

# Special Apparatus--The Mask Service Unit

by Battalion Chief John A. Calderone



photos by Battalion Chief John A. Calderone

Although hard to believe in today's age of OSHA-/NIOSH-/NFPA-mandated mask usage, there was a time in the history of the FDNY when the use of self-contained breathing apparatus was the exception rather than the rule. The resultant numerous smoke inhalation injuries and deaths were accepted routinely as part of the job. At most fires, firefighters operated inside structures until they physically couldn't take the punishment from the smoke any longer. Many more fires went to outside, defensive operations than is the norm in contemporary firefighting operations.

The development of self-contained breathing apparatus came directly from World War II military technology. Following the War, this technology was adapted to fire service use. During 1947, following extensive research and testing, self-contained breathing apparatus were placed into service with the Department's Rescue Companies for a 90-day trial period. Prior to this time, the only masks in service were of the filter type and the hose masks carried by the Rescues. This trial period was deemed a success and each Rescue Company was issued six SCBAs. For several years, the Rescues and later the Marine Companies were the only units equipped with SCBAs.

Starting in 1951, part of the equipment contained on each new apparatus purchased included two SCBAs. This method of acquiring masks, along with some group purchases, allowed all ladder and almost half of the engine companies to be equipped with two SCBAs each by the end of 1954. There were 548 masks in service, with almost 78 percent of the Department's first-line units so equipped. By the end of 1955, there were 830 masks in service and every first-line unit had at least two SCBAs each.

This number of masks and cylinders naturally resulted in the need for servicing, repairs and inspection. As a result, on April 9, 1958, a Mask Service Unit was established within the Division of Safety and Research. This unit was equipped with a 1957 International bread delivery van-style apparatus, equipped with a cascade system capable of filling depleted cylinders at the scene of an operation or at an individual unit's quarters. The unit originally was quartered with Marine 6 at the foot of Grand Street, Manhattan, but a few months later, moved to the recently vacated quarters of Engine 49 on Welfare (now Roosevelt) Island. During its first year of operation, 4515 cylinders were refilled. By 1959,

the Mask Service Unit had been incorporated within the Division of Training.

By the end of 1963, there were sufficient SCBAs so that each first-line unit was equipped with at least three. All filter-type masks had been removed from service by the end of 1965. There were now 1817 SCBAs in service and each unit had a full complement.

As the Department entered what became known as "The War Years," mask use still was sporadic and the masks were carried inside large boxes. Although personnel were highly skilled in donning and using SCBAs, their use was still the exception rather than the rule.

The effects of these very busy years took their toll on many firefighters. The current masks were introduced in the mid-1970s, replacing the heavier Scott Air-Paks. For the first time, masks were mounted at riding positions on the apparatus as opposed to being carried in boxes. In the late 1970s, the Department established a mandatory mask policy, requiring members to use masks at all times during interior structural firefighting operations and whenever exposed to smoke or fumes. As a result, the number of cylinders used and the accompanying repairs to masks skyrocketed. Concurrently, the frequency of smoke inhalation and related injuries went down considerably.

The Mask Service Unit kept pace with the additional workload, expanding from one operational vehicle to a total of four. In 1977, the Mask Service Unit moved into new, then-modern facilities at Building 7 in the new Fire Academy. Mask cylinder depots were established in firehouses throughout the city and, in addition to responding to fires to exchange cylinders, the Mask Service Unit established a routine schedule of exchanging cylinders at these depots.

Today's operations of the Mask Service Unit are quite different from those of its first year. Currently, there are 3400 masks and more than 11,000 cylinders in service. More than 200,000 cylinder refills are provided annually. The Unit operates four 1997 International/Hackney apparatus that resemble beverage delivery trucks. Each truck can carry a total of 230 cylinders. The cylinders are carried in interchangeable pods so that each apparatus can be configured to carry a combination of 30-, 45- or 60-minute cylinders, as well as SCUBA cylinders. Each of the four apparatus also is equipped with an oxygen cascade system, used to fill cutting torch oxygen cylinders in the field.

The Mask Service Unit has expanded its mission in recent years. In addition to servicing and maintaining masks, refilling cylinders and replenishing depots, the Mask Service Unit also conducts OSHA-mandated facepiece fit tests on all members and recently took on the task of hydrostatic testing of each cylinder every three years. Performing this latter function in-house has resulted in a considerable financial savings.

Mask Service Unit responses include 10-76 signals and third alarms. It also can be special-called by the Incident Commander

to any incident requiring a large supply of cylinders.



