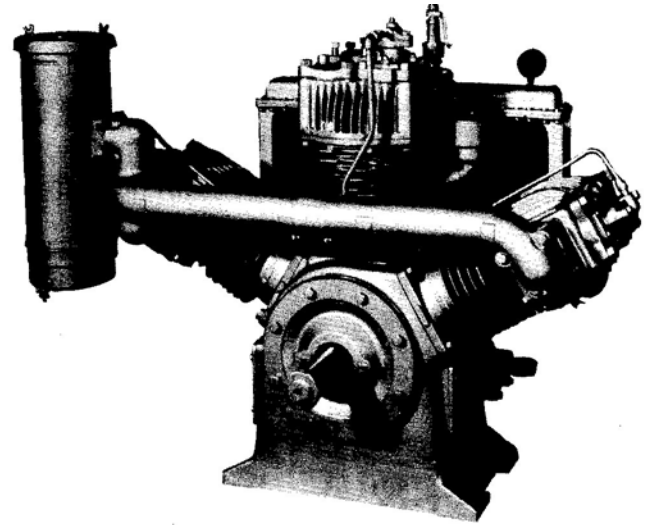


What the heck is a COMPRESSOR?

- WP Operating Department Training Manual - 1974

On most Diesel Locomotives, air is compressed by a two-stage reciprocating air compressor driven directly off the crankshaft of the diesel engine. The compressor is running all the time the engine is running but compresses or pumps air only on demand by the compressor controls or governor. These controls are set to start the compressor pumping when main reservoir pressure drops to 130 lbs. and to stop the pumping (to unload the compressor) when the pressure reaches 140 lbs. The compressor control system on a modern locomotive is an electro pneumatic system with pressure switches and magnet valves in addition to the actual unloaders. This is done so that the compressors in multiple unit locomotive consists can be synchronized to equalize pumping. In two-stage compression, the air is first drawn through the intake filter into the low pressure cylinders where it is compressed to approximately 40 lbs. pressure. From there the air passes through the intercooler to the high-pressure cylinder for final compression. Cooling during compression is important. Since the air is heated by compression, if we were to allow all the cooling to take place later in the system, we would have to compress to a higher pressure, as the pressure would drop as the air cooled. Air compressors are of two types as far as cooling is concerned – air cooled and water cooled. Later model locomotives have water-cooled compressors wherein engine cooling water is circulated through the compressor and intercooler for more efficient cooling and consequently more efficient compression.

Since the air compressor is the source of the stopping energy of the air, obviously a single unit locomotive cannot be operated safely with an inoperative compressor. A multiple unit locomotive may be operated with an inoperative compressor since air from the other unit is fed to the affected unit through the main reservoir equalizing line. In all cases, the engineman must assure himself of proper compressor operation by frequent observations of main reservoir



Three Cylinder – Two Stage Air Cooled Air Compressor

pressure. This pressure will normally be between 130 and 140 lbs., but may drop slightly lower during heavy usage of air in charging train brakes or using auxiliary air devices. In any case, the main reservoir pressure must always be at least 15 lbs. greater than the brake pipe pressure.

**Things Around the Museum: LOED 534A
Material Handler**

In June 2011, Charlie Spikes announced at the FRRS Board of Directors Meeting that he had been in contact with George Pimpl, the owner of Reno Fork Lift. George and Charlie are old friends. Their families lived on the same block in Sparks, just a few doors down from each other. George is a model train enthusiast and has three railroads in his office at RFL. He came to see 3985 on its last trip to Portola. While there, Charlie asked him to give us an estimate for a good used forklift at the request of Rod McClure. George said he was a big fan of the museum and he would take care of us. Later when Charlie went in to pick up a new clutch assembly for big white, George took him outside and showed him the Loed (shooting boom) and said this one would be donated to the museum as soon as he could get a back haul from the Portola area. A year and a half or so later, RFL came out to pick up a rented forklift and brought the shooting boom for us.



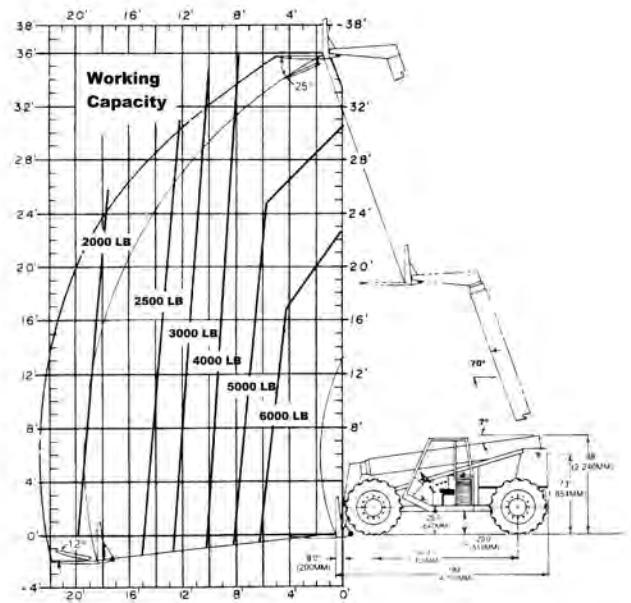
*LOED 534A Material Handler
- photo by Paul Finnegan*

George has since retired and his daughter Mindi now runs RFL. Mindi was as big of a part of the donation as her father was. The unit is very valuable to us and we use it for many jobs around the museum. It was very generous of George and Mindi to donate it and we are very grateful to them.

David Elems estimates its manufacture to be between 1973 and 1977, but cannot pin it down more than that without better records of the build dates by serial number, of which he has not found online. It was originally built with a Cummins 555 diesel engine, which was upgraded to the Cummins B3.9C that is currently in it; the upgrade had to have happened after November 1998, as that is when the current engine was manufactured. David's best guess would be that the engine swap happened in the mid to late 2000's.

There are still a few minor issues to iron out on it. David has trained some members on its safe use and further training on it will happen once proper operating procedures can be documented for it based on its "current" condition and the conditions of our site.

The Mechanical Department has a set of manuals for the Loed that are available in the Mechanical Department Library on the Mechanical Department webpage.



- photo by Kenneth Finnegan

WP 1503 Dedication

We plan to have a celebration at the museum to recognize the restoration and return to service of WP's last switch locomotive, WP 1503. The date is to be determined.

The society is proud that after an extensive cosmetic and mechanical restoration, she is returning to regular service at the museum this summer.

Plans for the celebration include an after-hours BBQ for members and guests, a run of the locomotive and then a special "blue-hour" photo session. Watch the website for more details for the date and come join the celebration and relive a part of history.