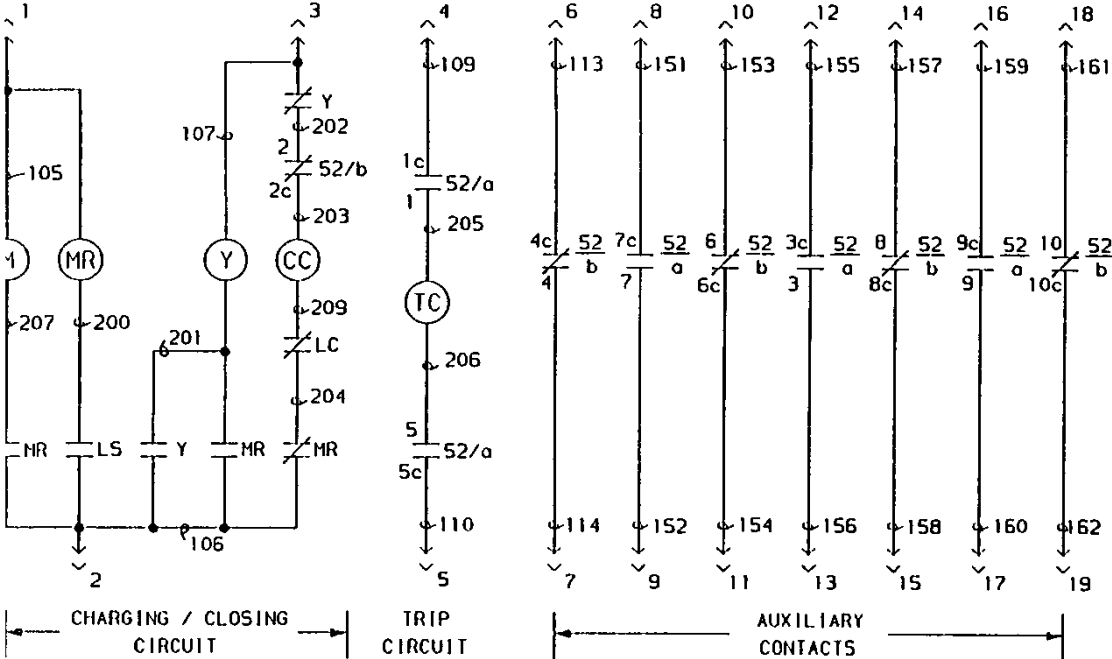


A		B		C		D		E		F		G	
ECO	BY	DATE											
B1480	SP1	8/27/93											

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OPERATION OF BREAKER

1. THE BREAKER WILL NOT CLOSE UNTIL THE SPRINGS ARE CHARGED.
2. WHEN THE SPRINGS ARE DISCHARGED, SPRING CHARGING LIMIT SWITCH CONTACT S2/LS IS CLOSED. THIS PICKS UP THE MOTOR RELAY (S2MR), WHICH ENERGIZES THE SPRING CHARGING MOTOR (S2/M). S2/M RUNS UNTIL THE CLOSING SPRINGS ARE CHARGED. WHEN THE SPRINGS ARE CHARGED, S2/LS OPENS, DROPPING OUT S2MR, WHICH DE-ENERGIZES S2M.
3. WHEN S2MR DROPS OUT, THE NORMALLY CLOSED S2MR CONTACT CLOSING ALLOWING CONTINUITY IN THE CLOSING SOLENOID S2/CC CIRCUIT. IF CLOSING SIGNAL IS APPLIED, S2/CC IS ENERGIZED, UNLATCHING THE CLOSING SPRINGS, CLOSING THE BREAKER, AND CHARGING THE OPENING SPRINGS. S2/b CONTACTS OPEN, DE-ENERGIZING S2/CC. THE DISCHARGING OF THE CLOSING SPRINGS CAUSES S2/LS TO CLOSE. S2MR PICKS UP CLOSING THE NORMALLY OPEN S2MR CONTACT ALLOWING CONTINUITY IN THE ANTI-PUMP RELAY (S2Y) CIRCUIT. THE S2Y CONTACTS CHANGE STATE SEALING IN S2Y AND PREVENTING S2/CC FROM BEING RE-ENERGIZED UNTIL THE CLOSING SIGNAL IS REMOVED. THIS LIMITS THE BREAKER TO ONE CLOSING OPERATION PER CLOSING SIGNAL.
4. WHEN THE BREAKER CLOSING, S2/a AUXILIARY CONTACTS CLOSE ALLOWING CONTINUITY IN THE TRIP SOLENOID (S2/TC) CIRCUIT. IF A TRIPPING SIGNAL IS APPLIED, S2/TC IS ENERGIZED, UNLATCHING THE TRIPPING SPRINGS, OPENING THE BREAKER. THE S2/a CONTACTS OPEN, DE-ENERGIZING S2/TC WHILE THE BREAKER IS OPEN.
5. REMOTE STATUS INDICATORS ARE CONNECTED TO TERMINALS 10 TO INDICATE IF THE BREAKER IS OPEN OR CLOSED. CONTACT S2/a IS CLOSED WHEN THE BREAKER IS CLOSED. CONTACT S2/b IS CLOSED WHEN THE BREAKER IS OPEN.

