Removal of case components and sevice positions of printed circuit boards

1. The casing cover

Dismounting :

- Unscrew the screws A, B, C, D, E, F and G (see fig. 1).
- Pull back the casing cover for appr. 1 cm, and when the side panels are being slightly pressed outward, the cover can be taken off.

Assembly :

- Place the front groove tightly on the front panel.

Then carry out the assembly in reverse order.

2. The bottom plate

- Place the unit with the bottom side up.
- The bottom plate can be lifted off by releasing the six snap hooks (see fig. 2).

3. The front panel

- Remove the casing cover (see point 1).
- Press the two snap hooks on the left and the two snap hooks on the right at the front outward.
- Press the front at the top slightly forward, release the 3 snap hooks at the bottom side of the front and pull forward (see fig. 3).

Note :

For assembly, the front panel has to be slipped on in parallel to the control print. For this purpose, the lever which serves to open the lift flap has to be pushed into the flap guide.

4. Power supply NSM

The NSM can be removed from the unit by releasing the two snap hooks (see fig. 4).

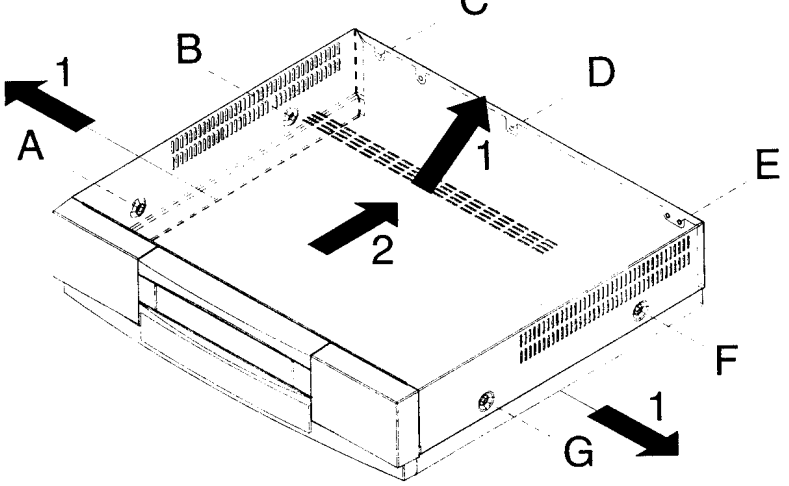


Fig. 1

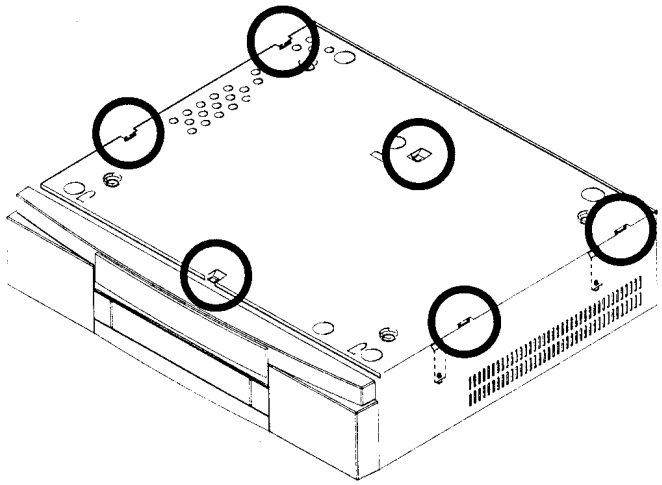


Fig. 2

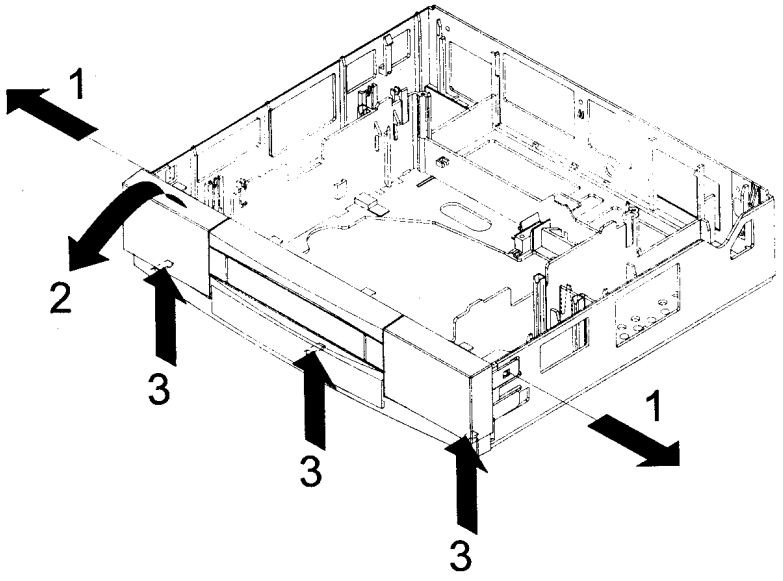


Fig. 3

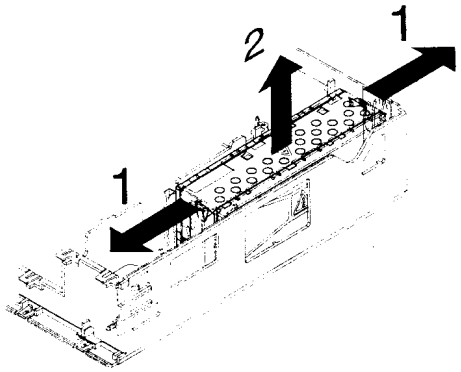


Fig. 4

5. Control print ODC

- Remove the front panel see point 3.
- The control print can be removed by releasing the snap hooks (see fig. 5).

6. Family board OFB

- Release the 4 snap hooks (see fig. 6).
- Now lift the OFB turn it into the service position (see fig. 7) and place it into the slots provided.

7. The Tape deck

- Remove front panel and cover, see point 1 and 3.
- Unlock the 2 lift locks and manually move the lift 5 cm to the rear.
- Unscrew the 3 screws V,R,S (see fig. 8).
- The whole tape deck can now be removed from the frame.

