

Vehicle Lift Safety

The Fleet Manager's Responsibility

Presented by:
Steve Perlstein



An Overview of Your Responsibilities

- Annual lift inspection by an experienced lift inspector
- Annual lift training to all technicians
- Keep all written documentation for your records



What do Fork Lift Training and Vehicle lift Training have in Common?

Both Require Annual Training and Training Records Maintained for OSHA Inspections



Where Can You Obtain Training or Training Materials?

- Automotive Lift Institute – Certification Program -The One and Only National Safety Standard for Vehicle Lifts
- www.autolift.org
- Many Vehicle Lift Installers/Repair Centers Provide Lift Training and Annual Lift inspections



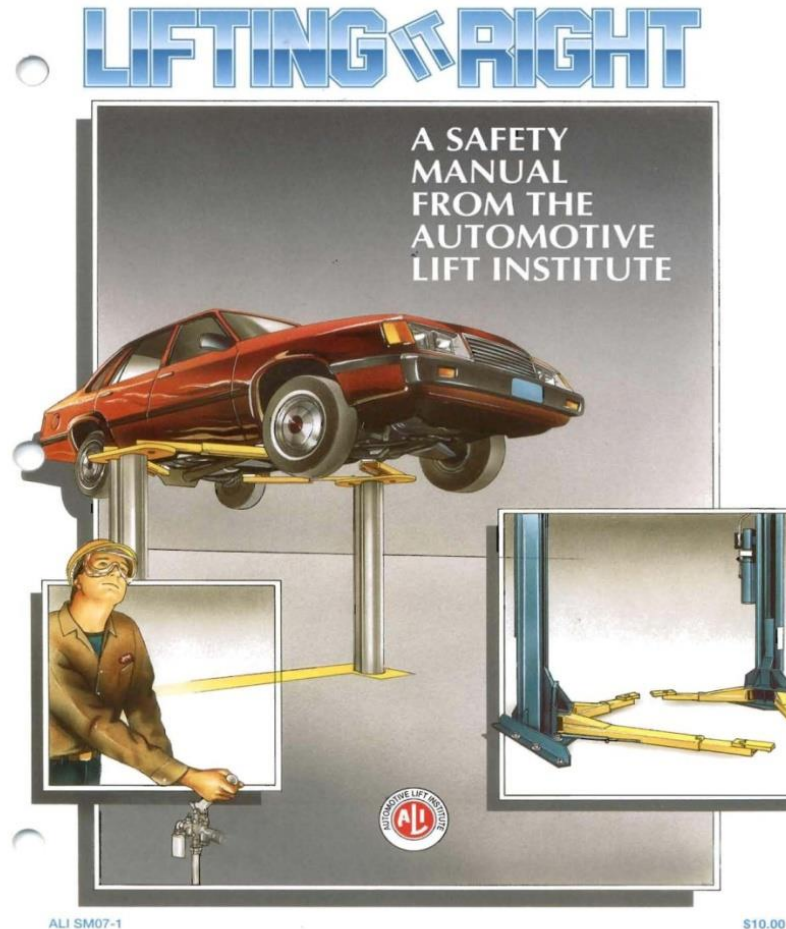
Shown: MP-Series



www.autolift.org

**Your Source For Lift Safety
and Certification
Information**

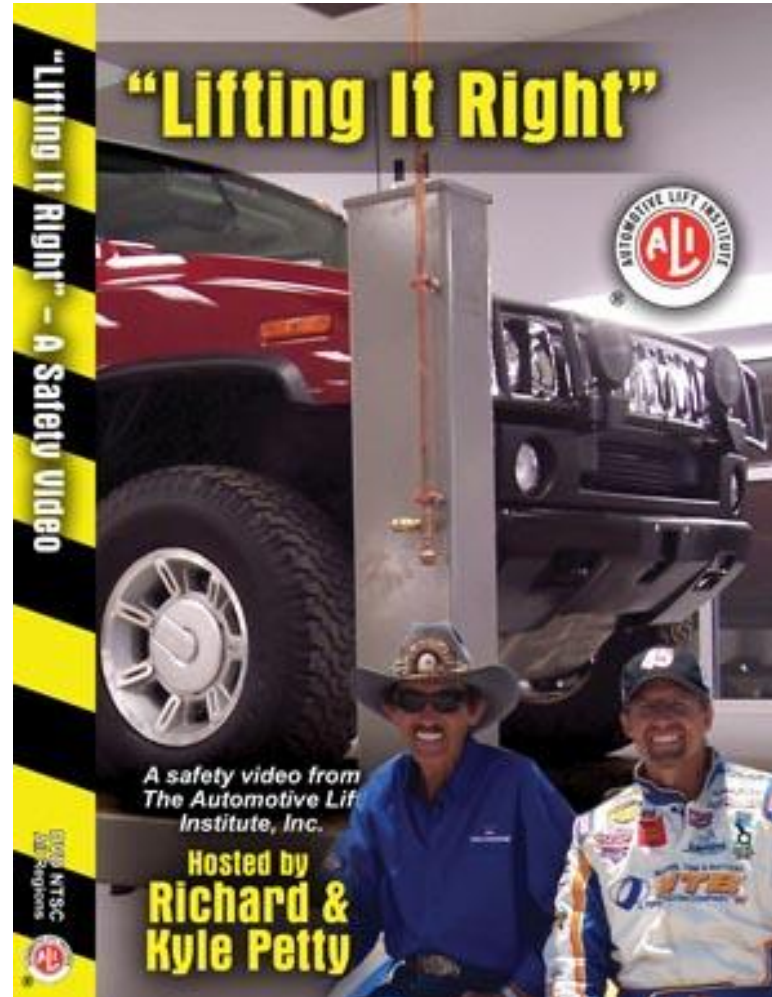
**Lifts Must Have an Annual
Inspection
by a Qualified Lift Inspector**



www.autolift.org

Your Source For Lift Safety
and Certification
Information

Lifts Must Have an Annual
Inspection
by a Qualified Lift Inspector



Replacement Lift
Parts Must be
Original Equipment
Manufacturers
Parts to Maintain
ALI/ETL Certification