NOTES

1. BREAKER SHOWN IN OPEN POSITION & MAIN SPRINGS CHARGED.
2. SEE 44069-358 FOR WIRING DIAGRAM.

FOR CONTROL VOLTAGE

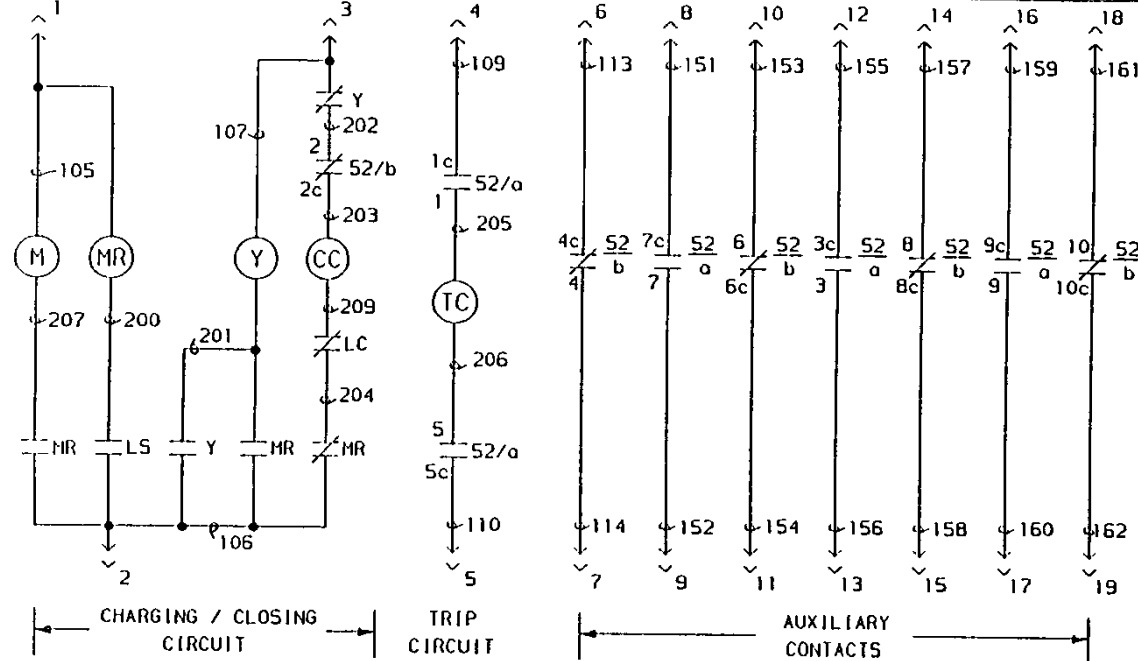
TRIP 24V, 48V, 125V DC OR 120V AC
CLOSE 48V, 125V DC OR 120V AC

LEGEND

- S2 VACUUM CIRCUIT BREAKER
- S2M SPRING CHARGING MOTOR
- S2/LS SPRING CHARGING MOTOR LIMIT SWITCH
- S2/TC TRIP COIL (OPENING COIL)
- S2/CC SPRING RELEASE COIL (CLOSING COIL)
- S2Y ANTI-PUMP RELAY
- S2MR MOTOR RELAY
- S2/a AUX. SWITCH CONTACTS, OPEN WHEN BREAKER IS OPEN
- S2/b AUX. SWITCH CONTACTS, CLOSED WHEN BREAKER IS OPEN
- S2/LC LATCH CHECK SWITCH

STANDARD DIMENSIONS		ONE PLACE DECIMAL ± .060	DESIGN LOC. 17	USED ON: VAD-2 BREAKERS WITH AMP PLUG	ECO, 2/11/91	PRINTS TO: -- -- -- -- --	 SQUARE D COMPANY POWER EQUIPMENT
HOLE DIMENSIONS		TWO PLACE DECIMAL ± .030	DRAWN BY: MEC	RAWSTOCK: NONE	DATE: VA21C23	TITLE: VAD-2 SCHEMATIC DIAGRAM	
PUNCHED/DRILED		THREE PLACE DECIMAL ± .015	CHECK BY: SPH	MATERIAL DESCRIPTION: NONE	SCALE: IN/IN	PART# 44069-357	
			ENGINEER: LUS	FINISH DESCRIPTION: NONE		QTY: - R 44069-357	

