



**DD450 & DD455**

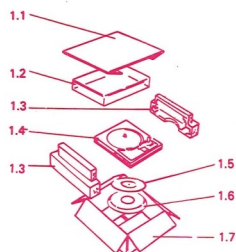


Fig. 1

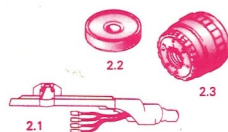


Fig. 2

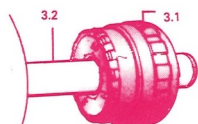


Fig. 3a

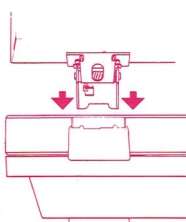


Fig. 3b

- ★ Model DD450 semi-automatic, single record playing turntable.
- ★ Model DD455 fully automatic, single record playing turntable.

Information in this manual applies to both models, except where a particular one is specified.

#### Introduction

These direct drive turntables are our answer to the need for a high standard of performance combined with an elegant appearance and simple operation.

**The tonearm**, with its low effective mass and low-friction pivots is comparable with many of the best arms available. It will accept a wide range of high quality cartridges.

**The motor** is a major factor in the performance of any direct drive turntable since its main shaft is integrated with the platter. For this reason, both models feature a brushless direct current (d.c.) motor operating at a low speed to minimise mechanical vibration. The high voltage alternating current (a.c.) power supply is converted to low voltage d.c., to render motor speed immune to the normal fluctuations in the voltage or frequency of household current. Its "coreless" design, high-precision bearings, and the continual monitoring of platter rotation with instant electronic correction, result in exceptional accuracy and stability of speed.

**Operating controls** are accessible from the front of the turntable for convenient use while a record is played with the cover closed. Their action is pleasantly light but reassuringly positive.

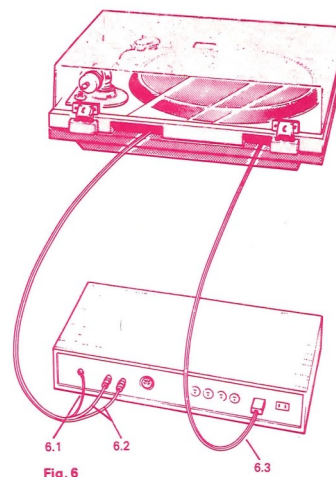


Fig. 6

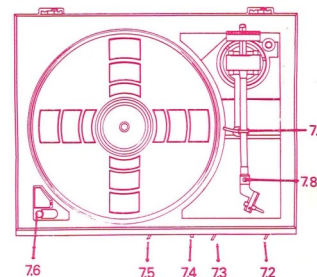


Fig. 7a

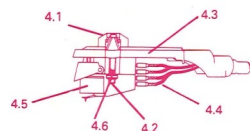


Fig. 4a

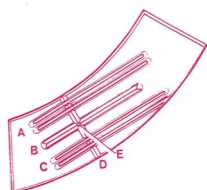


Fig. 4b

#### Technical specifications

Platter	
Diameter	319mm
Type	Die cast aluminium with stroboscopic markings
Inertia	200kg cm <sup>2</sup>
Drive	
System	Direct drive
Motor	Servo controlled, 24V d.c.
Speeds	33 1/3 and 45 rev/min.
Pitch adjustment	± 3%
Tonearm	
Type	Lightweight tubular aluminium with detachable head.
Effective length	230mm
Effective mass	9.5gm when balanced for a 5gm cartridge
Pivots	Jewel and ball
Tracking force adjustment	Isolated, calibrated counterbalance weight
Performance	
Rumble	- 70dB (DIN B)
Wow and flutter	0.04%

#### The Garrard Dustmaster record cleaner

This worthwhile accessory, available from your dealer as an optional extra, cleans records automatically while they play. Its long-life carbon fibres reach deep into the record groove, just ahead of the stylus, to search out dust particles. Low pivot friction and operating weight minimise any effect on platter speed. The Dustmaster requires no fixing holes and is easily fitted to the base plate of the turntable by following the instructions provided.

