

1.0 Purpose

To define the process that will be followed when locomotives are placed in long-term storage and are therefore classed as non-operational exhibits. The aim is to conserve, as far as practicable and commercially viable, the fabric of the loco to allow its possible overhaul or interpretation by future generations.

2.0 Mission statement

- To be a nationally accredited independent organisation
- To maintain Didcot Railway Centre as a working museum dedicated to the Great Western Railway
- To provide suitable facilities to demonstrate restoration and maintenance of the Collection
- To be open to the public for the enjoyment, benefit and education of the community.

3.0 Policy statement

The Great Western Society Limited on behalf of Great Western Preservation Limited is the custodian of the largest collection of artefacts, including rolling stock, relating to the history of the Great Western Railway and the people that operated and used it.

One of the charitable objects of the Great Western Society is to preserve, restore and operate, as a permanent public exhibition and museum for the advancement of technical historical and general education and for permanent preservation display and demonstration of steam and other railway locomotives rolling stock equipment machinery and relics of historical operational and general interest and educational value, with particular reference to the former Great Western Railway.

To meet these stated aims the Society will seek to carry out measures that will, as far as is practicable and viable, prevent degradation of locomotives and thereby preserve them for future generations.

Organisational structure and roles

Individual heads of departmental are responsible for the practical treatment of objects and provide professional expertise regarding the conservation, restoration and in certain cases, operation of vehicles.

Conservation activities:

Conservation undertaken includes the following:

Preventive conservation: Ensuring that objects are stored or displayed in an environment that minimises deterioration, as far as is practicable.

Interventive conservation: The treatment of objects, including examination, cleaning, stabilisation to limit physical and chemical deterioration, repair, restoration, and the documentation of processes and materials.

Collections surveys: Regular monitoring of collections or individual objects to identify and address deterioration.

Disaster planning and salvage: Planning and preparing the response to incidents which might threaten the collections, including salvage, recovery, remedial treatments, preventive measures and training.

4.0 Conservation process.

There are five main stages to the conservation process:-

Stage 1: Survey the condition of the locomotive.

Stage 2: Agree a conservation strategy: i.e. what conservation should be carried out and the process to be followed.

Stage 3: Implement the strategy for the loco: i.e. the plan.

Stage 4: Carry out periodic dusting, cleaning, polishing and lubrication of the loco.

Stage 5: Carry out ongoing surveys at specific periods.

Stage 1: Survey the condition of the locomotives.

Carry out a visual inspection of all the exposed parts of the loco paying particular attention to:-

- Any areas, which show corrosion taking place.
- Any sign of damage or fatigue, i.e. cracks.
- The condition of the paintwork.
- Condition of bright metal areas i.e. steel, brass and copper.
- Missing components.

Take photos of the affected areas.

Note findings on the standard GWS conservation examination template and add photos (with titles) to the report.

Stage 2: Agree a conservation strategy.

Review the survey report with the appropriate stakeholders and agree a documented strategy for the locomotive.

The strategy should include:-

- The physical work to be carried out on the loco i.e. repairs that may be needed to conserve the loco.
- Measures necessary to halt or retard corrosion.
- Items that need to be conserved repaired or replaced.
- Repainting, livery, etc.
- Timescales.
- Costs.

Stage 3: Implement the strategy for the loco.

Carry out the work agreed in the Conservation Strategy.

Ensure that a record is kept of

- The physical work carried out loco.
- The repairs carried out.
- Any items replaced.
- Who carried out the work.
- Cost.

Stage 4: Carry out periodic dusting, cleaning, polishing and lubrication of the loco.

Continue to dust, clean, polish and lubricate the locos, as laid down in the appropriate local instructions.

Stage 5: Carry out ongoing surveys at specific periods.

Every other year review the previous survey carried out on the loco and physically examine the loco. Note your findings on the standard GWS conservation examination template and add photos (with titles) to the report, where necessary.

5.0 Notes on conservation.

Boiler

To conserve a boiler the main criterion must be to clean and protect all metal surfaces and to keep them as dry as is practicable.

Immediately the loco is removed from traffic all the mudhole doors should be removed, cleaned, examined for corrosion and cracks, and if in a satisfactory condition placed in storage. As many washout plugs as possible should also be removed, cleaned and examined and if in a satisfactory condition placed in storage.

The boiler and firebox waterway must be thoroughly washed out with high pressure water.

Mudholes and washout plug holes coated with Waxoil to protect the metal surfaces.

Smokebox

The smokebox should be thoroughly cleaned to remove any deposit paying particular attention to the tubeplate.

All deposits must be removed from the smokebox and if possible all areas of the smokebox vacuum clean.

Thoroughly clean firebox to remove all ash deposits, including wire brushing all surfaces. Coat with a protective coating of diluted oil.

If possible the superheater elements should be removed emptied of any accumulated water and stored in dry location.

If at all possible:-

- All the tubes should be removed and the small tubes disposed of, whilst the flue tubes should be checked for condition and thickness, which should be noted on the tube itself after which they should be coated in an oil mist and stored in a dry location.
- Boiler and firebox insulating material should be removed, all surfaces cleaned and painted with a protective coating.

A thorough examination of the boiler would be carried out before the clearing is refitted including the measurement of plate thickness, condition of tubeplates, stays, etc, and the findings recorded on the standard GWS conservation examination template.

Fit chimney cap.

Mechanics

To conserve the mechanical parts of the locomotive the main criterion is to prevent corrosion from appearing on all bright metal surfaces and ensure that all bearing surfaces are regularly lubricated.

This can be achieved by:-

- Remove accumulations of dirt and oil from surfaces and patch repaint.
- Cleaning all bright metal surfaces and coat with a protective coating. Preferred option Waxoil. Where the surfaces act as bearings i.e. slidebars, piston & valve rods these should be coated with lubricating oil.
- Lubricate all grease nipples, oil pots and points, and sliding surfaces.
- On piston valve engines remove the valves from cylinder relief valves and spray a mist of Waxoil into the cylinders. Removed valves must be labelled as to their location, bagged and securely stored. On slide valve engines, the front and rear cylinder cock valves should be removed and a mist of Waxoil sprayed into cylinders. Removed valves must be labelled as to their location, bagged and securely stored.
- Clamp reverser into mid-gear.
- Clamp regulator shut.

- Fix gauges using security screws.

To reduce the oil consumption and contamination from oil wastage all trimmings must be reduced to four tails.

Oil up the loco on a rolling six monthly basis.

Paintwork.

To conserve the paintwork the main criterion is to prevent the surface of the varnish and paint from breaking down and thereby prevent corrosion from occurring. This can be achieved by:-

- Thoroughly cleaning the existing paintwork to remove all traces of dirt and oil. Two stage cleaning using a cleaning chemical agent, followed by a solvent such as white spirit.
- Depending on the state of the underlying varnish/paint either:-
 - Lightly rub down, clean again with damp cloths and leave to dry. Once dry apply varnish, allow to dry and then apply a second coat of varnish.
 - Patch paint using a suitable matching colour. Build up paint layers to original thickness, using a paint filler if necessary. Lightly rub down, clean again with damp cloths and leave to dry. Once dry apply varnish to complete loco, allow to dry and then apply a second coat of varnish.
- Clean brass with a metal cleaner and coat with a thin layer of petroleum jelly.
- Polish loco with a proprietary automotive polish such as Autoglym.
- Wipe green areas of the locomotive over with a soft cloth

The re-varnishing process should repeated every 4 years when a loco has been exposed to the elements.