MACHINERY REPAIR AND RESTORATION
OVERHAULING AND RESTORING MACHINES
PRECISION GUARANTEED

For 30 years BELFOR have been dealing with machinery overhaul and repair of machines and equipment after specific damage, establishing ourselves as recognised specialists in the market. Our broad range of technical knowledge and experience which has been gained through many different repair and restoration projects ensures:

**Important first aid measures:**
Recovering, protecting, drying and pre-cleaning.

**Flexible approach to:**
- Repair and restoration concepts.
- Preliminary solutions to avoid business interruption.
- Alternatives to restoration.
- Flow planning and control.
- Restoration and repair measures.

**Focussed service and delivery through:**
- Adhering to standards.
- Keeping to schedules.
- Reliability.
- Quality.

**Our specialisms:**
**Overhauling and repair work:**
- Reconditioning machines to DIN standards.
- Recalibrating machines (laser measuring technology).
- Designing and producing hydraulic and pneumatic systems on CAD/CAM.

**Spare parts manufacture:**
- Production of otherwise unavailable spare parts using our in-house metal-cutting machine tools.

**Machine restoration**
**First aid measures to stabilise damage:**
- Reduction of damage by protecting from corrosion.
- Protection of local environment to avoid cross contamination.
- Preliminary restoration.

**Restoration:**
- Disassembly into component parts at site.
- Restoration of individual components.
- Re-assembly and re-commissioning.

**Switchgear and controlgear**
- Restoration, recovery and replacement of switchgear and controlgear.
- Manufacture of switchgear and machine control systems using available and our own technical drawings.

**Services applicable to all the above areas:**
- Project management.
- General contractor for large projects.
- Providing project managers to ensure compliance to national regulations.
- Reducing business interruption through appropriate technical solutions.
- Performance and quality control checks during repair and restoration work.
- Continuous checks to maintain industrial standards and customer requirements.
We are always ready to take up a new challenge so the type and range of machines that can be restored or repaired by BELFOR is only constrained by the type and severity of the damage. Machines restored or repaired by BELFOR include: Machine tools, printing machines, textile machines, packaging machines, wood working machines, food processing machines, iron and steel plants, rolling mill equipment, rubber and plastic machines and many others.

We have worked in most sectors of industry
Our knowledge and experience has grown over the course of more than 30 years of working with damaged machines from many different sectors of industry. In some cases meeting the broad range of technical requirements can only be achieved in co-operation with the machinery manufacturer. In many instances they do not have sufficient resources to be able to deal quickly and efficiently with damaged machines themselves so BELFOR is the most appropriate and welcome alternative.

RESTORATION OF ANY MACHINE IN ANY INDUSTRY

<table>
<thead>
<tr>
<th>Ventilation systems</th>
<th>Generators &amp; engines</th>
<th>Control instruments</th>
<th>Building and building material machines</th>
</tr>
</thead>
<tbody>
<tr>
<td>Office and Information technology</td>
<td>Paper manufacturing conversion machinery &amp; Printing machines</td>
<td>Fluid technology</td>
<td>Conveying systems</td>
</tr>
<tr>
<td>Mining machines</td>
<td>Foundry machines</td>
<td>Industrial plant machinery</td>
<td>Plastic moulding &amp; extrusion machines</td>
</tr>
<tr>
<td>Wood working machines</td>
<td>Iron and steel plant and rolling mill equipment</td>
<td>Compressors and vacuum pumps</td>
<td>Powertrain technology</td>
</tr>
<tr>
<td>Locomotives</td>
<td>Assembly, handling, industrial robots</td>
<td>Sewing and clothing machines</td>
<td>Food processing and packaging machines</td>
</tr>
<tr>
<td>Precision tools</td>
<td>Secondary process machines</td>
<td>Testing machines</td>
<td>Pumps</td>
</tr>
<tr>
<td>Cleaning systems</td>
<td>Shipbuilding and offshore supply industry machinery</td>
<td>Shoe and leather industry machines</td>
<td>Welding and compressed gas technology</td>
</tr>
<tr>
<td>Thermal process and waste engineering</td>
<td>Machines and equipment for process control</td>
<td>Scales and balances</td>
<td>Machines for laundries and dry-cleaning</td>
</tr>
<tr>
<td>Textile machines</td>
<td>Machine tools and manufacturing systems</td>
<td>Agricultural machines and tractors</td>
<td>Heating, air-conditioning and building automation</td>
</tr>
</tbody>
</table>
BELFOR’S SERVICES FOR MACHINES AND EQUIPMENT

BELFOR is specialised in dealing with machines and equipment in the following fields:
- after cases of damage.
- after wear.
- because of outdated technology.

