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WATERAX
MAGAZINE
Volume 2

On the road
with Watson



Behind the
scenes at WATERAX:
Engineering



You don't
know Jack?



WATERAX hits the road with Watson

The inaugural MARK-3® Watson Edition coast-to-coast tour

From the Northwest Territories to Newfoundland and Labrador, during the summer of 2019 the **WATERAX** team travelled the length and breadth of Canada to present the new **MARK-3® Watson Edition** and field test it with wildland firefighters and governmental departments—people who have trusted the iconic **MARK-3®** pump for generations. **WATERAX** met up with hundreds of enthusiastic stakeholders, excited to find out about the **Watson Edition** during the 18 information and demonstration sessions we held in 12 of Canada's provinces and territories.

WATSON.WATERAX.COM



TOUR HIGHLIGHTS

Maniwaki, Quebec

We had a great kick-off in Maniwaki, Quebec, with more than 20 members from SOPFEU. The demonstration took place at Blue Sea Lake and involved base camp directors, directors of land operations, warehouse managers, mechanics and forest firefighters. Based on the feedback we received following the presentation, participants felt that **WATERAX** had really taken their input into account when developing the **MARK-3® Watson Edition** pump.



The Pas, Manitoba

Pressure testing: We compared the pressure of the **MARK-3® WATSON Edition** pump to Manitoba standards (235 PSI). The engine's performance was outstanding, exceeding expectations by reaching 265 PSI! We also tested the pump with a 1,500-foot hose lay and found only a slight decline in pressure. The pump started at 245 PSI and dropped to just 210 PSI at the nozzle.

Swamp conditions: Manitoba fire crews frequently face swampy sites. Running tests in these conditions was extremely constructive for our on-site demo participants. They could see that the pump didn't sink in the mud while running.

The result: The improved carriage system designed to act like a snowshoe allowed the pump to stay well above water.

With its new frame design and angled engine mounting—including advanced vibration dampening and dispersion—the **MARK-3® WATSON Edition** pump surpassed expectations.





Salt water trial in PEI

The demo site in Prince Edward Island, Beach Grove, provided a unique opportunity to run the **MARK-3® Watson Edition** in salt water—for the very first time during our tour! In this setting, we discussed the benefits of the Watson pump's engineered composite-material components. There won't be any galvanic corrosion on the impellers since they are made from composite materials. This means that, down the road, mechanics will be able to service the pump end without having to use excessive force to remove the impellers.



BANFF, ALBERTA

The most scenic pump demo sites

During our cross-country adventure, we were fortunate to visit many beautiful locations. We really fell for the pump demonstration sites in Banff, Alberta and Corner Brook, Newfoundland!



CORNER BROOK, NEWFOUNDLAND

What wildland firefighters and agencies had to say about the **MARK-3®** Watson Edition



"This new product responds to current realities and feels like it will respond well to the needs that our staff have expressed—it's lighter, easier to start and performance hasn't been compromised."

"Lighter weight is really important. There are a lot of situations where the weight of the current **MARK-3®** can be a challenge. It's one thing to simply lift it but sometimes you are standing out there with one foot on a beaver dam, while the helicopter rotors overhead are blasting you with air, as you struggle to keep your balance while passing the **MARK-3®** pump to your buddy!"

"We really appreciated being involved early in the process. We understand that change and innovation is important if we want to do our job more efficiently."

"Our new generation of firefighters love innovation. If there are safer and better alternatives like the **Watson** pump, the IA Crew would like for them to be dispatched and implemented as soon as possible. According to them, the pumps should be distributed faster, given how much lighter and safer they are for their wildland firefighters."

[WATSON.WATERAX.COM](https://www.watson.waterax.com)

"We love the pump's ergonomic design: It looks awesome and slick."

"When dealing with large-scale wildfires, it's crucial to be able to carry and maneuver equipment effortlessly to tame the fire as quickly as possible. Having a lightweight, comfortable and easy-to-start pump makes the process so much easier."

"The **WATERAX** engineering team did a great job at making it more compact; the pump is even smaller than we had anticipated."





“The frame really hugs your back. It feels like carrying a backpack: I could walk with this on all day.”

“Helicopters undergo significant weight restraints during hot and humid days at high altitudes, so having lightweight equipment is extremely important for the Initial Attack crew. As soon as they picked up the pump they remarked: *Wow, that’s light, it doesn’t even seem real.*”

“I like that you cater to a different group of firefighters, speaking as a woman firefighter. We all want to work smarter not harder. The fact that it’s lighter is really going to help.”



Over the 55-year history of the **MARK-3**® “the reason that agencies stuck with the **MARK-3**® is because it’s bullet-proof.” However, being able to continue the tradition of innovation and improvement struck a truly positive cord with our Newfoundland hosts: “from our perspective, you are showing us a pump that is 30% lighter *and* more efficient. We all carry pumps for initial attack and know how big, bulky, heavy and clumsy they are. The **Watson** compares to the weight of the MARK-26 but has the performance of the **MARK-3**®. If you are going to make our world easier ... obviously, we are all 100% in agreement!”



EASIER
TO START
REQUIRES
LESS FORCE

MARK-3®
WATSON EDITION

Testing: Ease of pull-start

In a survey on the aspects of the **MARK-3®** pump that needed improvement, ease of start was the second most requested improvement after weight reduction. Many firefighters expressed trouble starting a **MARK-3®** with one arm, either due to a lack of strength or fatigue. To compensate, some firefighters stand on the base to hold the pump down. But, because there's little space on the base to stand on, this presents a risk of injury from muffler burns. Failing to start a **MARK-3®** pump in the field can be a source of wounded pride. Some respondents reported anxiety when starting the pump for fear of looking weak or unqualified.

Given this feedback, our team set out to improve this aspect of the **MARK-3®** pump by significantly reducing the force required to pull-start the **MARK-3® Watson Edition**. The addition of a foothold for steady pull-start—positioned away from the muffler—improves stability while ensuring firefighter safety.

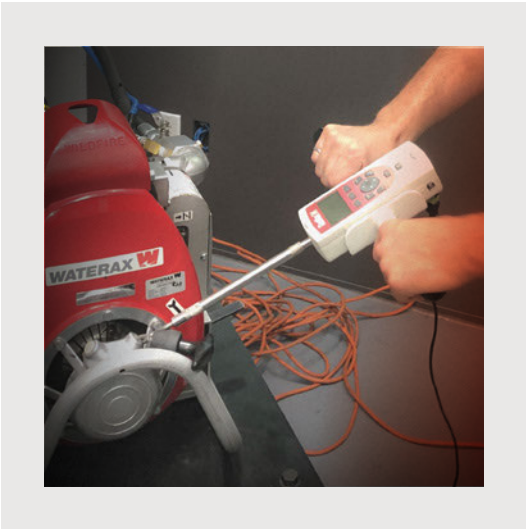
Firefighters who had the chance to pull-start the **MARK-3® Watson Edition** during the tour were delighted by how easy it was. In order to quantify exactly how much easier it was to start, our engineering team put together a formal test plan.

