

LITTLE MALVERN PRIORY

ORGAN RESTORATION REPORT

JUNE 2019



NICHOLSON & CO. LTD

MALVERN

NICHOLSON & Co.

PIPE ORGAN BUILDERS

EST. 1841



CONTENTS

Foreword	1
History of the organ	2
William Hill	5
Condition prior to restoration	6
Description of restoration	7
Key action.....	7
Drawstop and combination action	11
Soundboards and chests	12
Wind system	16
Pipework	19
Console	21
Expression box and mechanism.....	24
Casework.....	25
Appendix A - Specification	34
Appendix B - Pipe scales	35

Lower Interfields, Malvern, Worcestershire WR14 1UU
+44 (0)1886 833338



FOREWORD

The organ in Little Malvern Priory is one of the many musical gems of Worcestershire.

It has had a quiet 137-year life, spent entirely in its prominent west end gallery position in a beautiful former Benedictine Priory in a particularly peaceful and attractive corner at the foot of the Malvern hills.

We enjoy working on instruments across the world, but it is always a particular pleasure to work on organs just a few miles from our workshop. Almost a stone's throw from Little Malvern Priory is St Wulstan's RC Church, where Sir Edward Elgar is buried and which is home to a fine John Nicholson organ.

It has been a privilege to bring the fine Hill organ of Little Malvern Priory back to first-class condition in what represents the first thorough restoration in its history. We would like to pay tribute to the support and enthusiasm of the congregation for rising to the challenge of this major work, represented in particular by the Rev. Canon Eric Knowles, Ken Anstiss and Francis Jones, and by the organists Malcolm Macleod and Ron Ward.

Our work on this instrument has proved stimulating to our team, and we have learned a great deal through the project. In particular, it has reminded us that historical restoration is about a culture and mindset rather than rigid adherence to a set of rules. We have tried as much as possible to respect and preserve the vision of this instrument's builders, and are grateful to the congregation for the opportunity to have restored this beautiful organ in its original condition for many future generations to enjoy.

Andrew Caskie
Managing Director

Project leader Gavin Davidge

**Other colleagues
who worked on
the project** James Atherton, Darren Bingham, Kevin Davies, Csaba Farkas,
Alex Fishburn, Luke Gallichan, Wesley Gibbard, Bob Jones,
Phil Johnson, Mike Longstaff, Luke Morton, David Roskelly,
Richard Sanders, John Slater



HISTORY OF THE ORGAN

Little Malvern Priory is believed to have been founded as a very small Benedictine monastery in 1125, annexed to Worcester Cathedral, and was rebuilt in the 1480s. Grade 1-listed, the present priory building comprises a medieval chancel and crossing tower of what was once a much larger edifice.



Little Malvern Priory

The present organ is the third instrument known to have been in the building. A barrel organ was noted in 1851¹. This was replaced by a brand-new organ built by our founder John Nicholson (1815–1895) and opened in November 1867². That this lasted only 15 years suggests that it was likely a very modest instrument. It may well have been relocated to a new home when no longer needed here, but no information is known.

The current instrument was built by the esteemed London firm of William Hill & Son in 1882 (Op. 1819). The Hill firm was an unusual choice of a premier-league firm at a time when two fine provincial builders (John Nicholson in Worcester and Eustace Ingram in Hereford) were close by, and perhaps showed an especially high aspiration of quality. It may have been influenced by the major work Hill carried out in Worcester Cathedral in 1874/5, when the firm completed no less than two four-manual instruments for the cathedral, one a rebuild of the choir organ and the other an entirely new transept organ.

The Little Malvern Priory organ is typical of many smaller instruments built at the time and enjoys an unusually favourable and unencumbered position in a west end

¹ Noake, John, *The Rambler in Worcestershire, Or Stray Notes on Churches and Congregations*, London: Longman, 1851

² *Hereford Times*, 9 November 1867, p.3



gallery. It was opened on Thursday 10 August 1882 in a day of joyful music-making. A copy of the contemporary press report is shown overleaf.

The organ received light overhauls from Nicholson & Co. in 1934 and 1976, but has never had any thorough restoration until the present work. In our archives, our own internal notes of an inspection of the organ in 1975 bear a scrawled observation in red pencil with an all-too-rare message in that iconoclastic era:

This is a very fine organ and must not be altered.

Long may it be so.



