Subject: Mass and tonearm geometry/Empire
Posted by Manualblock on Sun, 05 Jun 2005 16:20:43 GMT
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Say Wayne; I remmembered your post concerning the mass of the tonearm and any effects it has on tracking the groove. The compliance of the stylus is only part of the story; no? Does the spring action of the stylus decouple the arm from the stylus/arm/groove system?Lateral force is exerted by the groove rotating against the stylus that must move this mass of the arm; is that correct?

Subject: Re: Mass and tonearm geometry/Empire
Posted by Wayne Parham on Mon, 06 Jun 2005 03:01:40 GMT
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If you mean the movement required to bring the arm inward towards the center of the record, yes, tone arm mass comes into play there. But it is a very slow movement, and acceleration is almost zero because the speed is constant. I would expect the force to overcome friction would be greater, and with good bearings, it is pretty small too.

Subject: Re: Mass and tonearm geometry/Empire
Posted by Manualblock on Mon, 06 Jun 2005 11:44:32 GMT
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Yeah; thats a point but also during the tracing of the groove the stylus compliance is exceeded periodically due to groove modulation and as a result the arm must respond to that exception. If it is too massive for the stylus; would that not have a negative effect causing groove damage?Whats your take on that?

Subject: Re: Mass and tonearm geometry/Empire
Posted by Wayne Parham on Mon, 06 Jun 2005 19:31:57 GMT
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I can see what you mean; When a record is warped or off-center, then the tone arm moves to track the groove. So that would create more force on the groove and also make a very low frequency audio component. We've all seen the low frequency part - woofer flutter. It might also cause increased record wear from some tone arms.

Subject: Re: Mass and tonearm geometry/Empire
Posted by Manualblock on Mon, 06 Jun 2005 20:19:52 GMT
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Agreed; considering the lateral tracking error built into all tonearm geometry the potential for damage may be pretty serious. Still mulling this over but as of now I would suggest following the lowcompliance massive arm rule.