Results demonstrated that the **MARK-3® Watson Edition** required 40% less force than its predecessor and generated 3 times the rotation speed, resulting in a much easier pull-start. Below are the results of the test.

Results and observations

The pulls on both pump units were completed following the same procedure with the test setup shown in the photograph to the right.

The pull force, rotation speed and total number of revolutions completed were compiled and listed in the tables below.



	MARK-3®	WATSON
PULL FORCE [N]		
Average	640	376
Diff. %	-	- 41%
ROTATION SPEED [RPM]		
Average	531	1375
Diff. %	-	+ 159%
TOTAL REVOLUTIONS		
Average	7	11
Diff. %	-	+ 57%

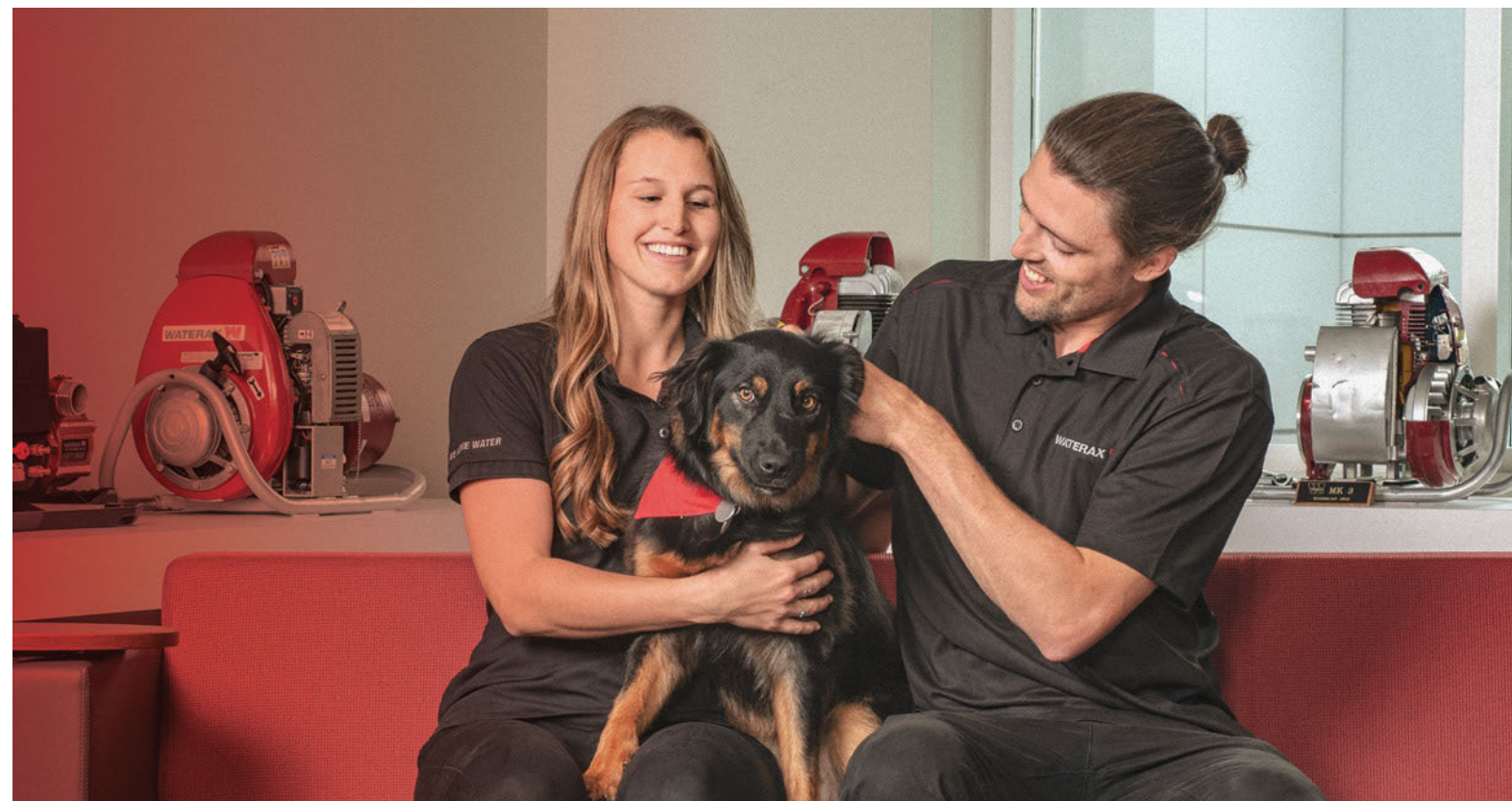
2020 Watson Tour

WATERAX's Watson Elite Squad will be back on the road in 2020, with a multiple-stop field-testing trip to visit wildland firefighters across North America. We're excited to showcase the **MARK-3® Watson Edition** and get your feedback. We want to meet you!

INTERVIEW WITH
ZACHARIE GRIGG AND ALEXANDRA LAMPRON,
WILDLAND FIREFIGHTERS AND PRODUCT SPECIALISTS AT WATERAX

Meet the Watson Elite Squad

Zacharie and Alexandra (along with Cooper, their Australian Shepherd/Border Collie cross) are the Watson specialists revving up to meet with more Canadian and American wildland firefighters and demo the **Watson Edition** pump during the second Watson tour.



You're both wildland firefighters. How did you get into firefighting?

Alexandra

Four years ago, when I moved to BC, I became friends with a group of people, many of whom were working seasonally for the BC government as wildland firefighters in different locations across the province. As I heard them talk about the job, I realized that it appealed greatly to me. They were mentioning aspects of the work, like working outside, the team environment, opportunities to constantly learn new skills, flying in helis, and working with people who have similar interests. So, the following year, I applied and got in. I just finished my third season on an Initial Attack crew.

I enjoy the dynamic work environment of wildland firefighting and the range of responsibilities I had on the fireline on a 3-man crew. Using the transportation means to get to a fire, for example, a helicopter, was a great way for me to explore and see much of the province that I wouldn't have had the chance to see otherwise. In years past, I have done much travelling because I have a strong sense of adventure and attraction to the unknown. Initial attack offers a similar adventure—when you are sent to find a fire and put it out.

Zacharie

Much like how Alex was introduced to firefighting, it was a group of friends and coaches from the university volleyball team that I was playing on at the time who introduced me to the idea of wildland firefighting. Immediately, I knew this job would be a great fit for me. For the following 5 years, I enjoyed working in the outdoors, with great, like-minded people, in a team environment that reminded me a lot of my involvement in team sports. Unlike Alex, I was on a unit crew that was composed of 20 personnel divided into 4 different squads. Much like a sports team, the camaraderie and bonds formed on these crews is hard to describe. Combining this atmosphere with never 100% knowing what we were going to be doing on any given day was very appealing to me.



You both also have hands-on experience with the **MARK-3®** fire pump.

What did you like about the **MARK-3®** and what, if anything, was more challenging?

Zacharie

The **MARK-3®** pump definitely has a place in my heart, it is a workhorse that is near bulletproof. I can't count the number of times I have been relying on the **MARK-3®** to get us water from point A, in difficult or potentially dangerous situations, and have it delivered to point B.