**LITTLE MALVERN.**

OPENING OF THE NEW ORGAN.—The new organ which has just been built by Messrs. Hill, of London was opened on Thursday, the 10th instant. The only portions of the ancient Priory Church of Little Malvern now remaining are the choir and tower, the nave having altogether disappeared, and the transepts being in ruins; but the large number of clergy who were present, and the excellent congregation, who, in consequence of the exceeding smallness of the church, were admitted by tickets (which were given free of

charge), proved how great an interest is felt in the little church, as it is probable that for upwards of 30 years so large a number of "white-robed priests" have not joined in the Church's services within those walls as did on the day of the opening of the new organ. Prayers were said by the vicar, the Rev. Frederic Peel; the sermon was preached by the Rev. the Hon. Maurice Ponsonby; and the Rev. Gregory Smith, vicar of Great Malvern, and the Rev. G. Cosby White, vicar of Newland, read the lessons. The organist on the occasion was Mr. Frank Spinney, organist of the parish church, Leamington. Mr. Spinney's very beautiful playing showed the capabilities of the organ, which is a very fine-toned instrument and in every way suited for the church. Mr. Dyson, Mr. Milward, and two of the choristers from Worcester Cathedral took part in the musical portion of the service, as well as Mr. Brown, the principal basso of the Great Malvern Choir. Miss Mildred Tait, of London, an accomplished amateur, was the leading soprano, and other ladies also assisted. The anthems were both taken from Mendelssohn's "Elijah," the first being "Cast thy burthen," and the second, "Oh, come every one that thirsteth." In the evening, as no sermon was preached, a selection of sacred music was given. Miss Tait sang, "Rejoice greatly;" her voice, which is a highly-cultivated, fresh and pure soprano, filled the church. Mr. Dyson's singing of "If with all your hearts ye truly seek him," was excellent, and Mr. Milward's voice was greatly admired in the grand solo from "Elijah," "Lord God of Abraham. Mr. Brown, who has a fine bass voice, sang a solo from the "Messiah" with exceedingly good effect. Mr. Frank Spinney's solos upon the organ left nothing to be desired. Although most of the congregation had already subscribed handsomely towards the erection of the organ, the offertories were good, and only a small debt remains, which will doubtless speedily be paid off if the very liberal manner in which the appeal has been responded to may be taken as an indication. The committee for the purpose of raising funds for the new organ, the appeal for which was only issued last Easter, included the name of Dr. John Hullah, who has, from the first, taken the liveliest interest in the matter, and was present on the opening day.



WILLIAM HILL & SON

Nothing is known of the early organ building career of William Hill (1789–1870) until he started working for the London organ builder Thomas Elliott in around 1815. Some three years later, Hill married one of Elliott's daughters, and in 1825 Elliott made Hill a partner in the firm, then known as Elliott & Hill. Elliott died in 1832 and Hill inherited the firm. Hill became one of the leading organ builders of the Victorian age. At a time when English organ building had stagnated in introversion and had fallen behind developments on the continent, Hill was at the vanguard of the modernisation of English organ building, leading the transformation from the sweet and retiring Georgian organ to the mature Victorian instruments with C-compasses, independent Pedal Organs, and many other innovations that became known collectively as the German System.

Hill's eldest son Thomas (1822–1893) became a partner in the firm around 1856, from which time the company was known as William Hill & Son. Thomas was a competent organ builder; he introduced many technical innovations but from a tonal perspective most of the instruments from his era, into which Little Malvern Priory falls, are very similar in tonality to those of his father. Choruses are bold, classical and powerful, with a brilliance that was often eschewed half a century later by critics such as Lt Col George Dixon, but which are now appreciated once more for their vibrant musicality.



Thomas Hill

Only four years after completion of the Little Malvern Priory instrument, the Hill firm won the contract for a new organ for Sydney Town Hall, for many years the largest organ in the world. The Hill firm passed to Thomas' son Arthur in 1893. Prestigious contracts continued to follow for a time, but the tonal style became more muted and the mantle of prestige passed from Hill and Willis to firms such as J.W. Walker & Sons.

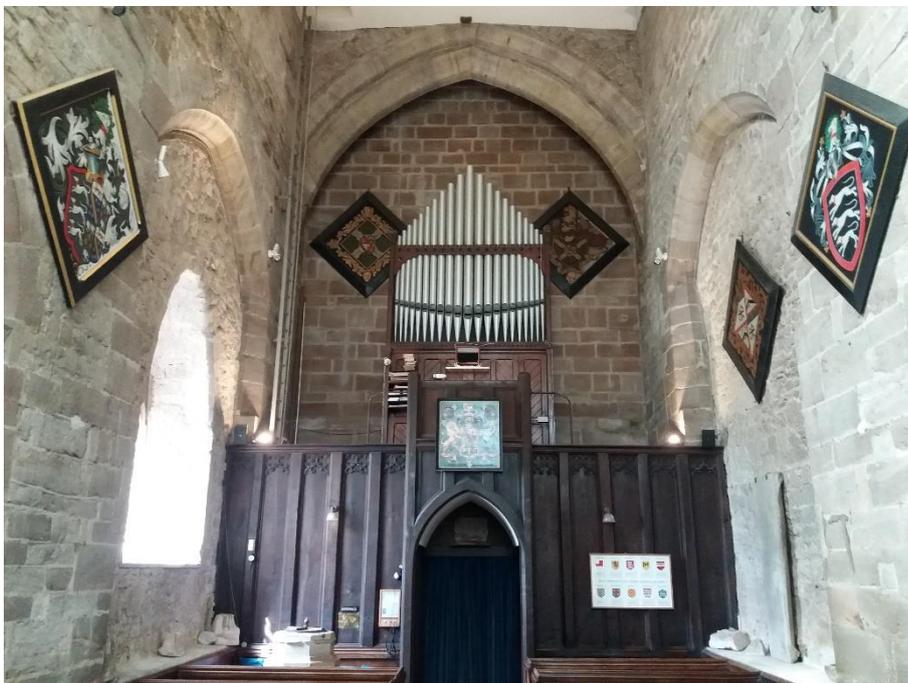
A fascinating comparison can be made between the organ of Little Malvern Priory and the almost identically sized Hill organ of 1914 in St Peter's Church, Pudleston, some 23 miles away. The Pudleston organ is beautifully built and makes a lovely sound but has virtually none of the clarity and brilliance of its elder sibling of 32 years earlier. The Hill firm eventually amalgamated with the Norwich firm of Norman & Beard in 1915 to form Hill, Norman & Beard, which eventually ceased trading in 1998.



