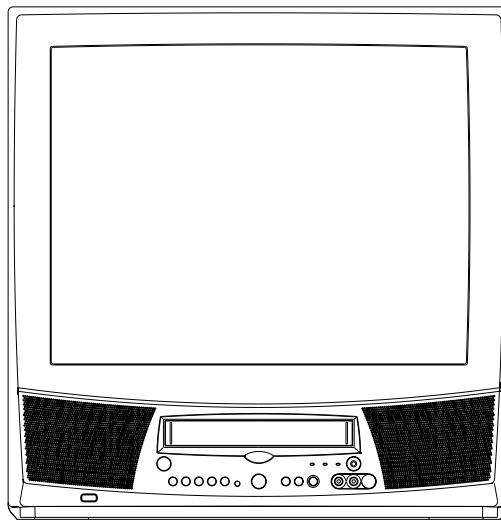


SCHAUB LORENZ

**SL0521KO**

# **SERVICE MANUAL**

**COLOR TELEVISION/VIDEO CASSETTE RECORDER**



**ORIGINAL  
MFR'S VERSION A**

## SERVICING NOTICES ON CHECKING

### 1. KEEP THE NOTICES


As for the places which need special attentions, they are indicated with the labels or seals on the cabinet, chassis and parts. Make sure to keep the indications and notices in the operation manual.

### 2. AVOID AN ELECTRIC SHOCK

There is a high voltage part inside. Avoid an electric shock while the electric current is flowing.

### 3. USE THE DESIGNATED PARTS

The parts in this equipment have the specific characters of incombustibility and withstand voltage for safety. Therefore, the part which is replaced should be used the part which has the same character.

Especially as to the important parts for safety which is indicated in the circuit diagram or the table of parts as a  mark, the designated parts must be used.

### 4. PUT PARTS AND WIRES IN THE ORIGINAL POSITION AFTER ASSEMBLING OR WIRING

There are parts which use the insulation material such as a tube or tape for safety, or which are assembled in the condition that these do not contact with the printed board. The inside wiring is designed not to get closer to the pyrogenic parts and high voltage parts. Therefore, put these parts in the original positions.

### 5. TAKE CARE TO DEAL WITH THE CATHODE-RAY TUBE

In the condition that an explosion-proof cathode-ray tube is set in this equipment, safety is secured against implosion. However, when removing it or serving from backward, it is dangerous to give a shock. Take enough care to deal with it.

### 6. AVOID AN X-RAY

Safety is secured against an X-ray by considering about the cathode-ray tube and the high voltage peripheral circuit, etc.

Therefore, when repairing the high voltage peripheral circuit, use the designated parts and make sure not modify the circuit.

Repairing except indicates causes rising of high voltage, and it emits an X-ray from the cathode-ray tube.

### 7. PERFORM A SAFETY CHECK AFTER SERVICING

Confirm that the screws, parts and wiring which were removed in order to service are put in the original positions, or whether there are the portions which are deteriorated around the serviced places serviced or not. Check the insulation between the antenna terminal or external metal and the AC cord plug blades. And be sure the safety of that.

#### (INSULATION CHECK PROCEDURE)

1. Unplug the plug from the AC outlet.
2. Remove the antenna terminal on TV and turn on the TV.
3. Insulation resistance between the cord plug terminals and the eternal exposure metal **[Note 2]** should be more than 1M ohm by using the 500V insulation resistance meter **[Note 1]**.
4. If the insulation resistance is less than 1M ohm, the inspection repair should be required.

#### **[Note 1]**

If you have not the 500V insulation resistance meter, use a Tester.

#### **[Note 2]**

External exposure metal: Antenna terminal  
Earphone jack

## HOW TO ORDER PARTS

Please include the following informations when you order parts. (Particularly the VERSION LETTER.)

