



Family Owned and Operated Since 1890

SUTPHEN CORPORATION FACILITY UPDATES 2019

Justin Howell

Sutphen Sales Recap

- Facility and Product Naming
- Reshaping West Dealer Network
- 2018 Record Sales Year...again!
- Individual Product Line Growth
- Rebounding Aerial Sales
- Increased Digital Media Footprint
- Elevating the Custom/Dealer Experience



Updated Facility Naming

Old Naming

Sutphen Corporation

Sutphen East

Hilliard / Towers

Springfield Chassis Division

DCT / Springfield Pumper

Sutphen Service

New Naming

Sutphen Dublin (Headquarters)

Sutphen East

Sutphen Hilliard

Sutphen Urbana Chassis Division

Sutphen Urbana Pumper Division

Sutphen Service and Technical Division



Pumper Naming Clarification

Guardian

Program 1

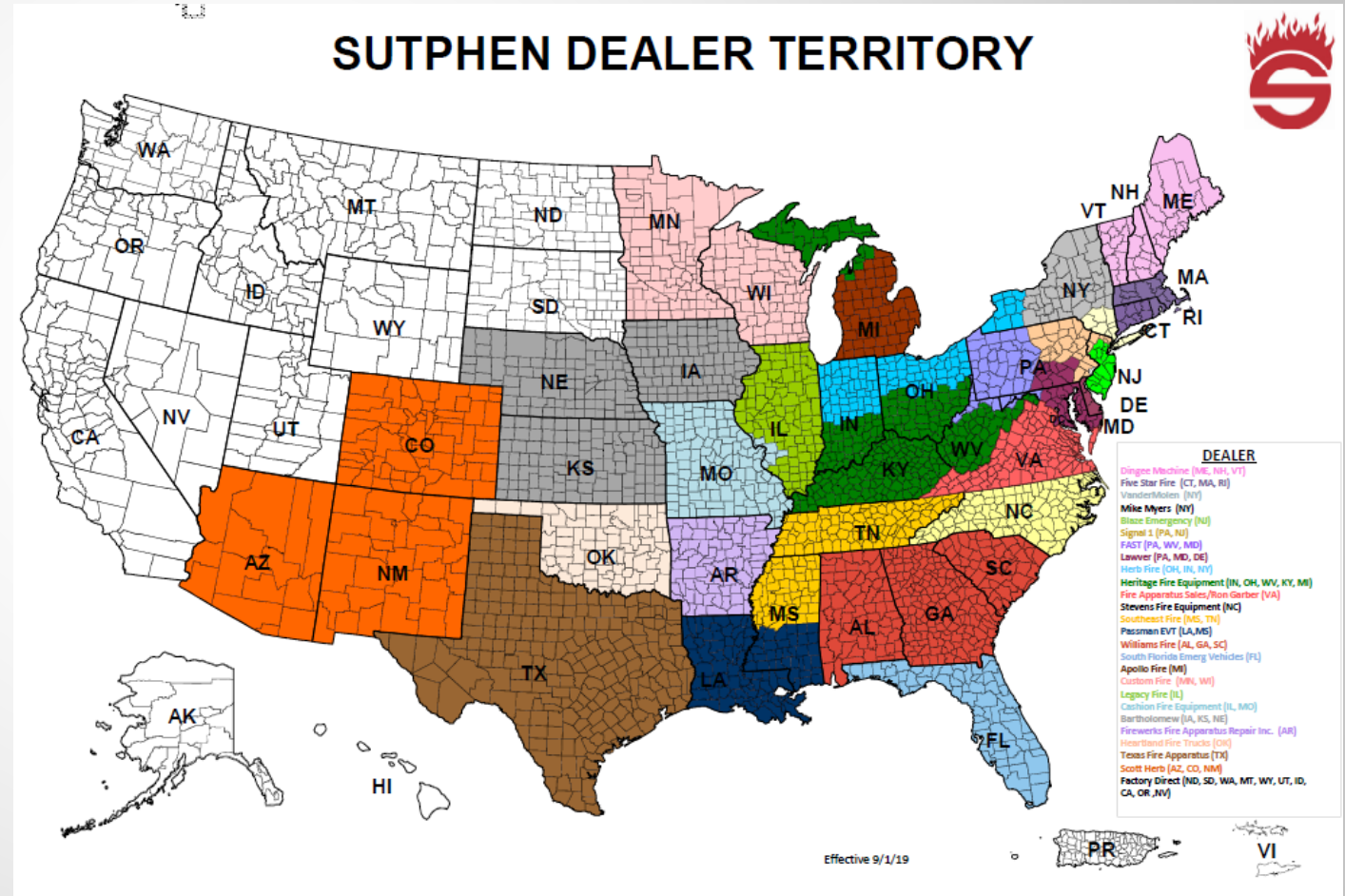
Shield

Program 2

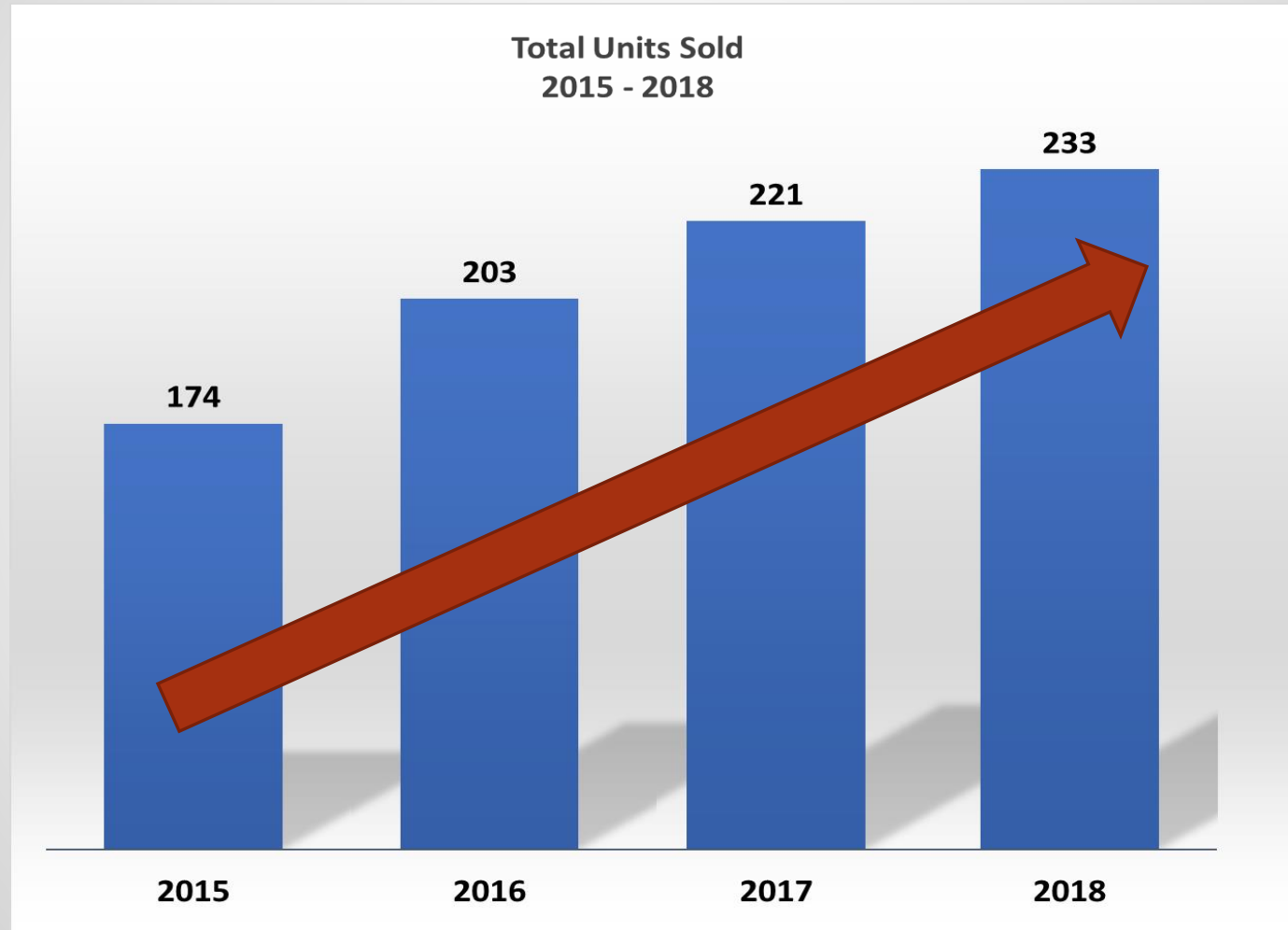
Monarch/Program Bully Custom Pumper

Reshaping the Southwest

- Heartland Fire Trucks
 - Oklahoma
- Firewerks Fire Apparatus
 - Arkansas
- Texas Fire Apparatus
 - Texas

