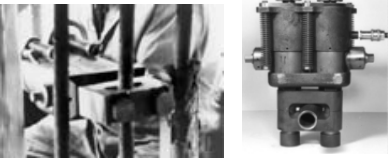




Case Histories: Petro/Chemical

Biach engineers respond to one of a kind problems encountered by customers in many diverse industries.

Reformer Tubes	
<p>Customer: ARCO Philadelphia</p> <p>Problem: When a reformer tube begins to leak, it must be isolated from the system before further damage to the process takes place. Crimping the tube at both ends, closing the furnace, is the best method. A severe accident occurred when a tube burst while men were operating a jack at the furnace while attempting to crimp a tube. ARCO came to Biach for help.</p> <p>Solution: Biach developed a unique self supporting dual cylinder hydraulic jack which is operated remotely from 50 or more feet away from the dangerous crimping area. If a tube burst during the crimping operation, the crew is at a safe distance away. After crimping, it is safe for the operators to return to the area. They may then proceed to tighten the nuts on the special set of crimping jaws (clamps) and remove the crimping tool. The crimping jaws stay in place and retain the tensioned load to seal off the leak. The crimping tool can then be used for additional sized tubing because of its variety of crimping jaws. Sizes range from ½" pipe to 2" pipe with wall schedules of 40, 80 and 160. Special sizes can also be addressed.</p>	
Mixing Drum	
<p>Customer: Exxon Chemical</p> <p>Problem: Large rotating drums for mixing chemicals have paddles fastened to the internal diameter. Paddles work loose due to vibration and fall off during operation. Torque wrenches did not help. Conventional tensioners could not be applied over the paddle blades.</p> <p>Solution: Biach developed a special hydraulic tool having a split puller bar, split nut socket, and curved base to suit this paddle.</p>	
Pipeline Support Assembly	
<p>Customer: Alyeska</p> <p>Problem: Rapid and wide changes in temperatures in combination with many curves in the pipeline cause the pipe to expand or contract and move horizontally on the crossbeam. Pipeline supports, although bolted, had to be flexible enough to allow shifting of the pipeline.</p> <p>Solution: Biach designed and built special tensioners having a controlled nut loading system which prevented over-tightening of the supports.</p>	
Oil Refinery - Piping Flanges	
<p>Customer: John Deere</p> <p>Problem: Harrow disc assemblies which had been torqued on customer's automatic assembly line came loose and fell apart while being transported by rail a few hundred yards to another building. Knowing what would happen when these assemblies were used in the field, prompted their engineers to search for a dependable bolt-up method.</p> <p>Solution: Biach provided tools for their assembly line which applied a hydraulically actuated axial load followed by a pneumatically powered nut seating device. Speed of operation, ease in handling and output capacity were important concerns.</p>	