CONDITION PRIOR TO RESTORATION

The organ was in regular weekly use, but was becoming increasingly troublesome mechanically. Much wear in the mechanical action had made the mechanism noisy. Wind leakage was considerable. The primary cause for concern was the condition of the Swell Organ soundboard, which was beset with severe murmuring (notes sounding faintly when stops were drawn but no keys were depressed). The pipework was grubby but in fairly good physical condition.

The case and console woodwork remained structurally sound but were in very poor aesthetic condition. The wear and tear of many decades paled into insignificance against the grave damage caused by the wholly inappropriate routing of electrical wires and switches, not to mention the fixing of a hasp and staple, over many years.



Pre-restoration



DESCRIPTION OF RESTORATION

The organ was dismantled in January 2019 and was wholly removed to our workshop for restoration. The restoration work was completed in May 2019 and installation back into the church was completed in June 2019.

Key action

The manual and pedal key actions are entirely mechanical, and their restoration was straightforward. The trackers were generally in good condition and the original steel wires had been replaced with new of phosphor-bronze in our 1934 overhaul. Square beams, backfalls and rollerboards were worn. These have been thoroughly restored and re-bushed using matching material to original, including new leather bushings in all of the roller arms³. New cloths and leather buttons have been fitted throughout. The pedal coupling rollers are metal, whereas the soundboard rollers are of wood. In accordance with accepted conservation principles for such components, metal roller arms have been rubbed down and repainted to match the original colour.



Fitting new leather bushes to roller arms

³ A video of this work can be seen at <https://www.youtube.com/watch?v=2pKGttOZ0q0>



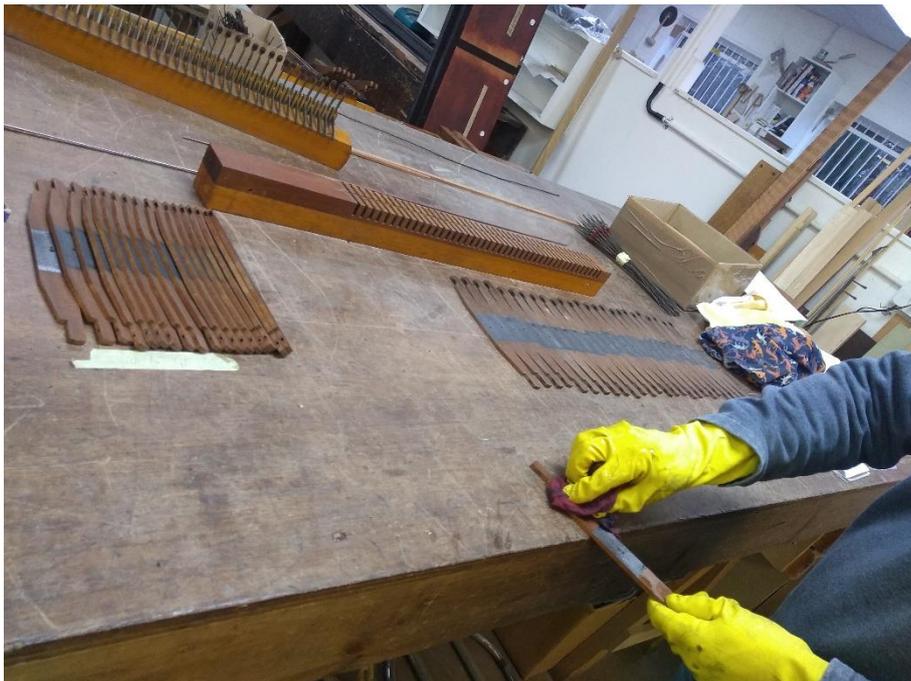
Restored roller arms



Restoration of coupling chassis



Restoration of square beams and trackers



Cleaning and restoring backfalls



Rollerboard pre-restoration



Rollerboard post-restoration



Drawstop and combination action

The drawstop and combination actions are entirely mechanical, and again their restoration has been straightforward. Paintwork on the metal components was in poor condition and has been repainted to match the original colour.



