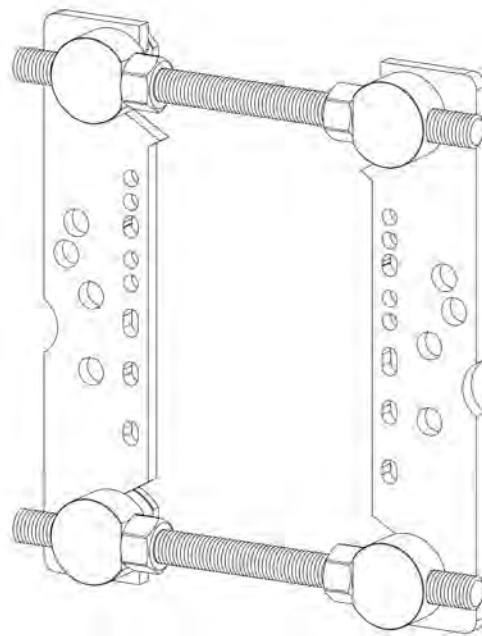




TOOLS



0770003

DIFFERENTIAL HOUSING SPREADER

Part No. 2102TOOL3
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1.1 Introduction

ARB's Air Locker Differential Spreader is a professional automotive tool that no differential installer should be without.

Most common Salisbury style axle assemblies (e.g., Dana Spicer model 44) require the use of a differential spreader in order to achieve the required carrier bearing pre-load during set-up. Stretching the housing casting (or 'pumpkin') open by sufficient enough force as to allow extra shim to be added to create the pre-load is the method that the OEM manufacturer's endorse, and most manufacturer's have included special 'spreader sockets' in the housing for exactly this purpose.

Insufficient pre-load can result in bearing failure, or ring and pinion failure on any differential, and possible oil/air leakage issues in an Air Locker differential.

As a part of ARB's *AIR LOCKER TOOLS* range of differential service/installation equipment, this specialty tool offers an easy, quick and highly effective way of pre-loading these axles.

1.2 Using the Spreader

ARB's differential spreader has been designed to suit a large range of differential models (both Salisbury & banjo types), however, the user must be aware that these instructions are intended as a generic guide only, and they may be required to deviate from these instructions in order to adapt the spreader to suit a unique application.

NOTE : Unless you have been advised otherwise by your vehicle manufacturer, spreading is not recommended for pre-loading an aluminum housing.

- Determine the best spreader plate position/configuration from aligning the plates by matching the holes in the spreader plates with the tapped cover plate holes in the axle housing.

NOTE : Ensure that a large spreader pin hole in each plate is in line with the spreader sockets in the axle housing if sockets are available, and ensure that the plates are clear of all suspension components.

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- Fit the Ø22mm spreader pins provided to the pin holes in the plates with the supplied bolts & washers.

NOTE : It is not necessary to use the spreader pins on every application. If the differential housing does not have any spreader sockets then simply remove the pins from the plates and use only the cover bolt holes to apply the spreader force.

- Bolt the spreader plates to the differential cover holes in the axle housing using appropriate bolts and washers (not supplied).
- Slide the 4 knuckles into place with the flats facing towards the center.

NOTE : It may be necessary to fit the knuckles to the plates before installing the plates on some applications.

- Fit the threaded rods into the knuckles, and tighten the nuts up to the flat faces on the knuckles.
- Using a 36mm [$1\frac{13}{32}$ "] wrench or equivalent, tighten the nuts into the knuckles until the housing starts to spread.
- Only spread the housing enough to remove the differential or enough to insert the correct amount of preload shim.

NOTE : Overspreading the housing can result in permanent damage to the housing casting. As a general rule, do not spread the differential more than 0.5mm [0.02"]. This amount can be measured using a dial indicator from one side of the housing across to the other.

NOTE : The cover bolts can be overloaded if the plates become skewed. Try to spread the top and bottom evenly so that you maintain a relatively parallel alignment of the spreader plates.

- Release all tension on the spreader as soon as the required work has been carried out on the differential (removal or installation).

