

**RESUME: Peter J. Weller, PE**

<b>EDUCATION</b>	BS Mechanical Engineering, 1969, Cornell University MS Mechanical Engineering, 1970, Stanford University  Pi Tau Sigma Mechanical Engineering Honorary Society
<b>REGISTRATION</b>	Professional Mechanical Engineer, California No. 16493 Registered Design Certifying Engineer for Cargo Tank Vehicles, US DOT No. 2208769
<b>PATENTS</b>	Automotive Lifting and Towing Apparatus, Sept 1994 (A hydraulically actuated arm which lifts the vehicle being towed by its tires and which is remotely controlled by the towtruck operator.)  Tow Truck Load Distribution System (Provisional Patent) (A system for redistributing the load imposed on a tow truck from the vehicle being towed in such a way that the front axle of the tow truck is not unloaded and the rear axle is not overloaded so much as it would be with a conventional tow truck.)
<b>AREAS OF EXPERTISE</b>	Mechanical and Hydraulic Design Design, Fabrication, and Operation of: Towtrucks Car carriers Trailers Lift gates Construction equipment (clamshells, grapples) Automotive and motorcycle lifts, parking lifts Trash Trucks Telescopic handlers Loaders Scissor lifts Crane loading fixtures Steel and Aluminum Fabrication
<b>COMPUTER CAPABILITIES</b>	Solid Works, Autocad, COSMOS Works FEA for stress analysis, MS Office, MS Excel
<b>TEACHING EXPERIENCE</b>	Guest lecturer on Hydraulics in Mechanical Design at California Polytechnic Institute, Pomona CA
<b>MEMBERSHIPS</b>	ASME (American Society of Mechanical Engineers) # 8786543 NSPE (National Society of Professional Engineers) # 300073510 NAFE (National Academy of Forensic Engineers) #782M International Fluid Power Society
<b>ARTICLES WRITTEN</b>	"Safety Issues Associated with Low Pressure Inground Automotive Lifts" (Website publication) "Thermal Analysis of the Hydraulic System for a Garbage Truck" (Website publication)

“Onboard Mobile Power Source: Power Steering Pumps”  
(Website publication)  
“Car Carriers and Underride Protection” (Submitted to trade  
journal, pending review)

**INDUSTRIAL EXPERIENCE** (Listed and described below.)

**PROFESSIONAL CONSULTING EXPERIENCE**

(Owner and principal investigator of consulting engineering firm.)

- **Trench Cutter Performance.** Expert working for the defendant in a case involving the performance of a crane-mounted machine used for cutting trenches for inground liquid barriers and foundations. The case involved problems with the hydraulically-powered cutter wheel assembly, power transmission for the cutter, and hydraulic controls for the cutter.
- **Lift Table Accident.** Expert consulting for the injured plaintiff in an industrial accident involving a hydraulic lift table used in a manufacturing facility. The scissor-style lift table collapsed subsequent to fracture of a hydraulic component designed to prevent the lift cylinder from retracting and trapped the injured party's hand.
- **Compact Loader Accident.** An injury occurred when repair work was being performed on a hydraulically actuated compact loader. Mr. Weller analyzed the cause of the accident. The analysis involved the design of the hydraulic system and the omission of load-holding devices for the hydraulic cylinders used to elevate the loader arms.
- **County Vehicle Service Facility.** Support of a marketing effort in the design and construction of a new service facility for county vehicles. Mr. Weller provided support as the industry expert for auto lift inspection and procurement.
- **Speedboat Trim Tab Malfunction.** Inspection of the control system for the trim tabs on a speedboat.
- **Compressor Tank Relief Valve.** Inspection of the air compressor, pressure tank and tank relief valve at a manufacturing plant to ascertain the cause of alleged injury.
- **Motorcycle Lift Accident.** Inspection of a scissor type motorcycle lift in a repair facility to determine the cause of an injury.
- **Open Car Hauler Accident.** Inspection of an open car hauler involved in the injury of an operator when an upper deck loaded with a vehicle collapsed.
- **Trailer Failure and Accident.** Expert testimony regarding the structural failure of a trailer used for towing All Terrain Vehicles and consequent injury to the operator of an oncoming vehicle.
- **Towtruck Pipeline Injury.** Expert testimony for a case involving the injury of a worker when a wire rope system failed during the construction of an underground pipeline. Wire ropes from towtrucks were being used to support a pipeline hammer and to pull the pipeline through the ground.

