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Urbana and Dublin Technical Updates



Urbana and Dublin Technical Updates Overview

- Building Blocks For Innovation
- Define Innovation In The Fire Industry
- Chassis Innovations
- UPD Innovations
- Low Hosebed Options
- Inverter Options
- New Warning Lights
- SPH Innovations



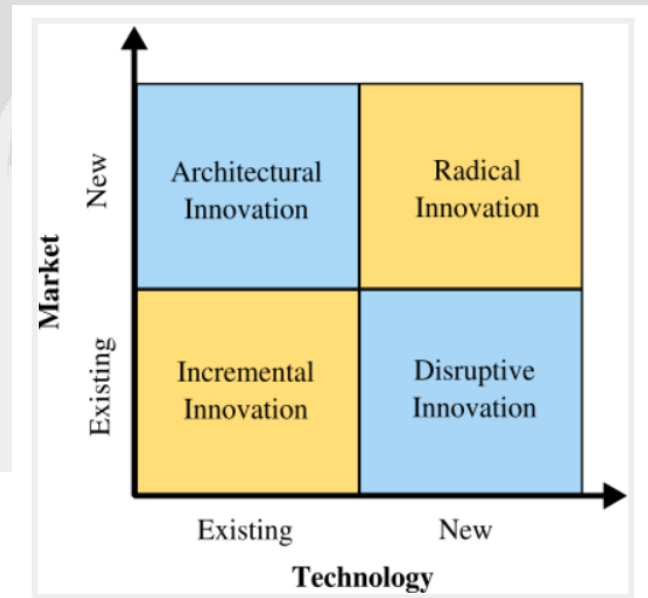
Built For Innovation

- Ever since Tom Sutphen invented the box boom back in the early 1960's. Sutphen has been raising the bar on innovation, and 2021 has been no different.
- We will look across the Urbana and Dublin facilities at some newer innovative designs/ideas that have been developed over the past year.



What Is Innovation?

- The four different types of innovation are Incremental, Disruptive, Architectural, and Radical
- In the fire apparatus industry we see/focus on two of these forms.
 - Disruptive and Incremental Innovation.
- Disruptive Innovation
 - This involves applying new technology or processes to the current market. This takes resources, time, money, and extra personal to study the industry trends and see where we are going. This can also take anywhere from months to years of new development of a product.
- Incremental Innovation
 - Incremental Innovation is the most common form of innovation. It utilizes your existing technology and increases value to the customer within our existing market.
 - This form of innovation is what we see most often at Sutphen.
 - We take customer feedback and what we are seeing as sales requests to determine the best course of action to be taken to meet the customer demand for a reliable apparatus for years to come.



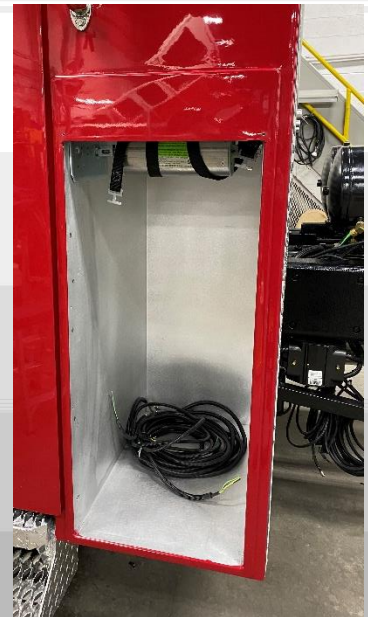
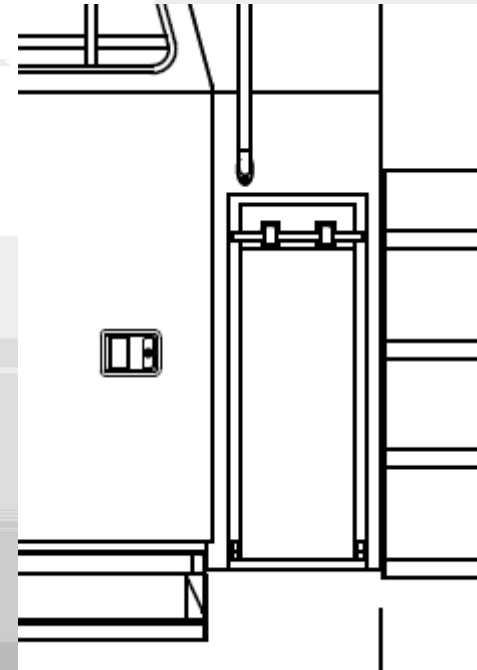
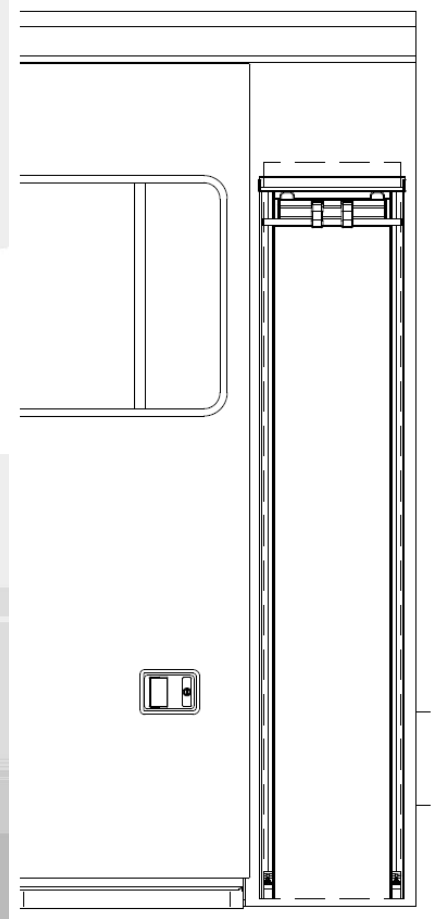
Chassis Innovation Overview

- Chassis continues to raise the bar on innovation all while meeting customer demands for production slots.
- Some new innovative features.
 - Offering a roll-up door on exterior cab compartments
 - Custom bumper designs
 - Heavy Duty front bumper clip
 - Solar Panels installed on cab roof
 - New tiller tractor
 - Backlit Bumper Inserts



Chassis Innovation – Exterior Cab Compartments

- Now offered with a Roll-up door on exterior cab compartment
- This is available on a 73" cab only
- Heights vary based on door manufacture.
 - AMDOR will allow up to a 66" opening
 - ROM will allow up to an 80" opening



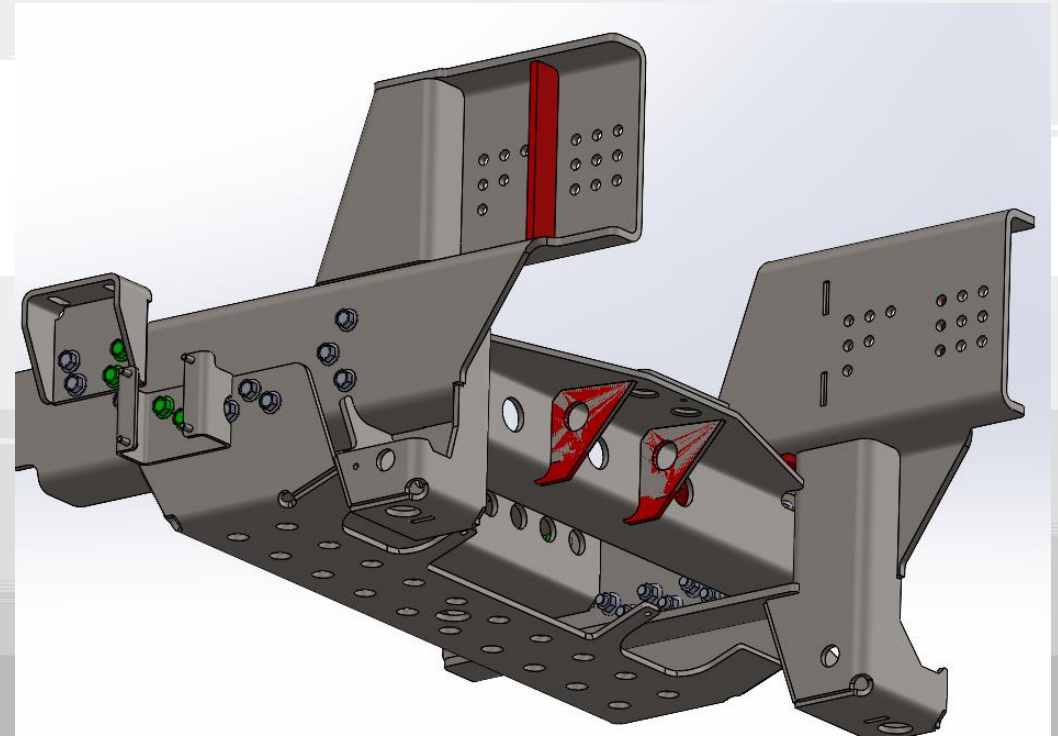
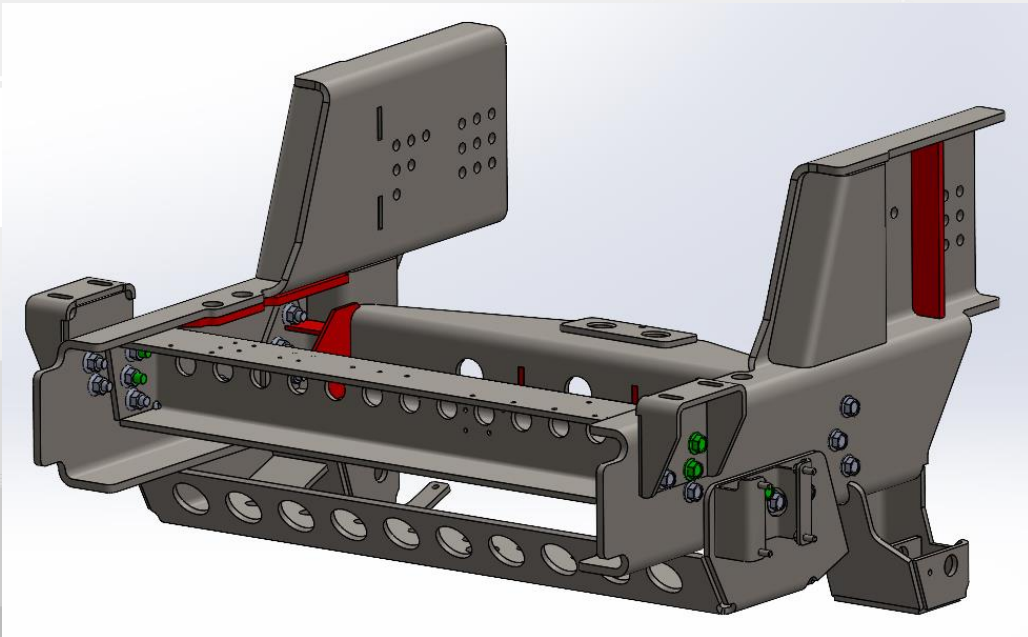
Chassis Innovation - Bumpers