REV	ECO	BY	DATE	A	B	C	D	E	F	G
A	B1480	SPH	8/27/93							



LEGEND

- 52 VACUUM CIRCUIT BREAKER
- S2M SPRING CHARGING MOTOR
- S2/LS SPRING CHARGING MOTOR LIMIT SWITCH
- S2/TC TRIP COIL (OPENING COIL)
- S2/CC SPRING RELEASE COIL (CLOSING COIL)
- S2Y ANTI-PUMP RELAY
- S2MR MOTOR RELAY
- S2/a AUX. SWITCH CONTACTS, OPEN WHEN BREAKER IS OPEN
- S2/b AUX. SWITCH CONTACTS, CLOSED WHEN BREAKER IS OPEN
- S2/LC LATCH CHECK SWITCH

OPERATION OF BREAKER

- THE BREAKER WILL NOT CLOSE UNTIL THE SPRINGS ARE CHARGED.
- WHEN THE SPRINGS ARE DISCHARGED, SPRING CHARGING LIMIT SWITCH CONTACT S2/LS IS CLOSED. THIS PICKS UP THE MOTOR RELAY (S2MR), WHICH ENERGIZES THE SPRING CHARGING MOTOR (S2M). S2M RUNS UNTIL THE CLOSING SPRINGS ARE CHARGED. WHEN THE SPRINGS ARE CHARGED, S2/LS OPENS, DROPPING OUT S2MR, WHICH DE-ENERGIZES S2M.
- WHEN S2MR DROPS OUT, THE NORMALLY CLOSED S2MR CONTACT CLOSING ALLOWING CONTINUITY IN THE CLOSING SOLENOID S2/CC CIRCUIT. IF CLOSING SIGNAL IS APPLIED, S2/CC IS ENERGIZED, UNLATCHING THE CLOSING SPRINGS, CLOSING THE BREAKER, AND CHARGING THE OPENING SPRINGS. S2/b CONTACTS OPEN, DE-ENERGIZING S2/CC. THE DISCHARGING OF THE CLOSING SPRINGS CAUSES S2/LS TO CLOSE. S2MR PICKS UP CLOSING THE NORMALLY OPEN S2MR CONTACT ALLOWING CONTINUITY IN THE ANTI-PUMP RELAY (S2Y) CIRCUIT. THE S2Y CONTACTS CHANGE STATE SEALING IN S2Y AND PREVENTING S2/CC FROM BEING RE-ENERGIZED UNTIL THE CLOSING SIGNAL IS REMOVED. THIS LIMITS THE BREAKER TO ONE CLOSING OPERATION PER CLOSING SIGNAL.
- WHEN THE BREAKER CLOSING, S2/a AUXILIARY CONTACTS CLOSE ALLOWING CONTINUITY IN THE TRIP SOLENOID (S2/TC) CIRCUIT. IF A TRIPPING SIGNAL IS APPLIED, S2/TC IS ENERGIZED, UNLATCHING THE TRIPPING SPRINGS, OPENING THE BREAKER. THE S2/a CONTACTS OPEN, DE-ENERGIZING S2/TC WHILE THE BREAKER IS OPEN.
- REMOTE STATUS INDICATORS ARE CONNECTED TO TERMINALS TO INDICATE IF THE BREAKER IS OPEN OR CLOSED. CONTACT S2/a IS CLOSED WHEN THE BREAKER IS CLOSED. CONTACT S2/b IS CLOSED WHEN THE BREAKER IS OPEN.

