Table 1-2. Equipment Matrix - High-Level and Low-Level TD Sets

	NAVY DESIGNATION	WDP NO.	COVERS		TRANSMITTER DISTRIBUTORS								BASES						ESA						MOTORS					GEARSETS								
	MANUFACTURERS DESIGNATION		LXDC205BR	LXDC201BR	LXD1	LXD4	TT-311/UG	TT-502/UG	LXD30	TT-496/UG	TT-602/UG	LXD38	LXDB1	LXDB3	LXDB4	LXDB9	LXDB19	LXBD20	TP326792	PS(PCB)	CMD(PCB)	LLK(PCB)	TUNING FORK	TABLE	DOLLY	PD-17A/U	PD-18A/U	PD-77A/UG	PD-105/UG	PD-111/UG								OPERATIONAL GEARSET
	FIGURE NUMBER				5-1	5-2	5-3	5-3	5-2	5-4	5-10	5-10	5-5	5-6	5-6	5-7	5-8	5-11	5-12 5-13	5-16	5-15	5-14				5-9 SHEET 1	5-9 SHEET 2	5-9 SHEET 2	5-9 SHEET 1	5-9 SHEET 1								
HIGH LEVEL STANDARD SIZE	AN/UGA-7		X							X						X							X	X	X	X							X	X			
	AN/UGC-66		X				X									X							X	X	X		X							X	X			
	TT-187/UG		X		X								X													X				X	X	X						
	TT-273/UG		X		X								X										X			X				X	X	X						
	TT-273A/UG		X						X					X														X						X	X			
	TT-533/UG		X				X									X							X			X												
HIGH LEVEL MINIATURIZED SIZE																																						
	TT-187A/UG			X		X									X														X	X	X	X					X	
	TT-187B/UG			X		X		X							X														X				X	X	X			
	TT-187C/UG			X		X			X						X														X	X	X	X						
	TT-187D/UG			X		X		X							X														X				X	X	X			
	TT-187E/UG			X		X			X								X													X									
LOW LEVEL (MINIATURIZED)	TT-570/UG 28RFT5000B/XXX/AAS/BR	0058		X							X									X	X	X	X	X	X				X								
	TT-603/UG 28RFT5000A/XXX/AAB/BR	0058		X								X								X	X	X	X	X	X				X		X						

NO	NOTES
1	WIRING LEGEND: A — 1 — W-BL A — DISTANT TERMINATING AREA 1 — DISTANT TERMINAL DESIGNATION W-BL — WIRE COLOR CODE
2.	COLOR CODE BK — BLACK; W-BK — WHITE — BLACK BR — BROWN; W-BR — WHITE — BROWN R — RED; W — R — WHITE — RED O — ORANGE; W — O — WHITE — ORANGE Y — YELLOW; W — Y — WHITE — YELLOW G — GREEN; W — G — WHITE — GREEN BL — BLUE; W-BL — WHITE — BLUE P — PURPLE; W — P — WHITE — PURPLE W — WHITE; W — S — WHITE — SLATE S — SLATE
3.	UNIT WIRED FOR 115 VOLTS AC OR DC POWER INPUT.
4.	CONNECTOR VIEWED FROM SOLDER TERMINAL ENDS.
5.	ALL CONTACTS SHOWN IN UNOPERATED POSITION.
6.	SPARE TERMINAL OF F-12 RESERVED FOR POLAR OPERATION OF TRANSMITTER DISTRIBUTOR SIGNAL GENERATOR. TIE W-Y LEAD BACK ALONG CABLE ASSEMBLY FROM SIGNAL GENERATOR.
7.	DISCONNECT ONE TERMINAL WHEN TESTING SIGNAL GENERATOR.
8.	*THE NUMBERS ENCASED BY PARENTHESES ARE USED FOR REFERENCE AND ARE NOT NECESSARILY SHOWN ON THE PARTS.*
9	TO PLACE THE CLUTCH TRIP MAGNET ASSEMBLY AND THE TWO CONTACT ASSEMBLIES IN SERIES, CONNECT THE TWO 151827 TERMINAL STRAPS TO TERMINALS 2 & 3 AND TERMINALS 4 & 5. CONNECT THE TWO BLACK STRAPS OF THE CABLE ASSEMBLY TO TERMINALS 1 & (17) AND TERMINALS 6 & (18).
10	115 V ±10% AC POWER TO BE USED ON CLUTCH TRIP MAGNET ASSEMBLY CIRCUIT. (256 M COIL ASSEMBLIES) FOR DC OPERATION ADD SUFFICIENT EXTERNAL RESISTANCE TO LIMIT CURRENT TO 100 M.A.

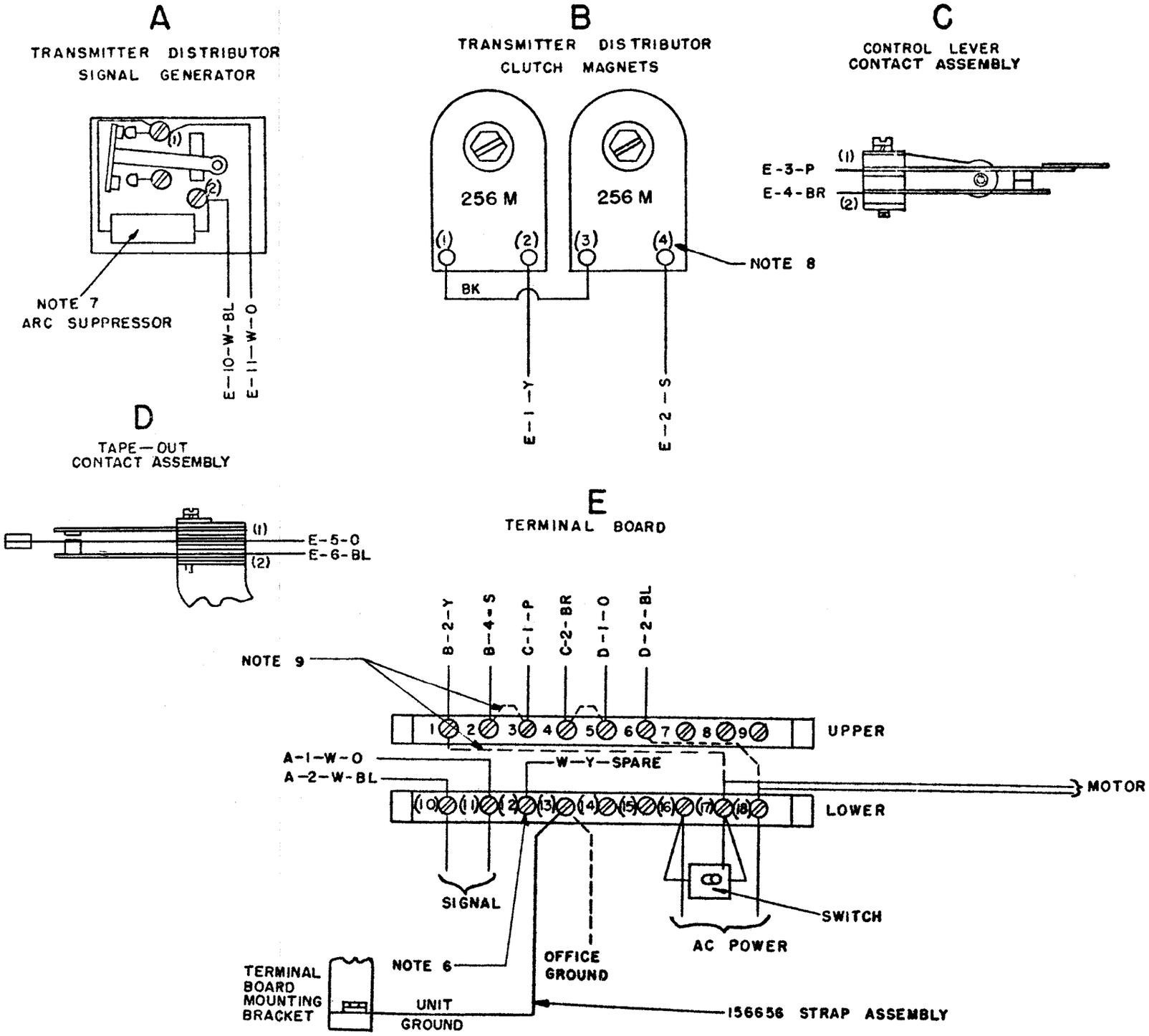
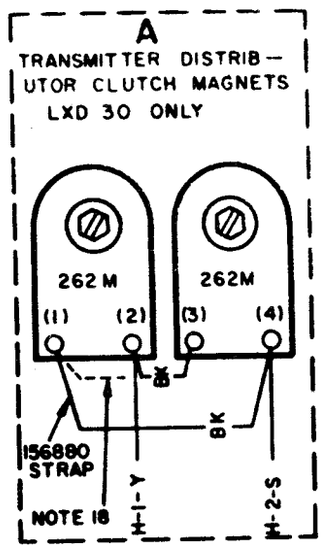


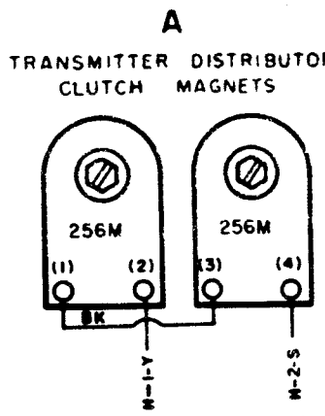
Figure 5-1. Transmitter Distributor Unit LXD1 Wiring Diagram

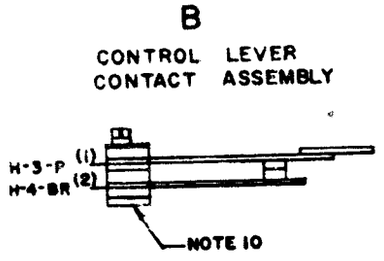
NO	NOTES
1	WIRING LEGEND: DISTANT TERMINATING AREA DISTANT TERMINATING DESIGNATION A-1-W WIRE COLOR CODE
2.	COLOR CODE: BK-BLACK BL-BLUE BR-BROWN R-RED W-WHITE P-PURPLE O-ORANGE Y-YELLOW G-GREEN S-SLATE
3.	CONNECTORS VIEWED FROM SOLDER TERMINAL ENDS.
4.	ALL CONTACTS SHOWN IN UNOPERATED POSITION.
5.	DISCONNECT ONE ARC SUPPRESSOR LEAD WHEN STROBING SIGNAL GENERATOR.
6.	THE NUMBERS ENCLOSED BY PARENTHESES ARE USED FOR REFERENCE AND ARE NOT NECESSARILY SHOWN ON THE PARTS.
7.	115V AC ± 10% POWER TO BE USED ON CLUTCH TRIP MAGNET ASSEMBLY CIRCUIT (256 M COIL ASSEMBLIES). IF DC IS USED, CURRENT MUST BE LIMITED TO 100 MA BY AN EXTERNAL RESISTANCE (COIL RESISTANCE=7Ω EACH). FOR 120V DC ± 10% POWER, AN EXTERNAL RESISTANCE OF 1000 IS REQUIRED. FOR 60V DC ± 10% POWER, AN EXTERNAL RESISTANCE OF 360 IS REQUIRED.
8.	TERMINAL NO.21 ON CONNECTOR H IS RESERVED FOR POLAR SIGNAL.
9.	STRAP WITH #22 GAUGE WIRE AS INDICATED.
10.	FOR LXD6 SEE WIRING DIAGRAMS 3292WD & 3289WD FOR WIRING OF HORIZONTAL TAB WHEN USED WITH ASR SET.
11.	WHEN THE LXD9 IS IN THE STOP (IDLE) CONDITION, THE SPACING(S) SIDE OF THE MULTIPLE WIRE OUTPUT CONTACTS ARE CLOSED.
12.	ARC SUPPRESSOR IS OMITTED ON THE LXD802.
13.	W-Y WIRE FROM D-3 TO H-21 FURNISHED WITH LXD13.
14.	OMIT ARC SUPPRESSOR FROM LXD18.
15.	W-P WIRE FROM C-3 TO H-14 FURNISHED WITH LXD19.
16.	TOGGLE STRAP - LXD20 ONLY.
17.	THE TAPE WITHHOLD MAGNET IS TO BE USED WITH 115V DC ±10% WITH AN 1100 OHM SERIES RESISTANCE OR WITH 48V DC ±10% WITH NO EXTERNAL RESISTANCE. COIL RESISTANCE= 872 OHMS ±10%. ON ASR INSTALLATION ROUTE CABLE UNDER BASE ALONG LEFT SIDE OF CABINET TO "C" TERMINAL STRIP AND SECURE TO CABINET.
18.	LXD30 IS EQUIPPED WITH 256M MAGNET COIL ASSEMBLIES (210 OHMS EACH) STRAPPED FOR 115V AC NON-PULSING OPERATION. FOR 60MA, 115V DC PULSED OPERATION, ADD EXTERNAL RESISTANCE AND CHANGE CONNECTIONS AS FOLLOWS:

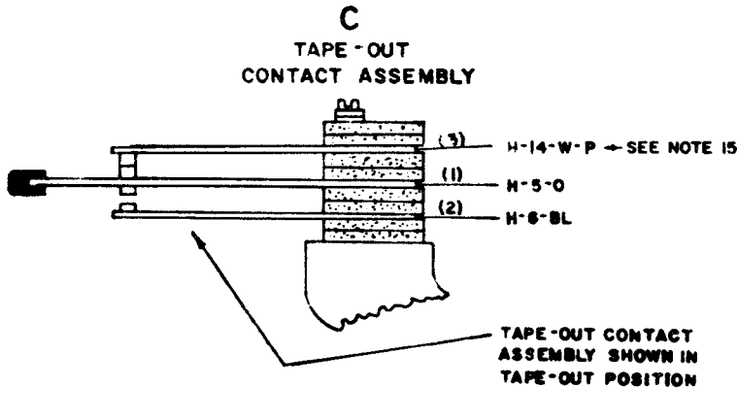
CONNECTIONS REMOVED	CONNECTION ADDED
A2-A3 A1-A4	A1-A3

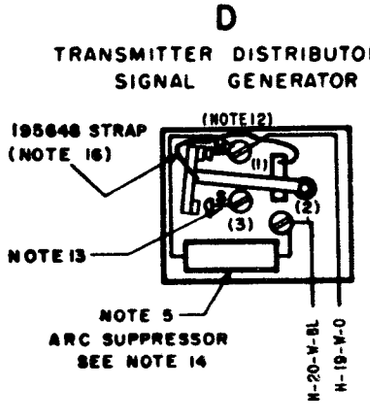
19.	AREA E-UNNUMBERED TERMINALS ON MULTIPLE WIRE OUTPUT CONTACT ASSEMBLY ARE NOT PRESENT ON OLDER ASSEMBLIES AND ARE NOT USED.

