VEHICLE LIFT INSPECTION
Your Safety Is Riding on It

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Vehicle repair gets more demanding every day. Those of you on the front lines working with equipment to maintain and repair vehicles can never afford to “take it easy.” Not when you are entrusted with the safety of your customers’ vehicles, your employees and yourself.

This 16-page supplement provides an overview of the hot topics in vehicle lifting that technicians, fleet maintenance managers and shop owners need to be aware of in order to maintain bay safety and productivity. Needless to say, safety is a major consideration when lifting a vehicle weighing thousands of pounds and then working under it.

This piece covers lift safety considerations and the story behind the Automotive Lift Institute (ALI) Gold Lift Certification Label. With medium duty vehicles taking a bigger role in many businesses nowadays, more service shops are looking for heavier duty lifts. The article, “Go Big – But Go Safely,” provides input on choosing a heavy duty lift.

This supplement also explains the importance of having every vehicle lift inspected annually by a qualified lift inspector. This requirement is found in the ANSI National Standard covering vehicle lift operation, inspection and maintenance, which is included by reference in regulations throughout the U.S. and Canada.

To make it easier for shops to find qualified lift inspectors to inspect their lifts, ALI launched North America’s first third-party vehicle lift inspector certification program last fall. For more information about the ALI Lift Inspector Certification Program, see the article, “What’s Riding on Your Lifts?” To find a local ALI Certified Lift Inspector, visit www.autolift.org/certified-inspector.php. The database is searchable by ZIP code and will be continuously updated as additional inspectors achieve certification.

You rely on your vehicle lifts every day. Invest the time to make sure you are using and maintaining them properly. As ALI says, “Your safety is riding on it.”

**SAFETY** is a major consideration when lifting a vehicle weighing thousands of pounds.

By Elliot Maras, Editor

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**You rely on your lifts every day. Read on to learn how to keep them working for you.**

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**Invest in Your Future:**

**Invest in Lift Safety**

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**LIFT SELECTION AND INSPECTION ARE KEY**

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What’s Riding on Your Lifts?

LIFTS MUST BE MAINTAINED AND INSPECTED REGULARLY TO ENSURE SAFETY.

There’s more riding on your vehicle lifts than cars and trucks. If you’re the technician who relies on a lift to get your job done every day, your safety is riding on it. If you’re the shop owner whose livelihood depends on your technicians’ safety and performance, your business is riding on it. With so much riding on your lifts, it is crucial that they are properly maintained and inspected regularly to ensure proper performance.

In fact, there is an entire American National Standard outlining the safety requirements for proper vehicle lift operation, inspection and maintenance. This standard, ANSI/ALI ALOIM (current edition), covers lift operator qualifications, training and responsibilities; maintenance procedures, documentation and frequency; and periodic qualified lift inspection.

In addition to regular in-house inspections, the standard requires that all vehicle lifts be inspected at least annually by a “qualified lift inspector.” A lift inspection is a thorough evaluation of the operating mechanism(s), safety system(s), maintenance, structural integrity and field modifications of a particular lift in order to identify any risks which may affect the ability of that lift to operate in a safe and reliable manner.

So what is a “qualified lift inspector,” how do you find one and what takes place in a regular inspection and maintenance is the best way to maximize ROI and to extend the life of the vehicle lift.
An annual lift inspection includes a thorough evaluation of the entire vehicle lift.

During a lift inspection? To get the answers to these questions, we turned to representatives and members of the Automotive Lift Institute (ALI), a trade association of North American-based vehicle lift manufacturers. ALI’s mission is to promote the safe design, construction, installation, service, inspection and use of vehicle lifts.

“When buying a vehicle lift, you are making an investment,” explains Radu Pop, market research analyst for lift manufacturer MAHA USA. “Regular inspection and maintenance is the best way to maximize ROI and to extend the life of the vehicle lift. A properly operating vehicle lift not only makes the mechanic’s job easier, it will also improve performance, revenue and, foremost, safety.”

