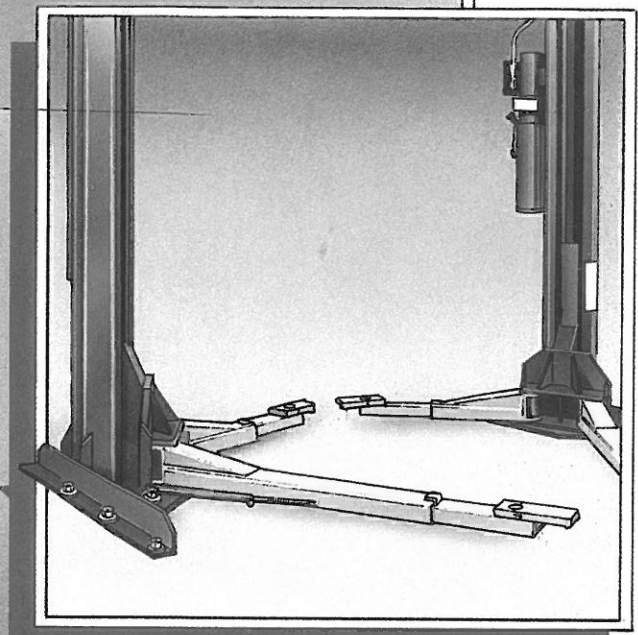
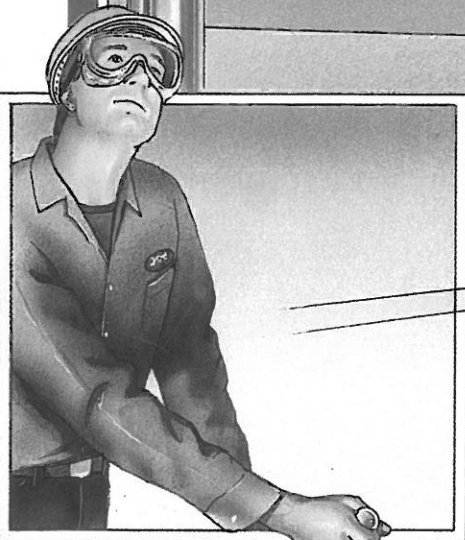
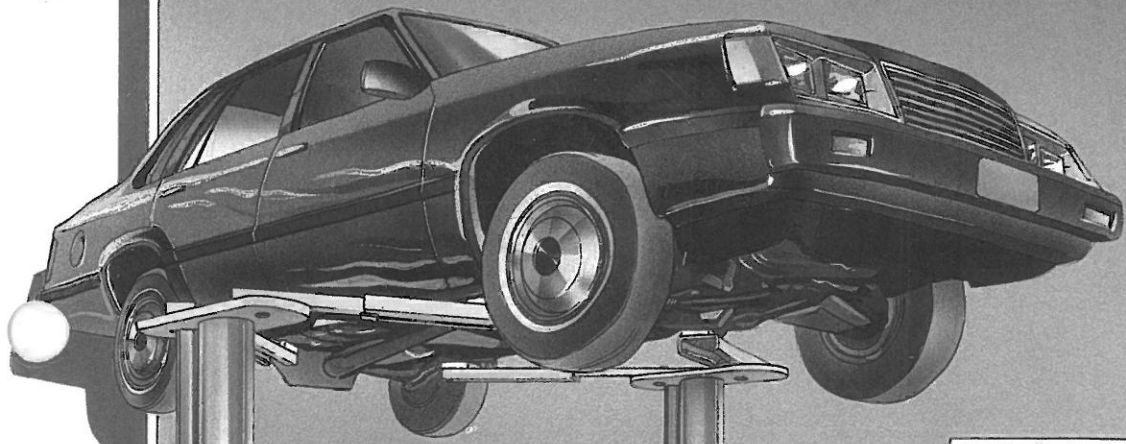


LIFTING IT RIGHT

A SAFETY
MANUAL
FROM THE
AUTOMOTIVE
LIFT INSTITUTE





This Automotive Lift Safety Manual is presented as an industry service by the Automotive Lift Institute with the assistance of a Congressionally chartered, public service organization who's vision is to make the world safer.

For further information relating to the safety programs and materials offered by the Automotive Lift Institute, or to obtain additional copies of this safety guide or the supplementary DVD presentation, visit www.autolift.org or write to:

Automotive Lift Institute, Inc.
P.O. Box 85
Cortland, NY 13045



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A video presentation is also available to supplement the information presented in this safety manual.

This publication is a guide to considerations involved in the safe operation of automotive lifts. It is intended to be helpful, and the information and recommendations contained in it have been compiled from sources believed to be reliable. It is not intended as a complete presentation of all safety problems and solutions related to automotive lifts and service. Thus neither the Automotive Lift Institute nor its members make any guarantees as to or assume any responsibility for the correctness, sufficiency, or completeness of the information and recommendations this publication contains. Other additional safety measures may be required under particular circumstances.

Understand that the illustrations in this safety manual depict generic automotive lifts. The lifts do not represent equipment manufactured by any specific automotive lift company.

For further information on safety requirements, readers should consult OSHA Safety and Health Standards 29 CFR1910, ANSI/ALI ALCTV, ANSI/ALI ALOIM, and ANSI/ALI ALIS. Readers in other countries should consult the applicable national or provincial occupational health and safety codes.

WHAT GOES UP. . .

The Law of Gravity. It's based on the assumption that objects that go up eventually have to come down - sometimes before we'd like them to.

We can't do much for the guys who kick field goals for a living, but we can help you prevent the vehicle you're repairing from coming down before it's supposed to.

Unfortunately, though, it happens. Not because of some fluke in the Law of Gravity. Instead, it's due to misuse, carelessness, and general neglect. The Automotive Lift Institute (ALI) is providing this safety manual to teach you the right way to lift a vehicle without causing injury or property damage. This manual is for the auto service technician who operates an automotive lift. It will discuss the most common in-ground and surface-mounted lifts and what you have to know to operate each safely and effectively.

There exists a wide variety of vehicle lifts manufactured and used throughout the world; it would take forever to discuss them all. Instead, we'll cover the lifts that are most commonly used in the automotive industry.

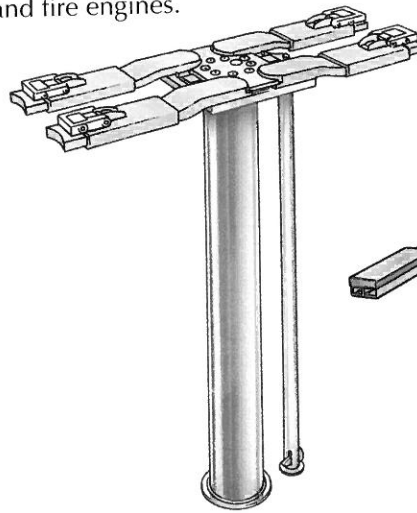
The key to safe vehicle lifting is proper training. Without the right training, it's anybody's guess as to the types of accidents that can happen. Safety, maintenance, and training are the responsibilities of the shop owner or manager. It's this person's duty to see that no one operates or maintains a lift without proper training.

AUTOMOTIVE LIFTS In-ground Lifts

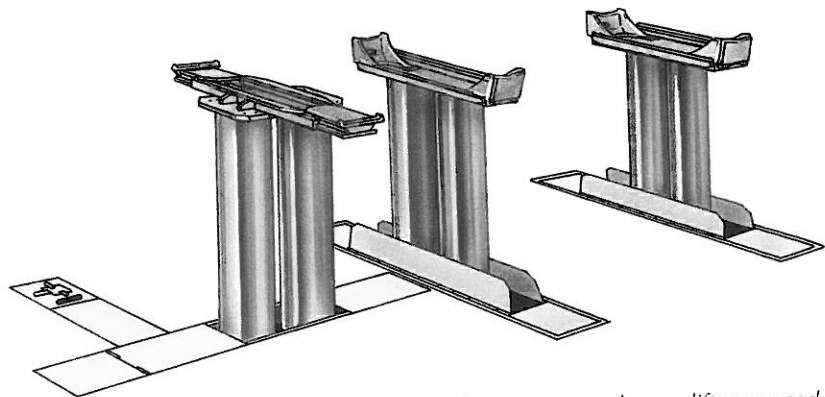
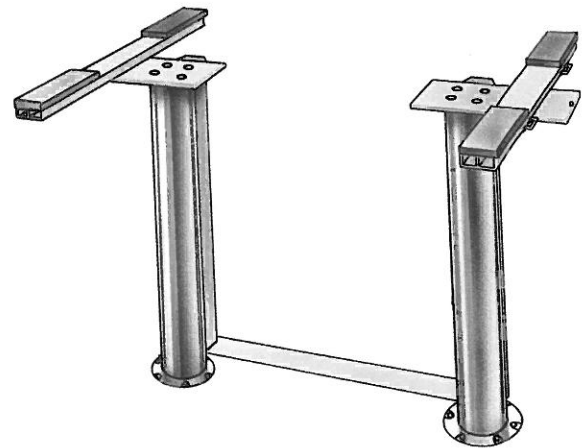
Those lifts whose lifting assemblies are situated below the garage floor are known as in-ground lifts. These lifts employ one or more plungers, depending on the type of vehicle and how much weight is to be lifted. For example, many one- or two-plunger lifts are used to lift compact, mid- and full-sized passenger vehicles. Three or more plunger lifts are used mostly on larger vehicles, such as transit coaches and fire engines.

