

# SERVICE MANUAL



IMPORTANT

- ▶ Please read the manual carefully and keep it in mind before using this machine.
- ▶ Put this manual within touch of your reference in anytime.

# PRECAUTIONS FOR USE

The following safety precautions are given throughout this manual. They must be strictly followed to protect those who install, use or maintain this product as well as to protect players, visitors and property.

For safety reasons.

- The following suggestions should be adhered to:

## WARNING

Disregarding could result in serious injury.

## CAUTION

Disregarding could result in injury or product damage.

- The following graphic suggestions describe the types of precautions to be followed.



Indicates a care should be taken.



Forbidden.



Indicates a matter which must be performed.

- Precautions to be followed:

**Certain procedures require a qualified in-shop maintenance person or industry specialist. For such instructions, a qualified person must take care of the jobs.**

- Otherwise an electric shock, machine trouble, or a serious accident may result.
- Replacing the machine parts, inspecting and maintaining the machines, and troubleshooting must be assigned only to a qualified in-shop maintenance person or industry specialist. This booklet gives instructions that hazardous jobs in particular must be handled by an industry specialist. Qualified in-shop maintenance person and industry specialist are defined as follows.

### **Qualified in-shop maintenance person**

- A service staff shall have experience in operations of game machines. The staff shall be responsible for assembly, installation, inspection and maintenance of the machine.

### **Industry specialist**

- An industry specialist must be engaged in designing, manufacturing, inspecting and servicing amusement machines. He or she must have an education in electrical, electronic and mechanical engineering, and routinely maintain and repair amusement machines.

# PRECAUTIONS FOR USE

## WARNING

**Be sure to consult an industry specialist when setting up, moving or transporting this product.**

- This product should not be set up, moved or transported by any one other than an industry specialist.
- When installing this product, set the 4 leg levelers evenly on the floor and make sure that the product is installed stably in a horizontal position. Unstable installation may result in injury or accident.
- When installing this product, do not apply undue force on movable parts. Otherwise, injury and accident may result, or the product may be damaged.

**The machine for indoor usage only does not install outside.**



**Do not set the game machine up near emergency exits.**



**Protect the game machine from:**

- Rain or moisture.
- Direct sunlight.
- Direct heat from air-conditioning and heating equipment, etc..
- Hazardous flammable substances.
- Otherwise an accident or malfunction may result.



**Do not place containers holding chemicals or water on or near the game machine.**



**Do not place objects near the ventilating holes.**



**Do not bend the power cord by force or place heavy objects on it.**



**Never plug or unplug the power cord with wet hands.**



**Never unplug the game machine by pulling the power cord.**



## CAUTION

**Be sure to use indoor wiring within the specified voltage requirements. For extension cord, use the specified rating or more.**

**Be sure to use the attached power cord.**

**Never plug more than one cord at a time into the electrical receptacle.**



**Do not lay the power cord where people walk through.**



**Be sure to ground this product.**



**Do not exert excessive force when moving the machine.**




**For proper ventilation, keep the game machine 100mm(4") away from the walls.**

**Do not alter the system related dipswitch settings.**

# ♣ PRECAUTIONS FOR USE

## ⚠ WARNING

**If there is any abnormality such as smoke, bad smell or abnormal noise being emitted from the machine, immediately turn OFF the main power switch and unplug the power cord from the receptacle to stop operating it.** 

- Using the machine in abnormal conditions could result in fire or accidents.


In case of abnormality

1. Turn OFF the main power switch.
2. Unplug the power cord from the receptacle.
3. Contact your nearest dealer.

**Do not leave the power cord plugged in improperly or covered with dust.** 

- Doing so could result the power cord periodically.


## ⚠ CAUTION


**Do not use this product anywhere other than industrial areas.** 

- Using in a residential area or an area next to a residential area could affect signal reception of radios, television sets, telephones, etc..

- Do not give shock the surface of glass products.

- Please do not play this game if
  - When you do drinking;
  - When your physical condition is not normal;
  - When you are in pregnancy;
  - When you have on a pulse controller;
  - When you have recently experienced a cramp or fainting away while watching TV.
- Avoid excessive force/shock while playing/moving the game.
- While do games, pay attention to surrounding.

**Do not plug or unplug the power cord with wet hands.** 

**In handling the power cord, follow the instructions below.** 

- |   |  |
|---|--|
| • Do not damage the power cord.           | • Do not modify the power cord.            |
| • Do not bend the power cord excessively. | • Do not twist the power cord.             |
| • Do not heat the power cord.             | • Do not pull the power cord.              |
| • Do not bind the power cord.             | • Do not stand on the power cord.          |
| • Do not sandwich the power cord.         | • Do not drive a nail into the power cord. |

**If the power cord or power plug becomes damaged, stop using the machine immediately and ask your nearest dealer to replace the parts.**

# ♣ PRECAUTIONS FOR USE

## ⚠ WARNING

Be sure to turn OFF the main power switch and unplug the power cord from the receptacle before inspecting or cleaning the machine.



When replacing parts, be sure to use parts of the correct specifications. Never use parts other than the specified ones.



Opening inside the machine shall be done by machine specialist only as high electric current is being sent inside. For game machine with monitor, a care should be taken while opening its back door. If not, a damage to the inside parts or the monitor may occur.



If the sub power switch of the service panel is turned OFF without turning OFF the main power switch of the power supply unit, some parts in the units remain live. When opening the back door, be sure to turn OFF the main power switch and unplug the power cord from the receptacle.



Strictly refrain from disassembly and repair of parts which are not indicated in this manual, as well as settings and remodeling.



To clean the game machine, wipe it with a soft cloth dampened in a neutral detergent.

- Using thinner or other organic solvent or alcohol may decompose the material.
- Electrical shock or equipment failure could be caused by water entering the inside of the machine.

## ⚠ CAUTION

Components in the game are sensitive to vibrations and impact. Care should be used when moving and transporting the game machine.



Be sure not to let the machine tip over.

Before moving the machine, be sure to turn OFF the main power switch, unplug the power cord from the receptacle and remove the power cord from the machine.



Before moving take the machine, off the levelers and move it on the casters.

Avoid excessive force while moving the machine.



## PRECAUTIONS IN HANDLING

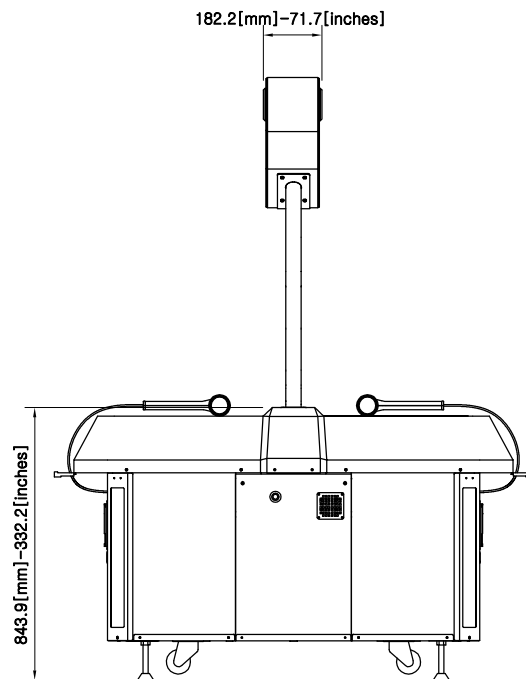
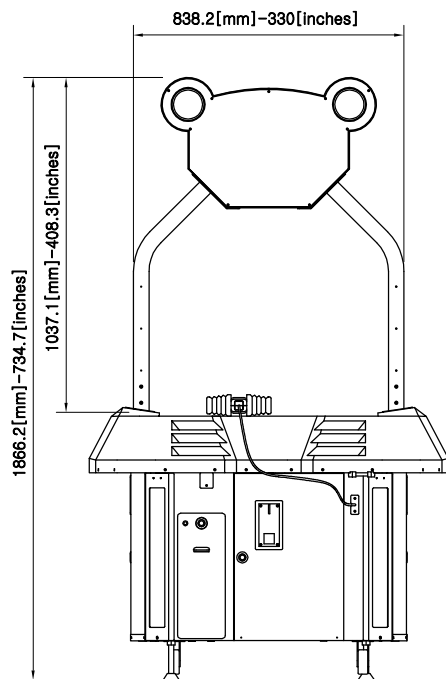
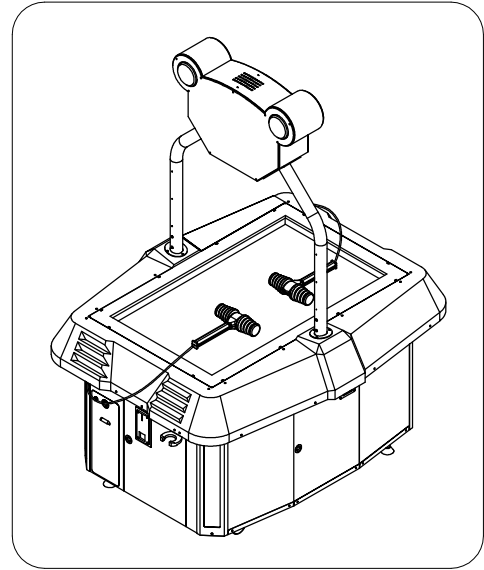
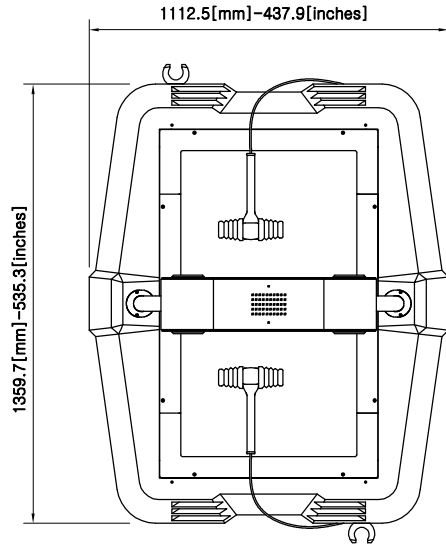
- When setting up, inspecting, maintaining, moving or transporting this product, follow the procedures and instructions set forth in this manual and perform such work safely.
- Do not set up, handle, inspect, maintain, move or transport this product under conditions equivalent to the condition of "WARNING" or "CAUTION" specified in this manual.
- If a new owner is to have this product as a result of transfer, etc., be sure to give this manual to the new owner.

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# 1. SPECIFICATION AND DIMENSION

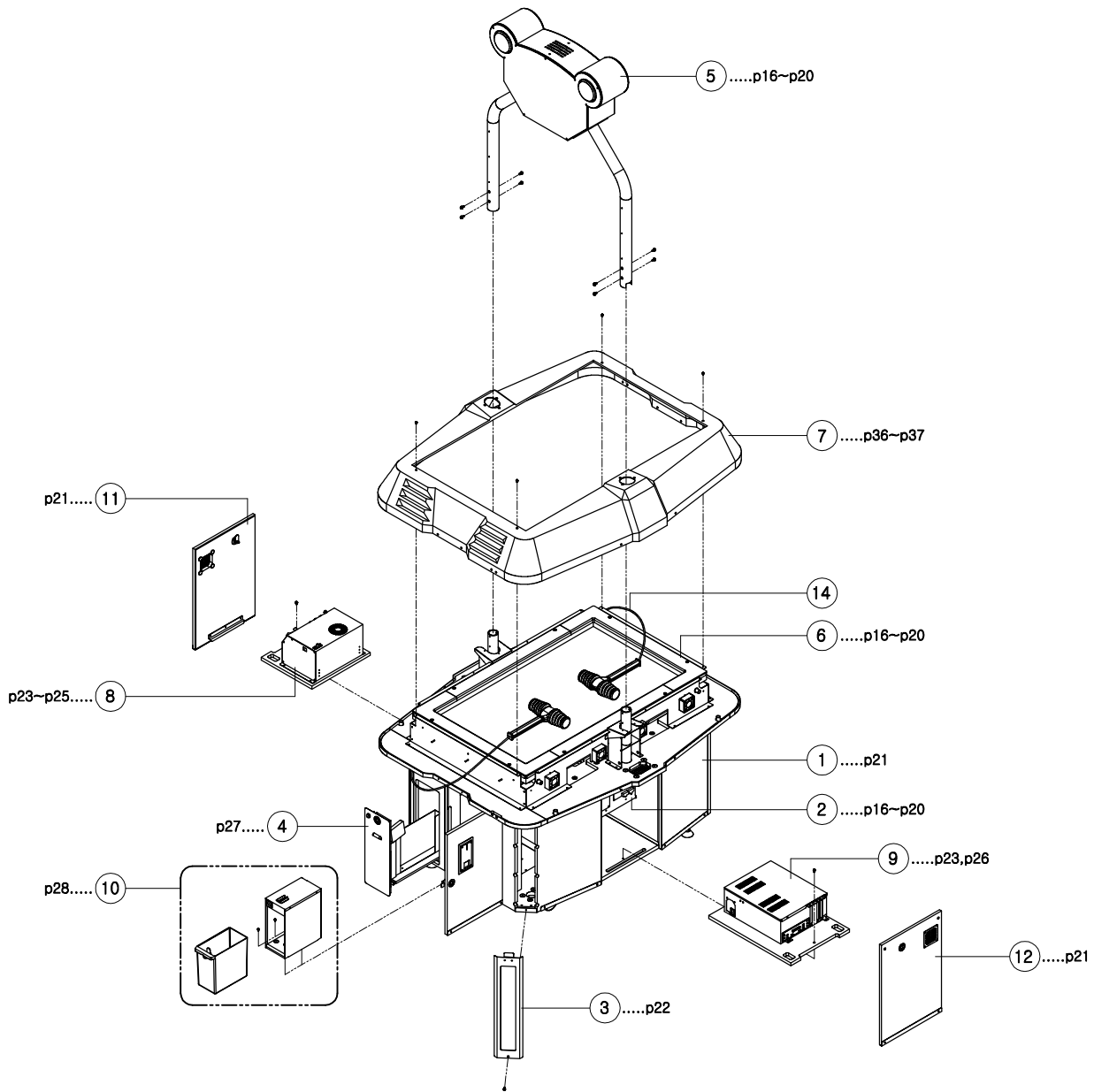
## 1-1. DIMENSION



## 1-2. SPECIFICATION

POWER RATED VOLTAGE RANGE	SEE THE FRONT PAGE
POWER RATED FREQUENCY RANGE	50 Hz ~ 60 Hz
CONSUMPTION	800 W
WEIGHT	150 Kg
BILLBOARD WEIGHT	Kg

