



780 Professional Drive N. Shreveport, LA 71105 Phone (318)-524-2270 Fax (318)-524-2297

## ATV Spool Locker

(For use in the Traxlok limited slip front differential.)

### Application:

Honda Rincon 650 (03+)                      Suzuki Vinson 500 (02+)  
Honda Rubicon 500 (00+)                   Suzuki Eiger 400 (02+)  
Honda Foreman 450 (02+)  
Honda Rancher 400AT (04+)  
Honda Rancher 350 (00+)

### Important Information

This ATV Locker is designed to replace the limited slip function of the front differential. When installed the front tires will be effectively locked together so that all 4 wheels pull together all the time. It provides an incredible increase in traction at a very modest cost but it does significantly increase steering effort, in forward and reverse, particularly on hard surfaces. It also increases the distance required to turn around.

It is not appropriate for anything other than almost full time use in soft mud, by those riders who demand the ultimate in traction who are willing to tolerate substantially increased steering effort, and for whom a Detroit Gearless Locker is not presently feasible or desired. The ATV Locker is sold without warranty of any kind, and High Lifter expressly disclaims responsibility for damage to property (including damage to the ATV) or injury to persons, which may result from the buyer's use of this product.

If upon reading this disclaimer, and before installation of the product, the buyer wishes to return it for a refund, less shipping cost, one will be provided.

Further, if before or after installation of an ATV Locker purchased, the buyer wishes to exchange this product for credit toward a High Lifter Detroit Gearless Locker, full credit for the invoiced purchase price will be granted, upon return of the ATV Locker

### Tools Needed

Torque Wrench                      Large Flathead Screwdriver                      Socket (3/8" drive 6 sided 8mm Socket)  
10mm, 12mm, 14mm, 17mm Sockets                      Two-3ft pieces of rope or tie wire

- **Caution:** It is recommended that safety glasses be worn when installing the product.
- **Caution:** Read and comply with the manufacturer's safety warnings and cautions.
- **Caution:** Do not use heat to disassemble drive axles. To do so can destroy heat treat properties of the material, weaken or distort axle components.

Installation Instructions:

**Note:** When referring to the left or right side of the ATV, it will always be from the seated position.

### **Removing front drive shafts from the differential**

1. Break loose the front tire lug nuts. Jack-up and block front of ATV until both front tires are off the ground.
2. Remove front tires.
3. Drain gear oil from front differential.
4. Remove all inner fender and propeller shaft covers between differential and engine
5. Remove skid or bash plates.
6. Remove the hub nut.
7. Completely remove shock.
8. Remove the lower ball joint nut and separate the lower A-arm from the knuckle /brake panel assembly.
9. Pull the knuckle/brake panel assembly away from the drive shaft.
10. Support the knuckle/brake panel assembly so that it does not hang from the brake hose. Do not twist the brake hose. (Note: Tie assembly up out of the way with rope or wire)
11. Give the drive shaft a sharp tug outward to remove it from the differential. Take care and brace the ATV when tugging so it does not fall. Also, inspect the seals in the differential case for wear and damage. For opposite side repeat steps 5 to 10.

### **Removing the differential**

1. Remove all mounting hardware that secures the differential to the ATV.
  - a. Upper mounting nut, bolt, and collar
  - b. Front differential mounting bracket bolts and nuts
  - c. Front differential mounting bracket bolts and bracket
  - d. Rear mounting bolt
2. Push the front differential forward.
3. Pull the propeller shaft joint forward, and then separate the propeller shaft from the engine.
4. Remove the propeller shaft from the differential.
5. Remove the vent tube from the differential.
6. Remove differential from the ATV.

## Differential Case Disassembly

1. Remove all cover bolts.



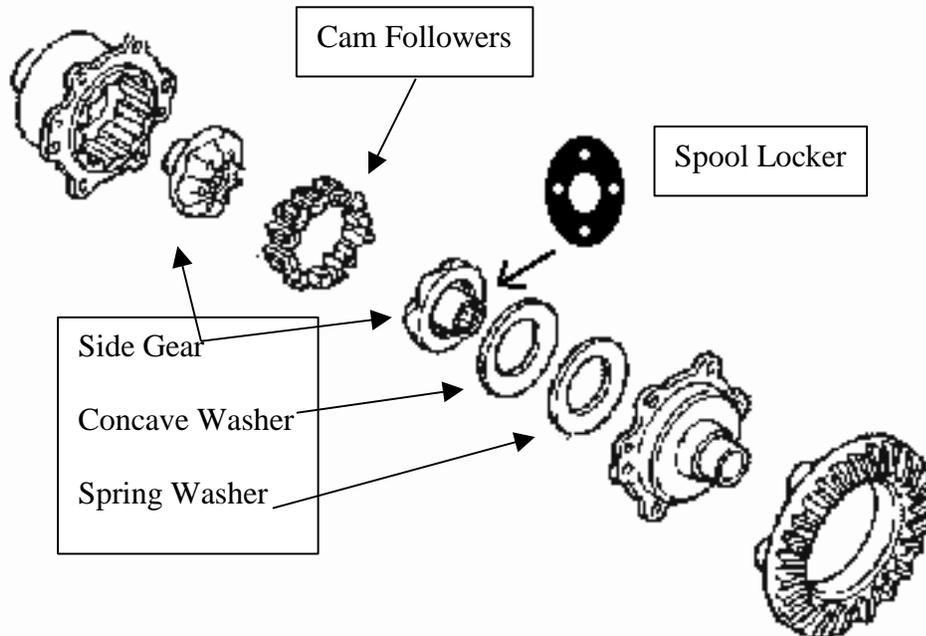
2. Carefully pry the cover off the case using a screwdriver at the pry points, and remove the differential assembly from the differential case.