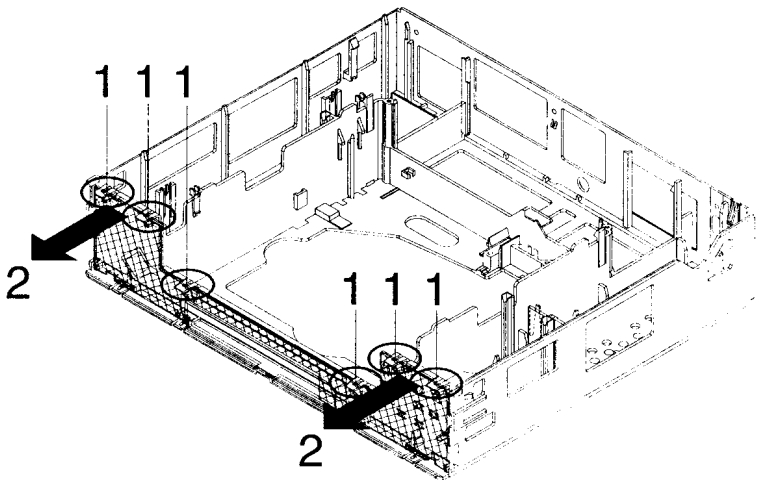


Fig. 5

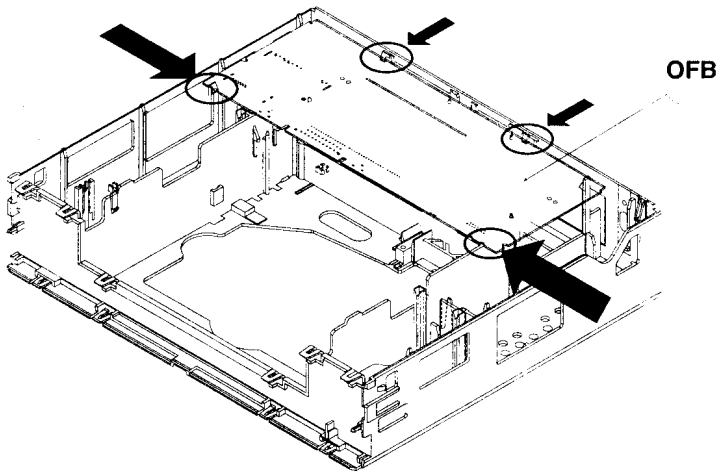


Fig. 6

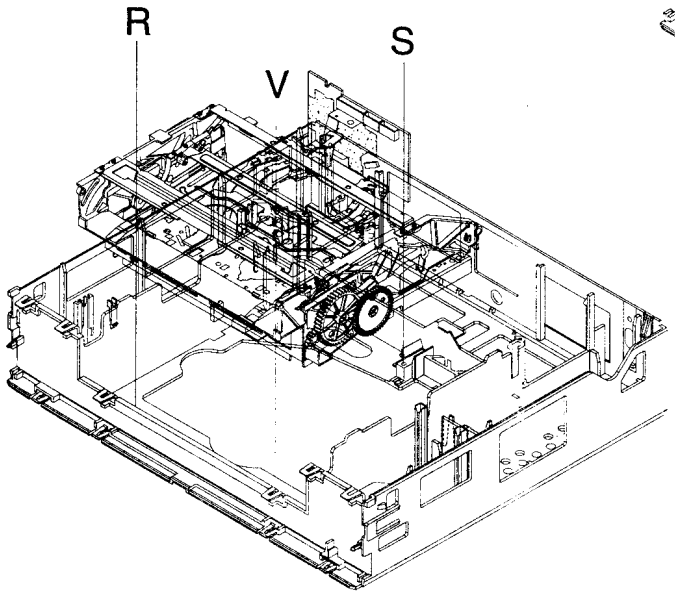


Fig. 8

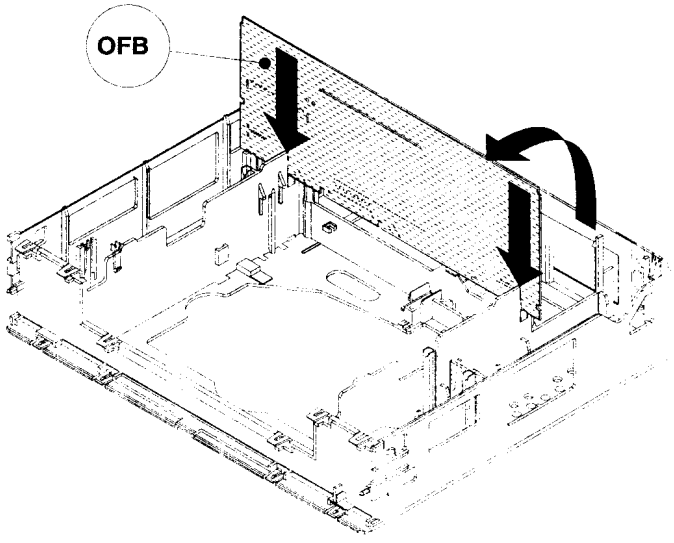
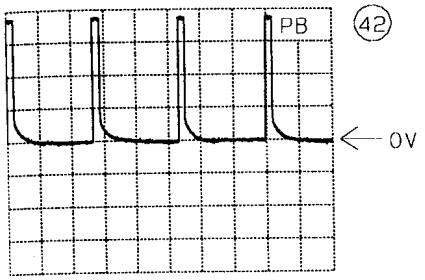
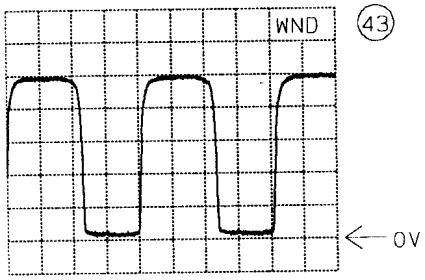


Fig. 7

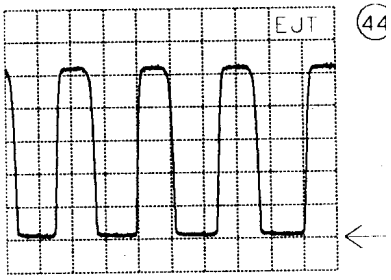
1604 C 8
