



ST. CHARLES
SINCE 1834

AGENDA ITEM EXECUTIVE SUMMARY

Title: Recommendation to Award the Bid for the Purchase of Mobile Column Lifts

Presenter: AJ Reineking

Please check appropriate box:

<input type="checkbox"/>	Government Operations	<input checked="" type="checkbox"/>	Government Services 06.27.16
<input type="checkbox"/>	Planning & Development	<input type="checkbox"/>	City Council
<input type="checkbox"/>	Public Hearing	<input type="checkbox"/>	

Estimated Cost:	\$38,498.21	Budgeted:	YES	<input checked="" type="checkbox"/>	NO	<input type="checkbox"/>
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If NO, please explain how item will be funded:

Executive Summary:

The City's Fleet Division utilizes lifts to elevate vehicles and equipment for repairs and service. Elevating the vehicles allows the technicians easy access to various components and systems, which saves time and reduces the potential for injury. The Division currently has three (3) sets of stationary lifts capable of raising light and medium duty vehicles and two (2) sets of four (4) mobile lifts for lifting heavy equipment of various sizes. Generally, both sets of mobile lifts are combined to lift apparatus with tandem rear axles, limiting the ability to lift more than one large piece of equipment.

On May 25, 2016, the City of St. Charles opened bids for the purchase of one new set of six (6) mobile column lifts. The City received five qualified bids with Rack'M Up Distributors, Inc. of Elk Grove Village, IL being the lowest responsive, responsible bidder.

Rack'M Up bid a lift system manufactured by Maha USA which meets the functional needs of the City and the specifications laid out in the bid document.

Attachments: *(please list)*

* Bid Tabulation * Bid Specifications * Rack'M Up Distributors, Inc. Bid Response

Recommendation / Suggested Action *(briefly explain):*

Recommendation to award the bid for the purchase of six (6) mobile column lifts to Rack'M Up Distributors, Inc. in the amount of \$38,498.21.

For office use only:

Agenda Item Number: 5.g

Mobile Column Lifts Bid
25-May-16

Bidder	Product Bid	Price for Set of Six (6) Mobile Column Lifts	
Rack'M Up Equipment Distributors	Maha - MCL 18 (Rotary Ball)	\$	38,498.21
USA Lift - Sterril Koni	ST1085-3FSA (Hydraulic - cabled)	\$	48,208.48
SLEC Heavy Duty Lifts	SEFAC Model No. 18 (Rotary Ball)	\$	49,031.00
Standard Industrial & Auto Equipment	MCH18 (Hydraulic - wireless)	\$	54,433.00
USA Lift - Sterril Koni - ALTERNAT	ST1085-FWA (Hydraulic - wireless)	\$	59,646.09

SPECIFICATIONS/SPECIAL PROVISIONS

Mobile Column Lifts - Matched set of six (6)

Bid Opening Time: 2:00 p.m.
Date: May 25, 2016
Location: City of St. Charles
City Hall
2 E. Main Street
St. Charles, IL 60174

GENERAL INFORMATION

The City of St. Charles (the “City”) will accept sealed bids for the purchase of a matched set of six (6) new Mobile Column Lifts and a set of four (4) Light Truck Wheel Adapters. All items described here within shall be manufactured by the same company and shall be fully compatible. The lifts and all accessories specified here within shall comply with OSHA, UL-201 standards and the latest ANSI standards and be independently tested and certified by the Automotive Lift Institute (ALI), American National Standard for Automotive Lifts - Safety Requirements for Construction, Testing and Validation, to ANSI, ALI/ETL ALCTV–2011 standards.

Units with “certifications pending” shall not be acceptable. In addition, wireless or battery powered units shall not be acceptable. No prototype lifts, adaptors or accessories shall be acceptable.

A product specification sheet and monthly, quarterly and annual inspection checklists of the Mobile Column Lift Set and Light Truck Adapters must be submitted as part of the bid package.

The City of St. Charles reserves the right to reject any and all bids or to waive any technicalities, discrepancies, or information in the bids.

Prices quoted must be valid for a minimum of 120 days from the date of the bid opening.