In-ground lifts are powered in one of three ways:

- Self-contained air/oil reservoir (semi-hydraulic)
- Separate air/oil reservoir (full hydraulic)
- Electric oil-pumping unit which supplies oil under pressure without the use of air pressure



There exists a wide variety of vehicle lifts manufactured and used throughout the world.

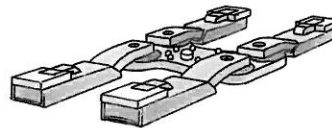
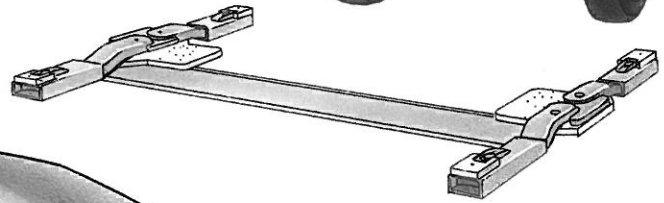


Three or more plunger lifts are used mostly on larger vehicles, such as transit coaches and fire engines.

In-ground lifts are manufactured to conform to almost any type of vehicle.

Most lifts allow a vehicle to be driven between the swing arms, permitting easy access to the underside of the vehicle. The swing arms that contact (engage) the vehicle on lifts are situated closer together. This type of lift lets the service technician drive over the lift without contacting the lift's components.

Lifts with pads that contact the vehicle's unibody, or perimeter frame, are recommended to be used to lift only passenger cars. These lifts allow unobstructed access to the underside of the car.



Lifts with two plungers, one fore and the other aft (**axle-engaging**) are used on vehicles that are equipped with a rear axle or support rail. Larger lifts of this type are also used on heavy-duty trucks since these vehicles have a rear axle and differential.

In many cases, the plunger located under the front of the vehicle moves within its pit and is positioned beneath the front control arms, axle housing or axle beam. The rear plunger is fixed and is located beneath the rear axle.

Surface-mounted Lifts

Until the 1980s, most lifts found in American garages were in-ground lifts. Currently, surface-mounted lifts make up a large part of the total automotive lifts in use.

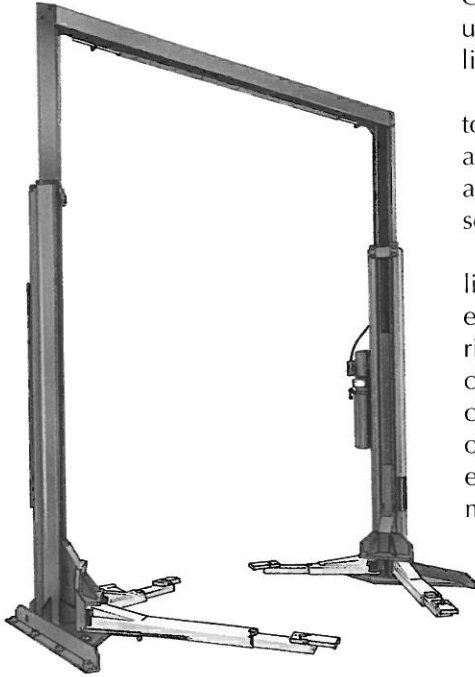
Surface-mounted lifts are anchored to the garage floor and are powered by an electric motor which operates either a hydraulic pump and cylinder(s) or a screw drive.

The most popular surface-mounted lift is the two-post drive-through frame-engaging lift. The swing arms of this lift ride up each post and are usually synchronized in one of several ways: mechanically, by using steel roller chains or cable assemblies; hydraulically; or electronically, by using synchronized motors.

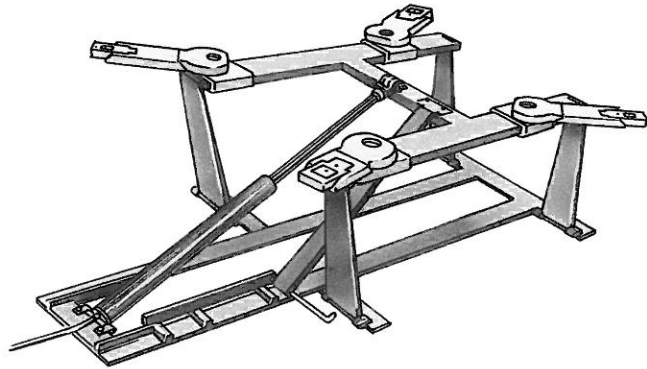
Lifting power is supplied by a hydraulic pump and cylinder(s), sometimes using leaf-chain or cable systems. Screw lifts use rotating lifting screws that move the swing arms.

The drive and synchronization systems on surface-mounted lifts can be located either overhead or across the floor.

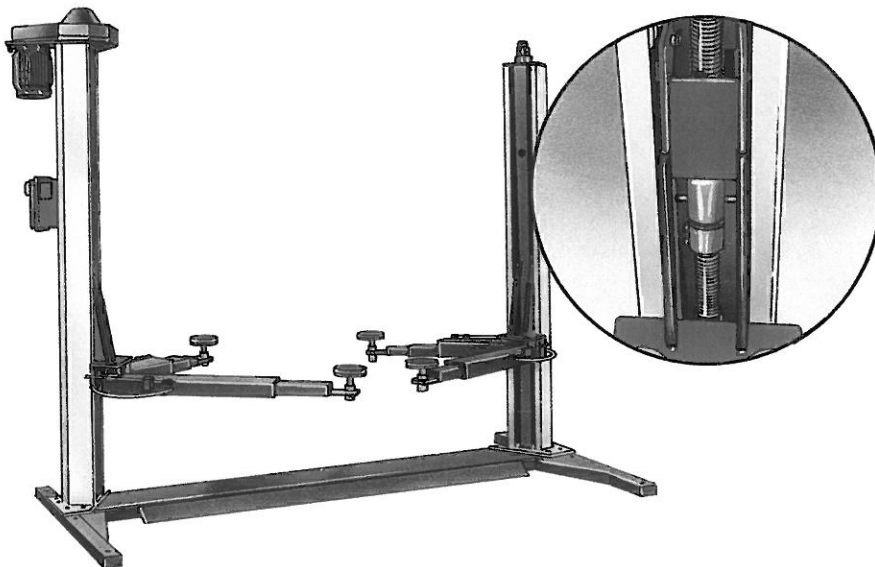
The **low-rise** service lift may be powered by an electric hydraulic power unit or by compressed air. The primary uses of this lift are tire and brake service and auto body repair. These lifts usually engage the vehicle's frame or underbody.