### 1. MODEL NUMBER and VERSION LETTER

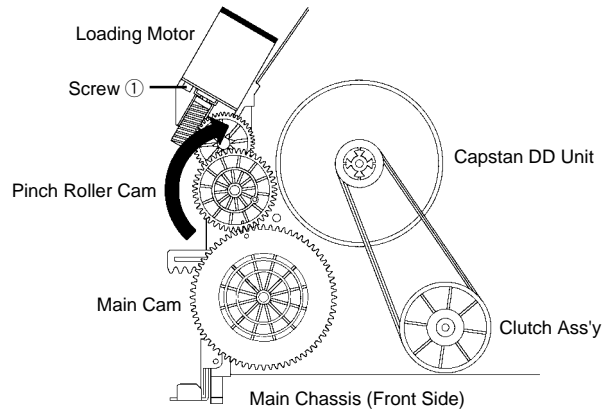
The MODEL NUMBER can be found on the back of each product and the VERSION LETTER can be found at the end of the SERIAL NUMBER.

### 2. PART NO. and DESCRIPTION

You can find it in your SERVICE MANUAL.

## TAPE REMOVAL METHOD AT NO POWER SUPPLY

1. Remove the VCR block from the main unit.  
**(Refer to item 1 of the DISASSEMBLY INSTRUCTIONS.)**
2. Remove the screw ① of the Deck Chassis and remove the Loading Motor.
3. Rotate the Pinch Roller Cam in the direction of the arrow by hand to slacken the Video Tape.
4. Rotate the Clutch Ass'y either of the directions to wind the Video Tape in the Cassette Case.
5. Repeat the above step 3~4. Then take out the Video Cassette from the Deck Chassis. Be careful not to scratch on the tape.



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## GENERAL SPECIFICATIONS

G-1	TV System	CRT	CRT Size / Visual Size	21 inch / 508.0mmV
			CRT Type	Normal
			Deflection	90 degree
			Magnetic Field BV/BH	+0.45G/0.18G
		Color System		PAL/SECAM
		Speaker		1Speaker
			Position	Front
			Size	3 Inch
			Impedance	8 ohm
		Sound Output	MAX	2.5W
	10%(Typical)	2.0W		
G-2	VCR System	System		VHS
				Player / Recorder
		Video System		PAL/SECAM
		Hi-Fi STEREO		No
		NTSC PB(PAL60Hz)		Yes
		Deck	DECK	OVD-7
			Loading System	Front
			Motor	3
		Heads	Video Head	4 Head
			FM Audio Head	No
			Audio /Control	Mono / Yes
			Erase(Full Track Erase)	Yes
		Tape	Rec	PAL/SECAM
		Speed		NTSC
			Play	PAL/SECAM
				NTSC
			Fast Forward / Rewind Time (Approx.) at+25°C Cassette	FF:1'48"/REW:1'48" at E-180
	Forward/Reverse	NTSC or PAL-M		
	Picture Search	PAL or SECAM		
	Frame Advance	Yes		
	Slow Speed	1/5~1/30		
G-3	Tuning System	Broadcasting System		CCIR,French System B/G,L
		Tuner and	System	2Tuner
		Receive CH	Destination	CCIR Hyper+France CATV
			Tuning System	F-Synth
			Input Impedance	VHF/UHF 75 ohm
			CH Coverage	SECAM
				F2~F4, FB~FQ, F21~F69
				PAL
				E2~E4, X~Z+2, S1~S10, E5~E12,S11~S41,E21~E69
			Intermediate Frequency	PAL/SECAM(U&VH)/SECAM(VL)
			Picture(FP)	38.9/38.9/34.4MHz
			Sound(FS)	33.4/32.4/40.9MHz
			FP-FS	5.5/6.5/6.5MHZ
	Auto Tuning Method	All Band (Not C.C.I.R. CH Plan)		
	Preset CH	80CH		
	Stereo/Dual TV Sound	No		
	Tuner Sound Muting	Yes		
G-4		Video Signal	Input Level	1 V p-p/75 ohm
			Output Level	1 V p-p/75 ohm
			S/N Ratio (Weighted)	53 dB
			Horizontal Resolution at SP Mode	240 Lines
		Audio Signal	Input Level	-3.8dBm/50Kohm
			Output Level	-3.8dBm/1Kohm
			S/N Ratio at SP	42 dB
			Harmonic Distortion at SP (1KHz) Typical	1.5 %
			Frequency Response at SP	100Hz ~10kHz
			at LP	100Hz ~5kHz
			at SLP	-
			Hi-Fi Audio Signal	Dynamic Range : More than
				Wow And Flutter : Less than
		Channel Separation : More than		
		Harmonic Distortion : Less than		
G-5	Power	Power Source	AC	230V 50Hz
			DC	-

