

FT **SPACE LASER**

**SERVICE INSTRUCTIONS
AND PARTS CATALOG**



TAITO CORPORATION

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

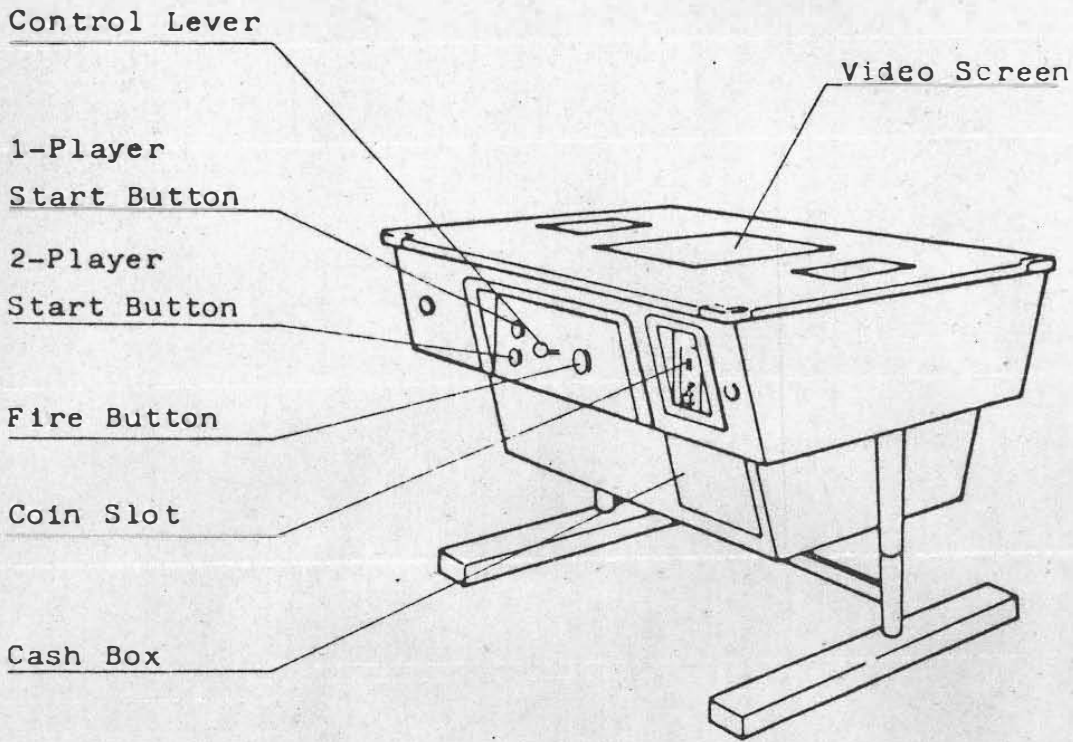


Fig. 1

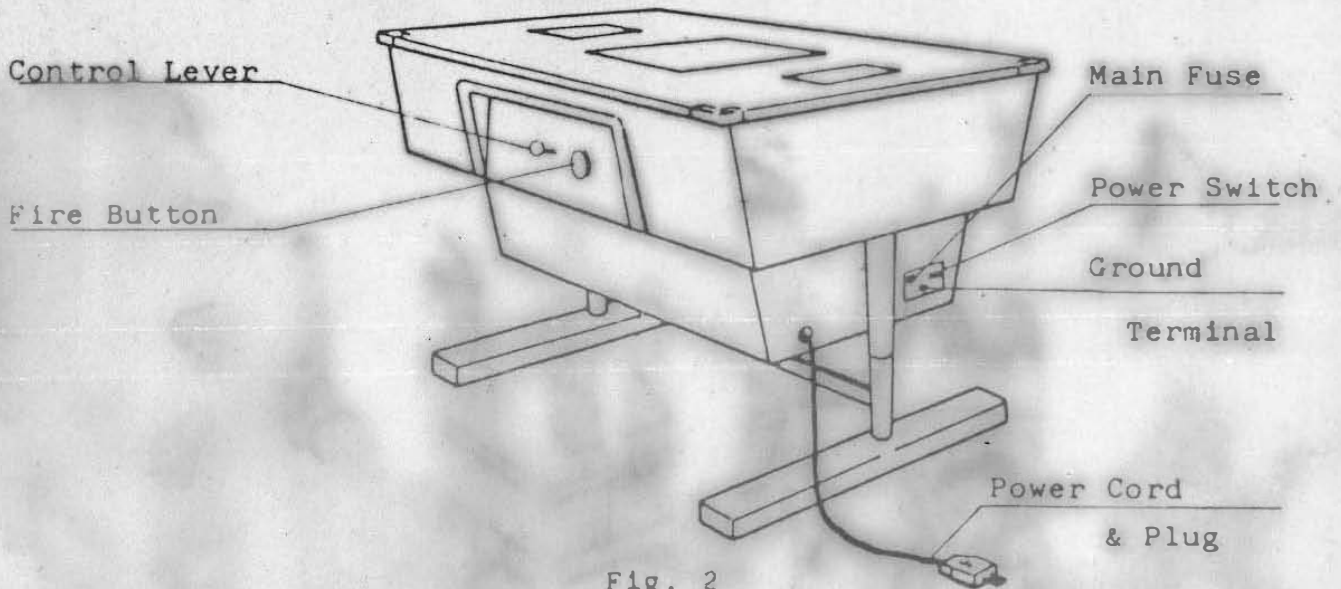


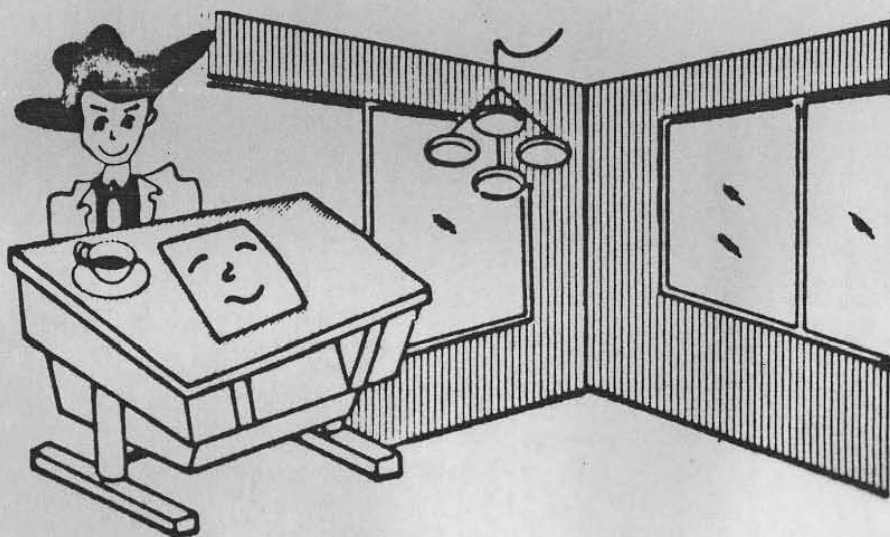
Fig. 2

2. Transportation and Installation

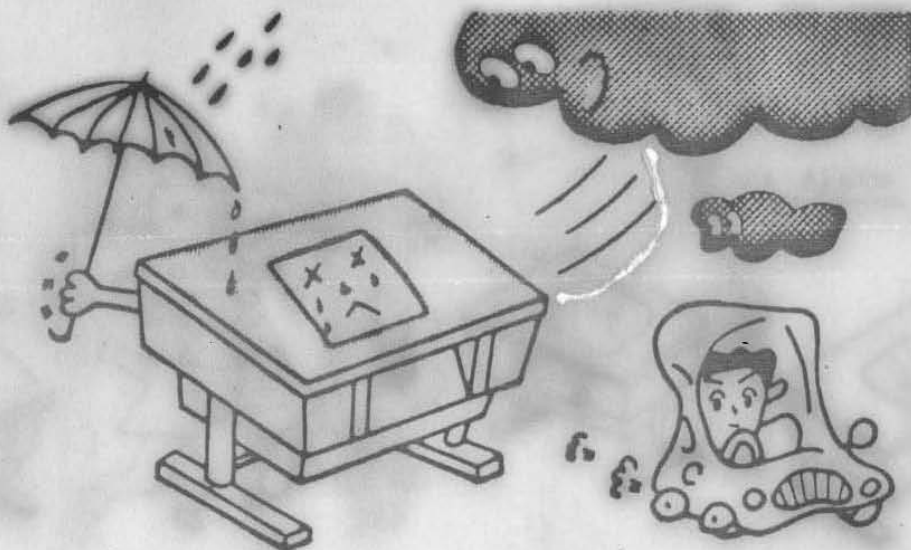
o Avoid rough handling in transportation; the picture tube is fragile.

