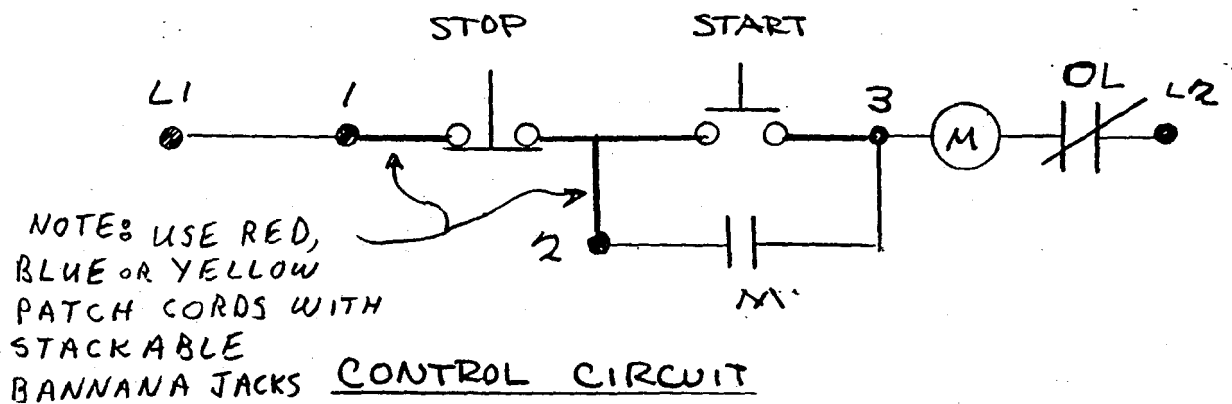
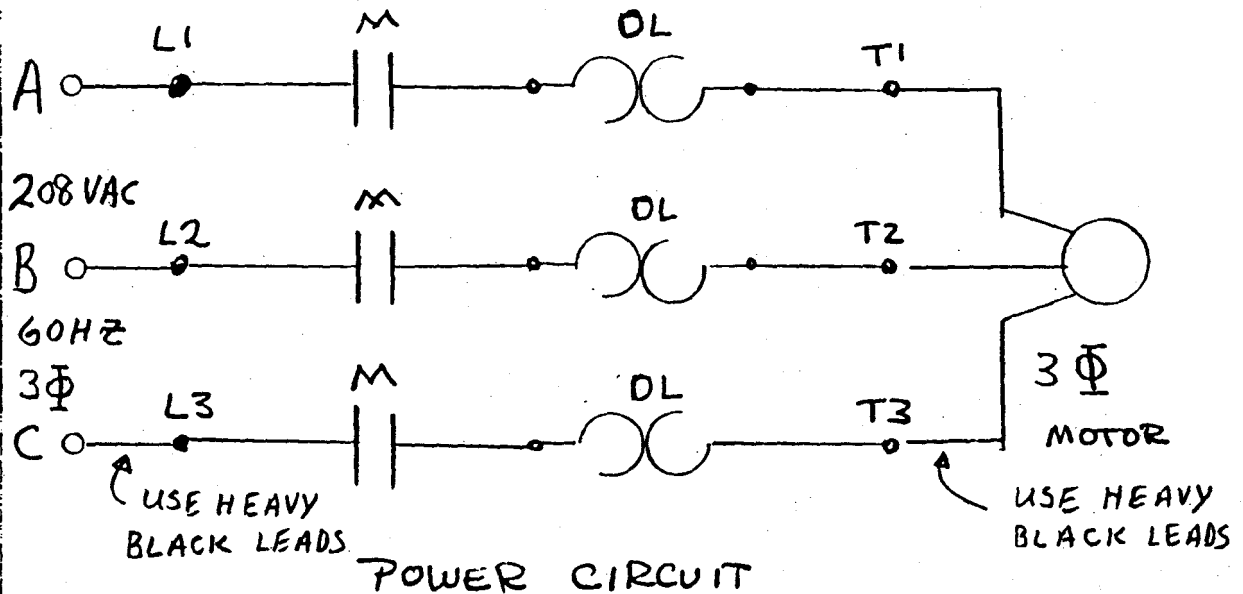