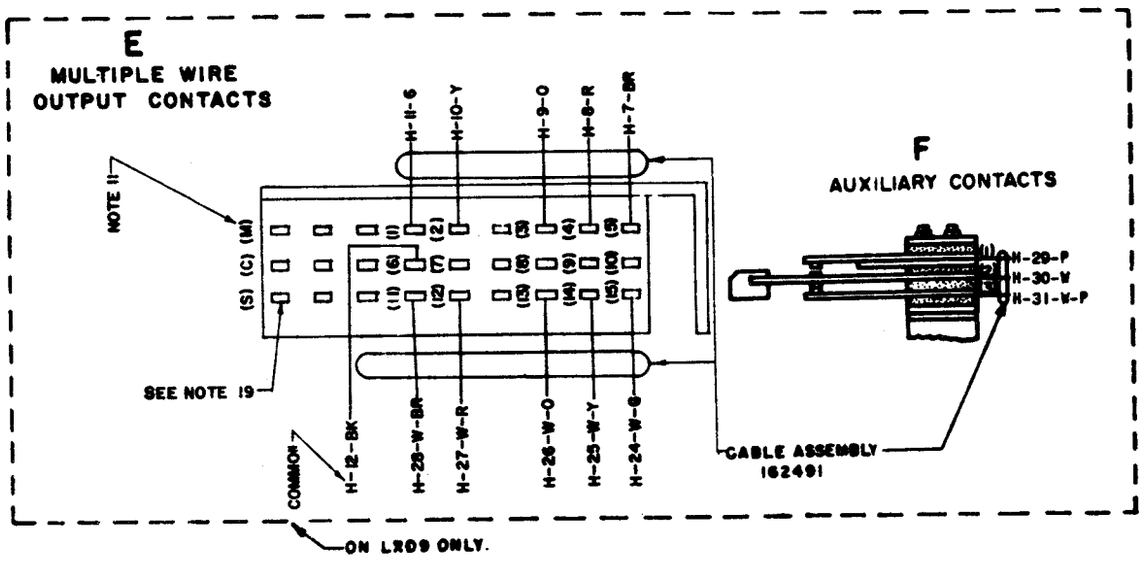


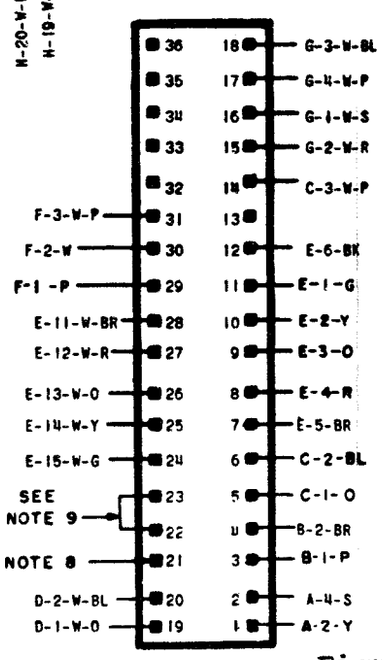


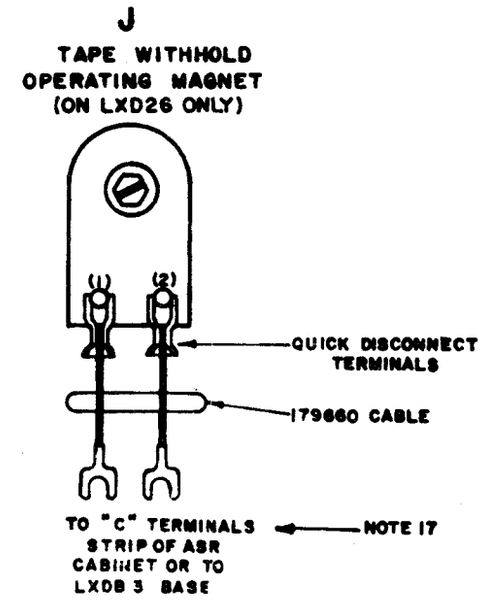












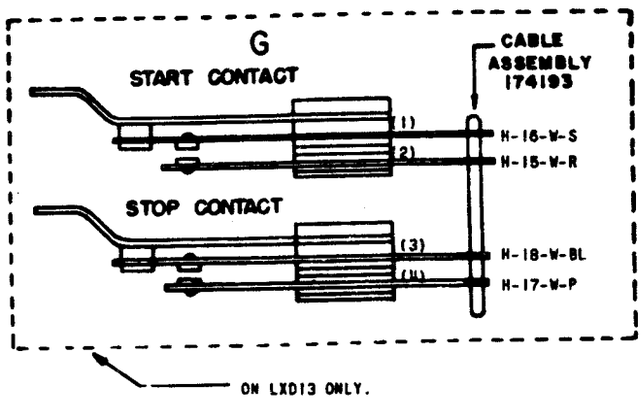


Figure 5-2. Transmitter Distributor Unit LXD4, 9, 13, 15, 18, 19, 20, 26, 601, 602, 800, 802, 30, 41 Wiring Diagram

NOTES:

1. WIRING LEGEND:

   A-1-W
   - A — DISTANT TERMINATING AREA
   - 1 — DISTANT TERMINAL DESIGNATION
   - W — WIRING COLOR CODE

2. COLOR CODE:

BK - BLACK	W-BK - WHITE-BLACK
BR - BROWN	W-BR - WHITE-BROWN
R - RED	W-R — WHITE-RED
O - ORANGE	W-O — WHITE-ORANGE
Y - YELLOW	W-Y — WHITE-YELLOW
G - GREEN	W-G — WHITE-GREEN
BL - BLUE	W-BL - WHITE-BLUE
P - PURPLE	W-P — WHITE-PURPLE
S - SLATE	W-S — WHITE-SLATE
W - WHITE	

3. CONNECTORS VIEWED FROM SOLDER TERMINAL ENDS

4. ALL CONTACTS SHOWN IN UNOPERATED POSITION.

5. ASSOCIATED CABLES:
   173440 CABLE ASSEMBLY (LXD 11)
   307288 CABLE ASSEMBLY (LXD 29,35)

6. THE NUMBERS ENCLOSED BY PARENTHESES ARE USED FOR REFERENCE AND ARE NOT MARKED ON THE PARTS.

7. UNIT EQUIPPED WITH 262 COIL ASSEMBLY (RESISTANCE 210Ω EACH). THE OPERATING CURRENT MUST BE 50 MA. 120 V DC FOR EXTERNAL PULSING.
   FOR 110V AC. NON-PULSING OPERATION, RELOCATE STRAP ON TERMINAL (1) TO TERMINAL (2). ADD STRAP BETWEEN TERMINALS (1) AND (4) FOR PARALLEL OPERATION OF MAGNETS.

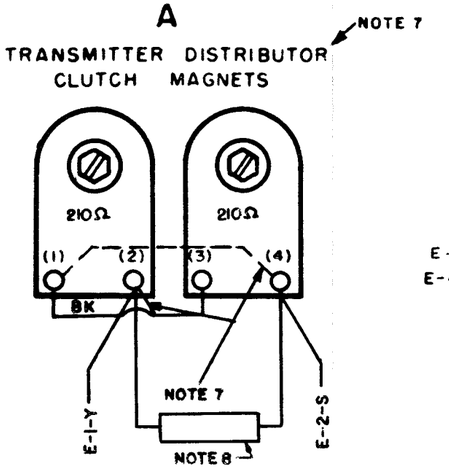
8. 178535 SPARK SUPPRESSOR ASSEMBLY (153631 NETWORK) USED ON LXD 29 ONLY.

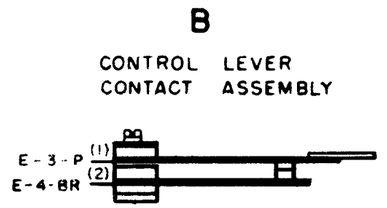
9. TERMINAL NO. 21 ON CONNECTOR E IS RESERVED FOR POLAR SIGNAL.

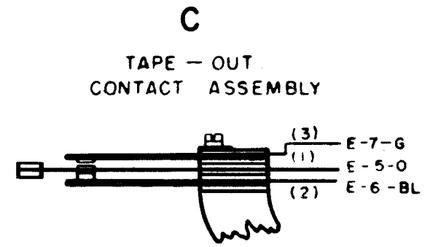
10. STRAP WITH 22 GAUGE WIRE AS INDICATED.

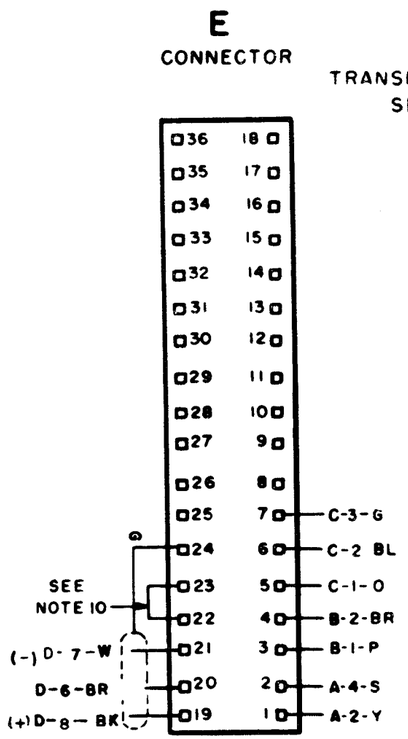
11. FOR PROPER R.F. FILTERING POLARITY OF FILTERS MUST BE MAINTAINED WHEN 174422 FILTER IS USED. UNIT AS FURNISHED IS WIRED FOR "MARKING" CONTACT POSITIVE (+) "SPACING" CONTACT NEGATIVE (-). TO REVERSE POLARITY OF CONTACTS SO THAT THE "MARKING" CONTACT IS NEGATIVE (-) AND "SPACING" POSITIVE (+) MAKE THE FOLLOWING CONNECTIONS IN CONTACT BOX ASSEMBLY.
    1. MOVE BLACK LEAD OF BOTTOM FILTER FROM "MARKING" CONTACT TO "SPACING" CONTACT.
    2. MOVE GREEN LEAD OF TOP FILTER FROM "SPACING" CONTACT TO "MARKING" CONTACT.

    POLARITY MAY BE DISREGARDED WHEN UNITS ARE FURNISHED WITH 174421 FILTER. COLOR CODING OF FILTER LEADS DOES NOT APPLY TO 174421 FILTER.









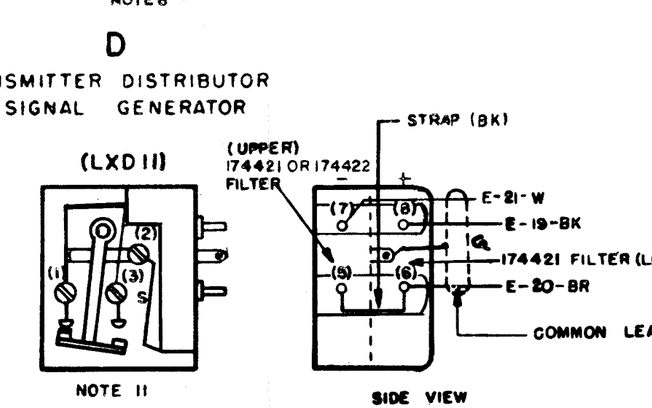
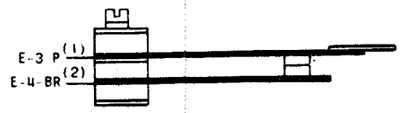


Figure 5-3. Transmitter Distributor Unit LXD11, 29, 35 Wiring Diagram

NO.	NOTES
1.	WIRING LEGEND: DISTANT TERMINATING AREA DISTANT TERMINATING DESIGNATION A-1-W WIRING COLOR CODE
2.	COLOR CODE: BK - BLACK R - RED BL - BLUE P - PURPLE BR - BROWN Y - YELLOW O - ORANGE G - GREEN W - WHITE S - SLATE
3.	CONNECTORS VIEWED FROM SOLDER TERMINAL ENDS.
4.	ALL CONTACTS SHOWN IN UNOPERATED POSITION.
5.	ASSOCIATED CABLES: 173440 CABLE ASSEMBLY
6.	THE NUMBERS ENCLOSED BY PARENTHESES ARE USED FOR REFERENCE AND ARE NOT NECESSARILY SHOWN ON THE PARTS.
7.	UNIT EQUIPPED WITH 262 COIL ASSEMBLY (RESISTANCE 210Ω EACH) THE OPERATING CURRENT MUST BE 50 MA 120 V DC FOR EXTERNAL PULSING. FOR 110 AC NON-PULSING OPERATION, RELOCATE STRAP ON TERMINAL (1) TO TERMINAL (2). ADD STRAP BETWEEN TERMINALS (1) AND (4) FOR PARALLEL OPERATION OF MAGNETS.
8.	TERMINAL NO. 21 ON CONNECTOR E IS RESERVED FOR POLAR SIGNAL.
9.	STRAP WITH NO. 22 GAUGE WIRE AS INDICATED
10.	FOR PROPER R.F. FILTERING USING EARLY STYLE 174421 AND 174422 FILTERS POLARITY OF FILTERS MUST BE MAINTAINED. WIRING SHOWN IS FOR MARKING CONTACT NEGATIVE. FOR MARKING CONTACT POSITIVE MAKE THE FOLLOWING CHANGES: A. MOVE GREEN LEAD OF TOP FILTER FROM MARKING CONTACT TO SPACING CONTACT. B. MOVE BLACK LEAD OF BOTTOM FILTER FROM SPACING CONTACT TO MARKING CONTACT. LATE STYLE 174421 FILTER IS NOT POLARIZED AND IS USED IN BOTH UPPER AND LOWER POSITIONS. BOTH LEADS OF FILTER ARE BLACK.

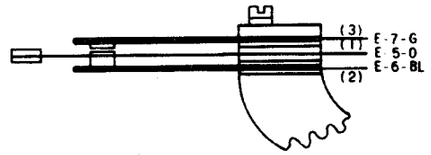
B

CONTROL LEVER CONTACT ASSEMBLY



C

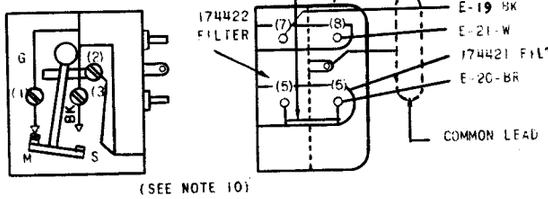
TAPE OUT CONTACT ASSEMBLY



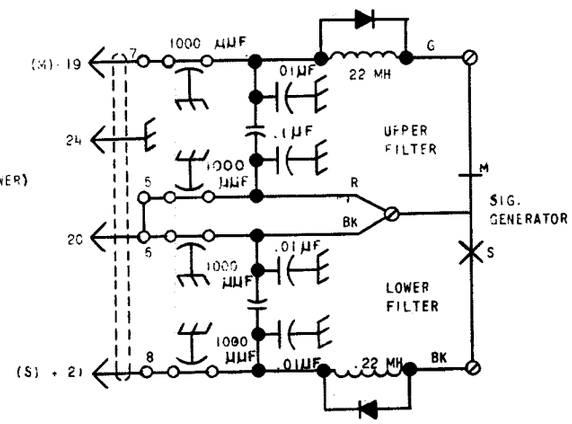
SCHEMATIC OF WIRING OF NEW STYLE 174421 FILTERS

D

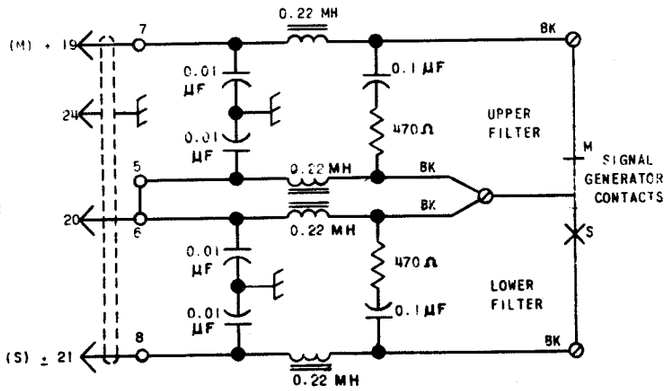
TRANSMITTER DISTRIBUTOR SIGNAL GENERATOR



SCHEMATIC OF WIRING OF EARLY STYLE 174421 AND 174422 FILTERS



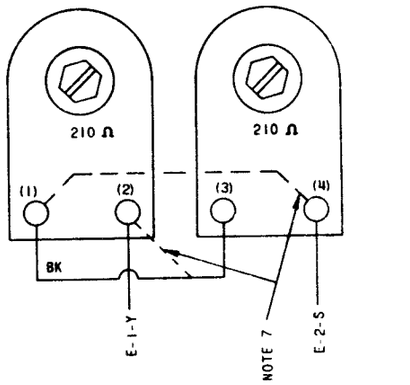
(SEE NOTE 10)



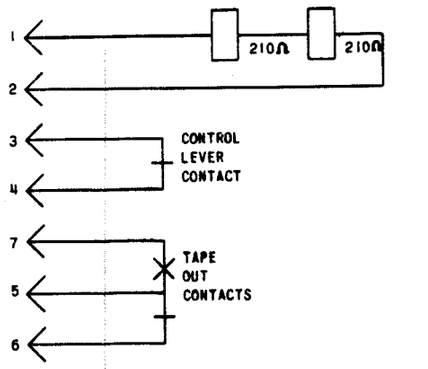
A

TRANSMITTER DISTRIBUTOR CLUTCH MAGNETS

NOTE 7



CLUTCH MAGNETS



E

CONNECTOR

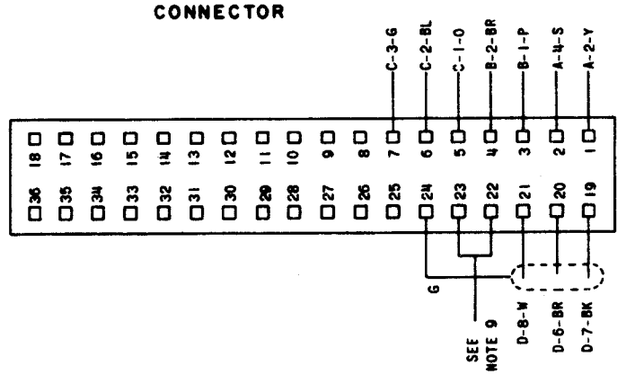
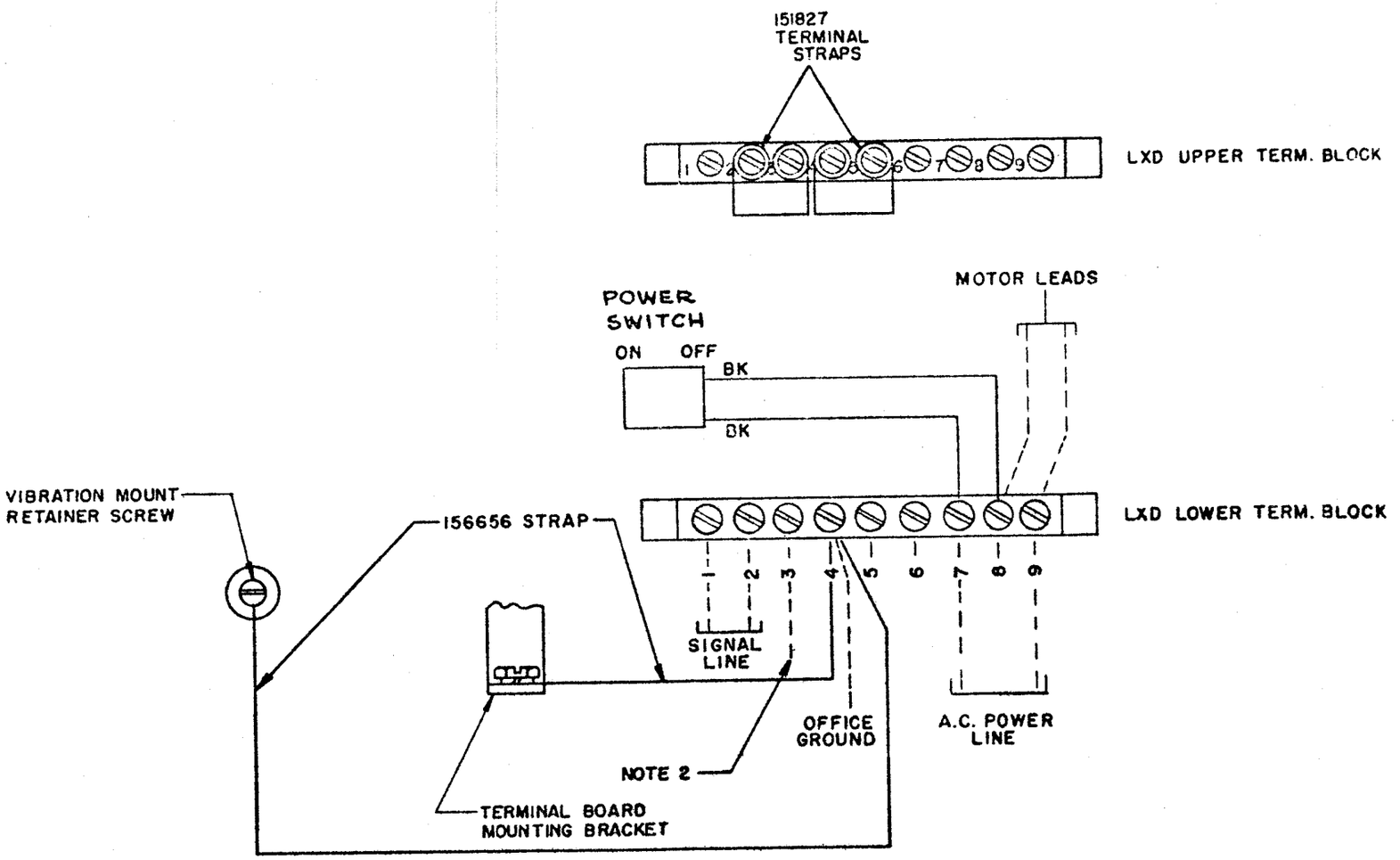


