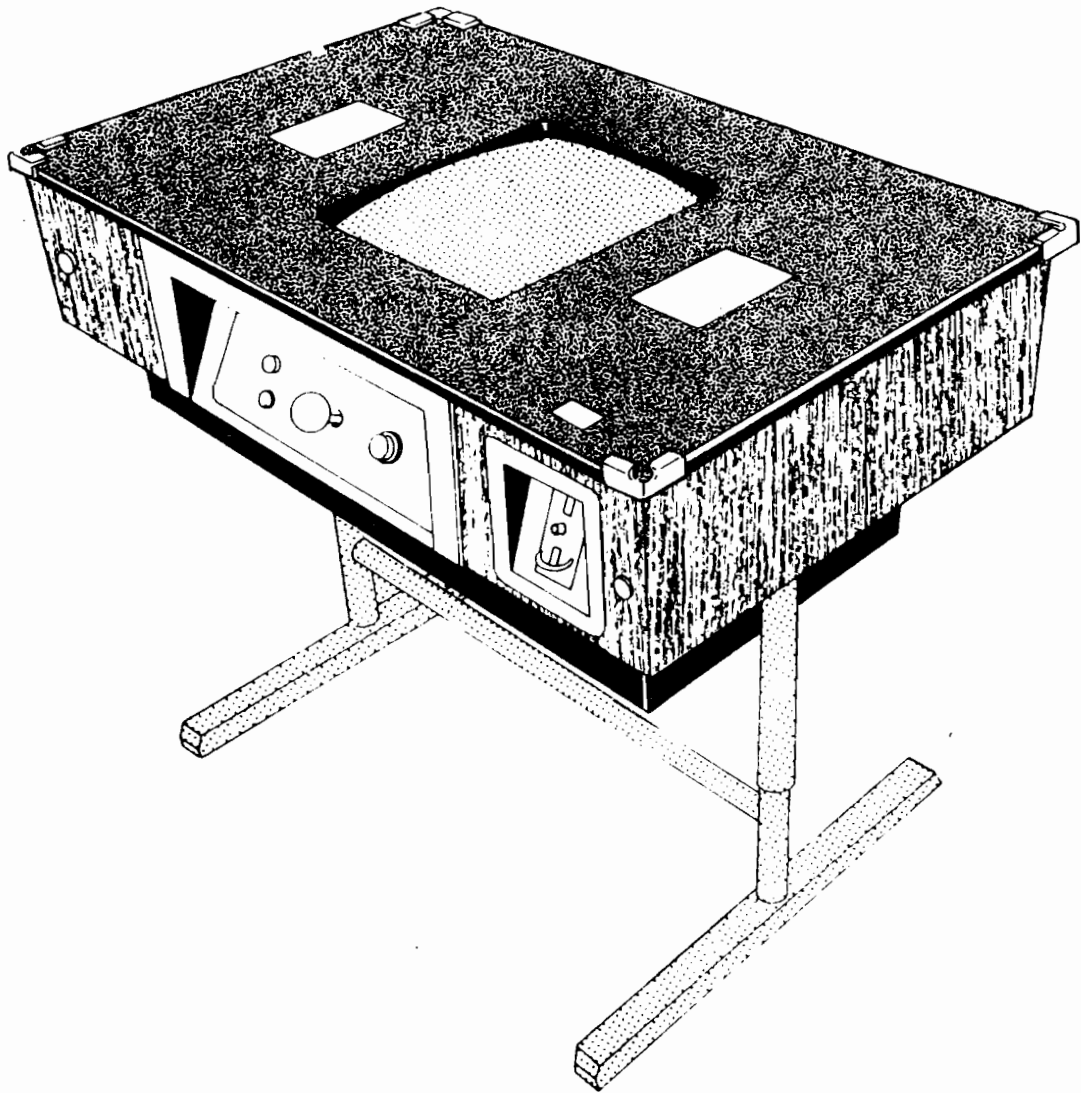


H SPACE INVADERS



**SERVICE INSTRUCTIONS
AND PARTS CATALOG**



TAITO CORPORATION

1. Name of Part
(See Figs. 1 and 2)

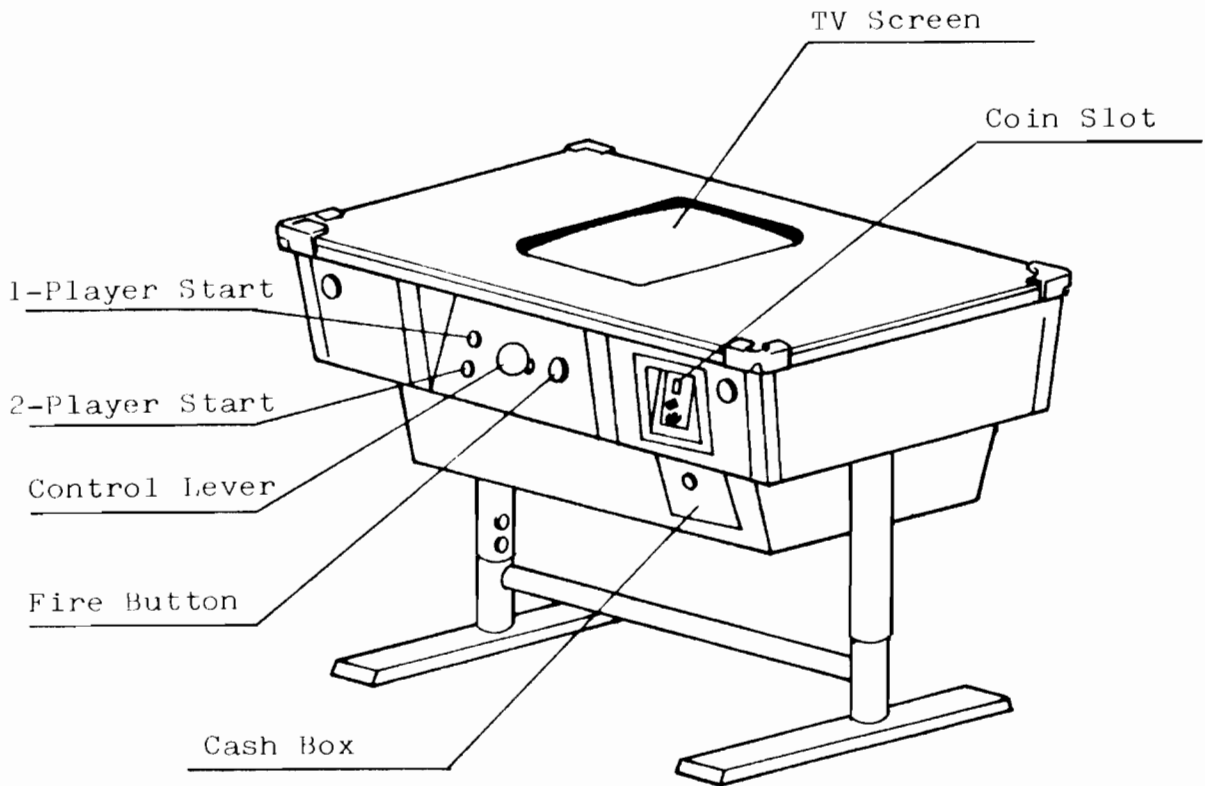


Fig. 1

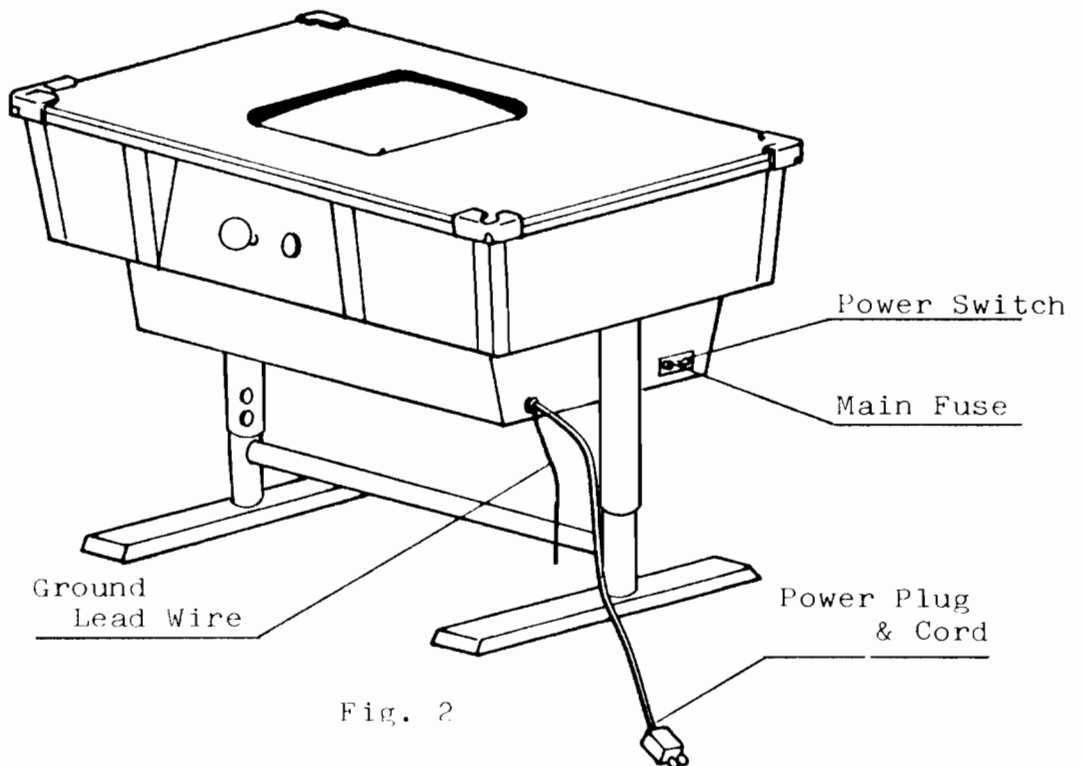
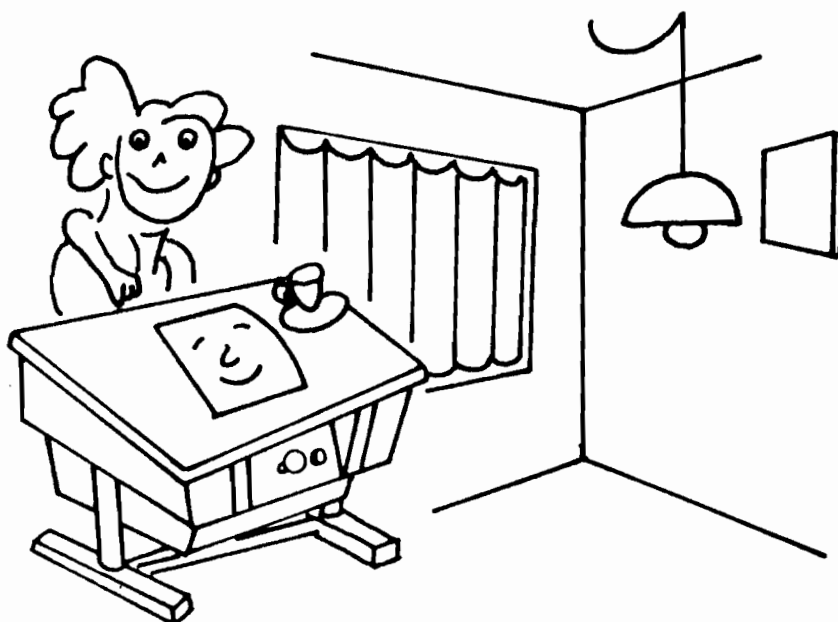


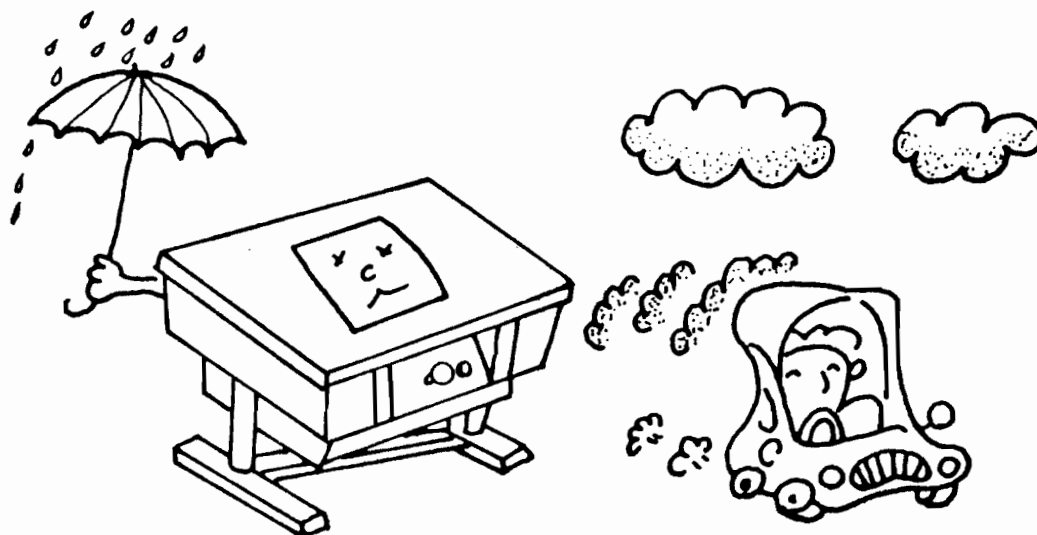
Fig. 2

2. Transportation and Installation