Company policy is one of continuous improvement and development. We therefore reserve the right to change specifications without prior notice.

**WARNING.** To prevent fire or electric shock, do not expose this appliance to rain or moisture.

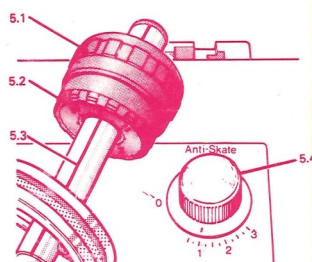


Fig. 5

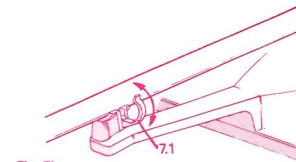


Fig. 7b

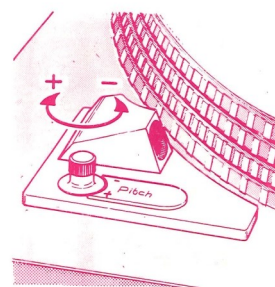


Fig. 7c

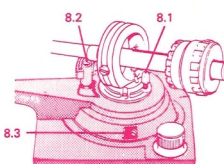


Fig. 8a

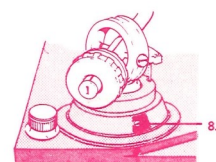


Fig. 8b



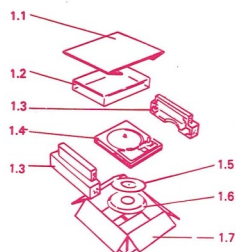


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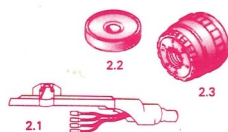


Fig. 2

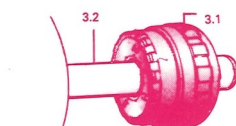


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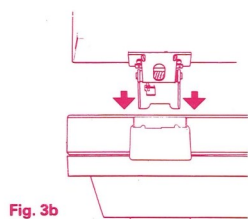


Fig. 3b

### Safety instructions

Garrard, with usual attention to detail, has taken every precaution for your safety during the design and manufacture of this turntable. However, for your complete protection it is essential that all warnings on the turntable and in this manual are adhered to, and that all instructions in it are followed. Read the safety and operating instructions in this manual carefully before using the turntable and keep it safely for future reference.

**Water and moisture.** The turntable should not be used near water — for example, near a bathtub, washbowl, kitchen sink, laundry tub, in a wet basement, or near a swimming pool, etc.

**Heat.** The turntable should be situated away from heat sources such as radiators, heat registers, stoves, or other appliances (including some amplifiers) that produce considerable heat.

**Power sources.** The turntable should be connected to a power supply only of the type marked on the turntable, near the power supply cord exit at the rear of the turntable.

**Power cord protection.** Power supply cords should be routed so that they are not likely to be walked on or pinched by items placed upon or against them, paying particular attention to cords at plugs, and the point where they exit from the turntable.

**Cleaning.** The turntable should be cleaned only as recommended in Section 9 (Routine maintenance).

**Nonuse periods.** The power cord of the turntable should be unplugged from the outlet when left unused for a long period of time.

**Object and liquid entry.** Care should be taken so that objects do not fall and liquids are not spilled into the enclosure through openings.

**Damage requiring service.** The turntable should be serviced by qualified service personnel when:

- a The power supply cord or the plug has been damaged; or
- b Objects have fallen, or liquid has been spilled into the turntable; or
- c The turntable has been exposed to rain; or
- d The turntable does not appear to operate normally or exhibits a marked change in performance; or
- e The turntable has been dropped, or the enclosure damaged.

**Servicing.** The user should not attempt to service the turntable beyond that described in this manual. All other servicing should be referred to qualified service personnel.