- The front bumper is still one of the most customize options on the chassis. Here is an example from Orlando, FL HS-6648-54



Chassis Innovation – Lower Front Assembly

- Still in design process, but is speced on Greensboro HS-7215 SP70 and HS-7216-17 Pumpers



Chassis Innovation – TDA Tractor

- DeKalb County – Decatur, GA HS-6846 chassis.



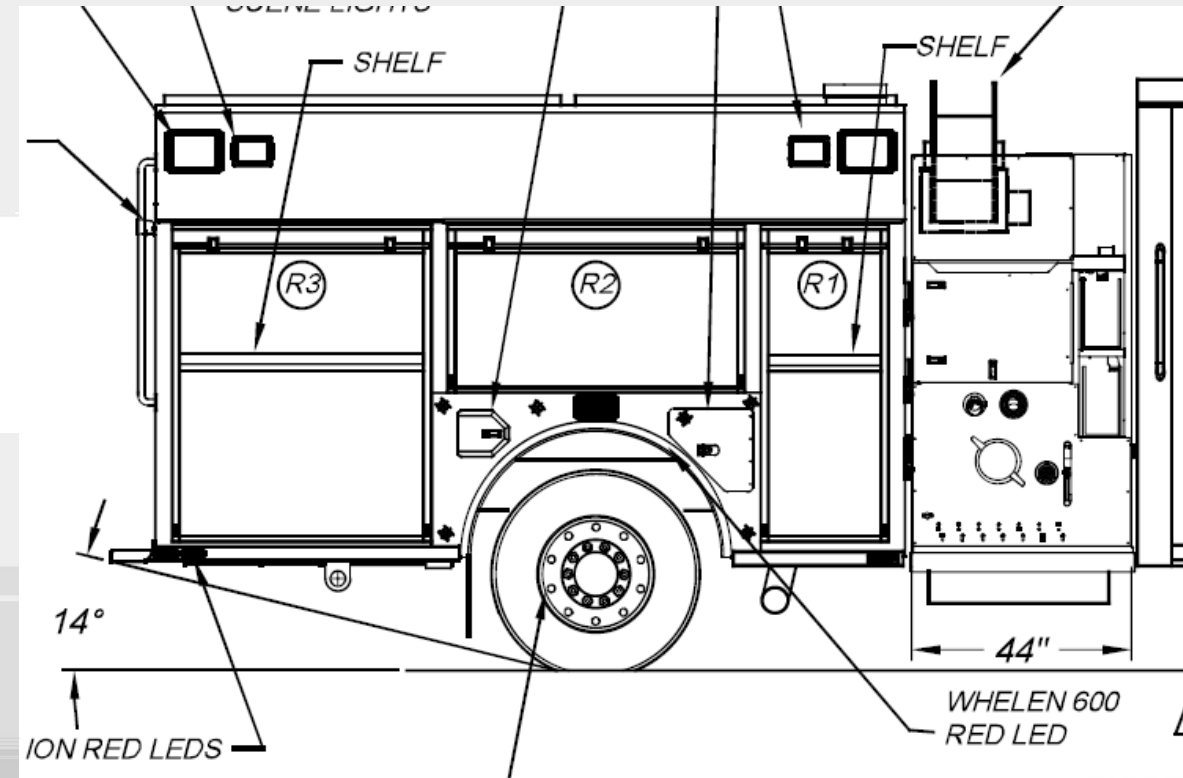
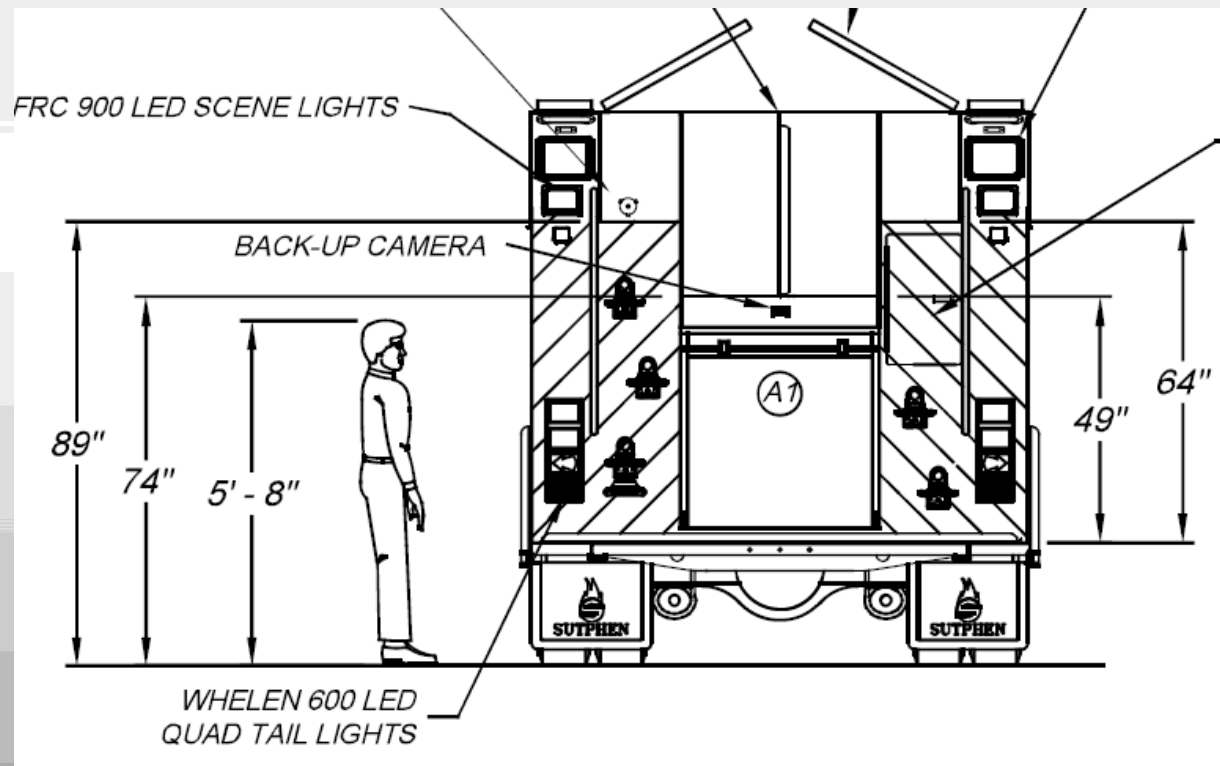
UPD Innovations – Program 1 Bodies

- UPD focus on Incremental Innovation
- With slight modifications to all bodies
 - G2 with smaller L1/R1
 - G2 with larger L1/R1
 - G5 Low Hosebed
 - G5 with larger L3/R3 (Demo 488)
 - G9 with larger L1/R1
- Urbana has also gone as far as offering a wide hosebed body design.
- Modifications to the body is not the only new options. The ladder chute is also seeing improvements by accommodating larger designs.