## 2. NAME OF PARTS



NO.	PART NAME	SPEC.	QUANTITY	CODE NO.
1	CABINET ASS'Y	-	1	AHM20ASS001
2	IO BOARD BRACKET ASS'Y	-	1	AHM20ASS002
3	MAIN CORNER ASS'Y	-	4	AHM20ASS003
4	TICKET DOOR ASS'Y	-	2	AWIW0ASS004
5	BILLBOARD ASS'Y	-	1	AHM20ASS004
6	MAIN TOP CASE ASS'Y	-	1	AHM20ASS005
7	MAIN TOP CASE MASK ASS'Y	-	1	AHM20ASS006
8	POWER BOX ASS'Y	-	1	AHM20ASS007
9	MAIN BOX ASS'Y	-	1	AHM20000002
10	COIN BOX ASS'Y	-	2	AHM20ASS009
11	MAIN SIDE DOOR-A ASS'Y	-	1	AHM20ASS010
12	MAIN SIDE DOOR-B ASS'Y	-	1	AHM20ASS011
13	MAIN FRONT DOOR ASS'Y	-	2	AHM20ASS012
14	HAMMER ASS'Y	-	2	AHAM0PLA002



**3. COMPONENTS**

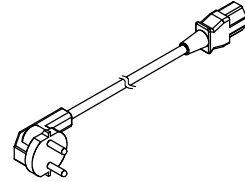
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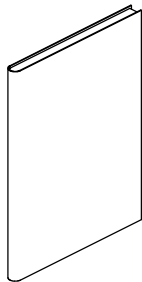
2



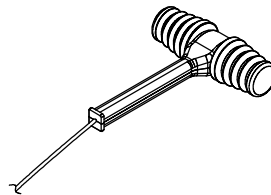
3



4



5



6

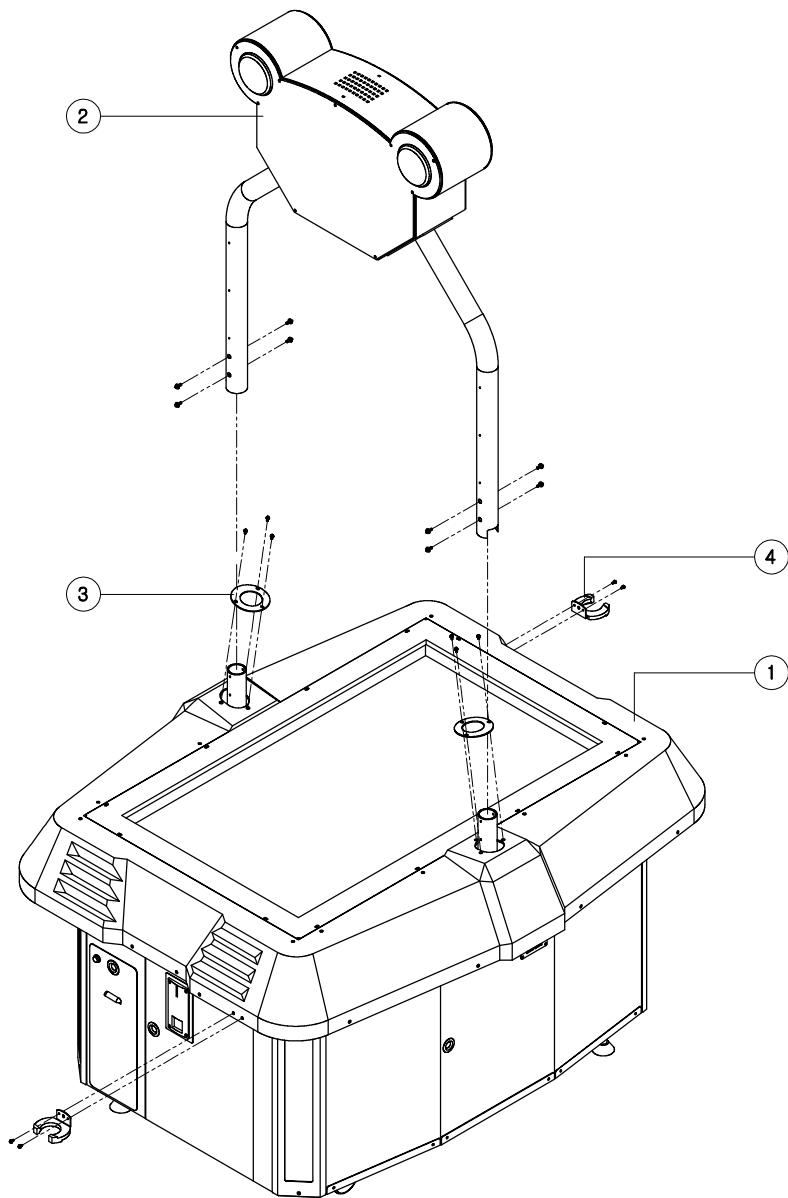


7



NO.	PART NAME	SPEC.	QUANTITY	CODE NO.
1	CASH BOX KEY	6001	2	MZZZ0KEY013
2	FRONT DOOR KEY	7001	2	MZZZ0KEY032
3	AC POWER CORD	-	1	MELE0ACP002
4	MANUAL	-	1	-
5	HAMMER ASS'Y	-	3	AHAM0PLA002
6	HAMMER HEAD	-	2	-
7	HANGER	-	2	-

**4. HOW TO ASSEMBLE**



NO.	PART NAME	SPEC.	QUANTITY	CODE NO.
1	MAIN CABINET ASS'Y	-	1	MHM20WOO001
2	BILLBOARD ASS'Y	-	1	AHM20ASS004
3	BILLBOARD PIPE COVER	-	2	-
4	HANGER	-	2	-

## 5. SET-UP Manual

### (1) How to move to Set-Up menu

- ① Open the side door and you can see buttons of TEST, SELECT and SERVICE
- ② Push the TEST button to open SET-UP menu screen



< Initial set-Up screen >



< Ticket Set-Up screen >



< Hardware test screen >

## (2) Test Method

- ① You can move and test into the Hardware test mode with buttons of TEST and SELECT
- ② Push the TEST button to move on to next test item, and push the SELECT button to test or set the value

## 6. Detail explanation on each item

### (1) SETUP (SOFTWARE)



#### ② COIN SETTING

; 1 credit per 1 to 10 coins

#### ③ STAGE(SINGLE)

; Number of stages for single play

; The minimum is 1 stage. The maximum is 3 stages

; The default is 3 stages

; Push the SELECT button to change the number

#### ④ STAGE(MULTI)

; Number of stages for dual plays

; The minimum is 1 stage. The maximum is 3 stages

; The default is 3 stages

; Push the SELECT button to change the number

⑤ DIFFICULTY

; Set-up of difficult level

; There are EASY / NORMAL / HARD

; The factory default for the first stage is NORMAL

; Push the SELECT button to change the difficulty

\* The next stage while playing is getting more difficult than the previous stage.

⑥ DEMO SOUND

; On / Off function for Demo sound

⑦ DEFAULT SETTING

⑧ DON'T SAVE & EXIT

⑨ SAVE & EXIT

⑩ NEXT SETUP

(1) Ticket mode : OFF



; When the ticket mode is "OFF", the other set-up information on this screen disappears

(2) Ticket mode : FIXED



; When the ticket mode is "FIXED", tickets per stage clear are dispensed

(3) Ticket mode : JACKPOT



- ① When the ticket mode is "JACKPOT", bonus ticket-out chance is given on the condition 3 stages are cleared.
- ② Ticket value  
; Ticket value can be set up for payout rate. If one credit is 100 tickets, the ticket value has to be set at 100 pcs. If one credit is 25 tickets, the ticket value has to be set at 25 pcs.
- ③ Min Jackpot  
; The minimum of big bonus tickets can be set
- ④ Payout rate  
; The tickets given by bonus ticket-out chance are dispensed according to the ticket payout rate. It means accumulated number of tickets.
- ⑤ Mercy Ticket  
; Mercy (Free) ticket per credit. The default is 1 mercy ticket.  
Push the SELECT button to change the number of mercy ticket.
- ⑤ Empty Ticket Alarm : OFF  
; The alarm sound is ON/FF when the ticket is empty.



(3) SETUP (HARDWARE)



① SPEAKER TEST

; Test the speakers of 1P and 2P.

When you push the SELECT button, each speaker makes a sound 3 times.

③ SENSOR TEST

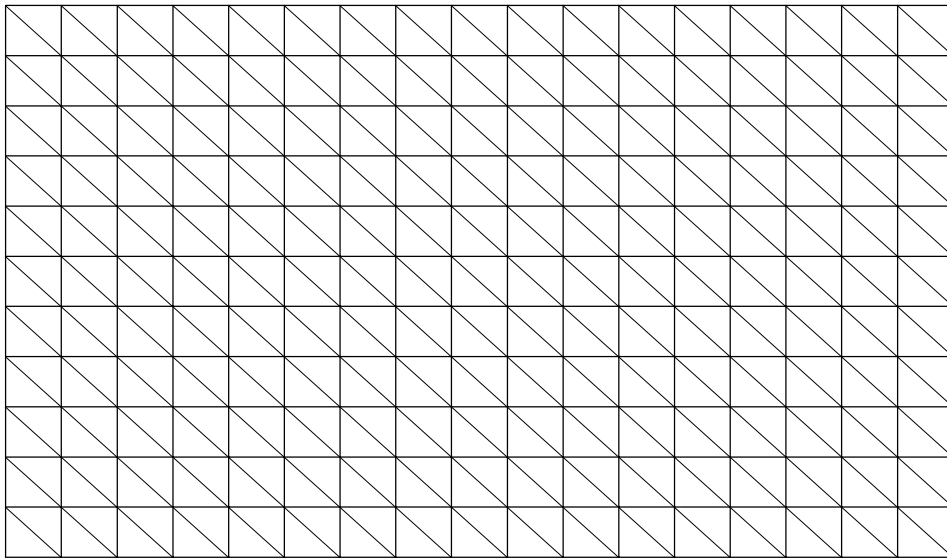
; Test the sensors located at the screen corner

; Push the SELECT button. Then the lattice lines are shown on the screen.

; White lattice lines mean that the sensitiveness of sensor is good.

Yellow lattice lines means that the sensitiveness of sensor is weak.

Red lattice lines means that the sensors do not work.



; Push the SELECT button to move out in this screen.

④ SENSOR CALIBRATION

: When the sensitiveness of sensor is weak or the sensor lattice is wrong, the lattice and sensitiveness of sensor can be set up again.

: Push the SELECT button to get into SENSOR CALIBRATION

: Follow up according to the screen instructions.

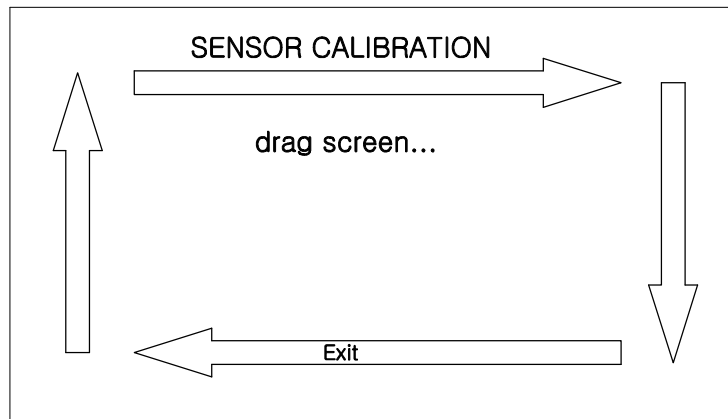
< STEP 1 >



: While above screen is being shown up, the values of all sensors are initialized.

: Be waited until next screen appears.

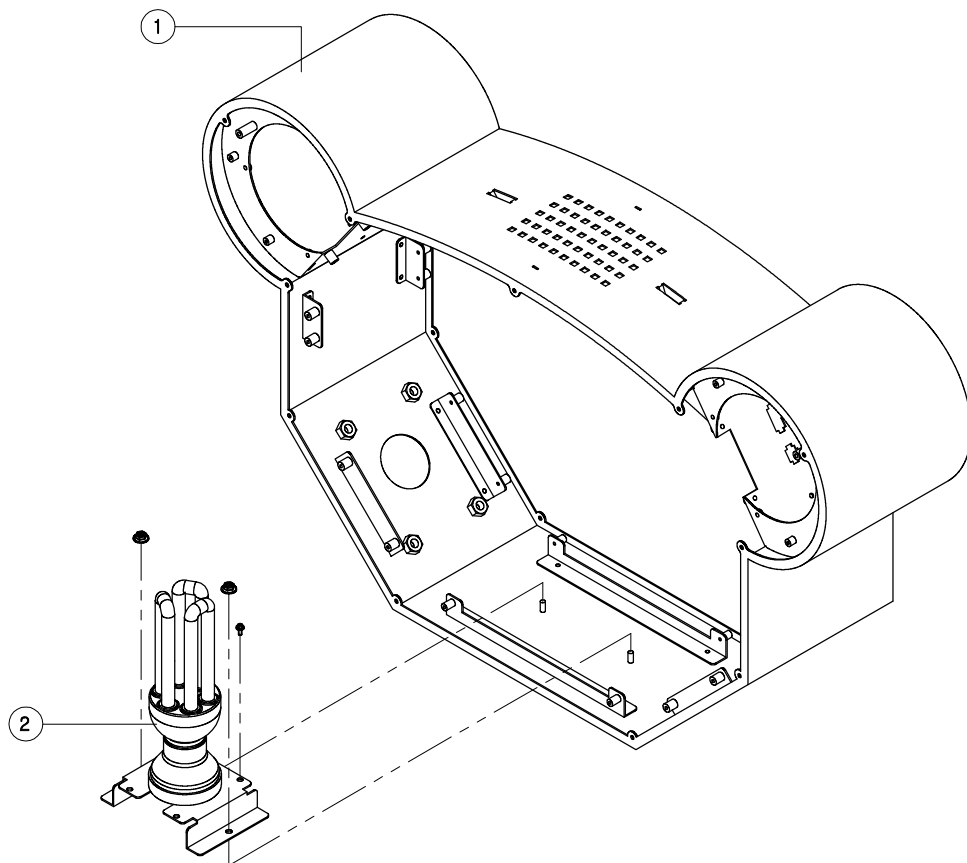
< STEP 2 >



- : A correction screen for sensor's lattice and sensitiveness appears.
- : Drag a hammer or your hands twice on the screen according to end corner of the screen.
- : Move out by pushing the SELECT button after calibration done