From “Qualified” to “Certified”

For some shop owners, finding a qualified lift inspector to inspect their lifts has been a challenge. Although the ANSI Standard outlines some lift inspector qualifications, for many years there was no national resource for finding qualified inspectors. In this buyer-beware environment, the best option lift owners had was to get recommendations from the manufacturers of their lifts. That all changed with the launch of the Automotive Lift Institute Lift Inspector Certification Program in October 2012.

“OSHA and other health and safety officers have really stepped up enforcement of lift safety and inspection standards in recent years, leading to growing demand for qualified lift inspectors,” says R.W. “Bob” O’Gorman, ALI president. “In response, ALI invested several years and more than $700,000 to develop the ALI Lift Inspector Certification Program. This program is the first in North America to independently test and certify vehicle lift inspectors. As a result, when lift owners hire an ALI Certified Lift Inspector, they have third-party assurance that the inspector has been proven competent to thoroughly inspect any vehicle lift.

The ALI Lift Inspector Certification Program provides peace of mind to shop owners, reduces accidents and improves employee confidence in their equipment,” says Harold Yeo, president of lift manufacturer Gray Manufacturing Co., Inc. "Ultimately, this should result in increased throughput of vehicles being serviced.”

Certified Lift Inspectors apply an ALI Annual Lift Inspection Label to each lift that passes inspection.

Inspection Points

What are Certified Lift Inspectors looking for when examining car and truck lifts? The ANSI standard provides five pages of inspection points, including:

- Examining all accessible structural components, including welds, for any evidence of overloading, misuse or abuse.
- Examining electrical components and wiring.
- Checking the lift controls to ensure accessibility, an unobstructed view of the lift and an automatic return to the neutral or “off” position when released.
- Locating appropriate lift documentation, safety instructions, vehicle lifting information, lift safety labeling and capacity labeling.
- Confirming adequate clearances around the lift.
- Checking all fastening devices for tightness and proper fit.
• Checking the lowering speed over the full down travel of the lift.
• Operating the lift through its full cycle and checking the operation of the positive stop. Checking to see if the lift locks engage in the fully extended position.
• Checking all lubrication points for cleanliness, integrity of fitting and presence of lubricant.
• Checking all chains and cables for excessive slack.
• Checking all potential pinch points.

The standard is just the starting point. Every lift manufacturer should provide specific directions for inspecting each of its lifts. ALI Certified Lift Inspectors are qualified to inspect any brand or model of vehicle lift.

“During the inspection, the inspector is looking to confirm that all of the lift’s components are in place and in working order,” explains Bob Ford, customer service manager for lift manufacturer Rotary Lift. “The inspector is looking at more than just the lift, though. The inspector will survey the lift bay and shop to look for any potential hazards. He or she might make recommendations for other areas of the shop, even though the focus is on the lift.”

At the conclusion of the inspection, the lift inspector should provide a written inspection certificate for each lift to the shop owner or manager. This report documents the results of the inspection, including any recommendations for repair. Certified Lift Inspectors will apply an ALI Annual Lift Inspection Label to each lift that passes inspection. This label includes the inspector’s unique identification number and the date, making it easy for code enforcement officials to quickly ascertain when a lift was last inspected successfully. The labels also serve as a convenient reminder of when a lift is due for its annual inspection.

Safety Starts with You
In addition to annual lift inspections conducted by qualified lift inspectors, most lift manufacturers recommend that lift operators themselves inspect their lifts on a more frequent basis. Recommendations vary from daily to monthly to quarterly, depending on lift style, frequency of use and environment. Check the owner’s manual for the manufacturer’s recommendations.

“It is essential to inspect vehicle lifts regularly for three principle reasons,” sums up Keith Bunn, service manager for lift manufacturer Stertil-Koni. “First, to make absolutely certain that the lift is functioning within its safe design limits. Second, to preserve and protect the longevity of the equipment. And third, to maximize the service life of the equipment and minimize the possibility of facility downtime.”
Go Big — But Go Safely

LIFT MANUFACTURERS OFFER RECOMMENDATIONS FOR SHOPS.

