

INSPECTION OF THE BELLS AT SAINT MARY'S CHURCH AT TISSINGTON ON 29 JULY 1999

Request for inspection

Miss Ann Unwin, Church Warden, requested the inspection in a letter to Mr G Halls dated 21 July 1999.

The inspection was carried out by G Halls, J McCartney and M Banks.

Tower

The stone built tower is situated at the west end of the church and contains three bells but no clock. It is buttressed on the north, west and south walls to a height equivalent to the floor level of the intermediate room. Entry is from the nave.

Ground Floor Ringing Area

Figure 1 shows the layout of the ground floor ringing area. The church organ takes up a significant part of the tower ground floor and access to the ringing area is via a space to the right of the organ. Remaining floor space in the ringing area is further diminished by its part use for storage.

The three bell ropes hang in line 11 ins from the west wall, passing through a rope guide at approximately 60 ins below the ceiling.

There is a single window in the south wall and the ceiling is 207 ins above the floor. Access to the intermediate chamber is via a vertical ladder (attached to the north wall) and a 27 X 25 ins trap door.

Intermediate Room

Figure 2 shows the intermediate room, which has no windows and is unlit. Electric lighting should be installed for safe access to the bells.

There is no clock and so the room serves only as a sound attenuator for the bells. The ceiling is low, being at a height of 73 ins.

The west wall has internal cracks.

The bell chamber floor comprises boarding on top of six joists (5.5 X 5 ins) running east/west and supported on two beams (6.25 X 6.5 ins and 7 X 7 ins) running north/south. There is considerable woodworm in the east beam and it flexes noticeably under the weight of personnel walking in the bell chamber above. This beam should be replaced.

Three of the joists have been patched and one replaced.

Access to the bell chamber is via a sloping ladder in the south east corner.

Bell Chamber

Figure 3 shows the layout of the bell chamber. Entry is gained through a trap door in the southeast corner. The roof has been recently repaired and its apex stands 123 ins above the floor. The bell chamber is free from birds there being plastic netting on three louvres

and the fourth (east) louvre having a fully glazed opening window. A sheet of Plexiglas also covers the north louvre. There is debris on the floor and it is recommended that this be cleaned.

Three frame tie rods, as yet unfitted, were found on the floor.

Bells

None of the bells is listed for preservation and all have retained their canons. Each bell has been chip tuned and bells 1 and 2 then subsequently retuned when rehung on ball bearings by Taylor's of Loughborough in 1939. Each bell has been quarter turned to present an unworn face to the clapper, ensuing indentation is modest on bell 1 and very little on bells 2 and 3.

Further details are shown in the table below.

BELL	DIA (ins)	APPROX WT	DATE	FOUNDER	INSCRIPTIONS
1	29.00	?	1815	William Dobson	WILLIAM DOBSON, DOWNHAM, NORFOLK, FOUNDER 1815
2	30.25	?	n.d.(1815)	William Dobson	WILLIAM DOBSON, DOWNHAM, NORFOLK, FOUNDER 1815
3	33.875	8-0-0	n.d.(18 th C)	?D Hedderly	HUMPHREY GOODWIN CHURCH WARDENS EDMUND BUXTON

Wheels

The wheels are in good condition. A nut missing from one strut on bell 3 was replaced during the inspection

Headstocks

All headstocks are made from elm and are in good condition with the exception of the metal fittings and straps, which although sound are very rusty. All nuts on top of the headstocks were removed in turn, the threads oiled and the nuts retightened.

Clappers

All clappers are independent and were loose in their headstocks. The clapper on bell 3 was tightened during the inspection but attempts to tighten those on bells 1 and 2 were unsuccessful due to rusting of the retention nuts. Subsequent visits by the inspection team have put this right.

Wear on the clapper striking faces is modest and wear in the pivot bearings is slight. Each bearing has a greasing cap. During the inspection old solidified grease was removed from each bearing assembly and replaced with new grease.

Stays and Sliders

Conventional stays and sliders are fitted and all are in good condition.

Bearings and Gudgeons

Each of the bells is supported on plate gudgeons running in ball bearings, which in turn sit on cast iron seats spigotted onto the top of the wooden frame. The bearings are believed to be in good condition, that is they did not make a noise when the bells were rung silently. They should not be greased as they are sealed for life.

Pulleys

All pulleys are single and are in good condition.

Bell Frame

Figure 4 shows a general arrangement of the three-bell frame, which is classified as a long-headed (“Z” braced) wooden frame without centre posts. The frame, which is generally in good condition, carries the marking “H B 1719” indicating the date of installation.

