

ENGINE! ~ ENGINE!



Second Quarter

2024-2

Fire-Tec Apparatus

by Steve Hagy

Fort Worth, Texas was the home of this builder that was in business during the late 1970s and through the 1980s. Apparatus constructed by this company is generally associated with airports and industrial fire brigades, however they also built booster rigs for municipal departments and structural apparatus primarily for the U.S. Government. Fire-Tec was an abbreviation for Fire & Technical Equipment Corporation.



The U.S. Army took delivery of four of these quints in 1980. Chassis and 85' aerials were supplied by Hahn. Along with a complement of ground ladders a 1,000-gpm pump and 200-gallon booster tank were specified. The first of the four to be delivered is shown here at Fort Leonard Wood, Missouri and assigned as Ladder 1. Steve Loftin photo.



Lockheed Martin produces fighter aircraft for the United States and other countries at its Fort Worth, Texas facility. In 1981 Fire-Tec delivered this Jeep carrying a 500-pound dry chemical unit to Lockheed. It looks as though the Jeep may have been purchased straight off a dealer's lot as it has white sidewall tires. Eric Hansen photo.



Grand Coulee Dam spans the Columbia River in Washington state and maintains its own fire department staffed by career firefighters. The Department of Interior obtained this Spartan chassis rig for use at the dam in 1981. Fire-Tec mounted a 1,000-gpm pump, a 1,000-gallon booster tank and an 80-gallon foam tank on this unit. This engine has all rear discharges and an elaborate exhaust system mounted above the pump panel to accommodate a separate engine which drives the pump. When this photo was taken the fire station for this facility was located inside of the dam! Photo by the late Leo Duliba.



The United States Coast Guard operates fire departments at several installations. The Baltimore Yard was once protected by this 1984 GMC chassis engine. Contrasting most government operated apparatus a smart looking white paint job adorns this pumper. The rig has a 1,000-gpm pump and 1,000-gallon booster tank along with a foam system. Photo by the late John Floyd.



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~ On the Front Cover ~

Among the many Macks that were made in New York was this 1943 Model L-85 pumper that served in Bethpage in Long Island's Nassau County.

Chief's Chair

Fellow SPAAMFAA Members,

Thank you for placing your trust in me by electing me as President of this wonderful organization. It is an honor. I want to thank President Tremel for providing a steady path to move us forward. Job well done, Frank.

It was especially wonderful to take the reins during the winter meeting at the Fire Museum of Memphis. The museum became a SPAAMFAA chapter and celebrated their 25th anniversary.

Speaking of the fire museum, a tip of the helmet to the museum's Executive Director - Kimberly Crafton, Operations Manager - Daniel Dover, and Historian/Curator - Bill Adelman. When Bill was approached regarding hosting the winter meeting, he enthusiastically took total control of the event. I have only heard positive remarks for all the activities that were provided. The museum has invited us back in five years for their 30th Anniversary. For me, I made new friends in another part of the country. This goes along with our motto: Fun, Family, Friends, and Fire Trucks.

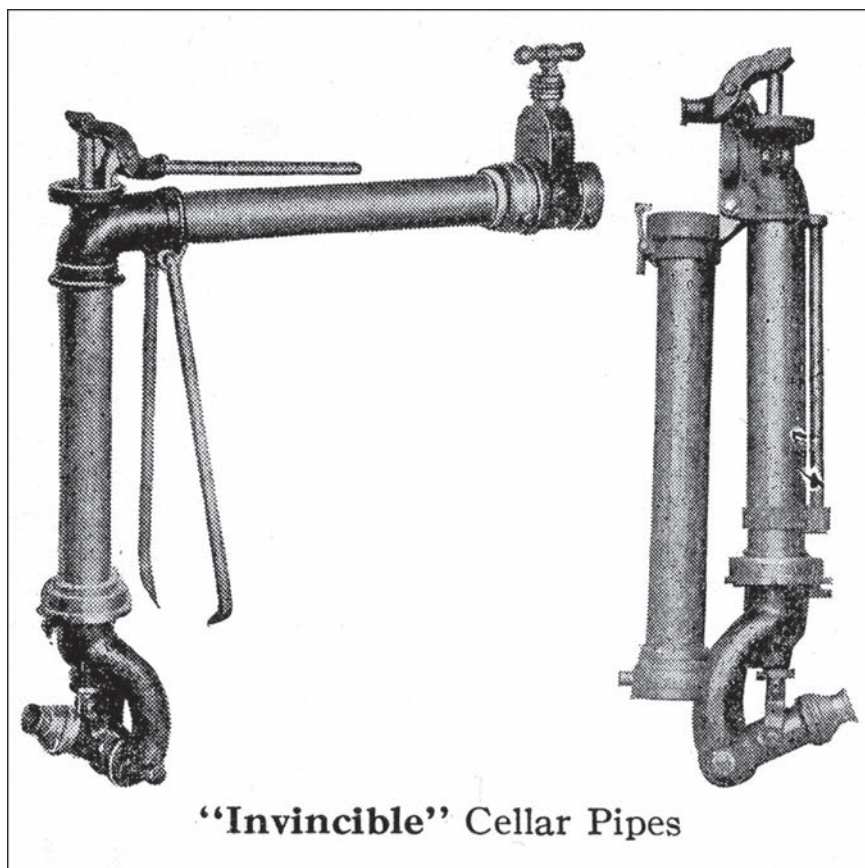
I attended the annual Cradle of Liberty Spring Melt in Allentown, PA where I was able to catch up with old friends. Our in-house book author, Anthony Buono was selling his latest book *Made in New York*, the sales from this book benefit our archives. Anthony was also signing up new members to SPAAMFAA. Anthony has also undertaken the herculean task of sorting and storing back issues of Engine!~Engine!. This is after he, Chris Kelley, and Brian Anderson moved the collection from where it was being stored on Kelley's dime to a better storage facility that is free. If you are in need of a back issue or multiple copies, let Anthony know.

Chief's Chair (continued)

If you haven't made plans for our summer meeting in York, PA.....now is the time! This has been in the planning stages for quite a while under the leadership of Bob Straw of the White Rose Chapter. Unfortunately, Bob passed away before he could see the fruits of his labor. However, the chapter is moving forward with all the plans for a great meeting...muster, flea market and tours. I look forward to seeing everyone there. All registration forms and information can be found on our website.

Remember, this is your organization. Your trustees are here to assist you and your chapter. Let them know what you need or what you would like to see. I am always available by email at timothycosgrovejones@gmail.com.

See you all soon,
Cos



Editor's Notebook

Greetings,

Bill Blunden has written a two-part article on Trailer Mounted Fire-Fighting Pumps. These pieces of firefighting equipment became a home front staple in Britain during WWII and the idea carried over into the United States. Part one covers the development and use of the trailer mounted fire-fighting pump in the UK.

Anthony Buono has penned an article on the Macks that were made in New York. Mack started making wagons in a three-story building in Brooklyn in 1889.

A good issue with great articles and neat apparatus photos!

Thank you,

PS: I have a new Co-Editor! Duane Trautman (PA), Duane's enthusiasm about the hobby and publications is contagious and I think you'll see that in Engine!~Engine! going forward. But enough from me, I'll let Duane introduce himself:

I started my affiliation with the fire service 41 years ago having grown up two doors away from a fire-house. Now I actually own an old firehouse and live there. During those 41 years, I volunteered, I served our country as a U.S. Marine, and continued service as a paid fireman for nearly three decades. My affection for fire apparatus is lifelong. A SPAAMFAA member since 1996, I have been the avid reader of Engine!~Engine! and the writings of Messrs, Horstmann, McCall, Elder, Soderbeck, and many more. Having a collection of nearly every issue, Engine!~Engine! is a consistent, competent face of the organization. The recent need for an assistant editor seems like my time to contribute. I fervently hope to follow in the capable traditions of this publication, adding luster to the cause.

Enjoy,
Scott Rollins, Co-Editor
Duane Trautman, Co-Editor

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When Mack Was Made in New York

By Anthony Buono



Born in Brooklyn; In this circa 1905 photograph, William C. Mack stands outside the Brooklyn factory of the Mack Brothers Company with Mack employees. The first Mack motor vehicles were passenger buses, which were made in New York at this factory. Mack is the man in the light-colored suit in the center of the photo, with his hands on the shoulders of the worker in front of him. The very tall gentleman in the center of the photo is Edward V. Turgeon, who stood almost seven feet tall and was one of Mack's first sales agents.

Mack Trucks was one of the most important builders of fire apparatus in the 20th Century. Although Mack Trucks operated in Allentown, Pennsylvania, for more than 100 years, the company has a significant history with New York State. Mack is one of the many builders explored in *Made in New York*, which is the 2023 book published by the SPAAMFAA Archives Committee. Sales of *Made in New York* help support the SPAAMFAA Archives.

The Mack Brothers started their business in New York State. After they opened their factory in Allentown, Mack corporate headquarters remained in New York City until the 1960s. From 1941 to 1951, the Mack Fire Apparatus Division operated from a factory in the Long Island City section of Queens, in New York City. Although Mack fire apparatus was built in New York for only a brief time, it was a very dynamic time in the history of Mack during a very important time in American history.

Born in Brooklyn

Mack's New York connection started in 1889 when Augustus (Gus) Mack (1873-1940) started working at Fallesen & Berry in the City of Brooklyn. The firm was a venerable wagonmaker with a three-story 100 x 30 foot factory on Third Avenue at the intersection with 22nd Street. It was located a block away from the Gowanus Canal and the bustling Brooklyn waterfront. The upper floors of the factory probably had a partially obstructed view of the Statue of Liberty, which was about three miles away in New York Harbor.

In 1890, John (Jack) Mack (1864-1924) moved to Brooklyn and joined Gus working at Fallesen & Berry. Like his younger brother, Jack was born in Mount Cobb, Lackawanna County, Pennsylvania. Mount Cobb is a hamlet located about 14 miles east of Scranton in Pennsylvania's coal country.

When the Mack brothers moved to Brooklyn, the city was going through a period of sustained growth. In 1883 the Brooklyn Bridge had opened connecting Brooklyn to New York City, which at that time consisted of what today is Manhattan. Brooklyn had extensive port facilities and extensive industry which helped fuel its growth with a steady stream of immigrants and a steady supply of new jobs. By 1896, Brooklyn had annexed all the other municipalities in Kings County. Brooklyn had grown to be the fourth largest city in America with a population of more than 840,000. Only New York, Chicago and Philadelphia were larger.

In 1892, the partnership of Fallesen & Berry was dissolved. Christen Fallesen briefly continued operation of the business.¹ In July 1893, the partnership of Gus and Jack Mack took over operation of the factory. They continued to operate under the name of the Fallesen Carriage and Wagon Manufacturing Company. This was not an ideal time to start in business. The Panic of 1893 was the start of a recession that would last for several years. Unemployment was not officially measured at that time, but it is estimated that in some places more than one-fifth of the workforce was without a job.

