



CENTERED ON SAFETY



LAG-3400
LAG-2800



Introducing LAG Equipment's LAG-3400 and LAG-2800 refractory tear-out machines. Taking decades of experience and knowledge, LAG Equipment developed an innovative duo of machines from the ground up, keeping safety front of mind. Using the latest technology, the machines effortlessly tear out refractory or clean out a vessel while allowing the operator to keep a safe distance.





KEY SAFETY POINTS

VISUAL & PPE

- Parameter Safety Zone Lighting
- Personnel Detection System, camera based detection system (optional)
- Ergonomic joystick controls reducing risk

HYDRAULICS

- Integrated counterbalance valves on hoist/stick cylinders
- High pressure/low flow travel motor and high torque hub effortlessly turn machine
- High pressure/low flow proportional hydraulic system
- Fewer hydraulic components allow for a simplified, yet powerful system
- Active kidney loop hydraulic cooling system
- Ability to choose and/or limit any function individually or together

STRUCTURAL

- Ground level fill eliminates fall protection on fuel tank and hydraulic reservoir
- Fuel tank and hydraulic reservoir certified pressure tested
- Undercarriage D-rings allow for safe tie-down for transportation
- Unmatched stability and travel performance with machine's center of mass over undercarriage
- Lifting balance centered to machine
- Significantly reduced structural fatigue through FEA analysis
- All major deck hydraulic components (fuel, hydraulic and DEF tanks) are shielded by sloped enclosures

PERSONNEL DETECTION SYSTEM

LAG's personnel detection system six cameras provide optimal visibility at all times. Each camera has a custom range to keep personnel and operators safe but also gives the flexibility to adjust the zones to the working environment.



PERSONNEL DETECTION SYSTEM

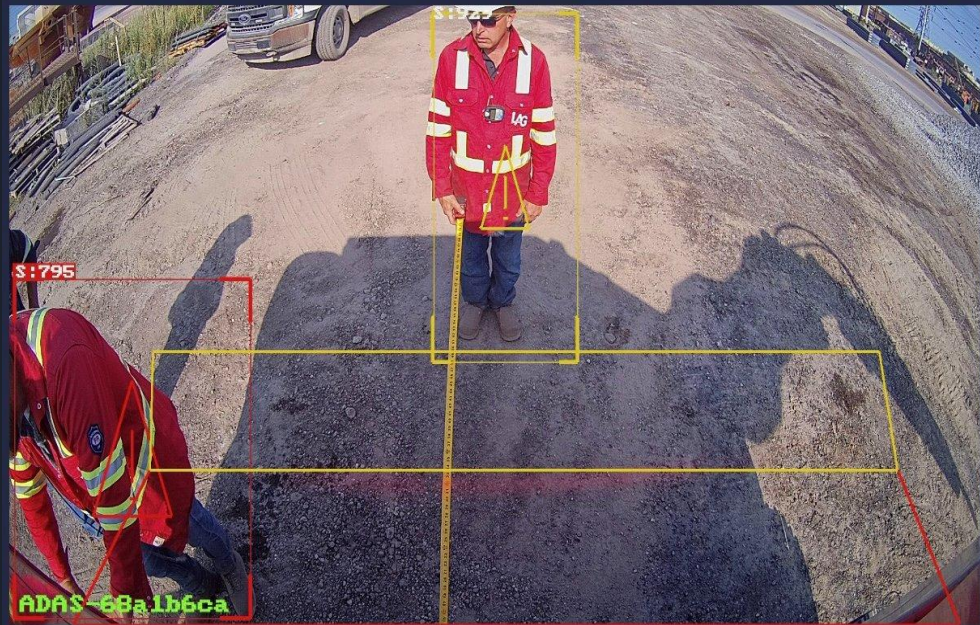
- Ability to detect up to 41 people based on custom predetermined safety zones
- LAG mounts a total of six (6) cameras to ensure unobstructed view (i.e. no boom obstruction)
- Each camera has **two custom zones**:
 - **Yellow zone**: Reduces the speed of travel of the unit and the swing function. Standard setting is six (6) feet.
 - **Red Zone**: Demobilization of machine both travel and swing. All other functions remain accessible. Standard setting is three (3) feet.
 - Immediate full regeneration once operator is within safe operating zone.