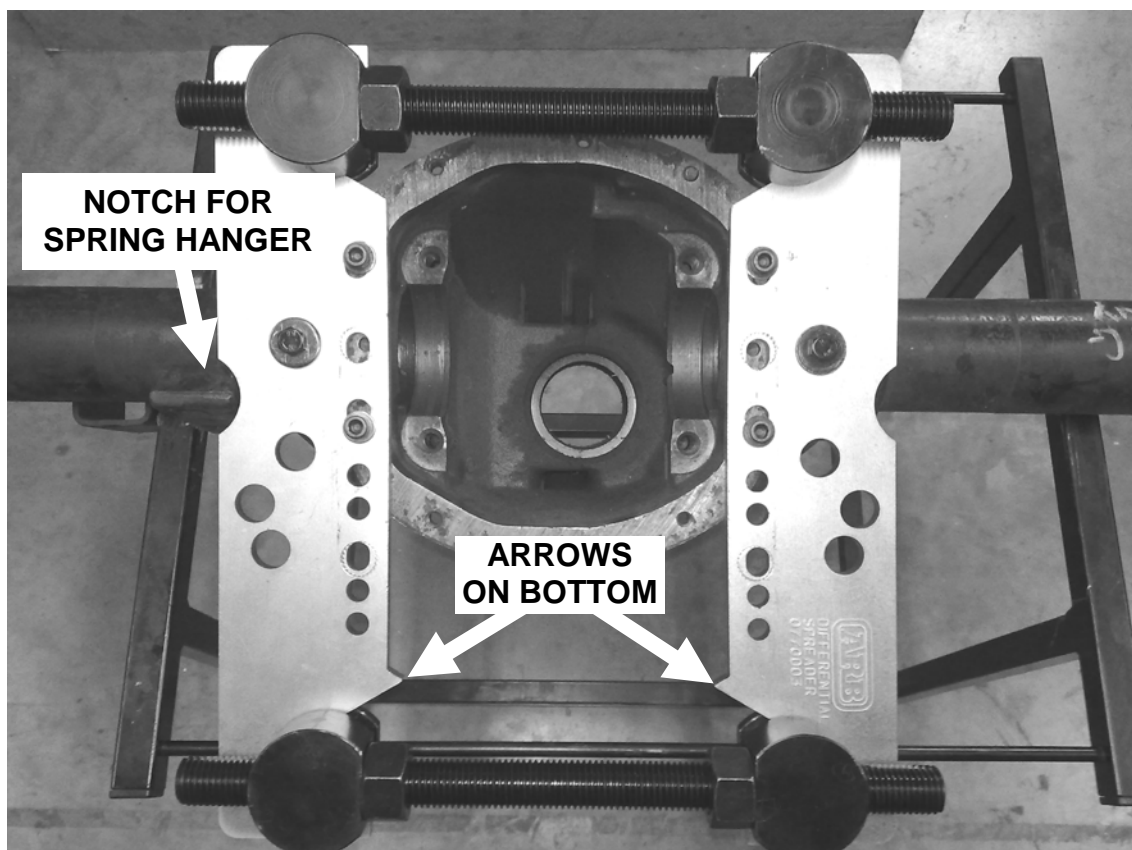
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1.3 Common Applications

The following pages show the *Air Locker Differential Spreader* being used in some common applications for reference only. Note the locations of the arrows, bolts & spreader pins (when used).

