



In Search of **Excellence**

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**OVER 400 SPECIALTY
LUBRICANTS**



EXECUTIVE SUMMARY

Most hydrostatic drive systems must be rebuilt long before they have reached their potential life span. Repairs can cost several thousands of dollars, plus downtime. Owners who do not know better often simply accept this as the normal cost of doing business. This is a costly mistake.

Extending the life of these units by 2X to 4X is not difficult and can result in huge savings. Reduced repair bills, higher productivity and increased satisfaction with machine ownership are tangible benefits. The very small cost of doing things right@ can save you significant dollars. Power King Skid Loader Oil is a specialty product that can help you achieve those benefits.

Where to Start, What to Do

It has been proven that a small investment in premium fluids and filtration can extend the life of hydrostatic systems. Owners can expect at least double life, if not up to 4X normal hydrostatic life, if the following conditions can be met;

The fluid for hydrostatic systems must contain much higher levels of **Anti-Wear Additives** than what is necessary in most other types of oils. Hydrostatic pumps may operate at 5,500 PSI or higher. In a few moments, we will address anti-wear additives.

The **Cleanliness** of the system must be maintained. The standard filtration of most systems is woefully inadequate. We will show you how to get your system cleaner than new.

All oils eventually become contaminated with at least a small amount of **Moisture** which may cause a substantial amount of damage. The degree of damage will vary immensely, depending upon the composition of the additives in the oil. Power King Skid Loader Oil handles moisture much more easily than most other oils used in hydrostatic systems.

Power King Skid Loader oil is available in two petroleum versions and synthetic for cold climates. The two petroleum versions are identical except that the NT version contains 7.5% of our NT Oil Additive. For the ultimate in **Hydrostatic System Protection**, we suggest the NT version. Hydrostatic systems using NT Oil Additive will run cooler, quieter and more efficiently. In addition, used oil analysis reveals that wear rates can be 30% to 50% lower with NT Oil Additive in the oil.

Development of The Product

Power King Skid Loader Oil was designed from the ground up to meet the needs of modern high pressure hydraulic and hydrostatic systems. It is suitable for use in all brands of skid steer loaders. Skid loaders need an oil with exceptional wear resistance to help keep operating costs low. In addition, many owners of other types of hydrostatic systems may benefit from the use of this fluid.

Your skid loader owner's manual may specify any of several types of fluid for your hydrostatic system. These can include;

Motor Oil,

Motor Oil with an OEM additive,

Universal Tractor Fluid,

Automatic Transmission Fluid or

Anti Wear Hydraulic Fluid

In many cases, the oil specified by one machine manufacturer may be totally different than the oil specified by another machine manufacturer, even though both machines may use identical hydrostatic components.

This observation led to a three-year examination of what works best in hydrostatic transmissions. Most of the oils specified in the list above bear little or no resemblance to each other.

As facts began to emerge, it became clear that there are three issues that must be addressed in building a superior hydrostatic fluid. They are;

Viscosity (oil thickness)

Anti-Wear properties, and

Moisture tolerance.

Motor oil typically contains 3X to 5X more zinc antiwear additive than hydraulic fluid. This helps reduce wear. The downside to motor oil is that it does not tolerate moisture very well, allowing corrosion. Motor oil is intended to operate at higher temperatures where moisture can be driven out during operation. As a hydrostatic system needs maximum protection against corrosion, it is apparent that motor oil is only a second-best idea.

One skid steer loader manufacturer sells an anti-wear zinc additive to add to motor oil which nearly triples the zinc content. This zinc level surely helps with the need for antiwear but does nothing to correct the moisture, corrosion and erosion issues.

Universal Tractor Fluids are used in tractor hydraulics. This leads many people to believe that they are the first choice in hydrostatic systems. This is not so, they do not provide particularly good performance in hydrostatic systems.

Automatic Transmission Fluids have good viscosity properties but lack anti-wear protection in the very high pressures encountered in hydrostatic systems.

Anti-wear hydraulic fluids usually contain about 225 to 435 PPM of zinc anti-wear additives. This is not sufficient for the very high pressures of hydrostatic fluids. If this type of fluid has one strength, it is in its excellent moisture tolerance.

The Answer

Power King Skid Loader Oil

This fluid was developed to provide the best combination of properties available for use in hydrostatic systems. The focus was on skid loaders but there are dozens of other uses for this product.

Proper Oil Viscosity (Oil Thickness)

Power King Skid Loader Oil is a SAE 10W30 Oil with a VI of 151. (For technical people, the cSt viscosity is 10.5 to 11.0 cSt at 100°C and approximately 70.0 at 40°C.) This is within the viscosity range recommended by most hydrostatic pump manufacturers. We can build special purpose synthetic versions of this product for hydrostatic systems with special needs.

Maximum Antiwear Protection

Power King Skid Loader Oil contains more than 2,500 PPM of zinc. This is 10X more zinc than many antiwear hydraulic fluids and more than double the zinc content of most motor oils.

Moisture Tolerance

Power King Skid Loader Oil does not contain the additives that weaken resistance to moisture, as are found in motor oil. This means that normal amounts of moisture will not cause corrosive damage to your system.

System Cleanliness

We recommend that you ask your King Oil Company Distributor about King Super Solvent 32 AW. ACleaner than new,@ could be the slogan for this product. System cleanliness is extremely important in obtaining long life. We can help you with filtration problems too.

Note: NT Oil Additive is also a system cleaner. Be sure to monitor filter differential during the first 50 hours of operation and change filters as necessary. The long term benefits of NT Oil Additive are valuable, and are worth changing a filter or two within the first few hours of operation.

0405-4405 SERIES