



Dual[®] 1245

Owner's Manual

Fully automatic
single-play/multi-play
belt-drive turntable

The operation of your new Dual automatic turntable is as simple as it is versatile. However, we suggest that you read the instructions carefully before operating the turntable for the first time.

When you open this flap, you will find a photograph with all the features identified and numbered according to references in the text. If you leave this flap open while reading the manual, the features described in the text will be easy to locate.

Proper mounting of the cartridge and careful adjustment of all tonearm settings are very important in obtaining optimum performance.

If you have questions about your Dual, please write to us and we shall respond promptly. We also encourage you to complete and mail the enclosed warranty card.

Contents	Page
Features of the Dual 1245	3
Unpacking and installation	4
Installation on base	
Installing dust cover	
Cartridge mounting	
Preparation for play	5
Balancing the tonearm	
Setting stylus pressure	
Applying anti-skating	6
Connection to AC	
Connection to amplifier	
Operating instructions	6
Single play operation	
Continuous repeat	7
Cue-control start	
Automatic record changing	
Pitch-control	8
Adjustments and other information	8
Cue-control height	
Tonearm indexing	
Replacing drive belt	
Removing the platter	9
Later transport	
Stylus care	
Service	

Dual

1245



WARNING: To prevent fire or shock hazard, do not expose this product to rain or moisture.

Use only with United Audio or Dual bases and dust covers.

Unpacking and Installation

Take out the styrofoam section (with platter and other parts) and put it aside. Then read the special instruction sheet attached to the turntable.

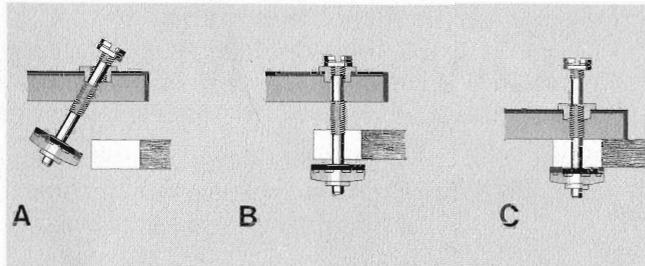


Fig. 1

If your turntable is already mounted on a base, loosen the transit safety screws by turning them clockwise until they slide downward (about 15 mm), releasing the chassis from the base; then continue turning the screws clockwise into the top of the chassis. The turntable is now in the correct spring-supported position required for play.

Installation on Base

If your turntable chassis is intended for installation in a base or a cutout mounting, install it as follows: First feed the power cord and audio cables through the top of the base and out through the openings in the bottom rear of the base. The transport safety screws should be loose. (See above). Position the chassis over the base. Move the top of the left rear screw outward and lower the chassis onto the base, rear edge first, so that both rear spring cups fit into the appropriate holes in the cutout.

Move the other two transport safety screws outward in a similar fashion, locating the left and right front spring cups in their holes. Then turn the transport safety screws clockwise to tighten them into the top of the chassis. The turntable is now in the correct spring-mounted position for play.

NOTE: After you feed the power cord and phono cables through the hole in the base knot them close to the exterior of the base to prevent their being pushed inside during operation.

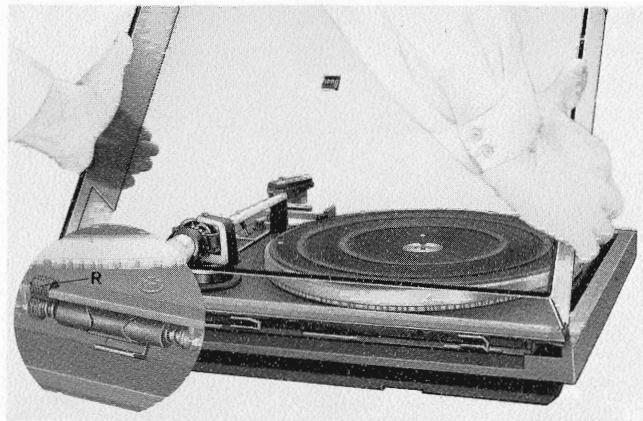


Fig. 2

Installing dust cover

Dust covers for Duals are packed separately for safe transport. The matching base is provided with special spring-loaded hinges which allow the cover to remain open at any angle.

To install the dust cover, turn the base around so the special hinges are readily accessible.