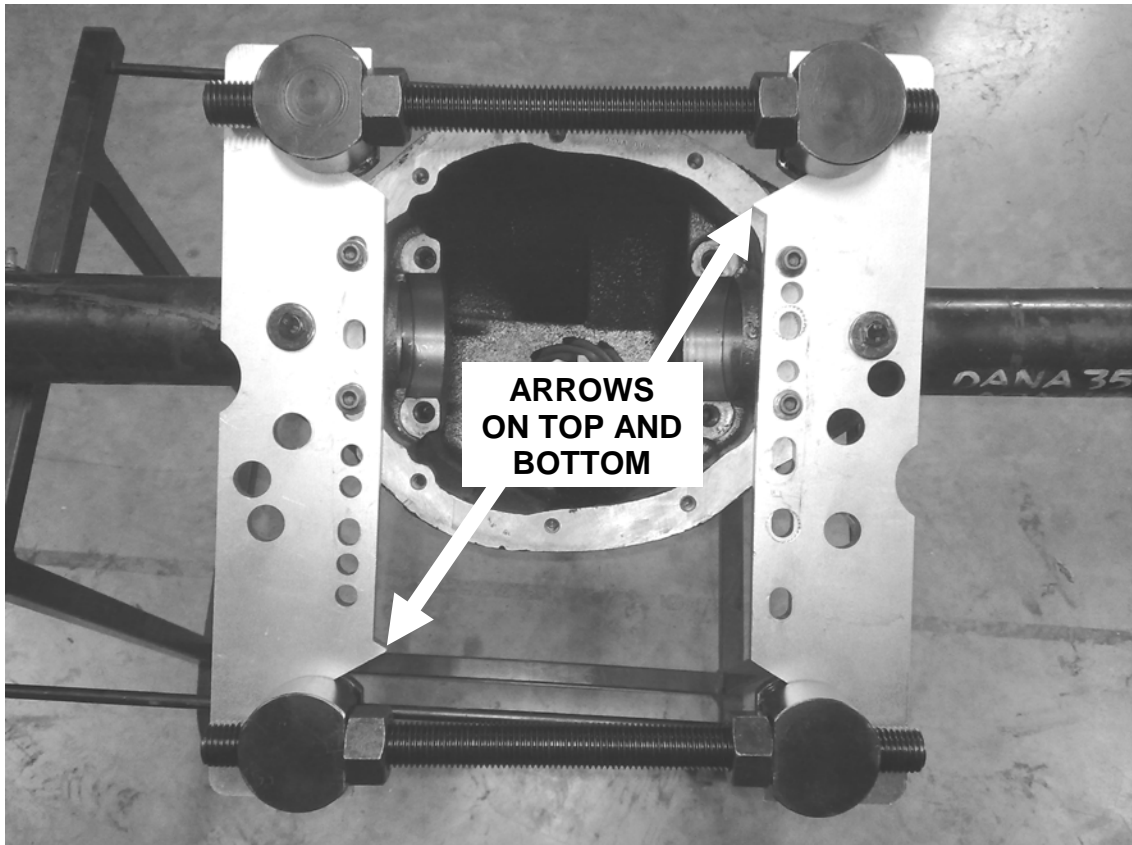
HINT : On some differentials (especially banjo style), it may be necessary to space the plates away from the housing with some washers in order to clear the cast surfaces.

