

Welcome to

***THE CENTRAL COUNCIL OF
CHURCH BELL RINGERS***

TOWERS AND BELFRIES COMMITTEE

SEMINAR on TOWER INSPECTIONS

HOW TO CONDUCT THEM

AND

HOW TO WRITE THE REPORT



SEMINAR on TOWER INSPECTIONS

A few basics

**NEVER DO AN
INSPECTION ALONE**

Are you covered by insurance?

**If it is intended to be fixed
it must be fixed securely.**

**If it is intended to move
it must move freely.**





Part 1

The Tower



The Tower

- **Are the ringing room and bell chamber doors lockable?**
- **Are the ringing room lights switched in the room? If not is a warning light fitted?**
- **Are the stairs safe and well lit – with hand-rope on the central newel?**
- **Is the tower adequately lit – including emergency lights?**
- **Is bird wire secure?**



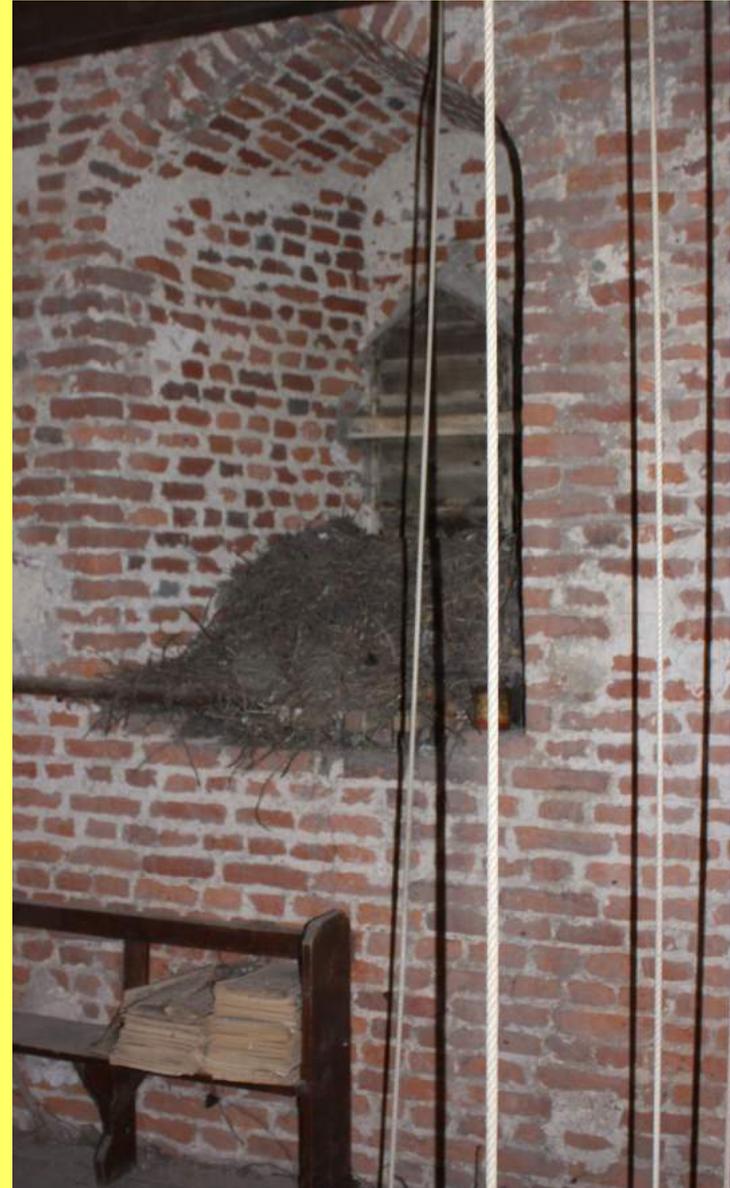
The Tower - *Continued*

- **Can you feel movement in any tower cracks?**
- **Are there notices warning of persons in bell-chamber?**
- **Is water entering through roof or windows?**
- **Are any sound control shutters accurately fitted?**
- **Is there a fire extinguisher and fire exit plan?**
- **Are all floors clear and safe?**