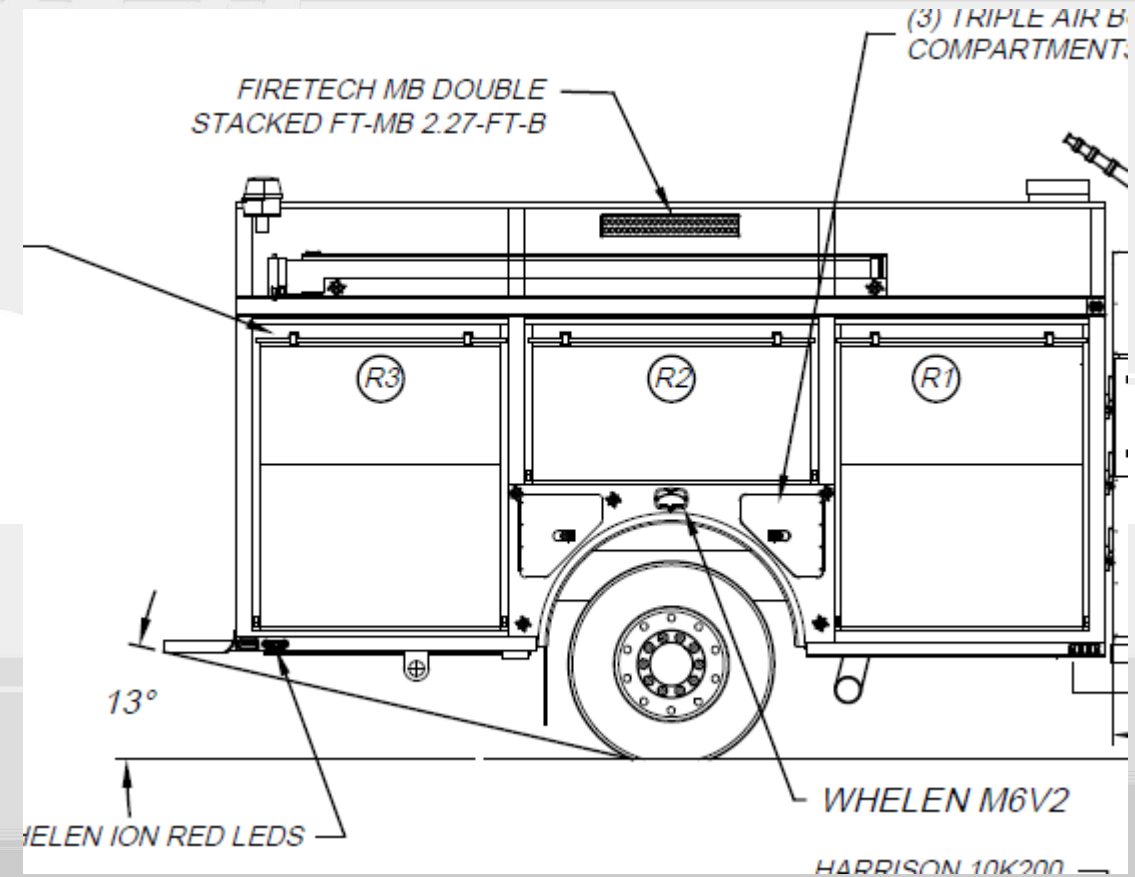
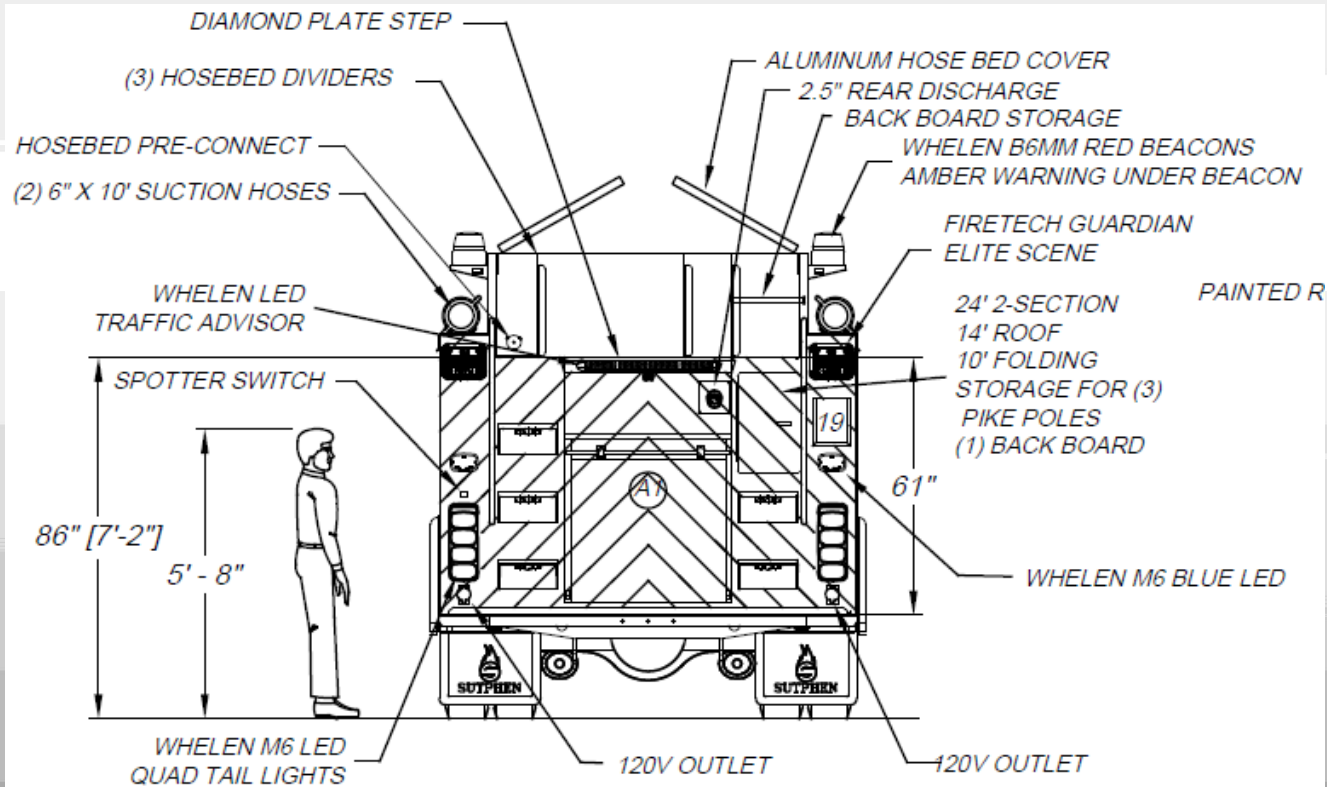
G2 Modified

- This is our West Coast Demo Pumper HS-7123 with a low hosebed, and short L1/R1.



G2 Modified

- Atascocita Fire Department-Harris Co. ESD 46 – Humble, TX HS-7132 (G2XL)