DANA 30

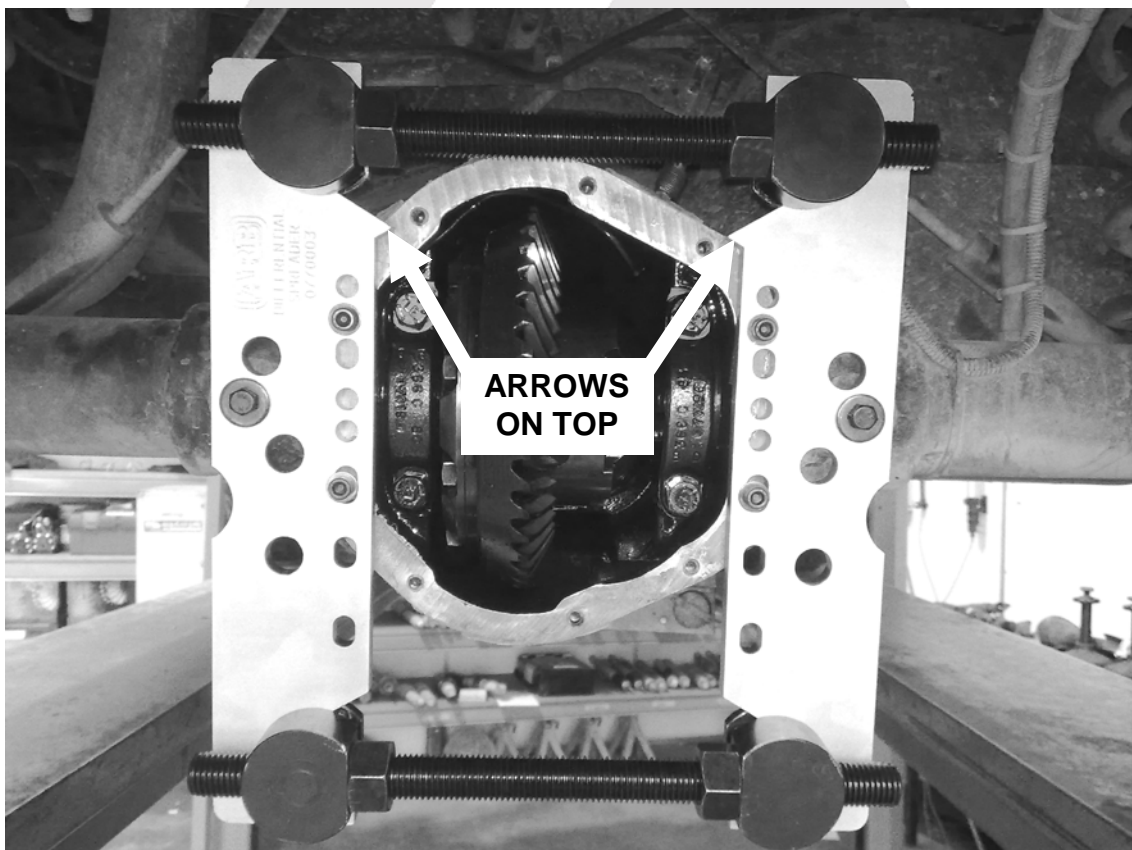


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DANA 35

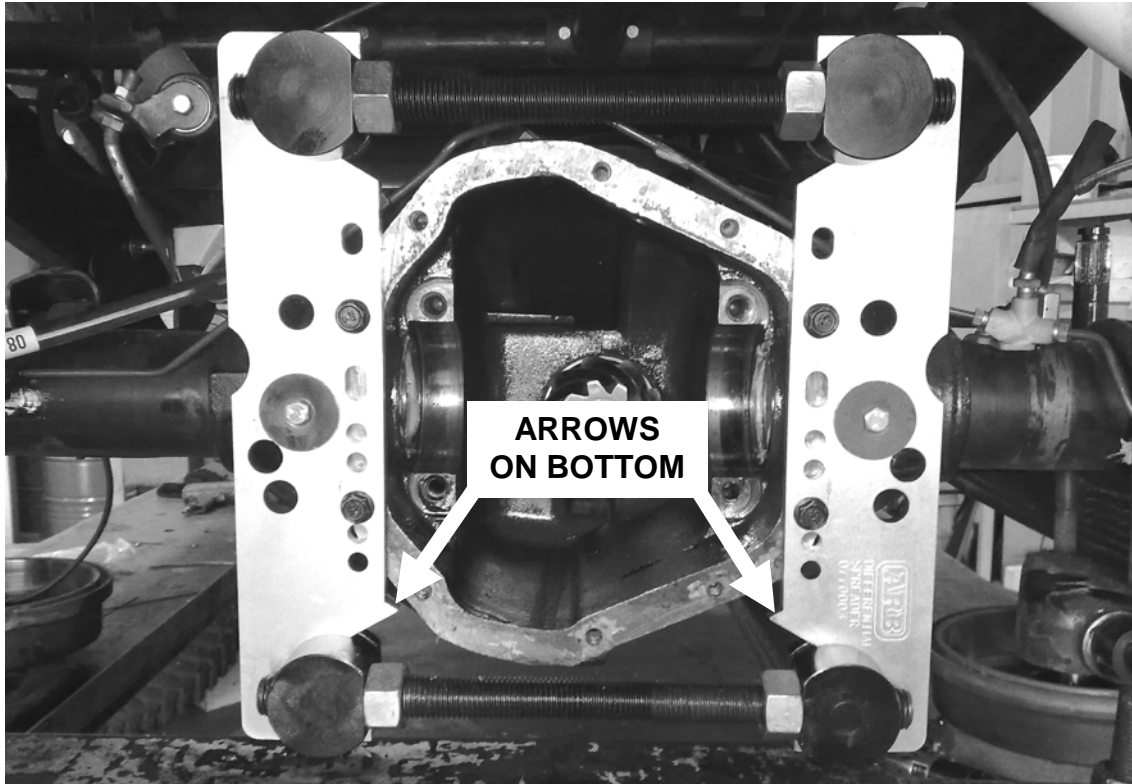


