

Discussion Points

- **Economics**

Existing system consists of five (5) hydraulic tools (Spreader, Cutter, three (3) Rams, (30", 40" and 60"), Two (2) - Hose reels with associated controls and wiring, Two (2) - 100' hydraulic hoses, Two (2) - thirty (30) foot hydraulic hoses and One (1) gasoline powered hydraulic power unit. The cost of replacing the existing 3 sets of equipment would be an estimated \$120,000.00. This would be replaced by three (3) self-contained tools on each vehicle at the amount or below the cost budgeted.

- **Speed of Operation / Ease of Use**

Existing hydraulic tool system requires firefighters, during use, to remove tools from apparatus, deploy tools / hydraulic hose to scene (around apparatus, vehicles and other obstacles). If accident scene is farther away than reach of hose reels (100'), FF's must disconnect hoses and tools, carry power unit (90 lbs.), 30' hoses (10 lbs.) and tools (approximately 130 lbs.) to the remote location and reattach components before starting rescue operation. In addition, if a change of tools is needed, (i.e.- hydraulic spreader to ram), additional manpower is needed at the apparatus, away from the rescue operation, to shut down the flow of hydraulic fluid at the power unit. All this **verses** removing tools, proceeding to rescue location and starting patient removal (Golden Hour).

- **Changes in vehicle technology / society**

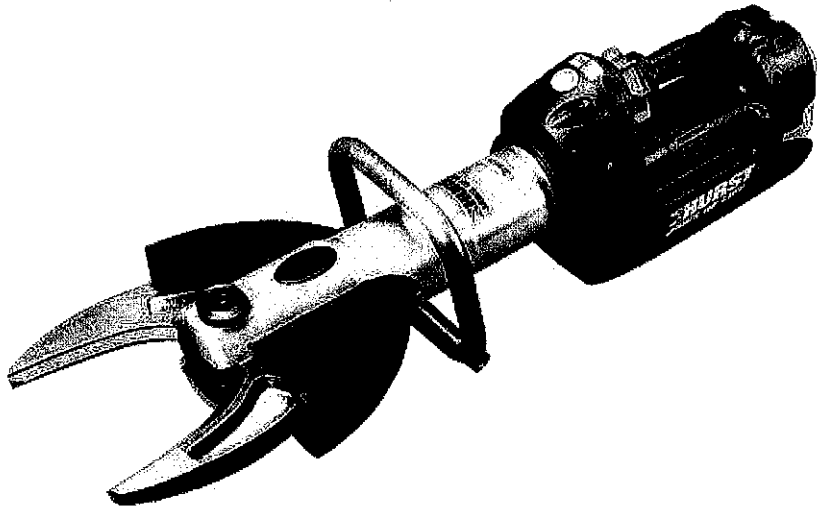
Modern vehicles have changed in the material types that are used in the manufacturing process. These materials include exotic metals that are impossible to cut with first generation hydraulic rescue tools. These include metals such as boron alloys, martinsite, and other high-strength, low-alloy steels. Although the vehicles have been made safer for the occupants regarding vehicle accidents, they have created issues during the rescue/removal process. Rescue tool manufacturers have improved their products to meet the needs of rescue personnel. Portable, self-contained tools also provide the ability to operate in technical type rescue atmospheres including: structural collapse, machine entrapment, confined space operations among others.

- **Compartment Space / Additional Weight**

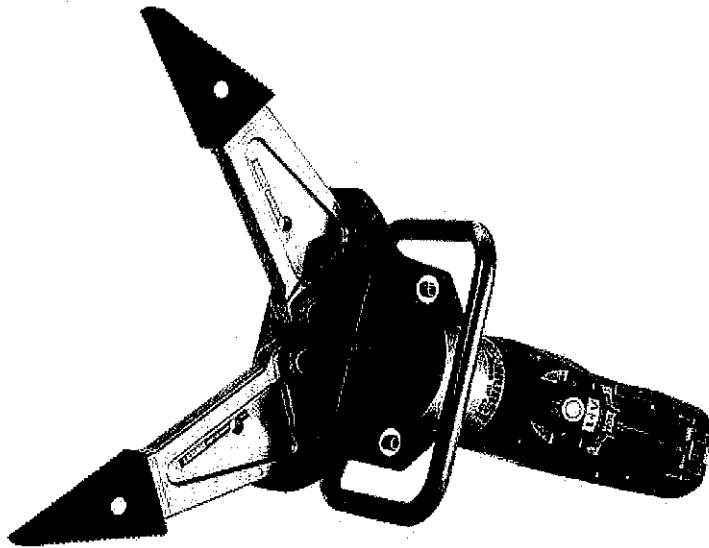
The hydraulic rescue system currently in place, with its many different components, takes ample room to store on the vehicle (approximately 60 cu. ft. / 350 lbs. verses approximately 10 cu. ft. / 130 lbs. for the battery powered models)

- **Input from other users**

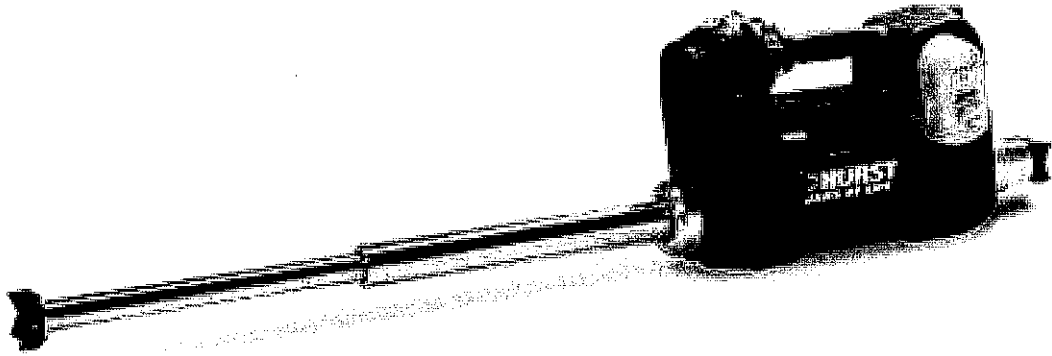
Personnel from the AFD contacted several other fire departments in the area and across the country that currently use the tools. The input received from those different agencies was similar to ours. Their findings and field-testing showed the same results with the one (1) particular manufacturer being favored above the others.



Hurst S700 E Cutter

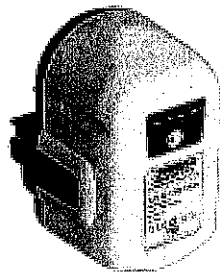


Hurst SP 310 E2 Spreader



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Hurst R 421 E2 Ram



Hurst Lithium-Ion 5.0 A/h Rechargeable Battery