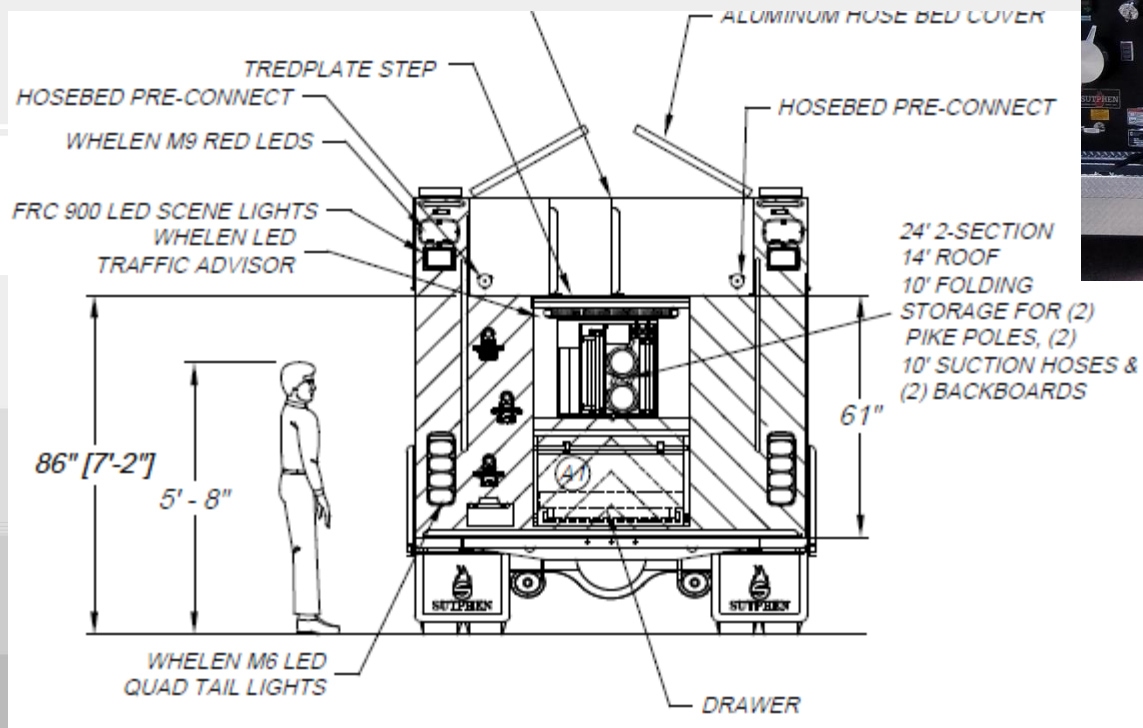
G5 Modified

- Demo 488 HS-6818 (G5XL) – Sold to Eden, NC



G9 Modified

- Osceola County Public Safety - Kissimmee, FL
HS-6816-17 (G9XL)



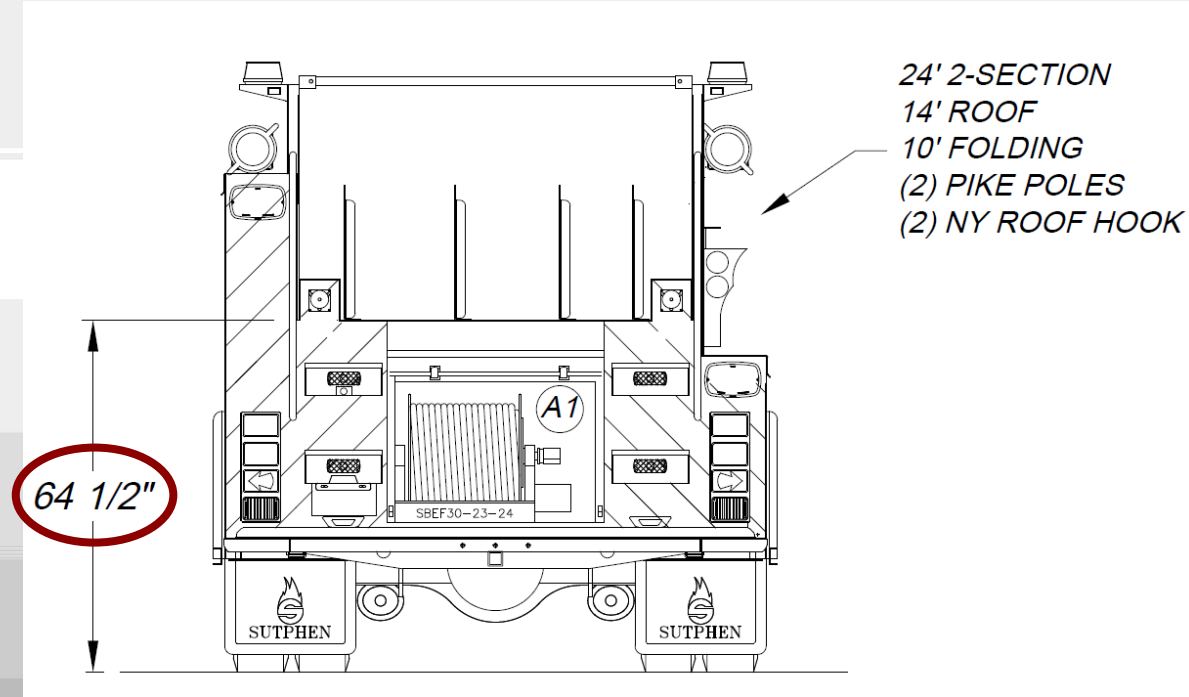
Low Hosebed Pumpers

- In 2021 Sutphen has seen a up tick in the low hosebed requests.
- We are seeing a huge push from the program side to the full custom side to offer the low hosebed option.
- Advantage of low hosebed is getting everything lower to the ground.
- Disadvantage would be loss of compartment space.
- There is give and take when it comes to the low hosebed.
- Some recent builds with low hosebed are Hoover, AL, Durham, NC, Greensboro, NC and Orlando, FL. We are seeing larger departments redefine their fleet to accommodate the low hosebed philosophy.
- We all know that low hosebeds are not new to the fire service. So how does Sutphen stay innovative with a trend that is coming back around?



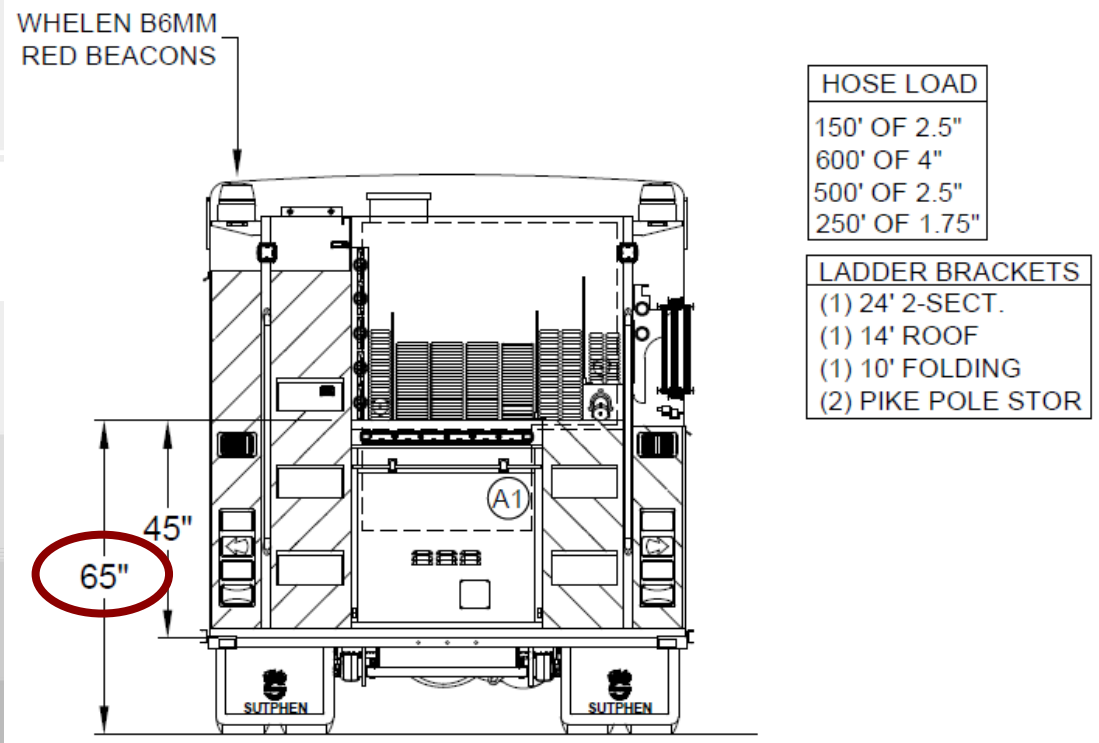
Low Hosebed Examples

- Alabama Fire College HS-6710 (G5)