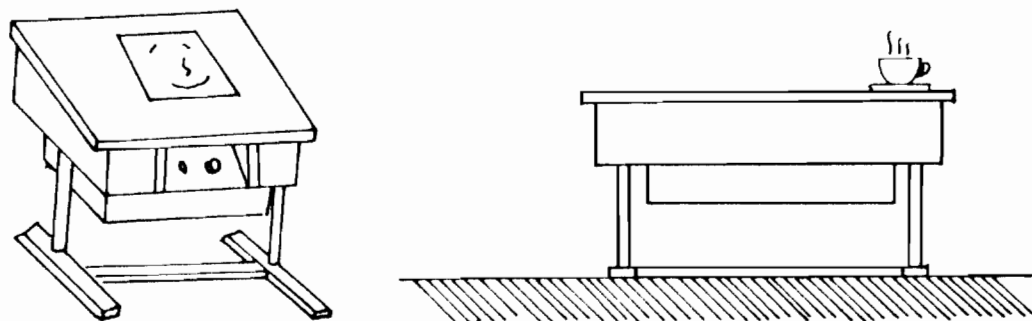
- Avoid rough handling in transportation; the picture tube is fragile.
- Taito "T.T. SPACE INVADERS" is for indoor use.
- Install the machine indoors only.



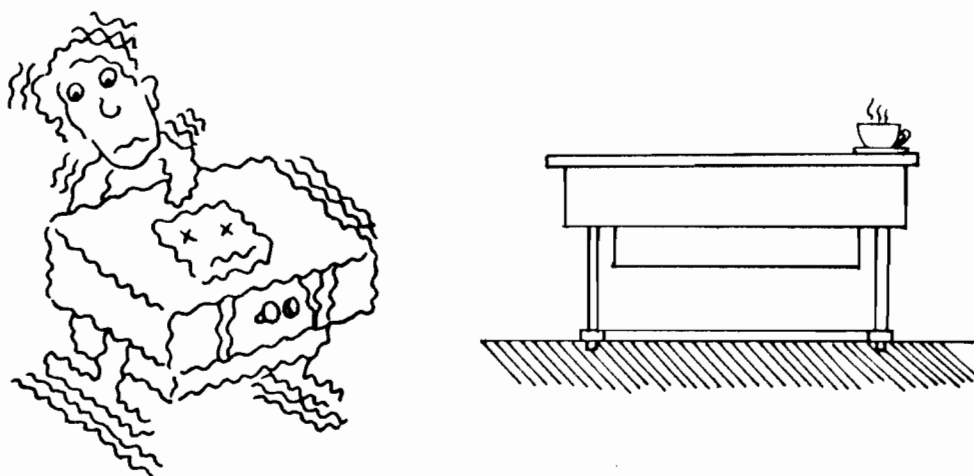
- Do not install the machine outdoors.



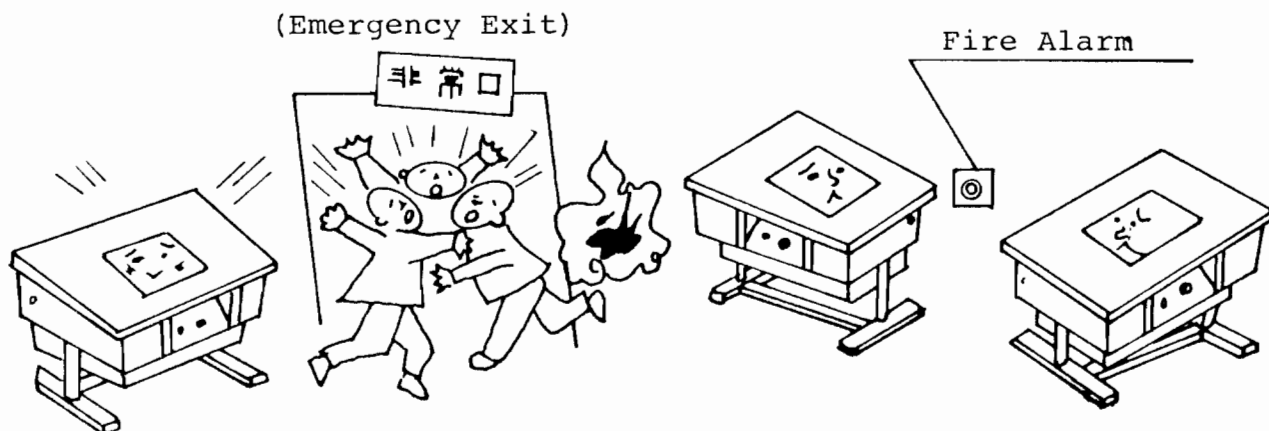
- Install the machine on flat-surfaced floor and provided suitable space around the machine.



