MECHANICAL ADJUSTMENTS AND CHECKS OF THE RECORDER SECTION

Command bracket 88, (Fig. +6)

In position playback bracket 88 should be moved so that it is just in contact with stop A.

It is adjustable by shifting bracket 312 photograph page 13.

After this the fixing screws of bracket 312 should be lock-painted.

Pressure roller lever (Fig. 6)

The force required to pull pressure roller 83, in position "playback" just clear of the capstan should be between 330 and

This force can be adjusted by hooking the end of torsion spring 86 into another hole.

This adjustment may be carried out only after adjusting the command bracket.

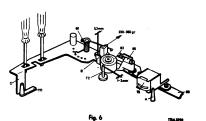
In position playback the clearance between pressure roller lever 85 and tag B should be approx. 0.3 mm. This can be adjusted by bending cam B of bracket 88.

Rubber idler wheel 108 (Fig. 1)

First check the adjustment of command bracket 88 and, if necessary, readjust.

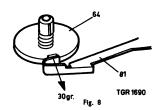
If, when switching on the casette recorder, pressure roller 83 just touches the capstan, tag C of bracket 88 should be just clear of the cam of bracket 111 (fig. 6).

This can be adjusted by inserting two screwdrivers in the slotted holes and bending bracket 88.



Brake bracket 81 (Fig. 8)

In the playback position the felt on the brake bracket should press against the frontmost turntable with a force of approx. 30 g. This can be adjusted by bending the brake bracket.



It is possible that the tape is wound into the casette irregularly or not at all. As a result the tape supplied by the capstan may be damaged.

This may be caused by

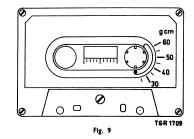
a. Insufficient winding friction

b. Excessive winding friction in the casette.

To determine the cause of the fault, the torque of the winding friction should first be measured. This is effected as follows: Insert a test casette (4822 395 80037, Fig. 9) into the recorder. Switch on the recorder and check that the torque of the winding

friction is between 40 and 55 g. Also check whether slip occurs by blocking the right-hand turntable. In that case idler wheel 108 and the nylon disc of the winding friction 67 should continue to rotate

If necessary, check whether lever 111 runs heavily. Replace idler and/or winding friction, if required. After replacement again check the winding friction.



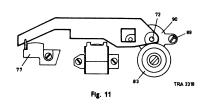
Adjusting the flywheel capstan

As the tape guide, playback head and pressure roller of the 22RN582 are always in line, the capstan is the only part with which the lace-up should be adjusted. The capstan should be perpendicular to the tape direction. Adjustment can be effected with the aid of an adjusting device (4822 402 60245).

Remove cover 57 from the casette compartment and remove pressure roller lever 85.

Set the recorder to position playback and slide the adjusting device over the capstan. The capstan should not move in the tape guide without friction, as shown in Fig. 11. If it does not, the position of the capstan can be adjusted with the aid of screw 89. Then lock-paint this screw.





Adjusting relay RE201

When the relay is energised, the distance between setscrew 114 and the frame should be 0.6 mm.

When the relay is energised, the point of lever 41 should be positioned freely in the hole of the relay yoke. When the casette recorder is switched on (without voltage) the point of lever 41 should move just along the relay yoke.

Adjusting the playback head

Insert a casette with a 6300 Hz test tape (code number: 4822 397 30005). Switch on the recorder and adjust for maximum output power with screw 192. Then lock-paint this screw.

ELECTRICAL CHECK OF THE RECORDER SECTION

Motor current consumption

The current consumption of the unloaded motor (i.e. without drive cord) should be smaller than 20 mA. At the end of the tape the current consumption should be less than 75 mA with idler wheel 96, blocked.

During fast winding and fast rewinding the current consumption at the beginning of the tape should be smaller than 120 mA, while at the end of the tape it should be smaller than 140 mA. The above-mentioned values should be measured at a supply voltage of 14.4 V. The figures also include the current consumption of the control circuit (TS301 and TS302) of the motor. It is advisable to measure the current between points 1 and 3 of

Tape speed check 1

The tape speed check is carried out with the aid of test tape 4822 397 30005, onto which a 400 Hz signal has been modulated every 4.75 m. Insert the casette with the test tape in the recorder. Switch the recorder to position "playback"

The time between two subsequent 400 Hz signals should be between 98 and 102 secs. If the time is smaller than 98 secs. the speed is too high.

