Derby Diocesan Association of Church Bellringers Consultant's Report	Report no. DDACB 08/003
Inspection of Bell Installation at All Saints Church, Mickleover	**Issue date: 24/05/003**

1.0 Introduction

Following a telephone request from Mrs Celia Cullen for help in curing a sticking bell rope, Robin Lyon and Mike Banks (Bell Consultants to the Derby Diocesan Association of Church Bellringers) carried out a short inspection of the bell installation on 22 May 2003.

The three bells are chimed by clocking i.e. with the bell hanging vertically, the clapper is pulled against the sound bow by means of a rope. Remedial action was taken which should cure the sticking rope problem and this report describes the action taken.

The report also includes other general information and recommendations which the PCC may wish to consider and the Bell Consultants will be pleased to discuss these further.

2.0 General

The stone-built tower is of modest proportions and situated at the west end of the church containing three bells hung for full circle ringing in a wooden frame. Although hung for full circle ringing, the bell fittings (headstocks, fixing ironwork, bearings etc.) are not in a fit state to take the considerable loads imposed by full circle ringing and so the bells have been tied to hang dead. The bells are chimed from the ground floor.

The space at the base of the tower is dominated by the church organ which has been installed with little regard for ringing of the bells. A low concrete floor has been placed above the ground floor leaving the ringers insufficient vertical space to permit the necessary hand and arm movement when ringing the bells full circle. The great bulk of the organ has forced the ropes to lie close together in a line adjacent to the west wall of the tower requiring ringers to face the wall when ringing. The lateral spacing of the ropes is much less than desirable to allow safe full circle ringing of the bells, even if this were now possible.

For these reasons the bells are now clock chimed.

3.0 The Bells

The basic information for the bells is given in the table below (data taken from "The Church Bells of Derbyshire" by Pat Halls and George Dawson).

Bell no.	Diameter mm (ins)	Weight	Date	Founder
1	737 (29)	Unknown	1657	George I Oldfield
2	813 (32)	Unknown	1742	Thomas Hedderley
3	870 (34.25)	Unknown	1591	Henry II Oldfield

All of the bells retain their canons (the loops on top of the crown which allow attachment to the headstock) and cast-in crown staples. The cast-in crown staple is a loop of iron cast into the inside of the bell in its crown to form a pivot point from which to hang the clapper. It is a form of construction long since abandoned since corrosion of the iron within the body of the bell causes it to expand and can result in cracking of the bell.

Indentation at the sound bow due to impact by the clappers (when the bells were rung full circle) is generally severe. The remedy for this is to quarter turn the bell about its vertical axis to present unworn faces to the clapper and this has not been done on any of the bells despite their great age. However since the bells are only clocked, the geometry of the rope layout is now incorrect and the clappers are pulled to one side and tend to strike the bell at a less worn position.

Bells 2 and 3 appear on the Schedule of Bells For Preservation compiled by the Council for the Care of Churches. This means that only limited rework of the bells would ever be permitted e.g. removal of the cast-in crown staples (recommended!), quarter turning, and minimal retuning.

4.0 Sticking Rope

When the bells were rung full circle, the rope was attached at its upper end to the main bell wheel and passed over a roller (pulley) before dropping vertically to the ringing room below. The main wheel and roller must lie in line with each other and the holes in the floors must all lie vertically below the roller.

When the bells ceased to be rung full circle, the rope was removed from the main bell wheel and attached to the end of the clapper. The clapper is not in line with the roller and so the rope now passes diagonally across the roller. Since the roller on the tenor bell is less wide than on the other bells, its rope tends to run off the end of the roller and was getting trapped in the clearance gap between the roller and its housing. A hardwood peg was installed during the inspection which now prevents this from happening.

5.0 Recommendations

It is recognised that the PCC has not requested advice for its bells and so the following recommendations may not be of interest, but nevertheless are given for completeness.

The bells installed at All Saints Mickleover are very old and bells 2 and 3 have sufficient historic interest to be listed for preservation by the Council for the Care of Churches. There are two common causes for cracking of bells, namely clock chiming and corrosion of cast-in crown staples.

Both of these causes are present for these bells and so they must be considered to be at an above average risk of cracking.

It is strongly recommended that the PCC consider the following:

- have the cast-in crown staples removed from each of the three bells (this can be done in the bell chamber by professional bell hangers)
- have an Ellacombe chiming apparatus installed which allows the bells to be chimed safely.

Should the PCC wish to pursue these recommendations a list of local bell hangers is attached who will give free quotations for the above work. The Bell Consultants will be pleased to talk to the PCC (free of charge) if requested in writing.

Advice given in good faith but no liability accepted.

Mike Banks

Bell Consultant to the Derby Diocesan Association of Church Bellringers

APPENDIX
LOCAL BELLHANGERS

1) Hayward Mills Associates,
Unit 1, Palin Street,
Radford,
NOTTINGHAM
NG7 5AD
Tel 0115 978 8388
Fax 0115 978 9233

2) Eayre and Smith Ltd.,
45, Blanch Croft,
MELBOURNE
Derbyshire
DE73 1GG
Tel 01332 864266
Fax 01332 865444

3) John Taylor Bellfounders Ltd.,
The Bellfoundry,
LOUGHBOROUGH
Leicestershire
LE11 1AR
Tel 01509 212241
Fax 01509 263305

4) Fred Pembleton
Pembletons (Bellhangers & Engineers)
Langdene
43 Mansfield Road
Glapwell
Near Chesterfield
Derbyshire
S44 5QA
Tel 01623 810640