

DATE: 7-May-2018 (revised)

TO: Auto Crane Dealers

SUBJECT: Hydraulic System Recommendations and FAQs

PART NUMBERS OF AFFECTED PRODUCTS:
All EHC and HC Cranes

SERIAL NUMBERS OF AFFECTED PRODUCTS
Not applicable

System Design

All hydraulic ratings and pressures are at the crane, compressor or outriggers. Pressure drops within the hydraulic system is not taken into account. These pressure drops are added to the rating of the hydraulic pump and components. Auto Crane highly recommends consulting a hydraulic expert for specifying the correct hydraulic pump type and size, oil reservoir size, hydraulic cooler, hydraulic pressure relief, and other hydraulic supply components for your application.

Please take into consideration the following: The hydraulic flow and pressure requirements of the crane and air compressor, the continuous hydraulic load when the crane and compressor are running, the duty cycle and ambient operating temperatures, and any other hydraulic equipment that may share the same hydraulic supply system.

Cooling

Trucks which are operated with the PTO continuously engaged will build-up more heat than a passive oil tank can dissipate and will require auxiliary cooler or additional cooling from another component such as the Vanair RS85 compressor.

Oil Type

The recommended hydraulic oil weight with anti-wear (AW) properties is as follows:

- ISO 32 or equivalent: -10°F to 85°F (-23°C to 30°C) ambient
- ISO 46 or equivalent: 10°F to 110°F (-12°C to 43°C) ambient

The chart below lists equivalent oils of common brands:

Oil Weight	Conoco	Mobil	Shell	Chevron	Exxon	Texaco
ISO 32	Super Hydraulic MV 32 SAE5W20	Hydraulic Oil 13 DTE 12M DTE 13M DTE23	Tellus T 32	AW Hydraulic HD 32	Humble Hydraulic 1193 Univis J-26 Univis N 32	Rando HDZ 32
ISO 32	Super Hydraulic 32 SAE10W ISO 32	Hydraulic AW32 Hydraulic Oil Light DTE 24 ETNA 24	AW Hydraulic 32 Tellus 25 Tellus 32 Tellus 927 Tellus Plus 22	AW Hydraulic Oil 32 AW Machine Oil 32 Rykon Oil AW 32 Rykon Oil 32	Humble Hydraulic 1193 Humble Hydraulic H32 Humble Hydraulic H34 Nuto H44	Rando HD 32
ISO 32	Ecoterra 32 SAE10, ISO 32	DTE Excel 32	Tellus S 32	Clarity Hydraulic AW 32	Terrastic EP 32	Rando HD Ashless
ISO 46	Super Hydraulic 46 SAE10W ISO 46	DTE 25 ETNA 25 Hydraulic Oil AW 46 Hydraulic Oil Medium Hydrex AW 46 NS 46 Vacrex 46	AW Hydraulic 46 MD Hydraulic Oil AW 46 Tellus 29 Tellus 46 Tellus 929 Tellus Plus 46	AW Hydraulic Oil 46 AW Machine Oil 46 EP Industrial Oil 46 EP Machine Oil 11 Hydraulic Oil 46 Rykon Oil AW 46	Humble Hydraulic 1194 Humble Hydraulic H46 Humble Hydraulic M46 Nuto H46 Nuto H48	Rando HD 46
ISO 68	Super Hydraulic 68 SAE20W ISO68	Hydraulic Oil 68 Hydraulic Oil Heavy DTE 26 ETNA 26	AW Hydraulic 68 Tellus 33 Tellus 68 Tellus 933 Tellus Plus 68	AW Hydraulic Oil 68 AW Machine Oil 68 EP Machine Oil 68 EP Machine Oil 70	Humble Hydraulic 1197 Humble Hydraulic H68 Nuto H54 Nuto H68	Rando HD 68

Q: Can I use ATF oil instead of hydraulic oil?

A: Short answer, yes!

ATF is a premium hydraulic fluid, but also comes at a premium price, which is its major downside. A gallon of ATF is hard to find for less than \$30, but five gallons of hydraulic oil can be had for less than \$60. However, ATF is closer in quality to synthetic hydraulic fluid making the choice seem more reasonable.

ATF is formulated for high viscosity index (the ability to maintain test viscosity over a wide temperature range) and has excellent water control properties allowing the fluid to hold more water in saturation before being released to create corrosion. Also, the additives in ATF are formulated to improve lubricity, anti-foaming, shear stability and resistance to oxidation.

Oil Cleanliness

Proportional hydraulic systems require extra care to maintain clean oil. New hydraulic oil is not “clean” hydraulic oil. New oil is typically ISO 4406: 22/21/19 cleanliness whereas proportional controls require oil that is at least ISO 4406: 17/15/12 cleanliness. *Using new oil that does not meet this cleanliness means the oil is 32-125x dirtier than what is required!*

While the NexStar cranes feature a 5 micron pressure filter to help prevent deposits from reaching the proportional valves, you must insure the oil and hydraulic tank and lines must be clean before running the crane for the first time. Failure to do so will result in contamination problems for your customer.

For questions or concerns please contact our customer service group at 800.777.2760 or 918.438.2760.