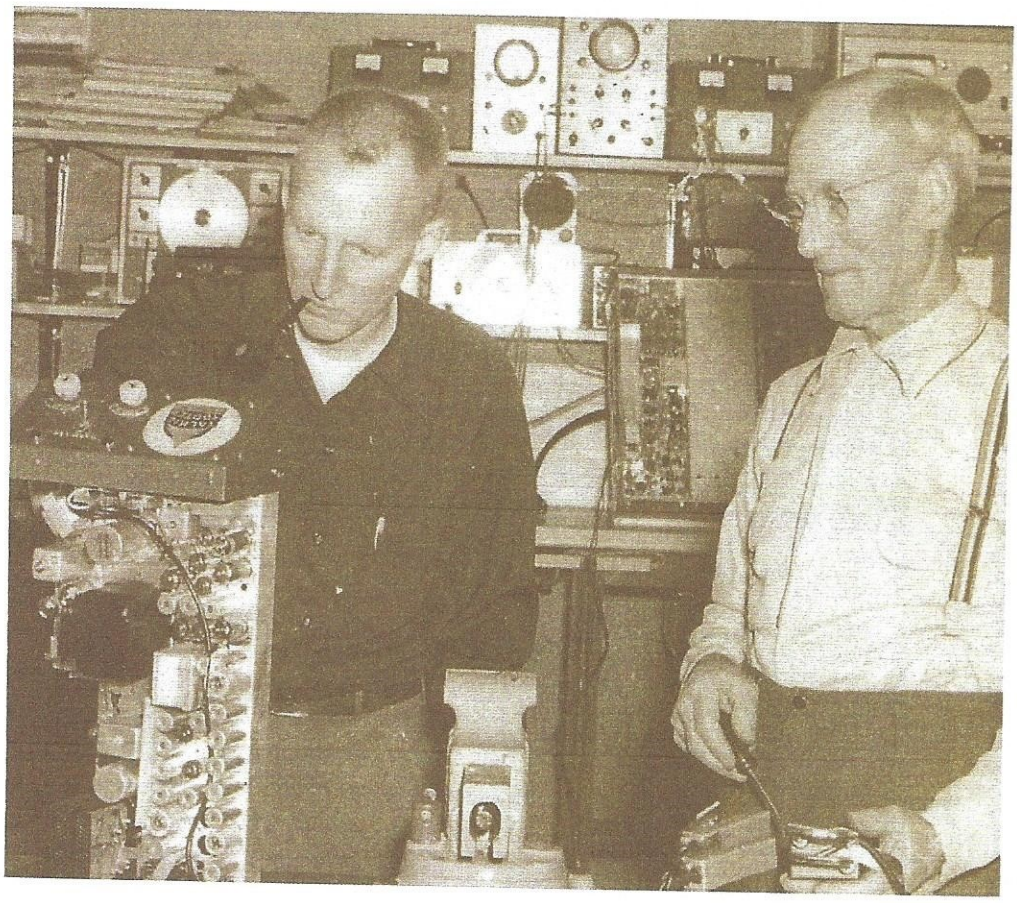
THE FOUNDER:

Howard Rothenbuhler, 1917-2001, was born and raised in Acme Washington on a small dairy farm. In the mid-1930s he worked in the logging industry as well as many small jobs like selling magazines door to door to help pay for college. Howard attended the University of Washington and achieved his Mechanical Engineering degree while also attending ROTC prior to entering WWII. During World War II he spent time in Britain helping to detect German planes approaching the coast. He then was sent to Massachusetts Institute of Technology to study the newly developed RADAR technology. He later was sent to the Philippines as a Radar Officer to install and operate RADAR systems. After WWII he came home and put his Radio design knowledge to work developing a "Radio Whistle" system for the logging industry. This system would make logging much safer as well as speed up the yarding process and eliminate at least one person, the signal man. Instead of having the signal man interpreting what the choker setter needed from afar, the choker setter could blow the whistle signals himself. The signal man could then be doing a more productive job. The Radio Whistle became the trademarked name "Talkie Tooter" and Rothenbuhler Engineering Company was formed.

If you have a family story that is part of the history of Sedro-Woolley, and if you would like it to be considered for publication, please email your story to Jana Hanson at jhanson@ci.sedro-woolley.wa.us



ROTHENBUHLER ENGINEERING

BY NEAL ROTHENBUHLER

CIRCA 1952:

From the beginning, it was a family business with Howard and his father Ernest working together. Today, the fourth Generation of Rothenbuhler works at the company.

1946 RADIO CONTROL PRODUCTS:

Since 1946 Rothenbuhler Engineering has been building rugged radio controls. The Talkie Tooter has since earned the reputation as a very rugged and reliable radio control and communication system. It has been modified in many different ways to do many different jobs. In the early 70's it was adapted to trigger a relay which applied a battery to an electric detonator cap for a local blaster. It was also adapted to control concrete pumps for building the Nuclear Power Plant Cooling Towers. In the 1970's the Talkie Tooter was adapted to run or monitor security systems in Venezuela, Puerto Rico and Panama. It was also used to monitor water levels behind a flood control dam in Washington State. Fifth and Sixth generation Talkie Tooter systems today are used to blow whistles and operate Radio Controlled Carriages mainly in the Western US ,Western Canada, Chile and New Zealand.