Specifications

This specification is to set forth the minimum requirements for a mobile lifting system

1. The system shall consist of six (6) columns. The system shall be able to function fully in any arrangement of two (2), four (4) or six (6) columns.
2. Each column shall have a rated capacity of 18,000 lbs, and shall be rated for 108,000lbs as a set of six.
3. The minimum total lifting height as measured from the floor to the bottom of the lifting cradle shall not be less than sixty-seven (67) inches.
4. Each column shall be equipped with an emergency stop button to allow rapid halting of lifting/lower operation. The emergency stop function shall be easily reset to proceed with regular operation.
5. The following lifting mechanisms are acceptable:

4.1 ACME threaded screw, bronze load bearing nut and a steel back up nut. It shall be non-reversible and guaranteed self-locking in operation. The lifting assembly shall consist of a non-reversible bronze load nut and a steel backup safety nut which can be visually monitored for wear.

4.2 Ball Screw design, 5-Race 90 ball bearings sealed with a grease fitting.

6. The overall height of the column shall at no point exceed one hundred (100) inches. Columns which extend in overall height as the lifting height of the carriage increases will not be considered.
7. The lifting column shall not weigh more than 1,100 lbs for ease of portability.
8. The standard fork of the column shall accept tire sizes from R 20.00" to R 24.00" inclusive. Adapters to accommodate tire sizes down to a 13 inches rim shall be available. Adjustable forks will not be accepted.
9. The primary "1" column shall come with an interactive touch screen pad. The pad shall be easy to interpret giving the operator the ability to select modes of operation of all columns, pairs and single lifts. The touch screen pad shall illustrate the mode of operation selected by the operator.
10. A graphic showing the height of each column in the operational set shall be accessible on the touch screen pad.
11. The screen display located on the primary "1" column shall have the ability to view real time amperage draw, cycles completed, date lifts first used and annual inspection due date.
12. Operation of the lifts shall be achieved with a hand held remote control which is detachable and connect into any of the columns in the selected mode. The length of the cable shall be sufficient to allow the operator to stand back at least 9 feet from the column.
13. The lift will have the ability to rise in unison at variable speeds, determined by the operator, dependent on the weight of the load being raised. Vertical displacement of the lifting cradle shall be at the rate of 67 inches per minute when empty and 27 inches when fully loaded. An overload protection device will prevent the operator raising a load faster than permitted by the weight of the vehicle.
14. Operational faults shall be communicated in words to the operator on the touch screen pad.
15. Interconnecting cables shall be of a heavy duty type, maximum thickness of ¾ inch for ease of set up. They shall be OSHA approved yellow or orange in color for safety. They shall be oil and fuel resistant.
16. Connecting cables shall be easy disconnecting plugged at each end for ease of replacement. Cables which are hard wired at one end will not be accepted.
17. Columns shall be able to be operated from the detachable hand held control from each column, in pairs from either column in the selected axle pair and the entire lift system shall be capable of being operated in synchronization from any of the columns in the set.
18. Column construction shall be of a single mast design to facilitate in the maneuverability of the column and to provide for minimal obstruction with vehicle mounted mirrors and accessories.

19. The motor/gearbox drive should be mounted at the top of the column to minimize the possibility of damage.
20. The height of the outrigger leg should be no more than 5.5 inches for access underneath low vehicles.
21. The electrical and mechanical systems shall be suitable for use indoors or outdoors. Electrical components shall be housed in lockable metal electrical enclosures with a minimum rating of IP55. The lifts shall operate on 480vac 3Ø 60 Hz. Receptacle plug information shall be provided to the successful bidder by the City prior to delivery. Successful bidder shall supply UL approved receptacle plug and install.
22. Each lifting carriage shall be captive within the column and have four rollers with self lubricated, sealed for life bushings. Carriages which come fitted with slide blocks to restrict movement of the carriage will not be accepted.
23. The lifting device should be suspended to avoid bending stresses while under load.
24. All column lifts must have a means to safely lower the units manually in case of power failure or column malfunction.

Warranty

The bidder shall include a minimum factory warranty of 24 months parts and labor. The warranty start date shall be the date the lifts are placed into service. The service date shall commence once the units are delivered to the City and all personnel are trained. No fees for travel time, fuel, or deductibles shall be allowed. Lifts shall be serviced at the City unless successful bidder pays any and all expenses to service off-site.