## GENERAL SPECIFICATIONS

	Power Consumption	at AC at DC	60 W at 230 V 50 Hz - 5 W at 230 V 50 Hz
	Stand by (at AC) Per Year		-
	Protector	Power Fuse Dew Sensor	Yes No
<b>G-6</b>	<b>Regulation</b>	Safety Radiation X-Radiation	CE CE NONE
<b>G-7</b>	<b>Temperature</b>	Operation Storage	+5°C ~ +40°C -20°C ~ +60°C
<b>G-8</b>	<b>Operating Humidity</b>		Less than 80% RH
<b>G-9</b>	<b>On Screen Menu Display</b>	Menu Type	Yes Character
		ATS	No
		Timer Rec Set	Yes
		Channel Setup	Yes
		Auto Tuning	Yes
		Ch Mapping	No
		Ch Tuning	Yes
		Ch Allocation	Yes
		TV Setup	Yes
		On/Off Timer Set	Yes
		Picture	Yes
		Audio	No
		VCR Setup	Yes
		Auto Repeat On/Off	Yes
		System Select	Yes
		Scene Repeat	Yes
		System Setup	Yes
		Clock Set	Yes (Calendar 24h)
		Language	Yes
		System Select	No
		G-CODE(or SHOWVIEW or PLUSCODE)No. Entry	No
		Stereo/Audio Output	No
		Bilingual	No
		NICAM	No
		Clock/Date	Yes
		CH/AV	Yes
		Tape Counter(Linear Counter)	Yes
		Tape Speed	Yes
		Sleep Time	Yes
	Control	Volume	Yes
	Level	Brightness / Contrast / Sharpness/ Color	Yes
		Tint	No
		Bass/Treble/Balance	No
		Manual Tracking	Yes
		Play/Stop/FF/Rew/Rec/OTR/T-Rec/Pause/Eject/Tape In (Symbol Mark)	Yes
		Auto Tracking/Manual Tracking	Yes
		S-Repeat/SR-R/SR-PLAY	Yes
		Index	Yes
		Mute	Yes
		Hi-Fi	No
		Repeat	Yes
		Zero Return	No
		PAL/SECAM	Yes
		Dew	No
<b>G-10</b>	<b>OSD Language</b>		Eng Ger Fre Spa Ita
<b>G-11</b>	<b>Clock,Timer and Timer Back-up</b>	Calendar Timer Events One Touch Recording Max Time OTPB Valid Time Sleep Timer Max Time Step On/Off Timer Program(On Timer / Off Timer) Auto Shut Off No Signal No Operation Timer Back-up (at Power Off Mode)	1990/1/1 ~ 2081/12/31 8 prog/ 1 month SP 5 Hours , LP 10 Hours - 120 min. 10 min. 1 prog. 15 min. - min. 30 min.

