

DTR JL CC TRACTION CONTROL SYSTEM INSTALLATION INSTRUCTIONS - For 1986~2006 Gas or Electric Club Car Models with the Kawasaki Transaxle Assembly

Thank you for purchasing this quality product from **Buggies Unlimited**. This Traction Control System (TCS) you have purchased is designed to function much like a limited slip differential system. It does not provide an absolute differential lock, but transfers torque to the rear wheels equally, while allowing enough slippage to prevent steering issues normally observed with differential lock systems. (TCS - Patent pending)

Due to the size of this project, some steps have been abbreviated or skipped altogether. It is recommended that you refer to your cart manufacturer's service manual for detailed rear axle assembly removal, disassembly, reassembly and installation instructions. Please read and understand these instructions carefully before starting this project. The additional time required will help you to fully understand the scope of the job ahead.

CAUTION:

Always disconnect the negative (-) cable from the batteries before beginning.

Always support your cart on Jack Stands rather than a floor jack

Always wear eye protection when working on your vehicle.

Always clean up gasoline or oil spills immediately and properly dispose of gasoline or oil soaked rags

TCS Installation:

Rear differential must be removed from transaxle prior to TCS installation. Consult the technical manual for your vehicle for instructions on removing the differential.

1. Using a press or vise, gently press the friction rings into the machined grooves on the outer face of both TCS case halves. Figure 1



Figure 1

2. Unbolt the 13mm bolts holding the ring gear to the differential and securing the two differential case halves together. Figure 2



Figure 2

3. Remove the ring gear and separate the differential halves. Figure 3

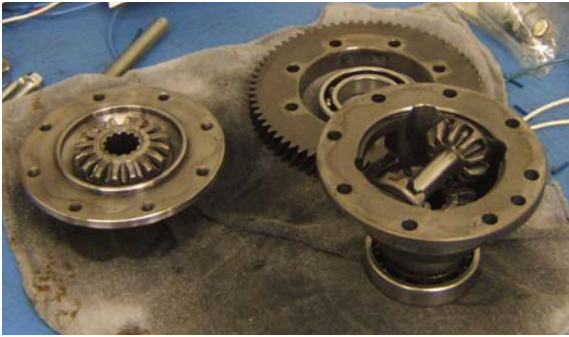


Figure 3

4. Push the spider gear pin out of the differential case

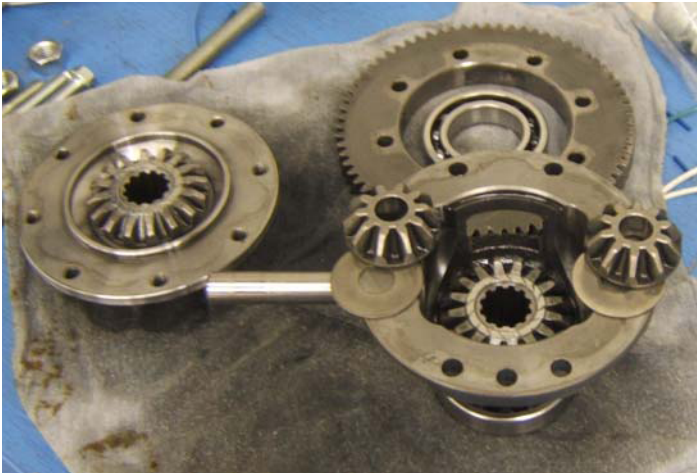


Figure 4

5. Remove both side gears making special note if a thrust washer is in place behind the gears. Figure 5



Figure 5

6. Replace the OEM gears with the Limited Slip Differential gears and reinstall thrust washers where necessary.

NOTE: When reinstalling gears, pins, or thrust washers into the differential – coat all surfaces of the component with fresh gear oil.