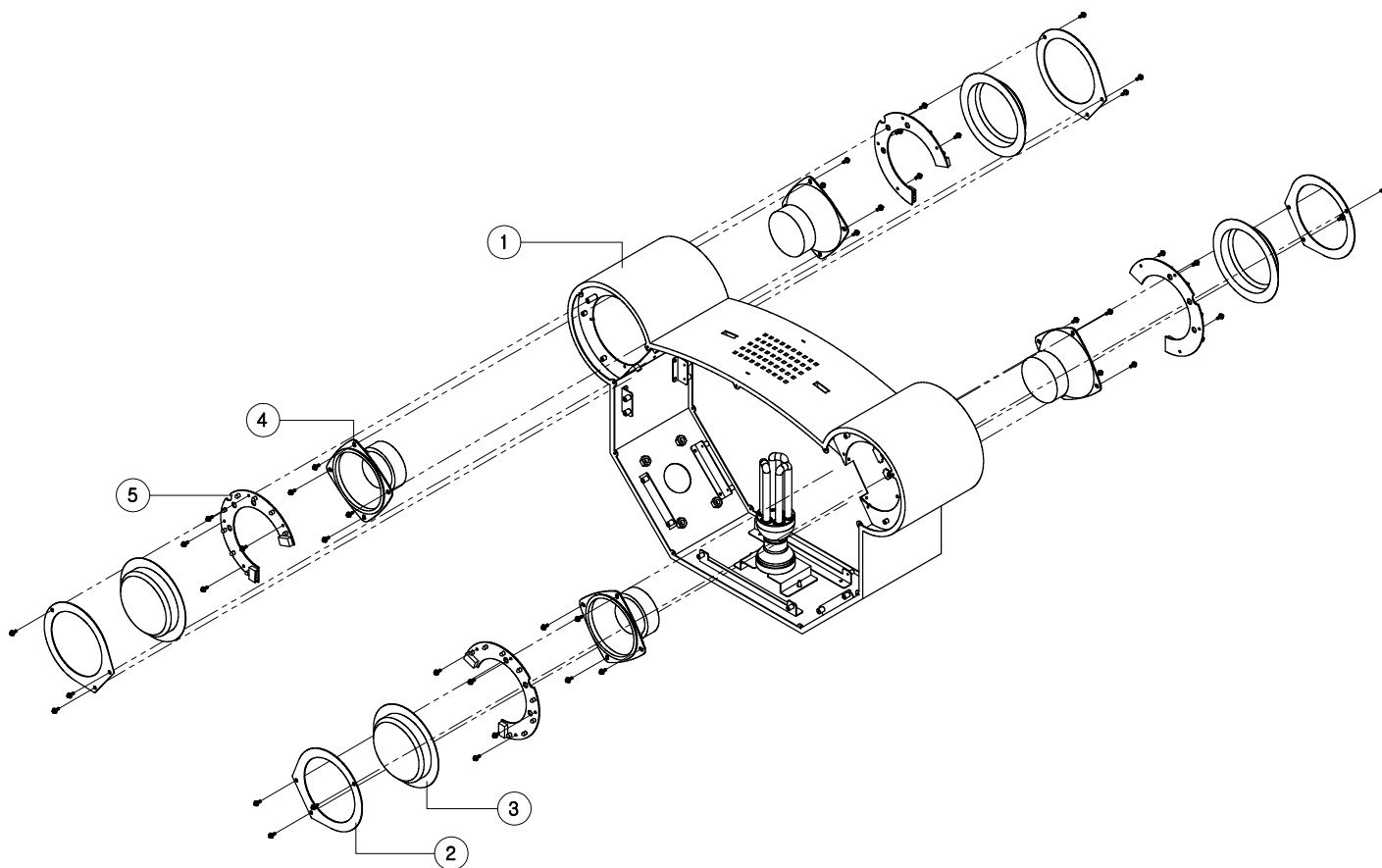
## 7. ASSEMBLING BILLBOARD

### 7-1. ASSEMBLING BILLBOARD



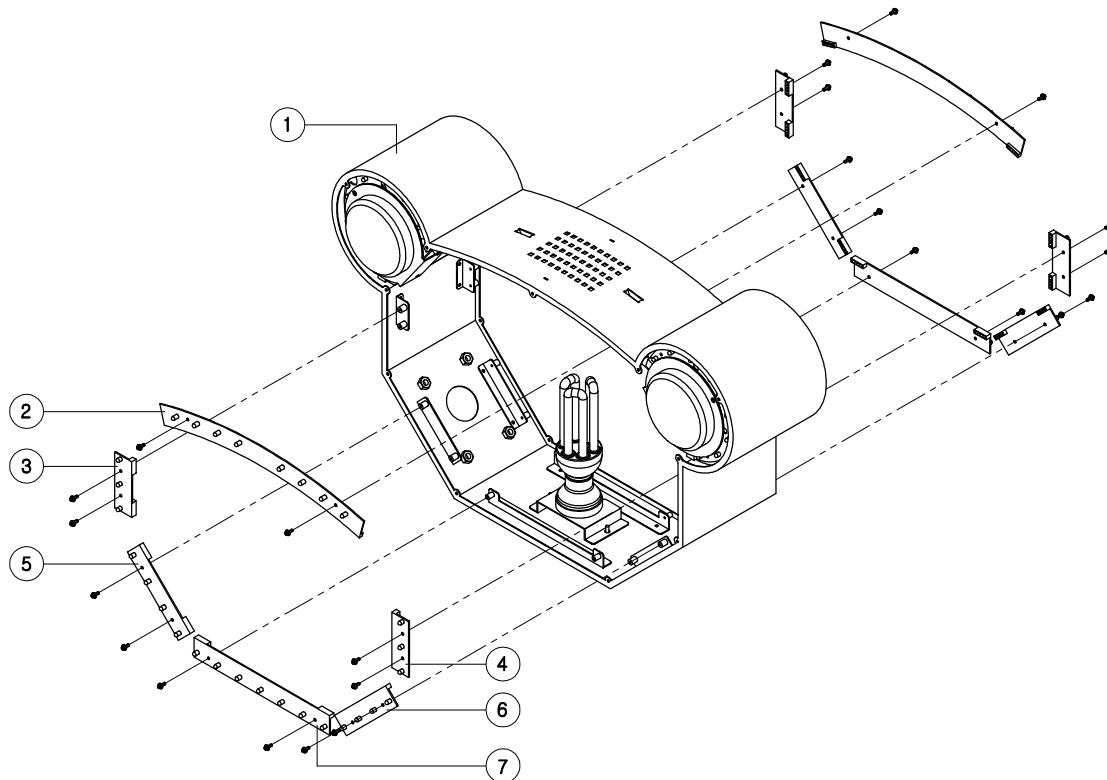
NO.	PART NAME	SPEC.	QUANTITY	CODE NO.
1	BILLBOARD MAIN FRAME	-	1	MHM20MEP033
2	3 WAVE LAMP ASS'Y	-	1	-

## 7-2. ASSEMBLING BILLBOARD



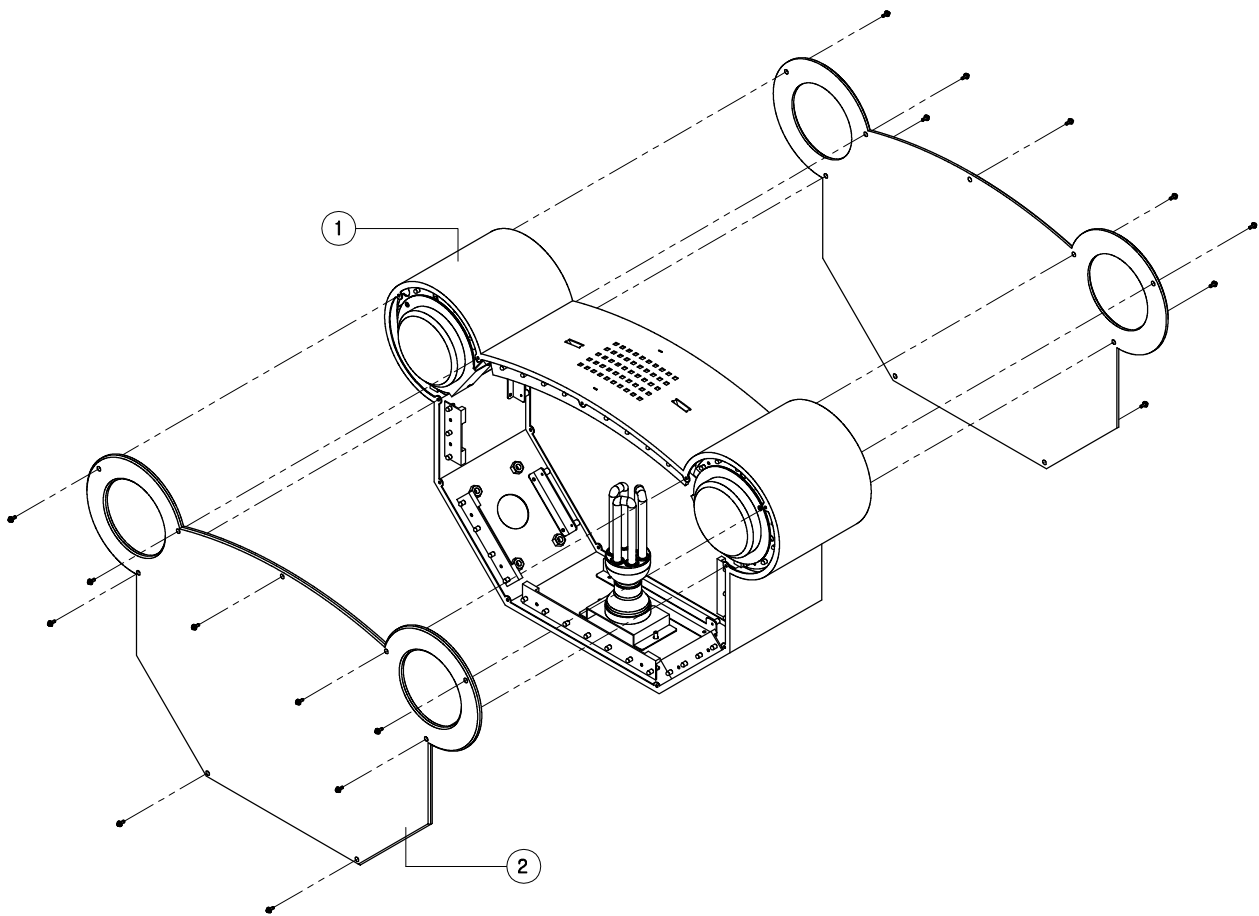
NO.	PART NAME	SPEC.	QUANTITY	CODE NO.
1	BILLBOARD MAIN FRAME ASS'Y	-	1	MHM20MEP033
2	SPEAKER NET BRACKET	-	4	MHM20MEP007
3	SPEAKER NET	-	4	-
4	SPEAKER	4.5"	4	MZZZ0SPE004
5	BILLBOARD PCB	-	4	

### 7-3. ASSEMBLING BILLBOARD



NO.	PART NAME	SPEC.	QUANTITY	CODE NO.
1	BILLBOARD MAIN FRAME ASS'Y	-	1	-
2	BILLBOARD PCB-1	-	1	-
3	BILLBOARD PCB-2L	-	1	-
4	BILLBOARD PCB-2R	-	1	-
5	BILLBOARD PCB-3L	-	1	-
6	BILLBOARD PCB-3R	-	1	-
7	BILLBOARD PCB-4	-	1	-

