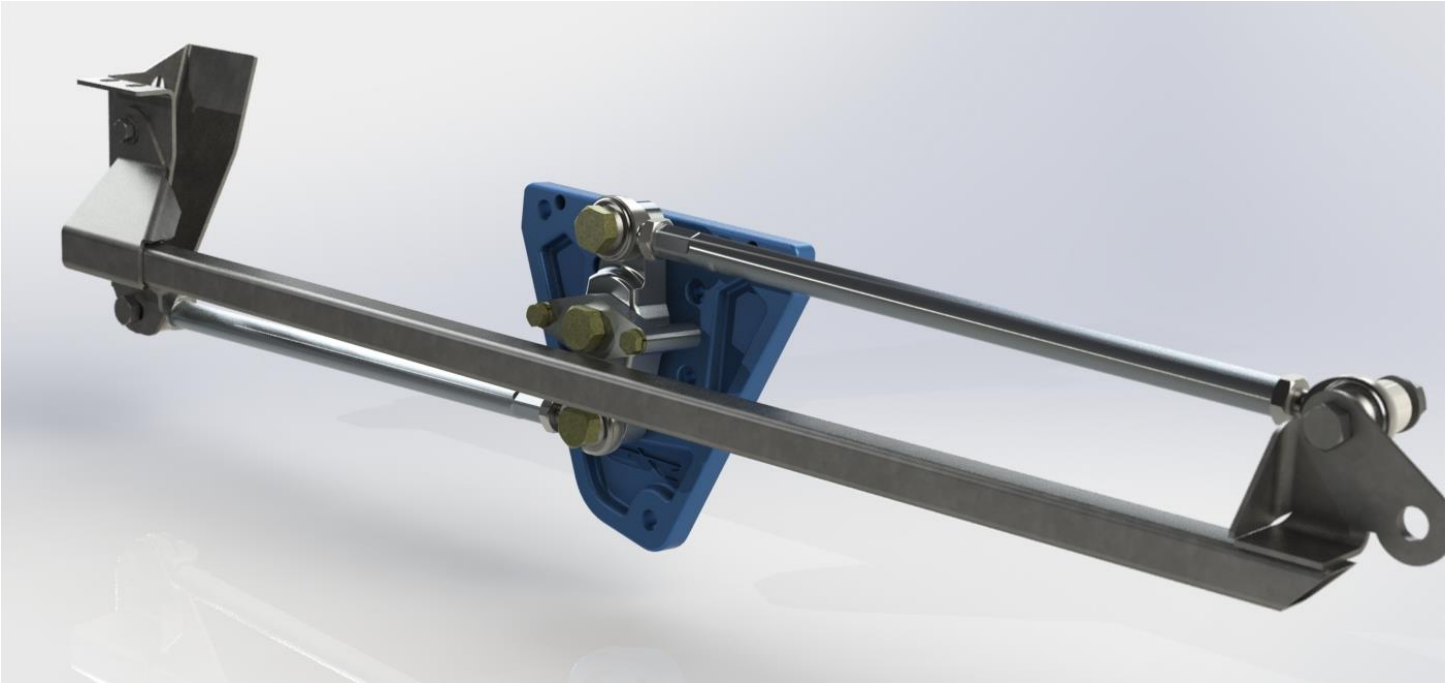
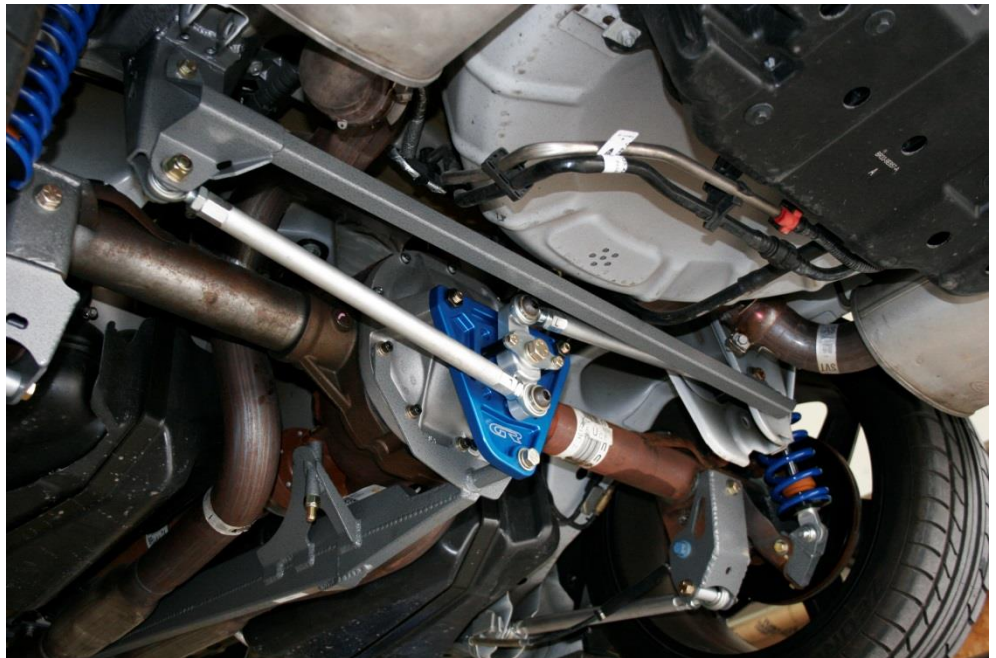