To generate additional revenue, a growing number of light duty shops are expanding their businesses to service medium duty vehicles. Properly equipping their facilities and training their technicians to handle larger vehicles enables the shops to pursue maintenance and service contracts for local vocational (work truck) fleets.

Servicing larger vehicles requires the right equipment, starting with a heavy duty vehicle lift. Check the rated capacity of the lifts in most light duty shops and you won’t find many that can pick up vehicles weighing more than 10,000 lbs. That means they are not adequate for vehicles larger than a Class 2 pickup truck like the Ford F-150. To service the Class 4 through 6 trucks that most vocational fleets rely on, shops need lifts that are rated for vehicles weighing up to 26,000 lbs.

There are a number of heavy duty lift styles to consider. Recognizing that this is the first time many shop owners have looked into buying a heavy duty lift, we contacted a number of lift manufacturers to gather recommendations. Interestingly, each representative recommended a different lift style. This means there are a number of potential solutions depending on the shop and the mix of vehicles to be serviced.

Since two-post surface lifts are so prevalent in North American light duty shops today, many shop owners may initially consider a higher-capacity version of this familiar lift style.

“Medium duty, two-post, above-ground lifts are popular because they give technicians the most under-vehicle access and leave wheels hanging free for tire and brake service,” explains Steve Perlstein, president of Mohawk Lifts.

Four-post lifts are also available with greater capacity than those often found in light duty shops.

“Medium duty four-post lifts offer the versatility to handle varying wheelbases and accommodate different weight distributions more easily, and they can disperse that weight throughout the runway,” says Ryan Bentley, marketing director for Challenger Lifts.

Another lift style to consider is the double scissor lift.

“The advantages are clear in its space-saving design and excellent efficiency,” says

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**Responsible Lift Manufacturers**

In support of the Automotive Lift Institute (ALI) mission of promoting the safe design, construction, installation, inspection and use of vehicle lifts, members of ALI are required to third-party certify at least 75 percent of the lifts they sell. Additionally, ALI member manufacturers proudly provide a copy of ALI’s *Lifting It Right* safety manual, *Vehicle Lifting Points Guide*, ANSI/ALI ALOIM (current edition), safety tips card and warning label kits with each lift they distribute.

**Current ALI member companies are:**

- ARI-HETRA
- BendPak/Ranger
- Challenger Lifts, Inc.
- Danmar Worldwide, Inc.
- Gray Manufacturing Company, Inc.
- Hunter Engineering Co.
- Launch Tech USA, Inc.
- MAHA USA, LLC
- Mohawk Resources Ltd.
- OMER N.A., Inc.
- PKS Equipment & Engineering, Inc.
- Quest/Ben Pearson
- RAV Equipment USA, Inc.
- Vehicle Service Group dba Rotary Lift Consolidated
- Sefac, Inc.
- Stertil-Koni USA, Inc.
- Total Automotive Lifting Solutions, Inc.
- Wheeltronic Ltd.

For a full directory of members with contact information, visit: [www.autolift.org/members.php](http://www.autolift.org/members.php).
Radu Pop, market research analyst, MAHA USA. “Up to five double scissor lifts install flush or surface mounted in the same space that would normally only accommodate four two-post lifts.”

Similar options include parallelogram, scissor and pantograph platform lifts. These lift styles offer additional stability and are “more forgiving” than some other lift styles, according to Harold Yeo, president, Total Lifting Solutions.

Manufacturers also point out the flexibility of the mobile column lift.

“Mobile column lifts are the most cost-effective heavy duty lifts,” explains Doug Spiller, heavy duty product manager at Rotary Lift. “Battery-operated models are compact, portable and easy to use. Just set them up when they’re needed, and clear them out of the bay when they’re not. That makes them perfect for shops that may not need the lifts for every job.”

Talk to your lift supplier about which style(s) of lift would work best for your business today and into the future. When considering a new lift, remember to look for the Gold Label that signifies it has been third-party tested and certified to meet ANSI/ALI ALCTV:2011 standards.