## GENERAL SPECIFICATIONS

<b>G-12</b>	<b>Remote Control</b>	Unit	RC-CH		
		Glow in Dark Remocon	No		
		Power Source	Voltage(D.C) UM size x pcs	3V UM-4 x 2 pcs	
		Total Keys	41	Keys	
		Keys	Power	Yes	
			1	Yes	
			2	Yes	
			3	Yes	
			4	Yes	
			5	Yes	
			6	Yes	
			7	Yes	
			8	Yes	
			9	Yes	
			0/AV	Yes	
			CH/Tr Up	No	
			CH/Tr Up/Page Up	Yes	
			CH/Tr Down	No	
			CH/Tr Down /Page Down	Yes	
			Volume Up	Yes	
			Volume Down	Yes	
			Play/Up	No	
			Play/Up/Slow	Yes	
			F.Fwd/Right	Yes	
			Rew/Left	Yes	
			Pause/Still	Yes	
			Pause	No	
			Stop/Down	Yes	
			Rec/OTR	Yes	
			Eject	Yes	
			Counter Reset	Yes	
			Speed	Yes	
			Timer Rec	Yes	
			TV Monitor	No	
			TV Monitor /Rec Monitor	Yes	
			Program	Yes	
			Program /V+(ShowView)	No	
			Auto Tracking	No	
			Auto Tracking /Reveal	Yes	
			Menu	Yes	
			Enter	No	
			Enter/Hold	Yes	
			Cancel/Ch Skip	No	
	Cancel/Ch Skip/F-T-B	Yes			
	Index	No			
	Index /Sub Page	Yes			
	Call	Yes			
	Text/Mix/TV	Yes			
	Sleep Timer	Yes			
	Mute	Yes			
	Zero Return	Yes			
	CM Skip	No			
	OTPB	No			
	END Call	No			
	Red	Yes			
	Cyan	Yes			
	Green	Yes			
	Yellow	Yes			
	Audio Select	No			
<b>G-13</b>	<b>Features</b>	Auto Head Cleaning	No		
		Auto Tracking	Yes		
		HQ (VHS Standard High Quality)	Yes		
		Auto Power On, Auto Play, Auto Rewind, Auto Eject	Yes		
		Auto Shut Off	Yes		
		Auto Repeat	Yes		
		VIDEO PLUS+(SHOWVIEW,G-CODE)	No		
		CH Auto Set-Up/Auto Clock	No		

## GENERAL SPECIFICATIONS

		Forward / Reverse Picture Search	Yes		
		One Touch Playback	No		
		Auto Tuning	Yes		
		Anti-Theft	No		
		End Call	No		
		Index Search	Yes		
		SQPB	No		
		CATV	Yes		
		CM Skip(30sec x 6 Times)	No		
		Comb Filter	No		
		T'Text	Yes		
		Text type	Fast Text		
		Scene Repeat	Yes		
		Hotel Lock	No		
		TV Monitor	No		
		TV/Rec Monitor	Yes		
		Zero Return	Yes		
		Choke Coil	No		
		Power On Memory	No		
<b>G-14</b>	<b>Accessories</b>	Owner's Manual	Language	Italian	
			w/Guarantee Card	No	
		Remote Control Unit		Yes	
		Rod Antenna		No	
			Poles	-	
			Terminal	-	
			w/300 ohm to 75 ohm Antenna Adapter	-	
		Loop Antenna		No	
			Terminal	-	
		U/V Mixer		No	
		DC Car Cord (Center+)		No	
		Guarantee Card		Yes	
		Warning Sheet		No	
		Circuit Diagram		No	
		Antenna Change Plug		No	
		Service Facility List		No	
		Important Safeguard		No	
		Dew/AHC Caution Sheet		No	
		AC Plug Adapter		No	
		Quick Set-up Sheet		No	
		Battery		Yes	
			UM size x pcs	UM-4 x 2 pcs	
			OEM Brand	No	
		AC Cord		No	
		AV Cord (2Pin-1Pin)		No	
		21pin-RCA Cable		No	
		Registration Card		No	
PTB Sheet		No			
Anti-Theft Sheet		No			
Euro Warranty Information Sheet		No			
<b>G-15</b>	<b>Interface</b>	Switch	Front	Power	Yes
				Play	Yes
				Pause/Still	No
				System Select	No
				One Touch Playback	No
				Channel Up	Yes
				Channel Down	Yes
				F.FWD/Cue	Yes
				Eject/Stop	Yes
				Main Power SW	Yes
				Volume Up	Yes
				Volume Down	Yes
				Rew/Rev	Yes
				Rec/OTR	Yes
			Rear	Main Power SW	No
		Indicator		Standby	Red
				Rec/OTR	Red
		T-Rec	Red		
		On Timer	No		



