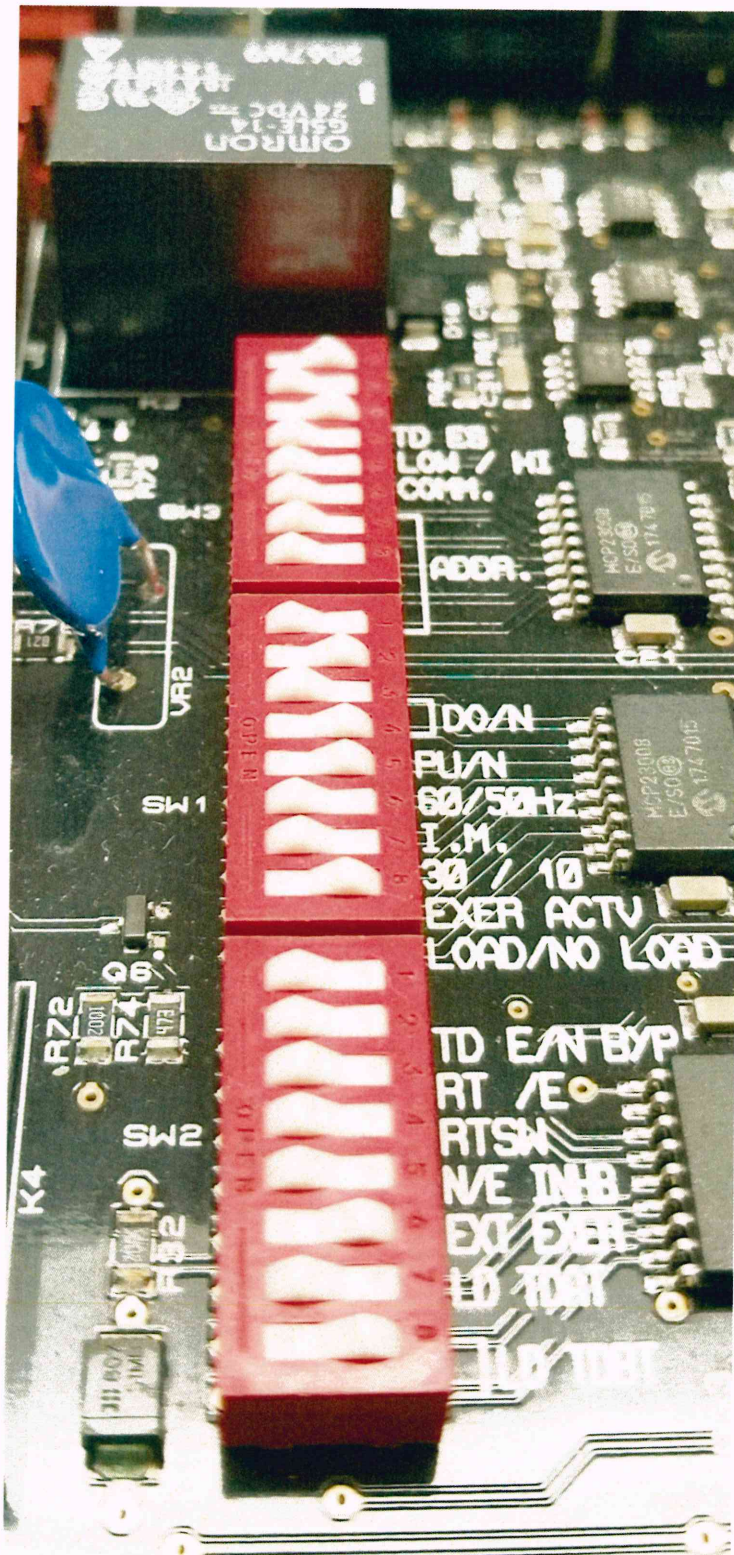
SW3
1 = Open
2 = Closed
3 = Open
4 = Closed
5 = Closed
6 = Closed
7 = Closed
8 = Closed

SW1
1 = closed
2 = open
3 = closed
4 = open
5 = open
6 = closed
7 = closed
8 = open

SW2
1 = closed
2 = closed
3 = closed
4 = closed
5 = closed
6 = open
7 = closed
8 = open

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