



Guidelines for Turret Clocks *Commissioning Turret Clock Work*

by

Chris McKay

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About the Author

Chris McKay's interest in turret clock dates back to when he was 11 and was fascinated with a derelict clock tower overlooking the football pitch used by the school. When he was 19 he was involved with a team of others in the repair of the clock. Since then he has worked a wide range of turret clocks from major restorations to servicing. He has been involved in work in Canada, Australia and Western Africa.

He graduated as an electronic engineer from Sussex University and achieved Chartered Engineer status when he was 29. His electronics experience ranged from field service through design and development to manufacturing and testing. After being made redundant Chris fell into teaching where for 12 years he taught Design and Technology in secondary school and then turned to clock work with the additional objective of writing books.

Chris is a professional member and Director of the British Horological Institute (BHI) and has run technical courses on turret clocks for the BHI, and also for new apprentices and companies. He lectures on turret clocks and horological topics.

Chris is a member of the Antiquarian Horological Society (AHS) and was for 27 years on the committee of its Turret Clock Group. He has at various times been its Treasurer, Secretary and finally Chairman for 12 years. He has edited their 'A Guide to Turret Clock Research' and 'The Great Salisbury Clock Trial'.

While a member of the Council for the Places of Worship, 25 years ago he wrote their turret clock information booklet. He has recently been invited to rejoin this committee now known as The Council for the Care of Churches.

Chris' objective is to promote the care of turret clocks, their preservation and raise awareness of the history of turret clocks in technical, social and economic aspects.

About the Series of Documents

It was suggested that I produce a Code of Practice for those who work on turret clocks, this finally emerged as an extensive set of Guidelines. Many professionals, historians, restorers, clocks advisers and museum staff contributed to the content.

It became obvious that one document was inappropriate to address all readers, so two others were spawned from the first to address; health and safety issues, and advising on commissioning turret clock work. An article produced for the Ringing World was revised and added to the suite since it contained useful information on basic measures to help preserve clocks.

The full set is

Guidelines for Turret Clocks: Repair, Restoration, Conservation, Preservation & Maintenance.

Aimed at clockmakers this is detailed blow by blow discussion of techniques of repair, maintenance and conservation.

Guidelines for Turret Clocks: Commissioning Turret Clock Work

This document is intended to help those who need to have work carried out on a turret clocks. It gives ideas on quotations and interpretation, warranty, acceptable and unacceptable exclusions and pricing structures.

Guidelines for Turret Clocks: Simple Cost-Effective Strategies for their Preservation

A collection of ideas that any church or heritage building can put into action to help preserve their turret clock.

Guidelines for Turret Clocks: Health & Safety Assessment

Health & safety is important and this document gives ideas on what to look for when carrying a risk assessment on a turret clock and its access.

Although not part of the latest series, essential reading is...

The Turret Clock Keeper's Handbook

A booklet that covers history, clock types and basic functions like winding, setting to time, regulating and correcting out of sequence striking.

All the documents can be downloaded free of charge from the web site.

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Dear Reader,

Having produced a set of technical guidelines for clock restorers, feedback comments when it was in draft indicated that a guide might be useful to help those who were not familiar with turret clocks, but needed to commission maintenance and repair work. This document is the result.

Regards,

Chris McKay

Guidelines for Turret Clocks Commissioning Turret Clock Work

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Introduction

This is the initial issue of 'Commissioning Work on Turret Clocks'. It is intended to help those who commission work on turret clocks. In the UK this is mostly Church of England churches, but public buildings, private homes and museums also need their turret clocks taken care of.

Major work on turret clocks is only needed on an occasional basis, so those commissioning such work may well be unfamiliar with the various issues. The objective is to highlight topics that are important so that both the owner and the restorer understand exactly what is expected.

The document 'Turret Clock Work Guidelines on the Restoration Maintenance, Conservation and Preservation' contains technical details for clock restorers. These notes on Commissioning Turret Clock work are a spin-off

The Need

When a turret clock needs attention it may be as a result of different situations. Commonly encountered are...

The clock is in poor condition, it may not run or has several faults.

The clock has a specific fault or is unreliable.

Getting someone to wind the clock is a problem, an automatic winder is required.

The clock needs to be moved as part of a tower reorganisation / re-hanging of the bells.

The dials are in poor condition and need painting and gilding.

The Approach to the Work Required

Peoples' views range from one of "Total economy... the lowest cost is the best" through "A good job is needed but giving value for money" to "The clock is unique and must be fixed. It costs what it costs". In reality most people are proud of their clock, its heritage and its place in the local community.

The important thing is to impart your love of the clock to potential restorers, and communicate to them that a quality job is required.

