

Winch Operations



**By Asst. Chief Eric Johnson
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Way back in January 1985, I used a winch at a fire for the first time. I was an 18-year-old eager volunteer firefighter in Oconomowoc. We were paged out for a car on fire in a garage. I was at the station when the call came in. I pulled up my three-quarter length boots before jumping up on the tailboard of the 1973 Mack engine alongside my buddy, Mike Gartzke. After hitting the bell to signal the driver/operator that we were strapped in and ready to respond, out the door into the frigid winter air we went. Not sure if it was from the adrenaline rush or from the ride across town in the freezing weather, but I recollect shaking uncontrollably when we arrived on the scene.

So much was happening all around the scene — smoke pouring out from the garage, hoses being pulled off the engine, the chief barking out orders, windows being broken with pike poles, sirens wailing as more fire trucks were arriving; so much to absorb for a fledgling fireman. And the coolest thing about the whole call was that a picture of the incident was in the local paper the following week and I was in it!

Back then we had a winch mounted on the front bumper of the equipment truck No. 906. The truck was pulled into the driveway and I watched as a cable from the winch was attached to the burning car. I remember Chief Witte telling me to get into the truck and with a very stern look in his eye told me to press down the brake pedal until the car is all the way out of the garage. “Yes Sir!”

Fast forward 36 years to April of this year. My current department (De Pere Fire & Rescue) operates with a 2017 Pierce engine at station 1. Engine 111 is a rescue style engine that has a receiver hitch on all four sides for an electric portable winch that we have on board to be placed when needed. We used it in a similar fashion as described above. We had cars burning in a garage and the roof to the garage had collapsed, making it very dangerous to have personnel go inside the garage to complete extinguishment. We placed the winch in the receiver hitch on the officer’s side of the engine and used it on its maiden call to assist in winching out the two burning cars from underneath the collapsing trusses and roof of the garage.

Fortunately, with the assistance of a local tow truck and recovery company, we had trained all three shifts on how to operate the winch properly. Prior to this, we had not undergone any official orientation on how the winch operated. Had we not had this training previously,

the thought of using the winch on this fire would not have crossed our minds.

Recently, I was working on updating our operational procedures for all our extrication equipment — hydraulic spreaders/cutters/ram, air bags and rescue struts. Winch operations were also included in this project. In doing the research to put the step-by-step procedures together, I was surprised to discover how little information on operating rescue winches was readily available. So little in fact, I reached out to the most knowledgeable person on extrication I know.

Ron Moore has been in the fire business for a very long time. He has a column in Firehouse magazine that is dedicated solely to the arena of extrication. We exchanged thoughts and he sent me a wealth of information on winches. I will try to convey the material in what space I am provided for this column. In no way can I provide you with everything you need to know on how to safely operate them. You need to gather your data and train with them regularly to be comfortable with using them. Winches have two primary functions: pulling and stabilizing. You can use a winch on a structural engine or a rescue truck to pull vehicles from a garage like I described above or you can use the winch and cable to assist in stabilizing a vehicle such as if it is

on its side or down an embankment. Winches on a UTV/ATV can be used to drag trees out of your way, drag another UTV or snowmobile back onto a trail, or any other function that may make your job easier.



Photo courtesy of Warn Industries

1. There are several different sizes (capacities) of winches available for the fire service ranging in size for ATV/UTV vehicles that have a pull capacity of 4,500 pounds on up to vehicle-mounted winches that can pull upwards of 18,000 pounds. Caution! The pull capacity of a winch is rated for when there is only one wrap or layer of cable on the drum of the winch. The more wraps of cable on the drum, the less pull force overall for the winch. Example: if your winch is an 8,000-pound capacity winch that uses 3/8-inch wire rope (cable), your winch has the actual capacity:

- 1st layer- 8,000 pounds
- 2nd layer-6,700 pounds
- 3rd layer- 5,700 pounds
- 4th layer- 5,000 pounds
- 5th layer- 4,500 pounds

2. You should always use a cable dampener on your cable when using the winch. A cable dampener is a

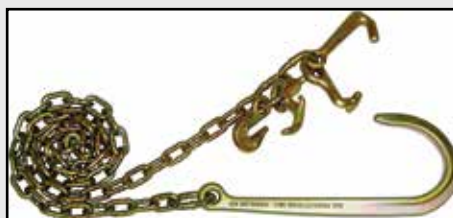
safety device that when placed over the cable(s), will lessen the recoil of the cable in the event it would break during operations (see photo below). We purchased two dampeners. They are very reasonably priced (\$25 on Amazon) and well worth it.



Photo courtesy of Ron Moore

3. Most winches come with a remote pendant switch. This should always be used, and the operator and all other personnel should stand safely off to the side while the winch is in operation. A broken cable can recoil back and cause significant harm to any personnel in its path.

4. You should never place the hook at the terminal end of your cable directly on the object being moved or stabilized. Use a nylon strap or ring or a chain on the object and hook the winch cable onto the adjunct device. From advice given during our training sessions with the local towing company (Crosby's Heavy Duty Wrecker Service, Green Bay), we procured a chain package that has a long grab hook on one end and various attachments for the undercarriage of a vehicle on the other end.



As an example, if you need to drag a burning vehicle out of a garage, you can simply use the large grab hook to get the vehicle out quickly. Another adjunct that you should have is a snatch block. A snatch block allows you to double up your cable which increases your capacity of the winch and can be used to change the direction of your pull if necessary.

5. Just like any other piece of equipment, routine maintenance on a winch is necessary to ensure its readiness. The cable should be clean of debris and periodically lubricated. Extend out the entire length of the cable and (with gloves on) check for burrs, broken wires, or flat spots. If any are found the cable should be replaced. Apply a light coat of oil (per manufacture) and re-spool the cable.

If you have a winch as part of your equipment's inventory, have a member of your department do some diligence and consult the manufacturer for proper usage and maintenance of it. Contact your local towing company for assistance in providing training to your department. They use winches every day and are an invaluable resource. My department learned a great deal from our training sessions, and we were able to successfully use our winch at a fire just a few short months afterward.

As always, contact me with any questions. Stay safe.