Annual Service & Inspections

The successful bidder shall include two (2) consecutive annual OSHA compliant inspections and factory maintenance/service per manufacturer's recommendations. The inspections shall be performed by technician/inspectors that are trained and certified by the manufacturer and be certified by the American Lifts Institute (ALI).

Bidders Qualifications and References

All bidders must be qualified and must demonstrate at least five (5) years prior experience as a full-time firm, continuously, and actively engaged in sales and performing services of similar scope to the services indicated herein. All bidders must complete the "References" form included herein.

Terms

Bids shall be in accordance with the specifications provided herein.

Bid Prices

Bid prices shall be Freight on Board (F.O.B.) to the St. Charles Public Works Complex, located at 200 Devereaux Way, St. Charles, Illinois 60174. Delivery, setup and on-site factory training charges shall be included in bid price. Training shall include but not limited to safe operations and inspections.

Specifications and all Contract Documents may be obtained from the City of St. Charles, 2 East Main Street, St. Charles, IL 60174. Prices quoted must be valid for a minimum of 120 days from the date of the bid opening.

Bids will be received at the above address until 2:00 p.m. on Wednesday, May 25, 2016. All bids will be publicly opened immediately thereafter. Bids must be identified as such on the outside of the sealed envelope. Vendor's company name and address are to appear in the upper left corner. Bid information is to appear in the **lower left** corner and shall be marked:

***“Mobile Column Lift Bid (2016) -
Attn: Mike Shortall, Purchasing Division”***

The City of St. Charles reserves the right to reject any and all bids or to waive any technicalities, discrepancies, or information in the bids.

All detailed questions concerning the actual bid specifications are to be forwarded to AJ Reineking, Public Works Manager, in writing via e-mail to areineking@stcharlesil.gov no less than five (5) business days prior to the scheduled bid opening date.

The City of St. Charles does not discriminate in admission, access to, treatment, or employment in its programs and activities.

REFERENCES

List below other organizations (users of similar size and structure to St. Charles preferred) for which these or other similar services have been provided:

Agency Name: _____
Address _____
City, State, Zip Code _____
Telephone Number _____
Contact Person _____
Dates of Service _____

Agency Name _____
Address _____
City, State, Zip Code _____
Telephone Number _____
Contact Person _____
Dates of Service _____

Agency Name _____
Address _____
City, State, Zip Code _____
Telephone Number _____
Contact Person _____
Dates of Service _____

Agency Name _____
Address _____
City, State, Zip Code _____
Telephone Number _____
Contact Person _____
Dates of Service _____

Agency Name _____
Address _____
City, State, Zip Code _____
Telephone Number _____
Contact Person _____
Dates of Service _____

CITY OF ST. CHARLES
2 EAST MAIN STREET
ST. CHARLES, ILLINOIS 60174

Bid Opening: Wednesday, May 25, 2016, at 2:00 p.m.

Bidder Information

Company Name: RACK 'M UP EQUIP. CORP Telephone: 847-734-8446
Address: 1307 HOWARD ST Fax: 847-734-8447
City, State, Zip: ELK GROVE VLG, IL 60007 Email: ashenfeld@rackmup.com
Contact Person: AL SHENFELD

BID PRICE:

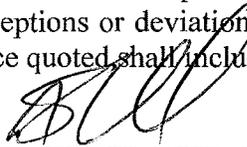
Six (6) Mobile Column Lifts & Light Truck Adapters. \$ 38,498.21

PLEASE PROVIDE PRODUCT PAMPHLET OR DETAILED DESCRIPTION
FOR EACH ITEM BID

List any and all deviations from minimum specifications:

No interactive touch screen - touch screens do not work well with gloved or greasy hands
not variable speed -

I certify that I am acting as an agent for the firm designated below and that the firm will sell to the City of St. Charles the product(s) described herein for the amount specified above. Further, I certify that all exceptions or deviations from the attached detailed specifications are clearly stated in writing and the price quoted shall include all terms specified unless otherwise noted.