o Taito "T.T SPACE LASER" is for indoor use.

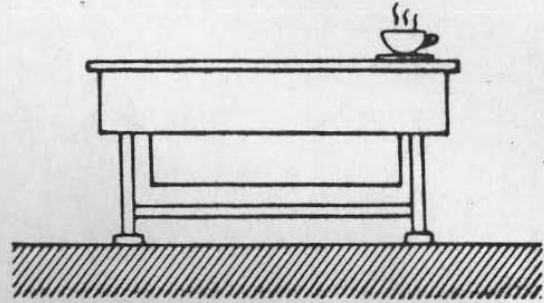
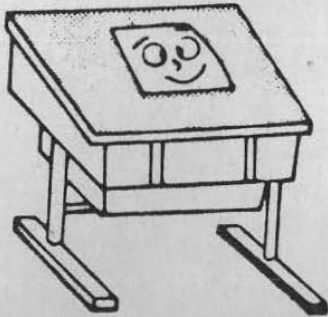
o Install the machine indoors only.



o Do not install the machine outdoors.

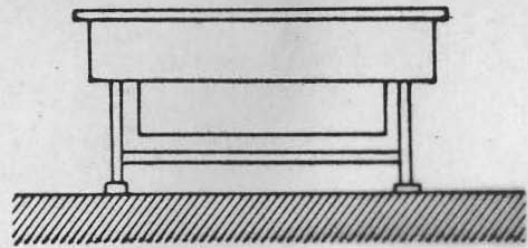


- o Install the machine on a flat-surfaced floor and provided suitable space around the machine.



(Floor)

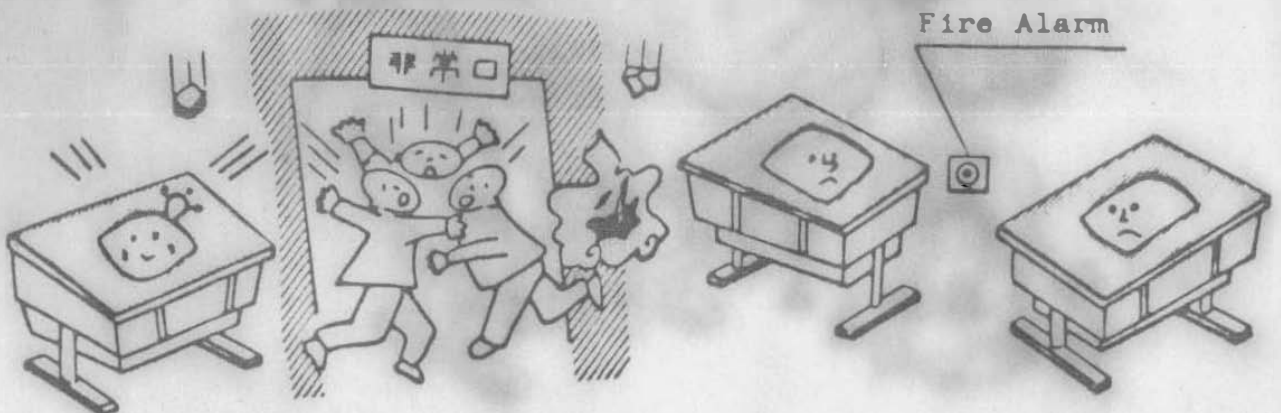
- o Do not install the machine in location with vibration.



