Access and services
Lifting boards for services
In the past, when there were fewer services to be fitted below floors, there was a limited need for underfloor access. Recently substantial damage to floors has occurred through the need to install a range of cables and piped services. If, during refurbishment, boards have to be lifted, it is wise to get them lifted by a joiner, who will take more care than operatives from the non wood trades.

Whilst it is good practice to hide nailheads with secret nailing, it makes later lifting of the boards difficult, and invariably results in damage if care is not taken. Sometimes the damage can be limited by cutting the tongues off by cutting along the joint between the boards with a handsaw. However concealed nails often damage the saw and there is a real risk of also damaging any underlying services.

Deafening
During work on services on upper level floors the layer between the underlying ceiling and the floorboards, called deafening, should be left undisturbed. Fitted in most traditionally built domestic properties, a mix of clinker, and sand mounted on rough boards, deafening provides a valuable fire resistant, acoustic and thermal insulation and should be retained.

Notching joists
Frequently the underlying joists may have been heavily “notched” to allow access of new services. Excessive notching can compromise the structural integrity of the joist or even the floor. Large notches should be repaired by bridging the notch cut into upper side. Where new pipes or cables have to be fed, drilling holes through the joist before preserving the structural integrity. Any significant new cutting required should be checked by a structural engineer first.

Scanning
When first installed the timber will appear quite light in colour. The temptation to paint the colour down should be resisted. This will happen naturally through exposure to sunlight, and good quality timber will give rise to a rich medium yellow. When considering a protective finish there are a variety of varnish options available – oil or water based, matt, vinyl or eggshell. Whatever coating is used any paint impact from high heeled shoes will damage the surface and the timber below. In areas of heavy traffic, the timber must be recoated every 3 years or so. If it is left unfinished the floor will become very patchy in appearance, and a complete resand may be necessary as an even application.

Further Information:
A. Jackson and D. Day, Period House, ISBN 000-7192754

Useful contacts:
Historic Scotland Technical Enquiry Service Longmore House Salisbury Place Edinburgh EH9 1SH Telephone: 0131 668 8600 hs.comservation.bureau@scotland.gsi.gov.uk
Historic Scotland Investment and Project Team Longmore House Salisbury Place Edinburgh EH9 1SH Telephone: 0131 668 8801 hs.grants@scotland.gsi.gov.uk
Historic Scotland Inspectorate Longmore House Salisbury Place Edinburgh EH9 1SH Telephone: 0131 668 8600 hs.listingsandconsents@scotland.gsi.gov.uk
Timber flooring has proved to be durable and resilient under normal use and an attractive element of a traditional building; this INFORM covers basic aspects of their care, maintenance and repair, including:

- Sourcing and preparing timber
- Basic structure and construction
- Defects and decay
- Access and services
- Finishing a timber floor

Sourcing and preparing timber

A timber of choice has been selected for the flooring, from rough sawn stock in a traditional building to wooden panels in a modern setting. By the 16th Century, most domestic flooring was from varieties of oak grown adjacent to local stone piles, or imported Yellow Pine. From the 17th Century, sourcing good quality timber in Scotland became more difficult and timber was imported from the Baltic, followed later by timber from North America. Usually timbers with a lot of knots were used for flooring, although the width of the boards varied with the status of the building. The better quality timber, free of knot or branch marks, was used to make finishing elements such as facings and paneling.

Timber, either imported or from native sources, was sawn into rough planks that were reduced to a finished dimension with a thickness of 1 inch or 25mm, with a tongue and groove, required to hold each plank together once nailed down, was set with a match to pairs of nails, or cut for edging to give the grooves. Basic structure and construction

Timber flooring is laid directly on the structural joists, the floorboard is laid at a right angle to the line of the joists, and angulated towards the walls. The joint and how they are secured are an integral part of the strength and stability of the floor. The consideration of the floor’s condition should always involve an investigation into the condition of these structural members. Ground-floor joists are usually laid on top of the sub-floor and usually run across the shortest direction between walls. Where greater widths had to be squared, slopes, sometimes were constructed. Sometimes slate packers were placed on top of the sub-floor, to give an element of protection from damp. The vapour space below the floor, called the solum, is important, and all vents should be kept clear. Upper level joists were driven directly into the supporting walls.

Fixing

The boards were laid with nails, driven into the heads through the upper side of the joists. The groove in the next plank then covered the visible head. Called “secret nailing” this technique is still standard practice today. If the supporting joists were not secure, in order to keep the floor flat, the underside of the plank was sometimes shaved down to get a good level using a junior finishing axe. Re-fixing and relaying boards

Should a board become loose, then, wear or regular lifting up to gain access to services, it will also require re-fitting. It is advisable to use a matching, perhaps slightly off-true and tightening the boards. The boards can be cut, but it is not recommended and left in position across the floor. This emplaced section wood was then covered with sawdust or more commonly a treated natural floor covering known as linoleum. Later on, lacquers, varnishes or often in high traffic areas.

Defects and decay

Wear and tear

In old floors, physical wear can be quite pronounced, especially in areas of high foot traffic. While this can lend character, there may be trip hazards or weakness due to thinning of the timber. Bulky worn timbers will have to be repaired.

Insect attack

Flooring timber often contains some softer sapwood which, given the increased humidity, is prone to insect attack. This is frequently seen when an old linoleum floor covering has been lifted. Some wood beetle attack will occur in soft pine and, at some stage, it can be confined to small areas of the sapwood and sufficient structural strength remains. In such a case, the boards can be repaired or replaced, other than carrying out localized treatment if the beetle is still active.

Floor coverings

Thick continuous floor covering should be used with caution, especially on wooden boarded floors. Thick, rubberised carpet underlay can prevent moisture movement and create the conditions for wood-borers and other decay mechanisms to thrive. In the past, linoleum coverings improved the problem and a well-sealed and limited linoleum floor can cause similar difficulties.

Minor repairs

Recent trends have created a fashion for sanded and varnished floors. Inevitably, this also involves some repair to make good damage or wear and tear in the service area. Linoleum should be repaired with small timber patches; smaller holes and cracks can be repaired with small timber patches; smaller holes and cracks can be repaired with putty. While gaps between boards can be repaired with strips of softwood glued into the gap. If moisture and moisture, the gap can be made regular in a manner on a finish by