“The Gold Label is your ONLY assurance that the lift you’re buying meets industry safety and performance standards,” says R.W. “Bob” O’Gorman, president, Automotive Lift Institute (ALI). “Remember, your safety is riding on that lift. Why risk your livelihood on an uncertified lift?”

It’s also important to choose the right accessories and adapters for a higher-capacity lift. Make sure the shop has the necessary adapters to reach the manufacturers’ recommended pick-up points for the vehicles to be serviced. Never use homemade adapters.

“Explore how many different types of options and adapters can be added to the lift to speed a shop’s efficiency,” Perlstein suggests.

Bentley reminds shops that most medium duty vehicles are built on a frame. These vehicles have different lifting requirements than unibody vehicles.

“If a shop is adamant about purchas-
Don’t Be an Accident Statistic: Lift It Right

By Rick Heath

TAKE SAFETY PRECAUTIONS BEFORE LIFTING ANY VEHICLE

If you believe you haven’t seen a vehicle you don’t know how to lift or that spotting is just common sense, you’re destined for an accident. Don’t assume that lifting is the same from vehicle to vehicle or from lift to lift. Have you ever seen a vehicle slide off of a lift? They can and do fall off of all kinds of lifts. It’s not a pretty sight, especially if the service technician is under the falling vehicle. Don’t be an accident statistic. Learn how to properly spot vehicles on the lifts in your shop. Take time to examine each vehicle and the lift you’re going to go under before starting a job. Exercise your own discretion and judgment.

Here are a few questions you should ask yourself before lifting any vehicle on any lift:

- Where is the center of gravity for this specific vehicle?
- What are the contents of the vehicle and how does this impact balance? For example, what’s in the truck box? What’s in the pickup with the camper cover? What’s in the trunk? Is the bus engine in front of the front axle? Are the water tanks on the fire engine empty?
- Does the work you’re going to perform have the potential to shift the weight of the vehicle? Will you be removing heavy components from the vehicle? Should you use vehicle support stands to stabilize the lifted load?
- What type of lift are you going to use?
- Does the lift have a fall prevention system or a fall arrest system? Is the load prevented from falling because it is structurally supported or is the load suspended and then arrested after it begins to fall? If the lift uses a fall arrest system, you should inspect the suspension chains or wire rope(s) prior to lifting.

Technicians can’t afford to be complacent about the proper use of any vehicle lifts.
Drive-On Lifts

Drive-on lifts seem so straightforward that it may appear that there's nothing to worry about when using them. Wait a minute:

- Do the runways slope when they are loaded?
- How about when the load is placed at one end of the runway?
- Does the lift have a dedicated set of chocks for the vehicle wheels?
- Does the lift have front and rear runway stops in case the chocks get overdriven?
- Have you ever left the engine running on a raised vehicle? Do you think the vehicle could drop into gear if it gets bumped?

Wheel-Engaging Mobile Lifts

- Are the tire forks making full contact with the tires?
- Are the forks wet or oily?
- Should you use high-reach fixed stands to totally support the load?
- Do you really know exactly where to place the stand adapters? Lifting information for heavy duty vehicles is sparse at best.
- Do you know the weight distribution? Is the column capacity adequate for each lifting point?
- Do you really need the lifting columns somewhere else right now? If not, then do not transfer the load to stands.
- What if the stands are not "certified" to ASME PALD? How can you be sure of the rated capacity?

Are the column connecting cables a tripping hazard?
- Is the lift's wireless control signal getting interference from other systems?

Frame-Engaging Lifts

It's easy to get complacent and think that all you have to do when using a frame-engaging lift is find a hard spot like the frame or the jack points on a unibody car. This is a risky assumption and one likely to lead to an accident.

The first step in making a proper lift is to find the vehicle manufacturer recommended lifting points for that vehicle. Here are a few common sources of reliable lift point information:

- If you work in an automobile dealership, you can go to the internal vehicle manufacturer website to find lift-
ing and jacking information. You can also consult the vehicle service manuals.

- **If you work in an independent shop, franchise store or fleet maintenance operation**, you may or may not have the service manuals for the vehicle. If your employer subscribes to one of the independent vehicle information services, you may be able to access lifting information there.

