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GROUND-RP-INST

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WEDDLE GROUND R&P SET

INSTRUCTIONS AND PROCEDURES

OVERVIEW

Weddle Industries Ground Ring and Pinion Sets are manufactured using the most modern Gleason Bevel Gear technology including finish grinding after heat treat. Weddle ground R&P sets take advantage of the capabilities of finish grinding to make a stronger, more durable part. Finish grinding removes any distortion of the tooth form that occurs during heat treat resulting in gear teeth that are uniform and perfect.

Not only are the teeth perfect, finish grinding allows for greater control of the tooth contact patch. Weddle Industries worked very closely with our manufacturer, running sample R&P sets and sending them back for inspection and measurement. Through this process the contact pattern was adjusted in both size and location to increase strength and durability.

CONTACT PATTERN NOTES

When setting up a Weddle ground R&P set the contact pattern should be located more to the toe side of the tooth on both drive and coast sides (See photos).

It is recommended to start with the exact shim called for by subtracting the case deviation from the pinion depth number etched on the R&P set. Backlash should be set with a minimum of .25mm (.010") to .30mm (.012").

Pinion Mounting Distance - Case Deviation =
Shim Thickness (mm)

To achieve more durability on the tooth face not only was the contact pattern moved to the toe side, the contact patch was also made larger. This spreads the drive load over a larger surface area to help reduce surface wear on the teeth. This process is not always recommended but for the shock loading seen in off road use it is quite beneficial. These R&P's may feel slightly rough when turning the R&P over by hand during set up, this is normal.





BREAK IN NOTES

Increase the lifespan of your new ring and pinion set and avoid damage by taking the time to properly break it in. New R&P sets straight from the factory have microscopic “peaks” and “valleys” on the faces of the gears left over from the manufacturing process. Unfortunately, the “lapping” procedure does not accomplish a proper break in of the gears as it cannot simulate the loads encountered during real world operation. True break in can only be done in the vehicle.

BREAK IN PROCEDURE

During initial use, running new R&P sets will create more heat than normal. If a new set is run too hard or for too long, a critical amount of heat will be generated that can damage the steel as well as the lubricant. This will result in increased wear and decrease the lifespan of the parts.

Take the time to properly break in your new R&P:

- On initial use, drive easy. No hard launches. No full throttle or high speed runs. No towing.
- Drive for 15-20 minutes. Stop and let the gearbox cool for 30 minutes. Repeat 3-5 times.
- Replace lubricant after initial break in and short run time.

Following this break in procedure will help to “work harden” the material by flattening high spots and compressing steel molecules near the surface. This will make your ring and pinion set a harder, better and more durable part.

REM POLISHING

REM polishing will reduce the heat created and eliminate high and low spots on the gear faces, but it will not “work harden” the surface of the teeth. The break in procedure is still highly recommended.

IF YOU HAVE ANY QUESTIONS

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