

SONY

Hi-Fi Products
Service Bulletin

CSA-13

Sony Service Company - Technical Services
A Division of Sony Electronics Inc.
Sony Drive, Park Ridge, New Jersey 07656

Model: DTC-59ES/690

No. 358

Subject: Intermittent Audio, Mechanism Wrinkles Tape

Date: October 29, 1993

Symptom:

(62) The tape is wrinkled due to mechanical problems with the mechanism.

MODEL	APPLICABLE SERIAL NUMBERS
DTC-59ES	UP TO 802,099
DTC-690	UP TO 800,991

Solution: Install the upgrade kit shown in the chart below as described in the Procedure section of this service bulletin.

DESCRIPTION	PART NUMBER
REPAIR KIT (59)	X-3367-352-1

Procedure:

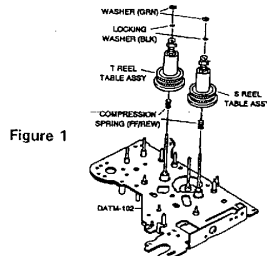
Mechanical

Compression Spring Replacement:

1. Remove the retaining washers (ref. 367) and the reel tables (ref. 365 and 366) and replace the compression springs (ref. 364) with the ones supplied in the repair kit.

Note: If the reel table assembly is equipped with a black spring, it is necessary to replace the entire reel table assembly with the new reel table assembly (A-2003-710-B).

2. Re-install the reel tables and secure them using the locating washers (black) and the retaining washers (green) supplied in the repair kit. The black locating washers should be installed first and the green retaining washers on top (see Figure 1).



(Continued)

Reference: FPR-03042
Autoflagged - YES



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Back Tension Adjustment:

Note: Back tension adjustment is necessary following replacement of the compression springs as the tension tends to increase after replacing the springs.

1. Remove the mechanical deck and the cassette compartment from the unit and separate the two assemblies. Place the two assemblies on a board without disconnecting any electrical connections (see Figure 2).
2. Put the unit in the test mode, insert a TW-7131 torque test tape (P/N 8-909-708-71) and press the forward button on the unit.
3. Adjust the back tension by slightly turning the adjustment screw located on the left side of the mechanism.
4. Changing modes once or twice (ie. PLAY - PAUSE - PLAY) during the procedure ensures an accurate adjustment. The back tension should be adjusted to 5.0 g/cm to 6.0 g/cm.
5. Check that this value remains steady for one revolution of the torque meter. This adjustment should be completed before one minute has elapsed as the torque will begin to vary when the plunger begins to heat up.

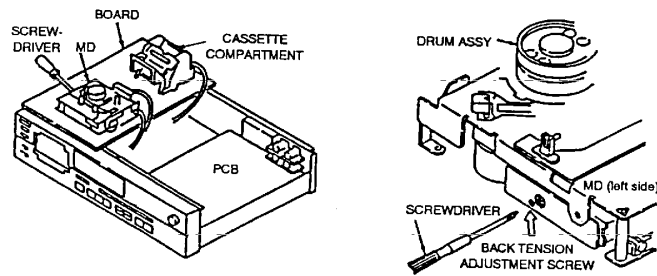


Figure 2

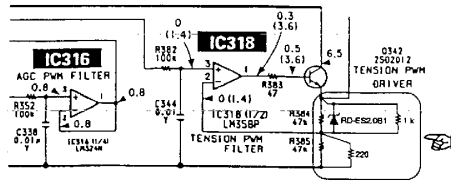
Take-Up Torque Adjustment:

1. Put the unit into the test mode, insert the torque cassette TW-7131 and press the PLAY button.
2. Adjust RV601 (DTC-59ES) or RV301 (DTC-690) located on the Main board, until a reading between 10 g/cm to 11 g/cm (maximum of 16 g/cm) is obtained.
3. Check that this new value for the take-up torque is maintained for one revolution of the torque meter. Note that the measured value may fluctuate.

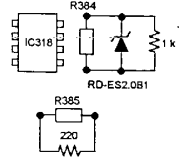
Electrical

Stabilization of the Tape Tension From Tape Top to Tape End:

1. Mount a 1K ohm resistor and an RD-ES2.0B1 Zener diode (both supplied in kit) parallel to R384 (see Figure 3). Note the orientation of the Zener diode.
2. Mount a 220 ohm resistor in parallel with R385 (see Figure 3).



DTC-59ES



Notes

- It is absolutely necessary to check and if necessary to adjust the back-tension torque before performing these circuit changes. The adjustment will not be possible afterwards.
- Certain units have already been upgraded at the factory. These units bear a round red mark on the solder side of the Main board.

DTC-690

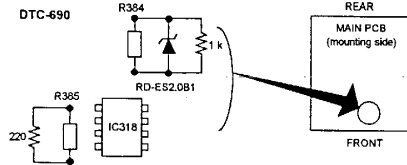


Figure 3

After finishing all steps outlined in this procedure, double check that the tape path and the tape path adjustments are correct. If tape path alignment is necessary at this point, proceed as normal: put the unit in the test mode, insert the TY-7252 test tape, adjust the RF waveform,... Refer to the Service Manual for the complete tape path alignment procedure.