Restoring drawstop action



Fifteenth reverser pedal



Soundboards and chests

Both soundboards were in poor condition, the Swell Organ soundboard particularly so. Upon opening up in the workshop, we were pleasantly surprised to find that both tables were free of splits. However, we were struck by a surprisingly poor design and build quality in certain aspects common to both soundboards.



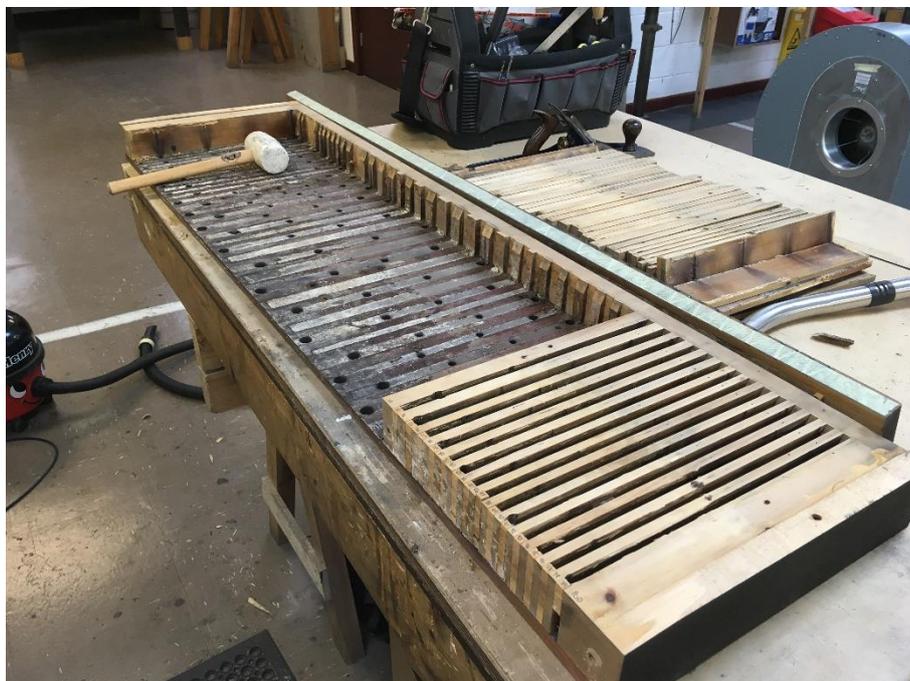
Badly split leather covering on underside of soundboard

Most organ builders make the top of the well flush with the top of the grid, to allow the table to be of one piece of timber covering the entire surface of the soundboard. In both of these soundboards, however, the well tops protruded beyond the top of the grid and the table was recessed between. This means that that the top of the soundboard is formed of three pieces of timber rather than one, with a much greater propensity to structural problems. On the Swell Organ soundboard, the table had come apart from the well and grid, causing significant murmuring.



Serious structural problems on Swell Organ soundboard

The dire condition of the Swell Organ soundboard necessitated the unusual step of complete disassembly of the soundboard during restoration.



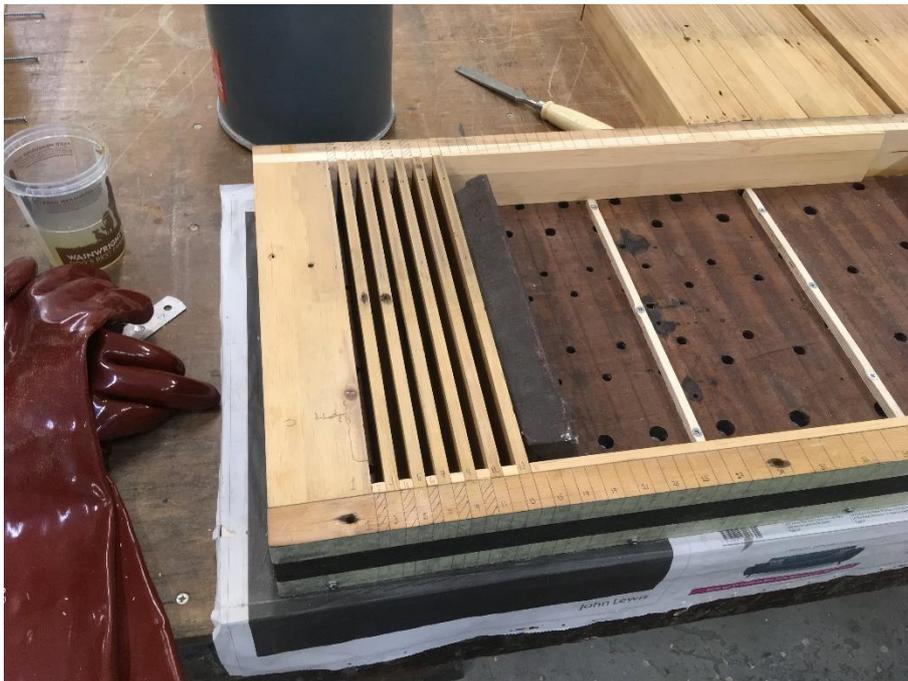
Swell Organ soundboard being taken completely apart