Choosing and finding a Turret Clock Restorer

There are individuals or companies in the UK that deal regularly with turret clocks. Each one has a particular approach and there is room for the one-man-band, through the small company to the large organization. There are four main features of a good restorer:

- 1 They have a passion for the historical and technical side of turret clocks
- 2 They have a record of satisfied customers
- 3 They provide good value.
- 4 They are technically competent.

Yellow pages, Diocesan newspapers and directories, The Ringing World are all publications where restorers might advertise. One of the best plans is to ask around for the experience of other local churches, schools and town halls that have clocks. A good recommendation is one of the best adverts a restorer can have.

Requesting a Quotation

You will need to meet the clockmaker on the site to explain what you think you need. Access will be needed to the clock, weights, bell hammers and gearing behind the dial. Make sure that the bells are safely in the 'down' position. It is useful to involve the clock winder or carer and tower keeper or ringing captain when bells are involved.

Some restorers will ask a fee for preparing a report. This is not unreasonable since it might involve them in a day's work plus travelling expenses. Some restorers will give a free report. Make sure you know if a charge is payable before requesting a site visit.

Ensure you agree a suitable validity for the quotation, this would probably be based on a typical timescale for committees to meet, consider proposals and in the case of churches, apply for a faculty.

It is wise to seek several quotations where the work involved may be more than a small repair.

What a quotation should contain

A well-prepared quotation should contain the following information:

- A description of the clock covering historical and technical information.
- A statement as to the clock's historical importance.
- An assessment of the current condition of the clock.
- A detailed proposal of the work that should be carried out.
- Pricing.
- Clear statement about any exclusions.
- Estimate of work that might need doing but cannot be properly assessed.
- Quotation validity.
- Warranty information.
- As statement about what sort of report would be provided on the work carried out.
- As statement about public liability.
- Statement of quotation validity.

Reasonable Exclusions

The clockmaker is likely to put exclusions in a quotation and in the main they should be reasonable. They can be used to highlight areas where it is not possible to anticipate exactly what is needed, or work outside of the clockmaker's control.

Examples are:

- Supply of electricity for an automatic winder.
- Building work needed on masonry or stonework
- Carpentry work say on beams discovered to have woodworm.

For items specifically relating to the clock there are some areas that cannot be inspected accurately.

- Dials, dial fixings and hands (unless accessed via scaffolding or rope)
- The minute hand arbor and the hour tube cannot be inspected until the hands have been removed. Sometimes these will need work doing on them.

However, estimates can be given that cover the likely cost of work involved in the event of such problems being found.

Very occasionally after cleaning other faults show up, e.g, a crack in cast iron wheel that was once covered with grease and grime. Such cases are unusual but even the experienced turret clock restorer can miss items like these.

Unreasonable Exclusions

Some exclusions listed in a quotation may be unreasonable. A restorer may put in a blanket clause to cover things like "Any worn part encountered during repairs". If such a clause is given then clarification should be given as to what parts might be worn, and if encountered, what additional costs would be expected. In this manner a maximum cost can be anticipated. If not taken into account, exclusions may turn the lowest quote into the highest bill.

Assessing Quotations

When a quotation is requested, these can only be compared if they are based on the same requirements. Sometimes, the requirement is not obvious and restorers will each come up with different proposals and suggestions. You might have to go back and ask for more information or clarifications.

Churches should seek the help of their Diocesan Clocks Adviser to help assess quotations.

There are many factors that will affect which restorer is chosen.

The price

The restorer, their approach, attitude and experience

The work proposed

If quotations and proposals vary widely, then additional quotations should be sought.

Before placing an order, make sure the price quoted is the price you will pay.

Turret Clock Maintenance

It is reasonable that a clockmaker and the clock owner should agree the scope of clock maintenance. There should be a clear understanding of who looks after what, e.g. in a church, are the bell hammers serviced by the clockmaker or by the tower keeper? Also, it should be agreed as to the responsibility of the clockmaker in the case of the clock having a problem. Normally additional call out charges are payable for extra visits, but some clockmakers will include minor repairs at no extra charge as part of their service.

Regular maintenance is by far the best way to conserve a turret clock. Cleaning, lubrication and a check of key issues are the main activities. Turret clock maintenance is a job for a professional and is not a DIY task. A large clock with 4 dials and carillon needs lubrication in over 200 different locations, some of which are not obvious.

Frequency

Once a year for a standard clock.

Consider twice a year for a large clock, say with 4 dials, quarter striking and chime barrel.

Cleaning

Brush out all wheel teeth & pinions of the clock, bevel gears and motionworks.

Wipe off excess oil & dust.

Clean inside of clock case.

Clean glass panels in clock case.

Clean inside of illuminated dials.

Lubrication

Lubricate all pivots on clock, leading off work, bevel gears and motionworks.