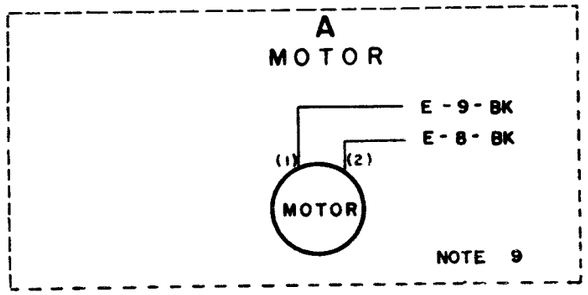
Figure 5-4. Transmitter Distributor Unit LXD31 43 Wiring Diagram

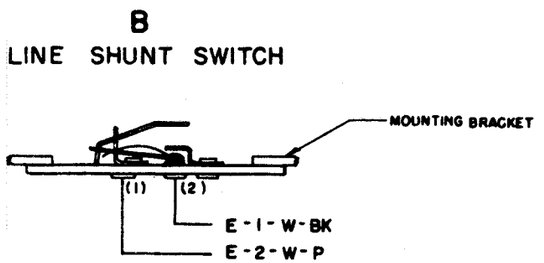


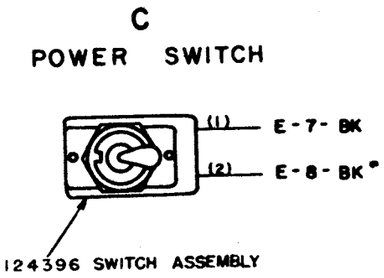
NOTES	
1	WIRE COLOR CODE: BK - BLACK
2	TERMINAL NO. 3 AVAILABLE FOR POLAR OPERATION.
3	NUMBERS 1 TO 9 SHOWN ON THE LOWER TERMINAL BLOCK CORRESPOND TO NUMBERS (10) TO (18) RESPECTIVELY ON WIRING DIAGRAM 3342 WD.
4	DOTTED LINES NOT PART OF THE BASE UNIT.

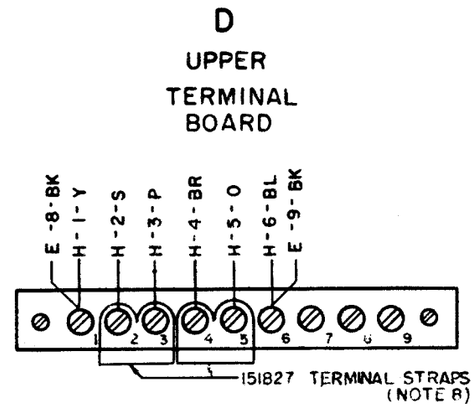
Figure 5-5. Transmitter Distributor Base LXDB1 Wiring Diagram

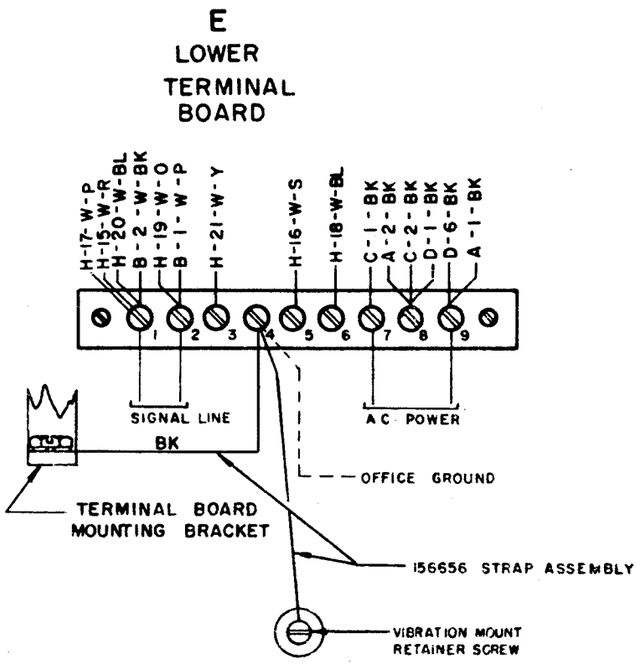
NO.	NOTES
1.	WIRING LEGEND: DISTANT TERMINATING AREA; DISTANT TERMINATING DESIGNATION; WIRE COLOR CODE (A-1-Y)
2.	COLOR CODE: BK-BLACK, BL-BLUE, G-GREEN, Y-YELLOW, S-SLATE, BR-BROWN, R-RED, P-PURPLE, O-ORANGE, W-WHITE
3.	UNIT WIRED FOR 115 VOLTS AC OR DC POWER INPUT.
4.	CONNECTOR VIEWED FROM SOLDER TERMINAL ENDS.
5.	TERMINAL E-3 RESERVED FOR POLAR OPERATION. W-Y LEAD CONNECTED FROM E-3 TO H-21.
6.	THE NUMBERS ENCLOSED BY PARENTHESES ARE NOT NECESSARILY SHOWN ON THE PARTS.
7.	115V AC ± 10% POWER TO BE USED ON CLUTCH TRIP MAGNET ASSEMBLY CIRCUIT (256 M COIL ASSEMBLIES). IF DC IS USED CURRENT MUST BE LIMITED TO 100 MA BY AN EXTERNAL RESISTANCE (COIL RESISTANCE = 714Ω EACH). FOR 120V DC ± 10% POWER, AN EXTERNAL RESISTANCE OF 1000Ω IS REQUIRED. FOR 50V DC ± 10% POWER, AN EXTERNAL RESISTANCE OF 350Ω IS REQUIRED.
8.	WITH THE TWO 151827 TERMINAL STRAPS CONNECTED AS SHOWN (TERMINALS 2 & 3 AND TERMINALS 4 & 5) THE CLUTCH MAGNET ASSEMBLY, THE TAPE-OUT CONTACT ASSEMBLY, AND THE CONTROL LEVER CONTACT ASSEMBLY (ALL ON THE ASSOCIATED TRANSMITTER DISTRIBUTOR) WILL BE WIRED IN SERIES.
9.	MOTOR IS NOT PART OF BASE.

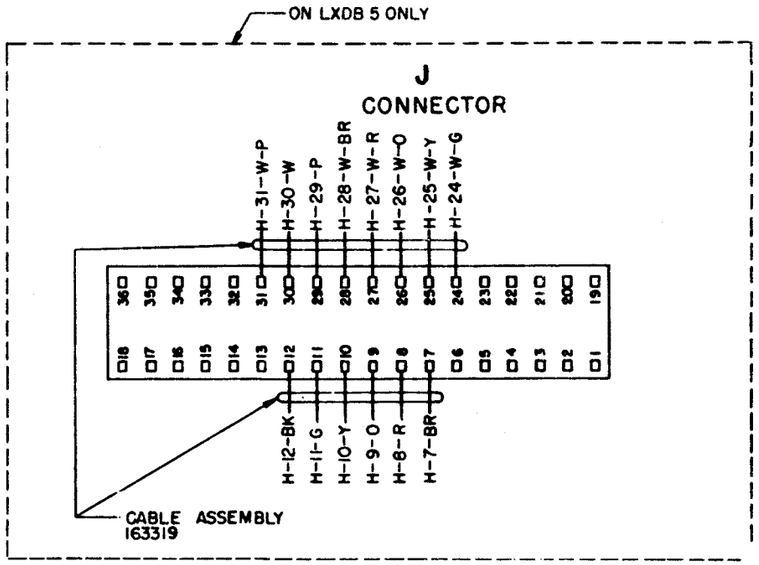












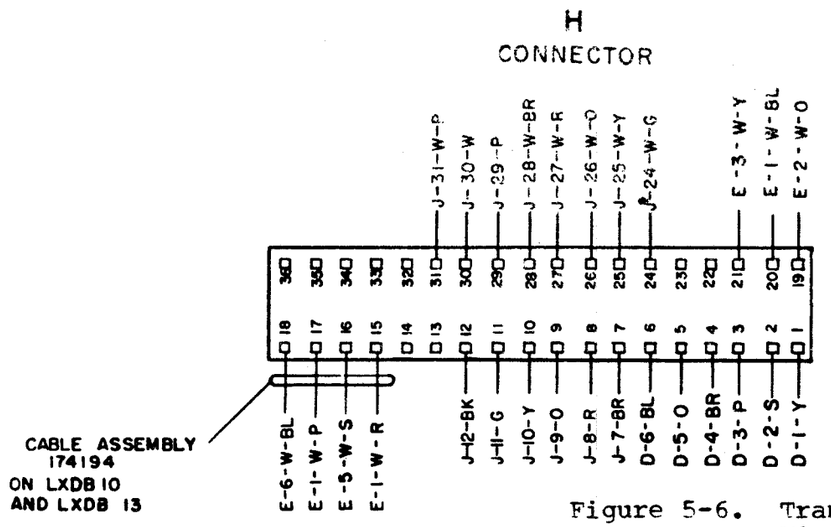


Figure 5-6. Transmitter Distributor Base LXDB3, 4, 5, 10, 13, 15 Wiring Diagram

	NOTES:
1.	WIRING LEGEND: 
2.	COLOR CODE: BK BLACK W-BK WHITE BLACK BR BROWN W-BR " BROWN R RED W-R " RED O ORANGE W-O " ORANGE Y YELLOW W-Y " YELLOW G GREEN W-G " GREEN BL BLUE W-BL " BLUE P PURPLE W-P " PURPLE W WHITE S SLATE W-S " SLATE
3.	CONNECTOR VIEWED FROM SOLDER TERMINAL ENDS.
4.	THE NUMBERS ENCLOSED IN PARENTHESES ARE USED FOR REFERENCE AND ARE NOT NECESSARILY SHOWN ON THE PARTS.
5.	WITH THE TWO 151827 TERMINAL STRAPS CONNECTED AS SHOWN (TERMINAL 2 & 3 AND TERMINALS 4 & 5) THE CLUTCH MAGNET ASSEMBLY, THE TAPE-OUT CONTACT ASSEMBLY, AND THE CONTROL LEVER CONTACT ASSEMBLY (ALL ON THE ASSOCIATED TRANSMITTER DISTRIBUTOR) WILL BE WIRED IN SERIES.
6.	ASTERISK (*) ITEMS INDICATE 18 GA. WIRE
7	THE MOTOR IS NOT A PART OF THE LXDB9 UNIT.
8.	①BK & ②BK (4 ENDS) OF CABLE 173935 IN THE AREA OF THE UPPER AND LOWER TERMINAL BLOCK ARE NOT USED ON LXDB9. TIE BACK AND INSULATE TERMINAL ENDS.

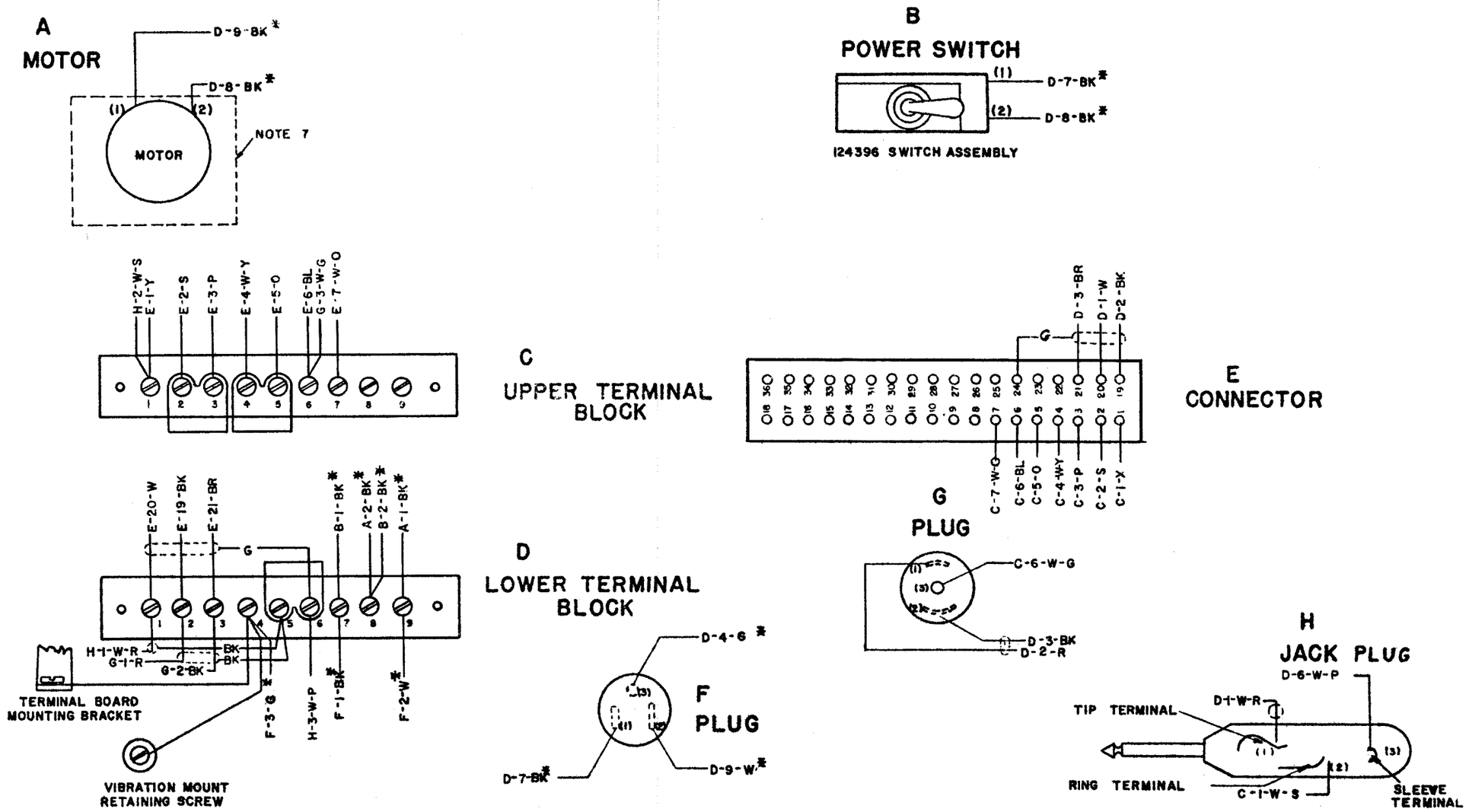
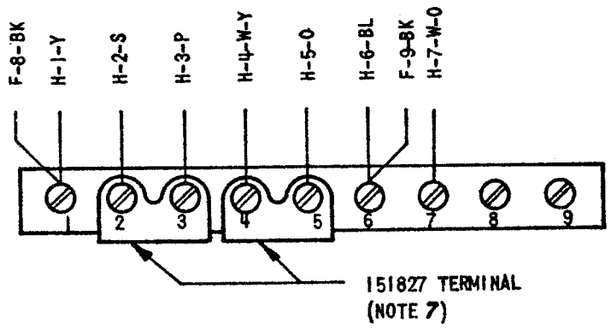