The Tower - *Continued*

**A birds nest like
this does not occur
overnight!**





Part 2

Wooden Frames and Foundation Beams

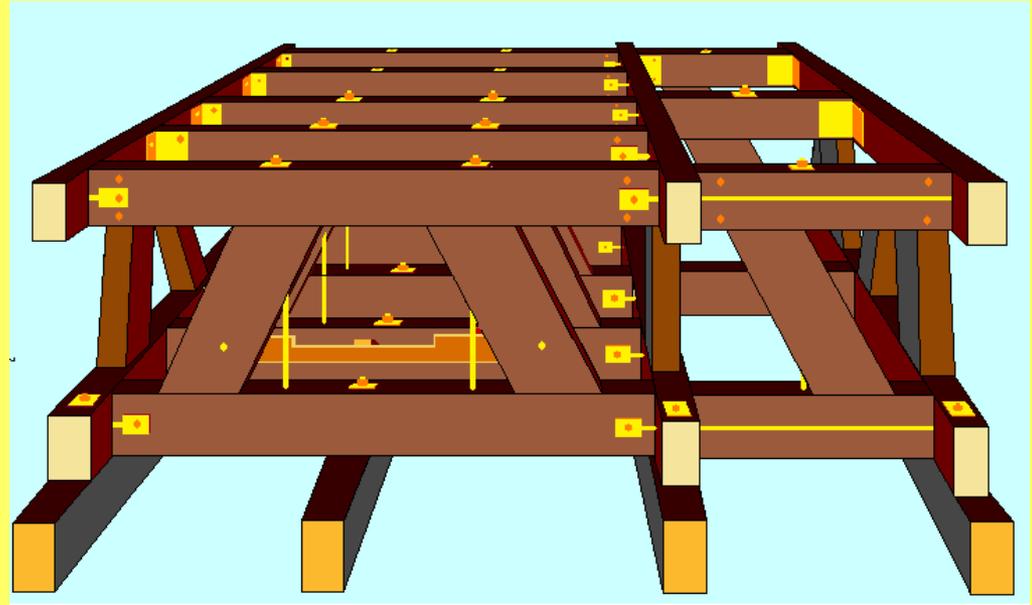


Wooden Frames and Foundation Beams

- **Are there any signs of decay in the beams?**
- **Is the frame secured to the foundation beams?**
- **Have any wedges been placed between the frame and tower walls?**
- **Are there any signs of movement of the foundation beams or frame?**
- **Are all bolts checked for tightness?**
- **Is ironwork well painted and are nuts and bolts free from rust?**



Wooden Frames and Foundation Beams



Wooden Frames and Foundation Beams





Part 3

Metal Frames and Foundation Beams



Metal Frames and Foundation Beams

- **Is all metalwork free from oil and debris?**
- **Is all metalwork free from rust and well painted?**
- **If there is rust are there serious signs of weakening corrosion?**
- **Are there signs of movement between the frame, foundation and tower wall?**
- **Are all the bolts tight?**
- **Is the frame bonded to the lightning conductor?**