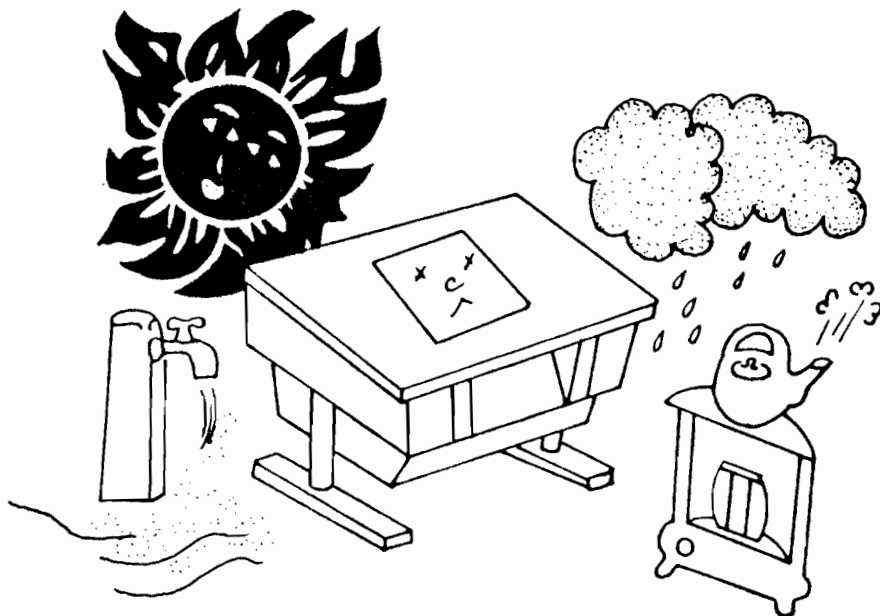
- Do not install the machine in location with vibration.



- Do not install the machine in dangerous places viewed from the angle of disaster prevention.



- Do not install the machine in location with exposure to direct sunlight or excessive heat in order to prevent the unit from rising internal temperature. Also, do not install the machine in location with being damp or dusty.



- Ensure all connections to the PCB's are secure.
- Never fail to connect the ground terminal.
- Insert the power plug into a proper outlet and turn the power switch on.

3. Handling Note and Warning

Note:

- ° Erroneous or partial picture may appear on the screen when the machine is first switched on. This is typical of the characteristics of the CPU, and will correct itself automatically when the power switch is turned off and on.

Warning:





- ° Taito "T.T. SPACE INVADERS" uses a CPU and the latest solid-state circuitry for long life, however, as with sophisticated electronic equipment certain precautions must be observed to avoid damage.
 - (1) Do not attempt to service with ordinary testing equipment, since the internal voltage of the testing equipment may cause damage to the circuitry.
 - (2) Never connect or disconnect any of the solid-state modules while the power is on.

4. Routine Maintenance

- ° Owing to the solid-state electronic circuitry, this machine should require very little maintenance and only occasional adjustments, however, it is necessary to take measures to insure its daily safety.

5. Playing Instructions

- One or two players.
- Insert coin(s).
 - 1 coin - 1 play (3 Laser Bases...Adjustable)
 - 2 coins - 2 plays (or 2 player game)
- Select one or two player game.
- As the "attacking sound" is heard, invaders appear on the screen. Also, a laser base and four fortresses appear on the lower side of the screen.
- To move the laser base left or right, push the control buttons.
- To fire laser, push the fire button.
- In two player mode, the play alternates between the two.
- Scoring:

	???
	30 pts.
	20 pts.
	10 pts.

Functional Description of Game:

- Invaders advance step by step against the laser base as they move left and right.
- Fortresses are gradually destroyed by the attack of invaders. They are also destroyed by laser.
- As the number of invaders decreases, they move fast.
- UFO hit gives the player mystery score (50, 100, 150, or 300 points).
- When score reaches 1,500 points(adjustable), a bonus laser base appears with "beep" sounds.
- Game ends when all laser bases are hit by invader missiles or when invaders overrun the base.
- Up to 99 coins can be credited.

6. Adjustments on Power Supply P.C. Board

(See Fig. 3)

Caution: The line voltages should be set within the limits.
Failure to do so may result in destruction of the IC's.

- To check the output voltages, measure them on the G-connector or the T-connector.

(See the cable block diagram, AAR00166 in this manual.)

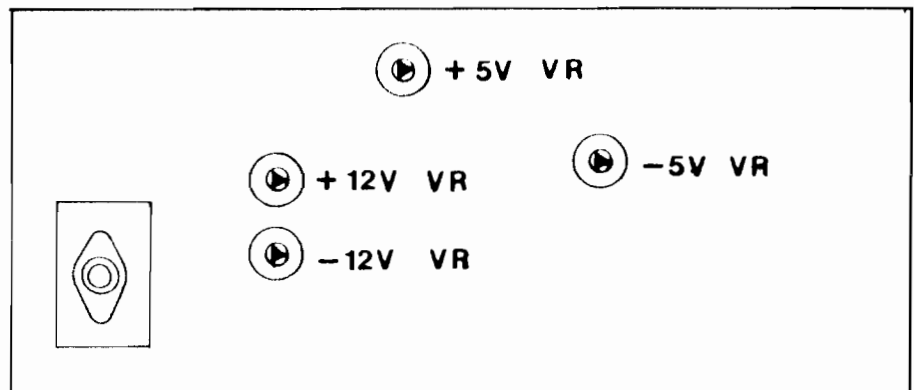


Fig. 3

- +12V VR ... Pot for adjusting 12V line voltage
(Adjustable range: 12V - 15V DC)
- -12V VR ... Pot for adjusting -12V line voltage
(Adjustable range: -12V - -15V DC)
- + 5V VR ... Pot for adjustable 5V line voltage
(Adjustable range: 5V - 6V)
- - 5V VR ... Pot for adjustable -5V line voltage
(Adjustable range: -5V - -6V DC)

7. Adjustments on Game & Sound P.C. Board
(See Fig. 4 and Tables 1 and 2)

To decrease the sound, turn each pots (VR1 - VR8) as shown below.

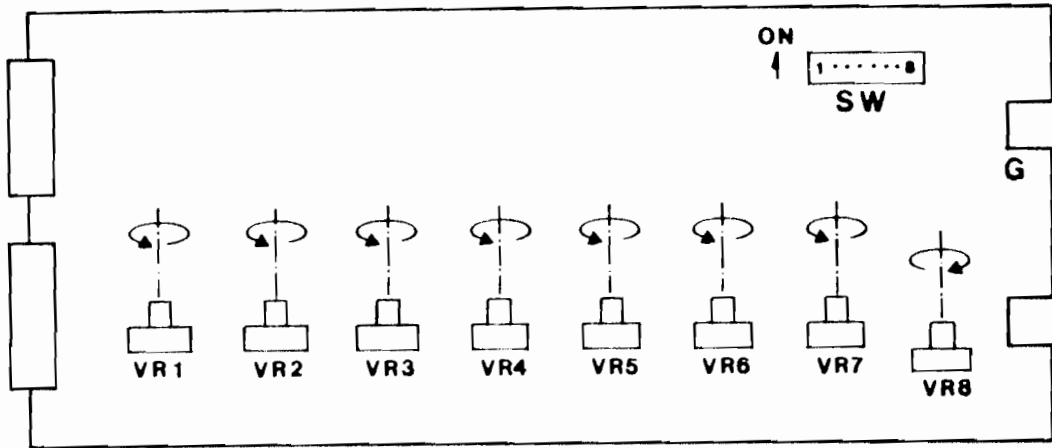


Fig. 4

- VR1... Pot for adjusting volume of UFO.
- VR2... Pot for adjusting volume of laser base when firing.
- VR3... Pot for adjusting volume of laser base when destroyed.
- VR4... Pot for adjusting volume of invaders when destroyed.
- VR5... Pot for adjusting volume of "beep" when bonus is awarded.
- VR6... Pot for adjusting volume of invaders when advancing.
- VR7... Pot for adjusting volume of UFO when destroyed.
- VR8... Pot for adjusting total sound volume.

- o SW1, SW2...Switches for adjusting the number of laser bases.

(Optional Settings)

Laser Bases	SW 1	SW 2
3	ON	ON
4	OFF	ON
5	ON	OFF
6	OFF	OFF

Table 1

The number of Laser Bases is preset at "3" at the factory.

- o SW4...Switch for adjusting bonus points.