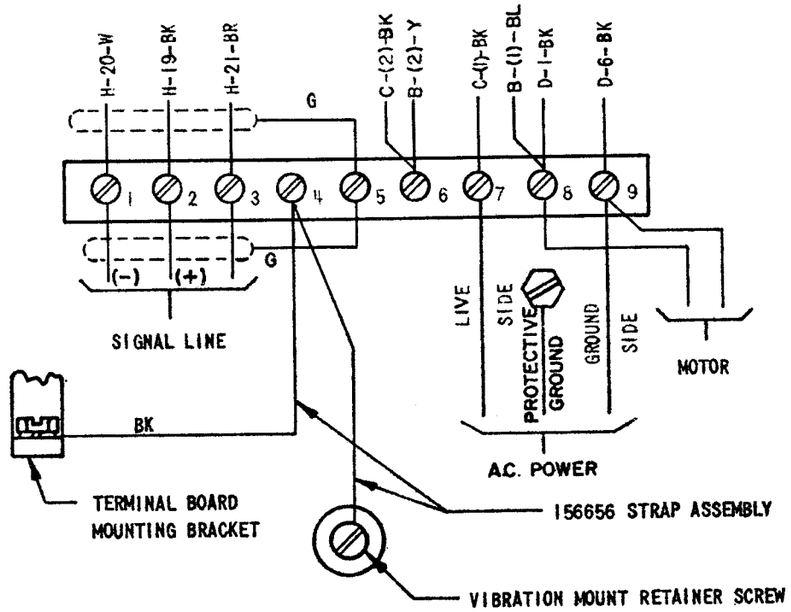
Figure 5-7. Transmitter Distributor Base LXDB9 Wiring Diagram

NO.	NOTES
1.	WIRING LEGEND: DISTANT TERMINATING AREA DISTANT TERMINATING DESIGNATION A-I-W WIRE COLOR CODE
2.	COLOR CODE: BK-BLACK BR-BROWN R-RED O-ORANGE Y-YELLOW G-GREEN BL-BLUE P-PURPLE W-WHITE S-SLATE
3.	UNIT WIRED FOR 115 VOLTS AC POWER INPUT.
4.	CONNECTOR VIEWED FROM SOLDER TERMINAL ENDS.
5.	INDICATES SHIELDING
6.	THE NUMBERS ENCLOSED BY PARENTHESIS ARE USED FOR REFERENCE AND ARE NOT SHOWN ON THE PARTS.
7.	WITH THE TWO 151827 TERMINAL STRAPS CONNECTED AS SHOWN (TERMINALS 2 & 3 AND TERMINALS 4 & 5) THE CLUTCH MAGNET ASSEM., THE TAPE-OUT CONTACT ASSEM., AND THE CONTROL LEVER CONT. ASSEM. (ALL ON THE ASSOCIATED TRANSMITTER DIST.) WILL BE WIRED IN SERIES.
8	REFERENCE SPECIFICATION FOR TELETYPE CORPORATION EMPLOYEES ONLY 6820S

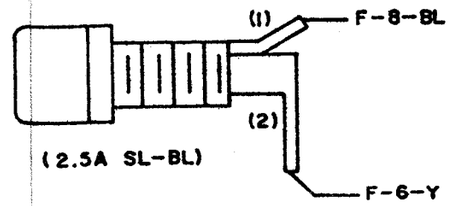
D
UPPER TERMINAL BOARD



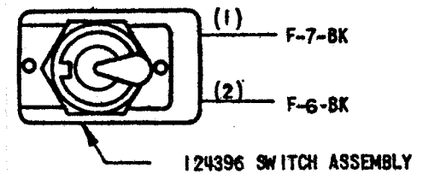
F
LOWER TERMINAL BOARD



B
FUSE HOLDER 116783



C
POWER SWITCH



H
CONNECTOR

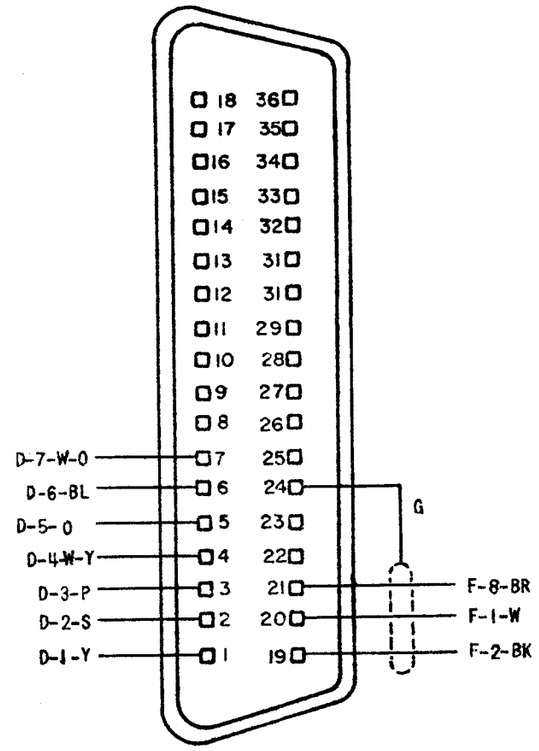
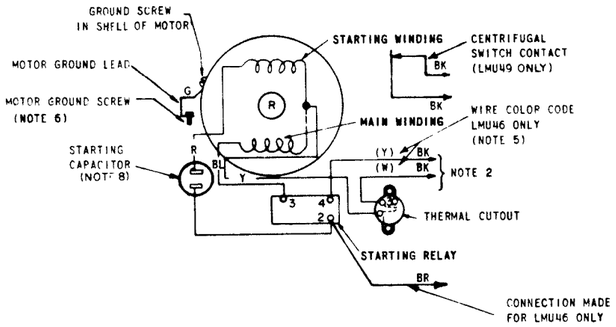


Figure 5-8. Transmitter Distributor Base LXDB19 Wiring Diagram

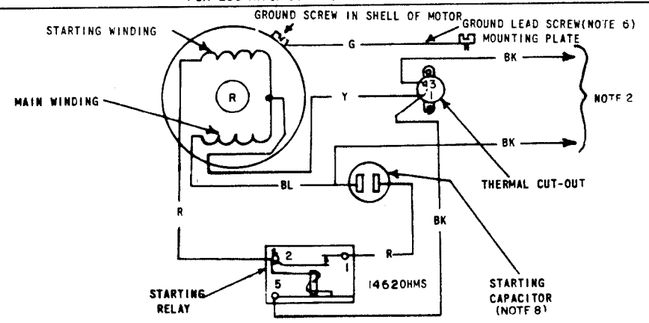
SYNCHRONOUS MOTOR UNITS

NO.	NOTES
1.	SYNCHRONOUS MOTOR OPERATES ON REGULATED FREQUENCY (± 0.75%) MAXIMUM AC ONLY.
2.	CONNECT EITHER WIRE TO DESIGNATED TERMINALS OF UNIT TERMINAL BLOCK, PER WIRING DIAGRAM OF ASSOCIATED UNIT
3	MOTOR LEADS OF SAME COLOR ARE INTERCHANGEABLE.
5	EXTERNAL NOISE SUPPRESSION NETWORK CONSISTING OF 100 OHM, 1/2 WATT RESISTOR IN SERIES WITH 0.25 MFD 1K V CAPACITOR CONNECTED ACROSS YELLOW AND BROWN WIRES. (FOR LMU45, 46)
6	MOTOR GROUND LEAD (GREEN) TERMINAL MUST BE FASTENED TO MOUNTING CRADLE OF MOTOR UNDER A SEPARATE GROUND SCREW ONLY. A SCREW USED FOR ANOTHER PURPOSE CANNOT BE USED FOR GROUNDING (UNDERWRITERS LABORATORIES REQUIREMENT).
7.	WIRE COLOR CODE: BK - BLACK, R - RED BL - BLUE, O - ORANGE BR - BROWN, Y - YELLOW P - PURPLE, S - SLATE W - WHITE, G - GREEN
8	LMU / STARTING CAPACITOR VALUE

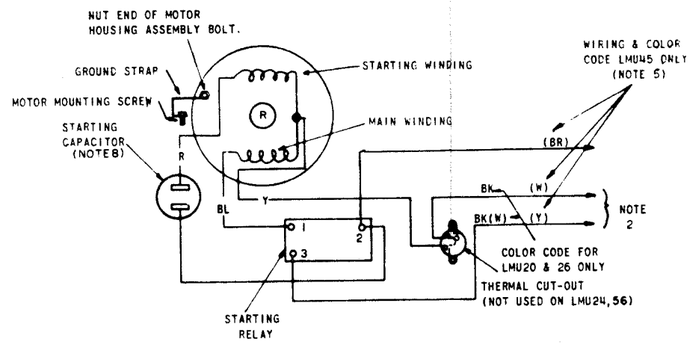
LMU	STARTING CAPACITOR VALUE
3,15,21,30,33, 36,37,38,42, 46,49,51,52	43 – 48 MFD
11,12	170 – 226 MFD
35	64-77 MFD
55	15-18 MFD
19,20,24,26, 31,45,56	88-108 MFD
50,	161-193 MFD



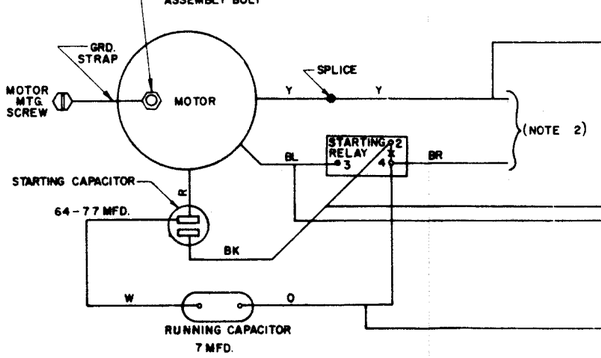
LMU 3,11,12,15,21,30,37,42,46,49
FOR USE WITH 115V.A.C. 60~POWER SUPPLY
LMU 33, 36,38, 51,52
FOR 115V.AC 50~POWER SUPPLY.
LMU 55
FOR 230 V.A.C. 50~ POWER SUPPLY



LMU 50,
FOR USE WITH 115V AC 50~POWER SUPPLY ONLY



LMU 19,20,24,26,31,45,56
FOR USE WITH 115V AC 60~POWER SUPPLY ONLY



LMU 35

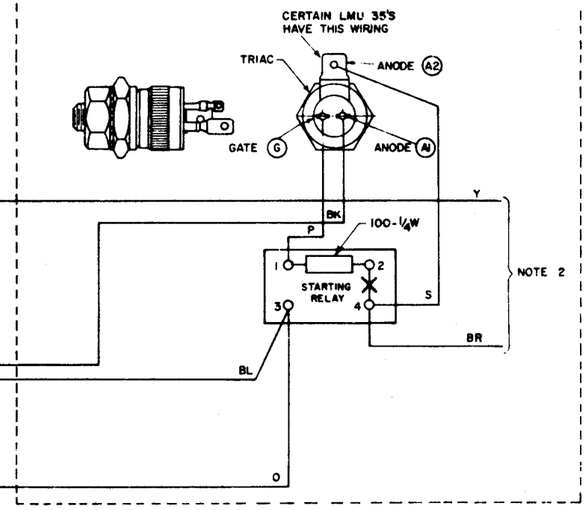
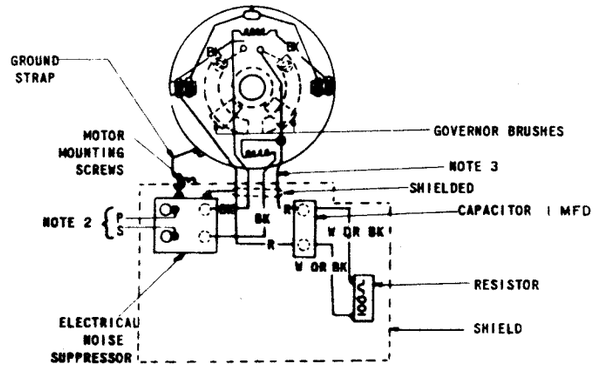


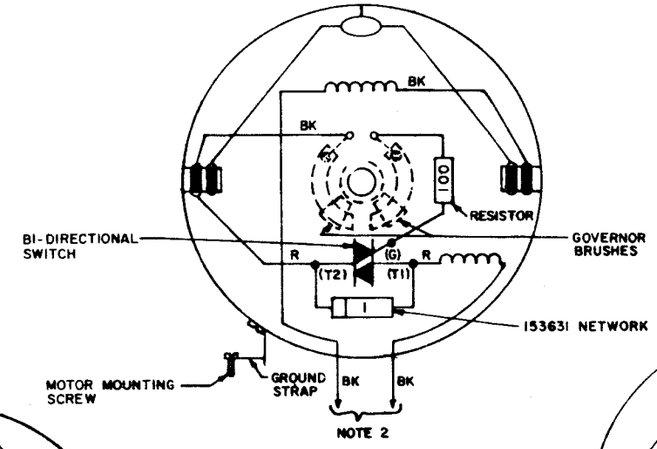
Figure 5-9. Motor Units Wiring Diagram (Sheet 1 of 2)

SERIES GOVERNED MOTOR UNITS

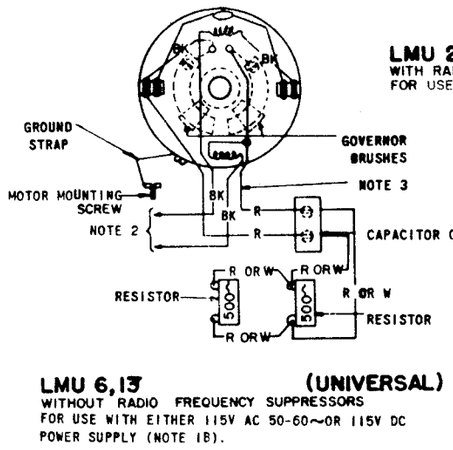
NO.	NOTES
1.	A. AC SERIES MOTOR UNITS OPERATE ON UN-REGULATED AC POWER. B. ASSOCIATED LESU MUST BE EQUIPPED WITH CAPACITOR-RESISTOR ASSEMBLY FOR DC OPERATION OF GOVERNED MOTORS.
2.	CONNECT EITHER WIRE TO DESIGNATED TERMINALS OF UNIT TERMINAL BLOCK, PER WIRING DIAGRAM OF ASSOCIATED UNIT.
3.	MOTOR LEADS OF SAME COLOR ARE INTER-CHANGEABLE.
4.	MOTOR LEADS ARE ENCLOSED IN APPROXIMATLY 10" LONG COPPER SHIELDING & FASTENED TO MOTOR AND CONTROL PARTS COMPARTMENT. (FOR LMU28).
5.	LMU4, 10, AND 14 MOTOR UNITS (UNIVERSAL SERIES GOVERNED) CONTAIN TWO 500 OHM RESISTORS WIRED IN PARALLEL EQUIVALENT TO 250 OHMS. LMU4 MOTOR UNIT SUPERSEDED BY LMU41 MOTOR UNIT. LMU10 MOTOR UNIT SUPERSEDED BY LMU47 MOTOR UNIT. LMU14 MOTOR UNIT SUPERSEDED BY LMU39 MOTOR UNIT.
6.	WIRE COLOR CODE: BK - BLACK, R - RED, BL - BLUE, O - ORANGE, BR - BROWN, Y - YELLOW, P - PURPLE, S - SLATE, W - WHITE, G - GREEN



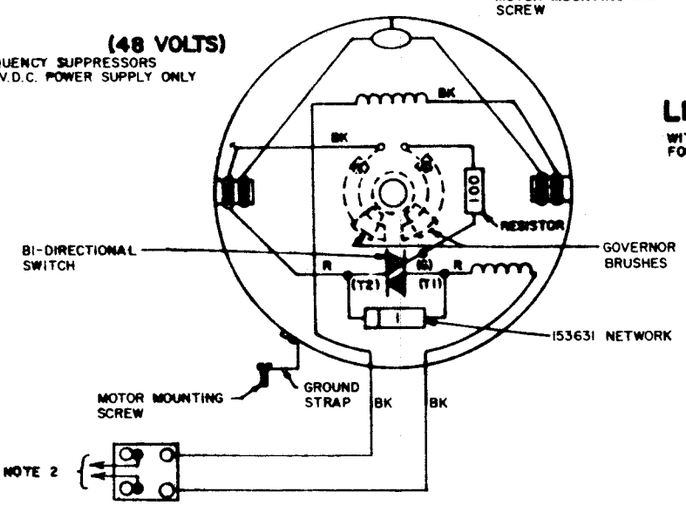
LMU 29 (48 VOLTS)
WITH RADIO FREQUENCY SUPPRESSORS
FOR USE ON 48 V.D.C. POWER SUPPLY ONLY



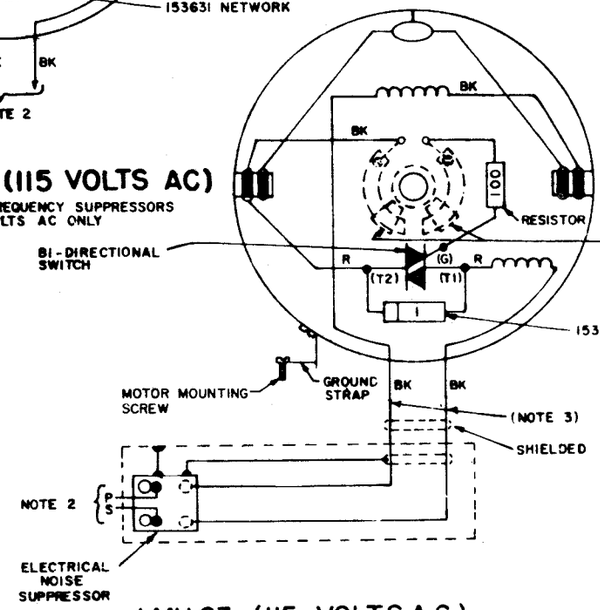
LMU 57, (115 VOLTS AC)
WITHOUT RADIO FREQUENCY SUPPRESSORS
FOR USE ON 115 VOLTS AC ONLY



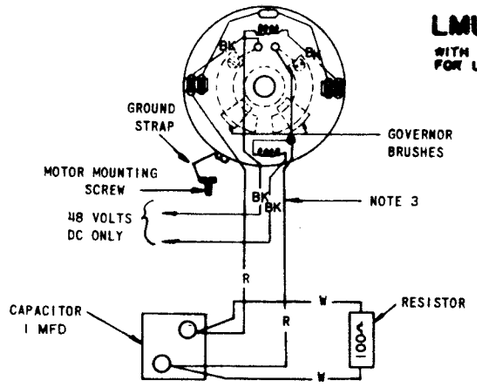
LMU 6,13 (UNIVERSAL)
WITHOUT RADIO FREQUENCY SUPPRESSORS
FOR USE WITH EITHER 115V AC 50-60~OR 115V DC POWER SUPPLY (NOTE 18).