- ACROSS-THE-LINE MAGNETIC STARTER -

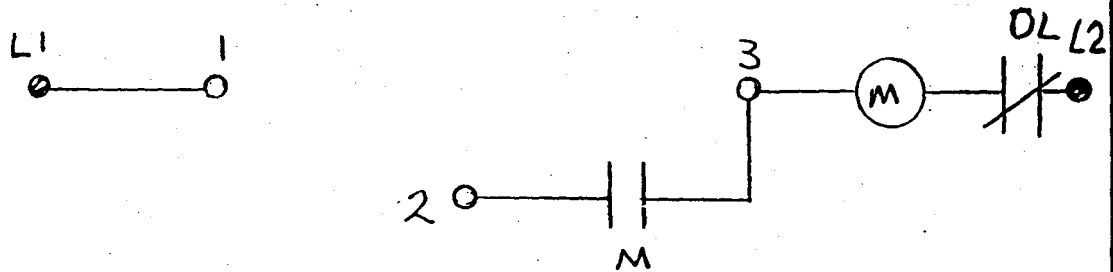


OBSERVE: (CHECK BOX)

- LOW VOLTAGE PROTECTION ☐
- SINGLE PHASING ☐
- REVERSING ROTATION OF THE MOTOR ☐
- MULTIPLE PUSH BUTTON STATIONS ☐

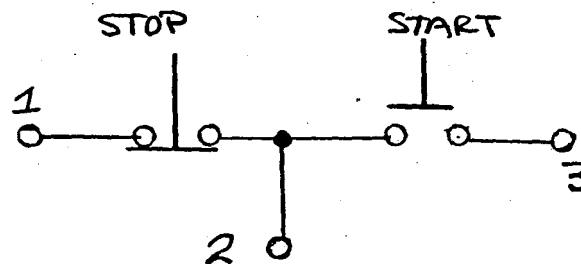


ACROSS-THE-LINE MAGNETIC STARTER



INTERNAL CONTROL WIRING

NOTE: 1, 2, 3 ARE MAGNETIC STARTER TAKE-OFF POINTS



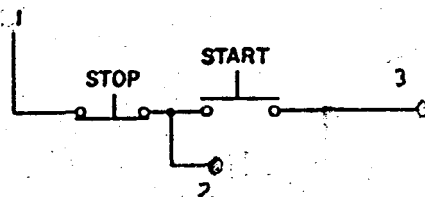
EXTERNAL CONTROL WIRING - 3 WIRE CONTROL



* WIRING DIAGRAMS *

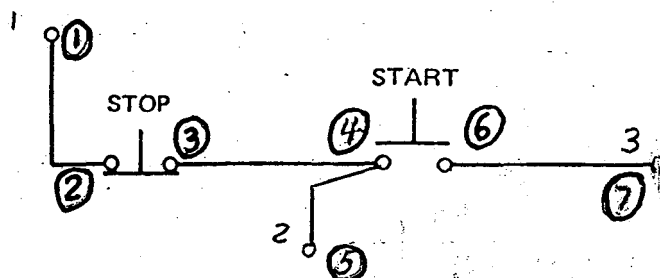
"WIRELESS", "LINELESS" OR "TABULAR CONNECTION DIAGRAMS"