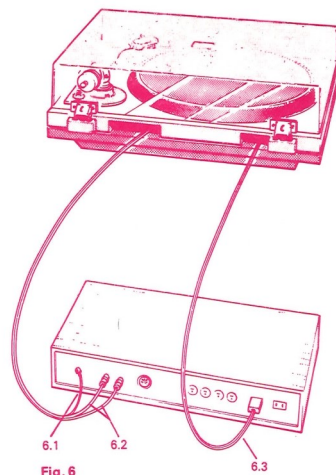


Fig. 6

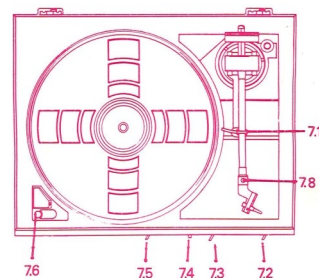


Fig. 7a

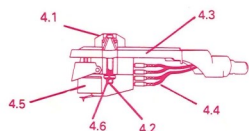


Fig. 4a

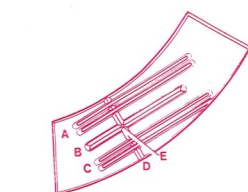


Fig. 4b

### Operating instructions

- |         |    |                       |
|---------|----|-----------------------|
| Section | 1  | Unpacking             |
|         | 2  | Accessories           |
|         | 3  | Setting up            |
|         | 4  | Fitting the cartridge |
|         | 5  | Setting stylus force  |
|         | 6  | Connecting leads      |
|         | 7  | To play a record      |
|         | 8  | Service adjustments   |
|         | 9  | Routine maintenance   |
|         | 10 | Selected spare parts  |
|         | 11 | Service hints         |

### Mode d'emploi

#### Introduction

- |         |    |   |
|---------|----|---|
| Section | 1  | Déballage                                   |
|         | 2  | Accessoires                                 |
|         | 3  | Assemblage                                  |
|         | 4  | Mise en place de la cellule                 |
|         | 5  | Réglage de la force de la pointe de lecture |
|         | 6  | Fils de branchement                         |
|         | 7  | Fonctionnement                              |
|         | 8  | Réglage d'entretien                         |
|         | 9  | Entretien régulier                          |
|         | 10 | Pièces détachées sélectionnées              |
|         | 11 | Petits conseils d'entretien                 |

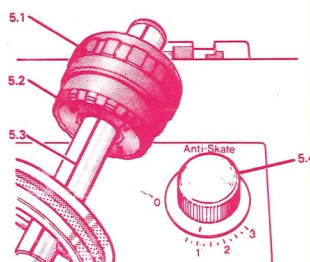


Fig. 5

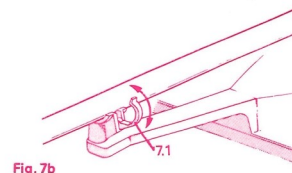


Fig. 7b

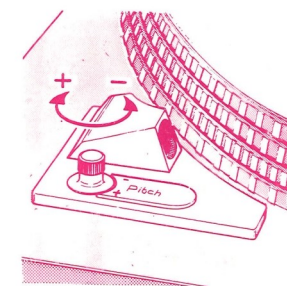


Fig. 7c

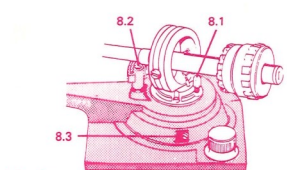


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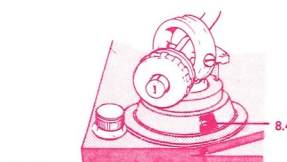


Fig. 8b



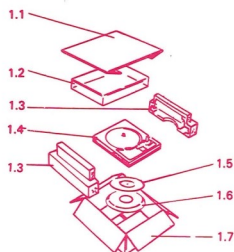


Fig. 1

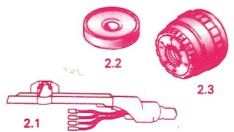


Fig. 2

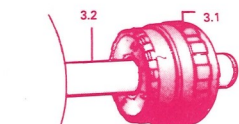


Fig. 3a

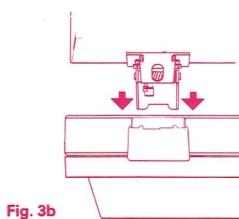


Fig. 3b

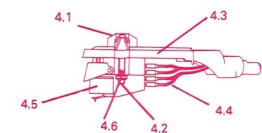


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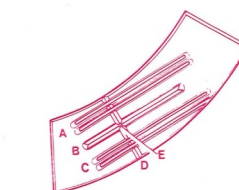


Fig. 4b

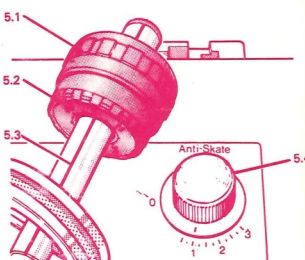


Fig. 5

## 6 Connecting leads

The following instructions should be read together with the amplifier maker's advice.

### Audio

The audio connecting lead is terminated at two phono plugs. If the amplifier pickup (phono) input socket does not correspond to the plugs provided, please consult your dealer who will be able to recommend a suitable adaptor. Figure 6 shows the connecting panel at the back of an imaginary amplifier for illustration purposes only.

If the amplifier has RCA-type phone input sockets:

- 1 Attach the phono plugs on the audio connecting lead (6.2) to these. Connect the red or brown plug to the right channel input and the white or grey plug to the left channel input.
- 2 Secure the bared end of the signal ground lead (6.1) to the ground terminal on the amplifier, to minimise hum.

### Power supply

Check that power supply voltage and frequency meet the requirements printed on the label at the back of the record player. Connect the plug on the power supply cord (6.3) to an accessory outlet (preferably switched) on the amplifier or to any normal household AC outlet.

### Important (U.K. models)

The wires in the mains lead are coloured in accordance with the following code:

Blue — Neutral

Brown — Live

As the colours of the wires in the mains lead of this apparatus may not correspond to the colours identifying the terminals in your power supply plug, proceed as follows:

The blue wire must be connected to the terminal in the plug marked 'N' or coloured black. The brown wire must be connected to the terminal in the plug marked 'L' or coloured red.

**Dual voltage range models (U.S. forces in Europe).** Before connection, check that the sliding voltage selector shows the nominal power supply voltage — 115 or 230V. This is seen through a hole in the platter.

**Caution** — disconnect the mains plug from the supply socket when not in use.

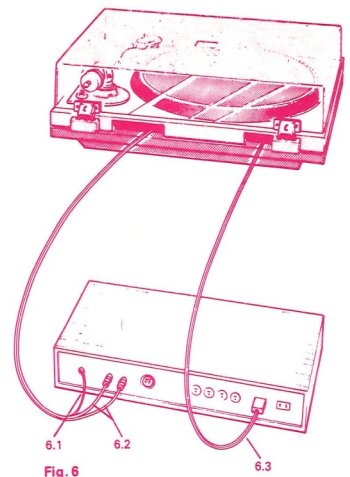


Fig. 6

## 7 To play a record

### Before play

Open the dust cover and check that the stylus guard has been taken off or swung clear, according to type, and that the stylus is correct for the record. Release the tonearm from its rest by moving the safety catch (7.1) aside. See figure 7b.

### To play a record manually

- 1 Place a  $33\frac{1}{3}$  or 45 rev/min record on the platter and set the 'Speed' selector (7.5) accordingly.  
DD455 — disregard the record 'Size' setting.
- 2 DD450 — Set the 'Turntable' switch (7.3) to 'Start'.  
DD455 — Set the 'Auto Start' control (7.3) to 'Man'.
- 3 Raise the tonearm by sliding the 'Cue' control (7.2) to 'lift'. Position the arm over the record, using the finger lift on the side of the head.
- 4 Locate the tonearm on the record by sliding the 'Cue' control to 'Lower'.

After playing a record the tonearm will return to its rest and the turntable will stop.

### To play a record automatically (DD455)

- 1 Place a  $33\frac{1}{3}$  rev/min, 12in or a 45 rev/min, 7in record on the platter and set the 'Speed/Size' Selector (7.5) accordingly.
- 2 Locate the tonearm on the record by moving the 'Auto Start' control (7.3) to 'Auto'.

After playing a record the tonearm will return to its rest and the turntable will stop.

**To stop play** for a short time, move the 'Cue' control gently to 'Lift'.  
**To continue**, slide it to 'Lower'.

**To switch off** while playing a record press the 'Auto Return' button.

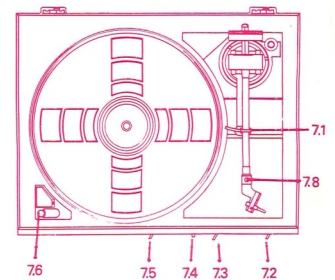


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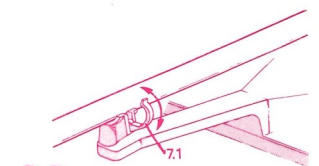


Fig. 7b

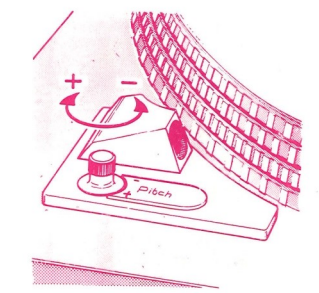


Fig. 7c

### After play

Secure the tonearm to its rest, by means of the safety catch and remove the record. If no more records are to be played, close the dust cover.

### To control record pitch

The DC servo-controlled motor ensures that the platter will revolve without variation from its exact  $33\frac{1}{3}$  or 45 rev/min setting. It is revolving at the precise speed when the corresponding row of bars on the platter rim appears to remain stationary when illuminated by the light emitting diode (LED).

Top row of bars	45 rev/min	50Hz power supply.
2nd row of bars	$33\frac{1}{3}$ rev/min	50Hz power supply.
3rd row of bars	$33\frac{1}{3}$ rev/min	60Hz power supply.
Bottom row of bars	45 rev/min	60Hz power supply.

To raise pitch, by increasing speed, turn the pitch control knob (7.6) clockwise. To lower pitch, turn the knob counterclockwise. See figure 7c.

## 8 Service adjustment

Direction of rotation is described when looking at the head of an adjusting screw.

### Tonearm lifting height

After playing a record the tonearm will rise, return to its rest, then settle onto it and the unit switches off. A restrictor prevents the arm from lifting too high. If adjustment is needed:

- 1 Switch the power off as the arm returns to its rest and turn the restrictor screw (8.1) clockwise to disengage it.
- 2 Turn the lifting height adjusting screw (8.2) clockwise to reduce or counterclockwise to increase height.
- 3 Reset the restrictor screw by turning it counterclockwise until there is about  $\frac{1}{16}$  in (1.5mm) free upward movement at the front of the tonearm.
- 4 Switch on again to allow the automatic cycle to be completed.

### Tonearm lowering position (DD455)

The stylus should land on a record at the bottom of the sloping groove guard rim. If adjustment is needed:

Secure the tonearm to its rest for safety and turn the adjusting screw (8.3) clockwise to move the landing position further in or counterclockwise to move it further out. If the tonearm overshoots its rest after playing: Set the 'Cue' lever to 'Lift', move the arm fully outwards and steady it while turning the adjusting screw (8.4) clockwise once. Retest.

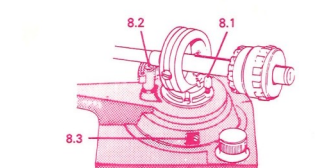


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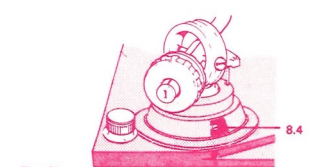


Fig. 8b



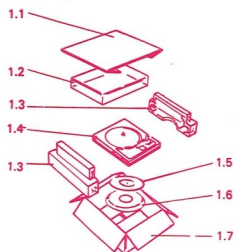


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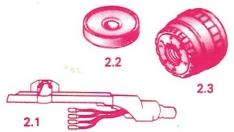


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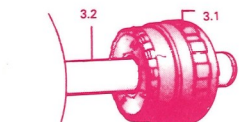


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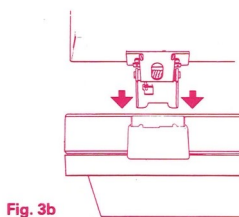


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Check that power supply voltage and frequency meet the requirements printed on the label at the back of the record player. Connect the plug on the power supply cord (6.3) to an accessory outlet (preferably switched) on the amplifier or to any normal household AC outlet.

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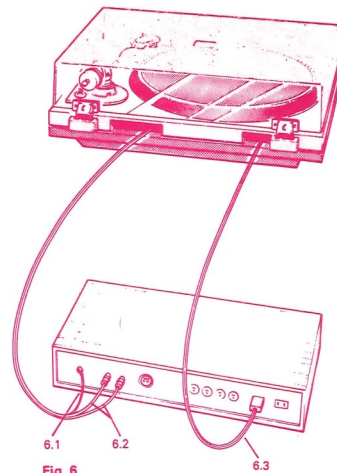


Fig. 6

## 7 To play a record

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### To play a record automatically (DD455)

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**To stop play** for a short time, move the 'Cue' control gently to 'Lift'.

To continue, slide it to 'Lower'.

**To switch off** while playing a record press the 'Auto Return' button.

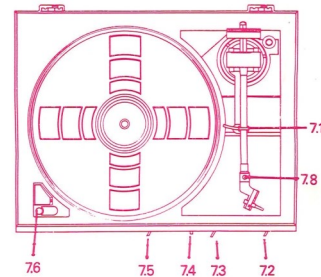


Fig. 7a

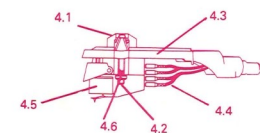


Fig. 7a

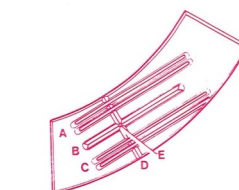


Fig. 7b

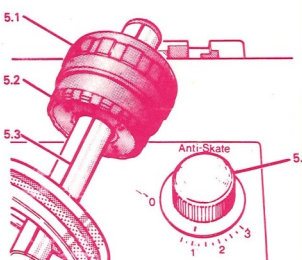


Fig. 7c

### After play

Secure the tonearm to its rest, by means of the safety catch and remove the record. If no more records are to be played, close the dust cover.

### To control record pitch

The DC servo-controlled motor ensures that the platter will revolve without variation from its exact 33 $\frac{1}{3}$  or 45 rev/min setting. It is revolving at the precise speed when the corresponding row of bars on the platter rim appears to remain stationary when illuminated by the light emitting diode (LED).

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2nd row of bars	33 $\frac{1}{3}$ rev/min	50Hz power supply.
3rd row of bars	33 $\frac{1}{3}$ rev/min	60Hz power supply.
Bottom row of bars	45 rev/min	60Hz power supply.

To raise pitch, by increasing speed, turn the pitch control knob (7.6) clockwise. To lower pitch, turn the knob counterclockwise. See figure 7c.

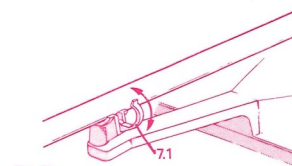


Fig. 7b

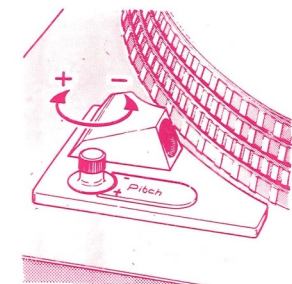


Fig. 7c

## 8 Service adjustment

Direction of rotation is described when looking at the head of an adjusting screw.

### Tonearm lifting height

After playing a record the tonearm will rise, return to its rest, then settle onto it and the unit switches off. A restrictor prevents the arm from lifting too high. If adjustment is needed:

- 1 Switch the power off as the arm returns to its rest and turn the restrictor screw (8.1) clockwise to disengage it.
- 2 Turn the lifting height adjusting screw (8.2) clockwise to reduce or counterclockwise to increase height.
- 3 Reset the restrictor screw by turning it counterclockwise until there is about  $\frac{1}{16}$  in (1.5mm) free upward movement at the front of the tonearm.
- 4 Switch on again to allow the automatic cycle to be completed.

### Tonearm lowering position (DD455)

The stylus should land on a record at the bottom of the sloping groove guard rim. If adjustment is needed:

Secure the tonearm to its rest for safety and turn the adjusting screw (8.3) clockwise to move the landing position further in or counterclockwise to move it further out. If the tonearm overshoots its rest after playing: Set the 'Cue' lever to 'Lift', move the arm fully outwards and steady it while turning the adjusting screw (8.4) clockwise once. Retest.

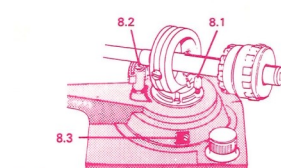


Fig. 8a

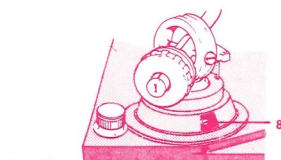


Fig. 8b



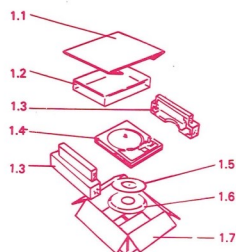


Fig. 1

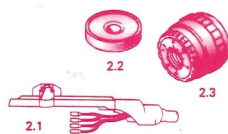


Fig. 2

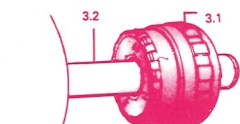


Fig. 3a

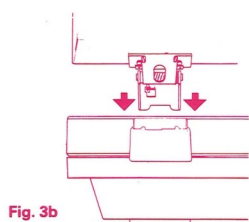


Fig. 3b

## 9 Routine maintenance

Careful design has reduced the need for maintenance to a minimum, but attention to the following points will prolong trouble-free listening.

### The pickup cartridge stylus

If the stylus tip gathers dust, sound quality will suffer. Stroke the dust away gently with an artist's camel-hair brush, working only from the back of the stylus towards the front to avoid bending it.

Do not use solvent without the cartridge maker's approval.

Have the stylus tip examined under a dealer's microscope periodically for signs of wear. A worn or chipped tip damages records permanently.

### The platter mat

Remove the mat from time to time and clean it with a soft brush or a slightly moist cloth.

### The dust cover

Wipe this cover with a slightly moist cloth to remove dust and finger marks.

## 10 Selected spare parts

Description of part	part number
Tonearm counterbalance weight	82142/001
Tonearm head moulding, with fixing screws	78251/080
Head locking screw	81822/007
Platter mat	81872/002
Platter mat	81456/003
45 rev/min record adaptor	72698/001
Dust cover	80917/001

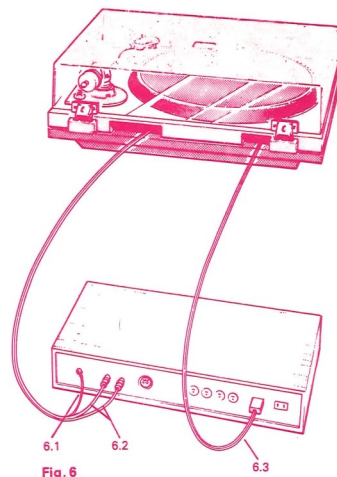


Fig. 6

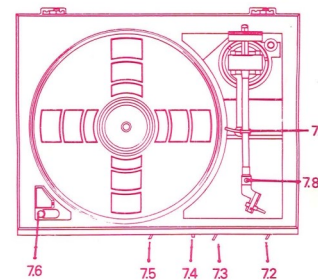


Fig. 7a

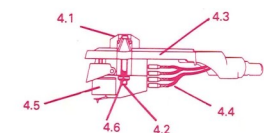


Fig. 4a

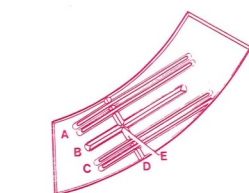


Fig. 4b

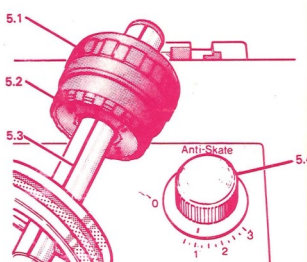


Fig. 5

## 11 Service hints

Disconnect the unit from the power supply and protect the stylus whenever possible before investigating problems. Numbers in brackets are those of relevant earlier sections.

### Fault

Unit fails to start.

### Cause and remedy

- 1 Power supply lead insecurely connected. Push plugs fully into power outlet socket.
- 2 Damaged power supply lead. Consult dealer.
- 3 No output from power source socket (check by connecting other equipment to it). If no power, consult dealer or qualified electrician.

Speed variation ('wow' or 'flutter').

- 1 Recorded 'wow' or 'flutter'. No cure.
- 2 Records warped, dished or eccentric. No cure.

No sound output.

- 1 Pickup cartridge leads or phono connecting leads insecure or damaged. Check connections, consult dealer.
- 2 Faulty cartridge or amplifier. Check by substitution if possible.

Distorted sound.

- 1 Stylus clogged by dust. Clean it with a soft brush (9).
- 2 Check stylus tracking force and anti-skate control settings (5). Reset to cartridge maker's recommended figure.
- 3 'Cue' control not moved fully to 'Lower'.
- 4 Cartridge insecurely fitted. Check its position and tighten fixing screws (4).
- 5 Tonearm head loose. Tighten fixing screw (3).
- 6 Worn or damaged stylus. Fit new stylus if needed (9).
- 7 Badly warped record. No cure.

Low pitched noise through speakers ('hum', 'rumble' or acoustic feedback).

- 1 Connecting leads insecure or damaged. Check connections (6), consult dealer.
- 2 Try effect of removing and reversing power supply plug in socket (6).
- 3 Player placed too near to speakers. Move it further away.
- 4 Recorded 'noise'. No cure.

Tonearm lands too far in or out. (DD455)

- 1 Lowering position or return position out of adjustment. Reset (8).
- 2 Record size incorrectly set (7).

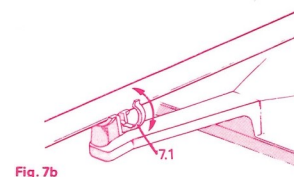


Fig. 7b

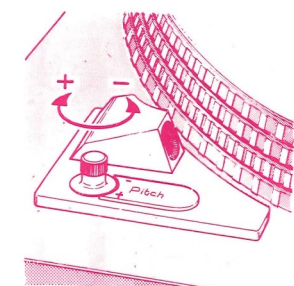


Fig. 7c

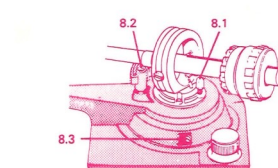


Fig. 8a

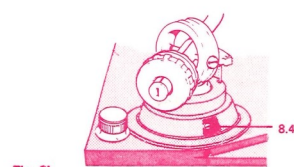


Fig. 8b

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