The build quality problem on both soundboards related to the wooden infills placed between the soundboard bars at the bottom of the grid, intended to space out the bars correctly and to provide a flat surface onto which the pallet hinges are adhered. It is



standard practice to make and locate such infills so that their grain is perpendicular to that of the bars. This minimises the likelihood of such infills coming loose through humidity related expansion and contraction. The infills in both soundboards were, however, made and located with the grain parallel to the bars; the consequence of this was that many were finger loose and some were no longer gripped at all by the bars, which was one cause of the numerous malfunctions in the soundboards pre-restoration.

We felt that this was a sufficiently serious manufacturing flaw, with a high likelihood of recurrence, that we replaced all of the infills with new, with their grain perpendicular to the bars. Matching timber was used.



Assembling soundboard again with new infills



New infills with grain perpendicular to bars



Upon re-assembly, the remainder of the restoration work was conventional and straightforward. The table was planed flat, grooves were deepened slightly as required, the bearers re-papered, and both soundboards flooded with hot animal glue.



Restored soundboards ready for glue flooding



Hot glue flooding of Swell Organ soundboard

The table, slides and underside of the upperboards were graphited in the usual way. Leather in matching style to the original was applied to the underside of the grid. Many of the upperboard screws had stripped or snapped; these were all drilled out and plugged in matching timber. The upper face of the upperboards was oiled. It was



common for Hill & Son to cover pallets in a double layer of leather, but in the absence of definitive information otherwise, we have repeated here what we found: felt and leather.



Pallets being covered with new felt and leather

The bottom octave of the Swell Organ manual has only one function: it plays the Gedact 8' on the Great Organ. The lowest 12 notes of the Gedact are therefore fitted with clack valves to allow them to be played in this manner; these were rotten and have been renewed with new leather.

Wind system

The organ was hand-blown until 1967, when a B.O.B. blower was installed by Nicholson & Co. This was in turn replaced by Nicholson & Co. with a new Daminato unit in January 2018, a year before the restoration work began. At some stage either in or after 1967, all of the hand pumping mechanism was removed save for the feeders below the double-rise reservoir. Sufficient evidence remains, however, to deduce that the organ was pumped, most unusually, by rotation of a wheel on the rear of the instrument rather than the more common up-and-down lever.

The leatherwork on the double-rise reservoir at the base of the organ was in poor condition although mostly still - just - windtight. We have no documentary evidence that it had ever been re-leathered - it was certainly not undertaken in either our 1934 or 1976 overhauls, but its condition was remarkable if the leather was indeed original. It has been entirely re-leathered in the course of the present work. The redundant and disconnected feeders have been left unrestored, attached to the underside of the restored reservoir, as an historical feature. The inlet valves into the reservoir from the feeders have been covered over inside the reservoir with plywood board in a reversible manner.



Reservoir re-leathering underway, using hot animal glue



Restored reservoir, with obsolete and unrestored feeders left in situ as artefacts

The plywood wind control fitted to the reservoir in 1967 was found to be badly affected by woodworm and has been replaced with new of solid timber, stained to match its surroundings.



New wind control

The vent for the Bourdon chests was striking for its poor original construction, having been secured to the wind trunk in wood so thin that the screws had split the surrounding timber. We have therefore re-made the vent and the surrounding part of the trunk; in style and material the new work is an exact replica of the original, except for slightly thicker timber around the screw holes.



Original vent - note burst screw holes



Trueing up wind trunk bedding faces before applying new leather

Pipework

The pipework was dirty but in good physical condition. The cork lining of the stoppers on the Gedact 8' stop had perished and begun to disintegrate. New cork stopper linings were turned to fit⁴.



Turning new cork stoppers on the lathe

⁴ A video of this work can be seen at <https://www.youtube.com/watch?v=Gelwa54-88k>



Repairing split caps on Bourdon pipes



New leather packing around wooden stopper

The façade pipes had been painted silver at some stage. The paintwork was tarnished and in poor condition. We were anxious to try to identify how the façade pipes had been finished originally. Careful investigation and stripping of paint on one pipe revealed no sign of any previous decoration. We therefore suggested to the church that we could either strip all the façade pipes bare, back to their original state, or to repaint them afresh. The church elected to have them repainted; Farrow & Ball Lime



White No. 1 was chosen! Two coats of primer and two top coats have been applied. We have also gilded the mouths.