- **Concrete Truck Hydraulic Accident.** Expert testimony regarding a hydraulic fluid leak from a concrete truck and a consequent injury accident as a result of the spilled fluid on a freeway.
- **Car Carrier and Underride Protection.** Inspection of a car carrier involved in a traffic accident wherein a driver collided with the car carrier at the rear of the carrier.
- **Recycling Baler Performance.** Analysis of the causes of hydraulic performance problems, including overheating and pump damage, for a machine that compacts waste materials for recycling.
- **Lift Gate Accident.** (Several cases) Forensic engineering analysis of the causes of injury accidents and performance problems involving hydraulic lift gate on commercial trucks.
- **Auto Lift Accident (Several).** Analysis of the design and installation of both above-ground and inground auto lifts which were involved in injuries or damage to vehicles. Accidents occurred when the lifts fell or tilted in such a way that the vehicle being serviced fell and caused, in many cases, severe injury and damage.
- **Ambulance Gas Bottle Injury.** Expert testimony involving the cause of an injury to a worker changing the pressurized oxygen supply tank on an ambulance.
- **Load Spreaders (Several).** Designed lifting devices to be used by crane operators for loading heavy cargo (up to 60,000 lb) onto cargo ships at LA harbor. All devices were designed in conformance with ANSI Standard No. 30.20 and ANSI/ASME BTH-1-2008 for lifting devices.
- **Scissor Lift Accident.** Inspection of a the condition of a manned scissor lift which toppled and killed a worker operating the lift at a construction site.
- **Hydraulic Clamshell.** Designed a 5/8 cubic yard hydraulic clamshell for moving fill dirt at a construction site by means of a mobile crane.
- **Trash Truck System Overheating.** Analysis of overheating problems resulting from the poor design of trash compactor truck bodies. The analysis included the development of a finite-difference thermal model of the compactor truck which accurately predicted the hydraulic fluid temperature variation through a daily cycle due to hydraulic heating and meteorological and solar effects.
- **Towtruck Injury.** Analysis of trajectory and expert testimony in a case involving a customer of a towing company who was injured when a mechanism on the towtruck failed. Analyzed the trajectory of a part thrown from the towtruck and provided testimony regarding towtruck design, operation, and safety for deposition and for the subsequent trial.
- **Hydraulic Rock Saw Prototype Development Analysis.** Provided expert testimony at trial in a case involving a contract dispute over development of a prototype hydraulic-powered saw for cutting thin veneer rock at quarries. Testimony called on Mr. Weller's experience in prototype design and development and contract experience as a business owner.
- **Trash Truck Worker Injury.** Provided expert analysis of the causes of injury to a trash truck operator when a wire rope system entangled and injured the operator's hand. The

analysis called on Mr. Weller's experience and knowledge of hydraulic and hydromechanical systems and industrial truck body design.

- **Hydraulic Elevator Performance.** Provided analysis of a hydraulically powered elevator at a multistory condominium facility on the California coast in support of the manufacturer. The case involved claims against the design and performance of the elevator system.
- **Forestry Mower Performance.** Analysis of the load induced on the prime mover engine by the hydraulic system for a compact track loader with a forestry mowing attachment used to cut and clear brush. The work included measurement of system pressures developed and calculation of the power demand of the hydraulic system used to power the attachment.
- **Telescopic Handler (Rough Terrain Forklift) Injury.** In a case involving the death of an observer of an offloading operation at a construction site, Mr. Weller provided analysis of the design and assembly of the four-axis controller used on the telescopic handler for the hydraulic system powering the boom.
- **Parking Lift Accident.** Analysis of the probable causes of an accident in which a hydraulic parking lift fell on the lift operator.
- **Rolloff Trash Truck Installation.** Mr. Weller provided technical assistance to the purchasers of a rolloff trash truck body which was not installed properly.
- **Pipeline Padder Accident.** Analysis of the design of a machine used to pad pipelines with small diameter fill material during pipeline construction projects. The padding machine was involved in an injury to a construction worker when part of the machine fell from its stored position and struck him.
- **Towing Accident.** A heavy duty towtruck being used to tow a concrete pumper truck went out of control and damaged the towed vehicle. Mr. Weller provided analysis of the load interaction on the stability of the towtruck.
- **Car Carrier Traffic Accident.** Mr. Weller provided expert assistance to the insurer of a towing company whose car carrier was involved in a traffic accident in which a passenger in a car was killed.
- **Car Hauler Accident.** The operator of a covered tractor-trailer with hydraulically actuated lifts for hauling cars was killed when the loading ramp system fell and struck him. Mr. Weller provided expert assistance in analyzing the hydraulic system for the trailer and identifying the cause of the accident.
- **Floor Jack Accident.** An injury occurred during repair work on a vehicle supported by a floor jack. Mr. Weller provided expert assistance in determining the causes of the accident.