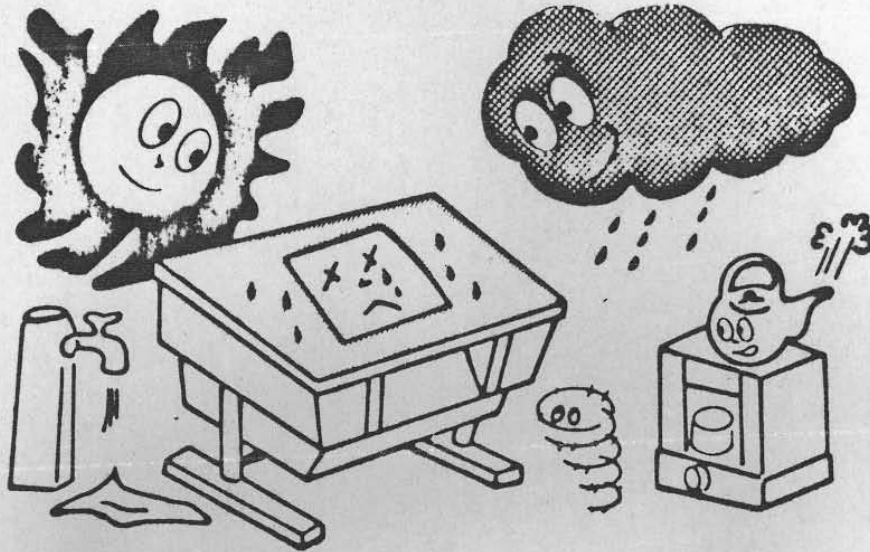
(Floor)

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

(Emergency Exit)



- o 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 humid or dusty places.



- o Connections may be loosened during transportation. Ensure all connections to the PCB's and the connectors are secure before plugging in.
- o Never fail to connect the ground terminal.
- o Insert the power plug into a proper outlet and turn the power switch on.
- o In case the machine does not work properly after the power switch was turned on, Make sure the voltage properly exists on each output line. (See "Adjustments on Switching Regulator P C Board page 5 and page 7 of this manual.)

3. Handling Note and Warning

Note:

- o Erroneous picture may appear on the screen when the machine is first switched on. This is typical of the CPU circuitry, and will correct itself automatically when the power switch is off and on.
- o No picture may appear on the screen for a while when the machine is switched on at a subzero temperature in the location. This is also typical of the solid-state circuitry.

Warning:

- o Taito "T.T SPACE LASER" 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

- o Because of 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. Play Instructions:

- o Insert coin(s).
- o Select game for one or two players.
- o Single player battles computer-controlled spaceship.
- o Use joystick to control your spaceship and shoot down opponent spaceship as you thread through between flying space objects.
- o Scoring:

Opponent Spaceship 1,000 Pts.

Flying Space Object 10 - 70 Pts.

Functional Description of Game:

- o Fuel decreases when you shoot beam gun, but it increases soon.
- o Your shot cannot reach opponent spaceship unless fuel is 40 or more left.
- o A spaceship will be given when score reaches 5,000 points.
- o Game is over when all of your spaceships are destroyed.

6. Adjustments on Switching Regulator PC Board

(See Fig. 3)

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

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

(See the attaching cable Block Diagram NO. AAR00244.)

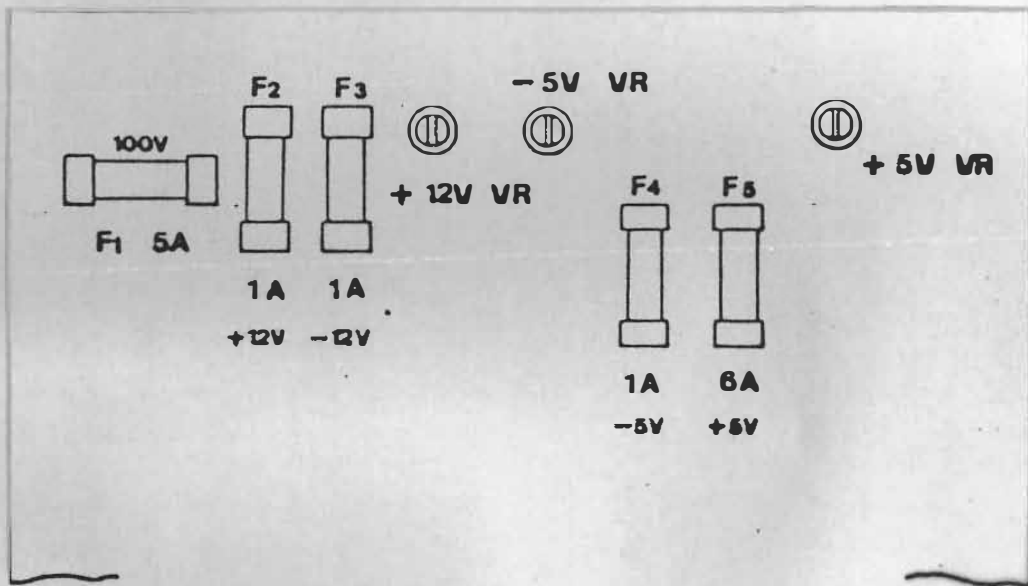


Fig. 3

- o +5V VR ... Pot for adjusting +5V DC line voltage
(Adjustment range: +4.5V to +5.5V DC)
Set approx. +5V.
- o -5V VR ... Pot for adjusting -5V DC line voltage
(Adjustable range: -5.5V to -4.5V DC)
Set approx. -5V.
(When the +5V line has no load, this -5V voltage is not present on the line.)
- o +12V VR... Pot for adjusting +12V DC line voltage
(Adjustable range: +10.8V to +13.2V DC)
Set approx. +12V.