- **The Automotive Lift Institute publishes an annual Quick Reference Guide to Vehicle Lifting Points for Frame-Engaging Lifts** that is provided by ALI member companies with every new, frame-engaging lift they sell. The Lifting Point Guide is developed from information obtained directly from the vehicle manufacturers. It is also sold on the ALI website, www.autolift.org, for $10 per copy.

Since frame-engaging lifts are the most popular style in light duty shops, here are some additional tips regarding their use:

- **Never assume the lift swing arm restraints will keep the arms from coming out from under the vehicle.** If the adapters aren’t placed on a flat, level surface, the horizontal force developed on the adapter pad can be greater than the vertical force applied to it. Swing arm restraints are only designed to resist 150 pounds of horizontal force.

- **Take the adapter design into consideration.** Does your lift have flip-up adapters, screw-type adapters or stacking adapters? Are the adapter surfaces steel or rubber? Are there features on the adapters that would inhibit lateral movement? Do you need to use extenders to prevent swing arm contact with sills, rocker panels, pipes, dams, steps or running boards?

- **What about lifting on the spring hangers?** Some vehicle manufacturers approve this in some cases. If you place the adapter on the spring hanger, does the spring rest on part of the adapter pad? If the leaf spring is on the adapter, the vehicle can walk right off of the adapter if it is rocked up and down. Due to the upsweep of the frame forward of the rear suspension on some long wheelbase vehicles, the front-most rear spring hanger may be your only practical choice, even though it is not ideal. If you select the spring hanger as the lift point, be sure the adapter is not supporting the vehicle on the spring itself and always use vehicle support stands.

- **Never use blocks (wood or other materials) between the adapters and the vehicle lift points**, even if the vehicle manufacturer recommends them. The use of blocks can only lead to instability.

- **Never lift one end of a vehicle using only two swing arms of a swing arm style lift.**

- **If the adapter pads on the lift won’t reach the recommended vehicle lift points, use a different lift.**

### Axle-Engaging Lifts

Let’s talk a little bit about vehicles lifted on the two-post, fore-and-aft, movable piston, wheel- and axle-engaging lifts. Some strange things are attempted on these lifts.

For example, a technician may lift only the rear of the vehicle to provide greater access to the front engine compartment. The concern here is that if the front wheels are free to roll on the floor, the horizontal forces applied to the rear jack are equal and opposite to the breakaway friction and rolling friction of the front wheels – which means the rear jack will be damaged. Chocking the front wheels only makes the situation worse. As the rear axle
condition is potentially damaging to both the front jack and the rear jack. The out-of-level condition should be limited on any two-post, fore-and-aft, movable-jack, axle- or wheel-engaging lift to 3 degrees front to rear or, rear to front. In any case, the lifted vehicle should always be lowered onto the lift locks before the technician goes under the vehicle. As always, additional confidence may be gained by placement of vehicle support stands to enhance stability.

**Your Safety Is Riding On It**

If you think about what you’re doing and think several steps ahead, you’ll be your own best safety advocate. A little time spent thinking about the lift and the vehicle to be lifted can save your life.

ALI offers a number of lift safety materials. Member companies provide many of these materials with every new lift sold. They can also be purchased at the ALI Store at www.autolift.org. One popular resource is the *Lifting It Right* safety kit that includes a DVD hosted by Richard and Kyle Petty, the *Lifting It Right* safety manual and a safety tips card to be posted on or near a lift.

Rick Heath is an industry safety consultant specializing in automotive service facilities. He may be contacted through his web site at www.heathandassociates.com or by e-mail at fgheath@bellsouth.net.
Behind the Gold Label

By Bart Patton

WHAT DOES CERTIFICATION MEAN?

You may have noticed a gold label on the lifts you use, but do you know what that label represents and what it means to you?

In basic terms, a certified lift is one whose design has been tested and continuously inspected by a Nationally Recognized Testing Laboratory, or NRTL, as defined by the Occupational Safety and Health Administration (OSHA). The gold label certification mark on your lift, whether it is a heavy duty in-ground model used to service a fleet of buses or a modest four-post product built for the “weekend wrencher,” means the lift meets a consensus standard for safety.

The standard used by all prudent lift manufacturers to design and construct their lifts is ANSI/ALI ALCTV (Standard for Automotive Lifts – Safety Requirements for Construction, Testing, and Validation) current edition-2011 That’s a lot of letters, but each is an important part of the whole that ensures a certified lift meets minimum requirements. Let’s break it down:

ANSI

ANSI stands for the American National Standards Institute, which oversees the issuance of more than 35,000 standards in the U.S. ANSI standards cover everything from abbreviation to zinc-plating and address safety, performance, materials, procedures and testing. ANSI also grants accreditation to certification programs like those offered by the Automotive Lift Institute (ALI) and administered by Intertek, which is an NRTL for hundreds of different safety standards.

ALI

ALI is a trade association of North American-based lift manufacturers. Its mission is to promote the safe design, construction, installation, inspection and use of vehicle lifts. In doing so, ALI aims to reduce lift-related accidents, damage and injuries. ALI developed the first commercial standard covering vehicle lifts in 1947. Today, ALI sponsors several national lift safety standards and offers third-party certification programs for vehicle lifts and lift inspectors.

ALCTV-2011

ALCTV is the standard for Automotive Lift Construction, Testing and Validation. The consensus body that oversees the standard is composed of lift manufacturers, users, testing laboratories, regulatory agencies and insurers. Any changes to the standard must be approved by the consensus body to ensure that no group’s agenda takes precedence. The number following “ALCTV” indicates the year the edition went into effect.

Why buy certified?

Even though you now know the details behind the certification label, you might still wonder why it is needed. With premiums on the rise, insurance companies and health and safety officials are increasingly requiring all products, including automotive lifts, to be certified for new construction installation or for continued use during insurance walk-throughs. Sadly, accidents do happen, the overwhelming majority related to operator misuse, lack of training or poor maintenance. The vast majority of building code enforcement agencies across the U.S. and Canada now require all vehicle lifts installed within their jurisdictions to be certified to reduce the potential for workplace injuries.

When you purchase a certified lift, you can rely not only on its structural integrity but also on the lift manufacturer’s many years of design expertise and the NRTL’s inspection experience. A manufacturer that makes certified lifts is required to have a quality system in place to ensure each model is made the same way time after time.

The manufacturer cannot simply pay the NRTL to apply a certification mark. Manufacturers must earn the label by proving the lift’s designers and welders are qualified, the manufacturing process is consistent, and by allowing NRTL inspectors to perform factory audits at least twice a year to ensure program procedures are being followed. All lifts certified to ANSI/ALI ALCTV are required to have ultimate material strengths at least equal to three times — and for some components, five times — the stress they will be subjected to under normal rated use. Don’t misunderstand this last point: it is never safe to load any vehicle lift beyond the manufacturer’s rated capacity.

A certified lift is the culmination of hundreds of hours spent designing a structure and testing it for normal and abnormal use to ensure its suitability for lifting and holding a vehicle safely. Don’t sell yourself short by skimping on a lift that is not certified.

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MORE THAN QUALIFIED.
CERTIFIED TO INSPECT YOUR LIFTS.

ANSI’s standard requires annual lift safety inspections.

Your safety, your business and your future are all riding on your shop’s vehicle lifts. Protect yourself by having your lifts inspected at least annually by a qualified lift inspector, as required by ANSI’s national standard – and responsible lift manufacturers.

Find a qualified lift inspector in your area through the new Automotive Lift Institute® (ALI) Directory of Certified Lift Inspectors at www.autolift.org/certified-inspectors.php. ALI Certified Lift Inspectors have been independently evaluated and certified to inspect any vehicle lift, regardless of make, model or manufacturer.

When it’s time for your next annual lift inspection, trust an ALI Certified Lift Inspector.

To find ALI Certified Lift Inspectors, visit www.autolift.org/certified-inspectors.php or call (607) 756-7775.

Inspect to Protect
Your business is riding on it.