In the latter case one or more parts of the recorder might not run smoothly, e.g. the pressure roller, winding friction, flywheel or turntable. These parts should then be cleaned and re-lubricated.

If the speed is still too high, this can be adjusted with the aid of R302. This method of checking is rather time-consuming; the following method does not take up so much time.

Tape speed check 2 (Fig. 5)

Open a casette at the side, so that the tape can be pulled out through the opening.

Remove the cabinet from the recorder and insert the casette. Position a stroboscopic disc (code number 4822 395 90001) for 50 Hz and 4822 395 90002 for 60 Hz) next to the recorder and lead the tape past it.

If the recorder is switched on, it can be read on the stroboscopic disc whether the speed is too high or too low.

If the speed is too low, this may be caused by the pressure roller, winding friction, flywheel or turntables. These parts should then be cleaned and re-lubricated.

If the speed is not yet correct, this can be adjusted with R302. The time required for fast rewinding of a full casette should be smaller than 60 secs.

WORKING OF THE RELAY AND THE AUTOMATIC STOP MECHANISM

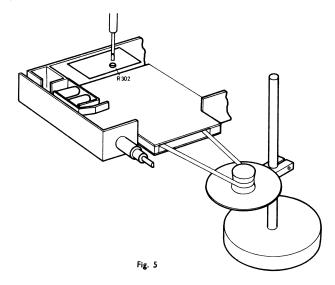
In the rest position contacts 1 and 2 of SK-B are closed. Transistor TS202 is turned on, if the supply voltage is switched on. TS201 will also be conductive. As a result relay RE201 is energised. If the casette compartment is pressed down (the casette recorder is switched on), points 1 and 3 of SK-B will be closed. Consequently, the motor and also the turntable will become operative, so that SK-E is very quickly switched from the one position to the other. .

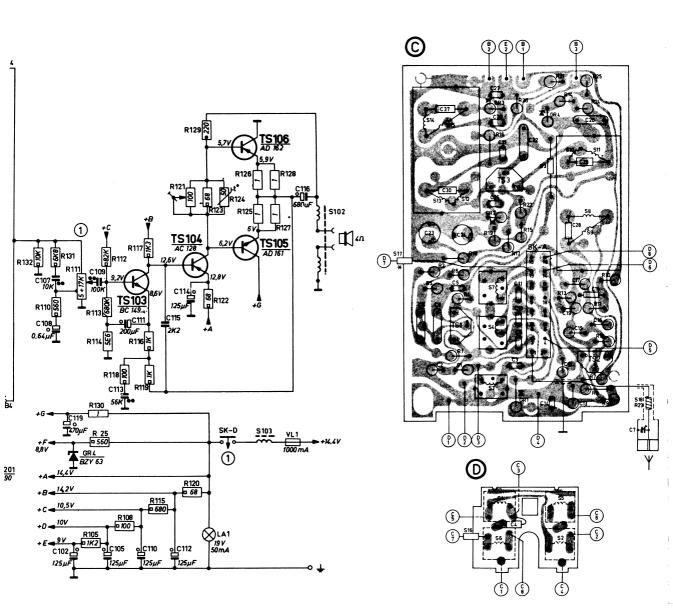
If at a certain moment contacts 1 and 2 of SK-E are closed, C202 will be charged via C201 and R202. As a result a current will be applied to the base of TS202, large enough to energise the relay.

Simultaneously C201 is very quickly discharged via R201. The next moment SK-E is in the second position. C201 is then charged via R201 and C202, so that the relay remains energised. C202 then discharges via R201. Since switching is effected very quickly and since C201 and C202 are rather large, a practically constant charging current will flow through R202, so that the base of TS202 has a practically constant positive voltage. Consequently, the relay remains energised. If the end of the tape is reached, the turntable stops, so that SK-E stops in a certain position. C201 or C202 is then charged. After some time (a few seconds) the charging current will have become too small, so that the base voltage of TS202 becomes