Lubricate all pulleys and check the pulleys do not rub on the straps.

Lubricate clock escapement and 'scape wheel teeth.

Lubricate hammer lifting levers and let-off levers.

Lubricate all bell cranks, wire ends and bell hammers.

Wheel teeth are not lubricated, but wrought iron wheel and pinions may be lightly lubricated.

Lubricate clicks and great-wheel bore.

Oil or grease suspension spring to prevent rust..

Automatic winders

Service autowinder unit.

Clean and lubricate roller chain.

Check the overwind switching operates correctly.

Servicing an autowinder unit may need specialist knowledge of that unit.

Safety Check

Check clicks and click springs on barrels.

Check clicks and click springs on flies.
Check for condition of weight lines.
Check for condition of weight line anchor points.
Check for condition of pulley anchor points.
Check for condition line termination on barrel and in roof.
Report any safety issues concerning access to the clock.

Grant Aid

There are many bodies that give grants for heritage projects that benefit the public. The Council for the Care of Churches (CCC) can award grants for clock restoration.

Church of England Faculties

The Church of England has a control system, the Faculty Jurisdiction, that is roughly equivalent to secular planning law, though control extends to a greater level of detail than with a secular building. Any work to a church clock, other than maintenance, basic repairs, or replacement of wire lines, auto-winder motors and switches, requires a faculty. Faculties are granted by the Chancellor of the diocese (a legal officer) who is advised by the Diocesan Advisory Committee (DAC). Most dioceses have a specialist clocks adviser, who advises the Diocesan Advisory Committee. The adviser is available to visit and help parishes, and discuss proposed work with the clock restorer. No work should commence until a faculty is granted.

The Council for the Care of Churches (CCC) have a policy on how automatic winders should be installed.

Auto-winding should normally be applied to the barrel arbor

In exceptional circumstances, and where this can be demonstrated to be for the benefit of the clock, auto-winding may be applied to the 2nd arbor, but never any higher in the train

Auto-winding must never be applied above any mechanical activity in the train. Winding jacks are never to be used as part of an auto-winding installation

The clock must always remain completely intact and the installation be capable of removal so that it can be returned to manual winding.

Faculty Jurisdiction applies to all contents of a church, even if the ownership of the item lies elsewhere. Faculty Jurisdiction therefore applies in the common case where the local council owns the church clock.

Beyond Economic Repair

The statement “The clock is beyond economic repair” is one that can be misused. The strict meaning is that the repairer has given a quotation or estimate, and the customer has decided that the expenditure involved is beyond their current budget.

Beyond economic repair does not necessarily mean that the clock is a write-off.

The term has been used by repairers who do not want to undertake the required work, who are unable to undertake the required work for whatever reason, or who want to supply a simple more profitable solution. Similarly the term has been used by owners or carers who find a mechanical clock not to their liking or convenience and want a get out clause to justify their decision.

In the event of a repairer using the unqualified broad statement “The clock is beyond economic repair” then further advice from knowledgeable persons should be sought, e.g. the Diocesan Clocks Adviser,

Quotations from other repairers should be obtained.

Almost all clocks are repairable at a cost. A commonly encountered flat bed clock that had been in a tower fire might have a cracked frame and partially melted wheels. It is unlikely that to make a new frame and wheels would be a solution that is either economic or desirable on conservation grounds. For an unusual flat-bed clock in a similar state of damage, then perhaps the insurance cover might extend to the required repairs. An ancient wrought-iron clock in a comparable fire might only need a bit of straightening, new bushes and replacement wooden barrels.

Similarly, to be told the clock “Is of no value” should be questioned straight away. Turret clocks have an antique value; as ever with an antique it is worth what someone is willing to pay for it, but the same clock in different auctions could realize widely differing prices. Even so, several hundreds of pounds are involved which is not a trivial amount.

The Future for Retired Clocks

In the event of a clock being retired a suitable home for it should be found. Generally the best place is to leave the clock where it is, up a tower. Churches often put old clocks on display in a suitable part of the nave. A clock as an occasionally-working exhibit generates public interest and is good form of preservation.

If a clock is donated to a museum, it is best to make such an arrangement as a long-term loan. Museums are unable to put all items on display, so the donor would need to understand any arrangements for displaying the clock. Museums are not secure depositories of artefacts. Private museums can be broken up when the owner dies, retires or changes their collecting whim. Public museums are not immune to problems as local authority and central government change policies. Funding is often a key issue and museums seem to be favour having fewer artefacts on display.

Qualifications for Turret Clock Restorers

There is no body that awards a qualification for turret clock restoration.

The British Horological Institute (BHI) runs exams in horology. These are general, and now the final grades specialise in clocks or watches. There is no specific examination for turret clock work.