## GENERAL SPECIFICATIONS

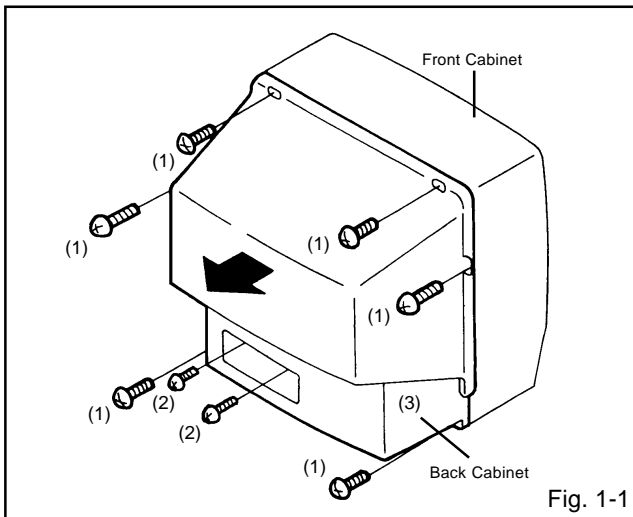
		CS	No
	Key Light up	Rec/OTR	No
		One Touch Playback	No
		Play	No
	Terminals	Front	Video Input
			RCA x1
			Audio Input
			RCA x1
			Other Terminal
			Headphone(Stereo & Mono, 3.5mm)
		Rear	Video Input
			No
			Audio Input
			No
			Video Output
			No
			Audio Output
			No
			Euro Scart
			1-SCART
			Diversity
			No
			Ext Speaker
			No
			DC Jack 12V(Center +)
			No
			VHF/UHF Antenna Input
			DIN type
			AC Inlet
			No
<b>G-16</b>	<b>Set Size</b>	Approx. W x D x H (mm)	502 x 486.5 x 513
<b>G-17</b>	<b>Weight</b>	Net (Approx.)	22.0kg ( - lbs)
		Gross (Approx.)	24.0kg ( - lbs)
<b>G-18</b>	<b>Carton</b>	Master Carton	No
		Content	-
		Material	-
		Dimensions W x D x H(mm)	-
		Description of Origin	-
		Gift Box	Yes
		Material	Double/Brown
		Dimensions W x D x H(mm)	569 x 562 x 590
		Design	As per Buyer's
		Description of Origin	No
		Drop Test	Natural Dropping At
			1 Corner / 3 Edges / 6 Surfaces
		Height (cm)	46
		Container Stuffing(40' container)	332 Sets
<b>G-19</b>	<b>Material</b>	Cabinet	Front
			PS 94HB
			Rear
			PS 94HB
			Jack Panel
			PS 94HB
		PCB	Non-Halogen Demand
			No
			Eyelet Demand
			No

# DISASSEMBLY INSTRUCTIONS

## 1. REMOVAL OF MECHANICAL PARTS AND P.C. Boards

### 1-1: BACK CABINET (Refer to Fig. 1-1)

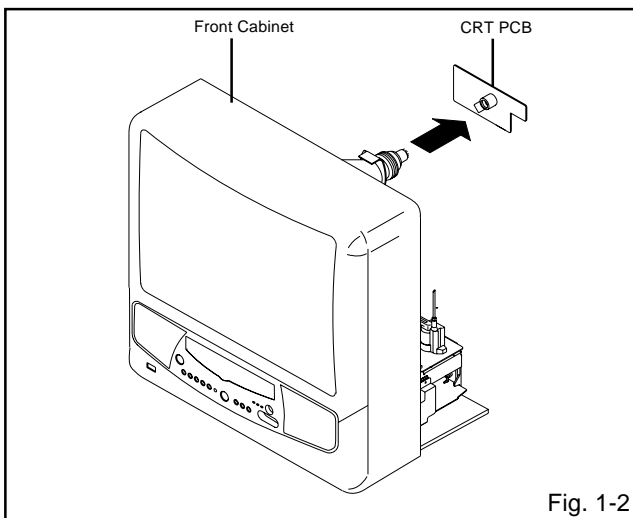
1. Remove the 6 screws (1).
2. Remove the 2 screws (2) which are used for holding the Back Cabinet.
3. Remove the AC cord from the AC cord hook (3).
4. Remove the Back Cabinet in the direction of arrow.