Parallel the rear panel of the cover to the receiving slots on the hinges (the angle is 60°) and press the bottom edge into the slots. The cover is removed in the same manner.

(The cover is kept in any desired open position by the spring tension of the hinges). To adjust the spring tension, turn both screws marked "R" (Fig. 2). In most cases a half turn will be sufficient.

Cartridge mounting

The following instructions are applicable only if you want to install a cartridge.

Use the cartridge holder supplied or mount the cartridge on an additional holder (Dual TK 24, Part No. 236 242).

This turntable will accept any cartridge weighing from 5.5 to 10 g (including mounting hardware) and having standard 1/2" spaced mounting holes.

1. To mount the cartridge, detach the cartridge holder (5) from the tonearm by moving the tonearm lift (3) back, while holding the cartridge holder with your hand to prevent its falling down when the lock is released.

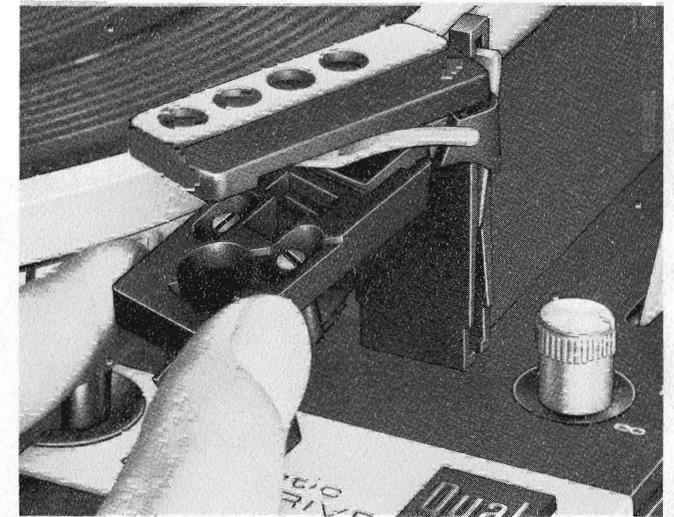


Fig. 3

2. Using the hardware provided, mount the cartridge on the cartridge holder. Use the special gauge provided to make sure that the cartridge is mounted correctly in the cartridge holder. (Note location of stylus tip in Fig. 4 A and B).

3. Connect the color-coded leads of the cartridge holder to the same color-coded pins of the cartridge (Fig. 4 C).

4. Install the cartridge holder underneath the tonearm head and lock it to the tonearm by moving the tonearm lift forward (see Fig. 3).

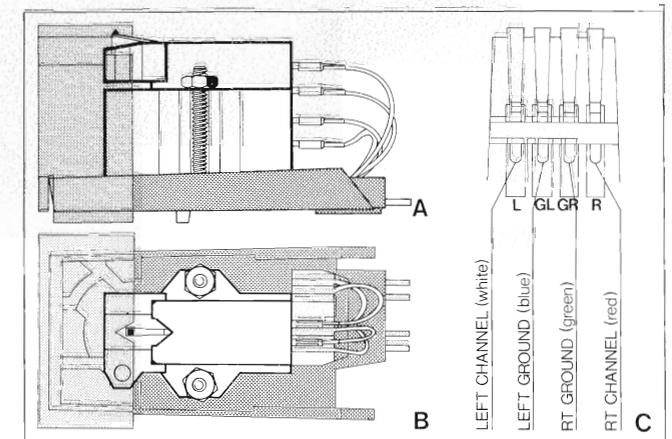


Fig. 4

Balancing the Tonearm

Remove the tonearm counterbalance from the styrofoam section. Loosen the knurled setscrew at the rear of the tonearm, and insert the shaft (triangular-shaped groove down) of the counterbalance in the opening provided for this purpose (Fig. 5).

