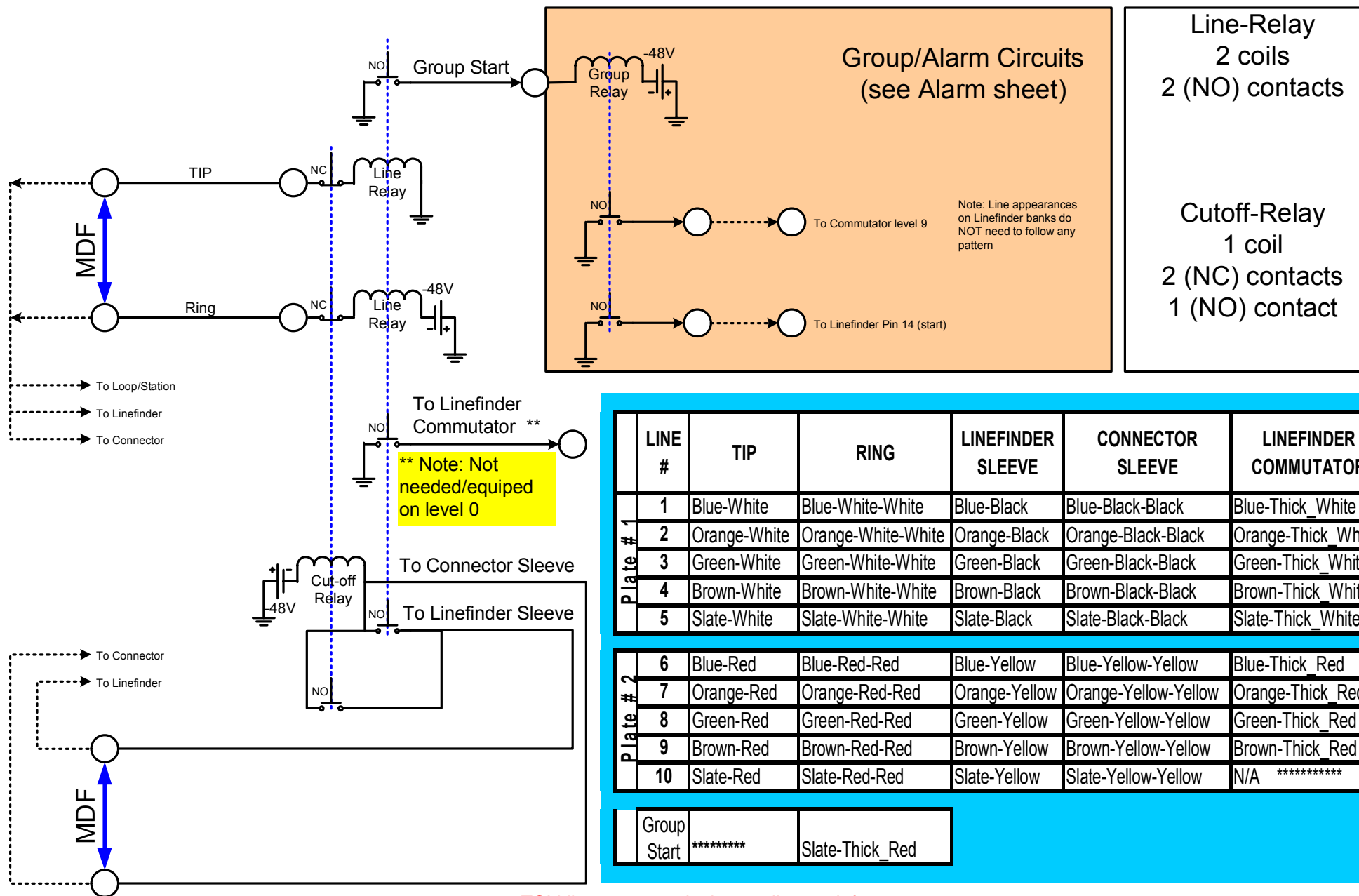


# Line Cut-Off Relays- Group/Start Circuit

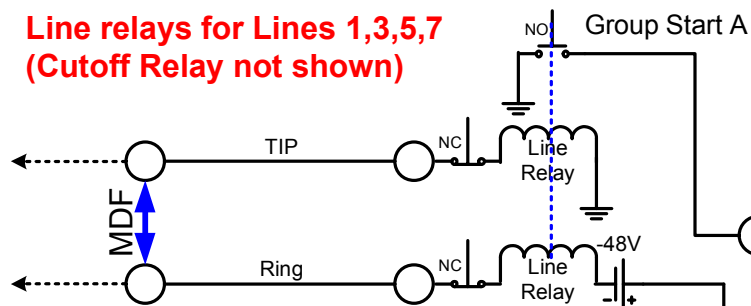




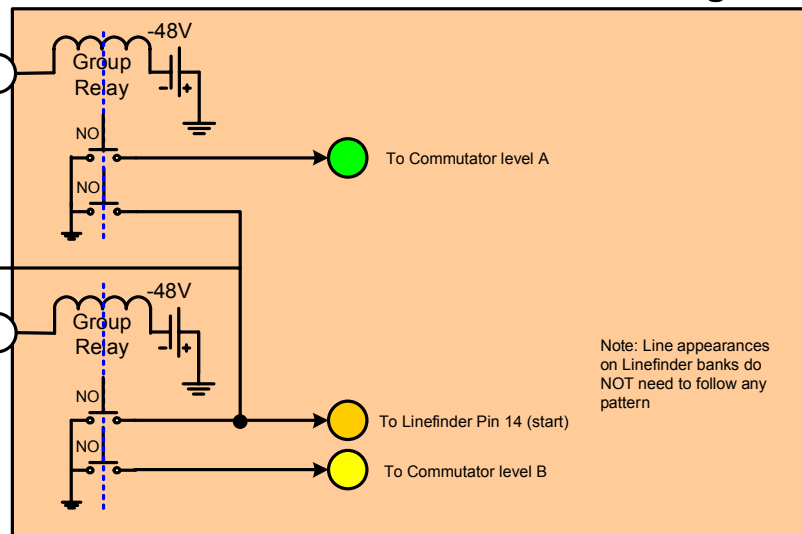
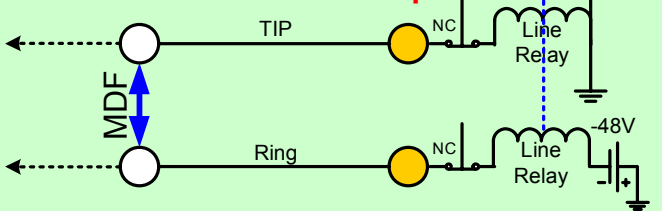
# AE 10 Position Line/Cutoff Relay Plate

Modified: 8 Lines with two Group Relays  
and one line for incoming C\*Net Trunk

Line relays for Lines 1,3,5,7  
(Cutoff Relay not shown)



Line 9 relay  
C\*Net Incoming Trunk  
Level 0 No Commutator Req'd

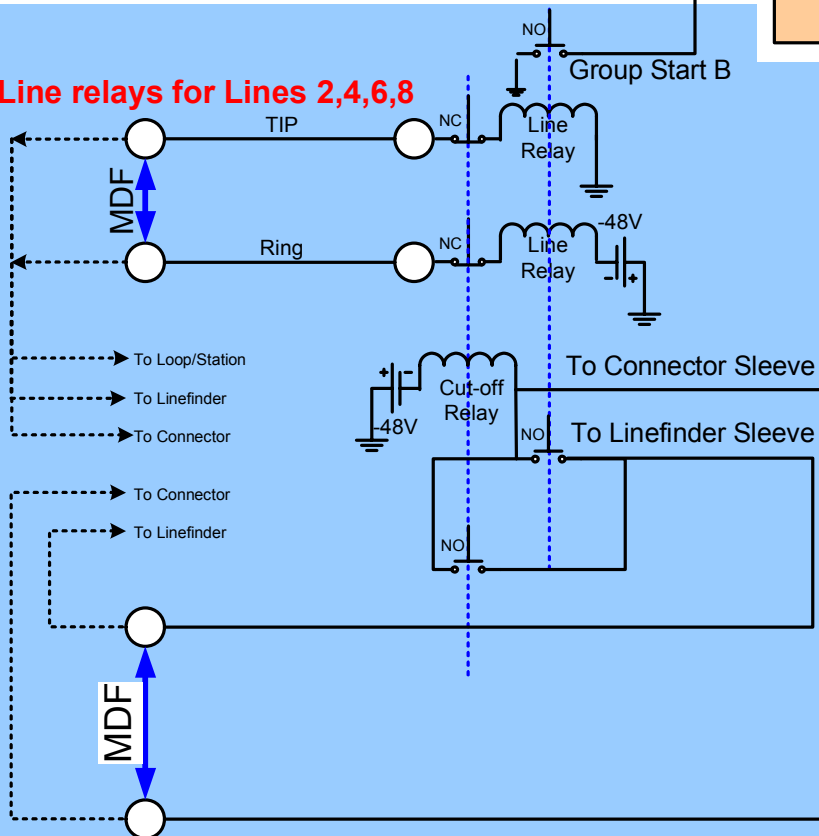


Note: Line appearances  
on Linefinder banks do  
NOT need to follow any  
pattern