7. Place one of the TCS case halves, friction surface down on top of the bottom side gear in between the spider gears. Figure 6
8. Place the four large springs into the spring pockets on the back face of the TCS. Figure 6
9. Insert the four small springs into the inner diameter of the large springs. Figure 6
10. Slide the spider gear pin back through the differential case, above the TCS half and secure both spider gears. Figure 6

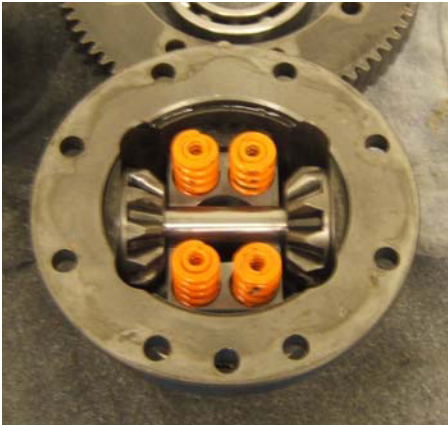


Figure 6

11. Place the other half of the TCS body onto the spring packs. Figure 7



Figure 7

12. Place the top differential case half with installed side gear onto the friction surface of the TCS body and flip the whole differential over. Figure 8
13. Slide the ring gear over the differential case. Figure 8



Figure 8

14. Place the assembly in a press or vice
15. Compress the differential assembly making sure the internal gears mesh correctly and the bolt holes in the ring gear, upper, and lower differential case halves are aligned.
16. Make sure the ring gear bolts are clean and install them with lock tite. Torque bolts to 18 lb/ft in a criss crossing pattern. Figure 9



Figure 9

TCS Removal for Rebuilding:

The TCS unit is completely rebuildable. Should the friction surfaces wear out you will need two new **DTR CC 1601** Friction Rings.

1. Place the differential assembly in a press or vice and tighten down on the part.
2. Remove the 13mm bolts holding the ring gear to the differential and securing the two differential case halves.
3. Slowly release clamping pressure to expand the TCS and differential.
4. Remove ring gear and separate differential case halves
5. Remove the spider gear cross pin
6. Remove both halves of the TCS and spring packs
7. Pry the remaining friction ring out of the TCS halves with a small flathead screw driver.
8. Completely clean any oil residue off of the TCS halves
9. Gently press the replacement friction rings into the machined grooves on the outside of the TCS case halves
10. Reinstall the TCS into the differential.

Oil Change Intervals:

The friction surfaces in the TCS unit will wear over time releasing “dust” into the transaxle oil. The friction materials used in the **Buggies Unlimited** TCS kit are specifically designed to operate in oil and will not

compromise the effectiveness of the lubricant. You will notice after breaking in the TCS the transaxle oil will develop a green tint. This is normal and it is not necessary to change the oil. It is recommended to inspect the condition of the transaxle lubricant after the initial six months or one hundred hours of operation and replace. Change transaxle oil annually thereafter.

TCS Operation:

The BU TCS unit is a passive system designed to transfer power to the wheel with the most traction in inclement driving conditions. There are a few tricks you can do as the operator of the vehicle to improve the performance of your TCS unit.

1. Wheel traction is directly proportional to the amount of weight located above each wheel. If you are incurring excessive wheel spin, try shifting your weight over top of the spinning tire. Having two individuals riding in the vehicle (or a single operator seating in the middle of the vehicle) provides the most even weight distribution and will result in optimal TCS performance.
2. Should one rear wheel ever come completely off the ground and begin to free spin, you can lock down on the TCS unit to deliver extra power by torque braking the vehicle. Press the accelerator and the brake together, balancing the pressure between the pedals until the vehicle begins to move. If the drive train does not make enough power to move the vehicle be extremely careful as prolonged stalling of the engine or motor can cause overheating and damage. On modified cars producing enough torque for extreme off road conditions, this technique will allow the vehicle to traverse most any obstacle.

Thank you for ordering our patented Lowry TCS system; if you need further assistance please contact our Technical Staff.



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