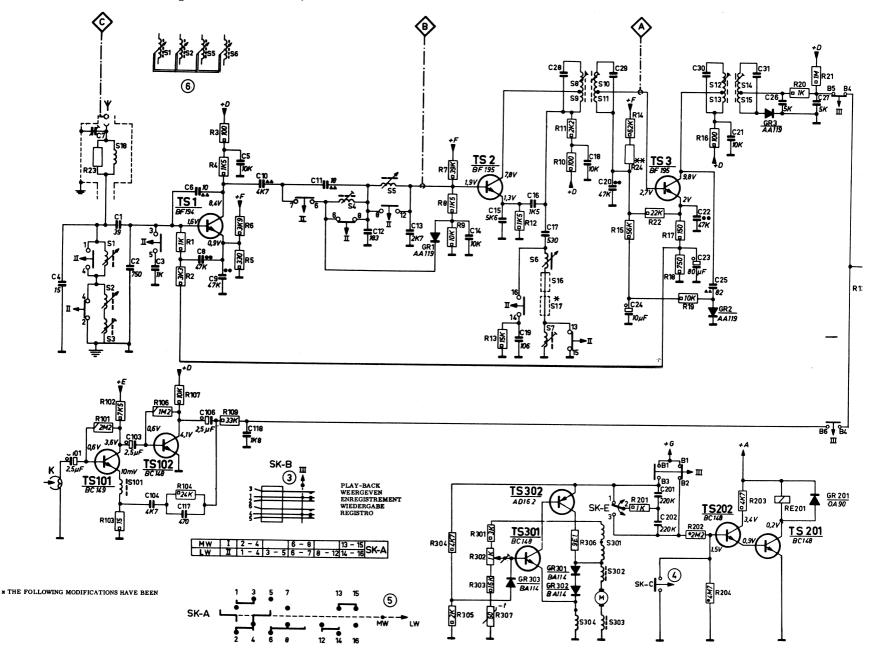
As a result the relay will be de-energised, so that the casette compartment automatically moves up.

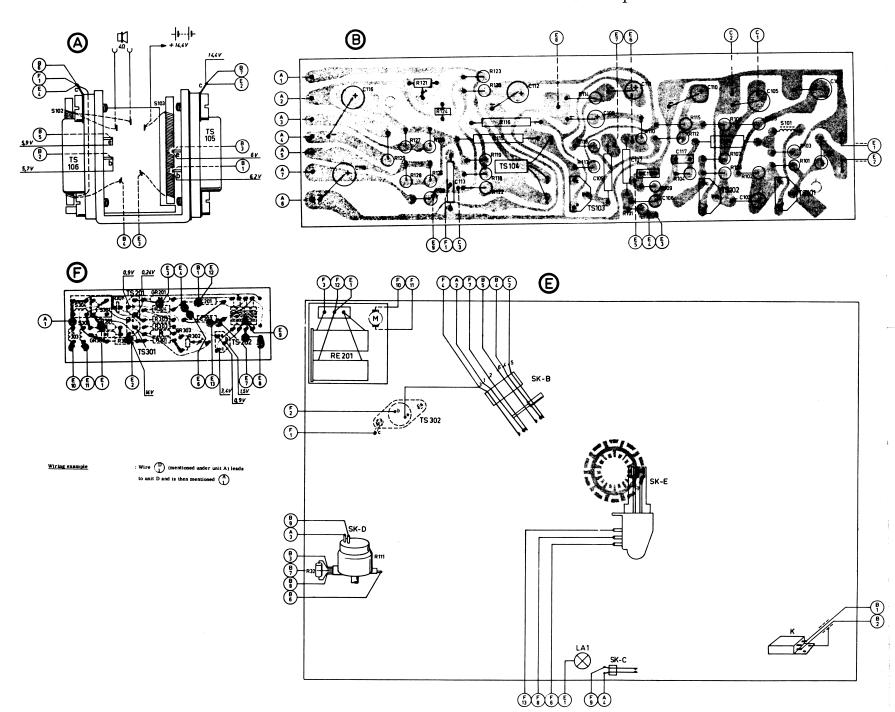
Contacts 1 and 2 of SK-B are closed again, so that the relay is re-energised (rest position). The next casette can then be played back. If during playback, control 4 is depressed, switch SK-C is closed. Resistor R204 is then short-circuited and relay RE201 is de-energised. The casette compartment returns to the rest position.