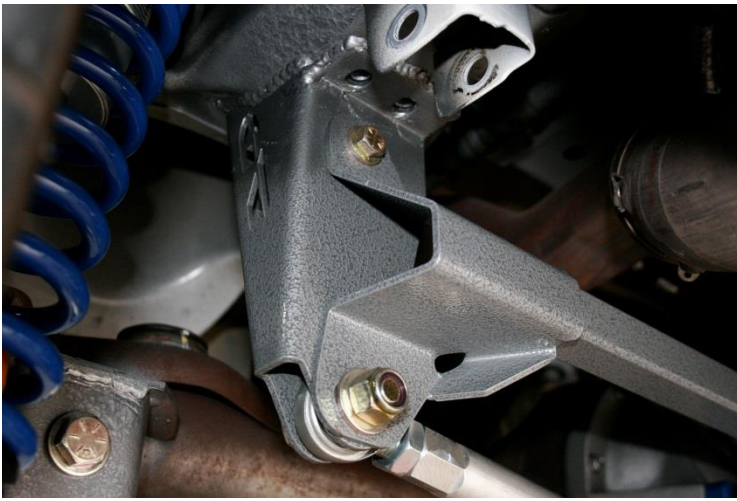
## Installation Procedure GR40 S197 Watts Link



1. Raise car and remove springs and shocks.
2. Support axle at ride height securely on stands so that it will not move left and right. **Very important the rear axle be held at ride height.**
3. Remove Panhard bar (track bar) and lateral support bar and discard.
4. Remove Panhard bar lateral support bar mounting bracket on left subframe. Retain bolts that bolt the bracket to the subframe for later use in step #17.
5. Drain rear end oil and remove rear axle cover and clean surface of rear axle.
6. Remove supplied Watts link plate and assembly from aluminum rear end cover
7. Back out girdle support screws so that they will not contact bearing caps of differential. Temporarily bolt aluminum cover to rear axle. Install and tighten at least 4 of the 10 bolts around the perimeter to 18 ft lbs.
8. With a good 23/64" split point bit, drill through the two dowel pin holes through the rear cover into the rear axle housing. These are located at 4 and 7 o'clock. Do this accurately and straight into the housing 3/8" deep. Be sure to hold the drill so that you don't elongate the holes in the aluminum cover.
9. Remove the cover and drive the supplied dowel pins into the rear housing. This will take some force. It will be easier if you insert the rounded ends of the dowel pins.
10. Remove the two screws in plugs from the cover and seal them with a good quality pipe sealer or Teflon tape. If you don't they will leak after installation.

