



CITY of NOVI CITY COUNCIL

Agenda Item H
August 13, 2018

SUBJECT: Approval to purchase and install one (1) new Rotary MOD30 vehicle lift by Allied Inc. in the amount of \$78,000.00.

SUBMITTING DEPARTMENT: Department of Public Works, Fleet Asset Division

CITY MANAGER APPROVAL: 

EXPENDITURE REQUIRED	\$ 78,000.00
AMOUNT BUDGETED	\$ 78,000
APPROPRIATION REQUIRED	N/A
LINE ITEM NUMBER	101-442.30-984.001

BACKGROUND INFORMATION:

The Department of Public Works is responsible for maintaining over 193 pieces of equipment, including cars, trucks, large machinery (excavators, front-end loaders, tank trucks), and various pieces of smaller specialized equipment. After 34 years of service, the current vehicle lift is recommended for replacement because of the safety issues noted in the last annual inspection. A portion of the lift was repaired, however, the front frame is pulling away from the concrete, and the rear foundation is settling and lacks support. As the structure continues to deteriorate, the integrity of the lift will be compromised and eventually limit use.

The requested replacement lift is a Rotary MOD30 heavy-duty vehicle lift, which has a 60,000 lb. lift capacity. It will replace the current single-axle lift, which is the original lift installed when the Department of Public Works building was built in 1984, and it only has a 36,000 lb. capacity. An upgraded lift capacity is required for heavy-duty trucks loaded with materials, which occasionally cannot be removed during maintenance. The weight of the City's heavy-duty fleet has increased since purchasing new chassis and retrofits for our trucks.

Allied Inc. is a sole source provider for installation of the new Rotary lift because they have installed the City's other in-ground hoist. They also inspect and service all of the City's hoists annually.

RECOMMENDED ACTION: Approval to purchase and install one (1) new Rotary MOD30 vehicle lift by Allied Inc. in the amount of \$78,000.00.

ALLIED INC

240 METTY DRIVE PO Box 988
Ann Arbor, Michigan 48103
ph: 734-665-4419 fax: 734-665-0599

July 9, 2018

City of Novi
Department of Public Services
26300 Lee BeGole Drive
Novi, Michigan 48375

Attention: Mr. Mike Rhatigan

Dear Sir,

We are pleased to submit the following estimate:

Material and labor to replace the rear assembly of an existing Weaver model EC-106 twin post lift with a comparable Rotary brand rear assembly (because the existing rear assembly lacks adequate support and is settling), and to replace the front assembly of this same lift with a comparable Rotary brand front assembly (because the front frame is pulling away from the concrete). With these components being the most significant, and other smaller components being relatively incidental in comparison, we recommend a complete lift replacement as the most effective and efficient method to proceed, except that the original power unit, as well as original piping that is inside of trenches, not buried in earth, shall remain in place.

Material and labor.....\$ 78,000.00

Material and labor to perform as described above, except that the rear assembly of an existing Weaver model EC-106 twin post lift would be replaced with a Rotary brand dual rear assembly, effectively doubling the capacity under the vehicles' rear axles, and to replace the front assembly of this same lift with a comparable Rotary brand front assembly. As with the above description, with these components being the most significant, and other smaller components being relatively incidental in comparison, we recommend a complete lift replacement as the most effective and efficient method to proceed, except that the original power unit as well as originally piping that is inside of trenches, not buried in earth, shall remain in place.

Material and labor.....\$ 98,000.00

Removal of existing lift components is based on the assumption that the original installation was made in accordance with the manufacturer's recommendations regarding concrete placement and depth, and that there are no unforeseen conditions. Contrary conditions may result in additional labor charges.

The above quotation is based on normal and uncontaminated soil conditions and on the assumption that there are no underground utility lines, containers, pipes, objects, conduits, or other obstructions, or any unforeseen conditions. You are responsible for locating and identifying any ground and/or water contamination and any such utility lines, containers, pipes, objects or obstructions and for calling them to our attention, and in the event that we inadvertently encounter the same, you will be responsible for, and will indemnify us for, all

resulting damages, liability, and expenses. Further, if (a) any underground obstructions or impediments or other unforeseen or abnormal conditions are encountered that would delay excavation or assembly, such as junk fill, rock, rock-like strata, old foundations, frost, contaminants, water pipes, drains, sewer lines or other crotch work, electric lines or conduit, gas, air or oil lines, or other utility lines, or (b) any conditions are encountered that would cause (i) cave-ins, or necessitate the pumping of water or additional forming and/or fill, such as sand or water or water/sand, or (ii) require removal and/or disposal of any encountered contaminated soil/water/product of hazardous waste or substance, in order to complete specified installation; then additional charges will be made on a time and material basis. You shall be responsible for the removal and/or disposal of any contaminated or hazardous substance in a lawful manner at your own expense, failing which, we may terminate any related contract, in which event we shall be reimbursed for all costs incurred by us in performance hereof.

Michigan sales tax is not included, and will be additional unless exempt.

Thank you for contacting Allied, Inc. If we may be of any further assistance, please contact us at your convenience. Our phone number is (734) 665-4419, and my extension is 1600.

Sincerely,

Darrell Featheringill



IN-GROUND LIFT SERVICE/DEFICIENCY REPORT

QF-09-01-03
Revised 8-17-01

IG 048998

ANN ARBOR, MICHIGAN

EQUIPMENT DIVISION: 734-665-4419
TOLL-FREE: 800-589-4419
FAX: 734-995-9873

SERVICE LOCATION

Service Date: 8-3-17	
Service Crew: Chris - Alex	
Lift Number: 1	
Work Order Number: 122728	
Lift Make: Weaver	Model: Ec-106
Serial No.: —	
<input type="checkbox"/> Semi-Hydraulic <input checked="" type="checkbox"/> Full Hydraulic	<input type="checkbox"/> Air/Oil <input checked="" type="checkbox"/> Electric/Oil
Lift Locks: <input type="checkbox"/> Manual <input checked="" type="checkbox"/> Air Release <input type="checkbox"/> None	

HYDRO-TEK PRESSURE TEST

Normal Lift Operating Pressure: Pump Unit	Start Time: 11:00	Test Pressure: 400
300 PSI	Finish Time: 11:30	Finish Pressure: 400
<input checked="" type="checkbox"/> Passed <input type="checkbox"/> Failed Leak Location: _____		

VISUAL INSPECTION

#	COMPONENTS	N/A	CHECKED OK	SERVICE NEEDED	SERVICE PERFORMED OR ADDITIONAL SERVICE REQUIRED
1	Oil Level / Oil		✓		
2	Capacity Tag		✓		
3	Cover Plates		✓		① Adjusted shift chain for front cylinders
4	Pistons / Cylinders		✓		
5	Hose / Hyd. Lines		✓		
6	Equalizer	✓			
7	Superstructure/Arms/Pads	✓			
8	Lift Locks		✓	cleaned / lubed	
9	Power Unit/Motor/Switch		✓		
10	Air Valve		✓		
11	Air Handles	✓			
12	Oil Valve		✓		
13	Oil Handles		✓		
14	Control Cover		✓		
15	Cover Doors		✓		
16	Door Support Pins		✓		
17	Axles		✓	lubed	
18	Front Saddle		✓		
19	Front Adapters		✓		
20	Rear Saddle		✓		
21	Rear Adapters		✓		
22	Packings		✓	cleaned / Greased	
23	Shift Lever		✓	① Done	
24	Muffler	✓			
25	Low Oil Lock	✓			

This Report Has Been Prepared By:

Service Technician: Chris Date: 8-3-17

TERMS AND CONDITIONS ON THE REVERSE SIDE OF THIS SHEET ARE PART OF THIS ORDER. REVERSE SIDE ALSO CONTAINS IMPORTANT NOTICE.

WE RECOMMEND THIS EQUIPMENT NOT BE USED UNTIL REPAIRS ARE MADE:

CUSTOMER'S AUTHORIZED SIGNATURE

DATE

A SECONDARY SUPPORT SYSTEM IS RECOMMENDED WHEN USING ANY TYPE OF VEHICULAR LIFTING EQUIPMENT.

I HEREBY ACKNOWLEDGE RECEIPT OF THIS REPORT

CUSTOMER'S AUTHORIZED SIGNATURE

PRINT NAME

DATE: 8-3-17

CUSTOMER COPY



IN-GROUND LIFT SERVICE/DEFICIENCY REPORT

QF-09-01-03
Revised 8-17-01

IG 047386

ANN ARBOR, MICHIGAN

EQUIPMENT DIVISION: 734-665-4419
TOLL-FREE: 800-589-4419
FAX: 734-995-9873

SERVICE LOCATION

City of Novi DPW	Service Date: 2-12-16
	Service Crew: Ray Lacey
	Lift Number: 2
	Work Order Number: 120348

Lift Make: Wagner Model: EC-106 Serial No.: -

Semi-Hydraulic Full Hydraulic Air/Oil Electric/Oil Lift Locks: Manual Air Release None

HYDRO-TEK PRESSURE TEST

Normal Lift Operating Pressure: 250 Start Time: 9:00 Test Pressure: 350

Finish Time: 9:30 Finish Pressure: 350

Passed Failed Leak Location: _____

VISUAL INSPECTION

#	COMPONENTS	N/A	CHECKED OK	SERVICE NEEDED	SERVICE PERFORMED OR ADDITIONAL SERVICE REQUIRED
1	Oil Level / Oil		✓		
2	Capacity Tag		✓		
3	Cover Plates		✓		
4	Pistons / Cylinders		✓		
5	Hose / Hyd. Lines		✓		
6	Equalizer	✓			
7	Superstructure/Arms/Pads	✓			
8	Lift Locks		✓		Replaced lock button
9	Power Unit/Motor/Switch		✓		
10	Air Valve	✓			
11	Air Handles	✓			
12	Oil Valve		✓		
13	Oil Handles		✓		
14	Control Cover		✓		
15	Cover Doors		✓		
16	Door Support Pins		✓		
17	Axles		✓		
18	Front Saddle		✓		
19	Front Adapters		✓		
20	Rear Saddle		✓		
21	Rear Adapters		✓		
22	Packings		✓		Repacked rear piston
23	Shift Lever		✓		
24	Muffler	✓			
25	Low Oil Lock	✓			

This Report Has Been Prepared By:

Service Technician: _____ Date: _____

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DATE

A SECONDARY SUPPORT SYSTEM IS RECOMMENDED WHEN USING ANY TYPE OF VEHICULAR LIFTING EQUIPMENT.

I HEREBY ACKNOWLEDGE RECEIPT OF THIS REPORT

[Signature]
CUSTOMER'S AUTHORIZED SIGNATURE

C+RIS
PRINT NAME

DATE: 2/12/16

CUSTOMER COPY



IN-GROUND LIFT SERVICE/DEFICIENCY REPORT

QF-09-01-03
Revised 8-17-01

IG 045791

ANN ARBOR, MICHIGAN

EQUIPMENT DIVISION: 734-665-4419
TOLL-FREE: 800-589-4419
FAX: 734-995-9873

SERVICE LOCATION

City of Novi D.P.W		Service Date: 2-5-16
		Service Crew: Derald Rich
		Lift Number: 1
		Work Order Number: 120348
Lift Make: Weaver	Model: FC106	Serial No.: N/A
<input type="checkbox"/> Semi-Hydraulic	<input checked="" type="checkbox"/> Full Hydraulic	<input type="checkbox"/> Air/Oil
<input checked="" type="checkbox"/> Electric/Oil	Lift Locks: <input type="checkbox"/> Manual	<input checked="" type="checkbox"/> Air Release
<input type="checkbox"/> None		

HYDRO-TEK PRESSURE TEST

Normal Lift Operating Pressure: _____ Start Time: _____ Test Pressure: _____
 Finish Time: _____ Finish Pressure: _____

Passed Failed Leak Location: _____

VISUAL INSPECTION

#	COMPONENTS	N/A	CHECKED OK	SERVICE NEEDED	SERVICE PERFORMED OR ADDITIONAL SERVICE REQUIRED
1	Oil Level / Oil		✓		
2	Capacity Tag		✓		
3	Cover Plates		✓		
4	Pistons / Cylinders		✓		
5	Hose / Hyd. Lines		✓		
6	Equalizer	✓			
7	Superstructure/Arms/Pads	✓			
8	Lift Locks		✓		
9	Power Unit/Motor/Switch		✓		
10	Air Valve	✓			
11	Air Handles	✓			
12	Oil Valve		✓		
13	Oil Handles		✓		
14	Control Cover		✓		
15	Cover Doors		✓		
16	Door Support Pins		✓		
17	Axles		✓		
18	Front Saddle		✓		
19	Front Adapters		✓		
20	Rear Saddle		✓		
21	Rear Adapters		✓		
22	Packings			✓	rear need a seal
23	Shift Lever		✓		
24	Muffler	✓			
25	Low Oil Lock	✓			

This Report Has Been Prepared By:

Service Technician: Derald Rich Date: 2-5-16

TERMS AND CONDITIONS ON THE REVERSE SIDE OF THIS SHEET ARE PART OF THIS ORDER. REVERSE SIDE ALSO CONTAINS IMPORTANT NOTICE.

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DATE

A SECONDARY SUPPORT SYSTEM IS RECOMMENDED WHEN USING ANY TYPE OF VEHICULAR LIFTING EQUIPMENT.

I HEREBY ACKNOWLEDGE RECEIPT OF THIS REPORT

CUSTOMER'S AUTHORIZED SIGNATURE

PRINT NAME

DATE: _____

CUSTOMER COPY

For more information and a complete guide to our product offering, visit us on the web at rotarylif.com or contact your local distributor today.



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Madison, IN 47250, USA
www.rotarylif.com

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e techlink@rotarylif.com

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Latin America/Caribbean: 1.812.273.1622
Middle East/Northern Africa: +49.771.9233.0
Southern Africa: 1.812.273.1622
Brazil: +55.11.4534.1995

The ROTARY LIFT® Promise

1. We have the products you need – where you need them. Promise.

Vehicle Service Group's three global ISO9001 manufacturing facilities insure that no matter where you are, quality lifts, parts and service are not far away. With close to a million sq. feet of manufacturing space, customer product demands can be met worldwide. Additionally, because we own the factories, design, production and quality are all controlled by our strict standards, giving you the outstanding products you need and deserve.

2. We design and test our products to perform when you need them - without letting you down. Promise.

Because you demand performance, every Rotary lift is designed and tested to withstand 20,000 cycles with the rated capacity load. That's over 15 years of service in the average shop. Our arms are subjected to a 150% load test to demonstrate our commitment to quality and safety where it counts. Don't believe it? Just look for the Gold Label to see that 95% of our lifts are third party tested and verified by ETL.

3. We provide the highest quality available on the market today. Promise.

Our ISO9001 facilities maintain world-class quality control in every step of design, purchased components, manufacturing and service and repair. Each of our products is designed to double the applicable industry standards. Your lift is the lifeline to your shop's productivity. Do you really want to take chances with poor quality?

4. We put our experience to work for you, so you can do what you do best. Promise.

Rotary Lift's parent company, VSG, has over 1300 employees worldwide and is part of the Dover Corporation – a Fortune 500 company. In 1925, the first automotive hydraulic lift was built by us and we've never stopped offering innovative products to our customers. Our 85 years of experience helps us to offer over 300 different lift models and 10,000 stocked part numbers for lifts with capacity ranges of 3000 – 130,000 lbs.

We offer more environmentally friendly lifts than any other company. We led the way with the introduction of the industry's first self-contained inground lift, the SmartLift®, in 1995. Since then we've sold over 50,000 units to dealers and independent repair shop owners who understand the importance of boosting productivity while protecting the Environment we all share.

Over the last ten years, our customer satisfaction levels have exceeded 96%! Work with us and you'll be satisfied as well.

We promise.



Inground

HEAVY DUTY INGROUND LIFTS



For Rotary Lift Government Purchases: **1.800.445.5438 x5655**



Lift HD_Inground_2013.11 (SUPERSEDES Lift HD_Inground_2013.07)
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Universal Saddle Adapters / U.S. Patent No. 6,471,009 LDS Liquid Detection System / US Patent No. 6,814,187



Contact us for training sessions in your area or online.



ROTARY LIFT

THE WORLD'S MOST TRUSTED LIFT

Model Shown: MDD30x5302b 60,000 lbs. capacity Inground Lift

www.rotarylif.com

INGROUND VEHICLE LIFTS

Rotary invented the inground lift more than 85 years ago and we've been reinventing and improving our lifts ever since.

Concern for the environment, functionality, space consideration and improved productivity are key components to consider when investing in a new heavy-duty lift.

Our designers and engineers have taken all these considerations and used them to develop the most innovative and versatile heavy-duty lift products on the market today.



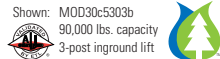
All from a partner you've trusted since 1925.
Rotary Lift.



Fast and Easy

Productivity is the key for any shop, so our lifts are packed with features that help your technicians get vehicles up on the lift and back on the road faster and easier than anyone else.

- Rotary's patented Universal Saddle System has a greater adjustment range and is compatible with a wide range of adapters - *spot hard to reach vehicles faster!*
- The MOD30 and EFX's standing control console keeps lift operators off of the floor and upright to monitor the lift's rise and descent.
- Recessed designs allow for an unobstructed floor when entering and exiting the bay saving valuable time.



Three-post models are also available for lifting tandem axle vehicles or articulated buses. See specs for details.

Environmentally Friendly



Today's inground lifts take protecting the environment to a new level.

- MOD30 - encapsulated in a 6' deep steel enclosure sealed with EnviroGuard™.
- EFX - an energy efficient system with the lowest oil volume in the industry.
- Traditional inground lifts - EnviroGuard™ coated jacks are standard protecting lift components and the environment.
- All lifts are bio fluid compatible.

Superior by Design

- Rotary maintains the largest in-house mechanical, electrical and controls engineering staff in the industry using state of the art design, modeling and analysis software to ensure you get a well designed, reliable product
- Rotary rigorously cycle tests its lifts and components for at least 10,000 cycles at rated load, giving you a robust, proven and quality tested lift that won't let you down
- The modular, encapsulated shallow pit design reduces installation costs and means easier, less costly maintenance over the life of the lift
- Numerous pit, control and adapter options allow you to customize your lift to meet your shop's needs



Third Party Certified

The MOD30 and EFX lifts meet the ANSI/ALI ALCTV 2011 standard, including the required third party validation.

Your assurance of certification is the gold ALI/ETL certified label.



THE ROTARY LIFT PROMISE

Only Rotary offers the right combination of experience, quality product selection and service you've come to expect from the world leader. - See the complete Rotary Lift Promise on the back page of this brochure.

Maximizing Service Space for Greater Efficiency and Productivity: That's assistPRO.

An accurate layout is critical to maximizing your shop's space. Each year Rotary Lift assists hundreds of customers with planning support for their vehicle service facilities.

You need the right equipment, the right specifications, the right drawings, and the right partner.

You've found them.

assistPRO
professional facility planning assistance



With Rotary assistPRO, you get:

- Custom layouts of your facility with vehicle turning radii and traffic flow analysis based on the vehicles it will service.
- Online, CSI 3 part product specifications through ARCAT® Spec Wizard®
- Information rich Revit® BIM models
- Dedicated website for architects with 2-D CAD blocks, written 3-part specifications and product selection tools.
- Rotary is an approved AIA provider assisting architects in earning CE credits.

MOD30

60,000 - 90,000 LBS. CAPACITY
MODULAR INGROUND LIFT

For nearly ten years, the MOD30 has set the standard for heavy-duty inground lifts. Its revolutionary design reflects our commitment to technician productivity, safety and environmental responsibility.

"Jefferson County Public Schools has three MOD30 inground lifts and we would highly recommend this product to any support facility. Rotary has always been there when we need support and their product team always provides highly qualified personnel."

- Jim Engler

Assistant Director Vehicle Maintenance Department
Jefferson County Public Schools - Louisville, Kentucky

Containment Style Design

The MOD30 is totally contained in a 6' deep steel enclosure, is sealed inside and out with our exclusive **EnviroGuard™** coating, and is warranted against corrosion and electrolysis for 10 years. The containment forms a barrier between the lift and the ground which traps oil, other shop fluids and locks out groundwater, protecting both the lift and the environment. The containment housing reduces installation costs and allows for easy access to all lift components.

Unobstructed Floor

Both housings are recessed for "zero clearance" drive-thru when the lift is in the down position. A wheel spotting dish for axle positioning guides the placement of the vehicle for lifting.

Shutter Plate Trench Covers

Automatic nitride shutter plates and covers increase productivity by eliminating the manual handling of the cover plates. They are self-storing and adjust with the front piston to keep the containment covered at all times (as required by OSHA).

LDS™ System Liquid Detection

Our patented LDS system monitors the lift and signals the technician as liquid accumulates in the containment. Built-in access ports allow for easy fluid evacuation.



VEC™ Equalization and Control System:



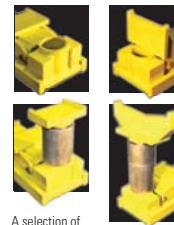
- Eliminates the need to manually adjust valves while controlling multiple jacks
- Uses a panel mounted joystick to control location, speed and heights of the jack
- Allows jacks to be controlled individually for vehicle spotting or simultaneously for lifting

System Monitoring and Added Control Features

- Programmable wheelbase settings for up to 10 preset vehicle locations
- Real time wheelbase and height display information
- Operation and maintenance information
- Onboard training guides to help new techs learn proper usage of the lift
- Preventative maintenance reminders to help extend service life of the lift

Auto Spotting System

Allows for automatic positioning of the moveable piston without crawling around on the floor.



A selection of adapters and inserts fit in the saddle to lift most heavy-duty vehicles.

Patented Universal Saddle Adapter

The universal saddle adapter is designed for the front or rear post. A selection of adapters and inserts fit in the saddle to lift most difficult heavy-duty vehicles. Standard flip-up pads permit fastest setup with no need to swap adapters. Most inserts rotate 360 degrees. A **lower profile version** is available for specific transit applications.



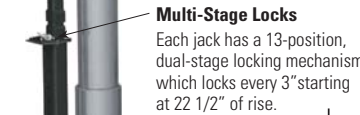
The low profile saddle is designed for specific transit applications. Part #FD2408



Ultra flat low profile front saddle features a variety of adapter options. Part #FD2408



Rear saddle with three-hole sliding insert for adapters. Part #FD2347



Multi-Stage Locks

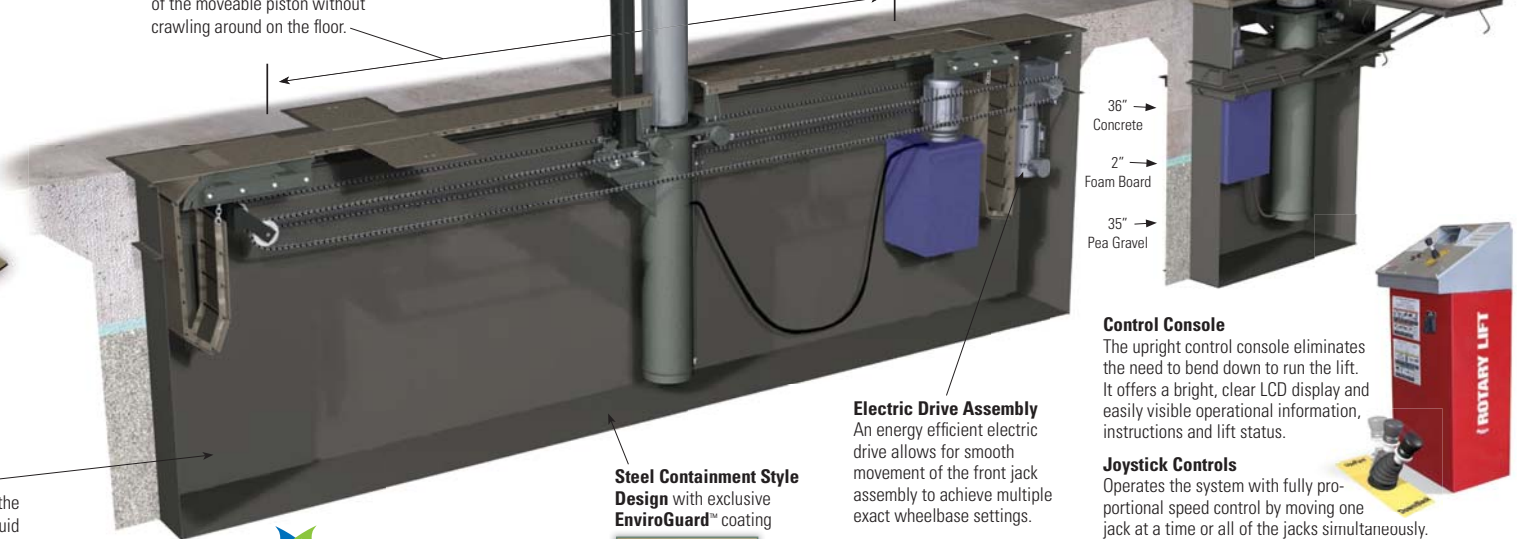
Each jack has a 13-position, dual-stage locking mechanism which locks every 3" starting at 22 1/2" of rise.

Multi-Stage Cylinder

The multi-stage cylinder design reduces lift housing depth to only 6'.

Wheel Spotting

Built-in wheel spotting dishes for accurate vehicle spotting every time.



36" → Concrete
2" → Foam Board
35" → Pea Gravel

Electric Drive Assembly

An energy efficient electric drive allows for smooth movement of the front jack assembly to achieve multiple exact wheelbase settings.

Steel Containment Style Design with exclusive EnviroGuard™ coating



Shown: Steel containment with EG Coating

Control Console

The upright control console eliminates the need to bend down to run the lift. It offers a bright, clear LCD display and easily visible operational information, instructions and lift status.

Joystick Controls

Operates the system with fully proportional speed control by moving one jack at a time or all of the jacks simultaneously.

Optional Pendant Controls

Allows for remote operation away from the lift console.



Shown: MOD30c5302b
60,000 lbs. capacity
modular & environmentally safe inground lift



EFX60/90™

60,000 - 90,000 LBS. CAPACITY
MODULAR INGROUND
SCISSOR LIFT

Rotary's EFX is breaking new ground in heavy-duty scissor lifting technology. Proven by design, its exclusive patented features, shallow pit construction and environmental considerations make it the most user-friendly, reliable and productivity boosting lift in its class.

"We looked at several different styles and manufacturers of lifts and chose the Rotary EFX Scissor Lift. After using this lift we are pleased with our choice. The ease of positioning the lift and the multiple combinations on the saddles and adapters cut down on set up time. This lift has a robust scissor section and its shallow depth was a big factor in our choosing this lift. Our mechanics really like using this lift."

- Lee A. Peterson

Manager, Vehicle Maintenance
Clovis Unified School District - Clovis, California

Heavy-Duty Construction:

Rotary engineers have worked to provide you the most robust and reliable scissor lift in the industry making sure it's there when you need it.

- Heavy-duty pivot pins with SmartGuard™
- Heavier duty linkages
- Exclusive locking system
- Advanced bearing design

Cycle-Tested Trust:

The EFX design is engineered for your trust and safety with over 30,000 tested cycles at rated load - a lifetime of quality.

Environmentally Responsible:

The EFX, is contained within a concrete trench, providing protection for the lift and the environment. But the biggest benefit is the efficient low volume/high pressure hydraulic system that uses 3.5 gallons of fluid per scissor.



Control Console

The upright control console eliminates the need to bend down to run the lift - operates from a comfortable, standing position. Shown with optional pendant controls.

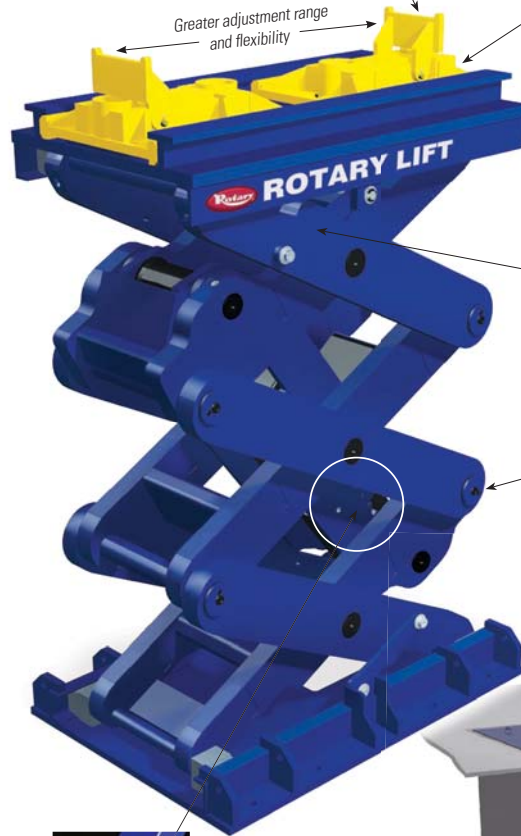


Patented Universal Saddle System



Example of adjustment range and rotated adapters with an off-set transaxle.

Standard flip-up pads.



Productivity Design Enhancements:

VERSATILITY and FLEXIBILITY

The EFX's patented **Universal Saddle System** recesses flush with the floor with the adapters in place and provides quick and easy setup for your technicians. Adapter versatility is a result of selecting inserts and adapters to fit a variety of heavy-duty vehicles with the greatest range of adjustments and adapter combinations.



Lifting saddle adapters and inserts are fitted to lift most heavy-duty vehicles.

Heavy Duty Linkage

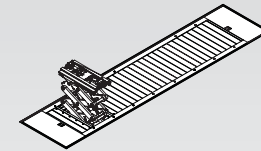
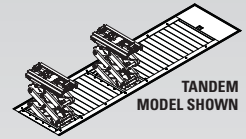
Heavier, larger links for superior strength are stronger than comparable lifts.

Heavy Duty Pivot Pins

Pivot pins are stronger than comparable lift designs. Coated with **Smartguard™** corrosion protection on pins keep lift operational and productive.

EFX90™

90,000 LBS. CAPACITY
SCISSOR LIFT



THE EFX90 IS OFFERED IN TANDEM AND ARTICULATED AXLE CONFIGURATIONS.



Rotary engineers have worked to provide you the most robust and reliable scissor lift in the industry making sure it's there every time you need it. The EFX90 design is engineered for your trust and safety with over 30,000 tested cycles at rated load providing a lifetime of quality. Three heavy duty scissors provide 90,000 lbs. of lifting capacity.

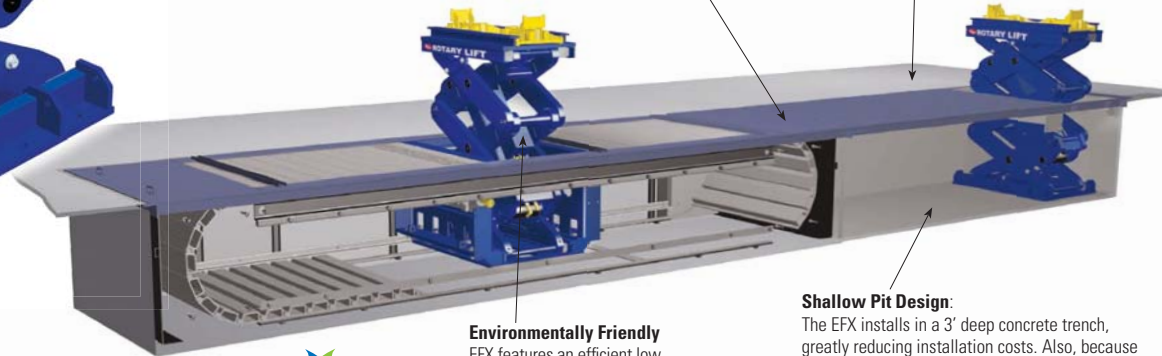
Wheel Spotting

Bolt-on wheel spotting dish for accurate vehicle spotting every time.



Cover Plates

Are heavier capacity and stronger than comparable inground lifts.



Shallow Pit Design:

The EFX installs in a 3' deep concrete trench, greatly reducing installation costs. Also, because everything is within easy reach, periodic and routine maintenance is quick and easy saving you money over the life of the lift.

Environmentally Friendly

EFX features an efficient low volume / high pressure system with the industry's lowest oil volume.



TRADITIONAL INGROUND

18,500 - 75,000 LBS. CAPACITIES

Rotary heavy-duty inground lifts are designed to increase productivity by providing an obstruction free shop and decades of service with minimum maintenance costs. Each lift offers the adjustability needed to service a wide variety of vehicles in a single bay. Whether fully hydraulic or electric hydraulic, two posts or three, numerous options are available to let you customize your lift for your exact needs.

"Athens Transit purchased two traditional inground lifts manufactured by Rotary Lift and were installed in January 2010. The lifts are used daily to maintain a fleet of transit buses. The inground lifts increase productivity for technicians due to the lesser time required to set up an above ground lift. Rotary Lift meets our quality standards and I expect many years of useful life from the Rotary Lifts Athens Transit purchased in 2010."

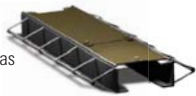
- Terry W. Ferguson
Transit Maintenance Administrator
Athens Transit System - Athens, Georgia

Continuous Trench Design

The lift is housed in a continuous concrete vault which forms a barrier between the lift and the ground; increasing the life of the lift and protecting the environment. This enclosed design allows for easy access to all components for inspection and maintenance

Standard Front Pit Covers

Manually moveable pit covers are standard on inground lifts. They can be moved to eliminate dangerous pit openings as required by OSHA.



Front Jack

Hydraulic adjustment allows for easy positioning to meet various wheelbases. The lift is available with an optional recessed front jack pocket which provides an unobstructed floor when the lift is in the down position.

Removable Hydraulic Jack Assembly

The jack assembly in both the front and rear housing is removable for inspection or repair without the need to break concrete, and each jack has an 18-position locking leg which locks every 3". The jack can be released automatically for lowering without going under the lift.



Shown: RU70Q
50,000 lbs. capacity continuous trench lift
shown with optional shutter plate trench covers
and in-trench power unit

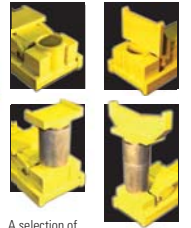
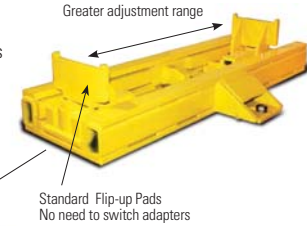
Optional Shutter Plate Trench Covers

increase productivity by eliminating manual moving of the cover plates. They are self-storing and adjust with the front piston to keep the pit covered at all times. (As required by OSHA)

Front Jack
Provides easy positioning to meet various wheelbases

Patented Universal Saddle Adapter

The universal saddle adapter is designed for the front or rear post. A selection of adapters and inserts fit in the saddle to lift most difficult heavy-duty vehicles. Standard flip-up pads permit fastest setup with no need to swap adapters. Most inserts rotate 360 degrees. A **lower profile version** is available for specific transit applications.



A selection of adapters and inserts fit in the saddle to lift most heavy-duty vehicles.

Rear Jack features a recessed pocket for an unobstructed floor when the lift is in the down position. A wheel spotting dish, for axle positioning, guides the placement of the vehicle for lifting.

Optional In-Trench Equalized Power Unit

As an alternative to a surface-mounted power unit, an in-trench unit offers many benefits:

- Eliminates the need for valuable floor space
- No piping or trenches from the power unit to the lift, reducing concrete work and cutting overall piping by 80%
- Can be removed for service or repair without breaking concrete
- Offers a low noise level with self-equalized operation, requires no manual adjustment raising and lowering the lift and meets NEC class 1, division 1 standards

Exclusive **EnviroGuard™** protects both front and rear jacks from electrolysis and deterioration and is warranted for 10 years.



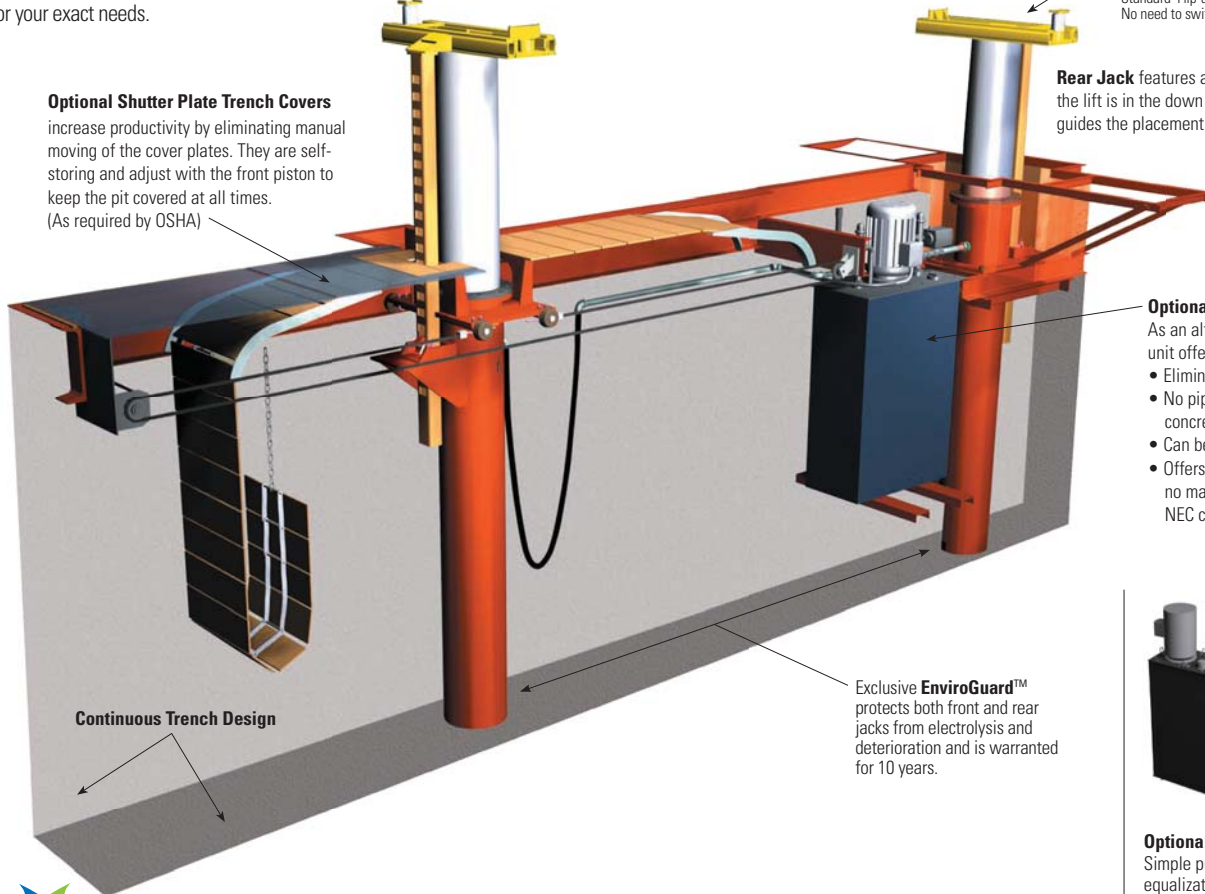
Inground Options

Surface Mounted Power Unit

The power unit may be sized for one or more lift hook-ups without equalized control.

Optional Push Button Equalized Controls

Simple push button controls eliminate manual equalization of handles. The control box can be mounted on either the floor or wall.



Identifying Model Numbers

Examples:

RU70Q = Recessed front superstructure with shutter plate trench covers, continuous trench design for an equalized in-pit power unit.

MOD30 = Modular & environmentally safe inground.

EFX60 = Modular inground scissor lift.

Prefix	Lift Model	Suffix
RU	70	Q
MOD	30	
EFX	60	

Prefix Description:

MOD: Modular & Environmentally Safe Inground lift

EFX: Environmentally Friendly Scissor lift

None: Non-Recessed Front Superstructure

R: Recessed Front Superstructure

RU: Recessed Front Superstructure with Shutter Plate Trench Covers

Suffix Description

C: Continuous Trench Design for a Surface Mounted Power Unit

P: Continuous Trench Design for an In-Pit Power Unit

Q: Continuous Trench Design for an Equalized In-Pit Power Unit

HC: Continuous Trench Design for an Air/Oil Tank

Rotary Offers The Accessories Techs Need To Get The Most From Their Lift.

Tripod Stands

Models RS18 and RS33 Spring assisted caster wheels and height adjustment allow for easy positioning with 4" fine tune screw adjustment

- RS18 - 18,000 lbs. capacity 56.1" – 82.3" range

- RS33 - 33,000 lbs. capacity 55.31" – 82.28" range

- RS1852 - 18,000 lbs. capacity 34.3" – 55.5" range

RS 33 versatile height adjustments shown



Liquid Evacuation Kit

This kit is designed to provide automatic evacuation of fluids captured in the lift containments and detected by the liquid detection system. Separate pumps are located in each jack housing.



Adapter Rack

Keeps the lift bay clear and uncluttered and all your adapters in one place.

Shown: FD2361



Pendant Controls

The pendant allows for remote operation away from the lift console

- For MOD30: MC10009
- For EFX60: EFX-05-0916000



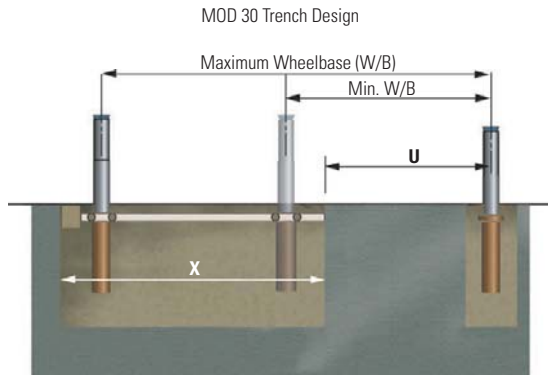
SPECIFICATIONS

Models:	MODULAR LIFTS		TRADITIONAL LIFTS			
	MOD30 / MOD30 3-Post	EFX60	60C/60P 60HC	68C/68P	70C/70P/70Q 70HC	R70C/R70P/R70Q RU70P/RU70Q
Lifting Capacity	60,000 lbs. (27216kg) 90,000 lbs. (40824kg)	60,000 lbs. (13608kg)	20,000 lbs. (9072kg) 18,500 lbs. (8392kg)	32,000 lbs. (14515kg)	50,000 lbs. (22680kg) 24,000 lbs. (10887kg)	50,000 lbs. (22680kg)
Lifting Capacity (front piston)	30,000 lbs. (13608kg)	30,000 lbs. (13608kg)	8,000 lbs. (3629kg) 6,500 lbs. (2948kg)	14,000 lbs. (6350kg)	25,000 lbs. (11340kg) 12,000 lbs. (5443kg)	25,000 lbs. (11340kg)
Lifting Capacity (center piston)	30,000 lbs. (13608kg)	N/A	N/A	N/A	N/A	N/A
Lifting Capacity (rear piston)	30,000 lbs. (13608kg)	30,000 lbs. (13608kg)	12,000 lbs. (5443kg) 12,000 lbs. (5443kg)	18,000 lbs. (8165kg)	25,000 lbs. (11340kg) 12,000 lbs. (5443kg)	25,000 lbs. (11340kg)
Power Unit	(2 or 3) 5hp (3.75kw)	10hp (7.457kw)	5hp (3.75kw) N/A	10hp (7.5kw)	10hp (7.457kw) N/A	10hp (7.457kw) N/A
Pressure	750/900	3,900 psi	185 165	275	350 N/A	350
Oil Displacement	19.3 gal	7 gal	43 gal	41.5 gal	49.5 gal	52.6 gal
Rise (front piston)	70" (1803mm)	70" (1778mm)	70" (1778mm)	60" (1524mm)	66" (1676mm)	66" (1676mm)
Rise (rear piston)	70" (1803mm)	70" (1778mm)	67" (1702mm)	69" (1753mm)	69" (1753mm)	69" (1753mm)
Piston Diameter (front piston)	9 1/16" - 7 7/8" (230 - 200mm)	7" (178mm)	8 1/2" (216mm)	8 1/2" (216mm)	10 5/8" (270mm)	10 5/8" (270mm)
Piston Diameter (center piston)	9 1/16" - 7 7/8" (230 - 200mm)	7" (178mm)	N/A	N/A	N/A	N/A
Piston Diameter (rear piston)	9 1/16" - 7 7/8" (230 - 200mm)	7" (178mm)	10 5/8" (270mm)	10 5/8" (270mm)	10 5/8" (270mm)	10 5/8" (270mm)
Std. Adapter Adjustment (front piston)	17 15/16" - 44 1/4" (456 - 1124mm)	28 3/8" - 52" (721 - 1321mm)	40 3/4" - 58 3/4" (1035-1492mm)	35" - 56 1/2" (889-1435mm)	19 1/8" - 44" (486-1118mm)	19 1/8" - 44" (486-1118mm)
Std. Adapter Adjustment (center piston)	17 15/16" - 44 1/4" (456 - 1124mm)	28 3/8" - 52" (721 - 1321mm)	N/A	N/A	N/A	N/A
Std. Adapter Adjustment (rear piston)	17 15/16" - 44 1/4" (456 - 1124mm)	28 3/8" - 52" (721 - 1321mm)	19 1/8" - 44" (486-1118mm)	14" - 50 3/4" (356-1289mm)	19 1/8" - 44" (486-1118mm)	19 1/8" - 44" (486-1118mm)
Drive-Thru/Over Clearance	recessed	recessed	4 1/2" (114mm)	4 3/4" (121mm)	4 1/4" (108mm)	recessed

Model:	TRADITIONAL LIFTS			
	10210C/10210P 10210Q	R10210C R10210P/R10210Q RU10210Q	703C 703P 703Q	R703C R703P/R703Q RU703Q
Lifting Capacity	75,000 lbs. (34020kg)	75,000 lbs. (34020kg)	75,000 lbs. (34020kg)	75,000 lbs. (34020kg)
Lifting Capacity (front piston)	25,000 lbs. (11340kg)	25,000 lbs. (11340kg)	25,000 lbs. (11340kg)	25,000 lbs. (11340kg)
Lifting Capacity (center piston)	N/A	N/A	25,000 lbs. (11340kg)	25,000 lbs. (11340kg)
Lifting Capacity (rear piston)	50,000 lbs. (22680kg)	50,000 lbs. (22680kg)	25,000 lbs. (11340kg)	25,000 lbs. (11340kg)
Power Unit	10hp (7.457kw)	10hp (7.457kw)	10hp (7.457kw)	10hp (7.457kw)
Pressure	350	350	350	350
Oil Displacement	76.2 gal	79.3 gal	72.4 gal	78.5 gal
Rise (front piston)	66" (1676mm)	66" (1676mm)	66" (1676mm)	66" (1676mm)
Rise (center piston)	N/A	N/A	69" (1753mm)	69" (1753mm)
Rise (rear piston)	69" (1753mm)	69" (1753mm)	66" (1676mm)	66" (1676mm)
Piston Diameter (front piston)	10 5/8" (270mm)	10 5/8" (270mm)	10 5/8" (270mm)	10 5/8" (270mm)
Piston Diameter (center piston)	N/A	N/A	10 5/8" (270mm)	10 5/8" (270mm)
Piston Diameter (rear piston)	(2) 10 5/8" (270mm)	(2) 10 5/8" (270mm)	10 5/8" (270mm)	10 5/8" (270mm)
Std. Adapter Adjustment (front piston)	19 1/8" - 44" (486 - 1118mm)	19 1/8" - 44" (486 - 1118mm)	19 1/8" - 44" (486 - 1118mm)	19 1/8" - 44" (486 - 1118mm)
Std. Adapter Adjustment (center piston)	N/A	N/A	19 1/8" - 44" (486 - 1118mm)	19 1/8" - 44" (486 - 1118mm)
Std. Adapter Adjustment (rear piston)	19 1/8" - 44" (486 - 1118mm)	19 1/8" - 44" (486 - 1118mm)	19 1/8" - 44" (486 - 1118mm)	19 1/8" - 44" (486 - 1118mm)
Drive-Thru/Over Clearance	4 1/4" (108mm)	recessed	4 1/4" (108mm)	recessed

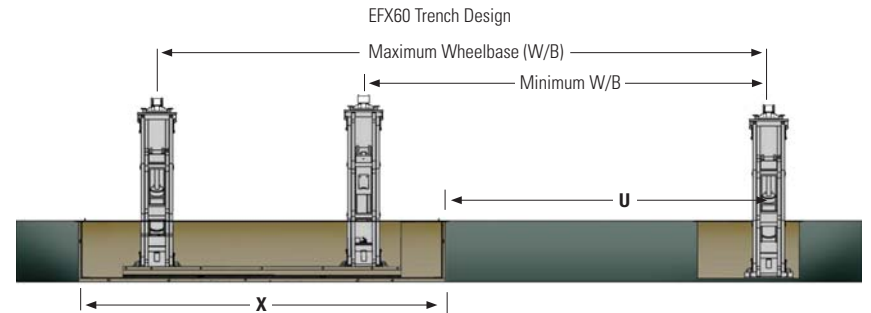
Models: MOD30		Max. Wheelbase		
Min. Wheelbase	U Dimension	MOD30-18	MOD30-21	MOD30-24
		108" (2743mm)	48" (1219mm)	222" (5639mm)
114" (2896mm)	54" (1372mm)	228" (5791mm)	264" (6706mm)	300" (7620mm)
120" (3048mm)	60" (1524mm)	234" (5944mm)	270" (6859mm)	306" (7772mm)
126" (3200mm)	66" (1676mm)	240" (6096mm)	276" (7010mm)	312" (7925mm)
132" (3353mm)	72" (1829mm)	246" (6248mm)	282" (7163mm)	318" (8077mm)
138" (3503mm)	78" (1981mm)	252" (6400mm)	288" (7315mm)	324" (8230mm)
144" (3658mm)	84" (2134mm)	258" (6553mm)	294" (7469mm)	330" (8382mm)
150" (3810mm)	90" (2286mm)	264" (6706mm)	300" (7620mm)	336" (8534mm)
156" (3962mm)	96" (2438mm)	270" (6858mm)	306" (7772mm)	342" (8687mm)
162" (4115mm)	102" (2591mm)	276" (7010mm)	312" (7925mm)	348" (8839mm)
168" (4267mm)	108" (2743mm)	282" (7163mm)	318" (8077mm)	354" (8992mm)
174" (4420mm)	114" (2896mm)	288" (7315mm)	324" (8230mm)	360" (9144mm)
180" (4572mm)	120" (3048mm)	294" (7468mm)	330" (8382mm)	366" (9296mm)
186" (4724mm)	126" (3200mm)	300" (7620mm)	336" (8534mm)	372" (9449mm)
192" (4877mm)	132" (3353mm)	306" (7772mm)	342" (8687mm)	378" (9601mm)
198" (5029mm)	138" (3505mm)	312" (7925mm)	348" (8839mm)	384" (9754mm)
204" (5182mm)	144" (3658mm)	318" (8077mm)	354" (8992mm)	390" (9906mm)
210" (5334mm)	150" (3810mm)	324" (8230mm)	360" (9144mm)	396" (10058mm)
Frame Length (X dimension)		18' (5486mm)	21' (6401mm)	24' (7315mm)

FOR 3-POST OPTIONS, CONTACT A ROTARY LIFT HEAVY DUTY PRODUCT SPECIALIST AT 1-800-445-5438 - EXT. 2



Models: EFX60		Max. Wheelbase		
Min. Wheelbase	U Dimension	EFX60-10	EFX60-13	EFX60-17
		72" (1829mm)	24" (610mm)	192" (4877mm)
78" (1981mm)	30" (762mm)	198" (5029mm)	234" (5944mm)	282" (7163mm)
84" (2134mm)	36" (914mm)	204" (5181mm)	240" (6096mm)	288" (7315mm)
90" (2286mm)	42" (1067mm)	210" (5334mm)	246" (6248mm)	294" (7468mm)
96" (2438mm)	48" (1219mm)	216" (5486mm)	252" (6401mm)	300" (7620mm)
102" (2591mm)	54" (1371mm)	222" (5639mm)	258" (6553mm)	306" (7772mm)
108" (2743mm)	60" (1524mm)	228" (5791mm)	264" (6706mm)	312" (7925mm)
114" (2896mm)	66" (1676mm)	234" (5944mm)	270" (6858mm)	318" (8077mm)
120" (3048mm)	72" (1829mm)	240" (6096mm)	276" (7010mm)	324" (8230mm)
126" (3200mm)	78" (1981mm)	246" (6248mm)	282" (7163mm)	330" (8382mm)
132" (3353mm)	84" (2133mm)	252" (6401mm)	288" (7315mm)	336" (8534mm)
138" (3505mm)	90" (2286mm)	258" (6553mm)	294" (7468mm)	342" (8687mm)
144" (3658mm)	96" (2438mm)	264" (6706mm)	300" (7620mm)	348" (8839mm)
150" (3810mm)	102" (2743mm)	270" (6858mm)	306" (7772mm)	354" (8991mm)
156" (3962mm)	108" (2895mm)	276" (7010mm)	312" (7925mm)	360" (9144mm)
162" (4115mm)	114" (3048mm)	282" (7163mm)	318" (8077mm)	366" (9296mm)
168" (4267mm)	120" (3048mm)	288" (7315mm)	324" (8230mm)	372" (9449mm)
174" (4420mm)	126" (3200mm)	294" (7468mm)	330" (8382mm)	378" (9601mm)
180" (4572mm)	132" (3353mm)	300" (7620mm)	336" (8534mm)	384" (9754mm)
186" (4724mm)	138" (3505mm)	306" (7772mm)	342" (8687mm)	390" (9906mm)
192" (4877mm)	144" (3658mm)	312" (7925mm)	348" (8839mm)	396" (10058mm)
198" (5029mm)	150" (3810mm)	318" (8077mm)	354" (8991mm)	402" (10211mm)
204" (5181mm)	156" (3962mm)	324" (8230mm)	360" (9144mm)	408" (10363mm)
210" (5334mm)	162" (4115mm)	330" (8382mm)	366" (9296mm)	414" (10516mm)
216" (5486mm)	168" (4267mm)	336" (8534mm)	372" (9449mm)	420" (10668mm)
222" (5639mm)	174" (4420mm)	342" (8687mm)	378" (9601mm)	426" (10820mm)
228" (5791mm)	180" (4572mm)	348" (8839mm)	384" (9754mm)	432" (10973mm)
Frame Length (X dimension)		10' (3048mm)	13' (3962mm)	17' (5182mm)

FOR 3-POST OPTIONS, CONTACT A ROTARY LIFT HEAVY DUTY PRODUCT SPECIALIST AT 1-800-445-5438 - EXT. 2

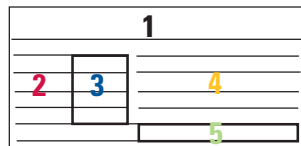


6 easy steps to find your frame length and overall trench length using your minimum and maximum wheelbases.

After selecting your lift model from the previous page, **follow these 6 easy steps** to determine your frame length and overall trench length. You must use your minimum and maximum vehicle wheelbase.

1. Locate your Lift Model and the Overall Trench Length Formula in **area 1**.
2. Find your minimum wheelbase in **area 2** (round down if your exact wheelbase is not listed)
3. Move right to determine the U dimension in **box 3**.
4. Continuing across the chart, select your maximum wheelbase in **area 4** (round up if your exact wheelbase is not listed).
5. Move straight down to determine the Frame Length (X dimension) in **box 5**.
6. Plug the U dimension in **box 3** and the X dimension in **box 5** into the formula **area 1** to find your Overall Trench Length.

Example: Use the chart for model 52HC ★. If you worked with 114" min. ● x 221" max. ● wheelbases, you would use the indicated Udim. ● and Xdim. ● to plug into the formula:
 $Z = U + X + 17.5"$ (97.25" + 147" + 8.5")
 Adding these numbers up equals 252.75", your Overall Trench Length (Z).



Models: 52C/52HC ★

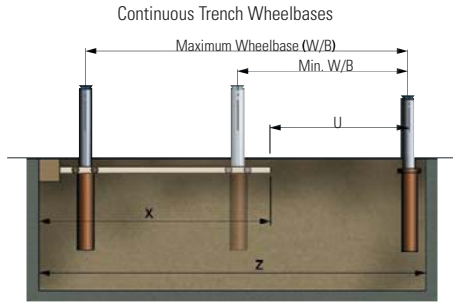
Trench Length (Z) = (U) Dimension + (X) Dimension + 8.5" (216mm)

Min. Wheelbase	U Dimension	Max. Wheelbase		
84" (2134mm)	67.25" (1708mm)	167" (4242mm)	191" (4851mm)	215" (5461mm)
● 114" (2896mm)	● 97.25" (2470mm)	197" (5004mm)	● 221" (5613mm)	245" (6223mm)
138" (3505mm)	121.25" (3080mm)	221" (5613mm)	245" (6223mm)	269" (6833mm)
162" (4115mm)	145.25" (3689mm)	245" (6223mm)	269" (6833mm)	293" (7442mm)
Frame Length (X dimension)	10' 3" (3124mm)	● 12' 3" (3734mm)	14' 3" (4343mm)	

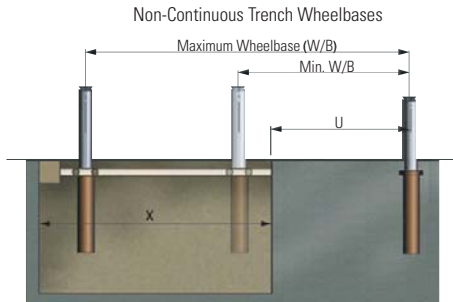
Models: 52P

Trench Length (Z) = (U) Dimension + (X) Dimension + 8.5" (216mm)

Min. Wheelbase	U Dimension	Max. Wheelbase		
90" (2286mm)	67.25" (1708mm)	173" (4394mm)	197" (5004mm)	221" (5613mm)
120" (3048mm)	97.25" (2470mm)	203" (5156mm)	227" (5766mm)	251" (6375mm)
144" (3658mm)	121.25" (3080mm)	227" (5766mm)	251" (6375mm)	275" (6985mm)
168" (4267mm)	145.25" (3689mm)	251" (6375mm)	275" (6985mm)	299" (7595mm)
Frame Length (X dimension)	10' 3" (3124mm)	12' 3" (3734mm)	14' 3" (4343mm)	



Trench and Frame Length Chart



Trench and Frame Length Chart

Models: 60C/60HC

Trench Length (Z) = (U) Dimension + (X) Dimension + 17.5" (445mm)

Min. Wheelbase	U Dimension	Max. Wheelbase		
87" (2210mm)	70.75" (1797mm)	171" (4343mm)	195" (4953mm)	219" (5563mm)
117" (2918mm)	100.75" (2559mm)	201" (5105mm)	225" (5715mm)	249" (6325mm)
141" (3581mm)	124.75" (3169mm)	225" (5715mm)	249" (6325mm)	273" (6934mm)
165" (4191mm)	148.75" (3778mm)	249" (6325mm)	273" (6934mm)	297" (7544mm)
Frame Length (X dimension)	10' 3" (3124mm)	12' 3" (3734mm)	14' 3" (4343mm)	

Models: 60P

Trench Length (Z) = (U) Dimension + (X) Dimension + 17.5" (445mm)

Min. Wheelbase	U Dimension	Max. Wheelbase		
94" (2388mm)	71" (1803mm)	177" (4496mm)	201" (5105mm)	225" (5715mm)
124" (3150mm)	101" (2565mm)	207" (5268mm)	231" (5877mm)	255" (6477mm)
148" (3759mm)	125" (3175mm)	231" (5877mm)	255" (6477mm)	279" (7087mm)
172" (4369mm)	149" (3785mm)	255" (6477mm)	279" (7087mm)	303" (7696mm)
Frame Length (X dimension)	10' 3" (3124mm)	12' 3" (3734mm)	14' 3" (4343mm)	

Models: 70C/R70C/70HC

Trench Length (Z) = (U) Dimension + (X) Dimension + 17.5" (445mm)

Min. Wheelbase	U Dimension	Max. Wheelbase		
88" (2235mm)	70.75" (1797mm)	190" (4826mm)	238" (6045mm)	286" (7264mm)
118" (2997mm)	100.75" (2559mm)	220" (5588mm)	268" (6807mm)	316" (8026mm)
142" (3607mm)	124.75" (3169mm)	244" (6197mm)	292" (7417mm)	340" (8636mm)
166" (4216mm)	148.75" (3778mm)	268" (6807mm)	316" (8026mm)	364" (9246mm)
Frame Length (X dimension)	12" (3058mm)	16" (4077mm)	20" (5096mm)	

Models: RU70Q Shutter Plate

Trench Length (Z) = (U) Dimension + (X) Dimension + 17.5" (445mm)

Min. Wheelbase	U Dimension	Max. Wheelbase		
118" (2997mm)	71" (1803mm)	230" (5842mm)	266" (6756mm)	302" (7671mm)
148" (3759mm)	101" (2565mm)	260" (6604mm)	296" (7518mm)	332" (8433mm)
172" (4369mm)	125" (3175mm)	284" (7214mm)	320" (8128mm)	356" (9042mm)
196" (4978mm)	149" (3785mm)	308" (7823mm)	344" (8738mm)	380" (9652mm)
Frame Length (X dimension)	18" (4586mm)	21" (6401mm)	24" (7315mm)	

Models: 70P/R70P/70Q/R70Q

Trench Length (Z) = (U) Dimension + (X) Dimension + 17.5" (445mm)

Min. Wheelbase	U Dimension	Max. Wheelbase		
95" (2413mm)	70.75" (1797mm)	197" (5004mm)	245" (6223mm)	293" (7442mm)
125" (3175mm)	100.75" (2559mm)	227" (5766mm)	275" (6985mm)	323" (8204mm)
149" (3785mm)	124.75" (3169mm)	251" (6375mm)	299" (7595mm)	347" (8814mm)
173" (4394mm)	148.75" (3778mm)	275" (6985mm)	323" (8204mm)	371" (9423mm)
Frame Length (X dimension)	12" (3058mm)	16" (4077mm)	20" (5096mm)	

Models: 10210P/R10210P/10210Q/R10210Q

Trench Length (Z) = (U) Dimension + (X) Dimension + 17.5" (445mm)

Min. Wheelbase	U Dimension	Max. Wheelbase		
103" (2616mm)	78.5" (1994mm)	205" (5207mm)	253" (6426mm)	301" (7645mm)
133" (3378mm)	108.5" (2756mm)	235" (5969mm)	283" (7188mm)	331" (8407mm)
157" (3988mm)	132.5" (3366mm)	259" (6579mm)	307" (7798mm)	355" (9017mm)
181" (4597mm)	156.5" (3975mm)	283" (7188mm)	331" (8407mm)	379" (9627mm)
Frame Length (X dimension)	12" (3058mm)	16" (4077mm)	20" (5096mm)	

Models: 10210DSE/R10210DSE

Trench Length (Z) = (U) Dimension + (X) Dimension + 17.5" (445mm)

Min. Wheelbase	U Dimension	Max. Wheelbase		
78" (1981mm)	60.5" (1537mm)	180" (4572mm)	228" (5791mm)	276" (7010mm)
84" (2118mm)	66.5" (1689mm)	186" (4724mm)	234" (5944mm)	282" (7163mm)
90" (2260mm)	72.5" (1842mm)	192" (4877mm)	240" (6096mm)	288" (7315mm)
96" (2438mm)	78.5" (1994mm)	198" (5029mm)	246" (6248mm)	294" (7477mm)
102" (2591mm)	84.5" (2146mm)	204" (5182mm)	252" (6401mm)	300" (7620mm)
108" (2743mm)	90.5" (2299mm)	210" (5334mm)	258" (6553mm)	306" (7772mm)
114" (2896mm)	96.5" (2451mm)	216" (5486mm)	264" (6706mm)	312" (7925mm)
120" (3048mm)	102.5" (2604mm)	222" (5639mm)	270" (6858mm)	318" (8077mm)
126" (3200mm)	108.5" (2756mm)	228" (5791mm)	276" (7010mm)	324" (8230mm)
132" (3353mm)	114.5" (2908mm)	234" (5944mm)	282" (7163mm)	330" (8382mm)
138" (3505mm)	120.5" (3061mm)	240" (6096mm)	288" (7315mm)	336" (8534mm)
Frame Length (X dimension)	12" (3058mm)	16" (4077mm)	20" (5096mm)	

Models: RU10210Q SHUTTER PLATE

Trench Length (Z) = (U) Dimension + (X) Dimension + 7.5" (445mm)

Min. Wheelbase	U Dimension	Max. Wheelbase		
126" (3200mm)	79" (2007mm)	238" (6045mm)	274" (6960mm)	310" (7874mm)
156" (3962mm)	109" (2769mm)	268" (6807mm)	304" (7722mm)	340" (8636mm)
180" (4572mm)	133" (3378mm)	292" (7417mm)	328" (8331mm)	364" (9246mm)
204" (5182mm)	157" (3988mm)	316" (8026mm)	352" (8941mm)	388" (9855mm)
Frame Length (X dimension)	18" (4586mm)	21" (6401mm)	24" (7315mm)	

Models: RU10210Q SHUTTER PLATE

Trench Length (Z) = (U) Dimension + (X) Dimension + 7.75" (197mm)

Min. Wheelbase	U Dimension	Max. Wheelbase		
96" (2438mm)	78.5" (1994mm)	198" (5029mm)	246" (6248mm)	294" (7468mm)
126" (3200mm)	108.5" (2756mm)	228" (5791mm)	276" (7010mm)	324" (8230mm)
150" (3810mm)	132.5" (3366mm)	252" (6401mm)	300" (7620mm)	348" (8839mm)
174" (4420mm)	156.5" (3975mm)	276" (7010mm)	324" (8230mm)	372" (9449mm)
Frame Length (X dimension)	12" (3058mm)	16" (4077mm)	20" (5096mm)	