

MWL 9500 for 9in Axle

Preparing the Watts Link Center Section

- 1) Make sure all parts are in package upon receipt of product. You have 30 days to claim missing parts.

NOTE: If you have dowel pins in among your small parts they will not be used.

- 2) Bolt the Main plate to the two supplied mounting brackets. They can be mounted with cavity inboard or outboard, whatever makes it easier to fit to your particular axle housing
- 3) Hold the assembly in position, located as desired on your axle housing. Remember the roll center of your suspension will be located at the center pivot of the bellcrank, or any of the three 5/8" threaded holes in the main plate. Be sure it is where you want it relative to your frame rails, left to right. Mark the housing for horizontal position.

NOTE: desired Lateral roll center location for most applications where the car turns left and right is on center. If frame rail are laterally symmetrical relative to the wheels, and Watts arms are symmetrical the roll center lateral plane will be centered on the housing between wheels, This does not mean centered on the banjo of the housing which is offset if the the drive line is centers in the housing.

- 4) For vertical positioning, roll center should be determined by CG height and desired roll couple distribution. In a standard passenger car or Muscle car, this usually means to center the brackets on the center line of the axle axis which puts the roll center adjustment range between 1" and 3" below axle centerline. If this is an off road truck with very tall tires like 33" or better, tires you may want to invert the main plate to have roll center adjustment possible above axle center line.
- 5) Once located in place tack to hold and then weld securely to the housing. Be sure to weld both sides of the contact edges. .
- 6) Torque all four attaching 3/8" socket head screws to specification listed on chart below.
- 7) Lubricate the Delrin Bell Crank bushings thoroughly oin the inside bore and the shoulders. Forces are high in this bushing. It must have a very high pressure temperature resistant lubricant such as anti-seize, or use the clear lubricant supplied with the kit.
- 8) With the same lubricant liberally lubricate the entire inside bore of the bellcrank pivot.
- 9) Assemble the Watts link bell crank assembly
- 10) First, insert the Delrin bushings into the bell crank.
- 11) Be sure that all surfaces of the bushing that contact Metal are lubricated. This includes both sides of the bushing shoulders.
- 12) Now insert the pivot center sleeve through the bushings so that it is flush the edge of the busing that is on the side of the bellcrank with the rounded edges. This means the sleeve will protrude from the bushing on the flat side of the Bell crank about .100 inches.

- 13) Insert the 5/8 inch bolt through the diamond shaped stabilizing plate and then insert it through the bell crank bushings from the rounded side of the bellcrank.
- 14) Apply the supplied anti-seize to the threads and insert and position over the desired hole in the main plate and start the bolt only about two turns. The protuberance of the inner sleeve should locate in the recess around the bolt hole making locating the part for you centered on the hole.
- 15) Insert the two 5/16 ID spacer sleeves into the corresponding recesses in the main plate under the stabilizer plate, and install the two 5/16 hex head cap screws with lock washers.
- 16) Snug all bolts in place.
- 17) Torque all bolts to chart below.
- 18) Check fitment. These parts are machined to very close tolerances as found in engine assemblies. When new, the bell crank should be fairly firm to rotation by hand due to stiction of the lubricant It should not require force by adding leverage to move it. It should not be loose either. If it is too tight to move center bolt was over torqued, or it was a dirty installation and grit is between surfaces

Component	Fastener	QTY	Specification
Plate to mount brackets:	3/8-24 SAE socket head screw and G8 nuts. Dry	4	38-42 ft-lbs
Bell Crank	5/8" G8 center pivot bolt Anti-Seize	1	66-70 ft-lbs
	5/16 G8 course bolts Anti-Seize	2	22 ft-lbs
Arms:	5/8" Buton Head Socket Head Bolt Course Thread through heim ends into bell crank Anti-Seize	2	70-75 ft lbs

Usage notes:

- 1) Watts Linkage Arms (rods) do not have to be exactly 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.