

	MRAT 051	<p style="text-align: center;">Lifting and holding equipment for vehicles and engines, gearboxes etc.</p>	Applicable to: batteries; engines; gear-boxes; vehicles	See also: 047 048 049
Process(es) covered:		It is often necessary to have access to the underside of vehicles or all-round assemblies such as engines, gear-boxes, etc. All of these are heavy so hoists, jacks, cranes and lifts are needed.		

Control Measures

- Because lifting equipment is subject to repeated stresses, it must be checked before each use for obvious faults or defects. Employers must choose whether it is tested and examined at regular intervals or in accordance with a written examination scheme. Where lifting equipment is hired or loaned, it must be accompanied by evidence of its last examination including the safe working load.
- Chains, ropes and other lifting tackle must be included with other lifting equipment in checks and thorough examinations.
- Users of lifting equipment must be trained in its correct use and in the checks to be made before use.
- It is essential to use the vehicle hand brake, chocks and/or other restraints to prevent the vehicle from rolling off a hoist, etc.
- Many educational workshops have been provided with inspection pits in the past. As a result of experience with the accumulation of heavy vapours, these are no longer considered sufficiently safe. **INSPECTION PITS SHOULD NOT BE USED.**
- Only use a jack to raise a vehicle. Replace jacks with axle stands or other suitable support before work begins underneath a vehicle.

Immediate Remedial Measures:

Crushing injuries (casualty crushed for more than 15 minutes)	DO NOT RELEASE THE CASUALTY. Send for an ambulance, giving details of the incident. Comfort and reassure the casualty until help arrives.
Crushing injuries (casualty crushed for less than 15 minutes)	Release the casualty as quickly as possible. Control any external bleeding and cover wounds. Send for the trained first aider who will secure and support any suspected fractures, examine and observe the casualty for signs of shock and treat accordingly.

Storage	
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Disposal	
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Risk Assessment

Hazards:

Collapse of lifts, etc	Hoists, lifts, jacks and cranes may fail under load if they are not properly maintained.
Failure of tackle	Chains, ropes, slings etc may fail if they are over-stressed or worn.
Falling load	The load may fall if it is not properly held by the tackle.
Vehicle moves	Vehicles, having wheels, may move and fall from hoists, lifts and stands.

Risks:

Collapse of lift etc	Lifting equipment is subject to repeated stresses and will fail at some point, which depends on its history.
Failure of tackle	Chains, ropes and webbing slings wear and may fail.
Falling load	If the tackle is not attached correctly, there is a high risk that heavy assemblies will fall.
Movement of vehicle	There is a high risk that unrestrained vehicles may move and roll off hoists, lifts and ramps.

Further information

- It should be noted that some hydraulically-operated vehicle lifts can be lowered even though the hydraulic power unit may be turned off. It may be necessary to introduce additional safeguards such as locking covers over operating controls to prevent this.
- The examination and testing of lifting equipment was subject to the *Factories Act* of 1961. This has been replaced by PUWER 1998 and LOLER 1998. These regulations require the employer to decide whether safety is best served by regular thorough examinations (including any tests deemed necessary by a competent person) or by examinations according to a prepared scheme. Where lifting equipment is used irregularly, the scheme can reflect this but must be drawn up by a person deemed competent to do so

The table below may help to clarify the requirements of LOLER 1998 (The Lifting Operations and Lifting Equipment Regs)

Plant	Checks for obvious faults	Alternatives:		When changing premises
		Regular thorough examination	According to scheme	
Equipment and accessories used to lift persons, e.g. a driver.	By the user, before each use.	At six-monthly intervals and after any modification or repair.	As decided by the competent person.	Must be accompanied by certificate or report including safe working load.
Equipment and accessories not used to lift persons.	By the user, before each use.	At 12-monthly intervals and after any modification or repair.	As decided by the competent person.	Must be accompanied by certificate or report including safe working load.