Metal Frames and Foundation Beams





Part 4

Bell Headstocks and Bearings

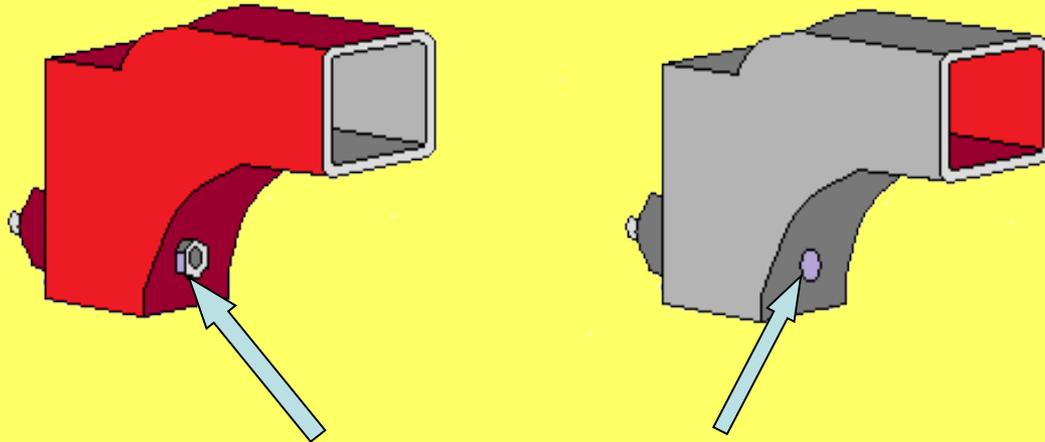


Bell headstocks and bearings

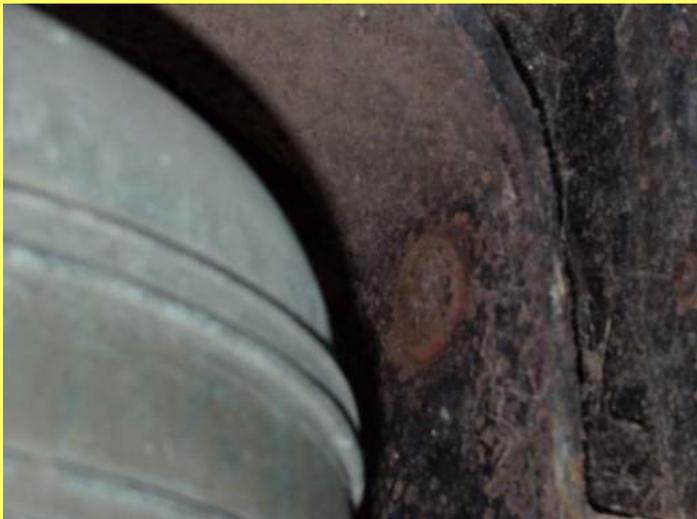
- **Are all bearings secure on their frame heads?**
- **Are there signs of bearings leaking grease?**
- **When each bell is rung can you (*from a safe position*)**
 - **hear any knocking or see any movement of a bearing?**
 - **hear any rumbling that can indicate a worn ball-race?**



Bell headstocks and bearings



Traces of rust or oil here may indicate a loose or broken gudgeon.



Bell headstocks and bearings - *Continued*

- **Is the metalwork generally well painted and free from rust?**
- **Are “twiddle pins” fitted?**
 - If not could they be fitted?
- **Do timber headstocks have:**
 - any shakes or splits that could affect their strength?
 - any beetle infestation?
- **If so does it affect the tightness of fixings?**
- **Are bells, wheels and all fittings tight on headstocks?**



Part 5

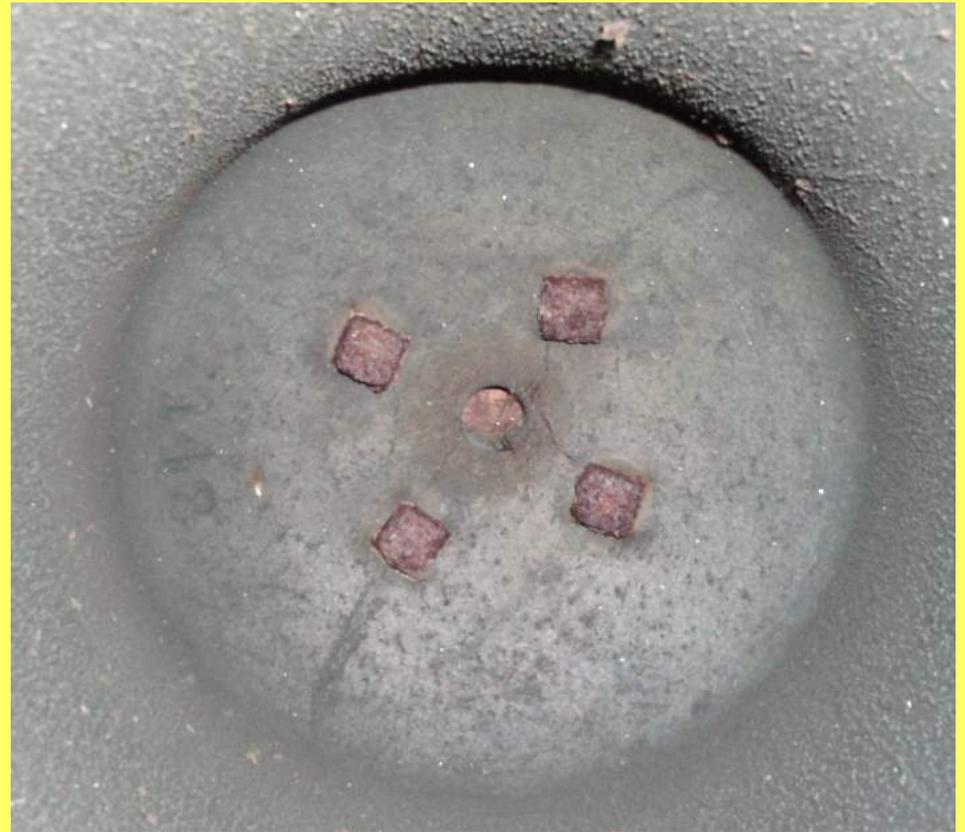


Bell, Clappers and Chiming Hammers

Are clapper staples independent or “cast in”?