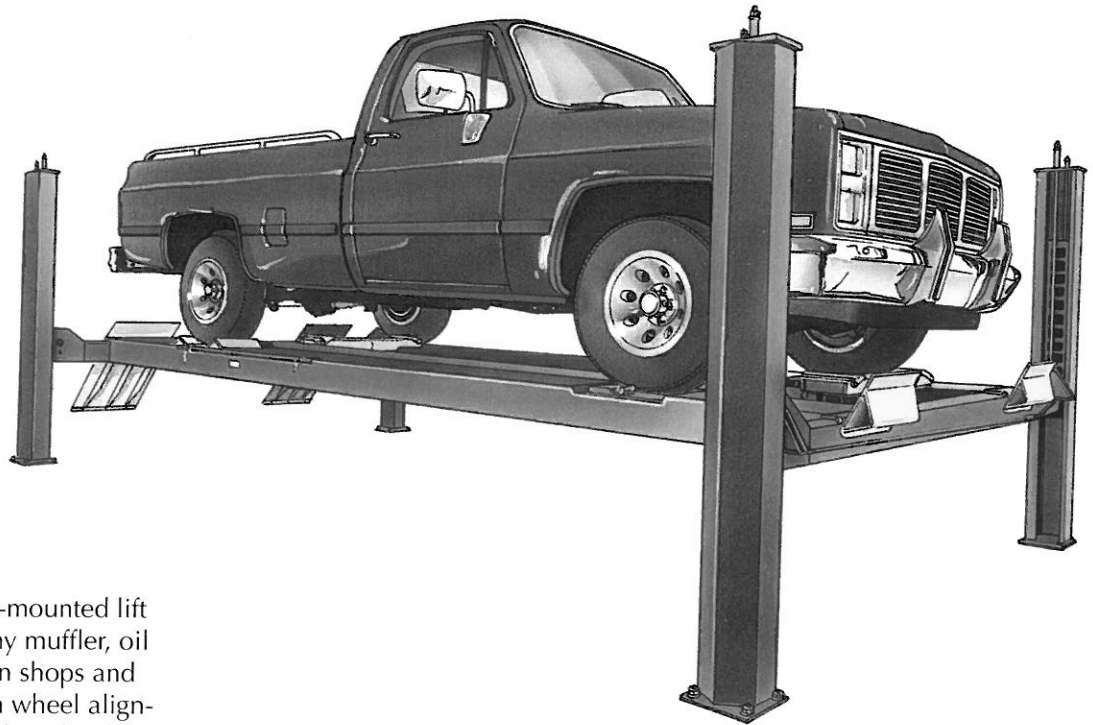
Surface-mounted lifts are anchored to the garage floor and are powered by an electric motor which operates either a hydraulic pump and cylinder(s) or a screw drive.



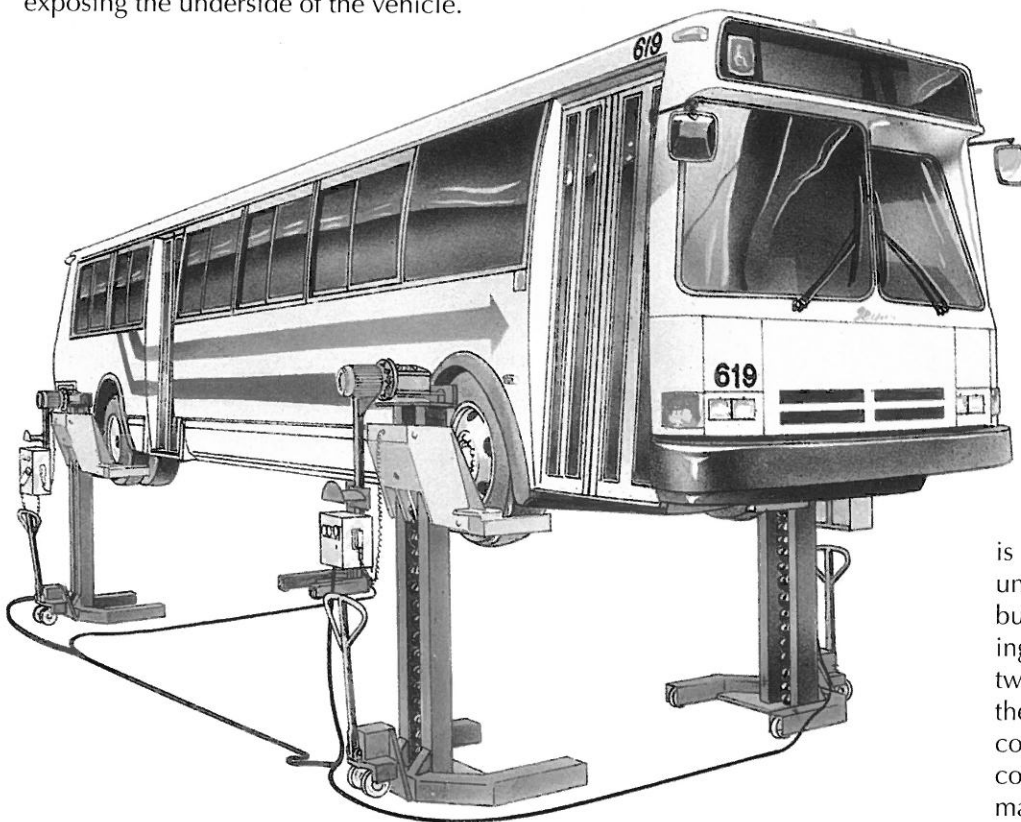
Low-rise lift



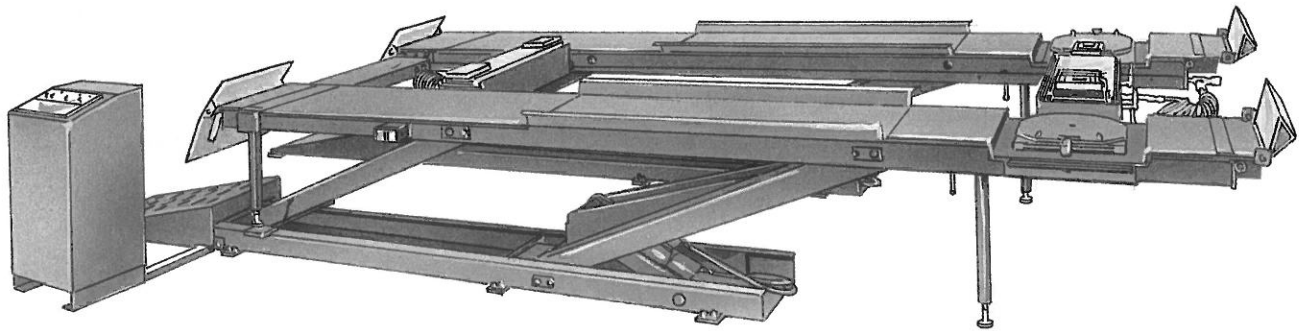
Screw lifts use rotating lifting screws that move the swing arms (cover removed for illustration purposes).



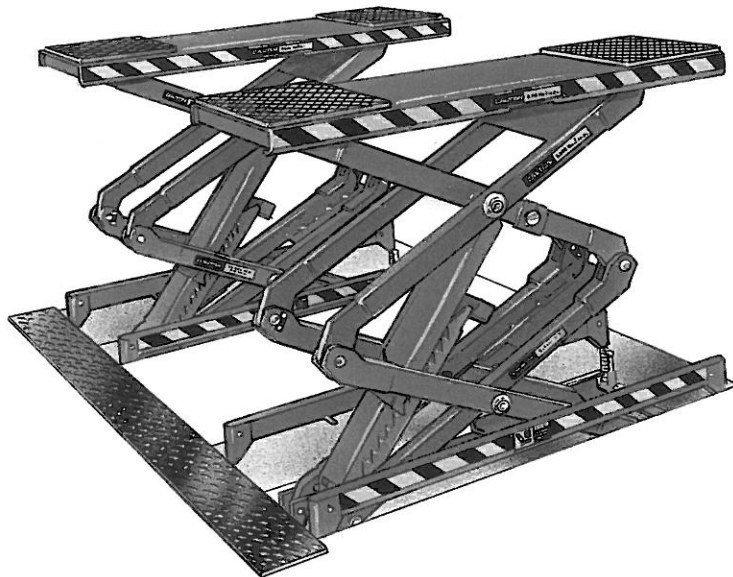
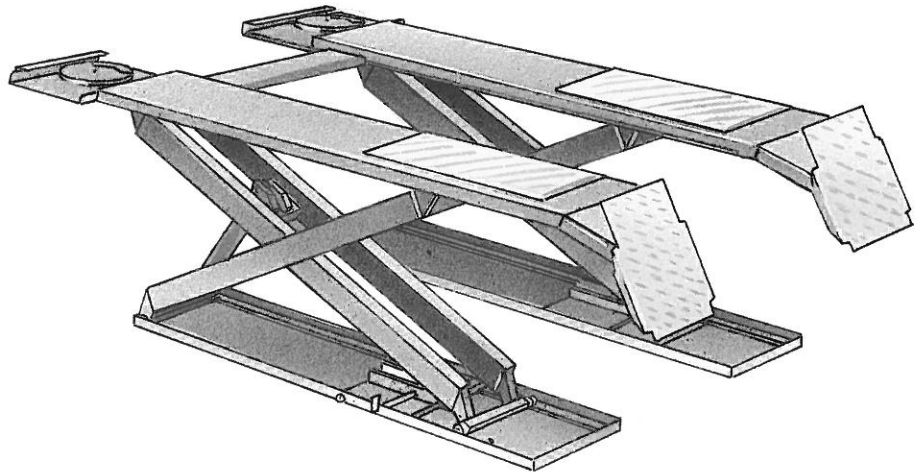
The **four-post** surface-mounted lift is the primary lift of many muffler, oil change, and transmission shops and those shops that perform wheel alignment. It allows the vehicle to be driven onto two runways and lifted by its tires, exposing the underside of the vehicle.



