



Using the waterway more efficiently

The Catlettsburg Refinery in Kentucky recently received a precision engineered aerial ladder vehicle from the Sutphen Corporation. To quote industrial apparatus expert David Rider: "It is all about the waterway."

The Sutphen Corporation was posed with a real challenge when approached by the Marathon Petroleum Refinery in Catlettsburg, Kentucky.

The refinery had requested a 100ft high aerial platform with a minimum of 3,000 GPM flow rate at the tip, and a 1,000lb load capacity, as David Rider, Sales Manager for the company explained at the recent FRI, held in Dallas, TX.

Sutphen responded by taking its proven 110ft municipal boom, and connecting the popular SPH style platform to the aerial ladder. The result increased the overall height to 112ft. The industrial aerial is equipped with a waterway that measures seven inches in diameter, twin 2,000 gpm remote controlled monitors, and features a six inch swivel at the base to achieve flows well over 3,000 GPM. "This combination enabled us to meet the requirements of the refinery in relationship to how much water

and foam flow they required, and their desire for a stable rescue platform". Other requirements included a minimum of 800 gallons of foam, and 600ft of six inch hose, equipment storage, and a full "Quint" (85") complement of ground ladders.

Sutphen was able to fulfil all of these requests, and even surpass the refinery's expectations.

Rider explains: "The biggest challenge to overcome for these high flows is to develop a boom that is strong enough to carry a large waterway and the associated weight when it is charged and operating at capacity. The 110" boom is the best choice, because we can limit extension to 100" to maximize the overlap of the boom sections for more strength, and the 110" used a four jack main outrigger system to enhance stability during high flow evolutions. You still have 112" of elevation for rescue. You truly get the best of both worlds."

The Huck bolted aluminium box boom has always been synonymous with Sutphen, and this is no exception. Sutphen has always used a huck bolted box boom, which is four-sided and similar looking to a crane. Rider explains: "A four side boom is much stronger than a three sided ladder. Besides superior strength, the box boom also allows us to put the waterway and other critical components inside, protected, and in their proper orientation. The largest part of the waterway is situated at the top

The Sutphen Corporation uses an aeronautical technology called "Huck Bolting" to construct its aerials and vehicle bodies.

Delivery for BP Texas City

The BP Texas City Refinery, will soon take delivery of its new 2009 Pierce Arrow XT 100ft. High Flow Aerial Platform. When the refinery sought to replace its dated Pierce/LTI aerial ladder, it looked very hard at what was available in the market place. At that time, Pierce had just introduced its new High Flow 100ft Aerial Platform which was based on the very popular and proven Pierce 100ft Aerial Platform. An additional factor in the decision to order the Pierce was that the refinery had recently taken delivery of a Pierce Industrial Pumper which featured a 3,000 gallon per minute rated water pump and the Pierce Husky 300 Balanced Pressure Industrial Foam System. The Pierce 100ft High Flow Aerial Platform was capable of using a pump module that could be built virtually identical to the new pumper. The obvious benefits of this would be to the operator since the control panels and inlet/discharge locations would be virtually identical to their existing pumper. The "high flow" version of the Pierce 100ft Aerial Platform features a larger waterway that allows flow rates of 3,000 gallons per minute through the aerial device. The standard Pierce Aerial Platform is capable of 2,000 gallons per minute through the aerial device. The BP Texas City Refinery Pierce 100ft High Flow Aerial Platform is built on a Pierce Arrow XT custom chassis which is powered by a Detroit Diesel, 515 horsepower engine and an Allison 4000EVS automatic transmission. The truck has a 3,000 gallons per minute, draft rated, Hale water pump that, when installed and plumbed by Pierce, is easily capable of flowing in excessive of 5,400 gallons per minute when supplied by a pressurised water supply. A Pierce Husky 300 Balanced Pressure Foam System provides the foam to all of the discharges including the aerial device. The BP truck features a 500 gallon foam tank, a hose storage area in the body for up to 1000 feet of 7.25 inch supply hose, two (2) slide-out hose storage trays within the aerial torque box for additional complement of 5.00 inch and 3.00 inch fire hose, roll-up doors on the body compartments, and much, much more.

of the boom, and in this application, 'it is all about the waterway'. "Other manufacturers do this the conventional way, but in our opinion it is upside down, and that doesn't work in the most optimal way. The highest friction loss naturally occurs at the tallest part of the aerial. Having the largest part of waterway up there reduces friction loss, and therefore enables us to increase pressure and volume. It also allows water to flow past the waterway seals instead of against them."

Sutphen is also the only company that engineers its aerials with Huck Bolt fasteners, a technology used extensively in the aeronautical industry. Huck Bolts are used throughout Sutphen's entire apparatus, including the chassis, body, and the aerial device itself. Sutphen is unique in using this technology so extensively.

So what are the benefits of this technology?

The Huck Fastening system was developed by Alcoa, specifically for fastening aluminium together. According to Rider twice as much aluminium is used in conventional aerials because the heat degradation of the weld weakens the material, therefore you need twice as much to overcome that. "We do not have this problem, because we mechanically fasten the aerial together; the result is a stronger, lighter aerial device."

"Welding is a very skilled art, and even a good welder can have a bad day. When using the Huck Fasteners the operator pulls the trigger of the huck gun and sets the fastener the same every time. Once all the hucks are set they will not loosen up.

"The entire apparatus has been developed using common sense, and sound engineering practices," he explains.

Rider concludes that he thinks this product is extremely suitable for refineries all over the world, because of the far-reaching vertical aerial on this vehicle. "We think this product would be widely accepted, and not only at refineries or chemical facilities and tank farms, but it would also be very suitable for ports too, as they have a requirement for high flow foam and water there."

From the Name
in Safety, Rescue
and Survival...

**JSA-200
Plastic Stretcher**



Ideal for unusually rugged rescue situations such as industrial, mining or construction.

The Junkin Plastic Stretcher is constructed of a yellow high-density polyethylene shell, supported by a stainless steel outer rail, permanently attached with stainless steel semi-tubular rivets.

Includes molded runners and a fully exposed outer rail. Foam pad secured to stretcher, non-absorbent and four patient restraint straps.

| | |
|-------------------|-----------|
| Dimensions | |
| Length: | 84 1/2" |
| Width: | 24" |
| Depth: | 7 1/4" |
| Load Capacity: | 1200 lbs. |
| Shipping Weight: | 31 lbs. |

JUNKIN
SAFETY APPLIANCE COMPANY
502-775-8303, fax: 502-772-0548
3121 Millers Lane, Louisville, KY 40216
www.junkinsafety.com



axion

MEDICALLY SUPERIOR

AXION MSQ™ is the industry's only eyewash and eye/face wash combination product that irrigates eyes in the same manner as medical professionals.



Haws
SWITZERLAND

axion
BY HAWS

Haws AG • CH-3401 Burgdorf, Switzerland +41 34 428 60 00 • www.haws.ch • info@haws.ch