

Thorens TD-126C Turntable

MANUFACTURER'S SPECIFICATIONS

Speeds: 33 $\frac{1}{3}$, 45, and 78 rpm.

Wow & Flutter: Less than 0.04 per cent
DIN 45-507.

Rumble: 70 dB, DIN B.

Variable Speed Range: ± 6 per cent.

Dimensions: 19 $\frac{1}{8}$ in. (50.5 cm) W

x 15 $\frac{1}{2}$ in. (39.37 cm) D

x 6 $\frac{1}{4}$ in. (16.99 cm) H.

Weight: 34 lbs. (15.3 kg).

Price: \$625.00. Addi-

tional plug-in arms,

\$17.50 each.



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The reputation of Swiss precision engineering is certainly substantiated by the current high-end Thorens TD-126C turntable. Its modern appearance is cosmetically superior to all previous Thorens turntable styles.

The TD-126C turntable consists of an electronic, three-speed, belt-driven turntable with a newly designed, very low-mass plug-in tonearm, which they term "Isotrack." The platter, weighing 7.1 lbs., is belt-driven by a 16-pole synchronous motor that is powered via a Wein bridge oscillator. The oscillator is unaffected by the variations in power line voltage or frequency. The three available speeds (33 $\frac{1}{3}$, 45, 78 rpm) are obtained by a change in the frequency of the oscillator. For example, to obtain the usual 33 $\frac{1}{3}$ rpm speed, the oscillator frequency is changed to 28 Hz for a motor speed of 210 rpm which, through the belt drive system, converts to 33 $\frac{1}{3}$ rpm. The low motor speed helps reduce the rumble in the audio range.

The Isotrack plug-in tonearm is rather unique. To overcome the ever-present tonearm effective mass, Thorens has reduced the mass of the head shell and moved the shell's screw collar closer to the pivots, thus moving the mass closer to the pivots. With the mass of the tonearm decreased, the mass of the counterweight is now correspondingly decreased. The end result is a reduction in the "effective" tonearm mass of about 50 per cent. The plug-in unit consists of a rigid, lightweight aluminum tube that has a simple plastic holder to which the cartridge is attached at one end and a plug with screw collar at the opposite end. When attached to the rest of the arm via the four-pin socket at the rear portion of the arm assembly, the total tonearm length is nine inches. The rear portion of the arm assembly contains the counterweight, tracking force adjustment, magnetic anti-skating adjustment,

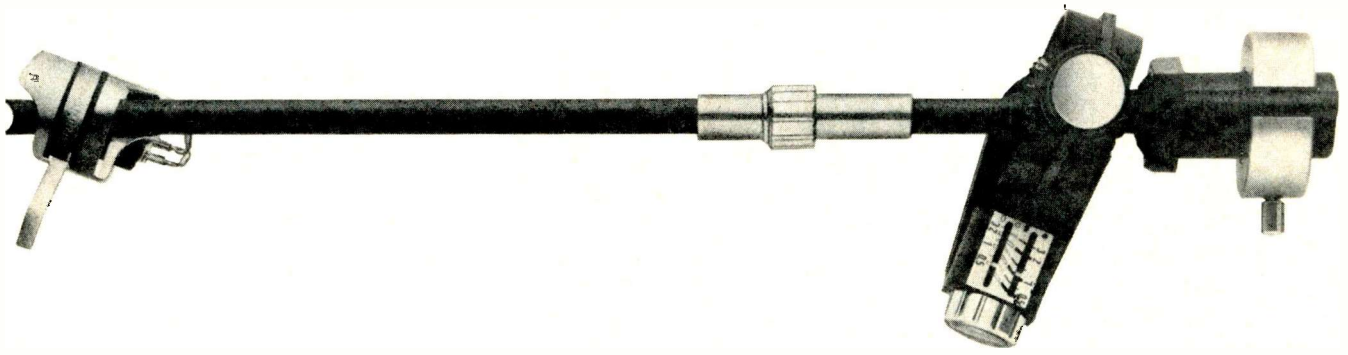
and the arm pivots. The rigid aluminum tube with its head shell has an average weight of 14.32 grams \pm 180 milligrams and is available separately for installation of additional cartridges.

The anti-skating force is produced without any additional friction by means of a magnetic field. The dial is calibrated for an optimum anti-skating force in modulated (recorded) grooves under real playing conditions. Anti-skating adjustments are available for playing a dry or wet record, with either an elliptical or a spherical stylus.

The tracking force is adjusted with the stylus tracking force dial located on the arm. With the tracking force properly adjusted, the Isotrack tonearm has been designed to exhibit a slight tilt in the tonearm tube while the stylus is on the record. The degree of tilt will vary between 1° and 2°, depending on the physical dimensions of the cartridge body. The purpose of the slight tilt in the tonearm tube is to improve the tracking of warped records. The wedge-shaped mounting platform in the head assembly adjusts the cartridge body so that it is parallel to the record surface. The vertical tracking angle will be maintained at the proper angle—20° for the newer cartridges and 15° for the older cartridges.

The base is isolated from the platter and tonearm by a highly damped, three-point, floating spring suspension. In this suspension system, the center of mass is located equidistant from the three spring positions, thus eliminating the need for chassis leveling adjustments.