1965 F 2
1967 M 1
1969 H10
3200 D 5
3201 D 5
3202 D 5
3300 D 6
3401 L 6
3501 K 8
3600 D 9
3601 E 8
3602 E 9
6103 G 8
7102 A 6
7103 C 9
7104 E 9
7106 N 6
SW1 K 9



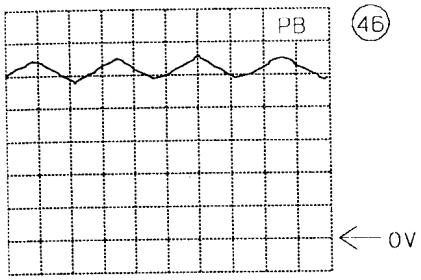
A: DC, 1 V/Div, 5ms/Div
Connector 1913 Pin 13



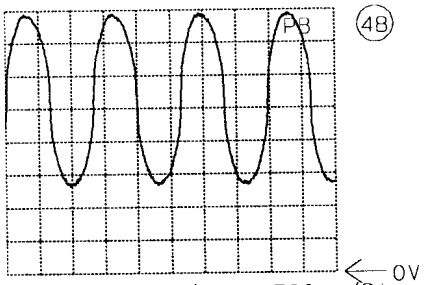
A: DC, 1 V/Div, 5ms/Div
Connector 1913 Pin 12