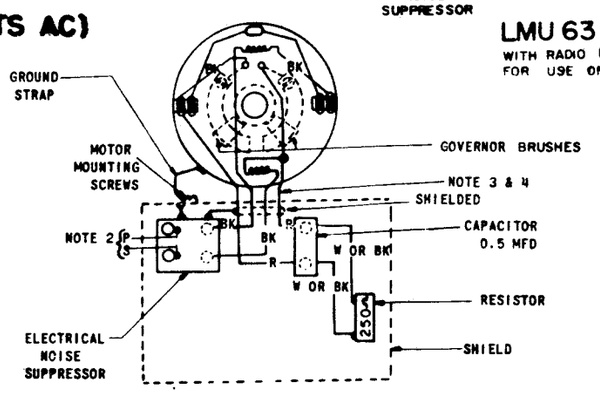
LMU 60,61,64 (115 VOLTS AC)
WITH RADIO FREQUENCY SUPPRESSORS
FOR USE ON 115 VOLTS AC ONLY



LMU 63 (115 VOLTS A.C.)
WITH RADIO FREQUENCY SUPPRESSORS
FOR USE ON 115 VOLTS AC ONLY.



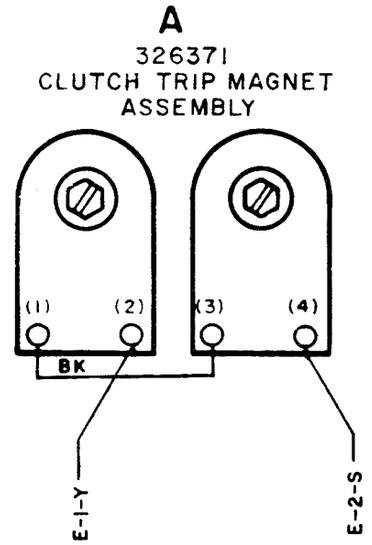
LMU 23 (48 VOLTS)
WITHOUT RADIO FREQUENCY SUPPRESSORS
FOR USE ON 48 V.D.C. POWER SUPPLY ONLY

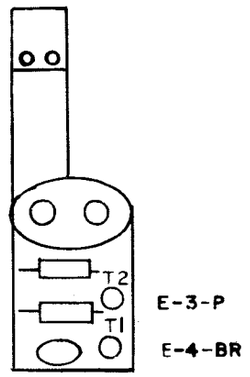


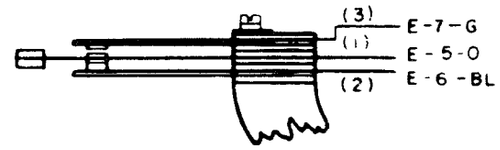
LMU 28,32,39,41,47 (UNIVERSAL)
WITH RADIO FREQUENCY SUPPRESSORS
FOR USE WITH EITHER 115V AC 50-60~115 V DC POWER SUPPLY (NOTE 18)

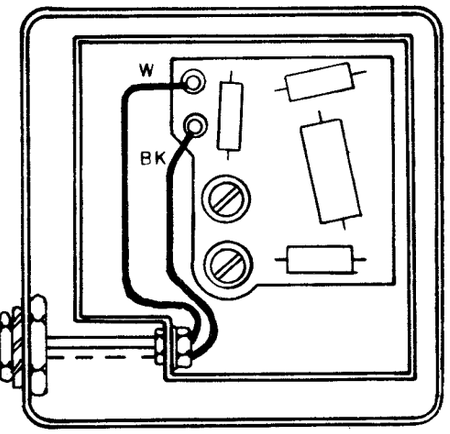
Figure 5-9. Motor Units Wiring Diagram (Sheet 2 of 2)

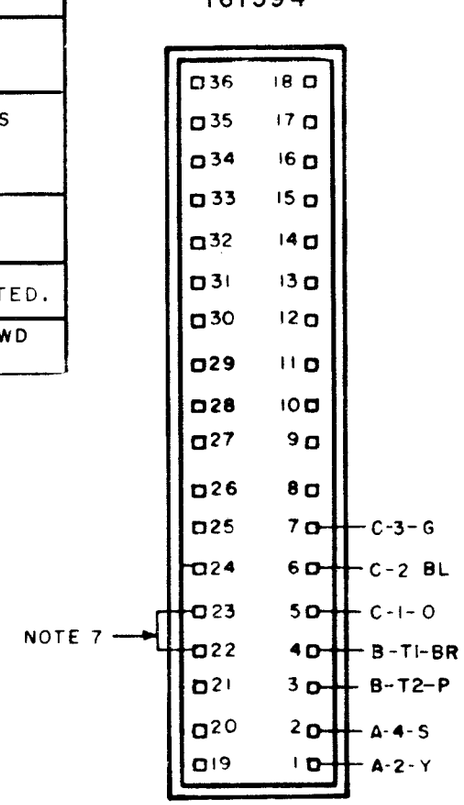
NOTES:	
1.	WIRING LEGEND: DISTANT TERMINATING AREA DISTANT TERMINAL DESIGNATION A-1-W WIRING COLOR CODE
2	COLOR CODE. BK-BLACK — W-BK-WHITE-BLACK BR-BROWN — W-BR-WHITE-BROWN R-RED — W-R — WHITE-RED O-ORANGE — W-O — WHITE-ORANGE Y-YELLOW — W-Y — WHITE-YELLOW G-GREEN — W-G — WHITE-GREEN BL-BLUE — W-BL-WHITE-BLUE P-PURPLE — W-P — WHITE-PURPLE S-SLATE — W-S — WHITE-SLATE W-WHITE
3	CONNECTORS VIEWED FROM SOLDER TERMINAL ENDS
4	ALL CONTACTS SHOWN IN UNOPERATED POSITION.
5.	ASSOCIATED CABLES: 324681 CABLE ASSEMBLY TRANS.-DIST.
6	THE NUMBERS ENCLOSED BY PARENTHESES ARE USED FOR REFERENCE AND ARE NOT MARKED ON THE PARTS.
7	STRAP WITH 22 GAUGE WIRE AS INDICATED.
8	FOR SCHEMATIC WIRING REFER TO 8313 WD WIRING DIAGRAM.











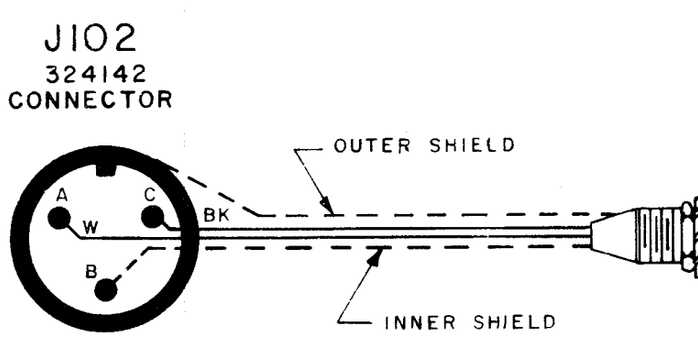
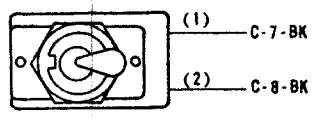


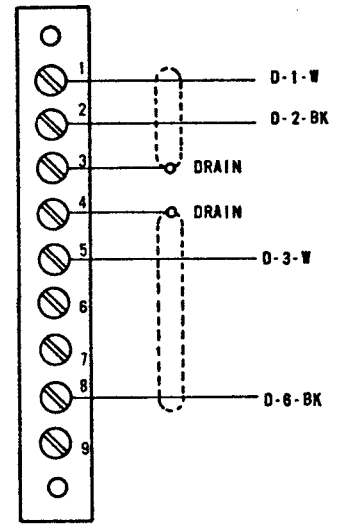
Figure 5-10. Transmitter Distributor Unit LXD37, 38 Wiring Diagram

NO	NOTES
1.	WIRING LEGEND: DISTANT TERMINATING AREA DISTANT TERMINATING DESIGNATION A-1-W WIRE COLOR CODE
2.	COLOR CODE: BK - BLACK BR - BROWN BL - BLUE R - RED G - GREEN P - PURPLE Y - YELLOW O - ORANGE S - SLATE W - WHITE
3.	UNIT WIRED FOR 115 VOLTS AC OR DC POWER INPUT.
4.	CONNECTOR VIEWED FROM SOLDER TERMINAL ENDS.
5.	TERMINAL DESIGNATION ENCLOSED IN PARENTHESIS ARE FOR REFERENCE AND ARE NOT MARKED ON COMPONENT.
6.	INDICATES TO TAPE END TERMINATING POINT
7.	INDICATES SINGLE SHIELDING
8.	REFER TO 8100WD FOR SCHEMATIC DIAGRAM.
9.	ASSOCIATED CABLES: 327287
10	REFERENCE SPECIFICATION FOR TELETYPE CORPORATION EMPLOYEES ONLY 6820S.

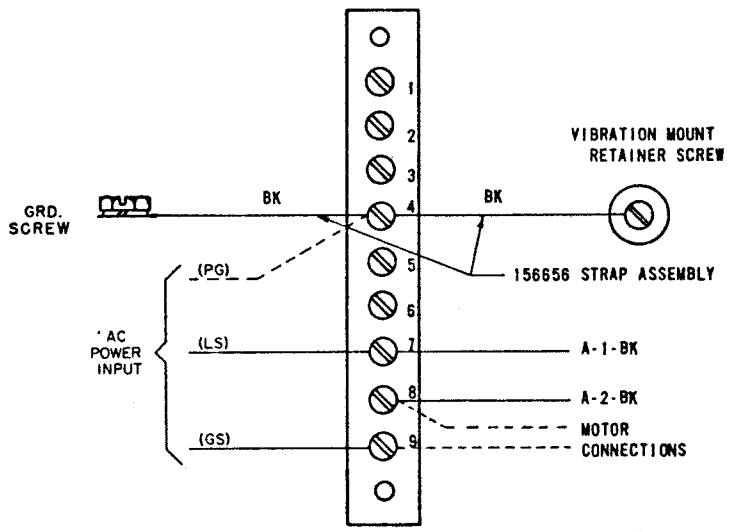
A
(C)
POWER SWITCH
ASSEMBLY
(124396)



B
(D)
UPPER TERMINAL
BOARD
(151411)



C
(E)
LOWER TERMINAL
BOARD
(151411)



D
(H)
CONNECTOR
(161595)

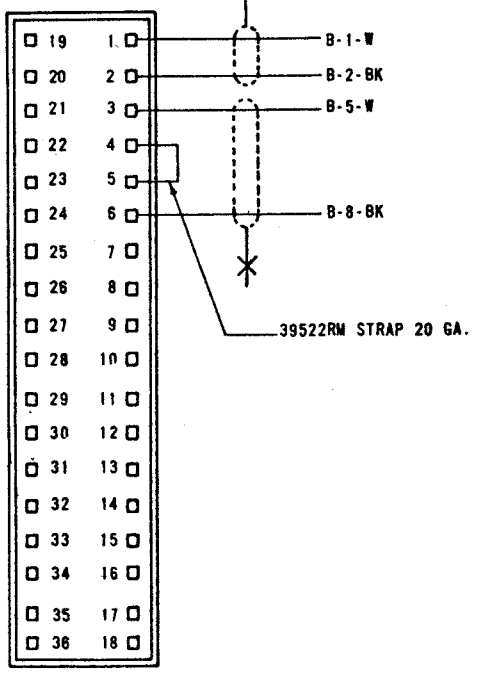


Figure 5-11. Transmitter Distributor Base LXDB20 Wiring Diagram

NO.	NOTES
1.	ALL RESISTORS 1/2 WATT. RESISTANCE VALUES IN OHMS. CAPACITANCE VALUES IN MICROFARADS UNLESS OTHERWISE SPECIFIED.
2.	INDICATES FEMALE TERMINAL INDICATES MALE TERMINAL
3.	INDICATES SINGLE SHIELDING INDICATES DOUBLE SHIELDING
4.	SL-BL INDICATES SLOW-BLOWING.
5	INDICATES CIRCUIT COMMON
6.	WIRING LEGEND: DISTANT TERMINATING AREA, DISTANT TERMINATING DESIGNATION, WIRE COLOR CODE (A-I-W)
7	TERMINAL DESIGNATIONS ENCLOSED IN PARENTHESIS ARE FOR REFERENCE AND ARE NOT MARKED ON COMPONENT.
8.	ASSOCIATED DIAGRAMS: 8099WD WIRING DIAGRAM LXDB 20 8309WD WIRING DIAGRAM LXD 37
9.	8 OHMS (MAX) PRIMARY RESISTANCE 10 OHMS (MAX.) SECONDARY RESISTANCE TO CENTER TAP.
10.	WHEN PULSED OPERATION OF AN LXD IS NOT USED TERMINALS TD-6 AND TD-1 SHOULD BE STRAPPED.
11.	COLOR CODE: BK - BLACK, BR - BROWN, BL - BLUE, G - GREEN, O - ORANGE, R - RED, P - PURPLE, W - WHITE, Y - YELLOW, S - SLATE
12.	TC BOARD IS MOUNTED WITH NO.6 CLOSEST TO FUSE. TD BOARD HAS NO. 1 CLOSEST TO FILTER CHOKES.
13.	CONNECTOR SHOULD BE MOUNTED WITH S AT CAPACITOR MOUNTING SIDE. PC SHOULD BE MOUNTED CLOSEST TO TRANSFORMER AND KB SHOULD BE MOUNTED IN THE CENTER. POLARIZING KEYS SHOULD BE INSERTED BETWEEN H AND F OF CA, BETWEEN J AND K OF KB AND BETWEEN M AND N OF PC.
14.	——·——·——INDICATES OUTER SHIELD AND - - - - - - - INDICATES INNER SHIELD
15.	ALL VOLTAGES DC UNLESS OTHERWISE SPECIFIED.
16.	WHEN IT IS DESIRED TO USE EXTERNAL BATTERY REMOVE TAPE AND TIE THESE LEADS. APPLY + BATTERY (6.6 TO 7.8 V) TO TD-6 AND — BATTERY (6.6 TO 7.8V) TO TD-5. IF ±6V IS SUPPLIED THE KEYER OUTPUT WILL DROP TO ± 4.5 V.
17.	INNER SHIELD GROUND NUT ON CONNECTOR MOUNTING
18.	DR - INDICATES DRAIN WIRE.
19.	ASSOCIATED CABLE ASSEMBLIES - 324154.
20.	ALL SURFACE WIRE 24 AWG GREEN, 31784RM UNLESS OTHERWISE SPECIFIED ALL STRAPPING WIRE 24 AWG BARE, 39603RM. USE SLEEVING WHERE REQUIRED.
21.	THESE CABLES CONNECT TO THE LXD TERM. BLOCK WHEN SET IS ASSEMBLED.
22.	CUSTOMER MAY CONNECT TC-5 TO GROUND IF REQUIRED.