#### **MANUFACTURING EXPERIENCE as COMPANY OWNER**

(Co-owner of manufacturing company. Personally designed and supervised fabrication of all products.)

- **Towtrucks.** A product line of towtruck bodies and towing accessories. Company provided complete service in manufacturing and installing the bodies on chassis-cabs, servicing and repairing towtrucks and car carriers.

- **Clamp Buckets.** Buckets for wheel loaders for handling straw, trees, and greenwaste. Clamps were hydraulically actuated and used for retaining materials in bucket while loading trailers.
- **Rock Tongs.** 20,000-pound cable-actuated tongs for allowing cranes to move rocks weighing up to 45 tons for harbor construction.
- **Scrap Grapples.** Hydraulically actuated two jaw grapples for moving metallic and nonmetallic scrap with excavators.
- **Swivel Buckets.** Buckets for cleaning agricultural ditches with integral hydraulic mechanisms for varying the angle the bucket makes with the ground,
- **Excavator and Loader Buckets.** Various straight and V shaped buckets for excavators and wheel loaders.
- **Selfloading Crossarm.** This is a device which allows a towtruck operator to attach and lift a vehicle hydraulically from a remote position and is one of the few such devices successfully in use.
- **Ground Level Loader.** This is a car carrier which has a bed that lowers to a completely horizontal position on the ground and is used for loading and carrying vehicles with extremely low ground clearances.
- **Motorcycle Carrier Wheel Lifts.** This device allows the towtruck operator to easily carry motorcycles on any common brand of wheel lift towtruck. It is easily stored and easily deployed and allows the motorcycle to be securely carried in a manner consistent with the requirements for California Highway Patrol contract towing companies.

#### **BENWIL LIFTS, Inc**

(Chief engineer for company manufacturing automobile lifts. Responsibilities and special projects are listed.)

- **CAD System Implementation.** Implemented the use of Solid Works solid modeling software for design and configuration control.
- **Lift Certification.** Pretested and coordinated the third-party testing of Benwil two post above ground lifts for certification by ALI, the auto lift trade organization, according to the ANSI/ALI ALCTV 1998, the CSA 68, and UL standards for design and operation of automotive lifts.
- **Inground Lift Retrofit.** Diagnosed a chronic chattering problem with inground lifts, redesigned the lifts to correct for the problem, and designed retrofit kits for correcting lifts in the field.
- **Lift Redesign.** Responsible for design improvements for the Benwil product line. All changes were made with Solid Works solid modeling software. Stress analysis was carried out using both manual methods and COSMOS Works FEA software.

#### **TRW Inc**

(Engineer and engineering manager at TRW Inc., Redondo Beach CA.)

- **Mirror Fusion Manufacturing.** Responsible for the \$1.5 Million mechanical fabrication package for Mirror Fusion Technology Facility-B Project, in which five ten-foot diameter

vacuum chambers were built for conditioning neutral particle beams prior to entry into a nuclear plasma.

- ***Isotope Separation.*** Responsible for fabrication of a vacuum chamber and peripheral hardware for a Special Isotope Separation unit for Los Alamos National Lab.
- ***Superconducting Electron Beam.*** Responsible for mechanical fabrication for the CEBAF project which involves a superconducting chamber for electron beam acceleration. This project required dieforming, machining, electron beam welding, and acid etching of niobium.
- ***Offshore Platform.*** Project Manager for a \$1.4 Million study to determine the structural integrity and effects of environmental loads on a drilling platform in the Gulf of Mexico. Subcontractors were used for NASTRAN analysis of the platform structure and for onsite structural and environmental inspection and sampling both above and below the water line. TRW personnel under his supervision analyzed test and inspection data to recommend use of the platform as a site for hazardous waste incineration.