



- NEKARTH has been a leading manufacturer of O.E.M. and premium aftermarket parts for traction, wheels and differentials for over 45 years.
- Every detail in our manufacturing process, from design to final assembly and inspection, reflects the highest industry standards.
- This manual is TO help you, provide safe and trouble free operation of NEKARTH differentials for the life of the product.
- Please take sometime to read this manual thoroughly.
- NEKARTH encourage you to read the warranty carefully before putting the vehicle into service.
- Installation Before installing NEKARTH differentials, please read the manual

**Note: WE STRONG RECOMMEND THAT ONLY A CERTIFIED DIRVELINE PROFESSIONAL MECHANIC PERFORM THE INSTALATION .**

**PLEASE FOLLOW OUR INSTRUCTIONS ALWAYS.**

Maintenance: **NEKARTH IS A FREE MAINTENANCE DEVICE, BUT YOU MUST TO KEEP THE OIL LEVEL, MAKE THE PROPER INSTALLION AND USE ACCORDING THE PURPOSE OF THE DIFFERENTIALS.**

- Carefully follow the recommended lubrication, service and inspection procedures.

#### OPERATION

- NEKARTH differentials are unique in that they increase traction but do not affect steering or wear out prematurely; these problems are common with limited-slip differentials that use clutch plates and springs.

- NEKARTH performs like a conventional differential, until there is a loss of traction. Only then will the power transfer occur - when it is needed.
- If one wheel begins to lose traction, the pinions separate slightly from the side gear, and wedge in the pockets.
- As input torque increases, the separating force increases, thus slowing or stopping the spinout. This allows torque to be distributed to the wheel with the best footing.

**Note: NEKARTH differentials require a certain amount of resistance at the ground in order to start the power transfer.**

**A NEKARTH differential may not transfer power if the spinning wheel is off the ground. If spinning occurs, often a light application of the brakes, while carefully applying power, will slow the spinning wheel enough to allow the NEKARTH differential to transfer torque to the other wheel.**

#### APPLICATION

- approval for use of NEKARTH differentials in various vehicles is established with the understanding that the vehicle will be operated with approved factory engine and driveline components, as specified for that vehicle by the vehicle/axle manufacturer.
- Use extreme caution when accelerating or decelerating on slippery or unstable surfaces. Vehicles/axles equipped with traction differentials are inherently more sensitive to side-slip than vehicles equipped with conventional differentials. Stability can be regained if side-slip occurs by letting off the accelerator.
- Distribute the load evenly side-to-side; do not exceed the vehicle's rated payload capacity; keep the diameter of the tires equal. Failure to observe these measures can create a difference in side-to-side wheel speed which can cause the vehicle to pull to one side.

## INSTALLATION

- The installation procedure presented here applies to all NEKARTH differentials used in over-the-road vehicles.
- All NEKARTH differentials are shipped from the factory completely assembled and ready for installation by replacing the conventional differential and case assembly.
- The product is designed to fit the components in the vehicle. No machining is required. The procedure is the same as it is for installing a conventional or clutch-type differential. Three to four hours of labor are required, depending on the application.
- **Read and follow the vehicle/axle manufacturer's instructions for removing the differential.**