

GEMINI ROBOT KITS

Charger Assembly

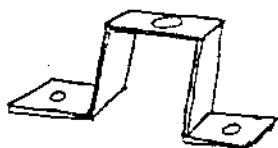
PARTS LIST

Please check the following parts list to be sure that you have all the parts before you begin assembling this kit.

<u>Description</u>	<u>Quantity</u>	<u>Part #</u>
Cotter pin	4	9B311A422
Springs	4	C0360-026-1750
Charger spring mount	4	GICR-11
Charger shells	1	GICR-1
Foot rods	4	GICR-7
4-40 x 1/4 SS screw	18	91783A106
Charger Leg caps	4	4603
Housing Mount Clips	5	GITS-6
Charger Base Plate	1	-
4-40 Hex Nut	20	91841A005
4-40 x 3/8 SS screw	10	91783A106
3/8 Self Tapping Screw	3	90053A146
3300mF capacitor	2	CAE3300MF35V
Bridge rectifier	1	RS401-ND
5 ohm resistor	1	ME284-HS15-5.0
Fuse block	1	270-742
120v 2 amp fuse	1	413002
1K 1/2w resistor	1	271-23
Lamp 1 amp 125v/1/3w	1	60F1290
Power line cord	1	557-33121
Transformer	1	273-1515
Terminal strips	3	274-688
Ring lug	2	BR1614R
Fork Lug	1	67F746
Tie down	1	MB-3A
Tie wrap	1	T18I
#4 Lock washer	7	92146A005
#4 Flat washer	7	92141A005
Green wire	0.5 ft.	7197/19-G
Yellow wire	0.5 ft.	7197/19-Y
Black wire	7 ft.	7197/19-B
Red wire	2 ft.	7197/19-R

