

GEMINI ROBOT KITS

Head Structure Assembly Instructions

PARTS LIST

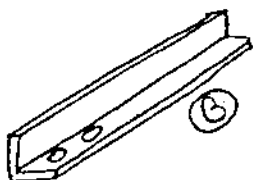
Please check the following parts list to be sure that you have all the parts before you begin assembling this kit.

<u>Description</u>	<u>Quantity</u>	<u>Part #</u>
Parabolic Reflector	1	61-2797
Grommets	3	1128-S
Grommets	2	9602K14
Grommets	1	9600K22
6-32 1/4 set screw	2	91375A144
4-40 3/8 ss screw	6	91783A108
4-40 1/4 ss screw	51	91783A106
Neck Bushing	1	GIHD-30
Head Gear	1	1B2-N24072
Head Plate	1	GIHD-1
Microphone bracket	3	GIHD-4
Motion detector brac.	2	GIHD-7
Head mounting clips	6	GIHD-10
Sonar I.R. bracket	1	GIHD-11
I.R. Sonar Stand	1	GIHD-12
Parabolic Reflector bracket	1	GIHD-19
Photocell bracket	1	GIHD-17
4-40 nuts	41	91841A005
4-40 1/2" ss screws	1	91783A110
Head Shell	1	GIHD-21 *
4-40 1/4" ss screws	3	91783A108 *

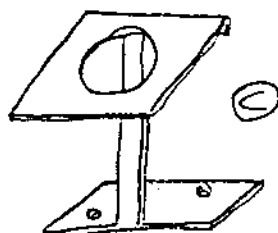
* GEMINI only

Part Identification

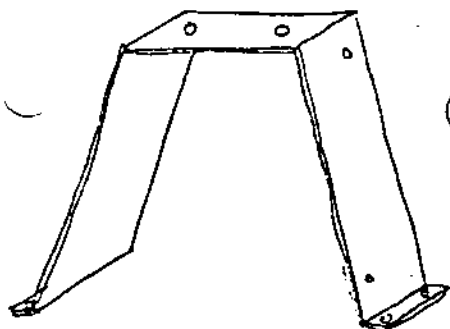
Head Clips (6)



Mike Brackets (3)

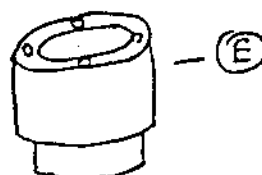


Sonar/IR Stand (1)

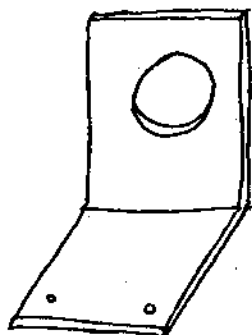


Smoke Detector
Mtg. holes

Nylon Head Bushing (1)



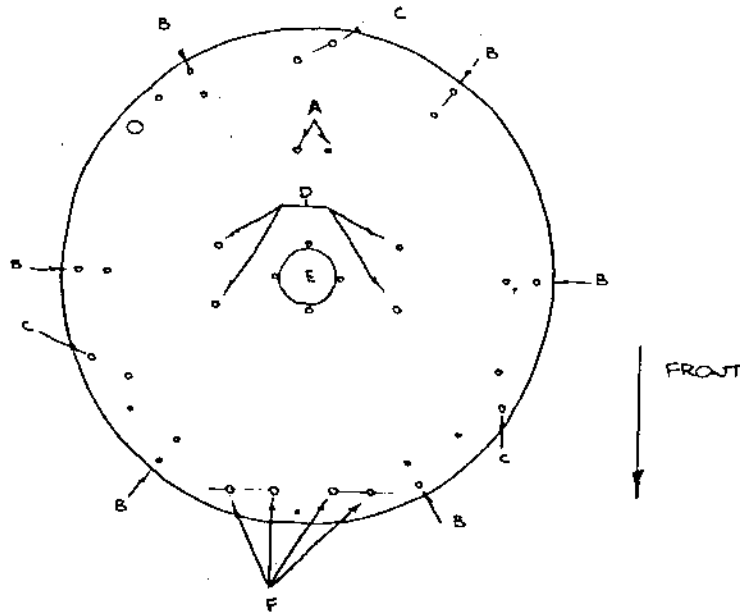
Motion Detector Brackets (2)