EXAMPLE: EXTERNAL CONTROL WIRING



1, 2, 3 ARE
STARTER
TAKE-OFF
POINTS

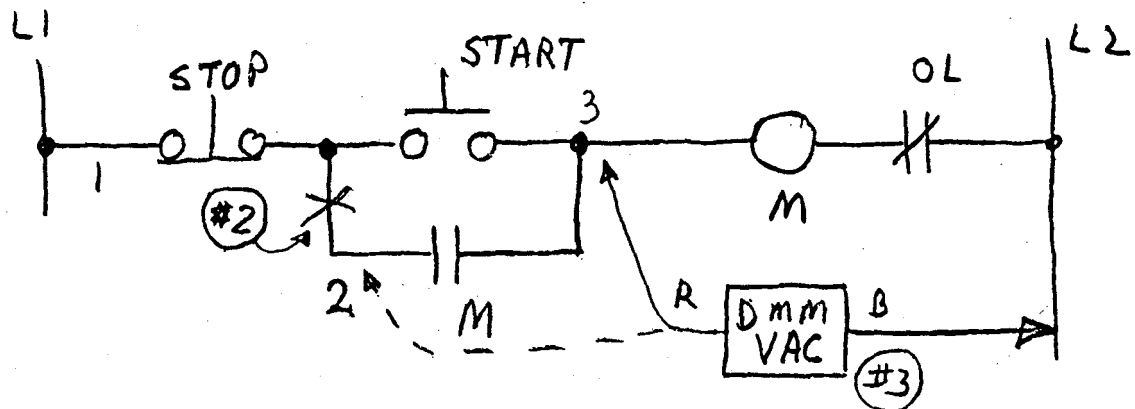
REDRAW CKT, LABEL "WIRELESS" CONNECTION ID IN ○



SET UP WIRELESS TABLE

FROM	TO	WIRE ID	TAB #
1	2	RED	—
3	4	RED	1
4	5	YEL	
6	7	RED	2

TROUBLE SHOOTING BAD "SEALING-IN" CONTACT IN THE MOTOR STARTER - M

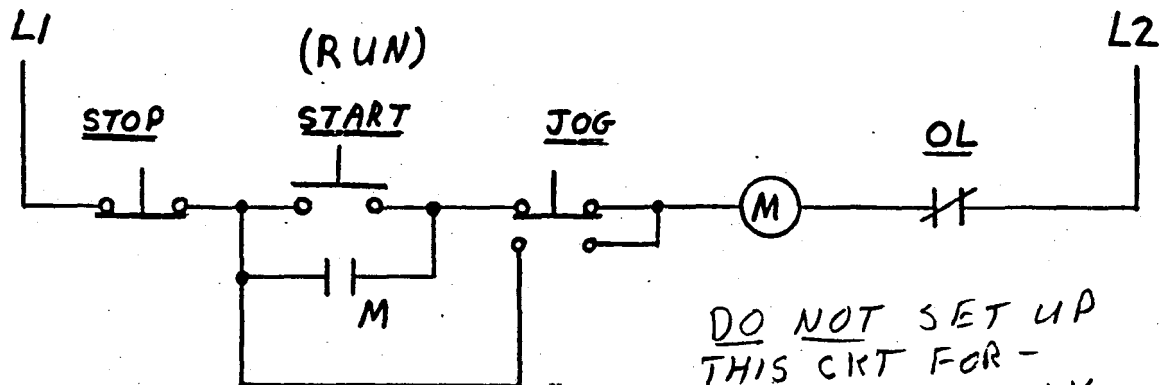


PROBLEM: COIL DOES NOT SEAL AFTER PUSHING START BUTTON

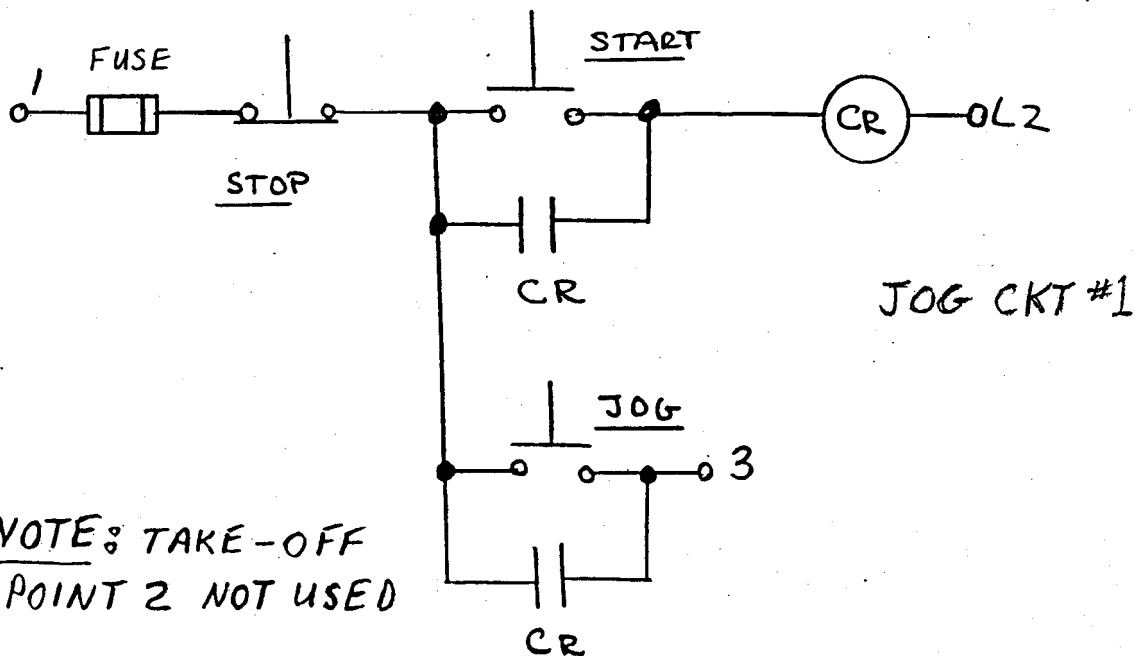
- #1. WITH POWER OFF CHECK CONTINUITY FROM T.O.P. 2 TO: RIGHT SIDE OF "STOP" AND LEFT SIDE OF "START" BUTTONS.
- #2. IF CONTINUITY IN #1 IS VERIFIED; DISCONNECT T.O.P. 2 FROM THE CONTROL CKT (JUNCTION POINT OF "STOP" + "START").
- #3. CONNECT A DMM AS SHOWN ABOVE (IN THE VAC MODE). APPLY POWER, DEPRESS START BUTTON AND HOLD MEASURE THE VOLTAGE AT T.O.P. 3 (208V). MEASURE THE VOLTAGE AT T.O.P. 2 SHOULD BE 208V, IF NOT BAD "SEALING-IN" CONTACT.



SIMPLE JOG CONTROL CIRCUIT



- CIRCUIT CAN LATCH IN THE START (RUN) IF THE JOG PB RELEASES TO THE N.C. POSITION BEFORE COIL "M" DE-ENERGIZES AND BREAKS THE SEAL OF THE START (RUN) PB. THIS CAN CREATE A DANGEROUS SITUATION. THE "RACING" BETWEEN THE N.C. JOG CONTACT GOING BACK TO THE CLOSED POSITION AND THE OPENING OF THE SEALING-IN CONTACT (M) IS CALL "CONTACT RACE."
- FOR THE ABOVE REASON THIS CIRCUIT IS RARELY USED - EXCEPT TO ILLUSTRATE BASIC JOGGING CONTROL AND THE "CONTACT RACE" PROBELM.
- SEE UNIT 41 FOR MORE DETAILS ON JOGGING CIRCUITS.