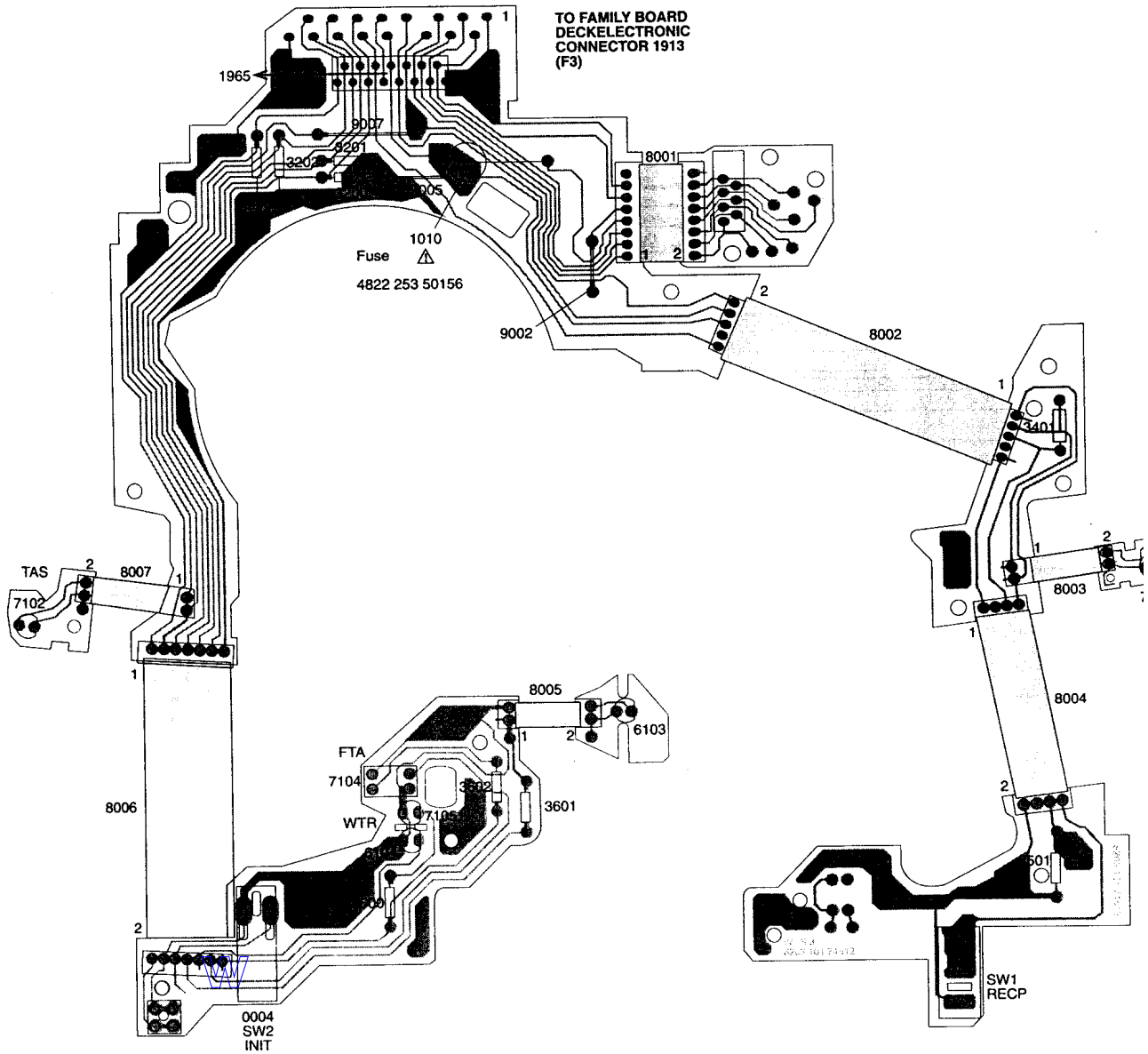
A: DC, 1 V/Div, 10ms/Div
Connector 1913 Pin 11