Despite the depressed economy, the Mack brothers persevered. In 1894, the oldest Mack brother, William (1860-1938), joined the enterprise in Brooklyn. The brothers developed a steady wagon repair business that supplemented the sales of new wagons, which were slowed by the recession.

Eventually, it became clear that the three-story factory was not well-suited to the manufacturing of the heavy wagons that the Mack brothers were building. In 1897, they moved to a one-story building that was better suited to this product line. This was located at 532-540 Atlantic Avenue. This was about two miles north of the original factory.

¹ "Business Changes." *The Hub*; July 1892, p. 153.

The Mack Brothers Company

By 1898, Brooklyn's population had exceeded one million residents. That year it would be Brooklyn's turn to be annexed. On January 1, 1898, the City of Greater New York was created, by the consolidation of Brooklyn, the western portion of Queens County, which included Long Island City, as well as all of Richmond County, which is better known as Staten Island, with Manhattan and the Bronx. This created a five-borough metropolis that was the second largest city in the world, behind London. Brooklyn accounted for about one-third of the almost 3.5 million residents of the City of Greater New York.

Around this time the first steam and electric cars began to appear on the streets of Brooklyn and Manhattan. According to the United States Census Bureau, in 1900 there were about 3700 automobiles of all types in America. Massachusetts and Connecticut were the leading producers. New York State and New Jersey were the fourth and fifth leading producers.²

It was in this dynamic environment that the Mack Brothers Company was incorporated in July 1901. Jack, Gus and William Mack were the three directors of the corporation. The factory had a work force of about two-dozen. The company originally built and rebuilt automobile bodies.³ Then in 1902, the brothers began to build their first automobile. This was a sightseeing bus, which they called an "observation car." It was built for Issac Harris, who had been authorized to operate the first motorized sightseeing service in Brooklyn's Prospect Park.

² Oller, George E. "Automobiles." *Manufacturers 1905: Part IV*. Department of Commerce and Labor, 1908, pp. 269-285.

THE MANHATTAN.



This car seats fifteen persons. We build cars of similar design for as many as thirty persons. The car shown in the cut is in use as a public stage in Prospect Park, Brooklyn, New York, and we are building a similar one for the same purpose. We also have a car under way which has a side entrance to the tonneau and which seats seventeen persons.

We build these cars to order only. They are especially adapted to use as a stage in parks, or at hotels or seaside resorts; but they are desirable for many reasons for use wherever a large vehicle is needed. They are luxuriously upholstered and painted; they are built to run with but little noise and NO discomfort to the occupants, and they are built to withstand constant AND HARD usage.

Their strongest point for use as a public conveyance is the small cost of operating them. **THE CASUALTY NEEDED TO OPERATE OUR FIFTEEN PASSENGER CAR COSTS BUT THREE FIFTEENTHS OF ONE CENT PER MILE PER PASSENGER.**

Are you in need of any sort of a vehicle to carry a large number of people cheaply? Here is a machine which, considering the first cost, the cost of repairs and the cost of operation, is beyond the rivalry of all other kinds of vehicles. In addition, its beauty and originality of design will bring business where other vehicles will not.

We do repairing and remodeling on all makes of machines. We add canopy tops and glass and wood or leather enclosures and carry out owners' individual ideas. Let us send you an estimate on overhauling your machine.

Write us for details of construction, prices and cost of repairs and operation, etc.

THE MACK BROTHERS CO., 532-540 Atlantic Avenue, Brooklyn, N. Y., U. S. A.

The Mack Brothers Company of Brooklyn sold its early buses, and later early trucks, under the Manhattan name. This advertisement is from a 1904 issue of The Horseless Age.

The Mack Brothers initially were going to use a 24-horsepower engine built by another firm. However, they decided to use a more powerful four-cylinder 36-horsepower engine of their own design. The observation car had four rows of seats and was designed to hold 15 passengers. It easily could hold several more. It had right-hand drive and was capable of 20 mph, but was intended to cruise at a more leisurely 12 mph. In 1903 through 1904, the Mack brothers built another 14 buses in Brooklyn.⁴ They sold these with the trade name of the "Manhattan." Today a 1909 Mack bus is on display at the Mack Museum in Allentown, Pennsylvania.

³ Montvale, John B. *Mack*: 1973, p. 6.

⁴ Montvale, p. 198.



The original Mack observation car held 15 passengers. By the time that the Mack Brothers started operations in Allentown, they were building buses with capacities from 12 to 24 passengers. Progressively more capable models followed.

Pioneering the development of early motor buses and the motors that powered them was labor intensive and expensive. These early buses were not yet standardized as the designs were refined with each successive unit.

Early on the Mack Brothers had cash flow issues and business was difficult. Banks were hesitant to extend credit for what essentially was experimentation.⁵ Most of the designs of the many firms that were building early motorcars were not successful or long-lived. Many of these early firms failed after they consumed their initial capital when they were unable to produce a commercially successful model.

⁵ "Mack a Pioneer in Highway Transportation Field." *The Motor Truck*; February 1925, pp 16-18.

⁶ Montvale, p. 9.

The success of the Mack Brother's designs and their early machines was far from certain. For example, the first test drive of the original observation car almost ended in disaster. After being driven over the bumpy Brooklyn streets for a while, a fuel line detached from the engine and started a fire.⁶ Fortunately, the Mack machine survived and was hauled back to the factory for repairs. Ultimately, the pioneering observation car proved successful and then the Mack Brothers were commercially successful selling several more buses over the next 12 months.

The challenges of this early period in Mack history were summed up well in a 1927 Mack advertisement. It said that "irregular pay was regular" for Mack's factory workers in those early days.⁷

With this early commercial success Mack's production increased steadily. Soon the limitations of the Brooklyn factory became apparent. The brothers would need a much larger facility to continue to increase production to meet the demand for their buses and to continue to grow the business. The brothers wanted to start building commercial trucks, for which there was a much greater market than there was for buses.⁸

At the suggestion of their brother Joseph (1870-1953), who operated a textile mill in Allentown, Pennsylvania, they investigated the former foundry of the Weaver Hirsch Foundry and Machine Company, in Allentown. Allentown was about two hours from New York City by train. The Weaver Hirsch complex was a much larger facility than the Brooklyn factory. It consisted of several large brick buildings, including the foundry building and a machine shop. These had a total of almost 60,000 square feet of space. The site also had ample room for future expansion, which was not an option in Brooklyn.

⁷ "Mack Back in 1900." *Engineering News Record - Market Place*; September 29, 1927, p. 67.

⁸ Montvale, p. 15.

Allentown

In December 1904, the brothers announced their purchase of the foundry in Allentown.⁹ In January 1905, it was announced that the Mack brothers filed in Pennsylvania for a new corporation to be called the Mack Brothers Motor Car Company.¹⁰ They would move their primary manufacturing operations to Allentown. Despite the name, the enterprise would not build passenger cars. They would continue to build their Manhattan “auto buses” and “touring and observation cars.” It was reported that Mack Brothers had enough orders to keep the new plant busy for the balance of 1905.¹¹

In January 1905, at the Madison Square Garden Automobile Show in New York City, the Mack Brothers Company exhibited a 20-passenger bus.¹² They also exhibited their design for “The Manhattan Automatic Engine Starter,” which used a heavy-duty spring to crank the motor.¹³

The challenge of crank starting a motor is part of Mack lore. When it came time to try to start the first Mack motor car engine, the strongest man in the shop was persuaded to crank the engine. He cranked the engine several times, and the engine belched and backfired, causing the crank to suddenly rotate backwards striking him in his forearm. His wrist was sprained, but it could have been much worse.

After a lunch break, it was time to try to start the motor again, but there were no volunteers. The issue was resolved by chance. To the loser of a coin toss went the honor of trying to start the motor. He

was luckier than the first man, and successfully started the engine without being maimed.¹⁴



Before opening their Allentown factory and moving their primary manufacturing operation there, the Mack brothers incorporated the Mack Brothers Motor Car Company. At the time, “motor car” was a broad term and encompassed trucks and buses as well as passenger cars.

In early 1905, the Mack brothers moved their primary manufacturing operations to Allentown. The first “Manhattan” bus built in Allentown was completed in April. About three dozen more buses were completed over the course of the balance of 1905.

⁹ “Bought Plant.” *Motor Age*; December 29, 1904, p. 19.

¹⁰ “Minor Mention.” *The Horseless Age*; January 11, 1905, p. 66.

¹¹ “The Macks in Allentown.” *Motor World*; January 5, 1905, p. 592.

¹² “The Madison Square Garden Show.” *The Horseless Age*; January 18, 1905, p. 80; “In the Exhibition Hall.” *The Automobile*; January 21, 1905, pp. 126-131.

¹³ “The Manhattan Automatic Engine Starter.” *Cycle and Automobile Trade Journal*; February 1, 1905, p. 254.

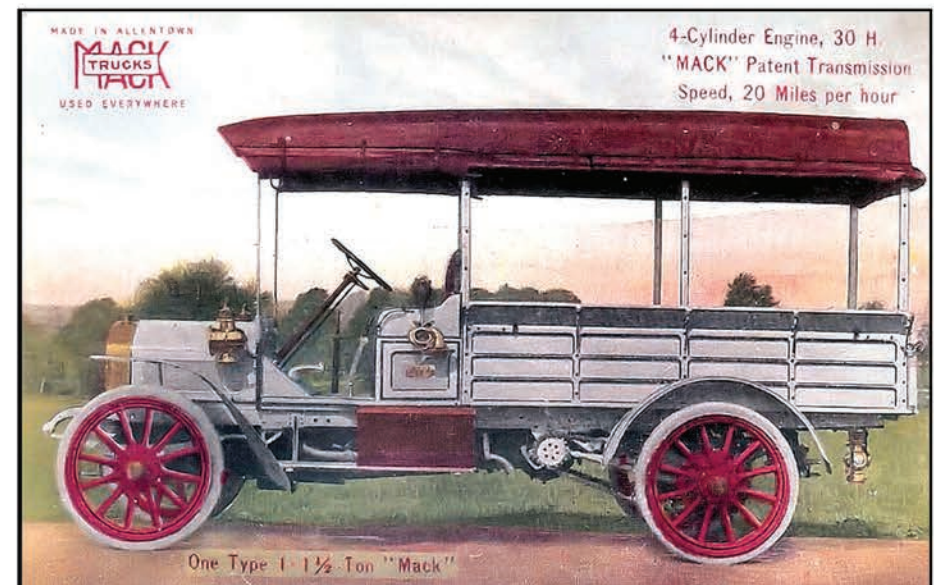
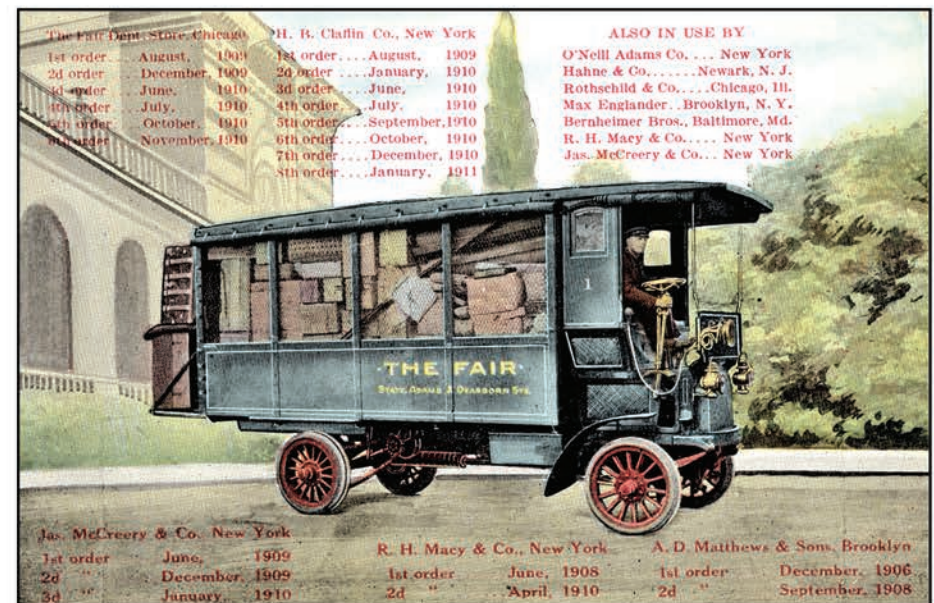
¹⁴ “Determination and a Good Truck Win.” *The Equipment Distributor*; Nov-Dec 1926, p. 12; Montvale, p. 9.

