

Family Owned and Operated since 1890!



# Tiller Time!





# THIS WAS OUR UNDERSTANDING OF TILLERS WHEN WE STARTED

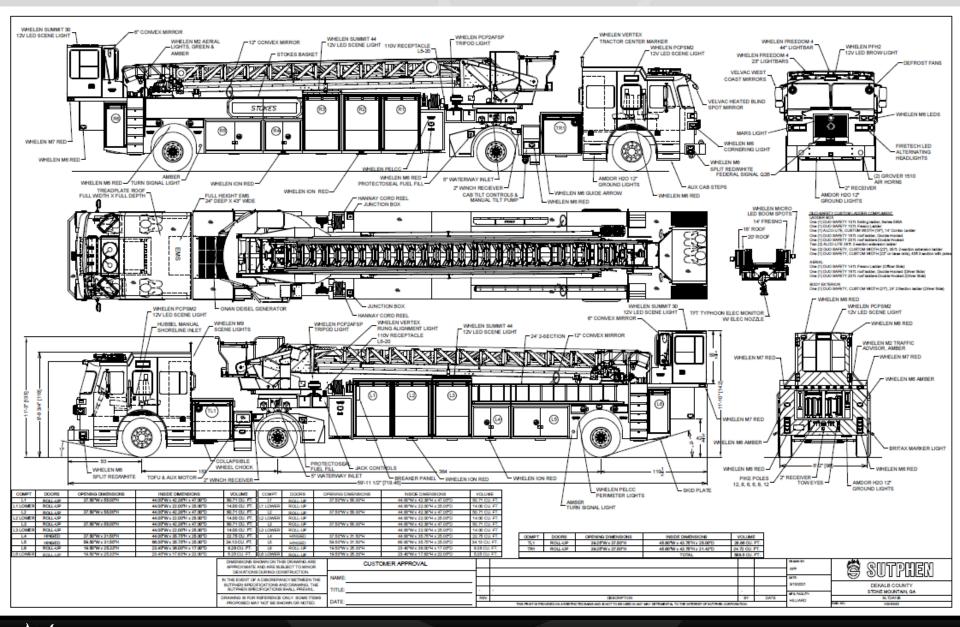






THINGS WE LEARNED THINGS WE CHANGED











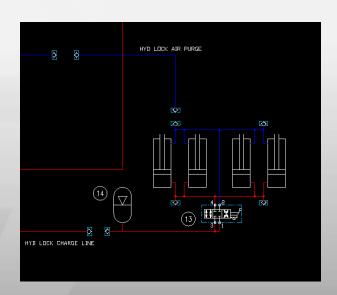
- 5th WHEEL LOCK OUT CIRCUIT
- INSET STABILIZER CONTROLS
- WIDE TILLER CAB



#### - 5th WHEEL LOCK OUT CIRCUIT

 Hydraulic accumulator applying constant pressure to cylinders







#### - INSET STABILIZER CONTROLS





#### - WIDE TILLER CAB

- Space for trainer's seat inside tiller cab, either side.





# THE TRUCK WE BUILT THINGS WE LEARNED THINGS WE CHANGED



# IT'S BIG REAL BIG



#### WE NEED SOME NEW TOOLS

- CRANE
- LIFTING FIXTURE
  - CARTS
- SPECIAL WRENCHES



WE NEED SOME NEW TOOLS

#### - CRANE

10T GANTRY CRANE TO LIFT OUR 9200 lb AERIAL DEVICE AND 9280 lb TRAILER FRAME

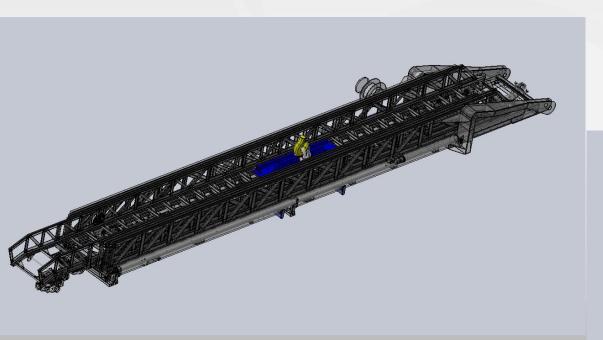


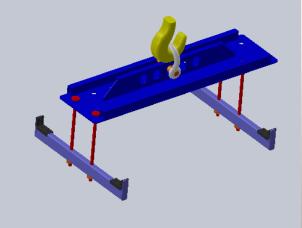


WE NEED SOME NEW TOOLS

#### LIFTING FIXTURE

GETS THE CRANE HOOK INSIDE THE HANDRAILS
WHILE SUPPORTING THE AERIAL DEVICE FROM THE BOTTOM







WE NEED SOME NEW TOOLS

#### - CARTS

DESIGNED TO BE MOBILE WHILE SUPPORTING 14000 lb
OF TRAILER PLUS PARTS





WE NEED SOME NEW TOOLS

#### - SPECIAL WRENCHES

5<sup>th</sup> Wheel lock-out cylinder upper pins





# HERE'S HOW WE THOUGHT IT WOULD BE DRIVEN.







# IN REALITY!







# NOTE...

#### CRUSTY IS BEHIND THE WHEEL HERE!





## AND IN FAIRNESS

(THIS IS REALLY HOW IT'S DRIVEN)