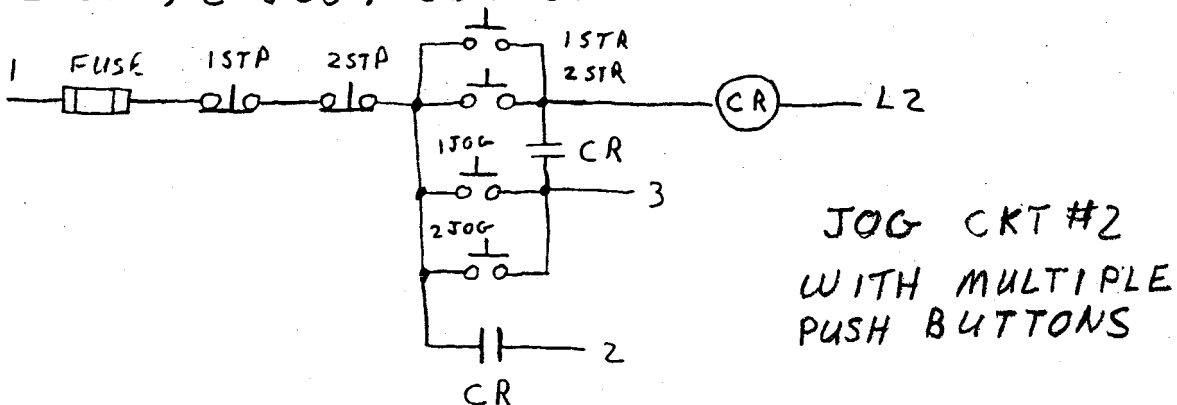


NOTE: TAKE-OFF
POINT 2 NOT USED

CONTROL CIRCUIT FOR JOG (EXTERNAL
WIRING)

SEE UNIT 41

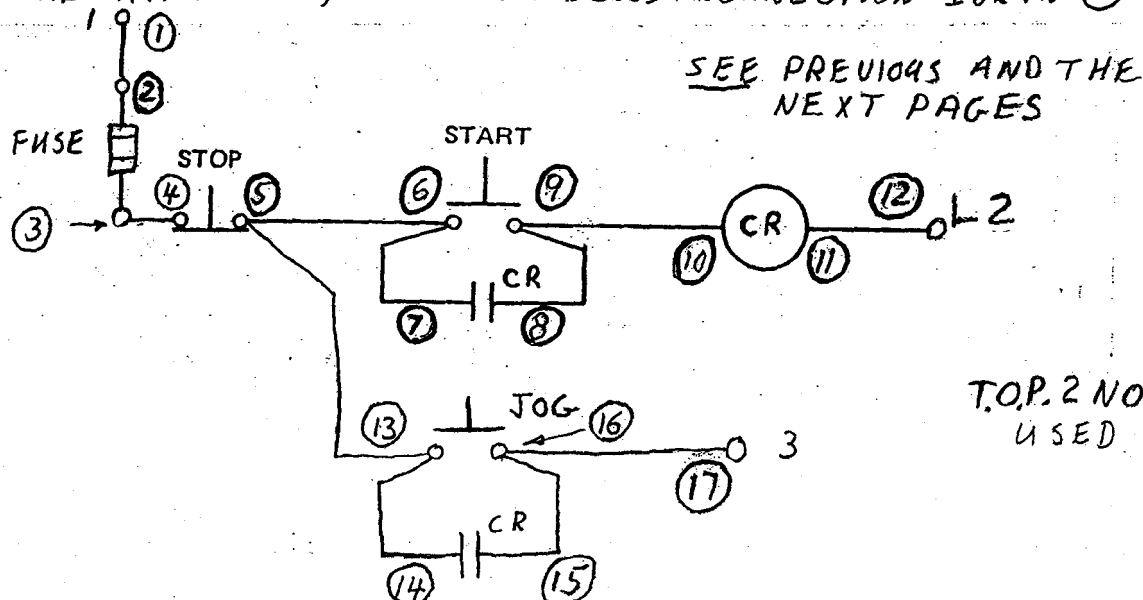
- DO ABOVE FOR ⇒ 2 STARTS, 2 STOPS, 2 JOGS
- DO PAGE 221, FIGURE 41-5B (OL PROTECTION)
- DO PAGE 221, FIGURE 41-5B WITH 2-START, 2-STOP, 2-JOG. SEE BELOW



> "WIRELESS", "LINELESS" OR "TABULAR CONNECTION DIAGRAMS" <

EXAMPLE: JOG CKT #1 CONTROL CKT.