(Optional Settings)

SCORE	SW 4	Laser Base
1500	ON	1
1000	OFF	1

Table 2

The Bonus points are preset at "1500" at the factory.

- o SW8...Switch for adjusting play pricing displayed on the screen. When this switch is set in "ON" position, the play pricing is displayed on the screen as follows:

1 COIN - 1 PLAYER, 2 COINS - 2 PLAYERS

("OFF" position: Nothing is displayed.)

- o SW5, SW6, and SW7.

These switches are for the factory adjustments, and should be set in "ON" position.

- o SW3...Switch for checking of RAM and game sound

(See Fig. 4)

"ON" Position: Checking of RAM and game sound can be made.

(Normally, this switch is to be set at "OFF" position.)

Note: This checking can be made only when the CPU PC Board(A) No.CVN00006 is used in the lowest side of the board fixer in the machine.

8. Adjustments on TV Monitor

(See Fig. 5)

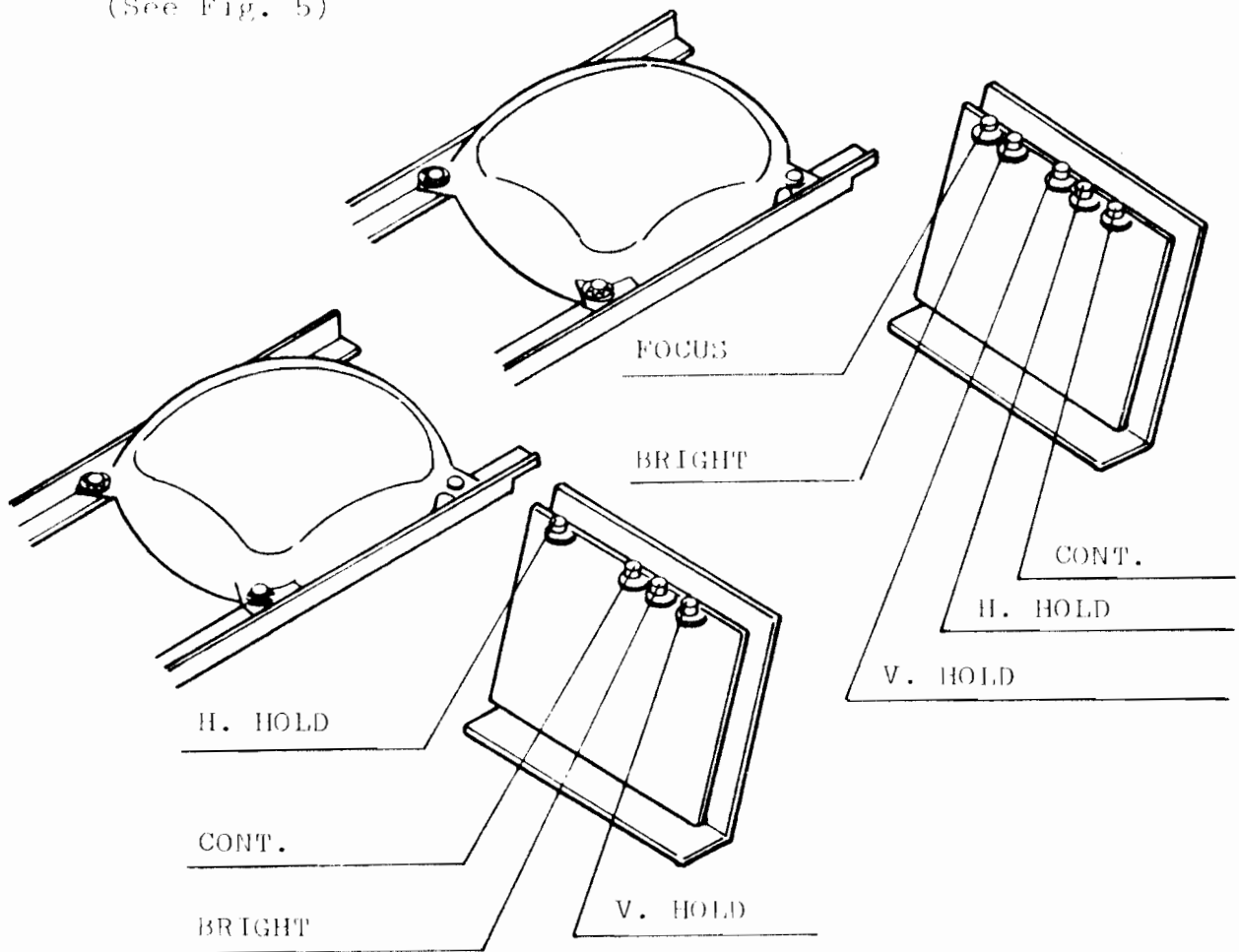


Fig. 5

The TV monitor is properly adjusted before shipping, however, if necessary, readjust as follows:

- o Horizontal Hold
Adjust the H. HOLD control if the picture is warped or broken into diagonal lines.
- o Vertical Hold
Adjust the V. HOLD control if the picture rolls vertically across the screen.
- o Screen Contrast and Brightness
Adjust the CONT. and the BRIGHT controls to keep the screen clear.
- o FOCUS ... Screen FOCUS Control

Note: The TV monitor of Taito "T.T. SPACE INVADERS" is for exclusive use, therefore, it can not be replaced with other models.

9. Adjustments of Supply Voltage (See Fig. 6)

If the voltage of the power supply is low, the picture on the screen sometimes flickers. In that case, change the terminal of the power transformer in the cabinet. This adjustment is obtained by the use of the change-over switch.

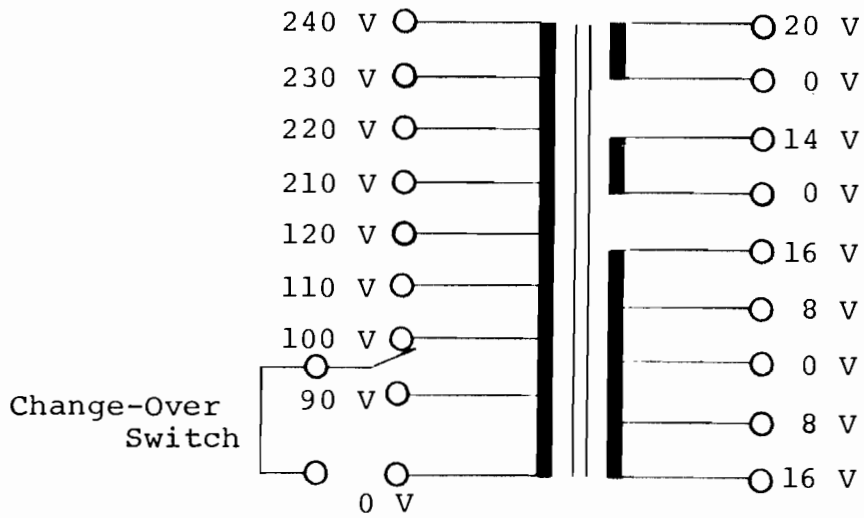


Fig. 6

10. Typical Picture During Play

(See Fig. 7)