In Allentown, the Mack Brothers Motor Car Company began to build a new line of heavy-duty commercial trucks under the trade name of "Manhattan." Initially, there were two- and five-ton models. These were buckboard style trucks on which - the driver sat over the engine. This reduced the overall length of the vehicle and gave the driver a better view of his surroundings. Mack's Manhattan trucks were used in many commercial applications. They quickly found a national market.

Between 1906 and 1909 several more models of heavy-duty trucks were introduced. In 1909 Mack started offering a line of light trucks. These were built on a conventional, engine ahead chassis. These were known as the "Junior" line and had capacities from one to two tons. The heavy-duty buckboards with capacities from three- to five-tons were called the "Senior" line.

The move to Allentown was not complete. The Mack Brothers Company continued to operate in Brooklyn. The corporate headquarters of the new Mack Brothers Motor Car Company also were in Brooklyn. The Brooklyn factory continued to manufacture and service wagons. It also was used for automobile repair work.

These two Mack advertising postcards from 1911 show the heavy-duty Mack "Senior," above right, and the "Junior," right, which was a versatile conventional, engine ahead model. Both models were used for a seemingly endless variety of early commercial trucks.



In the summer of 1907, the Brooklyn factory was so busy that it was being operated day and night. According to Gus Mack, the noise from the factory at night had drawn the ire of neighbors and there had been threats to burn down the factory. On August 9, 1907, at about 3 a.m., a fire was discovered in a storage shed at the rear of the main building.

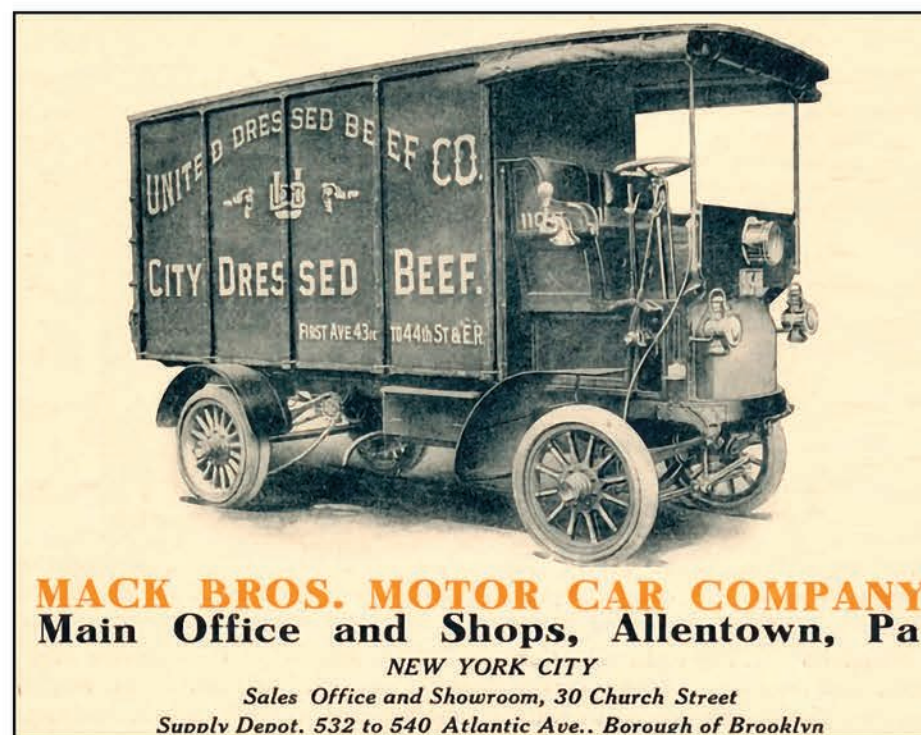
Apparently, there was some delay in someone pulling the nearest fire alarm box, which allowed the fire to gain “considerable headway” before the first firefighters arrived. There were about 30 cars in or around the building. Despite the efforts of Mack employees only two cars were saved. The factory was severely damaged. The loss was reported to be around \$100,000. The origin of the fire was considered suspicious but was never determined.¹⁵ Gus Mack publicly stated that he thought that the fire was arson.¹⁶

Even after the fire, Mack did not leave New York completely. The Brooklyn site later was repurposed as a “supply depot.” A sales office and showroom were opened at 30 Church Street in Manhattan.

By 1910, Mack was building more than 1000 trucks per year in Allentown. In mid-1910 the Manhattan name was abandoned, and Mack’s trucks and buses were branded with the Mack name, which was across the top of the radiator. It would be 11 more years before the iconic Bulldog logo would be introduced. The Mack Radiator bulldog would not be patented until 1932.

¹⁵ “Fire Destroys the Macks’ Plant.” *The Motor World*; August 15, 1907, p. 873.

¹⁶ “Fire Destroys Large Number of Cars.” *The Automobile*; August 15, 1907, p. 247.



Five years after the move to Allentown, Mack still had a corporate presence in New York State as illustrated by this July 1911 Mack advertisement.

In October 1911, the Mack Brothers Motor Company merged with the Sauer Motor Company to form the International Motor Truck Company. Sauer had its corporate offices in New York City and its factory was in Plainfield, New Jersey. Jack Mack was the vice-president of the new company, which had its corporate offices in Manhattan. Mack trucks would be built in Allentown by the Mack Division of the International Motor Truck Company. Sauer production continued in Plainfield.¹⁷

¹⁷ “Saurer-Mack Merger Assured.” *The Motor World*; September 28, 1911, p.28; “The Sauer-Mack Merger.” *The Power Wagon*; November 1, 1911, p. 39.

In 1911, Mack built its first piece of fire apparatus. The next year, Mack began its very long association with the FDNY. This started with three high pressure hose wagons that were built by Mack on Mack's heavy-duty Senior buckboard style chassis. A second order of three similar high pressure hose wagons were built on Senior chassis by James Boyd and Brother of Philadelphia.

A third order of Mack hose wagons was received in 1912. This was a group of 21 double tank chemical engine and hose wagon combinations. These were built by Boyd on Mack's Junior, conventional engine-ahead chassis. Ultimately, the FDNY would operate hundreds of Mack apparatus.



This is one of three 1912 high pressure hose wagons that were built on a heavy-duty Mack Senior chassis with bodies by James Boyd and Brother of Philadelphia.



When FDNY Engine Company 268 was formed in 1912, it was assigned to a new station that was built specifically for motor fire apparatus. The company was assigned this new double tank chemical engine and hose wagon combination that was built on a Mack Junior chassis.

Long Island City



Mack's Long Island City facility in Queens was home to Mack's Fire Apparatus Division from 1941 through 1951. It was Mack's largest service facility when built in 1925.

While Mack's genesis in Brooklyn and its prolific connection to the FDNY are well-known, Mack's most significant connection to New York State often is overlooked. This connection was the decade between 1941 and 1951 when the Mack Fire Apparatus Division was in the Long Island City section of Queens.

Long Island City had been an independent city from 1870 through the formation of the greater City of Greater New York in 1898. Long Island City was located on the extreme western tip of Long Island. To the west it bordered the East River and faced Manhattan. To the south it bordered the East River estuary that is known as the Newtown Creek and faced Brooklyn. After 1898 Long Island City was part of the Borough of Queens.

In 1925 Mack built and opened a new facility in Long Island City. This was located just southeast of the Queensboro Bridge, which connects Queens to Manhattan. The Long Island City facility was massive. When it was opened, it was the largest of about 60 Mack sales and service facilities. The three-story building had 277,000 square feet of floor area. With its parking lot, the facility took up an entire city block.

The Long Island City facility housed a truck assembly facility with a body shop on the first floor. Upstairs was the home of the Engineering Department. In 1936 Mack's New York home office was moved from Broadway in Manhattan to the Long Island City facility. Long Island City also was home to some parts manufacturing as well as a large service facility for Mack trucks and buses. In 1937, Mack moved its corporate headquarters back to Manhattan and leased space on the 20th floor of the Empire State Building.

By 1940, Mack had the most comprehensive product line of any American commercial truck manufacturer. Mack manufactured most all of the components used in its trucks. The notable exceptions with fire apparatus were the pumps, which typically were Hale. Mack also used Hercules, Continental and Hall-Scott engines if these were requested by the customer. However, the majority of Mack fire apparatus had Mack powerplants.

To increase production capacity, in early 1941, Mack moved its Fire Apparatus Division from Allentown to the Long Island City facility. Truck chassis and powerplants still were built in Allentown. These would be shipped to Long Island City where the fire bodies were fabricated and mounted along with the pumps.



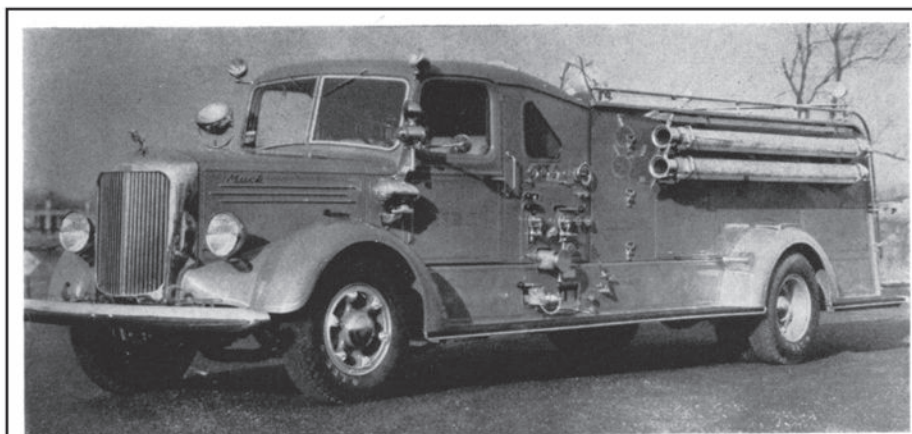
Mack's Pre-War production in Long Island City was brief, but included a wide variety of apparatus. This 1941 Type 45 triple combination pumper with a coupe cab and a 500-gpm pump, served in Greenport, which is at the eastern end of Long Island, about 95 miles from the Long Island City facility.