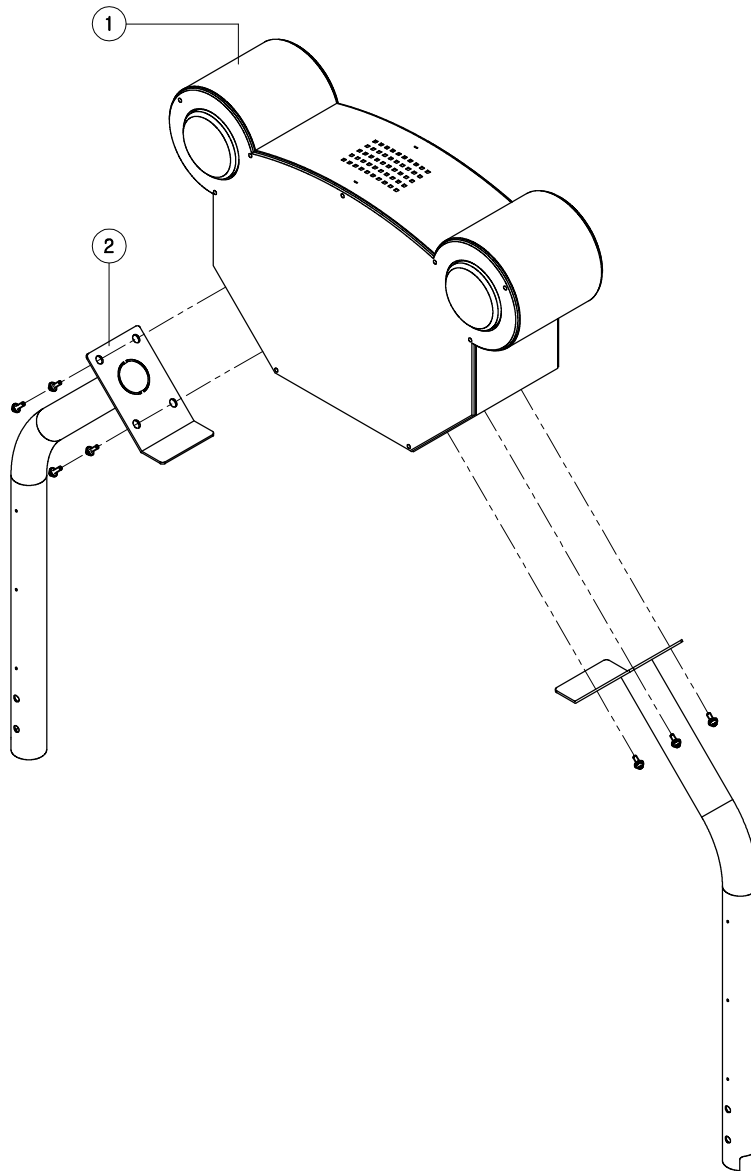
### 7-4. ASSEMBLING BILLBOARD



NO.	PART NAME	SPEC.	QUANTITY	CODE NO.
1	BILLBOARD MAIN FRAME ASS'Y	-	1	MHM20MEP033
2	BILLBOARD ACRYL	-	2	MHM20ACR002



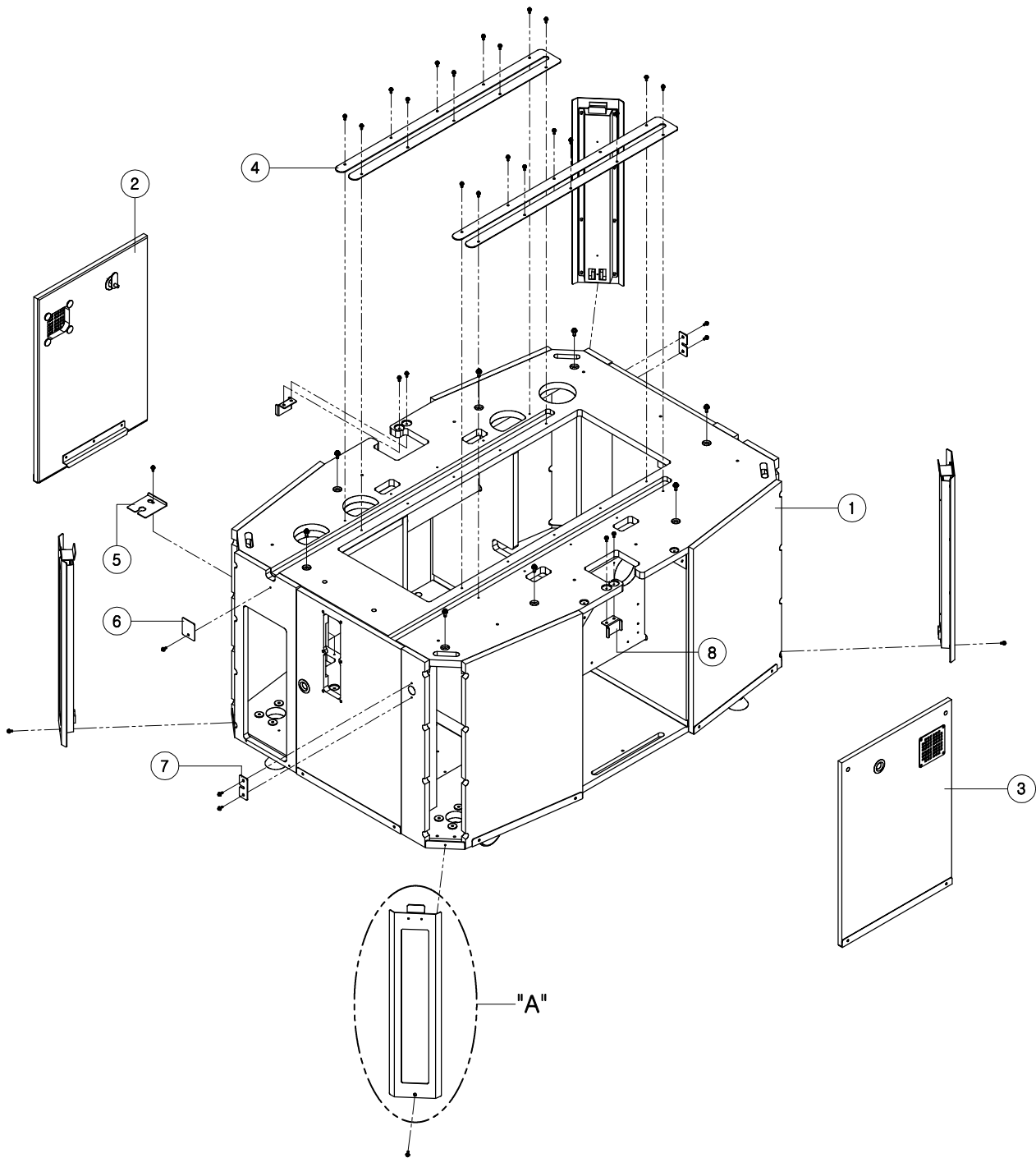
### 7-4. ASSEMBLING BILLBOARD



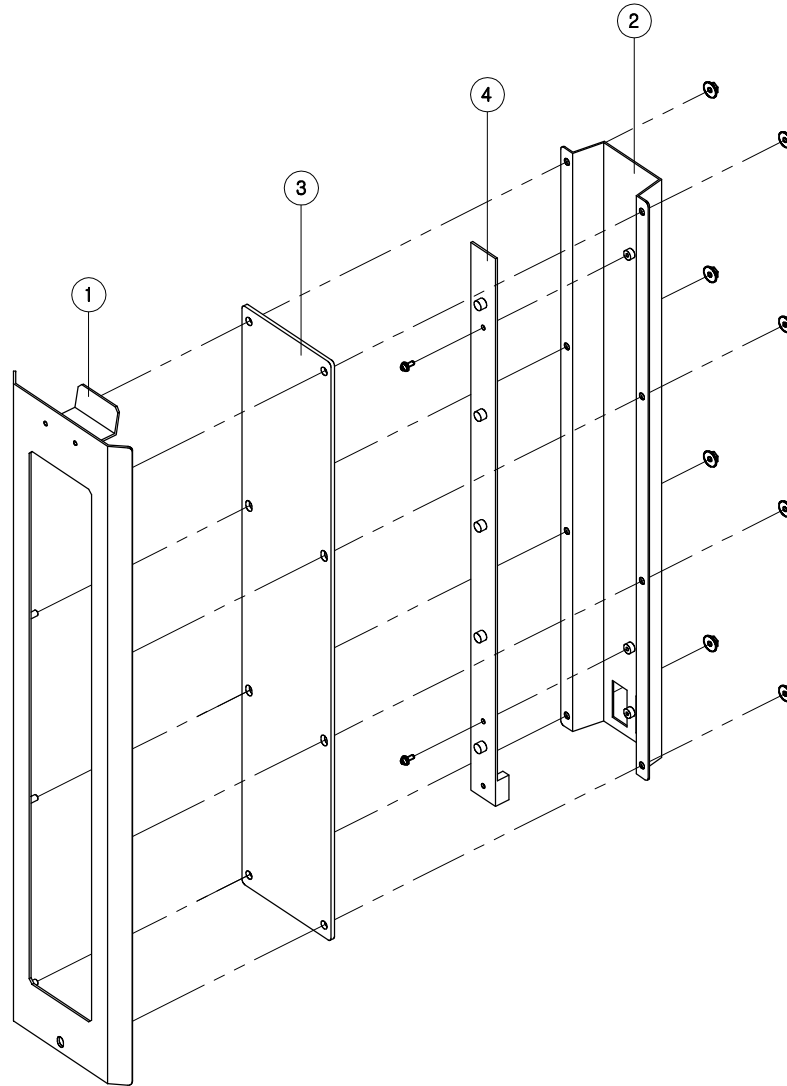
NO.	PART NAME	SPEC.	QUANTITY	CODE NO.
1	BILLBOARD ASS'Y	-	1	AHM20ASS004
2	BILLBOARD PIPE ASS'Y	-	2	MHM20MEP032

## 8. ASSEMBLING LOWER CABINET

### 8-1. ASSEMBLING LOWER CABINET



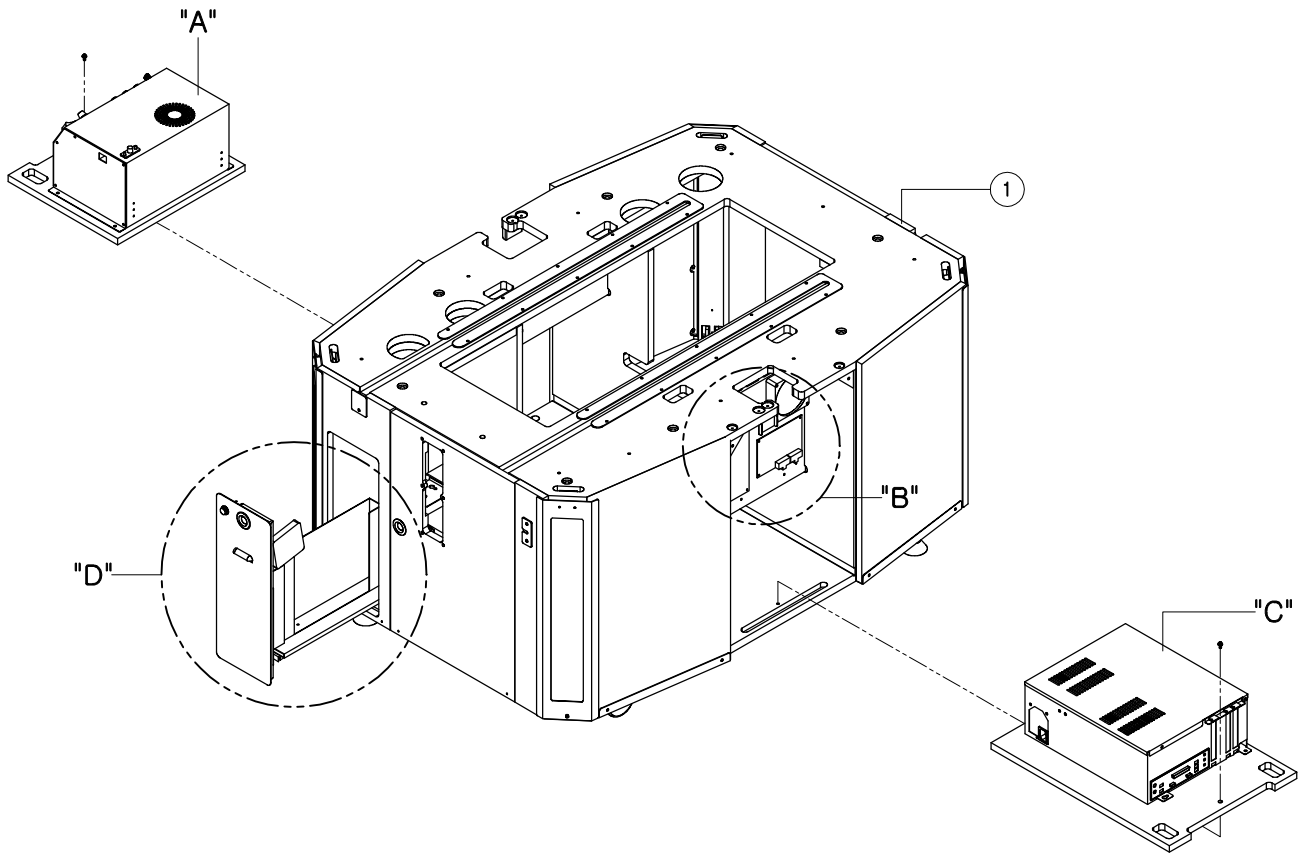
NO.	PART NAME	SPEC.	QUANTITY	CODE NO.
1	MAIN CABINET ASS'Y	-	1	MHM20W00001
2	MAIN SIDE DOOR-A ASS'Y	-	1	AHM20ASS010
3	MAIN SIDE DOOR-B ASS'Y	-	1	AHM20ASS011
4	TV BRACKET	-	2	-
5	AC CORD BRACKET	-	1	MHM20MEP036
6	TV STOPPER COVER	-	2	-
7	SUPPORT BRACKET	-	2	-
8	SIDE DOOR KEY PLATE LOCKER	-	2	MHM20MEP056



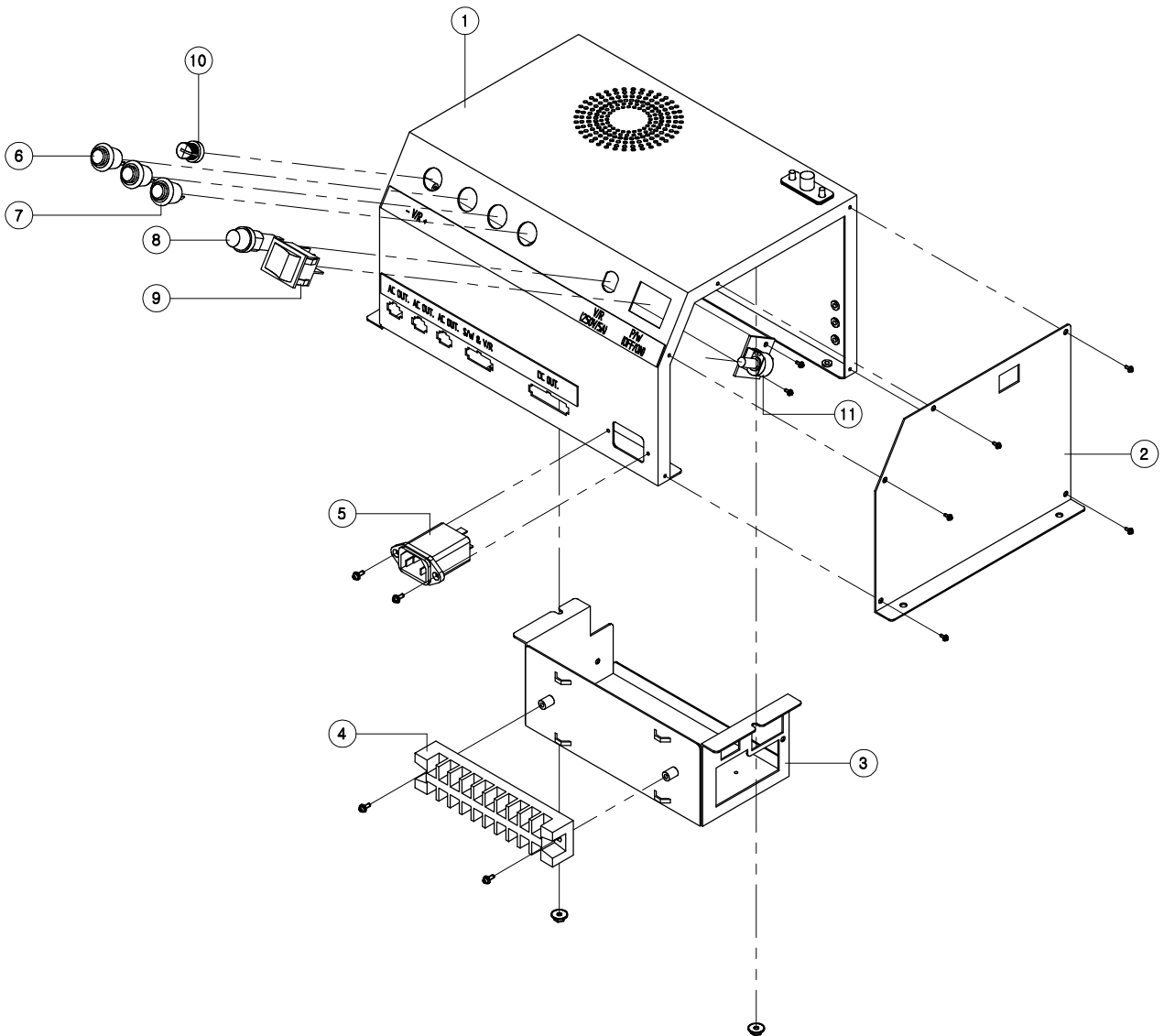
"A"-MAIN CORNER ASS'Y

NO.	PART NAME	SPEC.	QUANTITY	CODE NO.
1	CORNER BRACKET	-	1	-
2	INNER CORNER BRACKET	-	1	-
3	MAIN CORNER ACRYL	-	1	MHM20ACR009
4	EDGE LED PCB ASS'Y	-	1	AHM20PCB018