DANA 44



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DANA 60

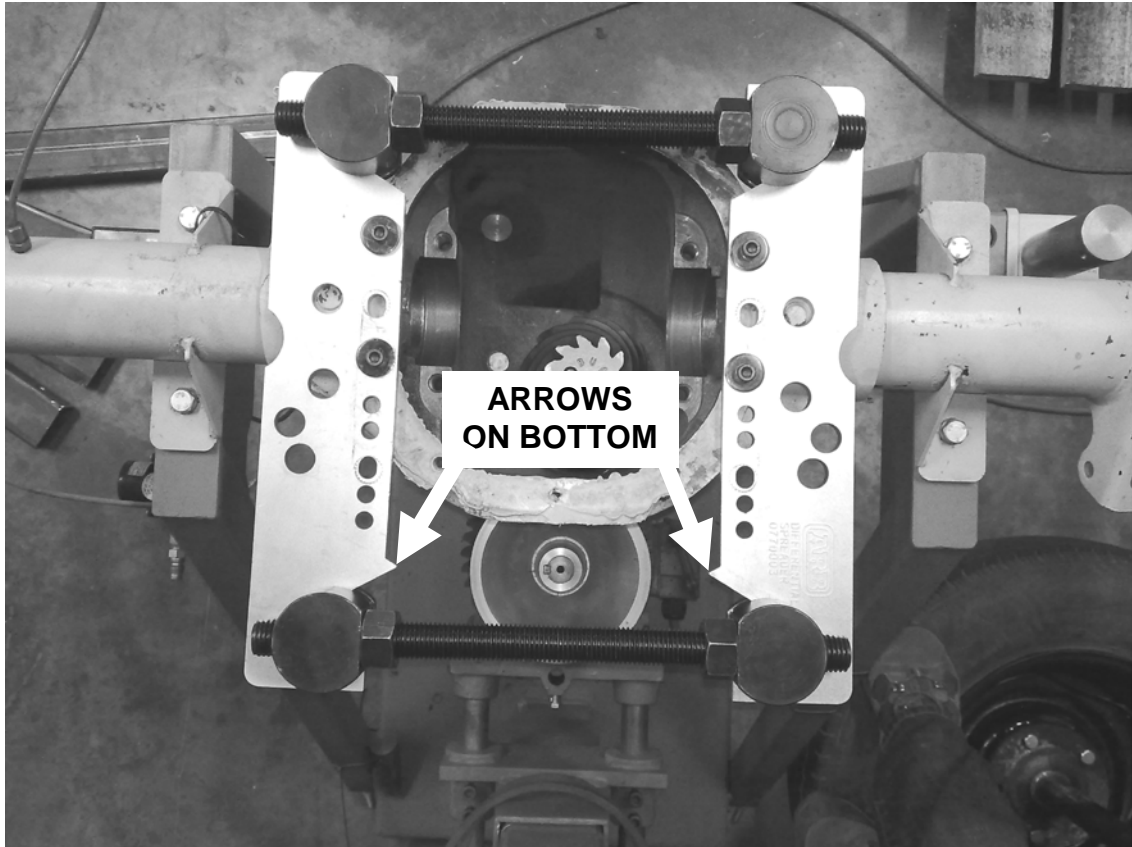


DANA 70 & 80

