VOGELPOHL
FIRE EQUIPMENT
2770 Circleport Dr. Erlanger, KY 41018 (859)-282-1000 Fax (859)-282-1550 800-797-8317

March 26, 2012

Lexington Fayette Urban County Government
Division of Central Purchasing
200 East Main Street
3rd Floor, Room 338
Lexington KY 40507

We would like to thank you for the opportunity to quote the Holmatro line of rescue equipment to your department. Vogelpohl Fire Equipment has been the authorized sales, service, and warranty center for Holmatro Rescue Equipment in the state of Kentucky, Southwest Ohio, and Southeast Indiana for the past 23 years. The employees of Vogelpohl Fire Equipment, Inc. have over 150 years of combined fire service experience.

We are located in Erlanger, KY near the Greater Cincinnati International Airport. We have a mobile service vehicle and full-time technician who provides preventative maintenance programs, training, and next day emergency service calls. Vogelpohl Fire Equipment maintains a complete inventory of replacement parts and will provide loaner tools if unable to repair your tool on site.

Vogelpohl Fire Equipment, Inc. and Holmatro Rescue Equipment are committed to providing the best equipment and service available. Enclosed you will find all types of supporting documentation and literature to support our statements. We look forward to the possibilities of providing the Lexington Fire Department with the highest quality tools and service which best meet your needs.

Thank you,

Kevin Kleman
Vice President
Vogelpohl Fire Equipment

holmatro
mastering power

holmatro
rescue equipment

Holmatro, Inc.
505 McCormick Drive
Glen Burnie, MD 21061

March 26, 2010

Dear Lexington Fire Department;

Thank you for giving Holmatro the opportunity to present our rescue tool solutions to Lexington Fire Department. Holmatro has been the leader in high pressure hydraulics for more than 30 years. We are constantly seeking to improve the art of extrication through product development, training and educational materials and after sales support.

Holmatro is an ISO 9001:2000 registered company that operates a "state of the art" manufacturing facility in Glen Burnie, Maryland. More than 15 years ago we earned an Underwriters Laboratories Listing on many of our products and we are still the only company in the world that offers UL Listed hydraulic rescue tools. Of course we also offer a complete range of products that are compliant with the NFPA 1936 Standard. In fact we were the first rescue tool company to provide NFPA 1936 compliant products. If you are ever in the Baltimore area, I encourage you to stop by our factory for a visit and see the Holmatro difference for yourself.

I know that choosing a rescue tool provider in today's market is more complicated than ever. There are numerous manufacturers and products that run the gamut from reputable to just plain cheap. The investment you make should serve your department and your citizens for many, many years so it is important that you take the time to evaluate not just tools but also the company that stands behind them. Holmatro manufactures the highest quality, best performing rescue tools in the world. But don't take my word for it, compare our listings, then go out and put them to the test.

On behalf of everyone at Holmatro I hope that we will soon be welcoming you to the family of satisfied Holmatro customers. If you have any remaining questions, or if I can personally be of service to you, please don't hesitate to call me.

Sincerely,

William "Giff" Swayne
President
Holmatro, Inc.

Lexington Fayette Urban County Government

Division of Central Purchasing

Lexington Kentucky

Horse Capital of the World

INVITATION TO BID #31-2012

Heavy Duty Power Rescue Tools

NOTICE TO BIDDERS

Bid Opening Date: March 26, 2012

Bid Opening Time: 2:00 PM

Address: 200 East Main Street
3rd Floor, Room 338

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Pre Bid Meeting: N/A

Pre Bid Time: N/A

Address: N/A

INVITATION TO BID

Bid Invitation Number: #31-2012 Date of Issue: 03/12/2012

Sealed bids will be received in the office of the Division of Central Purchasing, 200 East Main Street, Lexington, Kentucky, until **2:00 PM**, prevailing local time on **03/26/2012**. Bids must be received by the above-mentioned date and time. Mailed bids should be sent to:

Division of Central Purchasing
200 East Main Street, Rm 338
Lexington, KY 40507, (859) 258-3320

The Lexington-Fayette Urban County Government assumes no responsibility for bids that are not addressed and delivered as indicated above. Bids that are not delivered to the Division of Central Purchasing by the stated time and date will be rejected.

All bids must have the company name and address, bid invitation number, and the commodity/service on the outside of the envelope.

Bids are to include all shipping costs to the point of delivery located at: 219 East Third Street, Lexington, KY

Bid Security Required: ___Yes XXX No Performance Bond Required: ___Yes XXX No
Cashier Check, Certified Check, Bid Bond (Personal checks and company checks will not be acceptable).

QTY	Commodity/Service
PCT	**Heavy Duty Power Rescue Tools**
	See specifications

Check One:	**Proposed Delivery:**
X Bid Specifications Met _____Exceptions to Bid Specifications. *Exceptions shall be itemized and attached to bid proposal submitted.*	90 days after acceptance of bid.

Procurement Card Usage

_____Yes The Lexington-Fayette Urban County Government will be using Procurement Cards to
_____No purchase goods and services and also to make payments. Will you accept Procurement Cards?

Submitted by:

Vogelpohl Fire Equipment
Firm
2770 Circleport Dr.
Address
Erlanger KY 41018
City, State & Zip

Bid must be signed: (original signature)

Signature of Authorized Company Representative – Title
Kevin Kleman - Vice President
Representative's Name (Typed or printed)
(859) 282-1000 (859) 282-1550
Area Code - Phone – Extension *Fax #*
KevinK@vogelpohlfire.com
E-Mail Address

The Affidavit in this bid must be completed before your firm can be considered for award of this contract.

AFFIDAVIT

Comes the Affiant, Kevin Kleman, and after being first duly sworn under penalty of perjury as follows:

1. His/her name is Kevin Kleman and he/she is the individual submitting the bid or is the authorized representative of Vogelpohl Fire Equipment, the entity submitting the bid (hereinafter referred to as "Bidder").

2. Bidder will pay all taxes and fees, which are owed to the Lexington-Fayette Urban County Government at the time the bid is submitted, prior to award of the contract and will maintain a "current" status in regard to those taxes and fees during the life of the contract.

3. Bidder will obtain a Lexington-Fayette Urban County Government business license, if applicable, prior to award of the contract.

4. Bidder has authorized the Division of Central Purchasing to verify the above-mentioned information with the Division of Revenue and to disclose to the Urban County Council that taxes and/or fees are delinquent or that a business license has not been obtained.

5. Bidder has not knowingly violated any provision of the campaign finance laws of the Commonwealth of Kentucky within the past five (5) years and the award of a contract to the Bidder will not violate any provision of the campaign finance laws of the Commonwealth.

6. Bidder has not knowingly violated any provision of Chapter 25 of the Lexington-Fayette Urban County Government Code of Ordinances, known as "Ethics Act."

7. Bidder acknowledges that "knowingly" for purposes of this Affidavit means, with respect to conduct or to circumstances described by a statute or ordinance defining an offense, that a person is aware or should have been aware that his conduct is of that nature or that the circumstance exists.

Further, Affiant sayeth naught. K-M

STATE OF KENTUCKY

COUNTY OF BOONE

The foregoing instrument was subscribed, sworn to and acknowledged before me by KEVIN KLEMAN on this the 21 day of MARCH, 2012.

My Commission expires: 1/24/15

DAVID McCLANAHAN
NOTARY PUBLIC
STATE OF KENTUCKY
NOTARY ID #435504
MY COMMISSION EXPIRES
JANUARY 24, 2015

NOTARY PUBLIC, STATE AT LARGE

Please refer to Section II. Bid Conditions, Item "U" prior to completing this form.

I. GREEN PROCUREMENT

A. ENERGY

The Lexington-Fayette Urban County Government is committed to protecting our environment and being fiscally responsible to our citizens.

The Lexington-Fayette Urban County Government mandates the use of Energy Star compliant products if they are available in the marketplace (go to **www.Energystar.gov**). If these products are available, but not submitted in your pricing, your bid will be rejected as non-compliant.

ENERGY STAR is a government program that offers businesses and consumers energy-efficient solutions, making it easy to save money while protecting the environment for future generations.

Key Benefits

These products use 25 to 50% less energy
Reduced energy costs without compromising quality or performance
Reduced air pollution because fewer fossil fuels are burned
Significant return on investment
Extended product life and decreased maintenance

B. GREEN SEAL CERTIFIED PRODUCTS

The Lexington-Fayette Urban County Government is also committed to using other environmentally friendly products that do not negatively impact our environment. Green Seal is a non-profit organization devoted to environmental standard setting, product certification, and public education.

Go to **www.Greenseal.org** to find available certified products. These products will have a reduced impact on the environment and on human health. The products to be used must be pre-approved by the LFUCG prior to commencement of any work in any LFUCG facility. If a Green Seal product is not available, the LFUCG must provide a signed waiver to use an alternate product. Please provide information on the Green Seal products being used with your bid response.

C. GREEN COMMUNITY

The Lexington-Fayette Urban County Government (LFUCG) serves as a principal, along with the University of Kentucky and Fayette County Public Schools, in the Bluegrass Partnership for a Green Community. The Purchasing Team component of the Partnership collaborates on economy of scale purchasing that promotes and enhances environmental initiatives. Specifically, when applicable, each principal is interested in obtaining best value products and/or services which promote environment initiatives via solicitations and awards from the other principals.

If your company is the successful bidder on this Invitation For Bid, do you agree to extend the same product/service pricing to the other principals of the Bluegrass Partnership for a Green Community (i.e. University of Kentucky and Fayette County Schools) if requested?

Yes X No_____

II. Bid Conditions

A. No bid may be withdrawn for a period of sixty (60) days after the date and time set for opening.

B. No bid may be altered after the date and time set for opening. In the case of obvious errors, the Division of Central Purchasing may permit the withdrawal of a bid. The decision as to whether a bid may be withdrawn shall be that of the Division of Central Purchasing.

C. Acceptance of this proposal shall be enactment of an Ordinance by the Urban County Council.

D. The bidder agrees that the Urban County Government reserves the right to reject any and all bids for either fiscal or technical reasons, and to award each part of the bid separately or all parts to one vendor.

E. Minor exceptions may not eliminate the bidder. The decision as to whether any exception is minor shall be entirely that of the head of the requisitioning Department or Division and the Director of the Division of Central Purchasing. The Urban County Government may waive technicalities and informalities where such waiver would best serve the interests of the Urban County Government.

F. Manufacturer's catalogue numbers, trade names, etc., where shown herein are for descriptive purposes and are to guide the bidder in interpreting the standard of quality, design, and performance desired, and shall not be construed to exclude proposals based on furnishing other types of materials and/or services. However, any substitution or departure proposed by the bidder must be clearly noted and described; otherwise, it will be assumed that the bidder intends to supply items specifically mentioned in this Invitation for Bids.

G. The Urban County Government may require demonstrations of the materials proposed herein prior to acceptance of this proposal.

H. Bids must be submitted on this form and must be signed by the bidder or his authorized representative. Unsigned bids will not be considered.

I. Bids must be submitted prior to the date and time indicated for opening. Bids submitted after this time will not be considered.

J. All bids mailed must be marked on the face of the envelope:

"Bid on #31-2012 Heavy Duty Power Rescue Tools"

and addressed to: Division of Central Purchasing
200 East Main Street, Room 338
Lexington, Kentucky 40507

The Lexington-Fayette Urban County Government assumes no responsibility for bids that are not addressed and delivered as indicated above. Bids that are not delivered to the Division of Central Purchasing by the stated time and date will be rejected.

K. Bidder is requested to show both unit prices and lot prices. In the event of error, the unit price shall prevail.

L. A certified check or Bid Bond in the amount of XX percent of the bid price must be attached hereto. This check must be made payable to the Lexington-Fayette Urban County Government, and will be returned when the material and/or services specified herein have been delivered in accordance with specifications. In the event of failure to perform within the time period set forth

in this bid, it is agreed the certified check may be cashed and the funds retained by the Lexington-Fayette Urban County Government as liquidated damages. Checks of unsuccessful bidders will be returned when the bid has been awarded.

M. The delivery dates specified by bidder may be a factor in the determination of the successful bidder.

N. Tabulations of bids received may be mailed to bidders. Bidders requesting tabulations must enclose a stamped, self-addressed envelope with the bid.

O. The Lexington-Fayette Urban County Government is exempt from Kentucky Sales Tax and Federal Excise Tax on materials purchased from this bid invitation. Materials purchased by the bidder for construction projects are not tax exempt and are the sole responsibility of the bidder.

P. All material furnished hereunder must be in full compliance with OSHA regulations.

Q. If more than one bid is offered by one party, or by any person or persons representing a party, all such bids shall be rejected.

R. Signature on the face of this bid by the Bidder or his authorized representative shall be construed as acceptance of and compliance with all terms and conditions contained herein.

S. The Entity (regardless of whether construction contractor, non-construction contractor or supplier) agrees to provide equal opportunity in employment for all qualified persons, to prohibit discrimination in employment because of race, color, creed, national origin, sex or age, and to promote equal employment through a positive, continuing program from itself and each of its sub-contracting agents. This program of equal employment opportunity shall apply to every aspect of its employment policies and practices.

T. The Kentucky Equal Employment Opportunity Act of 1978 (KRS 45.560-45.640) requires that any county, city, town, school district, water district, hospital district, or other political subdivision of the state shall include in directly or indirectly publicly funded contracts for supplies, materials, services, or equipment hereinafter entered into the following provisions:

During the performance of this contract, the contractor agrees as follows:

(1) The contractor will not discriminate against any employee or applicant for employment because of race, color, religion, sex, age or national origin;

(2) The contractor will state in all solicitations or advertisements for employees placed by or on behalf of the contractors that all qualified applicants will receive consideration for employment without regard to race, color, religion, sex, age or national origin;

(3) The contractor will post notices in conspicuous places, available to employees and applicants for employment, setting forth the provisions of the non-discrimination clauses required by this section; and

(4) The contractor will send a notice to each labor union or representative of workers with which he has a collective bargaining agreement or other contract or understanding advising the labor union or workers' representative of the contractor's commitments under the nondiscrimination clauses.

The Act further provides:

KRS 45.610. Hiring minorities - Information required

(1) For the length of the contract, each contractor shall hire minorities from other sources

within the drawing area, should the union with which he has collective bargaining agreements be unwilling to supply sufficient minorities to satisfy the agreed upon goals and timetable.

(2) Each contractor shall, for the length of the contract, furnish such information as required by KRS 45.560 to KRS 45.640 and by such rules, regulations and orders issued pursuant thereto and will permit access to all books and records pertaining to his employment practices and work sites by the contracting agency and the department for purposes of investigation to ascertain compliance with KRS 45.560 to 45.640 and such rules, regulations and orders issued pursuant thereto.

KRS 45.620. Action against contractor - Hiring of minority contractor or subcontractor

(1) If any contractor is found by the department to have engaged in an unlawful practice under this chapter during the course of performing under a contract or subcontract covered under KRS 45.560 to 45.640, the department shall so certify to the contracting agency and such certification shall be binding upon the contracting agency unless it is reversed in the course of judicial review.

(2) If the contractor is found to have committed an unlawful practice under KRS 45.560 to 45.640, the contracting agency may cancel or terminate the contract, conditioned upon a program for future compliance approved by the contracting agency and the department. The contracting agency may declare such a contractor ineligible to bid on further contracts with that agency until such time as the contractor complies in full with the requirements of KRS 45.560 to 45.640.

(3) The equal employment provisions of KRS 45.560 to 45.640 may be met in part by a contractor by subcontracting to a minority contractor or subcontractor. For the provisions of KRS 45.560 to 45.640, a minority contractor or subcontractor shall mean a business that is owned and controlled by one or more persons disadvantaged by racial or ethnic circumstances.

KRS 45.630 Termination of existing employee not required, when

Any provision of KRS 45.560 to 45.640 notwithstanding, no contractor shall be required to terminate an existing employee upon proof that that employee was employed prior to the date of the contract.

KRS 45.640 Minimum skills

Nothing in KRS 45.560 to 45.640 shall require a contractor to hire anyone who fails to demonstrate the minimum skills required to perform a particular job.

It is recommended that all of the provisions above quoted to be included as special conditions in each contract. In the case of a contract exceeding $250,000, the contractor is required to furnish evidence that his work-force in Kentucky is representative of the available work-force in the area from which he draws employees, or to supply an Affirmative Action plan which will achieve such representation during the life of the contract.

U. Any party, firm or individual submitting a proposal pursuant to this invitation must be in compliance with the requirements of the Lexington-Fayette Urban County Government regarding taxes and fees before they can be considered for award of this invitation and must maintain a "current" status with regard to those taxes and fees throughout the term of the contract. The contractor must be in compliance with Chapter 13 from the Code of Ordinances

of the Lexington-Fayette Urban County Government. The contractor must be in compliance with Ordinance 35-2000 pursuant to contractor registration with the Division of Building Inspection. If applicable, said business must have a Fayette County business license.

Pursuant to KRS 45A.343 and KRS 45A.345, the contractor shall

(1) *Reveal any final determination of a violation by the contractor within the previous five year period pursuant to KRS Chapters 136 (corporation and utility taxes), 139 (sales and use taxes), 141 (income taxes), 337 (wages and hours), 338 (occupational safety and health of employees), 341 (unemployment and compensation) and 342 (labor and human rights) that apply to the contractor; and*

(2) *Be in continuous compliance with the above-mentioned KRS provisions that apply to the contractor for the duration of the contract.*

A contractor's failure to reveal the above or to comply with such provisions for the duration of the contract shall be grounds for cancellation of the contract and disqualification of the contractor from eligibility for future contracts for a period of two (2) years.

V. Vendors who respond to this invitation have the right to file a notice of contention associated with the bid process or to file a notice of appeal of the recommendation made by the Director of Central Purchasing resulting from this invitation.

Notice of contention with the bid process must be filed within 3 business days of the bid/proposal opening by (1) sending a written notice, including sufficient documentation to support contention, to the Director of the Division of Central Purchasing or (2) submitting a written request for a meeting with the Director of Central Purchasing to explain his/her contention with the bid process. After consulting with the Commissioner of Finance the Chief Administrative Officer and reviewing the documentation and/or hearing the vendor, the Director of Central Purchasing shall promptly respond in writing findings as to the compliance with bid processes. If, based on this review, a bid process irregularity is deemed to have occurred the Director of Central Purchasing will consult with the Commissioner of Finance, the Chief Administrative Officer and the Department of Law as to the appropriate remedy.

Notice of appeal of a bid recommendation must be filed within 3 business days of the bid recommendation by (1) sending a written notice, including sufficient documentation to support appeal, to the Director, Division of Central Purchasing or (2) submitting a written request for a meeting with the Director of Central Purchasing to explain his appeal. After reviewing the documentation and/or hearing the vendor and consulting with the Commissioner of Finance and the Chief Administrative Officer, the Director of Central Purchasing shall in writing, affirm or withdraw the recommendation.

III. Procurement Contract Bid Conditions

A. The terms of this agreement shall be for 1 year from the date of acceptance of this contract by the Lexington-Fayette Urban County Government. This agreement may be extended for an additional 1 year renewal upon the written agreement of the bidder and the Lexington-Fayette Urban County Government. Said agreement must be in writing and must be executed prior to the expiration of the current agreement.

B. Price Changes **(Space Checked Applies)**

(XXX) 1. Prices quoted in response to the Invitation shall be firm prices for the first 90 days of the Procurement Contract. After 90 days, prices may be subject to revision and such changes shall be based on general industry changes. Revision may be either increases or decreases and may be requested by either party. There will be no more than one (1) price adjustment per quarter. Requests for price changes shall be received in writing at least twenty (20) days prior to the effective date and are subject to written acceptance before becoming effective. Proof of the validity of a request for revision shall be responsibility of the requesting party. The Lexington-Fayette Urban County Government shall receive the benefit of any decline that the seller shall offer his other accounts.

() 2. No provision for price change is made herein. Prices are to be firm for the term of this contract.

() 3. Procurement Level Contract

C. If any contract item is not available from the vendor, the Lexington-Fayette Urban County Government, at its option, may permit the item to be back-ordered or may procure the item on the open market.

D. All invoices must bear reference to the Lexington-Fayette Urban County Government Purchasing document numbers which are being billed.

E. This contract may be canceled by either party thirty (30) days after delivery by canceling party of written notice of intent to cancel to the other contracting party.

F. This contract may be canceled by the Lexington-Fayette Urban County Government if it is determined that the Bidder has failed to perform under the terms of this agreement, such cancellation to be effective upon receipt of written notice of cancellation by the Bidder.

G. No substitutions for articles specified herein may be made without prior approval of the Division of Central Purchasing.

EQUAL OPPORTUNITY AGREEMENT

The Law

- Title VII of the Civil Rights Act of 1964 (amended 1972) states that it is unlawful for an employer to discriminate in employment because of race, color, religion, sex, age (40-70 years) or national origin.

- Executive Order No. 11246 on Nondiscrimination under Federal contract prohibits employment discrimination by contractor and sub-contractor doing business with the Federal Government or recipients of Federal funds. This order was later amended by Executive Order No. 11375 to prohibit discrimination on the basis of sex.

- Section 503 of the Rehabilitation Act of 1973 states:

  The Contractor will not discriminate against any employee or applicant for employment because of physical or mental handicap.

- Section 2012 of the Vietnam Era Veterans Readjustment Act of 1973 requires Affirmative Action on behalf of disabled veterans and veterans of the Vietnam Era by contractors having Federal contracts.

- Section 206(A) of Executive Order 12086, Consolidation of Contract Compliance Functions for Equal Employment Opportunity, states:

  The Secretary of Labor may investigate the employment practices of any Government contractor or sub-contractor to determine whether or not the contractual provisions specified in Section 202 of this order have been violated.

****

The Lexington-Fayette Urban County Government practices Equal Opportunity in recruiting, hiring and promoting. It is the Government's intent to affirmatively provide employment opportunities for those individuals who have previously not been allowed to enter into the mainstream of society. Because of its importance to the local Government, this policy carries the full endorsement of the Mayor, Commissioners, Directors and all supervisory personnel. In following this commitment to Equal Employment Opportunity and because the Government is the benefactor of the Federal funds, it is both against the Urban County Government policy and illegal for the Government to let contracts to companies which knowingly or unknowingly practice discrimination in their employment practices. Violation of the above mentioned ordinances may cause a contract to be canceled and the contractors may be declared ineligible for future consideration.

Please sign this statement in the appropriate space acknowledging that you have read and understand the provisions contained herein. Return this document as part of your application packet.

Bidders

I/We agree to comply with the Civil Rights Laws listed above that govern employment rights of minorities, women, Vietnam veterans, handicapped and aged persons.

[signature] _____ Vogelpohl Fire Equipment

Signature Name of Business

Specifications	Bidder Complies	
	Yes	No

SPECIFICATIONS FOR A HYDRAULIC RESCUE TOOLS

Heavy Duty Power Rescue Tools
Scope and Classification

I. **Scope**
This specification covers a new and commercially produced hydraulic rescue tool system. ✓

II. **Classification**
These specifications call for gasoline powered hydraulic pumps and manual hydraulic pumps with the capability to operate hydraulic spreaders with accessories, hydraulic cutters, telescopic rams, and push/pull rams with accessories. 32ft hoses shall be provided in this package.

III. **Applicable Documents** ✓
Any manufacturer or vendor responding to this bid shall enclose in their proposal at the time of bid any documents required in these specifications. It is the responsibility of the vendor to be sure that the proposal submitted meets all requirements of these specifications. Bids which fail to comply with these requirements shall not be considered for award.

IV. **Materials** ✓
The hydraulic rescue tools delivered under these specifications shall be standard commercial products which meet or exceed the requirements of this specification. The components and optional items shall be as represented in the manufacturer's current sales and technical data. Materials used in construction of the rescue tools shall be new and not less than the quality conforming to current engineering and manufacturing practices. Materials shall be free of defects and suitable for the service intended.

V. **Training** ✓
Three consecutive days of training shall be provided covering the use, maintenance, and limitations of the tools covered in this specification.

VI. **Exceptions to Specifications** ✓
It is not the intent of these specifications to restrict or prevent any vendor from submitting a proposal on his product. Due to the fact that the equipment specified is to used under emergency and hazardous conditions where human life may be at risk the following must apply: Any exception(s) to these specifications indicated herein must be clearly pointed out otherwise it will be considered that items offered are in strict compliance with these specifications and the successful bidder will be held responsible for delivering a rescue tool system meeting these specifications. Any exception taken shall be listed by number and noted on the exception sheet found at the end of these specifications.

Specifications	Bidder Complies	
	Yes	No

VII. **Information and Descriptive Literature** ✓
Bidders must furnish all information requested and in the space provided on the bid form. In addition, vendors shall supply at least two (2) complete sets of sketches, descriptive literature, and complete specifications covering the products offered. Bids not meeting this requirement will be rejected.

VII. **Anti-Collusion Statement** ✓
By signing this bid the bidder agrees that this proposal is made without any understanding, agreement, or connection with any other person, firm, or corporation making a bid for the same purpose, and that the bid is in all respects fair and without collusion or fraud.
Sign in ink in the space provided below. Unsigned bids will be considered as incomplete and will be rejected.

IT IS AGREED BY THE UNDERSIGNED BIDDER THAT THE SIGNING AND DELIVERY OF THIS BID REPRESENTS THE BIDDER'S ACCEPTANCE OF THE TERMS AND CONDITIONS OF THE FOREGOING SPECIFICATIONS AND PROVISIONS, AND IF AWARDED THE CONTRACT BY THIS AGENCY, WILL REPRESENT THE AGREEMENT BETWEEN THE PARTIES.

NAME OF FIRM Vogelpohl Fire Equipment
SIGNED BY: must be signed in ink by a company officer
TITLE Vice President
MANUFACTURER OF RESCUE TOOLS Holmatro
MODEL(S) BID 4000 Series
DELIVERY WILL BE MADE IN 90 DAYS.

SPECIAL NOTE: Variances or exceptions must be noted by number on the following pages and explained in full detail on the last page(s) of this specification. Vendors whose bid fails to comply with this requirement will not be accepted. ✓

GENERAL CONDITIONS
(WARRANTY) ✓
The following is a description of the rescue tool system that will meet the minimum requirements of this specification. These specifications are to be considered as minimum and are expressed as such. If the rescue tool(s) and component parts delivered under this contract do not comply with these specifications the tools will not be accepted. Any vendor failing to meet his obligations required as part of this contract may be forced to pay damages to this agency. Such damages shall not exceed the amount required to obtain a replacement product or tool meeting the requirements of this specification.

Specifications	Bidder Complies	
	Yes	No
1.00 Warranty and Service Requirements This agency subscribes whenever possible to a "Buy American" policy. With respect to service and the possible difficulty of obtaining replacement parts, the rescue system supplied under this contract shall be made in the United States.	✓	
NOTE: ANY AND ALL EXCEPTIONS TO THESE SPECIFICATIONS SHALL BE LISTED IN SECTION (7) AND BE REFERRED BY PARAGRAPH.	✓	
1.01 Warranty The rescue system bid in response to these specifications shall carry a limited lifetime warranty. This warranty shall protect the original owner so long as the necessary warranty papers are supplied when service is required. A copy of the limited lifetime warranty requirements shall be included with this bid.	✓	
GENERAL CONDITIONS **(HYDRAULIC POWER UNIT)** **2.00 Hydraulic Power Unit (gasoline), 2-Tool Simultaneous Operation** This pump must be compliant with NFPA 1936 Standard on Powered Rescue Tool Systems, 1999 edition. The pump must allow operation in a humid and dusty environment. The pump must be capable of powering two tools at full power, independently and simultaneously. For this purpose the pump must have two separate valve blocks, each incorporating a pressure relief valve. Each valve must be capable stopping pressure to the tool by means of manually relieving or automatically relieving the pressure without loss of fluid. Valves shall be of a single fitting connection. This connection shall allow the flow of hydraulic fluid to flow from the pump to the tool and return through a single fitting hose. Fitting will allow hose to be disconnected without the flow continuing and without the use of a manual relief valve. The relief valve must vent internally. Couplers must be one hand operated, flat-face, non-drip couplings with built-in automatic locking feature. Couplers must be supplied with aluminum protective dust caps. The pump will be provided with a Pressure Relief Device to allow the relief of pressure in hose lines due to temperature change or inadvertent pressurization of the line when no tool is connected.	✓	
2.01 Engine The power source for the pump shall be a Honda 4-cycle gasoline engine producing a minimum of 3.0 HP (2237 watts). The engine shall have a gasoline tank of at least 1.5 quarts (1.4 liter), which allows the engine to run for at least one hour during intermittent operation. For ease of operation the fuel tank shall incorporate a highly visible fuel level indicator. This engine is specified due to its ease and reliability in starting. The engine shall be fitted with an hour meter in order to facilitate a periodic maintenance schedule. No other engine will be accepted as part of this specification.	✓	

Specifications	Bidder Complies	
	Yes	No
2.02 Pump Each pump part shall be a two-stage radial piston pump with an output of not less than 131 cu in/min (2150 cc/min) in the first stage and not less than 27.5 cu in/min (450 cc/min) in the second stage. The pump shall have two automatic sequence valves, set at approximately 2,900 psi (200 bar), that switch the first stage to second stage, in order to allow full pressure to be built up to a maximum working pressure of 10,500 psi (720 bar). Each pump shall be protected with two internal safety valves. In addition, each valve block shall have an external safety valve, factory set at 10,500 psi (720 bar).	✓	
2.03 Carrying frame The pump shall have a carrying frame that protects all parts of the pump, and makes it easy to carry the pump unit. In order to provide improved grip in all weather conditions, the frame must have a non-slip surface. The frame shall be provided with anti-vibration dampers to keep the pump at its position while running. The pump unit shall be mounted to the frame with rubber isolation dampers to reduce vibration and shock to the pump unit.	✓	
2.04 Tank and fluid The pump shall be designed for the use of non-toxic mineral oil. The effective oil contents shall be no less than 3.2 qt. (3 liters). For ease of operation the oil tank shall incorporate a highly visible oil level indicator. The oil contents of the tank when filled to the proper level shall be no less then 3.8 quarts (3.6 liters).	✓	
2.05 Weight and Dimensions The complete unit, including pump, frame, hydraulic oil and gasoline shall weigh no more than fifty-eight (58) pounds (26.3 kg). The dimensions of the complete pump unit shall be within (LxWxH): 19-5/8 inches x 13-3/8 inches x 15-3/8 inches (500 mm x 340 mm x 390 mm).	✓	
2.06 Sound Level The sound level of the simultaneously operating pump must not exceed 83 dB measured at a distance of thirteen (13) feet (4 meters).	✓	
2.07 Hydraulic Power Unit (gasoline), 2-Tool Simultaneous Operation This pump must be compliant with NFPA 1936 Standard on Powered Rescue Tool Systems, 1999 edition. The pump must allow operation in a humid and dusty environment. The pump must be capable of powering two tools at full power, independently and simultaneously. For this purpose the pump must have two separate valve blocks, each incorporating a pressure relief valve. Each valve must be capable stopping pressure to the tool by means of manually relieving or automatically relieving the pressure without loss of fluid. Valves shall be of a single fitting connection. This connection shall allow the flow of hydraulic fluid to flow from the pump to the tool and return through a single fitting hose. Fitting will allow hose to be disconnected without the flow continuing and without the use of a manual relief valve. The relief valve must vent internally. Couplers must be one hand operated, flat-face, non-drip couplings with built-in automatic locking feature. Couplers must be supplied with aluminum protective dust caps. The pump will be provided with a Pressure Relief Device to allow the relief of pressure in hose lines due to temperature change or inadvertent pressurization of the line when no tool is	✓	

Specifications	Bidder Complies	
	Yes	No

connected. LED lighting shall be available to illuminate the couplings while engine is in operation.

2.08 Engine ✓

The power source for the pump shall be a Honda 4-cycle gasoline engine producing a minimum of 3.0 HP (2237 watts). The engine shall have a gasoline tank of at least 1.3 quarts (1.25 liter), which allows the engine to run for at least one hour during intermittent operation. For ease of operation the fuel tank shall incorporate a highly visible fuel level indicator. This engine is specified due to its ease and reliability in starting. The engine shall be fitted with an hour meter in order to facilitate a periodic maintenance schedule. No other engine will be accepted as part of this specification.

2.09 Pump ✓

Each pump part shall be a two-stage radial piston pump with an output of not less than 171 cu in/min (2800 cc/min) in the first stage and not less than 34 cu in/min (550 cc/min) in the second stage. The pump shall have two automatic sequence valves, set at approximately 2,800 psi (200 bar), that switch the first stage to second stage, in order to allow full pressure to be built up to a maximum working pressure of 10,500 psi (720 bar). Each pump shall be protected with two internal safety valves. In addition, each valve block shall have an external safety valve, factory set at 10,500 psi (720 bar).

2.10 Carrying frame ✓

The carrying handle shall be a suit case style handle on the top of the power unit and it shall be an integral part of the protective housing of the unit. The frame shall be provided with anti-vibration dampers to keep the pump at its position while running.

2.11 Tank and fluid ✓

The pump shall be designed for the use of non-toxic mineral oil. The effective oil contents shall be no less than 2.6 qt. (2.49 liters). For ease of operation the oil tank shall incorporate a highly visible oil level indicator.

2.12 Weight and Dimensions ✓

The complete unit, including pump, frame, hydraulic oil and gasoline shall weigh no more than fifty-five (55) pounds (25 kg). The dimensions of the complete pump unit shall be within (LxWxH): 23-1/2 inches x 11-1/2 inches x 16-3/4 inches (600 mm x 290 mm x 425 mm).

2.13 Sound Level ✓

The sound level of the simultaneously operating pump must not exceed 83 dB measured at a distance of thirteen (13) feet (4 meters).

2.10 Hydraulic Tool (gasoline) Single Tool Power Unit ✓

This pump must be compliant with NFPA 1936 Standard on Powered Rescue Tool Systems, 1999 edition. The pump must allow operation in a humid and dusty environment and thus is provided with an easy to clean air filter on the engine. The pump must have the capability for two-tool connection with selective operation of one tool at a time. The selector valve will be designed so as to permit selection between either of the two line positions or the neutral position. The pump must

Specifications	Bidder Complies	
	Yes	No
have pressure dump valve that allows inadvertent pressurization to be relieved from full load by just flipping a lever. Couplers must be one hand operated, flat-face, non-drip couplings with built-in automatic locking feature. Couplers must be supplied with aluminum protective dust caps. The pump will be provided with a Pressure Relief Device to allow the relief of pressure in hose lines due to temperature change.		
2.11 Engine The unit shall be driven by a compact Honda 4 stroke gasoline engine of at least 2.5 HP set at 4,500 rpm. The engine shall have a gasoline tank of at least 1.3 qt. (1.25 L) that allows the pump to run for at least 2 hours.	✓	
2.12 Pump The pump shall be a two-stage radial piston pump with pump output of not less than 139 cu in/min (2,280 cc/min) in the first stage and a pump output of not less than 37 cu in/min (620 cc/min) in the second stage. The pump shall have an automatic sequence valve, set at approx. 2683 psi (185 bar), that switches the first stage pump to no-load in order to allow full pressure to be built up to a maximum working pressure of approx. 10,500 psi (720 bar). The mini pump shall be protected with an internal safety valve. In addition to that, the pump must have an external safety valve, factory set at 10,500 psi (720 bar).	✓	
2.13 Carrying Handle The pump shall have an integrated carrying handle, which makes it easy to carry the pump unit.	✓	
2.14 Tank and fluid The oil tank shall contain not less than 2.4 qt (2.3 L) to allow a proper cooling of the hydraulic fluid and shall be provided with an automatic air vent in the fill cap. The pump shall be designed for the use of non-toxic mineral oil. The effective oil contents shall be no less than 2.1 qt (2.0 L).	✓	
2.15 Weight and Dimensions The complete pump ready to use shall weigh no more than 35 lbs (15.9 kg). The dimensions of the complete pump unit shall be within (LxWxH): 17 ¾ in x 12 in x 15 in (451 mm x 305 mm x 381 mm).	✓	
2.16 Sound Level The sound level of the pump must not exceed 83 dB measured from a distance of 13 feet (4 meters) from unit.	✓	
NOTE: VENDORS TAKING EXCEPTION TO THIS REQUIREMENT MUST, IF PROTESTING THIS REQUIREMENT, PROVE TO THIS AGENCY THE ENGINE MANUFACTURER'S ABILITY TO PROVIDE EQUAL OR BETTER SERVICE.	✓	
2.17 Hydraulic Back-up Pump (hand/foot operated) Hydraulic pump capable of operating any tools listed in this specification. This pump must be a 3-stage pump that can be hand or foot operated. Valves shall be of a single fitting connection. This connection shall allow the flow of hydraulic fluid to flow from the pump to the tool and		

Specifications	Bidder Complies	
	Yes	No
return through a single fitting hose. Fitting will allow hose to be disconnected without the flow continuing and without the use of a manual relief valve. Pump must produce a maximum of 1.7cubic inches per stroke.		
2.18 Tank and Fluid Manual pump must use non-toxic mineral based hydraulic fluid. Fluid capacity shall be no less than 1.9 quarts	✓	
2.19 Weight Weight of manual power unit shall no exceed 39 pounds.	✓	
2.20 Air Powered Hydraulic Pump The pump will have a maximum operating pressure of 10,500 psi (720 bar). The pump must have a one tool connection and a manual pressure relief valve situated over the pressure outlet in such way that inadvertent pressurization cannot take place but that allows a pressure relief under full load by just pressing the foot pedal. Couplers must be drip free with quick connect design.	✓	
2.21Power Source The unit shall be driven by an air supply operating at 125 psi (8.5 bar). Air consumption unloaded shall be no less than 184 cfm; loaded shall be no less than 153 cfm.	✓	
2.22 Pump The pump will be a reciprocating air/hydraulic pump for use in high hazard areas. The pump shall have unloaded output of not less than 58 cu in/min (960 cc/min) and loaded output of 25 cu in/min (410 cc/min). The pump will consume air at a rate of 3 gal/min (700 L/min) unloaded and 2.5 gal/min (580 L/min) loaded. The air intake port will be 1/4" (6.35mm) BSP and the oil port will be 3/8" (9.5 mm) NPT. The pump shall be protected with an internal safety valve. In addition, the pump must have an external safety valve, factory set at 10,500 psi (720 bar).	✓	
2.23 Tank and fluid The oil tank shall contain 1.8 qt. (1.7 L) to allow a proper cooling of the hydraulic fluid and shall be provided with an automatic air vent. The pump shall be designed for the use of non-toxic mineral oil. The effective oil contents shall be no less than 1.7 qt. (1.6 L).	✓	
2.24 Weight and Dimensions The complete pump's ready to use weight will be 15 lbs. (6.5 kg). The dimensions of the complete pump unit shall be within (LxWxH): 13 1/2 in x 5 in x 8 ¼ in (343 mm x 127 mm x 210 mm).	✓	
2.25 The sound level The sound level of the pump/compressor must not exceed 85 dB measured at a distance of 13 ft (4 meters).	✓	
2.26 Hydraulic Hoses The simultaneous hydraulic pump shall be provided with two (2) sets of thirty-two foot hoses. The supplied hose shall be adequately reinforced to provide a four to one (4:1) safety factor.	✓	

Specifications	Bidder Complies	
	Yes	No
The hydraulic hoses must have a minimum warranty of one (1) year. The hydraulic hoses as supplied with this system shall be dual flow coaxial type allowing hydraulic fluid to flow from the power unit to the component and return. Hoses shall be color coded for ease of identification. The colors shall be agreed upon between vendor and purchaser.		
2.27 Hose Couplings Hose shall have a single male connection on the pump end and a female connection on the tool end of the twist lock type. They shall be designed to prevent the inadvertent connection of the wrong hose to the component. The connections shall be positive twist lock type and be pressure tested to four times pump operating pressure. Couplings will allow 360-degree rotation of hoses while attached without entangling. These connections shall be compatible with all other components of the rescue system bid.	✓	
GENERAL CONDITIONS **(HYDRAULIC CUTTING TOOLS)** The following is a description of the rescue tool system that will meet the minimum requirements of this specification. These specifications are to be considered as minimum and are expressed as such. If the rescue tool(s) and component parts delivered under this contract do not comply with these specifications, the tools will not be accepted. Any vendor failing to meet his obligations required as part of this contract may be forced to pay damages to this agency. Such damages shall not exceed the amount required to obtain a replacement product or tool meeting the requirements of this specification.	✓	
3.00 Hydraulic Cutting Tool #1 The tool must be UL listed. This tool must have successfully completed the rescue tool test program certified by Underwriters Laboratories, Inc. The tool must be capable of withstanding a static over-load pressure of twice the working pressure. This 2:1 over-load ratio is a UL requirement to provide maximum safety to the operator. This tool must also be compliant with NFPA 1936 Standard on Powered Rescue Tool Systems, 1999 edition. The tool must be a "one-person" operated lightweight tool, which means that one person will be able to position, guide and operate the tool without the assistance of other people. For this reason the tool will be equipped with a carrying handle, which allows the operator to keep the tool evenly balanced in all positions even with one hand. Couplers must be one hand operated, flat-face, non-drip couplings with built-in automatic locking feature. Couplers must be supplied with aluminum protective dust caps. Hose will be connected to the rear of the dead man's handle, leading away in line with the tool avoiding hindrance to the operator. Hose connection shall be protected so that the connection is not accessible or susceptible to damage. Hose shall be equipped with protective bend restrictors.	✓	
3.02 Cutting Tool Control Mechanism The tool must be activated by means of a rotary dead man's handle, operated by a twist of the wrist. For ease of operation, the handle shall have a maximum rotation of 20° in either direction. When the dead man's handle is released, it must return to the neutral position	✓	

Specifications	Bidder Complies	
	Yes	No
automatically. The dead man's handle will provide one-handed control of opening and closing functions. The dead man's handle shall provide 360-degree access to the operator allowing operation of the tool in any position. The dead man's handle must be located in such a way that it can be operated, guided and supported easily by right and left handed operators without having to change the position of the hands, even when wearing gloves. The dead man's control must be capable of withstanding 6000 endurance cycles, one cycle consisting of opening and closing the tool.		
3.03 Carrying Handle The distance between the control handle and the U-shaped carrying handle will be no less than 9" (229 mm) to provide a natural position for both hands during operation and to allow for complete control of the tool. The tool shall remain in a balanced horizontal position when held only by the carrying handle. In order to provide improved grip in all weather conditions, the carrying handle must have a non-slip surface. LED lighting powered by a single AA battery shall be integrated into the carrying handle to allow for better visibility during low light conditions.	✓	
3.04 Safety and Protection For maximum safety of the operator all cutters, spreaders and rams shall contain a safety relief valve to protect the tool against over pressurization caused by accidentally disconnecting the return line of the tool. For operator safety, a cover must protect all moving parts such as yoke and levers.	✓	
3.05 Hinge bolt system The cutter will contain a low profile locking hinge bolt system. This low profile system allows greater precision and control on every cut with better access into tight spaces by a design that keeps the hinge bolt assembly within the blade holder profile. The hinge bolt system must require a torque of no more then 38 ft-lb (50Nm) and have a set of protective covers in place over the hinge bolt assembly.	✓	
3.06 Blades The blades of the cutter will be fabricated from high-grade tool steel, hardened to improve durability. The blades will be constructed so as to be re-ground. The blades will be manufactured with a recess in the cutting edge of 1.1 inches (28mm). The blades must be capable of shearing 13/16inch ASTM A108 round stock (in the recess), Ø 1-7/8 inches O.D. x Ø1-5/8 inches I.D. A513-91A T5 tube, 2 inches x 2 inches x $^{3}/_{16}$ inch ASTM A-500-90 square section, 2½ inches x 1½ inches x 1/8inch ASTM A-513 rectangular section, 2-3/8 inches x 3/16 inch ASTM A569 steel plate. In addition the NFPA 1936 level performance rating for this tool shall be: A6 B3 C5 D6 E5.	✓	
3.07 Power Source Hydraulic power must be delivered from a gasoline or electrically driven pump. Alternatively, a manually operated pump or an air driven pump may be used. To provide maximum ease of use (lightest weight) to the operator the pump must be a completely separate unit from the rescue tool.	✓	

Specifications	Bidder Complies	
	Yes	No
3.08 Forces The maximum cutting force exerted will be no less than 63,400 lbf (282 kN) in the recess, and 41,000 lbf (182.4 kN) in the middle of the blades.	✓	
3.09 Weight & Dimensions The weight of an operable tool may not exceed 27.5 pounds (12.5kg) including hydraulic oil. The maximum opening of the blades will be no less than 5¼ inches (134 mm) measured at the tips. The length of the tool including hose bend radius shall not exceed 30 ¼ inches (769mm). Width of cutter shall not exceed 8 ¾ inches (223 mm). Height shall not exceed 7 ¼ inches (185 mm).	✓	
3.10 Corrosion & Wear Protection Internal and external aluminum parts of the tool that are susceptible to wear or corrosion must be anodized to provide maximum durability. The tool must be capable of withstanding a 10-day salt spray test, and still be able to function normally. Blades must have a method of lubrication through the hinge bolt using a grease gun.	✓	
4.00 Hydraulic Cutter # 2 The tool must be capable of withstanding a static over-load pressure of twice the working pressure. This 2:1 over-load ratio is a requirement to provide maximum safety to the operator. The tool must be a "one-person" operated lightweight tool, which means that one person will be able to position, guide and operate the tool without the assistance of other people. For this reason the tool will be equipped with a carrying handle, which allows the operator to keep the tool evenly balanced in all positions even with one hand. Couplers must be one hand operated, flat-face, non-drip couplings with built-in automatic locking feature. Couplers must be supplied with aluminum protective dust caps. Hose will be connected to the rear of the dead man's handle, leading away in line with the tool avoiding hindrance to the operator. Hose connection shall be protected so that the connection is not accessible or susceptible to damage. Hoses shall be equipped with protective bend restrictors.	✓	
4.01 Cutting Tool Control Mechanism The tool must be activated by means of a rotary dead man's handle, operated by a twist of the wrist. For ease of operation, the handle shall have a maximum rotation of 20° in either direction. When the dead man's handle is released, it must return to the neutral position automatically. The dead man's handle will provide one-handed control of opening and closing functions. The dead man's handle shall provide 360-degree access to the operator allowing operation of the tool in any position. The dead man's handle must be located in such a way that it can be operated, guided and supported easily by right and left handed operators without having to change the position of the hands, even when wearing gloves. The dead man's control must be capable of withstanding 6000 endurance cycles, one cycle consisting of opening and closing the tool.	✓	
4.02 Carrying handle	✓	

Specifications	Bidder Complies	
	Yes	No
The distance between the dead man's handle and the U-shaped carrying handle will be at least twelve (12) inches (305 mm) to provide a natural position for both hands during operation and to allow for complete control of the tool. The tool shall remain in a balanced horizontal position. when held only by the carrying handle. In order to provide improved grip in all weather conditions, the carrying handle must have a non-slip surface. LED lighting powered by a single AA battery shall be integrated into the carrying handle to allow for better visibility during low light conditions.		
4.03 **Safety and Protection** For maximum safety of the operator all cutters, spreaders and rams shall contain a safety relief valve to protect the tool against over pressurization caused by accidentally disconnecting the return line of the tool. For operator safety, a cover must protect all moving parts such as yoke and levers.	✓	
4.04 **Hinge bolt system** The cutter will contain a low profile locking hinge bolt system. This low profile system allows greater precision and control on every cut with better access into tight spaces by a design that keeps the hinge bolt assembly within the blade holder profile. The hinge bolt system must require a torque of no more then 38 ft-lb (50Nm) and have a set of protective covers in place over the hinge bolt assembly.	✓	
4.05 **Blades** The blades of the cutter will be fabricated from high-grade tool steel, hardened to improve durability. The blades shall be manufactured from forged bar stock by CNC machining technology. The design of the blade shall be derived to meet the requirement of today's rescuer facing New Car Technology. The blades will be constructed for the capability to be re-ground.	✓	
4.06 **Power Source** Hydraulic power at a pressure of 10,500 psi (720 bar) must be delivered from a gasoline or an electrically driven pump. Alternatively, a manually operated pump or an air driven pump may be used. To provide maximum ease of use (lightest weight) to the operator, the pump must be a completely separate unit from the rescue tool.	✓	
4.07 **Forces** The maximum cutting force exerted will be no less than 208,300 lbf (927 kN) in the recess of the blades, near the hinge bolt.	✓	
4.08 **Weight and dimensions** The maximum opening of the blades will be no less than 7-1/8 inches (181 mm) measured at the tips. Length of tool including hose bend radius shall not exceed 32 ½ inches (828mm). Width shall not exceed 10 ¼ inches (261mm). Height shall not exceed 7 ½ inches (191mm). Weight ready to use shall not exceed 40 ½ pounds (18.4 kg).	✓	
4.09 **Corrosion and wear protection**	✓	

Specifications	Bidder Complies	
	Yes	No

Internal and external aluminum parts of the tool that are susceptible to wear or corrosion must be anodized to provide maximum durability. The tool must be capable of withstanding a 10-day salt spray test, and still be able to function normally.

5.0 Hydraulic Cutter # 3

✓

5.1 General Conditions

The tool must be UL Listed: This tool must have successfully completed the rescue tool test program certified by Underwriters Laboratories, Inc. The tool must be capable of withstanding a static over-load pressure of twice the working pressure. This 2:1 over-load ratio is a UL requirement to provide maximum safety to the operator. This tool must ***also*** be compliant with NFPA 1936 Standard on Powered Rescue Tools, 2005 edition. The tool must be a "one-person" operated lightweight tool, which means that one person will be able to position, guide and operate the tool without the assistance of other people. For this reason the tool will be equipped with a carrying handle, which allows the operator to keep the tool evenly balanced in all positions even with one hand. To eliminate connection errors and reduce deployment time, the tool shall be designed for use and supplied with a factory installed single, compact hydraulic coupler. This single male coupler shall incorporate a coaxial design with the pressure line inside of the return line, allowing for simultaneous connection of both lines with one connection motion. The coupler must be of a flat-face, non-drip style, with a protective aluminum dust cap attached to the tool. This coupler shall be located to the rear of the deadman's handle, in line with the center axis of the tool, avoiding hindrance to the operator.

✓

5.2 Hydraulic Cutter Control Mechanism

The tool must be activated by means of a rotary deadman's handle grip, operated by a twist of the wrist. For ease of operation, the handle shall have a maximum rotation of 20° in either direction. When the deadman's handle grip is released, it must return to the neutral position automatically. The deadman's handle design will provide one-handed ergonomic control of opening and closing functions that does not rely on thumb (single digit) operation. The deadman's handle shall provide 360° access to the operator allowing operation of the tool in any position. The deadman's handle must be located in such a way that it can be operated, guided and supported easily by right and left handed operators without having to change the position of the hands, even when wearing gloves. The deadman's control must be capable of withstanding 6000 endurance cycles, one cycle consisting of opening and closing the tool.

✓

5.3 Carrying Handle

To assist the operator and increase safety while working in dark or poorly lit circumstances the carrying handle shall have integrated LED lights. The lights shall be focused on the working area of the tool and shall be completely weatherproof. Lights should be powered by a field replaceable single AA battery and shall provide a minimum of six continuous hours of illumination. The distance between the dead man's handle and the U-shaped carrying handle will be at least 12" (305 mm) to provide a natural position for both hands during operation and to allow for complete control of the tool. The tool shall remain in a balanced horizontal position when held only by the carrying handle. In order to provide improved grip in all weather conditions, the carrying handle must have a non-slip surface

✓

5.4 Safety and Protection

Specifications	Bidder Complies	
	Yes	No
For maximum safety of the operator all cutters, spreaders and rams shall contain a safety relief valve to protect the tool against sudden load shift. All moving parts such as yoke and levers must be protected by a cover for the safety of the operator.		
5.5 Hinge Bolt System To allow better access into tight spaces the cutter will contain a low profile locking hinge bolt system that does not extend beyond the blade holder profile. The bolt and nut must be secured by means of two adjustable interlocking rings that are recessed and protected from damage. Any hinge bolt systems that use any style of lock washers, or lock nuts are not acceptable. Bolt heads or nuts that protrude beyond the blade holders and impede tool operation are not acceptable. This low profile, hinge bolt locking system allows greater precision and control on every cut. For ease of maintenance, the hinge bolt system must not use any blade shims, and the factory recommended torque may not exceed 38 ft-lb (50Nm). For extended tool life the cutter shall have a set of corrosion resistant steel covers in place to shield the blade holders from damage.	✓	
5.6 Blades The blades of the cutter will be fabricated from high grade tool steel, hardened to improve durability. The blades shall be manufactured from forged bar stock by CNC machining technology. The design of the blade shall be derived to meet the requirement of today's rescuer facing *New Car Technology*. The blades will be constructed so as to be re-grindable.	✓	
5.7 Pump Hydraulic power at a maximum pressure of 10,500 psi (720 bar) must be delivered from a gasoline or an electrically driven pump. Alternatively, a manually operated pump or an air driven pump may be used. To provide maximum ease of use (lightest weight) to the operator, the pump must be a completely separate unit from the rescue tool.	✓	
5.8 Forces The maximum cutting force exerted will be no less than 228,855 lbf. (1018 kN) in the recess of the blades, near the hinge bolt. The NFPA performance level rating for this tool shall be A8 B7 C7 D8 E8.	✓	
5.9 Weight and Dimensions The maximum opening of the blades will be no less than 8 5/8" (219 mm) measured at the tips. Length of tool not to exceed 32½" (825 mm); Width not to exceed 10 3/8" (264 mm); Height not to exceed 7 5/8" (194 mm). Weight ready to use not to exceed 43 lbs (19.5 kg).	✓	
5.9 Corrosion and Wear Protection Internal and external aluminum parts of the tool that are susceptible to wear or corrosion must be protected by anodization to provide maximum durability. The tool must be capable of withstanding a 10 day salt spray test, and still be able to function normally.	✓	
5.10 Lifetime Warranty The manufacturer shall warrant this tool against all defects in material and workmanship for as long as owned by the original purchaser.	✓	
6.00 Hydraulic Mini Cutter The tool must be capable of withstanding a static over-load pressure of twice the working pressure. The tool must be a "one-person" operated lightweight tool, which means that one person will be able to position, guide and operate the tool without the assistance of other	✓	

Specifications	Bidder Complies	
	Yes	No
people. Couplers must be one hand operated, flat-face, non-drip couplings with built-in automatic locking feature. Couplers must be supplied with aluminum protective dust caps. Hose will be connected to the rear of the dead-man's handle, leading away in line with the tool avoiding hindrance to the operator. Hose connection shall be protected so that the connection is not accessible or susceptible to damage. Hose shall be equipped with protective bend restrictors.		
6.01 Mini Cutting Tool Control Mechanism The tool must be activated by means of a toggle-type, push button dead-man's handle, operated by depressing the push button by one's thumb or fingers. When the dead-man's push button is released, it must return to the neutral position automatically. The dead-man's push button will provide one-handed control of opening and closing functions. The dead-man's push button must be located in such a way that it can be operated, guided and supported easily by right and left handed operators without having to change the position of the hands, even when wearing gloves. The dead-man's push button shall be inset into the handle in such a way that inadvertent activation is not possible.	✓	
6.02 Safety and Protection For maximum safety of the operator the cutter shall contain a safety relief valve to protect the tool against over pressurization caused by accidentally disconnecting the return line of the tool. The tool shall have a built in no return check valve to hold the load when used to spread or push.	✓	
6.03 Blades The blades of the cutter will be fabricated from high-grade tool steel, hardened to improve durability. The blades will be constructed so as to be re-ground. The blades will be manufactured with serrations in the cutting edge. The outside edge of the blades will have serrations to allow for spreading/pushing operations.	✓	
6.04 Power Source Hydraulic power must be delivered from a gasoline or electrically driven pump. Alternatively, a manually operated pump or an air driven pump may be used. To provide maximum ease of use (lightest weight) to the operator the pump must be a completely separate unit from the rescue tool.	✓	
6.05 Forces The maximum cutting force exerted will be no less than 29,225 lbf (130 kN). The maximum spreading force exerted will be no less than 7,000 lbf (31 kN).	✓	
6.06 Weight & Dimensions The weight of an operable tool may not exceed 8 pounds (3.6kg) including hydraulic oil. The maximum opening of the blades will be no less than 1 ½ inches (40 mm) measured at the tips. The length of the tool not including hose bend radius is not to exceed 13 inches (327mm). Width shall not exceed 2 ¾ inches (68 mm). Height shall not exceed 5 inches (125 mm).	✓	

Specifications	Bidder Complies	
	Yes	No
6.07 **Corrosion & Wear Protection** Internal and external aluminum parts of the tool that are susceptible to wear or corrosion must be anodized to provide maximum durability.	✓	
7.0 Special Materials Hydraulic Cutter # 1		
7.1 **General Conditions** The tool must be capable of withstanding a static over-load pressure of twice the working pressure. The tool must be a "one-person" operated lightweight tool, which means that one person will be able to position, guide and operate the tool without the assistance of other people. To eliminate connection errors and reduce deployment time the tool shall be supplied with only one compact hydraulic coupler. This single coupler shall have a coaxial design with the pressure line inside of the return line to allow for rapid simultaneous connection of both lines with one connection motion. The coupler design shall incorporate an automatic return valve to permit connection and disconnection of the tool to the hose while under flow. The coupler must be a flat-face, non-drip coupling with built-in automatic locking feature and be one hand operated. The coupler shall permit an unhindered 360° rotation at the connection point to avoid twisting or stressing the hose. Coupler must be supplied with a protective aluminum dust cap. The hose connection will be to the rear of the dead man's handle, leading away in line with the center axis of the tool, avoiding hindrance to the operator.	✓	
7.2 **Hydraulic Cutter Control Mechanism** The tool must be activated by means of a rotary dead man's handle grip, operated by a twist of the wrist. For ease of operation, the handle shall have a maximum rotation of 20° in either direction. When the dead man's handle grip is released, it must return to the neutral position automatically. The dead man's handle design will provide one-handed ergonomic control of opening and closing functions that does not rely on thumb (single digit) operation. The dead man's handle shall provide 360° access to the operator allowing operation of the tool in any position. The dead man's handle must be located in such a way that it can be operated, guided and supported easily by right and left handed operators without having to change the position of the hands, even when wearing gloves. The dead man's control must be capable of withstanding 6000 endurance cycles, one cycle consisting of opening and closing the tool.	✓	
7.3 **Carrying Handle** To assist the operator the tool shall be supplied with an adjustable rotating carrying handle capable of moving to any position.	✓	
7.4 **Safety and Protection** For maximum safety of the operator the cutter shall contain a safety relief valve to protect the tool against over pressurization.	✓	

Specifications	Bidder Complies	
	Yes	No
7.5 Cutting Blades The blades of the cutter will be inserts fabricated from high grade tool steel, hardened to improve durability. For longer service life the inserts will be constructed so as to have two useable cutting edges. The blades will be easily removed and rotated to use the second cutting edge. Blades are specially designed to cut hardened round stock rated at: Rebar up to 5/8" (16 mm) with a hardness of 28 HRc Padlocks up to 7/16" (12 mm) with a hardness of 49 HRc Padlocks up to 3/4" (20 mm) with a hardness of 75 HRb Chain up to 5/16" (8.5 mm) with hardness of 60 HRc	✓	
7.6 Pump Hydraulic power must be delivered from an external hydraulic pump that is to be manufactured by the same company as this cutter. It shall be designed specifically for use with rescue tools, and be capable of supplying the full operating pressure of 10,500 psi (720 bar). The hydraulic pump must be designed to be compatible with a mineral oil based system.	✓	
7.7 Forces The maximum cutting force exerted will be no less than 43,388 lbf. (193 kN).	✓	
7.8 Weight and Dimensions The ready to use weight may not exceed 14.3 lbs. (6.5 kg). The length of the tool is not to exceed 15.3" (389 mm); width not to exceed 4.5" (114 mm); height not to exceed 9.2" (234 mm).	✓	
7.9 Corrosion and Wear Protection Internal and external aluminum parts of the tool that are susceptible to wear or corrosion must be anodized to provide maximum durability.	✓	
7.10 Lifetime Warranty The manufacturer shall warrant this tool against all defects in material and workmanship for as long as owned by the original purchaser.	✓	
GENERAL CONDITIONS **(HYDRAULIC SPREADING TOOLS)** **8.00 Hydraulic Spreader # 1** The tool must be UL listed. This tool must have successfully completed the rescue tool test program certified by Underwriters Laboratories, Inc. The tool must be capable of performing 1000 endurance cycles, whereby one cycle consists of completely opening and closing the tool at its maximum pressure during its stroke. The tool must be capable of withstanding a static over-load pressure of twice the working pressure. This 2:1 over-load ratio is a UL requirement to provide maximum safety to the operator. This tool must also be compliant with NFPA 1936 Standard on Powered Rescue Tool Systems, 1999 edition. The tool must be a "one-person"	✓	

Specifications	Bidder Complies	
	Yes	No

operated lightweight tool, which means that one person will be able to position, guide and operate the tool without the assistance of other people. For this reason the tool will be equipped with a carrying handle, which allows the operator to keep the tool evenly balanced in all positions even with one hand. Couplers must be one hand operated, flat-face, non-drip couplings with built-in automatic locking feature. Couplers must be supplied with aluminum protective dust caps. Hose will be connected to the rear of the dead-man's handle, leading away in line with the tool avoiding hindrance to the operator. Hose connection shall be protected so that the connection is not accessible or susceptible to damage. Hose shall be equipped protective bend restrictors.

8.01 Hydraulic Spreader Control Mechanism ✓

The tool must be activated by means of a rotary dead-man's handle, operated by a twist of the wrist. For ease of operation, the handle shall have a maximum rotation of 20° in either direction. When the dead-man's handle is released, it must return to the neutral position automatically. The dead-man's handle will provide one-handed control of opening and closing functions. The dead-man's handle shall provide 360-degree access to the operator allowing operation of the tool in any position. The dead-man's handle must be located in such a way that it can be operated, guided and supported easily by right and left handed operators without having to change the position of the hands, even when wearing gloves. The dead-man's control must be capable of withstanding 6000 endurance cycles, one cycle consisting of opening and closing the tool.

8.02 Carrying Handle ✓

The distance between the dead-man's handle and the U-shaped carrying handle will be no less than 10 ½ inches (267 mm) to provide a natural position for both hands during operation and to allow for complete control of the tool. The tool shall remain in a balanced horizontal position when held only by the carrying handle. In order to provide improved grip in all weather conditions, the carrying handle must have a non-slip surface. LED lighting powered by a single AA battery shall be integrated into the carrying handle to allow for better visibility during low light conditions.

8.03 Safety and Protection ✓

For maximum safety of the operator all cutters, spreaders and rams shall contain a safety relief valve to protect the tool against over pressurization caused by accidentally disconnecting the return line of the tool. The tool will have automatic, non-return check valves built in so that the tool will hold the load when the dead-man's handle is released, whether the tool is spreading or pulling. If pressure should drop because of interruption of the power source for any reason, the tool must hold the load. A cover for the safety of the user must protect all moving parts such as yoke and levers.

8.04 Spreader Arms ✓

The arms and yoke of the spreader must be manufactured out of extremely high tensile aluminum alloy, anodized to offer protection against corrosion. The arms of the spreader will be equipped with investment cast hardened tool steel tips, specially designed for quick field replacement without the use of any tools. Spring-loaded tip locking pins will be incorporated

Specifications	Bidder Complies	
	Yes	No
into the arms so that no loose parts can be lost. The tips will have serrations on both the inside and the outside for a superior grip in spreading or crushing operations.		
8.05 Power Source Hydraulic power must be delivered from a gasoline or electrically driven pump. Alternatively, a manually operated pump or an air driven pump may be used. To provide maximum ease of use (lightest weight) to the operator the pump must be a completely separate unit from the rescue tool.	✓	
8.06 Forces The arms of the spreader will have a maximum opening width of 27 ¼ inches (692 mm), must exert no less than 8,800 lbf (39.1 kN) at the tips, and at least 19,595 lbf (87.2 kN) at the base of the tips. Maximum pulling force at full opening will be at least 11,200 lbf (49.8 kN).	✓	
8.07 Method of Measuring Forces The spreading force must be measured at the effective tip area on the moving arms, perpendicular to the centerline of the tool when in an unfixed state. This measurement of force was calculated and approved by UL and measures the actual force created by the tool when used by the operator.	✓	
8.08 Weight & Dimensions The weight of the ready-for-use tool may not exceed 42 ½ pounds (19.5 kg) including hydraulic oil. Length of tool including hose bend radius shall not exceed 33 inches (839 mm). Width shall not exceed 11 ½ inches (293 mm). Height shall not exceed 8 inches (204 mm).	✓	
8.09 Accessories The following accessories will be available: -Pulling attachments Pulling adapters and chains will be provided for pulling operations. The adapters must have the same quick-change design as the spreading tips. Pulling chains will be equipped with shortening hooks. Safety factor of the chain set will be at least 2 times the maximum pulling force of the tool. -Cutting Tip An optional cutting tip for cutting sheet metals will be available. The cutting tip must have the same quick-change design as the spreading tips. -Additional Spreading Tips Additional spreader tips shall be bid for each hydraulic spreader.	✓	
8.10 Corrosion & Wear Protection Internal and external aluminum parts of the tool that are susceptible to wear or corrosion must be anodized to provide maximum durability. The tool must be capable of withstanding a 10-day salt spray test, and still be able to function normally.	✓	

Specifications	Bidder Complies	
	Yes	No
9.00 Hydraulic Spreader #2 The tool must be UL listed. This tool must have successfully completed the rescue tool test program certified by Underwriters Laboratories, Inc. The tool must be capable of performing 1000 endurance cycles, whereby one cycle consists of completely opening and closing the tool at its maximum pressure during its stroke. The tool must be capable of withstanding a static over-load pressure of twice the working pressure. This 2:1 over-load ratio is a UL requirement to provide maximum safety to the operator. This tool must also be compliant with NFPA 1936 Standard On Powered Rescue Tool Systems, 1999 edition. The tool must be a "one-person" operated lightweight tool, which means that one person will be able to position, guide and operate the tool without the assistance of other people. For this reason the tool will be equipped with a carrying handle, which allows the operator to keep the tool evenly balanced in all positions even with one hand. Couplers must be one hand operated, flat-face, non-drip couplings with built-in automatic locking feature. Couplers must be supplied with aluminum protective dust caps. Hose will be connected to the rear of the dead-man's handle, leading away in line with the tool avoiding hindrance to the operator. Hose connection shall be protected so that the connection is not accessible or susceptible to damage. Hoses shall be equipped with protective bend restrictors.	✓	
9.01 Hydraulic Spreader Control Mechanism The tool must be activated by means of a rotary dead-man's handle, operated by a twist of the wrist. For ease of operation, the handle shall have a maximum rotation of 20° in either direction. When the dead-man's handle is released, it must return to the neutral position automatically. The dead-man's handle will provide one-handed control of opening and closing functions. The dead-man's handle shall provide 360-degree access to the operator allowing operation of the tool in any position. The dead-man's handle must be located in such a way that it can be operated, guided and supported easily by right and left handed operators without having to change the position of the hands, even when wearing gloves. The dead-man's control must be capable of withstanding 6000 endurance cycles, one cycle consisting of opening and closing the tool.	✓	
9.02 Carrying Handle The distance between the dead-man's handle and the U-shaped carrying handle will be no less than 12 inches (305 mm) to provide a natural position for both hands during operation and to allow for complete control of the tool. The tool shall remain in a balanced horizontal position when held only by the carrying handle. In order to provide improved grip in all weather conditions, the carrying handle must have a non-slip surface. LED lighting powered by a single AA battery shall be integrated into the carrying handle to allow for better visibility during low light conditions.	✓	
9.03 Safety and Protection For maximum safety of the operator all cutters, spreaders and rams shall contain a safety relief valve to protect the tool against over pressurization caused by accidentally disconnecting the return line of the tool. The tool will have automatic, non-return check valves built in so that the tool will hold the load when the dead-man's handle is released, whether the tool is spreading or pulling. If pressure should drop because of interruption of the power source for any reason, the	✓	

Specifications	Bidder Complies	
	Yes	No
tool must hold the load. A cover for the safety of the user must protect all moving parts such as yoke and levers.		
9.04 Spreader Arms The arms and yoke of the spreader must be manufactured out of extremely high tensile aluminum alloy, anodized to offer protection against corrosion. The arms of the spreader will be equipped with investment cast hardened tool steel tips, specially designed for quick field replacement without the use of any tools. Spring-loaded tip locking pins will be incorporated into the arms so that no loose parts can be lost. The tips will have serrations on both the inside and the outside for a superior grip in spreading or crushing operations.	✓	
9.05 Power Source Hydraulic power must be delivered from a gasoline or electrically driven pump. Alternatively, a manually operated pump or an air driven pump may be used. To provide maximum ease of use (lightest weight) to the operator the pump must be a completely separate unit from the rescue tool.	✓	
9.06 Forces The arms of the spreader will have a maximum opening width of 32 ¾ inches (832 mm), must exert no less than 33,000 lbf (146.8 kN) of force in the base of the tips at maximum opening. Maximum pulling force shall be no less than 14,300 lbf (63.6 kN).	✓	
9.07 Method of Measuring Forces The spreading force must be measured at the effective tip area on the moving arms, perpendicular to the centerline of the tool when in an unfixed state. This measurement of force was calculated and approved by UL and measures the actual force created by the tool when used by the operator.	✓	
9.08 Weight & Dimensions The weight of the ready-for-use tool may not exceed 58 ½ pounds (27 kg) including hydraulic oil. Length of tool including hose bend radius shall not exceed 37½ inches (953 mm). Width shall not exceed 12 ½ inches (318 mm). Height shall not exceed 9 ¼ inches (235 mm).	✓	
9.09 Accessories The following accessories will be available: -Pulling attachments Pulling adapters and chains will be provided for pulling operations. The adapters must have the same quick-change design as the spreading tips. Pulling chains will be equipped with shortening hooks. Safety factor of the chain set will be at least 2 times the maximum pulling force of the tool. -Cutting Tip An optional cutting tip for cutting sheet metals will be available. The cutting tip must have the same quick-change design as the spreading tips. -Additional Spreading Tips Additional spreader tips shall be bid for each spreader.	✓	

Specifications	Bidder Complies	
	Yes	No
9.10 Corrosion & Wear Protection Internal and external aluminum parts of the tool that are susceptible to wear or corrosion must be anodized to provide maximum durability. The tool must be capable of withstanding a 10-day salt spray test, and still be able to function normally.	✓	
10.0 Hydraulic Spreader # 3		
10.1 General Conditions: The tool must be UL listed. This tool must have successfully completed the rescue tool test program certified by Underwriters Laboratories, Inc. The tool must be capable of withstanding a static over-load pressure of twice the working pressure. This 2:1 over-load ratio is a UL requirement to provide maximum safety to the operator This tool must also be compliant with NFPA 1936 Standard on Powered Rescue Tools, 2005 edition. The tool must be capable of withstanding a static over-load pressure of twice the working pressure. This 2:1 over-load ratio is a requirement to provide maximum safety to the operator. The tool must be a "one-person" operated lightweight tool, which means that one person will be able to position, guide and operate the tool without the assistance of other people. For this reason the tool will be equipped with a carrying handle, which allows the operator to keep the tool evenly balanced in all positions even with one hand. To eliminate connection errors and reduce deployment time the tool shall be supplied with only one compact hydraulic coupler. This single coupler shall have a coaxial design with the pressure line inside of the return line to allow for rapid simultaneous connection of both lines with one connection motion. The coupler design shall incorporate an automatic return valve to permit connection and disconnection of the tool to the hose while under flow. The coupler must be a flat-face, non-drip coupling with built-in automatic locking feature and be one hand operated. Coupler must be supplied with a protective aluminum dust cap. The hose connection will be to the rear of the dead man's handle, leading away in line with the center axis of the tool, avoiding hindrance to the operator	✓	
10.2 Hydraulic Spreader Control Mechanism: The tool must be activated by means of a rotary dead man's handle, operated by a twist of the wrist. For ease of operation, the handle shall have a maximum rotation of 20° in either direction. When the dead man's handle is released, it must return to the neutral position automatically. The dead man's handle will provide one-handed control of opening and closing functions. The dead man's handle shall provide 360 degree access to the operator allowing operation of the tool in any position. The deadman's handle must be located in such a way that it can be operated, guided and supported easily by right and left handed operators without having to change the position of the hands, even when wearing gloves. The dead man's control must be capable of withstanding 6000 endurance cycles, one cycle consisting of opening and closing the tool.	✓	

Specifications	Bidder Complies	
	Yes	No
10.3 Carrying Handle: The distance between the dead man's handle and the U-shaped carrying handle will be no less than 10 ½" (267 mm) to provide a natural position for both hands during operation and to allow for complete control of the tool. The tool shall remain in a balanced horizontal position when held only by the carrying handle. In order to provide improved grip in all weather conditions, the carrying handle must have a non-slip surface. To assist the operator and increase safety while working in dark or poorly lit circumstances the carrying handle shall have integrated LED lights. The lights shall be focused on the working area of the tool and shall be completely weatherproof. Lights should be powered by a field replaceable single AA battery and shall provide a minimum of six continuous hours of illumination.	✓	
10.4 Safety and Protection For maximum safety of the operator all cutters, spreaders and rams shall contain a safety relief valve to protect the tool against over pressurization caused by sudden load shift on the tool. The tool will have automatic, non-return check valves built in so that the tool will hold the load when the dead man's handle is released, whether the tool is spreading or pulling. If pressure should drop because of interruption of the power source for any reason, the tool must hold the load. All moving parts such as yoke and levers must be protected by a cover for the safety of the user.	✓	
10.5 Arms The arms and yoke of the spreader must be manufactured out of extremely high tensile aluminum alloy, anodized to offer protection against corrosion. The arms of the spreader will be equipped with investment cast hardened tool steel tips, specially designed for quick field replacement without the use of any tools. Spring-loaded tip locking pins will be incorporated into the arms so that no loose parts can be lost. The tips will have serrations on both the inside and the outside for a superior grip in spreading or crushing operations.	✓	
10.6 Pump Hydraulic power must be delivered from a gasoline or electrically driven pump. Alternatively, a manually operated pump or an air driven pump may be used. To provide maximum ease of use (lightest weight) to the operator the pump must be a completely separate unit from the rescue tool.	✓	
10.7 Forces The arms of the spreader will have a maximum opening width of 27 3/8" (695 mm), must exert no less than 8,476 lbf (38 kN) at the tips, and at least 33,625 lbf (150 kN) at the base of the tips. Maximum pulling force at full opening will be at least 12,170 lbf (54 kN).	✓	
10.8 Method of Measuring Forces The spreading force must be measured at the effective tip area on the moving arms, perpendicular to the centerline of the tool when in an unfixed state. This measurement of force measures the actual force created by the tool when used by the operator	✓	

Specifications	Bidder Complies	
	Yes	No
10.9 Weight and Dimensions The weight of the ready-for-use tool may not exceed 41½ lbs (18.8 kg) including hydraulic oil. Length of not to exceed 30 3/8" (771 mm). Width not to exceed 11 11/16" (297 mm). Height not to exceed 8 1/8" (206 mm)	✓	
10.10 Accessories The following accessories will be available: -Pulling attachments Pulling adapters and chains will be provided for pulling operations. The adapters must have the same quick-change design as the spreading tips. Pulling chains will be equipped with shortening hooks. Safety factor of the chain set will be at least 2 times the maximum pulling force of the tool. -Cutting Tip An optional cutting tip for cutting sheet metals will be available. The cutting tip must have the same quick-change design as the spreading tips.	✓	
10.11 Corrosion and Wear Protection Internal and external aluminum parts of the tool that are susceptible to wear or corrosion must be protected by anodization to provide maximum durability. The tool must be capable of withstanding a 10 day salt spray test, and still be able to function normally.	✓	
10.12 Lifetime Warranty The manufacturer shall warrant this tool against all defects in material and workmanship for as long as owned by the original purchaser.	✓	
11. 00 Battery Operated Combination Cutter/Spreader The tool must be capable of withstanding a static over-load pressure of twice the working pressure. This 2:1 over-load ratio is a requirement to provide maximum safety to the operator. The tool must be capable of operating as a self-contained unit without power cables for maximum portability. The tool must be a "one-person" operated lightweight tool, which means that one person will be able to position, guide and operate the tool without the assistance of other people. For this reason the tool will be equipped with a carrying handle, which allows the operator to keep the tool evenly balanced in all positions even with one hand. The tool must be able to be powered by a commercially available, portable, 24V battery weighing no more than 3 lbs. (1.4 kg.), which is attached directly to the tool with no external cables or wires. The battery must be able to be replaced rapidly without the use of any tools. The tool shall also be weather resistant.	✓	

Specifications	Bidder Complies	
	Yes	No
11.01 Deadman's Handle The tool must be activated by means of a rotary deadman's handle, operated by a twist of the wrist. For ease of operation, the handle shall have a maximum rotation of 20° in either direction. When the deadman's handle is released, it must return to the neutral position automatically. The deadman's handle will provide one-handed control of opening and closing functions. The deadman's handle shall provide 360 degree access to the operator allowing operation of the tool in any position. The deadman's handle must be located in such a way that it can be operated, guided and supported easily by right and left handed operators without having to change the position of the hands, even when wearing gloves. The deadman's control must be capable of withstanding 6000 endurance cycles, one cycle consisting of opening and closing the tool.	✓	
11.02 Carrying Handle The distance between the deadman's handle and the U-shaped carrying handle will be no less than 10" (254 mm) to provide a natural position for both hands during operation and to allow for complete control of the tool. The tool shall remain in a balanced horizontal position when held only by the carrying handle. In order to provide improved grip in all weather conditions, the carrying handle must have a non-slip surface.	✓	
11.02 Safety and Protection For maximum safety of the operator the combi tool shall contain safety relief valves to protect the tool against over pressurization. The tool will have automatic, non-return check valves built in so that the tool will hold the load when the deadman's handle is released, whether the tool is spreading or pulling. If pressure should drop because of interruption of the power source for any reason, the tool must hold the load. All moving parts such as yoke and levers must be protected by a cover for the safety of the operator.	✓	
11.03 Blades/Arms The blades of the combi cutter will be fabricated out of high-grade tool steel that is hardened to improve durability. The cutting, gripping and spreading surfaces of the blades will be regrindable to ensure a longer life span. For maximum safety and gripping when cutting, cutting edges will have specially designed 0.95" round□half round serrations. The blades must be capable of shearing stock (in the recess), ∅ 1.9" O.D. x 0.11" wall tube, 1 ¾ " x 1 ¾ " x 1/8" square section, 2 3/8" x 1 ¼ " x 3/16" rectangular section, and 3"x 3/8" steel plate.	✓	
11.04 Electronics There must be electronic circuitry present to provide monitoring of the battery status and provide visual indication via flashing light when battery life is low. The electronics must allow the operator enough power to "back out" prior to expending all available power to the tool. The electronics must provide protection against motor damage, caused by over or under current.	✓	
11.05 Pump Hydraulic power must be delivered from an internally mounted axial piston pump driven by an internal electric motor that can operate off of 12 to 24 volts DC. The pump shall produce a maximum of 10,500 psi and operate on mineral-based hydraulic oil.		

Specifications	Bidder Complies	
	Yes	No
11.06 Forces The maximum cutting force exerted will be no less than 49,000 lbf. (218 kN) in the recess. Maximum spreading force must be at least 11,690 lbf (52 kN).	✓	
11.07 Weight & Dimensions Maximum spreader opening will be no less than 10.5 " (268 mm). Maximum cutter opening will be 7.5" (191mm). The weight of an operable tool may not exceed 33 lbs. (14.8 kg) including hydraulic oil and battery. Length of tool not to exceed 28 " (712 mm). Width not to exceed 12" (305 mm). Height not to exceed 9" (230 mm).	✓	
11.08 Corrosion & Wear Protection Internal and external aluminum parts of the tool, that are susceptible to wear or corrosion, must be anodized to provide maximum durability.	✓	
11.09 Battery & Battery Charger Commercially available (non proprietary) Nickel Cadmium type batteries shall be supplied standard with the tool. Lead-acid batteries are not acceptable. The batteries must be recyclable through a service available in North America. The charger shall provide rapid 1 hour charging, to 100% capacity. Chargers shall be available for 120 VAC or 12 VDC vehicle connections and shall also provide automatic trickle charging and battery conditioning.	✓	
11.10 Auxiliary Power Options The tool must be provided standard with an auxiliary power port that allows operation from a 12 – 24 VDC source. The tool's battery must also be able to accept an AC/DC converter.	✓	
GENERAL CONDITIONS **(HYDRAULIC EXTENSION HOSE)** The following is a description of the rescue tool system that will meet the minimum requirements of this specification. These specifications are to be considered as minimum and are expressed as such. If the rescue tool(s) and component parts delivered under this contract do not comply with these specifications, the tools will not be accepted. Any vendor failing to meet his obligations required as part of this contract may be forced to pay damages to this agency. Such damages shall not exceed the amount required to obtain a replacement product or tool meeting the requirements of this specification.		
12.00 Hydraulic Extension Hose Two (2) sets of Hydraulic hoses shall be provided for these systems. These hoses shall be equipped with male and female styles quick connect couplings. The supplied hose shall be adequately reinforced to provide a four to one (4:1) safety factor. The hydraulic hoses must have a minimum warranty of one (1) year. The hydraulic hoses as supplied with this system	✓	

Specifications	Bidder Complies	
	Yes	No
shall be dual flow coaxial type allowing hydraulic fluid to flow from the power unit to the component and return. Hose length shall be: 32 ft Hose color shall be agreed upon vendor and fire department personnel.		
12.01 Hose Couplings Hose shall have a single male connection on the pump end and a female connection on the tool end of the twist lock type. They shall be designed to prevent the inadvertent connection of the wrong hose to the component. The connections shall be positive twist lock type and be pressure tested to four times pump operating pressure. Couplings will allow 360-degree rotation of hoses while attached without entangling. These connections shall be compatible with all other components of the rescue system bid.	✓	
GENERAL CONDITIONS **(HYDRAULIC PUSH/PULL RAMS)**		
13.00 Small Single Plunger Rescue Ram The tool must be UL listed. This tool must have successfully completed the rescue tool test program certified by Underwriters Laboratories, Inc. The tool must be capable of performing 1000 endurance cycles, whereby one cycle consists of completely opening and closing the tool at its maximum pressure during its stroke. The tool must be capable of withstanding a static over-load pressure of twice the working pressure. This 2:1 over-load ratio is a UL requirement to provide maximum safety to the operator. This tool must also be compliant with NFPA 1936 Standard On Powered Rescue Tool Systems, 1999 edition. The tool must be a "one-person" operated lightweight tool, which means that one person will be able to position, guide and operate the tool without the assistance of other people. Couplers must be one hand operated, flat-face, non-drip couplings with built-in automatic locking feature. Couplers must be supplied with aluminum protective dust caps. Hose will be connected to the rear of the dead-man's handle, leading away in line with the tool avoiding hindrance to the operator. Hose connection shall be protected so that the connection is not accessible or susceptible to damage. The end of the plunger will have a twist-lock design to accept interchangeable tool accessories. Likewise, the rear of the tool shall have a twist-lock design to accept extension pipes. Tool shall be delivered with two diamond shaped grip heads designed to prevent off-center loads. Hoses shall be equipped with protective bend restrictors.	✓	
13.01 Hydraulic Ram Control Mechanism The tool must be activated by means of a rotary dead-man's handle, operated by a twist of the wrist. For ease of operation, the handle shall have a maximum rotation of 20° in either direction. When the dead-man's handle is released, it must return to the neutral position automatically. The dead-man's handle will provide one-handed control of opening and closing functions. The dead-man's handle shall provide 360-degree access to the operator allowing operation of the tool in any position. The dead-man's handle must be located in such a way that it can be operated, guided and supported easily by right and left handed operators without having to change the position of the hands, even when wearing gloves. The dead-man's control	✓	

Specifications	Bidder Complies	
	Yes	No
must be capable of withstanding 6000 endurance cycles, one cycle consisting of opening and closing the tool. In addition, the ram must be able to rotate under load to allow the operating handle to be moved out of the way for patient removal.		
13.02 Safety and Protection When the ram plunger is fully extended and under maximum load, the safety factor against bending or buckling must be at least 2:1. For maximum safety of the operator all cutters, spreaders and rams shall contain a safety relief valve to protect the tool against over pressurization caused by accidentally disconnecting the return line of the tool. The tool will have automatic, non-return check valves built in so that the tool will hold the load when the dead-man's handle is released, whether the tool is spreading or pulling. If pressure should drop because of interruption of the power source for any reason, the tool must hold the load.	✓	
13.03 Power Source Hydraulic power must be delivered from a gasoline or electrically driven pump. Alternatively, a manually operated pump or an air driven pump may be used. To provide maximum ease of use (lightest weight) to the operator the pump must be a completely separate unit from the rescue tool.	✓	
13.04 Forces The ram will have a maximum pushing force of no less than 36,460 lbf (162.2 kN) and a maximum pulling force of no less than 11,265 lbf (50.1 kN).	✓	
13.05 Weight & Dimensions Length of closed tool shall not exceed 21 ¼ inches (539 mm). Length of extended tool shall not exceed 31 inches (787mm). Width shall not exceed 15-7/8 inches (404 mm). Height shall not to exceed 4¾ inches (121 mm). Net stroke shall not be less than 9 ¾ inches (248 mm). Weight shall not exceed 29¾ pounds (13.5 kg).	✓	
13.06 Accessories All accessories shall be of a twist lock design. *No threading and/or loose locking pins are allowed.* -Pulling attachments Pulling adapters and chains will be provided for pulling operations. The adapters must have a quick-change design. Pulling chains will be equipped with shortening hooks. Safety factor of the chain set will be at least 2 times the maximum pulling force of the tool -Attachments -Wedge tip for splitting. -Conical point for piercing holes in sheet materials. -Round flat base min. diameter 4 ½ " (115 mm) for better distribution of the forces. -Extension Pipes Extension pipes in the following lengths will be available for pushing operations: 6 ½ inches (165 mm), 13 inches (330 mm) and 23 ½ inches (597 mm) -Ram Support Unit Ram support unit provides firm surface to allow for full extension and effectiveness of the ram during pushing operations such as dash displacements.	✓	

Specifications	Bidder Complies	
	Yes	No
13.07 Corrosion & Wear Protection Internal and external aluminum parts of the tool that are susceptible to wear or corrosion must be anodized to provide maximum durability. The tool must be capable of withstanding a 10-day salt spray test, and still be able to function normally.	✓	
14.00 Large Single Plunger Rescue Ram The tool must be UL listed. This tool must have successfully completed the rescue tool test program certified by Underwriters Laboratories, Inc. The tool must be capable of withstanding a static over-load pressure of twice the working pressure. This 2:1 over-load ratio is a UL requirement to provide maximum safety to the operator. This tool must also be compliant with NFPA 1936 Standard On Powered Rescue Tool Systems, 1999 edition. The tool must be a "one-person" operated lightweight tool, which means that one person will be able to position, guide and operate the tool without the assistance of other people. For this reason the tool will be equipped with a carrying handle, which allows the operator to keep the tool evenly balanced in all positions even with one hand. Couplers must be one hand operated, flat-face, non-drip couplings with built-in automatic locking feature. Couplers must be supplied with aluminum protective dust caps. Hose will be connected to the rear of the dead-man's handle, leading away in line with the tool avoiding hindrance to the operator. Hose connection shall be protected so that the connection is not accessible or susceptible to damage. Hoses shall be equipped with protective bend restrictors.	✓	
14.01 Hydraulic Ram Control Mechanism The tool must be activated by means of a rotary dead-man's handle, operated by a twist of the wrist. For ease of operation, the handle shall have a maximum rotation of 20° in either direction. When the dead-man's handle is released, it must return to the neutral position automatically. The dead-man's handle will provide one-handed control of opening and closing functions. The dead-man's handle shall provide 360-degree access to the operator allowing operation of the tool in any position. The dead-man's handle must be located in such a way that it can be operated, guided and supported easily by right and left handed operators without having to change the position of the hands, even when wearing gloves. The dead-man's control must be capable of withstanding 6000 endurance cycles, one cycle consisting of opening and closing the tool. In addition, the ram must be able to rotate under load to allow the operating handle to be moved out of the way for patient removal.	✓	
14.02 Safety and Protection When the ram plunger is fully extended and under maximum load, the safety factor against bending or buckling must be at least 2:1. For maximum safety of the operator all cutters, spreaders and rams shall contain a safety relief valve to protect the tool against over pressurization caused by accidentally disconnecting the return line of the tool. The tool will have automatic, non-return check valves built in so that the tool will hold the load when the	✓	

Specifications	Bidder Complies	
	Yes	No

dead-man's handle is released, whether the tool is spreading or pulling. If pressure should drop because of interruption of the power source for any reason, the tool must hold the load. ✓

14.03 Power Source

Hydraulic power must be delivered from a gasoline or electrically driven pump. Alternatively, a manually operated pump or an air driven pump may be used. To provide maximum ease of use (lightest weight) to the operator the pump must be a completely separate unit from the rescue tool.

14.04 Forces ✓

The ram will have a maximum pushing force of no less than 36,460 lbf (162.2 kN) and a maximum pulling force of no less than 11,265 lbf (50.1 kN).

14.05 Weight & Dimensions ✓

Length of closed tool shall not exceed 25 ¼ inches (642 mm). Length of extended tool shall not exceed 39 inches (991mm). Width shall not exceed 15-7/8 inches (404 mm). Height shall not exceed 4¾ inches (121 mm). Net stroke shall not be less than 13 ¾ inches (349 mm). Weight shall not exceed 34 pounds (15.5 kg).

14.06 Accessories ✓

All accessories shall be of a twist lock design. *No threading and/or loose locking pins are allowed.*

-Pulling attachments

Pulling adapters and chains will be provided for pulling operations. The adapters must have a quick-change design. Pulling chains will be equipped with shortening hooks. Safety factor of the chain set will be at least 2 times the maximum pulling force of the tool

-Attachments

-Wedge tip for splitting.

-Conical point for piercing holes in sheet materials.

-Round flat base min. diameter 4 ½ " (115 mm) for better distribution of the forces.

-Extension Pipes

Extension pipes in the following lengths will be available for pushing operations:
6 ½ inches (165 mm), 13 inches (330 mm) and 23 ½ inches (597 mm)

-Ram Support Unit

Ram support unit provides firm surface to allow for full extension and effectiveness of the ram during pushing operations such as dash displacements.

14.07 Corrosion & Wear Protection ✓

Internal and external aluminum parts of the tool that are susceptible to wear or corrosion must be anodized to provide maximum durability. The tool must be capable of withstanding a 10-day salt spray test, and still be able to function normally.

15.00 Medium Size Twin Plunger Rescue Ram ✓

Specifications	Bidder Complies	
	Yes	No
The tool must be UL Listed: This tool must have successfully completed the rescue tool test program certified by Underwriters Laboratories, Inc. The tool must be capable of withstanding a static over-load pressure of twice the working pressure. This 2:1 over-load ratio is a UL requirement to provide maximum safety to the operator. This tool must ***also*** be compliant with NFPA 1936 Standard on Powered Rescue Tools, 2005 edition. The tool must be a "one-person" operated lightweight tool, which means that one person will be able to position, guide and operate the tool without the assistance of other people. For this reason the tool will be equipped with a carrying handle, which allows the operator to keep the tool evenly balanced in all positions even with one hand. To eliminate connection errors and reduce deployment time the tool shall be supplied with only one hydraulic coupler. This single coupler shall have a coaxial design with the pressure line inside of the return line to allow for rapid simultaneous connection of both lines with one connection motion. To avoid hindrance to the operator the coupler must be extremely compact and lightweight. The coupler design shall incorporate an automatic return valve to permit connection and disconnection of the tool to the hose *while under flow*. The coupler must be a flat-face, non-drip coupling with built-in automatic locking feature and be one hand operated. The coupler shall permit an unhindered 360° rotation at the connection point to avoid twisting or stressing the hose. Coupler must be supplied with a protective aluminum dust cap. The hose connection point will be to the rear of the dead man's handle, leading away in line with the center axis of the tool, avoiding interference with the operation of the tool.		
15.01 Deadman's Handle The tool must be activated by means of a rotary deadman's handle, operated by a twist of the wrist. For ease of operation, the handle shall have a maximum rotation of 20° in either direction. When the deadman's handle is released, it must return to the neutral position automatically. The deadman's handle will provide one-handed control of opening and closing functions. The deadman's handle shall provide 360 degree access to the operator allowing operation of the tool in any position. The deadman's handle must be located in such a way that it can be operated, guided and supported easily by right and left handed operators without having to change the position of the hands, even when wearing gloves. The deadman's control must be capable of withstanding 6000 endurance cycles, one cycle consisting of opening and closing the tool. In addition, the ram must be able to rotate under load to allow the operating handle to be moved out of the way for patient removal.	✓	
15.02 Carrying Handle To assist in carrying and positioning of the ram, an optional carrying handle will be available.	✓	
15.03 Safety and Protection When the ram plunger is fully extended and under maximum load, the safety factor against bending or buckling must be at least 2:1. For maximum safety of the operator all cutters, spreaders and rams shall contain a safety relief valve to protect the tool against over pressurization caused by sudden load shift on the tool. The tool will have automatic, non-return check valves built in so that the tool will hold the load when the deadman's handle is released, whether the tool is spreading or pulling. If pressure should drop because of interruption of the power source for any reason, the tool must hold the load.	✓	

Specifications	Bidder Complies	
	Yes	No
15.04 Pump Hydraulic power must be delivered from a gasoline or electrically driven pump. Alternatively, a manually operated pump or an air driven pump may be used. To provide maximum ease of use (lightest weight) to the operator the pump must be a completely separate unit from the rescue tool.	✓	
15.05 Grip Heads The ends of the plungers will have a twist-lock design to allow rotation of the grip heads even when the tool is under a load. Rams with threaded grip heads that could become corroded and prevent use of interchangeable accessories shall not be acceptable. The twist-lock design shall accept interchangeable tool accessories. Tool shall be delivered with two diamond shaped grip heads designed to prevent off-center loads.	✓	
15.06 Forces The ram will have a maximum pushing force of no less than 36,460 lbf (162.2 kN) and a maximum pulling force of no less than 11,265 lbf (50.1 kN).	✓	
15.07 Weight & Dimensions Length of closed tool not to exceed 30 3/8" (772 mm). Length of extended tool not to exceed 50" (1268mm). Width not to exceed 13½" (338 mm). Height not to exceed 4 7/8" (122 mm) Net stroke not less than 2 x 9 ¾ " (2 x 248 mm). Weight not to exceed 36 lbs (16.4 kg).	✓	
15.08 Accessories All accessories shall be of a twist lock design. *No threading and/or loose locking pins are allowed.* -Pulling attachments -Pulling adapters and chains will be provided for pulling operations. The adapters must have a quick-change design. Pulling chains will be equipped with shortening hooks. Safety factor of the chain set will be at least 2 times the maximum pulling force of the tool -Attachments -Wedge tip for splitting. -Conical point for piercing holes in sheet materials. -Round flat base min. diameter 4 ½ " (115 mm) for better distribution of the forces. -Ram Support Unit Provides firm surface to allow for full extension and effectiveness of the ram during pushing operations such as dash displacements.	✓	
15.09 Corrosion & Wear Protection Internal and external aluminum parts of the tool that are susceptible to wear or corrosion must be protected by anodization to provide maximum durability. The tool must be capable of withstanding a 10 day salt spray test, and still be able to function normally.	✓	

Specifications	Bidder Complies	
	Yes	No

GENERAL CONDITIONS
(HYDRAULIC TELESCOPIC RESCUE RAMS)

16.00 Small Telescopic Rescue Ram ✓

This tool must be compliant with NFPA 1936 Standard On Powered Rescue Tool Systems, 1999 edition. The tool must be capable of performing 1000 endurance cycles, whereby one cycle consists of completely opening and closing the tool at its maximum pressure during its stroke. The tool must be capable of withstanding a static over-load pressure of twice the working pressure. This 2:1 over-load ratio is a requirement to provide maximum safety to the operator. The tool must be a "one-person" operated lightweight tool, which means that one person will be able to position, guide and operate the tool without the assistance of other people. Couplers must be one hand operated, flat-face, non-drip couplings with built-in automatic locking feature. Couplers must be supplied with aluminum protective dust caps. Hose will be connected to the rear of the dead-man's handle, leading away in line with the tool avoiding hindrance to the operator. Hose connection shall be protected so that the connection is not accessible or susceptible to damage. Tool shall be delivered with two diamond shaped grip heads designed to prevent off-center loads. Hose shall be equipped with protective bend restrictors.

16.01 Hydraulic Ram Control Mechanism ✓

The tool must be activated by means of a rotary dead-man's handle, operated by a twist of the wrist. For ease of operation, the handle shall have a maximum rotation of 20° in either direction. When the dead-man's handle is released, it must return to the neutral position automatically. The dead-man's handle will provide one-handed control of opening and closing functions. The dead-man's handle shall provide 360-degree access to the operator allowing operation of the tool in any position. The dead-man's handle must be located in such a way that it can be operated, guided and supported easily by right and left handed operators without having to change the position of the hands, even when wearing gloves. The dead-man's control must be capable of withstanding 6000 endurance cycles, one cycle consisting of opening and closing the tool. In addition, the ram must be able to rotate under load to allow the operating handle to be moved out of the way for patient removal.

16.02 Carrying Handle ✓

To assist in carrying and positioning of the rescue ram it shall be supplied with a carrying handle.

16.03 Safety and Protection ✓

Specifications	Bidder Complies	
	Yes	No
When the ram plunger is fully extended and under maximum load, the safety factor against bending or buckling must be at least 2:1. For maximum safety of the operator all cutters, spreaders and rams shall contain a safety relief valve to protect the tool against over pressurization caused by accidentally disconnecting the return line of the tool. The tool will have automatic, non-return check valves built in so that the tool will hold the load when the dead-man's handle is released. If pressure should drop because of interruption of the power source for any reason, the tool must hold the load.		
16.04 Power Source Hydraulic power must be delivered from a gasoline or electrically driven pump. Alternatively, a manually operated pump or an air driven pump may be used. To provide maximum ease of use (lightest weight) to the operator the pump must be a completely separate unit from the rescue tool.	✓	
16.05 Forces The first plunger will have a maximum pushing force of no less than 49,145 lbf (218.6 kN). The second plunger will have a maximum pushing force of no less than 18,210 lbf (81 kN).	✓	
16.06 Weight & Dimensions Length of closed tool shall not exceed 12 inches (305 mm). Length of extended shall tool not exceed 23 inches (584 mm). Width shall not exceed 16 ½ inches (420 mm). Height shall not exceed 6-1/8 inches (155 mm). Stroke of first plunger shall not be less than 6-1/8 inches (155 mm). Stroke of second plunger shall not be less than 4-7/8 inches (124 mm). Weight shall not to exceed 27 pounds (12kg).	✓	
16.07 Corrosion & Wear Protection Internal and external aluminum parts of the tool that are susceptible to wear or corrosion must be anodized to provide maximum durability. The tool must be capable of withstanding a 10-day salt spray test, and still be able to function normally.	✓	
16.08 Accessories -Ram Support Unit Support unit provides firm surface to allow for full extension and effectiveness of the ram during pushing operations such as dash displacements.	✓	
17.00 Large Telescopic Rescue Ram This tool must be compliant with NFPA 1936 Standard On Powered Rescue Tool Systems, 1999 edition. The tool must be capable of performing 1000 endurance cycles, whereby one cycle consists of completely opening and closing the tool at its maximum pressure during its stroke. The tool must be capable of withstanding a static over-load pressure of twice the working pressure. This 2:1 over-load ratio is a requirement to provide maximum safety to the	✓	

Specifications	Bidder Complies	
	Yes	No

operator. The tool must be a "one-person" operated lightweight tool, which means that one person will be able to position, guide and operate the tool without the assistance of other people. Couplers must be one hand operated, flat-face, non-drip couplings with built-in automatic locking feature. Couplers must be supplied with aluminum protective dust caps. Hose will be connected to the rear of the dead-man's handle, leading away in line with the tool avoiding hindrance to the operator. Hose connection shall be protected so that the connection is not accessible or susceptible to damage. Tool shall be delivered with two diamond shaped grip heads designed to prevent off-center loads. Hose shall be equipped with protective bend restrictors.

17.01 Hydraulic Ram Control Mechanism ✓

The tool must be activated by means of a rotary dead-man's handle, operated by a twist of the wrist. For ease of operation, the handle shall have a maximum rotation of 20° in either direction. When the dead-man's handle is released, it must return to the neutral position automatically. The dead-man's handle will provide one-handed control of opening and closing functions. The dead-man's handle shall provide 360-degree access to the operator allowing operation of the tool in any position. The dead-man's handle must be located in such a way that it can be operated, guided and supported easily by right and left handed operators without having to change the position of the hands, even when wearing gloves. The dead-man's control must be capable of withstanding 6000 endurance cycles, one cycle consisting of opening and closing the tool. In addition, the ram must be able to rotate under load to allow the operating handle to be moved out of the way for patient removal.

17.02 Carrying Handle ✓

To assist in carrying and positioning of the rescue ram it shall be supplied with a carrying handle.

17.03 Safety and Protection ✓

When the ram plunger is fully extended and under maximum load, the safety factor against bending or buckling must be at least 2:1. For maximum safety of the operator all cutters, spreaders and rams shall contain a safety relief valve to protect the tool against over pressurization caused by accidentally disconnecting the return line of the tool. The tool will have automatic, non-return check valves built in so that the tool will hold the load when the dead-man's handle is released. If pressure should drop because of interruption of the power source for any reason, the tool must hold the load.

17.04 Power Source ✓

Hydraulic power must be delivered from a gasoline or electrically driven pump. Alternatively, a manually operated pump or an air driven pump may be used. To provide maximum ease of use (lightest weight) to the operator the pump must be a completely separate unit from the rescue tool.

17.05 Forces ✓

The first plunger will have a maximum pushing force of no less than 49,145 lbf (218.6 kN). The second plunger will have a maximum pushing force of no less than 18,210 lbf (81 kN).

Specifications	Bidder Complies	
	Yes	No
17.06 Weight & Dimensions Length of closed tool shall not exceed 21 inches (533 mm). Length of extended tool shall not exceed 50 ¼ inches (1276 mm). Width shall not exceed 16 ½ inches (420 mm). Height shall not exceed 6-1/8 inches (155 mm). Stroke of first plunger shall not be less than15 ¼ inches (387 mm). Stroke of second plunger shall not be less than 14 inches (356 mm). Weight shall not exceed 40 lbs (18kg).	✓	
17.07 Corrosion & Wear Protection Internal and external aluminum parts of the tool that are susceptible to wear or corrosion must be anodized to provide maximum durability. The tool must be capable of withstanding a 10-day salt spray test, and still be able to function normally.	✓	
17.08 Accessories -Ram Support Unit Support unit provides firm surface to allow for full extension and effectiveness of the ram during pushing operations such as dash displacements.	✓	
GENERAL CONDITIONS **(HYDRAULIC CUTTER/SPREADER COMBINATION RESCUE TOOL)** **18.00 Heavy Duty Combination Rescue Tool** The tool must be UL listed. This tool must have successfully completed the rescue tool test program certified by Underwriters Laboratories, Inc. The tool must be capable of withstanding a static over-load pressure of twice the working pressure. This 2:1 over-load ratio is a UL requirement to provide maximum safety to the operator. This tool must also be compliant with NFPA 1936 Standard On Powered Rescue Tool Systems, 1999 edition. The tool must be a "one-person" operated lightweight tool, which means that one person will be able to position, guide and operate the tool without the assistance of other people. For this reason the tool will be equipped with a carrying handle, which allows the operator to keep the tool evenly balanced in all positions even with one hand. Couplers must be one hand operated, flat-face, non-drip couplings with built-in automatic locking feature. Couplers must be supplied with aluminum protective dust caps. Hose will be connected to the rear of the dead-man's handle, leading away in line with the tool avoiding hindrance to the operator. Hose connection shall be protected so that the connection is not accessible or susceptible to damage. Hose shall be equipped with protective bend restrictors.	✓	
18.01 Combination Rescue Tool Control Mechanism The tool must be activated by means of a rotary dead-man's handle, operated by a twist of the wrist. For ease of operation, the handle shall have a maximum rotation of 20° in either direction. When the dead-man's handle is released, it must return to the neutral position automatically. The dead-man's handle will provide one-handed control of opening and closing functions. The dead-man's handle shall provide 360-degree access to the operator allowing operation of the tool in any position. The dead-man's handle must be located in such a way that it can be operated, guided and supported easily by right and left handed operators without having to change the position of the hands, even when wearing gloves. The dead-man's control	✓	

Specifications	Bidder Complies	
	Yes	No
must be capable of withstanding 6000 endurance cycles, one cycle consisting of opening and closing the tool.		
18.02 Carrying Handle The distance between the dead-man's handle and the U-shaped carrying handle will be no less than 10" (254 mm) to provide a natural position for both hands during operation and to allow for complete control of the tool. The tool shall remain in a balanced horizontal position when held only by the carrying handle. In order to provide improved grip in all weather conditions, the carrying handle must have a non-slip surface. LED lighting powered by a single AA battery shall be integrated into the carrying handle to allow for better visibility during low light conditions	✓	
18.03 Safety and Protection For maximum safety of the operator all cutters, spreaders and rams shall contain a safety relief valve to protect the tool against over pressurization caused by accidentally disconnecting the return line of the tool. The tool will have automatic, non-return check valves built in so that the tool will hold the load when the dead-man's handle is released, whether the tool is spreading or pulling. If pressure should drop because of interruption of the power source for any reason, the tool must hold the load. A cover for the safety of the operator must protect all moving parts such as yoke and levers.	✓	
18.04 Blades/Arms The blades of the combination rescue tool will be fabricated out of high-grade tool steel that is hardened to improve durability. The cutting, gripping and spreading surfaces of the blades shall be capable of being re-ground to ensure a longer life span. For maximum safety and gripping when cutting, cutting edges will have specially designed half round serrations. The blades must be capable of shearing ASTMA108 steel bar with a diameter of 13/16 inch, A513-91-a-T5 tube with an O.D. of 2-3/8 inches and a 1/8 inch wall thickness, ASTM A500-90 square tube 2 inches x 2 inches with a wall thickness of 3/16 inches, ASTM A513 rectangular tube 2½ inches x ½ inch with a 1/8 inch wall thickness, ASTM A108 flat plate 4 inches x 3/8 inch. In addition the NFPA level performance rating for this tool shall be: A6 B7 C5 D7 E5.	✓	
18.05 Power Source Hydraulic power must be delivered from a gasoline or electrically driven pump. Alternatively, a manually operated pump or an air driven pump may be used. The pump must be a completely separate unit from the rescue tool.	✓	
18.06 Forces The maximum cutting force exerted will be no less than 67,600 lbf. (300.7 kN) measured in the recess of the blades. Maximum spreading force must be at least 16,166 lbf (71.9 kN). Maximum pulling force at full opening 14,358 lbf (63.9 kN).	✓	

Specifications	Bidder Complies	
	Yes	No
18.07 Method of Measuring Forces The spreading force must be measured at the effective tip area on the moving arms, perpendicular to the centerline of the tool when in an unfixed state. This measurement of force was calculated and approved by UL and measures the actual force created by the tool when used by the operator.	✓	
18.08 Weight & Dimensions Maximum spreader opening will be no less than 14 ¼ inches (362mm). Maximum cutter opening will be 9 inches (229 mm). Width of spreading tips must be 1-3/16 inches (30mm) minimum for optimum gripping. Squeezing surface should be 1-3/16 inches x 2-¼ inches (30mm x 57mm) minimum. The weight of an operable tool may not exceed 35 pounds (16 kg) including hydraulic oil. Length of tool including hose bend radius shall not exceed 33-3/4 inches (857mm). Width shall not exceed 9 inches (229 mm). Height shall not exceed 7-1/8 inches (181 mm).	✓	
18.09 Accessories Pulling adapters and chains will be available for pulling operations. The adapters must have a quick-lock system. Pulling chains will be equipped with shortening hooks. The strength of the chain set will be at least 2 times the maximum pulling force of the tool.	✓	
18.10 Corrosion & Wear Protection Internal and external aluminum parts of the tool that are susceptible to wear or corrosion must be anodized to provide maximum durability. The tool must be capable of withstanding a 10-day salt spray test, and still be able to function normally. Blades must have a method of lubrication through the hinge bolt using a grease gun.	✓	
19.00 Hand Operated Combination Rescue Tool The tool must be capable of withstanding a static over-load pressure of twice the working pressure. This 2:1 over-load ratio is a requirement to provide maximum safety to the operator. The tool must be a "one-person" operated lightweight tool, which means that one person will be able to position, guide and operate the tool without the assistance of other people. For this reason the tool will be equipped with a carrying handle, which allows the operator to keep the tool evenly balanced in all positions even with one hand. **The tool must be activated by means of a rotary pump handle. For ease of operation, the handle shall have a maximum rotation of 90° in either direction The pump handle, in combination with the carrying handle, shall provide 360° access to the operator allowing operation of the tool in any position. The pump handle must be located in such a way that it can be operated, guided and supported easily by right and left handed operators without having to change the position of the hands, even when wearing gloves.**	✓	
19.01 Carrying Handle The distance between the pump handle and the U-shaped carrying handle will be no less than 12" (305 mm) to provide a natural position for both hands during operation and to allow for	✓	

complete control of the tool. The tool shall remain in a balanced horizontal position when held only by the carrying handle. In order to provide improved grip in all weather conditions, the carrying handle must have a non-slip surface.

19.02 Safety and Protection ✓

For maximum safety of the operator all cutters, spreaders and rams shall contain a safety relief valve to protect the tool against over pressurization. The tool will have automatic, non-return check valves built in so that the tool will hold the load when the pump handle is released, whether the tool is spreading or pulling. If pressure should drop because of interruption of the power source for any reason, the tool must hold the load. To provide for the safety of the operator, a cover must protect all moving parts such as yoke and levers.

19.03 Blades ✓

The blades of the cutter will be fabricated from high-grade tool steel, hardened to improve durability. The blades will be constructed for the capability to be re-ground. The blades must be capable of shearing □ 0.95 inch round stock (in the recess), ∅ 1-7/8 inch O.D. x 0.11 inch tube, 1-3/4 inches x 1-3/4 inches x 3/16 inch square section, 2-3/8 inches x 1 ¼ inches x 3/16 inch rectangular section, and 3 inches x 3/8 inch steel plate.

19.04 Pump ✓

Hydraulic power must be delivered from a built-in manually operated 2-stage pump. To provide maximum ease of use to the operator the pump handle must be capable of being rotated through 180° at 30° intervals.

19.05 Forces ✓

The maximum cutting force exerted will be no less than 49,000 lbf. (218 kN) in the recess, and 18,660 lbs (83 kN) in the middle of the blade.

19.06 Weight & Dimensions ✓

The weight of an operable tool may not exceed 23 pounds (10.5kg) including hydraulic oil. The maximum opening of the blades will be no less than 10 ½ inches (268 mm) measured at the tips. The length of the tool shall not to exceed 27 ½ inches (698mm). Width shall not to exceed 8-1/16 inches (205 mm). Height shall not exceed 6-7/16 inches (163 mm). ✓

19.06 Corrosion & Wear Protection

Internal and external aluminum parts of the tool that are susceptible to wear or corrosion must be anodized to provide maximum durability. The tool must be capable of withstanding a 10-day salt spray test, and still be able to function normally. Blades must have a method of lubrication through the hinge bolt using a grease gun.

GENERAL CONDITIONS

Specifications	Bidder Complies	
	Yes	No

20.00 Hydraulic Power Lifting Wedge

The tool must be capable of withstanding a static over-load pressure of twice the working pressure. This 2:1 over-load ratio is requirement to provide maximum safety to the operator. The tool must be a "one-person" operated lightweight tool, which means that one person will be able to position, guide and operate the tool without the assistance of other people. For this reason the tool will be equipped with a carrying handle, which allows the operator to keep the tool evenly balanced in all positions even with one hand. Couplers must be one hand operated, flat-face, non-drip couplings with built-in automatic locking feature. Couplers must be supplied with aluminum protective dust caps. Pigtail hoses will be connected to the rear of the deadman's handle, leading away in line with the tool avoiding hindrance to the operator. Pigtail hose connection shall be protected so that the connection is not accessible or susceptible to damage. Pigtail hoses shall be equipped with full-length, spring-type, protective bend restrictors.

✓

20.01 Deadman's Handle

The tool must be activated by means of a rotary deadman's handle, operated by a twist of the wrist. For ease of operation, the handle shall have a maximum rotation of 20° in either direction. When the deadman's handle is released, it must return to the neutral position automatically. The deadman's handle will provide one-handed control of opening and closing functions. The deadman's handle shall provide 360 degree access to the operator allowing operation of the tool in any position. The deadman's handle must be located in such a way that it can be operated, guided and supported easily by right and left handed operators without having to change the position of the hands, even when wearing gloves. The deadman's control must be capable of withstanding 6000 endurance cycles, one cycle consisting of opening and closing the tool.

✓

20.02 Carrying Handle

The distance between the deadman's handle and the U-shaped carrying handle will be no less than 12" (305 mm) to provide a natural position for both hands during operation and to allow for complete control of the tool. The tool shall remain in a balanced horizontal position when held only by the carrying handle. In order to provide improved grip in all weather conditions, the carrying handle must have a non-slip surface.

✓

20.03 Safety and Protection

For maximum safety of the operator all power wedges shall contain a safety relief valve to protect the tool against over-pressurization caused by accidentally disconnecting the return line of the tool. The tool will have automatic, non-return check valves built in so that the tool will hold the load when the deadman's handle is released, whether the tool is lifting or lowering. If pressure should drop because of interruption of the power source for any reason, the tool must hold the load. A cover for the safety of the user must protect all moving parts.

✓

20.04 Blades/Wedges

The insertion plates and wedge of the power wedge must be manufactured out of extremely high tensile steel, protected against corrosion.

Specifications	Bidder Complies	
	Yes	No

20.05 Pump
Hydraulic power should be delivered from a gasoline or electrically driven pump. Alternatively, a manually operated pump or an air driven pump may be used. To provide maximum ease of use (lightest weight) to the operator the pump must be a completely separate unit from the rescue tool.

20.06 Forces
The power wedge must exert a maximum lifting force of 52,900 lbs (235 kN)
The power wedge will have a maximum lifting height of 2" (50 mm), minimum opening of ¼ " (6 mm) and a maximum insertion length under the load of 2 ¼ " (60 mm).

20.07 Weight & Dimensions
The weight of the ready-for-use tool may not exceed 24 ½ lbs (11 kg) including hydraulic oil. Length of tool including hose bend radius not to exceed 29 ¼ "(743 mm). Width not to exceed 9" (229 mm). Height not to exceed 8"(203 mm). Blade width will be 2 3/8" (60 mm)

20.08 Corrosion & Wear Protection
Internal and external aluminum parts of the tool that are susceptible to wear or corrosion must be protected by anodization to provide maximum durability. The tool must be capable of withstanding a 10-day salt spray test, and still be able to function normally. The power wedge will be provided with a rubber protection cap over the insertion plates and wedge.

GENERAL CONDITIONS
(MOUNTING BRACKETS)
21.00 Hydraulic Tool Mounting Brackets(Optional Purchase)
Itemize the cost of **brackets** for each of the following pieces of equipment that are part of the bid:

- Cutters $ 228.00 each
- Spreaders $ 232.00 each
- Rams $ 89.00 each

GENERAL CONDITIONS
(TOOL TRADE-IN ALLOWANCE)
22.00 Trade-in Allowance for Used Tools
Each bidder shall provide a written trade-in allowance for the following tools:

-Gasoline powered Hydraulic Power Unit $_____ each
-Hydraulic Spreader $_____ each
-Hydraulic Cutter $_____ each
-Large Hydraulic Ram $_____ each
-Medium Hydraulic Ram $_____ each
-Small Hydraulic Ram $_____ each

See Clarification