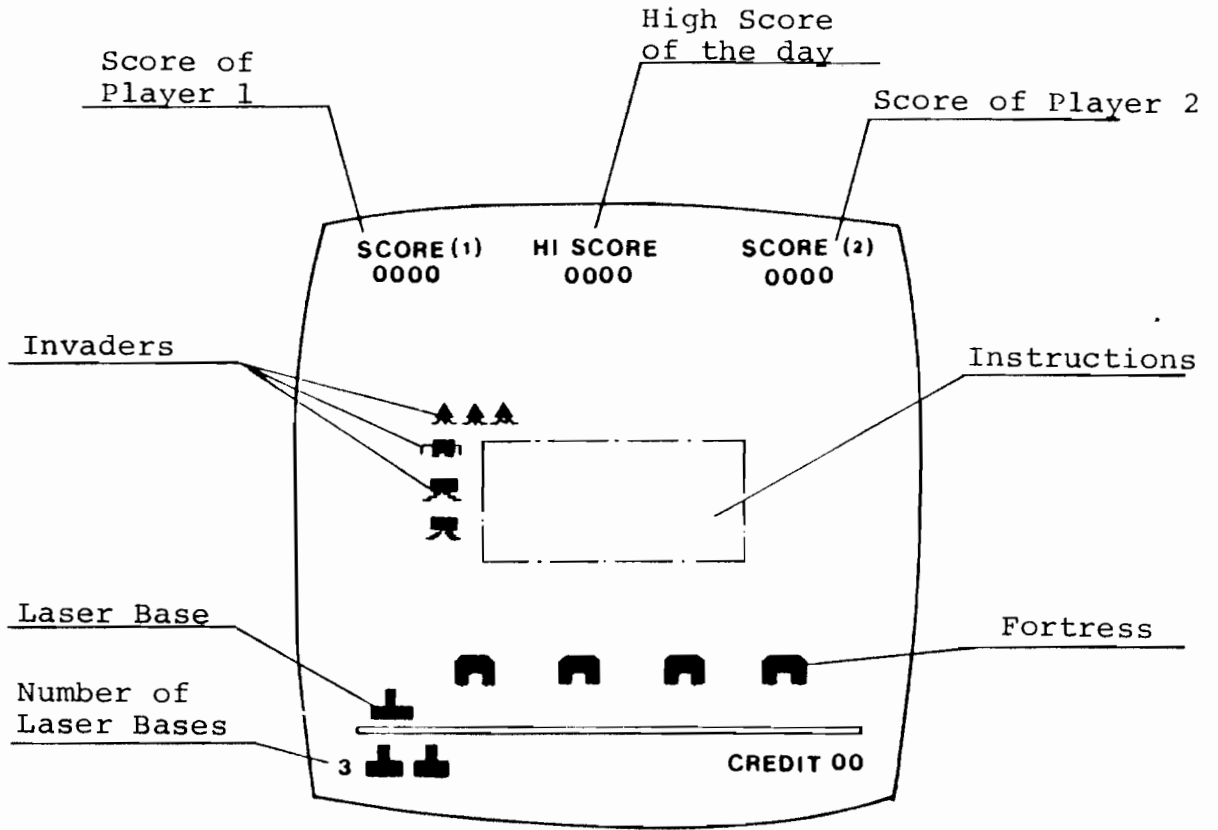
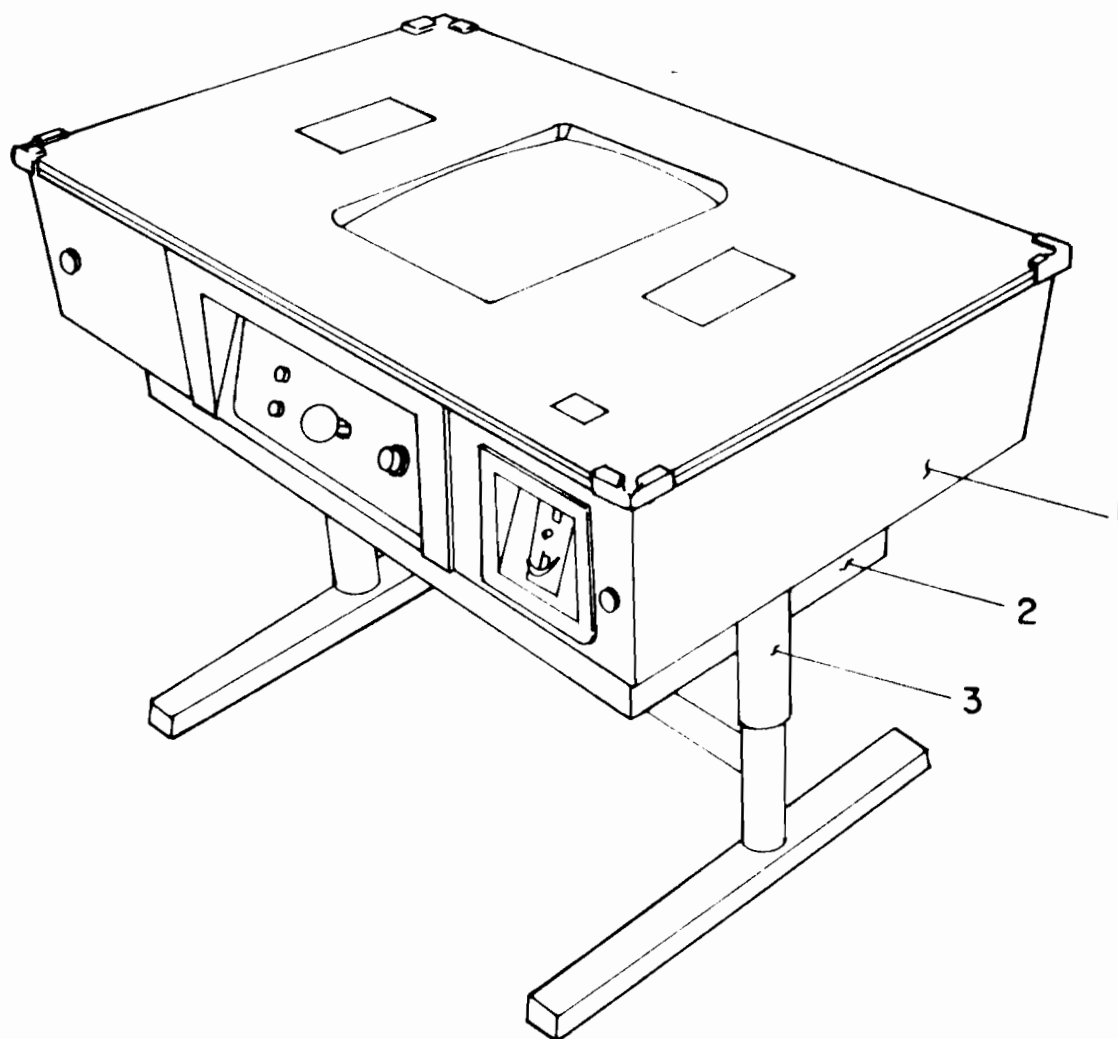


Fig. 7

CABINET ACCESSORY ASS'Y

See page 20



CABINET ASS'Y

See pages 20,21

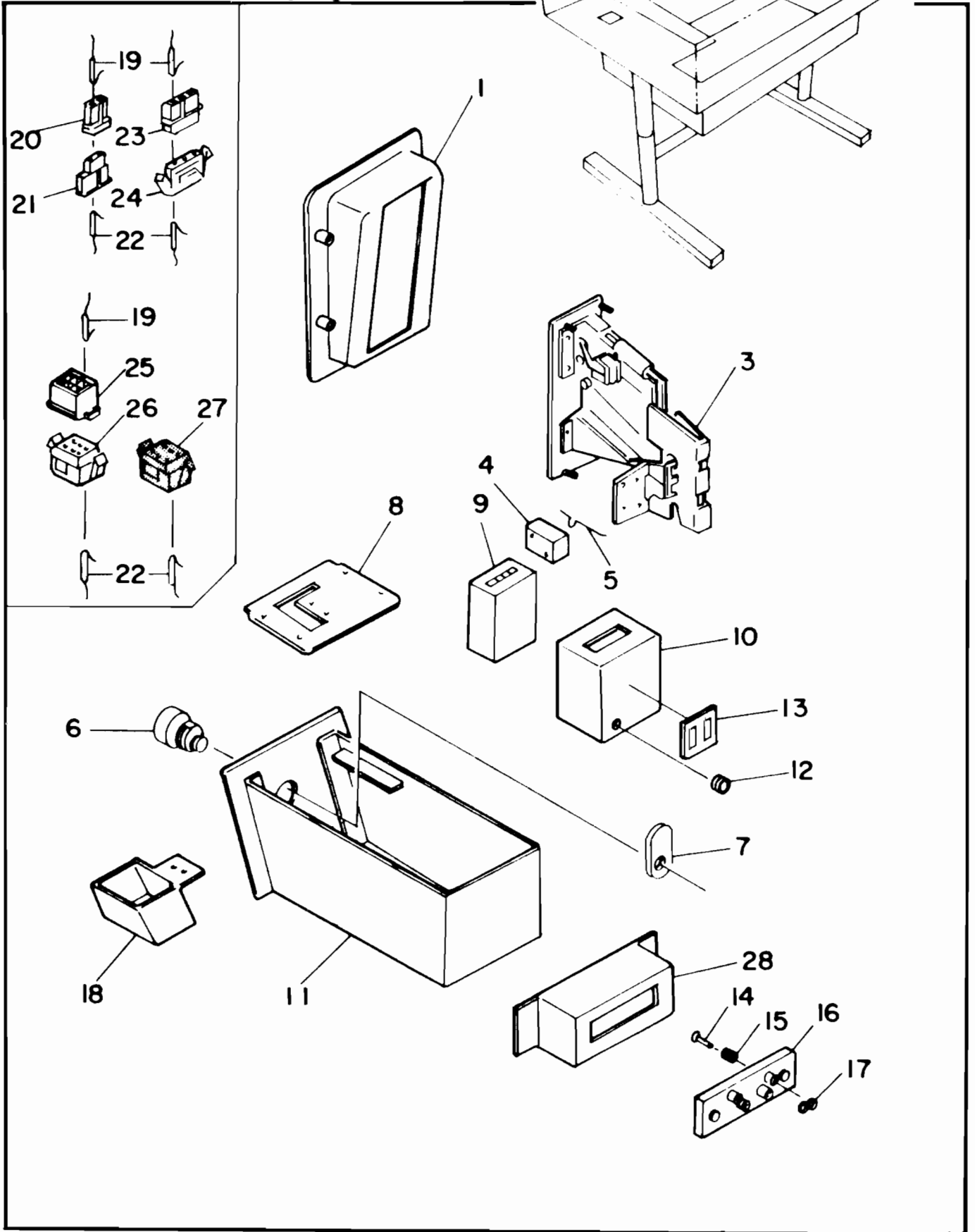
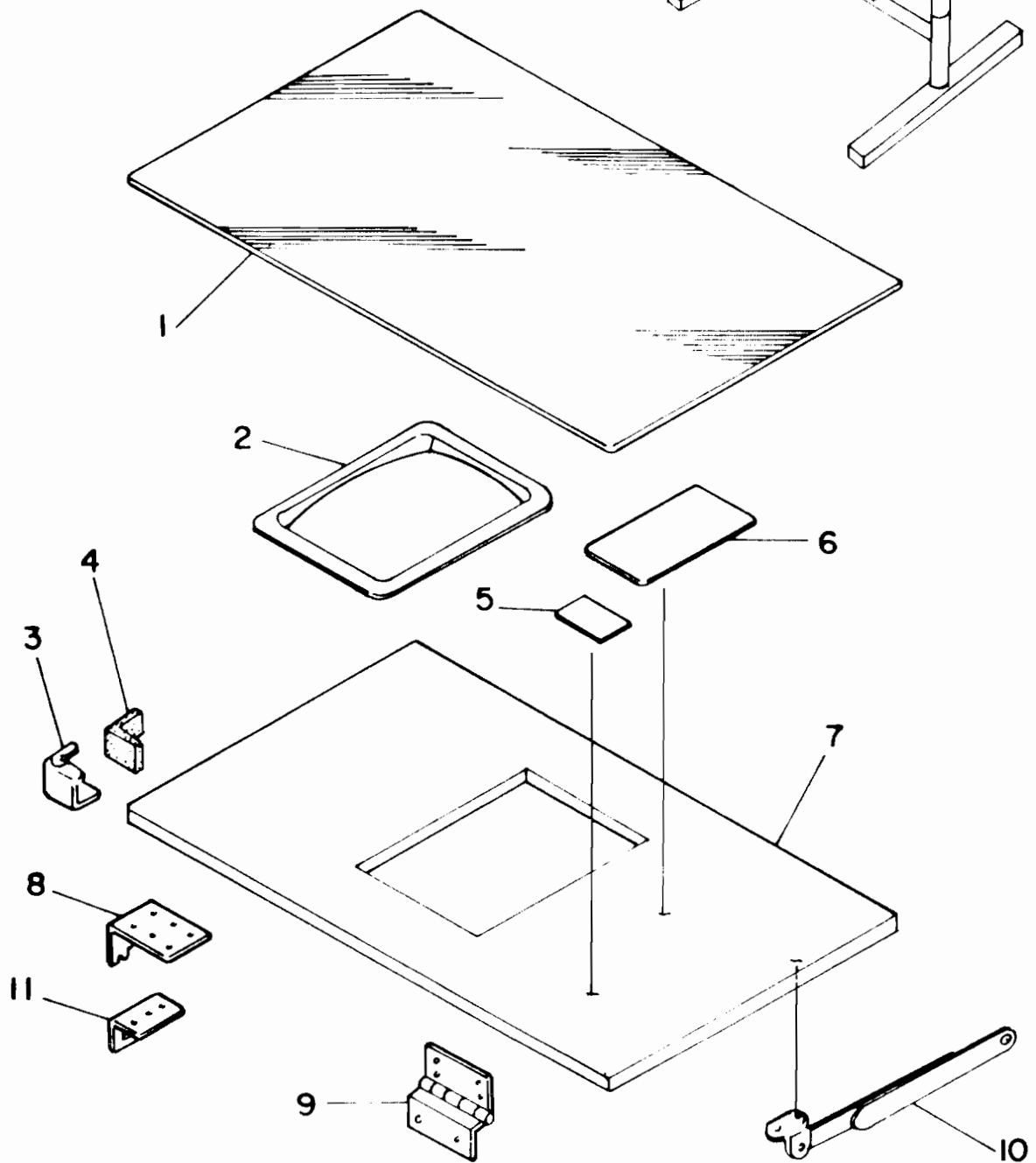
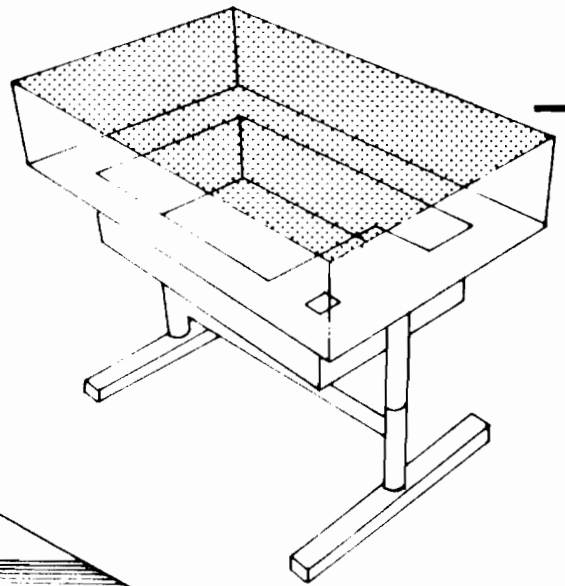


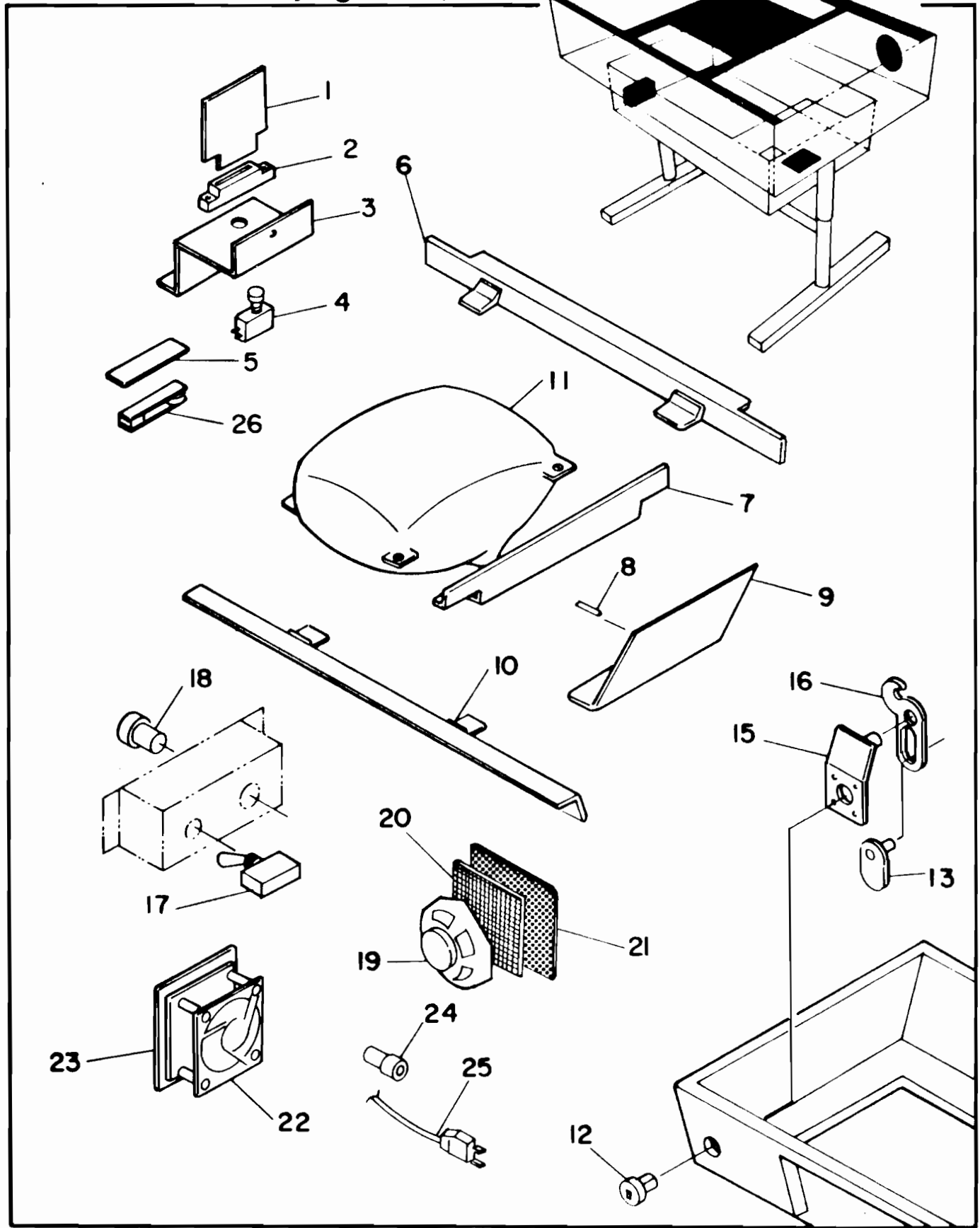
TABLE TOP BOARD ASS'Y

See pages 21, 22



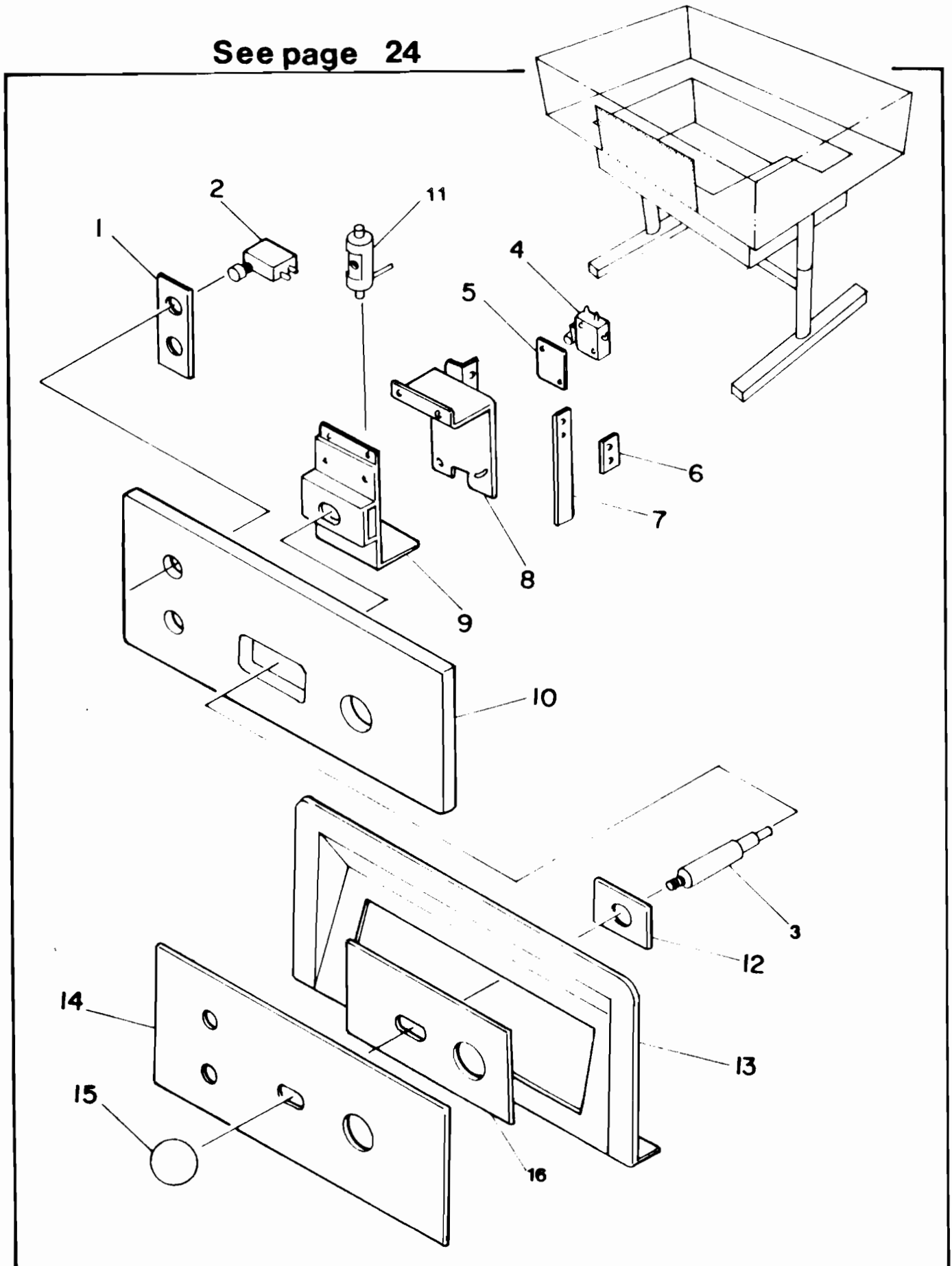
VIDEO AND CABINET ASS'Y

See pages 22,23



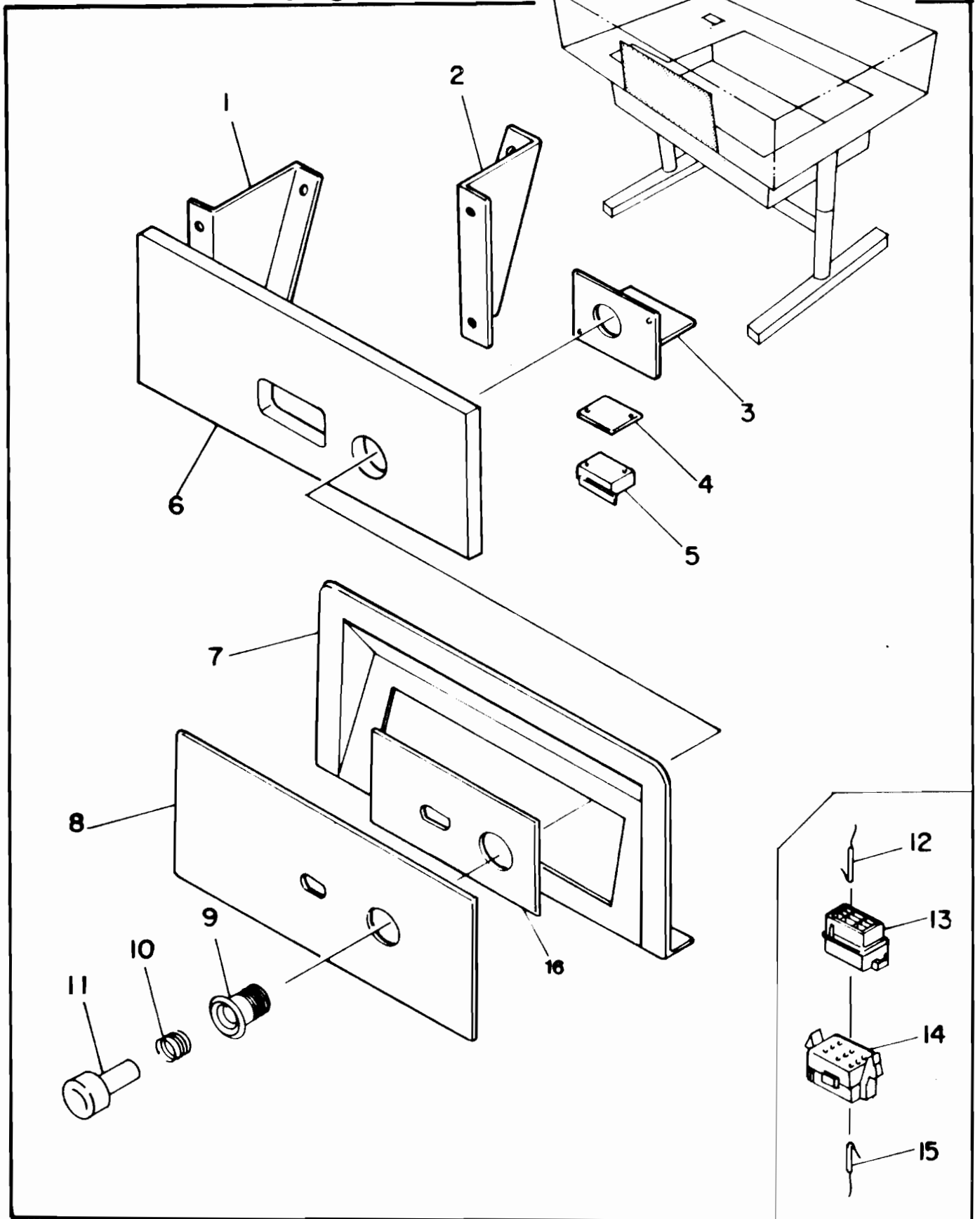
CONTROL PLATE ASS'Y - A

See page 24



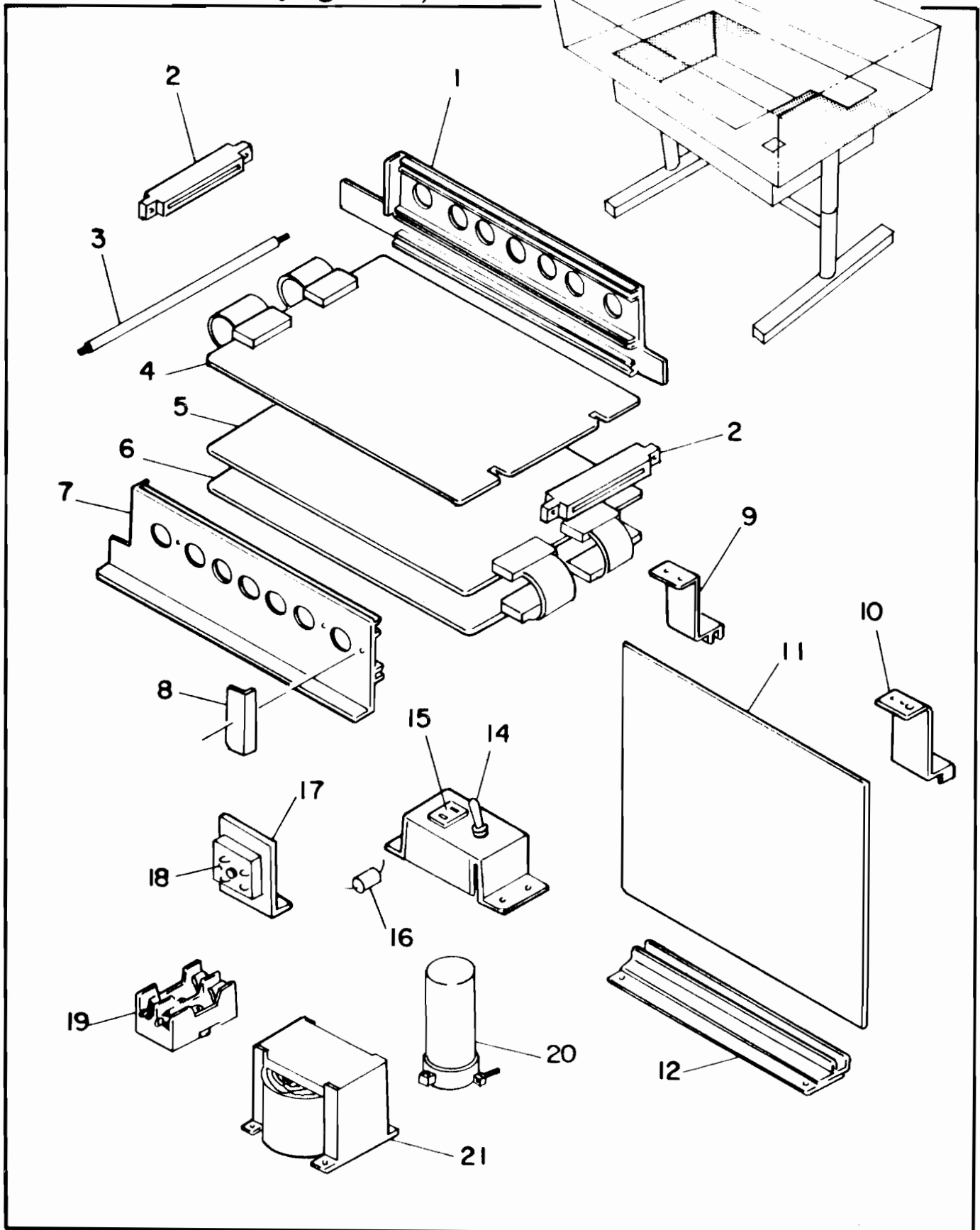
CONTROL PLATE ASS'Y - B

See page 25



PRINTED BOARD AND REGULATOR ASS'Y

See pages 26,27



CABINET ACCESSORY ASS'Y

Item	Parts №	Description
1	CVO10001	Table Box
2	CVO30001	Bottom Box
3	AAO16556	Table Leg

CABINET ASS'Y

Item	Parts №	Description
1	AAO19551	Coin Entry Cover
2		
3	AAO22549	Rejector for ¥100
4	AAO52512	Micro Switch C-5G3-3
5		Actuator
6	AAO16501	Lock & Key
7	AAO13511	Lock Plate
8	CVO30003	Guide Plate
9	AAO51717	Counter ME-5
10	CVO30004	Counter Box
11	CVO30002	Cash Box

12	AAO18557	Grommet SG-16A
13	AAO17747	Contact P. C. Board
14	WTO20004	Finger Pin
15	WTO50002	Spring
16	AAO19546	Finger Pin Guide
17	AAO56502	Ring Terminal
18	CVO30009	Coin Chute
19	AAO55789	Mate-N-Lok Plug Pin
20	AAO55501	Mate-N-Lok Cap 2P
21	AAO55502	Mate-N-Lok Plug 2P
22	AAO55790	Mate-N-Lok Socket Pin
23	AAO55521	Mate-N-Lok Cap 3P
24	AAO55522	Mate-N-Lok Plug 3P
25	AAO55561	Mate-N-Lok Cap 6P
26	AAO55562	Mate-N-Lok Plug 6P
27	AAO55566	Mate-N-Lok Plug 6P
28	CVO30005	Pin Guide Mounting Bracket

TABLE TOP BOARD ASS'Y

Item	Parts #	Description
------	---------	-------------

1	TKO90001	Table Top Glass
2	AAO19539	Video Mask
3	AAO13593	Corner Bracket
4	AAO19545	Glass Bunper
5	AAO29521	Coin Sticker
6	TVO70006	Instruction Card
7	TKO10002	Table Top Board
8	AAO13605	Lock Bracket
9	TWO60001	Hinge Ass'y
10	AAO16553	Hinge Ass'y
11	AAO13606	Hook

V I D E O A N D C A B I N E T A S S ' Y

Item	Parts No	Description
1	AAM50009	Counter Drive P. C. Board Ass'y
2	AAO55720	Print Connector 10P
3	AAO13607	Connector & Switch Bracket
4	AAO52511	Push Button Switch VAQ-4R
5	TVO90010	Insulator
6	TKO30001	Support Bracket A

7	TVO30001	TV Bracket
8	AAO69557	Locking Circuit Board Support
9	AAO13598	TV P. C. Board Mounting Bracket
10	WTO30006	Support Bracket 6
11	TVO90003	Video
12	AAO16550	Service Lock №7800
13	AAO13602	Lock Lever Pin
14		
15	AAO13603	Lock Plate
16	AAO13604	Lock Lever
17	AAO52501	Toggle Switch S-301
18	AAO55784	Fuse Holder S-N2056
19	AAT71001	Speaker 8 OHM 5W 12cm
20	WNO90007	Net
21	WNO30015	Punching Metal
22	AAO58581	Fan WEJ-55B4
23	AAO18555	Gasket
24	AAO69568	Mold Cord Bush
25	AAO62501	AC Cable & Plug Ass'y
26	AAO68717	Tilt Switch

CONTROL PLATE ASS'Y - A

Item	Parts №	Description
1	TUO30002	Switch Plate
2	AAO52511	Switch VAQ-4R
3	WTO20002	Lever
4	AAO52532	Micro Switch AH 71555
5	AAO19504	Insulator Type-V
6	WTO30007	Washer
7	WTO50001	Plate Spring
8	WTO30005	MS Mounting Bracket
9	WTO30004	Base Bracket
10	TVO10001	Control Board (A)
11	WTO20001	Shaft
12	WTO90002	Mask Plate
13	AAO19552	Control Panel
14	TVO70002	Control Plate (A)
15	WTO90001	Color Ball
16	CVO90011	Spacer

CONTROL PLATE ASS'Y - B

Item	Parts No.	Description
1	TWO30014	Control Board Bracket (A)
2	TWO30015	Control Board Bracket (B)
3	BPO30002	Push Switch Bracket
4	AAO19504	Insulator Type-V
5	AAO52531	Micro Switch VL-11L
6	TVO10002	Control Board (B)
7	AAO19552	Control Panel
8	TVO70003	Control Plate (B)
9	AAO19534	Push Button Housing Red
10	BPO50001	Spring (A)
11	AAO19533	Push Button Red
12	AAO55789	Mate-N-Lok Plug Pin
13	AAO55581	Mate-N-Lok Cap 9P
14	AAO55582	Mate-N-Lok Plug 9P
15	AAO55790	Mate-N-Lok Socket Pin
16	CVO90011	Spacer

PRINTED BOARD AND REGULATOR ASS'Y

Item	Parts No.	Description
1	WTO90007	P. C. Board Guide (A)
2	AAO55949	AMPLEAF Connector 18P
3	TUO20001	Shaft
4	TVN00001	T. V. -Game P. C. Board Ass'y
5	CVN00003	T. V. -C. P. U. -P. C. Board (A) Ass'y
6	CVN00006	T. V. -C. P. U. -P. C. Board (B) Ass'y
7	WTO90008	P. C. Board Guide (B)
8	CVO30023	Stop Bracket
9	CVO90004	P. C. Board Guide Bracket (L)
10	CVO90005	P. C. Board Guide Bracket (R)
11	AAM60006	Power Supply P. C. Board Ass'y
12	TVO90009	Guide Rail
13	AAO13599	Socket Box
14	AAO52535	Toggle Switch S-2A
15	AAO55788	AC Socket S-1520
16	AAT41273	Capacitor TDY-2G-103
17	WSO40001	Heat Sink
18	AAT14028	Rectifier KBPC2502
19	AAO55801	Fuse Holder F3321 2P

- 20 AAT41166 Capacitor 16LASN22000
- 21 AAO57566 Transformer
- AAO16552 Service Key №7800



I.T SPACE INVADERS