Support of the frame within the tower is achieved through extensions to the “truss C” sills which locate in the east and west walls. The south truss rests on a very rusty 6 X 7ins steel beam set into the wall at both ends.

The nuts on all frame ties were removed, lubricated, and retightened.

Frame movement was judged acceptable when each bell was rung with its clapper tied.

Summary

- Following limited maintenance work by the inspection team the bell installation is in generally good condition and it is safe to ring.
- Lighting is poor/non existent in the ringing area, intermediate chamber and bell chamber. Lack of any form of lighting in the intermediate chamber makes access to the bells dangerous.
- There is debris in the bell chamber and the ringing area is used for storage.
- All metal fittings on the bells and frame are rusty.
- The structural integrity of one of the beams supporting the bell chamber floor is questionable due to woodworm attack.

Recommendations

- Install electric lighting in the intermediate chamber and bell chamber – improve the lighting in the ringing area.
- Clean out the debris on the floor of the bell chamber and also the vestiges of bird’s nests elsewhere.
- Discourage using the ringing area as a storage area.
- Wire brush the metal fittings on the bells and frame and apply two coats of Hammerite paint for protection.
- Seek professional advice on the integrity of the woodworm infested beam supporting the bell chamber floor, it appears to pose a hazard to personnel working in the bell chamber.
- Give the bell frame and other wooden components a coat of Cuprinol.

Advice is given in good faith, no liability accepted.

Report prepared by M D Banks

Approved by G A Halls
(Diocesan Bell Advisor)

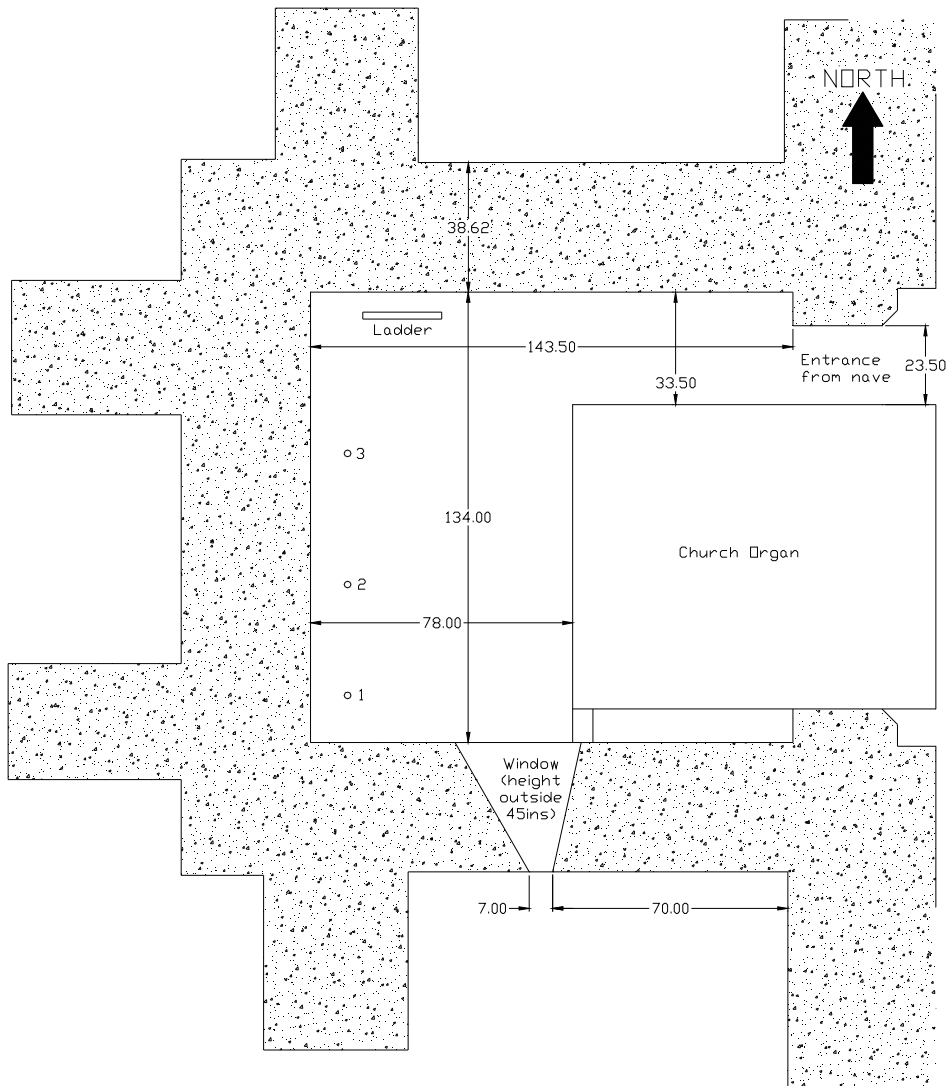


FIGURE 1 Groundfloor Ringing Chamber Layout

NOTES

- 1) Ceiling height is 207ins.
- 2) Ropes fall in a line 11ins from west wall.

