

Cassette Repair and Maintenance

This guide is designed to step you through many of the very common problems you will find with vintage cassette decks. The fixes below will cure probably in excess of 95% of the problems encountered.

Cleaning supplies and tools needed:

Head Cleaner (available at www.vintage-electronics.cc/vparts.html)

Rubber Cleaner (available at www.vintage-electronics.cc/vparts.html)

Cotton Swabs

WD-40 You will also need the small spray tube

Screwdrivers An assortment of screwdrivers include a very small Philips and Flat blade

Pre-recorded cassette tape This must be a factory pre-recorded tape, not one recorded on this or another unit.

Machine Oil Any fine oil will work well.

Phono-lube This is a brand name of fine grease I use. Any fine grease will work just as well.

Problems

1. The most common problem with the vintage tape decks is worn belts. Always replace the entire set or you will end up back inside later finishing the job you started. Symptoms of worn belts will include dragging, eating tapes, coming up to speed slowly, the mechanism locking up and not allowing you to eject the tape, and excessive wow and flutter.

Fix: Obviously the fix for this type of problem is to replace the belts. There is no easy answer as to the procedure as every deck has its own specific mechanism. You just have to look it over and carefully disassemble the unit until you can get the belts out. Needle nosed pliers and forceps can be very handy when installing the new belts. Another great tool to aid in doing this is a belt hook. Since most people don't have one around you can use a large crochet hook (ask your wife) or a piece of coat hanger bent to a small hook on the end.

If the old belts are melted or very soft, be sure to clean any residue from the flywheel and motor pulleys before installing the new belts. Use a cotton swab soaked in Rubber Cleaner for this. Make sure the belts are tracking correctly on the motor pulley. If it rides up on the flange your speed will be fast and not very enjoyable.

2. The unit has a very dull and low level sound on one or both channels.

Fix Use a cotton swab soaked in Head Cleaner and clean the top surface of the play/record head and the erase head. Keep cleaning it until the swabs remain clean. Once a swab is dirty, do not use it on the head again. You will just end up putting the same dirt back where you got it from. If the sound is still dull or low after cleaning you may need to align the tape head. You will need to remove the outer cover of the tape door (on most decks this cover slides up and off). Now insert the pre-recorded tape and push play. On the left (almost always the left) side of the head there is a small screw for adjusting the head. Now if you were a service center you would have an alignment tape and test equipment to do this procedure but if you do this carefully, this will work just as well. While listening to the tape, especially the high frequency notes, adjust the small screw on the side of the head. I find that using headphones works best for me. As you adjust the screw you will hear the high frequencies get clearer and duller. You want to adjust the screw so you get the best quality highs from the music. That will put your head into proper alignment. BUT...never do this with a tape unless it is a factory recorded tape or you may end up mis-aligning your tape head to a tape that was recorded on a less than perfect deck.

3. Take-up reel stops spinning and the unit eats the tape.

Fix This is caused by one of two things. If the pinch roller is dirty it can stick to the tape causing it to wrap around the pinch roller instead of being wound onto the take-up reel. In this case you just need to clean the pinch roller. Put the unit in Play without a cassette tape installed (not all units will go into play without a tape installed). Hold a Rubber Cleaner soaked cotton swab against the pinch roller as it turns and clean off all the residue until it is nice and clean. Then put the unit in fast forward and clean the capstan shaft in the same manner. If your unit will not go into play without a tape installed, you will just have to clean it a little at a time as you turn the roller with your finger. The second cause is that the take up reel either is not turning or does not have enough torque to take up the tape. In this case the problem lies in the idler roller that presses against the take-up reel. You will usually have to take off the plate that sits behind the cassette tape to get to this roller. Again, clean the roller with a Rubber Cleaner soaked cotton swab.

4. One or both of the meters peg and or bounce hard against the right side even when the unit is not playing. You may also have a motor boating noise or a squeal.

Fix This is caused by dirty play/record switches. These are internal and are mounted usually on the large main circuit board. They are going to be two long thin switches (usually 2 to 4 inches long). There will almost always be two of them mounted side by side. If you put the unit in record mode, you will see that they switches are pushed in or pulled out. Set the unit on its side or back so that the switches are sitting vertical. With the small tube on the WD-40 can, spray some into the end of each switch. Move the switches back and forth with your fingers several time and then repair. If you can get to both ends of the switch, it is best to repeat by spraying the WD-40 into the other ends

5. Tape speed is slow or fast.

Fix Anytime you change the belts in a unit the speed may change due to slightly different tension of the belts. There are two ways to adjust the speed. On most decks the speed adjustment is inside the motor itself. If you look at the back (opposite the motor pulley) you will see a small opening. Inside the opening is a small adjustment potentiometer. You will need to use a small jewelers type flat blade screwdriver for the adjustment. Adjust carefully as not to break the potentiometer inside the motor. Now since you probably don't have a factory test tape, the only way to adjust the speed is by your own ear. In this case a tape with music on that you know inside and out is best. With the tape playing, adjust the motor for the proper speed. The second type of adjustment is an external adjustment. Some motors will have an external speed adjustment circuit board. Just follow the wires of the motor to where they connect to the board and there will be an adjustment potentiometer there. Use the same procedure to adjust the speed.

6. Static when the level controls are moved.

Fix This is something you should do even if you are experiencing no static problem. Since you have the unit open, just do a little preventative maintenance. Locate the controls. You will see an opening where the wires attach or where the pins attach to the circuit board. Using the small tube on the WD-40 can, spray some cleaner into each of the openings. Then work the controls back and forth a few times and repeat. That will take care of all the static. If your unit has a tape monitor switch (source/tape) you will need to clean that switch also. If you can see into the end of the switch, spray the WD-40 inside the switch and work it back and forth. If the switch is sealed with a brown bake-lite type material, take a small screw driver and chip one of the back corners off. This will not effect the integrity of the switch. Then you can spray the cleaner into the switch.