This has resulted in five specific areas of expertise:
- Restoration and repair after incident damage.
- General machine overhaul.
- Modernisation.
- Repair work.
- Spare parts production.

Real Engineering Expertise
More than just restoration

Our specialists have honed their technical skills over many years. Their knowledge is continuously enhanced through training. This is the only way to become an expert in refurbishing machines without any technical documents or diagrams. In order to be able to decide and establish whether damaged parts may be reused or replaced by new parts, the machinery specialists at BELFOR have to be in a position to recognise the particular requirements, function and type of part.
We are specialists in damage caused by fire, water or during transit, and also following machine failure. From first aid measures and restoration work, disassembly, repair work, re-assembly, calibration to commissioning and handover, we cover all aspects of the project. Following damage a machine's lifespan can be considerably reduced. Without protection of the machine from consequential damage it can lose significant value in the days immediately after the incident. Suitable first aid measures will reduce this consequential damage considerably and, if restoration and repair work are started quickly, the pre-incident lifespan of the machine will usually be reinstated with minimal expenditure.

**General overhaul of Machine Tools**

From regularly overhauling machine tools we have gained the knowledge necessary to successfully and rapidly handle damage. A basic overhaul, for example, also involves a demanding geometrical overhaul of a machine to achieve precision of the moving axes. We will replace some parts with new parts if they are readily available. Frequently we have to reproduce parts if the original parts cannot be procured, or if their delivery times are extremely long. We use certified measuring tools and a laser interferometer to ensure that machines operate to the required parameters after work has been carried out. Through measurement of the geometry, our work can be assessed and judged objectively.

**Modernising Machines**

Older machines are often highly valued, usually due to their robust structure and simple operation. These heavy-duty machines, constructed of cast steel, become more valuable as they age due to their increased rigidity and low propensity to vibration. However, the tooling may not always be compatible with new machines which makes restoration of the machine viable and modernisation economical. Modernisation measures can also improve the path feed rate, positioning accuracy, smoothness of running, safety and operator control. In some areas of business maintaining a machine’s attractive visual appearance is also important for example: dental technology. New switches, chrome-plated adjusting wheels and fresh paintwork are often requested to ensure the appropriate visual impact. The precision of the machine, compared to 30 years ago when it was new, was improved by the overhaul and modernisation work which included replacing the control, the switch cabinet, the aerosol lubrication system, the operator panel and the pneumatic system.

**Modernising Control Systems**

The reasons for a retrofit are:

- Problems obtaining spare parts and associated failure costs.
- Increased safety risks and hazards if non-standard components are used.
- A requirement to extend a machine’s functions.

In most cases the machinery specialists at BELFOR can assist – from a new switch and control cabinet, new drive technology and measuring systems, to a complete electronic and control system.

**FOLLOWING AN INCIDENT YOU NEED A FAST RESPONSE**

We are specialists in damage caused by fire, water or during transit, and also following machine failure. From first aid measures and restoration work, disassembly, repair work, re-assembly, calibration to commissioning and handover, we cover all aspects of the project. Following damage a machine's lifespan can be considerably reduced. Without protection of the machine from consequential damage it can lose significant value in the days immediately after the incident. Suitable first aid measures will reduce this consequential damage considerably and, if restoration and repair work are started quickly, the pre-incident lifespan of the machine will usually be reinstated with minimal expenditure.
REPAIR WORK

**After Wear or Machine Failure**
BELFOR possess a broad range of knowledge and skills in the field of repair technology due to our extensive experience of machine damage and the different types of machines we have worked on.

**Spare Parts Production**
When parts are not immediately available to buy, or if they are urgently required to progress the repair, we can manufacture these parts as we have the machinery and equipment to carry out turning, milling, grinding, drilling, honing, welding, trimming and measuring.
WHAT ARE THE BENEFITS TO YOU?

We respond quickly - this will save time and business interruption costs.

You can rely on the quality our work: BELFOR have been at the forefront of machinery repair and restoration for many years.

- We deliver precision with a warranty – safeguarding maintenance contracts.
- Our service is transparent - you will not experience any unexpected problems.
- We find appropriate solutions - our strength is solving your problems.
- We are flexible – a fast interim solution will allow you time to consider your options.

BELFOR provides a 24-hour response to customer enquiries and incidents around the world. Our Technical Advisors are available to provide immediate initial assistance, as well as on-site assessment and recovery at all times.
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With 150 locations in more than 25 countries BELFOR are ready to respond to any disaster, anywhere at any time.

Our services:
Structure and Property Restoration | Structural Dehumidification | Electronic Restoration | Contents Restoration |
Document and Data Recovery | Mould Remediation | Emergency Response Programme: RED ALERT®