Silencing bells for instruction

Once made and fitted, tyre muffles are the simplest and quickest way of "silencing" bells. They have the unique advantage that the clapper swings freely, giving a normal "feel" to a bell, but they don't quite silence completely. A faint ethereal hum is heard outside the tower, and the thud of the clapper hitting the bell may be discernable, but this is rarely a problem.

Finding the right tyre in the first place is the most difficult part of the process. A car tyre has too large a cross-section and there are steel wires running through the tread. An old motorbike tyre is ideal and the people in the bike shop are happy to provide an old one as it saves them the cost of disposal. See if you can get a rough terrain type tyre with a thick bobbly tread shape – the thickness will reduce the sound level. An average cross-section diameter of about 3 or 3½ inches is suitable for most bells, it should be of a shape that wraps around the clapper so have an idea of the size of your clappers first of all. The measurements are important but not too critical and one tyre can produce two complete octave sets.

Fig 1 shows what's needed: safety gear, (mask, goggles and ear defenders), a mini-disk angle grinder, and a Stanley knife with a new blade. A Black & Decker Workmate is an ideal working platform, and a jar of water is essential.

Even a bike tyre has wire bracing around the rim and Fig 2 shows how useful the old Workmate is for coping with this. Open it to its full extent, force in the tyre, and slice through the two rims at the same time with the angle grinder. There will be a shower of sparks and a cloud of pulverised rubber, so goggles and a mask are a must. The cuts are about one clapper ball diameter apart. Measure each clapper ball first and cut evenly to no more than a centimetre less than the diameter of the ball.

In Fig 3 shows the two cuts through the wire reinforcing of each rim. To make a complete set, mark up all the cuts before starting so that the noisy filthy work can be completed in one go.

Having removed the tyre from the workmate, cut around the marks with the Stanley knife, dipping the blade frequently in the water. Why? Try cutting with a dry knife and you'll find out! Fig 4 shows one section removed; carry on cutting off more sections to produce a set.

This is the cunning part. In the tower now, spread open the tyre section and mark an "H", as shown in fig 5 in the exact middle of the tyre. Make the three cuts of the "H" right through the tread, taking care not to sever a thumb at the same time! Do not complete the arms of the 'H' immediately – try to get the tyre over the flight first and only lengthen the 'arms' as much as you need to force the tyre over the flight by levering with a couple of screwdrivers if necessary until it is a good fit.

With the tyre as shown in fig 6, the clapper strikes the bell normally.

Twiddle it round through 90 degrees as in fig 7, and the bell doesn't speak.

Once fitted, it isn't necessary for the tyres to be removed, not even to fit the strap and lace or Velcro type leather muffles. The straps go under the "H" flaps. Given the correct tools, a set of eight can be made in under an hour and the capital effort is well worth it.

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Association of Ringing Teachers