

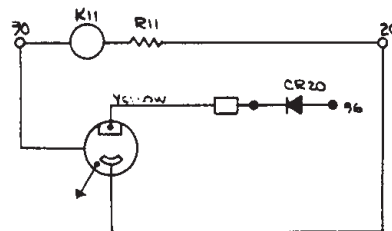
# **12 VOLT ELECTRIC START CIRCUIT 1976- UNKNOWN**

**THIS WAS THE START PANEL WINPOWER USED IN  
THE LATE 70'S AND EARLY 80'S.**

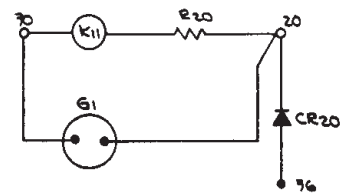
**WE CAN NOT CONFIRM EXACT MODEL NUMBER BUT  
BELIEVE IT WAS USED ON THE GR AND DR  
WATERCOOLED UNITS DURING THIS TIME FRAME**

ENGINE PARTS LIST		
REF.	PART NO.	DESCRIPTION
B1	SEE ENG. MAN.	START MOTOR W/ SOLENOID SWITCH
BT1	VARIOUS	BATTERY
C1	SEE ENG. MAN.	CAPACITOR (SPARK IGNITED ENGINES ONLY)
E1	OP-22	SENDER - OIL PRESSURE
E2	WT-22	SENDER - WATER TEMP.
E3	SEE ENG. MAN.	SPARK PLUG - (SPARK IGNITED ENGINES)
G1	SEE NOTE #2	ALTERNATOR OR GENERATOR (BATT. CHARGE)
K1	EE-1201	RELAY - STARTER MOTOR
K2	SEE ENG. MAN.	SOLENOID - FUEL
K3	SEE ENG. MAN.	CHOKE (GASOLINE ONLY)
R1	SEE ENG. MAN.	RESISTOR COIL (OPTIONAL - SPARK IGNITED ENG. ONLY)
R2	SEE ENG. MAN.	RESISTORS - SPARK PLUGS
S1	OP-23	SWITCH - LOW OIL PRESSURE (CLOSED 0-15 PSI)
S2	WT-23	SWITCH - HIGH WATER TEMPERATURE
S3	OP-24	SWITCH - STARTER MOTOR SAFETY (CLOSED 0-35 PSI)
S4	VARIOUS	SWITCH - OVERSPEED (OPTIONAL)
S6	SEE ENG. MAN.	DISTRIBUTOR ASSY. (SPARK IGNITED ENG. ONLY)
S8	SEE ENG. MAN.	SWITCH - VACUUM (GASEOUS FUELS ONLY)
T1	SEE ENG. MAN.	COIL IGNITION (SPARK IGNITED ENG. ONLY)
VR1	SEE ENG. MAN.	VOLTAGE REGULATOR - BATTERY CHARGING

CONTROL CABINET PARTS LIST		
REF.	PART NO.	DESCRIPTION
CB11	EE-1011	CIRCUIT BREAKER - SAFETY SHUTDOWN
CP12	G-5183-9	RECTIFIER - BLOCKING
CR13	G-5819	RECTIFIER - BLOCKING
CR14	EE-2171-4 or EE-2168	RECTIFIER - FIELD FLASHER
CR20	G-5819	RECTIFIER - BLOCKING
CR21	EE-2167	RECTIFIER - BLOCKING
DS11,12	EE-940	LAMP - PANEL
DS13	EE-940	LAMP - FAILURE
F11	EE-443-2	FUSE - FIELD FLASHER
K11	EE-1220	RELAY - CRANKING CONTROL
K18	EE-1233	LATCHING RELAY
K14	EE-1203	RELAY
K20	EE-1054	TIME DELAY RELAY
M11	OP-21	GAUGE - OIL PRESSURE
M12	WT-21	GAUGE - WATER TEMPERATURE
M19	AM-12	GAUGE - AMMETER - CHARGE 30-0-30 or 100-0-100
R11	R-171	RESISTOR - 33 OHM, 10 WATT
R16	R-157	RESISTOR - 100 OHM, 10 WATT
R20		RESISTOR - 125 OHM, 10 WATT
S12	EE-181	SWITCH - ENGINE - RUN, STOP, REMOTE
S13	EE-151	SWITCH - PANEL LAMP
S14	EE-233	DE-ENERGIZATION SWITCH - SAFETY SHUTDOWN



