

In the 1950s Koenig iron works of Houston Texas produced power take off (PTO) driven winches for jeeps and other 4 wheel drive vehicles. The winch, commonly called the model 100, or "king" winch, comes up for sale regularly on ebay and is prized by owners of vintage 4x4s. A PTO winch has several advantages over an electric winch. Driven by the vehicles engine, the winch is controlled by the gas pedal. This gives infinite control of speed. Also since the PTO is attached to the transfer case, which in turn is connected to the transmission, the winch will have as many speeds as the transmission provides and is shifted with the transmission shifter. For example if you have an early jeep with a 3 speed T90 transmission, you will have 3 forward (pulling) winch speeds + reverse. If you have an overdrive you get 6 forward winch speeds + 2 reverse. This can really come in handy if you are stuck. The disadvantage is that the engine has to run to power a PTO winch.

Given that a complete PTO winch set up can cost over \$1,000 these are sometimes called "the most expensive hood ornament you can buy." Some things to bear in mind for when looking for a vintage Koenig PTO or winch are as follows:

THE PTO: There are different PTO units for different applications. Make sure you get the correct one for your vehicle. Don't trust a seller to give you the correct application. More often than not they don't know and say it fits vehicles it won't ("fits jeeps"). For example, the models 40, 41, 48, 50, 51, and 58 all mate to a Dana 18 transfer case found on early civilian jeeps. However, the 40 and 41 only fit the truck, wagon, or sedan delivery frame and cannot be used on a CJ. The 50, 51, and 58 were designed to only fit the CJ. Also of importance is where the PTO sends the power (front or rear). The 41 and 51 only send power to the front and have a single shift handle. The models 40, 48, 50, and 58 send power to front but also to the rear. These units have two shift handles. The 40 and 50 power both front and rear together (both on or both off). The 48 and 58 allow selective use of implements (front only, rear only, both, or neither). Twin stick PTOs are rare and cost accordingly. There are other models for other transfer cases for Jeep forward control trucks, ford broncos, international scouts, etc. educate yourself before you buy.

PTOs seldom fail unless they are hit by a rock on the trail. Many hang down lower than the frame rails and the aluminum housings are vulnerable to impacts. Once installed building a skid plate is advisable if you do serious trail time. The PTO shares the transfer case lube and if you punch a hole in the PTO housing you lose the fluid in both the PTO and transfer case. Also be aware the 40 and 50 series PTOs mount to the transfer case using special allen head bolts and high collar lock washers. Not available at just any hardware store, these can be difficult to track down if missing.

THE DRIVE SHAFTS AND U-JOINTS: The drive shafts are all 7/8" diameter steel bar stock with machined in keyway slots. Woodruff keys index the U-joints to the slots in the shafts. The shaft lengths vary by application. To circumvent typical obstacles (cross-members, exhaust, clutch linkage, etc), a common application will have two shafts, three u-joints, and a center support bearing. For example the early CJ uses a 27 3/8" front shaft and a 22" rear shaft. The truck, wagon, or sedan delivery uses a 31.5" long front shaft

and a 17.75" rear. Forward Control something else. Broncos something else, etc. be advised that if you run a common overdrive unit like the Warn or Saturn you will need a longer rear shaft to compensate for the extra offset of the overdrive.

Three different universal joints are used in each setup. The front u-joint has one 7/8" opening with a 3/16" keyway and one 7/8" opening with a 1/4" keyway. The center u-joint has one 7/8" opening with a 1/4" keyway and one 7/8" opening with a 1/4" keyway. The rear u-joint has one 7/8" opening with a 1/4" keyway and one 1" opening with a 1/4" keyway. Note all shafts use 1/4" keyways, but the winch uses a 3/16" keyway and the PTO, which uses the 1/4" keyway has a larger 1" output shaft. Again these u-joints are not common off the shelf items and you won't likely find them at your local hardware or auto parts store.

The center support bearings keep the drive shaft assembly from sagging, and mount to the bell-housing. They are also (more or less) application specific. For example, the 3j-17 supplied for cj2a and cj3a applications will only fit these models. The model 5j-17 supplied for cj5, cj6 applications will actually also fit cj2a and cj3a by using only one of the bolt holes provided. Factory center support bearings are hard to find and most are forced to make their own using a 7/8" pillow-block bearing and fabricating their own mounting bracket.

THE WINCH: Koenig rated these winches at 8,000 pounds maximum pull (1600 pounds with a snatch block). This rating is under ideal conditions (pulling a rolling vehicle on level ground) with a new winch. Ideal conditions were seldom the real-world use of these old winches. Vehicles buried up to the axles in mud or pulling stumps on the farm were more likely uses of a winch and many of these units failed when trying to pull a 2,500 lb jeep out of a situation because more than 5,500 lbs of pull was necessary to extricate the vehicle from what it was stuck in.

The winch model numbers can be a bit confusing. Model numbers are stamped on a brass plate attached to the worm gear housing. Whether early models with the side mounted engagement lever, or the later top mounted engagement lever, they are all model 100 "King" winches. If Koenig sold the winch as a stand alone unit the brass plate will simply read "100." If it was sold as part of a complete package the winch model number reflects the PTO it was supplied with. For example, a model 100 winch supplied as part of a package for a CJ5 with a model 51 PTO will have a model number of "151" stamped on the winch's brass plate. This reflects a model 100 winch paired with a model 51 PTO.

There were various versions of the model 100 winch produced over the years. Earliest versions had a worm gear housing which was split horizontally at main shaft level. The second series changed to a worm gear housing which was split vertically. These housings are interchangeable. Third series winches relocated the engagement lever to address issues detailed below and had an integrated mount frame. These are typically found on early Broncos and are hard to fit to early jeeps which required a separate mount.

A major problem with the early models (especially with the side mounted engagement lever) was the aluminum castings Koenig produced. Koenig's alloy was of questionable quality when new, and aluminum becomes brittle with age. These units are over 50 years old now and this, combined with design flaws and misuse, lead to the failure of most units. The main source of failure is typically sourced to the two mounting tabs for the engagement mechanism and drum brake. These tabs are cast into the aluminum A-frame structure that supports the winch main shaft. Under stress, these tabs are prone to break off and render the engagement and drum brake mechanisms useless. In fact, 90% of the Koenig winches that come up for sale will have this failure and will likely be missing most, or all, the parts that were attached to the tabs that broke off. Later models addressed this problem and relocated the engagement mechanism to the top of the unit. A nice try but it still frequently failed.

Other things to watch out for are also related to the aluminum becoming brittle with age. These common problem areas include stress cracks around the bolt holes from over tightening and broken mounting flanges on the worm gear housing. Broken mounting holes can be avoided by not using grade 8 fasteners to mount the winch. It is cheaper to replace a broken bolt than a broken winch if you choose to overtax your unit by pulling beyond its limits. Remember the weakest link will fail first.

All these issues can be repaired by someone with good fabrication skills and the right tools, but be aware that, aside from bearings and bolts, there are no new parts available for these vintage winches. It is better (and cheaper) to get a good one to begin with than to have to buy several to piece together a working unit.

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