F

Assembly Instructions

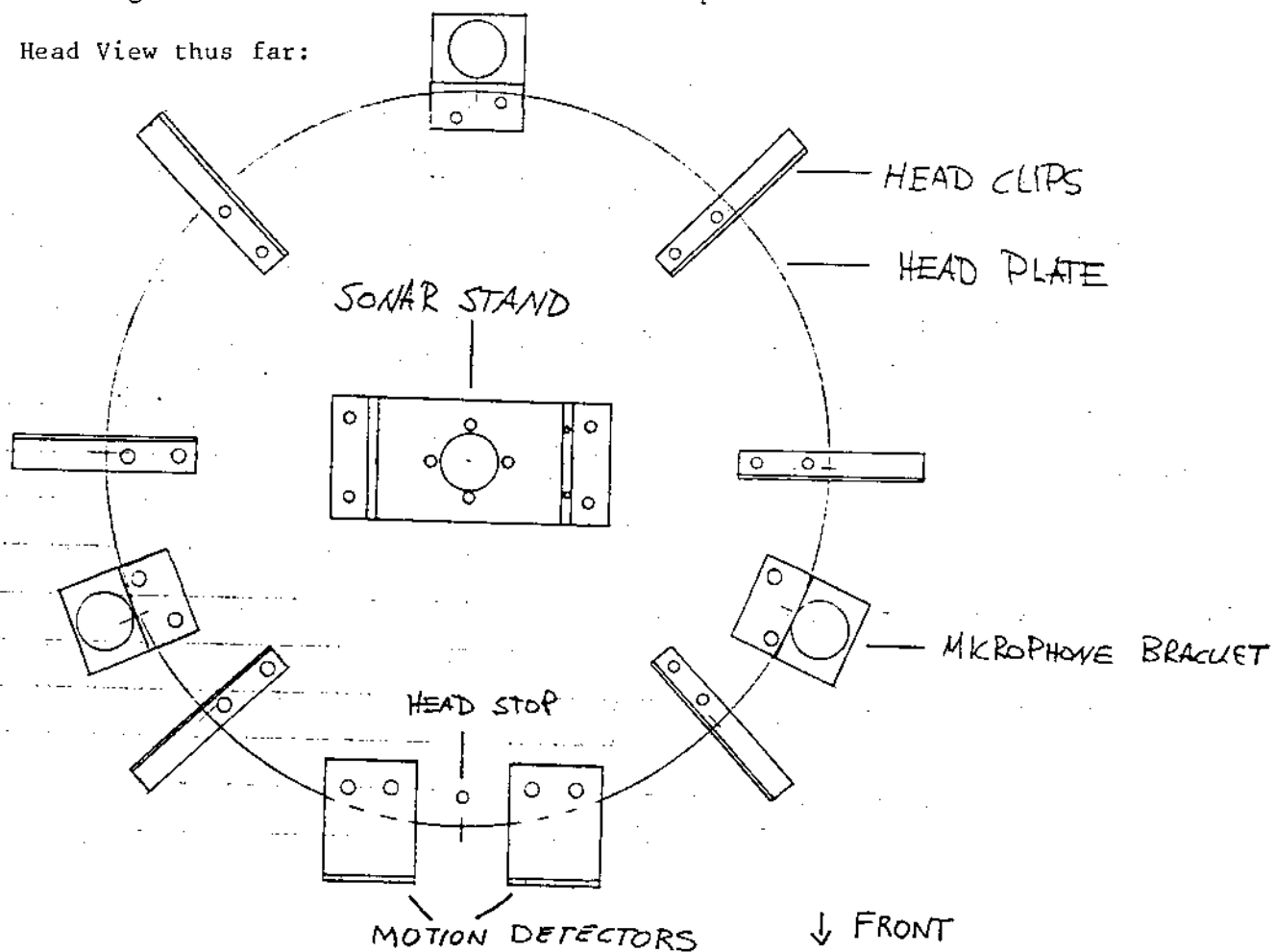
Refer to the following sketch of the top of the Head Plate (GIHO-1) for the following assembly instructions. Note that top side can be identified by the pattern of holes labeled "C". Mount all hardware in steps 1 through 5 with 4-40 1/4" screws and nuts. Use LockTite unless otherwise identified.