A: DC, 500mV/Div, 10us/Div
Connector 1913 Pin 3



A: DC, 500mV/Div, 500us/Div
IC 7411 Pin 8

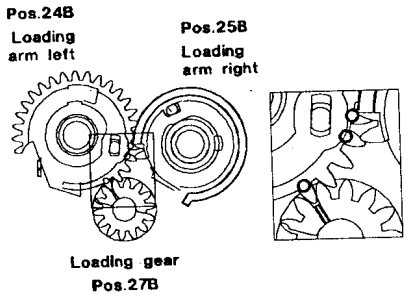


4.1.1 Deck lay out diagram

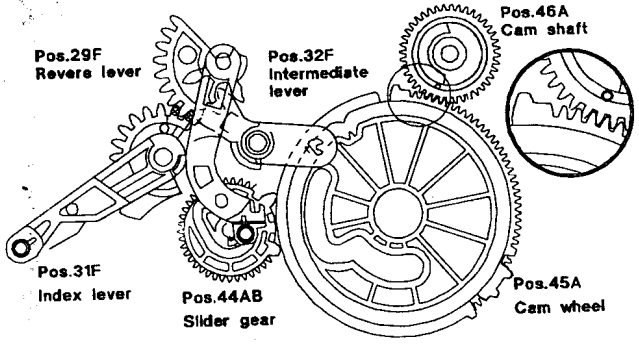
Deck in position "threaded out".

The following diagrams indicate the relative position of the gearwheels and levers when the deck is in the threaded out (cassette compartment down) position.

Top view



Top view



4.1.2 The Lift

Refitting the lift compartment:
Ensure the lift compartment is down and gear A is rotated one click stop anticlockwise from the down position.
The removal and refitting of the lift can be carried out in all deck positions with the exception of "eject" (ensure that gears 103/105 are free).

To remove the lift
- Free the holding bracket (Fig. 2) by rotating it up and back from the upper end.
- Unscrew the 4 screws on the underside of the deck.
- Carefully remove the lift vertically, noting the position of the record protect operating lever.

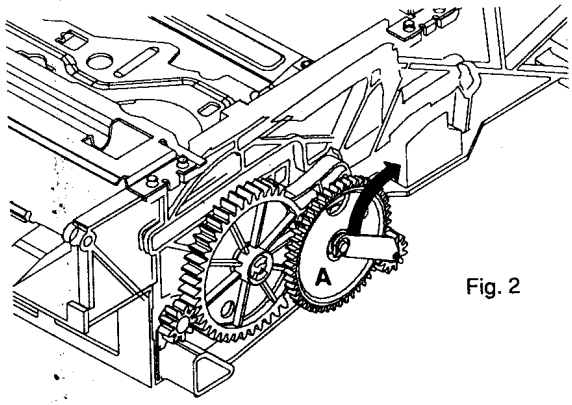
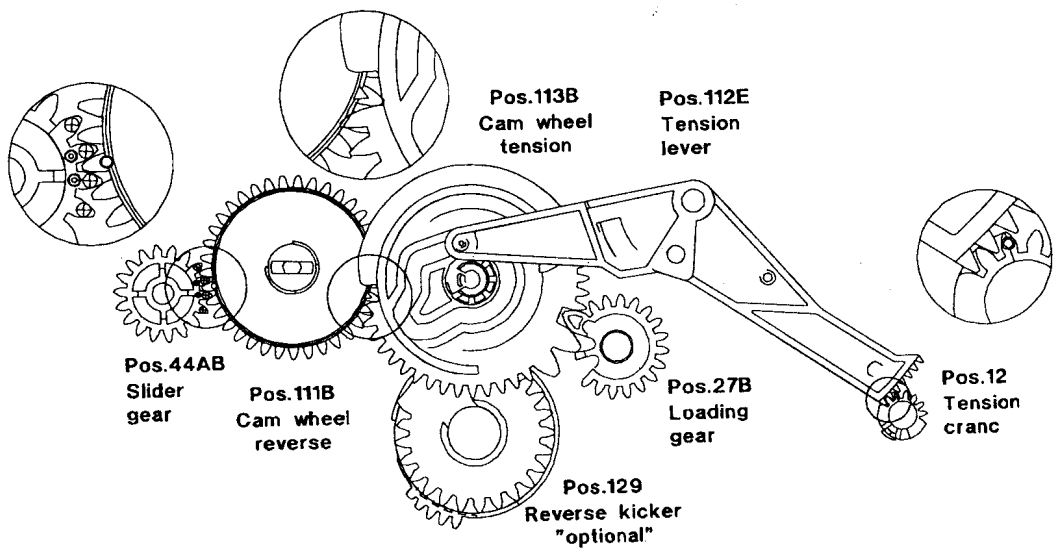


Fig. 2

Underside view



Adjustment of the azimuth angle and the head height

- Connect an oscilloscope to the linear Audio output.
- Play the section of the test cassette with the audio signal 400 Hz.
- Adjust for maximum output voltage by means of the height adjustment screw
- Play the section of the test cassette with the audio signal 8 kHz.
- Adjust to maximum output voltage by means of the azimuth adjustment screw (Fig. 19).
- If necessary, repeat this procedure
- Check the tilt angle adjustment

If the tape path was completely out of adjustment or if several components in the tape path have been replaced, it is possible, that the adjustments described in paragraph 4.2.1.1 and paragraph 4.2.1.2 have to be repeated several times.