The **mobile wheel-engaging lift** is used primarily with longer, more unconventional vehicles, like transit buses. This lift utilizes individual lifting columns that are used in sets of two, four, six, or more units. Each of the individual columns is mobile and contains an electric power unit interconnected with the other columns. A master control unit synchronizes all columns so that they operate in unison.



Another form of surface-mounted lift is the **parallelogram** lift. Most parallelogram lifts (except low-rise) are roll-on lifts; this type lifts the vehicle with two runways. This unit, however, uses a lifting mechanism that moves the vehicle a short distance fore or aft when lifting or lowering, depending upon the way the lift is mounted. When using this type of lift, watch for vehicles with unusual overhang.



The **scissors** lift, either roll-on or fixed pad frame/underbody engaging, has a lifting mechanism similar to the parallelogram lift. However, the scissors lift raises and lowers the vehicle in a straight vertical direction rather than fore or aft of its original position.

SAFETY AWARENESS

Read all the lift safety materials supplied to you and your employer by the lift manufacturer, as well as the labels affixed to the lift.

A series of ALI Uniform Warning Labels, made up of panels showing and describing Warnings, Cautions, and

Notices are sent with all new lifts manufactured by Members of ALI. Shown here is the series for 2-post surface-mounted lifts. Uniform Labels for other lift styles shown in this safety manual are available in decal or

placard format as applicable. If your lift does not have these labels, or if they are in need of replacement, contact the lift manufacturer.

<p>CAUTION</p> <p>Lift to be used by trained operator only.</p>	<p>CAUTION</p> <p>Authorized personnel only in lift area.</p>
--	--

<p>WARNING</p> <p>Clear area if vehicle is in danger of falling.</p>	<p>WARNING</p> <p>Position vehicle with center of gravity midway between adapters.</p>
---	---

<p>NOTICE</p> <p>Read operating and safety manuals before using lift.</p>	<p>NOTICE</p> <p>Proper maintenance and inspection is necessary for safe operation.</p>
--	--

<p>CAUTION</p> <p>Use vehicle manufacturer's lift points.</p>	<p>CAUTION</p> <p>Always use safety stands when removing or installing heavy components.</p>
--	---

<p>WARNING</p> <p>Remain clear of lift when raising or lowering vehicle.</p>	<p>WARNING</p> <p>Avoid excessive rocking of vehicle while on lift.</p>
---	--

<p>NOTICE</p> <p>Do not operate a damaged lift.</p>	<p>The messages and pictographs shown are generic in nature and are meant to generally represent hazards common to all automotive lifts regardless of specific style.</p> <p>Funding for the development and validation of these labels was provided by the Automotive Lift Institute, PO Box 85 Cortland, NY 13045.</p> <p>Replacement label sets may be obtained from the original lift manufacturer and ALI's member companies. They are protected by copyright.</p> <p>www.autolift.org © 2009 by ALI, Inc. ALI/WL101a</p>
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<p>CAUTION</p> <p>Use height extenders when necessary to ensure good contact.</p>	<p>CAUTION</p> <p>Auxiliary adapters may reduce load capacity.</p>
--	---

<p>WARNING</p> <p>Do not override self-closing lift controls.</p>	<p>WARNING</p> <p>Keep feet clear of lift while lowering.</p>
--	--

Warning Labels for 2-post surface mounted lifts. Daily review of these Safety Messages and Warnings is suggested.

The messages and pictographs shown are generic in nature and are meant to generally represent hazards common to all automotive lifts regardless of specific style.

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Replacement label sets may be obtained from the original lift manufacturer and ALI's member companies. They are protected by copyright.

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BEFORE YOU LIFT

An automotive lift is not a crane or elevator. It is not a mechanical jack or ladder. Automotive lifts have been engineered to raise and support vehicles ... and **only** vehicles (reference ANSI/ALI ALOIM: Standard for Automotive Lifts - Safety Requirements for Operation, Inspection, and Maintenance).

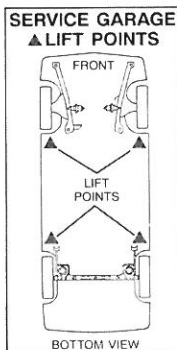
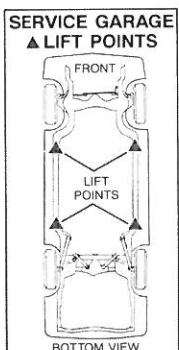
Automotive lifts should be operated by **trained** personnel only. Qualified service technicians are trained to repair vehicles before they begin to do so professionally. The same attention should be given to lift training. If you don't know how to position or lift a vehicle properly, don't guess. Do everyone a favor ... ask your supervisor to train you.

Under no circumstances should you attempt to modify your lift. If the lift is damaged or not working properly, don't try to fix or rig it so it works. **Do not use it.** Explain the problem to your shop manager and have him call in qualified lift service personnel. Let them deal with it.

Before driving a car or truck into your shop bay, be sure the lift area is free of:

- Grease and oil
- Tools
- Cords and hoses
- Trash and any other debris

Customers and bystanders should not be in the lift area. Do not allow anyone to ride on the lift or in the vehicle when raising or lowering. These people are not familiar with the shop's hazards and could be injured.



Typical Label Drawings
Reprinted with permission from SAE J2184
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Capacity in lbs

7000

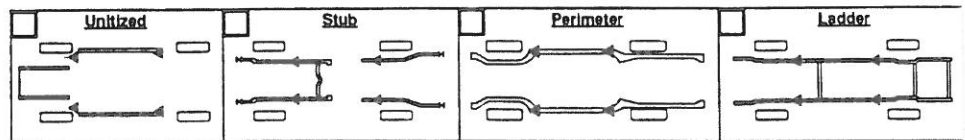
Lift Capacity

Never overload your lift. The manufacturer's rated load capacity is displayed on the nameplate attached to the lift. If the nameplate is missing, or the information is not readable due to wear, check with the manufacturer or their service representative.

The lift you're working with should be fully lowered before driving the vehicle into your work bay. Be sure the lift's swing arms, adapters, and supports are positioned out of the way of the car's tires before you drive the vehicle into the bay. Running over a lift is a good way to damage the lift and the vehicle.

SPOTTING THE VEHICLE

This section will discuss the correct way to spot a vehicle on various types of automotive lifts. Depending on the type of lift your shop uses, lifting techniques will vary. Never allow the customer to drive the vehicle into the service bay. Keep personnel clear of the service bay during vehicle entry. Never stand in the path of a moving vehicle.



▲ Denotes vehicle manufacturer's approved lift points.

Before you lift the vehicle, check for the vehicle manufacturer's recommended lifting points. Beginning with some 1994 year models, automobile manufacturers may have identified their recommended lift points by placing a label on the vertical lock face plate of the front passenger side door, in the glove box, or under the hood.

The Center of Gravity

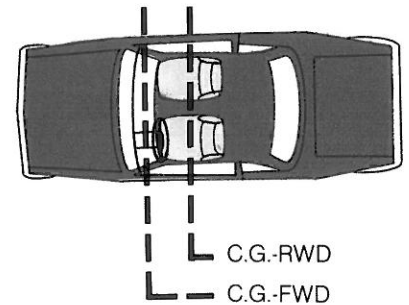
Before you lift any vehicle, you have to know how to find its center of gravity. The center of gravity is the point between the front and rear of the vehicle where the weight is distributed equally.