1968 BANK SECURITY SYSTEMS:

Around this time Rothenbuhler Engineering developed bank vault security systems as well as video and high resolution film security cameras, many of the Security products being UL tested and approved. Many of the local Skagit State Banks used these Security Systems. Four generations of this product were developed and marketed worldwide until the late-1990s. Many related products were developed such as an all-electronic high security bell, vibration and sound sensors, vault door switches and teller switches.

1984 FIRST REMOTE FIRING DEVICE, (RFD) PRODUCT:

In 1983 and 1984 we were approached by a group that had heard of our rugged Talkie Tooter products through a former Logger that was working as a consultant with Jet Research. The Group wanted us to design a Radio Remote Firing Device for the security teams to use at the Los Angeles Olympics. We designed and built several systems for them. These apparently were to be used, if needed, as a tool to help the police and security disable team transport vehicles in a hostage situation.

1990 - 1993 RFDs REDESIGNED:

Over these few years we were approach by several individuals that helped us further develop the RFD product line for the military and mining. Both needed Remote Firing Devices to replace current problematic older designs in use. With the guidance of our newest contacts we developed the Model 1649 and for mining the Model 1662.

The Navy had a "Commercial off the Shelf" program (COTS) that allowed them to use commercially available products and fast track the approval process. The idea was to use well proven commercial devices to meet the needs of the military with little or no changes. This gave a quick technology boost to the military's tools instead of having to spend many years testing and certifying. We used our Model 1649 to provide what became the Navy MK186 Mod 0. Since this was funded by us and was a COTS product we retained all rights to this device.

1996-1998 TECHNICAL UPGRADES:

As with most electronics, you must keep ahead of obsolescence and keep up with technology. Knowing such enhancements could be attractive to both the Navy and Commercial blasters we added some features to these devices to make the Models 1669 (Navy MK186 Mod

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2) and 1664. The Mod 2 went through very significant testing by the Navy eventually giving us a 5 year $10M contract. The Model 1664 quickly took over the domestic surface mining market displacing at least two competitors carrying forward the Rothenbuhler Engineering reputation of having top reliability and customer service.

2003-2004 AUSTRALIA & CANADA:

These years showed a great growth with our international RFD markets. We partnered with two companies that helped us understand the needs of the underground mining market. Global Communications in Western Australia and Varis Communications in Ontario Canada helped us design a new RFD new Model 1670 system for the underground mines that would use their Leaky Feeder communication systems. A Leaky Feeder Communications System is similar to a Cable TV network except the Coax Cable is designed to leak signal in and out instead of trapping it in the cable. This allows workers underground to communicate throughout the mine as if they were above ground. Again Rothenbuhler Engineering successfully enjoyed a good market share improvement in Australia and Canada. We started seeing orders coming in from all over the world. Today Australia, Canada, South America, Mongolia and Africa are among many large international mining areas using our products.

BOMB SQUADS, EOD, HAZMAT AND FOREIGN MILITARY:

Even though our systems were already selling into these areas, we felt there was a bigger market available. In 2008 we started attending training conferences for Bomb Techs with the newest Model 1669 in mind. By 2010 we had a newer and better Model 1678 to continue in this market. It was super rugged, fast and simple to use. Many users called it "sexy". With many competitors, small and large, domestic and international it became the most wanted. It is our top seller to this day.

THE NEWEST AND GREATEST PRODUCTS:

In 2014 and 2015 we released our two newest RFD products to update the models 1664 and 1670 for the mining industry.

The Model 1674 is our low cost model aimed at the small to medium sized quarries and mines. It was fitted with a CNC milled inner aluminum case for military toughness and the newest technology, keeping it as simple as possible to keep cost low and reliability to the max. This unit is the first of our RFD products to carry the CE mark for use in Europe.

The Model 1673 is our top of the line model for the large mines, underground mines and those that would appreciate some of the newest technological features available. The 1673 has the capability to control up to 64 individual blasts. It records system status, GPS location and all commands communicated. The blasts can be sequentially timed or individually fired as well as sense the resulting shock wave. The GPS can be used as a safety and security fence making sure that the blaster is at a safe distance as well as making sure the system is operated within a specified area.

Our latest product update, released in 2016, is our new Talkie Tooter Carriage Control Model 1100. This system uses the latest digital Radio Communications. It provides greater manufacturability, simplicity of design and allows one design to be used across multiple manufacturers' carriage platforms. It provides the user with system status to monitor all batteries, user errors and troubleshooting to help minimize down time of the operation.

WHAT'S NEXT? Keep your eyes open for our new Model 1200 Talkie Tooter Whistle System expected middle to end of 2017. Also, there is always a need for new RFD model for the Bomb Squads.