Line-Relay  
2 coils  
2 (NO) contacts  
1 NO/NC contact

Cutoff-Relay  
1 coil  
2 (NC) contacts  
2 (NO) contacts

Line relays for Lines 2,4,6,8



LINE #	TIP	RING	LF #	LINEFINDER SLEEVE	CONN #	CONNECTOR SLEEVE
1	White-Blue	Blue-White	36	Black-Blue	22	Blue-Black
2	White-Orange	Orange-White	76	Black-Orange	33	Orange-Black
3	White-Green	Green-White	37	Black-Green	44	Green-Black
4	White-Brown	Brown-White	77	Black-Brown	66	Brown-Black
5	White-Slate	Slate-White	38	Black-Slate	77	Slate-Black

6	Red-Blue	Blue-Red	78	Yellow-Blue	88	Blue-Yellow
7	Red-Orange	Orange-Red	39	Yellow-Orange	99	Orange-Yellow
8	Red-Green	Green-Red	79	Yellow-Green	00	Green-Yellow
9	Red-Brown	Brown-Red	00	Yellow-Brown		

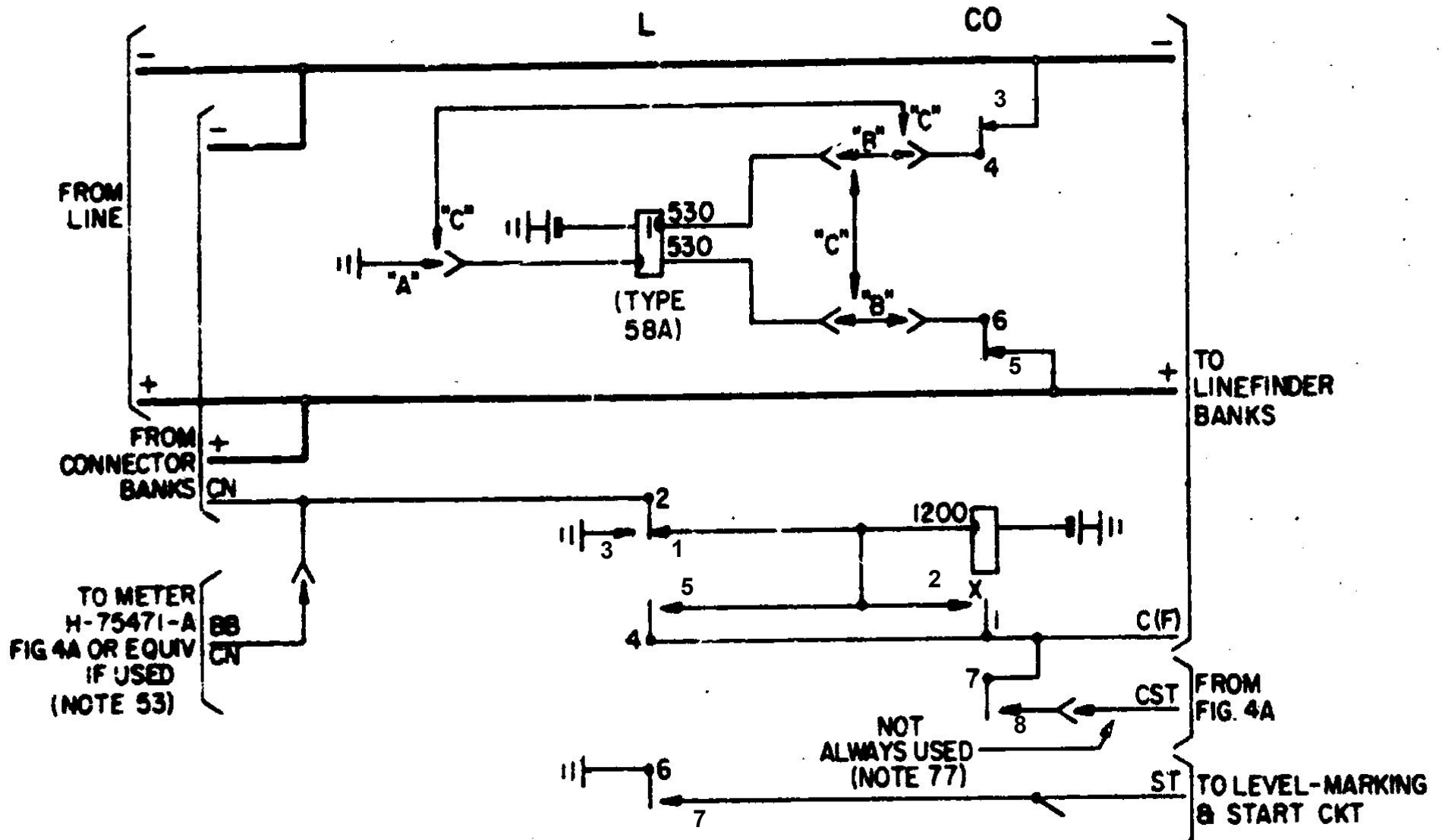
Start	"Group A" Lines 1-5 Commutator	"Group B" Lines 6-9 Commutator
	Red-Slate Level 7	Slate-Red Level 3

Linefinder Start
Yellow-Slate

-48V	Violet-Slate	Slate-Violet
GND	Violet-Green	Green-Violet

# Automatic Electric H-85075 Line/Cutoff Circuit

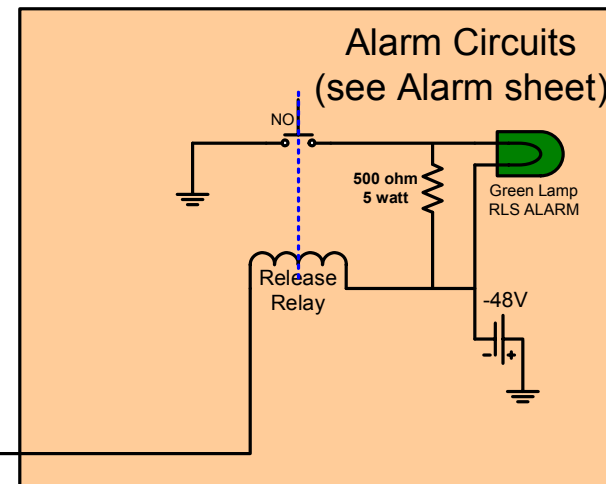
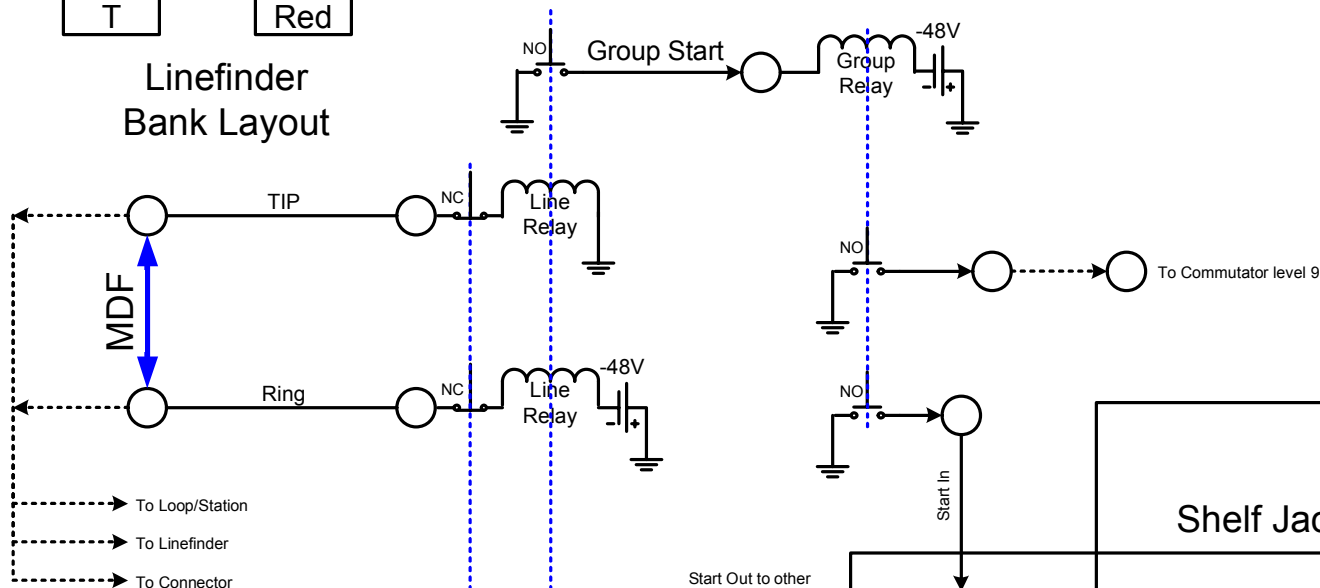
**FIG. 2A** (STD.)  
(NOTES 52 & 76)