Alexandra

The weight of the **MARK-3®** pump becomes a challenge when we have to walk long distances in difficult terrain. Over a long fire season, the time spent carrying a **MARK-3®** will end up contributing to the general fatigue of firefighters and the most common injuries, which are slips, trips and falls. For example, in Quebec, firefighters are not allowed to lift anything that is more than a third of their body weight. So only people who weigh around 180 lbs and over can lift a **MARK-3®** fire pump. In BC, IA crew members need to be under 200 lbs with their PPE (personal protective equipment). Rapattack crew members have to be under 175 lbs. Based on these weight restrictions, it can be challenging for smaller and lighter people to maneuver the **MARK-3®** in the field.

Additionally, at times, the **MARK-3®** pump can be temperamental and challenging to start. A common mistake by first year firefighters is to flood the **MARK-3®** engine and then be unable to figure out what is wrong with the unit. This results in large costs to agencies: when water isn't delivered and a fire escapes, as well as when pumps are sent back to the warehouse for servicing (when, in fact, there is nothing wrong with the unit and it is still ready for use on a fire).



What were your first reactions to the **MARK-3®** Watson Edition?

How will it help make the lives of wildland firefighters easier?

Alexandra

I was amazed to see how **WATERAX** succeeded in improving the current **MARK-3®**. What's been done is more than "just" reducing size and weight. By stripping the existing **MARK-3®** down to a clean slate, **WATERAX** was able to fully redesign the pump head, introduce a user interface module, design the first ever purpose built 140cc engine and develop a carriage frame, while simultaneously integrating new materials and technologies. An important mandate was to maintain the tradition of performance and reliability that defines the **MARK-3®**—and take it forward, in an evolutionary process.

Zacharie

The **MARK-3®** Watson Edition will greatly improve the lives of firefighters on the ground for a number of reasons. First off, the weight of the overall unit has been reduced significantly. By developing a more compact engine, and a smaller pump end, major weight loss was achieved (approx. 20 lbs). This will be appealing for a diverse workforce of firefighters, and will also reduce the occurrence and severity of the most frequent injuries (slips, trips and falls).

The overall increased mobility of the **MARK-3®** Watson Edition is complemented by the carriage frame. This new feature is ergonomically designed with detachable straps to fit on an operator's back. This will allow firefighters to react to a fire situation more quickly and more efficiently.



The frame has great vibration-dampening capabilities, this will help prolong the lifespan of the unit by, for example, stopping it from drifting towards the water source while the pump is running.

The **MARK-3®** Watson Edition also provides feedback on its operating status during warm-up stages and when troubleshooting. For a new generation of firefighters currently entering the workforce the basic understanding of how an engine works isn't as common as it once was. The feedback feature will prolong the life of each individual unit and make this piece of specialized equipment less intimidating for first-time users.

You've exchanged with lots of wildland firefighters and people who work in firefighting agencies, how have people reacted to the **Watson**?

Have you been surprised by people's reactions?

Zacharie

Much like our own reaction, the overall reaction to the **MARK-3[®] Watson Edition** has been very positive. Frequently, when we arrive at a presentation / demonstration site people ask: "How is it possible to improve the **MARK-3[®]**?"

Following each presentation / demo, stakeholders are almost always *blown away* by what we've shown them. They hadn't known what to expect, but were wowed by what they'd seen!

I'm not surprised by the reactions, though. I had the same reaction when I saw the unit for the first time—even without knowing anything about it. Then after getting all the details about the **Watson Edition** pump, I could see the amount of thought and effort that had been put into the whole project. I have complete faith in this new pump and trust that it will be a success.



You must be excited about the upcoming tour across the US... kind of like “**van life**”!




Tell us what you're looking forward to?

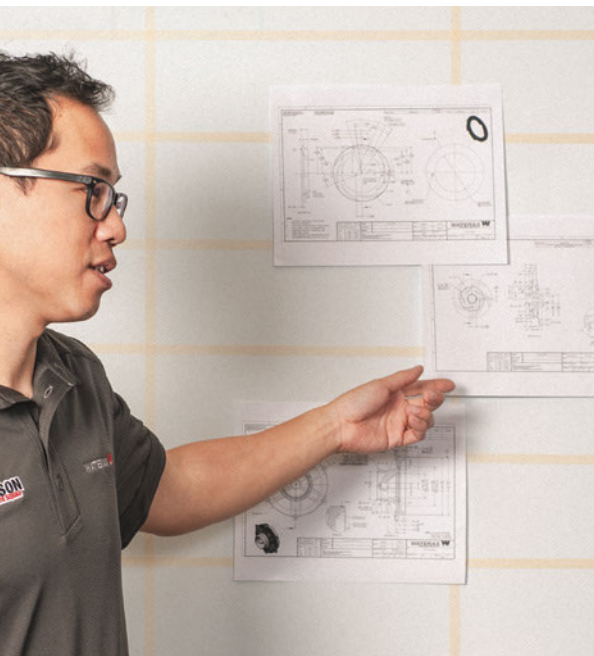
Alexandra

Having both our office and house on wheels will allow us to be nomads and in close contact with the wildland firefighters in North America. This is nearly impossible when you're based out of an office. Every agency tends to conduct their business in a slightly different manner, by visiting them we can be a strong resource and convey their needs to **WATERAX**. Much like firefighting, as product specialists we appreciate the uncertainty of not really knowing 100% where we will be in the near future.

Having lived full time in a van for 3 months, we are well versed in the lifestyle that it involves. In order to move into the van, we have simplified life across the board. Stripping our lives to the basics gives us an appreciation of the things we tend to take for granted. We're looking forward to meeting new people, seeing new places and living new experiences with our 4-legged sidekick, Cooper.

A man in a dark grey shirt is working on a red engine in a laboratory setting. The engine is connected to various pipes and hoses. In the background, there are several gauges and a large silver pipe. The scene is lit with a warm, orange-red light. The text "Behind the scenes at WATERAX: Creating the Watson" is overlaid on the left side of the image.