Chicago purchased 12 of these 1941 Type 45U "squad cars" that were built on a cab-over-engine version of the E Model with four-door cabs. Bob Freeman photo.



Mack's skilled craftsman in Long Island City built many interesting custom apparatus. Among these is this 1941 Type 505 quadruple combination with a "special 6-7 man canopy cab with side openings." It served in Deal, New Jersey.



Mack Fire Fighter for Ohio Township

Mack Trucks, Inc., Long Island City, N. Y., has announced the delivery of this Type 85 triple combination Mack pumper for Boardman, Ohio. This special sedan cab truck is capable of accommodating a six-man crew; has a 750 gpm pumping capacity, and carries in addition to a 200-gallon booster tank, floodlights and light generating set, and an assortment of ladders, the usual miscellaneous fire fighting equipment.

In June 1941 this Type L-75 triple combination pumper with a "special sedan cab" was featured in Fire Engineering.



A classic L Model is pictured here driving away from Mack's Long Island City facility in this Mack publicity photo.

The War Years

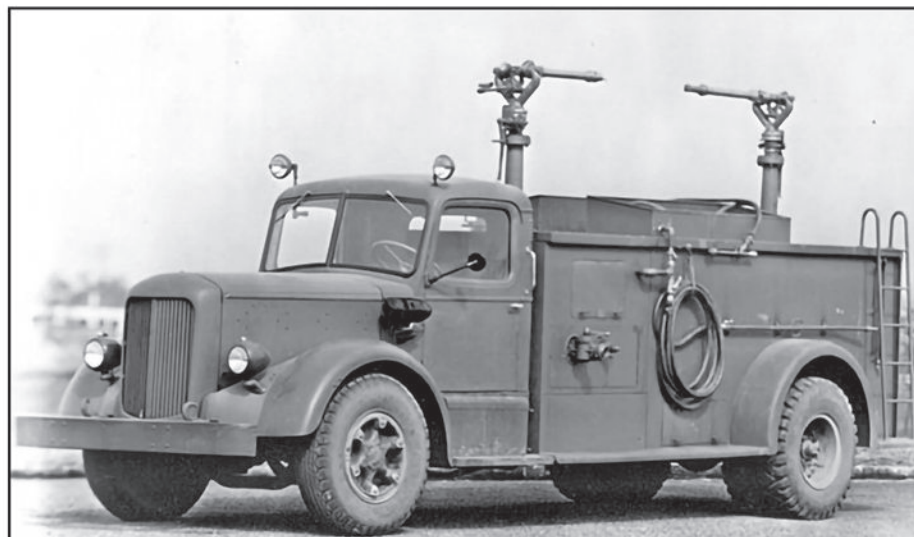
Not long after the Mack Fire Apparatus Division moved to Long Island City, the United States entered World War Two. In February 1942, the production of civilian fire apparatus was restricted by the War Production Board as American industry was dedicated to production of material for the war effort.

Mack was permitted to continue to build fire apparatus in Long Island City. Few were for civilian fire departments. Most were built for the military. Initially, these were structural firefighting apparatus that were built on E and L Model chassis. Then in 1943, Mack built the prototype of the Class 155 crash truck for the Army Air Corps.

The Class 155 was designed by the Army Corps of Engineers for use at military airstrips, many of which were not paved. The prototype Class 155 crash truck was completed in June. It was built on a Model L, Type 19, 4x2 chassis. It was equipped with a midship mounted pump and carried 1000 gallons of water. It had two turret nozzles mounted atop the body and was designed to flow water or firefighting foam.

During testing in July, the performance of the prototype was unsatisfactory. It had poor off-road performance and lacked pump and roll capability. The Army Corps of Engineers redesigned the Class 155 using a six-ton 6x6 chassis. These had a Hale high pressure centrifugal pump, which was powered by its own motor and had a capacity of 325-gpm at 500 psi.

Mack was awarded a contract to build Class 155 trucks on Kenworth and Brockway chassis. At Long Island City, Mack built 100 Class 155 trucks on Kenworth chassis and 16 on Brockway chassis. Another 143 Class 155 crash trucks were built on Brockway chassis in Elmira, New York, by the American-LaFrance Fire Engine Company.



In 1943 Mack built the prototype of the Army Class 155 crash truck on a Model L chassis.



Despite wartime restrictions on the production of civilian fire apparatus, the FDNY received ten Type 21-LS pumpers in May 1944. These had coupe cabs, 1,000-gpm Hale pumps and 2000-gpm Morse deck pipes.



During World War Two, the port of Baltimore was one of the busiest and most important. The Baltimore Fire Department operated this 1944 doorless L-80 750-gpm pumper.

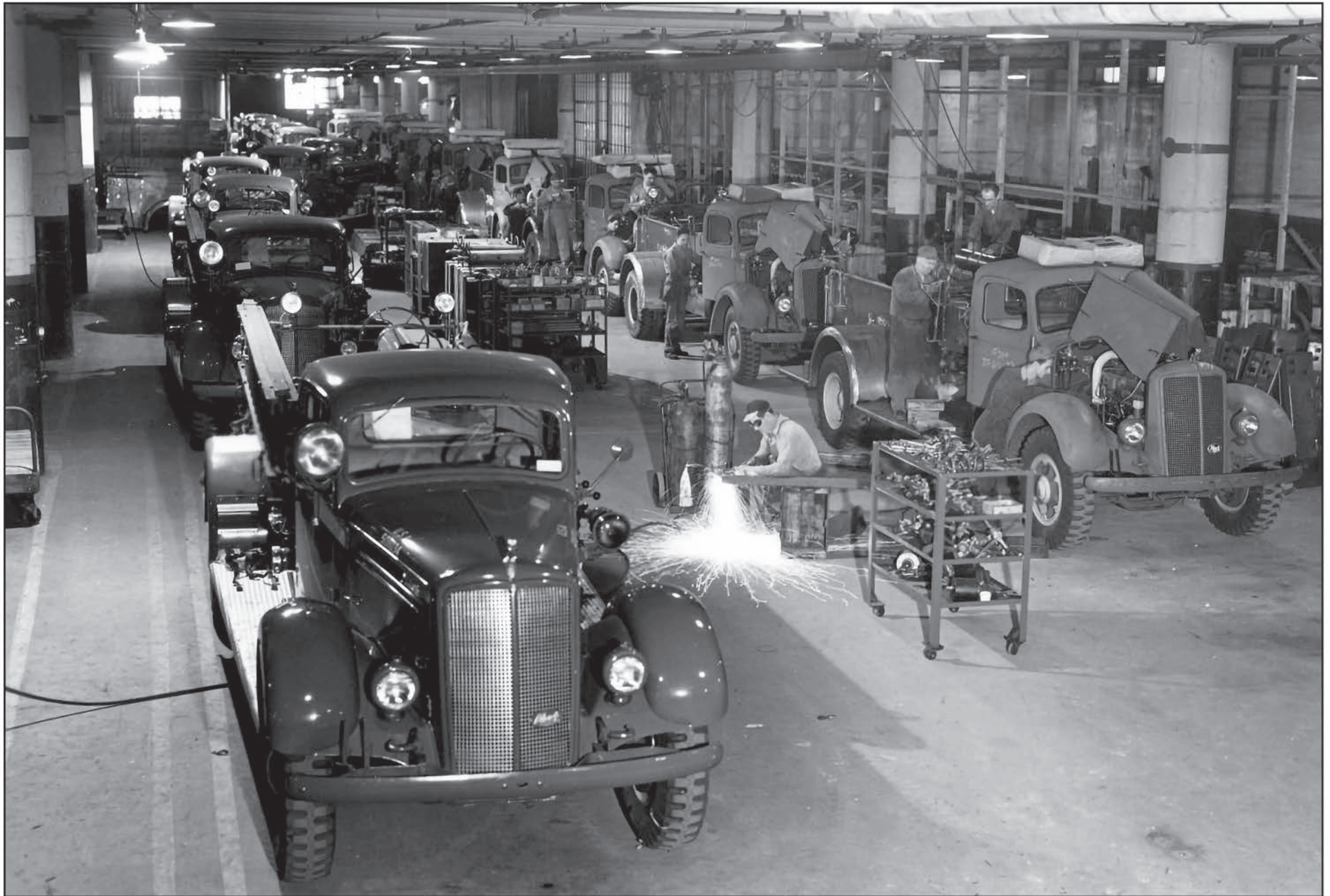
In late 1943 and early 1944, Mack was permitted to resume the limited production of civilian fire apparatus. Cities with important defense related industries or port facilities were able to apply to the War Production Board to request apparatus. The new fire apparatus did not just help to protect defense related industries or port facilities in case of sabotage or enemy attack. They also helped protect these cities from the threats presented by the war related industries and the war materials that were shipped through the ports. The most dramatic example of this threat was the evening of April 24, 1943, when a fire broke out on the cargo ship, *El Estero*, at the Caven Point pier in Bayonne, New Jersey. The ship was loaded with about 1500 tons of explosives bound for England. Another 3500 tons of explosives were nearby on the three other ships that were being loaded from several rail cars on the pier. If these 5000 tons of explosives had detonated, most of New York Harbor, lower Manhattan, the western side of Brooklyn, most of Staten Island, as well as most all of Bayonne and Jersey City would have been devastated.

The Post War Boom



After the end of the War, the rapidly growing communities on Long Island purchased a lot of Mack apparatus. This 1946 Mack L-85 pumper served in Far Rockaway.

In 1945, civilian production of fire apparatus was allowed to resume in earnest. After the deprivation of the Great Depression and the War, there was a very significant pent-up demand for new fire apparatus. To meet that demand, Mack built a wide variety of fire apparatus on both the E and L Model chassis. The designs of these included open doorless cabs, open cabs, three-man "coupe" cabs, four-door cabs as well as a variety of canopy and sedan cabs. Mack's skilled craftsman and extensive body shop in Long Island City allowed for a great deal of customization with cabs and bodies. While most pumpers were built without body compartments, Mack offered body compartment as an option. Mack also offered custom bodywork with compartments for a variety of models of squads and salvage wagons.



Mack fire apparatus are seen here on the production line in Long Island City circa 1945.



Post-war deliveries of Mack fire apparatus made in Long Island City included this 1948 L-85 pumper, above, for the Brooklyn Fire Company in Anne Arundel County, Maryland, and this 1949 Type 505S, below, for Livingston, New Jersey. Note the rear fender compartments.



This 1950 Type L-95 with full body compartments served in Glenwood Landing, in Long Island's Nassau County.



This 1950 Type 505S salvage squad with a deck pipe was built for Morristown, New Jersey.

You'll go for it, too!