4.2.2 Adjustment of the horizontal distance (x-distance)

- Before this adjustment is carried out, insert the test cassette (start from Eject position). Call the service test program (tracking value will take up its nominal position) and press the "play" button.
- Playback the black/white part of the test cassette.)
- Display the TRIV signal on an oscilloscope (DC-coupled) and adjust for maximum voltage by means of the eccentric screw (Fig.19).

4.2.3 Brake band adjustment

- Set the drive to "Play"
- Adjust the brake band by means of adjusting tool (fron underside of the drive), until the edge of the elbow of t tension arm overlaps with the left inner edge of the lef by 0.5mm (see Fig. 20)

4.2.4 Tape tension adjustment

- Play a VCR cassette (E 180) starting from the beginni tape.
- Measure the tape tension before the roller unit left by a tentelometer.
- Adjust the tension arm spring (pos.11) to a tape tensic N ± 0,02 N (24 g ±2 g) by means of the adjustment toc the underside of the drive, Fig. 20).

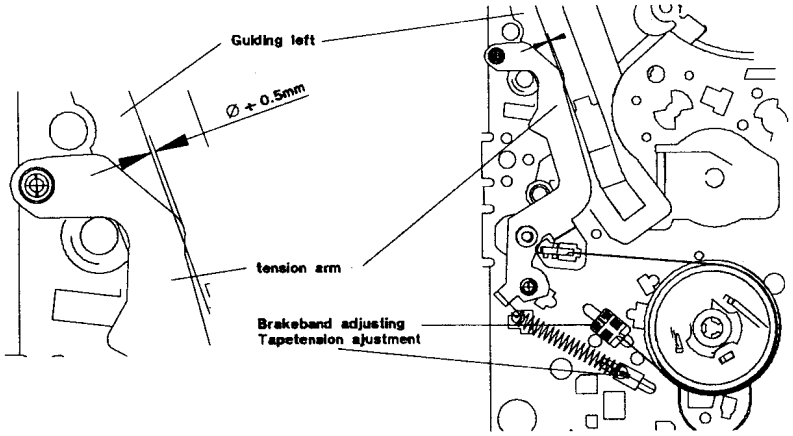
4.2.5 Friction clutch control check

- Set the drive to "Play" position.
- Place the torquemeter on the right reel.
- Turn the capstan motor to move the right reel clockwis
- Keep turning, until the indication at the torquemeter nc changes (Fig. 21)
- The torque has to be 10,5 mNm ± 25% (105gFcm ±25

4.2.6 Reverse brake control

- Set the drive to "Reverse" position.
- Place a torquemeter on the right reel and turn the latt counterclockwise, until the reel just starts to flip.
- The value indicated at the torquemeter has to be 7mN 3mNm (70 gFcm ± 30gFcm) (Fig. 21).