Behind the scenes at WATERAX: Creating the Watson

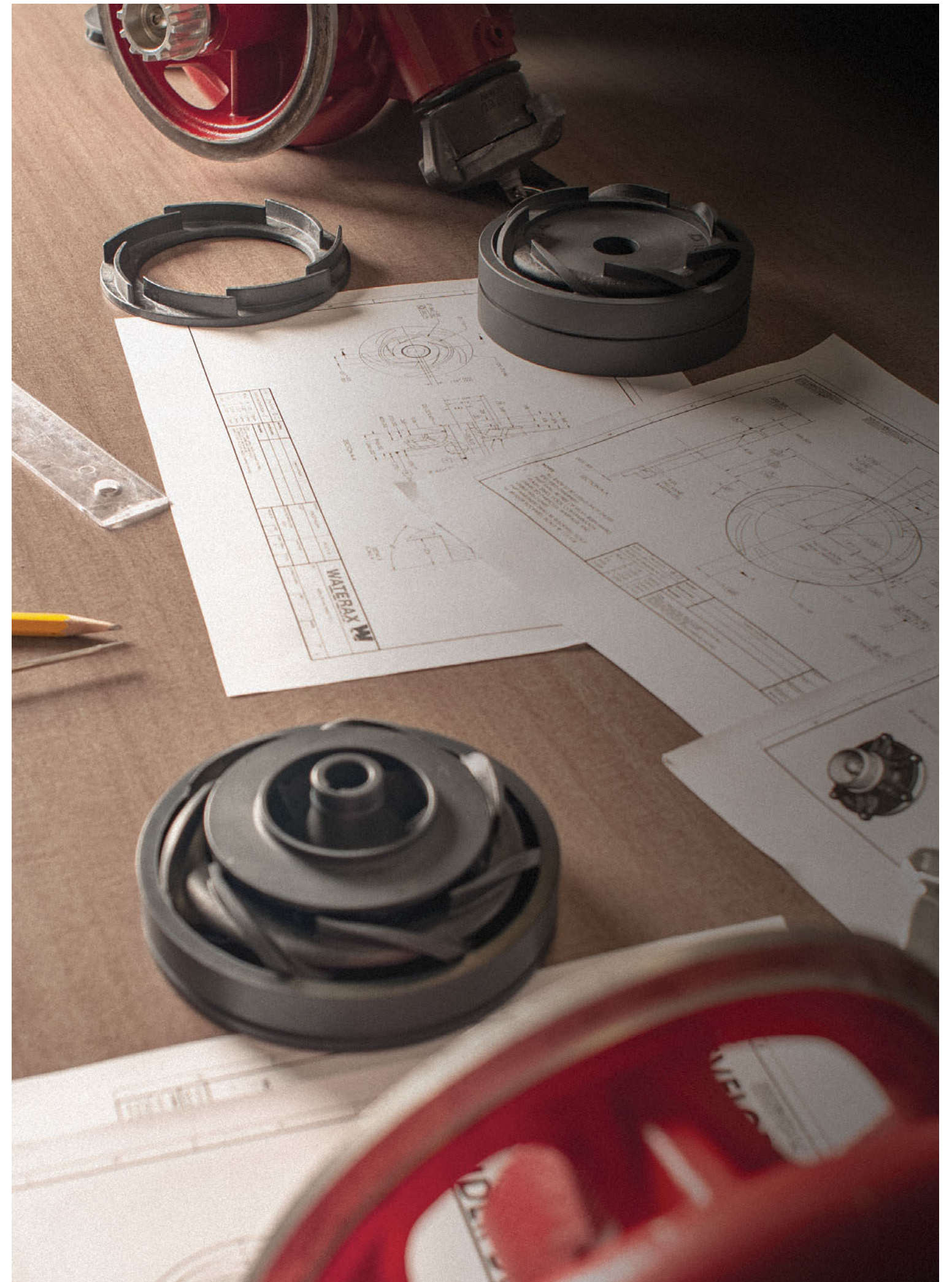


MARK-3[®] WATSON EDITION

LIGHT.
SMART.
POWERFUL.

The **MARK-3[®]** has been the trusted, go-to pump for wildland firefighters for decades. But **WATERAX** believed there was room for improvement. Our engineering team has spent more than 5 years conceiving, designing,

developing and testing (and testing again) the evolution of the iconic pump: the **MARK-3[®] Watson Edition**. **WATERAX**'s Frederic Lefrancois (VP of Engineering) and Norith Tan (R&D Manager) share their thoughts.





Can you give us an overview of the process for developing a next-generation portable lightweight pump?

For instance, the people involved, the stages and the amount of time it can take?

Developing this next-generation portable lightweight pump was a huge undertaking. First, every product development needs to start with a strong product vision. This was achieved by listening to our customers over the years and by translating their unmet needs into product requirements. We then assembled a team of experts in the fields of hydraulic design, combustion engines, computational fluid dynamics, composite materials and industrial design to deliver that vision. We initiated the conception phase by developing the engine and the pump end prototypes while advancing the industrial design in parallel. Once the engine and pump end met their respective performance requirements we paired them and launched the endurance testing phase to prove the overall unit reliability and durability. Engineering is about making the right trade-offs to get the best design possible. Consequently, we had to find the right balance between performance, weight and reliability. It took us more than 5 years of development and several rounds of prototyping to come up with the **MARK-3® Watson Edition** pump.

From an engineering standpoint, what was your main goal for the **MARK-3® Watson Edition** pump?

Where did you turn to for inspiration?

The main goal was to create a next-generation portable lightweight pump that would match the **MARK-3®** in terms of performance and reliability but would also be significantly lighter. This was a challenge because the **MARK-3®** pump was already recognized as the benchmark in terms of power-to-weight ratio. Now we were tasked with making it even smaller and lighter but moving as much water with as much pressure. To reach our goal we had to start from a clean slate and use the latest technologies to design a cutting-edge 4-stage centrifugal pump end and to develop the first ever purpose-built 140cc 2-stroke engine, resulting in an unprecedented power-to-weight ratio.

While drastically improving these key attributes, it was also imperative to maintain the iconic look of the **MARK-3®** pump. A great inspiration in that regard was the Porsche 911 that evolved over time but kept its distinctive silhouette. We used the Porsche 911 as inspiration to guide our industrial design efforts, making sure that the **MARK-3® Watson Edition** would remain true to the essence of its predecessor. Sometimes history is worth repeating!

What were some of the engineering challenges you encountered during the project? How did you resolve the issues?

One of our main engineering challenges was to design an engine that would not only boast an unmatched power-to-weight ratio but would also be extremely reliable. Designing such an engine from scratch was a daunting task that required advanced engineering. To ensure the success of our program, we partnered with a first-class engineering firm that specializes in engine development. They really helped us gain a better insight into engine dynamics and allowed us to resolve our most challenging engineering issues.



Tell us about the advances of the **MARK-3® Watson Edition**.

How will it make the lives of wildland firefighters easier?

For starters, the **MARK-3® Watson Edition** pump is drastically lighter than its predecessor and thanks to its ergonomic frame and carriage system it will be easier and safer to carry. Its engine is a lot easier to start and it includes an anti-flooding system that solves one of the most frequent operator errors experienced in the field. The unit also features a smart visual display that makes it more intuitive to operate and simpler to troubleshoot. The **MARK-3® Watson Edition** raises the bar in every aspect of the pump, while seamlessly integrating into the **MARK-3®** water-moving ecosystem.