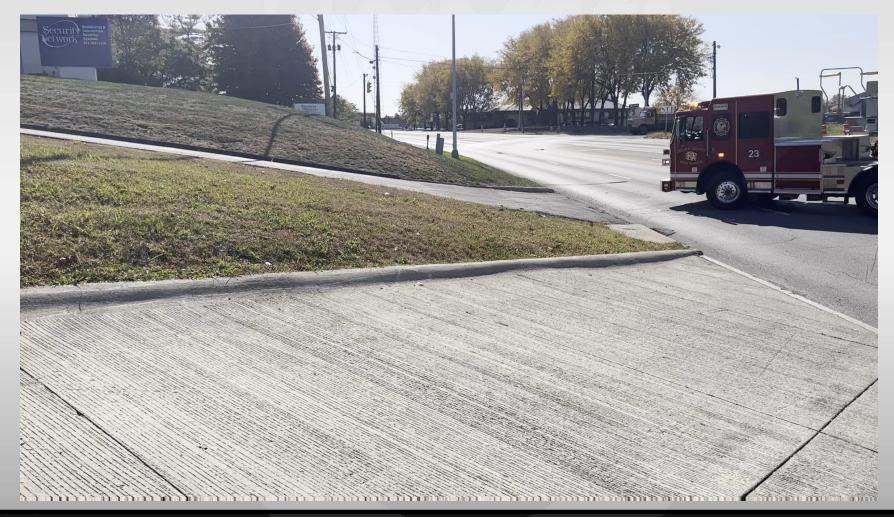


# AND THIS IS WHERE IT CAN GO!





# AND THIS IS WHERE IT CAN GO! - 2





We learned this unique style of fire truck has features very different from all our other trucks.

- It bends in the middle.
- 5<sup>th</sup> wheel dynamics
- Clearances that we did not have to be too concerned with before.
  - Ramp Break Over Angle
  - Trailer interference with Tractor
  - Visibility for tiller driver
- Clearances we have now that we don't on other truck models.
  - The top and bottom of the trailer frame is blank
  - Longer two section ladders will fit (even with transverse compartments)
- Sliding doors are popular for ventilation but break frequently.
  - Since we have HVAC, sliders aren't necessary.



# THE TRUCK WE BUILT THINGS WE LEARNED THINGS WE CHANGED





- REAR STEERING GEOMETRY
- BODY/CRADLE STIFFNESS
- WATERWAY INLET DRAIN
- GROUND CLEARANCE
- TILLER CAB ACCESS STEPS



#### - REAR STEERING GEOMETRY

- Added a bevel box and reconfigured connecting shafts

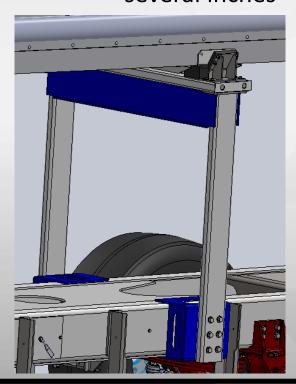


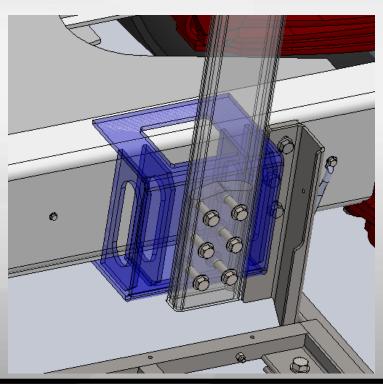




#### - BODY/CRADLE STIFFNESS

Originally swayed enough to cause body to separate several inches







#### - WATERWAY INLET DRAIN

- Interfered with drive axle fender on pitched turns





#### - GROUND CLEARANCE

- Low rider looked cool, didn't clear obstacles so well.

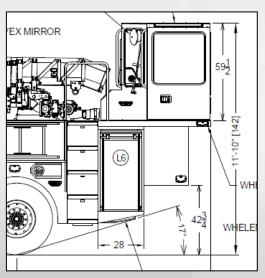


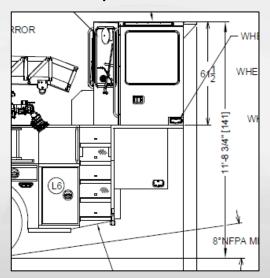




#### - TILLER CAB ACCESS STEPS

- Originally further forward, obstructed visibility somewhat. Several steps into tiller cab.









Questions?

Sure hope we have the answers.



# THANKS FOR YOUR TIME and

# THANK YOU!

For staying awake for

TILLER TIME

Woo Hoo!!!



