

## R. L. DRAKE LINEAR AMPLIFIER RELAY REPLACEMENT

The enclosed relay is a general replacement relay for the R. L. Drake L-4/L-4B/L-7/L-75 linear amplifiers. Over the years various relays made by several manufacturers were used in these amplifiers. Before disconnecting and removing the existing relay from your amplifier, please compare the appropriate drawing that pertains to your amp and note the locations and connections. It is best to write this information down before unsoldering any wires!

Perform the following modifications/preliminary wiring changes to the new relay.

- ( ) Locate the leads that connect the armature contacts to the terminals of contacts 7 & 10. Disconnect these two leads at the back side of terminals 7 & 10 leaving the other ends attached to the armature contacts. The 2 disconnected leads will be connected later.
- ( ) Install the following jumper leads on the new relay:
  - ( ) Connect a 5/8" wire jumper between the relay coil terminal and the back side terminal 7.
  - ( ) Connect a 5/8" wire jumper between the opposite relay coil terminal and the back side of terminal 10.
  - ( ) Connect a 1-1/4" solid wire jumper between terminals 1 and 3.
- ( ) Install a 1N4005 diode or resistor/1N4005 diode combination between terminals 7 and 10 as applicable for your specific model.
- ( ) Unsolder all leads attached to the old relay and remove.
- ( ) Mount the new relay and connect the leads per the attached drawing specific to your model amplifier.

### **HARBACH ELECTRONICS, LLC**

Jeff Weinberg – W8CQ

468 County Road 620

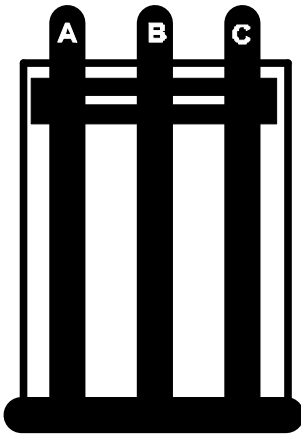
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**TOP VIEW  
ARMATURE CONTACTS**



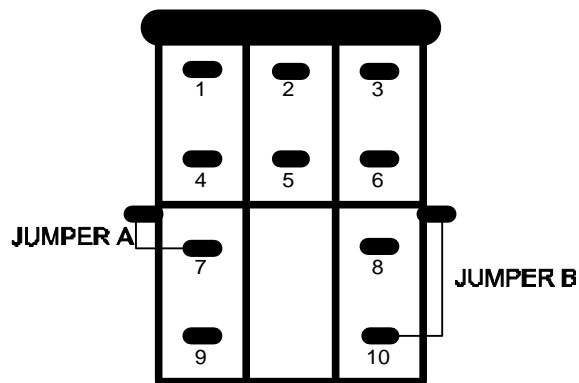
**ARMATURE CONNECTIONS**

- A RF OUTPUT FROM WATT METER BOARD
- B NO CHANGE
- C RF INPUT

**LUG CONNECTIONS**

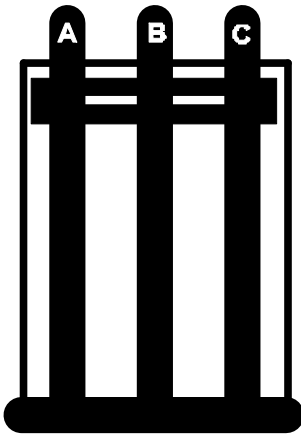
- 1 JUMPED TO 3
- 2 GREEN WIRE FROM AGC POT & PIN 5 POWER CONNECTOR
- 3 JUMPED TO 1
- 4 COAX FROM C40 LOAD CAPACITOR
- 5 ORANGE FROM GRID METER BOARD
- 6 COAX TO S1A BAND SWITCH OR LP FILTER ON SOME UNITS
- 7 RED WIRE FROM STANDBY SWITCH & JUMPER A FROM COIL
- 8 N/C
- 9 YELLOW WIRE FROM FILAMENT TRANSFORMER
- 10 BLUE WIRE TO VOX CONNECTOR/C36 (SOME UNITS D5) & JUMPER B FROM COIL

**BACK VIEW  
CONNECTION LUGS**



REVISIONS			HARBACH ELECTRONICS, LLC 468 COUNTY ROAD 620 POLK, OH 44866-9711 USA	
NO.	DATE	BY	DRAKE L-4/L-4B RELAY	
1			SCALE	MATERIAL SEE NOTE
2			DATE 08-02-09	DRAWING NO.
3			APP'D JTW	
4				
5				