7. Adjustments on Game PC Board

(See Fig. 4 and Table 1)

- o To decrease the sound, turn each pot to the direction as shown above.

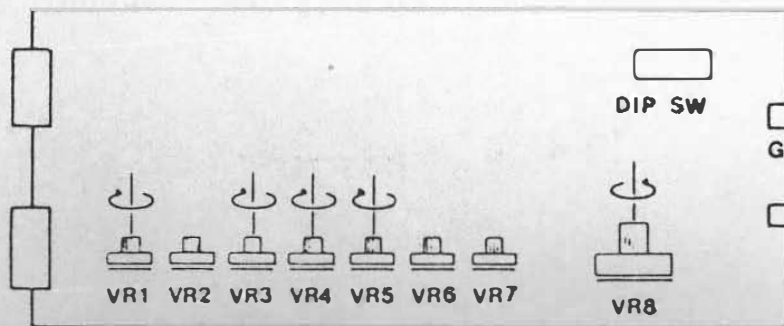


Fig. 4

- * VR1 ... Pot for adjusting shooting sounds of beam gun.
- * VR3 ... Pot for adjusting explosion sounds when beam gun is destroyed.
- * VR4 ... Pot for adjusting explosion sounds when a target is destroyed.
- * VR5 ... Pot for adjusting beep sounds when play time is extended.
- * VR8 ... Pot for adjusting total sounds.

Change-over of DIP Switches;

Selection of Play Pricing

SW 8	ON	1 coin-2 plays
	OFF	1 coin-1 play

Table 1

- o The other switches, SW1-SW7 should be at ON position.

8. Adjustments on Color Video Monitor

(See Fig. 5)

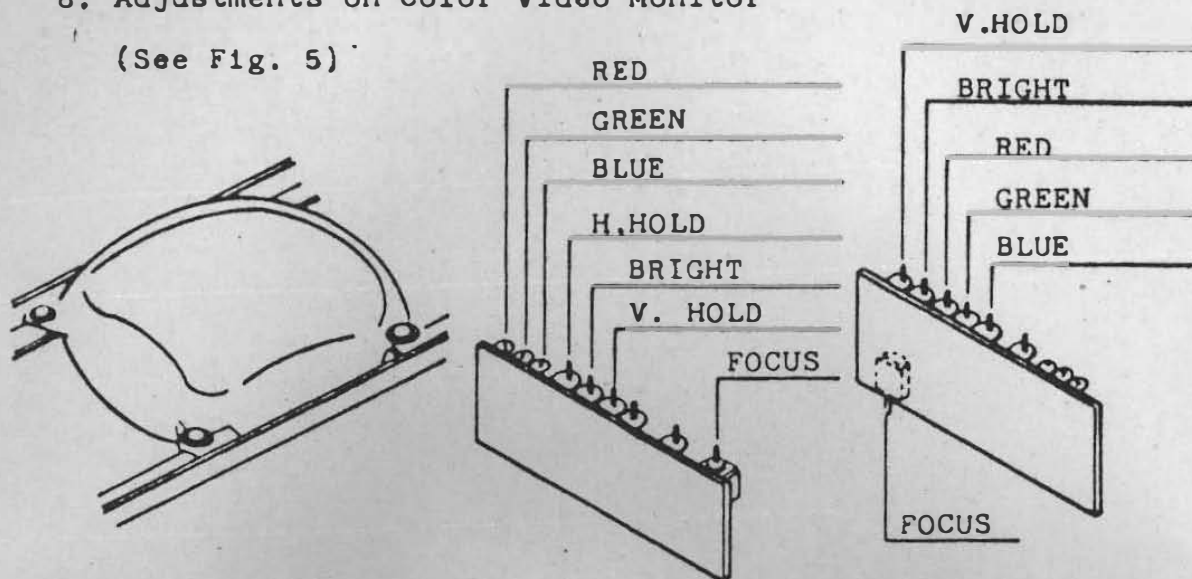


Fig. 5

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

Caution: Careful attention should be required to adjust the horizontal hold and the vertical hold, since these adjustments are delicate.

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 Brightness

Adjust the BRIGHT control to keep the screen clear.

o FOCUS ... Screen Focus Control.

Color Control:

o RED ... Pot for adjusting red color

o Green ... Pot for adjusting green color

o Blue ... Pot for adjusting blue color

Note:(1) Color aberration may occur depending on the setting condition of the machine. In that case, use a degaussing device. Keep magnet away from the screen, otherwise it may result in color aberration.