## 8-2. ASSEMBLING LOWER CABINET

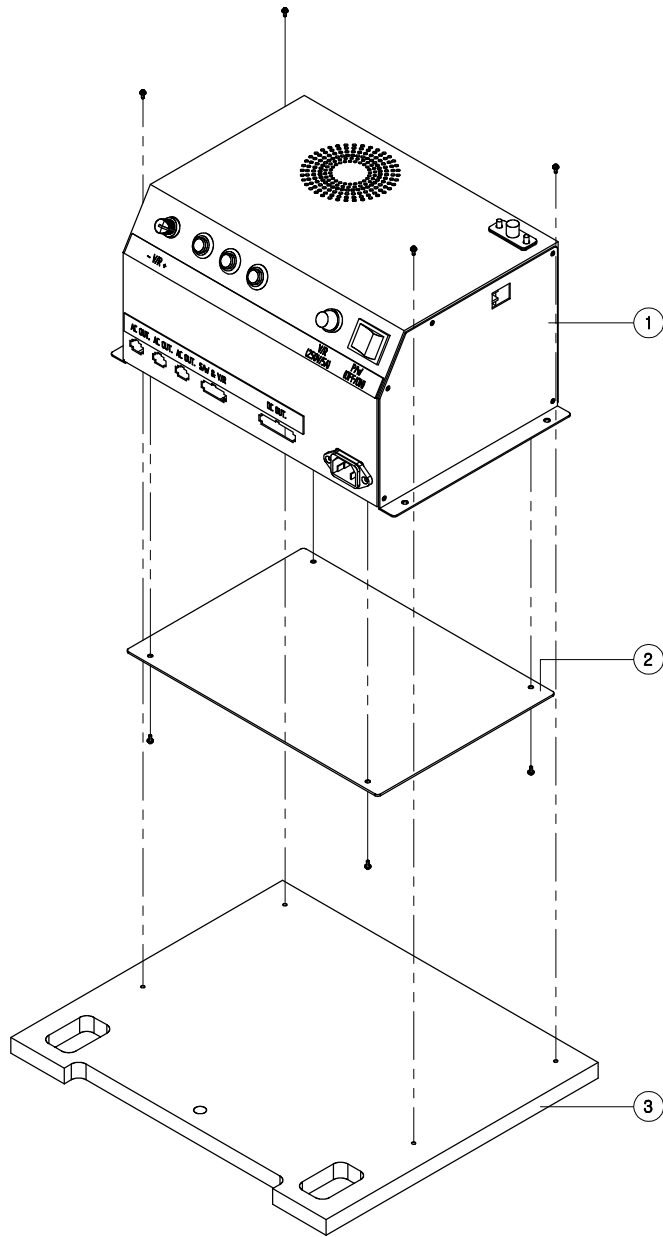


NO.	PART NAME	SPEC.	QUANTITY	CODE NO.
1	MAIN CABINET ASS'Y	-	1	MHM20W00001



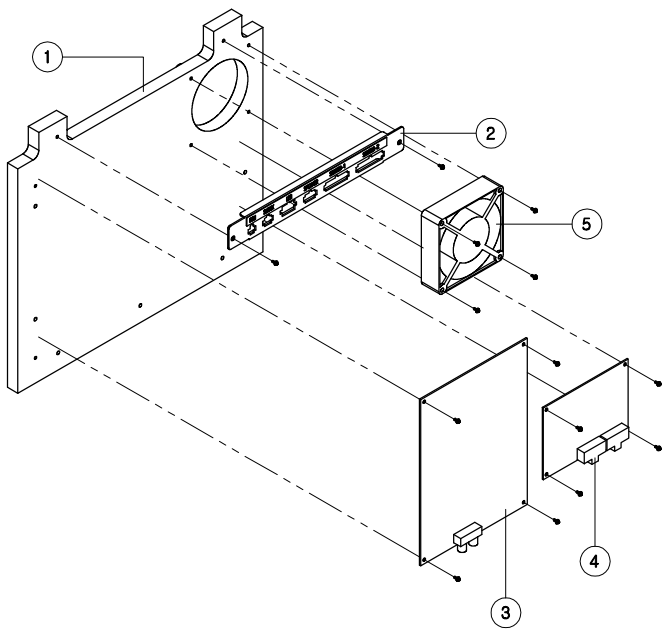
"A"--POWER BOX ASS'Y

NO.	PART NAME	SPEC.	QUANTITY	CODE NO.
1	POWER BOX COVER	-	1	MHM20MEP037
2	POWER BOX COVER-1	-	1	MHM20MEP038
3	POWER BOX COVER-3	-	1	MHM20MEP040
4	TERMINAL BLOCK	-	1	MELE0TEB003
5	NOISE FILTER	-	1	MELE0NOI003
6	PUSH BUTTON SWITCH-W	-	1	MELE0PUS002
7	PUSH BUTTON SWITCH-R	-	2	MELE0PUS001
8	FUSE HOLDER	-	1	MELE0FUS015
9	ROCKER SWITCH	-	1	MELE0SWI004
10	VOLUME KNOB	-	1	MELE0VOL006
11	VOLUME PCB ASS'Y	-	1	AHM20PCB016



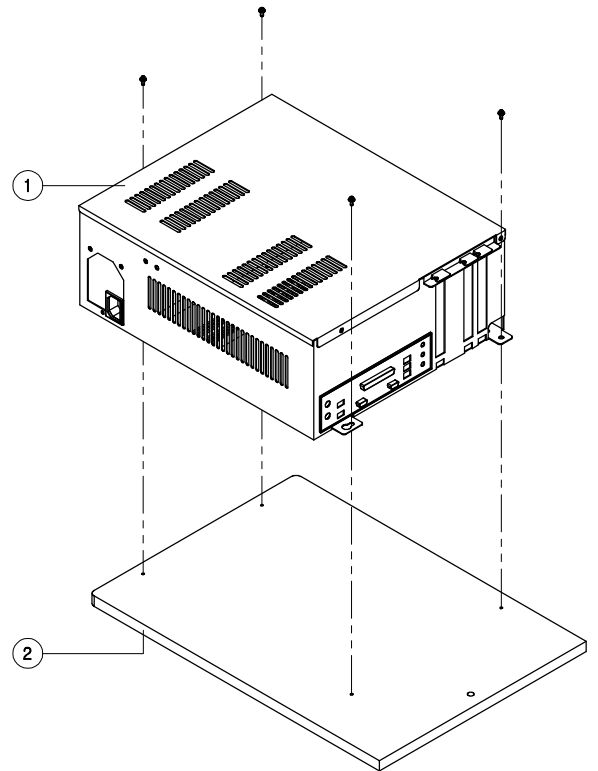
"A"-POWER BOX ASS'Y

NO.	PART NAME	SPEC.	QUANTITY	CODE NO.
1	POWER BOX ASS'Y	-	1	AHM20ASS007
2	POWER BOX COVER	-	1	MHM20MEP037
3	MAIN INNER PLATE D	-	1	MHM20WOO007



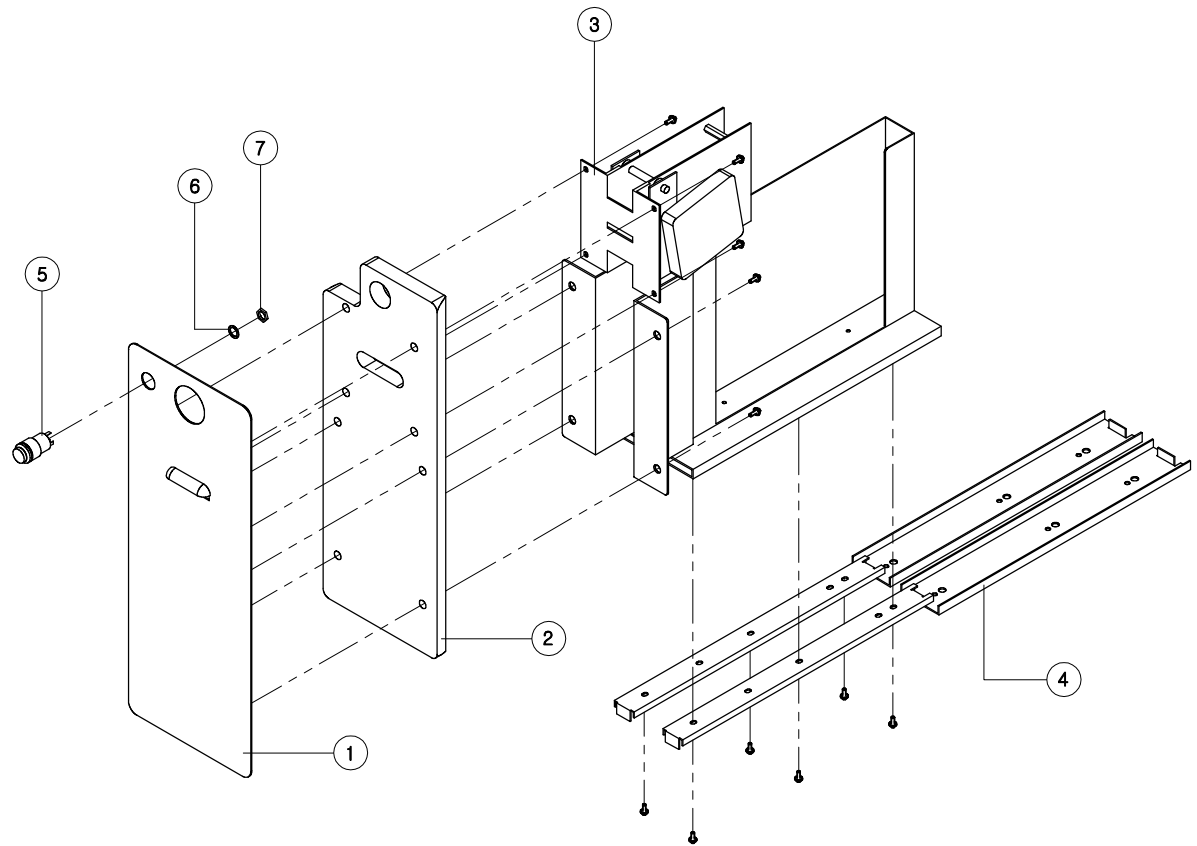
"B"-IO BOARD BRACKET ASS'Y

NO.	PART NAME	SPEC.	QUANTITY	CODE NO.
1	IO BOARD BASE PLATE	-	1	-
2	SYSTEM CONNECTOR BRACKET	-	1	-
3	IO PCB ASS'Y	-	1	AHM20PCB008
4	TOUCH IO PCB ASS'Y	-	1	AHM20PCB007
5	FAN	3610KL04W-B30	1	MZZZ0FAN018



"C"-MAIN BOX ASS'Y

NO.	PART NAME	SPEC.	QUANTITY	CODE NO.
1	MAIN BOX ASS'Y	MK9	1	AHM2000001
2	MAIN INNER PLATE-MK9	-	1	MHM20WOO008

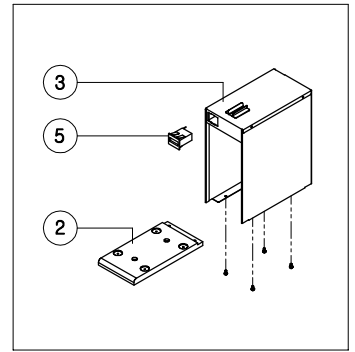


"D"-TICKET DOOR ASS'Y

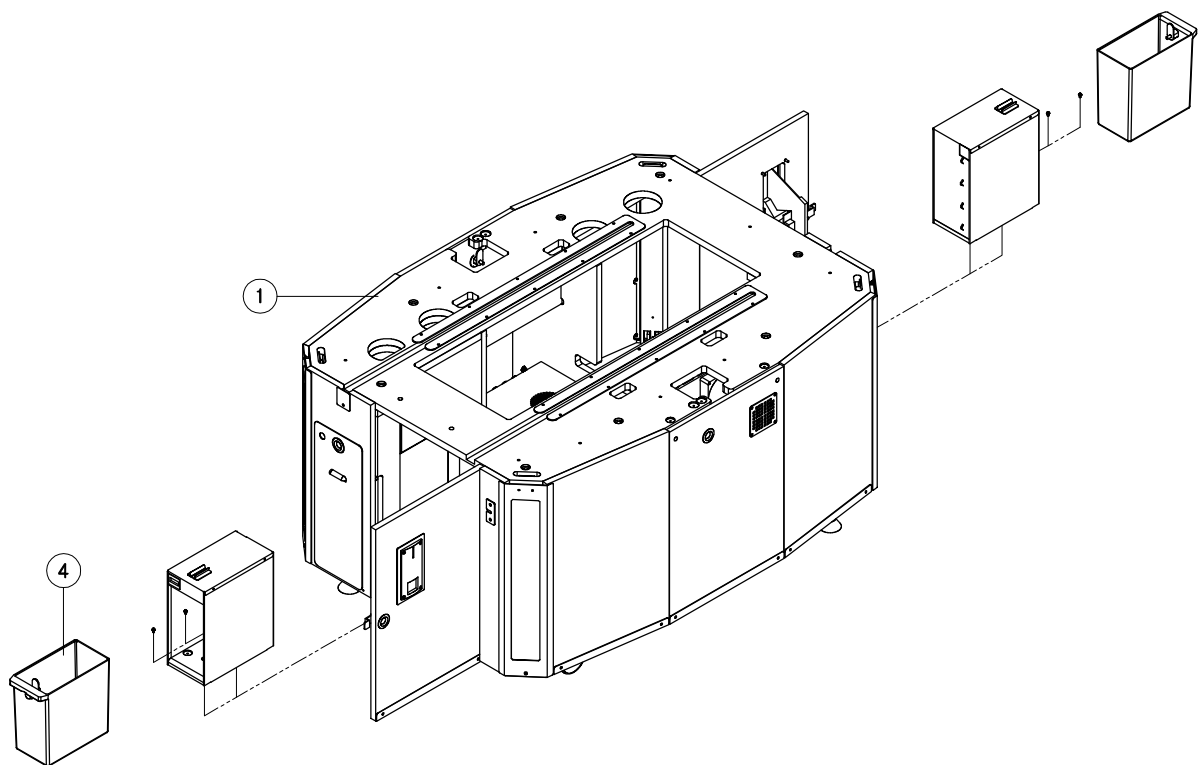
NO.	PART NAME	SPEC.	QUANTITY	CODE NO.
1	TICKET DOOR COVER	-	1	MCIR0MEP014
2	TICKET DOOR	-	1	MCIR0WOO002
3	TICKER DISPENSER	-	1	MZZZ0TID003
4	GUIDE RAIL	300mm	2	MMUN0000004
5	PBL	ø16/DC 12V	1	MELE0LAM041
6	WASHER	-	1	-
7	NUT	-	1	-