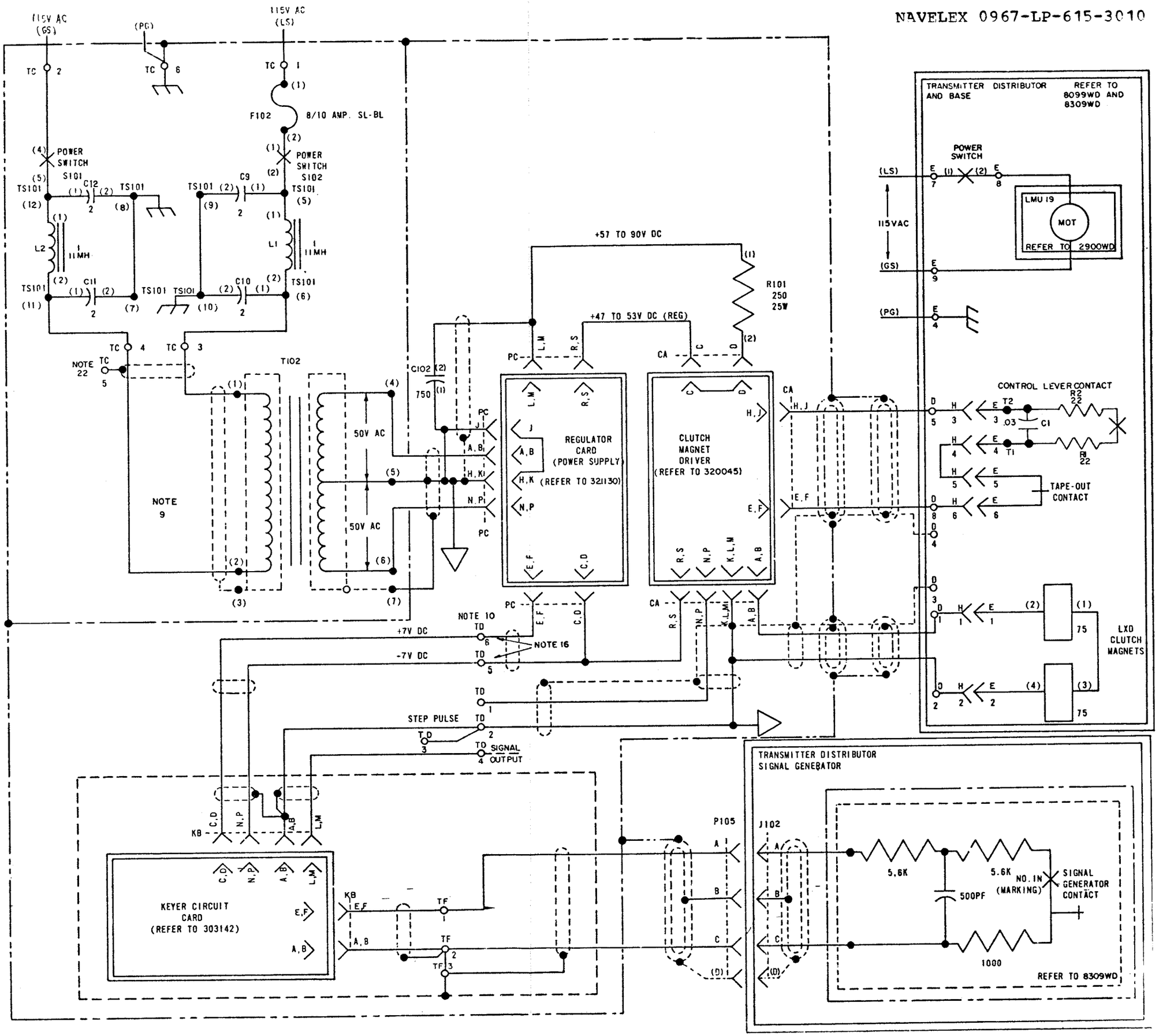
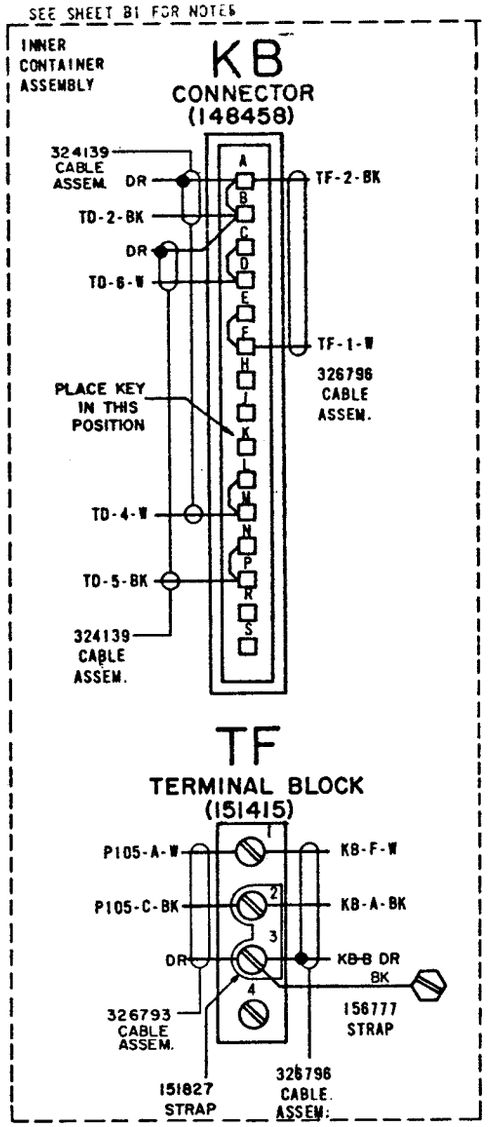
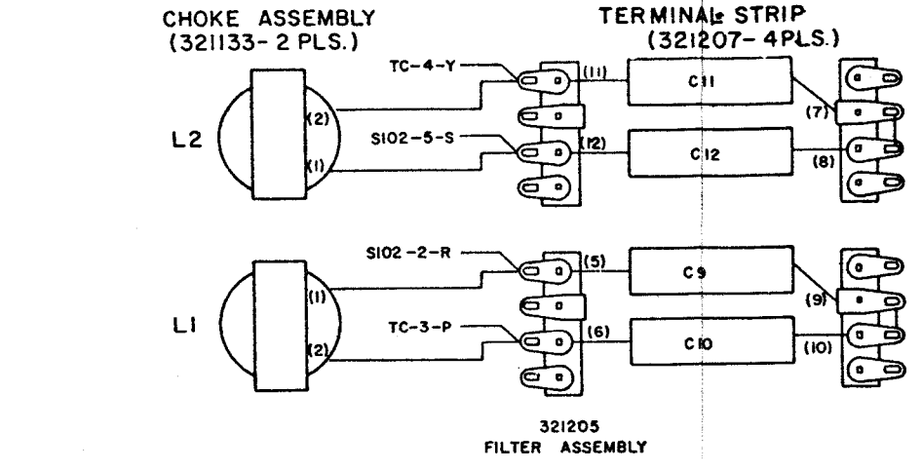
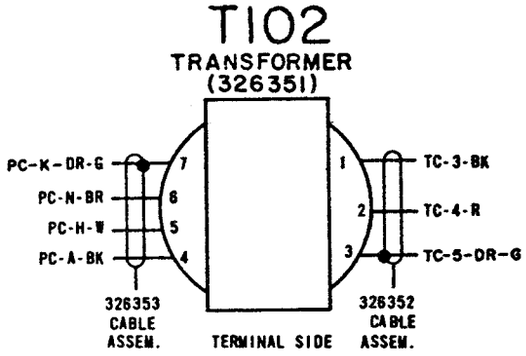
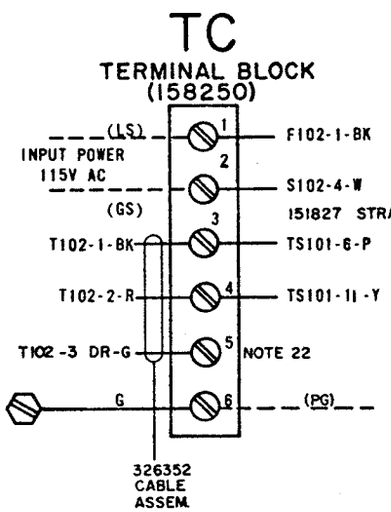


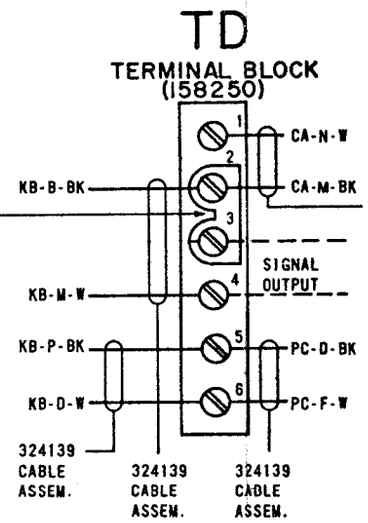
Figure 5-12. Electrical Service Assembly 326792 Schematic Diagram

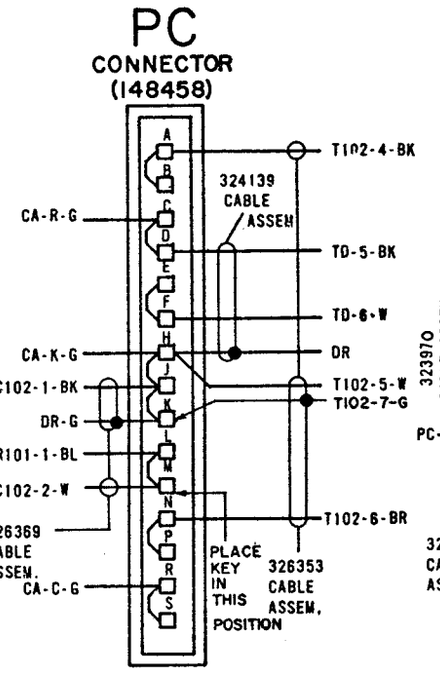


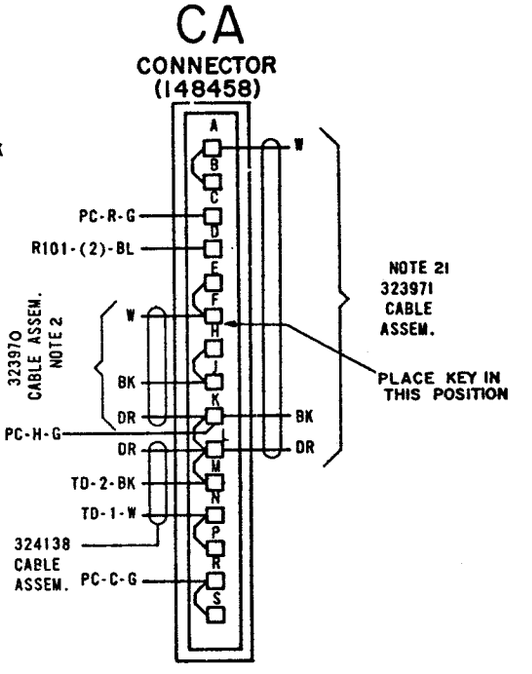


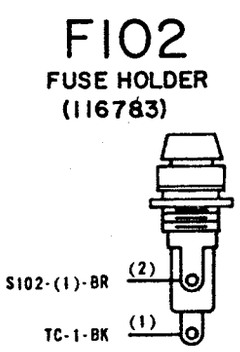


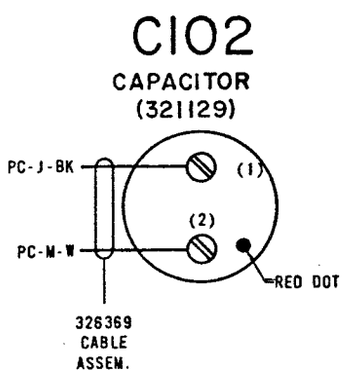


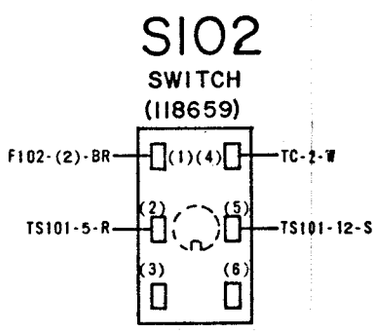


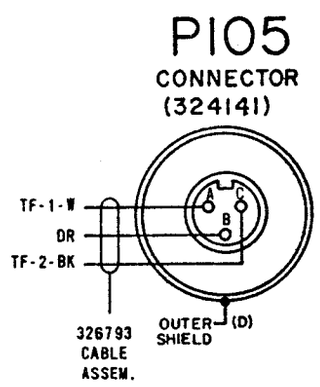












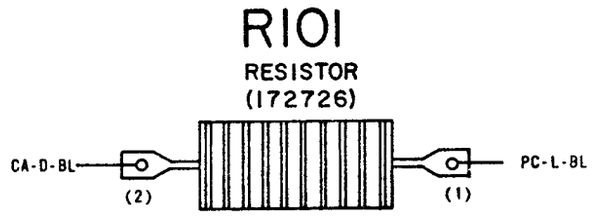
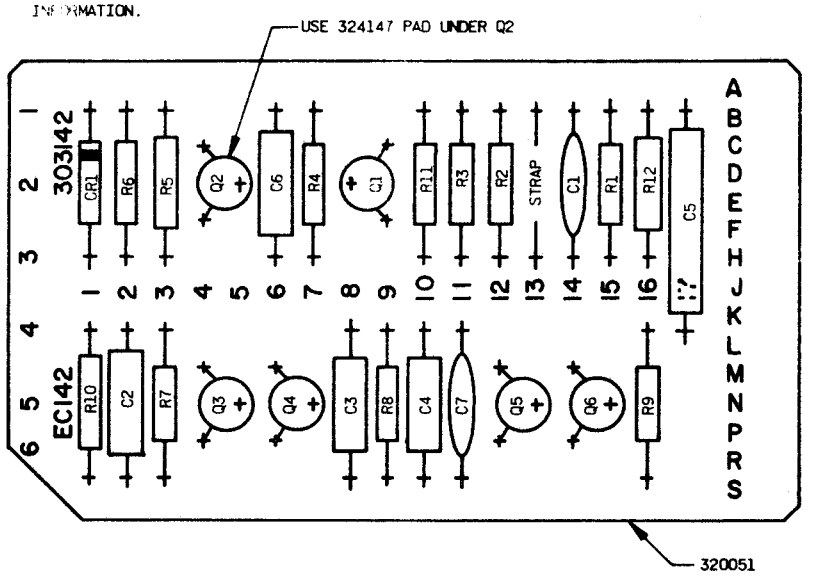


Figure 5-13. Electrical Service Assembly 326792 Wiring Diagram

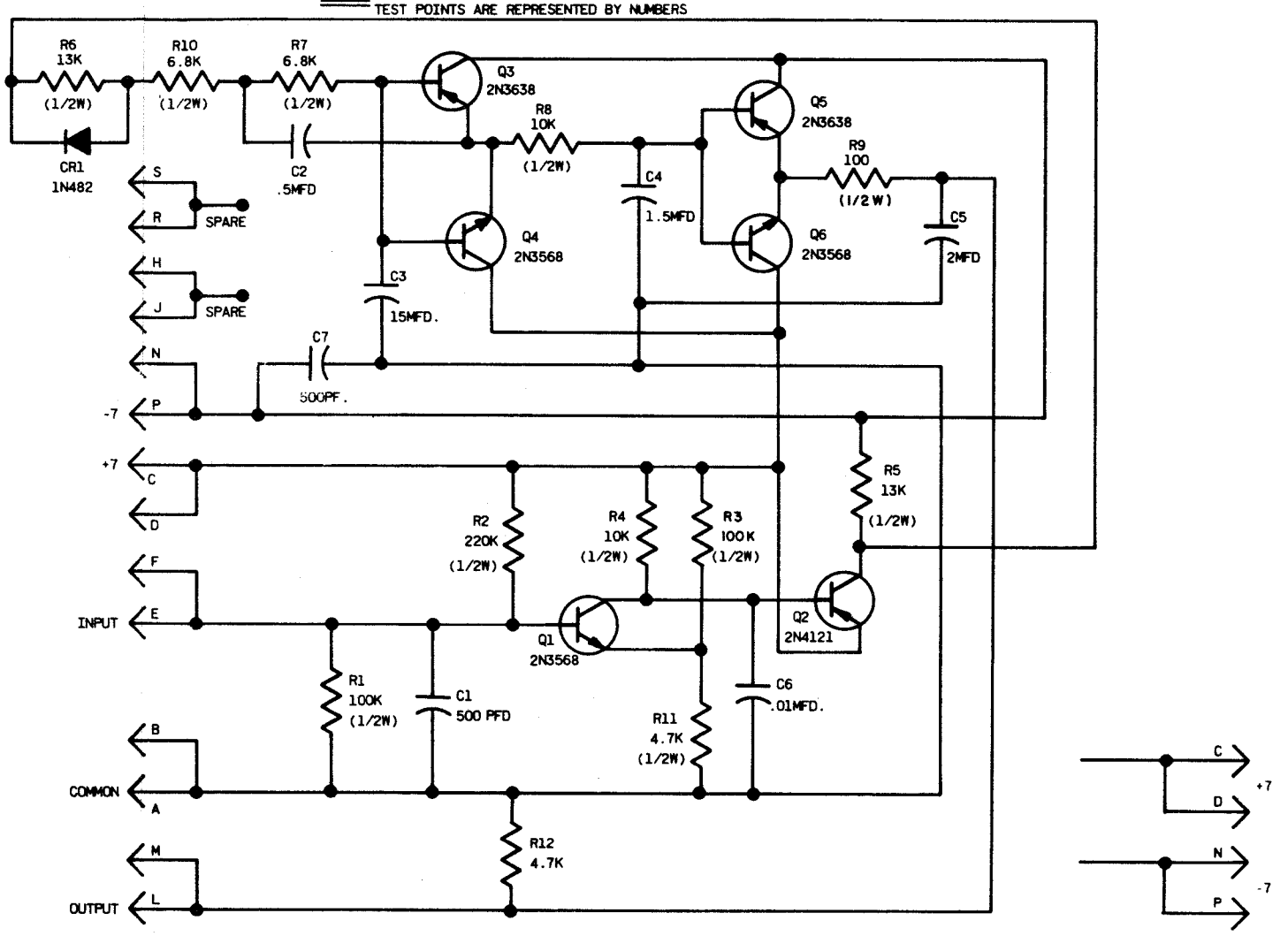
REF DESIG.	FAR. NO REQ.	QTY	DESCRIPTION	FUNCTION
R1	118720	2	RESISTOR 100K 5% 1/2W	RC FILTER
R2	118178	1	RESISTOR 220K 5% 1/2W	Q1 BASE BIAS
R3			RESISTOR SAME AS R1	Q1 EMITTER BIAS
R4	129854	2	RESISTOR 10K 5% 1/2W	Q1 COLLECTOR BIAS
R5	321204	2	RESISTOR 13K 1% 1/2W	Q2 COLLECTOR BIAS
R6			RESISTOR SAME AS R5	RC BIAS EQUALIZER
R7	118147	2	RESISTOR 6.8K 5% 1/2W	Q3,4 BASE BIAS
R8			RESISTOR SAME AS R4	Q5,6 BASE BIAS
R9	137438	1	RESISTOR 100 Ω 5% 1/2W	RC FILTER
R10			RESISTOR SAME AS R7	Q3,4 BASE BIAS
R11	118146	2	RESISTOR 4.7K 5% 1/2W	Q1 EMITTER BIAS
R12			RESISTOR SAME AS R11	OUTPUT LOAD
CR1	181619	1	DIODE 1N482	R6 SHUNT SWITCH
C1	321157	2	CAPACITOR 500 PFD	INPUT FILTER
C2	320048	1	CAPACITOR .5 MFD.	ACTIVE FILTER FEEDBACK
C3	320049	2	CAPACITOR .15 MFD.	ACTIVE FILTER INTEGRATOR
C4			CAPACITOR SAME AS C3	RC FILTER INTEGRATOR
C5	320047	1	CAPACITOR 2 MFD	RC FILTER INTEGRATOR
Q1	315930	3	TRANSISTOR, 2N3568	1st AMPLIFIER
Q2	324144	1	TRANSISTOR 2N4121	2nd AMPLIFIER
Q3	315931	2	TRANSISTOR 2N3638	ACTIVE COMPLIMENTARY FILTER
Q4			TRANSISTOR SAME AS Q1	ACTIVE COMPLIMENTARY FILTER
Q5			TRANSISTOR SAME AS Q3	COMPLIMENTARY SYMMETRY
				EMITTER
Q6			TRANSISTOR SAME AS Q1	FOLLOWER AMPLIFIER
C6	181618	1	CAPACITOR .01MFD	RC FILTER
C7			CAPACITOR SAME AS C1	RF BY PASS
EC	320051	1	BOARD, ETCHED CIRCUIT	
		1	STRAP, BARE 24 AWG.	
	324147	1	PAD, TRANSISTOR	
	144495	5	PAD, TRANSISTOR	