11. Apply a SMALL amount of RTV sealer to the mating surface of the cover. Applying more sealer than needed to just make a seal will promote loosening of the cover during use causing leakage. We use a 1/16" wide bead.
12. Install the cover and insert the top 5 socket head screws into the cover and snugly tighten. You will probably have to tap the cover onto the dowel pins.
13. Install the TorqueArm as per instructions, Torque all 10 cover bolts to 22 ft lbs. Note: To prevent loosening of the cover and subsequent leaks re-torque these bolts more than once during the installation and then again after first usage.
14. Install the Watts link plate onto the dowel pins and girdle support bolts. Install retaining nuts and leave loose. You may have to tap the plate onto the dowel pins in the cover.
15. Install the lower support bolt through the Watts link plate into the rear TorqueArm support bung. Screw in the girdle support bolts in until they stop against the bearing caps. Do not apply force.
16. Torque all three Watts link plate mounting points to the chart below.
17. Install the Watts link bell crank assembly, being sure the Delran bushing is lubricated inside and out and on the shoulders. We recommend 2<sup>nd</sup> hole from the top to start. Forces are high in this bushing. It must have a very high pressure temperature resistant lubricant such as anti-seize.
18. Install the left Watts link pillar to the location on the left subframe where the Panhard bar was located. Bolt in place with the 10mm allen bolt supplied. This bolt is for location purposes only. Make sure both threaded holes are lined up with slots in pillar.
19. Mark the perimeter of the pillar where it contacts the subframe and remove the pillar.
20. Sand to bare metal the perimeter and prep area for weld.
21. Reinstall the Pillar again with the same bolt leaving bolts loose.
22. Install Watts link Cross Brace as shown. Be sure to install the appropriate spacer on the inside of cross passenger side lower hole between the brace and the pillar.
23. Snug all bolts in place.

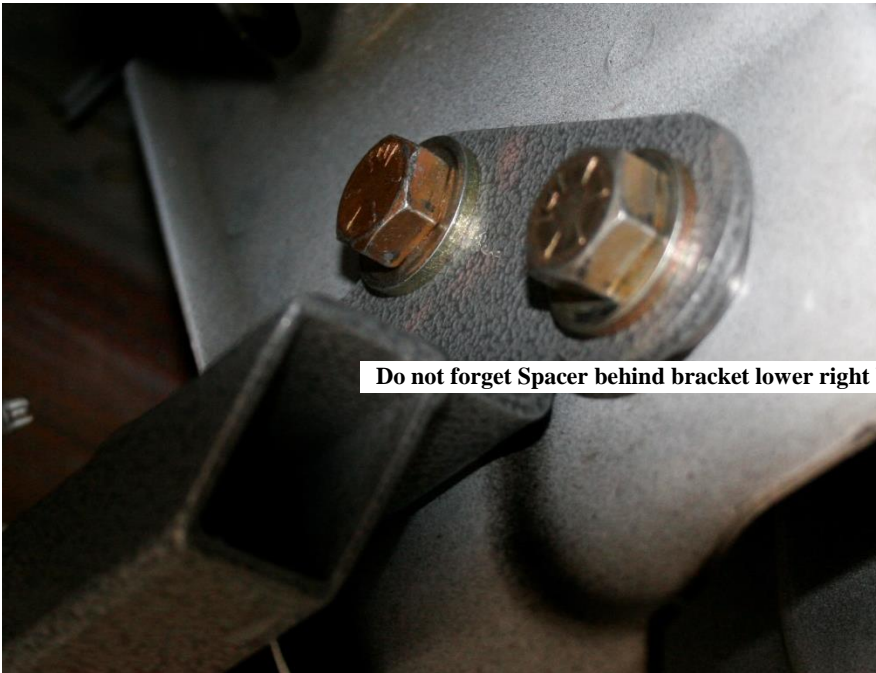




24. Weld perimeter of pillar securely to subframe. Be sure to weld inside and outside of the pillar. CAUTION: Security of this weld is paramount to the integrity of the assembly.

25. Paint welded area with rust resistant paint.

26. Reinstall Watts link support bracket. Don't forget the spacer between bracket and the Passenger side chassis pillar round the lower right bolt (Picture)



Do not forget Spacer behind bracket lower right bolt.