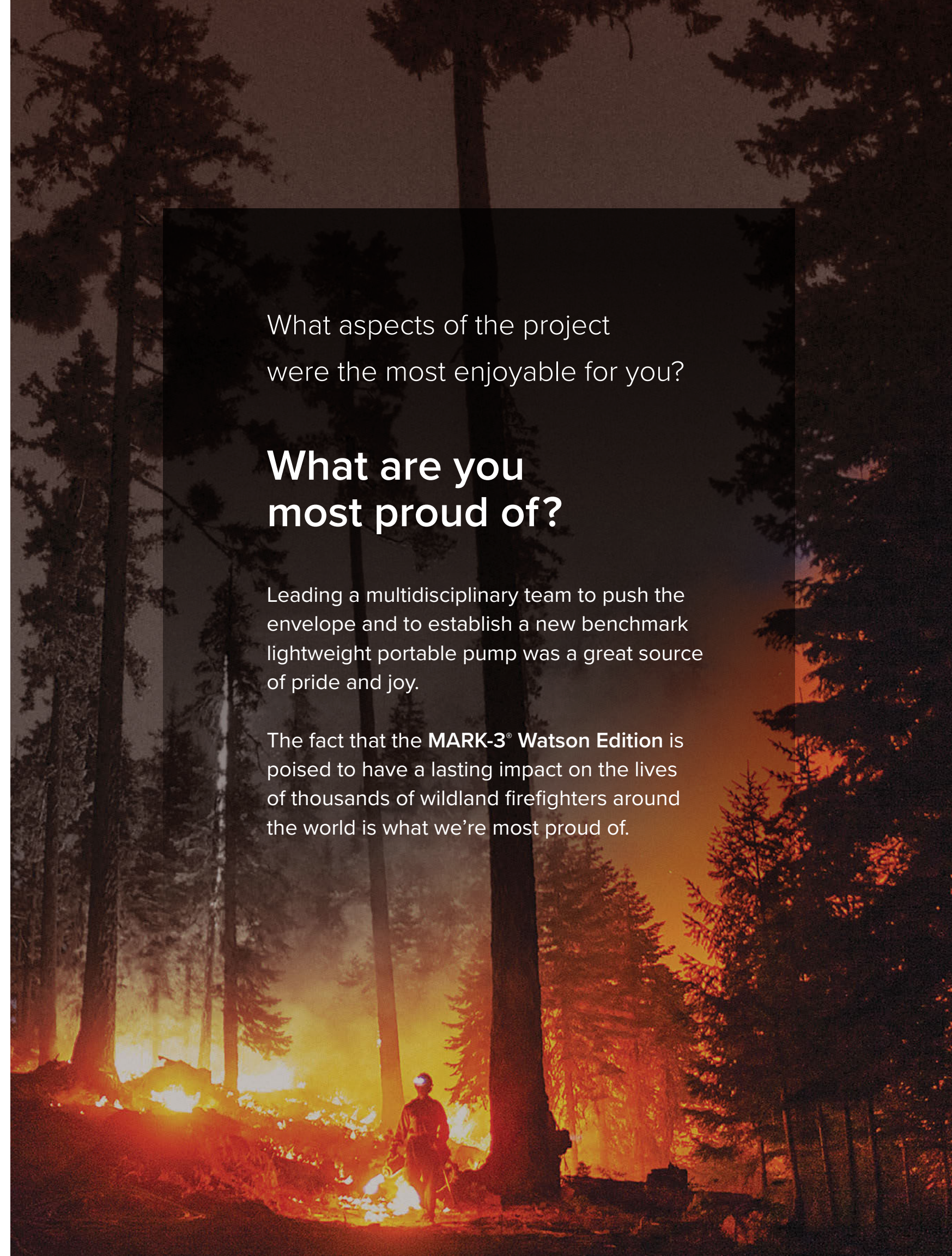


What aspects of the project were the most enjoyable for you?

What are you most proud of?

Leading a multidisciplinary team to push the envelope and to establish a new benchmark lightweight portable pump was a great source of pride and joy.

The fact that the **MARK-3® Watson Edition** is poised to have a lasting impact on the lives of thousands of wildland firefighters around the world is what we're most proud of.





Climate change and wildland fires: Facts and figures

1.9 degrees Fahrenheit:
The rise in global
temperature since 1980

Source: <https://climate.nasa.gov>
Accessed May 29, 2019.

18 of the 19 warmest
years on record have
occurred since 2001

Source: <https://climate.nasa.gov>
Accessed May 29, 2019.

“Scientific evidence for
warming of the climate
system is unequivocal.”

- Intergovernmental Panel on Climate Change
Source: <https://climate.nasa.gov/evidence>
Accessed May 29, 2019.

“The potential future
effects of global
climate change
include more frequent
wildfires (and) longer
periods of drought in
some regions.”

Source: <https://climate.nasa.gov/effect>
Accessed May 29, 2019.

“On average,
more than 100,000
wildfires ... clear
4 million to 5 million
acres (1.6 million to
2 million hectares)
of land in the U.S.
every year.”

Source: <https://www.nationalgeographic.com/environment/natural-disasters/wildfires>
Accessed May 29, 2019.

“Based on data in
the Canadian National
Forestry Database,
over 8,000 fires occur
each year, and burn
an average of over
2.1 million hectares
in Canada.”

Source: <http://cwfis.cfs.nrcan.gc.ca/ha/nfdb?type=poly&year=2017>
Accessed May 31, 2019.

The long and accomplished history of the MARK-3® pump

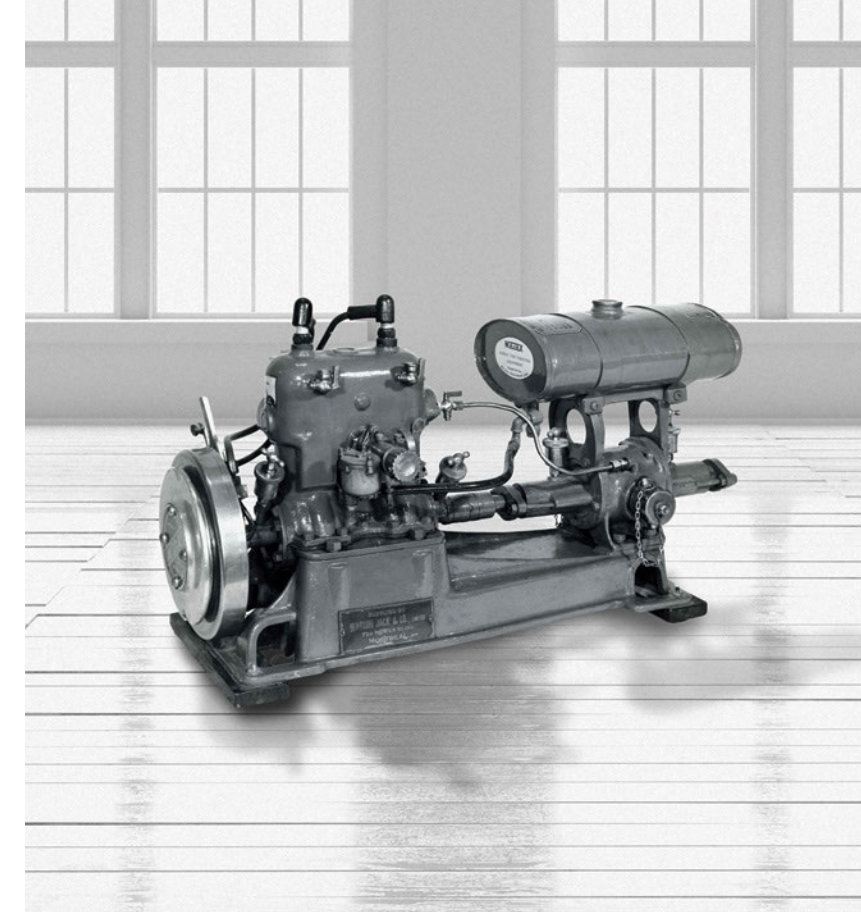
The origins of the **MARK-3®** pump can be traced back to the earliest days of the company, called **WAJAX** at the time, with the creation of the **DDVC** water pump in 1929. As technology and techniques developed in the following decades, so did our industry-leading water pumps, culminating in the creation of the **MARK-3®** in the 1960s. Today, as we launch the **MARK-3®** Watson Edition, **WATERAX** is proud to continue the line of excellence.