Shown: MP-Series



Certified Accessories



Front to Rear Bumper Adaptor



MP-2500

Lift
Accessories
Must be
Certified to
Maintain
ALI/ETL
Lift
Certification



Jack Stands



JS-4577-24

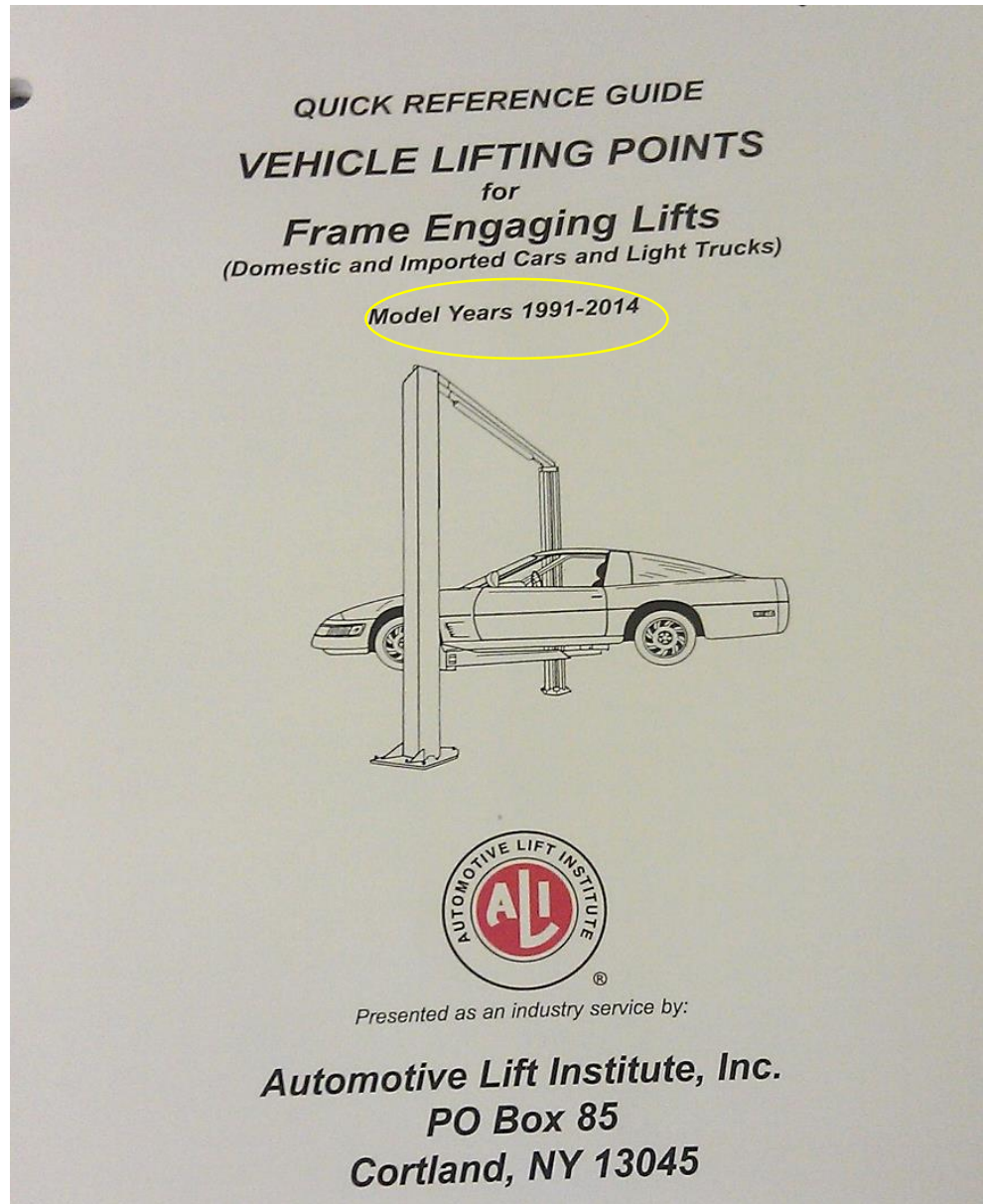


Chassis Lifting Beam



MP-2300

ALI and ALI Members Have Lifting Point Guides Available

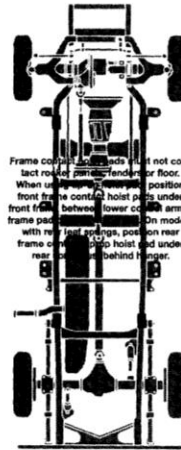


Best Practice is
to buy a new
book annually

ALI and ALI Members Have Lifting Point Guides Available

26

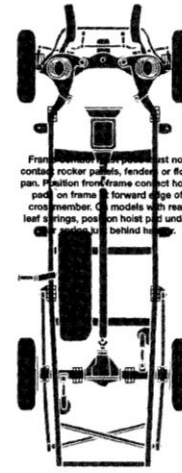
Chassis Lift Point Guide



4WD Shown
GT-5

CHEVROLET
1998-00 C/K Series
Pickups
1998-99 C/K Series
Blazer, Suburban,
Tahoe
1998-02 3500HD

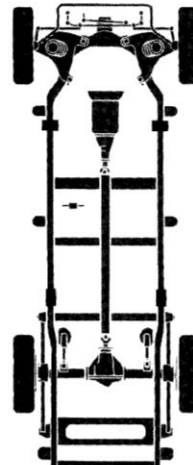
GMC
1998-00 C/K Series
Pickups
1998-99 C/K Series
Jimmy, Suburban,
Yukon
1998-02 3500HD
1999-00 Denali



2WD Shown
GT-5A

CHEVROLET
1988-97 C/K Series
Pickups
1992-97 C/K Series
Blazer, Suburban,
Tahoe, 3500HD

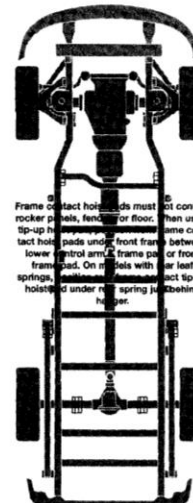
GMC
1988-97 C/K Series
Pickups
1992-97 Suburban,
Yukon, 3500HD



GT-7

CHEVROLET
1996-05 G Series
Vans, H Series

GMC
1996-05 G Series
Vans, H Series



4WD Shown
GT-8

CADILLAC
2002-05 Escalade,
Escalade EXT,
Escalade ESV.

CHEVROLET
2002-05 Avalanche
2000-05 Tahoe,
Suburban

GMC
2000-05 Denali
2000-05 Yukon,
Yukon XL

HUMMER
2003-05 H2

ALI Safety Tips

AUTOMOTIVE LIFT SAFETY TIPS

Post these safety tips where they will be a constant reminder to your lift operator. For information specific to the lift, always refer to the lift manufacturer's manual.

