BACKSHOP
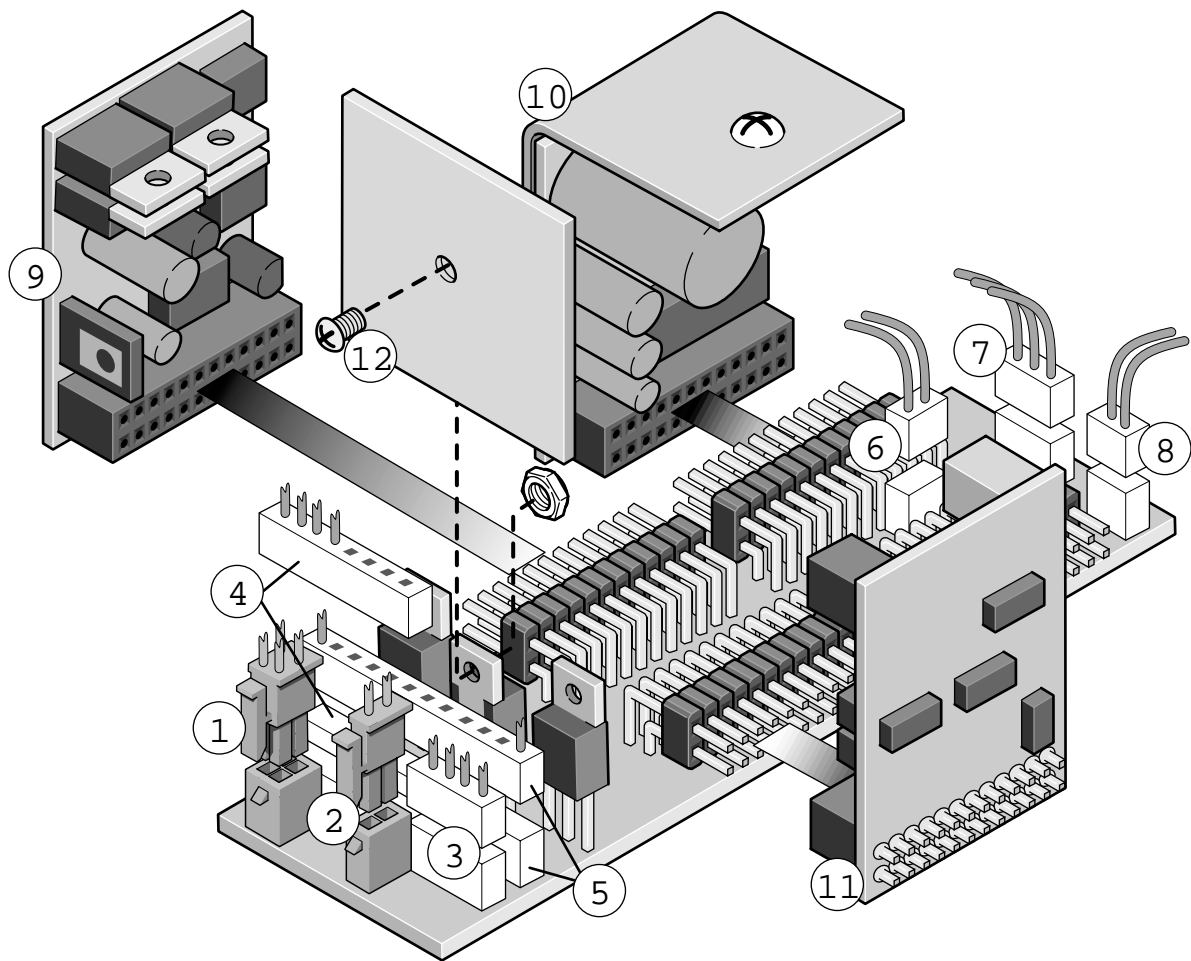## Motherboard swap

Replacing the MotherBoard

First unplug all harnesses from the motherboard (#1-8 in illustration). You may wish to identify each harness as they are removed to aid in replugging the harnesses in. Next identify then unplug each modular electronic board (radio board, soundboard, and motor driver board) from the old motherboard (#9-11 in illustration). Now, remove the four mounting screws located in each corner of the motherboard and remove the motherboard from the accessory. The last part to remove from the old motherboard is the large silver heatsink, unfasten the mounting screw and take it, and the heatsink (#12 in illustration) and install them in the same location on the new motherboard. Once the heatsink is

installed, place the new motherboard onto the four mounting bosses that held the old motherboard. Make sure that the heat sink on the motherboard is towards the motor gearbox for the garage doors. Using the four screws, reinstall the motherboard onto the accessory. Now take each modular electronic board and replug the board into the same slot on the new motherboard. Make sure that these boards are plugged onto the connector pins correctly. The connector pins will match up with the connector on the modular boards. If the modular board is plugged in incorrectly, it could cause the accessory to operate erratically or cause damage to the electronic boards. Finally, replug the harnesses into there correct positions.(See illustration below)

Replace Power Harness

Unplug the two pin Molex connector (#2 in the illustration) from the motherboard. Cut and strip each wire that is entering the connector. Next, wire nut the red lead from the new harness to the red power wire that is in the backshop. Repeat for the black wire and replug the new harness into the motherboard.