NOTES

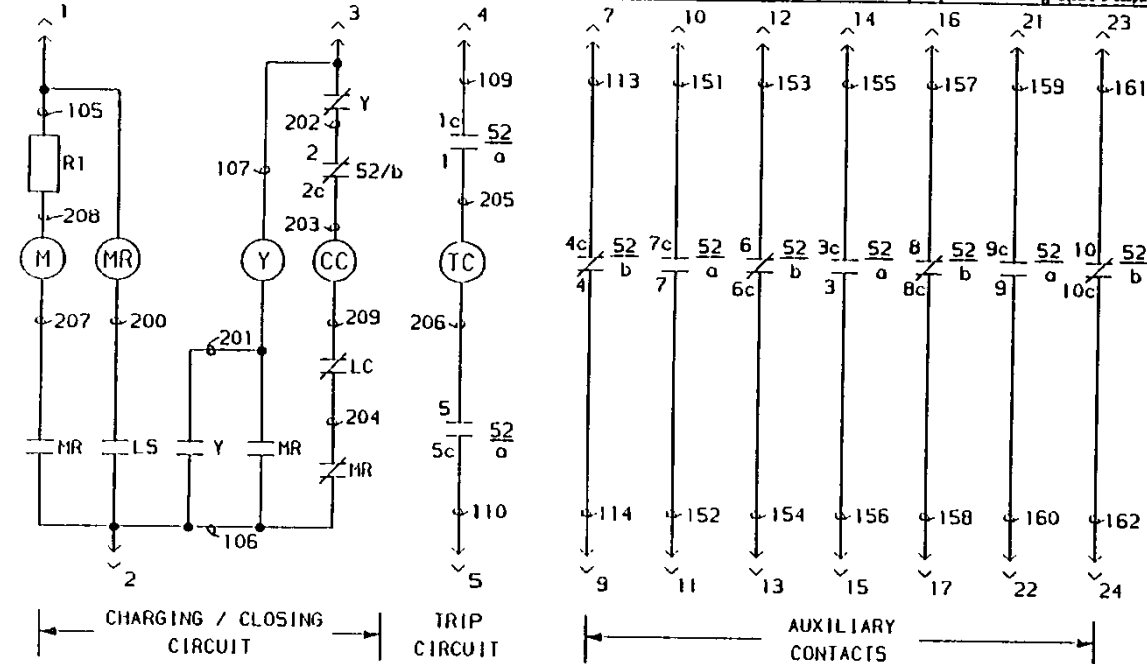
- BREAKER SHOWN IN OPEN POSITION & MAIN SPRINGS CHARGED.
- SEE 44069-358 FOR WIRING DIAGRAM.

FOR CONTROL VOLTAGE

TRIP 24V, 48V, 125V DC OR 120V AC
CLOSE 48V, 125V DC OR 120V AC

STANDARD TOLERANCE UNLESS OTHERWISE SPECIFIED	LINEAR DIMENSIONS	ONE PLACE DECIMAL TWO PLACE DECIMAL THREE PLACE DECIMAL	± .060 ± .030 ± .015	DESIGN LOC. 17	USED ON: VAD-2 BREAKERS WITH AMP PLUG	ECO, 2/11/91	PRINTS TO: -- -- -- -- -- -- -- --	RELEASED IN SYRIA
	HOLE DIMENSIONS	PUNCHED/DRILLED	± .005	DRAWN BY: HEC	RAWSTOCK: NONE	DATE: VA21C23	TITLE: VAD-2 SCHEMATIC DIAGRAM AMP PLUG	SQUARE D COMPANY POWER EQUIPMENT

REV	A		B		C		D		E		F		G
	ECO	BY	DATE										
A	B1480	SP1	8/27/93										This engineering drawing, including all data and attachments, is the proprietary property of Square D Company, not part of the public domain, and is loaned with the express understanding and agreement that it is not to be reproduced or copied in whole or in part or used for furnishing information to any third party without the express written consent of Square D Company. In any way detrimental to the interest of Square D Company and is to be returned upon receipt by Square D Company. Square D Company