Each vehicle you lift will have a different center of gravity due to:

- Weight distribution
- Wheel base
- Location of drive train
- And other factors such as cargo

In most cases, the center of gravity on *rear-wheel drive* (RWD) passenger cars is below the driver's seat. On *front-wheel drive* (FWD) passenger cars, the center of gravity is slightly in front of the driver's seat.

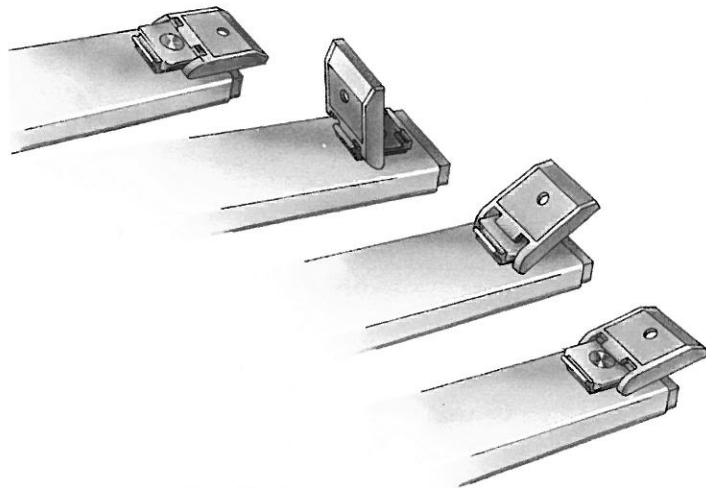
Position the center of gravity in accordance with the lift manufacturer's spotting devices or methods furnished.



(See Typical Label Drawings) They will identify the designated underbody lift points by holes, bosses, and/or depressions in the shape of an equilateral triangle or a supplemental part, such as a lift pad, identical to the triangle. Refer also to ALI/LPG, Lifting Point Guide.

Frame-engaging Lifts Adapters

Frame-engaging lifts utilize flip-up, stackable, or threaded adapters that are located on the end of each of the swing arms. These adapters are adjustable to several positions. Be sure the flip-up adapters are securely in position before you spot them under the vehicle. If an adapter is not secured, it could flip back down and cause the vehicle to become unstable.



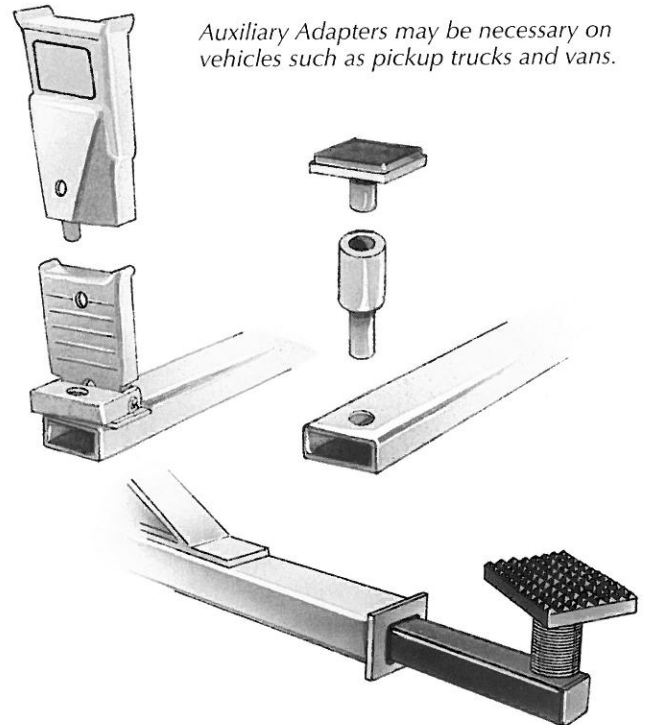
Frame-engaging lifts utilize flip-up or threaded adapters that are located on the end of each of the swing arms. These adapters are adjustable to several positions.

Many lifts are equipped with rotating threaded adapters that are adjustable to reach the vehicle. Before lifting the vehicle, be sure all four adapters are adjusted properly. Be aware that screwing these adapters out unevenly may make the load unstable. Check the lift manufacturer's recommendations if you don't know how to use this type of adapter. If your lift uses adapters with non-metallic coatings, the coatings should not be damaged or loose. If they are damaged, they should be replaced. Also, be aware that oil and grease can make those surfaces very slippery. Clean the adapters if oil or grease is present.

Before placing the swing arms under the vehicle, inspect each arm and adapter for cracks or other signs of damage. **If any part of the lift is damaged or operating improperly, do not use the lift or attempt to fix it.** Notify your supervisor immediately. He should have qualified lift service personnel do the repairs.

If so, don't lift the vehicle until these problems have been corrected.

Because steel adapters can damage undercoating, you may have to use a special adapter if lifting points have corrosion protection. Some vehicles require special lift adapters that will not damage their undercoating. Failure to use these special adapters may void the owner's rustproofing warranty.



Auxiliary Adapters may be necessary on vehicles such as pickup trucks and vans.

Lifting Points

Before you lift the vehicle, check the vehicle manufacturer's recommended lifting points. These lifting points can be found in the vehicle's shop manual or on the vehicle. The adapters should be positioned according to these specifications only.

Check the condition of the vehicle's lifting surfaces. Are the vehicle's lifting points:

- Damaged?
- Rusted?
- Covered with oil, dirt, undercoating, or anything else that may cause slippage?

Auxiliary Adapters

Even though contact pads are adjustable to accommodate most vehicles, auxiliary adapters may be necessary on vehicles such as pickup trucks and vans. These auxiliary adapters are available from most lift manufacturers, so don't use wood, concrete blocks, or other homemade auxiliary adapters in their place. Use only those auxiliary adapters provided by the manufacturer of your lift.

LOWERING THE VEHICLE

Before you lower the vehicle be sure tool trays, service jacks, engine stands, transmission jacks, and other obstructions are removed from under the vehicle. This is especially important when using parallelogram or scissors lifts. If anything gets caught in the lifting mechanisms, the lift could be damaged and the materials could be thrown, injuring you or someone else. Remember that the parallelogram lift uses a mechanism that moves the vehicle a few feet fore or aft when lifting and lowering, depending upon the way the lift is mounted. Be sure the area the lift is moving into is unobstructed.

Be sure that everyone is clear while lowering any lift. The lift operator must be in control of the lift while it is in motion. **Do not** block open or override the self-closing feature of the lift controls. If you're using mobile wheel-engaging lifts, make sure each lift is lowered at the same pace.

Before removing the vehicle from the work bay, position swing arms and adapters to provide a safe and unobstructed exit. Pads and adapters should be in their lowest position. If you're using auxiliary adapters, remove them before backing the vehicle out.

Remember, running over or striking any part of the lift with a vehicle could damage the vehicle and the lift.

KNOW YOUR LIFT

The automotive lift is a fairly basic invention. In fact, the design schematics of the one- and two-plunger in-ground lifts currently in operation haven't really changed since the early 1930's. Surface-mounted lifts are a variation of the same basic principle: an air-operated or a motorized power source that forces an object upward. Pretty simple, right?

So what's the problem? The problem is the vehicle that's up in the air weighs a few thousand pounds. If it falls from any height, it could cause serious injury or death to you and others around you. It could damage the vehicle, the shop, and the lift.

One of the best ways to avoid accidents is to know your lift. You know the limitations of your tools, what each can and can't do. Think of your automotive lift as another tool that makes your job easier.

MAINTAINING YOUR LIFT

If you'd like your lift to work properly, you've got to care for it and inspect it on a daily basis. If it malfunctions or is damaged, the lift should not be used. Repairs should be made by qualified lift service personnel and replacement parts should be original equipment.

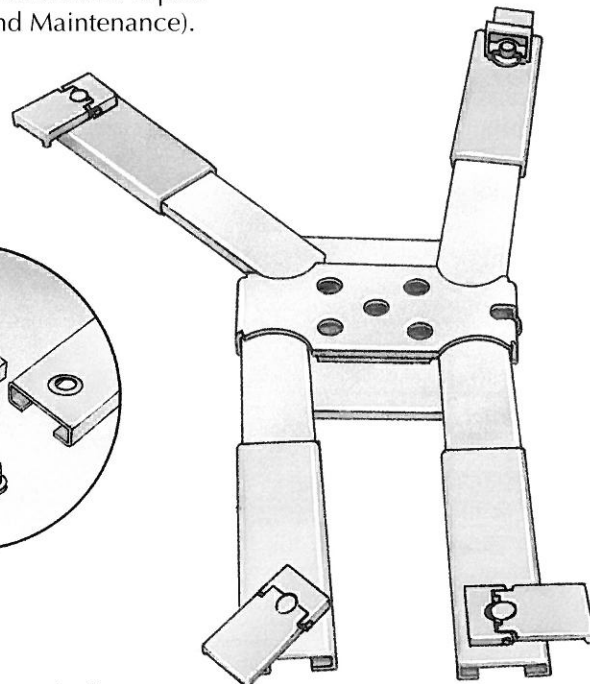
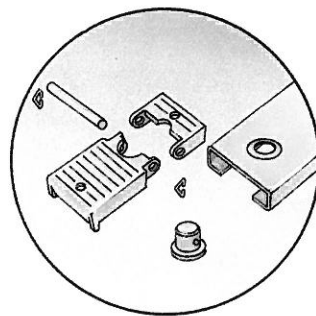
This section will discuss the various moving parts and drive systems of automotive lifts and generally what maintenance is required (reference ANSI/ALI ALOIM: Standard for Automotive Lifts - Safety Requirements for Operation, Inspection, and Maintenance).

Telescoping Swing Arms

Telescoping swing arms are used mainly on frame-contact lifts. As their name implies, they are adjustable in order to accommodate different vehicle types and sizes. To maintain the swing arms, you must periodically:

- Check the over-travel stops for wear.
- Watch for stress cracks or breaks in welds and castings.
- Examine arms for permanent bending.
- Lubricate swivel points.
- Inspect all adapters and auxiliary adapters before using them.
- Replace any worn, broken or missing parts with original equipment. Not doing so could seriously damage the lift and cause injury. If parts are worn, broken or missing, don't use the lift.

Do not heat and/or rebend damaged swing arms or weld cracks. Also, do not modify the lift with components not approved by the lift manufacturer.

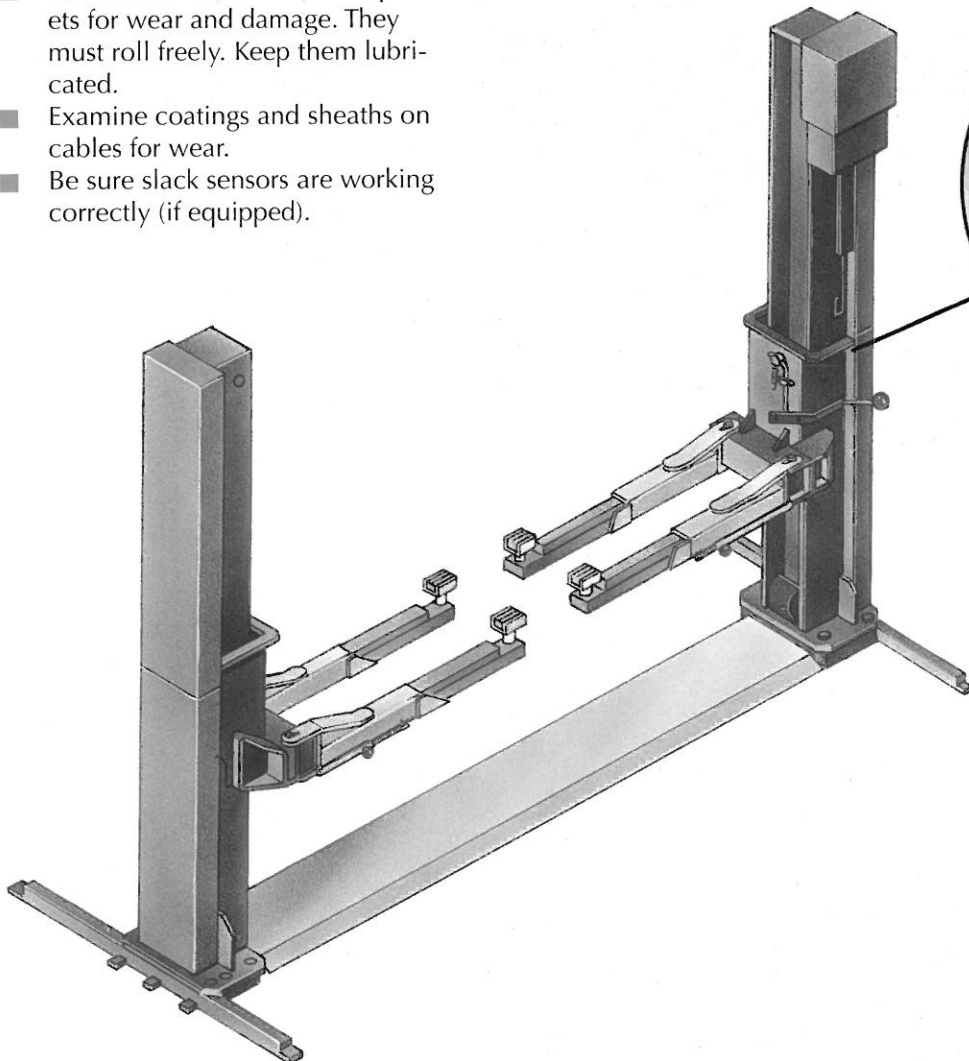


Service swing arms periodically.

Chains and Cables

Chains and cables are used mainly on surface-mounted lifts as a means of lifting and synchronization. Chains and cables are also used to synchronize the movement of plungers on some in-ground lifts. Here are some maintenance points to keep in mind:

- Check chains and/or cables for unusual stretch or wear.
 - Lubricate chains and cables.
 - Inspect end connections for corrosion or fatigue, excessive wear, connection hole elongation, or deformation.
 - Check sheaves, drums, and sprockets for wear and damage. They must roll freely. Keep them lubricated.
 - Examine coatings and sheaths on cables for wear.
 - Be sure slack sensors are working correctly (if equipped).
- Keep salt, sand, water, dirt, and other debris away from the lift. Rust and other foreign matter can work their way into plunger housings, lift posts, chains, cables, and bearings and foul up your lift.
 - Inform your supervisor of any damage you find. All worn or damaged parts should be replaced with the manufacturer's original equipment by qualified lift service personnel.
- Have the cables replaced if:
 - the cable is deformed, kinked, corroded, or excessively worn
 - the cable diameter is reduced
 - there are any broken, cut, bent, or crushed wires
 - the cable becomes unstranded
 - the cable is contaminated with foreign materials
 - the end connections are damaged or worn
 - there is a sudden increase in slack.



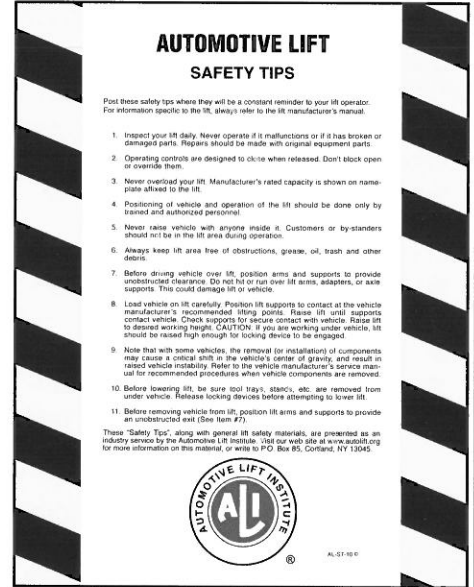
- Have the chain system serviced if:
 - there is excessive wear on links, pins, or sides of sheaves, drums, or sprockets
 - there is an increase in slack
 - end connections are suspected of damage or wear
 - chains are deformed, bent, rusted, or broken
 - chains are contaminated with foreign materials.

Air/Oil Systems

Air is compressible. When under pressure, it can be dangerous. The main points to remember when working with air/oil (full or semi-hydraulic) lift systems are:

- The lift operator must be in control of the lift while it is in motion. **Do not** block open or override the self-closing feature of the lift controls.
- Always exhaust all system pressure completely before inspecting or maintaining the lift. Maintenance should be performed to comply with OSHA 1910.147, which states in part that all stored energy must be exhausted before maintenance is begun.
- Comply with the manufacturer's recommendations for checking and adding hydraulic oil to a unit. If the lift vibrates or operates erratically while operating, it could be an indication of an oil leak.
- Before you attempt to remove the fill plug, re-check to be sure the air valve is in the exhaust position and all air from the tank is released. Remove fill plugs slowly and carefully with a manual wrench. **Do not use impact tools to remove fill plugs.** Removing the plug too quickly could cause it to release instantaneously if the system is under pressure.
- Use the type of oil specified by the lift manufacturer.