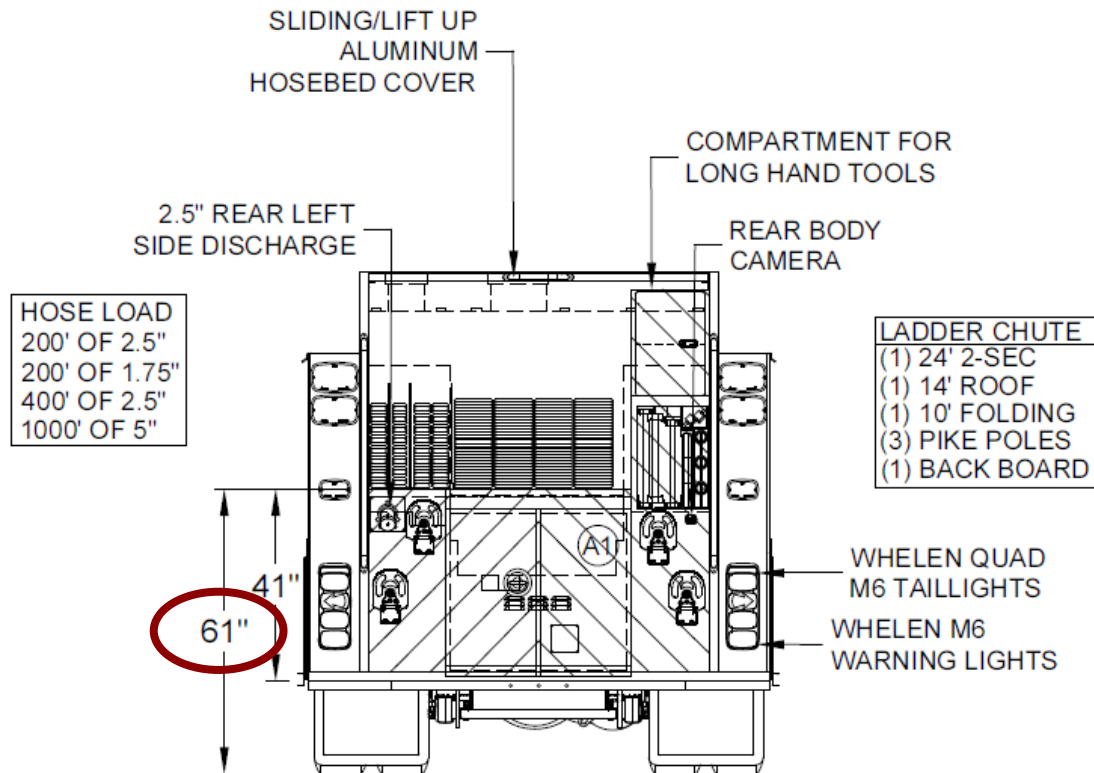
Low Hosebed Examples

- Hamilton, OH HS-6884 & 6942 (S1)



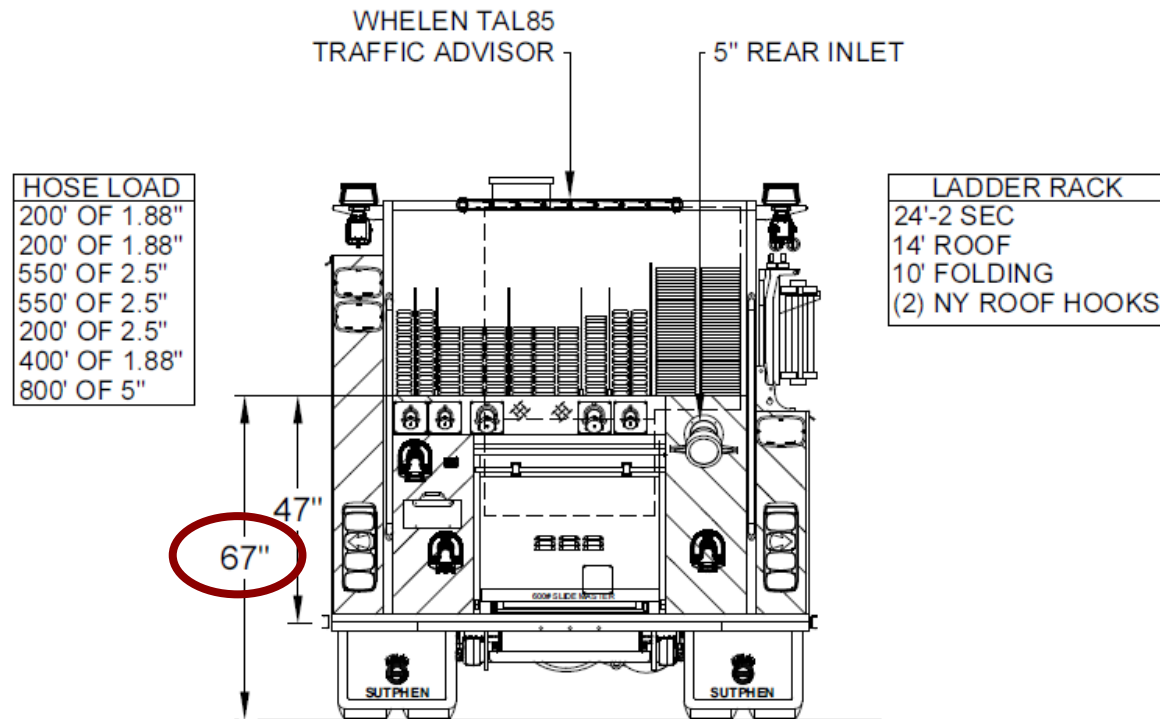
Low Hosebed Examples

- Hoover, AL HS-6968-69 (S2 – Modified)



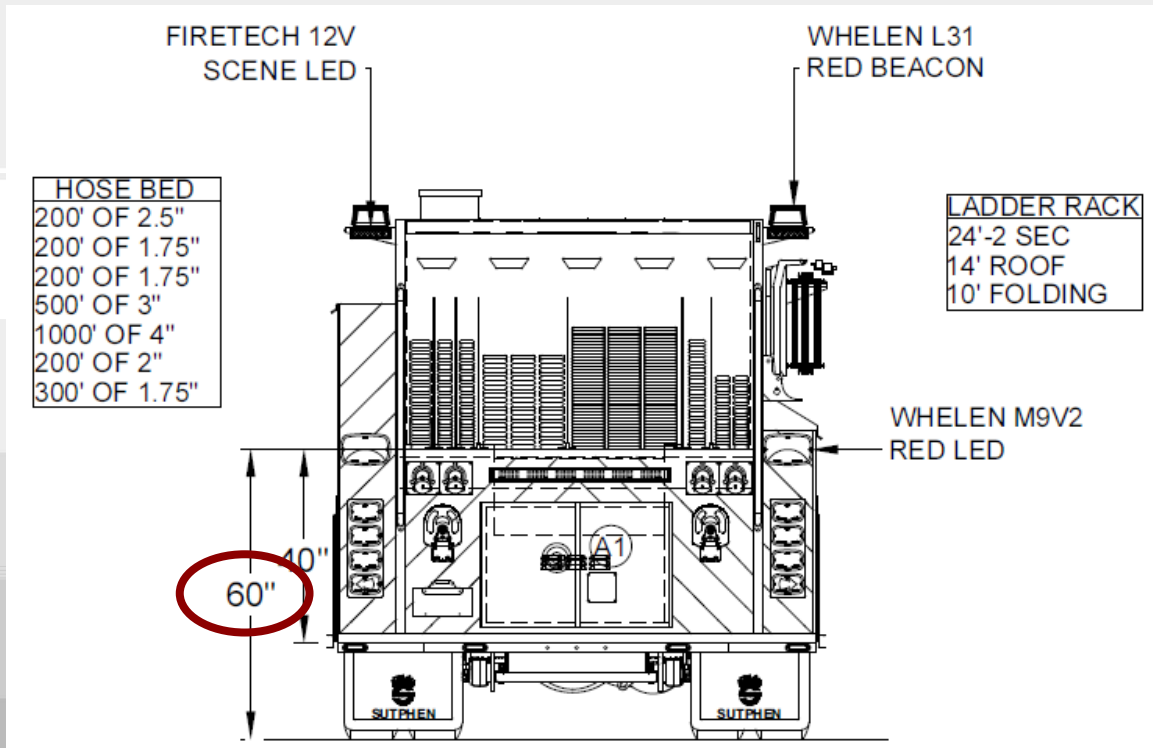
Low Hosebed Examples

- Durham, NC HS-6849-55 (PA-11)