**TOP VIEW  
ARMATURE CONTACTS**



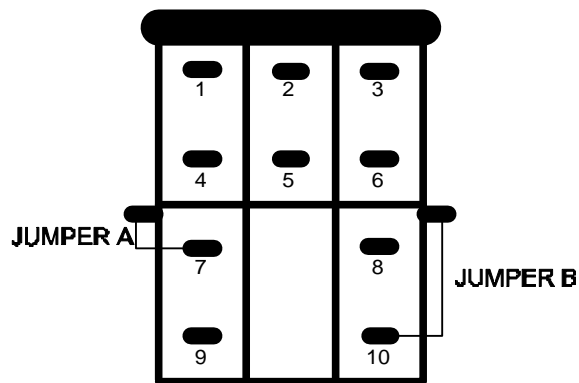
**ARMATURE CONNECTIONS**

- A RF OUTPUT FROM WATT METER BOARD
- B NO CHANGE
- C RF INPUT

**LUG CONNECTIONS**

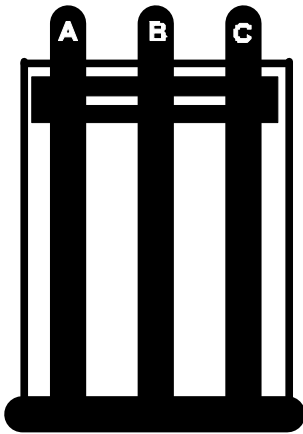
- 1 JUMPERED TO 3
- 2 RED WIRE FROM AGC POT & PIN 5 POWER CONNECTOR
- 3 JUMPERED TO 1
- 4 HEAVY RED FROM C46 LOAD CAPACITOR
- 5 ORANGE FROM METER SWITCH BOARD
- 6 COAX TO S1A BAND SWITCH OR LP FILTER ON SOME UNITS
- 7 BLUE WIRE FROM STANDBY SWITCH & JUMPER A FROM COIL
- 8 22 OHM 1/4 WATT RESISTOR TO 10
- 9 YELLOW WIRE FROM FILAMENT TRANSFORMER
- 10 WHITE WIRE TO VOX CONNECTOR/C32 & JUMPER B FROM COIL

**BACK VIEW  
CONNECTION LUGS**



REVISIONS			HARBACH ELECTRONICS, LLC 468 COUNTY ROAD 620 POLK, OH 44866-9711 USA	
NO.	DATE	BY		
1			<b>DRAKE L-7 RELAY</b>	
2				
3				
4			SCALE	MATERIAL SEE NOTE
5			DATE 08-02-09	DRAWING NO.
			APP'D JTW	

TOP VIEW  
ARMATURE CONTACTS



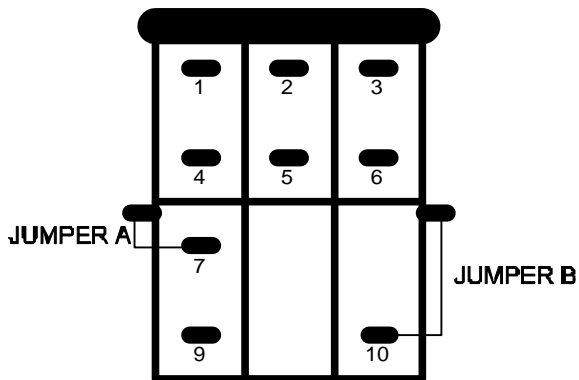
ARMATURE CONNECTIONS

- A RF INPUT
- B NO CHANGE
- C RF OUTPUT

LUG CONNECTIONS

- 1 JUMPED TO 3
- 2 RED WIRE FROM AGC POT & R47
- 3 JUMPED TO 1 & C55 25 pF CAPACITOR TO SHIELD OF COAX FROM C38
- 4 BARE WIRE FROM LOW PASS FILTER & C1 25 pF CAPCITOR TO GROUND
- 5 GREEN FROM C56/R50
- 6 COAX CENTER FROM C39 LOAD CAPACITOR
- 7 GRAY WIRE FROM R56/C56 & JUMPER A FROM COIL
- 8 N/C
- 9 VOILET WIRE FROM CR4
- 10 WHITE WIRE TO S3 STAND BY SWITCH & JUMPER B FROM COIL

BACK VIEW  
CONNECTION LUGS



REVISIONS			HARBACH ELECTRONICS, LLC 468 COUNTY ROAD 620 POLK, OH 44866-9711 USA	
NO.	DATE	BY		
1			<b>DRAKE L-75 RELAY</b>	
2				
3			SCALE	MATERIAL
4			DATE 08-02-09	SEE NOTE
5			APP'D JTW	DRAWING NO.