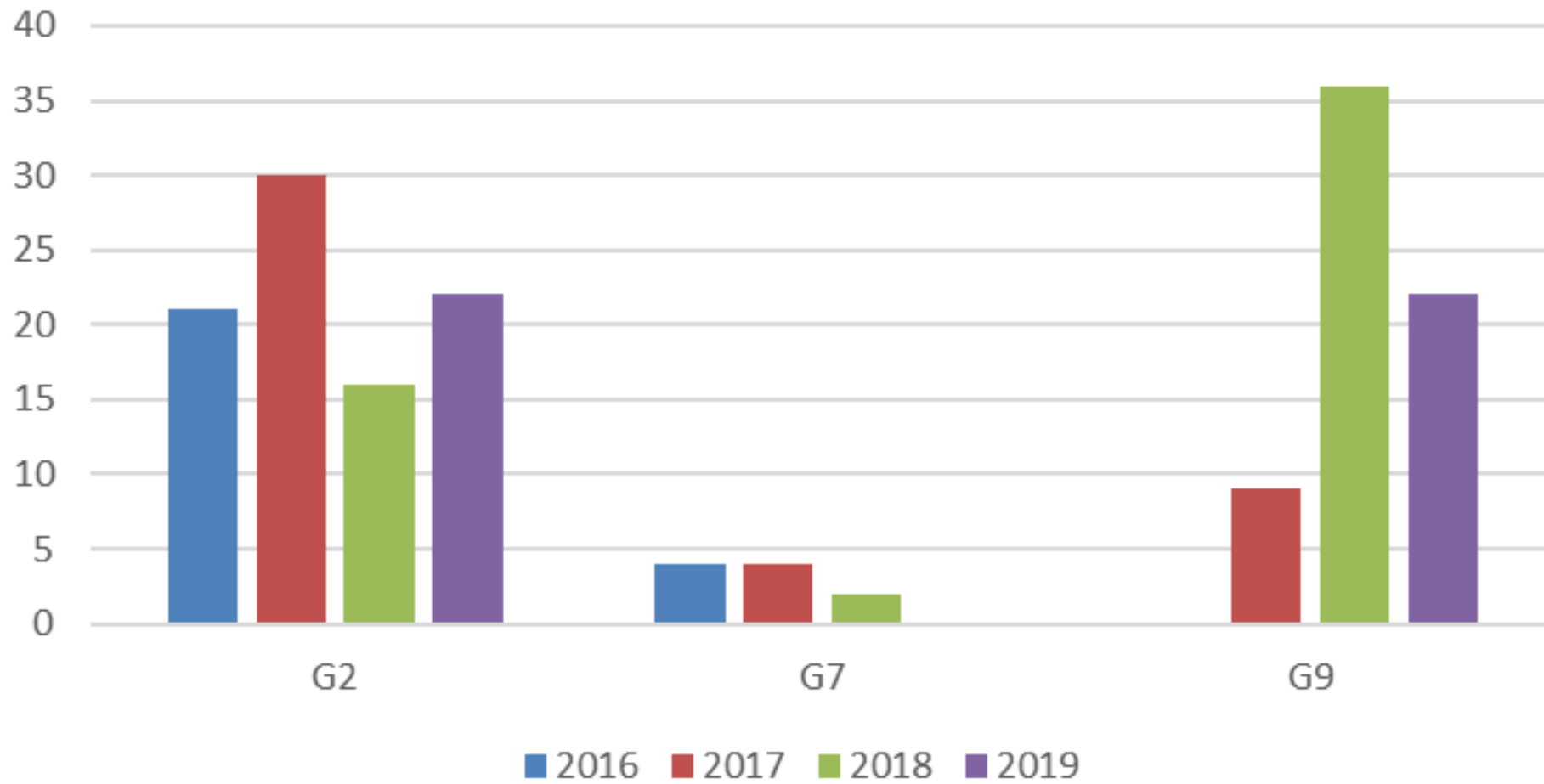


Continued Record Sales Growth

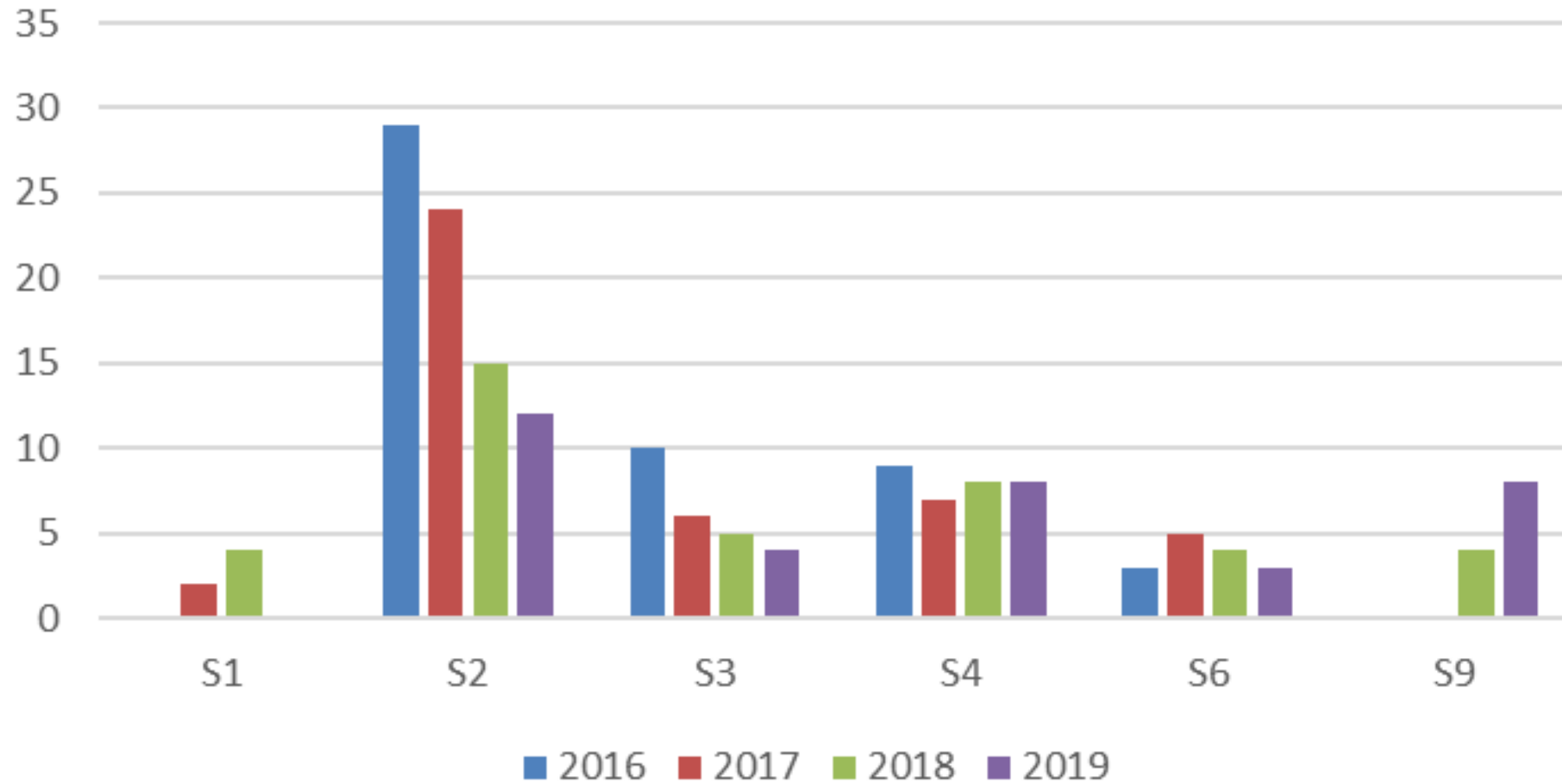


CURRENTLY
ON TRACK TO
SELL 240+
UNITS IN 2019

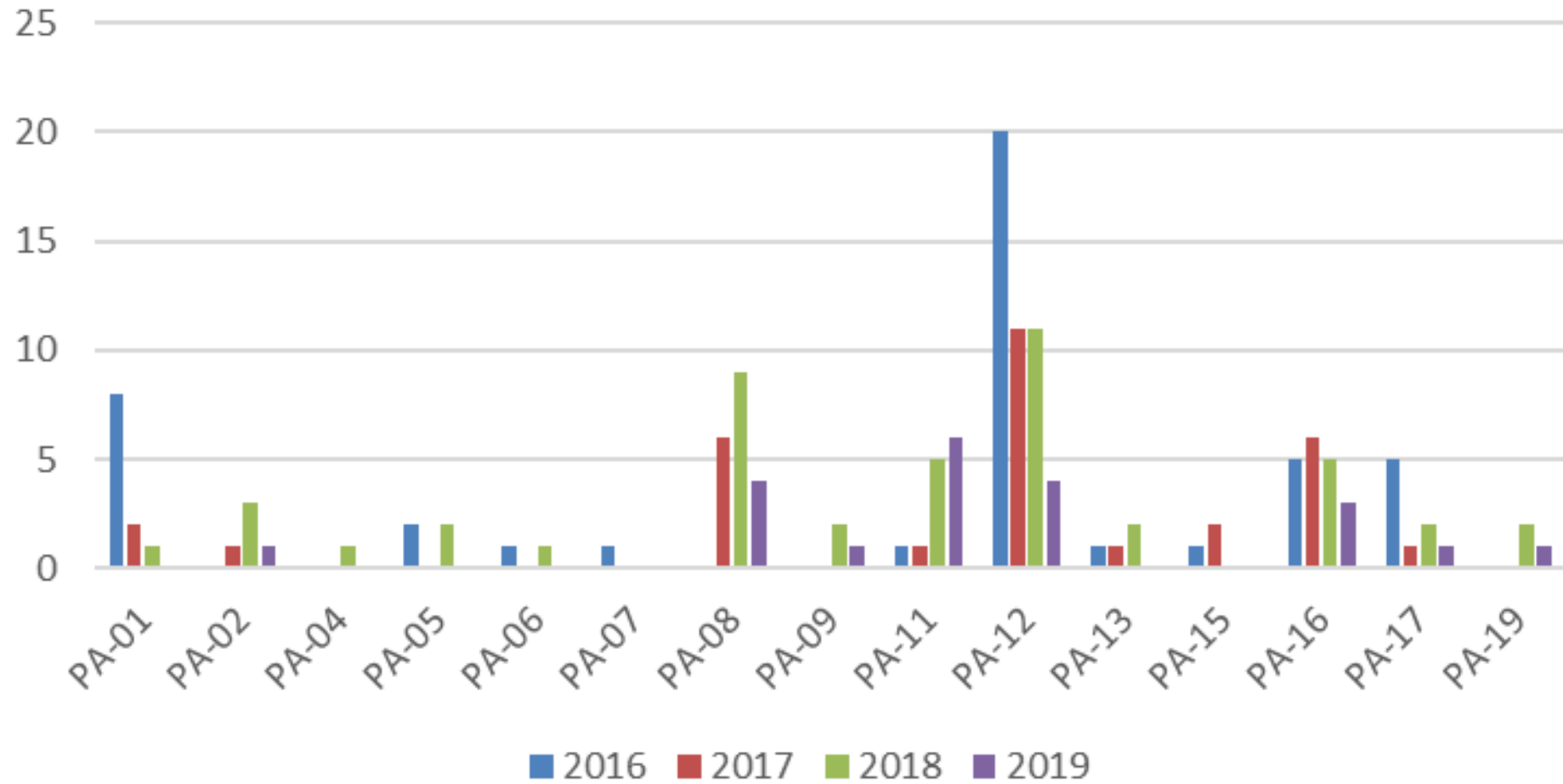
Program 1 Pumpers



Program 2 Pumpers

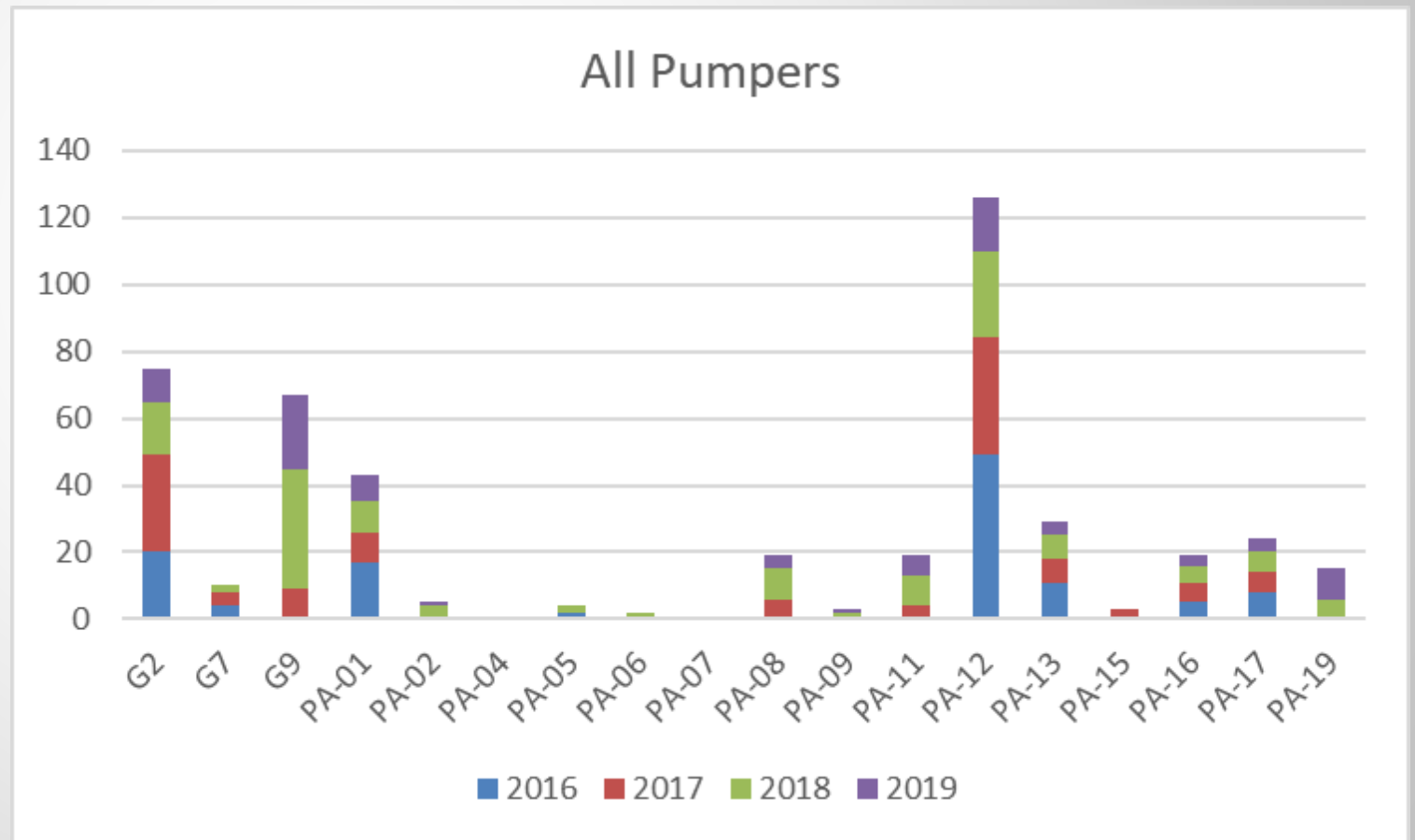


Custom Pumpers

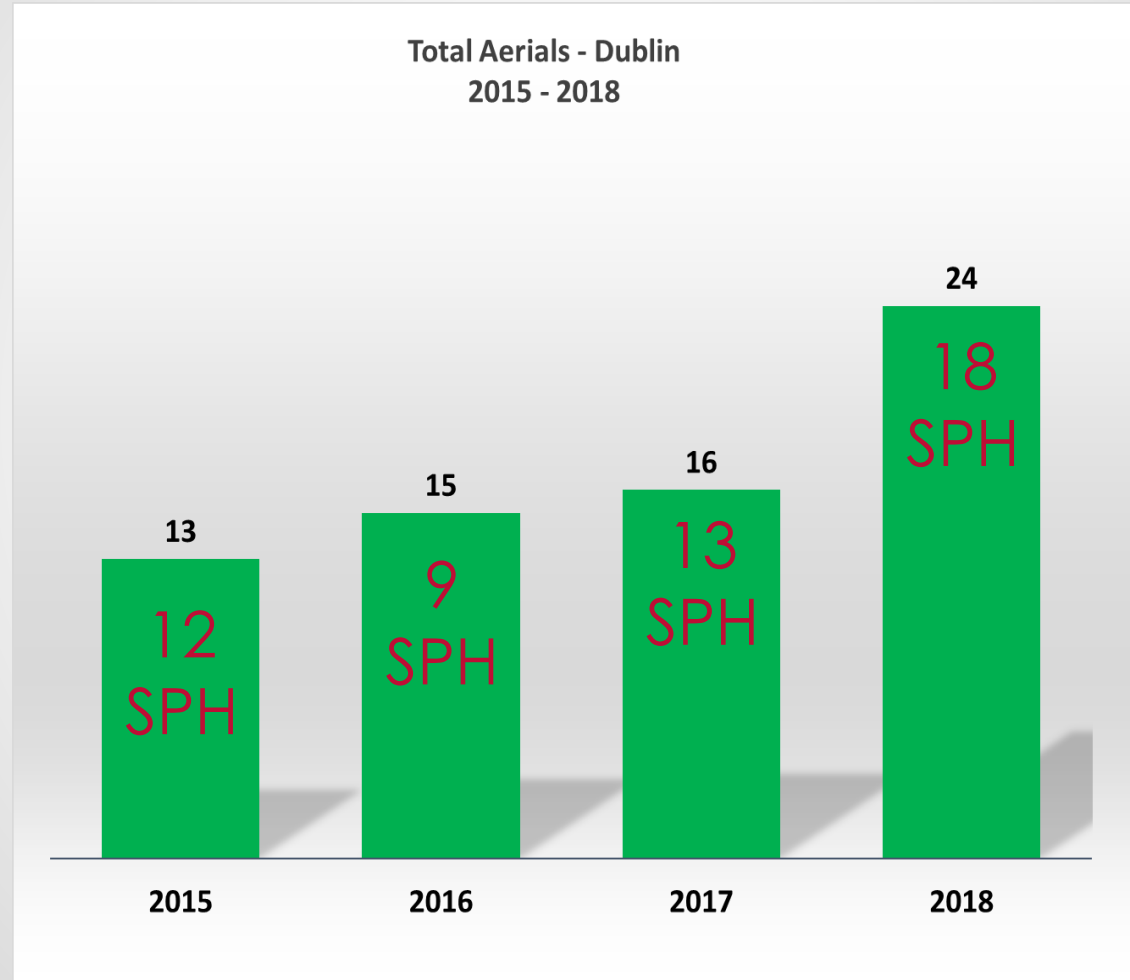


Program 2 and Custom Pumpers Combined

- Most Popular Lines
 - G2
 - G9
 - PA-1/S4
 - PA-12/S2
 - PA-13/S3
 - PA-17/S6

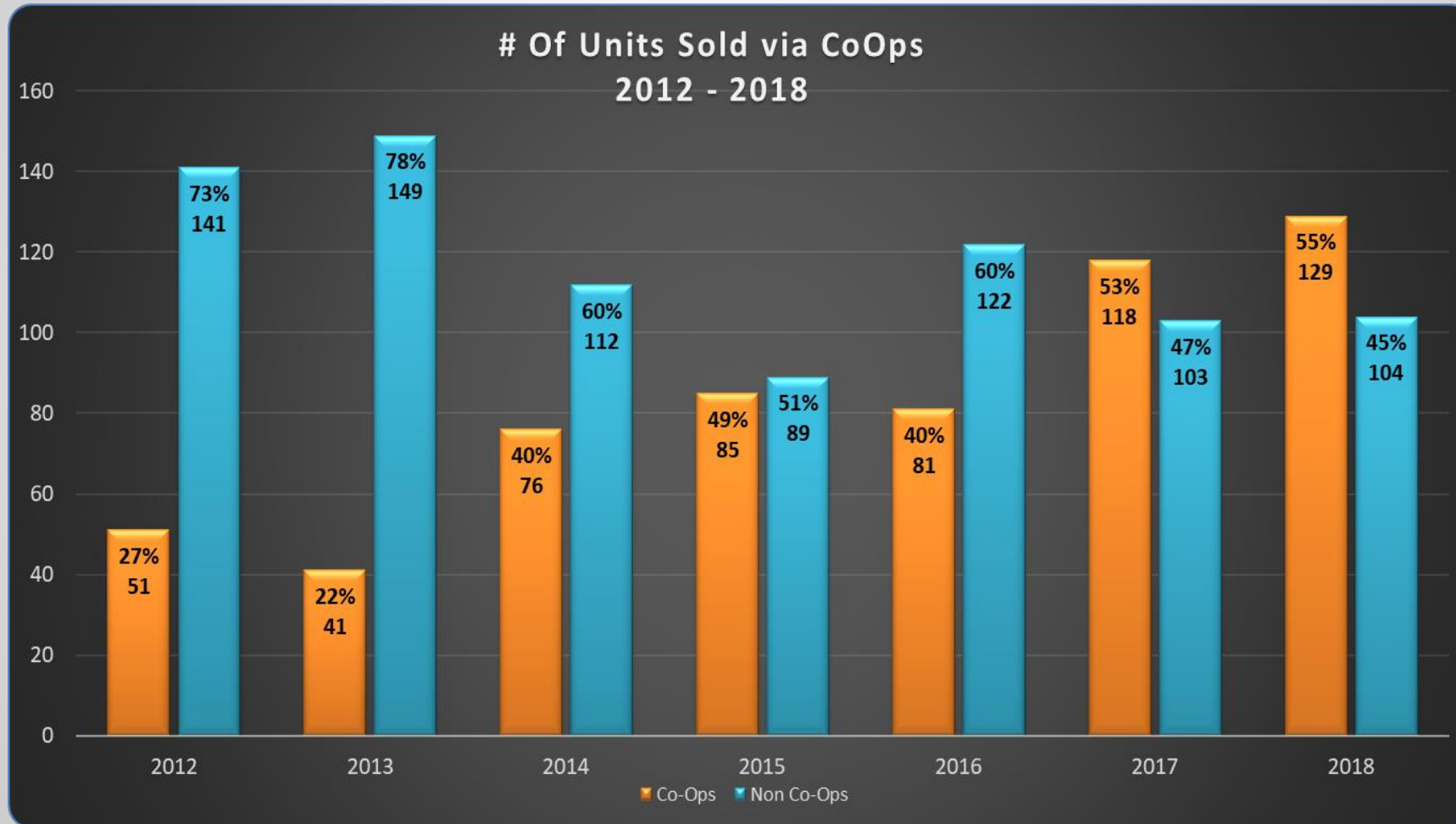


Dublin Aerial Growth



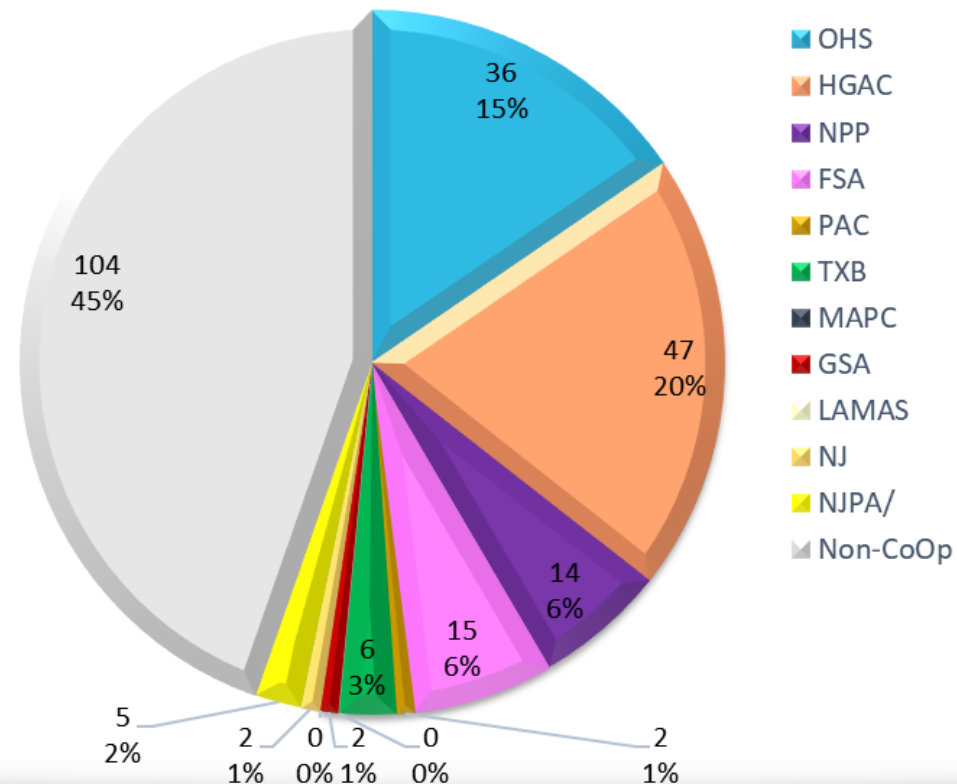
CURRENTLY
ON TRACK
TO SELL 26+
UNITS IN 2019