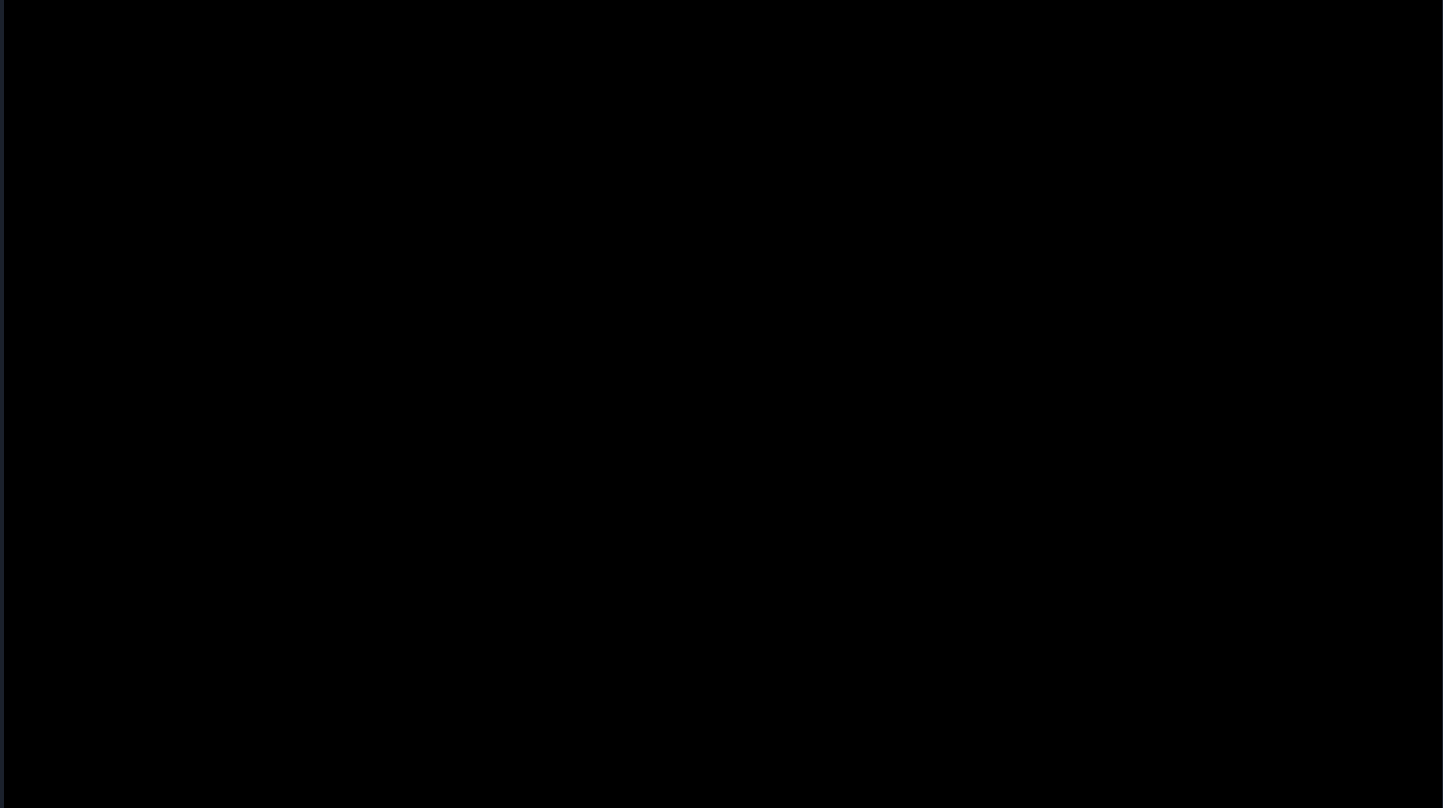
PERSONNEL DETECTION SYSTEM IN-FIELD CASE STUDY

Customer wished to program LAG's personnel detection system to protect the operator against boom.

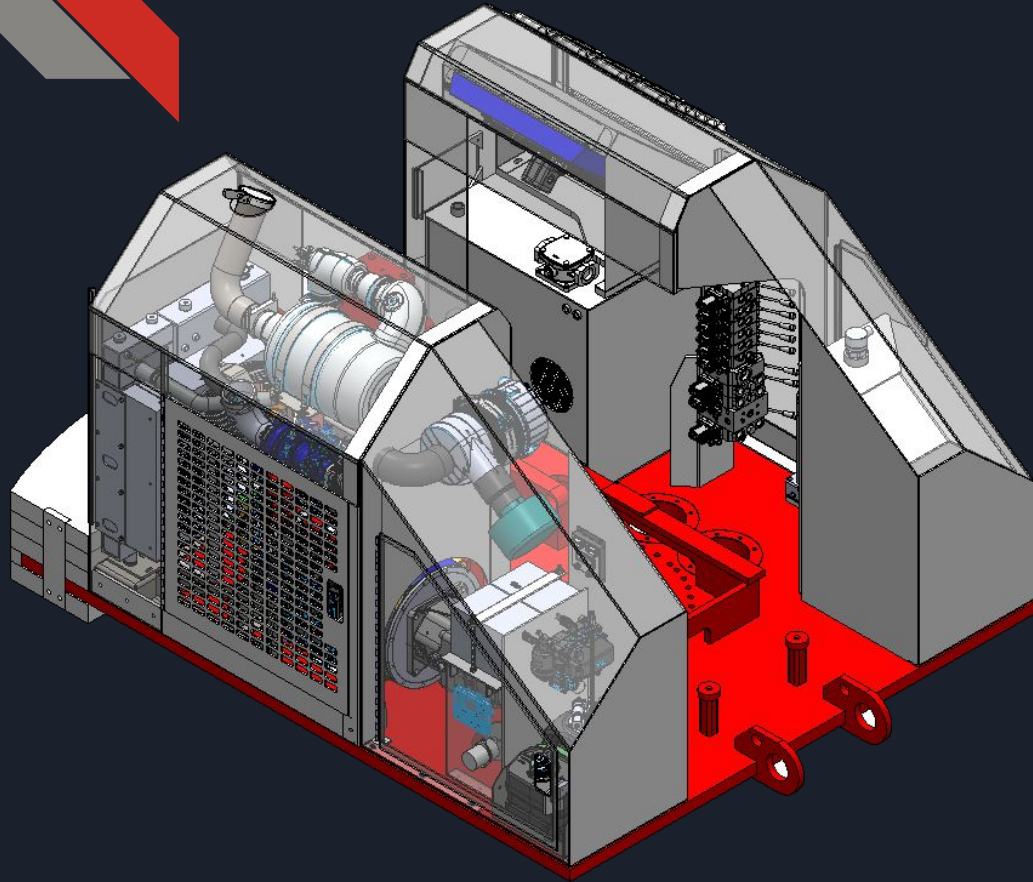
- **YELLOW ZONE:** Set to 11-14 feet in front of the machine. Entering the zone will slow travel and swing to 80%
- **RED ZONE:** Set to 11 feet in front of the machine and three (3) feet from the width. Entry into this zone will completely mobility travel and swing immediately.



PERSONNEL DETECTION SYSTEM



CENTERED DECK AND BOOM



- Stick hoist brackets centered to deck
- FEA analysis allowed for better stiffener design and improved bearing bolt fastening
- Hydraulic components shielded within enclosures
- Improvements allow for:
 - Center of mass distributed over bearing and undercarriage
 - Balanced lifting of machine
 - Fewer hydraulic components to fail

LEVEL LIFTING



ERGONOMICALLY DESIGNED



- Cowling covers provide ECU protection from heat and debris



- Easy access to filters for maintenance at eye level
- Machine lock out-tag out at ground level
- Ergonomic DEF tank
- Equipment with lockable master disconnect for Lock out Tag Out Procedures

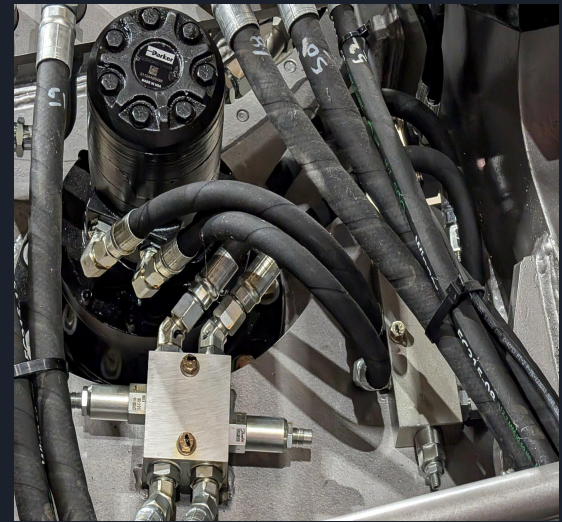
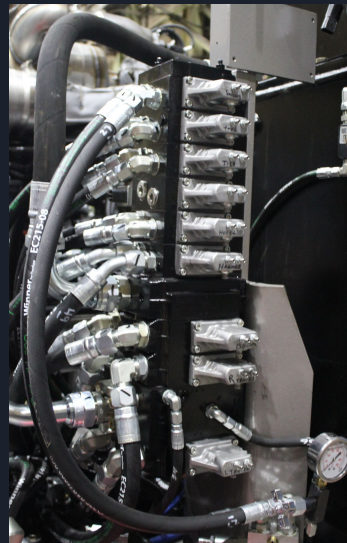
NO SPILL QUICK FUEL TANK

- Improvements allow for:
 - Filling from ground level
 - Fall protection is mitigated
- No spill fill, Flomax quick fuel auto-shut off
- Enclosed in cowling covers to protect from heat and impact



HYDRAULIC SYSTEM

- Stick/Hoist cylinders integrated with counterbalance valves for safety
- Proportional only system optimal for operator control and safety



SAFETY Improvements allow for:

- Cylinders will hold if a hose ruptures or is compromised preventing potential operator injury
- Fewer hydraulic components to fail
- Smooth acceleration of track drive



HYDRAULIC RESERVOIR

- No spill fill at ground level eliminating fall risk
- Improvements allow for:
 - Fewer components to fail
 - Accessible for ease of cleanout
- Custom cooling shroud with forced air driven by hydraulic motor (positive cooling)
 - Active hydraulic cooling (kidney loop system)



ELECTRICAL SYSTEM

- Simplified electrical system with ergonomic operator controls reducing physical overuse
- Curtain safety lighting visual safety parameter
- Radio joystick control pendant only (SAE, NON-SAE or Gradall layout) with integrated e-stop mechanism for kill switch in case of emergency
- Improvements allow for:
 - Better visibility
 - Safety perimeter around machine
 - PLC system allows for quick hydraulic flow adjustments
 - Potted electrical system provides a sealed and secure connection point
 - Fewer electrical components to fail



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