

INSTALLATION - SERVICE INSTRUCTIONS



Bulletin NO. SB0118

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FEBRUARY 4 2022

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Part Numbers

ACG-030C2/C3 Corvette Posi Case

Parts Included:

- 1 EA ACG-030 Case
- 1 EA ACG-030-3 Spider Pin
- 1 EA ACG-030-4 Locking Pin with Lock Washer
- 2ea 50247 MW Machinable C-Clip Washers

Primary Applications:

C2-C3 Corvette OEM or Eaton p/n 19670 Replaces the Posi-Traction case for increased strength and allows upgrade to the 30 spline axle and spider gears for increased axle strength. Compatible with the M/W 50245 inboard yoke shafts.

Installation Overview:

This case replaces the Eaton or Original case that is an iron casting with a 4140 austempered case that is triple the strength. It is a two piece design that should never be taken apart. The final grinding is done as an assembler and the precision could be affected by disassembling and reassembling. The case features an increased spider pin size that allows the use of all the 12 Bolt passenger axle-spider gear kits. The case has the necessary bore improvements to accept the MW 50245 30 spline axle-yoke shafts.

Torque Specs:

The MW-ARP Ring Gear Bolts torque is recommended 55 ft lbs with thread lock 272 placed in the ring gear thread. The locking compound should be placed in the ring gear threads rather than the bolt to prevent the displaced air from removing the compound from the bolt. We also recommend using 620 Loctite compound on the ring gear mounting diameter and face of the carrier.

Maintenance Requirements:

Magnaflux inspection is recommended after a catastrophic gear failure. In addition to Magnaflux inspection run-out of gear mounting surfaces are recommended after a gear failure.

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ACG-030 BILLET CASE



The internal parts to build the assembly.



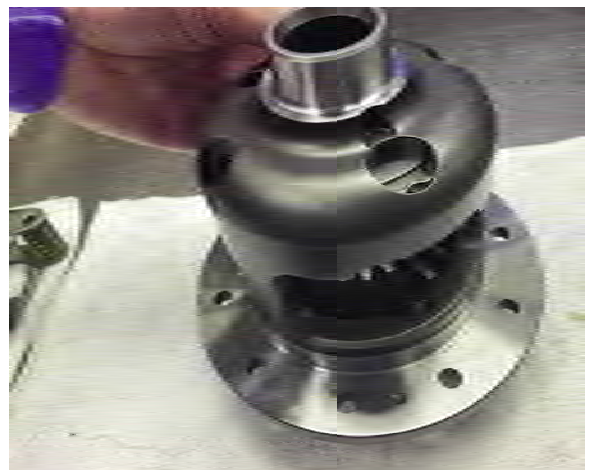
The first clutch pack is installed in the ring gear side of the case. This sequence must be followed to get everything to go in.



The first axle gear is installed and dropped into the clutch pack.



The second clutch pack is placed on the axle gear to align the floater plates.



The clutch pack is held up through the smaller window so the axle gear will slide to the center of the carrier.

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The second axle gear is installed while holding the clutch pack with your other hand. After engaging the the pack rotate the case horizontal while holding the axle gear in place.



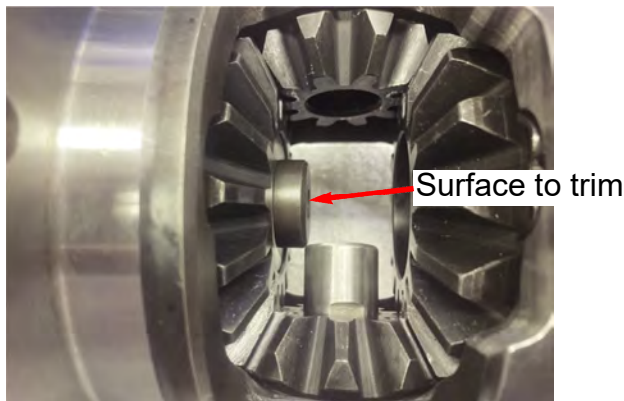
The first spider gear with the washer is installed.



The second spider with the washer is installed thru the smaller window. Make sure both spider gear are visually aligned to be centered.



The pin is inserted to go thru both sides and should be flush with the case.



This case uses the larger 12 Bolt Pin diameter (.812" verses .750"), original pin diameter. The 50245 axles button will need to be trimmed . off the button. We will perform that modification without charge.



The axle to the pin clearance is adjusted by using different thickness OEM C-clips or machine the MW 50247 C-Clip to the required thickness.

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Spring pack is inserted into the case.
This tool is not state of the art.



The pin lock screw with a lock washer is inserted and torqued to 10 ft lbs. We would use a small amount of thread lock on this bolt. The current lock screw is a socket head type fastener.



ASSEMBLED WITH INTERNAL PARTS

The assembly procedures shown are the steps to get all the internals into the case. The spider gear set shown are machine cut bevel gears rather than the hot forged gears as in the current Eaton Posi™ differentials. The sets are available in the phosphate-coated set P/N 58922 or a Shot Peened and Supra Fin surface improvement set P/N SF-58922.

Specialty Corvette race prep shops may have several other race prep options for the Posi-Traction units including, but not limited to steel clutch plates that replace the carbon based clutches and race prepared embedding of the friction surfaces. Our goal in designing and producing the housing is to eliminate premature failure common to the cast iron units, and improve ring and pinion life. If there are any questions concerning this product please contact us at 800-525-1963.

END OF INSTRUCTIONS SHEETS

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CORVETTE RACING QUALITY COMPONENTS

ADDITIONAL PARTS FOR IMPROVING THE CORVETTE RELIABILITY



50230-KIT • C2-C3 Corvette Next-Step Rear Axle-Yoke Assembly • Replaces the weak 17-spline axles with 31-spline, and a one-piece u-Joint flange yoke.



50245-KIT • C2-C3 Rear Inner Yoke Shafts (2) • 30 Spline. Uses 12-Bolt car axle side gear to increase strength, and replaces the bolt on u-joint flange. This is the solution for the failure prone 17-spline OEM flange yokes.



50248-KIT • C2-C3 Rear Inner Yoke Shafts for modified C2-C3 Differentials for rears that have the Tom's Gears modified 12 bolt carrier and special ring and pinion gears.



ACG-020 & ACG-012 • C2-C3 Corvette Front Upper and lower Lower Control Pivot Shaft • Heat-treated and shot peened alloy steel.

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CORVETTE RACING QUALITY COMPONENT



ACG-030 • C2-C3 Replacement Case for the Eaton™ 19670 Positraction • The is Case produced from thru-hardened alloy steel that solves the problem with cracked and failed cases while increasing gear life. It use 12 Bolt GM axle side and pinion gears for the 30 spline inner shafts. Internal parts not included.



58100 • C2-C3 Steel Main Cap Replacement for Cast Iron Cap.



39038 • C2-C3 Pinon Yoke 1350 Seies u-joint upgrade.



ACG-030-3 Cross Pin for C2-C3 M/W Case Uses 12 Bolt Spiders .809 Dia.



39810 AXLE DRIVE SHAFT 4130 TUBE AND END FITTINGS SPICER JOINTS (PAIR)



50225-KIT • C4 '88-'96 Corvette Rear Hub and Yoke Shaft Kit • Features new Timken™ hubs with a larger 32-spline and matching 300M Yoke with Billet Caps.



50210 • C5 Corvette 300M Intermediate Shaft • Replaces GM part number 88893900.



50220 • C5 Corvette CV Shaft • 300M steel replaces GM part number 10311201.

For more information on these parts go to www.markwilliams.com/corvette-parts.html

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CORVETTE RACING QUALITY COMPONENT



58922 30 SPLINE BILLET SPIDER KIT
SF-58922 Shot Peened and Polished
Used in ACG-030 Case



50247 MACHINABLE C-CLIP



58919 PINION NUT & WASHER



58914 PINION SOLID PRELOAD SPACER



S98-001 PRELOAD SPACER FRONT HUB
C 2 and C3 Spindle