27. Install the Watts link arms, torque bolts as per chart below.

28. Center rear axle in chassis and tighten jam nuts on arms.

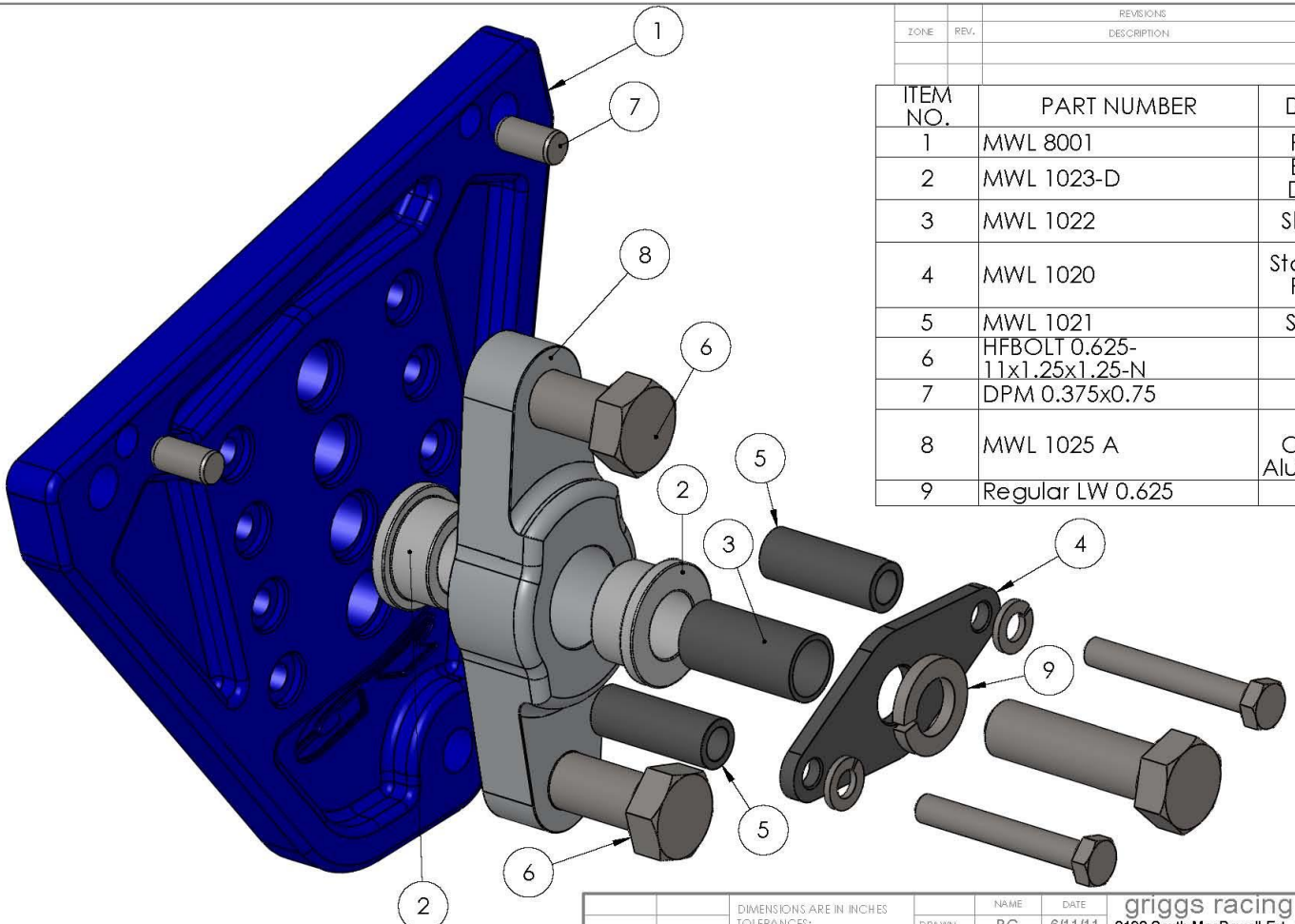
29. Refill rear end. DO NOT USE THE UPPER HOLE IN THE REAR END COVER TO INDICATE FULL. USE THE OEM FILL HOLE LOCATED ON THE LEFT SIDE OF THE PINION HOUSING, FORWARD OF THE AXLE TUBE, POINTING REARWARD. FILLING TO THE UPPER PLUG ON THE REAR COVER WILL OVER FILL THE REAR AXLE ASSEMBLY RESULTING IN A BIG MESS, AND POSSIBLE FIRE. See Ford service manual if you are not sure where to fill the rear end.