P6 Philips 22RW582/15





4822 502 10041

4822 502 10681

4822 530 70115

4822 532 10215

4822 530 70117

4822 502 10089

4822 502 10681

4822 530 70115

4822 532 10201

4822 528 10166

4822 535 90509

4822 462 70485

4822 528 10193

4822 532 50262

4822 278 90228

4822 505 10003

4822 528 80352

4822 520 60048

4822 520 10227

4822 492 50312

4822 502 10814

4822 401 10474

4822 403 50434

REPAIR HINTS OF THE RECORDER SECTION

Since with bracket 320 the casette compartment can be adjusted and this adjustment should be effected very accurately. It is recommended NEVER to remove this bracket for repair purposes. This bracket may, however, be removed together with brackets 301 and 317 as one unit.

1. Replacing the cords

- . When fitting the new cord, ensure that it remains free of
- After fitting, readjust the axial plus of flywheel 72 to 0.1 mm. This is possible with the aid of screw 75, which should be lock-painted after the adjustment.

2. Replacing flywheel 72

- After replacing the flywheel, degrease the capstan and adjust the axial plug of the flywheel to 0,1 mm.
- . Next, lock-paint screw 75.
- . Check oil seal 109.

3. Replacing drive roller 93 and idler bracket 97

- Remove tension spring 53 and remove cord 104.
- . Remove circlip 12.
- . Remove bracket 319 from plastic pin 42,
- . Remove bracket 101 with drive roller 93.
- . Remove circlip 68 and replace the drive roller. . Bracket 97 can then also be replaced.

4. Replacing rubber idler wheel 108

- . Remove the flywheel (see point 2).
- . Remove circlip 3, fixing lever 111.
- . Lever 111 can then be removed together with bracket 110 and idler wheel 108.
- Next, remove ring 124. The idler wheel can then be replaced.

5. Replacing command bracket 88

- . Remove cover plates 57 and 58,
- . Remove circlip 8 and spring 87.
- . Remove guide 60. The bracket assy, can then be removed from the recorder, when the casette compartment is
- . For adjusting the new bracket, see under "Mechanical adjustments and checks".

6. Replacing brake spring 81

- . Remove the command bracket assy, 88 from the recorder (see point 5). . Cut the old and the new brake spring as shown in Fig. 4.
- . The new brake spring has been provided with two holes. Fit the new brake spring onto the old one in such a way
- that the two holes coincide exactly. . The new and the old spring can then be soldered onto each

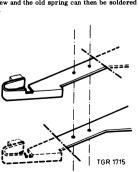


Fig. 4

7. Replacing items 45, 44, 43 or 42 Remove the plastic pressure bracket 21, spring 40 and

- circlip 3. Replace front bracket 24.
- Mind the cord and the connection wires to LA1 and SK-C. . The above-mentioned parts can now be replaced. However, to replace 42 circlip 3 should first be removed.

8. Replacing volume control 136 (R111)

- . Remove spring 40, circlip 3 and hexagonal nut of volume
- The volume control can then be removed after unsoldering the wires

9. Replacing turntable 64

- Remove cover plates 57 and 58.
- Do not remove connection bracket 320.
- Remove cap 66.
- . The turntable can then be replaced.

10. Replacing turntable 67

- . Remove cover plate 57, dust cover 137, switch SK-E and
- . The turntable can then be replaced.

11. Replacing flywheel bearing 90

- . Remove the flywheel (see point 2).
- . Loosen screws 89 and 7.
- . The bearing can then be replaced.
- . For adjustment of the bearing, see under "Mechanical adjustments and checks".