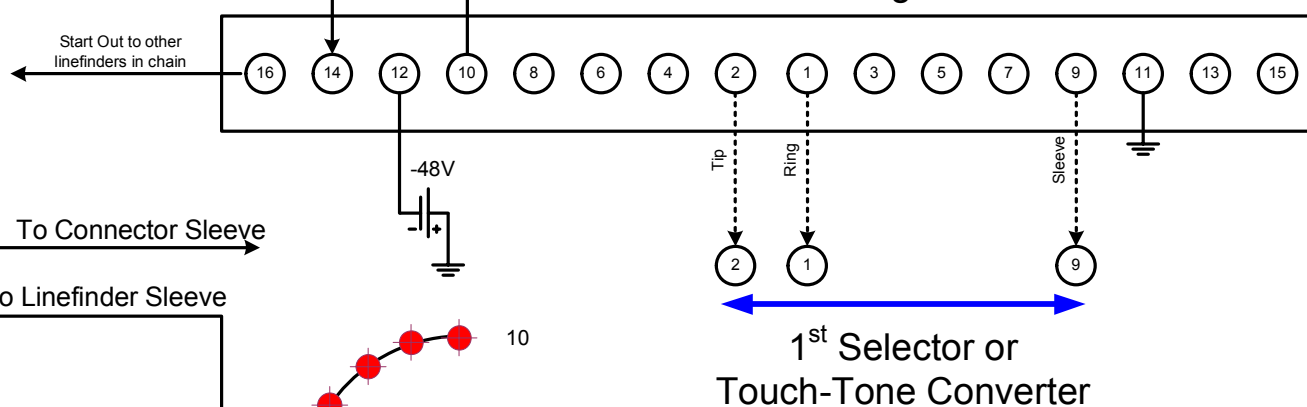
S1	Blue
S	Red
R1	Blue
T1	Red
R	Blue
T	Red

# 33013/33014 Linefinder

## Linefinder Bank Layout



## Shelf Jack Numbering as seen from the rear



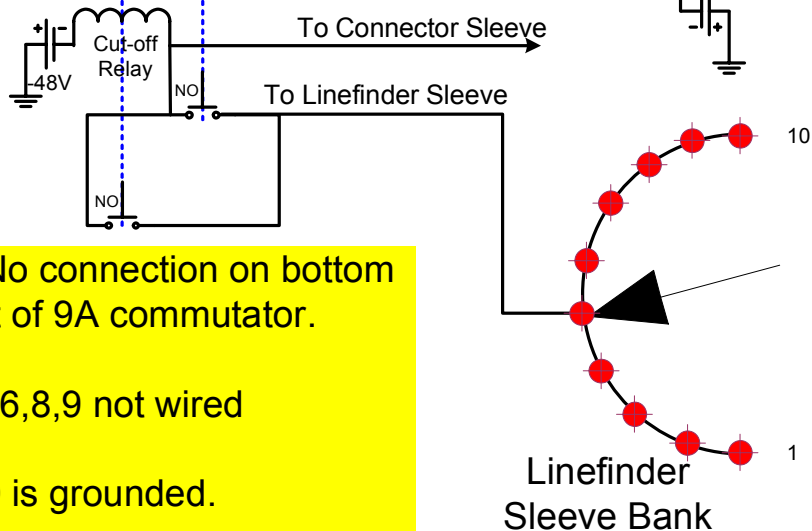
0
9
8
7
6
5
4
3
2
1

9A  
Commutator

Note: No connection on bottom contact of 9A commutator.

Levels 6,8,9 not wired

Level 0 is grounded.



Note: Pin 9 must be grounded by succeeding switch or the linefinder will hunt continuously. If pin 9 is grounded before pin 14 (start), the finder will get locked out by LF relay D simulating a busy finder.

C
S
R
T

Blue
Red
Blue
Red

# 30976 Selector

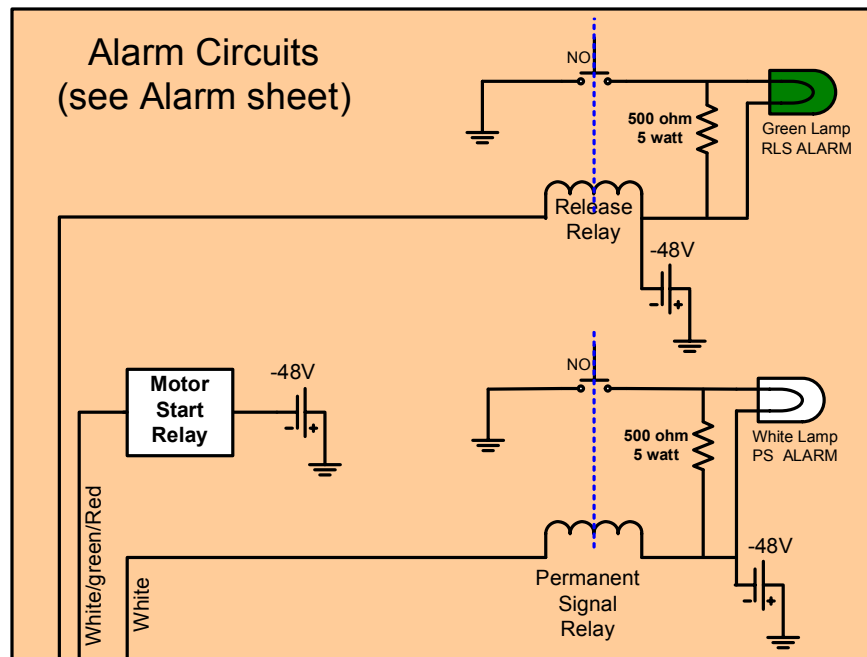
Either Ground all TEN positions of unused levels or install a normal post spring cam with the right finger selected to rotate to the 11<sup>th</sup> position

Selector  
Bank  
Layout

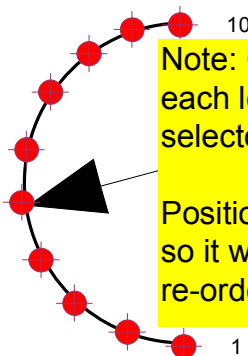
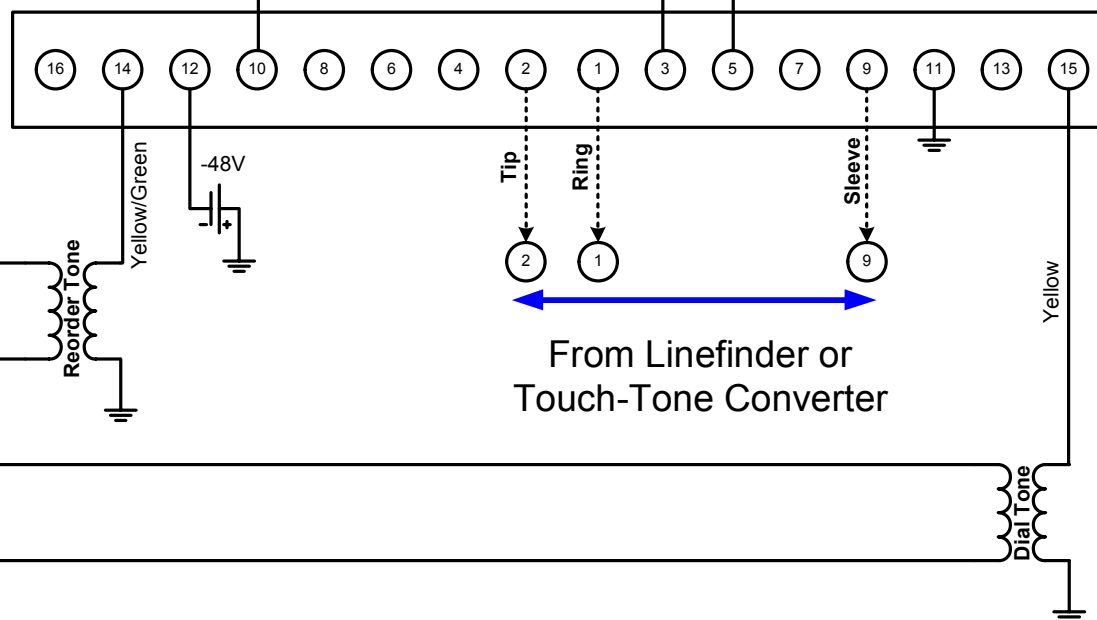
Note: Switch modified to maintain Motor Start function until subsequent switches drop

Move wire from #8 Spring Relay B to #9 Spring of Relay B.  
Tie Spring #8 of Relay B to GND ( Relay B Spring 6)

Alarm Circuits  
(see Alarm sheet)

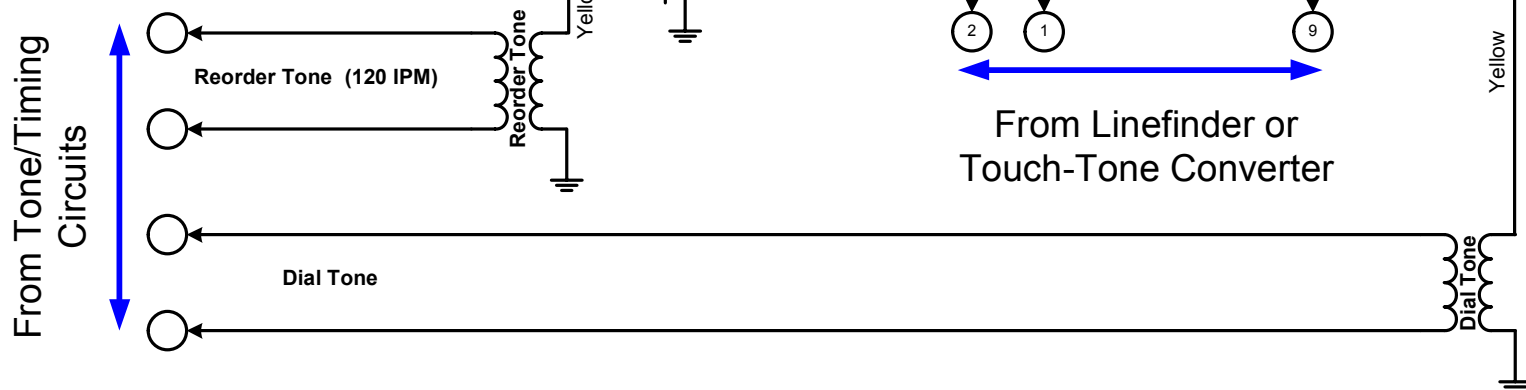


Shelf Jack Numbering as seen from the rear



Note: On the Sleeve bank, positions 1-9 of each level are grounded to force the first selector to hunt to the last position.