Fig. 20



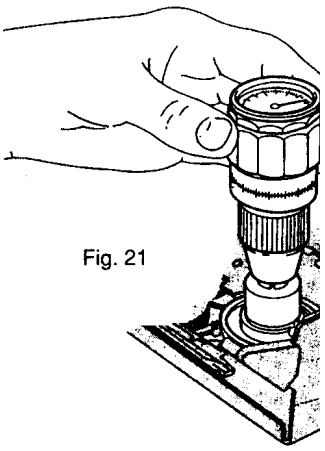
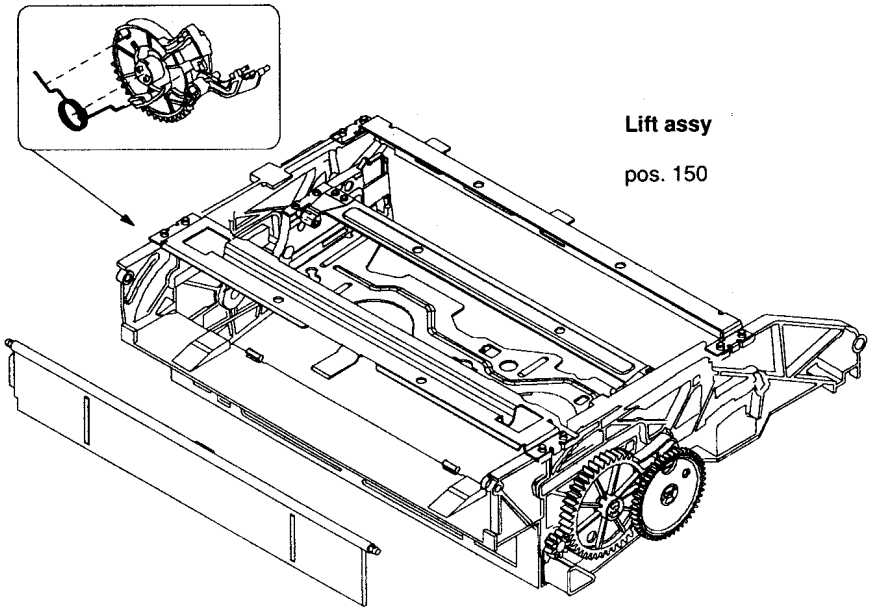
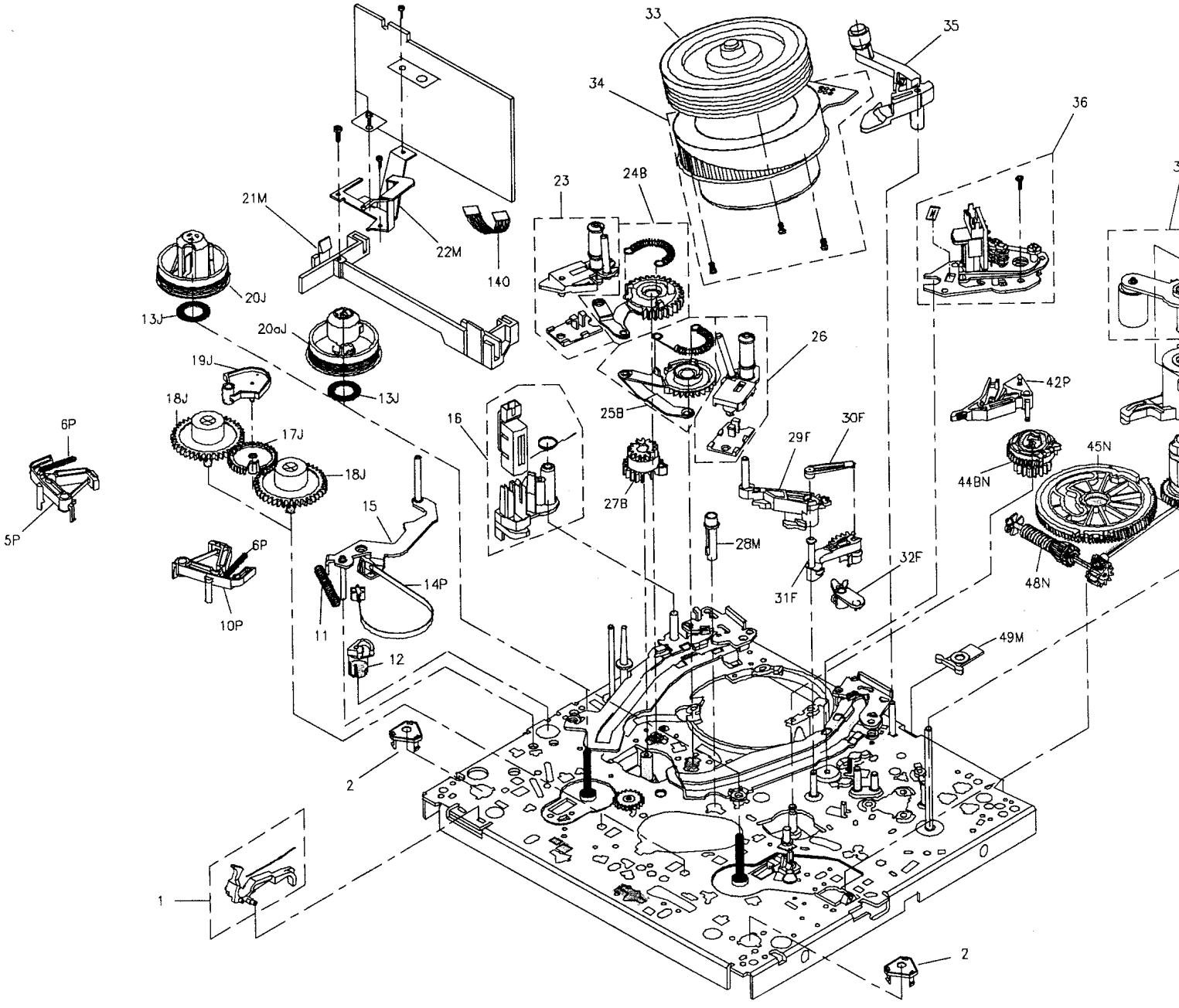