Gilding pipe mouths

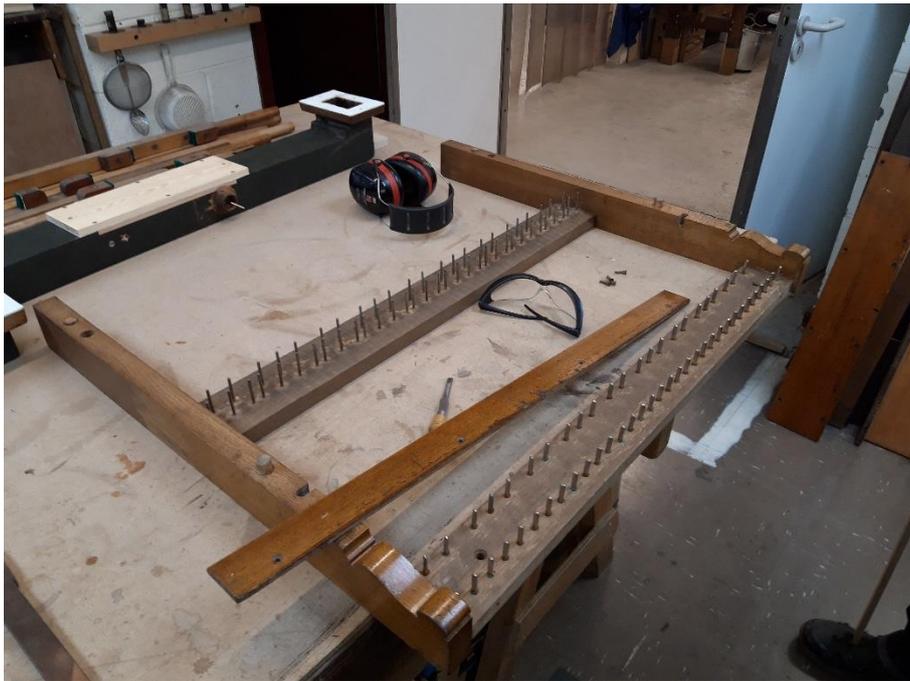
All pipes were thoroughly cleaned, repaired as necessary, and had their speech regulated. No alterations whatsoever were made to the voicing or balancing of any pipework, with only the minimum of regulation necessary being undertaken to return consistent and correct speech.

Console

After nearly a century of use, the original ivory key facings were removed and replaced with man-made ivorine in our 1976 overhaul. The ivorine remains in excellent condition. An option of replacing the ivorine with new facings of cow bone was offered to the church in the planning for the present work but was not instructed.

The keys themselves have been cleaned and re-bushed, and the original flat/straight pedalboard has been fully restored and re-pieced in matching timber. All bushings around the drawstop shanks have been renewed, and the wind tell-tale repaired.

Considerable cosmetic repair work to the console woodwork was necessary; this is covered under casework.



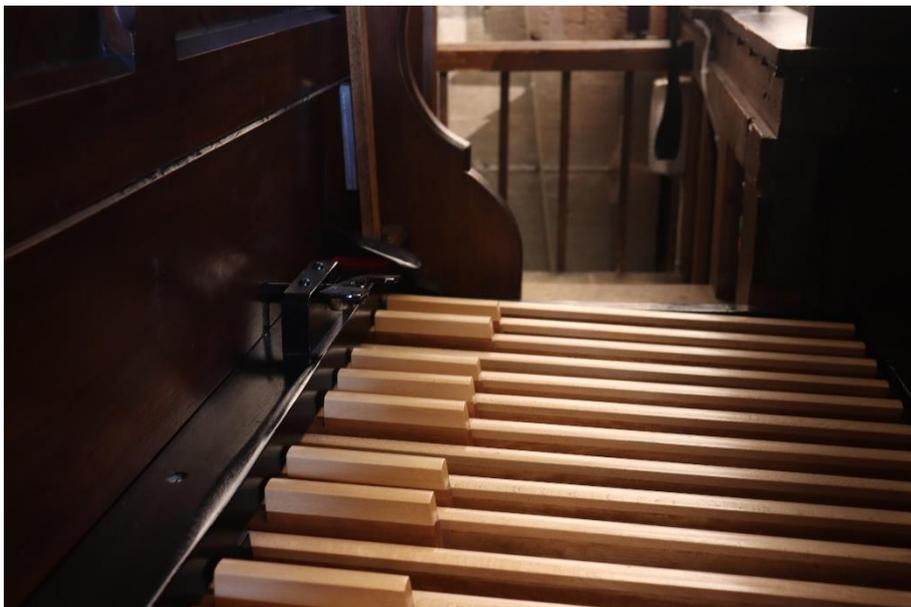
Cleaning keyboard frame



Pedalboard restoration nearing completion



Restored console



Restored pedalboard



Expression box and mechanism

The expression box is laid out in the typical Hill style with basses in the middle with a 'cottage' roof. The worn shutter felts have been replaced in matching style. The mechanism was worn and all wear has been taken up. Upon re-assembly in the church, the interior of the box was re-papered in matching style to the original.

