



Routine Service Inspection & Preventative Maintenance

Theatrical Rigging and Stage Machinery Systems

1. Service Overview

Installation Theatrical Engineering (ITE) provides routine service inspections and preventative maintenance for theatrical rigging and stage machinery systems.

The purpose of this service is to assess the condition, safety, and operational performance of installed equipment, and to identify any items requiring maintenance, monitoring, or repair.

During a routine service visit, ITE technicians undertake a combination of:

- Visual inspection of installed equipment
- Operational testing of systems where safe to do so
- Basic preventative maintenance of accessible mechanical components
- Minor adjustments to support correct operation

ITE service inspections are based on the visible and operational condition of equipment at the time of service.

The scope of inspection may vary depending on installed systems, site conditions, and access available at the time of service.

2. System Operation and Performance

Where safe to do so, theatrical systems are operated to assess:

- Smooth and consistent movement
- Correct stopping positions and alignment
- Absence of unusual noise or vibration
- Correct rope, chain, and guide tracking
- Correct operation of braking, locking, and safety systems

Operational checks assist in identifying mechanical issues not visible during static inspection.



3. Inspection of Rigging and Stage Equipment

ITE technicians will visually inspect installed rigging and stage machinery systems, where installed and accessible, including:

Counterweight Fly Systems

- Counterweight arbours and guides
- Rope locks
- Hauling lines
- Wire rope lift lines and terminations
- Head blocks and loft blocks
- Battens and lighting bars

Motorised Flying Systems

- Hoists and winches
- Lift lines and drums
- Drive systems and gearboxes
- Mounting points and structural connections

Orchestra and Stage Lifts

- Lift platforms and guide systems
- Drive components
- Structural supports
- Visible hydraulic or mechanical components

Curtain Tracks and Stage Curtains

- Curtain tracks and carriers
- Manual and motorised drive systems
- Mounting brackets and supports

Fixed Rigging Systems

- Suspension points
- Wire rope suspensions
- Shackles, clamps, and connectors
- Truss and batten connections

4. Preventative Maintenance

Routine service includes preventative maintenance tasks where components are safely accessible. These tasks assist in maintaining smooth operation and reducing wear on mechanical components. This may include:

- Lubrication of moving mechanical components
- Re-greasing of accessible bearings and shafts
- Lubrication of chains associated with chain hoists
- Adjustment of fly system hauling ropes
- Tightening of accessible fasteners
- Moussing of shackles as required
- Mechanical adjustments (e.g. alignment corrections, moussing wire ropes)



5. General Condition Assessment

During inspection, equipment is assessed for signs of:

- Wear or deterioration
- Corrosion
- Deformation or damage
- Loose or missing hardware
- Misalignment or excessive friction
- Incorrect, non-compliant, or unsuitable hardware
- Incorrect installation or unauthorised modification

Any items requiring further attention will be noted in the service report.

6. Service Report

Following completion of the service inspection, ITE will provide a service report summarising:

- Equipment inspected
- General condition of systems
- Preventative maintenance undertaken
- Any safety concerns identified
- Recommended maintenance or repair works

Where applicable, a serviceability or pass/fail status may be provided based on visual and operational assessment at the time of inspection.

Any items requiring monitoring or future maintenance will also be identified.

This report assists venue operators in understanding the current condition of their equipment and planning future maintenance.

7. Safety Communication

Any immediate safety concerns identified during the inspection will be communicated to the client at the time of service where practicable, in addition to being documented in the service report.



8. Items Not Included in Routine Service

The following works are not included in routine service inspections unless specifically requested or quoted:

- Load testing of rigging systems
- Structural or mechanical engineering certification
- Major electrical fault diagnosis, programming, or control system works
- Major repairs or component replacement
- Dismantling of equipment for internal inspection
- Provision of access equipment unless arranged prior
- Inspection of inaccessible or concealed components

Where additional works are required, ITE can provide recommendations and quotations as necessary.

9. Access and Safety

Routine servicing is undertaken on equipment that is safely accessible at the time of inspection.

Where access limitations prevent inspection of certain components, these items will be noted in the service report.

ITE technicians follow appropriate safety procedures when accessing stage machinery areas including grids, galleries, and plant rooms.

10. Service Outcome

Routine service inspections provide venue operators with an overview of the condition and operation of their theatrical systems and support the ongoing safety and reliability of stage equipment.

Regular servicing assists in identifying developing issues early and contributes to the longevity of theatrical rigging and stage machinery installations.