If cast in are there signs of cracking around them on the inside of bell?

Or around the canons?



Bell, Clappers and Chiming Hammers - *Continued*

- **For a 1/4-turned bell with cast in staple is conversion fitting tight?**
- **If the staples are independent are they:**
 - **tight with lock-nut or split pin security?**
 - **central or are bells odd-struck?**
 - **if odd struck can tapered washers or other means of correction be fitted?**
- **Do clapper pivots have grease reservoirs?**
 - **is screw cap missing?**
- **Do older clapper assemblies have leather linings?**
- **Do they have “lignum vitae” bushes?**



Bell, Clappers and Chiming Hammers - *Continued*

- **Is the clapper suspension point worn – i.e. is the clapper roll more than say 50mm to 75mm?**
- **Have the clappers worn groves in the sound-bow of the bell?**
 - is this less than 10% or more than 15% of the bell thickness?
- **Do the clappers swing at 90° to the line of the gudgeons?**



Bell, Clappers and Chiming Hammers - *Continued*

- **Are there flaking “flats” on the clapper ball?**
- **Have buffered clapper inserts become worn or missing?**
- **Are chiming hammers fitted and do they release correctly?**
- **Do clock hammers strike correctly and do they release clear of the sound-bow?**



Part 6



Wheels, Stays and Sliders

- **Are wheel stays or braces fitted?**
- **Are wheels warped?**
- **Are there rusting tongues or screws in the shrouds?**
- **Are the wheel soles smooth with no protruding screws or nails?**
- **Are the garter holes and bobbins smooth and not grooved?**

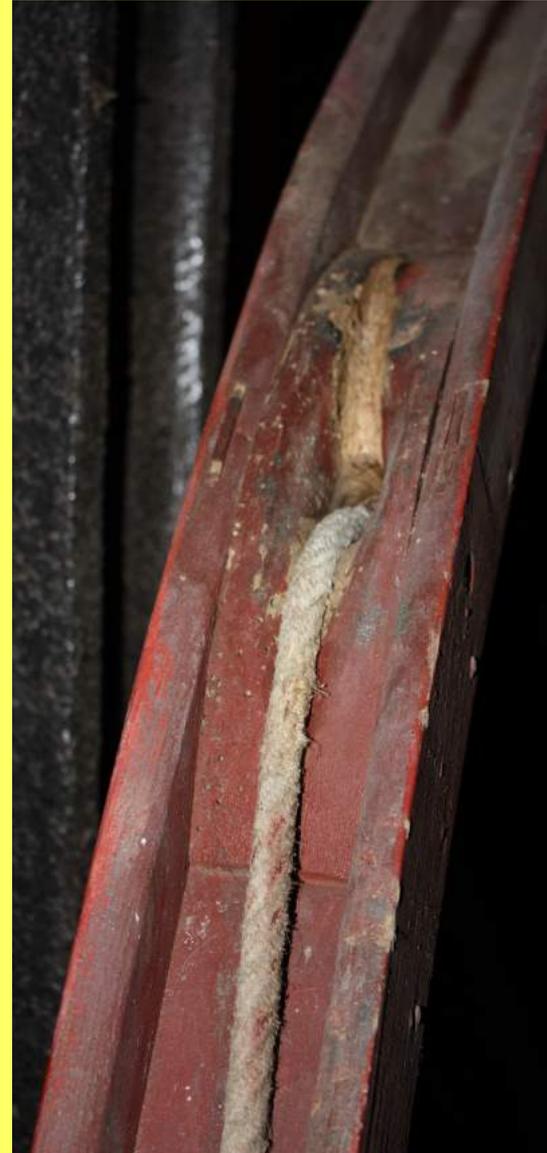


Wheels, Stays and Sliders – *Continued*

- **Are there any missing nuts on the “halving-bolts”?** These coach bolts are very prone to loosing their nuts.
- **Are stays the correct size and length?**
- **Is it worth adapting slider-bars to accept straight rather than curved stays?**



