Subject: Re: Pioneer RT-909 Reel to Reel - advice required
Posted by slbender on Sun, 11 May 2008 18:31:29 GMT
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Hi BrianSeems like the capstan motor isn't turning from the description. If that is the case, could be either of two things.... First the flat belt that goes from the capstan motor around the two flywheels is stretched or fallen into pieces or strips, needs to be replaced. If old pieces of the belt are present, they often adhere to the flywheels and cause problems, so any "residue" need to be removed from said flywheels before replacing.If rotating one capstan by hand also causes the other capstan to move, then its probably not the flat belt, but one of two micro-switches present in either or both of the tension arm assemblies. Both switches are in series with the 24 Volt DC line of voltage to the capstan motor, and a high resistance here will cause the capstan motor not to turn. These micro-switches are a known failure-mode for the RT-909 in the situation where the capstans don't turn when Play is activated. Since those failure prone micro-switches are no long available from pioneer, and they have an unusually light activation touch, so they can't readily be substituted with other parts, first you have to disassemble the tension arm assemblies, then cut one wire and measure across each micro-switch's contacts with a meter on a low 0-40 or 0-200 ohm resistance scale. A good reading will be on the order of 0.0 ohms, but 0.1 or 0.2 ohms when the switch is activated is acceptable.For micro-switches that read into the "ohms", "tens of ohms", or more, when clicked into the ON position (it's a momentary switch) that switch will have to be removed and soaked in a cup or tray of 91% to 100% alcohol, covered so the alcohol doesn't evaporate, for at least 24 hours, preferably 48 hours to see if its contacts can be rejuvenated to a lower contact ON resistance. If the contact resistance of the switch or switches can be brought down into the proper range using this method, it should be good for several years operation. In the case where one or both can't be fixed by soaking once, then manually press the plunger in and release maybe a hundred times and soak it again for another 48 hours. If it still won't operate with a lower contact ON resistance at or under 0.2 ohms, then it will have to be replaced. I have a limited supply of modern special-spec micro-switches that I had made up to meet the original light pressure spec of the Pioneer parts. I have about 6, maybe 8 of these special spec micro-switches left, parts that I can modify to fit right into the original Tension Arm Assembly and attach to work properly. This will cost $75.00 for my parts and labor for each Tension Arm Assembly needing repair, plus return shipping to your location (about another $25.00 from NY. to Ireland, $35.00 for two assemblies). IF this is needed, contact me by email (slbender@gmail.com) to arrange to have this work done.Last choice to get it working, some techie-wannabees will bypass one or both protection micro-switches, as this is somewhat dangerous, at the end of the reel, the motors will not shut off. Then the reels will continue to spin - at top speed! The reels could be vibrated to the point of flinging off into the room, or flapping the end of the tape against metal parts which will fling off pieces of leader or tape and cause annoyance, damage, or physical injury until the Play mode is exited manually. I don't recommend trying to bypass these switches, its totally a last resort to get the set working. -Steven L. Bender, Designer of Vintage Audio Equipment