RAFFAELE GERBASI, PRESIDENT

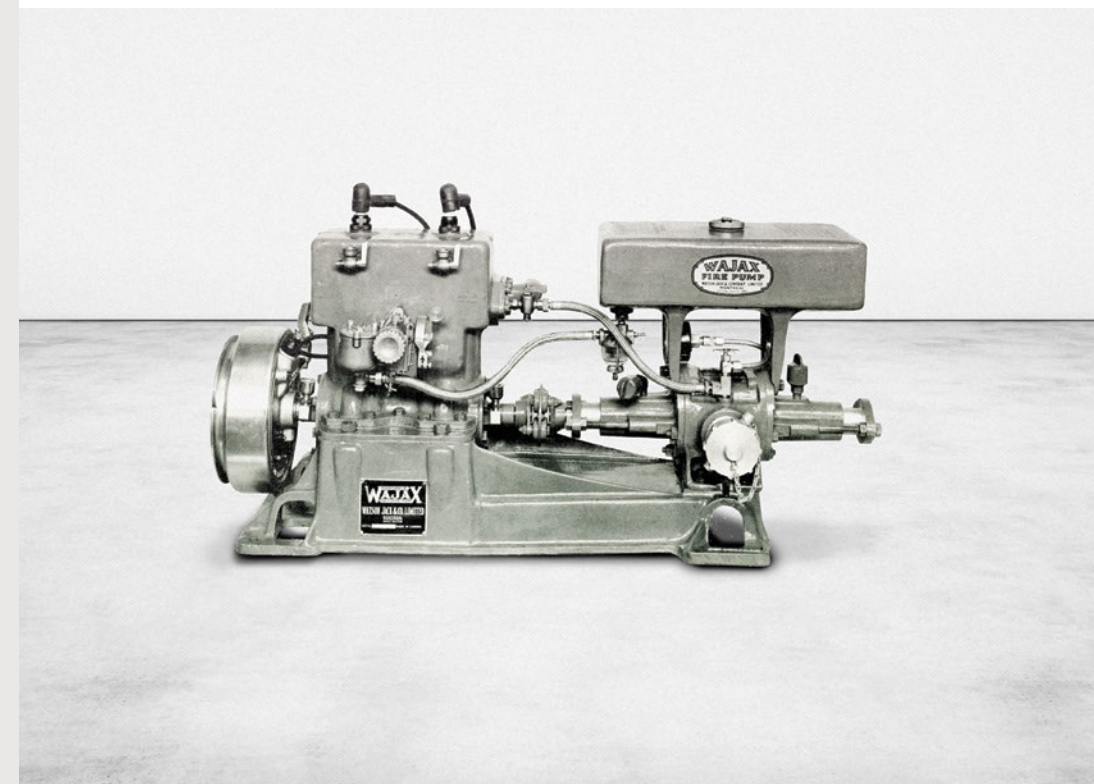
WAJAX DDVC

The predecessor of the centrifugal pump was the **WAJAX DDV** series (positive-displacement water-cooled). The last unit was manufactured and sold in 1954. This model was in use approximately 40 years prior to the introduction of the centrifugal pump series. **Weight: 100 lbs (44 kg)**



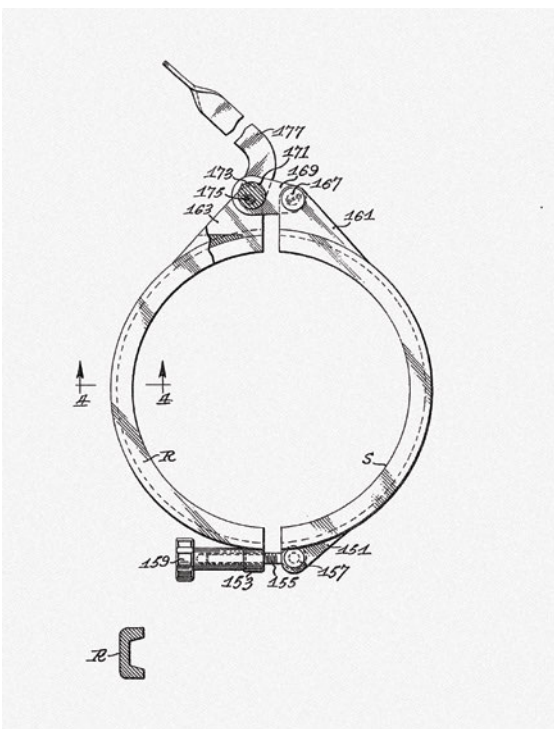
WAJAX DDVA

The **WAJAX DDVA** was developed from the "DDV" model, introduced by Watson Jack Limited in the 1920s. The letter "A" in "DDVA" indicates the use of aluminum parts in its construction. The DDVA was an internal-rotor, positive-displacement pump connected to a two-cycle vertical-in-line twin-cylinder, water-cooled engine. Because of the aluminum parts, the dry weight of the DDVA is approximately 75 pounds (34 kg), a decrease of 25 pounds (11.3 kg) compared to the earlier model DDVs. **Weight: 75 lbs (34 kg)**

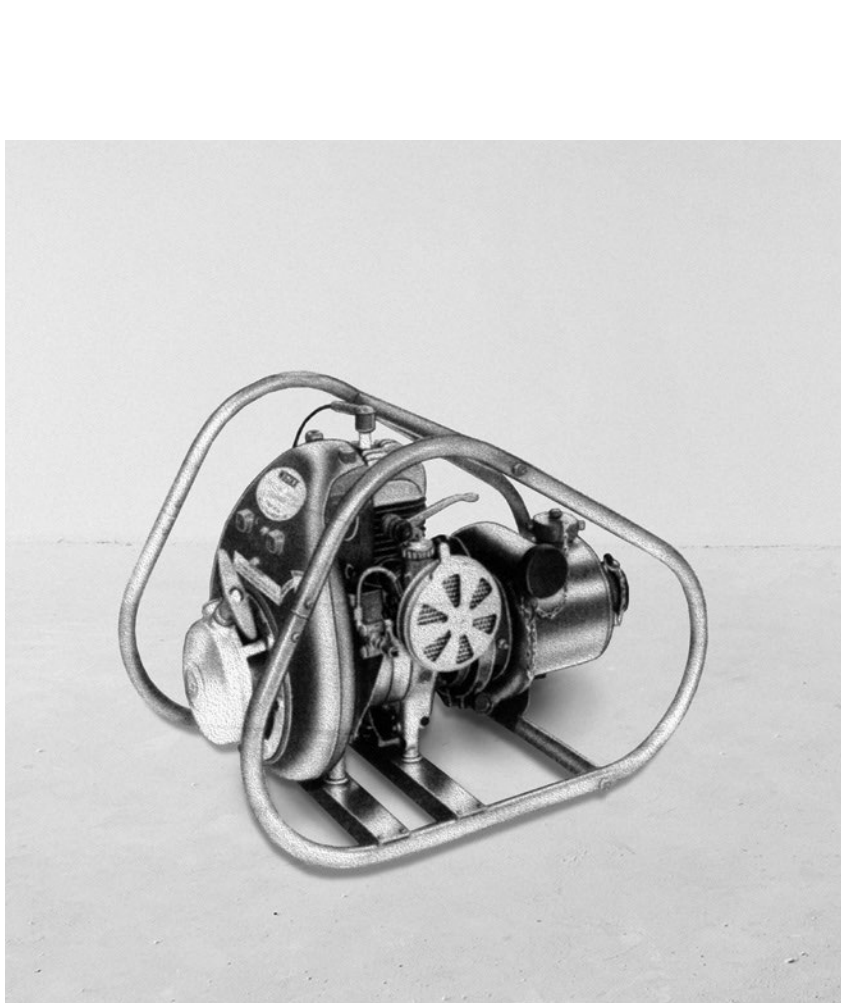




The **WAJAX MARK-1** is a four-stage centrifugal pump coupled to a nine-horsepower, two-cycle, twin-cylinder, air-cooled Mercury engine. The engine is mounted on a tubular-steel base frame. The pump is attached to the engine by a lever-operated clamp, that was patented in 1958 and was designed in collaboration with McGill University engineers. **Weight: 58 lbs (26.31 kg)**

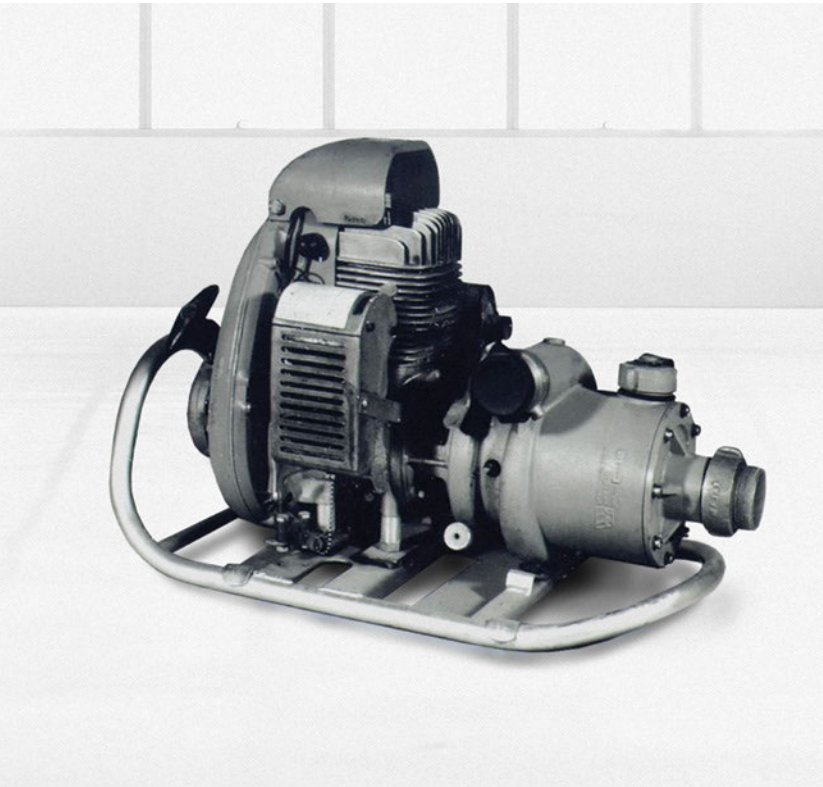


The **WAJAX MARK-2** with the ROTAX engine was introduced in 1960 as replacement for the discontinued MARK-1 after the Mercury engine was discontinued. Production continued on this model until 1962. Changes were then made to the base frame, engine cowling, carburetor and muffler. The Bing centre-float carburetor was replaced by a Tillotson all-position, diaphragm-type carburetor similar to that found on other WAJAX pumps. The engine cowling was extended to provide more protection for the cooling fans and spark plug. The spark plug cover and carburetor shroud resembled that presently being used on the **WAJAX MARK-3®**. Weight: 60 lbs (27.22 kg)



An upgrade to the **MARK-2** unit was introduced in 1962, named the **WAJAX MARK-2M** (M for “modification”). It retained the single-cylinder, eight-horsepower, air-cooled 165cc ROTAX engine with Bosch magneto. Both units were equipped with automatic-rewind starters, manual-starter-rope pulleys, quick-connect fuel supply lines and separate fuel supply tanks. Both models also used the WAJAX four-stage centrifugal pump introduced with the MARK-1, which is connected to the engine by a lever-operated clamp, with the drive provided through a rubber coupling buffer.

A black and white photograph of a portable, single-cylinder internal combustion engine with a pump, mounted on a metal frame. The engine has a cooling fan, a fuel tank, and a pump handle. A hose is connected to the side.



WAJAX MARK-3®

The **WAJAX MARK-3®** was introduced in 1964 with excellent results and feedback from around the country. Production and sales began in 1965. Since 1964, when the **MARK-3®** was first introduced by WAJAX with a ROTAX 185cc engine, it has been the standard wildland portable fire pump used by initial attack crews and forestry agencies around the world. The backpack-portable **MARK-3®** is the strongest lightweight high-pressure fire pump available. **Weight: 58.3 lbs (26.4 kg)**



WATERAX MARK-3®

WATERAX acquired the intellectual property and the rights to manufacture the durable 185cc engine from ROTAX in 2014. The **MARK-3®** benefited from a series of improvements to its key components, namely a Nikasil-coated cylinder, an impregnated crankcase, and a maintenance-free pump end. The new Nikasil-coated cylinder is the most significant upgrade on the **MARK-3®** in years. The improved **MARK-3®** passed the USDA Forest Service 100-hours endurance test in San Dimas on 08/04/15 and was requalified under QPL number 274-001. **Weight: 59.5 lbs (27 kg)**

WATERAX MARK-3® WATSON EDITION

After 100 years of building pumps, history is worth repeating. The **MARK-3® Watson Edition** is the evolution of the iconic **MARK-3®**. **WATERAX** designed and engineered a purpose-built engine perfectly optimized for its new, smaller pump end made of corrosion-free composite material. The new 140cc engine has a higher-revving engine which means a superior power-to-weight ratio. With smaller impellers and improved hydraulics, the **MARK-3® Watson Edition** brings performance to lightweight fire pumps. For the first time ever, the pump features a modern user interface that is smart and intuitive. The one-piece composite base frame has an ergonomic design to improve health and safety. It provides easy loading and unloading of the pump as well as extended durability and a steady foothold for easy pull-start. **Weight: 42 lbs (19 kg)**



Homage to the MARK-3[®] pump

“From working as a wildland firefighter I’ve used this pump in life or death situations where if you don’t cool down the blaze, immediate extraction would be required. These pumps are tougher than nails and have my 100% trust when working a fireline!”