All the operating controls on the Thorens TD-126C turntable are located across the front surface of the base. The knob at the extreme left turns on the power. The three flat, touch switches next to the power switch select the speed by a light pressure on the plate representing the desired speed.



The edge of the switch is illuminated when it is activated. The stroboscope window is located next to the speed selector touch switches, followed by a speed vernier knob that is used to accurately adjust the platter speed. It is worth noting that when one speed is accurately set with the vernier speed control knob, the remaining speeds are also accurately set. To the right of the vernier speed control knob is the mode selector knob. This knob, marked with three positions (ML, L, 0), provides a choice of tonearm lift and motor shut-off at the end of the record, tonearm lift but turntable continuing to rotate at the end of the record, and a fully manual operation, respectively. The three flat, touch switches on the extreme right control the action of the tonearm. The touch switch next to the mode knob raises the tonearm but the platter does not turn; the next touch switch starts the platter rotating but does not lower the arm; the third touch switch, when pressed, lowers the tonearm and starts the platter rotating if it wasn't already rotating. When the unit is first turned on, the 33 $\frac{1}{3}$ rpm touch switch and the third touch switch from the right are both illuminated, indicating that the turntable is now ready to play 33 $\frac{1}{3}$ rpm records, the tonearm is lifted up, and the platter is not turning. After automatic play is completed, when the arm reaches the record runout groove, the Thorens TD-126C turntable has an electronic sensing circuit that detects the arm in the run-out groove, activates the arm lift circuit, raises the arm and, if so programmed, turns the motor off.

Measurements

The Thorens TD-126C turntable was tested with an Empire 2000Z cartridge installed in the plug-in Isotrack tonearm. Room temperature was 79°F (26.1°C) and the relative humidity was 54 per cent. Mounting the cartridge on this arm is not as easily done as it is on the conventional arm. A special jig, which is also the case for the plug-in arm, is required. The instructions for mounting a cartridge in the accompanying manual leave much to be desired. The importer for all Thorens turntables, Elpa Marketing Industries, Inc., New Hyde Park, New York 11040, has issued a supplementary pick-up cartridge mounting instruction sheet to replace the instructions in the manual. However, we found the plastic storage box for the plug-in arm that doubles as an optical alignment gauge for mounting the cartridge is in need of four additional slits for a greater accuracy in setting the stylus overhang. The final slots now measure 2 mm wide, much too wide for a standard size 40 sewing thread to remain secure. We suggest that slits wide enough for a standard size 40 sewing thread be made in the center of the present 2 mm slots. The slits would also serve to hold the thread in place via friction while the cartridge is being positioned. The 2 mm slots also appear to be too wide for precision setting of the stylus overhang.

After the stylus overhang was accurately positioned and the arm properly balanced, the weighted peak wow and flutter was measured as +0.053 per cent (0.038 per cent rms),

as measured with the 3M Company Model 8160-01 Audio Flutter Meter. Lateral unweighted rumble measured -40 dB. Certainly, even through a super low frequency speaker such as the Janis subwoofer, rumble is inaudible. Arm-cartridge resonance, with the high compliance Empire 2000Z cartridge, is well-damped at 7.5 Hz with an amplitude of about 1.25 dB. The capacitance of the tonearm wiring measured 189.5 picofarads per side.

The vernier speed range was +9 to -7.8 per cent at 33 $\frac{1}{3}$ rpm, +8 to -8.4 per cent at 45 rpm, and +7.8 to -8.2 per cent at 78 rpm. All platter speeds were constant when the line voltage was varied from 95 to 135 volts a.c.

The tracking force calibrations were found to be quite accurate when checked against analytical balance weights, in the 0.5- to 3-gram range.

Anti-skating calibration was correct as indicated on the dial when equal to the tracking force, using the Empire 2000Z cartridge. At a recent technical meeting at the Stanton Laboratories, chief engineer George Alexandrovitch's newest scanning electron microscope pictures give dramatic evidence that anti-skating is a very positive factor in ensuring equal tracking force so that one groove wall is not worn inordinately. Cueing was reasonably good, despite the influence of the anti-skating setting.

To check the interchangeable arm feature, we took a spare arm mounted with a Shure V15 Type III cartridge, and replaced the original arm. The readjustment of arm level and balance proved to be very quick and easy. However, we performed no tests on this arm-cartridge combination.

Performance Evaluation

This is one of the best belt-driven, semi-automatic turntables we have ever used, equal to or better than all but the best high-end, state-of-the-art direct-drive turntables. This is certainly true of the measured flutter and rumble data. The ability to track warped records is, in our experience, on par with the better radial arms, and we feel this is due to the very low tonearm mass.

One of the unique features offered, particularly in 1977, is the 78-rpm speed, which should appeal to all collectors of these records. As all 78-rpm, acoustic record collectors know, no records were cut at 78 rpm. The speed varied with the individual record companies, from about 65 rpm to over 87 rpm. The speed variations available on the Thorens TD-126C turntable will permit the serious 78-rpm record collector to play almost all of these records at the correct speed.

When starting the Thorens TD-126C turntable, there is a brief time delay before the platter starts rotating which is normal for this turntable.

For those audiophiles who are in the market for a turntable of this caliber with its unique features, we recommend they seriously consider the Thorens TD-126C. The modern design and styling coupled with engineering excellence will certainly provide a superior means of record reproduction. *B. V. Pisha*

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