Position 10 of level 2 provides the ground so it will hunt to the 11<sup>th</sup> position and provide re-order tone.



# 32183 Digit Absorbing Selector

C
S
R
T

Blue
Red
Blue
Red

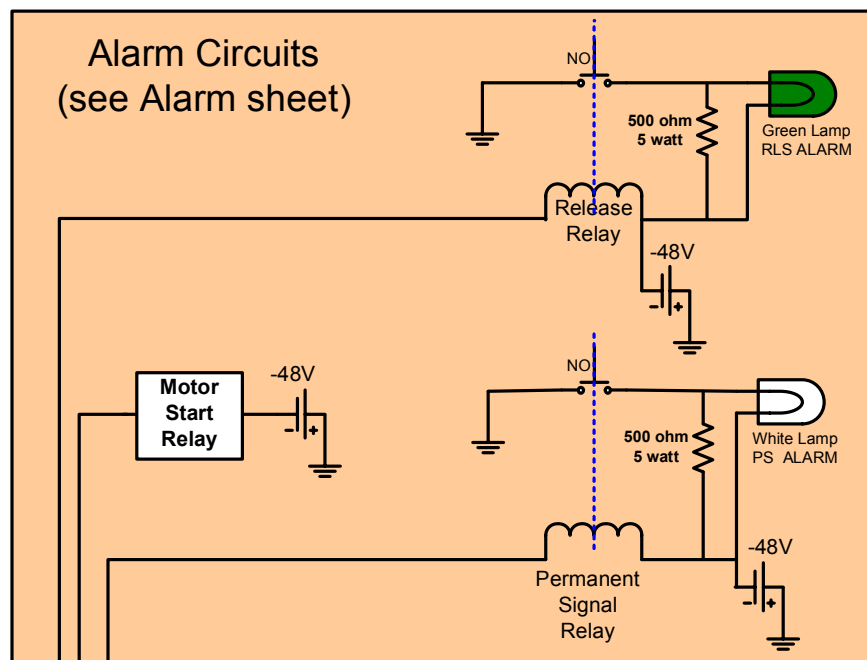
Selector  
Bank  
Layout

Either Ground all TEN positions of unused levels or install a normal post spring cam with the right finger selected to rotate to the 11<sup>th</sup> position

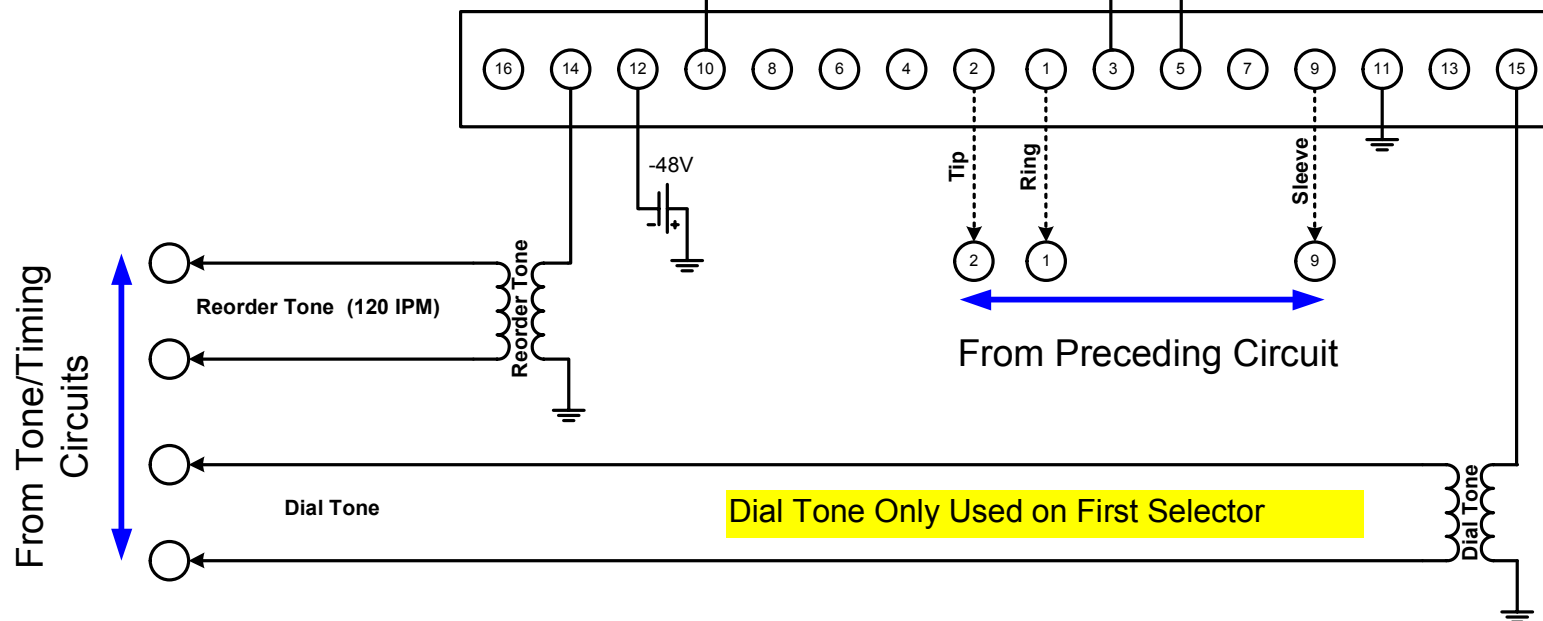
	BAT			Ring		P/S	SLV	
Reorder Tone	REL			Tip	PEG		GND	Dial Tone
16	12	8		4	1		5	9
14	10	6		2	3		7	11
								13
								15

Note: Switch modified to maintain Motor Start function until subsequent switches drop

Move wire from #8 Spring Relay B to #9 Spring of Relay B.  
Tie Spring #8 of Relay B to GND ( Relay B Spring 6)



Shelf Jack Numbering as seen from the rear



Add a Jumper on each Switch between B8 and A4 so that the Motor Start lead stays active when the succeeding switch picks up