### 1-2: CRT PCB (Refer to Fig. 1-2)

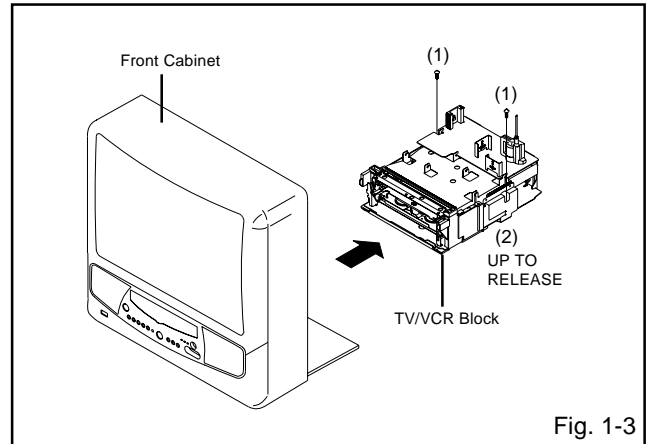
**CAUTION: BEFORE REMOVING THE ANODE CAP, DISCHARGE ELECTRICITY BECAUSE IT CONTAINS HIGH VOLTAGE. BEFORE ATTEMPTING TO REMOVE OR REPAIR ANY PCB, UNPLUG THE POWER CORD FROM THE AC SOURCE.**

1. Remove the Anode Cap.  
(Refer to REMOVAL OF ANODE CAP)
2. Disconnect the following connectors:  
(CP802 and CP850).
3. Remove the CRT PCB in the direction of arrow.



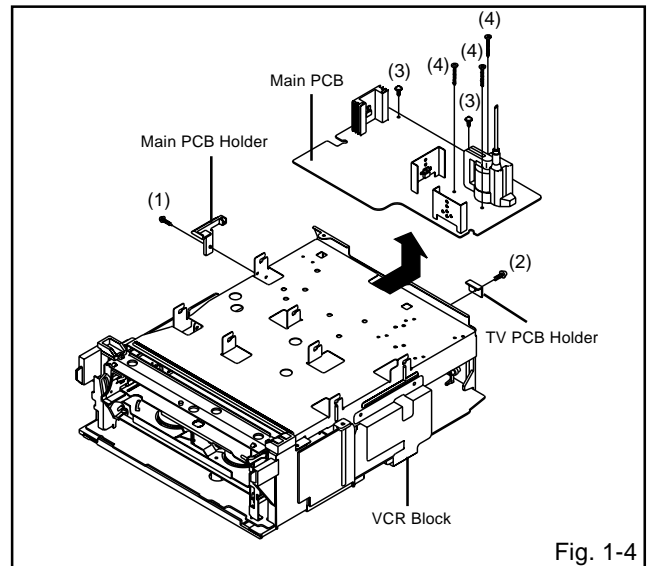
### 1-3: TV/VCR BLOCK (Refer to Fig. 1-3)

1. Remove the 2 screws (1).
2. Disconnect the following connectors:  
(CP401, CP501, CP502, CP4202 and CP4203).
3. Unlock the support (2).
4. Remove the TV/VCR Block in the direction of arrow.