Co-Operative Purchasing



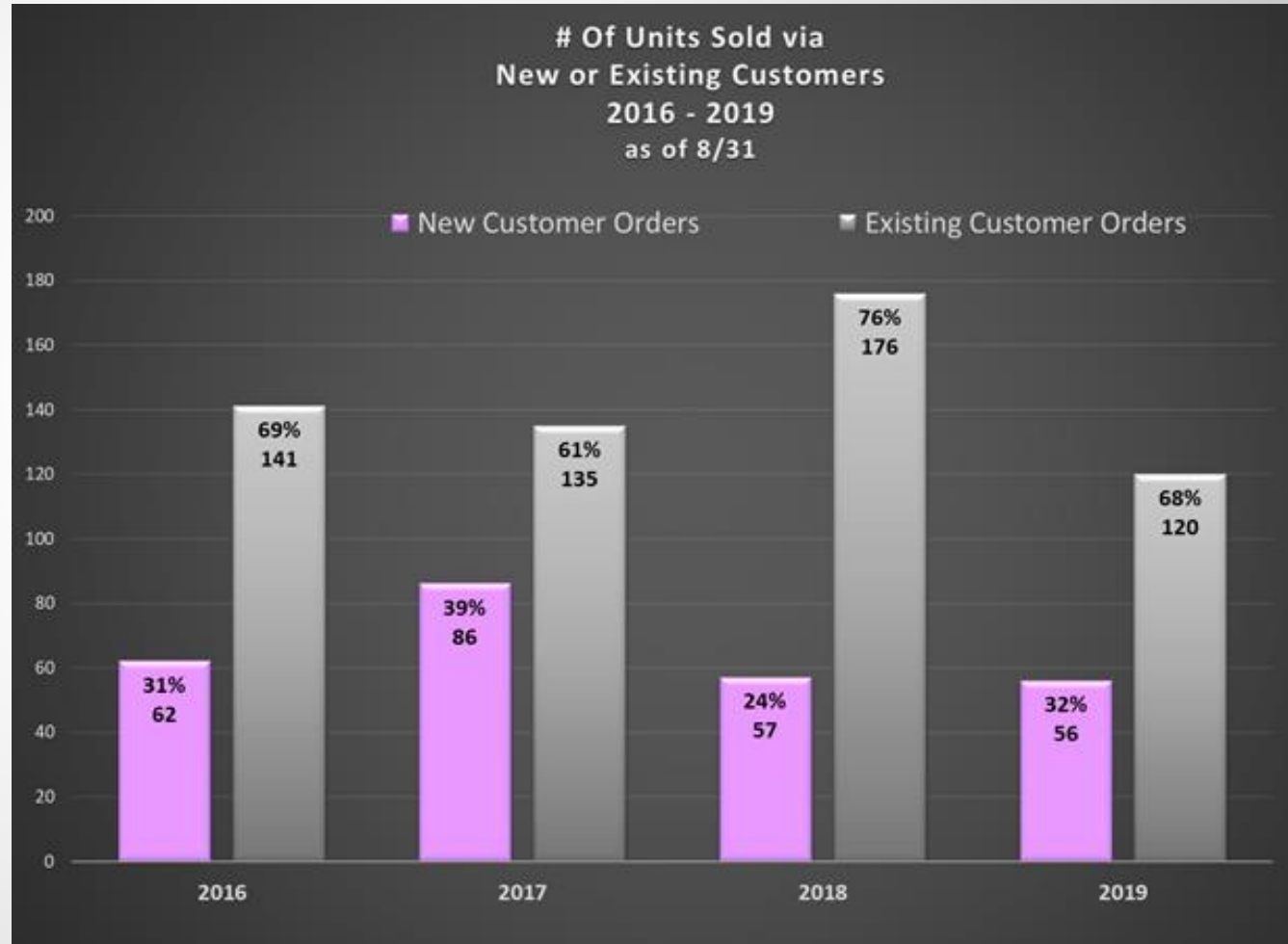
2018 Co-Operative Purchasing

2018
Co-Operative Purchases
129 of 233 units = 55%



New Customers for 2018

- Madison Hts, MI
- Kissimmee, FL
- Powhatan, VA
- Rocky River, OH
- NASA
- Pedernales, TX
- Shell Chemical of PA
- Newnan, GA



New Dealer Website




The new Sutphen Dealer Portal was released, and designed to match the main website with streamlined features to increase functionality.



Website Analysis

- Increased website traffic with:
 - 21% increase in sessions
 - 20% increase in new visitors
 - 12% increase in total views (pages)
- Doubled traffic to the website from social media
- Averaging:
 - Over 3 minutes per website visit
 - Almost 5 link clicks per visit
- Numerous inquiries to STMs, dealers and others based upon recent delivery, stock unit and various apparatus photos, literature and sell sheets.

Social Media Analysis

- Facebook since last year: 
 - Quadrupled the average reach per post
 - Nearly doubled average post engagement
 - Increased follow change by over 4,100 people
- Twitter since last year: 
 - Double the number of impressions per month
 - Doubled the average number of mentions/interactions
 - Increased the number of links clicked
- Instagram since last year: 
 - Increased followers by over 8,000 people
 - Almost tripled the average reach per post
 - Increased website link clicks significantly
- Overall:
 - Countless informal inquiries, potential leads and people reached across the country and world
 - Surprising how many people really see what we post and the information they take from it

Elevating The Dealer / Customer Experience

- We have added a customer fridge to the Sales Office in Dublin. All customers and dealers are welcome to a cold beverage any time especially during those hot days.
- We have recently added a dealer desk to the Sales Office in Dublin to allow the dealer to come in to designated place to work from.



Dublin Headquarters Updates

- Pillars / Sutphen Strategies
- Project Coordination
- Quality & Growth
- Post Production Process
- 2019 Key Production Priorities
- Innovative New Projects
- Liberty Township
- Memory Tree
- On the Horizon





SEE IT. OWN IT. SOLVE IT. DO IT.

Balance Performance; Long-Term Success

SUTPHEN CORPORATE STRATEGIES

COMMUNICATE

Develop closed-looped communication systems

SOURCING

Review & act on sourcing opportunities

COMPETE

Review product offering to develop competitive pricing

FLOW

Close the communication gap from sales to delivery

TRAIN

Create effective onboarding, development & training

LIVE SAFE

Maintain safety-minded culture in all processes & products

OPTIMIZE

Optimize resources for growth & profitability

STANDARDIZE

Enhance labor standards & work instructions for operations

QUALIFY

Evaluate suppliers for quality assurance & performance

GROW

Provide leadership for dealer growth & performance

LISTEN & PARTNER

Enhance the Sutphen Customer Experience

ENHANCE & INNOVATE

Review trends to improve offerings & release innovations

Business Operations

Dublin Business Operations



- **PROJECT COORDINATIONS TEAM**

- *Department updates*

- Richie Miller has been promoted to **Business Operations Manager** and is overseeing the all Dublin PC's and BOM Team.
- department standards and reviews
- renewed focus on accuracy & customer service

Business Operations – cont.

New Project Coordinator



KEVIN GOON

TENURE: (1) YEAR WITH SUTPHEN

BACKGROUND: 18 YEARS IN PREVIOUS ROLE WITH
PROJECT COORDINATION EXPERIENCE

STRENGTHS: PERSONABLE, FRIENDLY, DRIVEN TO
SUCCEED

Business Operations – cont.

New Project Coordinator



TAWFIK FAHOUM (TA-FIC FA-HOOM)

TENURE: (6) MONTHS WITH SUTPHEN

BACKGROUND: BACHELOR'S IN AERONAUTICAL
ENGINEERING / AUTOMOTIVE INSTALLATION EXPERIENCE

STRENGTHS: OUTGOING, CONFIDENT, FOCUSED

Quality Growth / Development

Development within the Quality System

- Directed information
- Testing updates
- Post-production review for organization wide improvement
- Jim Parrott Sr added to Quality Inspection team at Dublin!
 - Performing a line by line shop order verification to feed supervisors with a shop order gig list before final
 - Inspecting Incoming Chassis' (including shop order verification), incoming Aerial Majors as well as assisting with small projects

Sutphen Standard and Quality Groups

- Lead team members, engineers, others defining general, workmanship and skill based practices and training for the organization including tool and material considerations

Quality System Updates

Quality System Updates:

- Each department has a prepared package for each truck with the different information, DWG's, pictures, etc.
- Quality checks and required testing are all defined parts of the handoff between various departments.
- Meetings with electricians, plumbers, assembler on a regular basis on issues seen on finals, testing, warranty.
- Full discharge validation launched for each truck, updated and enforced pre-pump.
- Pre-set hydro testing launched for customs to be able to fix hard to get to issues.
- Updated electrical and road tests.
- Updated Aerial hydraulic and cable setup testing.

Our Key 2019 Priority – Better Delivery Results...

Better delivery comes from changes in daily management!

Consistent and Disciplined GEMBA Reviews

- Twice weekly management tour to know status of every truck in WIP
- Automatic escalation of issues which put the schedule at risk
- Follow up and countermeasures, responses to the Production Team

Post Production QCD Reviews

- A detailed look back at completed builds, what went right and what went wrong
- Did we hit our targets for Quality, Cost Control, and Delivery?
- Follow up and countermeasures, responses to the Management Team

Stepping up our game with Preventive Activities

- Deeper dives and more scrutiny in Shop Order Review Meetings
- Experts devoting more time and effort to Pre-Production Design Reviews
- Immediate ECN's and corrective actions, including a look at future trucks

Post Production Process

A monthly Post Production process breaking down the results and experience of the build for management to review the outcomes and align the needs between departments, and develop corrective action feedback

SUTPHEN Post Production Performance—Q.C.D. Page 2 of 2
Rev—3.0

Executive Summary

Delivery Month: Report Date:

HS#	Customer	Line	Style
6373	Rocky River, OH	Aerial	SPH100

Financial Performance

2% Profit Target =

Achieved Profit + Achieved EBITDA Target
Above Break Even Number, But short of EBITDA Plan
Below Break Even Plan—Lost Money Profit Target

Gross Margin

Selling Price	Commission Dealer Supplied	Material Cost	Cost of Labor & Overhead	Total Cost	Profit/Loss
1,200,860.88	112,660.88	560,354.42	102,656.40	874,671.68	306,300.88
100.00%	9.38%	47.41%	16.04%	72.84%	17.19%

Hours Performance

Too High—Above Plan
Favorable—Below / On Plan
Close to Plan—Opportunity

	Body Hrs	Plumb Hrs	Finish Hrs	Dublin Hrs	Chassis Hrs	B/E
Plan						
Actual	1004.03	34.03	1002.88	2241.94	585.04	
Variance						

Schedule Performance

Lead Time at Time of Order

Delivery Due Date—Original	Body on Fixture—Working Days	Plumbing—Working Days	Final Finish—Working Days
Plan	Plan	Plan	Plan
Actual	Actual	Actual	Actual
Var.	Var.	Var.	Var.

Actual Months to Delivery Penalty Yes / No Penalty Paid \$

Key Production Experience Notes—Production Manager

No.	
1	Engineering Challenges: R1 floor incorrect, ladder chute incorrect. Issues required remake of parts or internal rework
2	Picture frame holes incorrect. Rear drop holes poor workmanship: Laserflex issue
3	No Chassis wiring for rear receivers
4	Painted fenders poor workmanship: internal issue, rework required
5	

Follow Up—Top Improvement Opportunities Based on Results—AA Review

No.	Activity	Detail	Who / When / How
1	What is activity for R1 repeat issue?		
2	Many ladders getting cleaned up in the vault.		
3	Gave laserflex a pin to start fitting them before they send to us		
4			

SUTPHEN Post Production Performance—Q.C.D. Page 1 of 2
Rev—3.0

Executive Summary

Delivery Month: June 19 Report Date: August 19

HS#	Customer	Line	Style
6382	Cape Coral, FL	Aerial	SPH

Total Quality Performance—Plan / Actual / Variance / Judge OK to Plan Concern Action

Adherence to Shop Order - Misses—DUBLIN		Required Functional Findings at Final—DUBLIN		Fit and Finish Performance at Final—DUBLIN		Customer Changes at Final Inspection—ALL	
Plan	0	Plan	0	Plan	5	Req. #	0
Actual	0	Actual	0	Actual	6	Comp.	2
Variance	0	Variance	0	Variance	1	Plan Hrs.	?

Adherence to Shop Order - Misses—SPFLD.		Required Functional Findings at Final—SPFLD.		Fit and Finish Performance at Final—SPFLD.		No Issue after Review	
Plan	0	Plan	0	Plan	5	Plan	0
Actual	0	Actual	0	Actual	1	Actual	
Variance	0	Variance	0	Variance	-4	Variance	

Total Quality Performance—Customer Key Takeaways from Final

- Great final
- Platform doors needed secured better, were rattling

Key Findings During Testing (From Elect. / Road / Pump / Chassis / Prod. Inspections)

No.	Test	Finding	Notes / Needs / Actions
1	Red Fl.	Many initial body package items on red flag	This truck was moved up in schedule causing supply chain issues
2	Ladder	Platform controls inoperable	
3	Ladder	3 cracks on bottom of platform	
4	Ladder	Communications and nozzle functions inoperable	
5			
6			

Total Quality Performance—Key Production Audit Findings

Supervisors collect information during the build. The findings are a summary of major issues / needs.

No.			
1			they
2			e-
3			
4			
5	Finish	I with build package	I Ordered late, then had to wait

Key findings during testing and quality issues identified throughout production worth noting

Our Key 2019 Priority – Better Delivery Results...

Better delivery comes from a stronger production team!

- We've added net 9 Manpower to the team this year
- We have retained 100% of newly hired team members
- We are specifically stronger in these skill sets / areas
 - Paint Operations
 - Core Plumbing Operations
 - Body Build and Body Weld Operations
 - Aerial Testing Operations
- We are increasing the size of our 2nd shift production team
- We now have trained back-ups in place for 3 crucial skills
 - Aerial Testing
 - Custom Pumper Electrical
 - Road Testing

Better delivery comes from a facility expertly maintained!