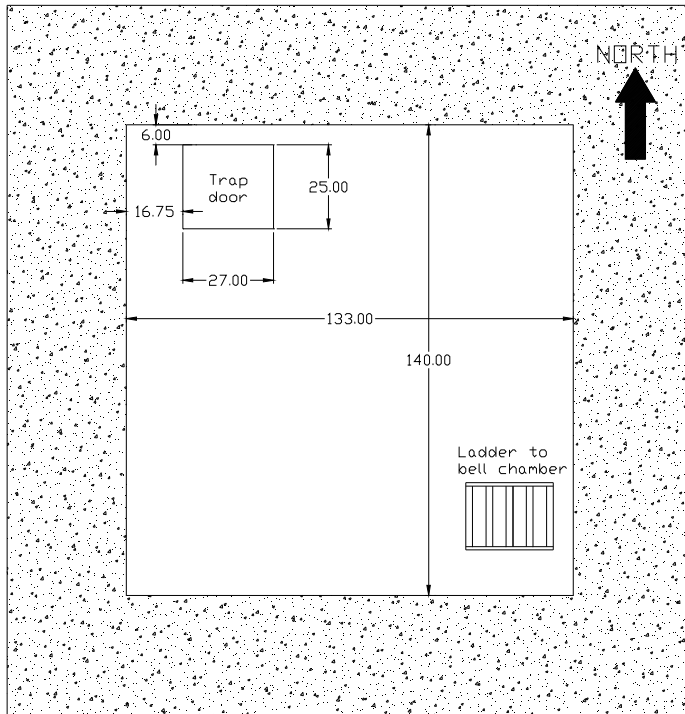


FIGURE 2 Intermediate Room

NOTES

- 1) Ceiling / belfry floor supported on two N/S beams (6.25X6.5 and 7X7ins) which in turn carry six E/W joists (5.5X5ins) with belfry floorboards above.
- 2) There is considerable woodworm in one of the N/S beams.
- 3) Three of the E/W beams have been patched and one replaced.
- 4) Ceiling height is 73ins.

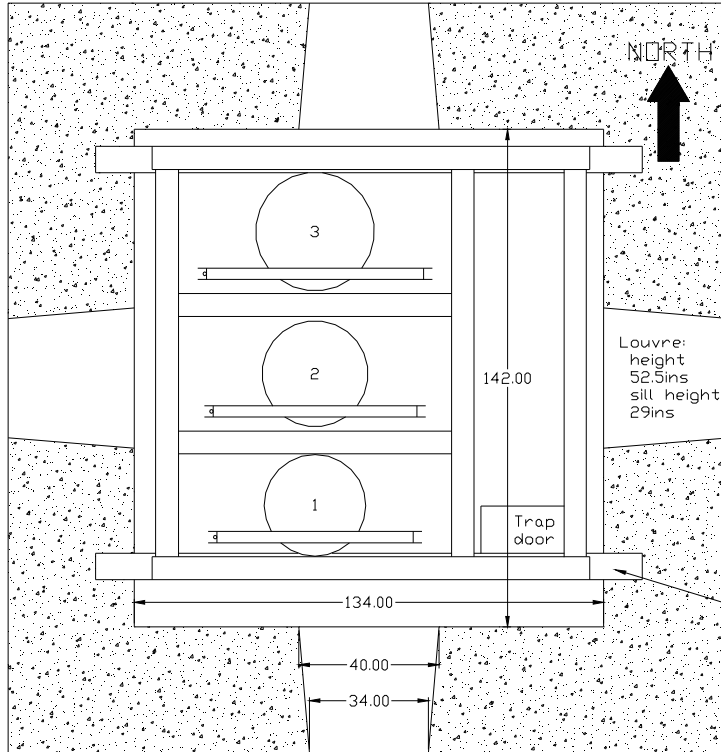


FIGURE 3 Bell Chamber

- NOTES
 1) Wooden frame made in 1719.
 2) Ceiling height at apex of roof is 123ins.

Louvre:
 height
 52.5ins
 sill height
 29ins

Trap
 door

6 X 7ins RSJ
 under this beam

134.00

142.00

40.00

34.00