Mack Type 85, 75-foot aerial ladder truck recently delivered to Niles, Michigan.

HERE ARE SOME RECENT MACK AERIAL ORDERS:

Bala-Cynwyd, Pennsylvania
Ballston Spa, New York
Baltimore, Maryland (2)
Bay Shore, New York
Boston, Massachusetts
Hudson Falls, New York
Lafayette, Indiana
Little Falls, New York
Massapequa, New York
Normandy, Missouri
Niles, Michigan
North Plainfield, New Jersey
Painted Post, New York
Plainfield, New Jersey
Stamford, Connecticut
State of New York—
Manhattan State Hospital
State of New York—
Willard State Hospital
West Hempstead, New York

What are *you* looking for in your next aerial ladder truck? Smooth and fast performance of both ladder and truck? One-man, *jam-proof*, all-hydraulic controls? Safety and flexibility? Compact design—adapted to modern traffic and existing quarters? That's what you'll get with the modern Mack aerial—and more! You'll get the proved power and dependability of the rugged Mack chassis and famed Thermodyne engine. Eye-winning appearance yet with easy accessibility of ground ladders and truck equipment. And near-at-hand service from Mack's nation-wide network of branches and distributors.

Get the full facts from your Mack representative on this popular apparatus. You'll go for it, too—like all the departments that have ordered Mack aerals.

Be Performance-Wise
Modernize with



Outlasts Them All

MACK MANUFACTURING CORPORATION

Fire Apparatus Division
Long Island City 1, New York

Factory branches and distributors for service and parts in all principal cities. In Canada: Mack Trucks of Canada, Ltd.

8663

TRIPLE COMBINATION PUMPS—500 TO 1500 GPM... SQUAD AND HOSE WAGONS... AERIAL, CITY SERVICE AND QUADRUPLE COMBINATION LADDER TRUCKS

Kindly mention FIRE ENGINEERING when writing advertisers

In 1949, Mack started using aerial ladder assemblies that were built by the Maxim Motor Company of Middleboro, Massachusetts. Maxim was a well-respected regional builder that was popular throughout New England. Besides Mack, several other firms used Maxim aerals.

Maxim aerial assemblies were used for service aerial ladder trucks as well as quintuple combinations with 75- and 100-foot aerals that were built on L Model chassis. Previously, Mack had used some Pirsch aerial ladders for service aerial ladder trucks prior to World War Two on the E Model chassis. The Mack-Maxim combination was a very popular and successful one. It would continue into the 1980s and eventually would include tractor-drawn models.



Above: This 1951 Mack Type 75LS service aerial ladder served in Bayshore, Long Island, New York. Note the quintet of axes mounted behind the rear fender.

Left: This 1950 advertisement lists many of the departments that purchased Mack/Maxim aerial ladder trucks.



After the end of World War Two, Boston modernized with Macks made in New York. This included 13 pumpers and eight hose wagons delivered in 1947, 15 pumpers and five hose wagons in 1948, three hose wagons in 1950, including this one, as well as at least eight tractors for ladder trucks and the water tower.



The Fire Department in East Greenville, Pennsylvania, operated this 1949 L-Model with a modified sedan style cab.



This 1947 E Model pumper served in Myerstown, Pennsylvania. Its design is unique with the warning lights and siren integrated into the roof. Twenty years later, the Young Fire Equipment Corporation of Buffalo would incorporate similar built-in warning lights of its iconic Crusader custom cabs.



This 1989 Type 45 Searchlight wagon served in Baltimore and now is in the collection of the Fire Museum of Maryland. The Mack was photographed here in 1986 by John Floyd.



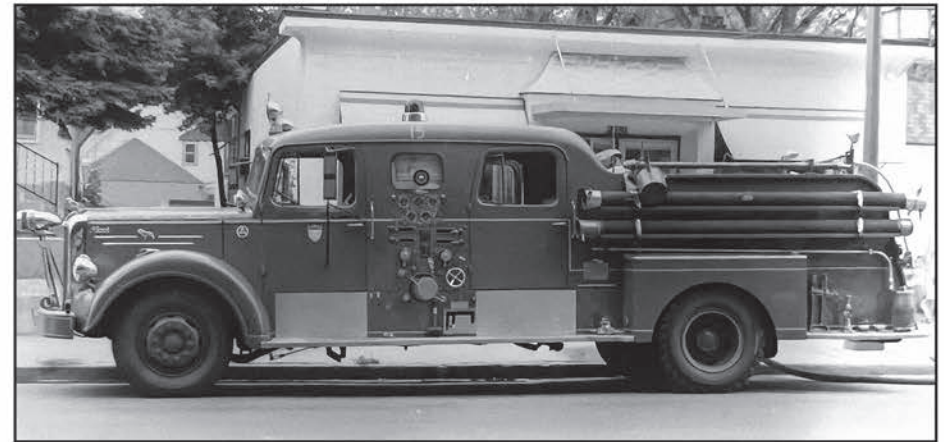
The rugged L Model Mack was well-suited to demands imposed by fire service. This 1947 Type L-95 quadruple combination served in San Diego, California. With everything from a booster reel to a deck pipe as well as a 1000-gpm pump and variety of ground ladders, this truck was extremely well-equipped. Note the short length of supply line located under the officer's door and the shovel under the running board just ahead of the rear wheels.



Some superlative Macks were made in New York, including several for Minneapolis, Minnesota, which are seen here in photos by the late Dan Martin. The first were a pair of 1948 Type 21 pumpers that were built with 2000-gpm Waterous pumps. In 1962 these had their cabs enclosed.



In 1949, Minneapolis purchased this Type 21 pumper with a 1500-gpm Hale pump.



In 1951 Minneapolis purchased this Type 95 pumper with a four-door sedan cab and a 1250-gpm Hale pump. The front line pumpers in Minneapolis were far above par for 1951. All but two had pumping capacities of 1250-gpm or greater.



East of Minneapolis is the state capital of St. Paul. Together the two are known as the "Twin Cities." In 1951, St. Paul purchased seven Type L95 pumpers with 1000-gpm pumps.



The FDNY purchased 20 Mack Type L-85 750-gpm pumps in 1947 as part of its post-war fleet modernization.



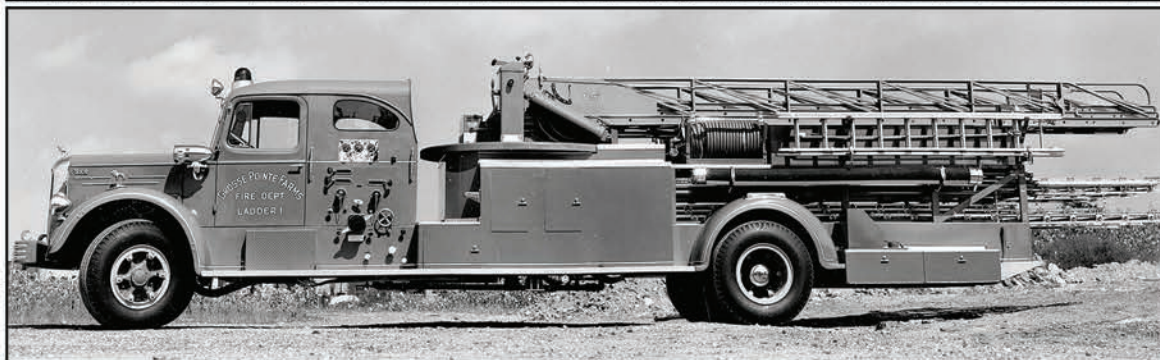
Baltimore still was operating Mack AC pumps from 1917 and 1919 in 1948 when it purchased this and another Type L-85.



In 1949 Chicago modernized its aging fleet with 32 Type L-95 pumps with coupe cabs and 1000-gpm pumps.



Allentown was a loyal Mack customer. Even though the Mack Fire Apparatus Division was in Long Island City, Allentown continued to purchase Mack for fire protection, like this 1949 Type L85 quad.



Among the later and best equipped apparatus made in New York by Mack was this 1951 Model 85LS quintuple combination. It was equipped with a 750-gpm pump, a 200-gwt and a 65-foot Maxim aerial ladder. It initially served in Grosse Pointe Farms, Michigan, as seen in the delivery photos at left, courtesy of Michael Martinelli. The Mack had a second career in Grand Ledge, Michigan, as seen above. Other than the roof mounted air horns, and presumably air brakes, it remained largely original.

Moving On

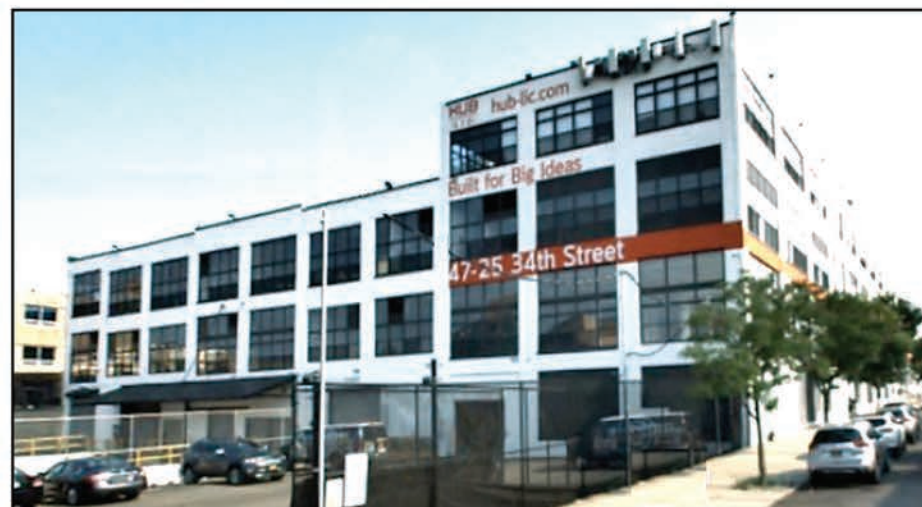
In 1950 Mack announced that it would retire the E Model, which had been in production since 1938. The E Model would be replaced with the A Model and the first A model fire apparatus would be built in Long Island City.

By 1950, the post-war boom was slowing down. Mack sales, like those of most commercial truck and fire apparatus manufacturers, were declining. To address this, Mack began consolidating operations.

As part of a corporate-wide restructuring, Mack ceased production of fire apparatus at the Long Island City facility. The Fire Apparatus Division was moved back to Allentown. The transition was completed by the end of 1951. Mack then sold the Long Island City service facility in 1952. Mack opened a new service facility in Maspeth, Queens.

Although production of Mack fire apparatus in New York State had ceased in 1951, Mack would remain popular with fire departments across New York. The Mack B, C and CF Models all would be popular in New York State. All were built in Allentown. Over the years, the decade during which Mack fire apparatus was made in New York came to be overlooked and forgotten.

After Mack sold the Long Island City facility, the building changed hands several times and was used for a variety of commercial and industrial purposes. The building still stands. It has been completely renovated and is operated as "HUB LIC." It is home to several commercial and industrial users. These include Polo Ralph Lauren and Metropolitan Office Supply. The New York City Department of Transportation is the single largest tenant.