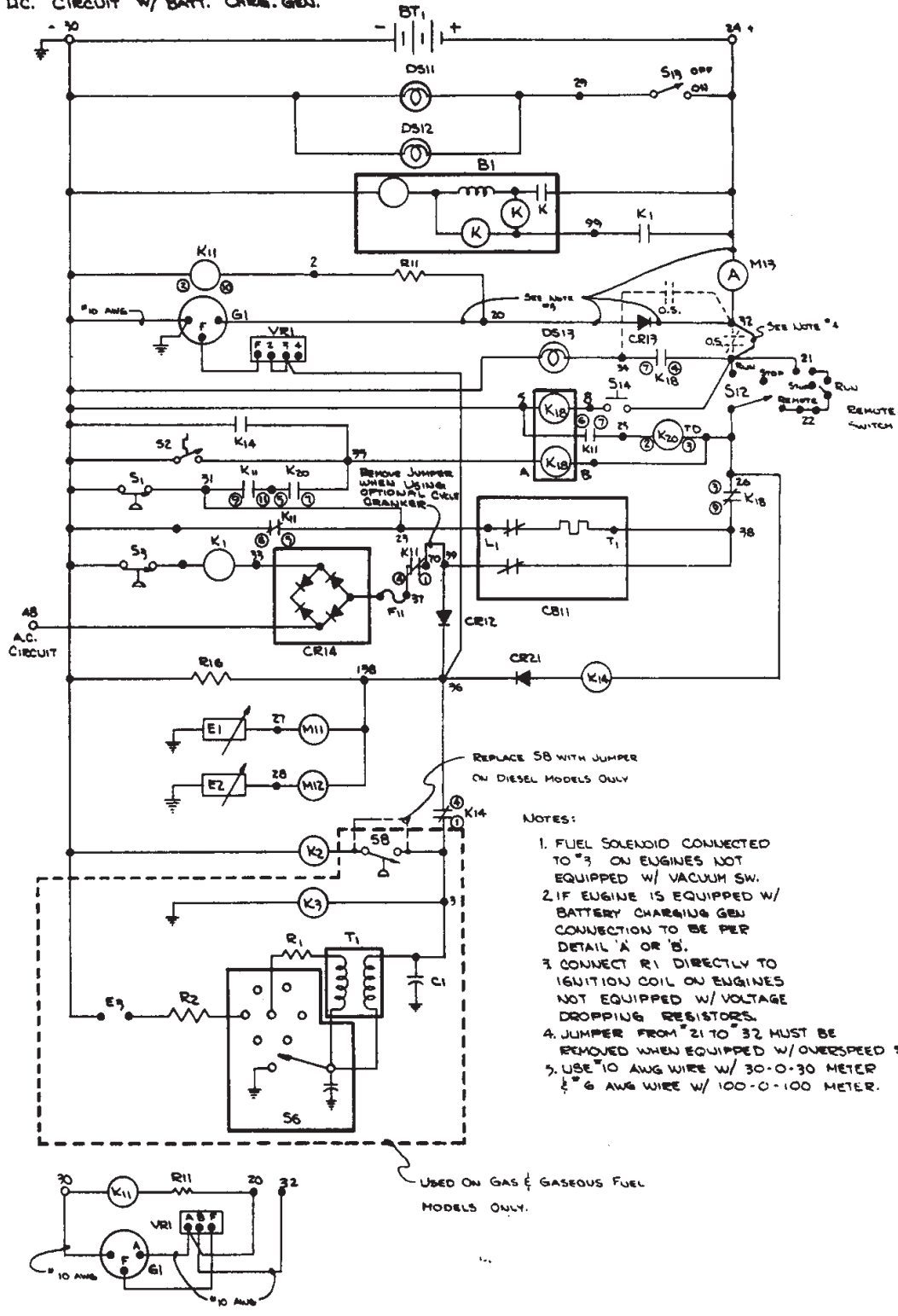
DETAIL 'A' ALTERNATOR - MOTOROLA NO. RA2N-4510 W/ REGULATOR NO. R3-1  
NOTE: ADD CR20 RECTIFIER



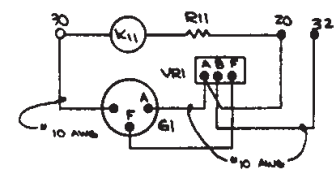
DETAIL 'C' - DELCO REMY #1102964  
37, 3625 12 NEG.  
NOTE - ADD RECTIFIER CR20  
REMOVE R11 & REPLACE W/ R20

ISSUED	ISS. ORIGINALLY	DATE	CHK'D	ENG. NUMBER	NO. REVISED	MICROFILM DATA
TOLERANCE ON DIMENSIONS UNLESS OTHERWISE SPECIFIED						
DECIMAL ± FRACTIONAL ± ANGLES				REMOVE ALL BURRS BREAK ALL SHARP ROUNDED EDGES		
<b>MATERIAL</b>						

DC. CIRCUIT W/ BATT. CHRG. GEN.



- NOTES:
1. FUEL SOLENOID CONNECTED TO "3" ON ENGINES NOT EQUIPPED W/ VACUUM SW.
  2. IF ENGINE IS EQUIPPED W/ BATTERY CHARGING GEN CONNECTION TO BE PER DETAIL 'A' OR 'B'.
  3. CONNECT R1 DIRECTLY TO IGNITION COIL ON ENGINES NOT EQUIPPED W/ VOLTAGE DROPPING RESISTORS.
  4. JUMPER FROM "21" TO "32" MUST BE REMOVED WHEN EQUIPPED W/ OVERSPEED SW.
  5. USE "10 AWG WIRE W/ 30-0-30 METER & "6 AWG WIRE W/ 100-0-100 METER.



DETAIL 'B' - (GENERATOR - DELCO-REMY)  
 NOTE: REMOVE CR17 & LEADS FROM 20 TO 21  
 NO CONNECTION FROM "36" TO VR1

USED ON GAS & GASEOUS FUEL MODELS ONLY.

REPLACE S8 WITH JUMPER ON DIESEL MODELS ONLY

12 VOLT ENGINE ELEC. CIRCUIT	
SCHEMATIC DIAGRAM	
SCALE: NONE	MODEL NO.:
DATE: 10/5/76	DRAWN BY: Raddy
DESIGN: SWP	CHECKED BY: Raddy
WINPOWER CORPORATION NEW YORK, N.Y. 10008	