The BHI has a list of people who are professionally qualified to their standards, i.e. they are technically qualified and have a proven track record and follow the BHI Code of Practice. Some of these professionals do turret clock work. A clockmaker who specialises in domestic clocks may not have the specialist knowledge to work on a turret clock.

BHI member grades are as follows...

FBHI	Fellow BHI. A qualified member with extensive experience.
MBHI	Member BHI. A qualified member with experience.
Grad BHI	Graduate BHI. A member who has qualified through examination.
CMBHI	Craft Member BHI. An older grade indicating experience without formal qualification.

Not everyone involved in turret clock work is a member of the BHI.

Names of BHI qualified clock and watch restorers may be obtained from the BHI web site.

Value Added Tax (VAT)

The following notes were provided by a qualified accountant. They are likely to apply to new automatic winders, night silencing units and automatic regulators. Since tax laws change regularly please regards these as an outline, for more details see the HM Revenue and Customs booklet 708

Buildings and Construction, available on the HMRC website (www.hmrc.gov.uk).

Two issues arise when a VAT registered business does work on a turret clock

- does VAT have to be charged on the invoice, or can it be zero rated?
- if zero rating does not apply, can the VAT charged be recovered?

Zero rating

There are two occasions when work on a clock can be zero rated, i.e. no VAT is charged and the business recovers any VAT on inputs such as materials.

- where the work is in connection with the construction of a new dwelling or other residential or charitable building – this will be very rare
- where the work is an approved alteration of a protected building

A protected building means a listed building, or ancient monument, which is a dwelling or is a residential or charitable building (for example an old people's home or a church). Approved means listed building consent or its equivalent (a faculty in the case of a church) has been obtained.

It is up to the business to issue an invoice showing the work as zero rated. Before doing so, the following evidence must be held, usually in the form of a photocopy on file

- confirmation that the building is listed
- confirmation that the alteration is approved
- if it is not a dwelling but is a residential or charitable building, a certificate from the owner in the form set out in booklet 708.

Even with all of the above, it is still up to the business to be sure that what is being done is an alteration, not a repair.

Any other work (all repairs, and any work on non listed buildings) is VATable. This will usually be at the standard rate (17.5%). There might be an occasion when a clock forms part of a house which is undergoing a qualifying refurbishment, when the reduced rate (5%) will apply.

Recovery of VAT

If VAT is correctly charged there are two possibilities for recovery

If the building is owned by a business, then depending on the VAT status of the business, it may be recoverable by the business as input tax.

If the building is a listed place of worship, it can be recovered by obtaining a grant equal to the VAT from the Listed Places of Worship Scheme (www.lpwscheme.org.uk). Until 2006 this scheme did not cover clock repairs, but it now does so.

If VAT has been incorrectly charged (because the work should have been zero rated) then the business must be asked to amend the invoice or issue a credit note.

Organisations

Antiquarian Horological Society (AHS)

The AHS is a learned body dedicated to the widening and dissemination of historical horological knowledge. It publishes a quarterly journal and books, and has a library. There is a specialist Turret Clock Group and also an Electrical Horology Group. The Turret Clock may be able to give advice on the historical aspect of turret clocks.

AHS members are not allowed to use their membership to promote their business.

AHS
New House
Ticehurst
East Sussex
TN5 7AL
01580 200155
email secretary@ahsoc.demon.co.uk
www.ahsoc.demon.co.uk

British Horological Institute (BHI)

The BHI is a professional horological body, about a third of its members are professional horologists. The BHI publishes a monthly magazine, has a library, good collection of turret clocks and runs a wide variety of training courses including turret clock restoration.

BHI
Upton Hall
Upton
Newark
Notts NG23 5TE
01636 813795
email clocks@bhi.co.uk
www.bhi.co.uk

Council for the Care of Churches (CCC)

The CCC is a constituent council of the General Synod of the Church of England and one of its duties is to advise Anglican churches on the care of the contents of churches. Specialist committees advise on monuments, stained glass, wall paintings, metal work, organs, bells and clocks. The Clocks Committee can award grants towards historic clock conservation.

Council for the Care of Churches
Church House
Great Smith Street
London SW1P 3NZ
020 7898 1866
email enquiries@ccc.c-of-e.org.uk
www.churchcare.co.uk

The Turret Clock Database

The Turret Clock Group of the Antiquarian Horological Society is building a database of turret clocks. Information in the database is intended to help restorers when similar clocks need to be compared. It is also intended that the database will provide a base for historical research.

A survey form that may be photocopied is contained in 'The Turret Clock Keeper's Handbook'.

Bibliography.

The Turret Clock Keeper's Handbook
Chris McKay
Antiquarian Horological Society 1998.

Also available as an e-book. Download from
www.homepages.tesco.net.chris.mckay