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

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

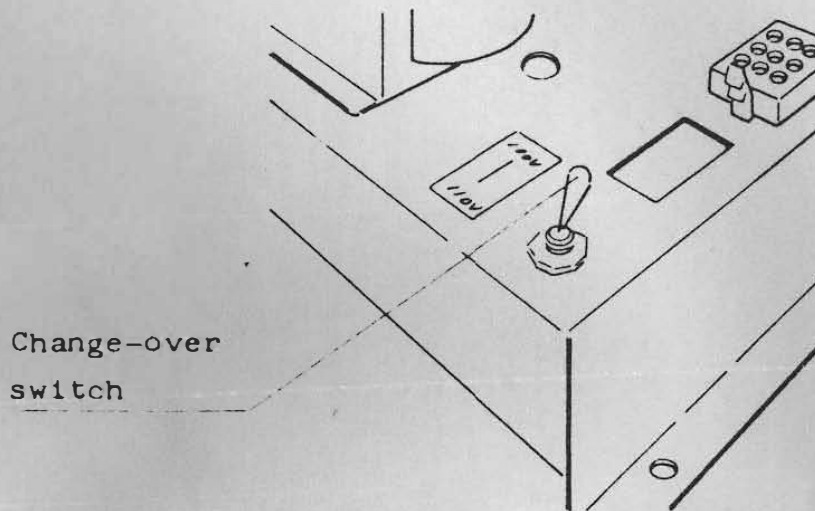


Fig. 6

10. Typical Picture During Play (See Fig. 7)

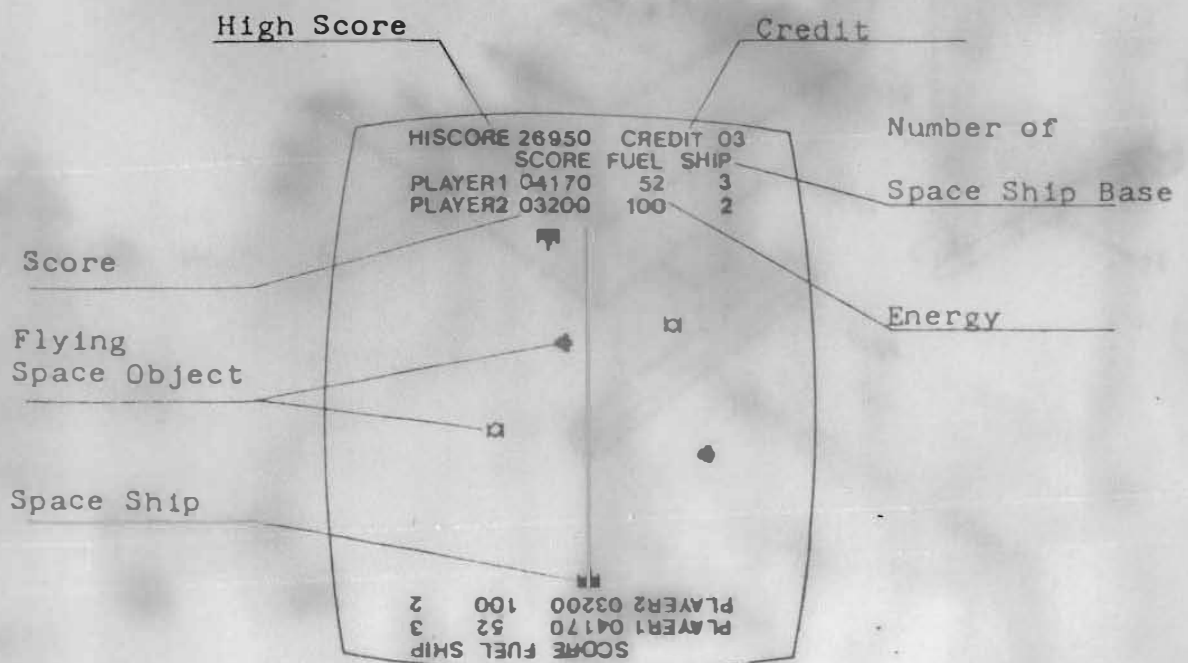
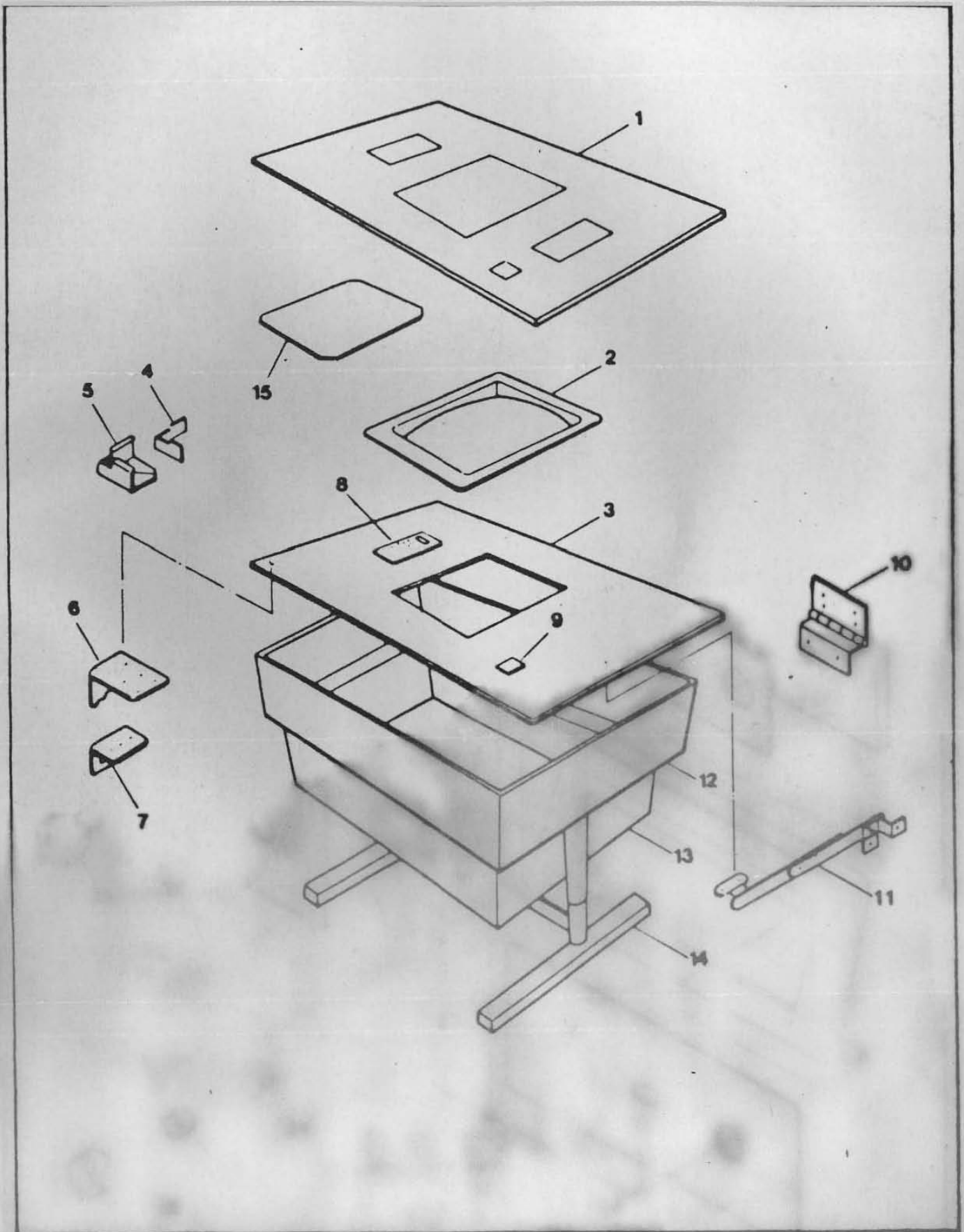