Circlip (6 mm Ø) Screw (3x10)	4822 530 70118 4822 502 10012
Nut (M3) Circlip (2,3 mm 9) Spring in knob Spring in knob Spindle	4822 505 10005 4822 530 70043 4822 492 61155 4822 492 60752 4822 535 90575
Ring Pin Scale background with	4822 530 80081 4822 529 50038
lamp holder Guide bracket Coupling piece	4822 410 20687 4822 404 20087 4822 466 80353
Guide bracket Tension spring Screw	4822 466 70158 4822 492 30671 4822 502 10902
Front plate with threaded bushes Screw (2,5x6)	4822 404 20086 4822 502 10813
D.c. relay Tension spring Rubber grommet Motor Drive cord	4822 280 80308 4822 492 30597 4822 532 70078 4822 361 20038 4822 358 30137
Spacer for cover Screw (2,5x4) Nut (M10) Knob Knob	4822 462 70486 4822 502 10812 4822 505 10042 4822 413 40391 4822 411 20117
Cap Ornamental screw Switch SK-C Tension spring Lever	4822 331 20026 4822 502 10885 4822 278 90226 4822 492 30595 4822 403 20032
Slide Pressure spring Disc Pipe Guide pin	4822 403 50433 4822 492 50621 4822 413 40356 4822 520 30175 4822 535 90511
Ring (2,2 mm 9) Ring (1,85 mm 9) Tension spring Pressure spring Screw	4822 532 50043 4822 532 50286 4822 492 30592 4822 492 50622 4822 502 10844
Ejector button Tension spring Countersunk screw (2,5x4) Countersunk screw (2,5x6) Lid for casette housing	4822 410 20687 4822 492 30593 4822 502 10816 4822 502 10815 4822 466 90473
Lid Screw Guide Cam Tension spring	4822 466 90484 4822 502 10868 4822 462 70485 4822 403 20033 4822 492 30596

Screw (3x10)

Circlip (3 mm Ø)

Circlip (5 mm Ø)

Circlip (4 mm Ø)

10

11

12

14 15

16

17

18

19

20

21

23

24

26

27

28

29

30

31

32 33

34

35

36

37

38

39 40

41

42

43

44

45

46

47

48

49

50

51

52

64 65

66

67

68

69

70

71

72

73

74

75

76

77

Turntable

Turntable

Pulley

Flywheel

Support

Tape guide

Cam for switch

Cap for turntable

Ring (1.2 mm Ø)

Thrust bearing

Screw (2,5x10)

Pressure spring

Switch SK-B

Countersunk screw (2x6)

Screw (2x8)

78 79 80	Self-tapping screw (2x3/8") Playback head Ring	4822 502 30 4822 249 10 4822 532 50
81 82	Brake spring with felt Switch SK-E	4822 403 10 4822 278 90
83 84	Pressure roller Ring (1,5 mm Ø)	4822 528 70 4822 532 50
85 86	Pressure roller lever Torsion spring for pressure	4822 403 40
87	roller lever Torsion spring	4822 492 40 4822 492 40
88 89	Lever Set screw for flywheel (2,5x4)	4822 403 40 4822 502 10
90	Flywheel bearing	4822 520 10
91 92	Tension spring Screw	4822 492 30 4822 535 90
93 94	Drive roller Screw	4822 528 80 4822 502 10
95	Ring (2,6 mm 9)	4822 532 10
96 97	Idler wheel Bracket	4822 528 70 4822 403 20
98 99	Screw	4822 500 10 4822 492 50
101	Pressure spring Bracket	4822 492 50 4822 403 20
102	Screw (2x5)	4822 502 10
103	Tension spring	4822 492 30
105 106	Lever	4822 403 50
107	Torsion spring Lever	4822 492 40 4822 403 50
108	Idler wheel	4822 528 70
109	Ring (2 mm Ø)	4822 532 50
110	Bracket Lever	4822 403 20
111 112	Nut	4822 403 20 4822 505 10
113	Nut	4822 505 10
114	Screw (2,5x10)	4822 502 10
115 116	Bracket Screw	4822 492 61 4822 502 10
117	Screw (1,6x3)	4822 502 10
118 119	Set screw Buffer	4822 502 10 4822 462 40
120	Ring (4 mm Ø)	4822 532 10
121	Guide bracket	4822 466 70
124	Ring	4822 532 50
125 126	Bearing block Ring	4822 520 10 4822 532 50
127	Tuner (without IF board)	4822 210 10
128 129	Spring for worm shaft (tuning) Pressure spring	4822 492 61 4822 492 61
130	Ring	4822 532 10
131	Ring (1,55 mm Ø)	4822 532 50
132 134	Pressure spring Countersunk screw	4822 492 50 4822 502 10
135	Ring (2,5 mm Ø)	4822 502 10 4822 532 10
136	Volume control	4822 101 50
137	Cover	4822 443 60

LUBRICATING INSTRUCTIONS

Lubricate the spindles with Shell Tellus 33, 4822 390 10006 Lubricate the contact surface with Lubricant 10,

4822 390 10003

P6 Philips 22RW582/15

