DIRECTIONS FOR USE AND VIBRATION REDUCTION PROCEDURE (USE THE REDUCTION PROCEDURE ONLY IF NECESSARY)

There are many factors, especially at high rotational speeds, that can cause vibration to occur. Ultimately, vibration occurs when mass is distributed non-symmetrically about the axis of rotation. Since all the components of this system (i.e. router spindle, chuck, & cutter) are not perfect, the following procedure is recommended in an effort to minimize any imbalanced condition that may be present.

(1) Remove the guide assembly and install the chuck into the router spindle by tightening the retaining nut. **Caution, over tightening the nut beyond 12 Ft-Lbs could damage the retaining rings.** Excessive tightening of the nut is not necessary for proper retention of the chuck. Finger tighten the nut then turn it further using a wrench approximately ¼ turn and that will get you close enough.

(2) Install a small typical cutter into the chuck and tighten the cap screw to approximately 100/125 in-lbs. **Caution, installing any tool into the chuck less than a diameter of .497 (inch) or over tightening the cap screw beyond 125in-lbs** could damage the chuck and/or cause improper operation. Typically, at a torque of 125in-lb, it takes approximately 36/40ft-lbs of torque to cause the tool shank to slip in the chuck so over tightening is not necessary for proper tool retention.

(3) Using any marking device place a mark on the chuck body (not the nut) and the router spindle. **Always check to confirm the tool has been secured before turning on the router.**

(4) Turn on the router, preferably, if possible, at a low RPM and gradually increase the RPM while observing any significant vibration.

(5) If significant vibration is present, turn off the router and loosen the nut. Then rotate the chuck body through some small angle (45 Deg) relative to the spindle and retighten the nut. Again turn on the router and observe the vibration. If the vibration is reduced repeat this procedure again by continuing to rotate the body in the same direction. If it worsens rotate the body in the opposite direction. Continue this process until an angular position is found that minimizes the vibration. See(**Run Out Sources and Corrections**) for another set of instructions and a deeper explanation on the web site.

(6) If a large cutter is required then step 5 can be repeated with that actual cutter installed in the chuck.

(7) **When a reduction bushing is required it must be installed and the tool retention must be checked before the router is turned on.**

(8) **Warning: Power tools and their accessories such as the "Musclechuck"tm assembly, should only be used for their intended purpose by users experienced in their operation. Careless handling or misuse may result in serious injury or death. Failure to follow the enclosed directions is a misuse of the "Musclechuck"tm assembly. The user must always make sure that the cutter is secure in the chuck, especially when a reduction busing is required BEFORE turning on the router.**

(9) The "Musclechuck" is a high precision device and should be used in that manner. If these instructions are followed the "Musclechuck" will provide you with years of trouble free service.

(10) If any question or problem arises please contact the factory. We will be glad to offer any assistance.

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