One dilemma that we faced was what to do about the poor opening of the shutters. Notwithstanding the normal wear found in the mechanism, the extent of shutter opening when the lever expression pedal was fully depressed was astonishingly small. This made the Swell division sound somewhat muffled and very much an also-ran to the – by comparison – brilliance of the Great division. Our assessment was that this was an original manufacturing/installation flaw that had never been put right, rather than something that had arisen over time or even that the original builders intended.



Shutters with pedal in fully open position: pre-restoration (left) and post-restoration (right)

A vital mainstay of historical restoration is that organ builders should seek to respect and restore the original builder's concept, and not to alter historical instruments to suit modern tastes. This can be difficult for organ builders who normally try to ensure that everything that leaves their bench is as good as it possibly can be. After careful consideration, we felt that documented alteration to the expression mechanism was necessary and reasonable, and we therefore replaced one part of the mechanism rodding with new that incorporated some gearing to increase the shutter opening distance to 45°. This has greatly improved the tonal versatility of the instrument. The original rodding has been stored inside the organ.



Casework

The casework is of pine and was in a dire condition. Very considerable damage had been sustained through the inappropriate routing of electrical cables and fittings over the years. The damage was so severe that the only appropriate course of action was to cut out the damaged sections, piece in new timber, and then strip and re-finish all the timber afresh.



Console damage



New timber pieced in



Console damage



Hole drilled in stopjamb for a since-removed blower switch



New timber pieced in



Re-finished



Damage repaired



More timber pieced in to repair electricians' damage



Side panel stripped with new infill



Staining woodwork



Restored casework



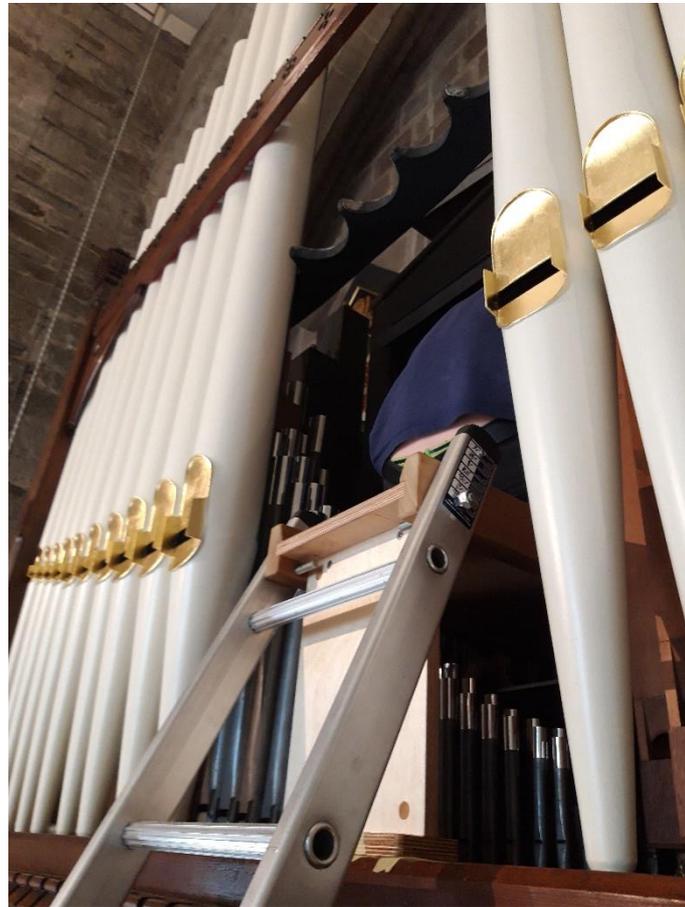


Safety

This has always been a dangerous organ to tune. The only feasible access is by removing some of the façade pipes and tuning from a ladder perched precariously on the organ bench to tune the Great Organ, and even more riskily, by standing on the impost rail and leaning in to tune the Swell Organ.

We were determined to improve this. There was no way to create tuning access from the sides or rear, so we set about making tuning from the front safer.

A dedicated fixed-length aluminium ladder has been provided, with a wooden plate and rubber mounting at the bottom to avoid slippage. At the top, we have made a removable passageboard that can be positioned above the Great Organ fluework so that tuning of the Swell Organ can be done from inside the organ case.



Passageboard, ladder and tuner in position!