- ### OPERATION OF BREAKER
1. THE BREAKER WILL NOT CLOSE UNTIL THE SPRINGS ARE CHARGED.
 2. WHEN THE SPRINGS ARE DISCHARGED, SPRING CHARGING LIMIT SWITCH CONTACT 52/L5 IS CLOSED. THIS PICKS UP THE MOTOR RELAY 52MR, WHICH ENERGIZES THE SPRING CHARGING MOTOR (52/M). 52/M RUNS UNTIL THE CLOSING SPRINGS ARE CHARGED. WHEN THE SPRINGS ARE CHARGED, 52/L5 OPENS, DROPPING OUT 52MR, WHICH DE-ENERGIZES 52M.
 3. WHEN 52/L5 DROPS OUT, THE NORMALLY CLOSED 52MR CONTACT CLOSING ALLOWING CONTINUITY IN THE CLOSING SOLENOID 52/C CIRCUIT. IF CLOSING SIGNAL IS APPLIED, 52/C IS ENERGIZED, UNLATCHING THE CLOSING SPRINGS, CLOSING THE BREAKER, AND CHARGING THE OPENING SPRINGS. 52/B CONTACTS OPEN, DE-ENERGIZING 52/C. THE DISCHARGING OF THE CLOSING SPRINGS CAUSES 52/L5 TO CLOSE. 52MR PICKS UP CLOSING THE NORMALLY OPEN 52MR CONTACT ALLOWING CONTINUITY IN THE ANTI-PUMP RETURN 52/P CIRCUIT. THE 52/C CONTACTS CHANGE STATE SEALING IN 52Y AND PREVENTING 52/C FROM BEING RE-ENERGIZED UNTIL THE CLOSING SIGNAL IS REMOVED. THIS LIMITS THE BREAKER TO ONE CLOSING OPERATION PER CLOSING SIGNAL.
 4. WHEN THE BREAKER CLOSSES, 52/A AUXILIARY CONTACTS CLOSE ALLOWING CONTINUITY IN THE TRIP SOLENOID (52/TIC) CIRCUIT. IF A TRIPPING SIGNAL IS APPLIED, 52/TIC IS ENERGIZED, UNLATCHING THE TRIPPING SPRINGS, OPENING THE BREAKER. THE 52/C CONTACTS OPEN, DE-ENERGIZING 52/TIC WHILE THE BREAKER IS OPEN.
 5. REMOTE STATUS INDICATORS ARE CONNECTED TO TERMINALS TO INDICATE IF THE BREAKER IS OPEN OR CLOSED. CONTACT 52/O IS CLOSED WHEN THE BREAKER IS CLOSED. CONTACT 52/B IS CLOSED WHEN THE BREAKER IS OPEN.

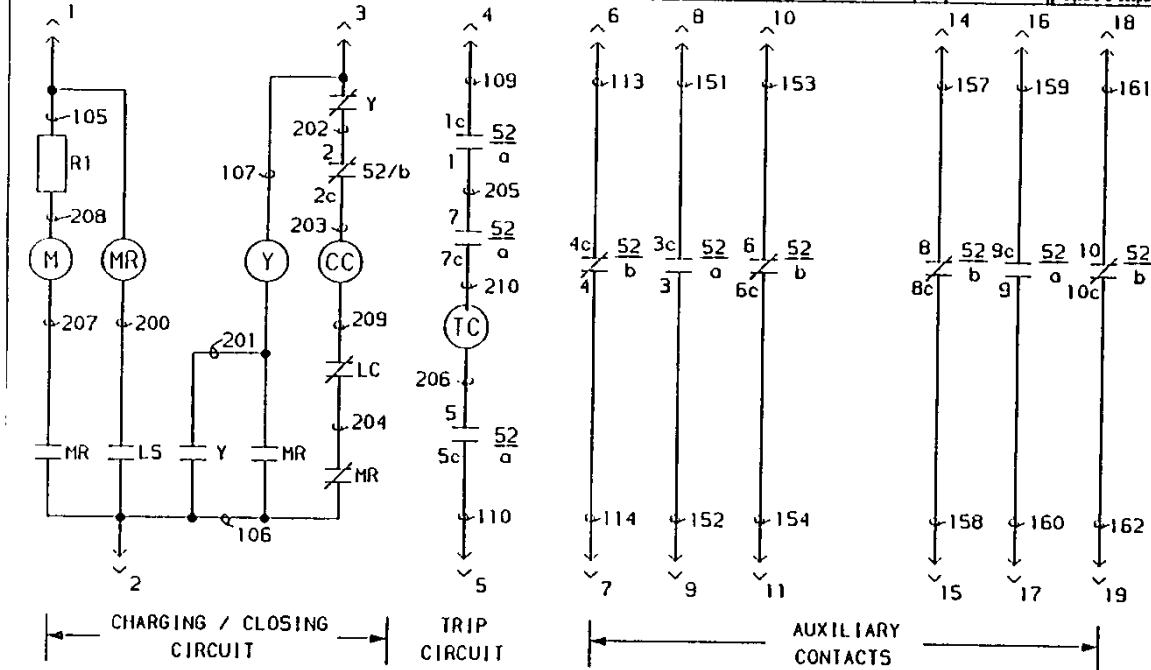
- NOTES:
1. BREAKER SHOWN IN OPEN POSITION & CLOSING SPRINGS CHARGED.
 2. SEE 44064-366-50 FOR MAIN DIAGRAM

- ## LEGEND
- 52 VACUUM CIRCUIT BREAKER
52M SPRING CHARGING MOTOR
52/LS SPRING CHARGING MOTOR LIMIT SWITCH
52/TC TRIP COIL (OPENING COIL)
52/CC SPRING RELEASE COIL (CLOSING COIL)
52Y ANTI-PUMP RELAY
52HR MOTOR RELAY
52/a AUX. SWITCH CONTACTS, OPEN WHEN BREAKER IS OPEN
52/b AUX. SWITCH CONTACTS, CLOSED WHEN BREAKER IS OPEN
R1 MOTOR RESISTOR (120V/500W)
52/LC LATCH CHECK SWITCH