### 8-3. ASSEMBLING LOWER CABINET

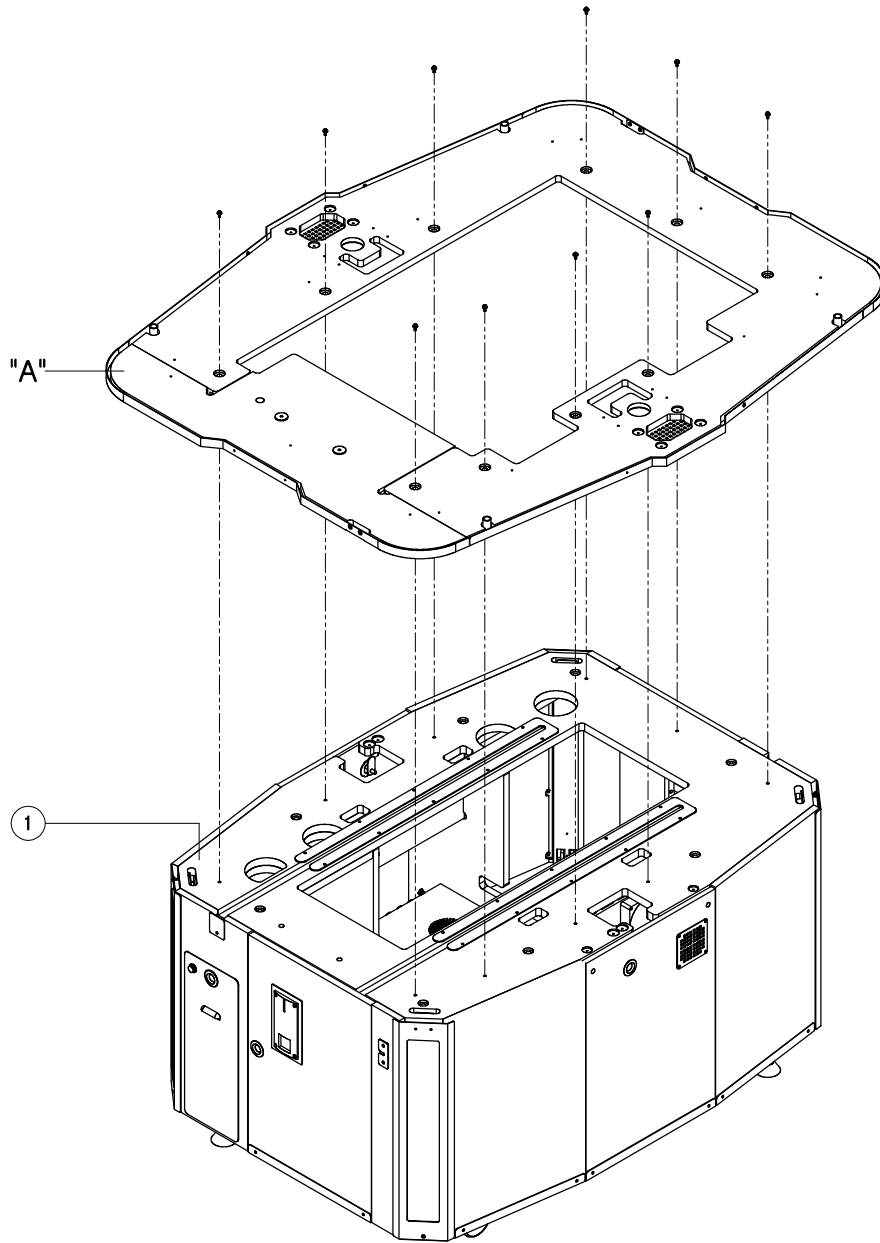


PICTURE A

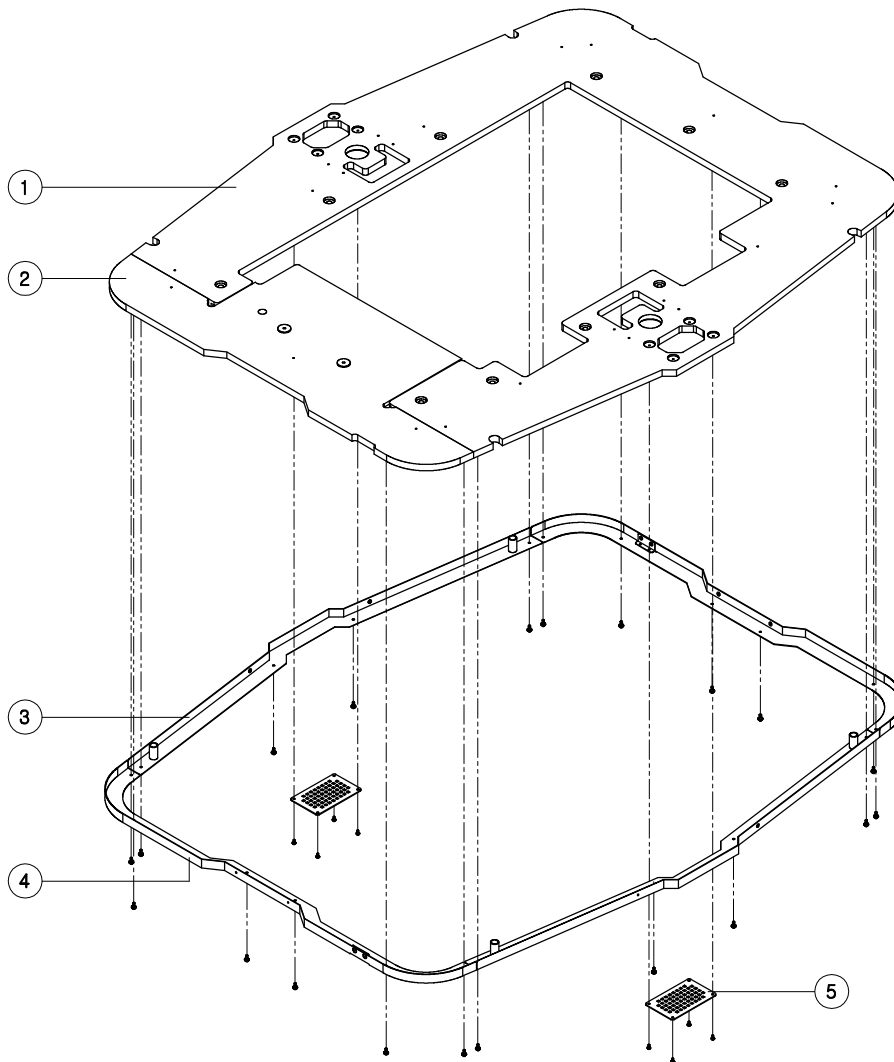


NO.	PART NAME	SPEC.	QUANTITY	CODE NO.
1	MAIN CABINET ASS'Y	-	1	MHM20WOO001
2	COIN BOX BASE PLATE	-	2	MHM20WOO009
3	COIN BOX CASE	-	2	MHM20MEP011
4	COIN BOX	-	2	MDRE0PLA007
5	COUNTER	AMMC-712(7D12V)	2	MZZZ0COU002

### 8-4. ASSEMBLING LOWER CABINET



NO.	PART NAME	SPEC.	QUANTITY	CODE NO.
1	MAIN CABINET ASS'Y	-	1	MHM20W00001
2	MAIN BASE ASS'Y	-	1	-

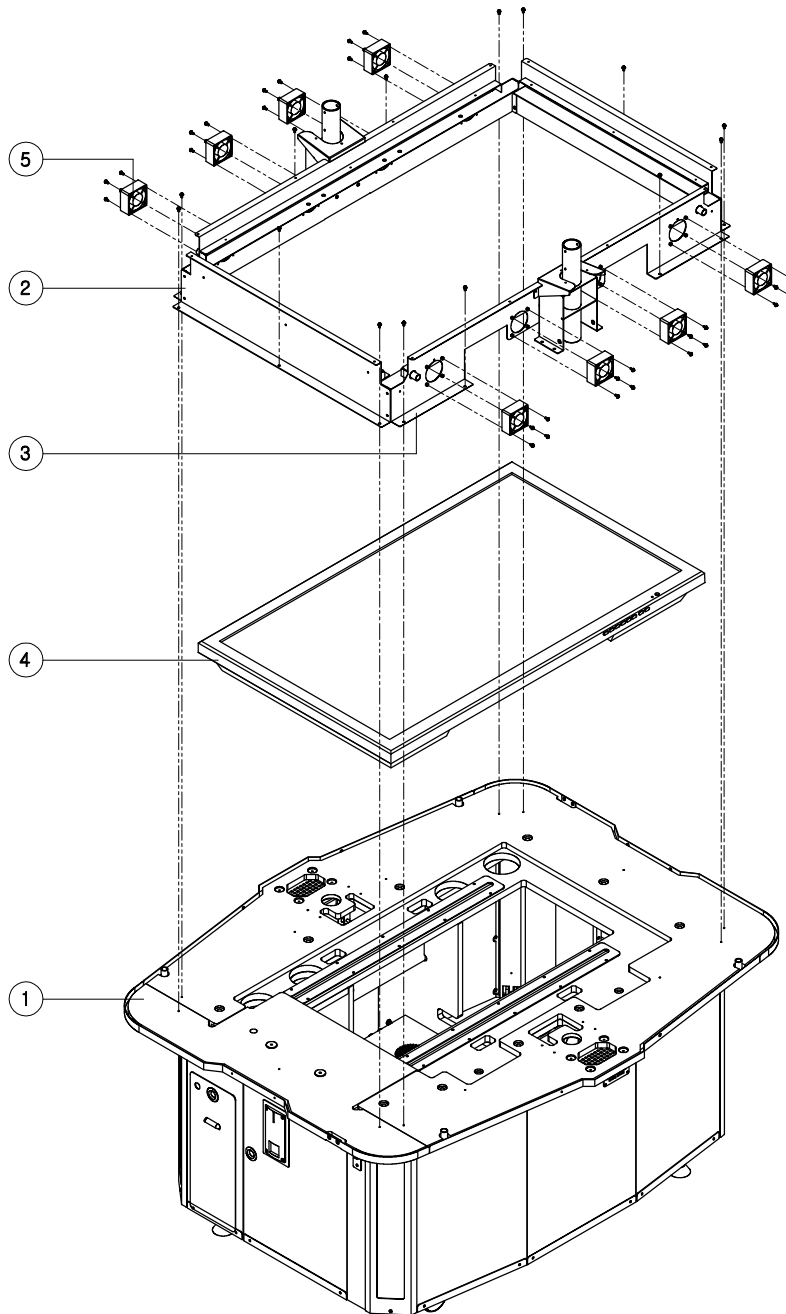


"A"-MAIN BASE PLATE ASS'Y

NO.	PART NAME	SPEC.	QUANTITY	CODE NO.
1	MAIN BASE PLATE-A	-	1	-
2	MAIN BASE PLATE-B	-	1	-
3	COVER BRACKET-A	-	2	-
4	COVER BRACKET-B	-	2	-
5	UPPER FAN COVER	-	2	MHM20MEP029