The former Mack facility in Long Island City still stands.

Further Reading

There is much more information about Mack's time in New York in *Made in New York*, which can be ordered on the SPAAMFAA website. Long-time SPAAMFAA member and Mack historian Harvey Eckart has written several very authoritative books on Mack fire apparatus. Among these are *Mack Fire Trucks 1911-2005* and *Mack Model L Fire Trucks 1940-1954 Photo Archive*, both of which offer an in-depth exploration of the types of Mack fire apparatus that were built in New York. Also, long-time SPAAMFAA member and retired FDNY Battalion Chief, Jack Calderone has written several books that explore the long relationships between Mack apparatus and the FDNY. Among these is *F.D.N.Y. Mack L-Model Apparatus*. Mack fire apparatus has been the subject of many articles in *Engine!-Engine!* Among them are "A Trio of Unique L-Model Macks," (1998-4) and "The Mack 'A' Model Firetruck," (2004-2) by Harvey Eckart, and "Big Al' The Big Mack," (1993-4) by the late John Sysma.

FIRE APPARATUS PRESERVATION AWARD

The Fire Apparatus Preservation Certificate provides recognition for a fire department that maintains a piece of fire apparatus in original, near original, or restored condition. Any municipal, volunteer, industrial or military fire department is eligible. Any SPAAMFAA member or Chapter may nominate a fire department for this award.

Louisburg Fire Department

Louisburg, North Carolina

1921 American-LaFrance

Type 75 Triple Combination

Apparatus History

This is Louisburg Fire Department's first motorized apparatus purchased. It was repurchased for \$15,000 from Jackie Lee, the third of a string of three private owners who had owned the truck after the fire department removed it from service and sold it in 1952. The truck underwent a complete frame-off restoration performed by Dennis Moser of Allied Welding in North Wilkesboro (NC) in 2017-2019. The department has the original operator's manual that came with the truck. In December 2021, the truck was revealed to the town citizens at a dedication ceremony of the town's new fire museum where it is on permanent display. The fire truck participates in town parades and events.



Trailer Mounted Fire-Fighting Pumps The Forgotten Fire Engines of WWII

Story by Bill Blunden

While at the 2023 SPAAMFAA summer convention in Warwick, Rhode Island, I noticed that someone had brought a World War II trailer pumper to the muster. As I was looking at it, a few people asked me what it was. I explained the purpose and the history of them to the best of my knowledge, and realized that the story of these interesting units is still for the most part, untold. With that in mind, I decided that it was time to put an article in *Engine!-Engine!* magazine explaining these units. In 2017 I wrote a book called *TMFFPs Trailer Mounted Fire-Fighting Pumps: The forgotten fire vehicles of World War II*. The following is excerpts from the book explaining these unique pieces of firefighting apparatus.

In 2013, a friend of mine, Mike Healy, sent me a photo of an unusual piece of fire-fighting apparatus that was located near his home. It was a Buffalo Trailer Pump, built by the Buffalo Fire Appliance Corp of Buffalo NY. The photo intrigued me as I had never really seen anything like it before. After a few weeks I called the owner to get more information about it. Two days later I was in my truck headed to southwestern NY to see the unit in person. I immediately knew that I had to have it. After some negotiation, the unit was loaded onto my trailer and headed home with me. I was contacted by Pete West who is the authority on Buffalo Fire apparatus and he felt that this was probably the only unit made by Buffalo still in existence. I was hooked! I had to



1942 Buffalo, the pump that started it all.

learn more about these units and their purpose. Unfortunately, there was little information on them making it difficult to learn more about them. Eventually I added 3 more units added to my collection. This is the story of these unusual, but important pieces of firefighting history.

The story of Trailer Mounted Fire-fighting pumps (TMFFP's) begins in Europe. During World War II, the Germans had proven that they were capable of sustained bombing campaigns as evidenced by the Blitzkrieg, a bombing campaign that targeted London and the United Kingdom. The "Blitz" on London lasted 8 months and resulted in 43,000 deaths and over a million dollars in damage. The losses would have been much worse had it not been for the foresight of the British government.

On the 3rd of September 1939, Britain braced itself for attacks by Germany following the declaration of war by Prime Minister Chamberlain. The attacks never materialized but, the infrastructure for the inevitable fires was already in place. Twelve months later, on September 7th, 1940, their worst fears came true.



Firefighters of the AFS after a bombing raid.

Air Marshal Goering directed the Luftwaffe to completely destroy London. The planes of the Luftwaffe began their attack in the middle of the day. By nightfall, they returned and used the fires started by the earlier attacks to guide further bombing runs. At this time, there were

25,000 members of the Auxiliary Fire Service who supplemented the London Fire Brigade. Some of these brigades had experience in fighting fires but most were performing their duties for the first time. In all reality, they had a trial by fire. The stories of their heroics are awe inspiring. Imagine fighting major conflagrations while bombs rain down from above. The firefighters fought valiantly throughout the onslaught and rarely took cover. They persevered through it all and proved that they could hold their own against the Germans. There is one story where they referred to this first night as a Baptism by Fire. In fact, the Germans produced a film designed to invoke fear called the "Baptism by Fire".

"The thing that the Nazi's forgot that was baptism does not destroy, it purifies and strengthens".

The Germans used a variety of incendiary devices during the blitz. One bomb that was used was the BIEI or Elektronbandbombe, a small but effective weapon. The bomb consisted of a thin cylinder of magnesium alloy with a core of thermite, a very powerful incendiary compound. These bombs were hot enough to melt steel and were ignited by a small explosive device on the head of the bomb which exploded on impact. The resulting fires from these bombs would burn at extreme temperatures starting raging fires. These bombs were continually improved upon to thwart the efforts of the firefighters below. Explosive charges were put into the bombs. Others were fitted with timing devices that had a delay of about 7 minutes. There were also bombs of this type designed to explode above a designated area scattering smaller bomblets over a wide area. Theoretically, an HE III German bomber could carry 1,152 of these incendiary devices. Many firefighters were injured or killed by these devices.

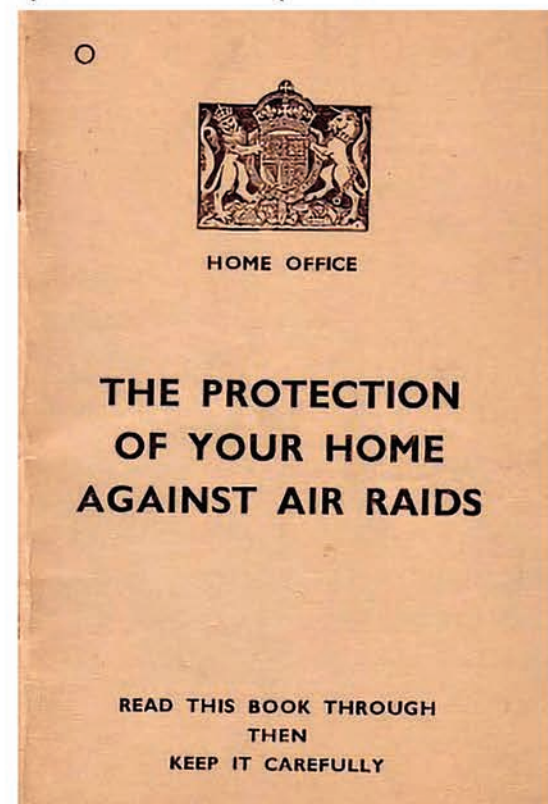
Other bombs called "Oil Bombs" were actually the first devices used in the bombings and were known as the flam or flammenbombe. These devices contained a mineral oil/gasoline mixture and central chamber explosive bursting charge to splash the liquid and an impact charge to ignite the liquid. Another bomb, the Brand type bomb was filled with an incendiary liquid and glass containers filled with phosphorus. These were used to destroy farm fields and light the way

for nighttime raids. Fortunately, these oil bomb devices often failed to detonate upon impact and would spill their contents without igniting. Because of their unreliability, these devices were no longer used after January 1941.

With little or no practical experience, the fire brigades were thrust into an inferno of fire and bombardment never before experienced, even by the most experienced firefighters. Raids initially lasted from dusk to dawn but eventually stretched to 12 plus hours. It was not unusual for firefighters to work 15 hours at a stretch. The firefighters were exposed to a variety of perils. From the intense fires, direct and indirect hits from the constant bombardment, as well as the crumbling walls of already destroyed buildings. There was also a risk of being hit by anti-aircraft shell pieces that fell from the sky. Every man, woman

and child in the fire service did their part to battle the enemy. On December 29th, 14 firefighters were killed and 250 injured in one bombing run. Such was the risk these men and women took on a daily basis.

In 1937, the Air Raid Precautions Act was enacted. This act, required that each local authority throughout Britain set up an organization for air raid protection (ARP). The Fire Brigades Act was passed in 1938 to ensure that all local authorities could provide adequate protection to meet any incendiary raids in the event that there was a war. During this time, there were over 1,600 individual



One of the many publications from the Auxiliary Fire Service.

brigades spread across Britain. Their size, equipment and efficiency were as varied as their number.

The AFS (Auxiliary Fire Service) was formed in 1938 in Great Britain as part of their Civil Defense Service. The role of the AFS was to supplement the work of fire brigades at the local level. The AFS was financed in large part by the government with each brigade required to form its own AFS. The first volunteers began to enroll in March of 1938. Initial numbers were disappointing but grew during the next year.



Auxiliary Fire Service badge.

In total, 2,000 trailer pumps were issued to the Auxiliary Fire Service (AFS), and subsequently the National Fire Service (NFS) by the government during World War II. These units were mainly based at the auxiliary substations in the London area. The crews were highly trained and took great pride in their speed and efficiency. Teams from across London would compete in contests to see who could get water on a simulated fire the quickest, pack up, and return to the starting line. In one contest, the crew was able to complete the course in 1 minute and 18 seconds. A 1941 contest between brigade crews can be viewed on the following website: <http://www.britishpathe.com/video/trailer-pump-competition>.

Organization

As mentioned previously, there were 1,600 individual fire-fighting brigades in Britain. For every brigade, there were 5 sub-stations. Typically, a sub-station consisted of 3 trailer pumps and towing vehicles (often taxis), plus one or two heavy self-propelled pumps. Members of the AFS were unpaid part-time volunteers, but could be called up for full time paid service if necessary. Volunteers were from every walk of life and included women and young boys. All volunteers were required to take a 60-hour training program mostly

on the weekends and evenings, followed by a final exam to test their knowledge of fire service equipment. By 1939, London AFS personnel staffed on a permanent basis, 300 sub-stations equipped with 2,000 pumps.

Unfortunately, there were serious problems with this set-up. The lack of standard procedures, different officer ranks, as well as the incompatibility of equipment used by the brigades made inter-brigade cooperation problematic. The biggest challenge was the lack of a standard size of hydrant valve. Lessons learned during this time led to the creation of the National Fire Service (NFS). In August of 1941, the fire brigades and AFS were superseded by the National Fire Service. The principle operational unit of the NFS was the Fire Force, effectively a large self-contained fire brigade. At its peak in 1943, the NFS in London numbered 50,000 personnel. By then, bombings had become more sporadic and the "Blitz Firefighting Organization was never fully tested. The NFS was considered a success and formed the post-war development of Britain's fire service when it reverted to local authority control on the disbandment of the NFS in March 1948.