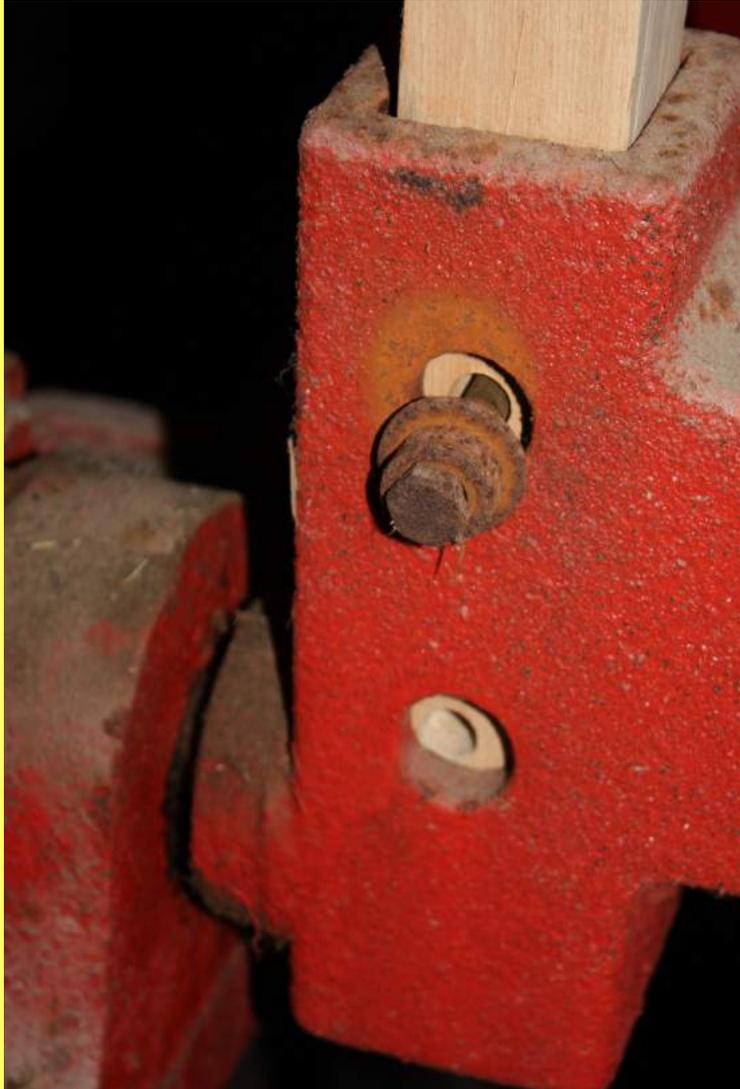
Wheels, Stays and Sliders – *Continued*



Wheels, Stays and Sliders – *Continued*



Wheels, Stays and Sliders – *Continued*



Wheels, Stays and Sliders – *Continued*

- **Are sliders securely pivoted, running freely and not binding on slider bars?**
- **Are sliders grooved over the edges of slider bars?**
- **Are the slider bar's upper surfaces aligned with the slope of the slider?**
- **Are the slider stops located correctly for the “set” of each bell?**





Part 7



Pulleys, Rope Chutes Guides and Bosses

- **Are pulleys free-rotating?**
- **Are grease reservoirs fitted: do pulleys rattle?**
- **Are timber pulleys warped – or plastic ones grooved?**
- **Are all pulley sheaves correctly aligned below the wheel?**



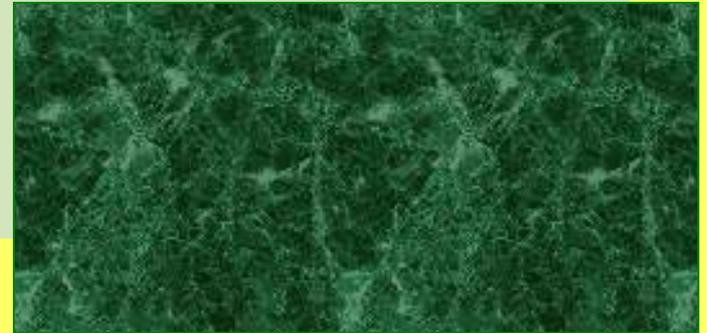
Pulleys, Rope Chutes Guides and Bosses

– *Continued*

- **Do rope chutes through floors transmit (or block) sound from the bells correctly?**
- **Are rope bosses or rope holes in floors**
 - - **correctly aligned below pulleys and wheels?**
 - - **are they grooved?**
 - - **are floor and ceiling bosses securely fitted?**
- **Are rope guides and any “slap-boards secure?**



Part 8



Rope, Rope Mats and Floor Coverings

- **Are ropes worn**
 - - at garter hole?
 - - above or below the sally?
- **Is any part of the rope bound with insulating tape?**
- **Are terylene top ends fitted?**
- **Are any carpets or rope mats woollen?**
- **If there are no mats is the floor smooth?**



Rope, Rope Mats and Floor Coverings

– *Continued*



**Possibly not the
best way to
join a rope!**

That is all!