Fig. 7

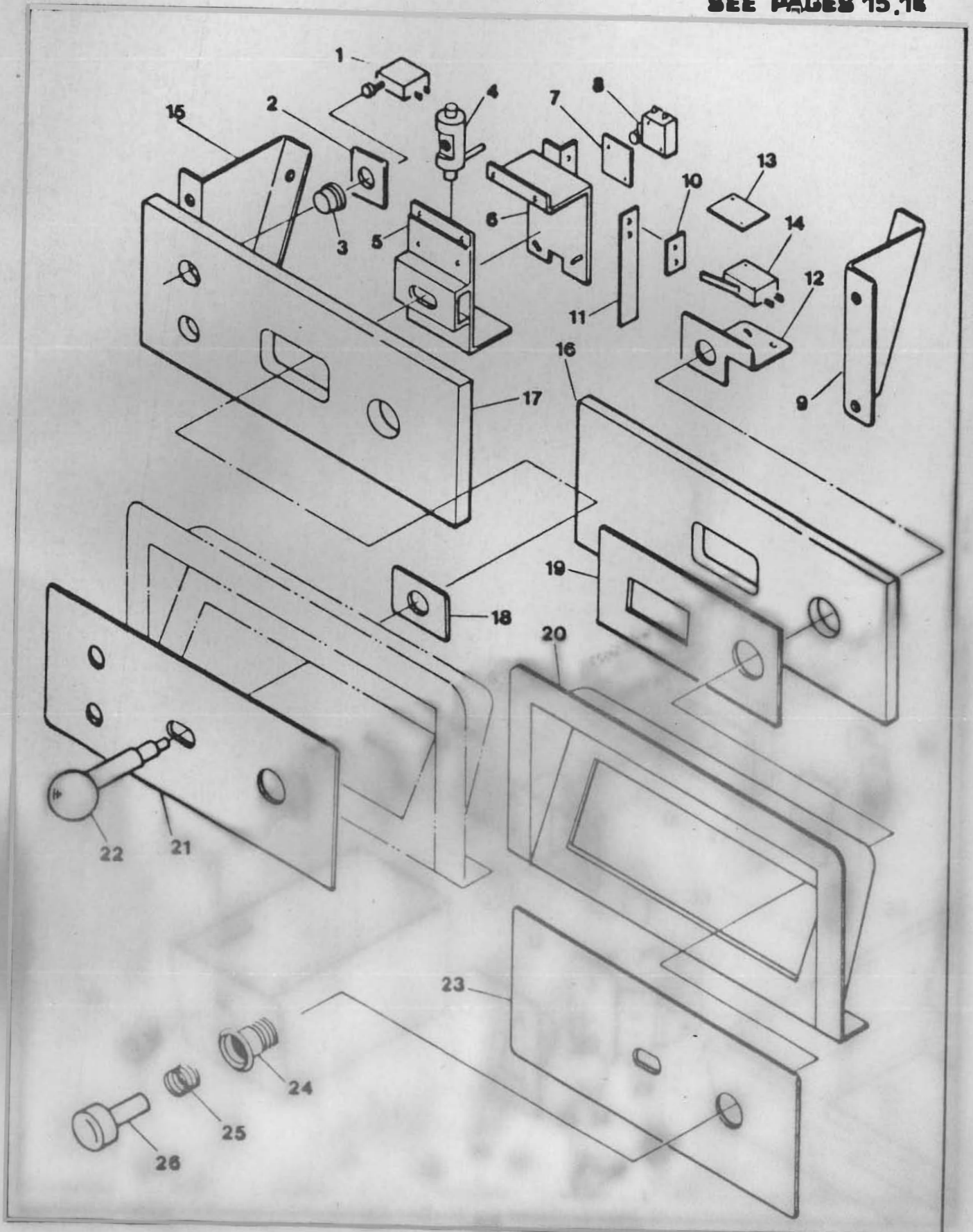
CABINET ASS'Y

SEE PAGE 15



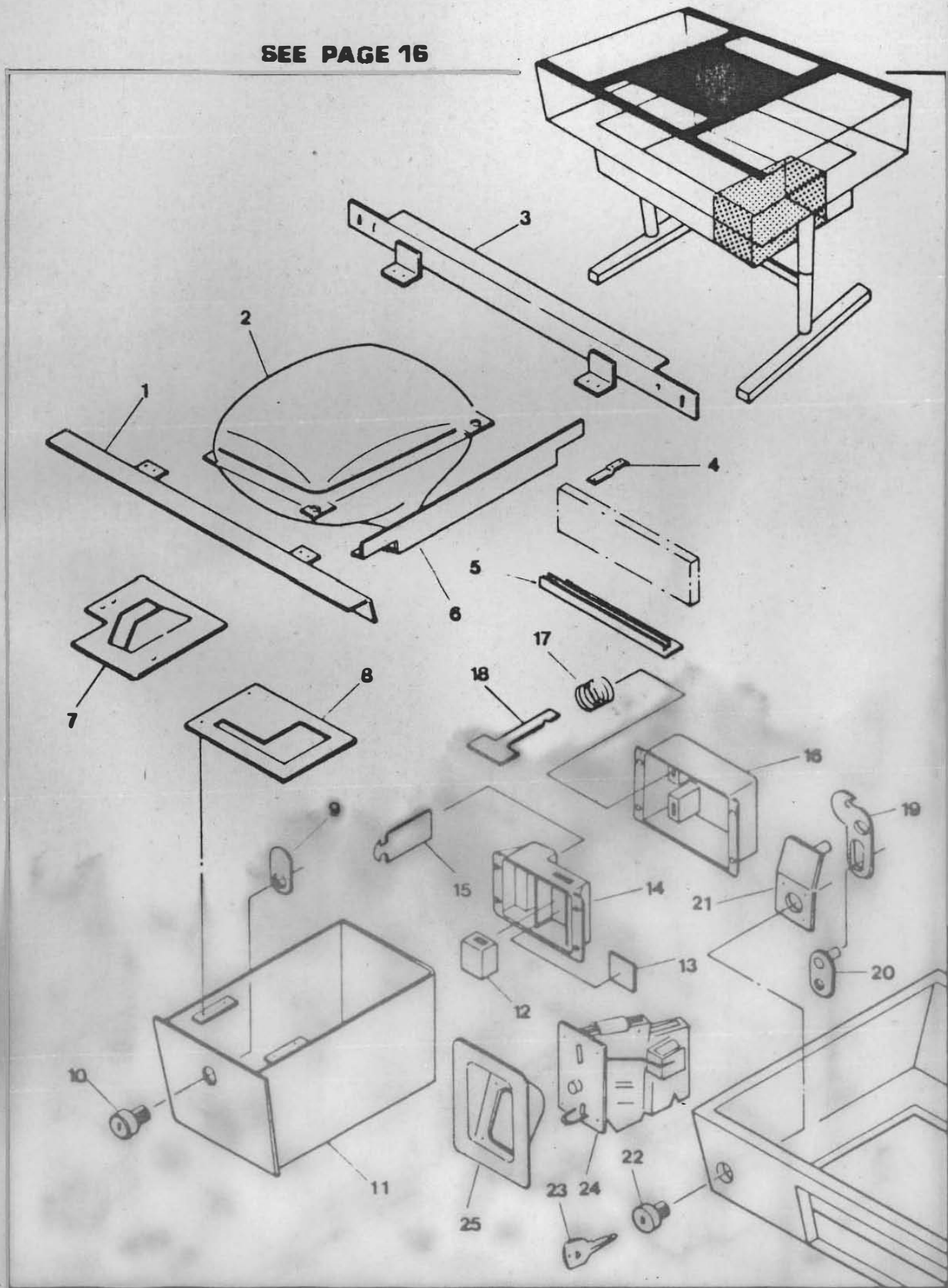
CONTROL PANEL ASS'Y

SEE PAGES 15,16



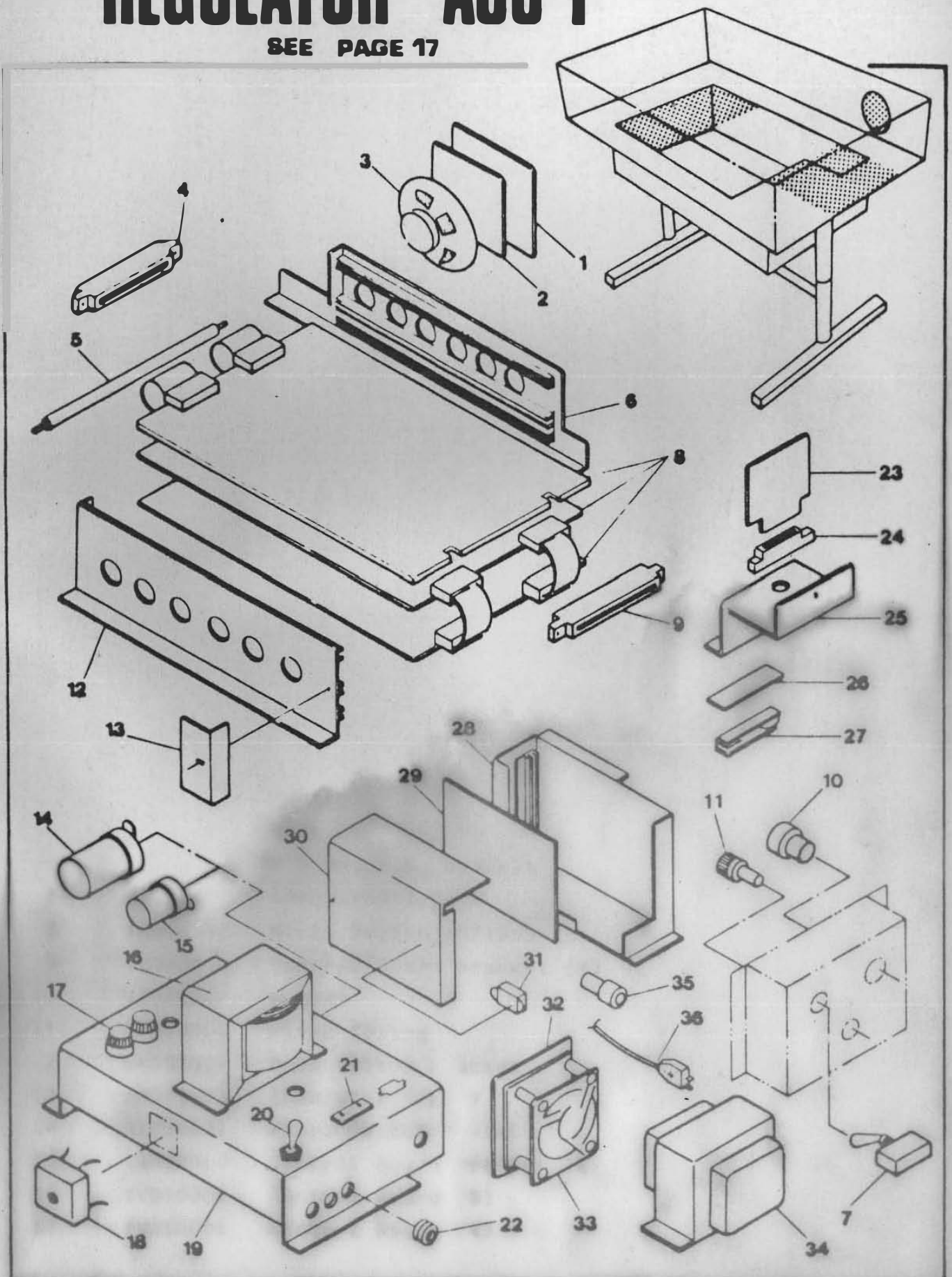
VIDEO AND CABINET ASS'Y

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PRINTED BOARD AND REGULATOR ASS'Y

SEE PAGE 17



CABINET ASS'Y

I tem	Part No.	Description
1	CV090003	Table Top Glass
2	AA019549	Video Mask
3	CV010002	Top Board
4	AA019545	Glass Bumper
5	AA013593	Corner Bracket
6	AA013605	Lock Bracket
7	AA013606	Hook
8	RA070010	Instruction Card
9	AA029521	Coin Sticker
10	TWO60001	Hing Ass'y
11	AA016553	Hing Ass'y
12	CV010006	Table Box
13	CV030024	Bottom Box
14	AA016556	Table Leg
15	CV090021	Color Plate

CONTROL PANEL ASS'Y

I tem	Part No.	Description
1	AA052511	Switch VAQ-4R
2	TE030008	Switch Plate
3	AA019535	Push Button
4	WT020001	Shaft
5	WT030004	Base Bracket
6	WT030005	M S Mounting Bracket
7	AA019504	Insulator Type-V
8	AA052532	Micro Switch AH71555
9	WT030015	Control Board Bracket (B)
10	WT030007	Washer
11	WT050001	Plate Spring
12	BPO30002	Push Switch Bracket
13	AA019504	Insulator Type-V