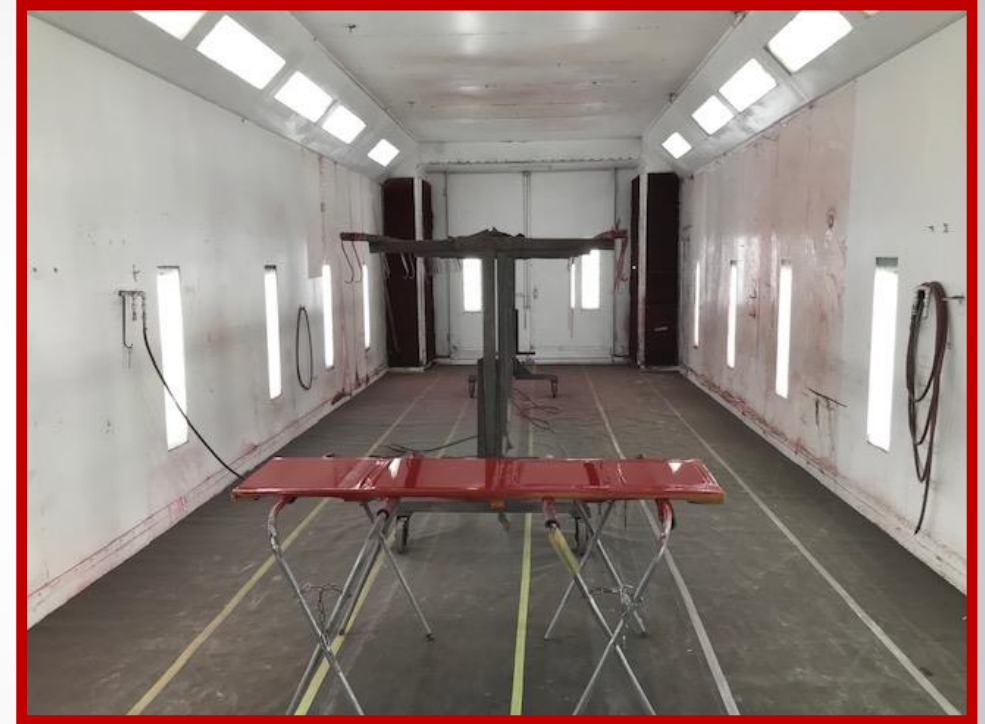
**WELD STATION
Hoist Install**



**SHEAR
Blade Repair**

Better delivery comes from a facility expertly maintained!

PRESS BRAKE
Back Gauge and Cylinders



PAINT SHOP
Upgrades and Roof Repair

Our Key 2019 Priority – Better Delivery Results...

And better delivery requires more partnership with dealers!

Deliberate and detail-oriented at Pre-Construction

- Ask harder questions of us and get into the deep details
- Let's avoid letting the activity become too casual

Plan for Mid-Point Inspection and cost it into the truck

- The component level review can be invaluable for avoiding issues
- Agree on a more specific plan to capture and share progress photo's as we go

Avoid design redirection late in the process

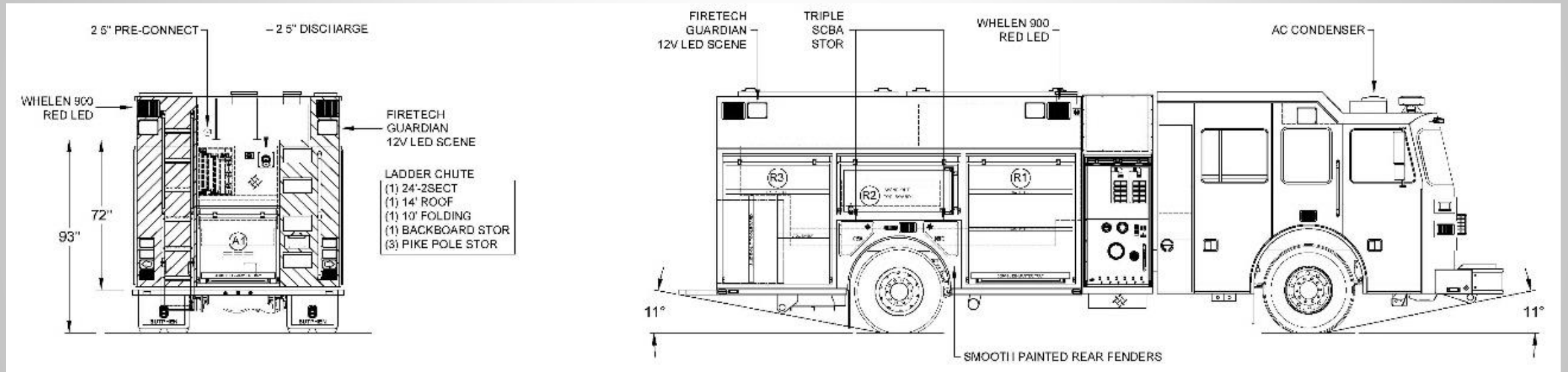
- We average **5.8** design change requests per truck in the delivery bay!
- We're glad to make courtesy changes. We've even added staff to do this
- Major changes may create delays for your truck, and potentially others as well

Purchasing / Materials / Supplier Management

- Working on widening supply base for critical components to help reduce supply chain lead times and stockouts.
- Working closely with other Sutphen facilities to leverage supply base and improve commonality of parts between facilities.
- Working on achieving supplier certifications to ensure we are installing their products as intended to help drive down warranty.

Launch of S8 Body Styles

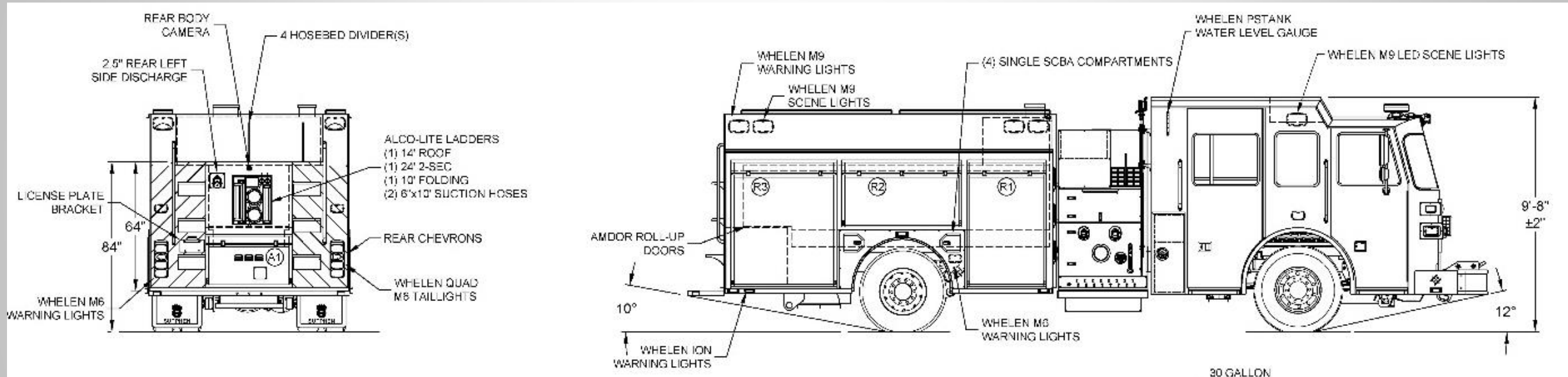
Demo 463



Selectable Option in SQS2 by FDIC 2020

Launch of S9 Body Styles

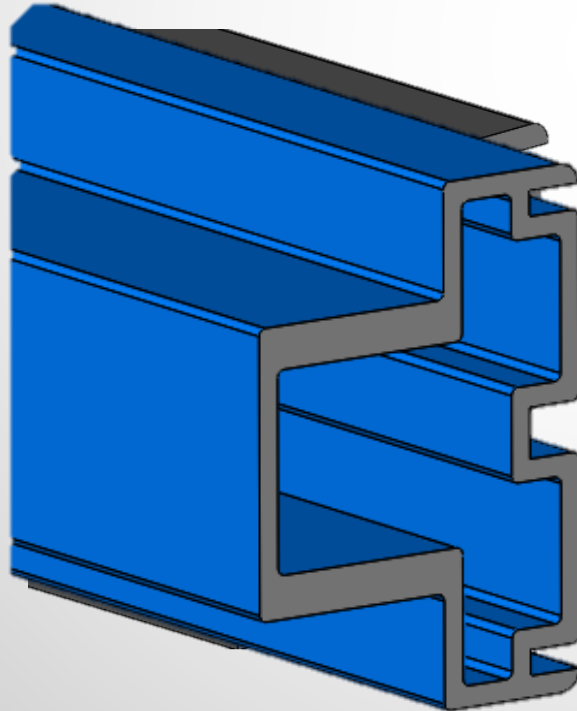
Demo 476



Selectable Option in SQS2 by FDIC 2020

New Custom Pump Body Extrusion

- Will allow enough space for same Triple Bottles Holders used on the Program 1's without taking any space from the L2/R2.
- If the SIG 4 style bottles are desired then some space will need to be taken from the L2 or R2 depending on specified side.
- First implemented on HS-6471



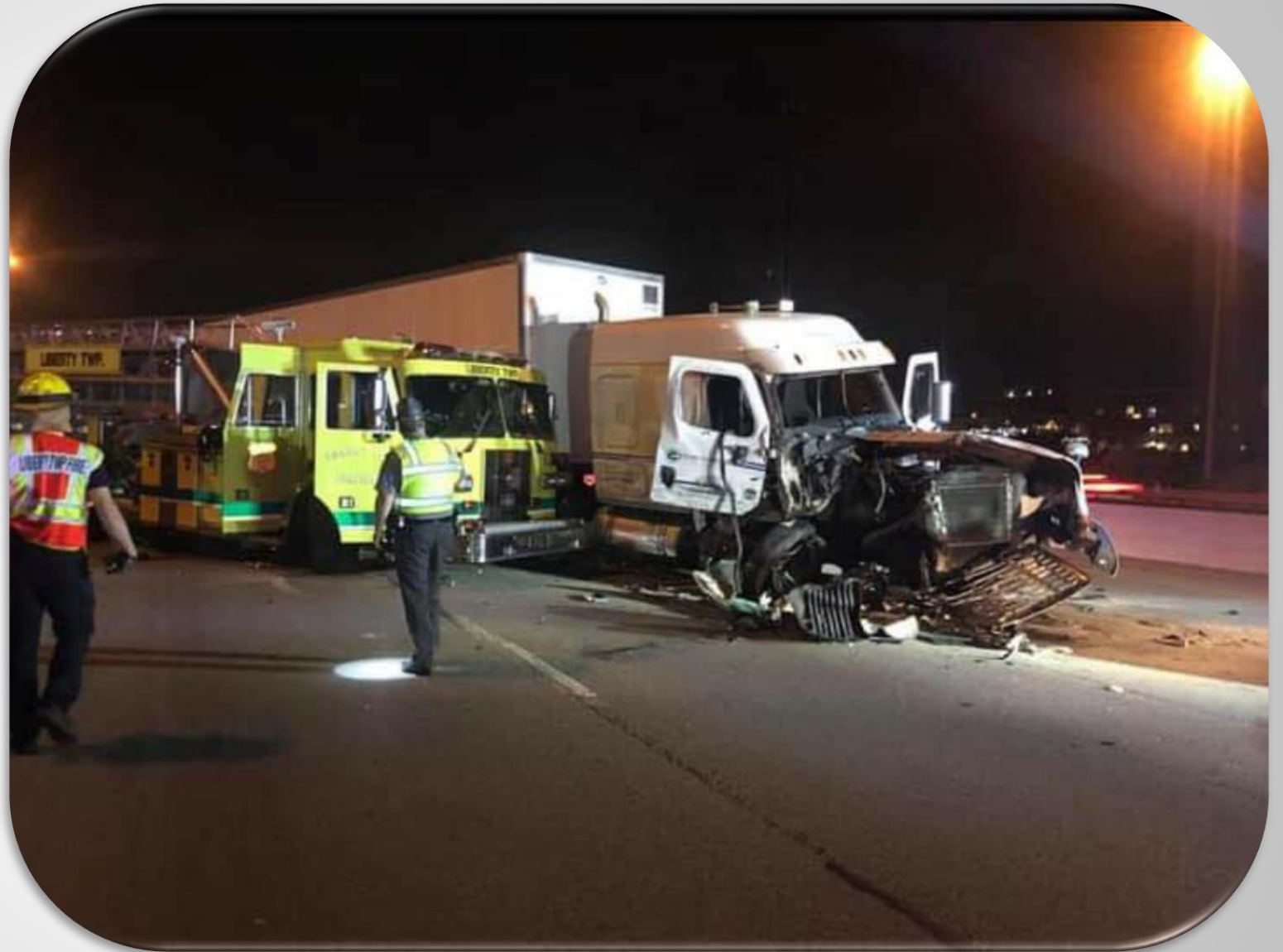
Dublin Future Projects

On The Horizon:

- Triple Bottle Storage on Dublin Products without effecting L2/L3
- PRG Module with Handwheels
- PRG Modules with Flowmeters
- SPH L5/L6 as one compartment
- Blackout Package
- Wheel Liners on SP95 as Standard
- SPH High Rail
- SPH Low Rail

The Liberty Twp.
Magnum 110 fire truck
was assisting with
traffic control on a call
of a previous accident

The unit was blocking
the right hand lane on
the interstate with its all
warning lights on.





Result:

Injured = 2 (Both Drivers)

Serious = 0

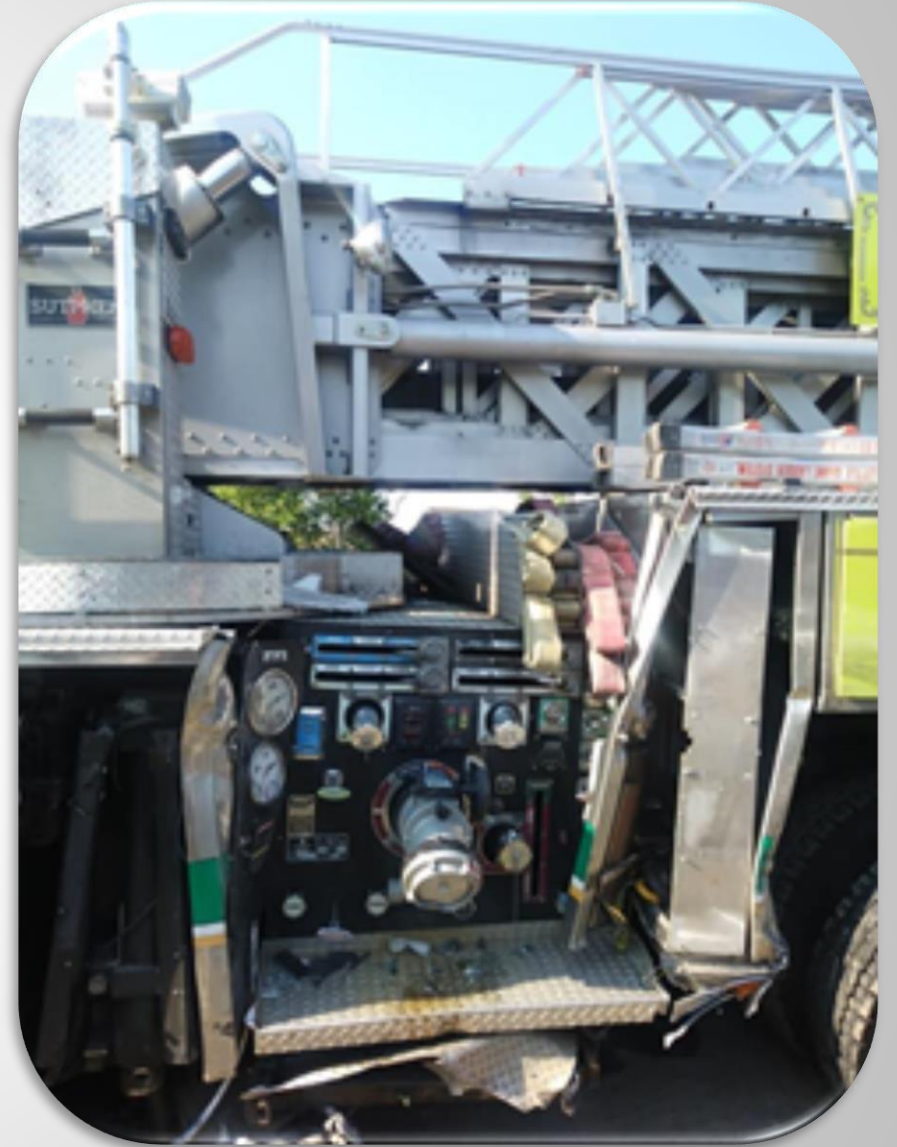
Released = 2

Saved = 10 to 12

Ambulance, Police,
Medics, Firefighters
ALL were protected
from harm's way by the
Apparatus.....