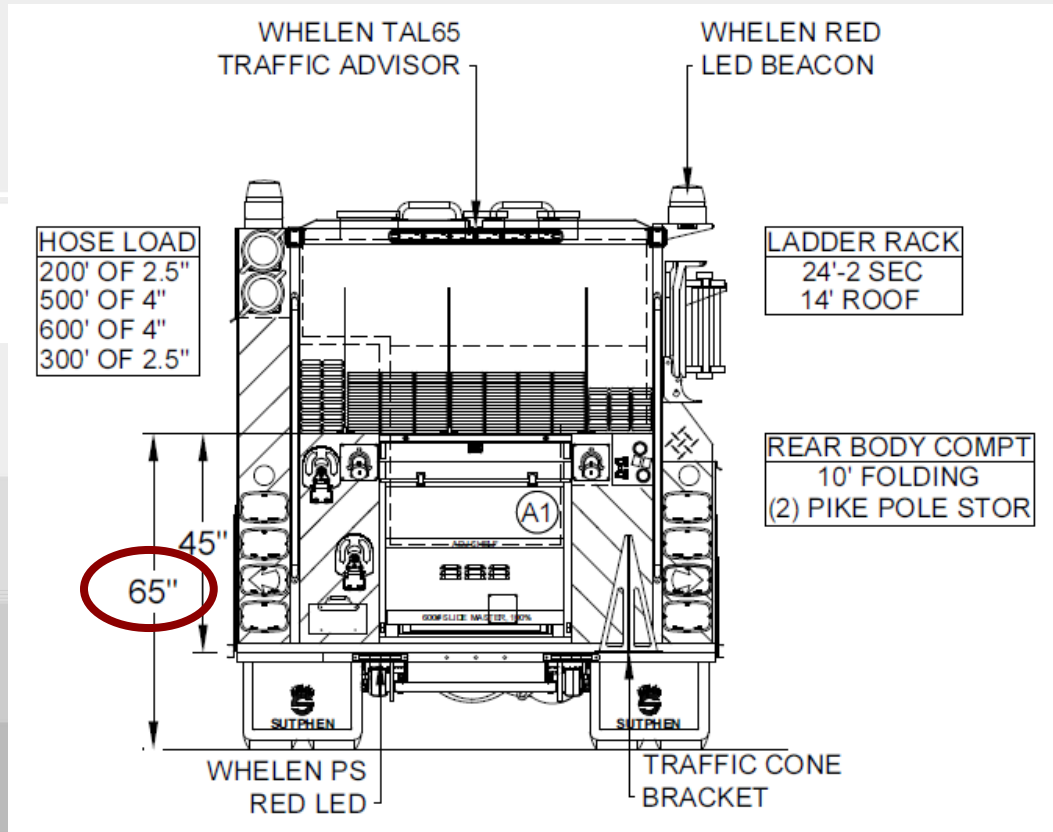
Low Hosebed Examples

- Orlando, FL HS-6648-54 (PA-9 L / PA-11 R)



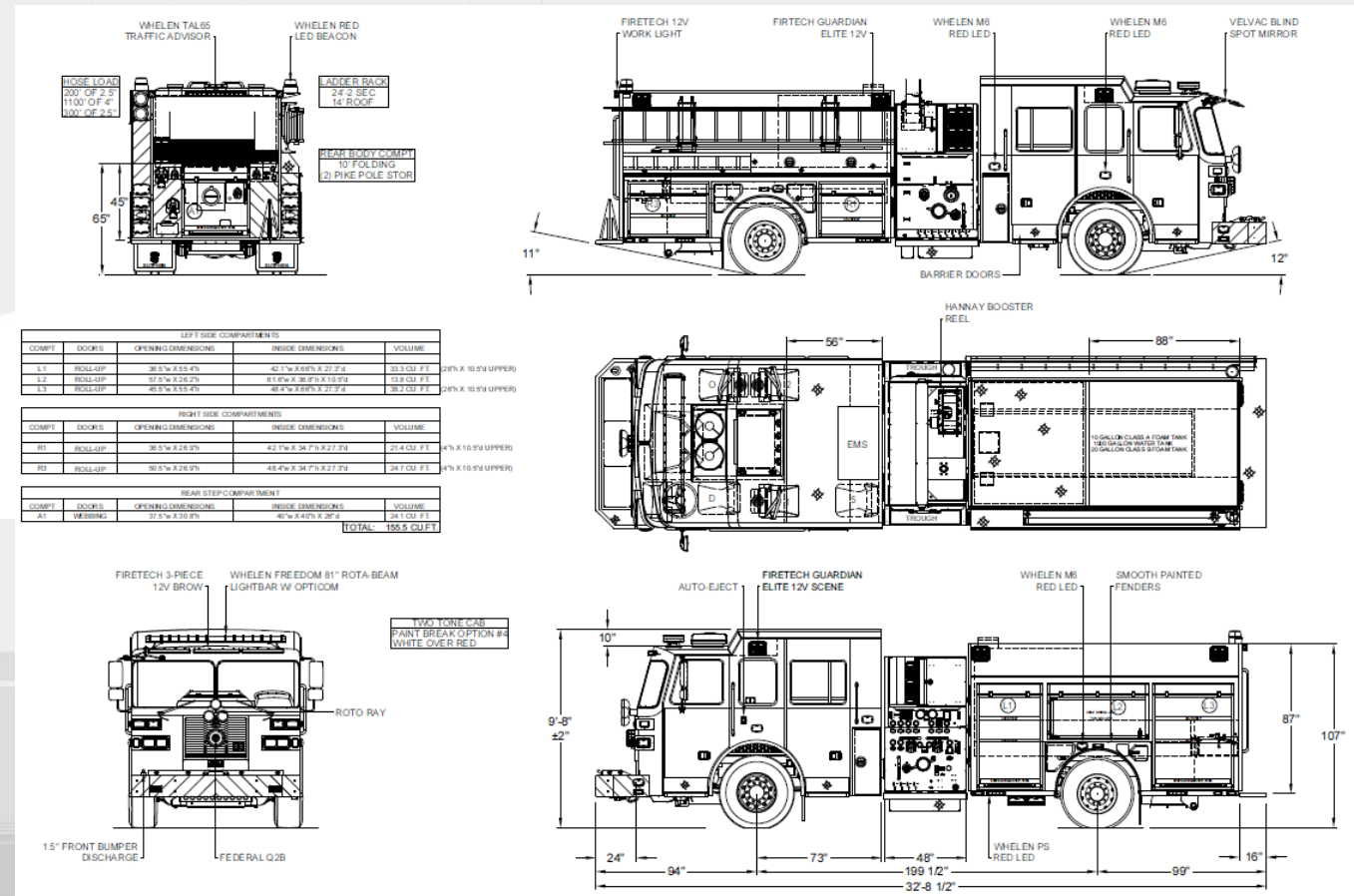
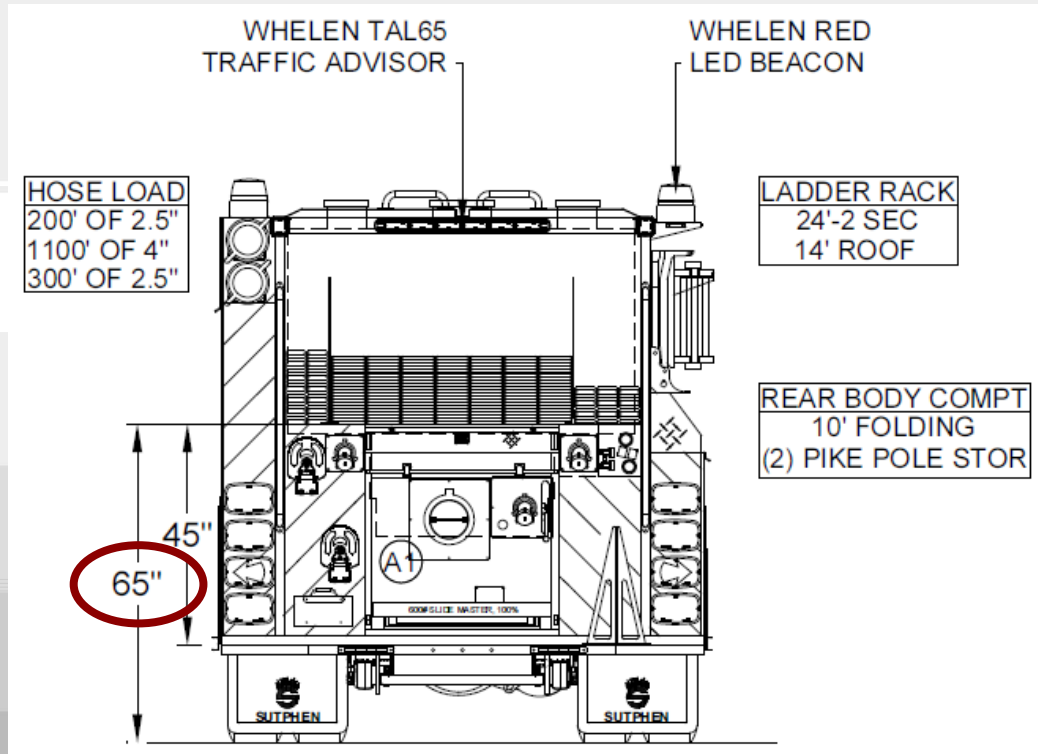
Low Hosebed Examples

- Greensboro, NC HS-6963 (PA-8)



Low Hosebed Examples

- Greensboro, NC HS-7216-17 (PA-8)



Inverter Options

- The request for inverters keeps growing every year.
- The big question is. Is there space for them?
 - These are typically found in various locations
 - Under Crew Seat 1 seat riser (depending on size of unit)
 - In an EMS cabinet in the cab
 - In the body
- What can be powered off the inverters?
 - Computer
 - Lights
 - Outlets
 - RV A/C units
 - Solar Panels
- Not only are we seeing inverters we are starting to see inverter chargers that replaces the shoreline charger.



Inverters - Continued

- These are the brand of Inverters we are currently installing.
 - Kussmaul (1500W – 3000W)
 - Blue Sea (1500W – 3000W)
 - Vanner (3000W)



Inverters In The Cab

- This can be mounted in the EMS compartment or above it.
- With this being an inverter charger. This can also be mounted under Crew Seat 1 riser.



