SS-400 DRAKE L-4/L-4B SOFT-START MODULE INSTALLATION INSTRUCTIONS

PARTS SUPPLIED WITH THIS KIT:

(1) SS-400 Circuit Board	(1) 1N5408 Diode	(1) 4-Pin Nylon PC Header
(1) 25Ω 25-Watt Resistor	(1) 680Ω 10-Watt Resistor	(1) 4-Pin Nylon Plug
(1) 2200μF 35VDC Capacitor	(1) SPST 12VDC Relay	(4) #6-32x¼" Steel Screws
(4) Female Wire-End Sockets	(4) #6-32x¼" Nylon Screws	(2) 10" #16 White Wires
(4) #6-32x3/8" Nylon Stand-Offs	(4) #6 Nylon Flat Washers	(2) Ring Terminals

To start the installation, read these instructions very carefully. Now unplug the power cord from the mains. **Be sure to let the HV bleed off!** Unplug the supply from the amplifier (both the heavy control cable and the HV line). Place the RF deck upside down on the bench in front of you and remove the bottom cover. You are now ready to proceed with assembly and installation of the SS-400.

( ) Prior to assembling the SS-400, use the unpopulated PC board as a template for marking the mounting holes. The best location I have found is between the filament transformer voltage selector strip and the relay power supply terminal strip on the underside of the RF deck. **NOTE: In order for the SS-400 to fit in this location, you may have to rotate the 2-lug terminal strip so it is in line with the other 6-lug terminal strip. In order for the terminal strip to rotate, you will have to unsolder the small rectifier diode (D2), 2.2KΩ resistor (R5) and the blue wire from the secondary of the filament transformer. Once this strip is rotated, you can re-solder the diode, resistor and blue wire to the appropriate terminals.** Once there is enough room for the PC board, hold it in position and mark the 4 mounting holes. You may wish to temporarily remove one of the screws fastening the ceramic tank coil form so that the PC board lies flat while you are marking the holes. **The way I rotated the strip and the suggested mounting location is shown in the installation picture.**

( ) Center punch and drill the 4 mounting holes using a sharp 9/64" or 5/32" drill bit. Remove any burrs around the edges of the holes. Be sure to completely remove all drilling shavings with a vacuum and/or sticky tape.

( ) Mount a nylon standoff on the underside of the RF deck through each of the 4 holes you just drilled using a #6-32x¼" steel screw.

( ) Assemble the SS-400 according to the parts layout diagram and silkscreen on the PC board. Make sure all parts are mounted flat on the silk-screened side of the PC board. **NOTE: Be sure to mount the 4-pin nylon socket such that the keying cuts (diagonal portion inside the socket) are facing toward the center of the PC board and the saw tooth edge of the socket are facing the edge of the PC board. In addition, mount R2 slightly above the PC board (~ ¼") to allow for air circulation and cooling of the resistor.**

( ) Once assembled, mount the SS-400 module to the 4 nylon standoffs using a #6-32x¼" nylon screw and nylon flat washer at each mounting location.

( ) Locate the **LARGE BLACK** wire in the main wiring harness that runs from the ON-OFF switch to the large Jones plug on the rear of the RF deck.

( ) Clip this wire at the point where it passes near the 4-pin socket and the front mounting screw of the SS-400.

( ) Remove approximately ¼" of insulation from each end of the **LARGE BLACK** wire you just cut. You may want to tin the ends of the wires before attaching the sockets as this helps when soldering the sockets to the wires. **CRIMP and SOLDER** a female socket onto each end of the **LARGE BLACK** wire.

( ) In a likewise manner, remove approximately ¼" of insulation from each end of the supplied 10" #16 white wires (2). You may want to tin the ends of the wire before attaching the sockets and ring terminals as this helps when soldering the socket and terminals to the wire. **CRIMP and SOLDER** a female socket onto one

end of each of the white wires. **CRIMP and SOLDER** a red ring terminal onto the other end of each of the white wires.

( ) Carefully push the socket end of the following wires into the 4-pin plug housing. You may hear a small click when the socket has been pushed far enough into the housing. The wires will not come back out when they have been inserted far enough into the plug housing.

Insert **LARGE BLACK** wire (Jones plug end) to position #4.
Insert **LARGE BLACK** wire (ON-OFF switch end) to position #2.
Insert **WHITE** wires to positions #1 and #3.

( ) Connect the other ends of the **WHITE** wires (the ends with the ring terminals) to the following locations.

Connect **WHITE** wire from 4-pin plug position #3 to the filament transformer voltage selector strip terminal #3 (the third one in from the edge of the RF deck – also has black wire connected to it).

Connect **WHITE** wire from 4-pin plug position #1 to the filament transformer voltage selector strip terminal #1 (the first one in from the edge of the RF deck – also has white and green/black wires connected to it).