New removable passageboard

Techniques and reference material

Hot animal glue has been used for all gluing activities in the restoration. All new materials have been selected to match what survived prior to the restoration. Labelled and bagged samples of all replaced materials and components have been stored carefully in the organ for future reference and/or study.



**APPENDIX A - SPECIFICATION****LITTLE MALVERN PRIORY**

William Hill & Son, London, 1882

Op. 1819

PEDAL ORGAN (C to f¹)		Feet	Pipes	Remarks
1.	Bourdon	16	30	wood, stopped
<i>Great to Pedal</i>				
GREAT ORGAN (C to g³)		Feet	Pipes	Remarks
2.	Open Diapason	8	56	plain metal, C1-G20 in façade
3.	Gedact	8	56	C1-B24 stopped wood; C25+ metal with pierced stoppers
4.	Principal	4	56	plain metal
5.	Fifteenth	2	56	plain metal, arched high cut-ups
<i>Swell to Great</i>				
SWELL ORGAN (C to g³)		Feet	Pipes	Remarks
6.	Hohl Flute	8	44	from 13, C13-F#19 stopped wood, G20+ open wood
7.	Salicional	8	44	from C13, plain metal, slotted
8.	Gemshorn	4	44	from C13, plain metal, tapered
9.	Oboe	8	44	from C13, plain metal

Actions

Mechanical throughout

Notes C1-B12 of Swell Organ play C1-B12 of the Gedact on the Great Organ

Accessories

Lever expression pedal to Swell Organ

Reversible pedal lever to Fifteenth

Pitch and pressure

Pitch: A=446.1Hz @ 18.5C (65.3F);

Pressure = 72mm (2¾") throughout

**APPENDIX B - PIPE SCALES**

All dimensions in millimetres

PEDAL ORGAN

Bourdon 16'

(stopped wood (wooden stoppers lined with leather) throughout)

	C1	C13	C25	F30
Interior dimensions	96 x 137	58 x 80	35 x 49	30 x 41
Cut-up	60	32	14	11
Arched to	98	59	27	22
Mouth width	92	57	33	29
Nicking	none			

GREAT ORGAN

Open Diapason 8'

(plain metal throughout; C1-G20 in façade; evidence that nicks have been deepened at some stage)

	C1	C13	C25	C37	C49	G56
Interior diameter	136	82	47	28	15	12
Cut-up	29	22	11	7	3.2	2.3
Mouth width	99	62	34	20	12	9
Nicking	moderate, finely spaced					

Gedact 8'

(C1-B24 stopped wood (wooden stoppers lined with leather); C25-B36 stopped metal (cork stoppers with pierced wooden handles) with ears; C37-G56 stopped metal (cork stoppers with pierced wooden handles))

	C1	C13	C25	C37	C49	G56
Interior diameter or dimensions	79 x 57	49 x 35	36	23	15	11
Cut-up	32	17	14	8	5	3.5
Arched to	58	27	17	11	6	4.5
Mouth width	56.5	35	27	18	12	10
Nicking	none	none	deep, moderately spaced	deep, moderately spaced	medium, moderately spaced	medium, moderately spaced



Principal 4'
(plain metal throughout; generous thickness of metal in treble)

	C1	C13	C25	C37	C49	G56
Interior diameter	69	40	23	14	8	6
Cut-up	14	8	5	3.0	1.8	1.5
Mouth width	52	31	16	10	7	5
Nicking	moderate, finely spaced					

Fifteenth 2'
(plain metal throughout; ears up to C13)

	C1	C13	C25	C37	C49	G56
Interior diameter	43	25	15	9	5.6	5.5
Cut-up	14	8	5	2.6	1.4	1.0
Arched to	17	10	6	3.1	2.1	1.4
Mouth width	26	15	10	7	4.4	3.2
Nicking	moderate, finely spaced					

SWELL ORGAN

Hohl Flute 8'
(wood; C13-F#19 stopped; G20+ open)

	C1	C13	C25	C37	C49	G56
Interior dimensions		40 x 55	28 x 28	18 x 18	12 x 12	9 x 9
Cut-up		24	8	7	5	3.3
Arched to		34	14	10	-	-
Mouth width		35	27	18	12	9
Nicking		moderate	none			

Salicional 8'
(plain metal; ears up to A46)

	C1	C13	C25	C37	C49	G56
Interior diameter		56	33	19	12	9
Cut-up		11	7	3.5	2.2	1.5
Mouth width		37	23	13	9	7
Nicking		light, finely spaced				



Gemshorn 4'
(plain metal, tapered)

	C1	C13	C25	C37	C49	G56
External diameter at mouth		43	25	17	10	8
External diameter at top		18	12	9	4.7	6
Cut-up		9	5	3	1.7	1.2
Mouth width		29	17	11	6	4.4
Nicking		moderate, finely spaced				

Oboe 8'
(XX)

	C1	C13	C25	C37	C49	G56
Interior diameter at top		66	45	38	26	19