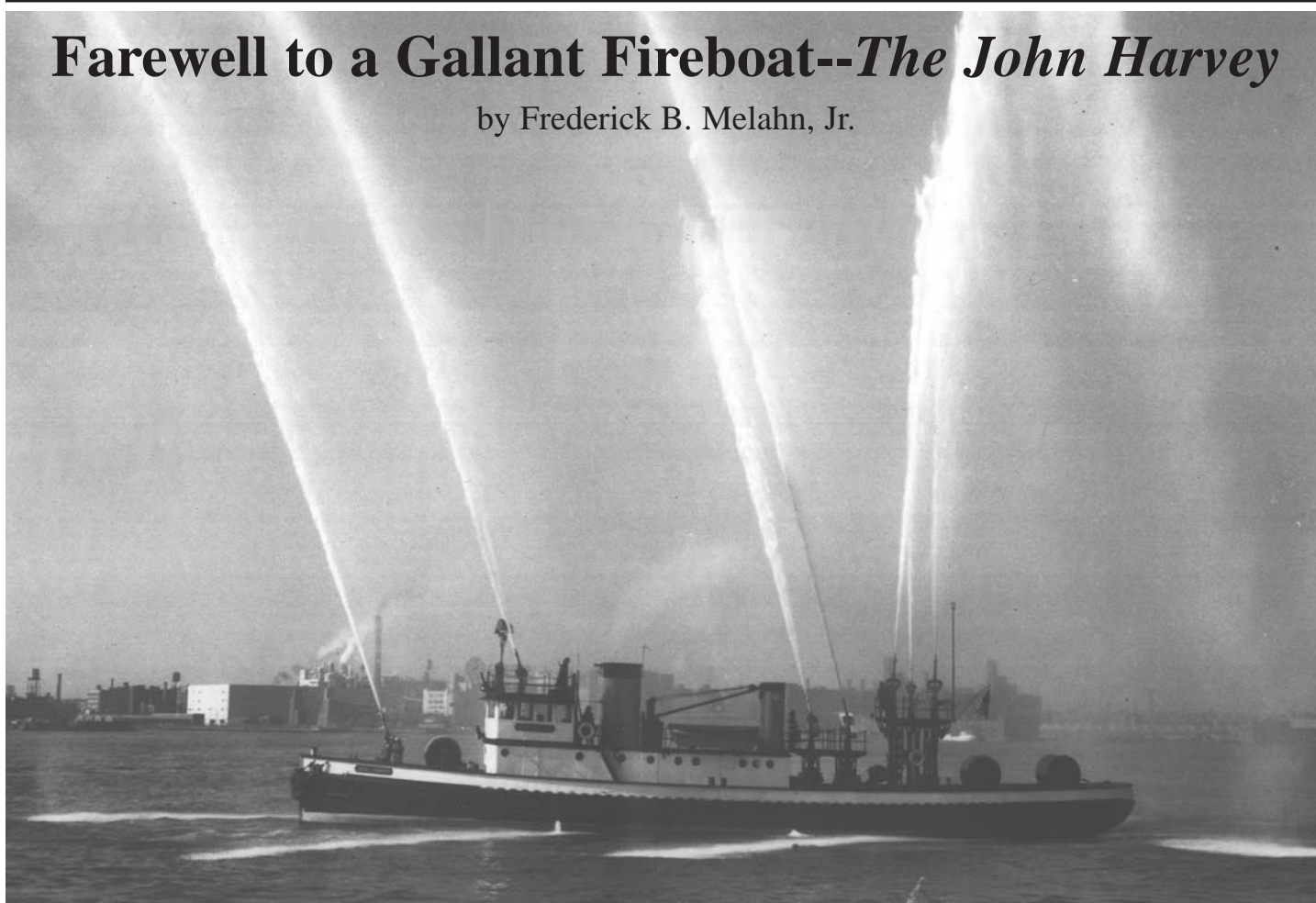
**About the Author...**

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# Farewell to a Gallant Fireboat--*The John Harvey*

by Frederick B. Melahn, Jr.



**I**t was named for John Harvey, the marine pilot on the Fireboat *Thomas Willets*, who was fatally injured when the freighter *SS Muenchen* burned and exploded, destroying the pilot house on the *Willets*. Built in 1931 at the Todd Shipyards in Brooklyn, at a cost of \$595,000, it is 130 feet long, has a 28-foot beam, a nine-foot draft and weighs 268 tons. It had five Sterling Viking gasoline engines, connected to five 340-kw generators to run two 1065-hp electric propulsion motors. Four engines are connected to four centrifugal pumps for a capacity of 16,000 gpm at 150 psi. There are eight manually operated McIntyre monitors with 24 3 1/2-inch manifold outlets. In 1957, the gasoline engines were replaced with five Fairbanks Morse eight-cylinder, 600-hp, diesel units.

*The Harvey* was put in service on December 17, 1931, as Engine 57 at Battery Park, North River. On November 16, 1938, *The Harvey* was relocated to the foot of Bloomfield Street, North River, as Engine 86. On June 1, 1959, *The Harvey* was reorganized as Marine Company 2. The fireboat remained at this location

until January 3, 1991, when Marine Company 2 was disbanded and *The Harvey* was used as a spare by the Marine Division.

*The Harvey* was at many notable fires:

- May 1932--Cunard pier fire, Hudson River
- February 1942--*Normandie* ship fire; capsized and sunk
- April 1943--*El Estro* ammunition ship; burned and scuttled
- August 1944--Hoboken pier fire
- June 1946--Staten Island Ferry Terminal
- December 1956--Brooklyn pier fire and explosion, 35th Street
- June 1958--*Nebraska/Empress Bay* collision and fire, East River
- October 1972--GATX storage tanks, Arthur Kill
- June 1972--Collision and fire between *Sea Witch* and *Esso Brussels* at Verrazano Bridge
- March 1990--*Savannah* gasoline barge, Arthur Kill

Pictured is *The Harvey* at a water display in February 1959. On February 23, 1999, *The Harvey* was towed from the Brooklyn Navy Yard to Pier 62, at the foot of 23rd Street, Hudson River, to a maritime collector. After 67 years of service, farewell to *The John Harvey*.

*photo courtesy of the Mand Library*