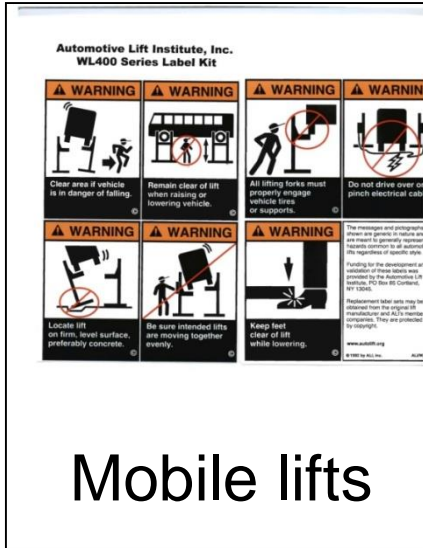
1. Inspect your lift daily. Never operate if it malfunctions or if it has broken or damaged parts. Repairs should be made with original equipment parts.
2. Operating controls are designed to close when released. Don't block open or override them.
3. Never overload your lift. Manufacturer's rated capacity is shown on nameplate affixed to the lift.
4. Positioning of vehicle and operation of the lift should be done only by trained and authorized personnel.
5. Never raise vehicle with anyone inside it. Customers or by-standers should not be in the lift area during operation.
6. Always keep lift area free of obstructions, grease, oil, trash and other debris.
7. Before driving vehicle over lift, position arms and supports to provide unobstructed clearance. Do not hit or run over lift arms, adapters, or axle supports. This could damage lift or vehicle.
8. Load vehicle on lift carefully. Position lift supports to contact at the vehicle manufacturer's recommended lifting points. Raise lift until supports contact vehicle. Check supports for secure contact with vehicle. Raise lift to desired working height. CAUTION: If you are working under vehicle, lift should be raised high enough for locking device to be engaged.
9. Note that with some vehicles, the removal (or installation) of components may cause a critical shift in the car center of gravity, and result in raised vehicle instability. Refer to the vehicle manufacturer's service manual for recommended procedures when vehicle components are removed.
10. Before lowering lift, be sure tool trays, stands, etc. are removed from under vehicle. Release locking devices before attempting to lower lift.
11. Before removing vehicle from lift, position lift arms and supports to provide an unobstructed exit (See Item #7).

These "Safety Tips", along with general lift safety materials, are presented as an industry service by the Automotive Lift Institute. Visit our web site at www.autolift.org for more information on this material, or write to P.O. Box 85, Cortland, NY 13045.

Look For This Label on all Automotive Service Lifts.



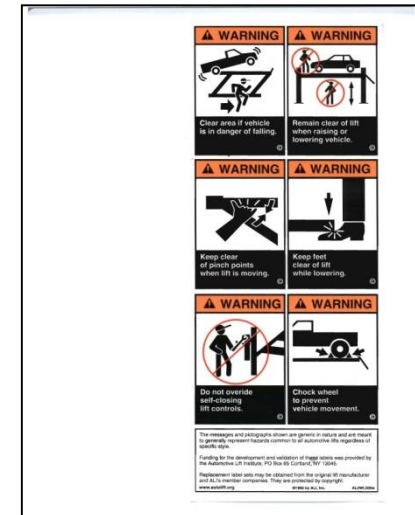
SAFETY WARNING LABELS



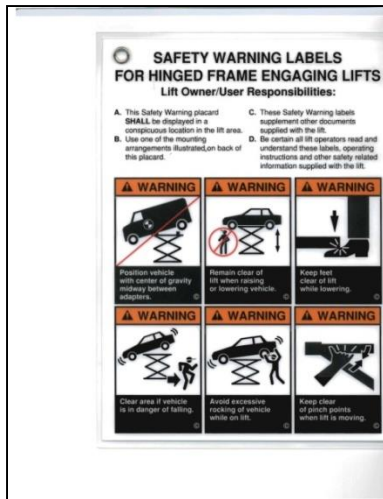
Mobile lifts



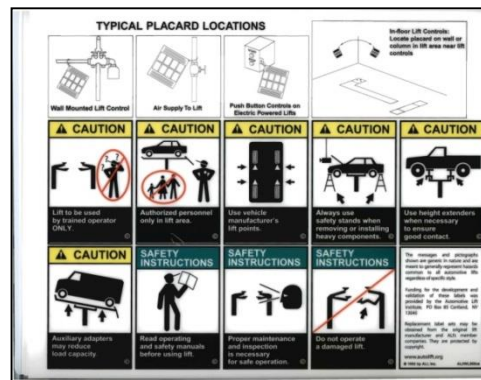
General Warnings



Scissor lift



Scissor lift



In-ground lift



Two post lift

AUTOMOTIVE LIFT OPERATION INSPECTION & MAINTENANCE MANUAL

ANSI/ALI ALOIM:2008

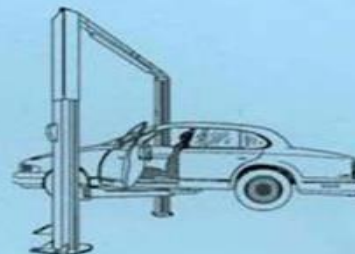
American National Standard

ANSI/ALI ALOIM:2008



STANDARD
for Automotive Lifts –

**SAFETY REQUIREMENTS FOR
OPERATION, INSPECTION
AND MAINTENANCE**



SPONSOR:

**AUTOMOTIVE LIFT INSTITUTE
P.O. Box 85 • Cortland, NY 13045**

Approved as an American National Standard by:



25 West 43rd Street – New York, NY 10036

AUTOMOTIVE LIFT OPERATION INSPECTION & MAINTENANCE MANUAL

Section 4. Operation

4.1: Operator Qualifications: *An automotive lift operator shall have the following qualifications*

(1) Ability in written or oral communications as demonstrated by one of, or a combination of, the following; high school diploma or certificate of equivalency, aptitude test or job experience;

(2) Ability to understand the mathematical , mechanical and electrical principals of automotive lifts as demonstrated by one of, or a combination of, the following; aptitude test, training program, technical-vocational school, school of higher learning or job experience;

(3) Demonstrated physical ability to carry out lift operator responsibilities in a safe manner

AUTOMOTIVE LIFT OPERATION INSPECTION & MAINTENANCE MANUAL (cont'd)

4.2 Operator Training

4.2.1: Employer shall ensure that operators of automotive lifts are instructed in the safe use and operation of the lift

4.2.2: ANSI/ALI ALCTV requires the lift manufacturer to supply operating instructions, general safety information, safety tips and warning labels with each lift manufactured. The employer shall display these materials in a conspicuous location in the lift area.

