

Instructional Guide

9" Ford 3rd Member Break-in



Speedtech
PERFORMANCE

CHASSIS - SUSPENSION - PRO TOURING - AUTOCROSS - DRAG RACING - CUSTOM BUILDS

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OIL REQUIREMENTS

For Tru Trac and Wavetrack posi units, use a quality petroleum/mineral-based oil. **We do not recommend synthetic oil.** Friction additive/modifier is not required. Do not use any RedLine, Shockproof, Royal Purple or similar gear oils. Specifically, any standard 75W 90 or 140 will work just fine.

OIL LEVEL

Many differentials are easy to fill with gear oil. However, the 9" Ford design can be difficult to fill completely. The location of the fill plug on the 9" Ford can cause oil to run back out before it is completely full. Most 9" housings hold at least 2 1/2 – 3 quarts of oil and sometimes as much as 5 quarts. It is important to take your time and be sure that the oil has settled into all the crevices and recheck the oil level to be certain that it is completely full before driving the vehicle.

BREAK IN

ANY OVERLOADING OR OVERHEATING WILL CAUSE THE GEAR OIL TO BREAK DOWN AND THE RING & PINION WILL FAIL.

All new gear sets require a break-in period to prevent damage from overheating. After driving the first 15 to 20 miles, it is best to stop and let the differential cool before proceeding. Dutchman's warranty requires at least 500 miles before towing. DMI also requires towing for very short distances (less than 15 miles) and letting the differential cool before continuing during the first 45 towing miles. This may seem unnecessary, but it is very easy to damage the differential by loading it before the gear set is completely broken in. DMI recommends changing the oil after the first 500 miles. This will remove any metal particles or phosphorus coating that has come from the new gear set. The greatest damage results when a new ring & pinion has been run for several miles during the first 500 miles and the oil is very hot. Any heavy use or overloading at this time will cause irreparable damage to the gear set that can be determined by inspection and will not be warranted by DMI.

CLUTCH TYPE "POSITRACTIONS"

Positraction chatter is normal for limited slip and clutch type positraction differentials. Both rear tires must measure the same circumference in order for the differential to function properly without premature wear. **Limited slip additive or friction modifier for limited slip differentials must be used with the oil to reduce positraction chatter in the event that the oil is changed.**

LOCKERS

Mechanical Locking differentials will bang and clunk during normal operation. Both rear tires must measure the same circumference in order for a locking differential to function properly.

GEAR NOISE

Richmond Gear and other aftermarket (non-OEM) gears are designed primarily for strength *and may be noisy*. This noise is especially inherent in vans and quiet passenger cars.

SIGNS OF LUBRICATION FAILURE

When a gear runs low on oil, damage is sure to result. The cause of damage is not always obvious. When a differential runs low on oil, the oil volume may not be sufficient to keep the gear cool. Once the oil breaks down from contact with the hot gear, wear occurs very rapidly. Material will wear off the drive side of both the ring & pinion teeth and leave a feather like pattern on both surfaces. A gear that wears from friction due to lack of lubrication and excessive heat seldom experiences a color change from heat because any discoloration is worn off the teeth during each contact. Ring & Pinion gears are heat treated separately so that the pinion, whose teeth make contact more often than the ring gear, is designed to be harder. To accomplish this, the two gears are heat treated separately and a soft gear will not cause both the ring & pinion to wear.

DUTCHMAN AXLE WARRANTY EXCLUSIONS

1. Any damage due to abuse, overloading, or lubrication failure (e.g. oil deterioration, water contamination, low oil level).
2. Any vehicles used off road or for competition.
3. Mini and mid-sized vehicles with tires over 31" tall will not be warranted due to the overloading caused by tall tires.

Most items are not warranted against abuse, overloading, or improper lubrication. All rear axle parts must be returned to DUTCHMAN'S shop freight prepaid for inspection and determination. We do not authorize and will not pay for outside repairs. ANY UNAUTHORIZED OUTSIDE REPAIRS OR MODIFICATIONS VOID THIS WARRANTY. We will not pay for labor, inconvenience, loss of time or revenue, telephone calls, commercial losses, or loss of perishable goods. This is our only warranty expressed or implied. All returned goods must be accompanied by copy of purchase invoice within 30 days and will be charged a 20% service charge for handling.

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