REDRAW CKT, LABEL "WIRELESS" CONNECTION ID'S IN ○

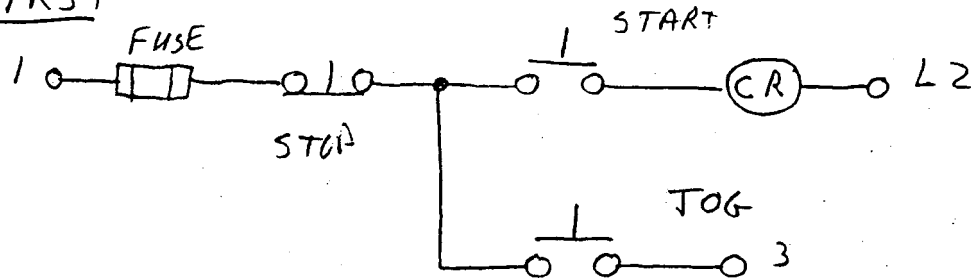


SET UP WIRELESS TABLE

FROM	TO	WIRE ID	TAB#
1	2	RED	—
3	4	YEL	—
5	6	RED	1
6	7	RED	2
8	9	BLUE	—
9	10	BLUE	1
11	12	BLACK	—
5	13	RED	3
13	14	BLUE	3
15	16	BLUE	4
16	17	YEL	1

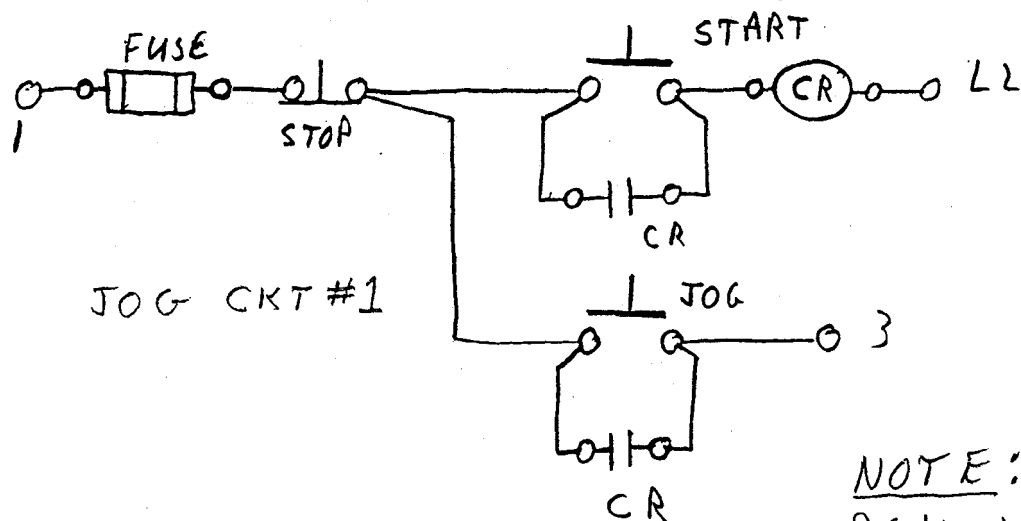
CONNECTING JOG CONTROL CIRCUIT

FIRST



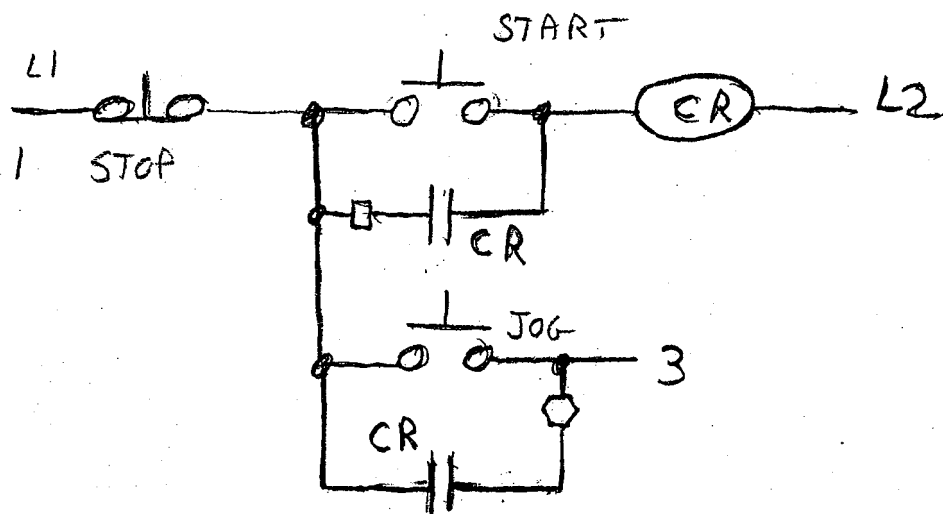
- ① PUSH START CR SHOULD PICK UP, WHILE HOLDING START PB, PUSH STOP CR SHOULD DROP OUT
 - ② RELEASE STOP CR SHOULD PICK UP STILL HOLD START PB,
 - ③ NOW RELEASE START PB, CR SHOULD DROP OUT
- REPEAT SAME WITH STOP AND JOG COIL M SHOULD ACT THE SAME AS CR DID

NOW ADD 2-NO CONTACTS OF CR ACROSS START + JOG PBT



NOTE:
PG'S 15, 16
INTENTIONALLY
OMITTED

TRANSFORMING FROM JOG #1 TO JOG #2

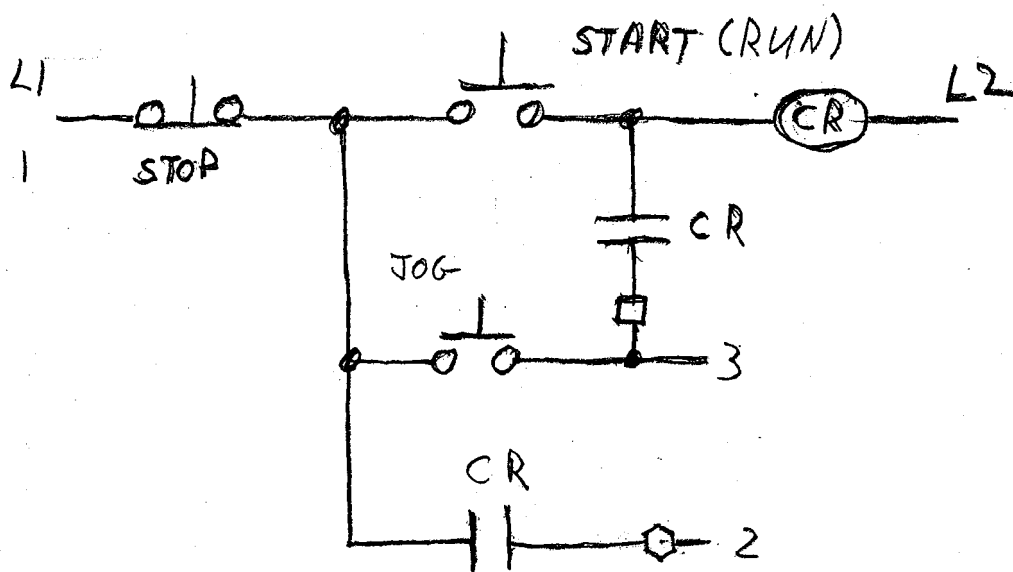


JOG CKT
#1

T.O.P. NOT
USED



- MOVE □ TO T.O.P. 3
- MOVE ○ TO T.O.P. 2



JOG CKT
#2

EXTERNAL CONTROL WIRING DIAGRAM
*SEE TEXT BOOK FOR ELEMENTARY CONTROL DIAG.