- Jared Coombs, Canada

"I have seen these things pump in places no one would even think possible."

- Nicholas Stefanakis, British Columbia

"It absolutely never fails on the fireline! Run that pump for 8 hours and it won't fail! Thanks for making an amazing pump!"

- Austin McEwan, Canada

"It is a great product with a really solid history of being dependable under harsh conditions."

- David C, United States

"The **MARK-3[®]** is indestructible. It has been our, “go to”, pump for Wildland Urban Interface for the last 10+ years. It’s ability to pump with phenomenal pressure for thousands of feet is key for our department."

- Kyle Herman, Manitoba

"I love the **MARK-3[®]** pump. It has never let me down."

- Shane Denner, Texas



You don’t know Jack?

In 1898, Montreal native **John Colquhoun Watson Jack** founded Watson Jack & Co, an event which not only launched a successful product line but also laid the foundation for today’s flourishing business enterprise, **WATERAX**. The evolution of the company and its name represents a history of pride, growth and innovation.

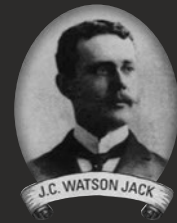
John Colquhoun Watson Jack

Inventor, businessman and trail-blazer, John Colquhoun Watson Jack was born in Montreal on August 19, 1870. His father was a wholesale grocer who imported East and West Indian produce, as well as Mediterranean goods. Like his father, Watson immersed himself in business. In 1904, shortly after founding Watson Jack & Co, he became an agent for Sprague Electric, Sprague Elevator and Otis Elevators. As he

diversified his business holdings, by 1910, Watson Jack & Company traded in metals, dyestuffs, chemical boilers and electrical supplies. In 1925, Watson Jack & Company became the leading manufacturer of a powerful 200 PSI portable fire pump called the WAJAX (an acronym of Watson Jack’s name). By the time of Watson Jack’s death in 1928, he was firmly established in the portable pump sector and successful in a range of other businesses which continue to thrive to this day.

Throughout its long and proud history, **WATERAX** has embraced the spirit of John Colquhoun Watson Jack and has adhered to Watson Jack’s forward-thinking characteristics: innovation; continuously responding to, monitoring, learning and anticipating the needs of the fire service; and understanding history, quality and purpose.

WATERAX's long and proud history:



1898

Montreal native John Colquhoun Watson Jack establishes Watson Jack & Co.



1954

Watson Jack & Co. and its FH Hopkins subsidiary are acquired by BJ Coghlin & Co.



Early
1980s

Pacific Pumpers changes its name to WAJAX-Pacific Fire Equipment. In the ensuing years, the company expands beyond wildland fire control to become an industry-leading manufacturer of firefighting equipment for the U.S. industrial and marine markets.

1995

Wildfire Fire Equipment, a newly formed company, purchases WAJAX's Fire Control Division.



2014

Wildfire Environmental changes its name to **WATERAX**, combining Wajax-Pacific Fire Equipment and Montreal-based Wajax Manufacturing.



2000

Wildfire Fire Equipment is acquired by Tyco International.

1964

WAJAX acquires Pacific Marine's fire division and is renamed Pacific Pumpers Inc. This move solidifies WAJAX's position as the leading North American manufacturer of forest fire protection products. The **MARK-3**® brand is introduced and rapidly becomes the standard portable fire pump for wildland, used by forestry agencies around the world.

1983

WAJAX sets up its Fire Control Division.

2010

Wildfire is acquired through a management buyout and renamed Wildfire Environmental.

2020

WATERAX MARK-3®
Watson Edition

1925

John Colquhoun Watson Jack introduces a powerful 200-PSI portable fire pump called the "WAJAX" (an acronym of his name).



1959

The company is renamed WAJAX Equipment.



Today, the **WATERAX** brand harnesses the powerful essence of the historical names Watson & Jack Co, Wajax and Wildfire. By returning to its roots, **WATERAX** is aligning itself with the original purpose of the company, with a new identity that communicates the core nature of our manufacturing activities and our distinctive portable pump products brand. In other words, we've been moving water for a very long time!

Meet WATERAX at these conferences

WILDLAND FIRE CANADA

Ottawa, ON

November 18-21, 2019

Visit **WATERAX** at booth 12-13

The Wildland Fire Canada Conference series brings wildland fire managers, specialists, researchers and graduate students together to learn about and discuss emerging trends and issues in wildland fire management, ecology and science.

NORTHEAST FOREST FIRE PROTECTION COMPACT CONFERENCE

South Portland, Maine

January 29-31, 2020

Northeastern Forest Fire Protection

Commission (NFFPC) provides the means for its member states and provinces to cope with fires that might be beyond the capabilities of a single member through information, technology and resource sharing (mutual aid) activities.

WILDLAND URBAN INTERFACE CONFERENCE

Reno, Nevada

March 24-26, 2020

Visit **WATERAX** at booth 405

The IAFC's Wildland-Urban Interface (WUI) conference offers hands-on training and interactive sessions designed to address the challenges of wildland fire. If you're one of the many people responsible for protecting local forests or educating landowners and your community about the importance of land management—then this is the conference for you.

FIRE DEPARTMENT INSTRUCTORS CONFERENCE 2020

Indianapolis, Indiana

April 20-25, 2020

Visit **WATERAX** at booth 422

FDIC International offers 35,000+ Fire & Rescue professionals from 65+ countries around the world, quality world-class instructors, classrooms, workshops, H.O.T. evolutions and the most innovative products and services available to the industry displayed by over 800 exhibiting companies.

INTERSCHUTZ

Hannover, Germany

June 15-20, 2020

Visit **WATERAX** in Hall 27, Stand D10

Every 5 years, representatives from industry, buyers, decision-makers and invited delegations from more than 40 countries come together at Interschutz to get down to business and exchange information about the latest products and key issues that matter to the entire business sector.



CHANGING
ENVIRONMENTS

WATERAX celebrates National Tree Day

National Tree Day, which in 2019 took place on September 25, is an annual celebration of the benefits that trees provide, such as clean air, wildlife habitat, energy and connection with nature.

For the second year, **WATERAX** took part in the **One Tree Planted** initiative, getting our hands dirty planting and taking care of trees close to home. Our team had a fun day at the Morgan Arboretum, a 245-hectare forested reserve, situated on the Macdonald Campus of McGill University in Sainte-Anne-de-Bellevue, at the western tip of the island of Montreal. The arboretum is home to 30 species of mammals, 20 species of reptiles and amphibians, and over 170 species of migratory and overwintering birds. We were honoured to learn more about the local ecology and take part in important tree-care activities like mulching, pruning and removing invasive tree species.



To find out more about **WATERAX** and the **MARK-3®** Watson Edition wildland fire portable pump, contact us.

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WATERAX 
WE MOVE WATER