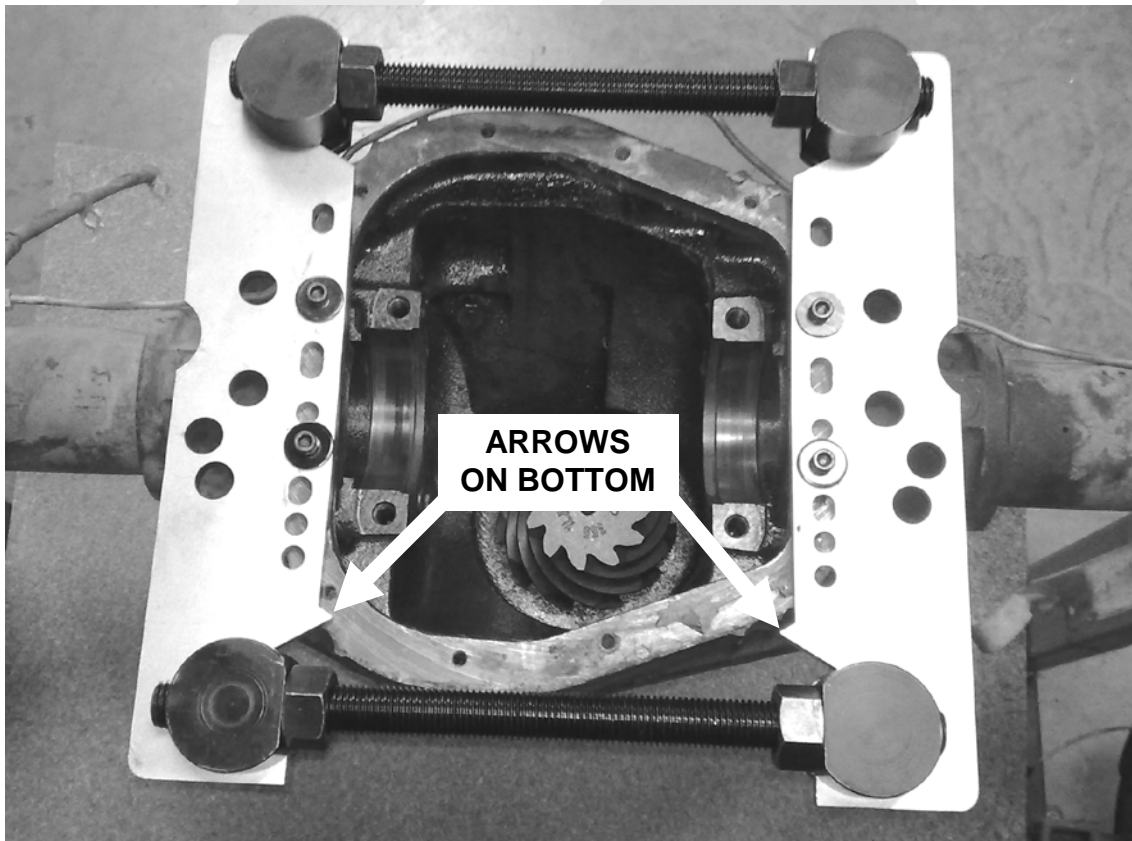


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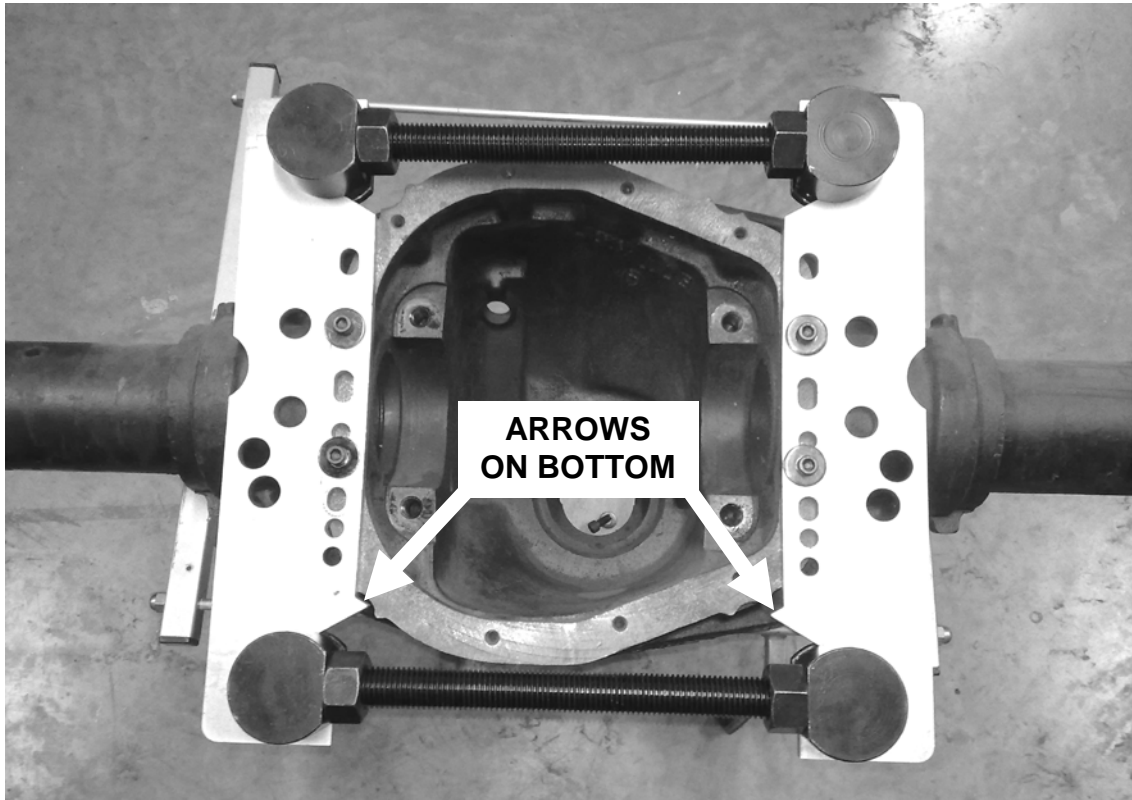