NOTE: MANUFACTURE PER MR200L
REFER TO 5016WD FOR MARKING INFORMATION.



POLAR LINE KEYER ± 6V

NOTE: CARD CONNECTIONS ARE REPRESENTED BY LETTERS
TEST POINTS ARE REPRESENTED BY NUMBERS



ALPHA NUMERIC CONVERSION CHART		
STAMPING ON CIRCUIT BOARD	NUMERICAL CONVERSION FOR 15 PT. CARDS WHEN USED WITH 36 PT. CONNECTOR	
	WHEN INSERTED IN UPPER HALF OF CONNECTOR	WHEN INSERTED IN LOWER HALF OF CONNECTOR
A	1	22
B	2	23
C	3	24
D	4	25
E	5	26
F	6	27
H	7	28
J	8	29
K	9	30
L	10	31
M	11	32
N	12	33
P	13	34
R	14	35
S	15	36

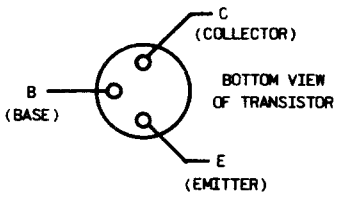


Figure 5-14. Low-Level Keyer 303142 (Polar Line Keyer) Schematic Diagram

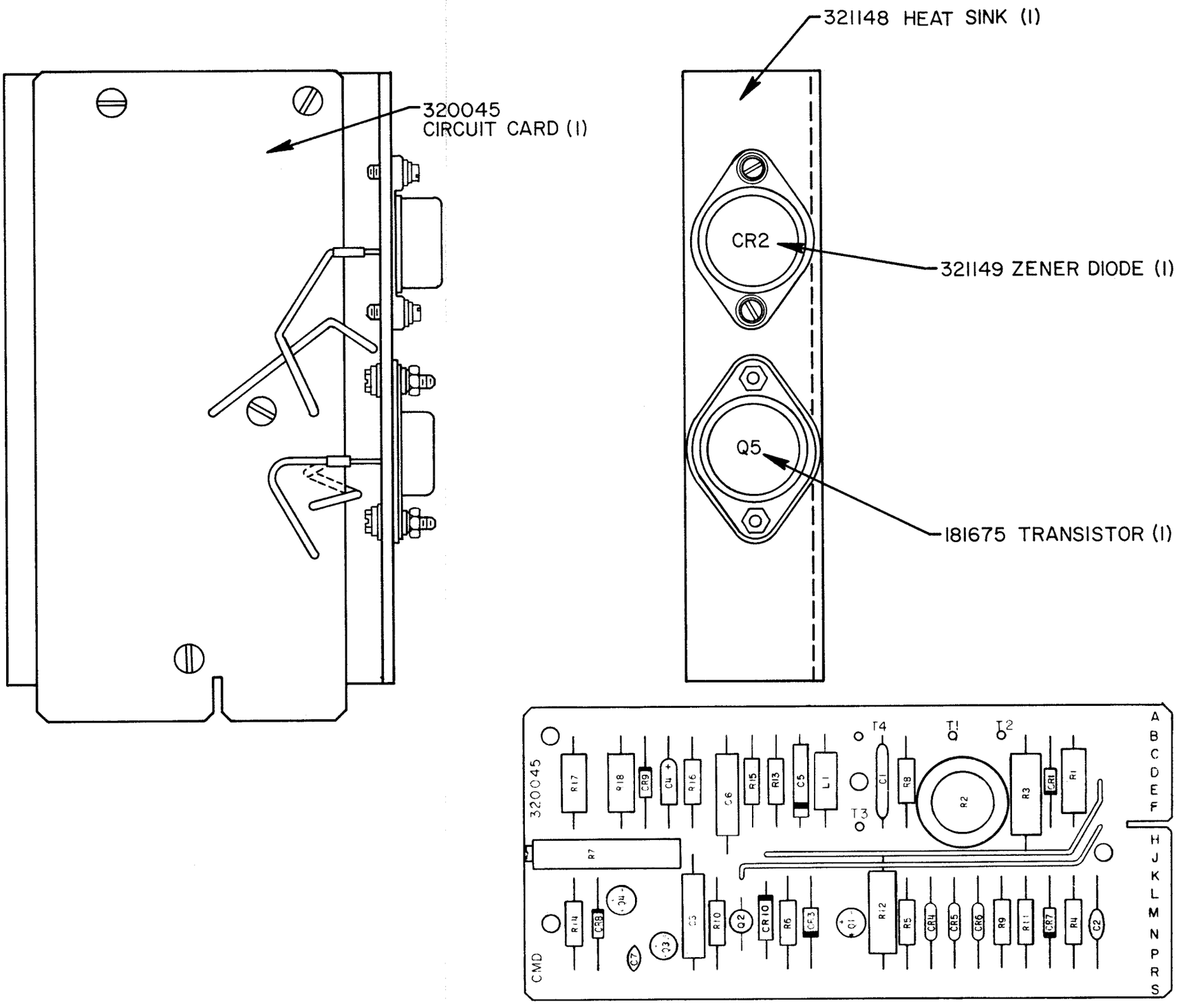


Figure 5-15. Clutch Magnet Driver 321991 Schematic Diagram (Sheet 1 of 2)

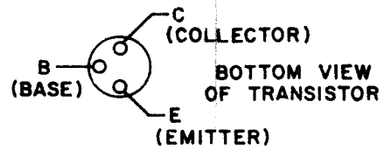
USED ON 321991

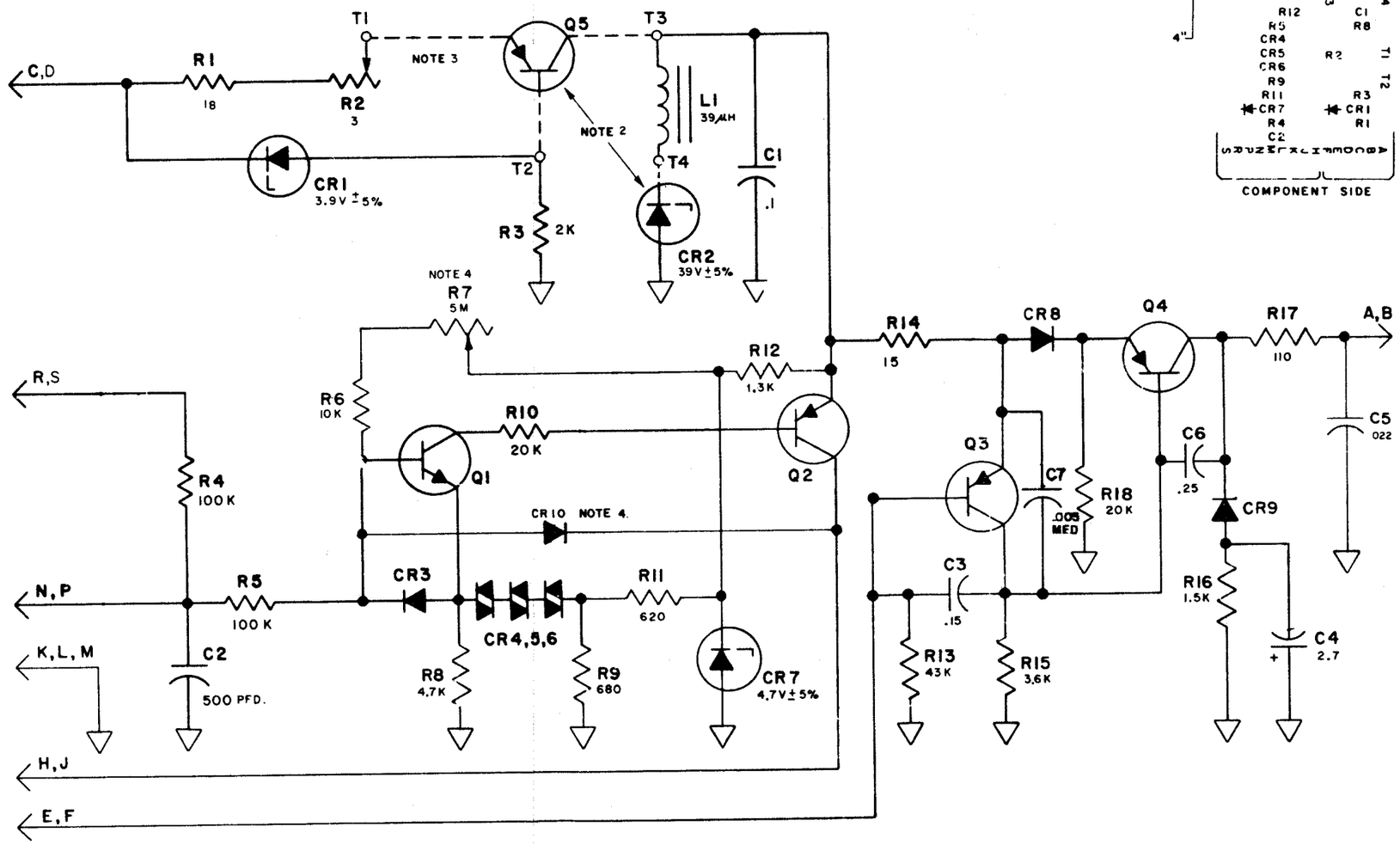
NO B/M

ASSEMBLY, CIRUIT CARD (CMD)

REF. DESIG.	TELETYPE PART NO.	TOTAL QTY.	NAME AND DESCRIPTION	LOCATING FUNCTION
R1	327793	1	RESISTOR, 18 OHM 3 W, ±1%	REG. CURRENT LIMITER
R2	182773	1	POTENTIOMETER, 3 OHM, 2.5W	REG. CURRENT ADJ.
R3	321155	1	RESISTOR, 2K, 2W, 5%	CR1 CURRENT LIMITER
R4	118720	1	RESISTOR, 100K, 1/2 W, 5%	Q1 OPEN LINE BIAS
R5	118720	1	RESISTOR, 100K, 1/2W, 5%	INPUT RESISTOR
R6	129854	1	RESISTOR, 10K, 1.2W	Q1 BIAS
R7	321160	1	POTENTIOMETER, 5M	Q1 BIAS
R8	118146	1	RESISTOR, 4.7K, 1/2W, 5%	Q EMITTER RES.
R9	129850	1	RESISTOR, 680 OHM, 1/2W, 5%	VOLTAGE DIVIDER
R10	321258	1	RESISTOR, 20K, 1/2W, 5%	Q1 LOAD RES.
R11	137604	1	RESISTOR, 620 OHM, 1/2W, 5%	VOLTAGE DIVIDER
R12	321292	1	RESISTOR, 1.3K, 2W, 5%	CR7 CURRENT LIMITE
R13	139143	1	RESISTOR, 43K, 1/2W, 5%	Q2 LOAD RES.
R14	321259	1	RESISTOR, 15 OHM, 1/2W, 5%	Q3 EMITTER RES.
R15	165178	1	RESISTOR, 3.6K, 1/W, 5%	Q3 LOAD RES.
R16	137442	1	RESISTOR, 1.5K, 1/2W, 5%	C4 BLEEDER RES.
R17	321151	1	RESISTOR, 110 OHM, 3W, 1%	COIL CURRENT LIMITER
R18	321258	1	RESISTOR, 20K, 1/2W, 5%	CR8 BIAS RES.
C1	321158	1	CAPACITOR, .1 MFD.	R.F. BY-PASS CAP.
C2	321157	1	CAPACITOR, 500 PFD.	R.F. BY-PASS CAP.
C3	171829	1	CAPACITOR, .15 MFD.	Q3 FEEDBACK CAP.
C4	321264	1	CAPACITOR, 50V, 2.7 MFD.	TRANSIENT SUPP.
C5	178860	1	CAPACITOR, 100V, .022 MFD.	R.F. BY-PASS
C6	171587	1	CAPACITOR, 200V, .25 MFD.	Q4 FEEDBACK CAP.
C7	171583	1	CAPACITOR, .003 MFD	R.F. BY-PASS CAP.
L1	321159	1	CHOKE, 39.0μH	R.F. CHOKE
CR1	321161	1	DIODE, 1N748A, 3.9V ± 5%	REG. VOLT. REF.
CR3	321154	1	DIODE, 1N457A	Q1 BASE PROT.
CR4	178844	1	VARISTOR, 100-A	TEMP. COMP.
CR5	178844	1	VARISTOR, 100-A	TEMP. COMP.
CR6	178844	1	VARISTOR, 100-A	TEMP. COMP.
CR7	181667	1	DIODE, 1N750A, 4.7V ± 5%	TEMP. COMP. REF.
CR8	177611	1	DIODE, INC82	Q4 EMITTER DIODE
CR9	321154	1	DIODE, 1N457A	TRANSIENT SUPP.
NOTE 4 CR10	321154	1	DIODE, 1N457A	SHORT PROT.
Q1	321166	1	TRANSISTOR, 2N1893	D.C. AMP.
Q2	324144	1	TRANSISTOR, 2N4121	D.C. AMP.
Q3	321165	1	TRANSISTOR,	D.C. AMP.
Q4	321261	1	TRANSISTOR, 2N4036	D.C. AMP.
	324147	1	PAD, TRANSISTOR	Q2
	144495	3	PAD, TRANSISTOR	Q1, Q3, Q4
	321299	1	CIRCUIT BOARD, ETCHED	
	321171	2	LEAD (BK)	
T1-T4	137471	4	LUG, TERMINAL	

NO.	NOTES
1.	ALL RESISTORS 1/2 WATT, ALL RESISTANCE VALUES IN OHMS AND ALL CAPACITANCE VALUES IN MFD. UNLESS OTHERWISE SPECIFIED.
2.	Q5 (181675) AND CR2 (321149) ARE MOUNTED TO 321148 HEAT SINK. SEE CMD ASSEMBLY 321991.
3.	R2 IS ADJUSTED FOR 15 MA IN CR2 WITH INPUT MARKING (*6) AND OUTPUT CONNECTED TO A 150 OHM RESISTOR (5W)
4.	R7 IS ADJUSTED FOR SYMMETRICAL SWITCHING ABOUT ZERO.
5.	PINS A, B — 140 MA TO COILS PINS R, S — -6V DC PINS C, D — +47 TO 53V DC POWER PINS E, F, H, J — CONTROL CONTACT PROVISION PINS N, P — MS 188B SIGNAL INPUT PINS K, L, M — COMMON (ALL INPUTS AND OUTPUTS REFERRED TO COMMON)
6.	$-NUMBER 61,263$





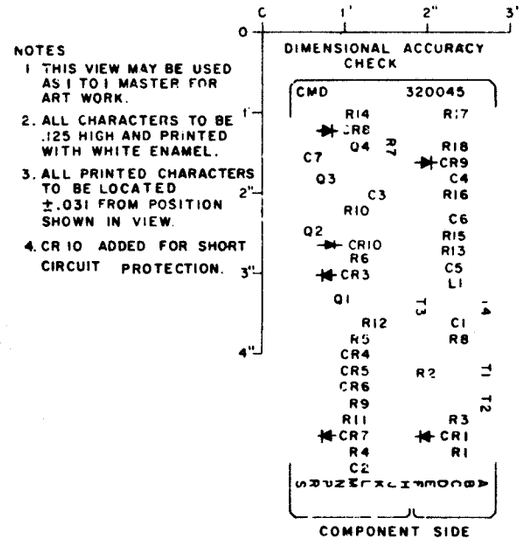


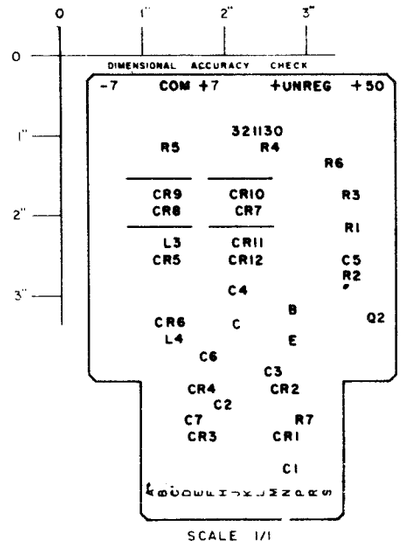
Figure 5-15. Clutch Magnet Driver 321991 Schematic Diagram (Sheet 2 of 2)

CIRCUIT BOARD ASSEMBLY, POWER SUPPLY (47-53V.D.C. .5AMP. MAX.)

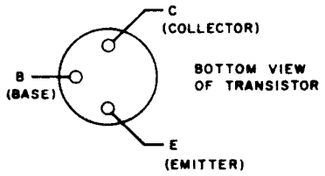
REF. DESIGN.	PART NO.	TOTAL QTY.	NAME AND DESCRIPTION	FUNCTION
C1	312284	1	CAPACITOR, 1.5 MFD 400V	RF FILTER
C2,3	171585	2	CAPACITOR, .22MFD 200V	RF FILTER
C4	171831	1	CAPACITOR, 10MFD 150V	RECTIFIER FILTER
C5	178860	1	CAPACITOR, .022MFD 100V	RF FILTER
C6,7	312385	2	CAPACITOR, .1MFD 10V	RF FILTER
R1	198937	1	RESISTOR, 2.7K 2W	
R2	182180	2	RESISTOR, 200 OHM 1/2W	
R3	171533	1	RESISTOR 4 OHM 5W	
R4,5	311664	2	RESISTOR, 2.5K 8W	DROPPING
R6			SAME AS R2	RF FILTER
R7	305298	1	RESISTOR, 3.3K 3W	BLEEDER
CR1-4	182520	4	DIODE (IN4383)	RECTIFIER
CR5,6	327794	2	DIODE, ZENER (7.2V)	REFERENCE
CR7	321286	2	DIODE, ZENER (1N4749A)	REFERENCE
CR8-11	178844	4	VARISTOR (W.E. 100A)	REFERENCE
CR12			SAME AS CR7	REFERENCE
L3,4	321159	2	INDUCTOR 39 uH	RF FILTER
Q2	321145	1	TRANSISTOR (2N2270)	GAIN
FC1,2	311068	2	FUSE CLIP	
F102	131807	1	FUSE .5 AMP.	
TP1	320042	1	JACK, TEST (SLATE)	
TP2	320041	1	JACK, TEST (GREEN)	
TP3	320039	1	JACK, TEST (BLACK)	
TP4	320040	1	JACK, TEST (ORANGE)	
TP5	320038	1	JACK, TEST (RED)	
P1-3	137471	3	TERMINAL POST	CONNECTOR
	321140	1	CIRCUIT CARD	
S1-S4	336470	4		
1	151637	2	SCREW 4-40	
2	151880	2	NUT 4-40	
3	110743	2	LOCK WASHER	
4	125011	2	FLAT WASHER	

CIRCUIT DESCRIPTION (SEE SHEET 2)

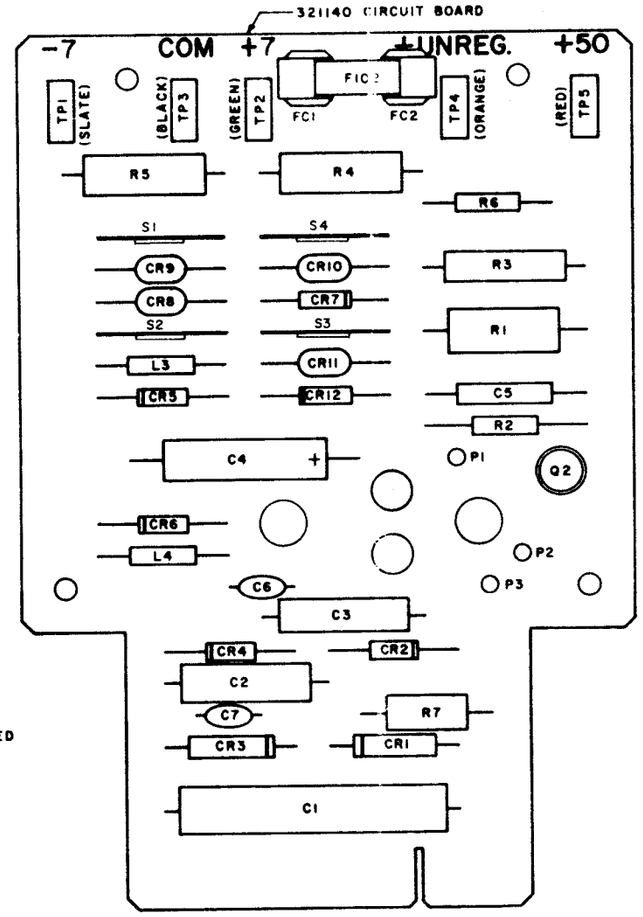
DIODES CR1 AND CR3 FORM A RECTIFIER WITH ASSOCIATED TRANSFORMER (321123) T1 AND CAPACITOR C8 (321129) TO OBTAIN A MINIMUM -58V DC UNREGULATED. Q1 IS AN EMITTER FOLLOWER VOLTAGE REGULATING ELEMENT WHICH ABSORBS THE VOLTAGE DIFFERENCE BETWEEN THE UNREGULATED DC AND THE CONSTANT -50V DC REFERENCE ESTABLISHED BY DIODES CR7-CR12. Q2 PROVIDES GAIN FOR Q1. DIODES CR3,CR4, TRANSFORMER T1 AND CAPACITOR C4 FORM A FULL WAVE RECTIFIER TO OBTAIN NEGATIVE UNREGULATED DC. R4 AND CR6, R5 AND CR5 FORM BASIC SHUNT REGULATORS TO OBTAIN +7 AND -7V DC.



SCALE 1/1



1) TELETYPE REFERENCE ONLY: SPECIFICATION 61,267S
2) SEE SHEET 2 FOR SCHEMATIC WIRING
3) ALL CHARACTERS TO BE .125 HIGH AND PRINTED WITH WHITE ENAMAL.
4) ALL PRINTED CHARACTERS TO BE LOCATED ±.031 FROM NOMINAL POSITION.



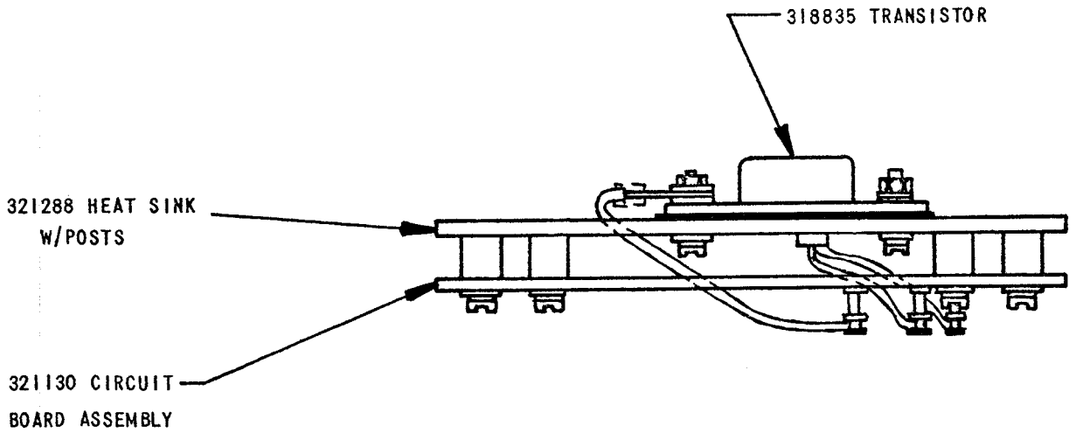


Figure 5-16. Power Supply 321290 (0.5 Ampere) Schematic Diagram (Sheet 1 of 2)

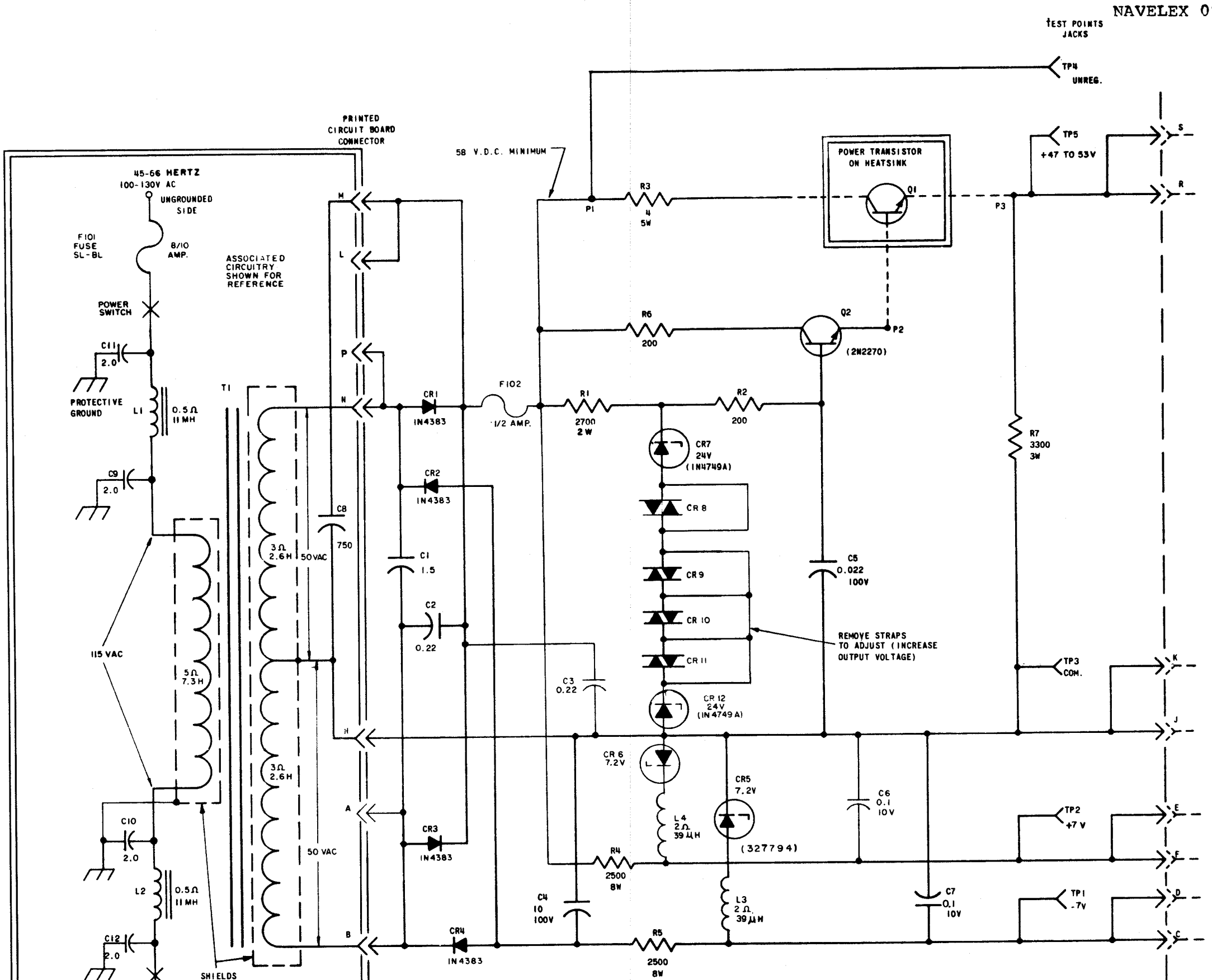
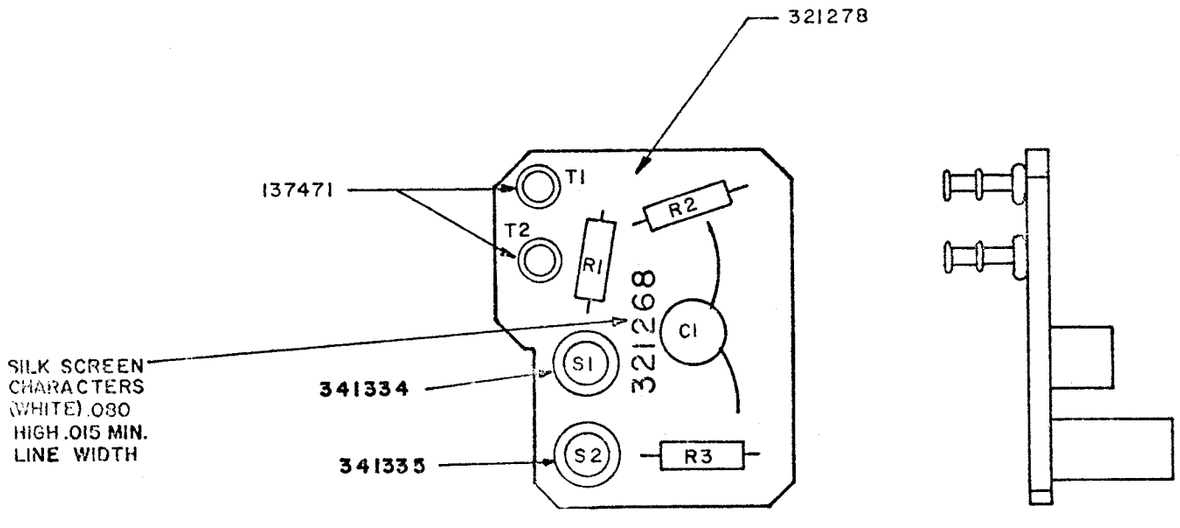
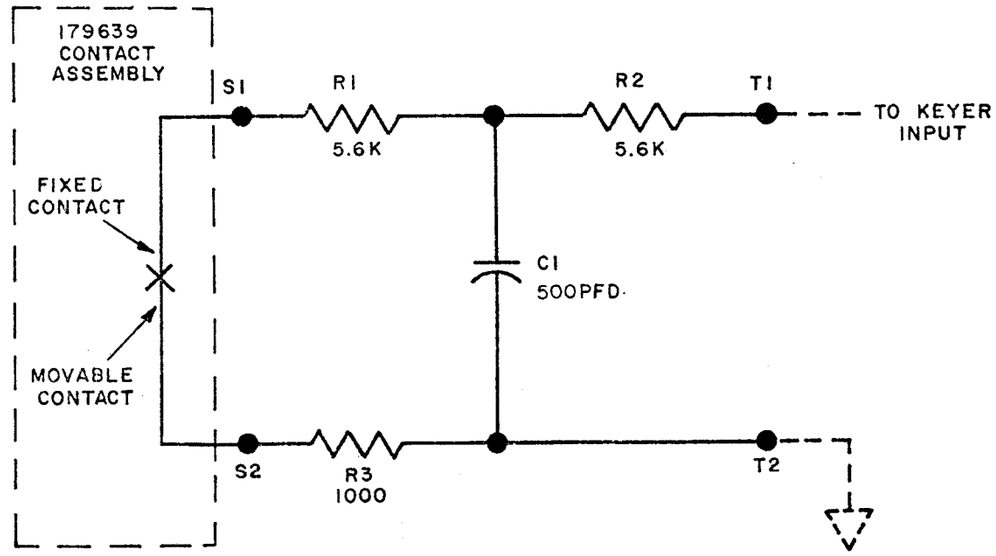


Figure 5-16. Power Supply 321290 (0.5 Ampere) Schematic Diagram (Sheet 2 of 2)



REF. DESIGN	TELETYPE PART NO.	TOTAL QTY.	NAME AND DESCRIPTION	LOCATING FUNCTION
R1	315960	2	RESISTOR, 5.6K 1/4 WATT	RC FILTER
R2	"		SAME AS R1	"
R3	321213	1	RESISTOR, 1000 Ω 1/4 WATT	"
C1	321157	1	CAPACITOR, 500 PFD	"
T1	137471	2	TERMINAL, SOLDER	
T2	"		"	
S1	341334	1	STUD, CONNECTOR	
S2	341335	1	"	
321278	321278	1	BOARD, ETCHED CIRCUIT	



NOTE:

DASHED LINES INDICATE EXTERNAL CIRCUITRY.

Figure 5-17. Filter Card Assembly 321268 Schematic Diagram