Inverters On Aerial

- Oak Hill FD, TX HS-6671 (SPH100)

Pure Sine Wave 3000W Inverter

Powers:

All Outlets

A fixed extension cord installed in the R1

(2) Firetech Guardian Elite Scene lights

(2) Firetech Guardian Tele Lights



TOMAR Warning Lights

- Tomar lighting options.
 - These options really have taken off since Miami Dade Fleet speced them.
- If you have not checked out the latest promo video please visit: <https://www.youtube.com/watch?v=bakMN6KZQNs>



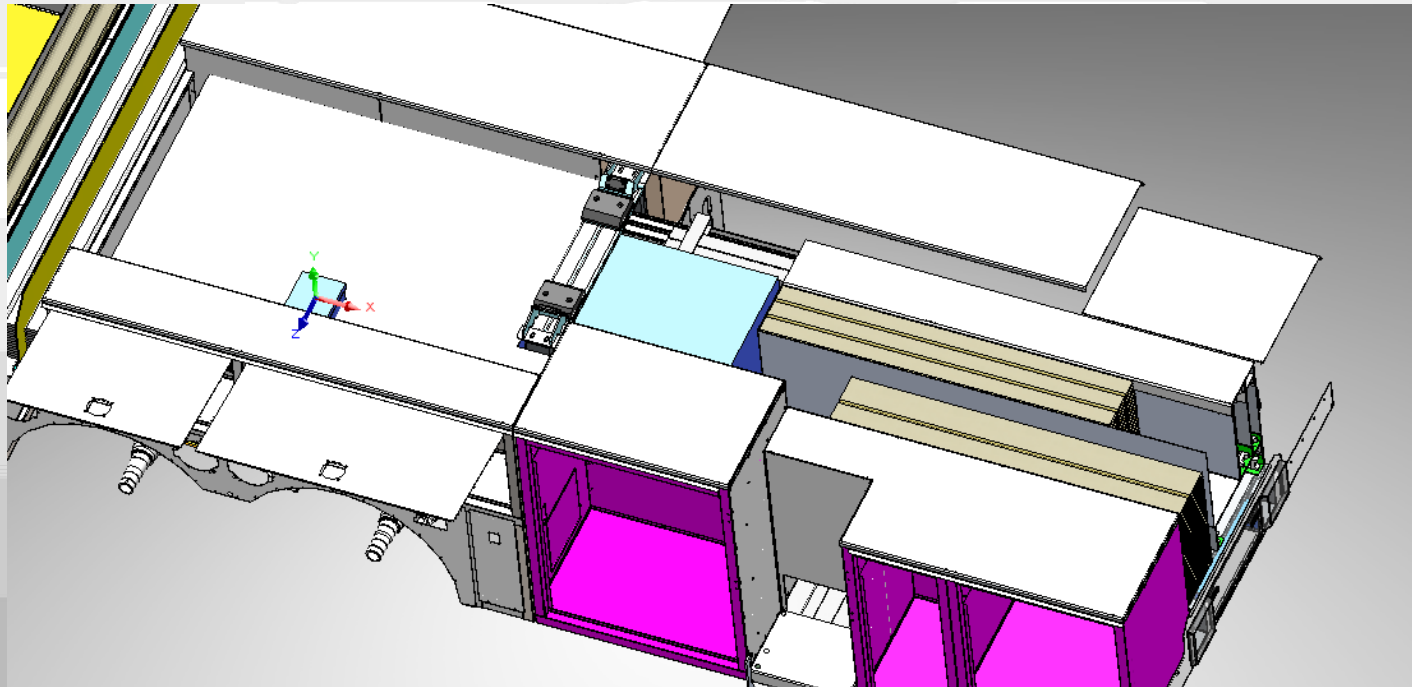
Whelen Warning Lights – DVI Activated

- Whelen has just announced the release the line of warning lights with DVI Enabled technology.
- DVI (Dynamic Variable Intensity) is a type of flash pattern that has a gradual turn on then off. It is designed to help provide a calmer response environment.
- These new flash patterns have been added to the functionality on both the High Power and Low Power control wires of some of their Beacons, Mini Lightbars, and Lighthead.
- The Product Categories to be DVI enabled are as follows:
 - M-Series Lighthead
 - L31 & L32 Beacons
 - B6MM & B63M7 Beacons
 - Micro Freedom® Lightbar



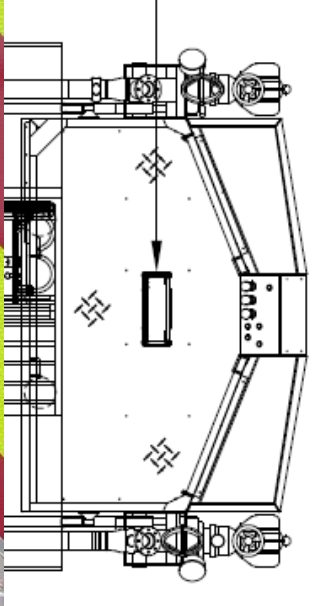
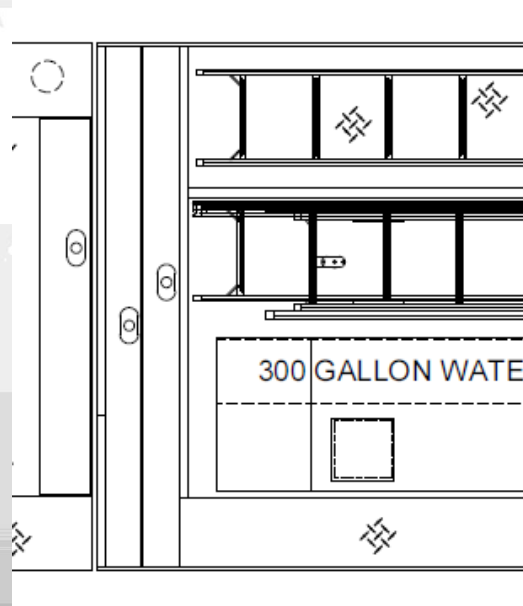
SPH Water Tank Requests

- We talked about this at the dealer meeting last year, and you all embraced the flexibility in design to accommodate various ladder chute designs, and larger water tanks in the SPH standard body designs.



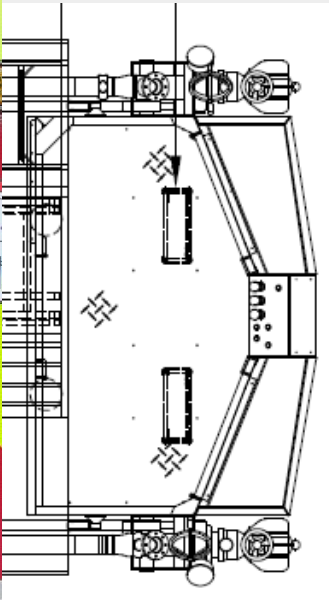
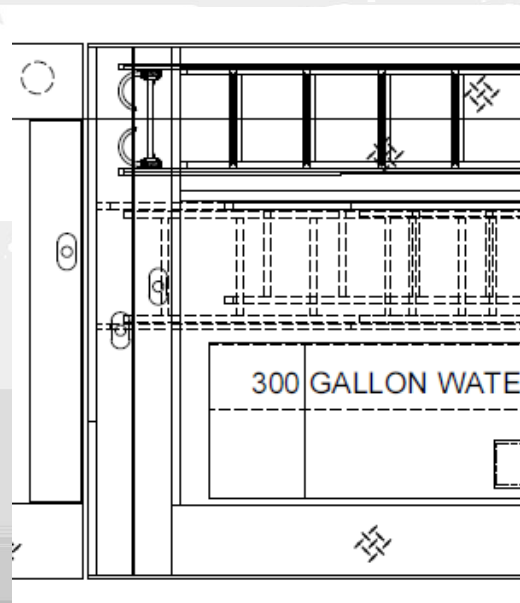
SPH Water Tank Requests