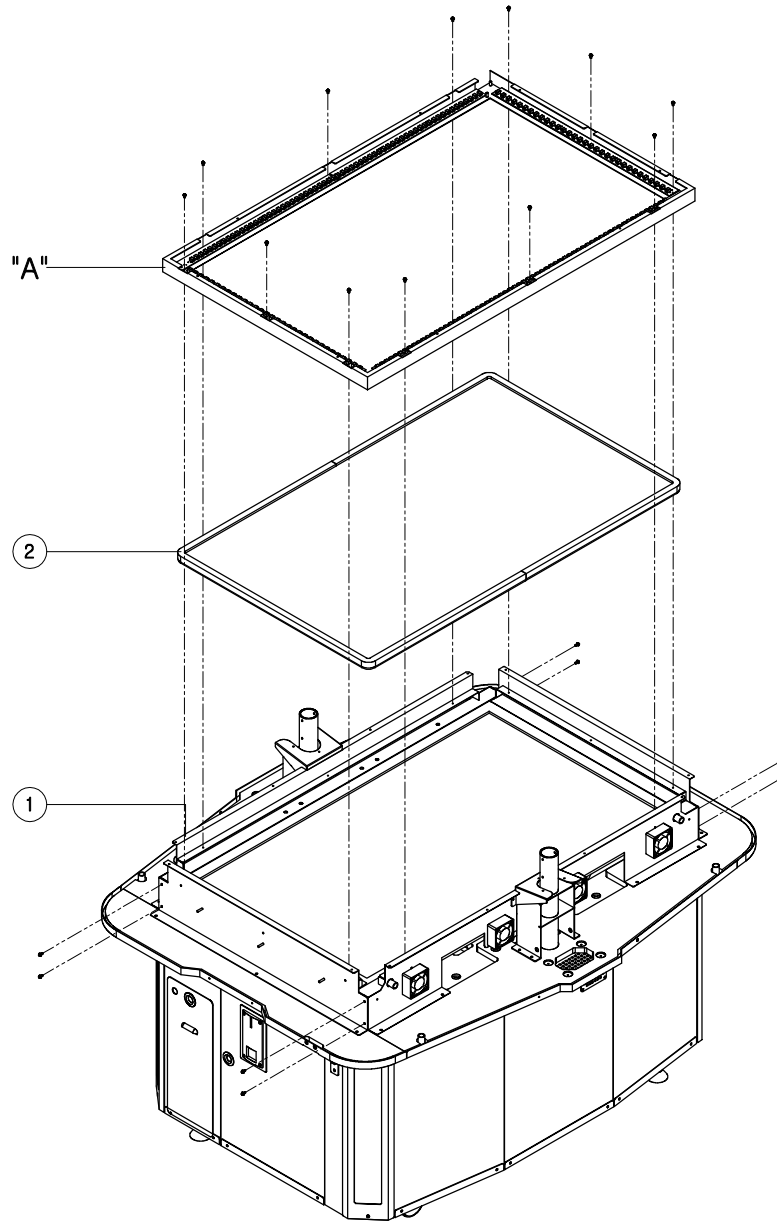
## 9. ASSEMBLING UPPER CABINET

### 9-1. ASSEMBLING UPPER CABINET

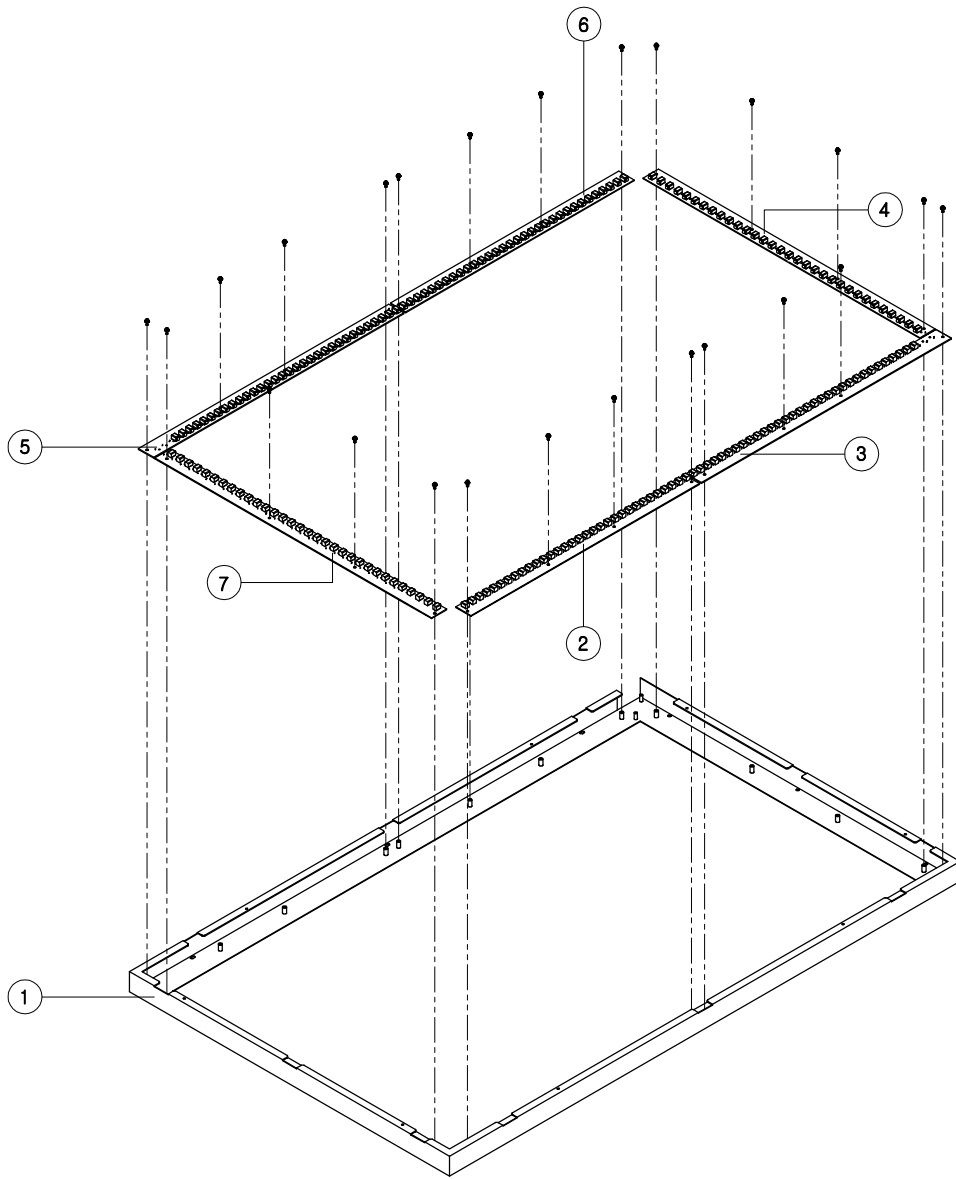


NO.	PART NAME	SPEC.	QUANTITY	CODE NO.
1	MAIN CABINET ASS'Y	-	1	MHM20W00001
2	GUIDE FRAME-A	-	1	-
3	GUIDE FRAME-B	-	1	-
4	PDP TV	42"	1	AHM20PDP001
5	FAN	2410ML-04W-B50(60)	8	MZZZ0FAN017

## 9-2. ASSEMBLING UPPER CABINET



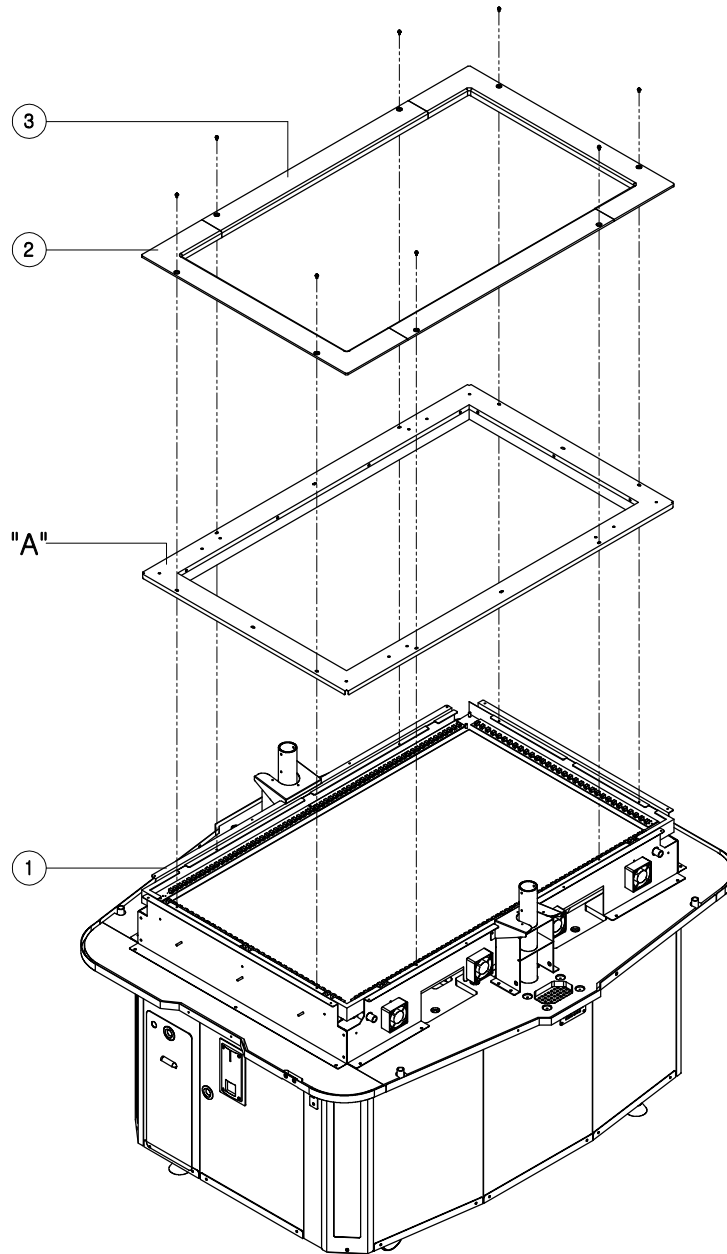
NO.	PART NAME	SPEC.	QUANTITY	CODE NO.
1	MAIN CABINET ASS'Y	-	1	MHM20W00001
2	TOUCH GLASS ASS'Y	-	1	MHM20GLA001



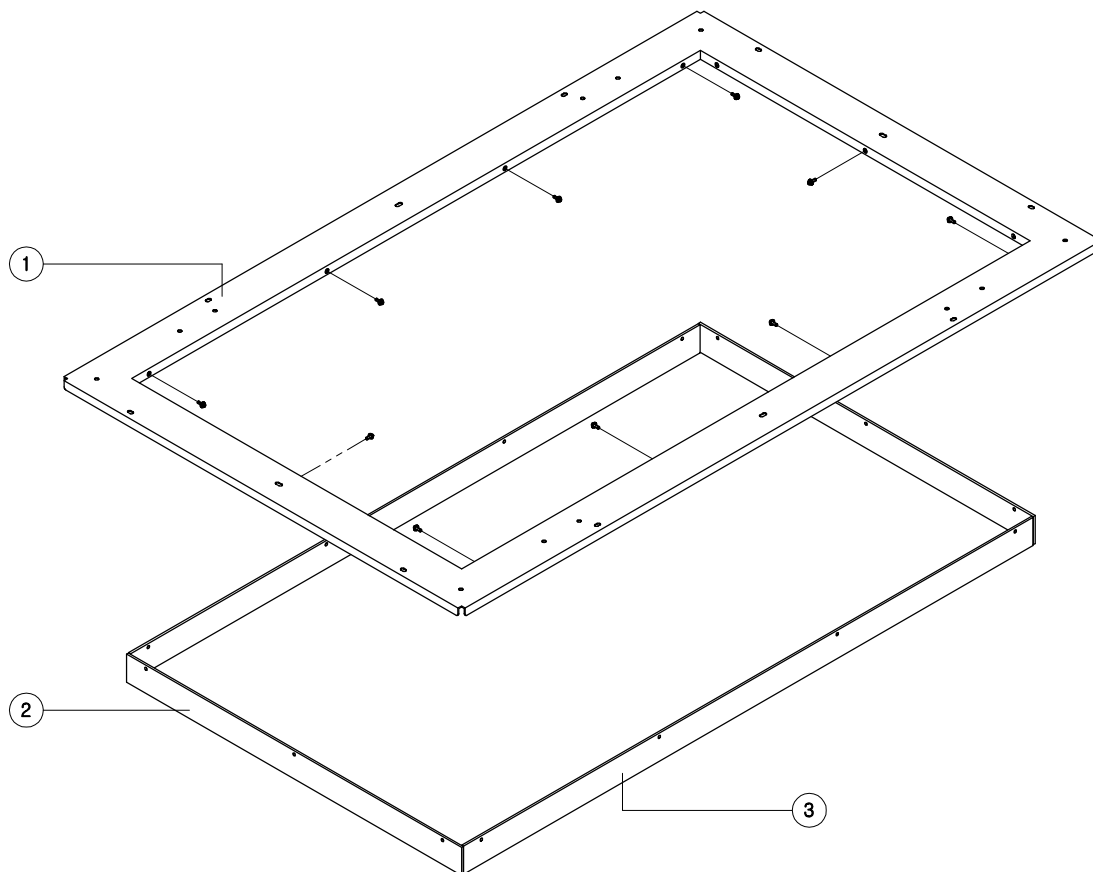
"A"-TOUCH SENSOR ASS'Y

NO.	PART NAME	SPEC.	QUANTITY	CODE NO.
1	PDP SENSOR BRACKET	-	1	-
2	SENSOR-1 PCB ASS'Y	-	1	AHM20PCB001
3	SENSOR-2 PCB ASS'Y	-	1	AHM20PCB002
4	SENSOR-3 PCB ASS'Y	-	1	AHM20PCB003
5	SENSOR-4 PCB ASS'Y	-	1	AHM20PCB004
6	SENSOR-5 PCB ASS'Y	-	1	AHM20PCB005
7	SENSOR-6 PCB ASS'Y	-	1	AHM20PCB006

### 9-3. ASSEMBLING UPPER CABINET



NO.	PART NAME	SPEC.	QUANTITY	CODE NO.
1	MAIN CABINET ASS'Y	-	1	MHM20W00001
2	MAIN TOP COVER A	-	1	MHM20W00002
3	MAIN TOP COVER B	-	1	MHM20W00003

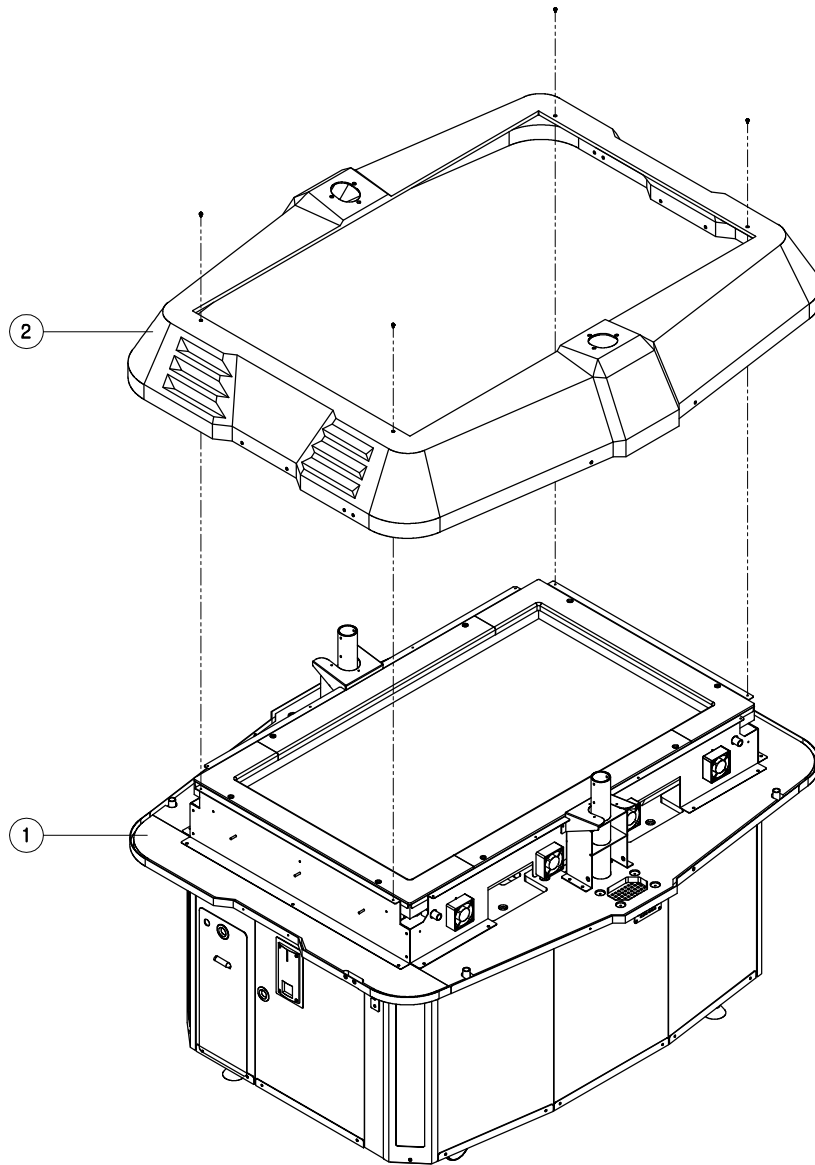


"A"–MAIN TOP COVER ASS'Y

NO.	PART NAME	SPEC.	QUANTITY	CODE NO.
1	MAIN TOP COVER	-	1	MHM20MEP030
2	TOUCH SENSOR COVER ACRYL-S	3.0t	2	MHM20ACR011
3	TOUCH SENSOR COVER ACRYL-L	3.0t	2	MHM20ACR012

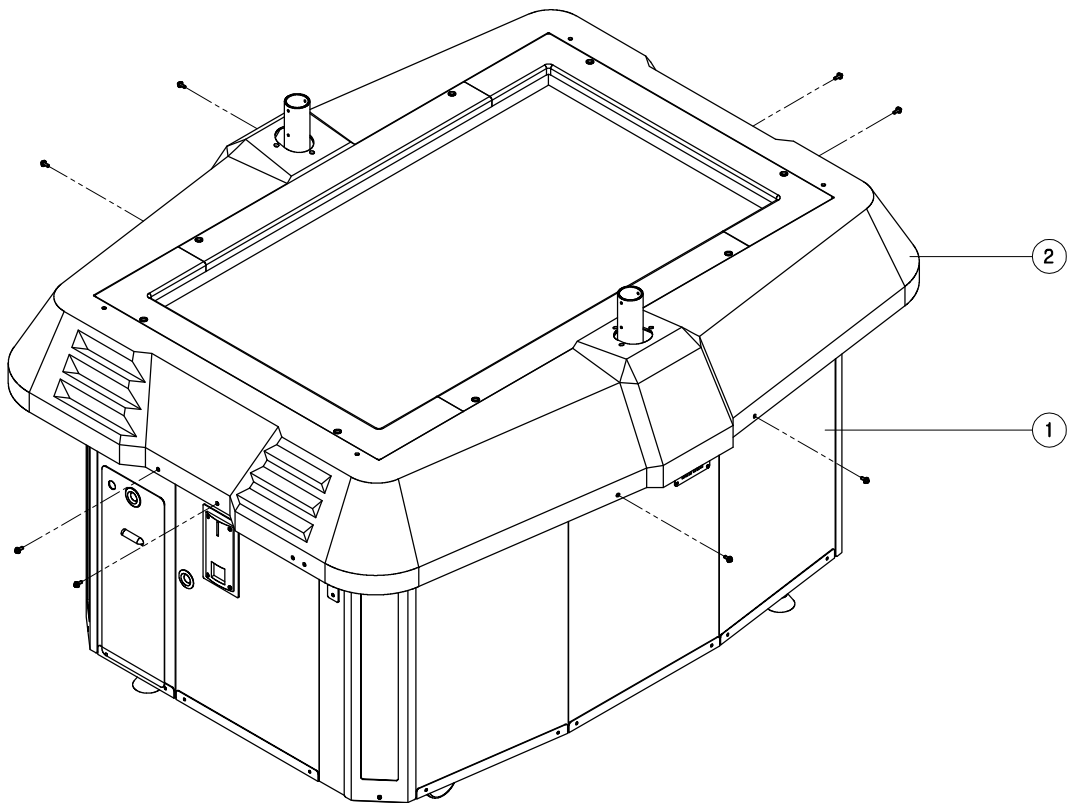


### 9-4. ASSEMBLING UPPER CABINET

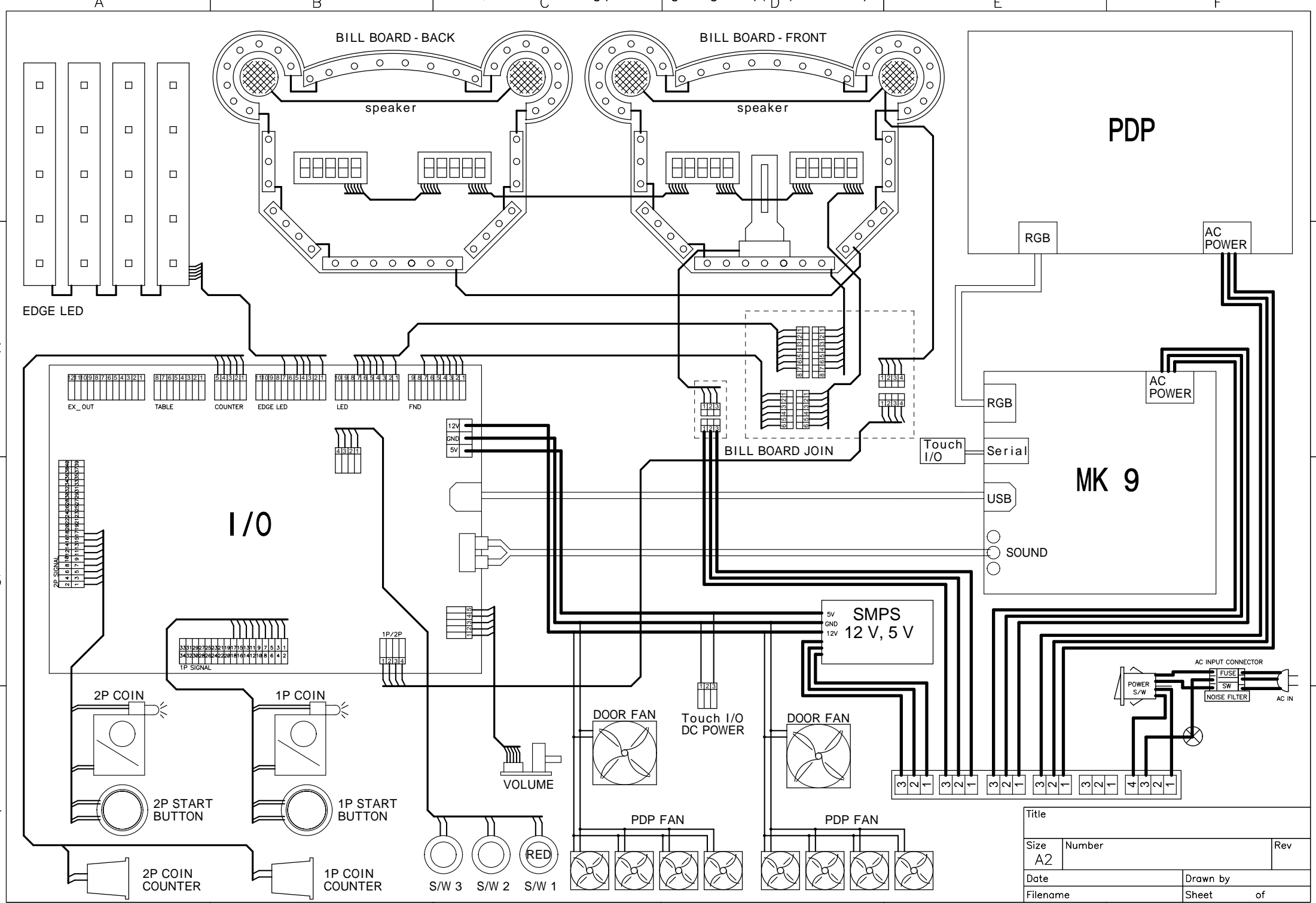


NO.	PART NAME	SPEC.	QUANTITY	CODE NO.
1	MAIN CABINET ASS'Y	-	1	MHM20WOO001
2	MAIN CABINET TOP MOLD	-	1	MHM20PLA007

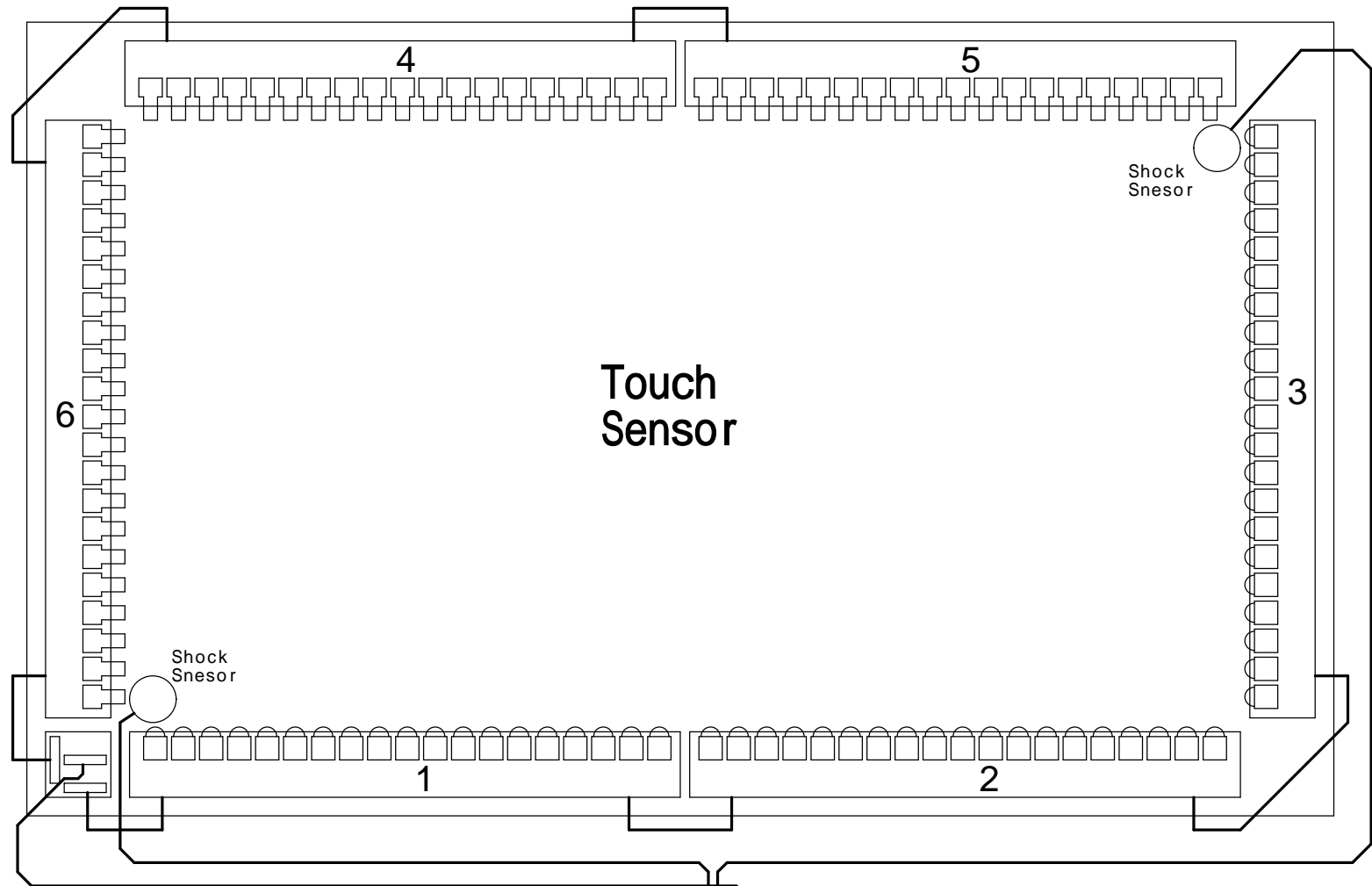
9-5. ASSEMBLING UPPER CABINET



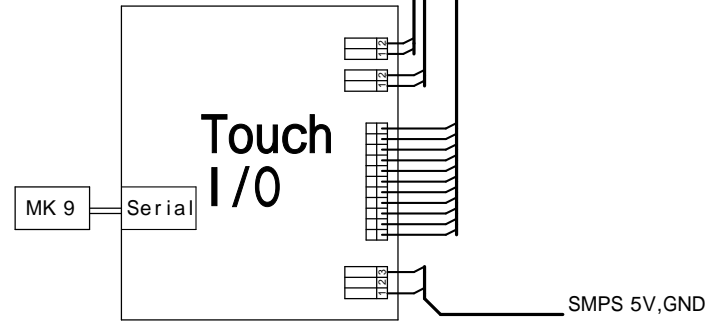
NO.	PART NAME	SPEC.	QUANTITY	CODE NO.
1	MAIN CABINET ASS'Y	-	1	MHM20W00001
2	MAIN CABINET TOP MOLD	-	1	MHM20PLA007



Title		
Size	Number	Rev
A2		
Date	Drawn by	
Filename	Sheet	of



# Touch Sensor



Title		
Size A2	Number	Rev
Date	Drawn by	
Filename	Sheet	of