YOU Sell & Specify the
Design!

WE Build and Ensure
Quality In Every Unit!





Built to
be **READY**

Designed to
be **STRONG**





PROVEN in service
to be the safest,
most reliable
apparatus in the
world (Mission)

PROVEN in service
to protect our
communities
saving lives and
property (Purpose)

Sutphen Dublin Memorial Tree



This tree is planted in memory of our team members who have passed. The Sutphen family is forever grateful for your contributions.

Urbana Division Updates

- Quality Growth / Development
- Facility Shuffle
- Urbana Pumper Division Updates
- Service Update
- Parts Update
- Training & Technical Support Update
- Chassis Future Projects



Quality Growth / Development

Delivery:

- Monthly shipments are up (18%) from 2018
- On time delivery to the schedule is up 30%

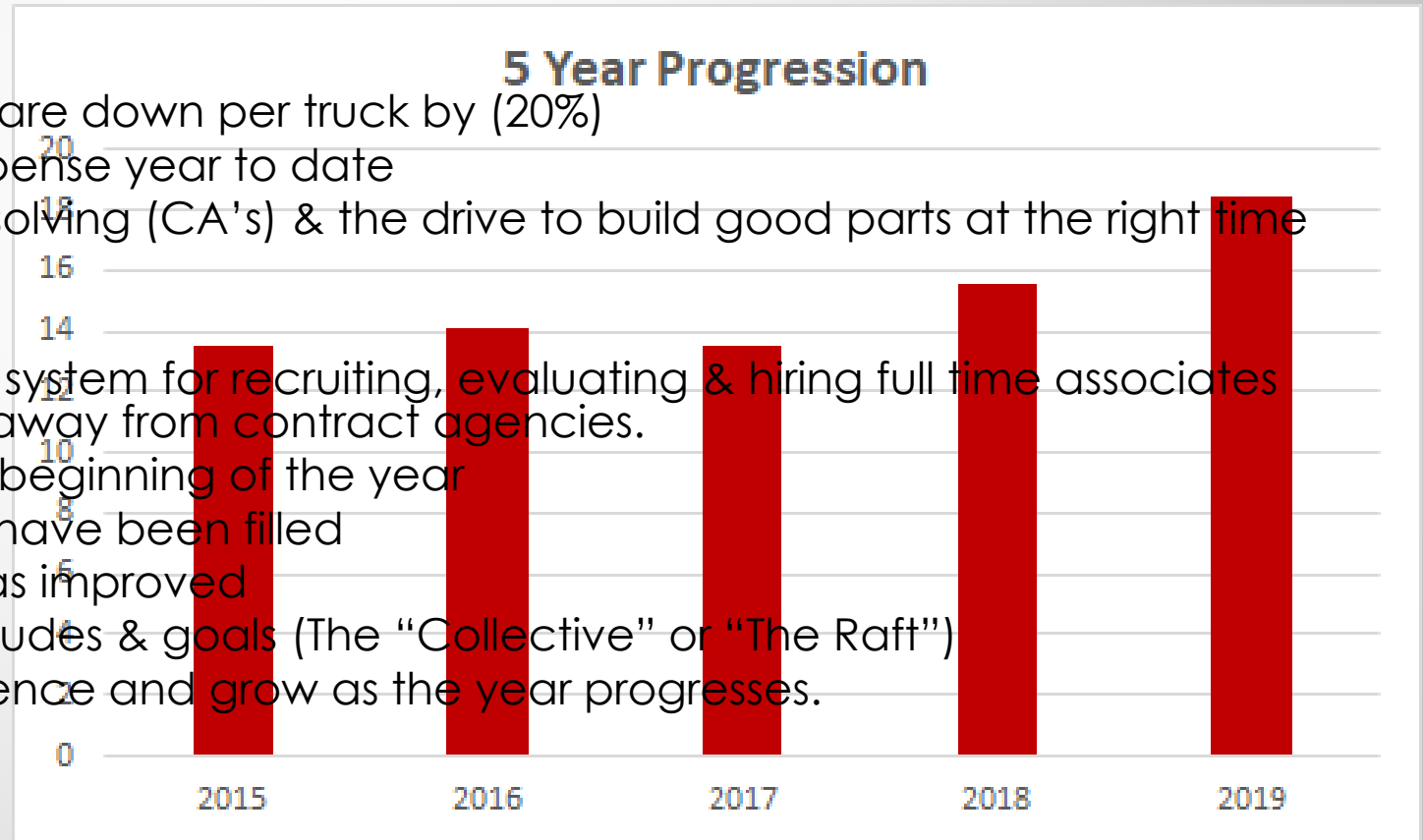
2019 Year to Date = 18.4 chassis a month

Quality:

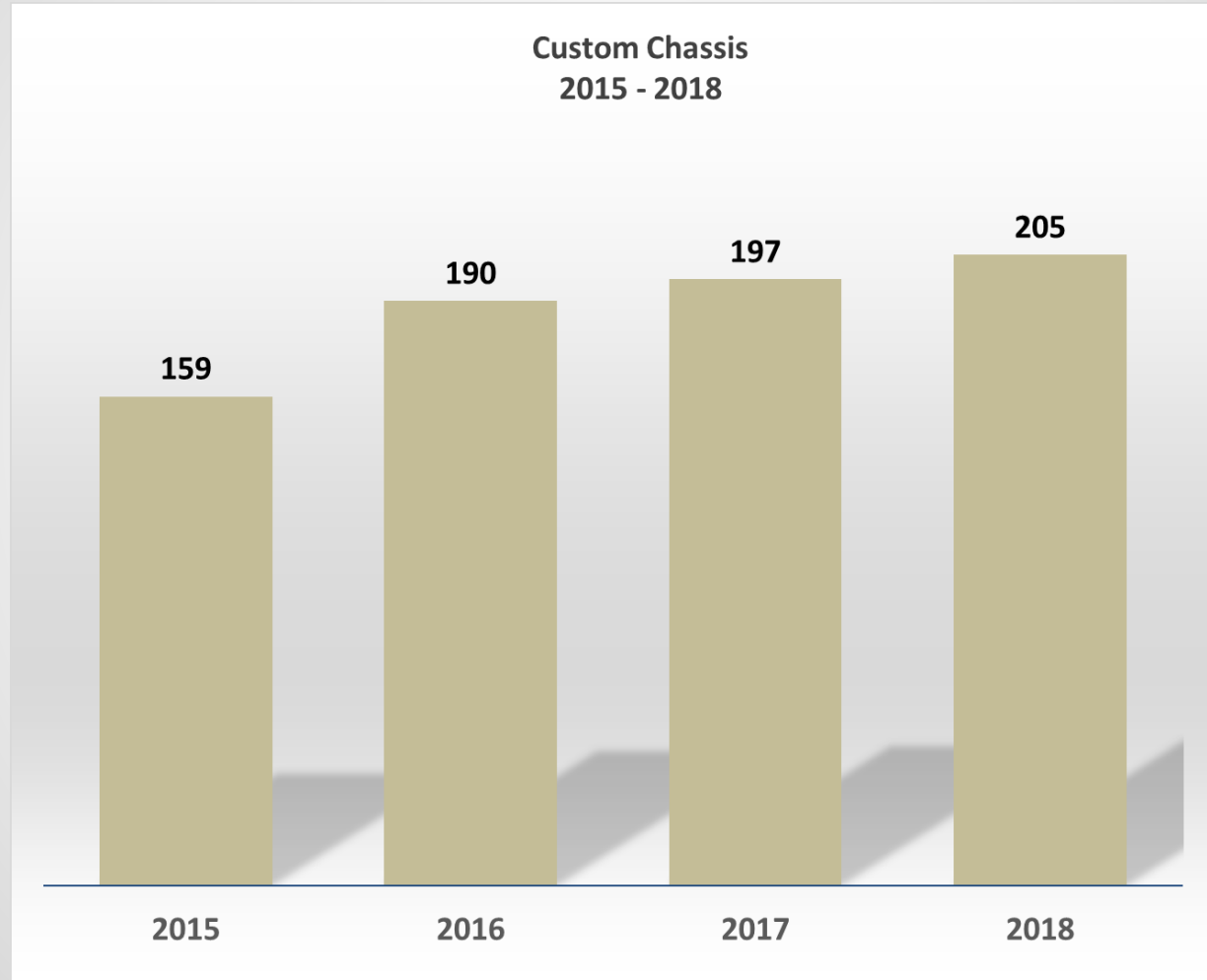
- Quality defects (audit findings) are down per truck by (20%)
- (22%) reduction in Warranty expense year to date
- Direct result of active problem solving (CA's) & the drive to build good parts at the right time

Culture:

- Have successfully developed a system for recruiting, evaluating & hiring full time associates directly onto Sutphen. Moved away from contract agencies.
- Hired (36) employees since the beginning of the year
- All, but (3) positions on 3rd shift have been filled
- Degree of skills & experience has improved
- Focusing on shared values, attitudes & goals (The "Collective" or "The Raft")
- Team continues to build experience and grow as the year progresses.



Custom Chassis Production



Continuous Growth

- Achieving record output of 18-19 chassis per month
- Expecting to be able to produce 21+ chassis per month by January
- Key staffing changes include...
 - New Sr. Ops. Supervisor coordinate all supervisor activities
 - 2nd Supervisor added to cab line on 3rd shift
 - Added WIP Quality Assurance position
 - Added 2 B.O.M. specialists
 - Added 2 buyers
 - We've added 36 production team members since March 1st

Important facility changes include

- Urbana Pumper Division (formerly DCT) “has left the building”
- The additional space is being used to improve cab-line flow and quality
 - Improved materials staging for each cell
 - Additional room to move content, eliminate rework from damage, etc.

Facility Expansion

- A new facility layout was accomplished last month
 - Expanded the cab line footprint
 - Utilize the old C10 area for material staging (carts)
 - Increase the number of “Brakes” areas from 1 to 2.....better flow lines (1,2,3)
 - Dedicated staging area for frame rail kits
 - Define dedicated “foot traffic” and aisleways for visitors
 - Create sub assembly areas to feed the mainline

Urbana Pumper Division (formally DCT)

- Achieving record output of 6 trucks per month, from previous output of 5 trucks
- Planning to maintain this output for now. Will increase as needed.
- Key staffing changes include:
 - New Engineering project coordinator
 - New Mechanical Engineering intern
 - New Production Supervisor
 - Added material handling associate
 - We've added 4 Production Associates since March 1st
- Important facility changes include:
 - Urbana Pumper Division has completed it's move to the "old" service location
 - The new space is being used to improve output by improving flow and quality
 - Improved materials staging ability for each cell
 - Improved testing and final inspection (Sutphen experience)
 - In the process of buying a new gantry and hoist

Urbana Pumper Division Update



New Service Facility – Fully Moved In

Service:

- 100% moved to Ludlow Rd location
- Team learning best use of the new facility
- Strong team continues to build experience
- Proactive management structure in place
- Targets
 - Goal
 - Strong refurb quotes
- New Refurb Sales program released to dealer network
 - Expecting sales activity to generate additional refurb business

Service Updates

- Achieving record Service revenue
 - Higher volume with few people
 - More efficient layout and access to materials/tool
 - Fully established inventory
- Achieving record Part Sales
 - On-line sales continue to grow
 - Availability is better than it's ever been
 - Time to shipment from receipt of order lower than ever before
 - Shipping accuracy has improved and continues a positive trend
- In process of formally launching the "Recondition" program
 - 2 trucks currently in process
 - The goal is to have 2 trucks in process at all times
 - Great opportunity for sales/dealers to earn commission with "Recons" when new truck sales aren't possible.

Parts Update

- Working to partner with an outside firm to help improve:
 - Access to technical information such as FAQ's, Schematics, Drawings, How-to Videos, manuals and more
 - Launch a formal e-commerce Part Sales initiative to:
 - Simplify the ordering process
 - Improve confirmation and shipping process to update
 - Provide access to inventory levels around the country to “expedite parts to trucks” in order to reduce down-time
 - Very strong sales performance
 - Continued on-line growth
 - Improved on-time performance
 - Always working towards improved part accuracy

Training Operations Update

Hiring a Manager of Training and Tech Support

Training Operation

- New facility has already hosted and trained over 80 dealer and department Reps
- Fall class is scheduled and we're receiving applications
- Winter class to be held jointly with South Florida Emergency Vehicles in Florida
- Developing tech assessment tools to ID training needs to reduce warranty spend
- Helps decrease warranty cost by reducing the time needed to correct issues
- Enhance training and access to materials to reduce down-time
- Establish GAP Analysis of internal and external technicians to establish baseline abilities and provide training to maximize tech effectiveness

Technical Support Update

Technical Support Operation:

- Team continues to deliver timely and expert support to dealers and departments
- As sales grow, tech support follows. Additional training position being considered.
- Upcoming program to formalize corrective actions based on field reports
- Work is aiding a reduction in warranty spend by reducing outside service needs
- Hiring 2 full-time tech support positions
- Improve data collection, root cause analysis and corrective actions to eliminate repeat issues
- Reduce the time it takes to solve problems and provide permanent solutions
- Improve knowledge of “up-coming” technologies in order to provide more precise support

Chassis Division Future Projects

On The Horizon:

- Plastic fuel cap
- Fender bolts - steel w/black zinc nickel plating
- Prototype tilt frame
- Garage Door Opener
- Continuous power/ground battery cable
- Hydrotech Cab Tilt System
- Sample battery box
- Sample adjustable fuel cradle

Hilliard Division Updates

- Hilliard Service Update
- Cab Progress / Updates
- Facility / Operations Updates
- Personnel Updates
- SP70 Improvements
- SL100 Improvements
- Additional Ladder Fixture



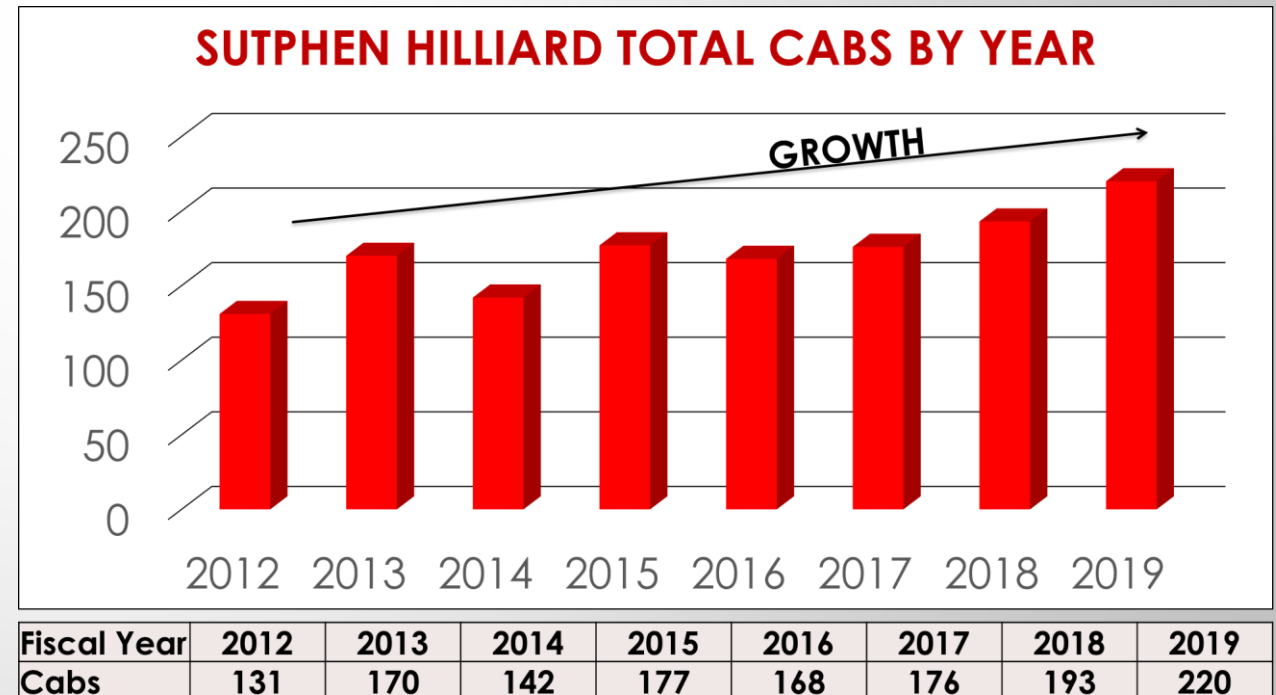
Hilliard Service Update

“PUTTING SERVICE FIRST”