- If your lift is equipped with a low oil control device, be sure it's operating properly. If you have reason to believe that it's not, stop using the lift until your supervisor has it fixed.
- Use caution when removing other plugs, fittings, and connections. Follow the lift manufacturer's instructions for bleeding pressure valves and fittings and for checking hydraulic oil. If you hear any escaping air or see liquid seeping around the plug, **stop immediately** and release the stored pressure in the system.
- Keep filters and magnets clean.
- Check seals, packings, and wipers periodically.
- Make sure the return lines to the reservoir are tightly connected and aren't leaking or damaged.
- Watch for blow-by and oil leaks in the cylinder casing, and check for nicks or dings in the plunger.
- Have qualified lift service personnel install and repair air and oil lines.



Surface-mounted Systems

Most surface-mounted lifts use electrically powered hydraulic cylinder(s) or screw drives. Your main concerns when operating these systems are:

- The lift operator being in control of the lift while it is in motion. **Do not** block open or override the self-closing feature of the lift controls.
- Not exceeding the lift's rated load capacity. The manufacturer's rated load capacity is displayed on the nameplate attached to the lift. If the nameplate is missing, check the manufacturer's service manual. Do not operate the lift without this vital information.
- Maintaining gear boxes, v-belt, or timing belt drives, if any.
- Checking, cleaning, maintaining, and lubricating drive screw and nut systems on screw drive lifts.
- Making sure the safety (follower) nut is working properly on screw-drive lifts. Check the manufacturer's maintenance and operations manuals if you're not sure.
- Maintaining hydraulic oil level in the unit. It should be checked periodically to comply with the manufacturer's specific maintenance schedules.
- Having a qualified lift service company replace components.

Special Load-bearing Components

Follow the manufacturer's instructions for checking and lubricating load bearing rollers, and slide blocks. Also refer to the manufacturer's recommendations for checking and torquing floor anchors and superstructure connectors.

SHOP MANAGEMENT PRACTICES

Safely operating the lift in your shop is a very important part of your job, but it's not the only part of your job that requires care.

Using welding materials and torches and touching exhaust systems and hot engines can cause serious burns. Be aware that the raw oxygen that flows from a torch supports combustion

and can cause an explosion if it comes in contact with an oil spill.

Carrying and lifting tires, drive train components, and other heavy parts can result in back injury. Have you ever busted a knuckle on a stubborn, rusty bolt? Or almost tripped over the air hose or electrical cord that powers your impact tools? Accidents such as these break hands, sprain ankles, and bruise just about every other body part you can imagine.

Guarding openings in the shop floor can prevent serious falls.



Have you ever busted a knuckle on a stubborn, rusty bolt? Or almost tripped over the air hose or electrical cord that powers your impact tools? Accidents such as these break hands, sprain ankles, and bruise just about every other body part you can imagine.

Floor Quality

Most surface-mounted lifts are secured to the floor with concrete floor anchors. Always reference the lift manufacturer's installation instructions for recommended floor thickness and concrete strength requirements. You should check your lift area each day for any cracks or loose concrete around the floor anchors. If you do notice any flaws, don't use the lift and notify your supervisor immediately. No one should be allowed to use the lift until the condition is repaired.

You should also periodically check the floor anchors for tightness. If they

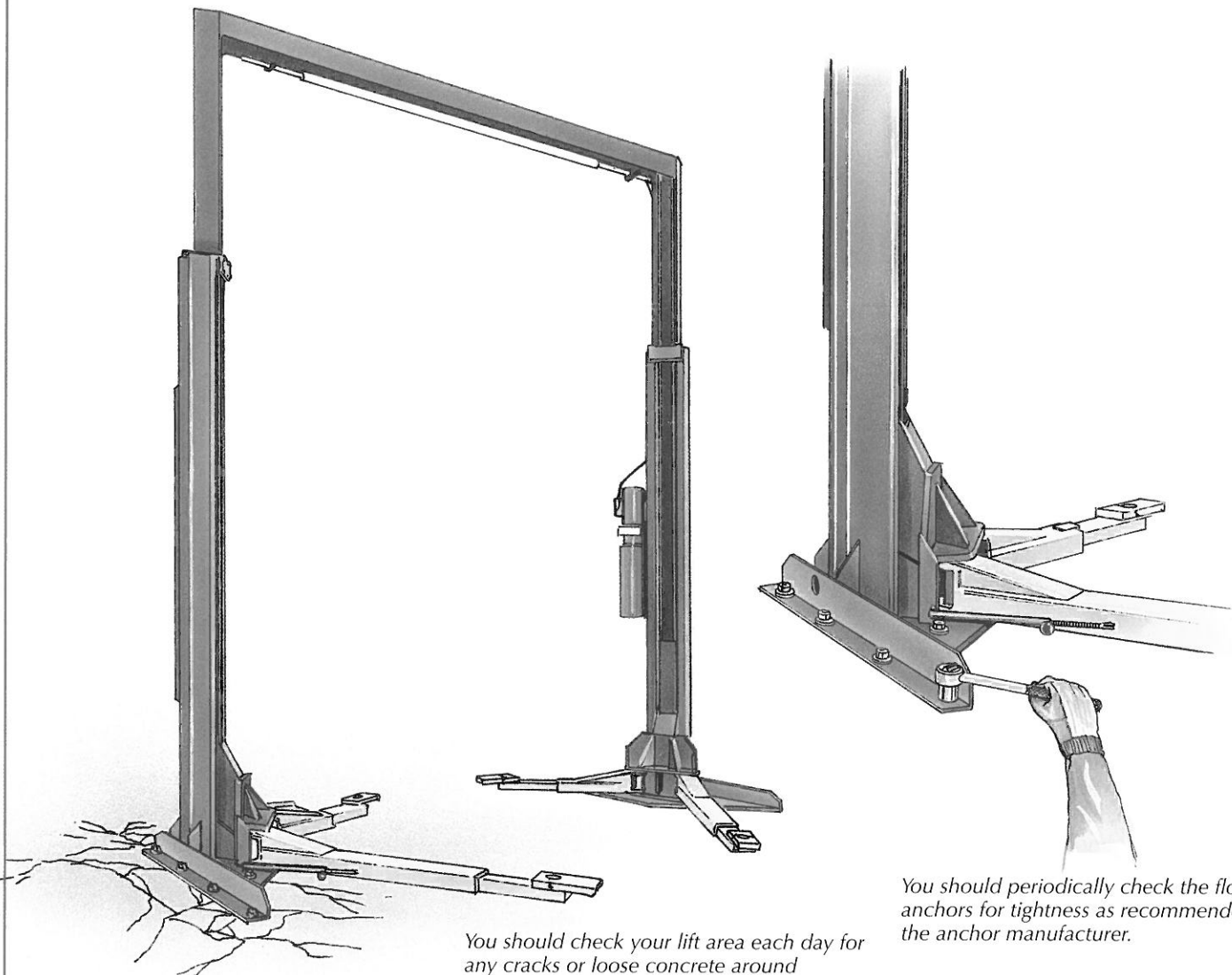
are loose, re-torque them to the anchor manufacturer's specifications.

Soil Conditions

There are certain conditions that you should monitor if your shop uses in-ground lifts. Water and various soils have the potential to corrode metal. That means you should inspect the integrity of the plungers and other components. If any defects are noticed, the lift should not be operated until it's repaired.

Corrosion also could affect the hydraulic oil tank and oil lines if they are underground. If leaks occur, contamination to local soils and ground water supplies could result. Check the lift's oil level regularly. If you're adding any amount of oil to your lift, a leak may exist. Notify your supervisor of unusual oil consumption or any other condition which is affecting the lift.

Many lift manufacturers are enclosing oil tanks and casings in fiberglass or other forms of corrosion protection, to lessen the hazards of a leaking tank and extend the lifetime of the lift.



SUMMING IT UP

The Automotive Lift Institute has been the voice for safety in the automotive lift industry since 1945 – and we can assure you that Murphy's Law isn't a figment of someone's imagination, as the unexpected can happen at any time. Pay attention and stay alert!

The fundamentals of safe vehicle lifting and effective automotive repair are almost identical. They are:

Training

You can't effectively repair a vehicle until you're trained in auto mechanics. Sure, you could tinker. But you know that inexperienced tinkering often causes more trouble. Get training before you operate any automotive lift.