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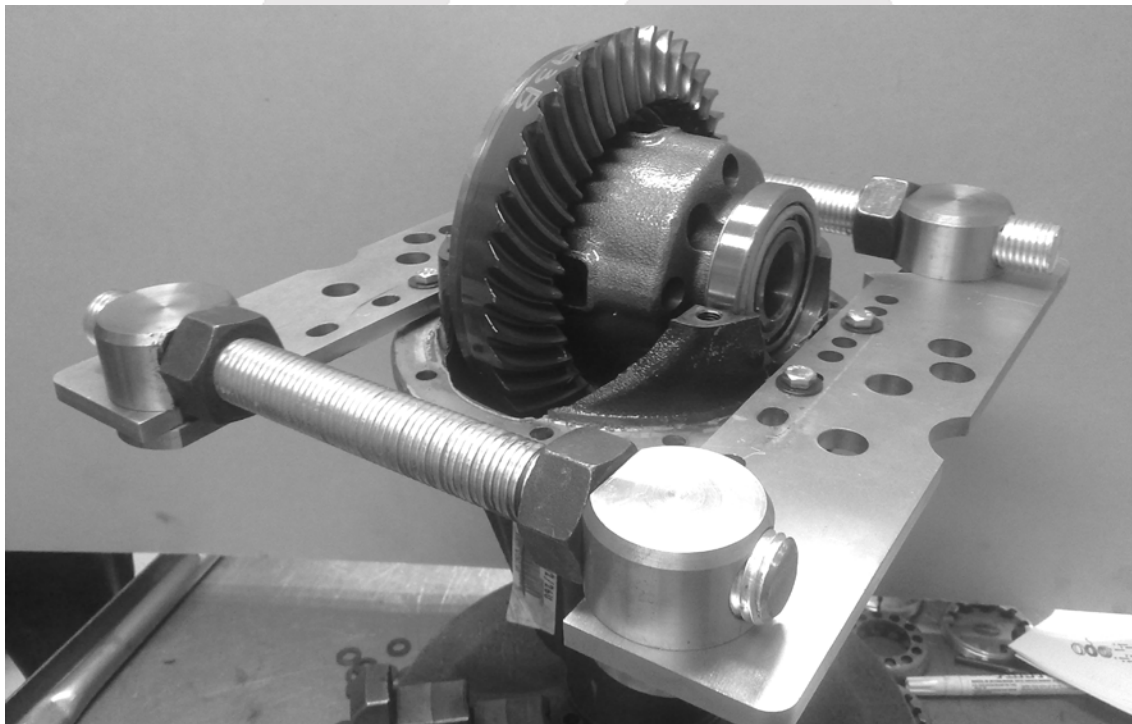


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FORD STERLING 10.25/10.5



TYPICAL SHIM ADJUSTED BANJO DIFFERENTIAL (ISUZU SHOWN)



NOTE : Space the plates away from flange with flat washers if necessary.