- 42 service contracts over the past year
- 38 on the road repairs over the past year (From Costa Rica to NF)
- 3 large accident jobs and 1 reharvest in process
- Pin Eye Replacement - Vendor defect on lift cylinders
- 152 pin eyes replaced, Hillard did 54 of those
 - Thank you dealers who helped get these done!
 - Effected certain SP70, SA75, SLR75 and SL75 models
 - No Injuries or Negative Fallout from project
- Shipped out over 2000 Parts for Service

Cab Updates

- We built our 3000th cab this year!
- We will build approx. 220 cabs this year!
 - This is up over 12% Compared to 193 Cabs in 2018
 - This is up over 22% Compared to 171 cabs in 2017
- A-Pillar Extrusion redesigned for added strength
- A Two Door Cab is Now Available
- Only at 40% capacity with 2 more shifts available

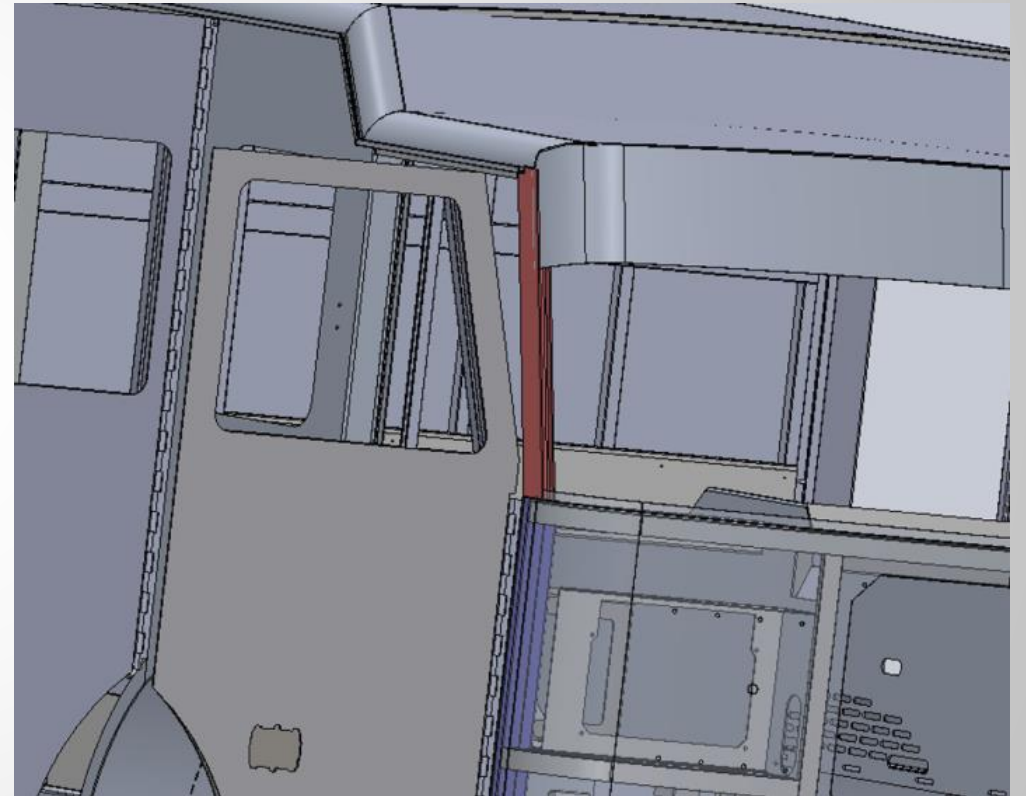


Cab A- Pillar Extrusion

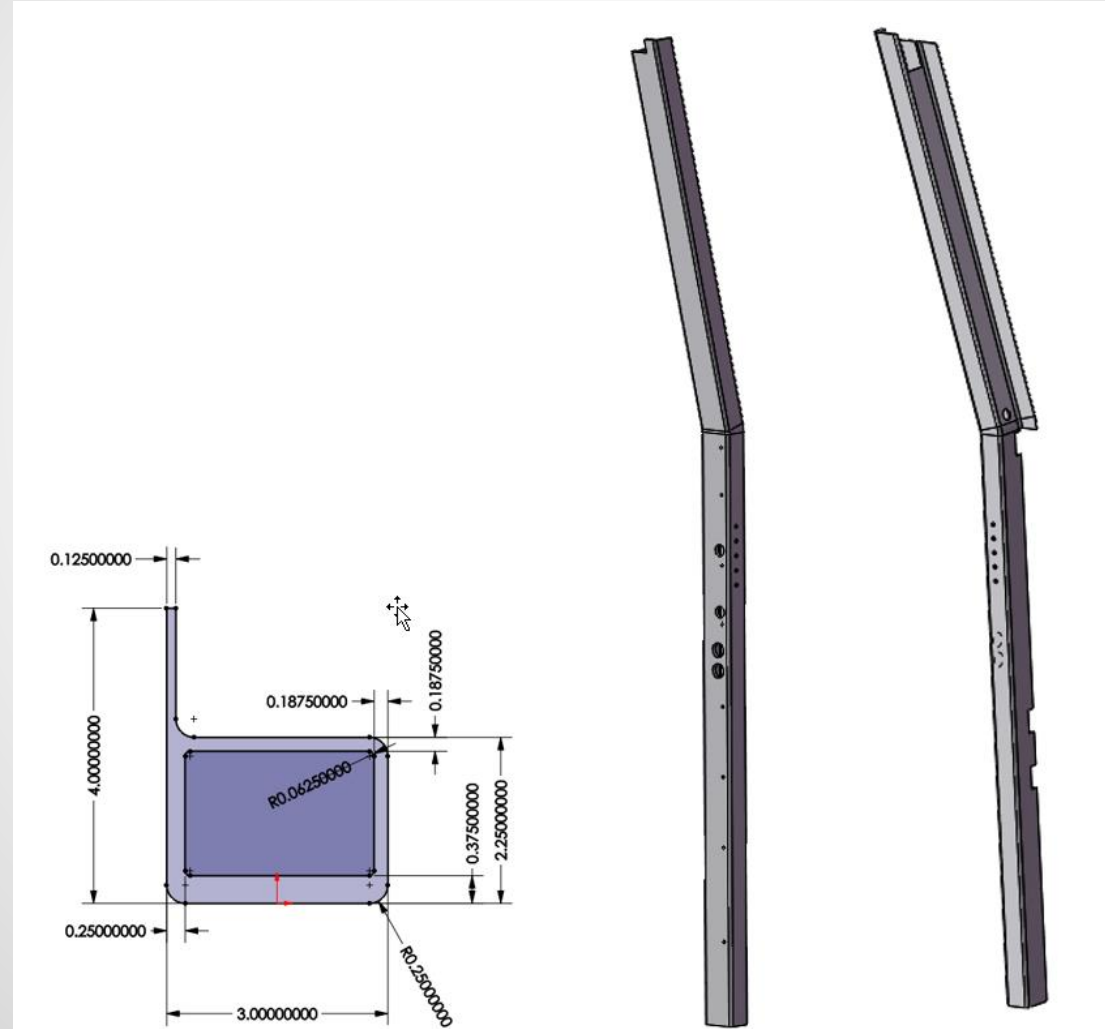
- Make parts from stronger material. 6061-T6 (35 ksi v's 28 ksi for 5052-H32)
- Eliminates possible cracking at folded corners
- Thicker material allows hinges to be tapped, eliminating the need to nut the bolts. Greatly simplifying removal of the hinge from the cab, if needed.
- The joint between the two parts is reconfigured as tab and slot versus a butt joint. Integrating the fishplate into the joint. This is much stronger.

Cab A-Pillar Improvement

We have new extrusion dies made to simplify, strengthen, and improve quality/repeatability of the A-pillar (windshield and hinge posts) on our cabs.

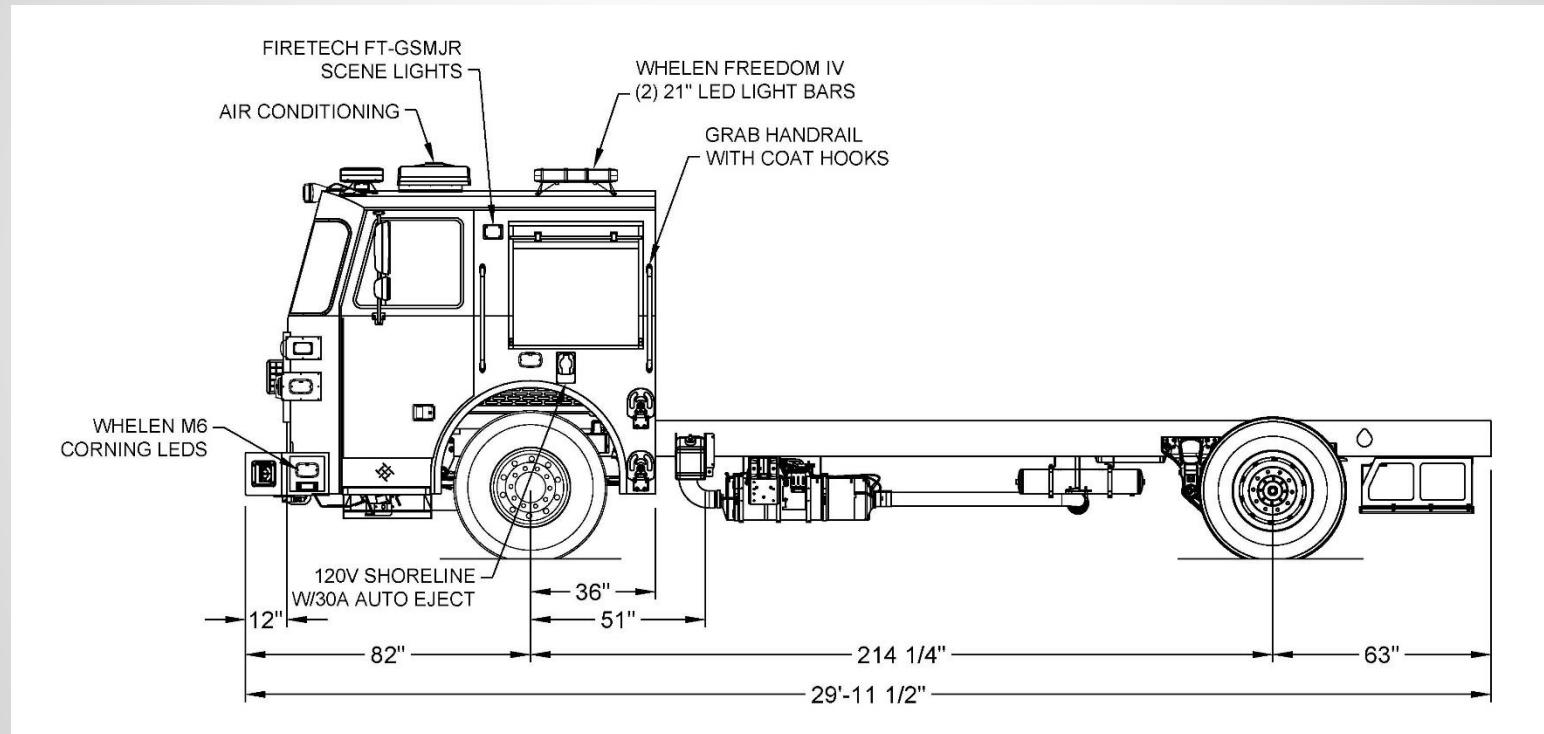


Cab A-Pillar Extrusion



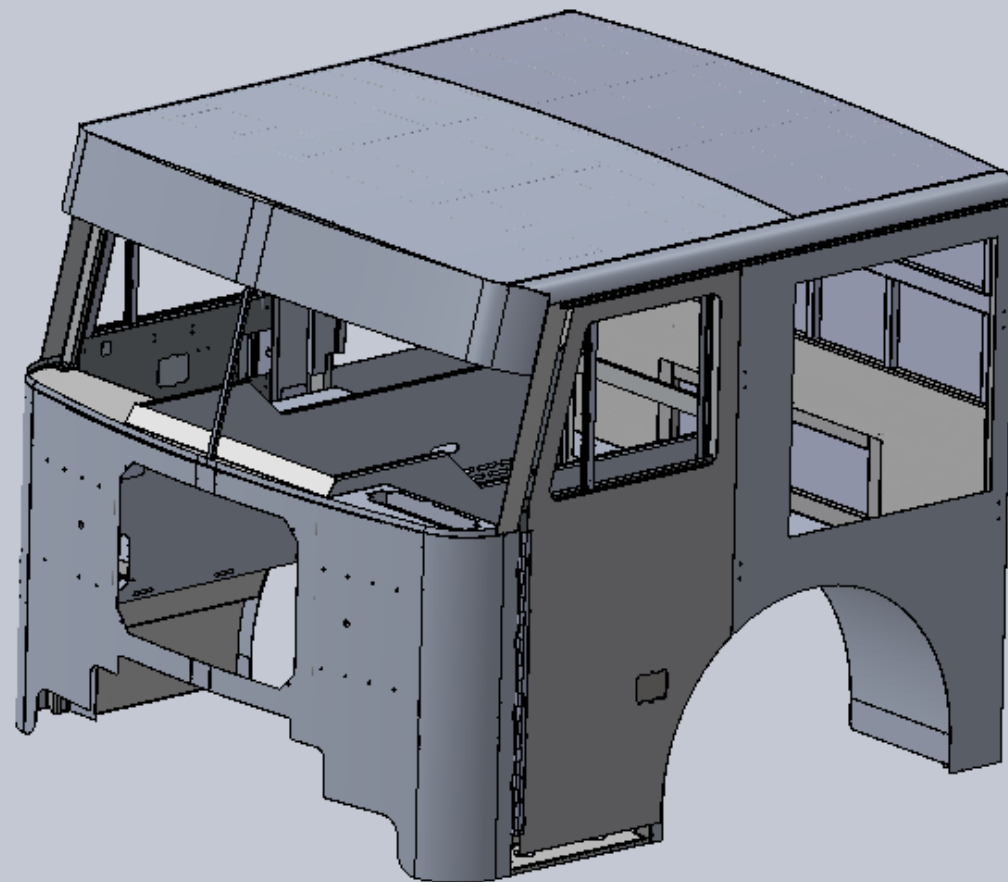
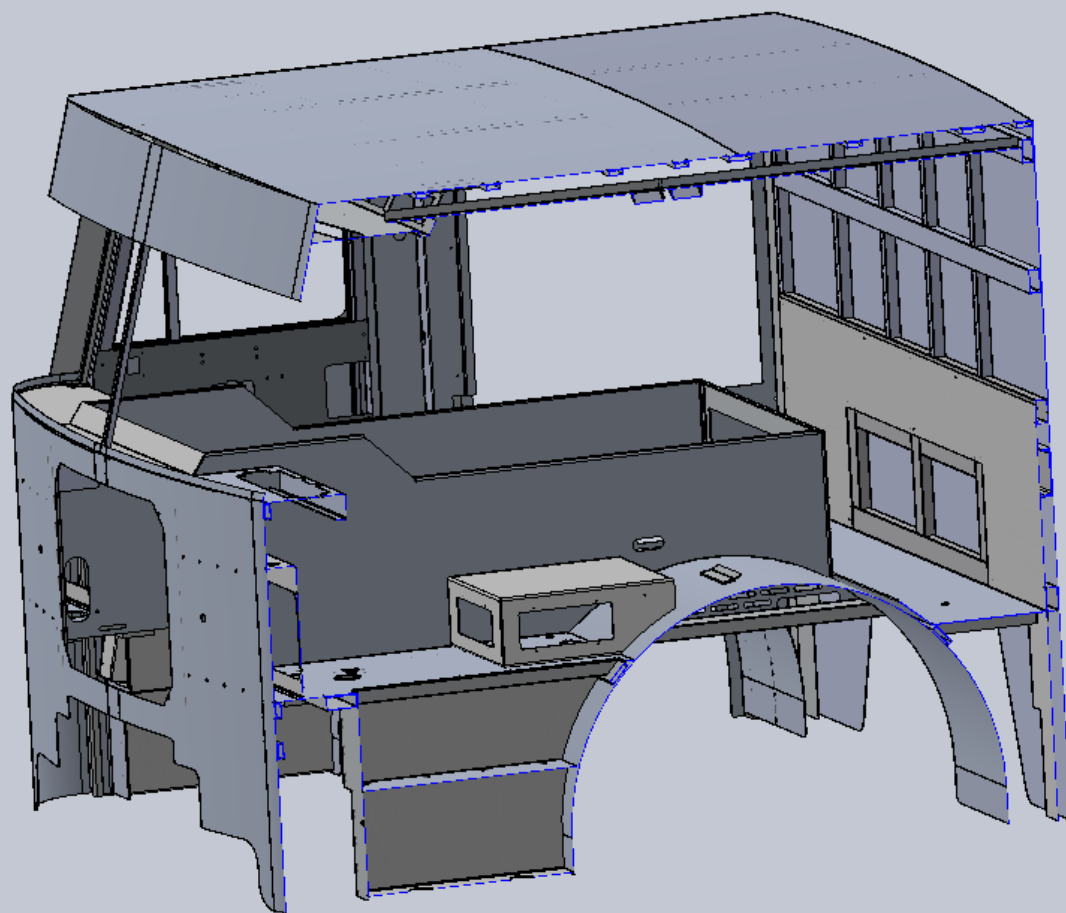
First 2 Door Cab Purchase

Greensboro, NC HS-6561 – Sutphen/SVI Air & Light



Selectable Option in SQS2 by FDIC 2020

Two Door Cab (36")



Facility Improvements

- New Ladder Fixture that will accept Box Booms and Climbing Ladders.
 - This will add ladder building capacity!
- Truck Acceptance Area has new Grip Paint Floor (no slipping)
- Custom Scaffolding to access the roof from the side & front without touching the roof or sides.
- New Spot Welder for Body Doors
- In 2019, our raw materials and purchased parts have increased by 15%

Operations Update

- Current Delivery is 11 months (Bidding 10-12 months)
- On track to build 37 Aerials this Year (Best Ever)
- On track to build 220 Cabs this year (Best Ever)
- 28 Trucks on the Order Board. (5 Demos)
- 7 New Hires and looking for 4 more
 - Of these 11 hires, 5 are new positions.
 - That is an increase of 7.7% of floor employees
- 2 Demos on the Road
- Only at 40% capacity with 2 more shifts available

Business Operations – cont.

New HR Purchasing



MATT CHRISTMAN

Matt has worked at Sutphen for 5 years.

He worked in Shipping and Receiving.

Matt replaced John Rinehart.

Matt is Scott Christman's son

Business Operations – cont.

New Service Parts Manager



JOHN RINEHART

John has worked at Sutphen in Hilliard for 30 years.

He worked in Service, Bodies, Engineering, and Purchasing. He's done it all.

John replaced Jeff Burns who is now retired.

Business Operations – cont.

New Assistant Ladder Supervisor



BOB TYREE

Bob has worked at Sutphen for 26 years.

He ran the Machine Shop.

Bob replace Josh Smith.

Business Operations – cont.

New Ladder Supervisor



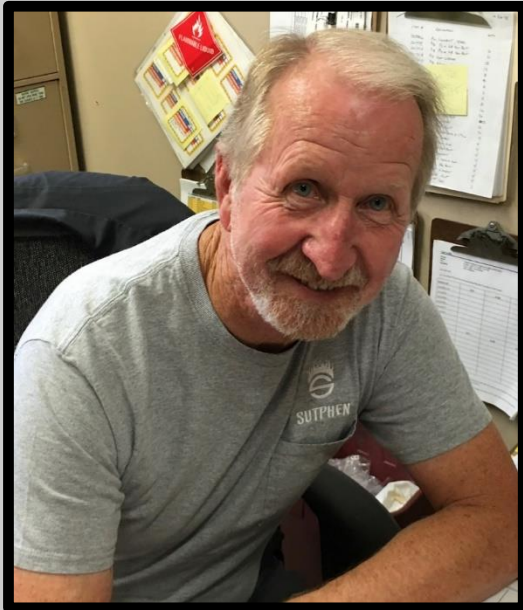
JOSH SMITH

Josh has worked at Sutphen in the ladder department for 14 years.

Josh replaced Carl Jude.

Business Operations – cont.

New Museum Curator



CARL JUDE

Carl has worked at Sutphen for 30 years.

He was the Ladder Supervisor

Fitting into his new role with ease

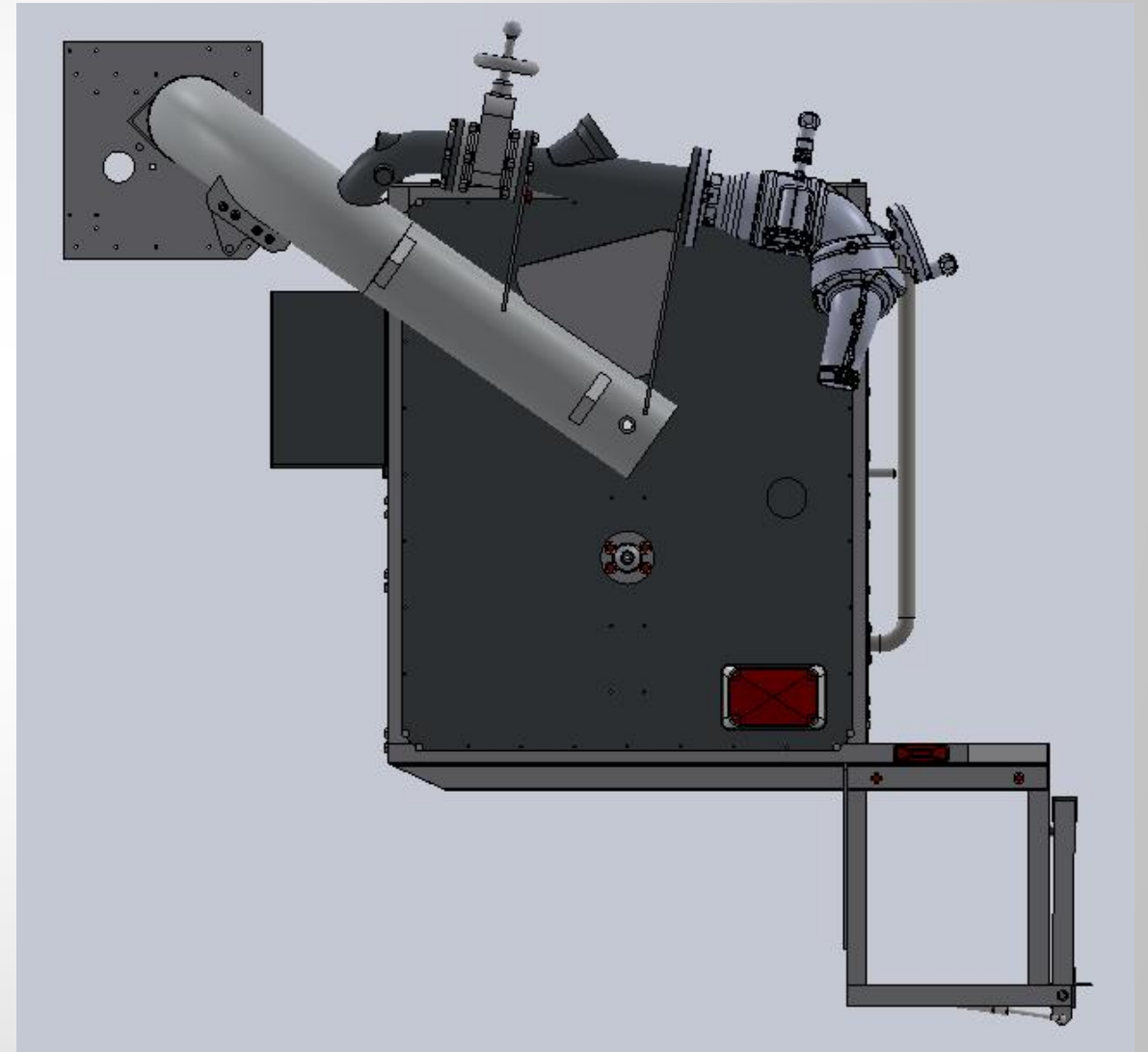
SP70 Enhanced Hydraulic System A-la-Cart Options

- New GS Global Hydraulic Control System for SP70
- Short Jack
- Crush Avoidance
- Hose Loading
- Auto-Stow
- One Option: \$9,000
- Two Options: \$11,000
- Three Options: \$13,000
- All Four Options: \$15,000

Remote Connectivity via Bluetooth with free phone App and display screen included with any one option selected.

SP70 Yoke Optimization Project

- Design improvement underway with the following goals:
 - Improve water flow
 - Reduce pressure loss
 - Add monitor shut-off valves
 - Simplify design



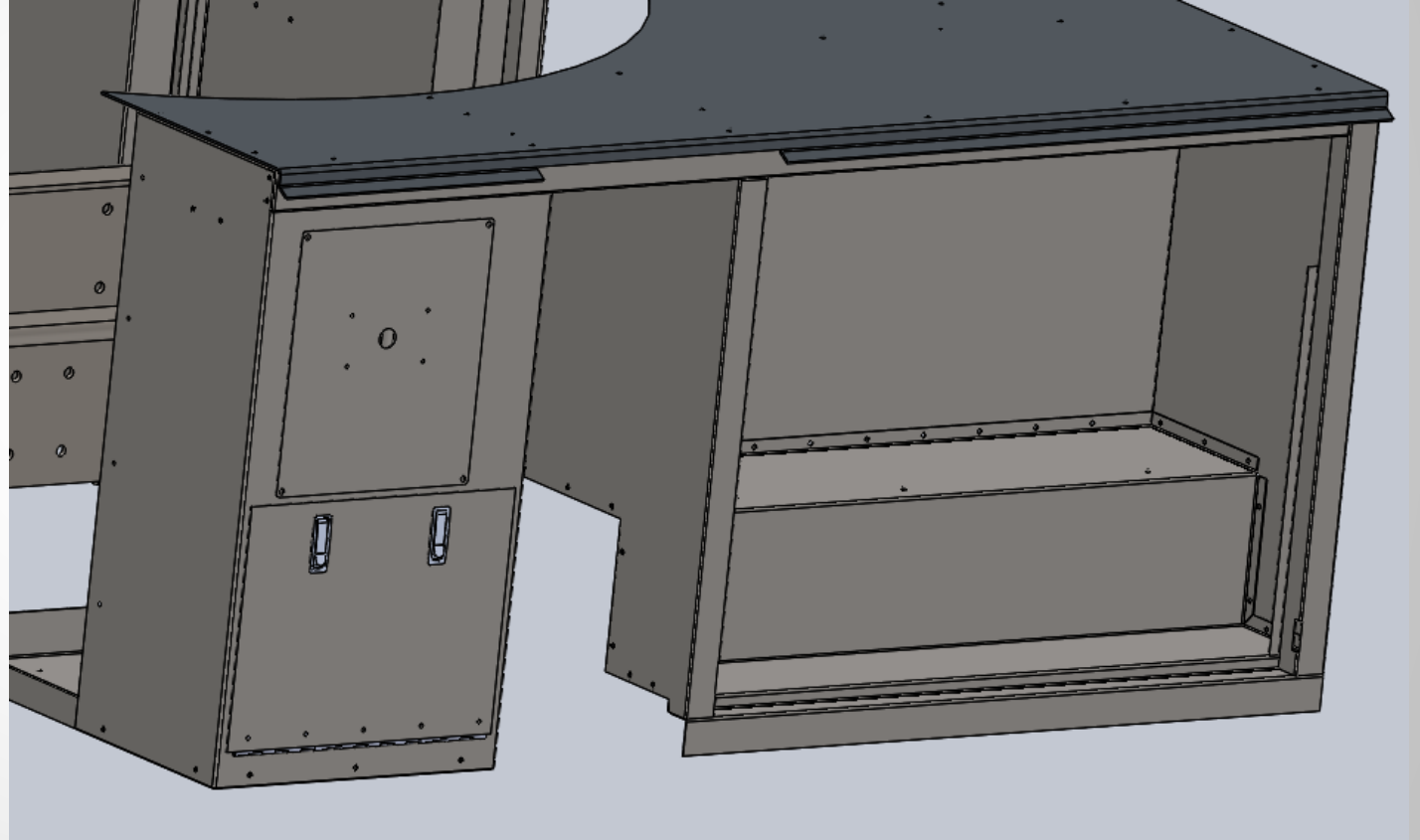
SP70 New Plus 1 Display in Platform

- Larger buttons
- Improved visibility in full sunlight
- Colored LED display



SL100 Cord Reel Compartment

- Now standard location for cord reel on officer side.
- Larger outrigger service door for better access.
- Drip edge on hydraulic compartment now matches body.



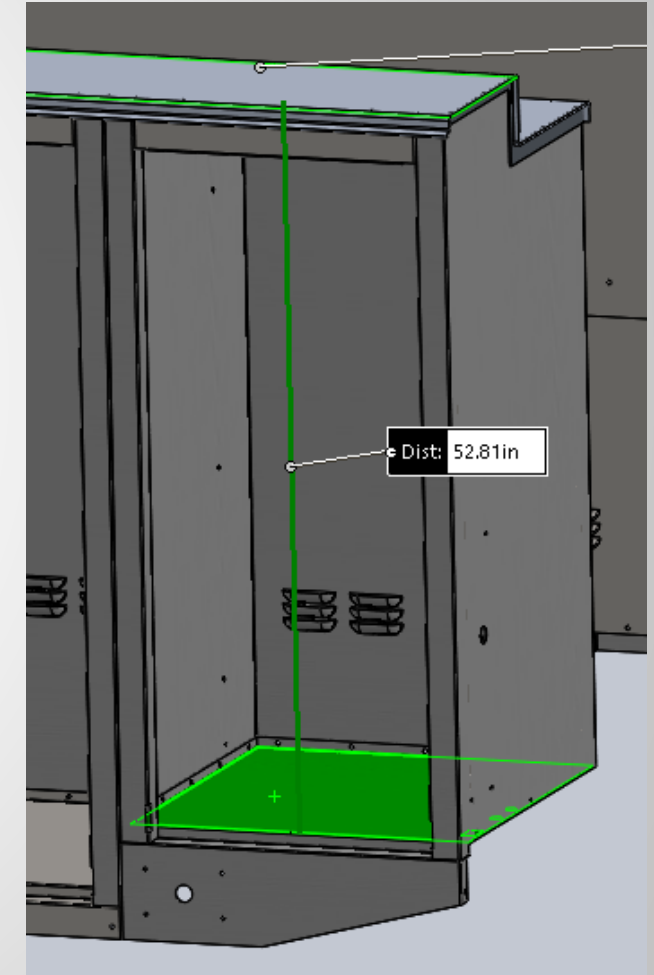
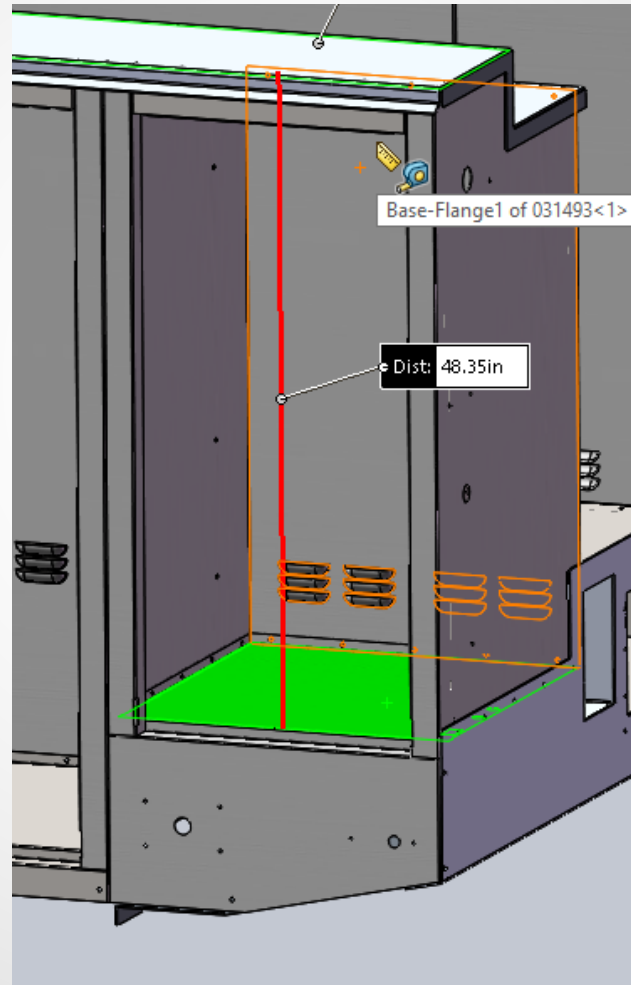
SL100 Pump Panel Swing handle and Manual Crosslay Controls

- Requires a 6" extension in pump module which extends the wheelbase.
- Consult engineering with any request for this option. Other plumbing options may affect availability.