Equipment

In England, there were 4 types of trailer pumpers used. All were designed to be towed behind a suitable vehicle. Trailer pumps had a pumping capacity of between 120 gpm and 900 gpm. These vehicles were made primarily by 2 companies, Coventry-Climax and Dennis, along with others like Scammell Lorries Ltd. and Worthington-Simpson. Trailers were powered by 4-cylinder gasoline engines. In addition to the trailers, the units were also issued "radial branches". These devices were actually static holders for the hose and nozzle to relieve the firemen of having to handle the heavy and powerful hose streams. These devices were especially useful when battling long duration fires where large amounts of water were needed to be applied to a major fire.

Originally, the AFS had sixty Fordson E83W towing vehicles and additional Fordson light vans. The Fordson's were purchased to be used by the auxiliaries to perform drills and the light vans to teach women how to drive. There were no long-range plans for towing fire

pumps to the scene. AFS brigades were expected to find their own way to get the pumps to the fire scene.



AFS performing pump training.

In September of 1938, a plan was developed to remedy this situation. The taxi committee of the Transport and General Workers Union suggested that a taxi might be the perfect solution to the transport problem. Taxis were rugged in construction, very maneuverable, and could carry hose, a short ladder and other firefighting equipment. The taxis could also carry a compliment of men to man the pump once it reached its destination. Eventually, due to the shortage of suitable towing vehicles, the Brigade commandeered into service approximately 2,000 London taxis, which were converted in the Brigade workshops to include tow bars and ladder racks. In many cases, the taxi drivers were also “hired” into service. A quick mounting hitch designed by a London taxi driver allowed a taxi to hook up to a trailer pump and get it to the scene of the fire quickly and efficiently. Up until this time, pumps were lashed to the bumper. There were many cases of the tow eye of the pump punching a hole in the back of the taxi.



A taxi drawn fire pump.

Technical information

- Crew: taxi crew of four to six firefighters (resource dependent)
- Equipment: four lengths of canvas delivery hose, four lengths of 4-inch suction hose, six more lengths of delivery hose in the taxi plus 28ft (8m) and 14ft (4m) extension ladders, extra lines, small gear
- Pumping capacity: 250 gallons per minute
- Speed: 20mph (speed of towing vehicle)
- Engine: Austin (towing vehicle)
- Fuel: petrol
- Manufacturers: Dennis Brothers (with an Austin taxi)

The Major European Manufacturers

There were at least 6 major players in the manufacturing of trailer pumps. The following are three of the companies who appear to have made the majority of pumps during the war years.

Dennis Brothers

Originally known as Dennis Brothers Ltd, this company based in Guilford, Britain, was founded in 1895 by brothers John and Raymond Dennis. They made their first motor vehicle in 1898, and in 1899, their first car. Though shown at the National Cycle Show, it was never produced or sold. Commercial vehicle activity steadily increased with



Austin taxi pulling a Dennis No. 2 trailer pump.

their first fire engine being made in 1908. Dennis fire engines were noted, from the outset, for their use of a centrifugal pump or "turbine" as a water pump, rather than the piston pumps used by other makers.

This was more complex to build than the long-established piston pumps, but had advantages in operation. Where water was supplied under pressure from a hydrant, rather than by suction from a pond, this additional pressure was boosted through the centrifugal pump, whereas a piston pump would have throttled it. Piston pumps also gave a pulsating outlet pressure which required an air-filled receiver to even this out. At its height during the Second World War, Dennis Bros was employing more than 3,000 people. For the war effort, Dennis assembled Churchill tanks, trailer pumps, pumps for fire engines, trucks, other military vehicles and even munitions.

Coventry Climax

The firm of Coventry Climax Ltd. was founded in 1903 as Lee Stroyer by Mr. Stroyer and Mr. H. Pelham Lee, both former Daimler employees. In 1905 with the departure of Stroyer, Mr. Lee, who (like Frederick Simms - also connected with Daimler)

the firm Coventry-Simplex and moved to Payne's Lane Coventry. He realized that the new age of the motor car had arrived; new 'horseless' or 'motorized' carriage makers were springing up and there could possibly be a demand for a supplier of a suitable proprietary engine to allow manufacturers to concentrate on chassis design. The business flourished, again moved to Friar's Road, Coventry, and continued until the depression of the 1930's which saw the demise of many small car manufacturers. This left the company with a small stock of surplus engines, especially those for Swift cars which had recently gone into liquidation.

By this time, Mr. Lee had passed the business on to his son, Leonard, who made the wise decision to utilize these engines, (by now called Coventry Climax following a change of address to East St, Coventry) firstly, in stationary generating sets using for example the 800cc side valve SM series (Swift Motors) producing barely 20bhp and, just

H.P.

COVENTRY CLIMAX TRAILER FIRE ENGINES

THE MOST MOBILE AND EFFICIENT FIRE-FIGHTING UNITS MADE

Photographs show the COVENTRY CLIMAX "F.P." 500 G.P.M. Unit in tow, and a batch leaving our works.

HIGH PERFORMANCE AT LOW COST

PUMPS 540 GALLONS PER MIN. AT 80 LBS. PRESSURE
CAPACITY EQUAL TO AVERAGE FIRE ENGINE

AIR RAID PRECAUTIONS call for an easy means of fighting fire. Here is the ideal unit for auxiliary Fire Brigades, institutions, works, and owners of valuable property. Large deliveries have been made to the order of the Government to London, Birmingham, Nottingham, Leeds, Portsmouth, Northampton and many other leading Municipal Authorities. Full details of specification will be sent on application to

COVENTRY CLIMAX ENGINES LTD.
FRIARS ROAD, COVENTRY

Coventry Climax advertisement.

before the second World War, in fire-pumps to meet a government requirement. Entering the field of fire-pumping equipment in 1937 was opportune indeed for Coventry Climax. The advent of the Second World War, plus technology gained with the Godiva range of trailer-mounted and portable pumping units set the company in a good position for the future. The engines proved their reliability for continuous running under power for long periods due to their good design and quality.

Colmoco Pumps

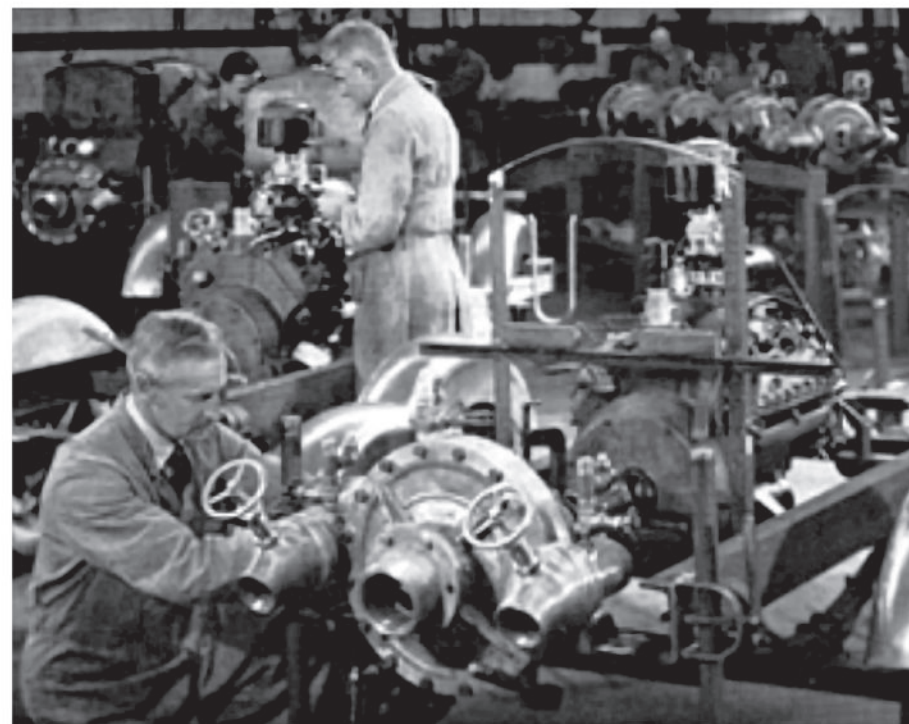
The following information is taken from an article in KI Magazine by Russell Postlewaight:

“During the early years of the Second World War, the NZ Government of the day, as part of the Emergency Protection Measures set up the Emergency Fire Service, an organization which was anticipated to augment and support the regular fire brigades, mostly in the larger cities where identified strategic assets were located. Equipped with army-style uniforms and helmets, their essential piece of equipment was a trailer pump that could be towed by approved vehicles such as taxis in a manner similar to that then in use in British cities which were experiencing the horrors of the German blitz.

As a result of a conversation over dinner, my sister-in-law told me that her father worked on the project team at the Colonial Motor Company, then the Ford agents, in Wellington that designed the New Zealand version of the trailer pumps.

The Colonial Motor Company had experience in fire engine design and manufacture for the local market since the mid-1920s. From 1936 engineering staff began work on a light, portable trailer pump at their plant in Ebor St in central Wellington. They fitted a 90hp car V8 motor to a light but strong steel trailer on to which the pump would be fitted. Later trials found that the better choice was the 100hp Ford Mercury V8 from Canada and it was this engine that powered the majority of the units. This gave the pumps the capability to lift greater volumes of water. In this case the measuring stick was the 9 floor 30m Wellington Colmoco factory. During trials it was identified that the universal joint/coupling through which the motor drove the pump could be a weak

point and considerable testing was undertaken to ensure its reliability, including testing several to destruction with the Wellington brigade staff.



Pump assembly at the Colmoco Pumps factory.