### 1-4: MAIN PCB (Refer to Fig. 1-4)

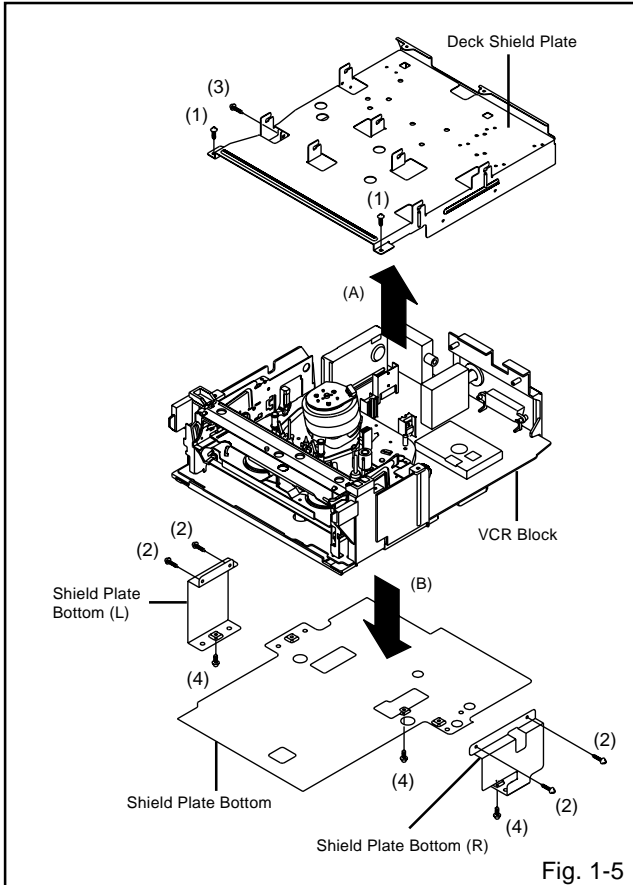
1. Remove the screw (1).
2. Remove the Main PCB Holder.
3. Remove the screw (2).
4. Remove the TV PCB Holder.
5. Remove the 2 screws (3).
6. Remove the 3 screws (4).
7. Disconnect the following connectors:  
(CP403, CP810 and CP820).
8. Remove the Main PCB in the direction of arrow.



# DISASSEMBLY INSTRUCTIONS

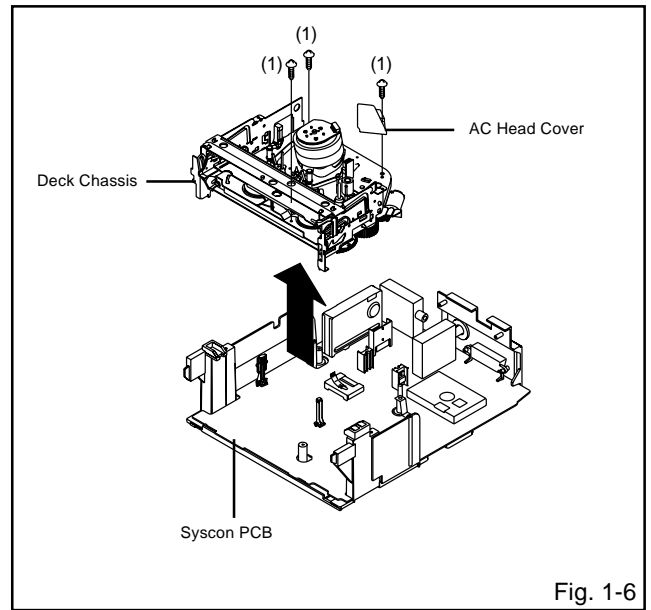
## 1-5: DECK SHIELD PLATE (Refer to Fig. 1-5)

1. Remove the 2 screws (1).
2. Remove the 4 screws (2).
3. Remove the screw (3).
4. Remove the Deck Shield Plate in the direction of arrow (A).
5. Remove the 3 screws (4).
6. Remove the Shield Plate Bottom, Shield Plate Bottom (R), Shield Plate Bottom (L) in the direction of arrow (B).



## 1-6: DECK CHASSIS (Refer to Fig. 1-6)

1. Remove the 3 screws (1).
2. Disconnect the following connectors: (CP1001, CP4001, CP4004 and CP4005).
3. Remove the Deck Chassis and AC Head Cover in the direction of arrow.



## 1-7: JACK PLATE AND SYSCON PCB (Refer to Fig. 1-7)

1. Remove the screw (1).
2. Remove the Syscon PCB in the direction of arrow (A).
3. Remove the 2 screws (2).
4. Unlock the 2 supports (3).
5. Remove the Jack Plate in the direction of arrow (B).