Whats Included in your kit

Motherboard (1), Insulating washer (2), Wire nuts (6), Smoke unit funnel (1), 4 pin Motor harness (1), and 2 pin Power harness (1).
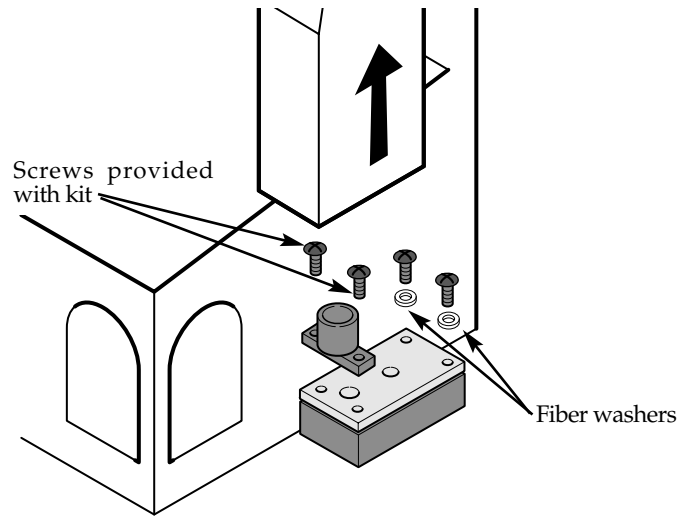
Replace Motor Harness

Unplug the four pin Molex connector (#1 in the illustration) from the motherboard. Cut and strip each wire that is entering the connector. Next, wire nut the wires from the new harness to the motor wires that are in the backshop. Match the following wires between the new harness and the wires in the backshop. Replug harness into motherboard.

New Motor Harness Color		Motor Wires in Backshop Color
Red	wire to	Red
Black	wire to	Black
White	wire to	Grey
Blue	wire to	Purple

Smoke Unit - Add funnel

A funnel has been included to place on the smoke unit to make adding smoke fluid easier. To add funnel, remove the two screws on either side of the hole where the smoke fluid is added. Align funnel with mounting holes and fill hole and reattach with the two screws provided in the kit. Also, included in this kit is an additional set of fiber washers. Please install these under the two screws in the rear of the smoke unit.
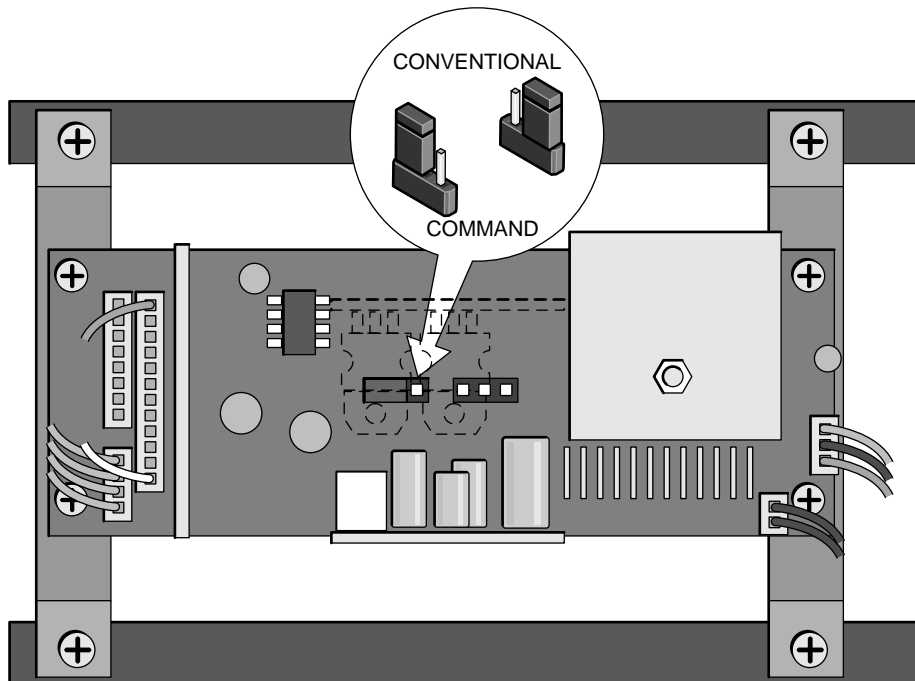
Screws provided with kit

Fiber washers

Smoke Unit Operation

The throttle control on the CAB-1 will control the amount of smoke produced by the smoke unit. By increasing the throttle, you will increase the amount of smoke produced.

With the new motherboard, the smoke unit will not operate until activated when the backshop machinery is turned on. If you have rewired your smoke unit per the previous addendum it is optional to switch the wiring back. If you do, the smoke unit will only operate when the backshop machines are activated and the throttle on the CAB-1 controls the amount of smoke. If you do not, the smoke unit will still only operate when the backshop machines are turned on, but you will not be able to control the smoke unit with the throttle control. Also, if you choose not to rewire the smoke unit back to the old way, the electronics and the smoke unit will not be damaged. Now, the smoke unit can be operated in either the Command or non-Command environment. Locate the JP4 jumper in the middle of the motherboard. Placing the jumper on the two pins on the left, will allow the smoke unit to operate in Command mode. Placing the jumper on the two pins on the right, will allow the smoke unit to operate in Conventional mode. The illustration below shows the backshop with smoke unit set to operate in the Command mode.

CONVENTIONAL

COMMAND

New Operation Mode

With your new motherboard, all the commands noted on your original instruction sheet will be operational. We have also added the ability to open and close the garage doors while operating the machines in the backshop. Please note that the door startup sound may activate while the door is moving. This is normal and has to do with the limitations on the soundboard and not a malfunction of the electronics.