- FOR CONTROL VOLTAGE.
TRIP 24V, 48V, 125V DC OR 120V AC
CLOSE 250VDC OR 240VAC

STANDARD VARIANCE OR LESS TOLERANCE	LINEAR DIMENSIONS	ONE PLACE DECIMAL ± .060 TWO PLACE DECIMAL ± .030 THREE PLACE DECIMAL ± .015	DESIGN LOC: 17	USED ON: VAD-2 BREAKERS WITH HARTING PLUG	ECO: 2/10/92	PRINTS TO: - - - - -	 SQUARE D COMPANY POWER EQUIPMENT
	HOLE DIMENSIONS	PUNCHED/DRILLED ± .005	DRAWN BY: MEC	RAWSTOCK: NONE	DATE: VA21C23	TITLE: VAD-2 SCHEMATIC DIAGRAM HARTING PLUG - 240/250 CI QSF	
			CHKD BY: SPH	MATERIAL DESCRIPTION: NONE			

REV	A		B		C		D		E		F		G
	ECO	BY	DATE										
A	B1480	SPI	8/27/93										This engineering drawing, ECD / EKH or otherwise is the proprietary property of Square D Company, not part of the public domain, and is issued with the express understanding and agreement that it is not to be reproduced or copied in whole or in part or used for furnishing information to others, or used directly or indirectly, in any way detrimental to the interests of Square D Company and is to be returned upon request by Square D Company. © 1993 Square D Company

