

## **2010 - 2015 Camaro SS Posi Clutch Kit Installation Instructions**

**NOTE: It is imperative this kit be installed by a qualified technician and that all clearances and preload are followed exactly. If not followed as described, premature clutch wear and damage to internal case components could occur. The manufacturer is not responsible for improper installation or misuse of this product and will not be held liable.**

**NOTE: These instructions cover the recommended installation of the parts contained in this kit. It is not intended as a guide in rebuilding the differential assembly. For additional information on the differential assembly, it is strongly recommended that the customer consult the manufacturer's factory service manual.**

**Inventory - This kit contains the following parts:**

**14 Clutch Discs (8 tabbed and 6 splined)**

**10 Selective Shims**

**1 Preload S-Spring**

### **Recommended Tools/Fluids**

**E18 External Torx Socket**

**Feeler Gauges or Dial Caliper**

**Torque Wrench (120 Foot Pound Capable)**

**75W90 Petroleum Based Gear Lubricant & GM Limited Slip Additive 88900330**

**Red Loctite**

1. With the ring gear unbolted and removed from the differential case assembly, remove the 8 - E18 External Torx bolts from the differential case assembly and carefully separate the case halves. Place both halves of the case assembly face up.

**NOTE: Henceforth, the case half that has the ring gear flange and case bolt holes will be referred to as the upper case half assembly. The other half will be referred to as the lower case half.**

2. Remove the cross shaft, pinion gears, and thrust washers from the upper case half assembly and set aside. These parts will be used again.

3. Remove axle side gears, factory clutch discs, shims, and Bellville Springs from their respective case halves. Remove the clutch discs, shims, and Bellville Springs from the side gears. Save the factory shims. Set the factory clutch discs and Bellville Springs to the side. The factory clutch discs and Bellville Springs will not be used in the installation of the Posi Clutch Kit.

4. Inspect the 2 side gears and 2 pinion gears. You will notice casting marks that look like dots. There are 13 "dots" on each side gear and 9 "dots" on each pinion gear. All "dots" have to be ground smooth and flat. This will prevent wear on the S-Spring.

5. Remove the 14 clutch discs provided with the kit and coat them with a thin and even amount of 90 weight gear oil.

6. With both axle side gears face up (splined side up), start with an eared clutch disc and alternate with a splined clutch disc until each side gear has a total of 7 discs installed (4 tabbed and 3 splined). Properly installed, you will start and end with a tabbed disc.

7. Take the factory shims (there should be two; one for each side gear) that were removed and set aside in step 3 and install one on top of each side gear clutch pack.

8. Carefully install each side gear with its compliment of clutch discs and shim(s) in its respective case half, ensuring the ears are properly lined up in the machined slots in the case.

9. Take the cross shaft and slide it through the narrow side of the preload spring provided in the kit. The S-Spring will be marked where it will need to be slightly clearanced to pass the cross shaft through. Clearance the S-Spring with a dremel tool. Install both pinion gears and thrust washers on the cross shaft (one on each end). Carefully install the assembly back into the upper half of the case aligning the cross shaft on the dowel pin in the case assembly.

10. Carefully take the lower case assembly and install onto the upper case half ensuring all gears are aligned to mesh together properly when the halves are bolted back together. There should be a visible gap between the two case halves. DO NOT tighten down the case assembly at this point. With feeler gauges or a dial caliper, measure the gap between the two cases. This measurement will set the preload spring tension on the clutch discs when the case halves are bolted back together. This is absolutely critical to the proper function of the spring pack. This measurement should be **.125** with a tolerance of plus or minus **.0625**. If the measurement is not within tolerance, use the selective shims provided in the kit to obtain proper clearance. Add or remove shims as required and repeat steps 6 thru 9 until proper clearance is obtained. When proper clearance has been obtained, the clutch discs will have between 200 lbs. (**.0625**) and 400 lbs. (**.1875**) of force with 300 lbs. (**.125**) being optimal.

**NOTE: Our testing has shown that 300 lbs. of preload or .125 of clearance offers the best combination of performance and drivability. Individuals who prefer a little more aggressive clutch action can shim the clutches up to but not exceeding the 400 lb. preload range. For those who still desire great traction with a little more comfort, the 200 lb. range may be more desirable.**

**CAUTION: It is absolutely critical that a gap of no more than .1875 exists prior to the case halves being bolted back together to maintain proper preload. Excessive preload can and will cause premature clutch wear and could damage internal case components.**

11. Once proper clearance has been obtained, bolt the case halves back together using a liberal amount of red Loctite on the case half bolts. Torque case bolts to the Manufacturer's specifications.

12. INSTALLATION COMPLETE! You are now ready to install the ring gear on the case and reassemble your differential. Use the Manufacturer's suggested lubricant as well as one bottle of GM Limited Slip Additive.

**WARRANTY: The Clutch Discs and related parts are free from defects in material and workmanship. Due to the intended use of these products, user assumes all risk and liability in connection with structural failure and malfunction of these products. The Fifth Generation Clutch Kits are to be installed by an automotive professional. The manufacturer will not be responsible for product malfunction as a result of improper installation.**