14	AA052531	Micro Switch VL-11L
15	TWO30014	Control Board Bracket (A)
16	TVO10002	Control Board (B)
17	TVO10001	Control Board (A)

18	WT090002	Mask Plate
19	CV090011	Spacer
20	AA019552	Control Panel
21	TV070002	Control Plate (A)
22	CV020002	Lever
23	TV070003	Control Plate (B)
24	AA019534	Push Button Housing Red
25	BPO50001	Spring (A)
26	AA019533	Push Button Red

VIDEO AND CABINET ASS'Y

Item	Part No.	Description
1	CV030026	Support Bracket (C)
2	AAM10103	Video 14 inch color
3	CV030027	Support Bracket (D)
4	CV030028	Video Circuit Board Support
5	TV090009	Guide Rail
6	CV030025	Video Bracket
7	AA013520	Coin Chute (C)
8	CV030003	Guide Plate
9	AA013511	Lock Plate
10	AA016501	Lock & Key
11	CV030002	Cash Box
12	AA051717	Counter ME-5
13	AA018558	Packing
14	AA019559	Counter Box
15	AA013619	Contact Plate (B)
16	AA019558	Contact Plate Guide
17	WT050002	Spring
18	AA013618	Contact Plate (A)
19	AA013604	Lock Lever
20	AA013603	Lock Plate
21	AA013602	Lock Lever Pin
22	AA016550	Service Lock No.7800
23	AA016552	Service Key No.7800
24		Rejector
25	AA019551	Coin Entry Cover

PRINTED BOARD AND REGULATOR ASS'Y