Safe Operation

If you race around the shop without regard for safety, it could mean trouble.

If you use the lift that way, you're in for even more trouble. Respect the lift and the load that it is supporting.

Maintenance

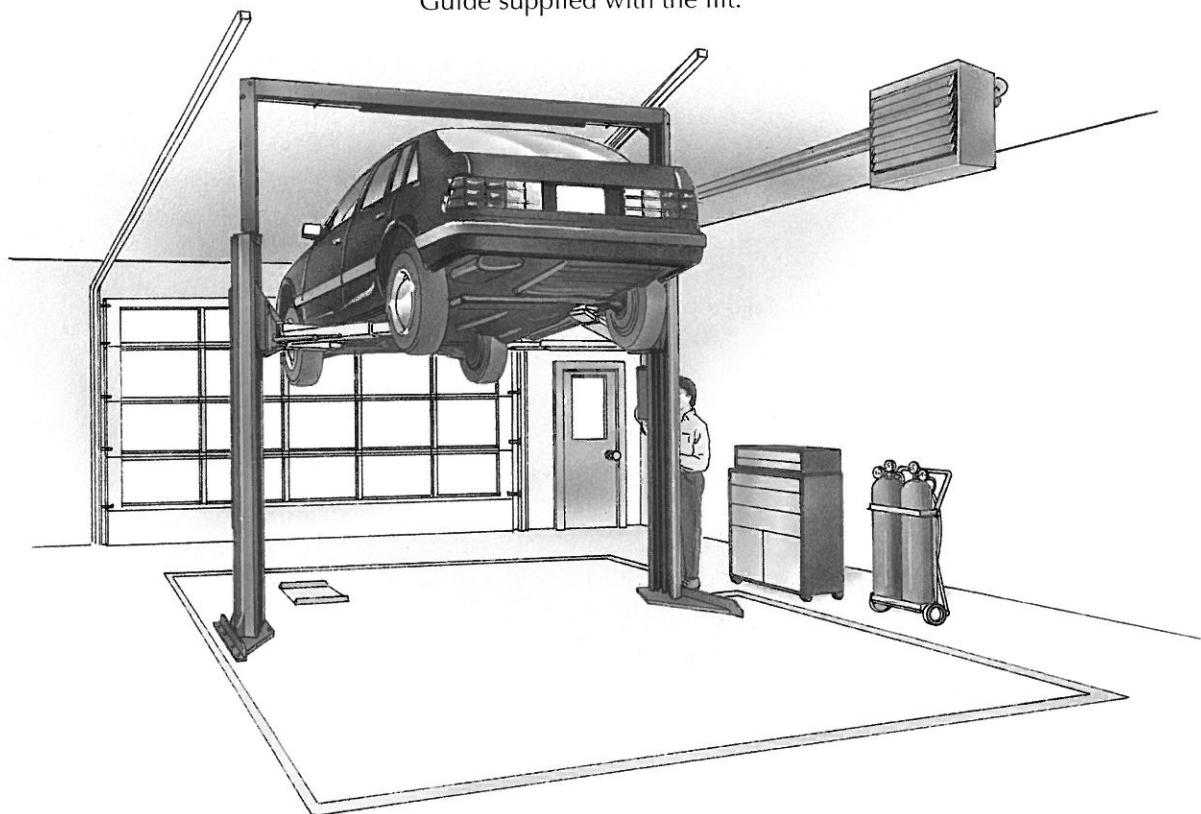
You know that abusing cars doesn't help them run better. Every day, you see the effects of poorly maintained vehicles ... they're accidents waiting to happen. The same could be said about your automotive lift. Spend some time each day inspecting, cleaning, and servicing your lift. Doing so will make your job much easier and safer.

OWNER/EMPLOYER RESPONSIBILITIES

In accordance with ANSI/ALI ALOIM, the owner/employer:

- Shall ensure that lift operators are qualified and trained in the safe use and operation of the lift using the manufacturer's instructions along with ALI's "Lifting It Right", "Safety Tips", and Lifting Point Guide supplied with the lift.

- Shall display the operating instructions and "Lifting it Right" and "Safety Tips" supplied with the lift in a conspicuous location in the lift area convenient to the operator.
- Shall establish procedures to periodically inspect, maintain, and care for the lift in accordance with the manufacturer's recommended procedures to ensure its continued safe operation.
- Shall provide necessary lockout/tagouts of energy sources per OSHA 1910.147 before beginning any lift repairs.
- Shall not modify the lift in any manner without the prior written consent of the manufacturer.





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SAFETY

One of the primary functions of the Automotive Lift Institute (ALI) is to promote the safe design, construction, installation, operation, maintenance and repair of automotive lifts in the United States and Canada.

Safety materials applicable to automotive lifts that are available through ALI include the following:

- **ALI/SM**, ALI "LIFTING IT RIGHT" SAFETY MANUAL. This is a generic safety manual covering appropriate safety practices and considerations when operating automotive lifts.
- **ALI/DVD**, ALI "LIFTING IT RIGHT" SAFETY DVD KIT. This is a generic DVD presentation covering appropriate safety practices and considerations when operating automotive lifts.
- **ALI/ST**, ALI "SAFETY TIPS" CARD. This is a generic placard offering safety tips for using automotive lifts and it is suitable for posting on or near each automotive lift.
- **ANSI/ALI ALIS – CURRENT EDITION**, "AMERICAN NATIONAL STANDARD for Automotive Lifts-Safety Requirements for Installation and Service". This document describes the duties and responsibilities of automotive lift installers and service companies.
- **ANSI/ALI ALOIM – CURRENT EDITION**, "AMERICAN NATIONAL STANDARD for Automotive Lifts-Safety Requirements for Operation, Inspection and Maintenance". This document describes the duties and responsibilities of automotive lift owners.
- **ANSI/ALI ALCTV – CURRENT EDITION**, "AMERICAN NATIONAL STANDARD for Automotive Lifts-Safety Requirements for Construction, Testing and Validation". This document describes the duties and responsibilities of automotive lift manufacturers.
- **ALI/WL Series**, ALI UNIFORM WARNING LABEL DECALS/PLACARDS including Warnings, Cautions and Notices. These decals/placards are suitable for mounting on each automotive lift. Lift users may obtain replacement labels from the manufacturer of their lift, an ALI Member company, or directly from ALI.

101 Series Decal Kit:	Surface mounted two post lifts
200 Series Decal Kit:	Wheel engaging surface mounted lifts
2200 Series Placard:	Wheel engaging surface mounted lifts
300 Series Placard:	Frame engaging, hinged surface mounted lifts
400 Series Decal Kit:	Wheel engaging, mobile surface mounted lifts
500 Series Placard:	All in-ground lifts
600 Series Decal Kit:	Surface mounted one post lifts
- **ALI DIRECTORY OF CERTIFIED LIFTS**. Automotive lift models currently certified under the ALI/ETL third party lift certification and labeling program are listed on the ALI website at <http://www.autolift.org>
- **ALI/LP Guide**, ALI sponsored VEHICLE LIFTING POINTS/QUICK REFERENCE GUIDE for Frame Engaging Lifts covering domestic and imported cars and light trucks.

For information on obtaining these lift safety-related materials, please contact:

Automotive Lift Institute, Inc.
P.O. Box 85
Cortland, NY 13045

Tel: 607-756-7775

Fax: 607-756-0888

E-mail: info@autolift.org



Or visit the ALI website at: <http://www.autolift.org>



"Label me confident."

Highly skilled, well-trained, and safe workers are your most valuable asset. Protect them, your reputation, and your bottom line by choosing only ALI-certified lifts for your operation.

All ALI-Certified lifts come with the 3rd-party assurance of having been designed and manufactured in accordance with the world's most stringent safety and performance standards. All ALI member companies submit their lifts for this scrutiny. And only ALI-Certified lifts are supported by a complete, up-to-date arsenal of on-the-job training and reference tools for your mechanics, shop maintenance pros, purchasing experts, and safety managers...tools that tangibly demonstrate your commitment to safety in today's inspection-driven, liability-sensitive environment.

Want to label your workers confident?

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To view our Directory of Certified Automotive Lifts, contact an ALI member company, or order our current Quick Reference Guide for Vehicle Lifting Points, call 607.756.7775 or visit www.autolift.org.



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