## Torque Specs:

Component	Fastener	QTY	Specification	Lubricant
Diff Cover:	5/16" socket head cap screws	10	22 ft lbs Anti-Sieze	Anti-Sieze
Plate:	1/2" course nuts on girdle bolts	2	MAX of 5 ft- lbs or 60 INCH-lbs	Dry
	1/2" G8 fine bottom of plate to TorqueArm	1	85-95 ft-lbs	Anti-Sieze
Bell Crank:	5/8" G8 center pivot bolt	1	65-70 ft-lbs	Anti-Sieze
	5/16 G8 course bolts	2	18-22 ft-lbs	Anti-Sieze
Arms:	5/8" Buton Head Socket Head Bolt Course Thread through heim ends into bell crank	2	70-75 ft lbs	Anti-Sieze
Chassis Mount:	1/2" G8 fine	2	95-100 ft lbs	Dry
	14mm OE Chassis Pillar passenger side upper	1	100-110 ft lbs	Dry
	3/8" G8 fine	1	38-42 ft lbs	Dry

## Usage notes:

- 1) Watts Linkage Arms (rods) do not have to be level to function properly
- 2) Raising Watts bell crank increases over steer (raises roll center)
- 3) Lowering Watts bell crank reduces over steer (lowers roll center)
- 4) Check periodically for tightness of bolts and condition of bell crank bushing and rod ends. If play develops in any of these pivot points, subsequent impact loadings may cause rattles, as well as increase probability of failure over time. The supplied rod ends are made to Griggs Racing specifications. The balls should be tight in their housings. Our experience is the supplied rod ends can run an entire year of 20 to 40 race events or more without needing to be replaced. In such racing applications we replace them yearly for good measure, and check them every event. Field experience street driving also indicates rod end life span to be 30K to over 100K miles, depending on conditions. However periodic checking is still recommended as it is good practice on any car.
- 5) When servicing rear axle assembly in the future, be sure to re-install cover using VERY LITTLE SEALANT.



REV. NO.		DESCRIPTION	DATE	APPROVED
ZONE	REV.			

ITEM NO.	PART NUMBER	DESC.	QTY.
1	MWL 8001	Plate	1
2	MWL 1023-D	Bush, Delrin	2
3	MWL 1022	Sleeve	1
4	MWL 1020	Stabilizer Plate	1
5	MWL 1021	Stand	2
6	HFBOLT 0.625-11x1.25x1.25-N		5
7	DPM 0.375x0.75		2
8	MWL 1025 A	Bell Crank, Aluminum	1
9	Regular LW 0.625		3

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DIMENSIONS ARE IN INCHES		NAME	DATE
TOLERANCES:		DRAWN	BG 6/11/11
FRACTIONAL: ± 1/16"		CHECKED	
ANGULAR: MACH ± 1/8"		ENG APPR.	
BEND ± 1/2"		MFG APPR.	
TWO PLACE DECIMAL ± .05		Q.A.	
THREE PLACE DECIMAL ± .002		FINISH	
MATERIAL			
NEXT ASSY	USED ON		
APPLICATION			

**griggs racing products**  
 2198 South MacDowell Ext. Petaluma, CA 94954  
 Phn: (707) 939-2246 Fax: (707) 939-2249

**Watts Center Section**  
**All 8.8 Rears**  
**Aluminum Bell Crank**

SIZE **A** DWG. NO. **MWL 1050 A** REV. **x**

SCALE: 1:2 WEIGHT: SHEET 1 OF 1

COMMENTS: