

SPECIFICATIONS FOR BID # 1314 - 09

SMALL RAM (1)

The small ram shall have a collapsed length of no more than twenty (20) inches and a width of no more than four (4) inches.

- When fully extended the small ram shall open to at least thirty-one (31) inches in length.
- The small ram shall weigh no more than thirty (30) pounds.
- The small ram shall have pulling capability.
- The hydraulic ram shall be capable of providing a minimum of 10,300 pounds pulling force.
- The hydraulic ram shall be capable of providing a minimum of 32,300 pounds of pushing force.

RAM ATTACHMENT KIT

The rescue system specified herein shall include a ram accessory kit. The kit shall include two (2) pushing heads, two (2) extensions and attachments for pulling chains.

CONICAL HEAD ATTACHMENT

The ram accessory kit shall include a conical head attachment. Since this attachment shall be used to pierce concrete, sheet metal, etc., the attachment must be made of hardened steel.

ANGLED “V” ATTACHMENT

The ram accessory kit shall include an angled “V” head attachment. This attachment shall be made of steel for durability.

The head shall be “V” shaped and angled from front to back. This allows the ram to be more effective on dash roll-ups and steering column displacement.

RAM EXTENSION

The ram accessory kit shall include two (2) ram extensions. They shall be capable of being threaded to any of the rams offered in this system.

One (1) extension shall add a maximum of five (5) inches to the extended length of the ram.

One (1) extension shall add a minimum of ten (10) inches to the extended length of the ram.

PULLING HEADS

The ram kit shall include pulling heads for use with 3/8” alloy chain. The kit shall contain two (2) pulling heads.

CARRYING CASE

The ram kit shall come with a molded carrying case for convenience.

SPECIFICATIONS FOR POWER LIFTING MAT SYSTEM

STEEL REINFORCED LIFTING MAT

Each power lifting mat shall be constructed of multiple plies of Butyl rubber with a minimum of three woven steel layers. (Minimum 14 strands of steel wire per square inch in width)

The mat(s) shall be constructed of Butyl rubber not neoprene, due to the superior air holding ability of Butyl rubber, its' ability to resist temperature extremes, its' pliability, cut and crack resistance.

The mat(s) surface shall feature a conical point non-skid interlocking surface.

Each mat shall have a "Bulls Eye" design on the top side for ease of centering.

Mats shall come equipped with a ¼" N.P.T. female thread which attaches to a quick disconnect nipple capable of being replaced in case of damage.

Maximum thickness of power lifting mat(s) when deflated shall be one (1) inch.

Maximum working pressure of mat(s) will be 120 psi with a minimum burst pressure of 500 psi.

Mat(s) shall have a minimum usable temperature range of -40F to +220F continuous service.

POWER LIFTING MAT DIMENSIONS

Size 10" x 10": Power lifting mat shall be capable of lifting up to a maximum of 6 tons.

Size 15" x 15": Power lifting mat shall be capable of lifting up to a maximum of 13 tons.

Size 20" x 20" Power lifting mat shall be capable of lifting up to a maximum of 22 tons.

Size 21" x 25": Power lifting mat shall be capable of lifting up to a maximum of 32 tons.

Size 29" x 29": Power lifting mat shall be capable of lifting up to a maximum of 50 tons.

Size 34" x 34": Power lifting mat shall be capable of lifting up to a maximum of 70 tons.

PRESSURE REGULATOR

The pressure regulator supplied with this system shall be capable of reducing outlet pressure from 4500 psi to 120 psi. The pressure regulator reduces the pressure from a storage tank to 120 psi for use with a single or dual control unit.

The regulator shall be equipped with a female quick disconnect compatible with the rest of the power lifting system.

SINGLE CONTROL UNIT

The single controller with safety (deadman) feature shall be constructed from aircraft aluminum 6004 alloy and contain two (2) spring activated, deadman, push button valves, and one (1) pressure relief valve on the control.

The relief valve on the controller shall be set at 120 psi.

The inflation and deflation valves shall be marked with arrows showing the direction of air flow.

A minimum two (2) inch gauge with a printed face, 1 in (psi) and 1 in (kg/cm) showing the operating pressure of the mat shall be provided.

The inlets and outlets shall be male couplers, compatible with the rest of the power lifting mat system.

HOSES

Air supply hose shall be twenty (20) feet long.

Hose will be equipped with automatic quick disconnect female couplings that are compatible with power lifting mat system.

Internal hose diameter shall be 3/8 inch and have a maximum working pressure of 300 psi, and a minimum burst pressure of 1200 psi.

Hose shall have a minimum usable temperature range of -40F to +200F continuous service.

Hose must be resistant to oil, ultra violet light, color change, stress cracking and flame. Hose shall be MSHA approved.

Hose shall have automatic hose couplers equipped with check valves which will hold air pressure in the mat when coupler attached to the control is disconnected and the coupler on the mat is connected.

WARRANTY

The manufacturer shall provide a minimum of one year unconditional guarantee on the power lift mats and related components.

The manufacturer shall also provide a five (5) year prorated warranty on the power lifting mat(s).

EXCEPTIONS

All exceptions must be noted according to page number and category and listed on the page provided.

SPECIFICATIONS FOR HYDRAULIC CUTTING TOOL

HYDRAULIC CUTTING TOOL

The hydraulic cutting tool with this system shall be designed in accordance with modern manufacturing techniques, and shall use materials of high strength and lightweight. When used as a component of this system, the cutting tool is to be operated primarily by a single rescuer. Therefore, the size and weight of the hydraulic cutting tool is a major consideration of these specifications. Bidders responding to these specifications shall take this information into consideration when bidding this component.

The cutting tool as specified in this specification is to function as a “stand alone” component of the rescue tool system. Any system bid that requires the cutter to operate as part of the spreader tool will not be acceptable.

To prevent corrosion, the cutter shall have an anodized finish.

CUTTING TOOL DIMENSIONS AND WEIGHT

The hydraulic cutting tool shall weigh no more than thirty-seven (37) pounds. This shall be a “wet” weight, and shall include the cutter, control valve, pigtail hose and fluid.

This component shall be as small and compact as possible. The cutting tool shall not exceed twenty-nine (29) inches in length, or more than nine (9) inches in width, the width dimension shall include any handles or extensions.

CUTTING TOOL PERFORMANCE CRITERIA

This tool will be used in rescue situations where operating area is minimal, and where maximum cutting force is necessary. The following performance criteria are considered as minimum. The hydraulic cutting tool shall have a maximum blade opening of at least six.four (6.4) inches.

The hydraulic cutting tool shall provide a maximum cutting force of at least 144,000 pounds. These forces are deemed necessary to effect the cutting of automobile steering posts, door hinges, pedals, windshield posts, nader pins, etc. Thinner metal in newer cars demand that a cutter is capable of cutting these extrication objects. Cutters unable to perform these functions, or providing less cutting force are not acceptable.

CUTTER BLADE CONSTRUCTION

The cutter tool blades shall be made from a high quality, shock resistant tool steel. Because of the tremendous forces exerted on the cutter blades, each cutter blade shall cut a round stock bar to insure the integrity of the blade. The blades will also have an area specifically designed

to cut round stock. The “round stock” cutter will be capable of cutting round pieces of metal without hazard of propelling the cut object. This is useful for cutting steering wheel rings, brake pedals, shifting handles etc.

The cutter blades shall have a curved section and serrated section. This allows the material being cut to be pulled toward the serrations for easier cutting.

CUTTER TOOL CONTROL MECHANISM

The operating control of the cutting tool shall take the form of a rear mounted, push-button control valve. The control shall have a “deadman” feature for safety.

To maintain operator familiarity with this rescue system, the operating controls of the cutting tool shall be designed and operate as those found on the spreading tool. Therefore, the cutting tool control mechanism shall meet all requirements as found in the spreader control mechanism.

SAFETY RELIEF VALVE

This tool shall be equipped with an overpressurization relief valve. In the event the hydraulic return line becomes disconnected or obstructed, the relief valve will release the pressure in the return line, alleviating a catastrophic failure of the tool.

Note:

A pressure relief coupler is **not** adequate protection and will not be considered. This only provides protection if the cause of the overpressurization is a disconnected hydraulic return line.

CUTTING TOOL HANDLES

In addition to the rear-mounted control, there shall be provided an additional adjustable “D” type handle, for ease in positioning and movement when operating the cutter. This “D” handle shall be adjustable and field removable. This handle shall be made of steel and machined to provide a non-slip surface.

POWER UNIT ATTACHMENT

The hydraulic cutting tool shall come complete as described and provide attachment points (2) for the power unit’s hoses. These attachments shall be in the form of heavy-duty hydraulic hoses and “quick connect” fittings.

HYDRAULIC POWER UNIT

The hydraulic power unit supplied as part of this rescue system shall consist of a gasoline engine and hydraulic pump. The power unit shall produce sufficient force to allow each of the components' parts to operate efficiently and to the specified limits as required herein.

The gasoline engine shall be a 6.5 HP, solid state ignition, and Honda 4-cycle Industrial/Commercial engine.

POWER UNIT PERFORMANCE CRITERIA

The power unit supplied shall utilize a two-stage piston pump capable of producing an operating pressure of 10,500 psi.

The supplied pump shall use mineral base oil that is safe, non-corrosive non-toxic, and non-irritating to the operator's eyes and other mucous membranes.

The power unit shall have a (1.5) gallon (minimum) hydraulic oil storage capacity, but will be capable of operating the various components on as little as one (1/2) gallon of oil.

The power unit as supplied with this system shall have the power to operate the various components at the maximum limits specified through two hundred (200) feet of hose.

There shall be at least one factory authorized pump service and warranty center in this state.

POWER UNIT CONTROLS AND FEATURES

The power unit shall be equipped with two (2) pump mounted control valves. These valves will allow two (2) components to be operated simultaneously from the power unit. The two-stage axial piston pump shall be capable of producing a minimum of 140 cubic inches of fluid flow per minute per port. This is to allow two (2) components to be used simultaneously without loss of pressure, power, or speed. The power unit will also have a overdrive feature. This is to allow one side to be used at twice the speed by combining the flow from both pump circuits into one, giving that tool more power to cut or spread.

The power unit shall have a dry weight of no more than sixty-seven (67) pounds. The power unit shall be as small and compact as possible. Not exceeding eighteen (18) inches in length, fourteen (14) inches in width and eighteen (18) inches in height.

The power unit shall also be equipped with four anti-vibration footpads at the base of the unit to reduce vibration.

PUMP CONECTION

The hydraulic pump shall be provided with two (2) sets of quick disconnects mounted at the pumps control. The connectors must be of the twist lock type. They shall be designed to prevent the inadvertent connection of a wrong hose to the components. The connections shall be a positive twist lock type and pressure tested to 40,000 psi.

SPECIFICATIONS FOR HYDRAULIC SPREADING RAMS

HYDRAULIC SPREADING RAMS

The hydraulic rams specified for this system shall be designed to operate from the supplied power unit.

The rams shall be supplied with connections for the power unit.

RAM CONTROL MECHANISM

The operating control of the rams shall take the form of a push-button, control valve. The control shall have a “deadman” feature for safety.

To maintain operator familiarity with this rescue system, the operating controls of the rams shall be designed and operated as those found on the spreading tool. Therefore, the rams control mechanism shall meet all requirements as found in the spreader control mechanism.

SAFETY RELIEF VALVE

This tool shall be equipped with an overpressurization relief valve. In the event the hydraulic return line becomes disconnected or obstructed, the relief valve will release the pressure in the return line, alleviating a catastrophic failure of the tool.

Note:

A pressure relief coupler is not adequate protection and will not be considered. This only provides protection if the cause of the overpressurization is a disconnected hydraulic return line.

HYDRAULIC SPREADING TOOL

As a major component of this specified rescue tool system, this hydraulic spreader shall be designed in accordance with modern manufacturing techniques, and shall use materials of high strength and light weight. Since this system is to be operated primarily by a single rescuer, the weight of the spreader tool is a major consideration of these specifications. Bidders responding to this bid shall take this information into consideration when bidding this component.

Since both men and women rescuers may be required to utilize this tool at any given time, the hydraulic spreading tool shall weigh no more than fifty-five (55) pounds. This shall be a “wet” weight, and shall include the complete spreader, control mechanism, hose pigtails, tips and fluid.

This component shall be as small and compact as possible. The spreading tool shall not exceed thirty-three (33) inches in length, not more than thirteen and one half (13-1/2) inches in width. The width dimension is that taken when the tool is in the fully closed position.

To prevent corrosion, the spreader shall have an anodized finish.

SPREADER TOOL PERFORMANCE CRITERIA

As this tool is to be used in situations where maximum spreading force is necessary, the following performance specifications are considered minimum. The spreading tool shall have an open distance of at least thirty-two (32) inches.

The minimum opening force at the tips shall be at least 13,500 pounds and an opening force of at least 34,500 pounds at the outer most area of the arms.

In the closing mode, the tool shall produce at least 14,000 pounds of closing force.

SPREADING CONTROL MECHANISM

The opening control of the spreader tool shall take the form of a rear mounted control valve. The distance between the control handle and the carrying handle will be no less than ten (10) inches, to provide a natural position for both hands during operation, and allow for the complete control of the tool.

This control valve shall have a push-button “deadman” control characteristics. That is to say that the valve shall be spring loaded in such a way to allow the control valve to return to the “stop” position when the control valve is released. Return spring shall be an internal type, and not exposed to be damaged.

SAFETY RELIEF VALVE

This tool shall be equipped with an overpressurization relief valve. In the event the hydraulic return line becomes disconnected or obstructed, the relief valve will release the pressure in the return line, alleviating a catastrophic failure of the tool.

Note:

A pressure relief coupler is not adequate protection and will not be considered. This only provides protection if the cause of the overpressurization is a disconnected hydraulic return line.

SPREADER TOOL HANDLES

In addition to the rear mounted control valve, there shall be provided additional handholds or handles, for ease of movement when using the tool.

There shall be at least two (2) such additional handles. One (1) handle shall extend horizontally across the base of the spreader's arms and above the control valve.

The spreader tool shall have one (1) additional handle extending down the side of the spreader, and it must move, to reduce the overall width of the spreader when not in use.

Any spreading tool requiring the use of both hands to operate the control valve will not be accepted.

SPREADER TIPS

The hydraulic spreader tool shall be provided with spreading tips that have an angular shape so as to allow easy insertion. Their outer shape and surface texture shall be such that they provide optimum "biting" or "grabbing" characteristics.

These tips shall be designed so that field removal is possible. Non-removable tips are not acceptable and will not be considered.

POWER UNIT ATTACHMENTS

The hydraulic spreader tool shall come complete as described and provide attachment points (2) for the power unit hoses. These attachments shall be in the form of heavy-duty hydraulic hoses and "quick connect" fittings.

BID PROPOSAL FORM

(Note: This agency reserves the right to buy any or all of the above specified components in any quantity.)

Firm Name: _____

P.O. Box or Street Number: _____

City, State & Zip Code: _____

Bidder's Name (Printed) _____

Signature: _____

Telephone: _____

Bid Prices Good for _____ Days.

Delivery shall be made within _____

Payment Terms: _____

BID PRICE: ALL INCLUSIVE FOR ALL SPECIFIED ITEMS LISTED IN THIS BID:
