



## INSTALLATION MANUAL



The #1 Lunchbox Locker in the Industry.

# General Spartan Locker Installation Manual

Note about your carrier: Before beginning to tear down your differential, please be aware that the Spartan Locker is designed to fit open carriers only. It will not install into any type of limited slip carrier.

## Preparing the vehicle for installation

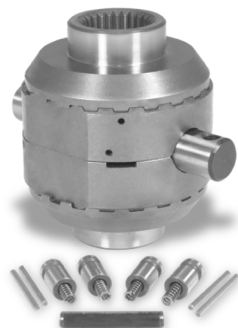
Take the following steps to prepare your vehicle for installation:

- Block the vehicle's tires, and place the transmission in neutral.
- Loosen the lug nuts and jack the vehicle up.
- Make sure that the vehicle is securely resting on jack stands.
- Remove the wheels, disconnect the brake lines and emergency brake cables.
- Remove the differential cover (if it is not a third member style differential), and drain the oil.
- Slide out both axles to provide enough clearance to remove the carrier, if necessary. This requires the removal of C-clips, if present.
- Check your ring gear to see if there is enough clearance to remove the cross pin shaft. If there is not enough clearance, please take the steps in the following section to remove your carrier.

## Carrier removal

If you are running a low ratio ring & pinion set, such as a 4.88 or 5.13, you may find that your ring gear is too thick to allow for removal of the cross pin shaft. If this is the case, please take the following steps:

- Using a punch, mark one of the bearing caps so you can remember which side it belongs to. Bearing caps are specific to each side of the housing. ***This is very important for re-assembly. Figure 1-A***
- Check your backlash with a dial indicator and make note of it. You will need to check it again later after re-assembly to make sure everything went back together properly.
- Remove your bearing caps, and pull out your carrier. Some designs have shims outside the races. You must keep track of which side you removed the shims from; they must be returned to the same sides they were removed from. This is also true for the carrier races.
- Remove your ring gear from the carrier.



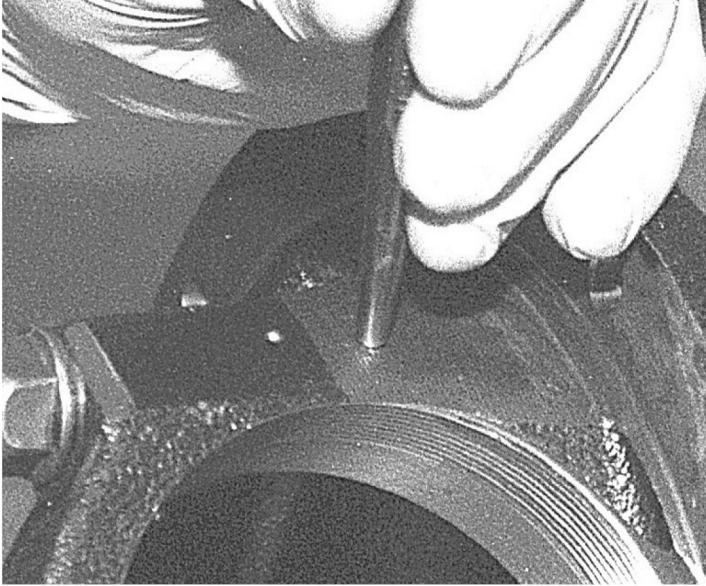


Figure 1-A

## Removal of spider gears

\*Note: If you were able to remove the cross pin shaft without having to remove the ring gear, the following process can be performed with the carrier still in the differential housing.

- Remove your cross pin shaft retaining pin or bolt.
- Remove the cross pin shaft and inspect it for damage. If it shows excessive wear or damage, purchase a new shaft prior to installation of your Spartan Locker.
- Remove your spider gears and thrust washers.
- Thoroughly clean the inside of the carrier and dry it. Inspect for any cracks or excessive wear. If the carrier is damaged or worn, replace it prior to installation of your Spartan Locker.

## Installing your Spartan Locker

- Place a spring into the hollow end of each of the alignment pins, set aside.

*Figure 2-A*

- Install the four alignment pin/spring assemblies into the respective driver holes. *Figure 3-A*
- Push each alignment pin/spring assembly fully down into the driver and insert the retainer wire into retainer wire hole in the driver to hold the alignment pin/spring assembly down. *Figure 4-A*
- Install side couplers into carrier case. **DO NOT use thrust washers.**

*Figure 5-A*

- Install the spacers into the centers of each driver, Making sure that the "open" face of the spacer is positioned toward the driver's teeth. *Figure 6-A*
- Take one of the center drivers, with the spacer placed in it, and install it into the carrier. *Figure 7-A*
- Rotate the drivers until the alignment pin/spring assemblies line up with corresponding alignment pin seating notches in the opposite driver.
- Pull the alignment pin/spring assembly retainer wire out of one of the alignment pin/spring assemblies using a suitable tool, allowing the assembly to extend fully into the seating notch in the opposite driver. *Figure 8-A*
- Repeat process for the remaining three alignment pin/spring assemblies.

Note: Retaining wire may need to be bent along side the Spartan drivers to be properly installed in some cases.

### Center Gap Measurement

1. With the Spartan components fully installed measure the distance between the two Spartan drivers using a set of feeler gauges or slide caliper. Distance should measure between .145 and .170 in.
2. If measurement does not fall within range check installation procedure and product for potentials obstructions.



*Figure 2-A*