Parts Identification

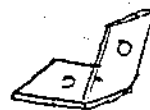
Charger spring mount



Charger Base leg



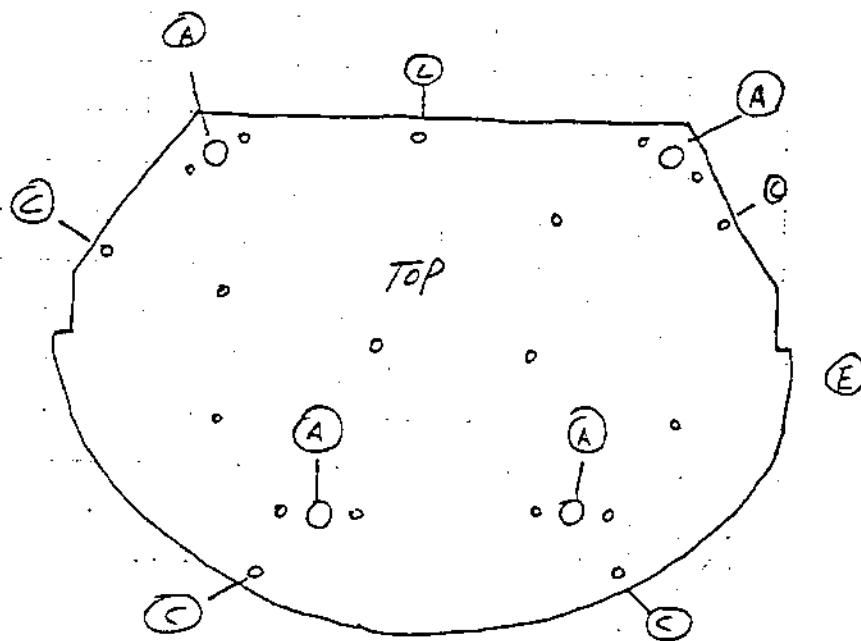
Housing Mount clips



Rubber leg feet

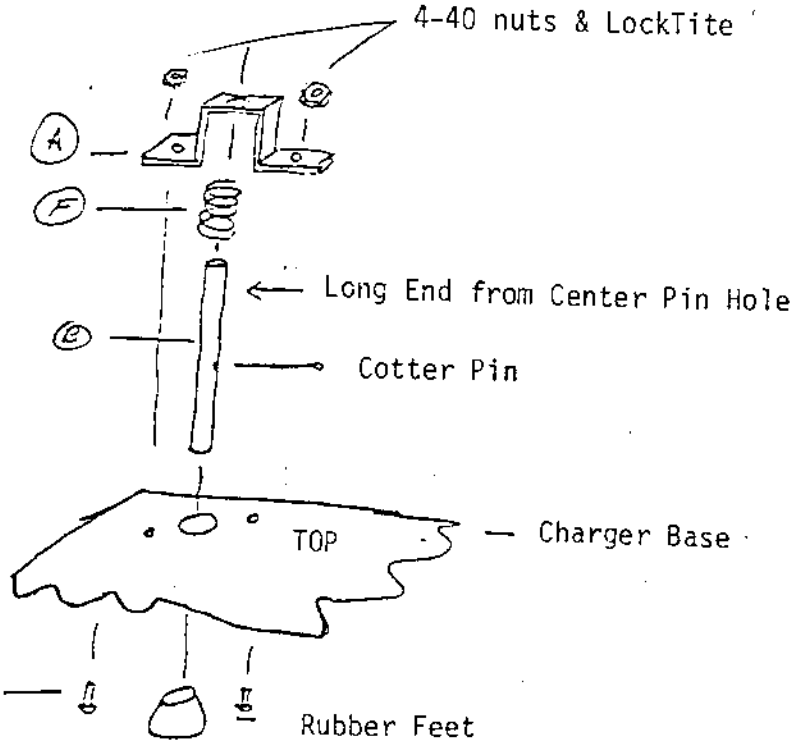


Charger Base Plate

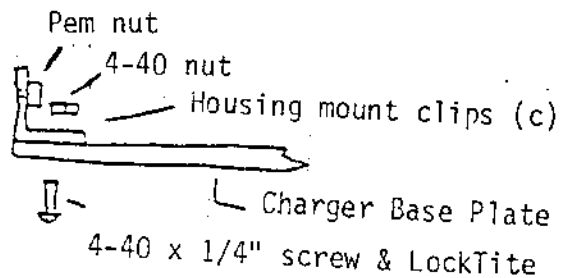


Assembly Instructions

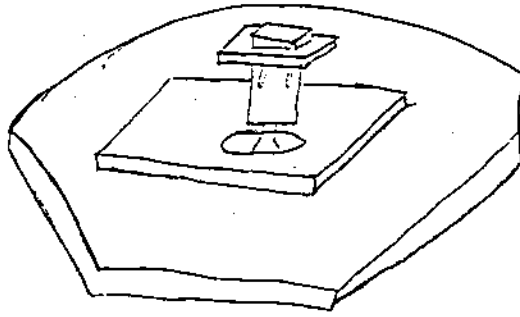
1. Mount leg assembly as shown below using 4-40 X 1/4 screws to hold charger spring mount, spring and charger base leg together. Then push the rubber feet on the bottom of the charger base leg. Push cotter pin through the hole in the leg and bend both sides over. Repeat for other 3 legs.



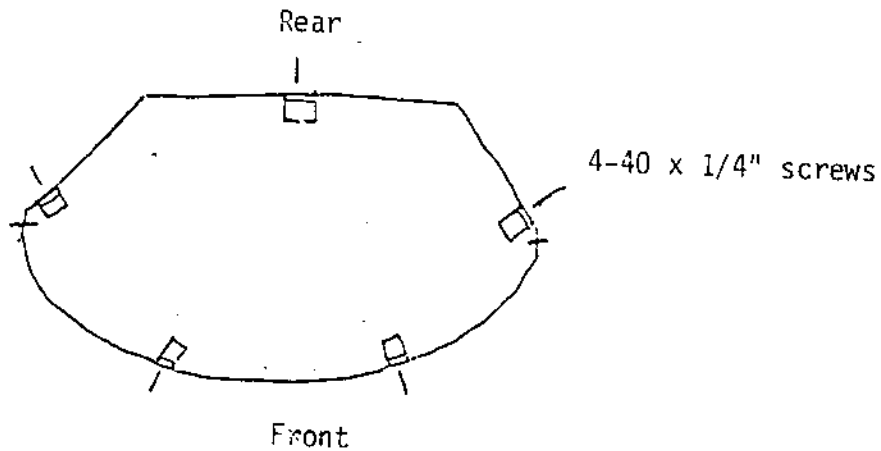
2. Install housing mount clips with pem nut side up using 4-40 x 1/4" screws, nuts and LockTite in locations identified with a C on the diagram of the charger base plate (page 2).



3. Push light down through 1/2" hole in charger top until it snaps into place.



4. Install front and rear charger shells to housing mount clips with 4-40 x 1/4" screws at base of charger.

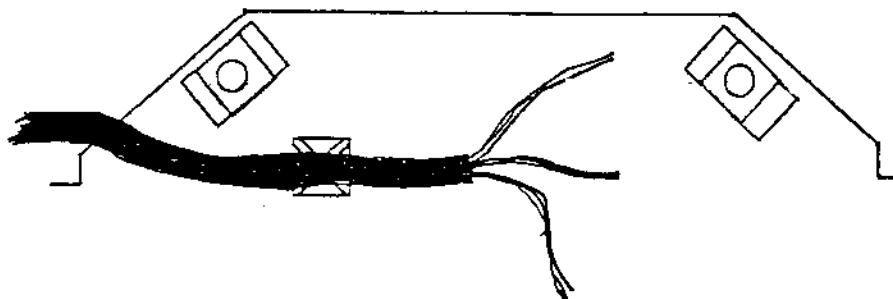


5. Mount charger shell top to charger using 3, 3/8" self tapping screws through the 3 holes in top, front, and rear of charger.

Electrical

() On the secondary side of the transformer cut off the center (black) wire and tape with electrical tape. Refer to diagram on page 8 and position the transformer on the base plate at T1 as shown. Screw down the right side of the transformer with a 4-40 x 1/2" screw coming up from the bottom of the plate. Use a flat washer, lock washer and hex nut to hold firmly in place.

() Take the power cord and separate the wires down about 4 inches. Peel off the back of the tie down and position as shown on page 8. Position the cord with the plug to the left, and approximately 2 inches of grey cord to the right and attach to the tie down with a tie wrap.



() On the end of the green wire coming from the power cord, strip back approximately 1/4" of insulation, place a ring lug on the end and crimp or solder. Then measure out 8" of 18 gauge black wire, strip approximately 1/4" off of each end, place a ring lug on one end and a fork lug on the other. Crimp or solder.

Run a screw up from the underside of the plate through the other end of the transformer, hook the two ring lugs on it and secure with a flat washer, lock washer and hex nut.

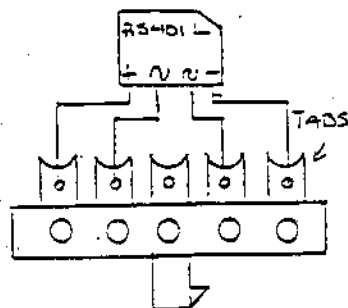
() Locate the charger top shell with the lamp and splice approximately 7" of black wire to each lamp wire. Cover with shrink tubing and heat with the shaft of the soldering iron.

() Take one of the primary (black) wires from the transformer, a wire other than the green one from the power cord, and one from the lamp and strip the insulation 1/4". Slip a piece of 1/2" diameter shrink tubing over the lamp wire, solder the three together and apply shrink tubing.

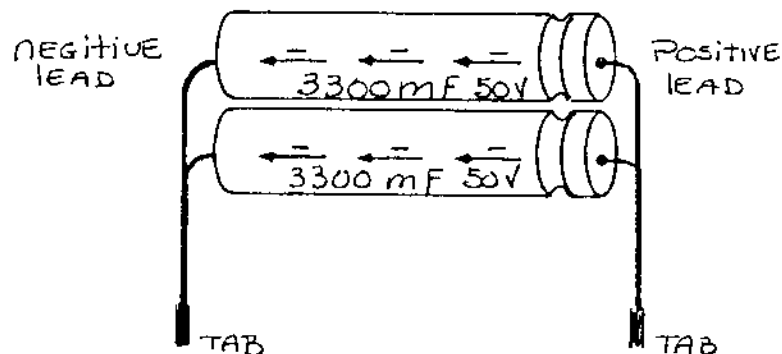
() Refer to page 8 for placement of fuse block. Mount it with a 4-40 1/2" screw, flat washer on top and a lock washer and hex nut underneath. Take the remaining power cord wire and cut it to a length that reaches to one end of the fuse block. Strip 1/4" and solder to the fuse block tab. Strip 1/4" from the remaining lamp and primary transformer wires and solder to the other end of the fuse block.

() Mount the 5 ohm gold resistor (R1) with the two sided tape as shown on page 8.

() Mount the three terminal strips shown on page 8. Solder the diode bridge to terminal strip 1 as shown below. Be careful not to short the leads together.



() Mount the two 3300mF 50v caps between terminal strips 2 and 3. Negative side must be attached to strip 2. (Do not use the middle tabs on either terminal for mounting.)



Mount the caps on top of each other as shown.

() Install the 1K ohm (BRN-BLK-RED) resistor between these strips. (Do not use middle tabs.)

() Run one of the transformer secondary (yellow) wires to one end of the 5 ohm (gold) resistor. Cut off 4" of black wire and strip 1/4" off both ends. Solder one end to the other end of the gold resistor, and the other end to the tab on terminal strip 1 which is connected to the sine wave signal (on diode bridge) closest to the (+) positive tab. Run the remaining transformer secondary (yellow) wire to the sine wave closest the (-) negative tab. Cut 1 1/2" of black wire, strip 1/4" off both ends, and solder one end to the middle tab on terminal strip 1 and the other to the (-) negative leg of the diode bridge.

() Cut two 1 1/2" pieces of black wire to connect the tab at one end of the 1K ohm resistor to the tab at one end of the capacitors. Install the connection on both terminal strip 2 and 3.

() Cut 1" of black wire and strip 1/4" off both ends. Solder it between the middle tab on terminal strip and the tab connected to the negative (-) end of the capacitors.

() Cut 10" of black wire, strip 1/4" off both ends and solder one end to the tab on terminal strip 2 with the resistor connected. The other end will be connected later (at **).

() Cut 8" of red wire and strip 1/4" off both ends. Solder one end to tab connected to positive (+) leg of diode bridge on terminal strip 1. The other end gets soldered to the tab on terminal strip 3 that is connected to the positive end of the capacitors.

() Cut 8" of black wire and strip 1/4" off both ends. Solder one to the tab on the terminal strip 1 which is connected to the negative (-) sign on the diode bridge. Solder the other end of the wire to the tab on terminal strip two that is connected to negative (-) end of capacitor.

() Cut 10" of red wire, strip 1/4" off both ends. Solder one end to tab connected to the resistor on terminal strip 3. The other end will be connected later (at **).

() Insert the fuse in the fuse block.

** Charger Contact Strip Installation:

1. Locate charger shell front half (semi circular shape) and two brass contact strips. Place the contact strips on the beveled portion of the shell one at a time (do not remove backing on strips yet) and center them, leaving approximately 1/8" between front of shell and front of strips. The shell has two 3/8" holes drilled in it and these holes will be covered by the strips. Use a felt tip pen to transfer the hole location onto the back sides of the contact strips.

2. Using an x-acto knife or equivalent, carefully cut a 1/2" square out of foam backing approximately where you marked the hole location. Be cautious, as the brass strips can be cut through very easily. Clean away all of the adhesive until a clean surface is exposed.

3. The black and red wires that were previously unattached are to be soldered onto the brass strips now. Bend 1/8" of each wire end at a right angle and solder the red wire onto the top contact, and the black wire onto the bottom contact, taking care to keep the wires in the correct location so that they will pass through the 3/8" holes and still allow proper location of the contact strips.

4. Remove backing and apply contact strips to charger shell.