4.3 Operator Training Documentation: The owner or employer shall **appropriately document operator training** by completing the operator training log found in the appendix to this standard

AUTOMOTIVE LIFT OPERATION INSPECTION & MAINTENANCE MANUAL (cont'd)

5. Periodic Qualified Inspection

5.1 Qualified Inspection Procedure: ***The employer shall establish a periodic inspection procedure in accordance with the recommendations of the lift manufacturer in order to ensure reliability and allow the continued safe operation of the lift.***

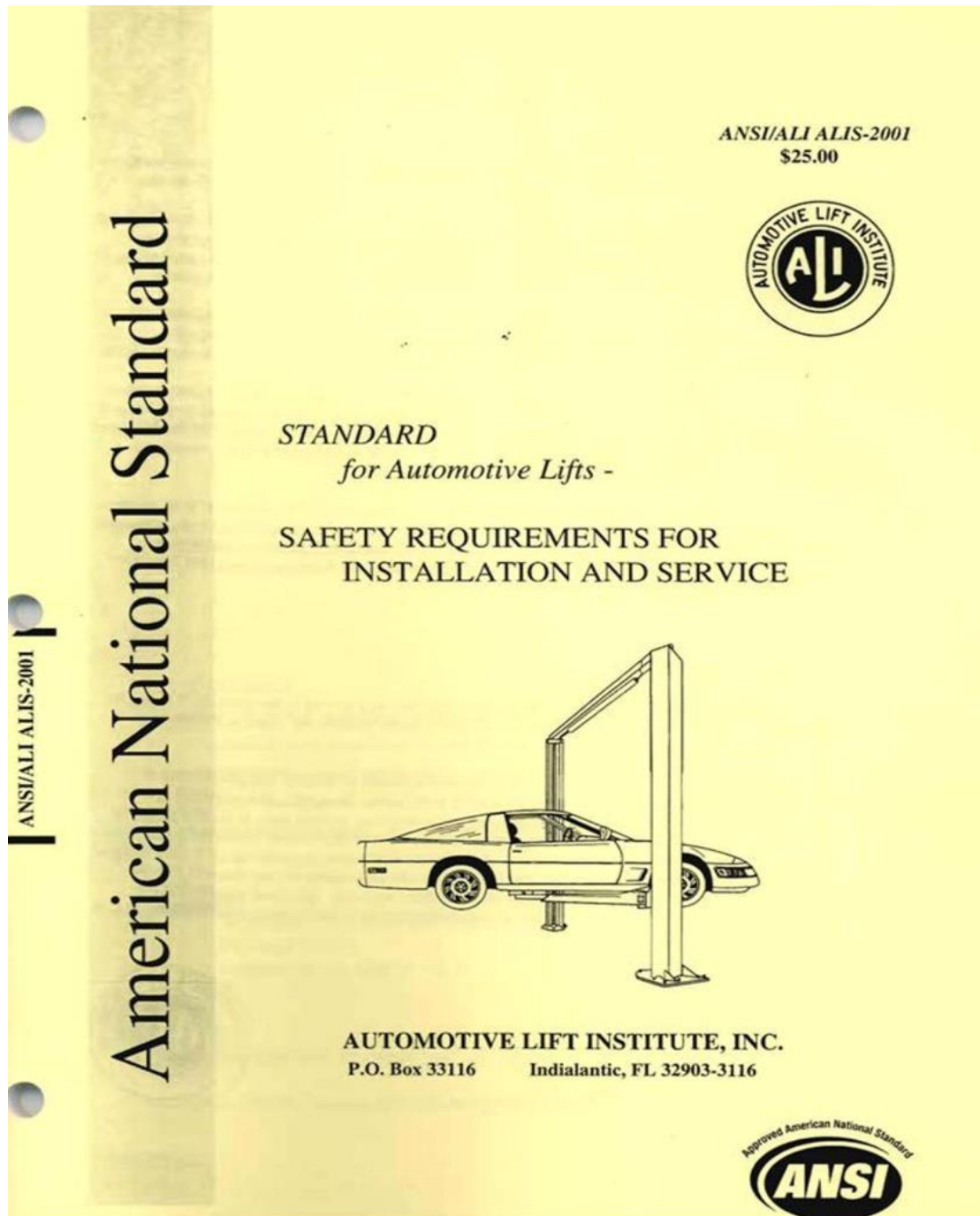
5.4 Qualified Inspection Documentation: ***A record of each periodic inspection shall be prepared and maintained*** noting the observations and findings of all points of inspection recommended by the manufacturer as well as subsequent repairs or replacements accomplished.

5.5 Inspections by the employer shall follow the recommendations of the lift manufacturer as to frequency. Without regard to the frequency of inspection specified by the lift manufacturer, whether it be weekly, monthly, semi-annually, annually or on some other basis, the owner or employer shall ensure that the points presented in 5.6 are inspected by a qualified lift inspector as a minimum annual requirement.

Were an incident to occur, OSHA investigators would ask 3 broad questions;

- What did you know?
- When did you know it?
- What did you do about it?

AUTOMOTIVE LIFT INSTALLATION & SERVICE MANUAL



Periodic Lift Inspection Checklist (pg. 1 of 6)

Location Name _____

ALOIM	Inspection Points - All Lifts (Appendix C, ALOIM:2008) Appendix C applies to all lifts including wheels free devices	Pass	Fail	N/A
5.6.2.1	Record location of manufacturer instructions or generic instructions.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	▪ Including Manufacturer Installation Instructions			
	▪ Including Manufacturer Operation Manuals			
	▪ Including Manufacturer Inspection Documents			
	▪ Including Manufacturer Maintenance Records			
	▪ Or equivalent (ANSI/ALI-ALOIM)			
5.6.2.2	Record location of generic safety instructions.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	▪ Including appropriate lift safety instructions			
	▪ Including ALI/SM, "Lifting It Right"			
	▪ Including ALI/ST, "Safety Tips"			
	▪ Or equivalent (Identify)			
5.6.2.3	Record location of lifting point information.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	▪ Including ALI/LP-Guide "Quick Reference Guide, Vehicle Lifting Points for Frame Engaging Lifts" (Identify year of ALI/LP-Guide).			
	▪ Or equivalent (Identify)			
5.6.2.4	Check accessibility & readability of safety warning labels.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

LIFT SAFETY

OSHA MAINTENANCE LOG*

Post in a conspicuous location

Courtesy of:
MOHAWK LIFTS

SAFETY INSTRUCTIONS

1. Do not operate this equipment unless you have been properly trained and have been authorized by your supervisor.
2. Notify your supervisor immediately of any unsafe conditions or defective equipment.
3. Be sure mechanical safeties are properly engaging.
4. Be sure vehicle is properly positioned before lifting.
5. Be sure area above and below hoist is clear before raising or lowering hoist.

Safety Inspection Performed by:

Inspected by:	Date:	Lift Number(s):

Personnel Trained for Proper Use:

Name	Date	Trained by:



A-7



System 1



TP-15



TP-15, TP-20, TP-25, TP-30



Parallelogram



USL



Model 800-18 4-72



TR-23



TR-19 & TR-25



TP Series



FSL Series



WFL-5



Q: Can You Exceed a Two Post Lift Capacity With a Vehicle Lighter than the Rated Capacity?

A: YES (BUT DON'T)!

- 10,000 lb. Capacity/ 4 Swing Arms = 2500 lbs.

Example: 9,000 lb. vehicle with 6,000 rear axle and 3,000 lb. front axle

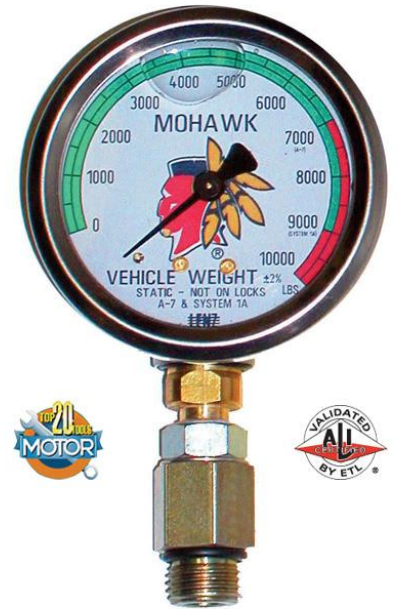
If your rear axle weighs 6,000, then each swing arm needs a minimum arm capacity of 3,000 lbs.

3,000 x 4 swing arms= 12,000 lb. lift needed

DON'T OVERLOAD THE SWING ARMS!



Q: Has the tech lowered the lift onto the mechanical locks as instructed? “Yes/No”



Q: If yes, how do you verify that the lift has been lowered on to the locks?

A: Weight gauge reads “0”

Q: Did your new tech properly position the lifting arms?



- Q: Is he/she an experienced technician?

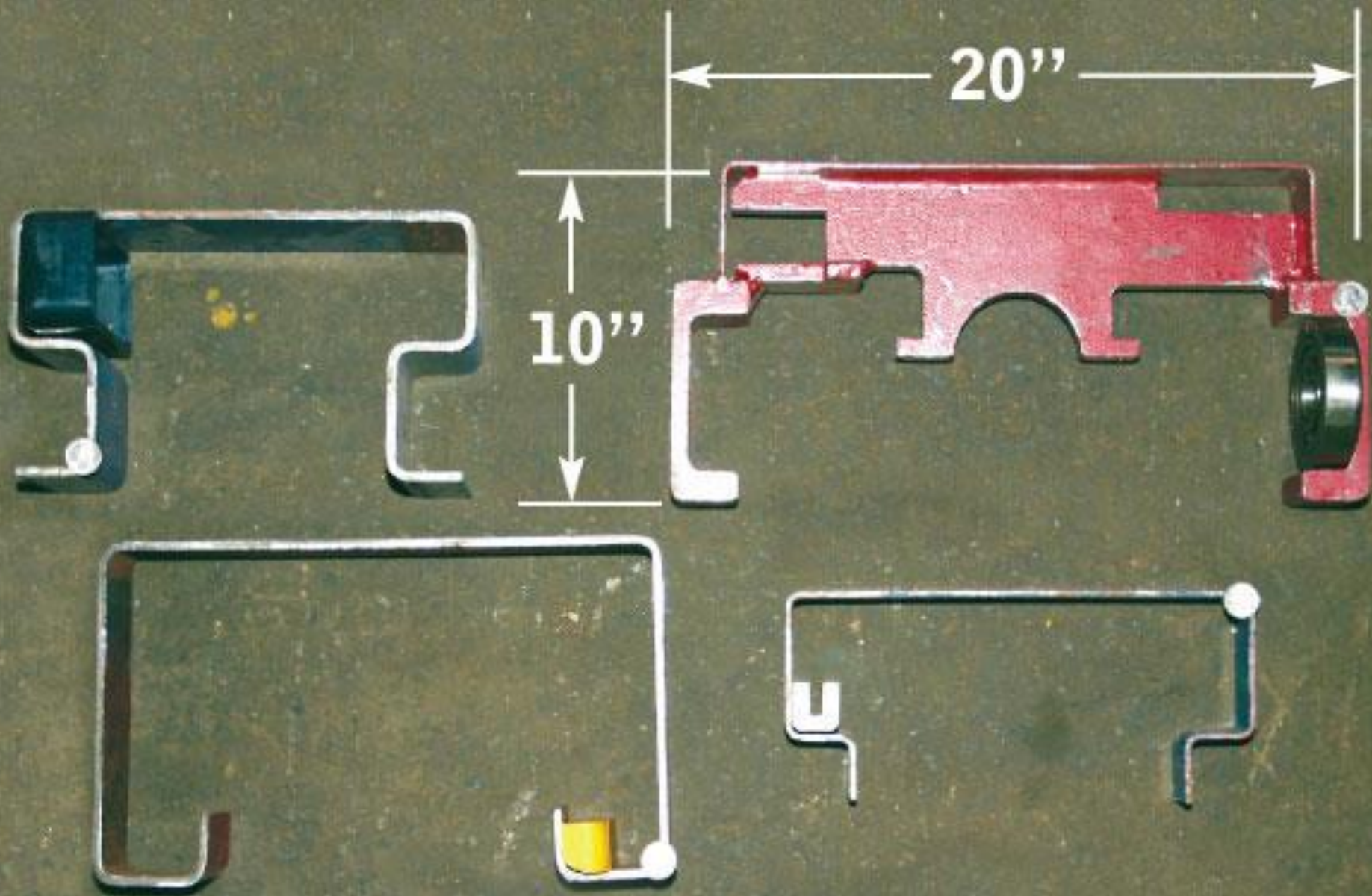
**Speedlane--Eliminates placement of
swing arms**



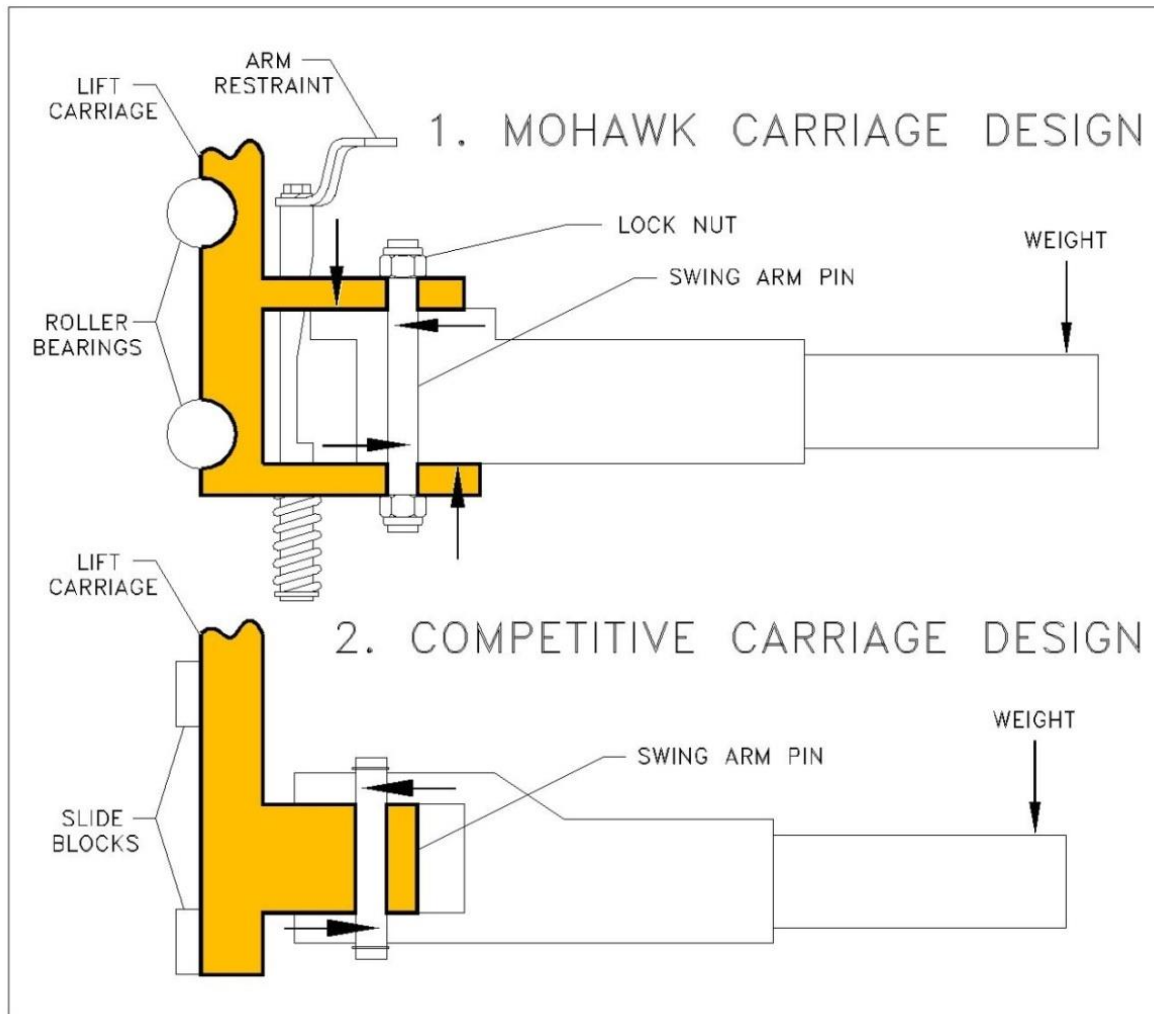
What to Look for When Buying A Safe Lift

- Column Construction
- Arm Connection to the Carriage
- Cables, Chains or Direct Lifting
- Mechanical Locks
- Maximum Lifting Capacity
- ALI Certification

10,000 LB. CAPACITY 2 POST COLUMN CROSS SECTIONS



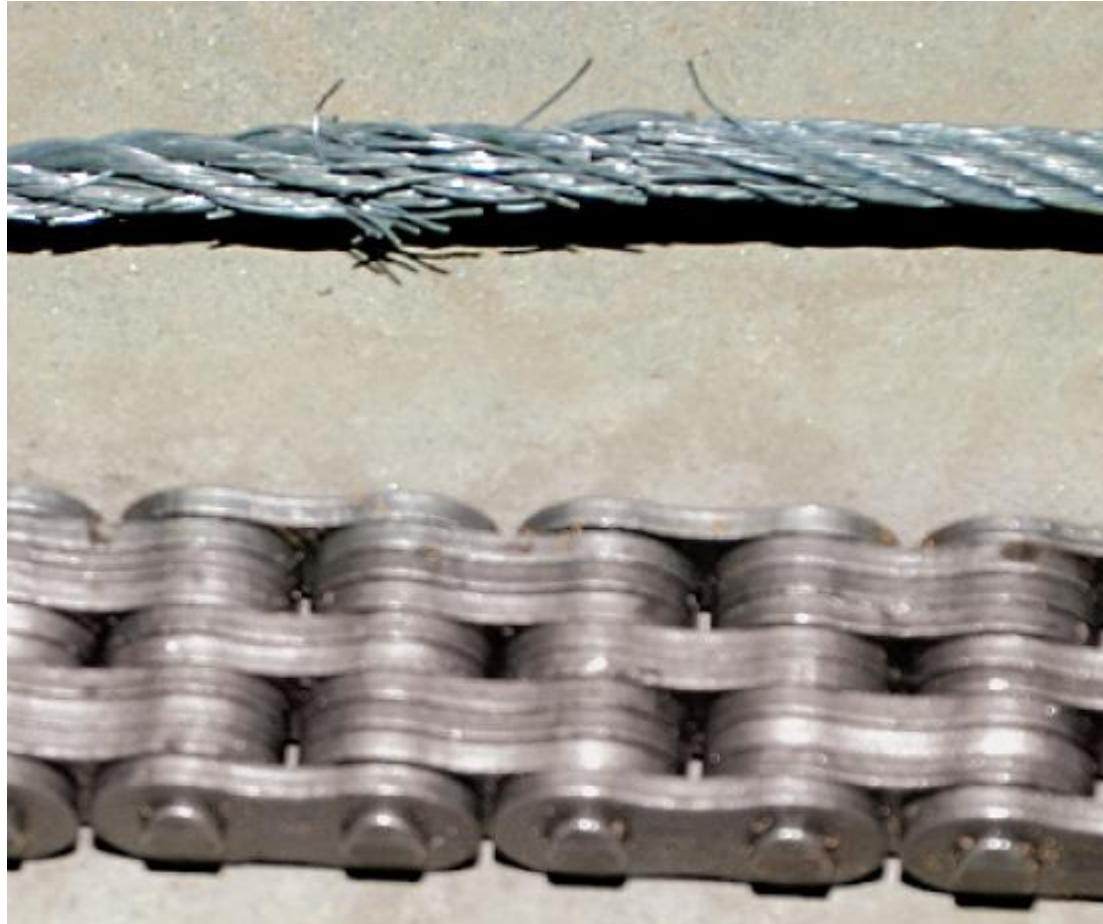
Q: How does the arm connect to the carriage?



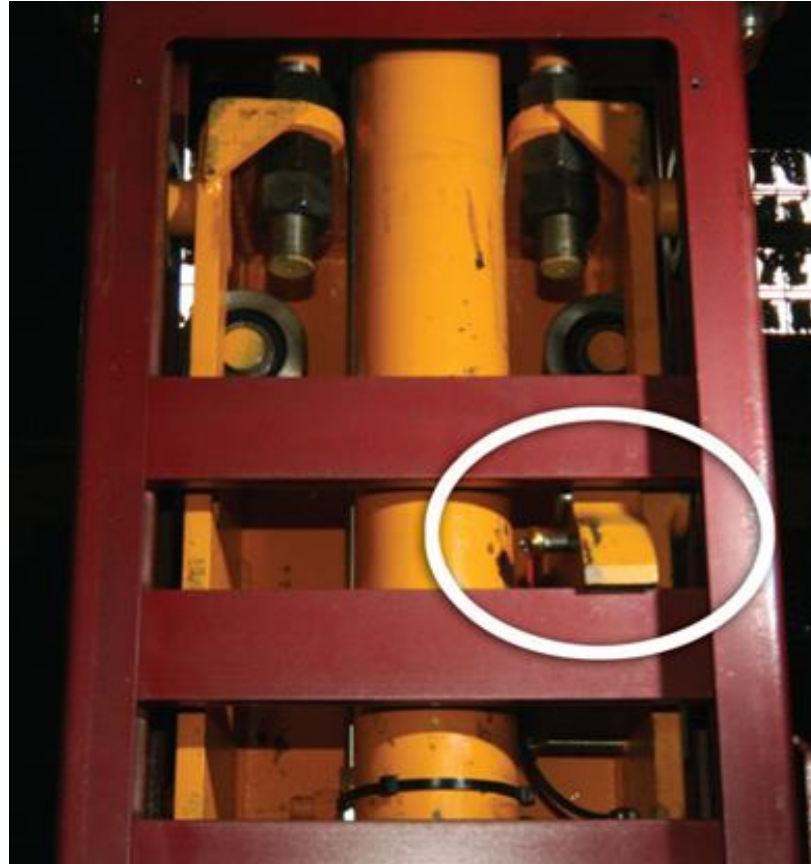
Mohawk Carriages Grip The Arm, Distributing The Load Throughout Vs. Some Lifts With 100 Percent Shearing Force On The Arm Pin

TOP CARRIAGES (TOP) GRIP THE ARM DISTRIBUTING THE LOAD (↑) THROUGHOUT VS. SOME LIFTS WITH 100 PERCENT SHEARING FORCE (↑) ON THE ARM PIN.

Q: Is the lift using cables, chains, or direct lifting?



Q: At what height do mechanical locks begin to engage?



The Load Should be on the Shop Floor
(not the lift's wheels or axle)



Never Bypass a Manufacturer's Specific Safety Warnings & Instructions

MOBILE COLUMN LIFT DECAL

OPERATING INSTRUCTIONS
Only Authorized Personnel Are to Operate Lift. Before operating lift, read Operation & Maintenance Manual and Safety documents supplied with lift.

⚠ WARNING This motor has internal arcing or sparking parts. To minimize the Risk of Explosion, DO NOT expose to flammable vapors.

#1 **OPERATING CONDITIONS:** Lift is not intended for outdoor use and has an operating ambient temperature range of 41°-104°F (5°-40°C).

DO NOT use lift in a manner other than intended. Included (but not limited to) examples of unapproved uses of the lift are: lifting vehicle by only one side, lifting different axles with a column pair, and lifting non-approved items. See Operation Manual for more detailed instructions.

#2 DO NOT use on asphalt. Lift must be on concrete with a minimum strength of 3000PSI and a minimum thickness of 4.5". Maximum allowed floor slope is 1/8" per foot side to side of vehicle and 1/4" per foot front to rear of vehicle. DO NOT use on a suspended floor structure without specific approval from structural engineer.

#3 Ensure tires are properly inflated before lifting. DO NOT exceed tire load rating when raising vehicle.

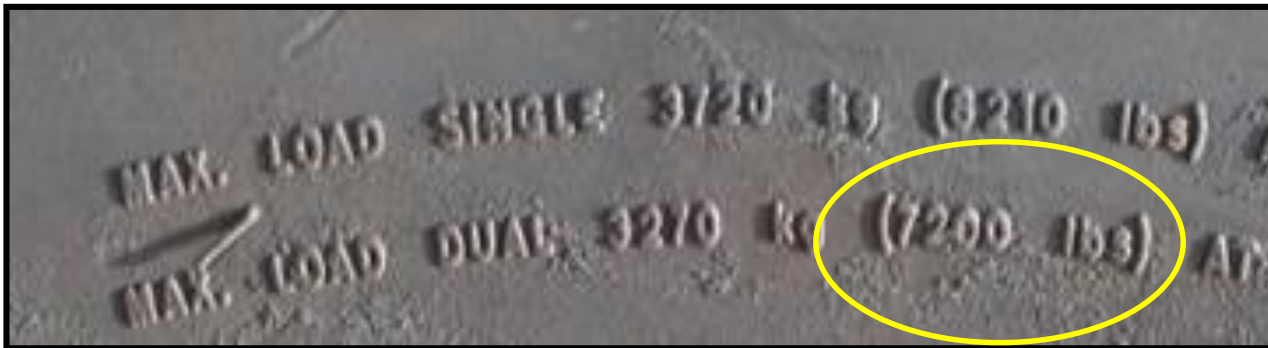
#4 Motor duty cycle is one full lifting operation within a 10 minute period. Example: 80 second rise time, 8 minutes 40 second rest.

Release parking brake before raising vehicle.
DO NOT operate lift while batteries are charging.
DO NOT raise/lower only one side of a vehicle.
Lift only on same axle. DO NOT stagger between axles.
DO NOT drive over or pinch electrical cables.

Error Codes and Explanations:	
E1	Improper Configuration
E2	Improper Pairing
E3	Communication Error
E4	Out Of Level
E5	Emergency Stop
All Other Codes See Operation Manual	

NP900 Rev. B

Never Overload the Rear Tire's Maximum Load Rating



OPERATING INSTRUCTIONS

Only Authorized Personnel Are to Operate Lift. Before operating lift, read Operation & Maintenance Manual and Safety documents supplied with lift.

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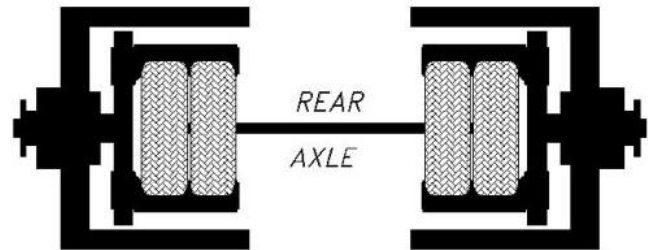
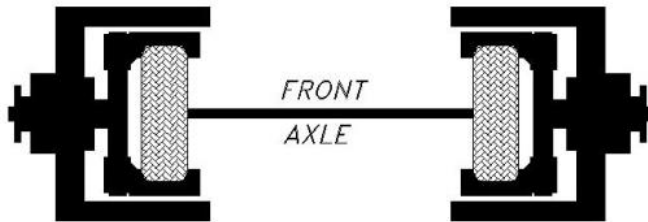
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Error Codes and Explanations:

E3	Communication Error
E4	Out Of Level
E5	Emergency Stop
E6	Potentiometer Error
E7	Short Circuit Detected

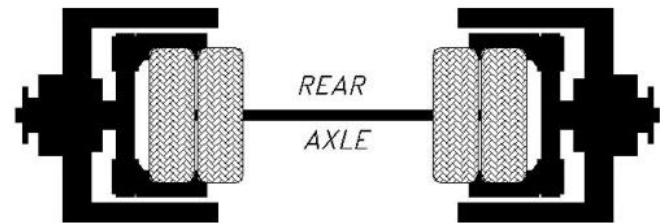
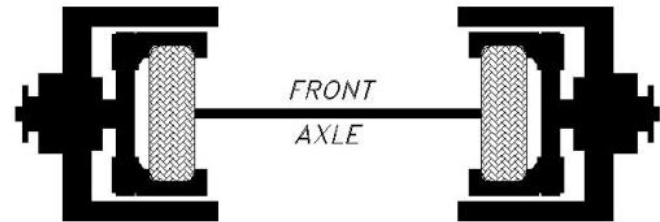
Never Overload the Rear Tire's Maximum Load Rating

Extended Forks for Dual Rear Tires




**Long forks DO NOT over-pressurize
rear tire's maximum load rating**

Typical Mobile Column



***Dangerously over-pressurizes
rear tire's max load rating**

Never Bypass a Manufacturer's Specific Safety Warnings & Instructions



DO NOT USE BELOW GARAGE
FLOOR OR GRADE LEVEL.

NE PAS UTILISER À UN NIVEAU
INFÉRIEUR À CELUI DU PLANCHER
DU GARAGE OU DU SOL.

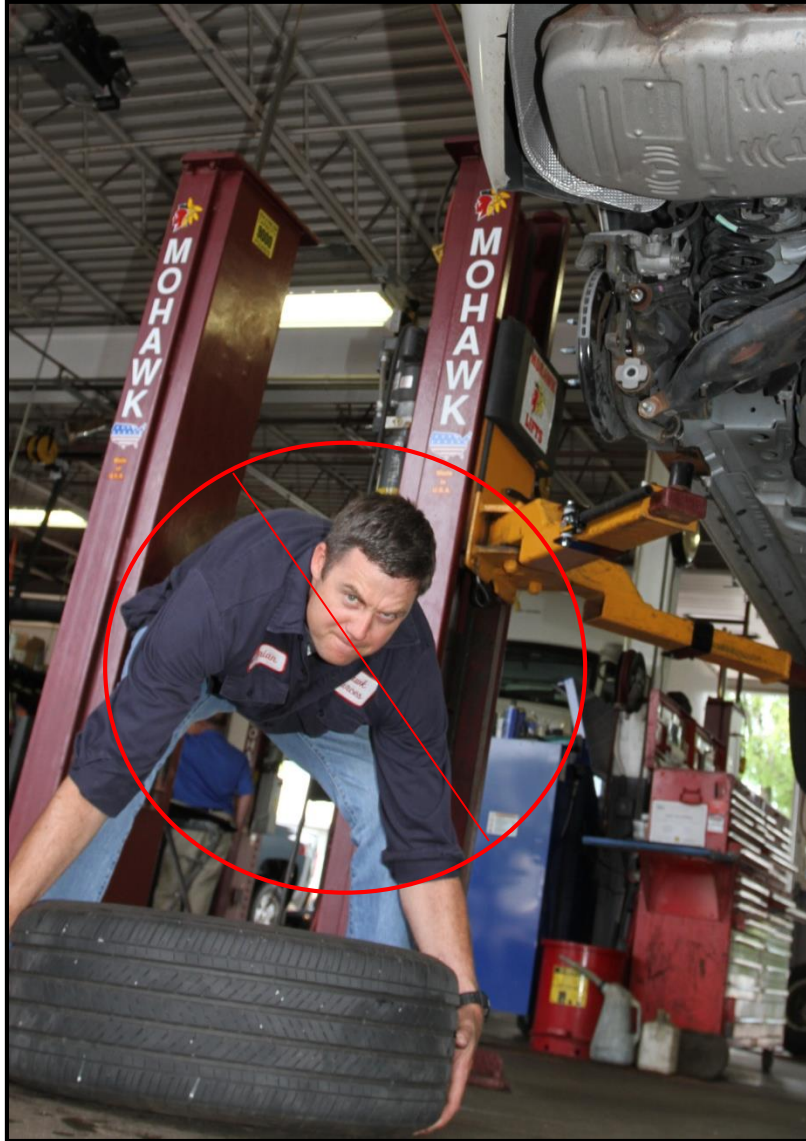
60700134

AVERTISSEMENT



POWER SHOULD BE
SWITCHED OFF
FOR 2 MINUTES BEFORE
DISCONNECTING CABLES

The Backsaver stops techs from bending down to lift heavy tires



Mohawk Safety Accessory: Foam Door Guard

- Protects vehicle from dents & scratches if the door is accidentally opened into the columns
- 2" thick soft foam won't damage door



Mohawk Safety Accessory: Head Bumper

- Protects the tech. from injuring their head on lift swing arm
- Increases shop & worker safety



Summary

- Every lift requires annual inspection by an experienced lift inspector
- Every technician requires annual lift training
- Keep all written documentation for your records

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