1. Mount the three Microphone Brackets (GIHD-4) on the top of the Head Plate at the points labeled "C".
2. Mount the six Head Mounting Clips (GIHD-10) on the top of the Head Plate at the points labeled "B".
3. Mount the Sonar I.R. Bracket (GIHD-11) on the top of the Head Plate at the points labeled "D".
4. Mount the nylon Head (neck) Bushing (GIHD-30) on the underside of the Head Plate at the points labeled "E". DO NOT USE LOCKTITE.
5. Mount two Motion Detector Brackets (GIHD-7) on the top of the Head Plate at the points labeled "F".

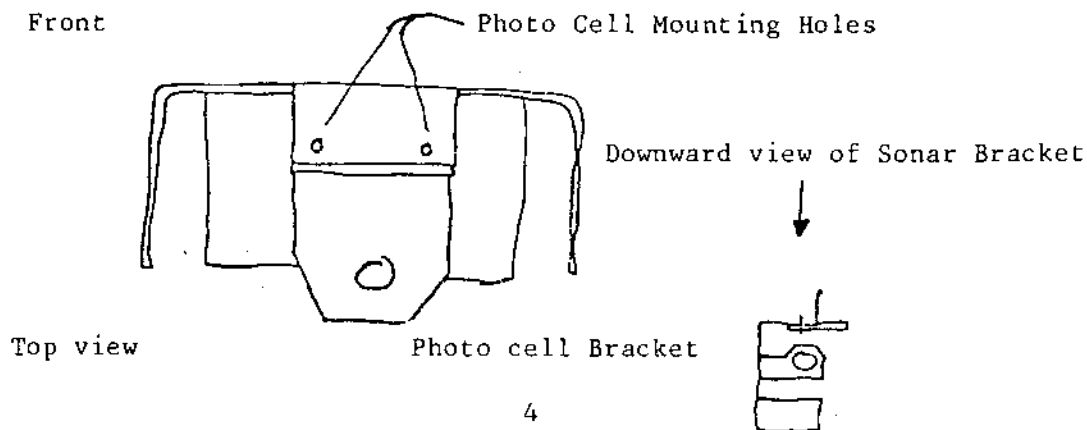
6. Mount 3 large rubber grommets into mike clip holes. Mount 2 medium rubber grommets into the motion detector clips.

Head View thus far:



7. Mount sonar bracket on top of IR sonar stand with 2 4-40 1/4" screws.

Front



8. Mount photo cell bracket to top of sonar bracket with 2 4-40 1/4" screws and nuts and LockTite. Push small grommet into photo cell bracket hole. See previous illustration.

9. Locate the IR board and photodiode that were set aside from earlier steps.

The photodiode is a TIL-413.

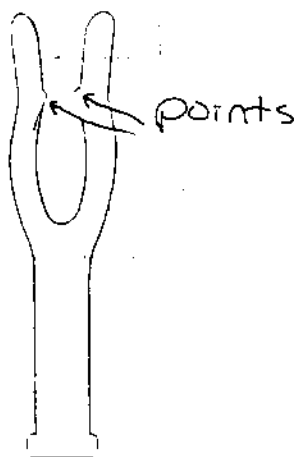
Hold the photodiode so that the writing on the back is facing you. At the base of the diode, allow a small amount of room for a bend. Bend the leads away from you so when you are done the photodiode looks similar to:



Cut the leads so they are 1/4" long from the bend. Remove the fork from the parabolic reflector.

Use a 1/4" screw and attach the dish to the I.R. mounting bracket (GIHD-15) with the hole below the fork towards the bottom of the mounting bracket.

Place the photodiode between the fork at the points. Have the dome of the photodiode face the base of the fork.



10. Replace the fork on the dish with leads of the photodiode over top of the hole in the dish. Run the wires straight up through the hole on the mounting bracket and mount the circuit board to the bracket using 4-40 1/2" screws and nylon standoffs between the circuit board on the bracket.

Make sure the wires do not have a twist in them. Insert the leads of the diode into the gold pins. Tie down to the fork approximately halfway with the cord provided.

Mount the IR stand bracket on the top of the Head Plate with 2 4-40 1/4" screws and nuts at the points labeled "A". Make sure that the dish is pointing towards the front of the head (the motion detectors are at the front).