# 30215 Local Rotary Hunting Connector Selective or 1 Ring Semi-selective Ringing

H
S

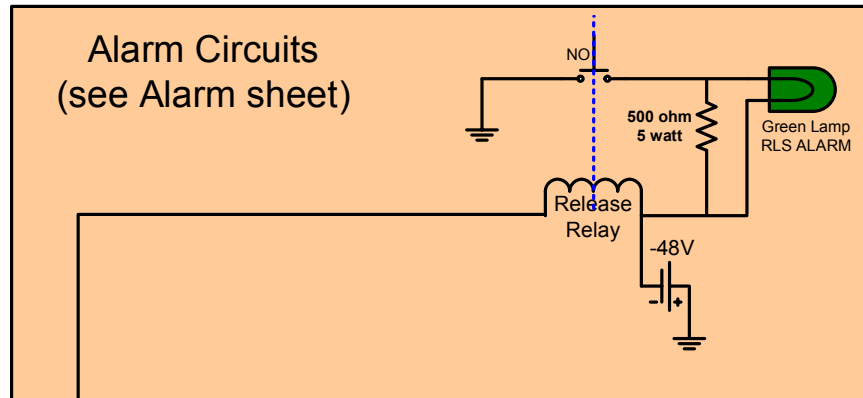
Blue
Red

R
T

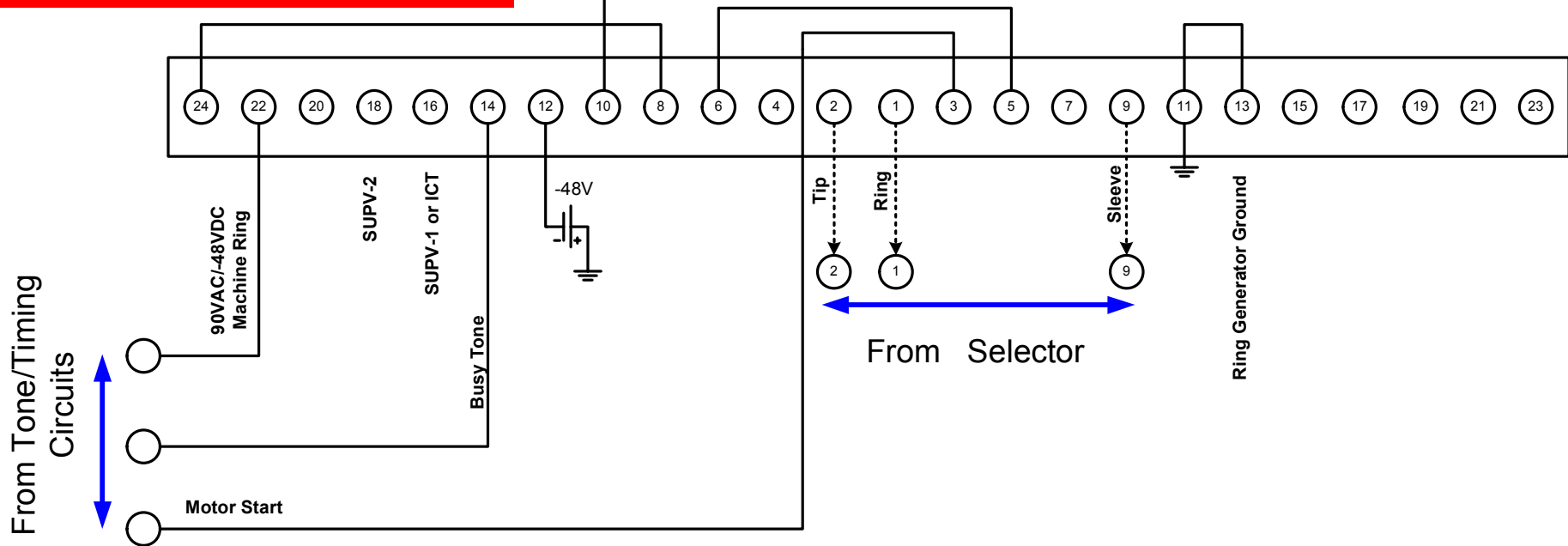
Blue
Red

Connector  
Bank  
Layout

Note: Switch modified to perform Motor Start function on Shelf Jack Terminal 3.  
Installed Extra set of springs on Relay B  
Not needed with proper mod of 1<sup>st</sup> Selector



Shelf Jack Numbering as seen from the rear



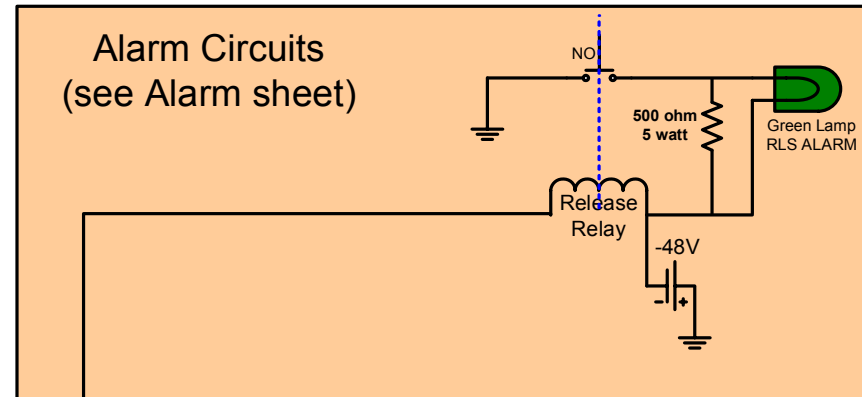


# 31739 Combination Connector

## 1 Ring with/without reverse battery supervision

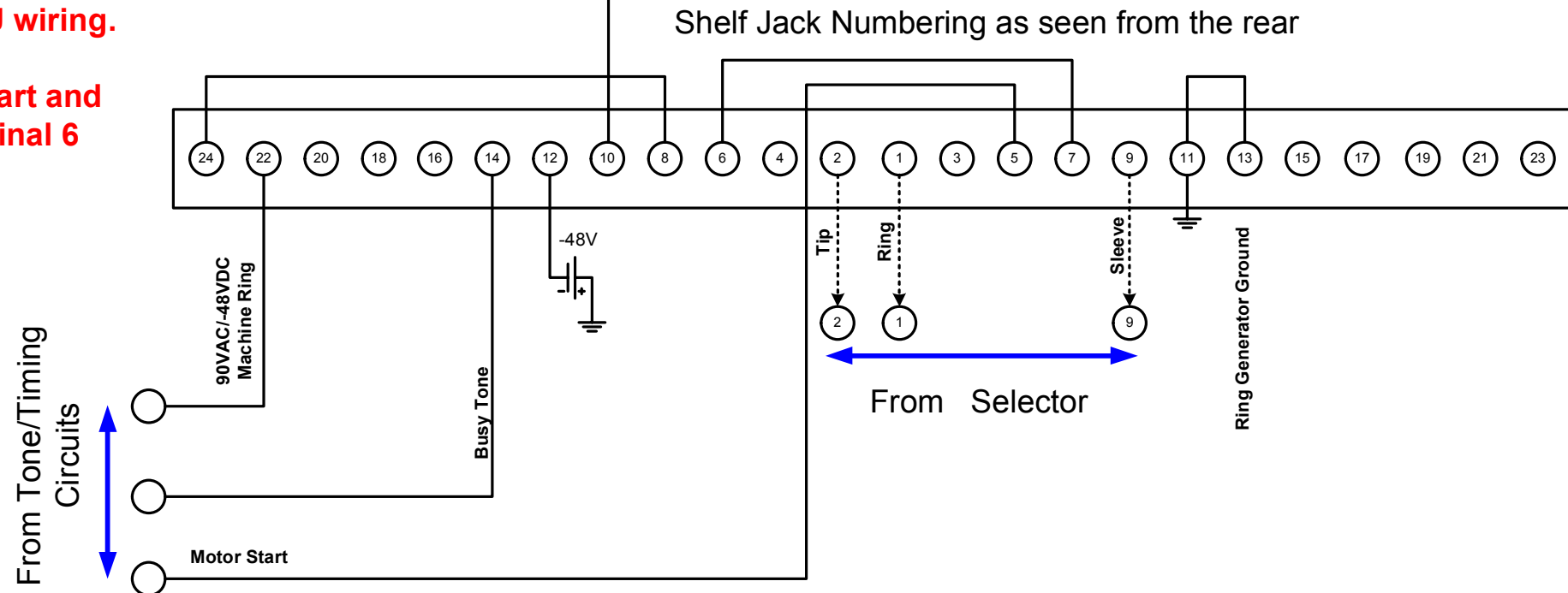
S	Red
R	Blue
T	Red

Connector  
Bank  
Layout



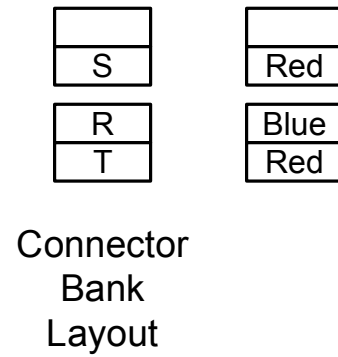
Terminals 5 and 7 need to be  
verified for S or U wiring.

Affects motor start and  
jumper to terminal 6



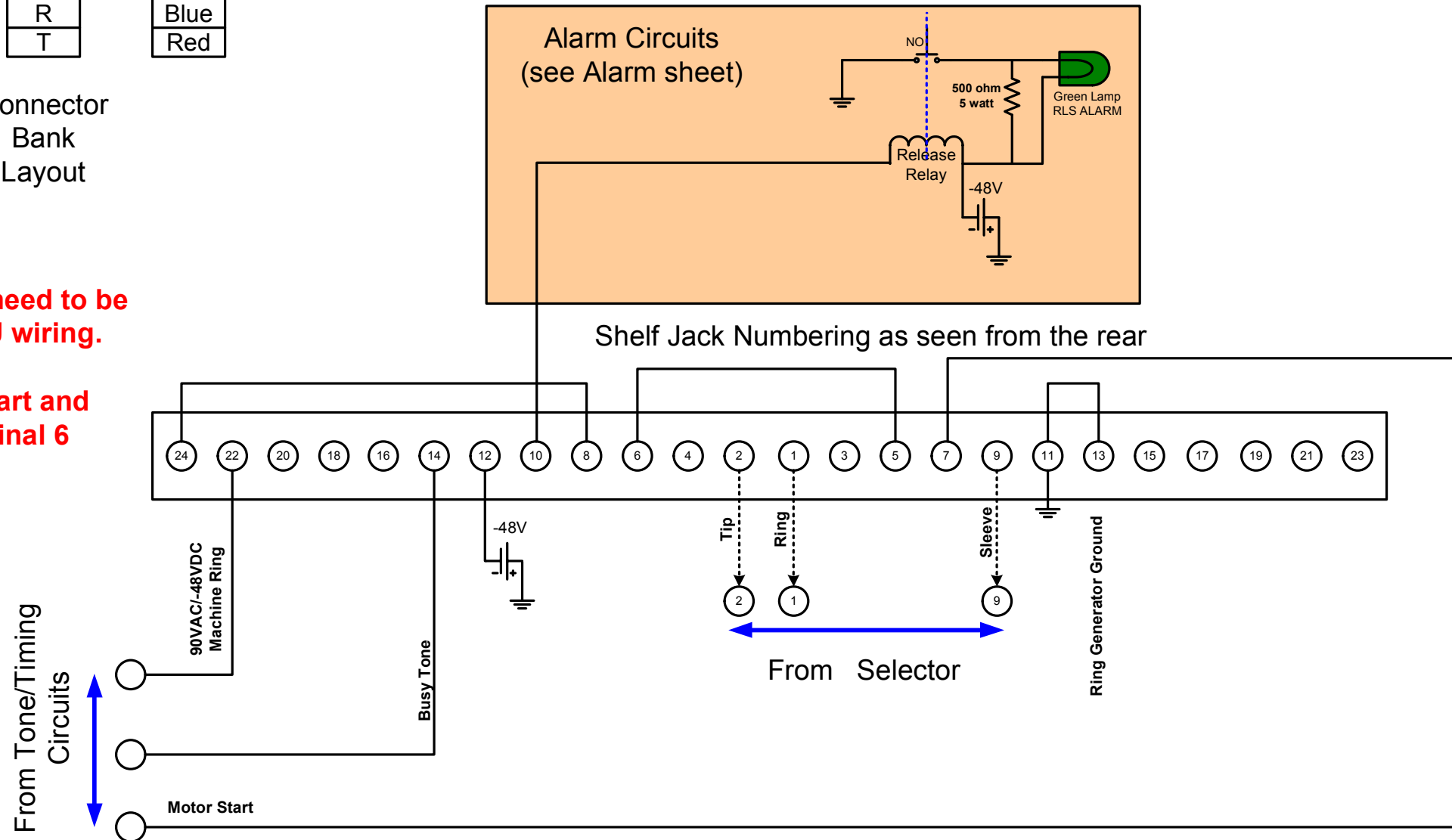
# 31739 Combination Connector

## 1 Ring with/without reverse battery supervision



Terminals 5 and 7 need to be  
verified for S or U wiring.

Affects motor start and  
jumper to terminal 6



## 30978 Reverting Selector

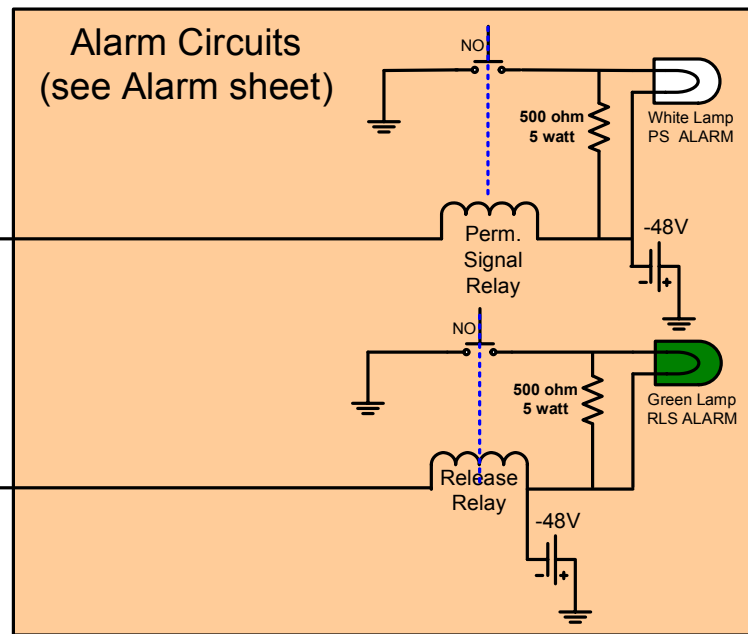
Blue
Red

Blue
Red

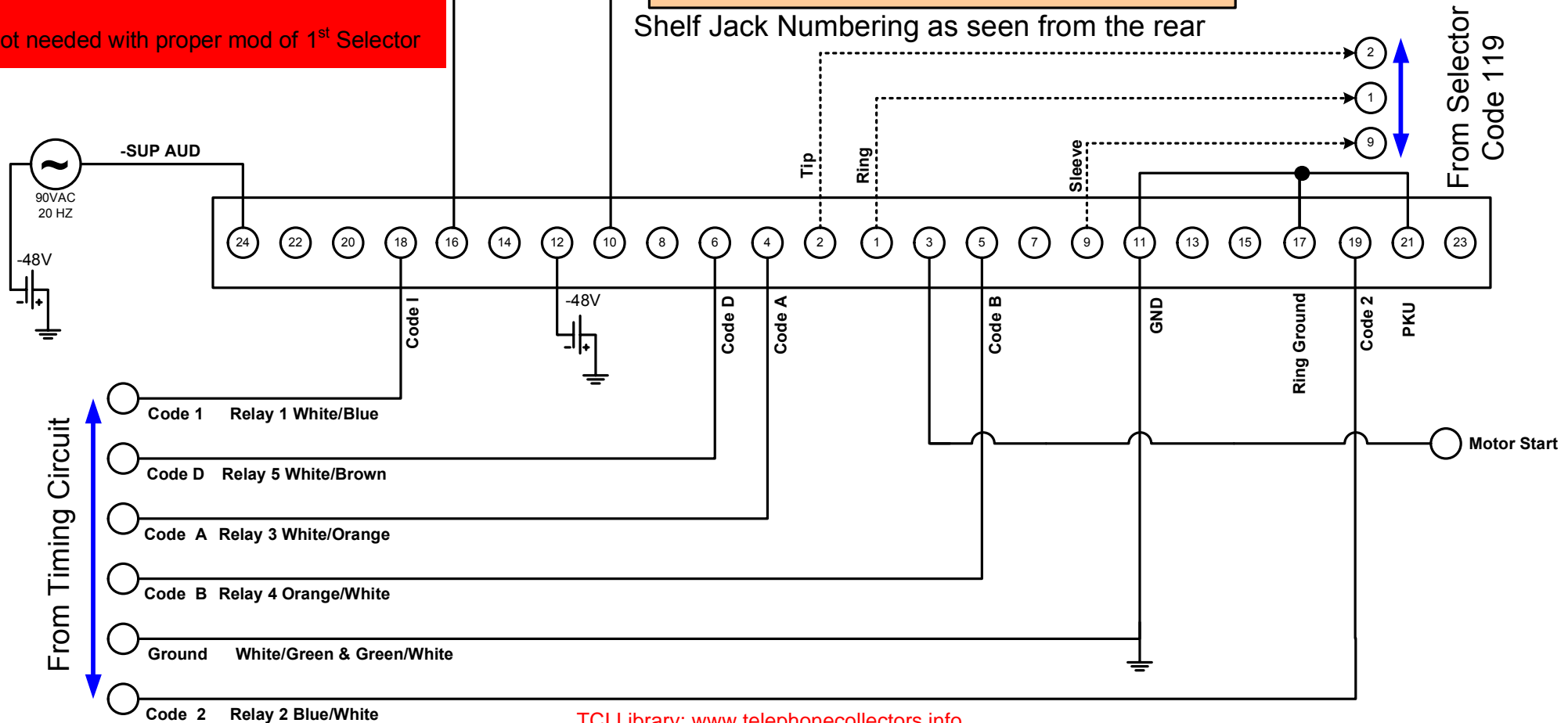
Selector Bank Layout  
Used with special bank  
to select which stations  
to ring

Note: Switch modified to perform  
Motor Start function on  
Shelf Jack Terminal 3.  
Installed Extra set of springs on Relay B

Not needed with proper mod of 1<sup>st</sup> Selector



**Dial 119  
to access  
Then  
2 digit  
code**



30978

Repeat until Answered Ground on MS powers Timing Circuit. PKU is Grounded Permanently

Time

	0.0	0.5	1.0	1.5	2.0	2.5	3.0	3.5	4.0	4.5	5.0	5.5	6.0	6.5	7.0	7.5	8.0	8.5	9.0	9.5	10.0	10.5	11.0	11.5	12.0	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		

Station 1	1 Long on Ring	11	33	Code 1	22	44	Code 2	T	Gnd	Ring on Tip
Station 2	2 Short on Ring	12	21	Code B	23	32	Code D / Code A	T	N/C	Ring on Ring
Station 3	1 Long on Tip	13	31	Code 1 / Code A	24	42	Code 2 / Code A	R	N/C	Not used
Station 4	2 Short on Tip	14	41	Code D / Code A	34	43	Code B	S		Controls Ring Cadence

Cadence					Cadence					Cadence					Cadence				
#	S	T	R	H	#	S	T	R	H	#	S	T	R	H	#	S	T	R	H
41	D	A		GND	42	2	A		GND	43	B	GND		GND	44	2	GND		GND
31	1	A		GND	32	D	A		GND	33	1	GND		GND	34	B	GND		GND
21	B	X		GND	22	2	X		GND	23	D	A		GND	24	2	A		GND
11	1	X		GND	12	B	X		GND	13	1	A		GND	14	D	A		GND

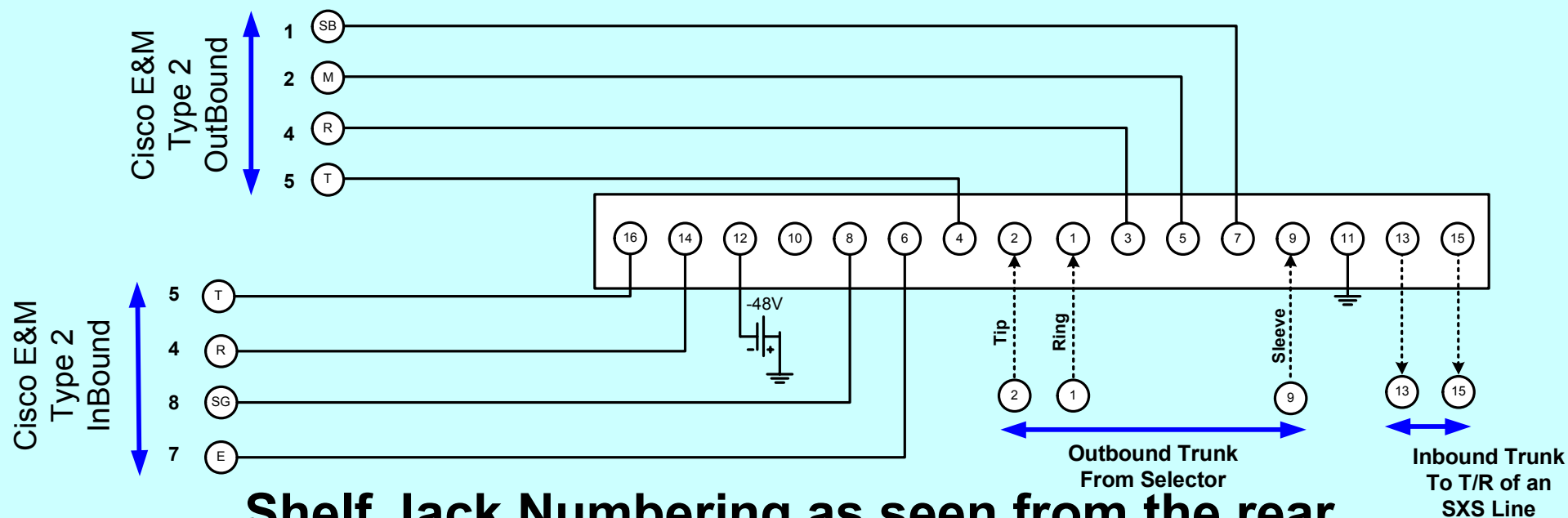
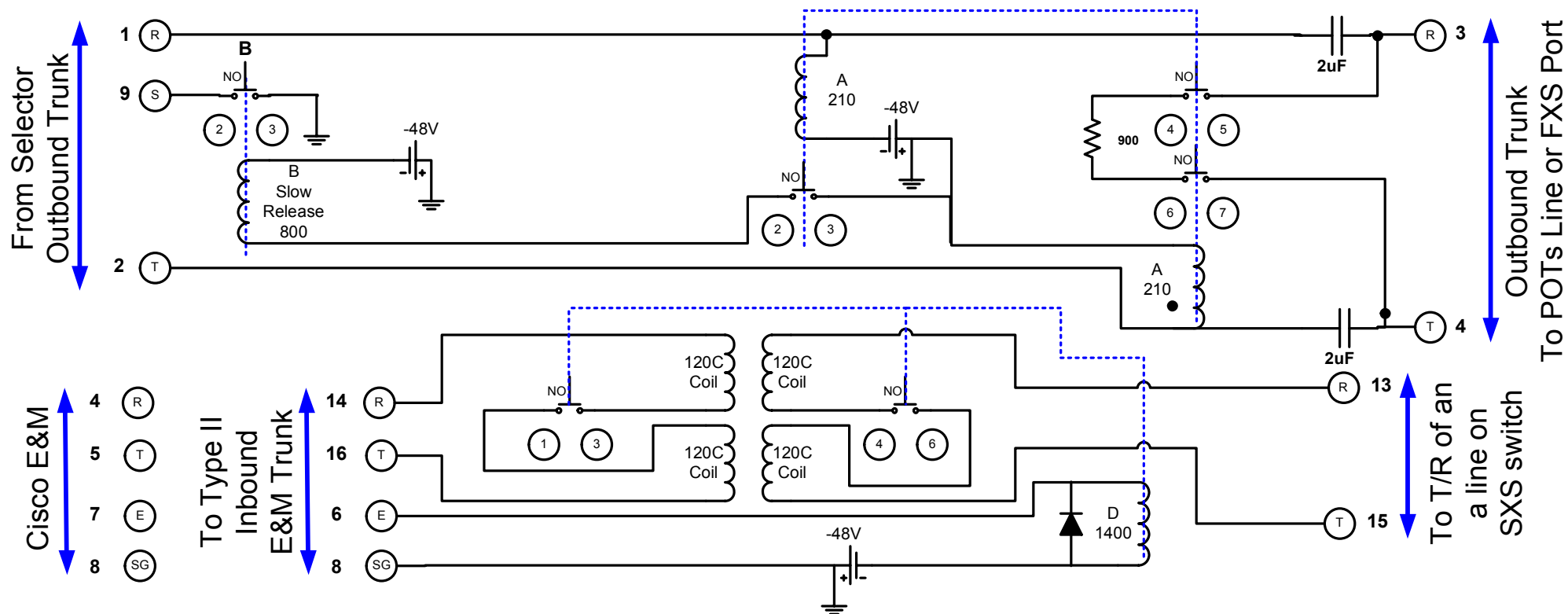
Top Bank

H  
S

Bottom Bank

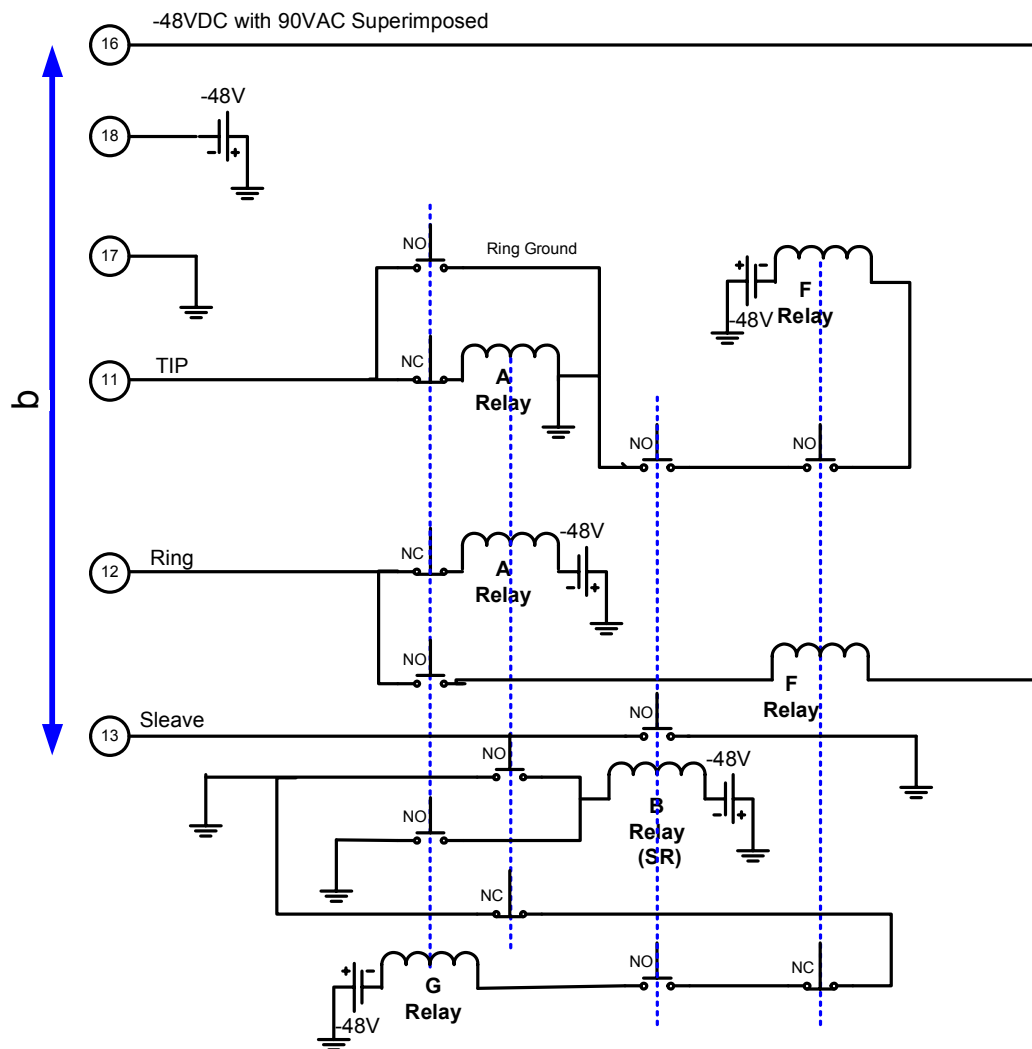
R  
T

# Modified 31779 Trunk

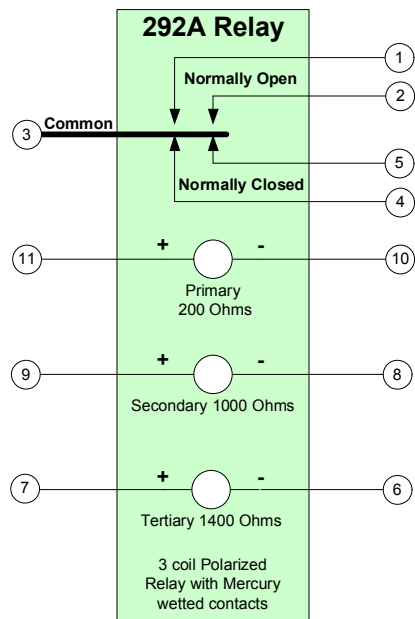


**Shelf Jack Numbering as seen from the rear**

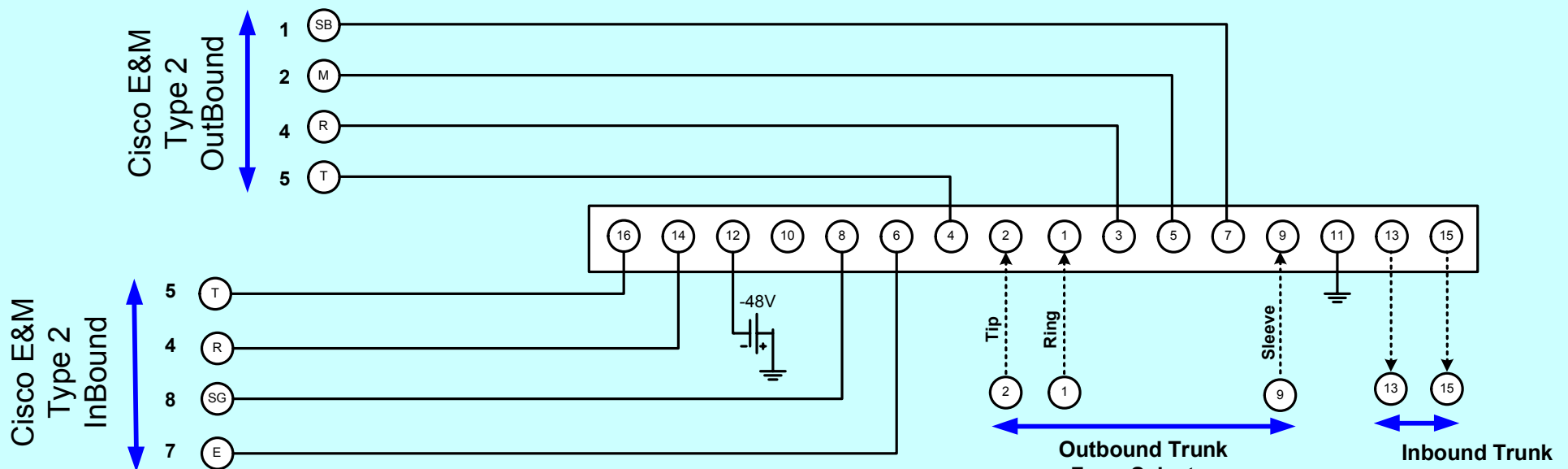
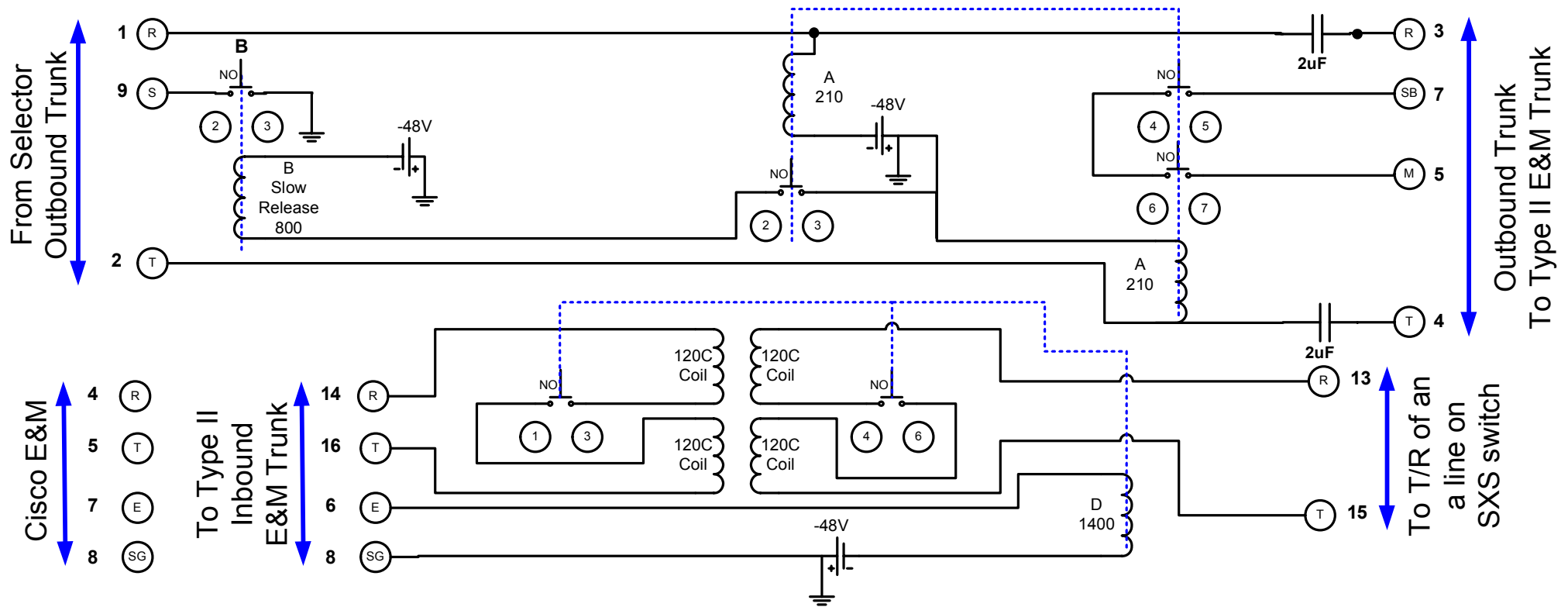
## From Rick Walsh's diagram



292A

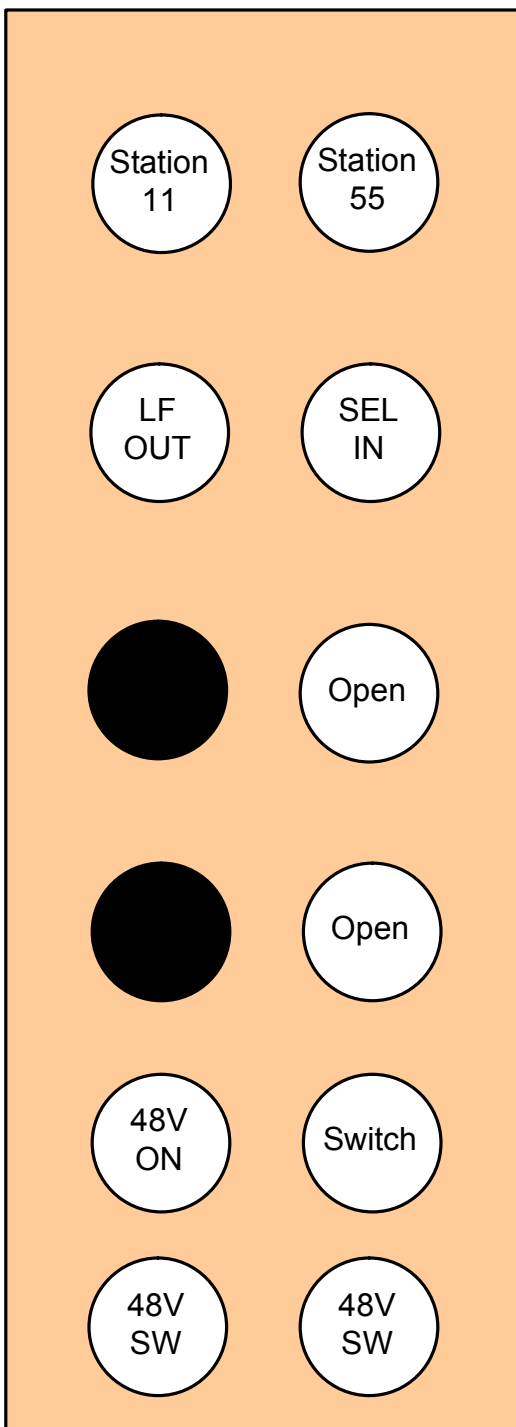


# Dual E & M Trunk



**Shelf Jack Numbering as seen from the rear**





Not  
Connected  
Anymore

2x4 10'  
2x4 Oak 4'  
2'x4' Plywood cut down to  
(2) 18"x24"  
(2) Oak 10" x 72"  
Oak 1" x 2" x 48"

1.5" square drive screws