- Gates, NY HS-6752 SPH100 – 300 gallons



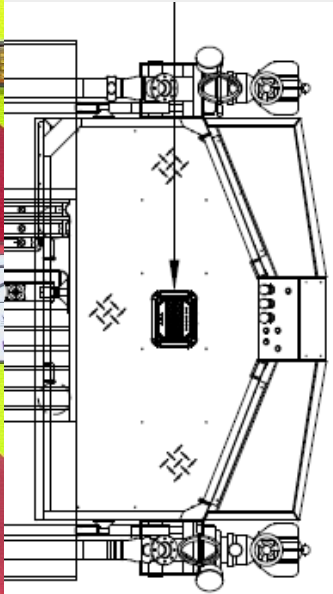
SPH Water Tank Requests

- Belgium Cold Springs, NY HS-6788 SPH100 – 300 gallons



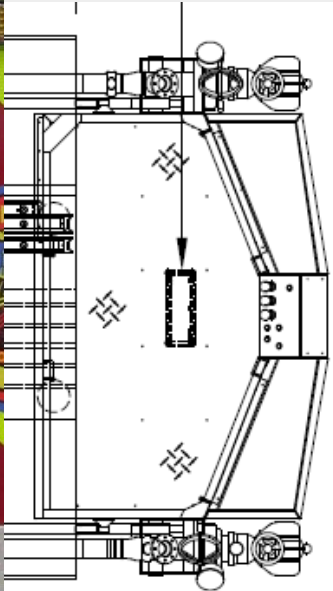
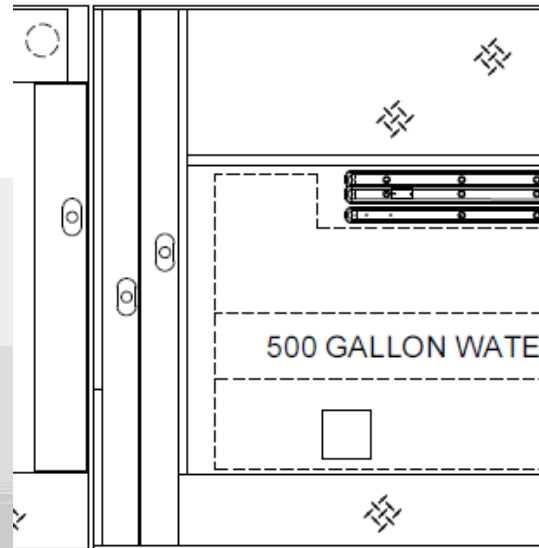
SPH Water Tank Requests

- Lake Ozark, IL HS-6763 SPH100 – 400 gallons



SPH Water Tank Requests

- Strongsville, OH HS-6792 SPH100 – 500 gallons



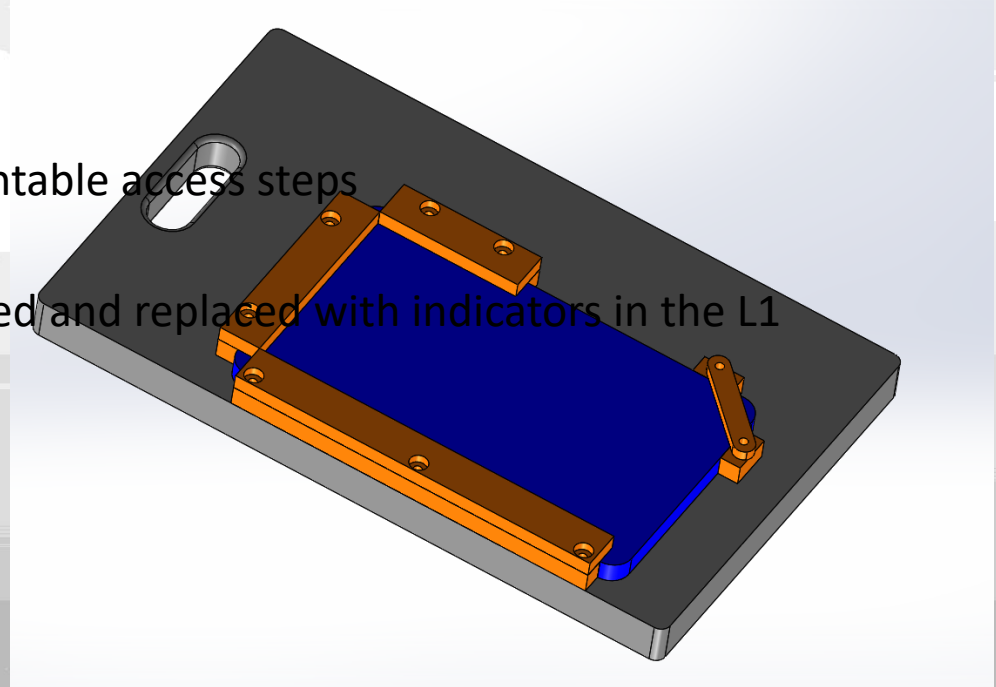
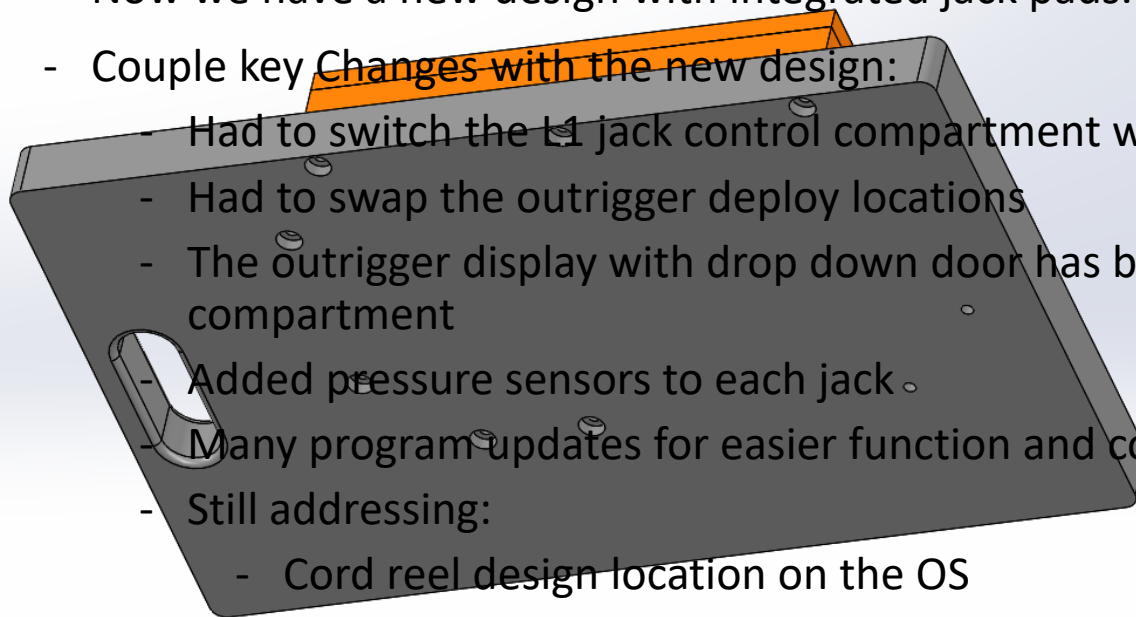
SPH Integrated Jack Pads

- Sutphen has worked very hard to develop a solution beyond the initial design.
- Which was a removable poly pad that attached to the bottom of the outrigger foot.

- Now we have a new design with integrated jack pads.

- Couple key changes with the new design:

- Had to switch the L1 jack control compartment with the turntable access steps
- Had to swap the outrigger deploy locations
- The outrigger display with drop down door has been removed and replaced with indicators in the L1 compartment
- Added pressure sensors to each jack.
- Many program updates for easier function and control
- Still addressing:
 - Cord reel design location on the OS
 - Turntable ladder designs for the DS.



SPH Jack Pads

- The new integrated jack pad measures 12.5"W x 36.9"L
- The jack pads are made of 110K PSI Domex Steel, and go through the same coating process for all steel components. With sand blasting, Cathacoated, primed, and painted.



SPH Jack Pads - Setup



SPH Pinless Jacks

- The current SPH Demo 501 has been outfitted with pinless jacks for testing and possible future implementation.
- It has passed the 48+ hour drift test with flying colors.
- Continual testing will be done in house, but we are also requesting your feedback from the field for this setup as well.
- With the new setup there are a few differences.
 - New Pressure sensors
 - Internal counterbalance valves
 - Deployment Operations



SPH Pinless Jacks - Setup

- It all starts in the cab.
- Sutphen has utilized the same PTO switch in the cab as with the traditional style controls we know today.
- Once the PTO switch is turned on in the cab.
- The operator makes their way to the L1 jack control compartment to start setup.



SPH Pinless Jacks - Setup

- Setup flows from left to right in the same manner as we have always done. Starting with the outriggers first.
- The indicator light will notify you when the outriggers/jacks have been deployed correctly with a green light.
- Once all outriggers/jacks are setup the lower lights will illuminate green, and jack not set light (on the right) will stop blinking.



SPH Pinless Jacks - Setup

- Turn the lower switch over to Upper Power ON. This will lock out the hydraulic controls from being able to stow any of the jacks during aerial operations.
- After this you are free to operate the aerial.
- This entire setup takes less than 40 seconds by one person, where the previous setup time was 45 seconds with two people.
(these times are from starting in the cab not at the control panel)



Question?