3. Remove the six bolts, then place the differential assembly with the housing side down, and remove the ring gear.



- Once bolts are removed you will find 1 spring washer, 1 concave spring washer, 1 side gear. Set these items aside.



- You will now see 12 diamond shape (cam followers) pieces, 6 will have a smooth face and 6 will have grooves in them. They are installed from the factory in pairs 2 smooth, 2 grooved, 2 smoothed and so on. Remove the 12 diamonds and reinstall them in a staggered pattern of 1 smooth, 1 grooved, 1 smooth until they are all installed.
- Once you have the 12 diamonds installed in the new pattern you can reinstall the side gear, place the spool locker disc in next followed by the concave washer then the spring washer.
- Replace the cap, careful not to force it, as it should slide together with minimal force. There will be 1/16 of an inch gap between the two halves when it is put together correctly.
- Reassemble the differential assembly to the ring gear. Using Lock-tite on the bolts, torque them to 36ft-lbs.
- Place the differential assembly back into the differential case. Making sure to reinstall OE washers on both the ring gear and differential sides.
- Place other half of the differential case over the assembly and close.

Torque: 10mm bolt (36lbf) 8mm bolt (19lbf)

**Note: Use LockTite on all bolts before they are torqued.**

When sealing the differential case use a solvent less silicone (It is used for motorcycle snowmobile, watercraft.)

### Differential Installation

- Place the differential back into the ATV.
- Put the propeller shaft back into the differential. Make sure that proper care has been taken not to get dirt and other debris on the shaft ends. Apply grease to end before inserting back into differential. Once it is greased place into differential and set dust boots and push the differential forward.
- Tighten all differential mounting hardware according to factory specification.

4. Re-attach the vent tube to the differential. Install the propeller shaft cover and inner fender cover. (If applicable)

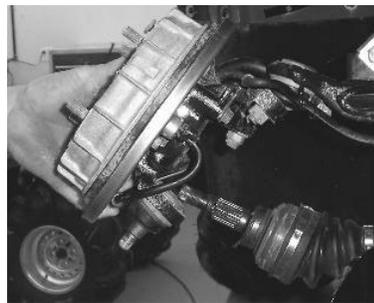


### Shaft Installation

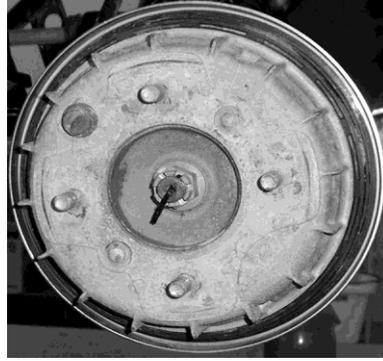
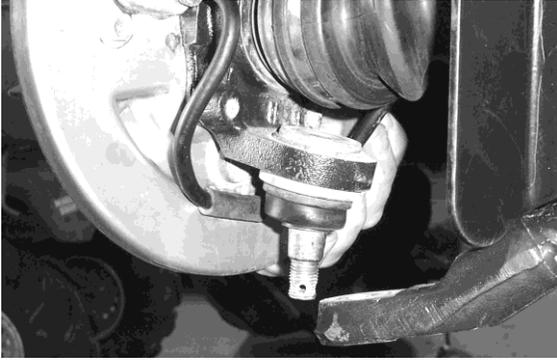
1. Make sure that the differential is secure and in place.
2. Slide side axle into differential. Rotate shaft slightly to align splines.



3. Once the shaft is in the differential, take the knuckle/brake panel assembly and attach it to the drive shaft.



4. Re-attach the lower A-arm and ball joint nut.



5. Place hub nut back on hub.
  6. Re-attach the shock.
  7. Put wheel back on ATV.
- Follow steps 1 to 7 for other side.

### **Gear Oil**

**Do not forget to replace the gear oil in the differential. Check your owner's manual for the grade of oil for your ATV.**

### **Important:**

**An ATV with the ATV Spool Locker installed must have the "toe" adjusted in the front for steering stability. Adjust each side per owners manual.**