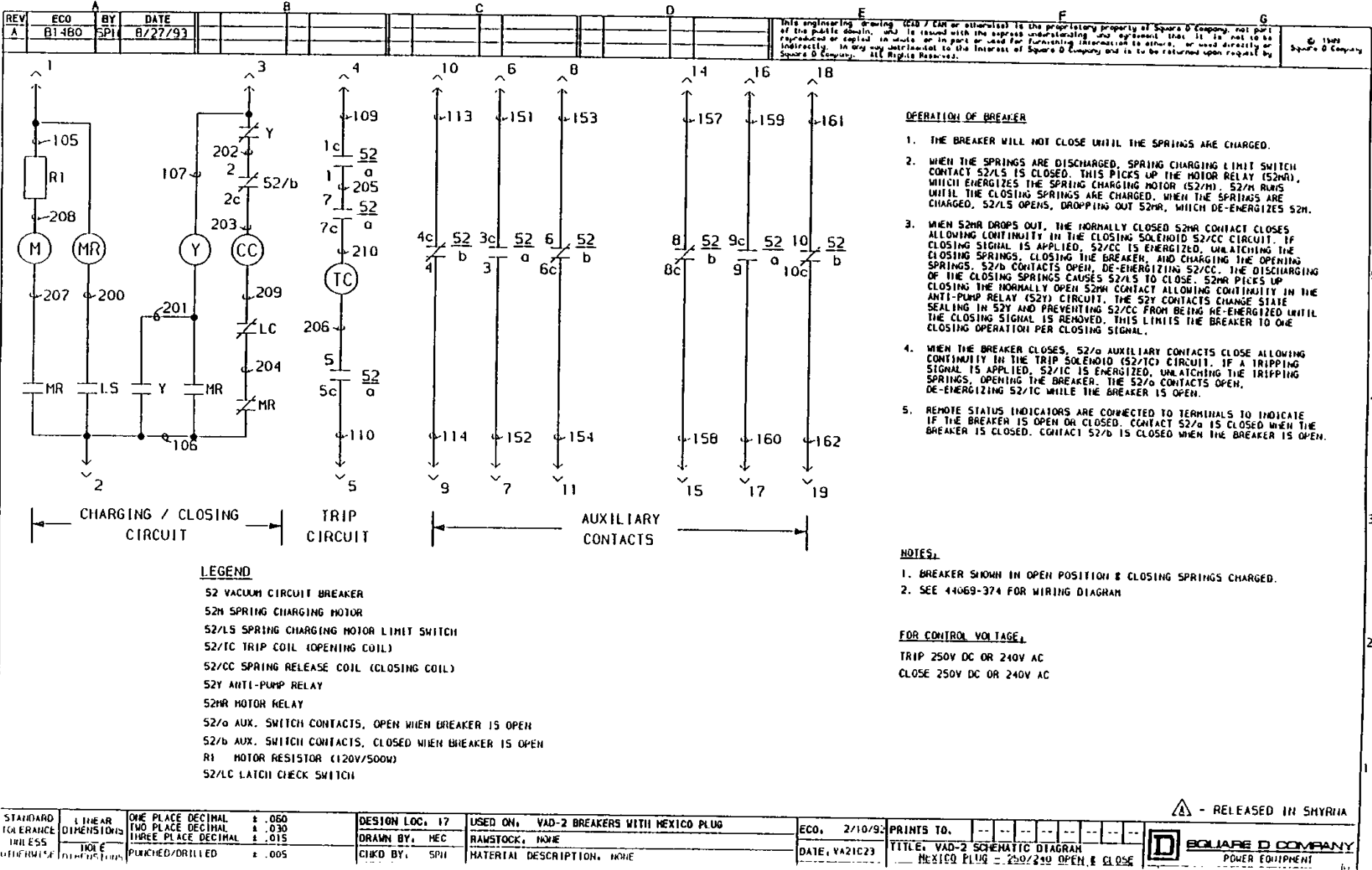


- ### OPERATION OF BREAKER
1. THE BREAKER WILL NOT CLOSE UNTIL THE SPRINGS ARE CHARGED.
 2. WHEN THE SPRINGS ARE DISCHARGED, SPRING CHARGING LIMIT SWITCH CONTACT S2/L5 IS CLOSED. THIS PICKS UP THE MOTOR RELAY (S2/M), WHICH ENERGIZES THE SPRING CHARGING MOTOR (S2/M). S2/M RUNS UNTIL THE CLOSING SPRINGS ARE CHARGED. WHEN THE SPRINGS ARE CHARGED, S2/L5 OPENS, DROPPING OUT S2/M, WHICH DE-ENERGIZES S2/M.
 3. WHEN S2/M DROPS OUT, THE NORMALLY CLOSED S2/M CONTACT CLOSING ALLOWING CONTINUITY IN THE CLOSING SOLENOID S2/C CIRCUIT. IF CLOSING SIGNAL IS APPLIED, S2/C IS ENERGIZED, UNWINDING THE CLOSING SPRINGS, CLOSING THE BREAKER, AND CHARGING THE OPENING SPRINGS. S2/O CONTACTS OPEN, DE-ENERGIZING S2/C. THE DISCHARGING OF THE CLOSING SPRINGS CAUSES S2/L5 TO CLOSE. S2/M PICKS UP CLOSING THE TRIP OPEN S2/T CIRCUIT. THE S2/T CONTACTS CHANGE STATE SEALING IN S2/T AND PREVENTING S2/C FROM BEING RE-ENERGIZED UNTIL THE CLOSING SIGNAL IS REMOVED. THIS LIMITS THE BREAKER TO ONE CLOSING OPERATION PER CLOSING SIGNAL.
 4. WHEN THE BREAKER CLOSSES, S2/O AUXILIARY CONTACTS CLOSE ALLOWING CONTINUITY IN THE TRIP SOLENOID (S2/TCT) CIRCUIT. IF A TRIPPING SIGNAL IS APPLIED, S2/TCT IS ENERGIZED, UNWINDING THE TRIPPING SPRINGS, OPENING THE BREAKER. S2/O CONTACTS OPEN, DE-ENERGIZING S2/TCT WHILE THE BREAKER IS OPEN.
 5. REMOTE STATUS INDICATORS ARE CONNECTED TO TERMINALS TO INDICATE IF THE BREAKER IS OPEN OR CLOSED. CONTACT S2/O IS CLOSED WHEN THE BREAKER IS CLOSED. CONTACT S2/O IS CLOSED WHEN THE BREAKER IS OPEN.

- NOTES:
1. BREAKER SHOWN IN OPEN POSITION & CLOSING SPRINGS CHARGED.
 2. SEE 44069-370 FOR WIRING DIAGRAM

FOR CONTROL VOLTAGE,
TRIP 250 VDC OR 240 VAC
CLOSE 250 VDC OR 240 VAC

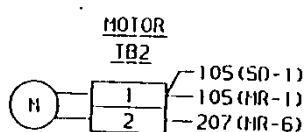
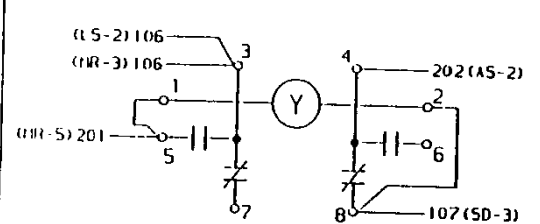
STANDARD TOLERANCE UNLESS OTHERWISE	LINEAR DIMENSIONS	ONE PLACE DECIMAL ± .060 TWO PLACE DECIMAL ± .030 THREE PLACE DECIMAL ± .015	DESIGN LOC. 17	USED ON, VAD-2 BREAKERS WITH AMP PLUG	ECO, 2/10/92	PRINTS TO, --- -- -- -- -- -- -- --	 SQUARE D COMPANY POWER EQUIPMENT
	HOLE DIMENSIONS	PUNCHED/DRILLED ± .005	DRAWN BY, NEC	RAWSTOCK, NONE	DATE, VAD2C23	TITLE, VAD-2 SCHEMATIC DIAGRAM AMP PLUG - 250/240 OPEN & CLOSE	