A total of over 3500 units were produced by Colonial Motors and saw service in the Pacific theatre as well as a number that were shipped to the European theatre. New Zealand Forces and local bodies, which at that stage included fire boards, received over 1800 while 1600 were supplied to allied forces abroad. One of the catalysts for the urgency of the project was the entry of the Japanese into the global conflict. Consequently, it was proposed by the government that all coastal towns would receive a trailer pump complete with suction hose and all ancillary fittings as a protection from fire. Ford Historian Roger Gardner, in his anniversary book *Ford Ahead*, talks of a further development of the Ford V8/Colmoco pump combination being adopted en-masse by the US troops following the establishment of their training bases in Auckland and Wellington in 1941-1942. High Command had recognized and seized on developments identifying that a petrol-powered fire

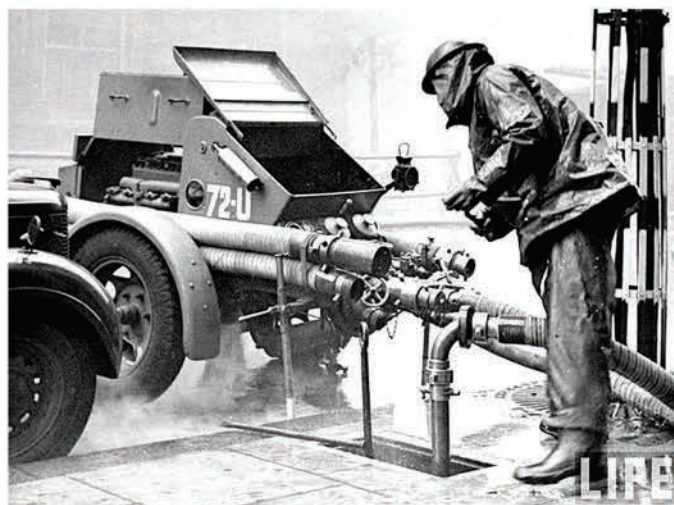
pumping system on their K and Q class liberty ships operating in the higher ambient temperatures experienced in the equatorial battle zones in the Pacific – especially munitions cargoes presented a risk they had not anticipated while the ships were in convoy service in the North Atlantic. Combining diesel motors with fire pumps, CMC engineers soon demonstrated that they could quickly have the pump/motor combination installed here while the liberty ships were enroute to the Solomon Islands, Tarawa and the New Hebrides. In some of these cases, two, or sometimes three, two-stage Sulzer fire pumps and hose and other equipment were installed inside a 48-hour turnaround time, often sooner. Thus, in August 1942, the Munitions Department and the Allied Eastern Supply Group were suitably impressed and an order for a further 600 fire pump trailers were ordered and supplied.”

As to their reliability, the author (Russell Postlewaight), like a number of firefighters trained in the early 1970s, used them regularly in recruit

and other pump training. Many went to our rural fire services and remote fire parties throughout the country, while many more found themselves serving new owners such as local authorities and other contracting companies well into the 1990s. Controls for the Colmoco pump are easily accessible and understandable, including dials showing engine as well as pump performance. Two small taps were fitted on the inlet side of the pump casting to provide control for the cooling system. Up to four lengths of 6” (150mm) hard suction hose were carried as well as a metal suction strainer. The vertical bars (two at the rear and one at the front) were let down to the ground and provided stability while the pump was in operation. Wise pump operators usually found a wheel chock was a good idea as well. The trailer lamp also did dual duty serving as a panel lamp when working at night.



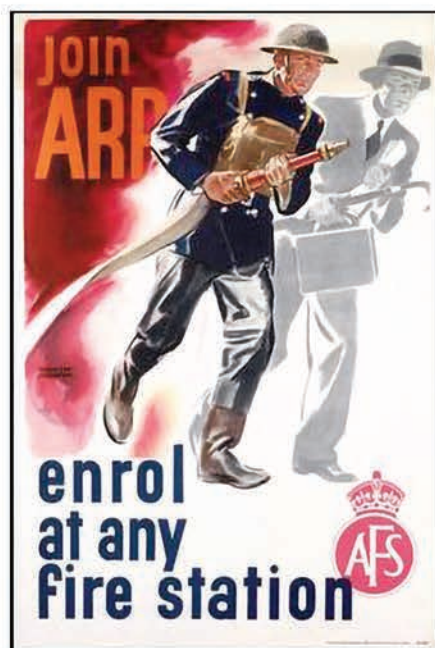
Colmoco trailer pumps.



Dennis No. 2 pumping from a main during the Blitz.



Dennis No. 2 during the Blitz.





*By Appointment to
H.M. The King*

THE

DENNIS

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T.A. AND T.P. TYPES

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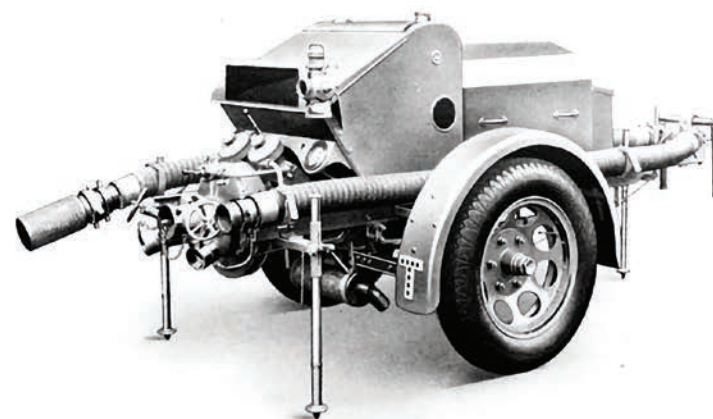


Fig. 1.—A General View of the Dennis 350/500-Gallon Trailer Pump.

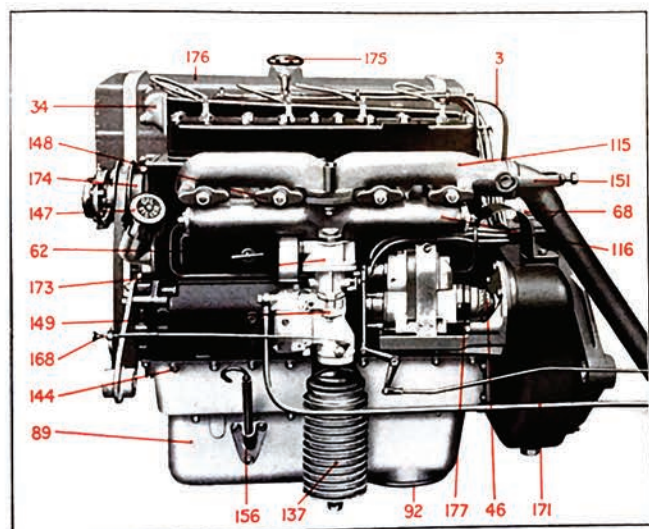


Fig. 4.—Exterior of Engine (T.P. Type).

- 3. Water Supply to Cooling Coil.
- 34. Water Outlet (Cylindrical to Tank).
- 46. Mixture Coupling.
- 62. Valve Cover-Plate.
- 68. Plug for inspecting Valve Timing.
- 89. Crankcase Sump.
- 92. Cover-Plate for Strainer.
- 115. Exhaust Manifold.
- 116. Induction Manifold.
- 137. Oil-filtering and Cooling Chamber.
- 144. Studs and Nuts fixing Sump.
- 147. Engine Oil-Filler.
- 148. Clamp fixing Manifold.
- 149. Carburettor.
- 151. Exhaust Pipe Stirrup.
- 156. Oil-Level Dip-Rod.
- 168. Control operating Air-Shutter.
- 171. Petrol Pipe.
- 173. Governor (Zenith or Hand).
- 174. Water-circulating Pump.
- 175. Water Filler Cap.
- 176. Water Tank.
- 177. Impulse-Starters.

Page from a Dennis manual.

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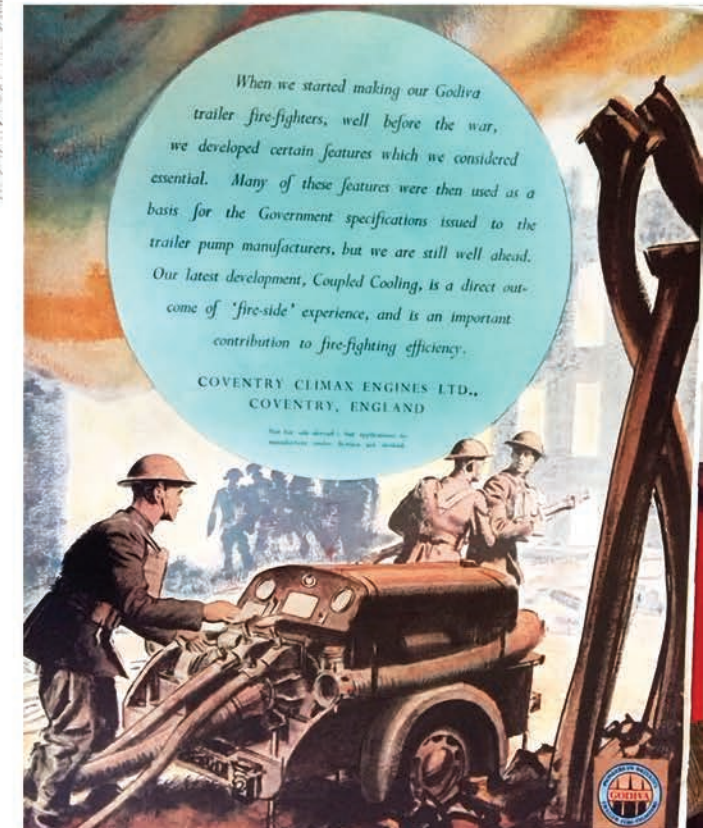
Bristol Auxiliary Fire Service.



Dennis factory.



AFS training.



The Seneca Fire Department



The Seneca (KS) Fire Department's first motorized apparatus was a 1922 Stutz Model K "Baby Stutz" pumper. They have maintained ownership of the truck for over 100 years. In the mid-70s, the department did an in-house restoration of the engine restoring it to its former glory. In 2022 they held a community celebration to acknowledge and share the Stutz's 100th birthday. Photos by Robert Ohlsen.







Owner's Pride

1951 Seagrave Anniversary Series Pumper

Duane Trautman,
The Neversink Fire Company of
Lebanon, Pennsylvania



The Seagrave Corporation began production of the 70th Anniversary Series in June, 1951, in a stubborn attempt to compete with the cab forward design of arch rival American-LaFrance. According to the log of the Master Painter, this example was assigned serial number F-3870 and was the 36th Anniversary off the line. The Neversink Fire Company of Lebanon (PA) paid \$15,087.50 for the truck when delivered in September, 1951. It served as the only pumper until 1978, secondary until 1983, and fell from use as too hard to drive as well as miserable in weather extremes. The odometer read 7,527 miles.

While home on leave from the United States Marine Corps in 1989, I attended a county firemen's association meeting held at the Neversink. The meeting was in the old firehouse and sitting in the engine room was a Seagrave covered in junk and dirt. My interest was piqued, but I had to return to Japan. Years later, September 1995, the Seagrave was listed for sale. I met with the fire chief and after several months, there were no offers or firm interest to purchase the truck. My offer of \$600 was accepted.

Disassembly began that winter as the truck was taken down to the frame. Whether it was proper storage or available time, the project turned into years. Other interests, three houses, relationships, and jobs got in the way of this effort as parts were photographed, drawn, or bagged with hope I would understand what I did when it came to reassembly.

On a Friday evening in August of 2023, I drove the Seagrave for the first time, a short jaunt to the local high school. As the months have passed, reassembly continued, leaks repaired, and other work was ordered. Little expense was spared in the restoration and my growing determination to get it done. Finding bias-ply tires post pandemic took nearly one year!

The goal from the very beginning was a factory photo finish and nearly 29 years later, mission accomplished. Such joy to hear the motor run just as it would have sounded 73 years ago. The truck is fully functional and in some cases, painfully original. What a privilege it is to preserve this piece of fire apparatus history, an example of stubborn design matched only by a stubborn effort to restore it.

It is time to share and enjoy F-3870.



Factory photo of the Seagrave.