Signature of Authorized Representative

PLEASE TYPE OR NEATLY PRINT THE FOLLOWING INFORMATION

ALLAN SHENFELD PRESIDENT
Name of Authorized Representative Title

RACK 'M UP EQUIPMENT CORP
Company Name

1307 HOWARD ST.
Street Address

ELK GROVE VLG IL 60007
City State Zip Code

847-734-8446
(Area Code) Phone Number

**CERTIFICATE OF NON-DISQUALIFICATION
UNDER ILLINOIS COMPILED STATUTES, CH. 720, SEC. 33E-11**

The undersigned, upon being first duly sworn, hereby certifies to the City of St. Charles, Kane and DuPage Counties, Illinois, that BACK' M UP EQUIPMENT
Corp (bidder) is not barred from contracting with any unit of State or local government, as a result of a violation of Ch. 720, Sec. 33E-11 of the Illinois Compiled Statutes.

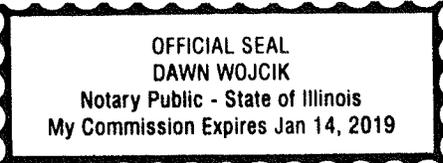
BACK' M UP EQUIP CORP
Name of Bidder

By: [Signature]

State of Illinois),
County of Cook) ss.

Subscribed and sworn to
before me this 13th day
of May, 2016.

[Signature]
Notary Public



NOTE TO BIDDER: Anyone who makes a false statement, material to this Certification, commits a Class 3 Felony under Illinois Compiled Statutes, Ch. 720, Sec. 33E-11 (b).

CERTIFICATE OF COMPLIANCE WITH SAFETY STANDARDS

The undersigned, upon being first duly sworn, hereby certifies to the City of St. Charles, Kane and DuPage Counties, Illinois, that Rack' M UP EQUIPMENT
CORP (bidder) shall comply with all local, state and federal safety standards.

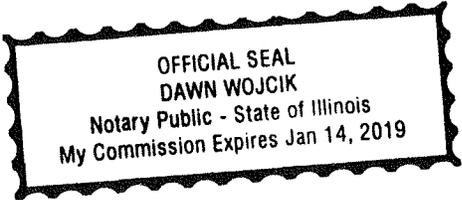
Rack' M UP EQUIPMENT CORP
Name of Bidder

By: [Signature]

State of Illinois,
County of Cook ss.

Subscribed and sworn to before me this 13th day of May, 2016.

[Signature]
Notary Public



CERTIFICATE OF COMPLIANCE WITH PREVAILING WAGE RATE ACT

The undersigned, upon being first duly sworn, hereby certifies to the City of St. Charles, Kane and DuPage Counties, Illinois, that all work under this contract shall comply with the Illinois Prevailing Wage Act, 820 ILCS 130/.01, et. seq, (the "Act") and current City ordinance, to the extent required by law. Contractors shall submit monthly certified payroll records to the City.

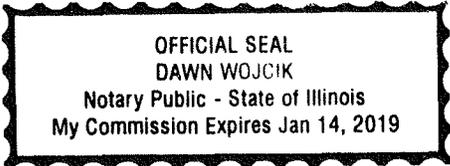
Back M VP Equipment Corp
Name of Contractor

By: [Signature]

State of Illinois,
County of Cook ss.

Subscribed and sworn to
before me this 13th day
of May, 2016.

[Signature]
Notary Public



/cjb
Bidders Section II



Illinois Department of Revenue

Office of Local Government Services
Sales Tax Exemption Section, 3-520
101 W. Jefferson Street
Springfield, IL 62702
217 782-8881

January 2, 2015

CITY OF ST CHARLES
DIRECTOR OF FINANCE
TWO EAST MAIN ST
ST CHARLES IL 60174

Effective January 1, 2015, we have renewed your governmental exemption from payment of the Retailers' Occupation Tax, the Service Occupation Tax (both state and local), the Use Tax, and the Service Use Tax, as required by Illinois law.

We have issued the following new tax exemption identification number:

E9996-0680-07
to
CITY OF ST CHARLES
of
ST CHARLES, IL

The terms and conditions governing use of your exemption number remain unchanged.