Fig. 21

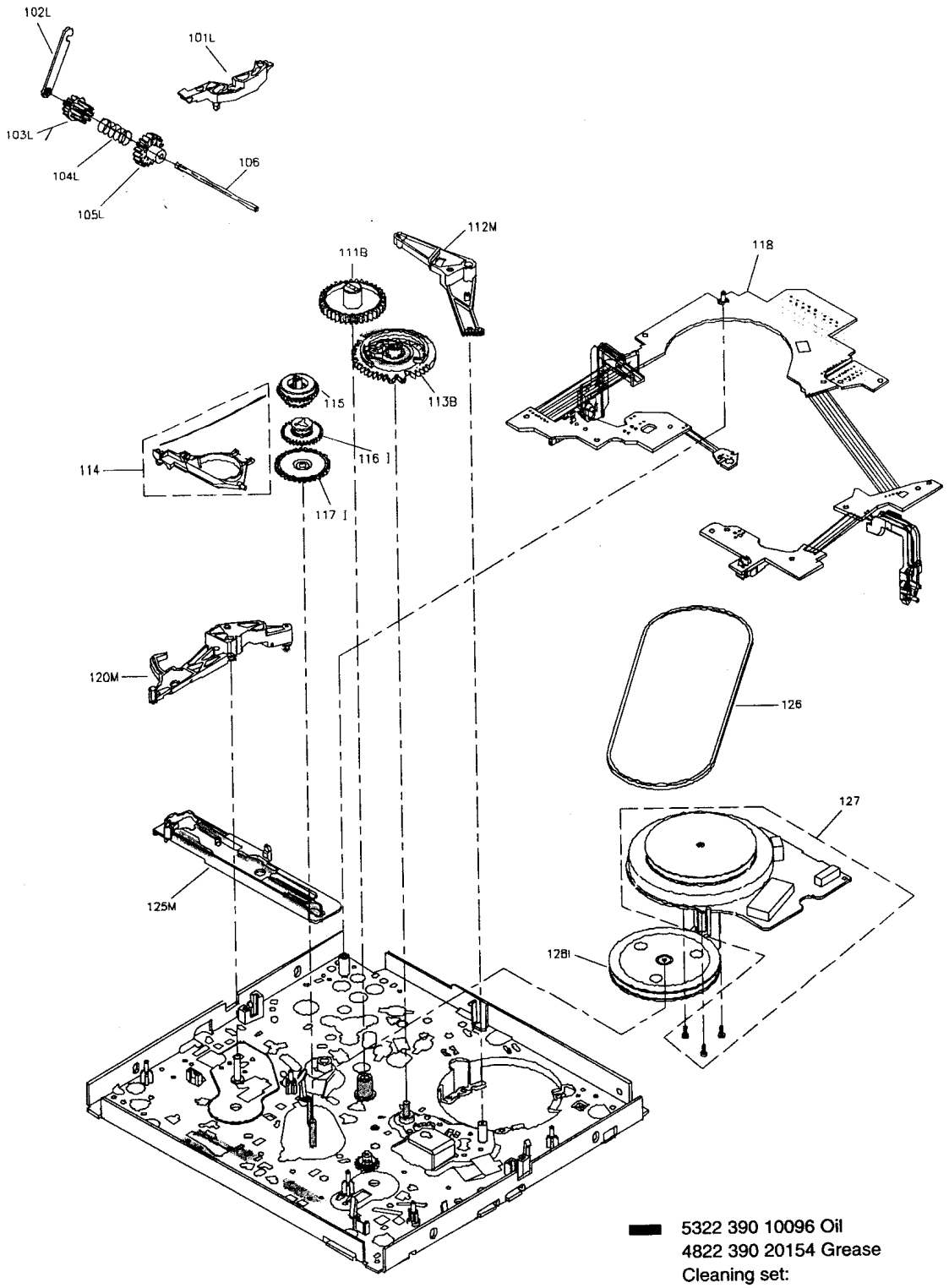


Lift assy

pos. 150


33
35
34
36
23
24B
21M
22M
140
20J
13J
20aJ
13J
19J
18J
17J
18J
6P
5P
6P
10P
15
14P
11
12
16
25B
27B
26
29F
30F
28M
31F
32F
42P
44BN
45N
48N
49M
2
1
2

Bottom view


102L
101L
103L
104L
106
105L
112M
111B
118
115
113B
116
114
117
120M
126
127
125M
128
5322 390 10096 Oil
4822 390 20154 Grease
Cleaning set:
4822 390 80166 Isopropanol
4822 466 91591 Fibrefree tissue