REV	ECO	BY	DATE	A	B	C	D	E	F	G

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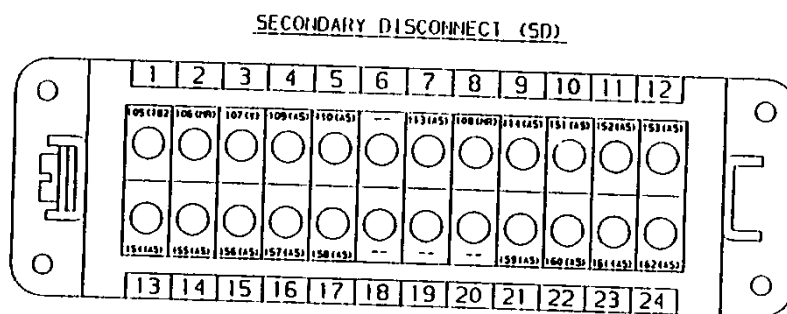


LEGEND

- 52 AS AUXILIARY SWITCH
- 52 SD SECONDARY DISCONNECT
- 52 TB1 SOLENOID TERMINAL BLOCK
- 52 TB2 MOTOR TERMINAL BLOCK
- 52 Y ANTI-PUMP RELAY
- 52 MR MOTOR RELAY
- 52 LS LIMIT SWITCH (MOTOR)
- 52 LC LATCH CHECK SWITCH
- 52 M SPRING CHARGING MOTOR
- 52 CC SPRING RELEASE COIL (CLOSING COIL)
- 52 TC TRIP COIL (OPENING COIL)

NOTE

1. SEE 44069-359 FOR SCHEMATIC DIAGRAM.



REAR VIEW OF BREAKER CONTROL PLUG

AUXILIARY SWITCH (AS)

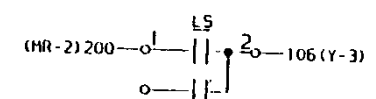
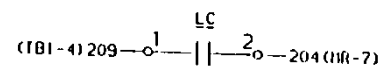
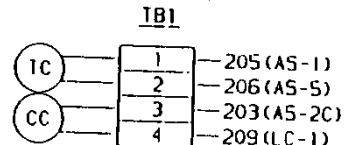
TOP CONTACTS

- (SD-23) 161-10-100-162 (SD-24)
- (SD-16) 157-8-80-158 (SD-17)
- (SD-12) 153-6-60-154 (SD-13)
- (SD-9) 114-4-40-113 (SD-7)
- (Y-4) 202-2-20-203 (TB1-3)

BOTTOM CONTACTS

- (SD-21) 159-9-90-160 (SD-22)
- (SD-10) 151-7-70-152 (SD-11)
- (SD-5) 110-5-50-206 (TB1-2)
- (SD-14) 155-3-30-156 (SD-15)
- (SD-4) 109-1-10-205 (TB1-1)

SOLENOID



FOR CONTROL VOLTAGES

TRIP 24V, 48V, 125V DC OR 120V AC

CLOSE 48V, 125V DC OR 120V AC

STANDARD DIMENSIONS UNLESS OTHERWISE SPECIFIED	ONE PLACE DECIMAL TWO PLACE DECIMAL THREE PLACE DECIMAL	± .060 ± .030 ± .015	DESIGN LOC. 17	USED ON, VAD-2 BREAKERS WITH HARTING PLUG	ECO, 81508	PRINTS TO, ---	SQUARE D COMPANY POWER EQUIPMENT
LINE DIMENSIONS ANGLES	PUNCHED/DRILLED DIMENSIONS DIMENSIONS DIMENSIONS	± .005 ± .005 ± .005	DRAWN BY, SPH	RAWSTOCK, NONE	DATE, 9/16/93	TITLE, VAD-2 WIRING DIAGRAM	
			CHECK BY, ---	MATERIAL DESCRIPTION, NONE	SCALE, NONE	PART, 44069-555	QTY, 1
			ENGINEER, LHS	FINISH DESCRIPTION, NONE			44069-555