Item	Part No.	Description
1	WNO30015	Punching Metal
2	WNO90007	Net
3	AAT71001	Speaker 8 OHM 5W
4	AA055949	AMPLEAF Connector 18P
5	TU020001	Shaft
6	AA019547	P.C Board Guide (A)
7	AA052501	Toggle Switch S-301
8	RAK00001	Main PC Board Ass'y
9	AA055949	AMPLEAF Connector 18P
10	AA055784	Fuse Holder S-N2056
11	AA056508	Earth Terminal T-375
12	WTO90008	P.C Board Guide (B)
13	CVO30022	Stop Bracket
14	AAT41175	Capacitor 351ASN 4700
15	AAT41172	Capacitor 351ASN 1000
16	AA057575	Ttransformer
17	AA055700	Fuse Holder F4000
18	AAT14029	Rectifier S4VB
19	AA013610	Transformer Mounting Box
20	AA052535	Toggle Switch S-2A
21	AA0557B8	AC Socket Box-Type
22	AA018506	Grommet NG-79-E
23	AAM50012	Counter Drive P.C Board Ass'y
24	AA055720	Print Connector 10P
25	AA013607	Connector & Switch Bracket
26	TVO90010	Insulator
27	AA068717	Tilt Switch
28	AA013613	Shield Box
29	AAM60009	Switching Regulator Ass'y
30	AA013614	Shield Cover
31	AAT61017	Noise Filter ZMB2206-02
32	AA018555	Gasket
33	AA05B581	Fan WEJ-55B4
34	AA057582	Transformer
35	AA069568	Molde Cord Bush
36	AA062501	AC Cord & Plug Ass'y

TAITO T.T. SPACE LASER