Office of Local Government Services
Illinois Department of Revenue

Issued To: _____

Company: _____

Date Issued: _____

Project: _____

Dates Valid: _____

Christopher A. Minick, Director of Finance

REFERENCES

List below other organizations (users of similar size and structure to St. Charles preferred) for which these or other similar services have been provided:

Agency Name: RONALD REAGAN - Washington National Airport
Address: Warehouse Building MA-134
City, State, Zip Code: Washington DC 20001
Telephone Number: 703-417-8030
Contact Person: TOM LUKE
Dates of Service: _____

Agency Name: DFD FLEET MANAGEMENT
Address: 5440 ROSAM ST BLDG B
City, State, Zip Code: DENVER CO 80216
Telephone Number: 720-865-3850
Contact Person: DANIEL FLETA
Dates of Service: _____

Agency Name: VEOLIA TRANSPORTATION SUPER SERVICE
Address: 2169 N FORESTHURST RD
City, State, Zip Code: ORLANDO FL 32807
Telephone Number: 407-488-9220
Contact Person: _____
Dates of Service: _____

Agency Name: LIMAHIE COMM. COLLEGE
Address: 1400 EAST COLLEGE DR
City, State, Zip Code: CHAYENNE WY 82007
Telephone Number: 307-778-5222
Contact Person: LARRY VAN WHY
Dates of Service: _____

Agency Name: CITICAGO TRANS. AUTHORITY
Address: 7700 S VINCENTNES
City, State, Zip Code: CITICAGO, IL
Telephone Number: 312 907 3045
Contact Person: STEVE WOLNICKI
Dates of Service: _____



MCL SERIES

LIFT WITH CONFIDENCE

MOBILE COLUMN LIFTING SYSTEMS

WHY OUR MCL RISES ABOVE THE COMPETITION

1 Trusted Ball-Screw Technology

For decades, ball-screw technology has been trusted in high-precision market segments, such as aircraft and machine tool industries. MAHA USA's ball-screw design allows each column to operate smoothly and consistently with over 90% efficiency levels, regardless of temperature or external environment factors.

With no risk of fluid leaks or synchronization dilemmas, MAHA USA's mobile column lift has a long service life and is virtually maintenance free. We're so confident in our ball-screw technology that we offer 5 years warranty.

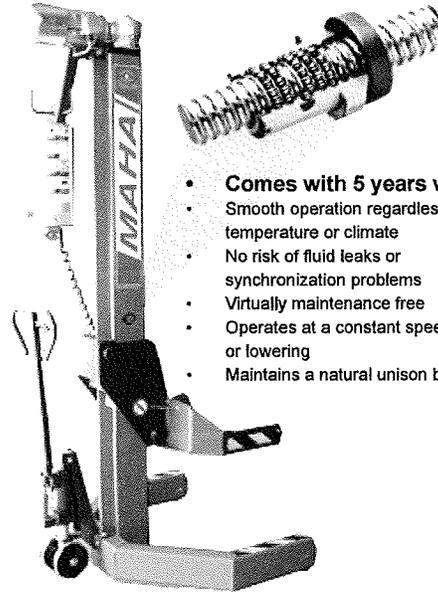
2 Strong & Solid "I-Beam" Support Column

Our main support column is the **only** true solid, one-piece "I-beam" on the market. Unlike other manufacturers who form and/or weld their columns, our "I-Beam" column guarantees no welding seams, therefore increasing rigidity and stability by eliminating any risk of weak points or mechanical failure.

3 Unparalleled Safety Features

Our back-up safety systems give users an added measure of security at all times. In addition to meeting all requirements for certification, our MCL is built with a redundant safety system. Each column is fully equipped with a wedge lock and industrial strength brakes. This ensures the lift will never lower in the event of an unlikely primary system failure.

RE-CIRCULATING BALL SCREW TECHNOLOGY



- Comes with 5 years warranty!
- Smooth operation regardless of external temperature or climate
- No risk of fluid leaks or synchronization problems
- Virtually maintenance free
- Operates at a constant speed, whether lifting or lowering
- Maintains a natural union between columns



- Capacity Options:
- 12,000 lbs. Per Column
 - 15,000 lbs. Per Column
 - 16,000 lbs. Per Column
 - 18,000 lbs. Per Column

Made in the USA



866-624-2872
www.maha-usa.com

MCL FEATURES & ADVANTAGES

INCREASED SHOP FLOOR UTILIZATION

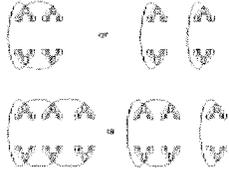
Our design is sleek and efficient. The slim line gives technicians optimal space for working around the columns and are convenient to store when not in use.

ENERGY EFFICIENT

Powered by 230V-230 3-phase, our MCL has a low power consumption. The breaker size is only 30 amps for a set of four columns.

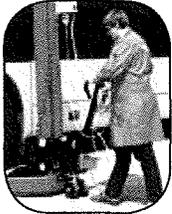
VERSATILE CONFIGURATIONS

Can be configured as a set of 2, 4, 6 or 8 columns with the freedom to operate each column independently, in select groups or collectively.



OPTIONAL LIFTING CARRIAGES

Extended widths and lengths are available to accommodate individual lifting needs



EASY TO USE HYDRAULIC JACK TROLLEY

Our hydraulic jack trolley allows users to position the MCL in minutes, resulting in a faster turnaround time and increased revenue.

STRONG & SOLID SUPPORT COLUMN

The only solid, one-piece I-beam in the industry!

- Eliminates risk of mechanical failure
- Resists off-centered forces
- Lightweight design makes it easy to maneuver

STEEL ROLLER GUIDES

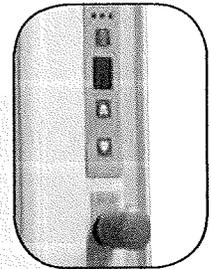


VS

OUR STEEL THEIR PLASTIC

UNPARALLELED SAFETY

Added safety measures include a user-defined emergency stop button, manual emergency lowering controls and automatic shut-off if lift comes into contact with an obstacle.



EASY TO OPERATE

LED display with auto diagnostics makes the MCL simple to operate. No master column is needed, with three operation modes. Built-in automatic synchronization feature keeps lifts level and secure at all times.

3 separate modes of operation:

1. Auto: columns work in unison
2. Single: Operate one column at a time
3. Group: Operate any number columns together

Waterproof controls allow outdoor and wash bay use

Technical Data	MCL 12	MCL 15	MCL 16	MCL 18
Capacity	12,000 lbs. per column	15,000 lbs. per column	16,000 lbs. per column	18,000 lbs. per column
Height	97.64"	97.64"	97.64"	97.64"
Maximum Lifting Height	69"	69"	69"	69"
Length of Standard Fork	16"	20"	16"	12.5"
Base Length	46.02" / 47.99" *	49.96"	46.02"	46.02"
Total Base Width	45" / 58" *	45"	45"	45"
Tire Diameter (Extra Wide Carriage)	up to 79"	n/a	up to 54"	n/a
Motor Power	2.4 HP, 208/230V or 440/480V, 3-Phase, 60 Hz			
Approx. Dry Weight	1042 lbs.	1033 lbs.	1042 lbs.	1033 lbs.
Carriage Options	MCL 12	MCL 15	MCL 16	MCL 18
Standard	32.28" (16" Fork Length)	31.5" (20" Fork Length)	32.28" (16" Fork Length)	31.5" (12.5" Fork Length)
Wide Body	35.43" (16" Fork Length)	35.43 (20" Fork Length)	35.43" (16" Fork Length)	35.43 (12.5" Fork Length)
Extra Wide Body	n/a	n/a	36.61" (16" Fork Length)	n/a
Universal	n/a	n/a	31.3" (12" Fork Length)	31.3" (12" Fork Length)
Extra Wide Universal	48.23" (20" Fork Length)	n/a	n/a	n/a



www.maha-usa.com

Ball-Screw Design vs. ACME-Threaded Screw & Nut

SCREW PROTECTION

In contrast to bronze-nuts, ball-screw lifts exceed below requirement, by using a superior lifting mechanism (see comments in bolded characters):

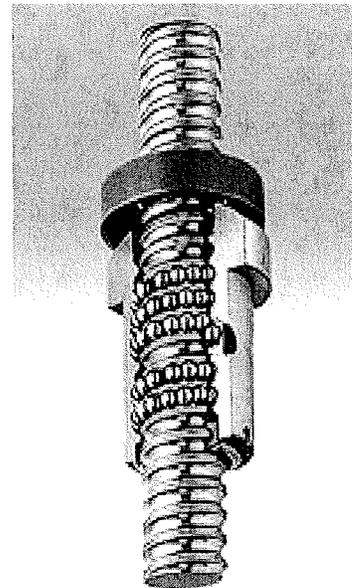
Main lifting screw shall be protected from damage by a steel enclosure on a minimum of four sides. Bellows shall not be acceptable, as a means of screw protection as it does not provide protection against possibly structural damage...

The recirculating ball-screw technology in MAHA Mobile Column Lifts was founded in Switzerland more than 35 years ago and is the most advanced technology in the market. The recirculation ball screw technology is superior compared to an acme screw type lift as it is almost maintenance free.

Technology:

MAHA mobile columns feature high efficiency ball-screw type lifting mechanisms. The ball screw is the premier technology for mobile lifting applications.

- Operates at a constant speed, whether lifting or lowering
- Maintains natural unison between columns to keep vehicles level
- Operates with over 90% efficiency
- Minimizes power requirements
- Virtually eliminates wear
- Ball and Screw mechanism guaranteed for five years, life expectancy – over 20 years



With bronze-nut mechanism, the main lifting screw needs to be protected from direct exposure to dust, dirt, paint, and other contaminants by a nylon protection band. – **MAHA Lifts have a rubber cover that fulfills the requirement. In addition, the Ball-Screw mechanism itself is dirt-repellant, unlike the acme threaded screw that needs additional protection and maintenance.**

Main lifting screw shall have a semi-automatic lubrication system. **Not necessary with the ball-screw mechanism!!!**

Guide rollers for gripper fork carriage shall have sealed anti-friction bearings. – **MAHA lifts use slide bearings (bushings), not containing roller-bearings, therefore the friction being greatly reduced.**

DRIVE MECHANISM COMPARISON:

System shall use a helical acme threaded machine screw to insure maximum self-locking characteristics. Design of such screw shall be such as to provide maximum friction between screw threads and corresponding load bearing nut threads. This high friction shall give screw non-reversible characteristics.

Load bearing nut shall be bronze and mated with machine screw.

Safety nut shall be steel and shall be pinned as a married pair to the bronze nut.

The carriages on our competitor's lifts are operated with an ACME SCREW & NUT assembly. Reference their specification: "Design of such screw shall be as to provide maximum friction between screw treads and corresponding load bearing nut treads.

MAHA lifts use the latest and most modern "state of the art" technology for durability and long life operation with minimum friction.

Every mobile lift has a hardened and ground BALL SCREW with a complete ball bearing nut which provides longer life with minimum maintenance, each with a static capacity of over 72,000 lbs.

Reference: Machinery's handbook, thirteenth edition, 1946 "A reference book on machine design and shop practice for the Mechanical Engineer", published in New York and London.

Under ACME TREADS, page 1002, section 1, "feed or lead screws where backlash or end shake are objectionable. In such applications, the nut is tapped first and then the screw is threaded to fit. The screw and nut, so made, are kept as a pair". Section 3, "assemblies where the tread must maintain some degree of alignment as well as transmit motion: desk chairs, shop stools, piano stools and the like are typical examples. In these applications, a reduced major diameter clearance is the most effective and ECONOMICAL means of obtaining satisfactory assemblies".

Our competitor's reference to "FRICTION" as a benefit is a CONTRADICTION! It is a disadvantage of an ACME drive, but they attempt to disguise the matter by representing it as an advantage.

The benefit of this to Ball-Screw MCL owners is: Motors work less than half as hard, resulting in a longer motor life.

In the event of a failure and the nut seizes on the screw of the SEFAC lift, BOTH the treaded shaft and nut should be replaced as a matched set. They are expensive too. In general, the anticipated life expectancy of an ACME bronze nut with frequent hard use is only 4-5 years. The anticipated service life expectancy of a hardened ground ball screw under identical conditions is over TWENTY (20) YEARS... FIVE TIMES AS LONG!

Safety Systems:

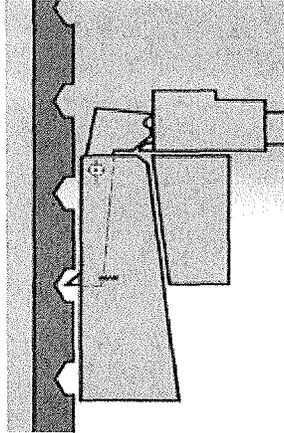
Please see attached technical descriptions and presentations for a better overview and an accurate understanding.

Primary System

Raised vehicles are held in place by heavy duty industrial brakes that set automatically when power is released.

Redundant System

Wedge locks prevent the lifts from lowering in the unlikely event of a primary system failure. The locks are independent of the lifting mechanisms, and engage directly with the columns. Their stand-by role keeps them in like-new condition throughout the life of the lift.



Primary System

Vehicles remain level during lifting and lowering due to the uniform speed of the column's mechanical drives.

Redundant System

Electronic controls monitor the lifts and make minor corrections if an out-of-level condition should occur. If level cannot be restored, the lift system shuts down.

In the case of ACME-Threaded Screw designs:

Motive power shall be provided by high-torque, totally enclosed, fan-cooled motors, driving a gear reducer powering a machine screw with trapezoidal thread. The pitch of said screw should be sufficient as to give the screw self-locking friction. Motor shall have a dual voltage possibility of 220/440 VAC.

The vertical force of the lifting screw shall be transmitted to the fork carriage by means of a load nut with follower steel safety nut to accommodate load in event of excessive wear or failure of the load nut per ANSI B 153.1 (1990).

Nut wear sensors shall be provided to prevent operation in the "RAISE" mode in event of excessive wear or failure of any load nut.

Motion fault detectors shall be provided to deactivate the lifting system in event any main lifting carriage ceases to move when system is in "RAISE" or "LOWER" mode.

All power to the lift system shall instantly and automatically deactivate in event of jack failure, control malfunction, or cable damage.

All of the above requirements are the result of an inferior lifting mechanism and do not apply to the Ball-Screw mechanism, which is a lot more effective and has a much longer service life. All MCL lifts are being built according to the newest ANSI standards.

SYNCHRONIZATION with an ACME-Threaded Screw & Nut:

Lift shall have an analog motion control system to insure proper lowering/raising synchronization.

Tracking/Synchronization with the ball-screw: A non-contact proximity switch registers every tenth of each revolution of the re-circulating ball-screw spindle. This information gets transmitted to the PCB and the carriage position (height) is calculated. The PCBs communicate with each other via Can-Bus (standard MCL) or Wi-Fi with wireless and actually compare the carriage positions.

Standard programming allows for a 3/8 in. difference between the carriage positions. Once this difference is exceeded, the PCBs stop the motors (standard MCLs) or slow the motors down (battery, wireless MCL) on the respective columns to gain unison again.

We are committed to bringing you technologically advanced products without breaking your budget. The long service life and the low maintenance costs of our products will ensure that your funds are well spent.

WARRANTY: ²1-year on all parts and labor, 5-year on the Ball-Screw Mechanism

allanshenfeld

From: Prince, Kenny <kenny.prince@maha-usa.com>
Sent: Friday, May 6, 2016 8:27 AM
To: Shenfeld Al (ashenfeld@rackmup.com)
Subject: FW: References

References for St. Charles...

From: Pop, Radu
Sent: Friday, May 06, 2016 9:23 AM
To: Prince, Kenny
Subject: References

Hi Kenny,

Here are the references that we have discussed about:

✓ Veolia Transportation SuperShuttle
2169 N. Forsythe Rd.
Orlando, FL 32807
Ph. 407-888-9220

✓ Daniel Freix
Master Mechanic
DFD Fleet Management
5440 Roslyn St, Bldg B
Denver, CO 80216
720-865-3850 (Main)
720-865-4133 (Fax)

✓ Ronald Reagan Washington National Airport
Tom Ruhl
703-417-8030
Warehouse Building, MA-134
Washington, DC 20001

Laramie County Community College
✓ 1400 East College Drive
Chayenne, WY 82007
Larry VanWhy
307.778.5222

Wireless Lifts:
Matt Morris
Service Manager , Truck Department
Thompson Power
1245 Bridgestone Blvd.
Lavergne , TN 37086
Office 615-251-8641