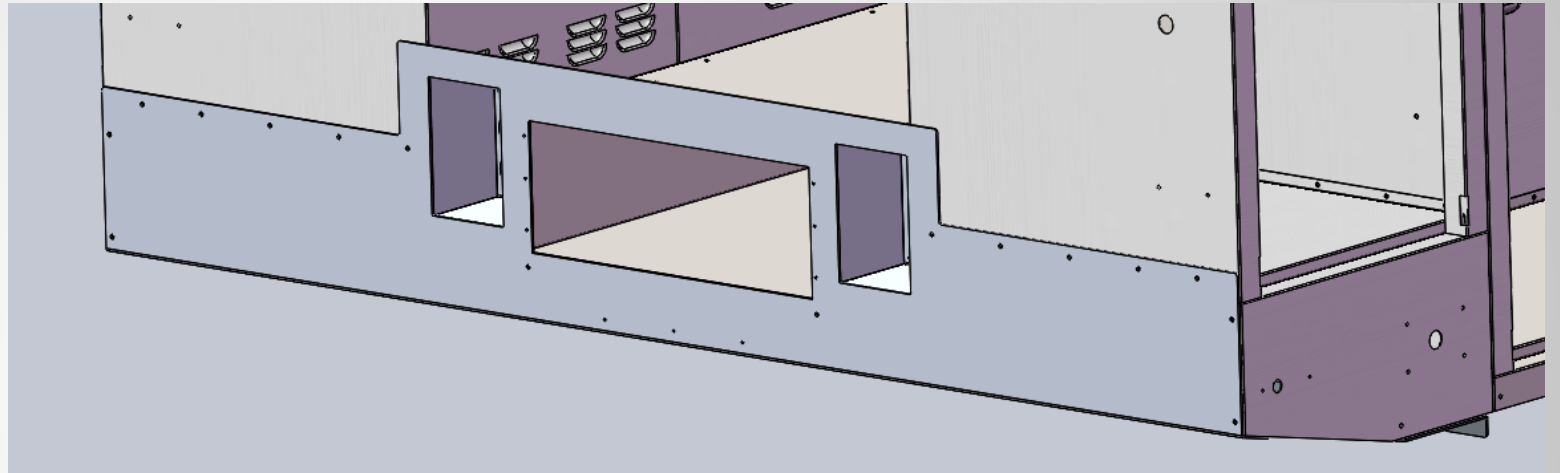
SL100 L6/R6 Compartment Heights Increased

- We added 3.46" of height to L6/R6 compartments by lowering floor.
- Total height is 52.80"

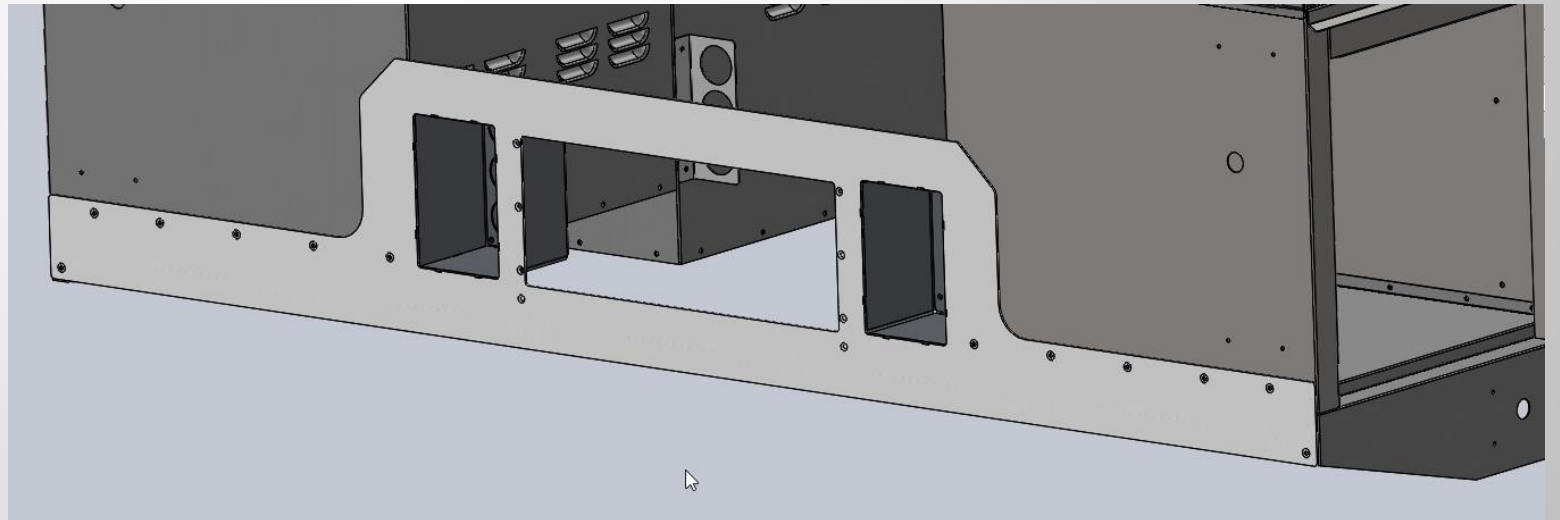


SL100 Rear Body Trim Update

Previous Version



Updated Version



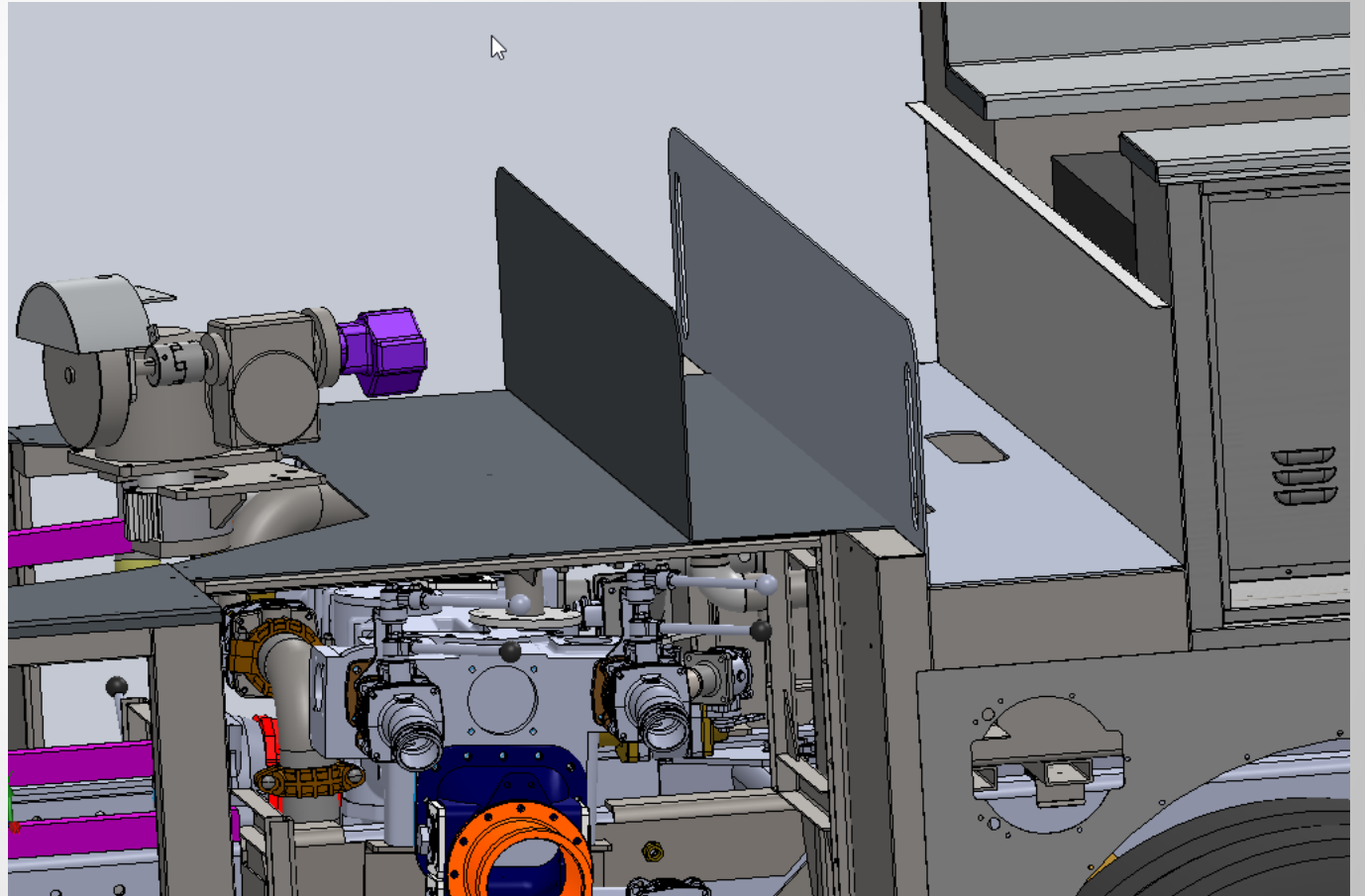
SL100 Welded Endcaps on Treadplate Compartment Tops

- Treadplate trim is now welded to improve the final finish and prevent water intrusion.



SL100 Optional 2.5" Crosslay

- Requires a 6" extension in pump module which extends the wheelbase.
- Requires Electric Valve



SL100 Pump Module Sub-Assembly

- SL100 pump modules will now be built as sub-assemblies.
- This will improve our process flow and help us continue to meet or exceed production deadlines.



New Ladder Fixture

- New ladder fixture can be converted to build either box booms or climbing ladder sections.
- This allows ladder production to adapt and keep pace with production demands.



Sutphen East Division Updates

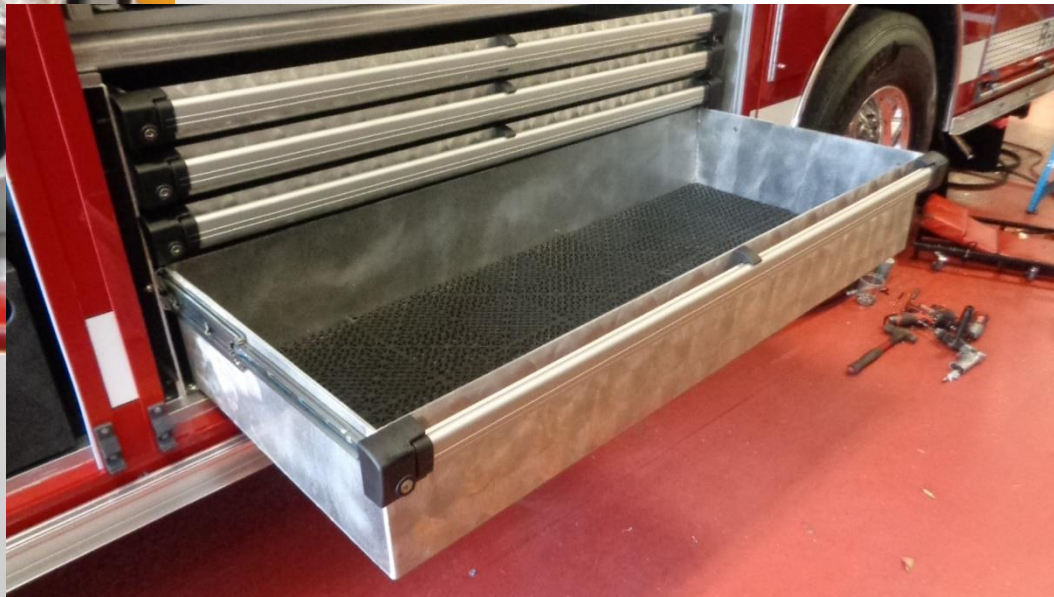
- Continued Growth!
- Rescue Units
- Product Improvements
- Quality
- Around the Corner



Growth at Sutphen East

- Now shipping monthly between 3 – 5 trucks
- 43 trucks on order
- Heavy Rescue line continues to develop





Production Improvements

- We've increased staff and are doing so daily. We've added 15% in staffing and still looking to bring in another 5 positions directly to production.
- Searching for space as well as adding a manufacturing process to further our bodies level of finish prior to bodies going into finish bay.
- Units produced is up 50% from this time last year.
- Average final inspection list is less than 6 items

Quality System Updates

Quality System Updates:

- State-of-the art paint booth with full baking capabilities. Paint times are now as minimal as possible.
- Use pressure pot painting systems for wet side tanks and rescue bodies to improve paint times and consistency.
- Implementation of the Festool machine, which reduces dust and reduces sanding times.
- Altered paint process to now DA sanding clear, improving timelines and reducing buffing time as well as employee fatigue.
- We have an improved paint inspection process, upon chassis arrival to better determine any and all issues ASAP.

Quality System Updates – cont.

Final Inspection process

- Trucks are on the red floor, clean, complete and ready for delivery
- Engineer, Production Manager and Crew Leader all available and engaged with customer throughout the final inspection process.

Final inspection results:

- Average final inspection list is less than 6 items
- Continuous QC improvements via our on-site QC committee.
- Fully engaged with dealers after the sale with our QRP process.

Growth / Future Development

Future outlook:

- Considering plant expansion or larger facility
- Considering Program 1 manufacture bodies for certain models (i.e. “C” series and Mini-pumpers)
 - All commercial pumpers / tankers will be built at Sutphen East

Standards Across All Facilities

Sutphen has standardized over 80+ items across all facilities

- Cathacoat process for steel parts
- Fold Down Step Lighting
- Door wiring in the body compartments
- Load manager are different (Supernode vs TCM)
- Rub Rail Spacers
- Q2B pre-wiring
- Hosebed Floor Construction
- SS Handrails w/Gaskets
- Compartment top edge profile
- Rub rails on all aerial jack doors
- Wire harness through the body
- Rollup and Slam door switches
- Foam system test procedure
- Audible alarms
- Compartment door hardware
- Water Tank Sub frame (material and paint)
- Rear Body Fenderettes: process and material
- Deutsch connectors material on exterior.
- Louver cover in rear wheel well.
- Aerial Hour meter location SL100 vs SP95
- Ground Lights (LED/Incandescent, Make, Brand)
- Rotational drive - (Winsmith, Fairfield, Perfection)
- Chevron installation process
- Non-split loom on AC/generator/breaker box wiring.
- Tank Stops (top and/or bottom) Pumper versus Aerial
- Louver pattern in compartments
- Location of truck inclinometer
- Hydraulic hoses inside outrigger tubes
- Hydraulic Compartment layout SP95 vs SL100
- Ladder Rotation Sensor location
- Aerial access steps
- Pull down straps on roll up doors to be an SQS option
- Turntable Kick plate
- Main hosebed lights strip
- How the intake relief valves on pumps are plumbed
- Outrigger ICC light protectors
- Body Side metal design SP95 vs SL100
- Pumpers tread plate compartment top end caps
- Door gas shocks
- Aerial & Aluminum Pumper Body Sub Frame
- Pedestal face- look and layout
- Installing Fender SCBA door switches
- External body pull out steps
- Ladder / Cradle Alignment Indicators
- Rung Alignment Indicators
- Wheel well liners
- Pike pole tube door construction SL100 vs SPH
- Undercarriage ground light bracket material
- Pumpers- crosslay floor material and construction
- Pumpers-Master gauge mounting bezel
- Pump module step well treadplate flanges
- Aerial outrigger service access panel
- Treadplate under the rear of the SL100 and SPH100
- Door striker mounting location
- Pullout tray construction
- Striping on vertical trim around roll up doors
- Front of cab scotchlite stripe termination