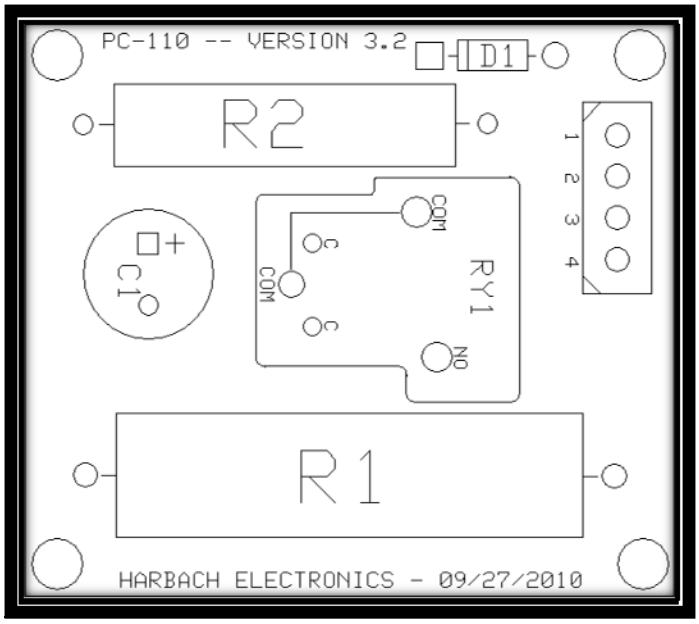
( ) **Recheck your soldering and wiring at this point!!!**

( ) Plug the 4-pin plug housing into the 4-pin socket on the PC board (it will only go in one way) and replace the bottom cover of the RF deck.

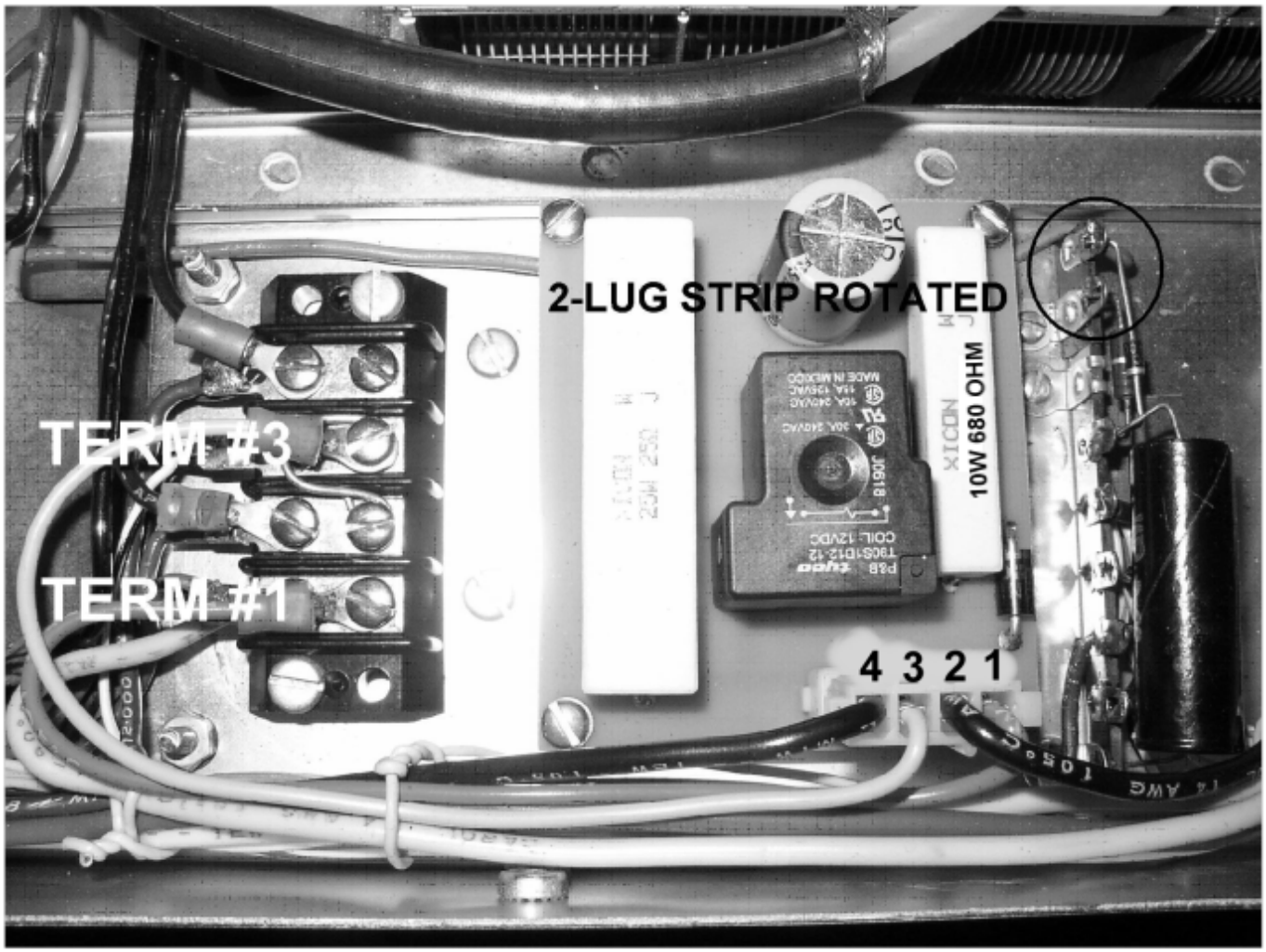
This completes the installation of the SS-400 soft-start module. You can now turn on your amplifier in either CW or SSB position knowing the soft-start module will protect your amplifier from in-rush currents. **When you turn the amplifier on, you will hear a single click shortly after you flip the switch. This is the relay removing the resistive load from the soft-start circuit. If you do not hear the relay click, there is a problem!** Turn the amp off and go back and check all of your assembly and connections.

PC BOARD PARTS DESIGNATION:

C1	2200μF 50VDC Capacitor	**D1**	1N5408 Diode
R1	25Ω 25-Watt Resistor	**R2**	680Ω 10-Watt Resistor
RY1	12VDC SPST Relay	**S1**	4-Pin PCB Socket



SS-400 PARTS INSTALLATION PICTURE & NOTES



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