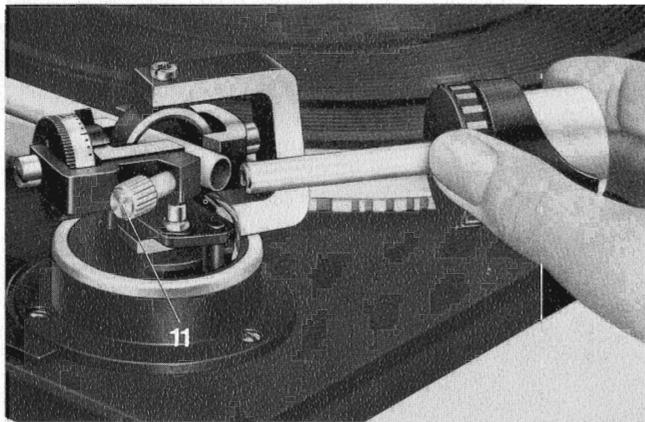


Fig. 5

Moving the counterbalance (10) on its shaft provides rough balance of the tonearm, while turning the knurled ring on the counterbalance balances the tonearm exactly. Before the tonearm can be balanced the automatic mechanism must be disengaged. To be sure of this, lock the tonearm on the resting post and rotate the platter by hand.

1. Set stylus pressure dial (9) and anti-skating dial (12) to "0" (zero).

Note: If your cartridge has a removable stylus guard, remove it before balancing the tonearm.

2. Unlock the tonearm and move it over the tonearm rest.
3. If the tonearm does not come to rest horizontally, loosen setscrew (11) and slide the counterbalance and shaft in or out until an approximate balance is achieved. Then tighten the setscrew (Fig. 6).
4. To find the exact balance, turn the knurled ring on the counterweight.

The tonearm is exactly balanced when edge "A" of the tonearm head comes to rest at precisely the same height as edge "B" of the tonearm rest (Fig. 7). (When the tonearm is properly balanced, it will remain horizontal even when the chassis is tapped).

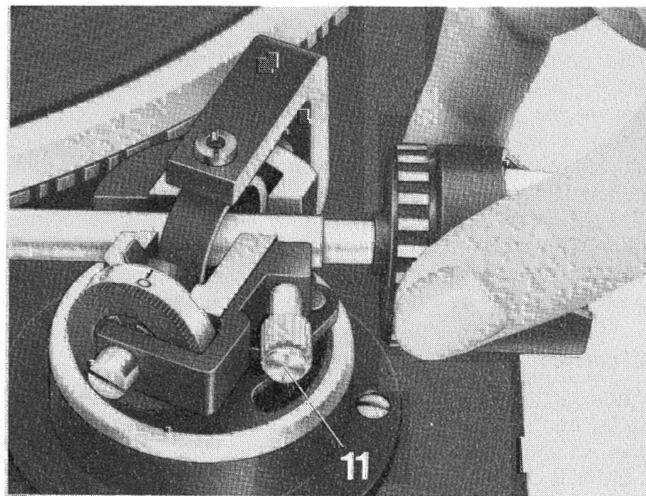


Fig. 6

Precise tonearm balance is most important for cartridges intended for low stylus pressure. Balancing need be done only once, but we recommend that you occasionally check the tonearm balance by repeating steps 1 and 2 above. If the tonearm is found to be unbalanced at zero settings of tracking and anti-skating dials, repeat steps 3 and 4.

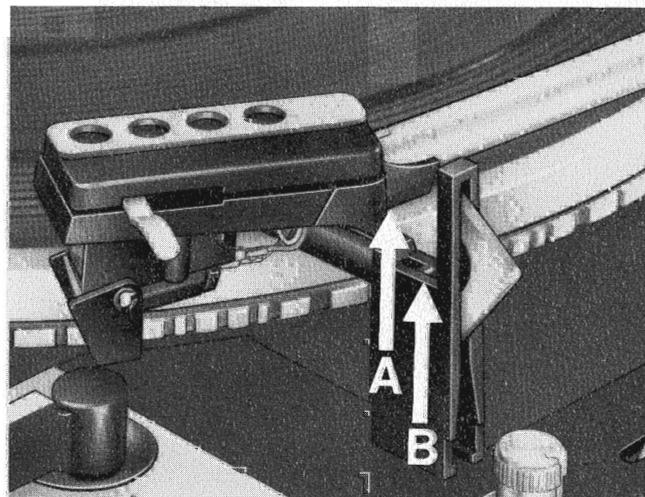


Fig. 7

Setting Stylus Pressure

This turntable is designed to operate with stylus pressures above 0.25 g (2.5 mN). Since each cartridge has an optimum stylus pressure, follow the instructions supplied with your cartridge. Too low a stylus pressure will cause distortion in loud passages. If the stylus force is too high, however, the stylus and record wear may be excessive or even damaging.

Reminder: Tonearm balance should be checked before tracking force is applied.

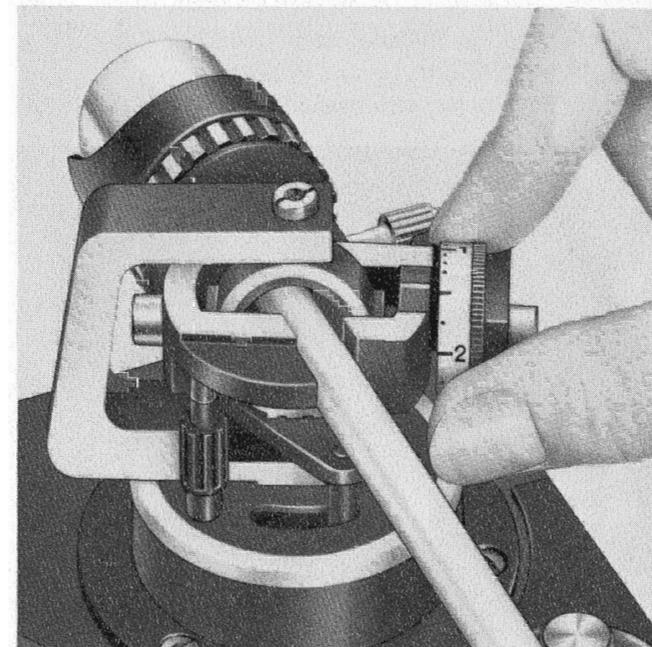


Fig. 8

With the tonearm balanced, set stylus pressure to the recommended value for your cartridge by turning the stylus force dial (9). The stylus pressure can be set to any value from 0 - 3 g (0 - 30 mN).

- 1 = 1 g (10 mN)
- 2 = 2 g (20 mN)
- 3 = 3 g (30 mN)

Consequently, the tracking force scale divisions mean:

0 - 1.5 g = (0 - 15 mN) 1.5 - 3.0 g = (15 - 30 mN)

Applying Anti-Skating

To compensate for skating force, a counterforce precisely defined in magnitude and direction must be applied to the tonearm. The anti-skating mechanism (12) of your turntable fulfills this requirement and allows the adjustment of anti-skating compensation even while a record is being played. (For example, when playing a moistened record after a dry record.)

Separate calibrations are provided for the stylus types used almost exclusively today, according to the symbols on the dial:

- for conical 15 micron stylus (DIN 45 500)
- for elliptical (biradial) styli (radii 5 - 8 microns x 18 - 22 microns)

CD 4 for long-contact styli used with CD 4 cartridges

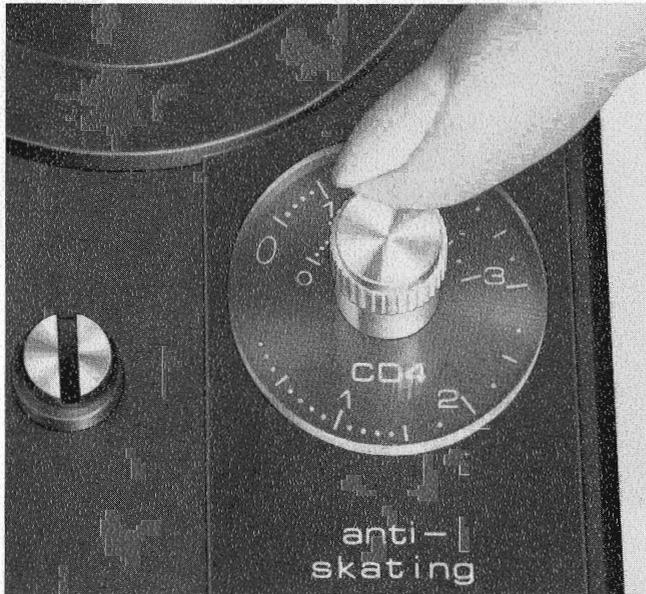


Fig. 9

The setting of anti-skating compensation should correspond to the setting of stylus pressure. Turn the anti-skating knob to the number on the appropriate scale which corresponds to the stylus pressure you have set. For example, for a stylus pressure of 1.2 grams (12 mN) set the anti-skating pressure knob at "1.2" on the appropriate scale. With moistened records, the skating force is reduced by approximately 10 %, and we recommend a corresponding 10 % reduction of the anti-skating compensation setting.

Connection to AC Power Line

The unit can be operated on alternating current, 50 or 60 Hz, 110/125 or 220/240 V. At the factory, 50 Hz units are set for 220/240 V, 60 Hz units, for 110/125 V (Combination units, such as consoles and compacts, are exceptions in this respect, and the manufacturers instructions for such products should be followed)

If a different supply voltage and/or line frequency becomes necessary, please consult your dealer or an authorized Dual Service Station.

Electrical Safety

This turntable meets international safety standards for radio and related equipment (IEC 65) and is approved by the various national safety organizations (VDE, SEV, SEMKO, CSA etc.).

Connection to Amplifier

1. The black phono cable is for the right channel the white cable for the left channel.
2. Connect the ground wire of your Dual to the grounding screw on the rear of your amplifier.

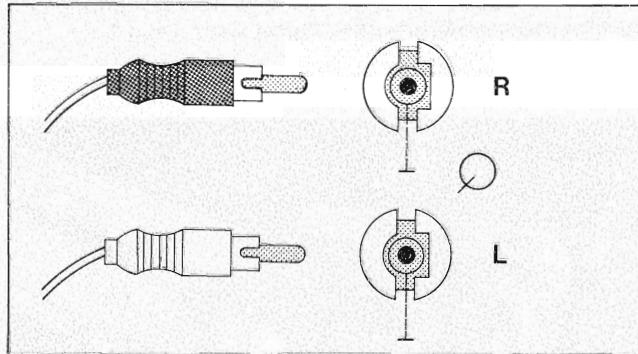


Fig. 10

Operating Instructions

Single play operation

Insert the rotating center spindle (4) into the turntable shaft. For 7" / 45 rpm records with large holes, use the center-hole adapter. Put a record on the turntable.

First select the correct platter speed for the record to be played, then unlock tonearm. If the cartridge has a stylus tip protector, remove it or move it upward.

For convenience in cleaning records, the platter will rotate when the tonearm is lifted from its post and placed on the adjacent rest bar.



Fig. 11

Automatic start

Indexing is interlocked with the speed selector, so the tonearm will set down into the lead-in groove of 12" (30 cm) records when switched to 33 1/3 rpm, and into the lead-in groove of a 7" (17 cm) record when set to 45 rpm.

To initiate "start" function

Move the switch (17) all the way to the left and release it. The tonearm will move to the record, lower slowly and set the stylus gently in the lead-in groove of the record.

To replay a record from the beginning

Move switch to "start".

Shut-off

Move switch to "stop" position. The tonearm will return to its rest position and the unit will shut off automatically.

Continuous repeat

Turn knob (15) to ∞ position. After completing the record, the tonearm returns automatically to the lead-in groove, and the record will be played again. This procedure will be repeated until cancelled by pushing the operating switch to "stop" or by moving the repeat knob back to the single play position.

Shut-off and tonearm return is automatic in any mode of operation. The tonearm should then be locked, and the stylus tip protector moved into position.

Cue-control start

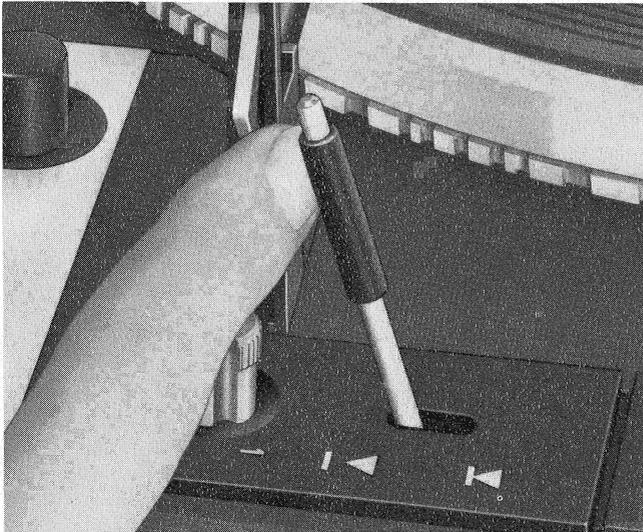


Fig. 12

Your unit is equipped with a shock-free cue-control that is silicone damped in both directions. Thus, the tonearm can be lowered to any desired point on the record more gently and accurately than by hand. When lifted, the tonearm does not appreciably change its horizontal position. The cue-control lever (14) has two positions:

- ▼ tonearm raised
- ▼ tonearm lowered onto record

A light touch on the lever starts the descent of the tonearm.

This procedure is suggested for records other than with standard 12" or 7" diameters.

- a) Move cue control lever (14) to position ▼.
- b) Move tonearm by hand to the desired point over the record.
- c) Move cue-control lever to position ▼.

Interruption of play

Move cue control lever to position ▼. The tonearm will rise and remain over the rotating record. To resume play, move the lever to position ▼ and the tonearm will set down.

Note: With the cue control lever in position ▼ and automatic start operation, the tonearm will move to the record and remain suspended over the lead-in groove. A light touch of the cue-control lever will lower the tonearm to the record.

Automatic Record Changing

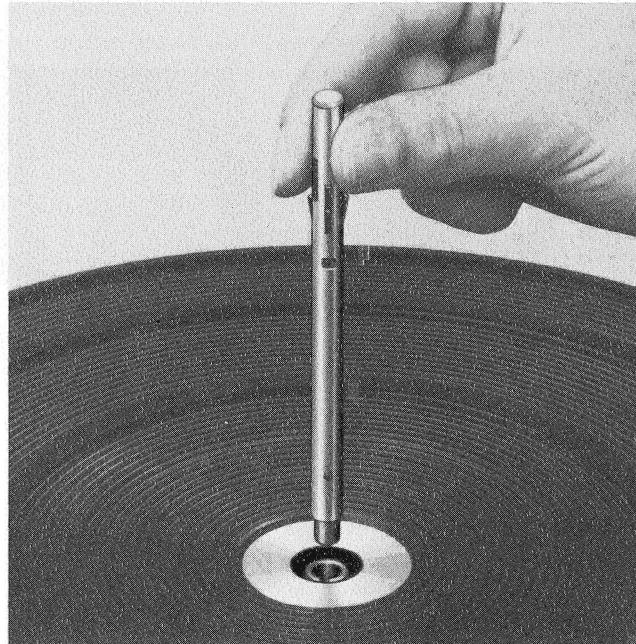


Fig. 13

Insert the changer spindle (19) or the optional large-hole spindle (21) into the hole in the platter so the key fits into the slot in the hole. Lock the spindle in place by pressing down on it and turning it to the right until it stops.

Up to six records, either 7" (17 cm) or 12" (30 cm) diameter can be placed on the standard changer spindle or optional large-hole accessory spindle.

Move the operating switch to "start". This will cause the first record to drop and the tonearm to be set down in the lead-in groove. To interrupt any record and cause the next to drop, move the operating switch to "start".

Note: Records already played can be lifted back onto the spindle for replay or removed entirely. The spindle need not be removed.

The optional large-hole 45 rpm automatic changer spindle AS 12 can be obtained at your dealer.

Pitch Control

Each of the two standard speeds (33-1/3 and 45 rpm) can be varied with the pitch control (2). The adjustment range at 33-1/3 rpm is approximately 6% (one half-tone). The pitch control is useful, for example, when the pitch of recorded music is to match a live musical instrument, or when a recorded passage is to match the length of a motion picture scene. Adjustment is made with pitch control knob (2).

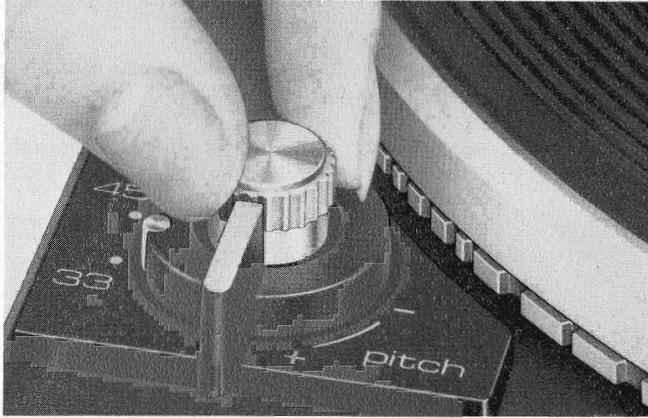


Fig. 14

When the turntable rotates at exactly 33-1/3 rpm, the strobe markings (Fig. 15) will appear stationary. If the markings move to the left, the speed is too fast. If the markings appear to move to the right, the speed is too slow. The strobe markings are combined for 50 and 60 Hz, and only one set of markings will stabilize on a given line frequency. When the speed is correct for 33-1/3 rpm, it is also correct for 45 rpm. No markings are provided for 45 rpm.

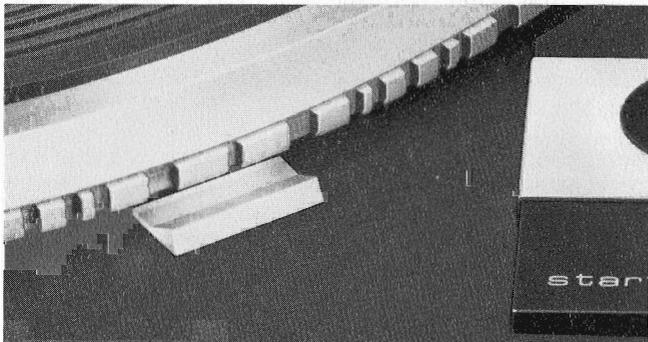


Fig. 15

Adjustments and other information

Cue-control height

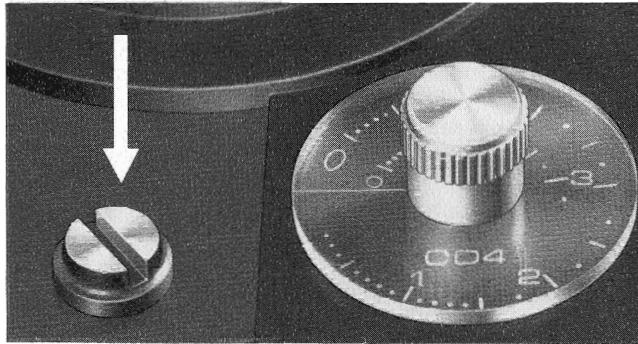


Fig. 16

The height of the stylus tip over the record in the raised position Δ can be varied approximately 1/4" (6 mm) by turning the adjustment screw (8).

Do not exceed this range as the tonearm movement may be impeded.

Tonearm indexing

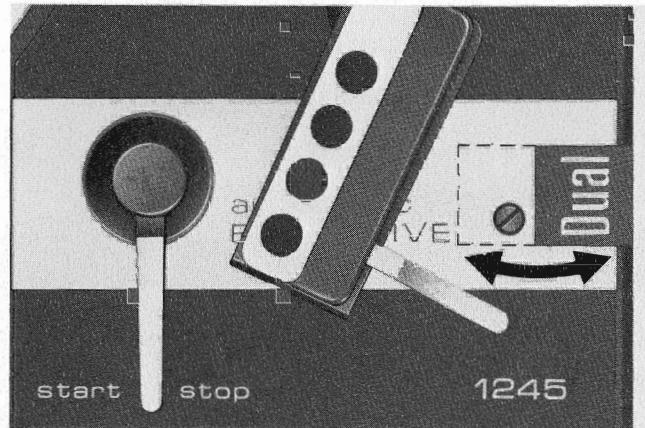


Fig. 17

When the operating switch is moved to "start", the tonearm automatically lifts, moves to the record and lowers. The stylus should set down in the lead-in groove. If the stylus of another cartridge, installed later, sets down too far inside or outside the lead-in groove, proceed as follows:

Slightly lift the Dual emblem located at the right front corner of the chassis and move it outward. The adjustment screw (16) will then be visible through the opening.

Adjustment of tonearm indexing for 12" (30 cm) records.

Move speed selector (1) to "45" and correct the setting by turning the adjustment screw slightly. (use a suitable screwdriver).

If the stylus sets down too far inside the lead-in groove, turn the screw clockwise. If the stylus sets down too far outside the lead-in groove, turn the screw counterclockwise.

Adjustment of tonearm indexing for 7" (17 cm) records.

Move the speed selector (1) to "33" and proceed as indicated above for 12" records.

Replacing drive belt

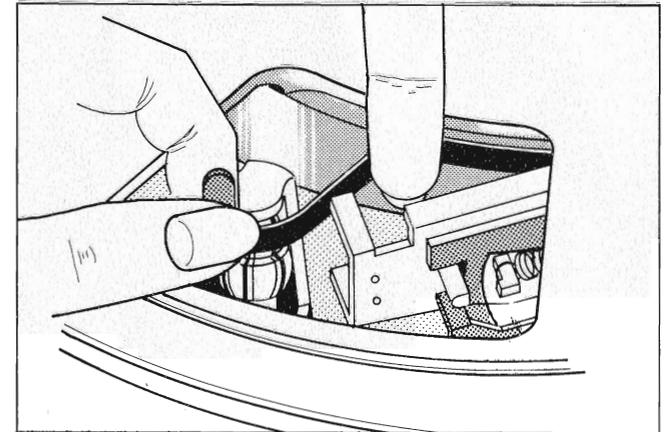


Fig. 18

Lift the platter mat over an opening in the platter and rotate this opening to the left, over the motor drive pulley. Remove the belt from the pulley and let it contract around the inner rim of the platter. Now release the platter and remove it (as described below).

Remove the old belt and place the new one around the rim of the platter.

Attention: Be sure the textured (ground) side of the belt is on the inside.

Then replace the platter on the chassis and secure it as before.

Engage the belt around the motor pulley as shown in Fig. 18. Make sure that the belt runs freely within the guide fork. (A stiff cardboard strip may be useful when lifting the belt from the platter rim.)

Removing the platter

The platter is secured by a C-ring seated in a notch on the platter shaft. Use a small screwdriver to remove the C-ring, then lift the platter off. (After replacing the platter, slip the C-ring back around the shaft.)

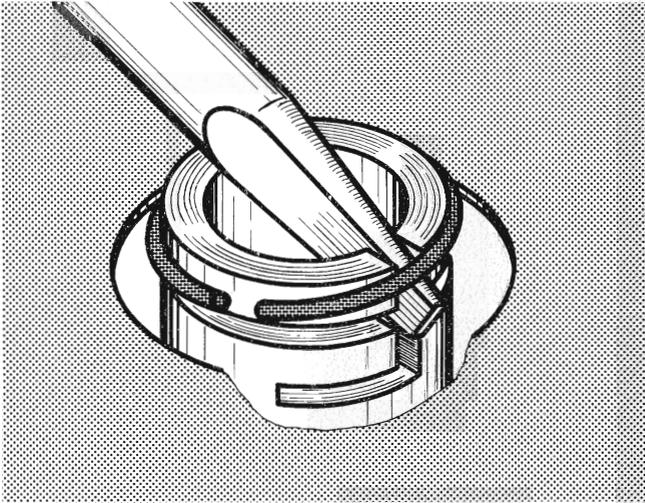


Fig. 19

Later Transport

Be sure the tonearm is locked and the stylus protected (such as with the guard built into some cartridges.) Release the transport safety screws by turning them counterclockwise, then pull them up and tighten again by continuing to turn them counterclockwise until the chassis is secured against the base.

ATTENTION: After each transport or installation, the unit must be started once with the tonearm in locked position for automatic adjustment of the shut-off mechanism. To initiate the automatic "Start" or "Stop" function, press the start switch all the way in the appropriate direction and rotate the platter by hand until the switch returns to "neutral"

Stylus care

In normal use, every stylus is subject to wear and tear. We recommend that yours be inspected periodically, and certainly after approximately 300 playing hours in the case of diamond styli. Your Dual dealer will do this without charge. Worn or damaged (chipped) styli will grind the modulation out of the grooves and damage your records. For replacement, obtain only the stylus type recommended in the Technical Data for your cartridge. Imitations can cause noticeable loss in sound quality and rapid record wear.

Please keep in mind that the stylus jewel and cantilever are necessarily quite delicate in order to provide quality performance. They are extremely sensitive to harsh handling, accidental blows, etc. Take the cartridge in the holder to your Dual dealer for inspection of the stylus. (Removal of cartridge holder is described above).

Service

All lubrication points are adequately supplied with oil at the factory. Under normal conditions, your Dual should function properly for many years; do not oil any part of your Dual yourself. Should your turntable ever require service, please take it to your Dual dealer, or ask him for the address of the nearest authorized Dual service station. Please make sure that only genuine Dual replacement parts are used.

Should shipping of your Dual become necessary, make sure the packing is adequate. If possible, use the original packing material in which you received your unit.



Dual[®]

United Audio Products, Inc., 120 So. Columbus Ave., Mt. Vernon, N.Y. 10553
Exclusive U.S. Distribution Agency for Dual.

Printed in Germany
241 657-3 15/0877